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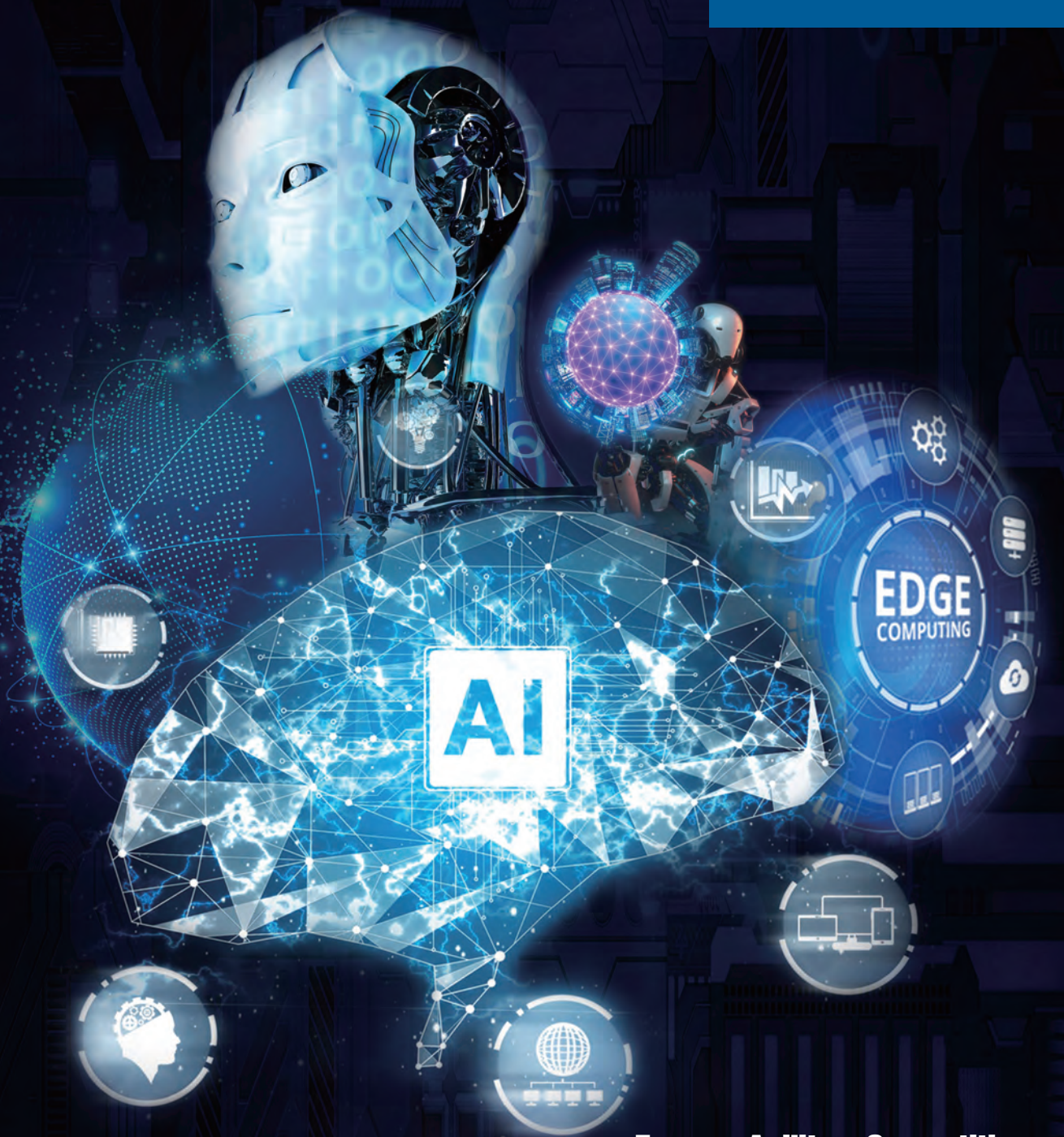
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Edge Ready Platforms

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UP Core Plus	UP Core Plus Developer Board with Intel® Atom™ x5-E3930/x5-E3940/x7-E3950 Processor SoC	09-5
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UP Expansion Modules

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Net Plus	Expansion board with 4 x Gigabit LAN powered by Intel® i211-AT/i210-IT for UP Core Plus	09-21
Connect Plus	Expansion board with 3 x Gigabit LAN powered by Intel® i211-AT/i210-IT for UP Core Plus, Up Xtreme	09-23
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UP-POE HAT	PoE Ideal Diode Bridge & PD Forward/ Flyback Controller	09-26
UPC-CRST02	Low Speed Carrier Board for UP Core Series	09-27
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10 Industrial Motherboards

NITX-SKL1	6th Generation Intel® Core™ 15W Processor Nano-ITX Board with HDMI x 2, LAN Port x 2, COM Port x 1 and USB Port x 4	10-1
EMB-APL1	Mini-ITX Embedded Motherboard with Intel® N3350(DC)/N4200(QC) Processor	10-3
EMB-APL3	Mini-ITX Embedded Motherboard with Intel® N3350(DC)/N4200(QC) Processor	10-5
EMB-BT1	Mini-ITX Embedded Motherboard with Intel® Celeron® J1900/N2807/ Atom™ E3845/E3825 Processor, SATA3 x 2, SATA2 x 2, USB x 8	10-7
EMB-BT2	Mini-ITX Embedded Motherboard with Intel® Celeron® J1900 Processor, SATA2 x 2, USB 2.0 x 10, Dual LVDS	10-9
EMB-BT4	Thin Mini-ITX Embedded Motherboard with Intel®/Celeron® J1900/N2807 Processor, SATA 6.0 Gb/s x 2, SATA 3.0 Gb/s x 2, USB x 8	10-11
MIX-EHLD1	Mini-ITX with Intel® Atom x6000E/ Pentium/ Celeron N and J series processors , Max. 12W TDPs, Flexible rear IO, 12V DC input	10-13
MIX-KLUD1	Mini-ITX, 14nm, FCBGA1356 7th Gen Intel® Core™ processor family, 15~25W TDP	10-15
MIX-KLUW1	Mini-ITX, 14nm, FCBGA1356 7th Gen Intel® Core™ processor family, 15~25W TDP	10-17
MIX-TLUD1	Mini-ITX with 11th Gen Intel® Core™ U-Processor, Max. 28W TDPs, 4 Display output, 2.5GbE x 1 + 1GbE x 1	10-19
MIX-H310A1	Mini-ITX with 8th/9th Gen Intel® Core™ Processor Family, Max. 65W TDPs, Giga-LAN x 4	10-21
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MIX-H310D2	Mini-ITX with Intel® 8th / 9th Generation Core™ LGA1151 Socket Processor, Max. 65W TDPs, USB 3.2 Gen 1 Port x 4, USB 2.0 Port x 5, 12V DC input	10-27
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EMB-H110B	6th/7th Generation Intel® Core™ i Series, LGA1151 Socket Processor, Max. 65W TDPs, SATA 6.0 Gb/s x 2, USB x 8	10-43
EMB-Q87A	Thin Mini-ITX Embedded Motherboard with 4th Generation Intel® Core™ i Series Processor, 12~24V DC Wide Range Power Input	10-45
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EMB-QM77	Embedded Motherboard with 3rd Generation Intel® Core™ i7/i5/Celeron® Quad Core/Dual Core™ Processor	10-49
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IMBM-H110A	Micro-ATX with 7th/6th Generation Intel® Core™ Processor, DDR4 DRAM, M.2 x 1, USB x 10	10-65
IMBM-Q87A	Micro-ATX Industrial Motherboard with 4th Generation Intel® LGA1150 Processor, SATA3 x 5, Multiple Display Ports, Supports iAMT 9.0	10-67

ATX-Q370A	ATX Industrial Motherboard with 8th/9th Generation Intel® Core™ Processor, DDR4 DRAM, Supports iAMT 12.0, and Intel® CNVi WLAN Card, Option: LAN x 3, Type-C Alternate (Display + Data USB 3.2 Gen 1) Function	10-69
ATX-C246A	ATX Industrial Motherboard with 8th/9th Generation Intel® Core™ Processor, DDR4 DRAM, Supports iAMT 12.0, and Intel® CNVi WLAN Card, Option: LAN x 3, Type-C Alternate (Display + Data USB 3.2 Gen 2) Function	10-71
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IMBA-Q87A	ATX Industrial Motherboard with 4th Generation Intel® LGA1150 Processor, SATA3 x 6, PCI x 5, Multiple Display Ports, Supports iAMT 9.0	10-79

11 Half-size SBC - ISA

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SYSTEM LEVEL PRODUCTS

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System Level Products

AAEON is committed to delivering high-quality intelligent system products, such as Rugged Panel PCs, Expandable Industrial Computers, Full HD Infotainment Displays, Rugged Tablets, Embedded PCs and related accessories, for use in all aspects of sectors including Digital Signage, Transportation, Industrial Automation, Healthcare, Hospitality, Harbor/Marine, Military/Government, Public Safety and Energy.

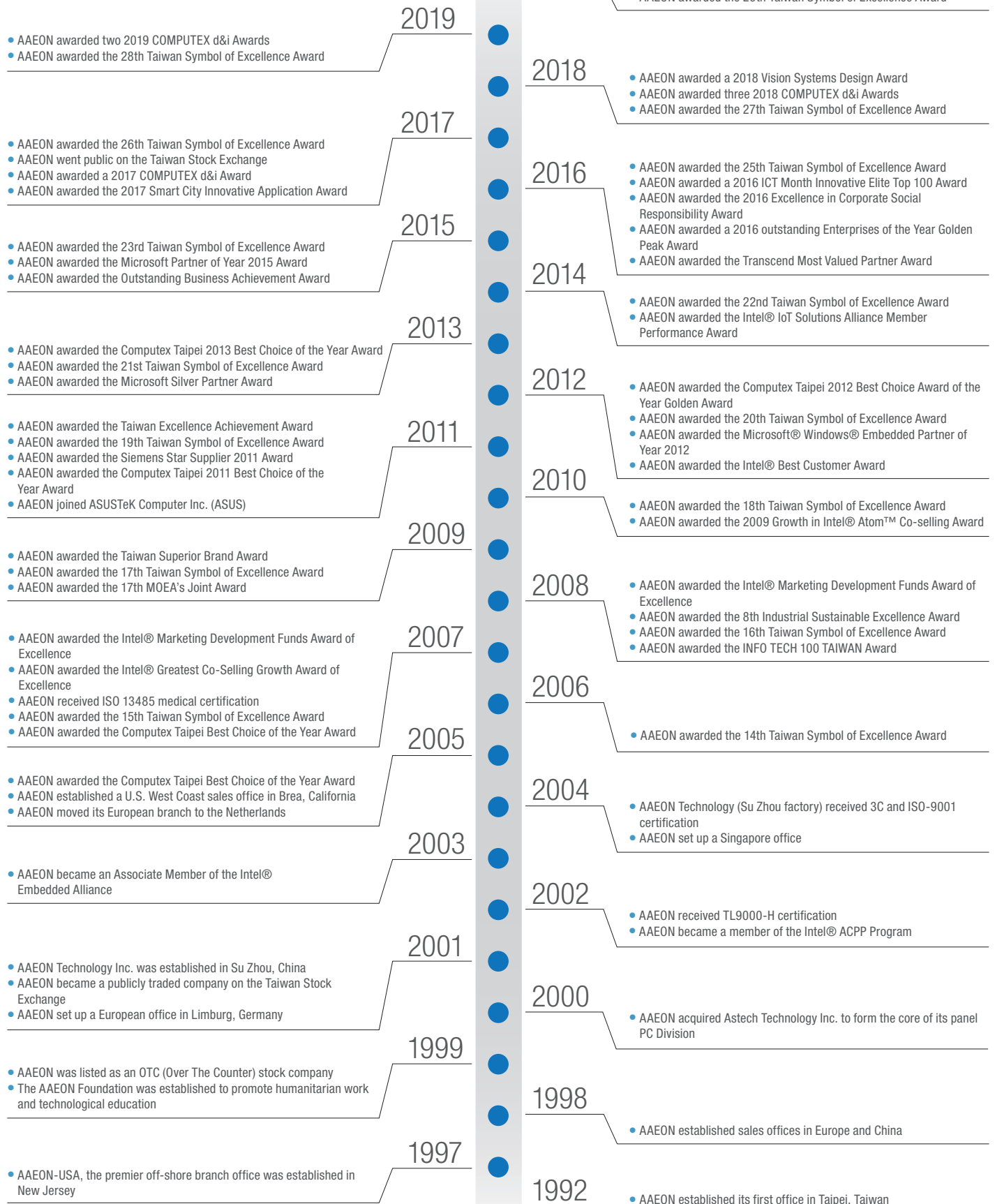
AAEON has the capability to customize services for a range of embedded computers and system products according to customer requirements and specifications. To help large customers with volume production, AAEON also provides an end-to-end Design Manufacturing Service (DMS) that begins with design and goes through to contract manufacturing. Quality assurance of our system products ensures excellent product performance and is the key to our success and growing global customer base.

Board Level Products

Embedded boards are the beating heart of every computer system. AAEON offers a diverse range of different embedded boards to consolidate your systems. Our products include Compact Boards, 3.5" Sub-Compact Boards, EPIC boards, PICO-ITX boards, COM Express Modules, PC/104 Modules, PC/104 Peripheral Modules, IoT Node/Gateway Boards, and full-sized & half-sized SBCs.

With the advent of the fourth industrial revolution, more commonly known as Industry 4.0, the optimization of automation processes and productivity is becoming more relevant than ever before. Embedded single boards provide an easily configurable and efficient solution to consolidating industrial platforms and infrastructure in fields such as smart cities, smart building management, smart transportation, energy-efficient grids, POS and digital signage, and the medical industry.

AAEON's boards are designed for superior environmental resilience. The WiTAS (Wide Temperature Assurance Services) line can be used within a temperature range of -40°C~85°C and is specifically built to combat harsh environments, operating at peak efficiency in both bitterly cold and blisteringly hot spaces. Our WiTAS products are also ideal for IoT uses and are designed for minimum maintenance and maximum ruggedness.



A member of the ASUS Group: A strong high-tech conglomerate

ASUS Technology and Financing

AAEON Design Flexibility and Domain Know-how



OEM/ODM Capability

The OEM/ODM service has been a key factor in AAEON's phenomenal growth over the past 10 years. AAEON offers design services for full custom requirements as well as modification services for its off-the-shelf products. Whatever you need, AAEON has the experience and expertise to help you create or modify products to perfectly fit your requirements.

Core Competence

Product Innovation

AAEON's integration expertise is integral to product designs that have the most desirable built-in features, saving customers valuable design and customization time. AAEON's OEM/ODM capabilities help us meet customers' exact specifications and requirements. In addition, AAEON has invested aggressively in R&D capabilities and will continue to do so to maintain a competitive advantage for new designs. In cooperation with premier technology vendors, AAEON participates in vendor early access programs to provide the latest technology to its customers.

Market Focus

AAEON has established a worldwide reputation for exceptional domain know-how. This expertise has enabled AAEON to secure a solid position in Machine and Factory Automation, as well as the Chemical Industry. Additionally, AAEON's cutting edge products meet the specific requirements of the Digital Signage, Transportation, Industrial Automation, Medical, Harbor/Marine, Military/Government, Public Safety and Energy sectors.

R&D Strength

AAEON takes great pride in its World Class R&D aptitudes. With more than 20% of AAEON's workforce employed in R&D and 10% of annual sales revenue invested in this field, AAEON is prepared to handle the most demanding designs based on the latest technologies. With our strong background in innovation, AAEON has been granted a raft of design patents around the world.

Design Capability

From our core competence of single board computer design, AAEON has expanded its capabilities to award-winning Panel PC System Design, BIOS Engineering with multi-vendor expertise, Mechanical Design, Peripheral Device Design, Design Verification and in-house EMI/EMC Debugging.

Manufacturing Capability

AAEON has manufacturing facilities located in Taipei, Taiwan and Suzhou, China. To become the leading supplier of Industrial Computers, AAEON has created manufacturing facilities with flexible layouts and expansion capabilities to easily address the demand for increased production capacity. Drawing upon the skills of its professional and experienced personnel to develop an efficient production system, AAEON has the ability to respond rapidly to customer requests for standard or customized IPC products.



AAEON's Quality Assurance Closed Loop Feedback System provides solid and consistent feedback through the design, manufacturing and service stages to ensure continuous progress and meet customer expectations. The three stages of the Quality Assurance System are Design Quality Assurance (DQA), Manufacturing Quality Assurance (MQA) and Service Quality Assurance (SQA).

DQA

Design Quality Assurance starts at the conceptual stage of a project and covers the product development stage to ensure the utmost quality throughout the process. AAEON's safety and environmental test labs ensure our products meet the requirements of CE/UL/FCC/CCC standards. All AAEON products go through an extensive and comprehensive test plan for compatibility, function, performance and usability. Therefore, AAEON customers can always expect to receive well-designed, high-quality products.

MQA

Manufacturing Quality Assurance is carried out in accordance with ISO 9001, ISO 13485, ISO 14001 certification standards. All AAEON products are built using production and quality testing equipment in a static-free environment. Additionally, these products go through rigorous tests on the production line and dynamic aging in the burn-in room. AAEON's Total Quality Control (TQC) program includes Incoming Quality Control (IQC), In-Process Quality Control (IPQC) and Final Quality Control (FQC). Periodic training, auditing and facility calibration are strictly implemented to ensure all quality standards are followed to meet customers' requirements. The Quality Control Team constantly communicates with R&D to improve product performance and compatibility.

SQA

Service Quality Assurance includes technical support and a repair service. With SQA, AAEON can serve its customers and also receive their feedback and work with R&D and Manufacturing to strengthen AAEON's response time in resolving customer concerns and improve service levels.

Technical Support

The backbone of customer support is a team of professional Application Engineers who provide customers with real-time technical support. Their expertise is shared through internal knowledge management and links to the website for online nonstop service and solutions.

Repair Service

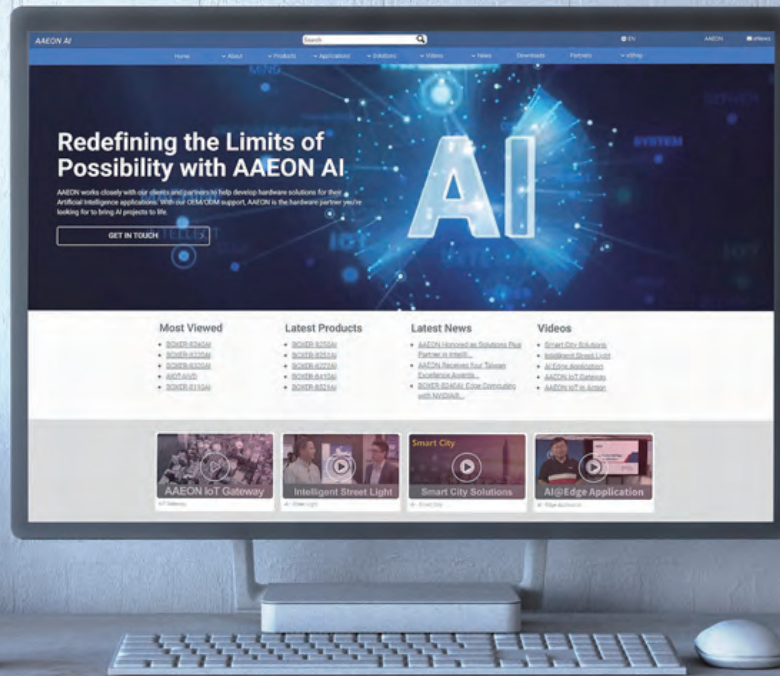
With an efficient eRMA system and RMA service policy, AAEON's RMA Team is able to ensure prompt, high-quality product repair and replacement services with a short turnaround time.

Quality Certification



AAEON has acquired many official certifications to maintain its quality system.

ISO 9001: 2015	QMS
ISO 13485: 2016	Medical Devices-QMS
ISO 14001: 2015	EMS
3C:	China Compulsory Certification
CE/FCC:	All AAEON products undergo and meet CE and FCC test standards which prove their design quality and integrity



Introduction

To keep ahead of the ever-growing markets and demand for AI hardware solutions, AAEON is pleased to announce our new webpage, AAEON.ai. AAEON.ai offers developers and systems integrators a centralized resource for finding the latest AI edge computing technology from AAEON.

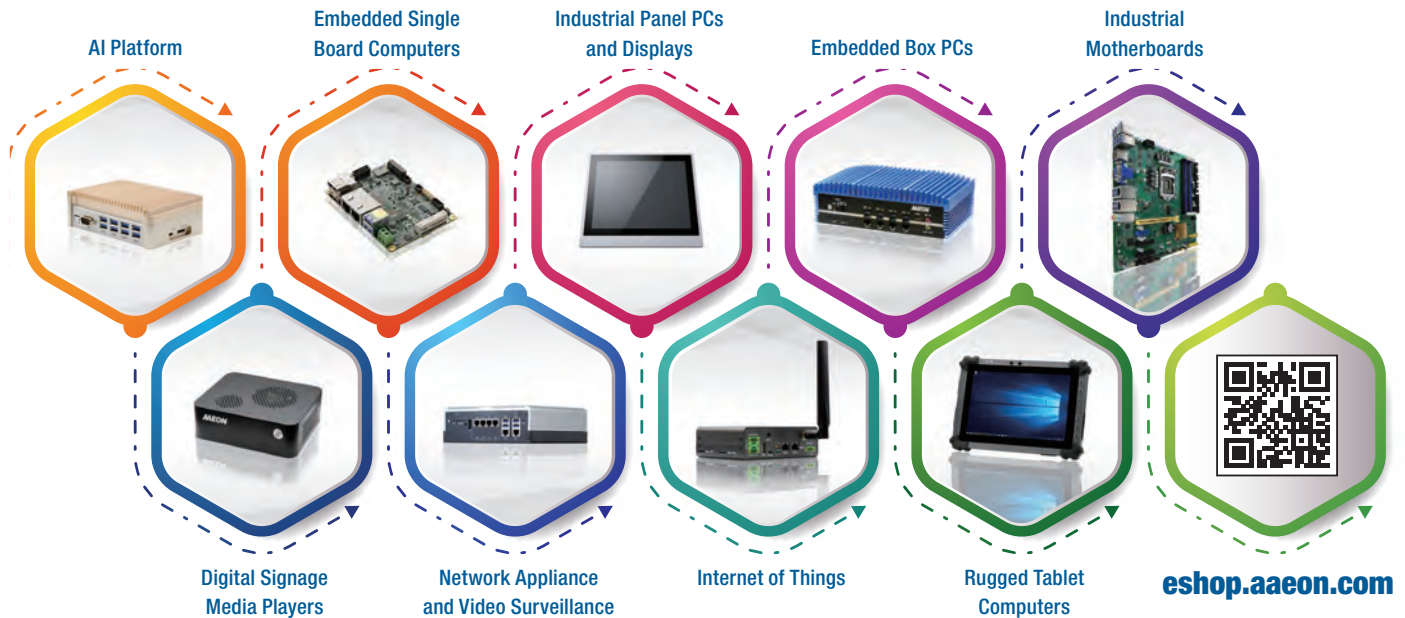
Market analysts have consistently pointed to expanded growth and deployment of Industry 4.0 technologies, especially AI edge computing, in various vertical markets. AAEON.ai collects all of AAEON's rugged, compact, industrial grade AI edge solutions in one convenient location. From boards and systems to AI accelerator modules, AI developers and systems integrators can easily find the platforms that meet their project, budget and performance needs. AAEON.ai will also feature solutions partners, allowing visitors to connect with local vendors and software providers, and building an AI ecosystem designed to make creating and deploying AI applications easier than ever. Visitors to AAEON.ai will also have a chance to learn about the latest news and browse a library of application stories and white papers of real-world applications using AAEON technology.



Visit AAEON.ai today and explore the latest in AI Edge technology from AAEON!

Shop Online for Prompt Global Service

AAEON eShop offers customers a convenient way to quickly place orders from a selection of our latest and most popular IPC, AI and Edge Computing platforms. Orders are processed and shipped within two working days on all in stock items, with 50% off worldwide shipping on all orders over US\$500. Customers can also order any accessories or configurations listed on the AAEON.com product page through eShop. Registering an account on eShop allows customers access to benefits including managing multiple shipping addresses, order tracking, price drop and in stock notifications and more! Visit AAEON eShop today at eshop.aaeon.com.



AAEON eShop Benefits



Fast Processing

eShop brings you the convenience of fast order processing. Orders are processed and shipped within two working days for all in-stock items.



Easy Payment

eShop supports payment options including credit card, PayPal™ and even wire transfer. (Advanced notification is needed when using wire transfer.)



50% off Shipping

Save more when you shop more with eShop! Receive 50% off global shipping on all eShop orders over US\$500.



Official Warranty

All products sold on eShop are backed by the same official warranty and industry leading support offered on every AAEON product.



Flexible Service

Purchase any product accessory or configuration listed on the AAEON.com product page, including processor, memory, storage and more. Contact AAEON eShop service representatives for more details. (eshop@aaeon.com)



Join Us Now, Enjoy Regular Promotions.
<https://eshop.aaeon.com/>

Industrial Automation

**BOXER-6641**

- Fanless system
- 8th Intel® Core™ S processor
- Extreme performance
- Wide Range DC input
- Rich IO ports

**BOXER-6642-CML**

- 10th Gen. Intel® Core™ Processor
- Ultra slim chassis
- NVMe SSD support
- Intel® VPU KeemBay Compatible

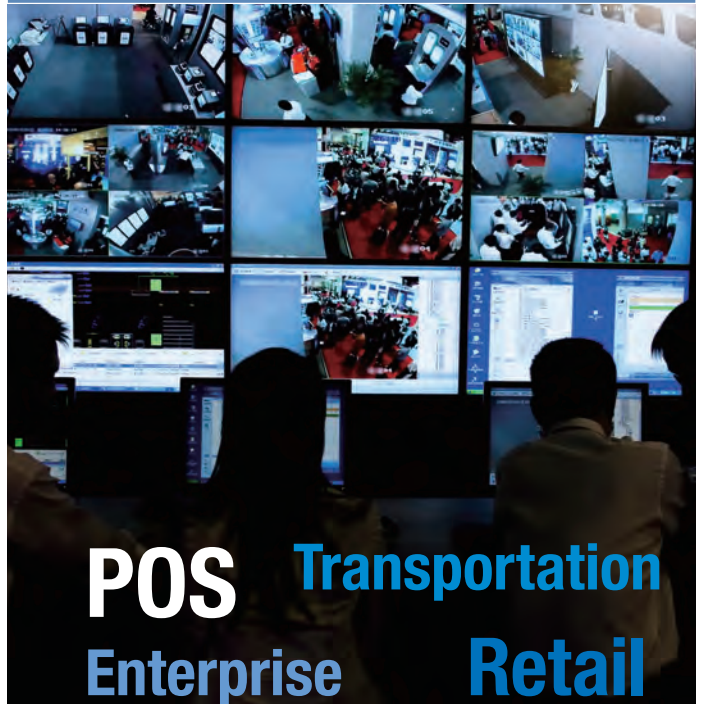
**BOXER-6750**

- U-Series CPU: Intel® Core™ i3-6100U/ Celeron® 3955U
- DDR4 2133 MHz SODIMM x 1, Memory Max. up to 16GB
- Supports Industrial-grade Intel® GbE LAN x 2
- Supports BIOS Selectable RS-232/422/485 x 4
- VGA + HDMI Dual Display Output

Panel PC Series

- Multiple Size 7" ~ 21.5"
- IP65, -20°C~60°C, OVP, LVP, RVP, SVP
- Supports Intel® Processors

Video Surveillance



POS **Transportation**
Enterprise **Retail**

**VPC-5600S**

- In-Vehicle Network Video Recorder Platform
- Fanless System
- 260-pin Dual-Channel DDR4 2133 MHz SODIMM x 2 up to 16 GB
- Intel® Integrated Graphics Engine Supports Dual Display by HDMI x 1, DP x 1
- Realtek® Ethernet Connection x 6 w/ 4-port PoE

**VPC-3350S**

- Mobile Network Video Recorder Platform
- Fanless System
- 204-pin Single Channel DDR3L 1866 MHz SODIMM up to 8 GB
- Intel® Integrated Graphics Engine Supports Two Display by HDMI x 1, DP x 1
- Intel® Ethernet Connection x 5 Ports (including 4 x PoE Ports)
- Full Mini-PCIe Socket x 2 (USB + PCIe); (Support up to Mini-PCIe Socket x 4, Optional)
- Built-in CANBus, GPS & G-Sensor (In-vehicle config. by project base)
- E-Mark Certified (In-vehicle config. by project base)

**VPC-3300S**

- In-Vehicle Networking Video Recorder Platform
- Fanless System
- 204-pin Single Channel DDR3L 1600 MHz SDIMM up to 8GB
- Mini-PCIe Socket x 3 (Full card size) (1 x w/ USB)

AI@Edge



BOXER-8240AI



- 512-core Volta GPU with Tensor Cores
- Support RJ-45 x 4 for PoE (802.11af, total 60W)
- Support DB-9 x 1 for RS-232/422/485, CANBUS x 1
- Support GPIO 40 pins ,Mic in and Line out
- Support M.2 E key, M key and SATA storage

UPX-Edge



- Intel® WHL-U Core™ i7/i5/i3/Celeron Processor SoC
- Onboard DDR4 memory, Max 16GB
- eMMC 64GB
- HDMI 2.0 x 1 (Support 4K at 60 Hz)
- COM ports (RS-232/422/485) x 2
- 16pin GPIO connectors (1 x GPIO for STM32, 1 x GPIO for 40pin HAT)
- Audio Jack x 1 (line out + Mic)
- 12-60V DC-in
- Fanless Chassis design

BOXER-6842M



- High Computing Power
- Intel® Coffee Lake-S LGA 1151 Desktop Processor
- HDMI x 2 for Dual Display
- Support C246 PCH
- Support PCIe x16 + PCIe x4/ 2PCIe x8 (in x16 slot) + PCIe x 4
- Single Power Input (for both System & one Graphics Card)
- Fanless System (A3) or Fan System with PWM function (A2/A4)
- Support dual Graphics Cards with Two Power Inputs (A4)

Machine Vision



BOXER-6839



- Intel® 6th Core-i Desktop processor
- Mini-Card Slot x 2 (USB & PCIe Signal)
- PCIe [x1] + PCIe [x4]
- LAN x 3
- 34bit DIO
- Dual 2.5" Drive Bay Support

BOXER-6639M



- Intel® 6th Core-i Desktop processor
- Mini-Card Slot x 2 (USB & PCIe Signal)
- LAN x 7 or LANx3 + PoE x4
- 34bit DIO
- Dual 2.5" Drive Bay Support

BOXER-6404M



- Intel® Celeron® J1900/N2807 Processor SoC
- Compact Design
- Quad Gigabit Ethernet Connectivity
- Dual HDMI Output support Dual independent Display
- Wide Operating Temperature -30°C ~ 65°C

Smart Factory

**OMNI-2000/3000**

- Modular Design
- Supports P-CAP T/S / Full Flat Resistive T/S
- Supports Intel® J1900/N2807/ i5-6300/ Celeron® Processor
- IP65 Front Panel

**OMNI-Display**

- Modular Design
- Supports P-CAP T/S / Full Flat Resistive T/S
- LCD Auto-detection
- IP65 Front Panel

**OMNI-2155-CML**

- 10th Intel® Core™ S processor
- Extreme performance
- Fanless system
- Aluminum Bezel
- M.2 2280 NVMe SSD support

Infotainment

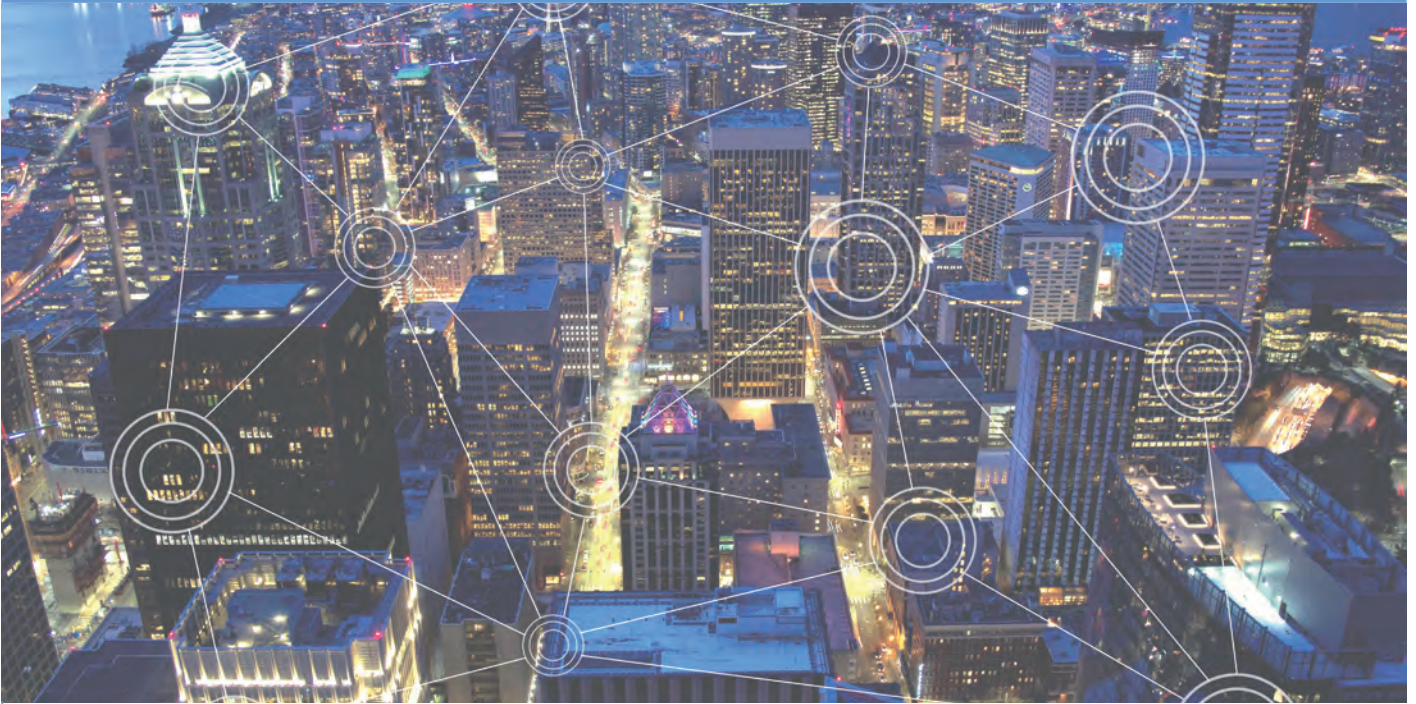
**ACP-1074/ACP-1076**

- 7" WSVGA (1024 x 600) Color TFT LCD Display
- Intel® Processor
- Wide Flatscreen with P-CAP Multi-Touch (2-point)
- 7H Anti-scratch Surface
- Aluminum Design
- IP65 Compliant
- Fanless Operation
- VESA 75/Panel Mount/ Stand Support

**ACP-1104/ACP-1106**

- 10.1" WXGA (1280 x 800) Color TFT LCD Display
- Intel® Processor
- Aluminum Design
- P-CAP Multi-touch (10-point)
- Fanless Operation
- VESA 75/ Panel Mount/ Stand Support
- IP65 Compliant Front Bezel

IoT Gateway



UP-GWS01

- Intel® Cherry Trail x5-Z8350 SoC
- On board DDR3L 4GB memory
- 32GB eMMC storage
- 1x Giga LAN, 4x USB 2.0, 1xUSB 3.0,1x HDMI
- Optimized Fan-less Cooling Design
- Smallest Gateway system of Intel solution



AIOT-IP6801

- Intel N3350/E3940 Processor
- Up to 4G LPDDR4 memory, 32G eMMC storage
- LAN/HDMI/USB 3.0/RS-232
- Wi-Fi, Bluetooth
- Optional: LoRa function, 3G, 4G LTE



UPS-GWS01

- Intel® Pentium® N4200/ Celeron® N3350 Processor SoC
- Onboard LPDDR4 Memory, eMMC Storage
- Gigabit LAN x 2
- HDMI x 1, DP x 1
- USB 3.0 x 3, USB 3.0 OTG x 1



SRG-3352

- ARM Cortex-A8 800MHz RISC Processor
- DDR3L 1G memory, 8G eMMC storage
- Support 4G LTE/GPS module
- LAN/USB2.0/RS-485/DC 9~30V



UPC-GWS01

- Intel® Cherry Trail x5-Z8350 SoC
- Onboard DDR3L Memory, eMMC Storage
- Onboard WiFi, Bluetooth
- HDMI x 1
- USB 3.0 x 1
- RS-232/422/485 x 1
- Gigabit LAN x 1



SRG-3352C

- ARM Cortex-A8 Processor/1G memory/8G eMMC
- Support 4G LTE/GPS module
- Onboard WIFI/Bluetooth function
- Isolation RS232/422/485(Optional)
- LAN/USB2.0/RS-485/DC 9~30V

IoT Introduction

AAEON IIoT is committed to the development and application of Industry 4.0 solutions in an IoT context, bringing customers a sustainable, connected and personal experience. Our services include smart city applications, intelligent fleet management and transportation solutions, smart agriculture network systems, and automation optimization platforms. We integrate versatility and flexibility in our solutions, customizing each and every one of our cases, and our systems are designed to integrate seamlessly into existing frameworks, lowering costs and enhancing efficiency. For end customers, the convenience of our designs facilitate easy operation and maintenance, eliminating bottlenecks and achieving maximum performance. As a committed service provider for smart city applications, our first priority is the development of safe, sustainable and reliable solutions. Our portfolio includes services in building management, logistics, fleet management, and agriculture, and we aim to provide for and consolidate a safer, globally connected and sustainable world.

IoT Solutions



Industry 4.0:

In a broader context, smart automation will facilitate the manufacturing process in becoming more cost effective, enhancing output and product quality and quantity. By collecting, collating and analyzing vast swathes of data, factories will be able to adapt to, and even predict future market trends, anticipating the needs of the customer.

Smart Logistics:

AAEON has optimized an asset tracking and maintenance system to rise to the challenges posed by the ever-changing landscape of the logistics industry by developing the CANBUS, a sensor which monitors tire wear and pressure, braking systems and engine output, and provides a real-time GPS tracking system which will be able to pinpoint the exact location of the car at any given time or location.



Building Management:

AAEON provides a centralized management system for smart thermostats, ventilation, humidity and lighting control, which will be able to detect the number of people in each room of a building, and adjust environment settings accordingly to accommodate the current occupants, offering maximum energy efficiency management.

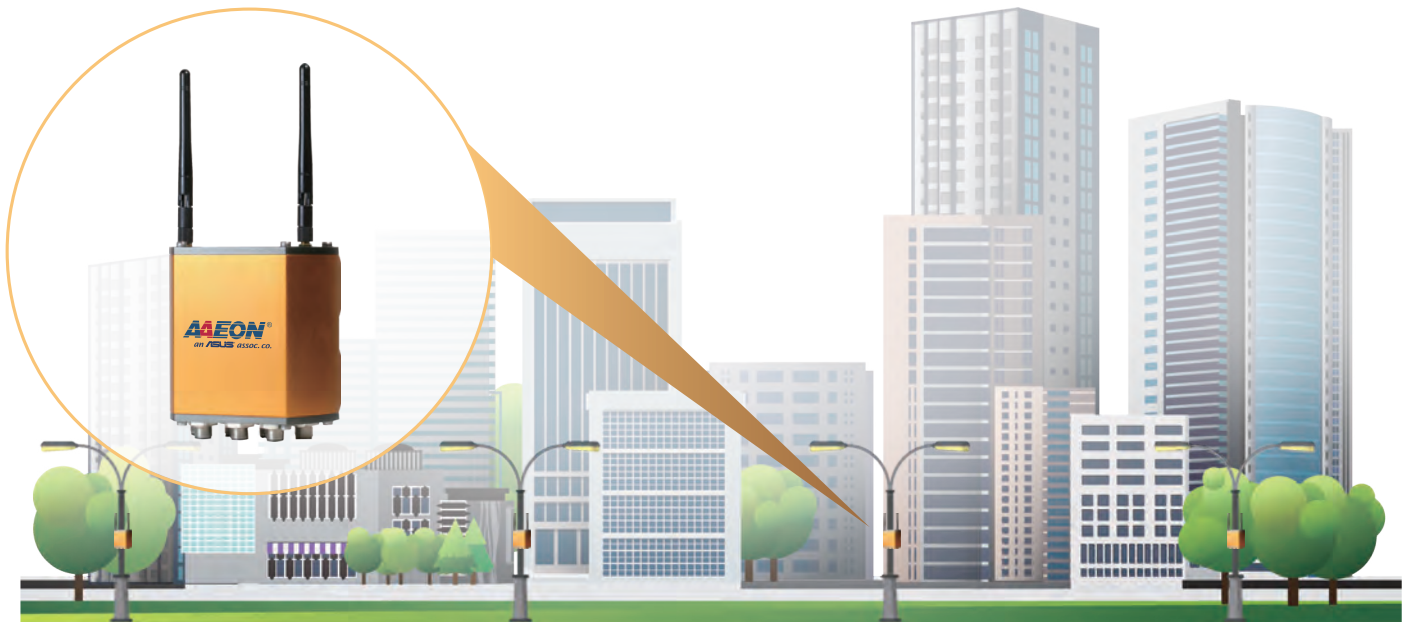
Smart City:

AAEON's Smart City Vision is to connect and improve the quality of communities through a tech-based, sustainable network aimed at eliminating factors that cause physical harm to the human body and immune system. Smart-city information and technology will enhance citizens' quality of life, as well as the infrastructure and socio-economic framework of the city.

AirBox

AAEON's AirBoxes are an integral part of a smart-city embedded air-sensory network, collecting and relaying real-time environmental data to city agencies and the public. In the short term, the AirBox will enable long-distance data transmission and low-energy consumption by optimizing and enhancing the transition from episodic to continual data collection and assimilation, while in the long term, it will facilitate the development of a globally connected and sustainable network.

The second generation of Airboxes is designed to be fully customizable and easily integrated with existing frameworks and architecture, with minimum configuration and/or maintenance required.



Atlas, Connecting Smart Cities across the Globe

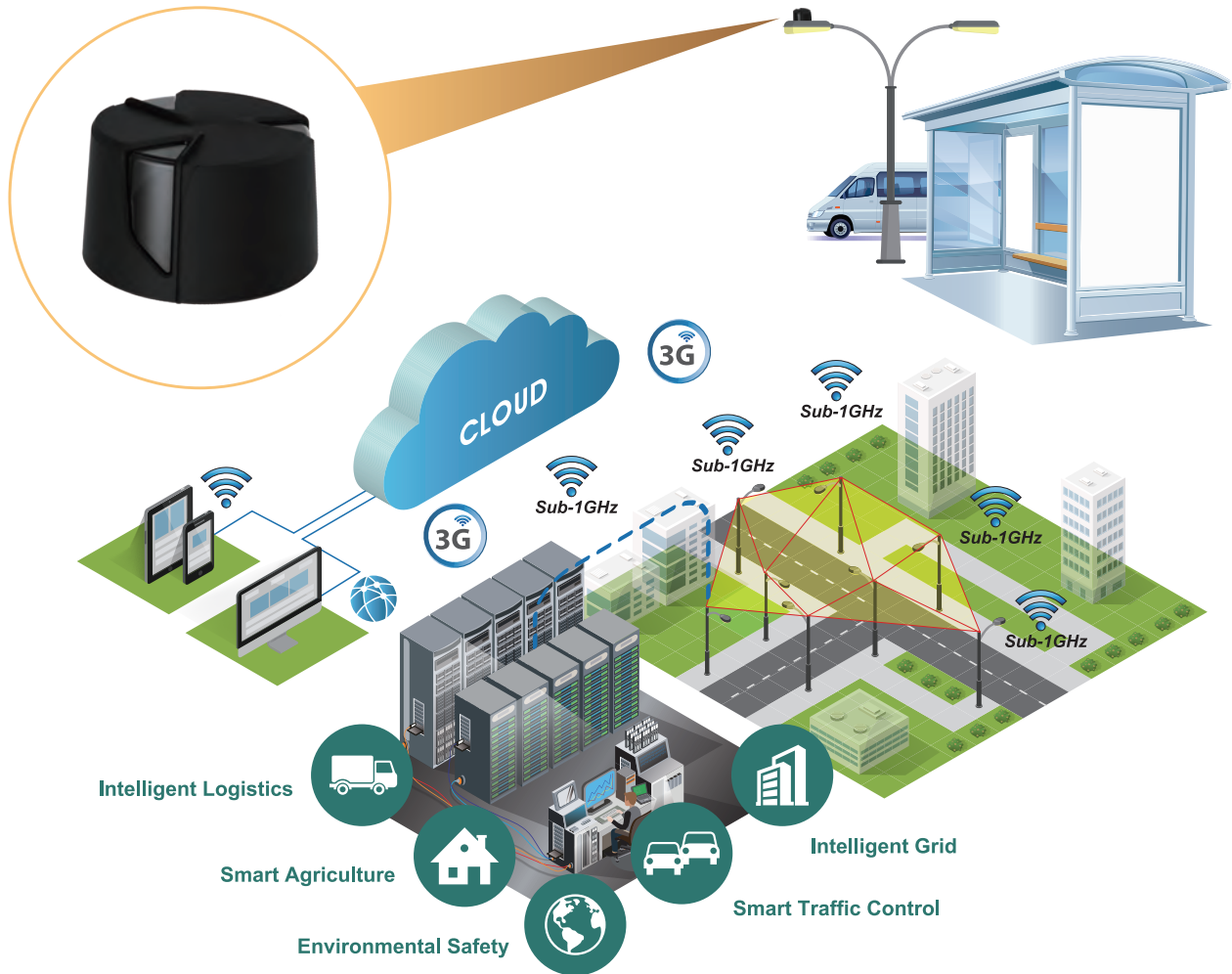
AAEON Atlas, powered by Intel® Movidius™ Myriad™ X vision processing unit (VPU). The Intel® Movidius™ Myriad™ X provides a low-power, high-performance solution for on-device AI inference. Atlas is compatible with the Intel® Distribution of OpenVINO™ toolkit, which includes built-in features such as model optimization, hardware acceleration and more designed to maximize the capabilities of the Intel® Movidius™ Myriad™ X VPU. Atlas is a powerful edge node that consolidates data streams from smart lighting, environmental monitoring, and video analytics. This AI Enabled Smart Device integrated with Camera, Air Sensing and Management System which works at the edge to allow city administrators to create a connected data hub.

Atlas can be deployed in a wide range of edge computing applications. As an edge gateway, Atlas can connect with up to 1000 smart street lighting controller or other IoT devices through proprietary wireless Sub-GHz, providing building blocks for Smart City solution deployment. With license plate recognition AI inference, Atlas can power applications such as Smart Street Parking or detecting traffic violations or accidents. With traffic and congestion monitoring, Atlas can optimize traffic signals in real time to help improve traffic flow. Atlas can also anonymously detect pedestrians in crowd control and flow monitoring applications.



Smart Street Light

AAEON's smart street light is designed to be one of the core features of IoT-based urban infrastructure, which utilizes smart technology to conserve and optimize energy efficiency, while eliminating emissions and the consumption of harmful gases. Each street light draws its energy source from a solar panel embedded at the top of the lamppost. The lampposts are integrated with the city's public WiFi network and are equipped with sensors that detect and collect detailed information on aerosols and then send these statistics back to a centralized cloud. All historical data is open sourced and can be accessed and downloaded by the general public.



Sub-1GHz

Wireless Communication






Low data cost, Low power consumption, Digital Sensory Network, Low signal interface



Centralized Management






Scheduled dimming, Early problem detection, Low maintenance, Improved efficiency



Energy Saving Report




Reality vs Expectations, Justified investment

OMNI Modular Builder

Introduction

The OMNI Panel PC is built with an innovative modular design to make it quick and easy for suppliers and customers to find and build the configuration they need for the job. From panel and box to I/O modules, the OMNI Panel PC offers a range of configurations and combinations you can build.

The OMNI modular panel PC features three main components; the Panel Kit, CPU BOX Kit, and I/O Modules. Each Panel Kit comes with a standard slot attachment, which allows any OMNI CPU BOX kit to be mounted quickly and easily. It only takes three wires and three screws to attach the CPU BOX kit to the Panel Kit. The optional I/O Modules simply plug into the side of the CPU BOX Kit and can be secured with two screws. Even better, the OMNI system uses a plug-and-play style firmware, allowing you to quickly change components without needing to flash or update the BIOS settings.

With this modular design system, customers can easily build or upgrade their own Panel PC, and suppliers can enjoy more flexibility and cost savings while maintaining stock. All a customer needs to do is pick their preferred screen size, the box kit with the processor and specifications desired, and the optional I/O module they need.

Build Your Own or Select a Pre-built System

Select Module Kit to Build Your Configuration



Panel Kit



Box Kit



I/O Module

Pre-built System



Modular
Touch
Panel
Solutions

Build Your Own in Three Steps!

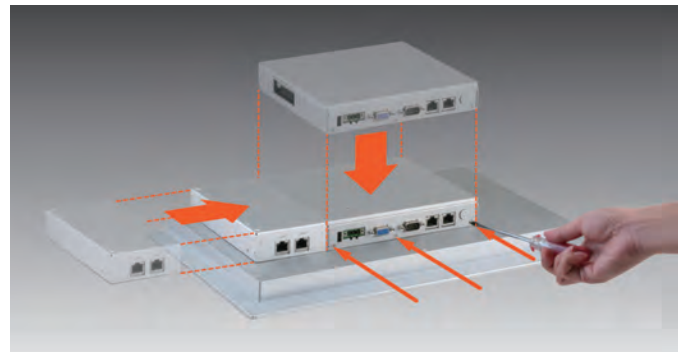
Step 1: Select a Panel Kit, with sizes from 10.4" up to 21.5"



Step 2: Select a CPU Box Kit or a Display Box Kit



Step 3: Select an I/O Module (optional)



Or Select a pre-built OMNI System

OMNI-SKU: These systems feature the 6th Generation Intel Core i7/i5/i3 and Celeron 3995 processors (formerly Skylake), combined with up to 16GB of memory.

OMNI-BT: These systems are powered by the Celeron J1900 and Celeron N2807 processors (formerly Bay Trail), with up to 8GB of memory available (J1900 CPU).

OMNI-M: These systems are fitted with the Display Box Kit, allowing you to connect the OMNI panel to any PC system via VGA or HDMI.



Design Manufacturing Service

Design Manufacturing Service (DMS) offers exceptional end-to-end services from product conceptualization, product development to manufacturing and service programs. All services are linked together through a comprehensive process and closely monitored by dedicated professionals to guarantee the highest level in product quality, reliability and durability.

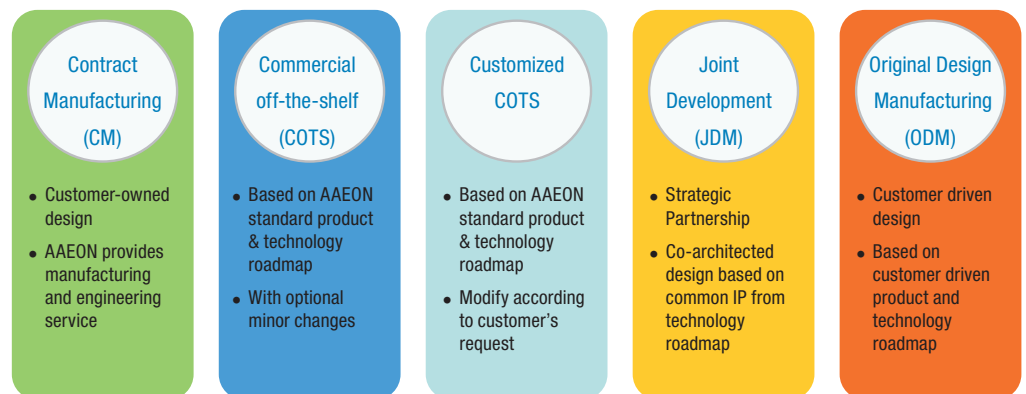
Collaboration Models



Customers can consign to AAEON the manufacturing of their existing products, customize existing AAEON COTS products, or joint develop new products with the expertise of a dedicated project team that oversees the project from product conceptualization to on-time delivery of the goods. AAEON DMS handles Large-volume as well as Low-Volume-High-Mix projects, satisfying the need of our customers for every kind of computing platform requirements.

Areas of Expertise

- Retail
- Transportation
- Energy
- Automation
- Medical and Healthcare
- Networking



Quality Manufacturing

Collaborative Development



What is Q Service Plus?

Q Service is a Quick and Quality Service for reducing the time spent on troubleshooting and expediting the development process. With COM technology getting more and more complex and versatile, product failure can originate from numerous sources and may be difficult to identify. AAEON's Q Service Plus helps our customers to improve new products' times to market with AAEON's full support from Hardware, Software and Firmware R&D resources.

Q Service Plus Commitment:

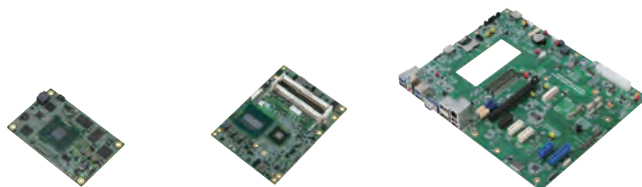
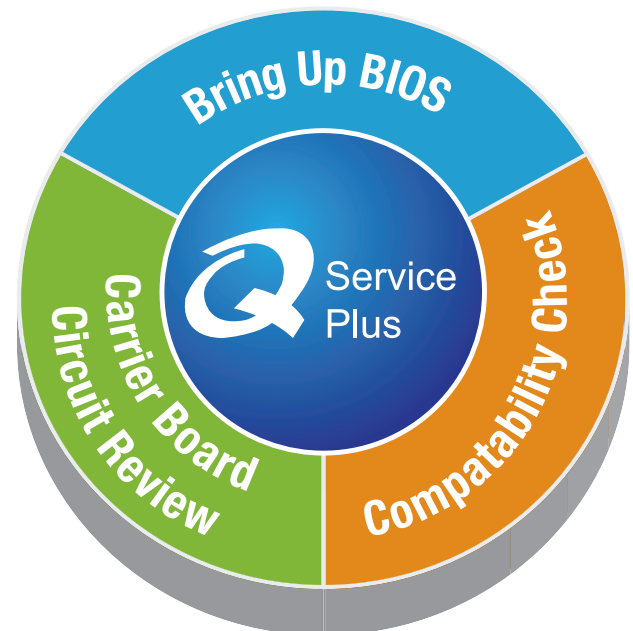
- Quick carrier board schematic review within FIVE working days -Absolutely FREE!
- Quick delivery of a bring up BIOS - within FIVE working days, absolutely FREE!
- Quick compatibility and reliability debug services and feedback within 72 hours
- Quick arrangement for on-site service and consultation

Benefits:

- Worry-free upgrades
- Faster time to market
- Cost savings
- Reduced design risks
- Long-term support

AAEON Carrier Board Design Service

With over 20 years of quality design and manufacturing experience, AAEON provides professional carrier board design services according to the customer's specifications and passes all compatibility and functional tests required in the process. There are also default carrier boards available for evaluation purposes.



NanoCOM Module

COM Module

Carrier Board

Wide Temperature Assurance Service (WiTAS)

Wide Temperature Embedded Computing

Applications of embedded computing systems continue to improve the quality and convenience of our lives. As the global population increases, there are greater demands on resources, and the need for automation and computing capability in remote regions will grow. To address a demand for computers that operate in extreme environments, platforms must follow design methodologies for wide temperature range use. In addition, testing and product qualification must follow more stringent criteria to assure continuous operation. As the core of any embedded system, the CPU board plays perhaps the most critical role and, therefore, requires careful design and validation for wide temperature capabilities.

AAEON has been designing and manufacturing quality embedding products for over two decades. Our accumulated experience in all aspects of the embedded electronics market puts us in a strong position to develop wide temperature CPU boards and systems.

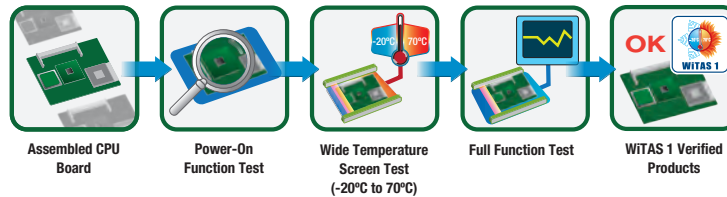
AAEON's WiTAS (Wide Temperature Assurance Service) program produces boards in two temperature range categories:

-20°C to 70°C (-4°F ~ 158°F) = WiTAS 1

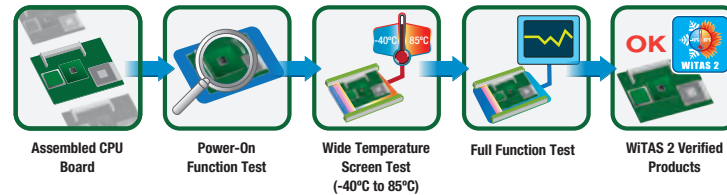
-40°C to 85°C (-40°F ~ 185°F) = WiTAS 2

Processes for WiTAS Production

WiTAS 1 Production



WiTAS 2 Production

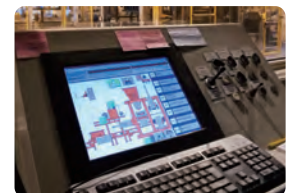


Boards that pass -20°C to 70°C (-4°F ~ 158°F) thermal tests are given a WiTAS 1 designation, and boards that endure -40°C to 85°C (-40°F ~ 185°F) tests are assigned a WiTAS 2 designation, as part of AAEON's special service assurance of wide temperature durability and reliability. This, in conjunction with the use of durable components throughout the duration of testing, allows AAEON to enhance the longevity of its boards and systems.

Application

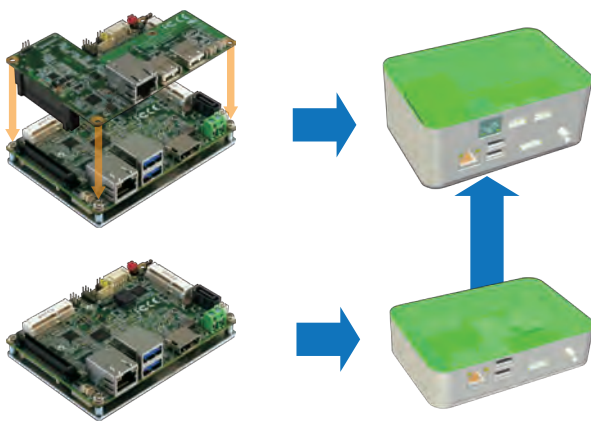
Applications for WiTAS CPU boards can be found in a range of industries and markets:

- Transportation: Trains, Ships, Airplanes and Traffic Surveillance Systems
- Factory Automation: Power Stations, Steel Manufacturing
- Military: Field Electronic Devices, Controllers
- Energy: Windmill Controllers, Solar Energy Controllers
- Environmental: Climate, Water, Air Quality
- Anti-dust, Fanless Applications: Medical, Chemical and Pharmaceutical Factories



BIO Board Design Service

The BIO interface, or board-to-board I/O interface, is AAEON's latest innovation in product customization. The BIO board is designed with compactness in mind and is highly customizable for a plethora of add-on features such as MiniCards, USBs, COM and PoE (Power over Ethernet) ports.

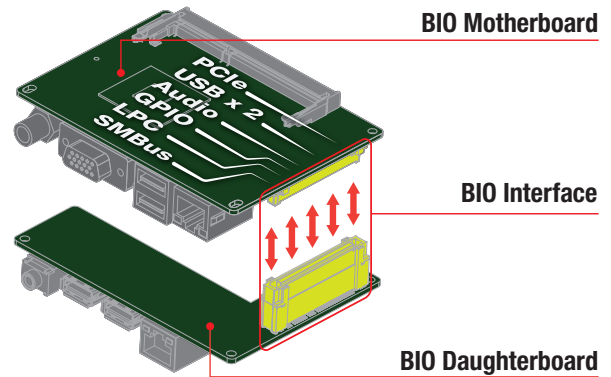


BIO Standardized Pin Definition

While there are many ways in which a product can be customized, AAEON recommends the BIO daughterboards, a series of daughterboards equipped with AAEON's Board-to-board Interface for AAEON's Standard Products. Simple in design and made to order, these boards take the time and effort out of customization by bypassing the traditional process of re-specifying, building, and testing. Just pick the features you want, build the board, connect it to the motherboard and your solution is ready. No fuss, no muss.

Some key features include:

- Universal screw holes on both the motherboard and daughterboard
- Flexible to demands of vertical markets
- Easy thermal and system assembly



Customization Made Easy

AAEON Single Board



BIO Module

Standard Product



- Immediate availability
- Simple expansion

Ready in 2 weeks!

Designed by AAEON



- Custom specification
- Costs at least 70% less than a new project

Ready in 4 weeks!

Designed by Customer



- Easy custom specification
- Co- & Self development
- Secured domain knowledge

Fast Delivery for Expansions

AAEON's Embedded OS Solution

AAEON provides Embedded OS Solutions to customers who are in need of OS customization. AAEON's Embedded OS Solutions are designed to shorten times to market and save our customers' time and R&D resources.

Windows® Embedded Products

 Windows 10 IoT

Windows® 10 IoT Enterprise LTSC 1607/1809

 Windows Embedded 8

Windows Embedded 8.1
Industry

Windows Embedded 8
Standard

Windows Embedded 8.1
Pro

Windows Embedded 8.1
Handheld

 Windows Embedded 7

Windows Embedded
Enterprise 7

Windows Embedded
POSReady 7

Windows Embedded
Standard 7

AAEON Embedded OS Solution

Chipset	Windows® Embedded Standard 2009	Windows® Embedded Standard 7	Windows® Embedded 8 Standard	Windows® 10 IoT Enterprise
Intel® 7th KabyLake (Q170/H110/C236)	—	—	—	✓
Intel® 6th SkyLake (Q170/H110/C236)	—	✓	✓	✓
Intel® 5th Broadwell (5010U/5350U/5650U/D1548/D1518)	—	✓	✓	✓
Intel® 4th Haswell (QM87/Q87/H81)	—	✓	✓	—
Intel® 3rd IvyBridge (QM77/Q77/HM76/B75)	✓	✓	✓	—
Intel® 2nd SandyBridge (QM67/Q67/H61/QM57/Q57)	✓	✓	✓	—
Intel® ApolloLake (N4200/N3350/E3930/E3940/E3950)	—	✓	✓	✓
Intel® Braswell (N3060/N3160/X5-E8000/N3710)	—	✓	✓	✓
Intel® Baytrail (J1900/N2000/E3800)	—	✓	✓	—
Intel® TunnelCreek (E620/E640/E660/E680)	✓	✓	—	—
Intel® Pinewview (N450/D410/D510/D525/N455/D425)	✓	✓	—	—
Intel® Cedarview (D2550/N2800/N2600)	✓	✓	—	—
AMD Geode (LX700/LX800/LX900)	—	✓	—	—
AMD T56N/T40R/T40E/T16R	✓	✓	✓	—

Note 1: Former Windows® Embedded XP

Note 2: Former Windows® Embedded

AAEON's Embedded OS Solution/Hi-Supervisor

Embedded OS Main Features

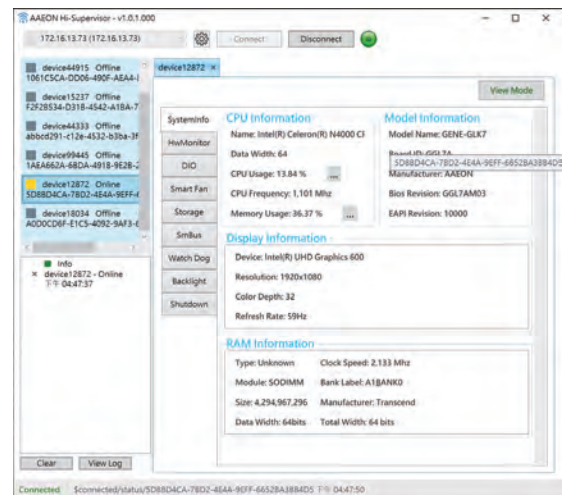
OS Family	Windows® Embedded Standard	Windows® Embedded POS Ready	Windows® Embedded Enterprise
Features	Full Customization	Simple Installation	Full Function
Windows® Product Sku	Windows® Embedded Standard 2009 Windows® Embedded Standard 7 Windows® Embedded Standard 8	WEPOS 1.1 POSReady 7 POSReady 2009 Windows® Embedded Industry 8.1 Pro Retail	Windows® 7 Professional Windows® 8.1 Professional Windows® 10 IoT Enterprise LTSC 1607/1809
CPU Type	x86	x86	x86
Development Tool	Customization Image	CD Installation	CD Installation
Development Time	Short	None	None
Maintenance Cost	Middle	Low	Low
Embedded Features	Custom Shell/ EWF/ FBWF/ USB Boot/ HORM	Custom Shell/ FBWF/ USB Boot	Standard Shell/ UWF

AAEON Hi-Supervisor

Hi-Supervisor is a remote hardware monitor application for Windows based on MQTT protocol. This software allows users to get device status and set device configurations like GPIO, Fan, Watch Dog Timer, SMBus, ..., etc. It supports remote reboot and shutdown, too. Hi-Supervisor supports AAEON Windows platforms which support Hi-Safe. Users can set warning thresholds to acknowledge users abnormal conditions by e-mail.

Hi-Supervisor Advantages

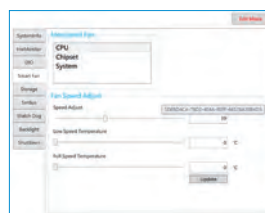
- ▶ Support Hi-Safe full functions remotely
- ▶ Customized support
- ▶ Support Azure IoT Central



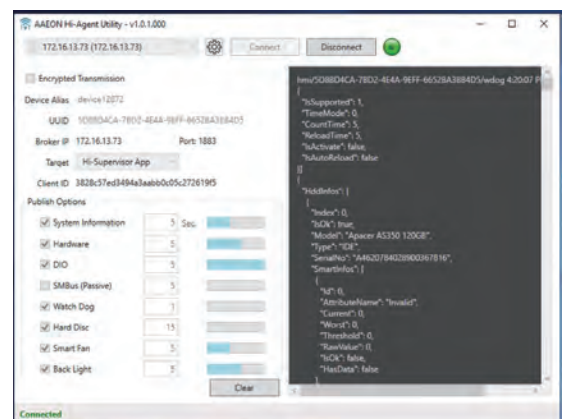
Hardware Monitor:
Retrieves fan, temperature and voltage data



Hard Disk:
obtain hard disk S.M.A.R.T. information



Remote Control Fan



AAEON Hi-Safe

Hi-Safe is a free and powerful program providing SDKs for UIs running Microsoft® Windows® operating systems. It allows end users to easily develop their own UI software to monitor vital systems such as the processor, RAM and VGA. It monitors received data about the Super I/O, fan, temperature and voltage, offers configuration options for Digital I/O pin direction and data patterns, provides watchdog timer and fan speed settings, SMBus base address detection and device ID settings. Hi-Safe also offers two modes for backlight display control if one uses the LVDS interface. Based on the user interface SDK, no coding is needed, and customers can create their own customized user interface by using the function codes provided by AAEON.



Hi-Safe Advantages

- ▶ **Faster time to market**
- ▶ **Easy to use**



System Information:

Displays CPU, VGA and RAM information



Smart Fan:

Retrieves fan and temperature data; sets the fan speed into the smart fan mode



Hardware Monitor:

Retrieves super I/O, fan, temperature and voltage data



SM Bus:

Read and write SMbus device and detects SMbus base address automatically



DIO:

Obtain DIO information: set the pin direction and pin data



Backlight Controller:

Controls the backlight display; two modes



Watchdog:

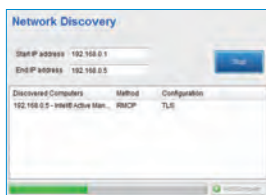
Set the system reboot timer

Hi-Manager is a tool based on the Intel® Active Management Technology 12.0 (iAMT 12.0) and has backward compatibility with earlier versions of iAMT. This allows users to locate all iAMT devices within the intranet, power On/Off target devices remotely, set power On/Off scheduling, arrange device groupings for better management, offer event logs and timer settings to wake up devices at specified times, recover systems that have crashed from virtual CD-ROM, remote KVM management and access to target device hardware information for asset management. Hi-Manager can be installed on all AAEON platforms and can remotely manage AAEON client devices that use Intel® M67/ Q77/ QM77/ HM76/ B75A/Q87/QM87/QM170/Q370/C246 chipsets and run Microsoft® Windows® XP, Windows® 7, and Windows® 10 Operating Systems.

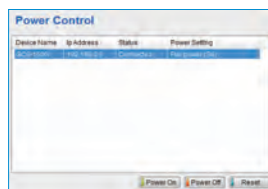


Hi-Manager Advantages

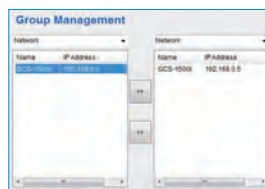
- ▶ Easy to use and build custom applications
- ▶ Supports AAEON products with iAMT
- ▶ In-depth technical support



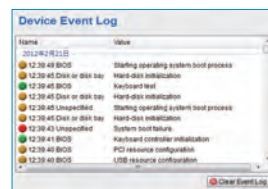
Network Discovery:
AMT device discovery



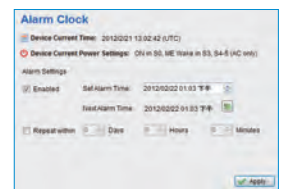
Power Control:
Powers On/Off the target device



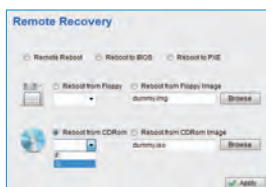
Group Management:
Arrange devices in this function



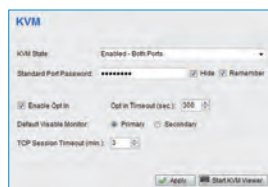
Event Log:
Logs boot records of the selected device



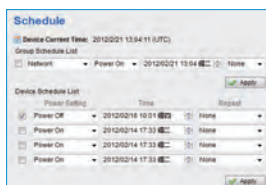
Alarm Clock:
Sets timer to wake up a sleeping device



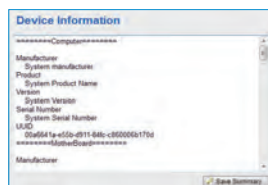
Remote Recovery:
Mounts boot image or physical CD-Rom to target device



KVM:
Controls remotely from the target device



Schedule:
Schedules the power On/Off target devices



Device Information:
Shows target device assets

Intel® Active Management Technology Features

Intel® Chipset	M67/ Q77/ QM77/ HM76/ B75A/ Q87/ QM87/QM170/Q370/C246
Intel® AMT Version	7.0/8.0/9.0/10.0/11.0/12.0
HW Inventory	✓
SW Inventory	✓
Power State Management	✓
System Defense	✓
Remote Configuration	✓
Remote Boot Option	✓
KVM Redirection	✓
KVM Remote Control	✓
ME Wake on LAN	✓
Proactive Security Block, HW-Based and Remote Management Recovery	✓
Host-Based Provisioning	✓
Enhanced System Defense Filters	✓

AAEON HERO Software Solutions

Introduction

AAEON continues to innovate in providing end-to-end solutions for industrial computing and network applications with our High Efficiency, Reliable and Optimal (HERO) software solutions. HERO software solutions leverage our expertise and experience with our containerized web app, the HERO Device Management Center (HERO DMC), and native edge device software, the HERO Agent, HERO SDK, and HERO Gateway. Available pre-loaded on a selection of AAEON platforms, this software infrastructure allows users to monitor several devices and sensors from anywhere thanks to cloud-based technology and edge computing.

Benefits

- Easy to use Web Based Client Dashboard Graphic Interface
- Account Management support
- Device and Group Management support
- MQTT protocol and RESTful API for reliable cloud connectivity
- Event based alerts sent out by email or messenger service
- Easy to deploy and manage
- Factory Configured to work with your devices from Day 1
- Transport Encryption with TLS/SSL
- Remote Device Control Support
- On-Line Device Status Report
- Export Report Support



HERO Agent and SDK

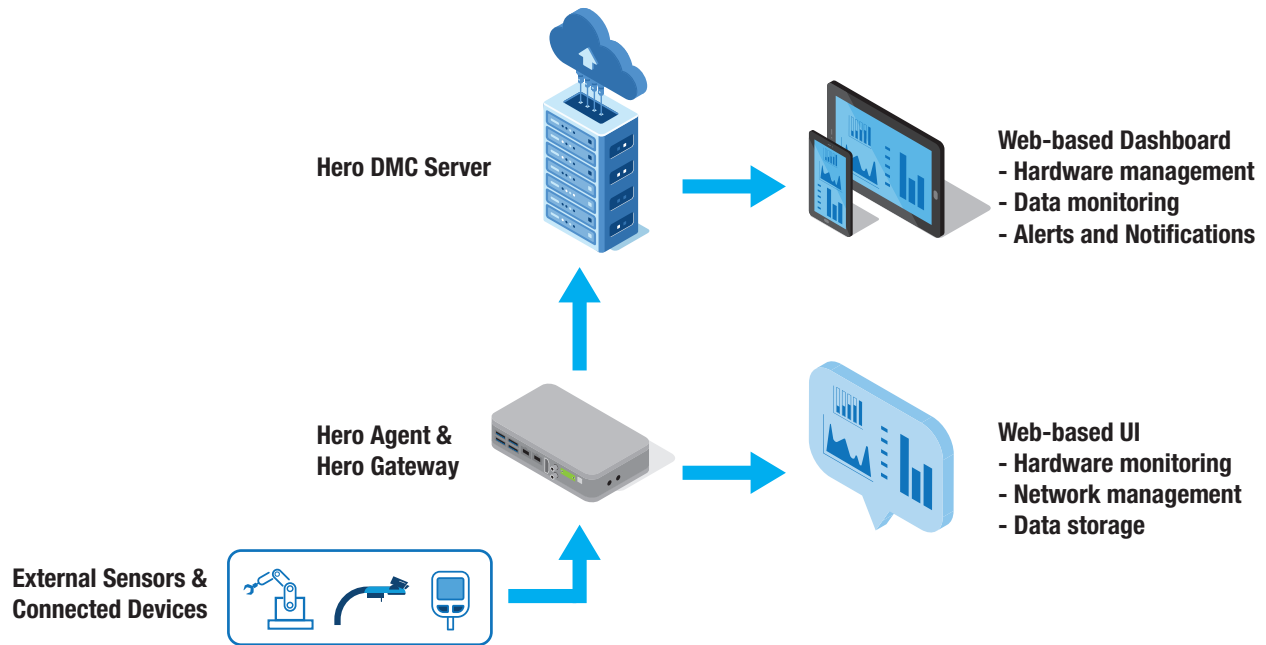
At the center of the AAEON HERO Device Management Center, HERO Agent and SDK is the software powering HERO Gateway, providing the link between edge and cloud. HERO Agent provides data collection from edge devices and external sensors connected with the gateway and sends that information securely to the HERO DMC service. AAEON offers the HERO Agent and SDK software pre-loaded on specially selected AAEON embedded platforms as the HERO Gateway solution, configurable to work with the devices and sensors your facility uses. HERO Agent and SDK software is also available separately to be installed by the user.

HERO Gateway

AAEON HERO Gateway is the total hardware solution utilizing AAEON embedded hardware with HERO Agent pre-installed. HERO Gateway utilizes protocols such as MQTT and OPC UA to send data securely to HERO DMC, and integrates easily with public cloud services including Microsoft Azure and AWS IoT Core. HERO Gateway devices are 4G-LTE compatible, allowing flexible connectivity with HERO DMC. With HERO Agent, the device is easily managed through the Dashboard, a web-based interface which features tools such as Device Map and Data Visualization, node device management, database and network management. Data stored on HERO Gateway can also be accessed and managed securely through the Dashboard. AAEON can also provide service for adding customized RESTful API to assist customers who wish to implement an app to manage their HERO Gateway.

HERO Device Management Center

The AAEON HERO Device Management Center (DMC) is a dockerized web application which can be deployed on Linux-based and Windows-based environments. Receiving information from HERO Agent and the HERO Gateway, HERO DMC provides a feature-rich web-based dashboard for managing devices, sensors and nodes connected to HERO Gateway as well as managing the gateway itself. Utilizing M2M technology such as MQTT, HERO DMC allows users to monitor conditions live, or set up event alerts sent out via email or messenger services to stay ahead of any situation. If you want to keep your data on your local storage device, HERO Device Management Center can also be deployed to your private cloud without problem.



Use Case: Smart Manufacturing

AAEON's HERO DMC and HERO Gateway are real world proven technologies, having been deployed in applications such as Smart Factory Monitoring. Connecting with machine controllers and environmental monitors, the HERO Gateway can provide raw data locally, while the web-based monitor provides a simple interface to check the status of manufacturing equipment as well as provide alerts for temperature and humidity abnormalities, helping to maintain a controlled environment for sensitive processes.

Supported OS

HERO Agent and SDK: Debian 9, Ubuntu 16.04, CentOS 7, OpenSUSE Leap, Fedora 21 and above

HERO Gateway: Debian 9 and above

HERO DMC: Linux-based server with container support, Windows Server 2016 and above

Supported Products

COM Express Modules

- COM-KBUC6, COM-WHUC6, GENE-WHU6, PICO-WHU4

Industrial Motherboards

- MIX-Q370A, MAX-Q370A, MIX-H310A1, MAX-H310A, ATX-Q370A, ATX-C246A, MIX-H310D1, MIX-KLUW1, MIX-KLUD1, NPS-WLU

Embedded Box PCs

- BOXER-6405, BOXER-6841M, BOXER-6842M

UP Boards

- UP Xtreme, UP Xtreme Lite, UPX-Edge

IOT Gateways

- SRT-3352



AAEON Software Support Portal:
<https://aaeoncm.github.io/>



AI Edge Computing Solutions

Accelerate your project with AI Edge Computing modules from AAEON. AAEON offers two series of AI Edge Computing solutions; the AI Core X family with Intel® Movidius™ Myriad™ X VPU, and the AAEON Deep Learning series of modules with Kneron KL520 NPU.



Pico-ITX Boards

AAEON Pico-ITX boards are ideal for fanless, low power consumption and space limited equipment in the Embedded Market. It is equipped with the most standard I/O connectors along the rear I/O edge and rich features, such as HDMI, USB, COM, SATA, and Mini Card, to reduce the cost of system integration.



COM Express CPU Modules

The PICMG standard for Computer-On-Modules (COMs) is based on serial differential signaling technology and legacy PC peripheral interfaces. Besides PCI, LPC and IDE, COM Express incorporates interfaces including PCI Express, Serial ATA, USB 2.0/3.0, LVDS and Serial DVO. COM Express delivers performance, flexibility, quick time to market, safeguards R&D investment and lowers the total cost of ownership.



UP Series

AAEON's UP Board family of SBCs provide a compact solution for applications in Edge Computing, IoT, AI and more. Featuring energy efficient Intel® processors, UP Board SBCs offer greater processing power over traditional "maker boards" while operating in mobile applications. UP Board SBCs are designed for ultimate flexibility, making integration into your projects even easier.



EPIC Boards

The EPIC form factor embedded single board computer is designed to fulfill increasing high performance demands and flexible expansions. The size of the EPIC board (4.53" x 6.50") makes it an ideal size to fit into space-constrained applications requiring stackable I/O expansions. EPIC also offers features such as low power consumption and PC/104+ slots to satisfy varying customer requirements.



SubCompact Boards

AAEON's expertise in space constrained design helped to create these small yet powerful computer boards. At just 5.75" x 3.5", AAEON's SubCompact boards are uniquely suited for mobile and low-power devices.



Compact Boards

8" x 5.25" compact-sized computer boards apply advanced embedded technology, providing stable and solid computing engines for Factory Automation, KIOSK and POS (Point of Sale) markets.



PC/104 Modules

These ultra-compact stackable computer modules come with PC/104, PC/104+ or PCI-104 connectors for flexible function expansion. AAEON offers different performance levels of PC/104 CPU modules and a variety of PC/104 peripherals to meet your application requirements. Furthermore, the cutting-edge PCI/104-Express interface CPU module will provide for the next era of applications.



Smart Display Modules

Intel® Smart Display Modules, or SDMs, are changing the face of the digital display industry. Their slim form factor gives developers greater flexibility when panel design and enables a new generation of ultraslim devices. With SDMs sharing a standard design specification, system upgrades and modifications can be achieved by simply plugging in a new module, and their ease of use also helps to reduce maintenance costs.



Industrial Motherboards

AAEON's Industrial Motherboard line focuses on the most popular form factors: Nano ITX, Mini-ITX, MicroATX and ATX. These form factors are ideal in the KIOSK, POS, Panel PC, Vending Machine, Banking Machine, Medical and Gaming industries. PCI, PCI-E, Mini-Card, M.2 and Mini-PCI bus interfaces are provided. In addition, more standard I/O connectors are arranged at the rear/front I/O to save cost and ease in-system design.



Peripheral Modules

The Mini-PCI, Mini Card form factor Peripheral Modules provide easy and cost-effective function expansion for things such as serial ports, LAN ports, USB ports, IEEE-1394a ports, SATA ports, Capture functions, TTL/DVI Conversion module, and CAN bus.



Half-Size SBCs

Half-Size CPU cards offer ISA, PCISA and PCI interface. AAEON delivers a wide range of product selections for embedded applications.



AI@Edge Solutions

AAEON AI@Edge Solutions feature embedded platforms purpose-built for powering Artificial Intelligence and Edge Computing applications. Utilizing the latest edge SoCs and AI accelerators, these systems are available in a range of I/O configurations to provide maximum flexibility and compatibility for your project.



AIOT Gateway

AAEON's AIOT gateway series focus on communication on multiple connectivity protocols, data mining/ collection, and edge computing in IoT environment. All series are equipped with Intel dual/quad core CPU, onboard memory, and eMMC as storage in a lightweight, palm-sized boxes. Due to variety of I/O interfaces such as HDMI, USB, COM port, Ideal applications from data collection to automation, smart retail, and smart city.



IP68 Gateway

A new generation of tough IoT gateways is allowing applications to move into the field and stay connected – no matter what the conditions. AAEON's AIOT-IP6801 provides complete protection against dirt and dust, it can be safely plunged into deep water, and it has an operating temperature range of up to -20 °C ~ 70 °C. Even if you work in the dirt, you can still keep your head in the clouds.



Machine Vision Box PC

Featuring added connectivity for camera/lighting controls as well as robotic arms, AAEON's Machine Vision Box PCs are high-performance platforms that accelerate inspections and improve production efficiency.



Fanless Embedded BOX PC

The BOXER Series is a full line of differently sized embedded controllers for use in the fields of transportation, entertainment, environmental and industrial facility monitoring, building automation and other relevant IPC areas.



Transportation Box PC

AAEON Transportation Box PCs serve as surveillance centers for retrieving video content from PoE cameras and transmitting GPS location data to control centers, as well as a source of Wi-Fi/4G connectivity and infotainment.



Network Video Recorder & Mobile NVR

In addition to monitoring, recording and storing recorded videos, AAEON's Network Video Recorders are also equipped with media playback and vehicle power support and can also serve as WiFi hotspots.



Ultra-slim Multi-Touch Panel PC (ACP-1000 Series)

The ACP-1000 Series is AAEON's first offering of ultra-slim fanless P-CAP multi-touch panels. The panels' most prominent feature, their ultra-slim design, offers superior cooling and makes them suitable for space-restricted applications. The panels can also be used with Panel and VESA mounts for installation on both vertical and horizontal surfaces.



Modular Touch Panel PC

The OMNI Series is a group of modularized industrial touch panel PCs that are highly dynamic in design and can be efficiently deployed in the manufacturing sector. AAEON offers a wide selection of premade components including 10.4"~21.5" LCD kits, a CPU BOX kit and several I/O modules to configure unique panel PCs to fulfill customer needs. Lead time is therefore greatly shortened, enhancing efficiency and effectively lowering costs as customization costs are eliminated.



Modular Touch Display

AAEON industrial displays range in size from 10.1" ~ 21.5" and have either capacitive or resistive touch screens, industrial-grade LED LCD screens, high IP-rated bezels and wide temperature specifications.



Turn-key Chassis

AAEON Turn-key Chassis systems provide users with a platform that's ready to go out of the box. Including the compact Nano system and the 1U form factor ACS series, AAEON Turn-key systems provide support for a range of Intel® processors from the Intel® Atom™ to the 6th Gen Intel® Core™ (formerly Skylake). AAEON Turn-key chassis come with a range of I/O and expansion features to easily integrate into your workplace.

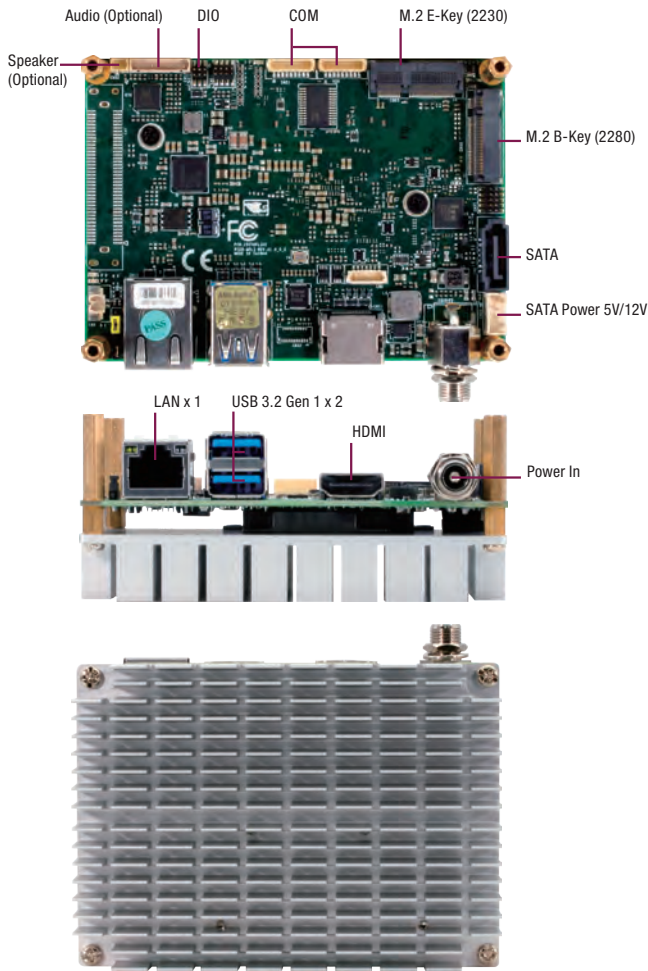
AI Edge Computing Solutions

AI

ARTIFICIAL INTELLIGENCE

01





M2AI-2280-520



EverFocus Full HD Camera EUA1200



Features

- Intel® Pentium® N4200 Processor SoC
- Onboard Storage eMMC 32GB
- Onboard DDR3L 4GB
- Single Gigabit Ethernet Support
- HDMI 1.4b for Display
- USB 3.2 Gen 1 x 2, USB 2.0 x 2, SATA 6.0Gb/s x 1
- M.2 B Key (2280) x 1, M.2 E Key (2230) x 1
- M2AI-2280-520 x 1
- EverFocus Full HD Camera EUA1200 x 1



Specifications

System	
Form Factor	Pico-ITX
CPU	Intel® Atom™ Processor SoC
CPU Frequency	Up to 2.4 GHz
Chipset	Intel® Atom™ Processor SoC
Memory Type	Onboard DDR3L 4GB
Max. Memory Capacity	4GB
BIOS	AMI/SPI
Wake On LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+12V, AT/ATX
Power Supply Type	Lockable
Power Consumption (Typical)	Intel® N4200 processor, DDR3L 4GB, 1.1A@12V
System Cooling	Heatsink
Dimension	3.94" x 2.84" (100 mm x 72 mm)
Gross Weight	0.55 lb (0.25 kg)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	110,000
Certification	CE, FCC
Display	
Chipset	Intel® Atom™ Processor SoC
Resolution	HDMI 1.4b: 3840 x 2160@30Hz
LCD Interface	—
I/O	
Storage/SSD	SATA 6.0Gb/s x 1, 5V/12V Power reserved M.2 2280 (B Key) x 1 eMMC 32GB
Ethernet	Realtek 8111G x 1
USB Port	USB 3.2 Gen 1 x 2 Rear IO USB 2.0 x 2 (Internal, co-use with FAN connector)
Serial Port	COM1: RS-232
Audio	—
DIO	4-bit
Expansion Slot	M.2 2230 x 1 (E-Key) I2C, Smbus
SIM	—
TPM	—
Touch	—

Packing List

- PICO-APL3
- M2AI-2280-520
- EverFocus Full HD Camera EUA1200

Ordering Information

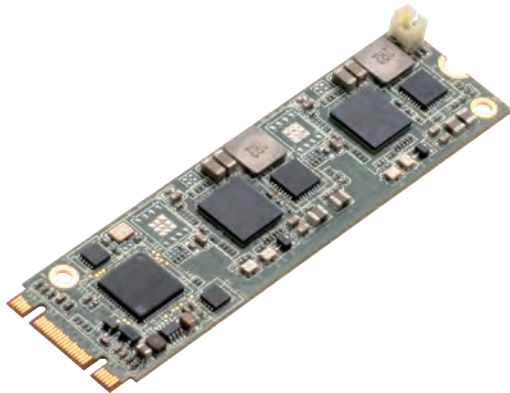
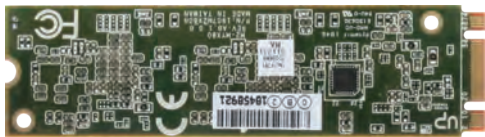
Part Number	CPU	Memory	Thermal	Display	Storage	LAN	USB	RS-232	RS-232/ 422/485	Expansion Slot	Power	Temp.	Others
PICO-APL3-A10-FAI1	Celeron® N4200 (Quad Core)	Onboard DDR3L 4GB	w/ Heatsink	HDMI x 1	SATA 3.0 x 1 M.2 2280 (B Key) x 1 eMMC 32GB	GbE x 1	USB 3.2 Gen 1 x 2 (Rear) USB 2.0 x 2 (Internal)	1	—	M.2 2230 (E Key) x 1	+12V (DC Jack)	0°C ~ 60°C	DIO 4 bit

Optional Accessories

Part Number	Description	Qty
1709070500	(TF) SATA Cable, 50cm	1
1702150155	(TF) SATA Power Cable, 15cm	1
1700040151	(TF) USB Cable, 15cm	2
1701090122	(TF) Flat Cable, D-Sub 9P(M), 9P 1.0mm Housing, 12cm	1
125530040C	(TF) Power Adapter.12V.40W.FSP.FSP040-DHAN3	1
1702031802	Power Cord (US Type)	1
1702031803	Power Cord (European Type)	1
170203180E	Power Cord (Japan Type)	1

AI Core XM 2280

AI Edge Computing Module with Intel® Movidius™ Myriad™ X VPU



Features

- Intel® Movidius™ Myriad™ X VPU
- 2x MYDX on M.2 2280 B+M key
- Intel® Vision Accelerator Design SW SDK
- Supported Framework: TensorFlow, Caffe, MXNET
- Ubuntu 16.04, Windows® 10



Specifications

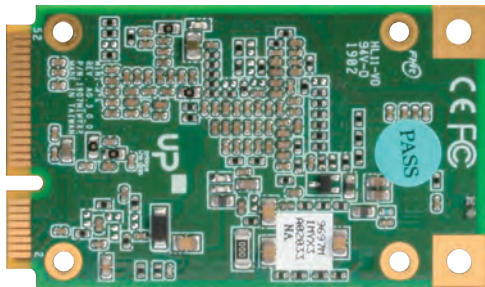
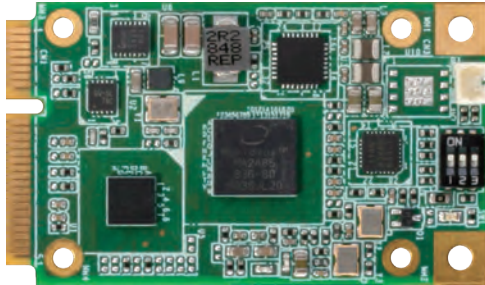
System	
IC	Intel® Movidius™ Myriad™ X VPU x 2, MA2485
Support frame work	Tensorflow, Caffe, MXNET
Others	
Form Factor	M.2 2280 B+M KEY
Dimension	3.15" x 0.87" (80 mm x 22 mm)
Certification	CE/FCC Class A
Operating Temperature	32°F ~ 122°F (0°C ~ 50°C)
Operating Humidity	10% ~ 80% relative humidity, non-condensing

Packing List

- M3 screw x 1
- AI Core XM 2280 x 1

Ordering Information

Part Number	Description
PER-TAIX2-A10-2280	AI CORE Movidius™ Myriad™ X 2485.M.2 2280 B+M key.Rev.A1.0



Features

- Intel® Movidius™ Myriad™ X VPU
- 1x MYDX on mPCIe
- Intel® Vision Accelerator Design SW SDK
- Supported Framework: TensorFlow, Caffe, MXNET
- Ubuntu 16.04, Windows® 10



Specifications

System	
IC	Intel® Movidius™ Myriad™ X VPU, MA2485
Support frame work	Tensorflow, Caffe, MXNET
Others	
Form Factor	Mini PCIe
Dimension	2.01" x 1.18" (51 mm x 30 mm)
Certification	CE/FCC Class A
Operating Temperature	32 °F ~ 140 °F (0 °C ~ 60 °C)
Operating Humidity	10% ~ 80% relative humidity, non-condensing

Packing List

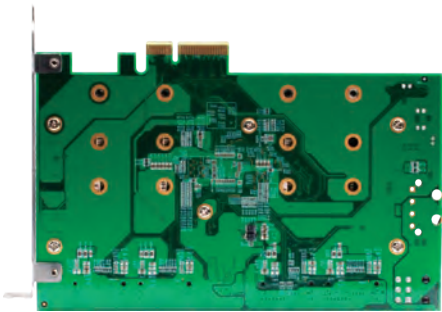
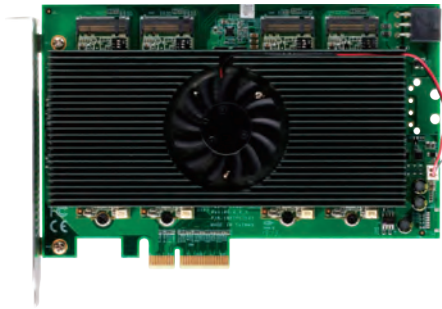
- M2 screw x 1
- AI Core X x 1

Ordering Information

Part Number	Description
PER-TAICX-A10-001	AI CORE Movidius™ Myriad™ X 2485. PCIe interface.Rev.A1.0
PER-TAICX-A10-002	AI Core X mPCIe card. with single Myriad™ X. 15 mm heat sink with FAN
PER-TAICX-A10-003	AI Core X mPCIe card. with single Myriad™ X. w/o heat sink

AI Core XP4/XP8

AI Edge Computing Module with Intel® Movidius™ Myriad™ X VPU



Features

- PCIe x 4 Standard Full Length Low Profile Slot Card
- Supports 4 x M.2 2280 M-Key
- Intel® Movidius™ Myriad™ X VPU
- Intel® Vision Accelerator Design SW SDK
- Supported Framework: TensorFlow, Caffe, MXNET
- Ubuntu 16.04, Windows® 10



Specifications

System	
IC	Asmedia PCIe switch, Intel® Movidius™ Myriad™ X VPU
Support frame work	Tensorflow, Caffe, MXNET
Others	
Form Factor	PCIe x 4 card, full length, low profile
Dimension	4.37" x 6.57" (111 mm x 167 mm)
Certification	CE/FCC Class A
Operating Temperature	32°F ~ 122°F (0°C ~ 50°C)
Operating Humidity	10% ~ 80% relative humidity, non-condensing

Packing List

- AI Core XP4/XP8

Ordering Information

Part Number	Description
PER-TAIX4-A10-PCIE	AI Core PCIe x 4 with 2 x AI Core XM 2280, fan heatsink
PER-TAIX8-A10-PCIE	AI Core PCIe x 4 with 4 x AI Core XM 2280, fan heatsink

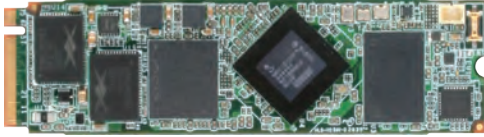
PRELIMINARY

AI Core KM 2280

01

AI Edge Computing Module with The Gen 3 Intel® Movidius™ VPU (formerly Keem Bay)

AI Edge Computing Solutions



Features

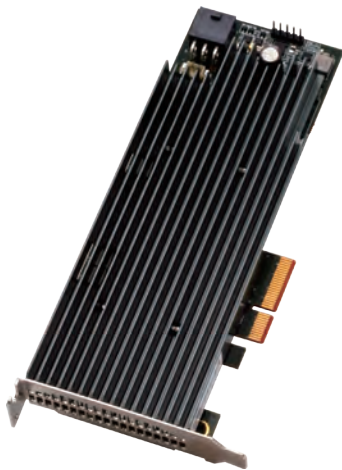
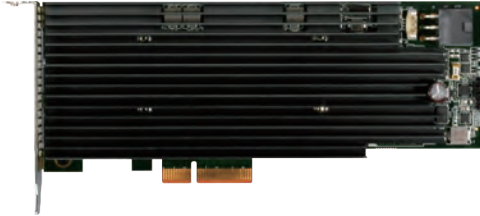
- The Gen 3 Intel® Movidius™ VPU
- 1 x Keem Bay VPU on M.2 2280 B+M key and M-key
- Intel® Vision Accelerator Design SW SDK
- Supported Framework: TensorFlow, Caffe, MXNET, PyTorch
- Ubuntu 18.04, Windows® 10

CE FCC

Specifications

System	
IC	The Gen 3 Intel® Movidius™ VPU x 1
Support frame work	Tensorflow, Caffe, MXNET, PyTorch
Others	
Form Factor	M.2 2280 B+M key and M-key
Dimension	3.15" x 0.87" (80 mm x 22 mm)
Certification	CE/FCC Class A
Operating Temperature	32°F ~ 122°F (0°C ~ 50°C)
Operating Humidity	10% ~ 80% relative humidity, non-condensing

AI Edge Computing Module with The Gen 3 Intel® Movidius™ VPU (formerly Keem Bay)



Features

- PCIe x 4 Standard Full Length Low Profile Slot Card
- The Gen 3 Intel® Movidius™ VPU
- Intel® Vision Accelerator Design SW SDK
- Supported Framework: TensorFlow, Caffe, MXNET, PyTorch
- Ubuntu 16.04, Windows® 10
- PCIe x4 to 4 x PCIe x1 switch IC



Specifications

System	
IC	Asmedia PCIe switch, The Gen 3 Intel® Movidius™ VPU
Support frame work	Tensorflow, Caffe, MXNET, PyTorch
Others	
Form Factor	PCIe x 4 card, full length, low profile
Dimension	4.37" x 6.57" (111 mm x 167 mm)
Certification	CE/FCC Class A
Operating Temperature	32°F ~ 122°F (0°C ~ 50°C)
Operating Humidity	10% ~ 80% relative humidity, non-condensing



Features

- Kneron KL520 NPU (Designed by ARM architecture)
- Mini card (USB2.0 interface, Full size)
- Accelerator for AI Edge Computing
- Good for people monitoring, retail application



Specifications

System	
IC	Kneron KL520
Type	Integrated SoC
Support Framework	ONNX, TensorFlow, Keras, Caffe
Support Model	Vgg16, Resnet, GoogleNet, YOLO, Tiny YOLO, Lenet, MobileNet, DenseNet
Memory Type	LPDDR2
NPU Performance	0.35 TOPS
Overall Power Consumption	0.5 W
Others	
Operating Temperature	32°F ~ 158°F (0°C ~ 70°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
Certification	CE/FCC Class A

Packing List

- M3 screw x 2
- M2AI-2242-520 x 1

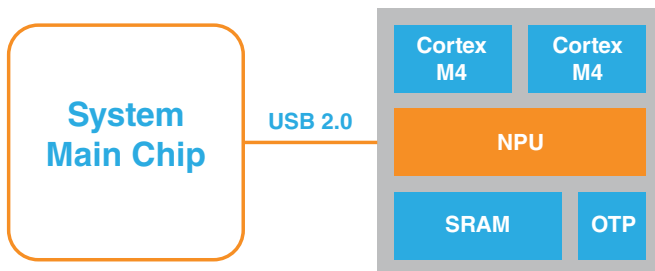
Optional Accessories

- EverFocus Full HD Camera EUA1200

Ordering Information

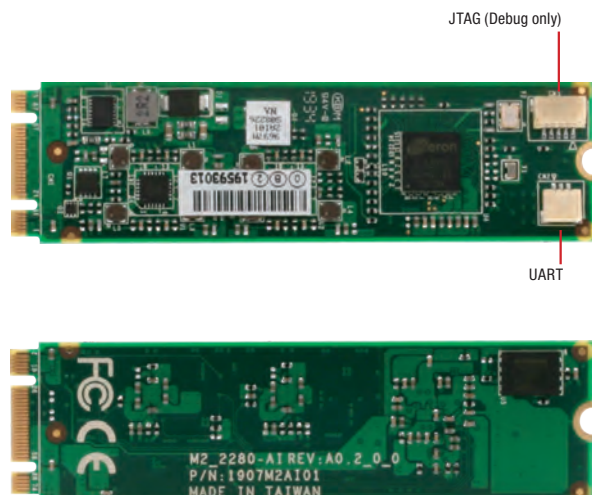
Part Number	Description
PER-T520-M2AI-A11-0421	AI.NPU 520.M.2 2242(USB interface).A1.1
PER-T520-M2AI-A11-K421	AI.NPU KL520.M.2 2242.w/ HD Camera.A1.1

AI Architecture

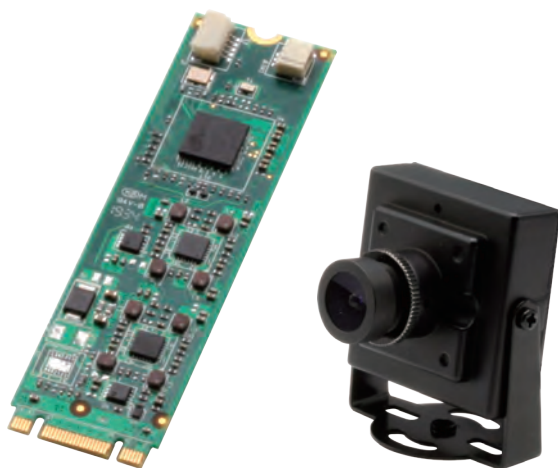


M2AI-2280-520

AI Edge Computing Module with Kneron KL520 NPU

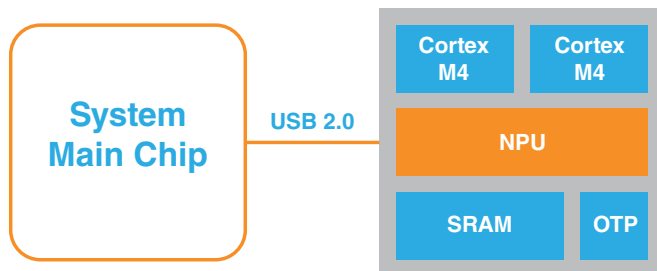


AI Vision + Edge Computing Development Kit



Part Number: PER-T520-M2AI-A11-K801

AI Architecture



Features

- Kneron KL520 NPU (Designed by ARM architecture)
- M.2 B Key (22x80mm)
- Accelerator for AI Edge Computing
- Good for people monitoring, retail application



Specifications

System	
IC	Kneron KL520
Type	Integrated SoC
Support Framework	ONNX, TensorFlow, Keras, Caffe
Support Model	Vgg16, Resnet, GoogleNet, YOLO, Tiny YOLO, Lenet, MobileNet, DenseNet
Memory Type	LPDDR2
NPU Performance	0.35 TOPS
Overall Power Consumption	0.5 W
Others	
Operating Temperature	32°F ~ 158°F (0°C ~ 70°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
Certification	CE/FCC Class A

Packing List

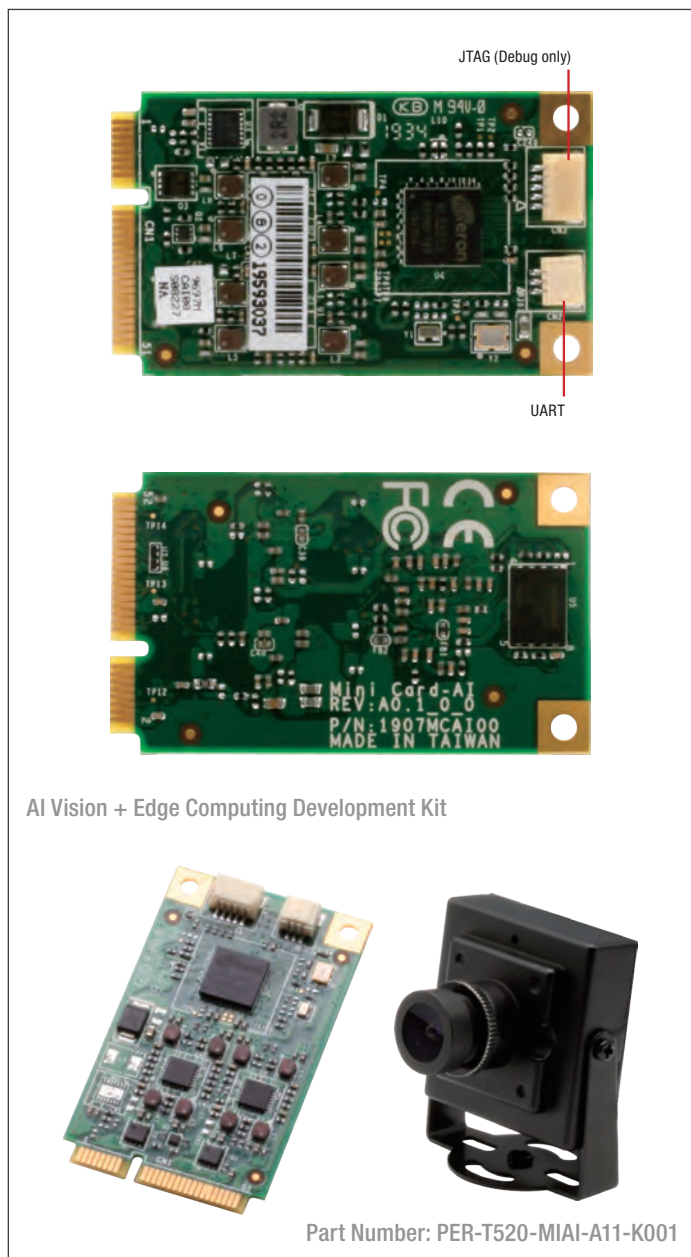
- M3 screw x 1
- M2AI-2280-520 x 1

Optional Accessories

- EverFocus Full HD Camera EUA1200

Ordering Information

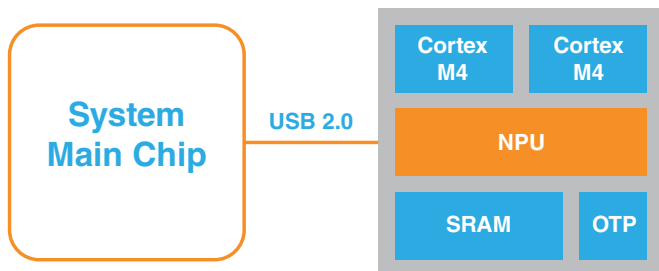
Part Number	Description
PER-T520-M2AI-A11-0801	AI.NPU 520.M.2 2280(USB interface).A1.1
PER-T520-M2AI-A11-K801	AI.NPU KL520.M.2 2280.w/ HD Camera.A1.1



AI Vision + Edge Computing Development Kit

Part Number: PER-T520-MIAI-A11-K001

AI Architecture



Features

- Kneron KL520 NPU (Designed by ARM architecture)
- Mini card(USB2.0 interface,Full size)
- Accelerator for AI Edge Computing
- Good for people monitoring, retail application



Specifications

System	
IC	Kneron KL520
Type	Integrated SoC
Support Framework	ONNX, TensorFlow, Keras, Caffe
Support Model	Vgg16, Resnet, GoogleNet, YOLO, Tiny YOLO, Lenet, MobileNet, DenseNet
Memory Type	LPDDR2
NPU Performance	0.35 TOPS
Overall Power Consumption	0.5 W
Others	
Operating Temperature	32°F ~ 158°F (0°C ~ 70°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
Certification	CE/FCC Class A

Packing List

- M3 screw x 2
- Mini-AI-520 x 1

Optional Accessories

- EverFocus Full HD Camera EUA1200

Ordering Information

Part Number	Description
PER-T520-MIAI-A11-0001	AI.NPU 520.full size mini Card(USB interface).A1.1
PER-T520-MIAI-A11-K001	AI.NPU KL520.Full size Mini Card.w/ HD Camera.A1.1

Launching in Q1**Features**

- Kneron KL720 NPU (Designed by ARM architecture)
- M.2 B Key (22 x 42mm)
- Accelerator for AI Edge Computing
- Good for people monitoring, retail application

**Specifications**

System	
IC	Kneron KL720
Type	ARM CM & DSP
Support Framework	Pytorch, ONNX, TensorFlow 1.6, Tensorflow lite, Keras, Caffe
Support Model	Resnet, GoogleNet, YOLO, Tiny YOLO, MobileNet-SSD, DenseNet, RNN, LSTM
Memory Type	LPDDR3
NPU Performance	1.4 TOPS
Overall Power Consumption	0.9 W
Others	
Operating Temperature	32°F ~ 158°F (0°C ~ 70°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
Certification	CE/FCC Class A

Packing List

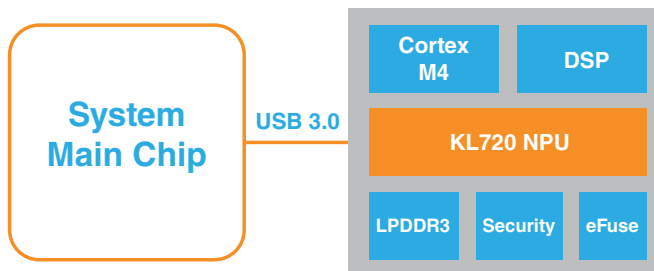
- M3 screw x 2
- M2AI-2242-720 x 1

Optional Accessories

- TBD

Ordering Information

- TBD

AI Architecture

Launching in Q1

Features

- Kneron KL720 NPU (Designed by ARM architecture)
- M.2 B Key (22x80mm)
- Accelerator for AI Edge Computing
- Good for people monitoring, retail application



Specifications

System	
IC	Kneron KL720
Type	ARM CM & DSP
Support Framework	Pytorch, ONNX, TensorFlow 1.6, Tensorflow lite, Keras, Caffe
Support Model	Resnet, GoogleNet, YOLO, Tiny YOLO, MobileNet-SSD, DenseNet, RNN, LSTM
Memory Type	LPDDR3
NPU Performance	1.4 TOPS
Overall Power Consumption	0.9 W
Others	
Operating Temperature	32°F ~ 158°F (0°C ~ 70°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
Certification	CE/FCC Class A

Packing List

- M3 screw x 1
- M2AI-2280-720 x 1

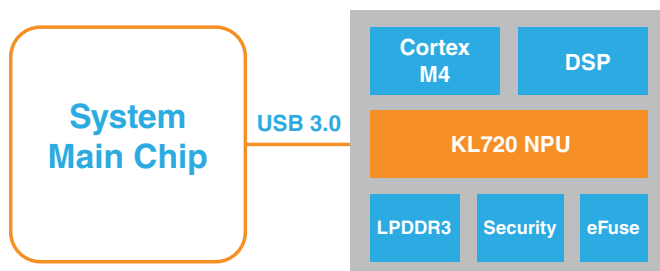
Optional Accessories

- TBD

Ordering Information

- TBD

AI Architecture



Launching in Q1

Features

- Kneron KL720 NPU (Designed by ARM architecture)
- Mini card(USB2.0 interface,Full size)
- Accelerator for AI Edge Computing
- Good for people monitoring, retail application



Specifications

System	
IC	Kneron KL720
Type	ARM CM & DSP
Support Framework	Pytorch, ONNX, TensorFlow 1.6, Tensorflow lite, Keras, Caffe
Support Model	Resnet, GoogleNet, YOLO, Tiny YOLO, MobileNet-SSD, DenseNet, RNN, LSTM
Memory Type	LPDDR3
NPU Performance	1.4 TOPS
Overall Power Consumption	0.9 W
Others	
Operating Temperature	32°F ~ 158°F (0°C ~ 70°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
Certification	CE/FCC Class A

Packing List

- M3 screw x 2
- Mini-AI-720 x 1

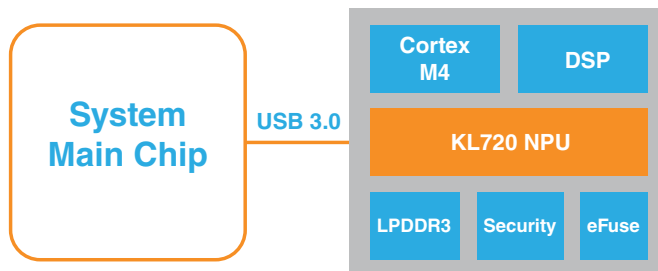
Optional Accessories

- TBD

Ordering Information

- TBD

AI Architecture



02

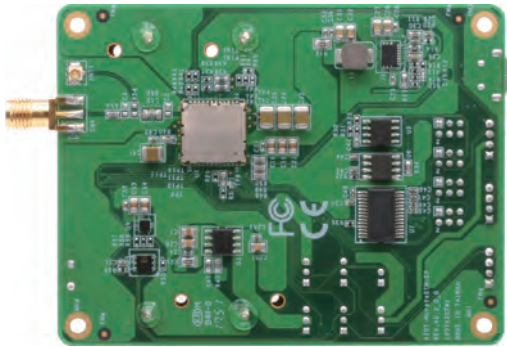
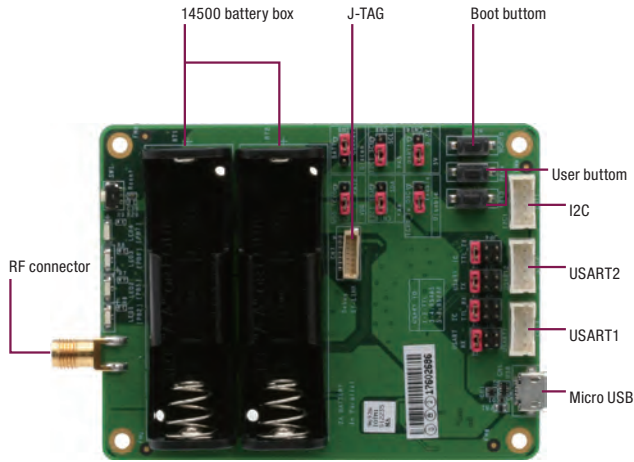
IIOT

IoT Gateway/Node Boards



AIOT-ILND01

LoRa Long Range Radio Node Board



Features

- LORA stack & STM32 application architecture
- Support 868/916 MHz
- Build in Temp/humidity sensor, 3-axis accelerometer
- GROVE Connector x 3 for UART & I2C
- Supports with +5V or 14500 Lithium-ion battery x 2

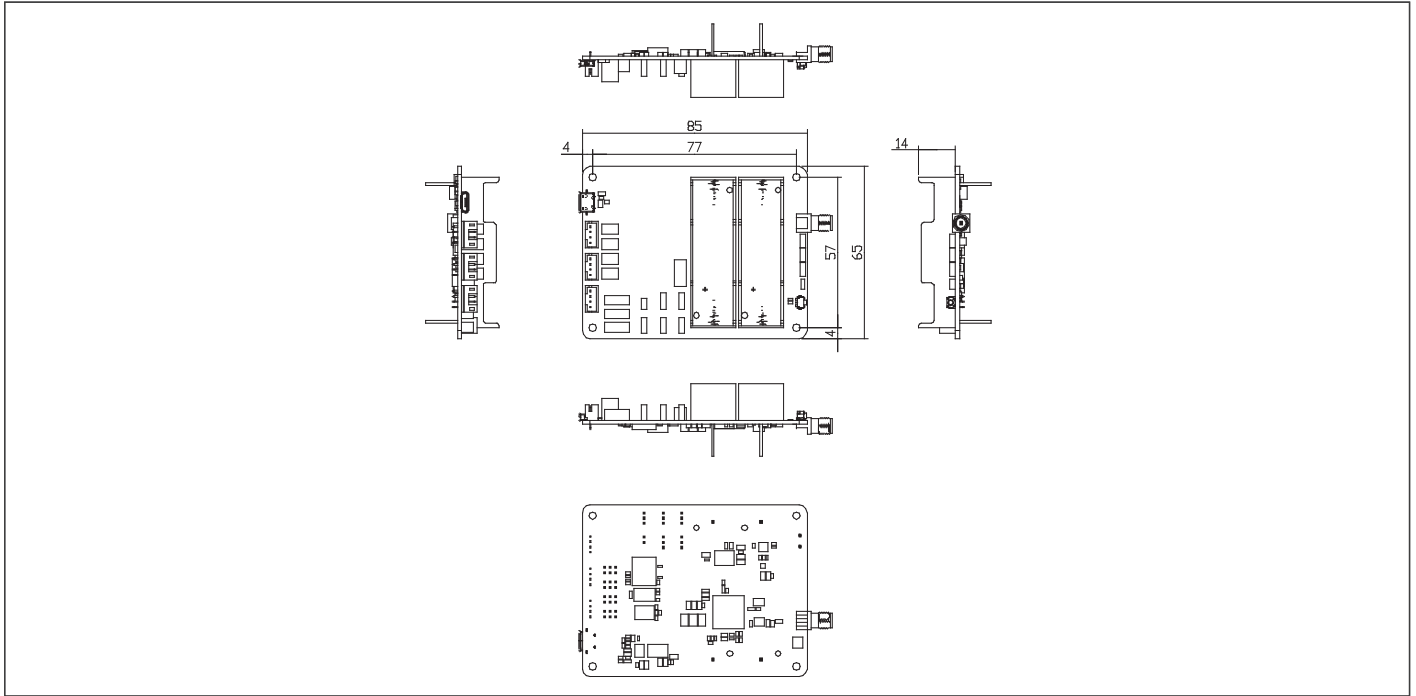


Specifications

System	
Dimension	3.35" x 2.56" (85 mm x 65 mm)
MCU	ST STM32L Semtech SX1276
I/O Placements	GROVE connectors x 3 - UART1 (RS-232/RS-485) x 1 - UART2 (TX/RX) x 1 - I2C x 1 Temperature & humidity sensor x 1 3-axis Accelerometer (2G/4G/8G/16G) x 1 Micro USB2.0 type B for power supply x 1 JTAG-debug port x 1 Battery connector x 2 for 14500 Lithium-ion battery x 2
Others	LED (GPIO control) x 4 3 buttons - boot select x 1 - User defined x 2 - Reset button x 1 SMA antenna connector x 1 IPEX antenna connector (Optional) x 1
Power Input	+5V (via Micro USB) 14500 Lithium-ion battery for external power x 2
Operating Temperature	32 °F ~ 140 °F (0 °C ~ 60 °C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
Certification	CE

Dimension

Unit: mm



Order Information

PART NUMBER	MCU	I/O	WiFi/ BT	LoRa	MOUNTING	POWER	OPERATION TEMP.	Others
AIOT-ILND01-A10-MURABZ-EU	ST STM32L Semtech SX1276	3 x GROVE connectors - 1 x UART1 (RS-232/422/485) - 1 x UART2(T X / R X) - 1 x I2C 1 x Temperature & humidity sensor 1 x 3-axes Accelerometer (2G/4G/8G/16G) 1 x micro USB2.0 type B with power 1 x JTAG-debug port 2 x battery connector for 2 x A A	—	Frequency band 868MHz	—	+5V (USB) 2 x A A battery for external powe	32°F ~ 140°F (0°C ~ 60°C)	4 x LED (GPIO control) 3 buttons - 1 x boot select - 2 x User defined 1 x Reset button 1 x SMA antenna hole 1 x IPEX antenna hole

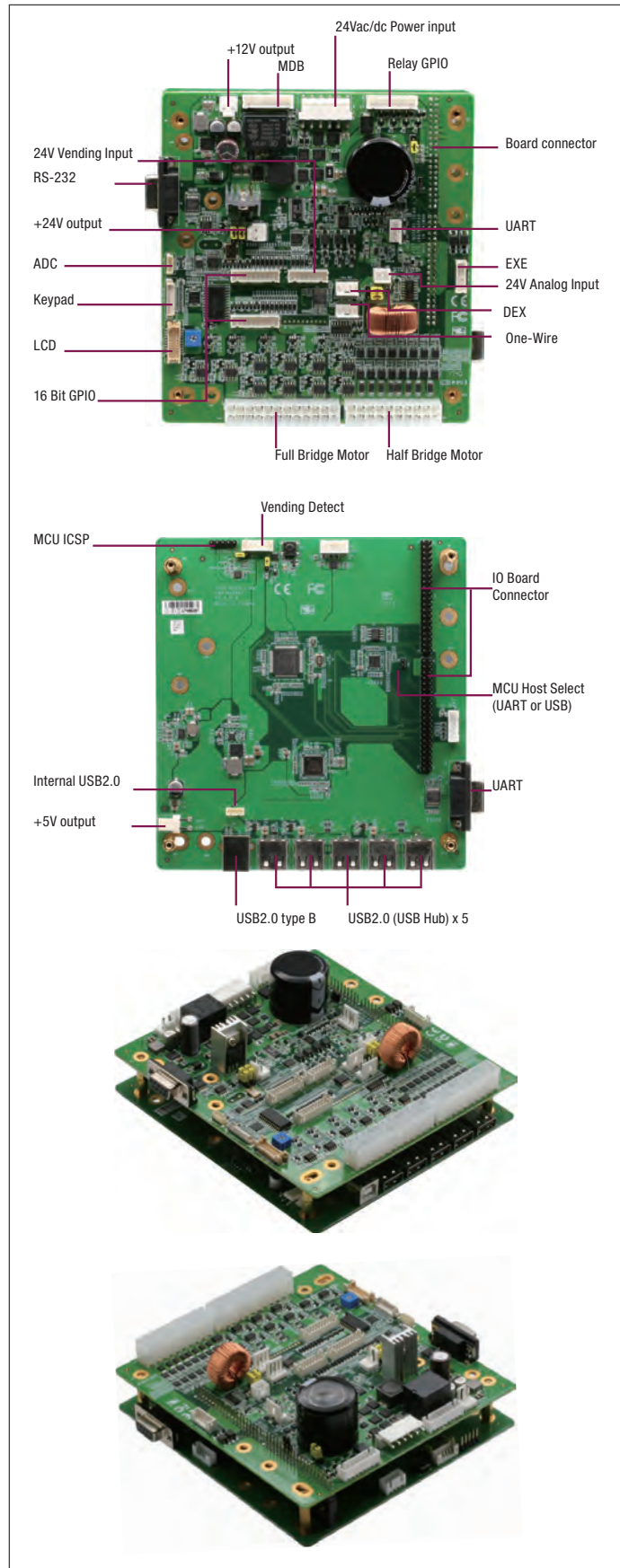
Packing List

- Antenna x 1
- AIOT-ILND01 x 1

AIOT-MSSP01

Mini SSP Vending Control Board

IoT Gateway/Node Boards



Features

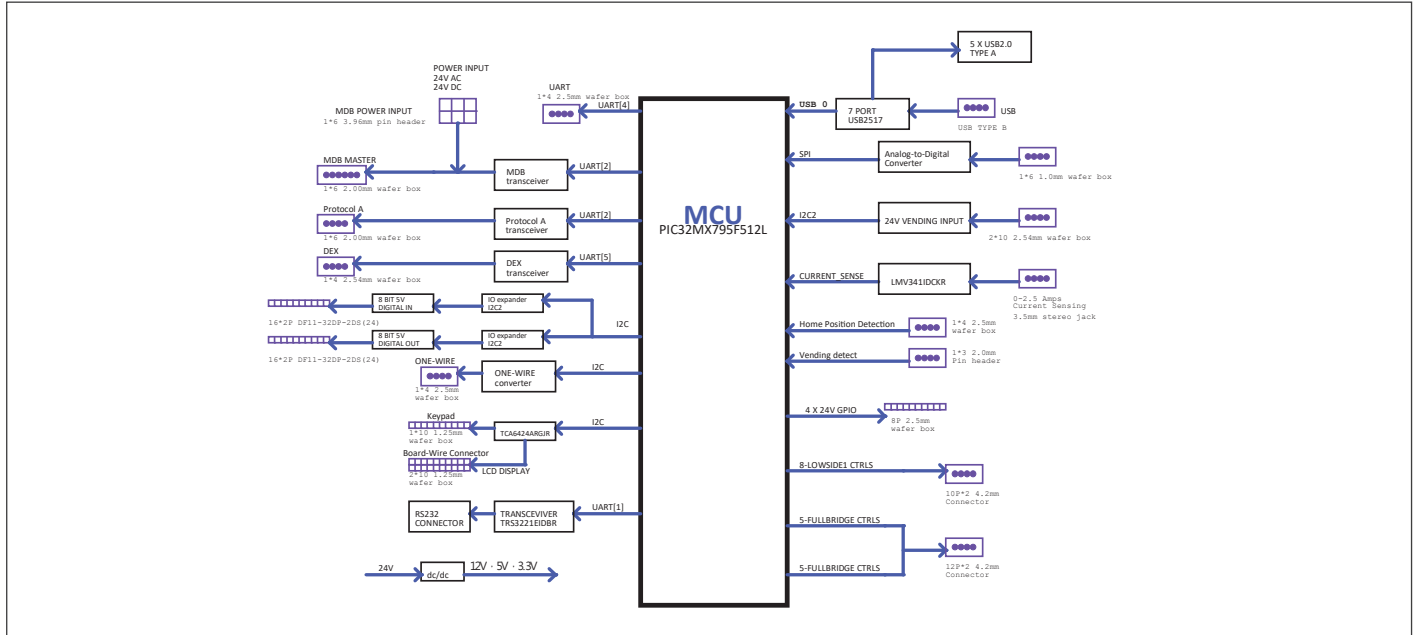
- Intel® Intelligent Vending Based
- MDB, EXE and USB Support For Vending Devices
- Flexible Motor Control
- 24V or 12V
- Supports GPIO, DC, PWM Type
- Supports up to 160 DC Motors
- Supports LCD and Keypad Feature



Specifications

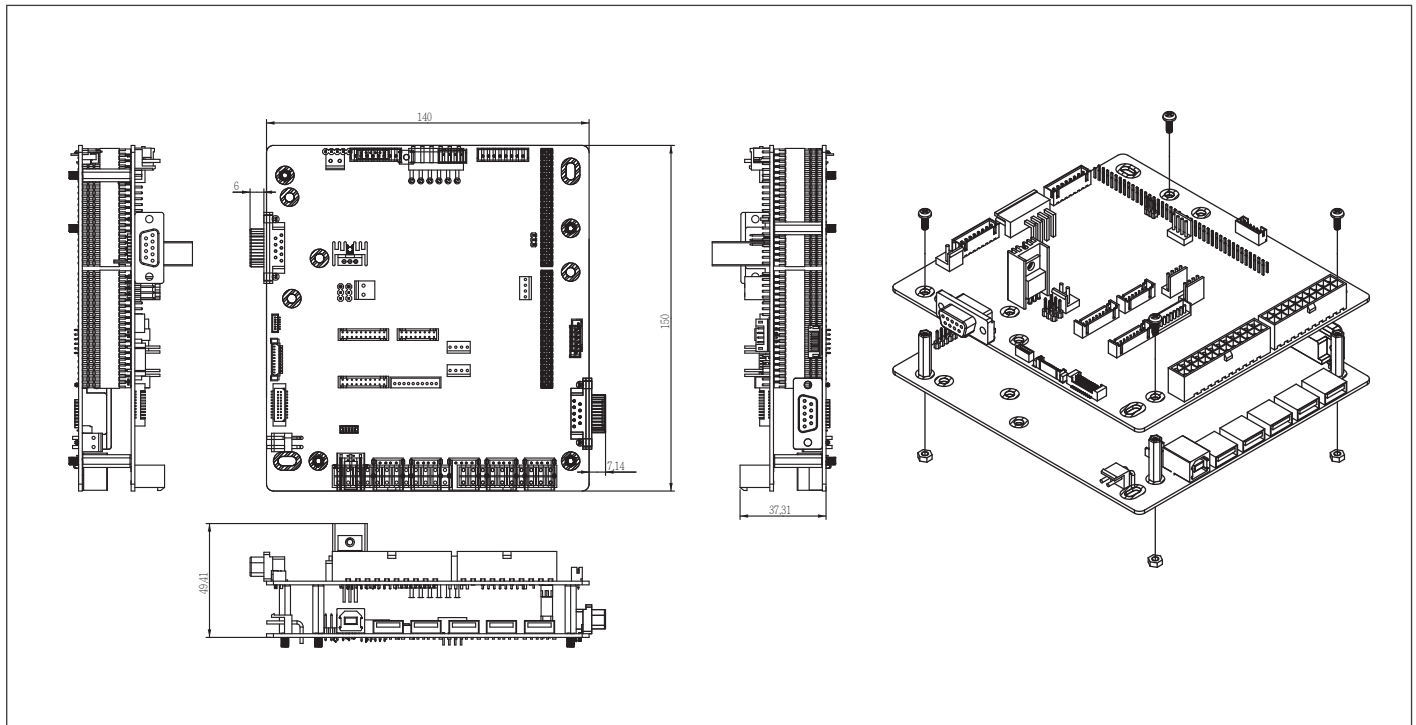
External Connector	
USB	USB 2.0 type A connector x 5 (via USB HUB) USB 2.0 type B connector x 1 (USB HUB Host)
Internal Connector	
MDB	MDB x 1
1-Wire	1-WIRE x 1
DEX	DEX x 1
Protocol A	Protocol A (EXE) x 1
Keypad	8 Bit Keypad x 1 (subject to support 4 x 4 keypad)
LCD	LCD x 1
ADC	4-channel ADC x 1
Relay GPIO	4-channel Relay GPIO for 12V & 5V by switch x 1
GPIO	16 Bit GPIO x 2
24V GPI	8 Bit 24V GPI x 1
24V Analog Voltage Sense	24V Analog voltage sense x 1
Power Input	24V AC/DC Power Input x 1
Motor Switch	Select motor 24Vdc or 12Vdc switch (Motor supports GPIO, DC, PWM type) x 1
Full Bridge Motor	Full bridge motor control x 5
Low Side Motor	Low side motor control x 16
Expansion Header	2* 20 PIN header x 2
Others	
Dimension	5.91" x 5.51" (150 mm x 140 mm)
Power Source	24V AC @ 50Hz, 24V DC
Operating Temperature	32 °F ~ 140 °F (0 °C ~ 60 °C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
Certification	CE, FCC

Block Diagram



Dimension

Unit: mm



Packing List

- AIOT-VSSP01-A10-0001

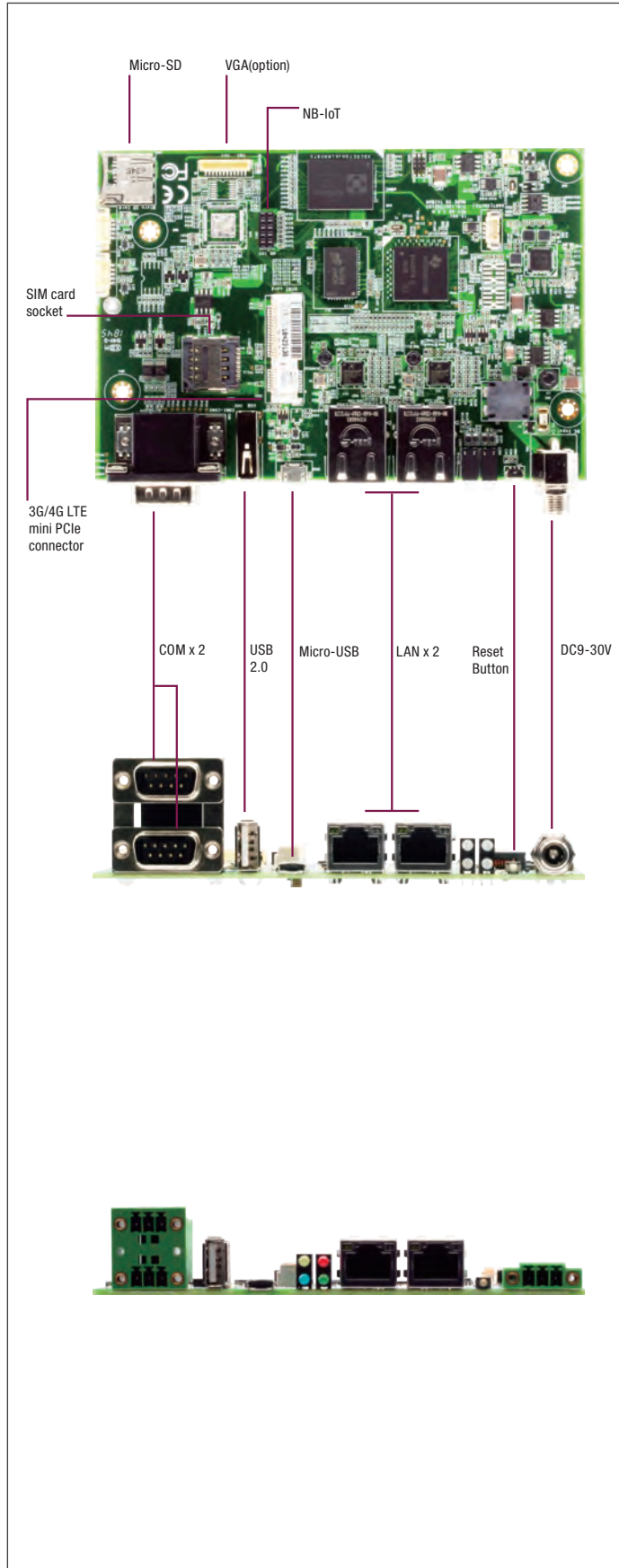
Optional Accessories

Part Number	Description	QTY
9681VSSP01	AIOT-VSSP01 Cable kit	1
1709041001	USB2.0 type A to USB type B male cable	1
1255200601	24Vdc adapter	1
1702031802	USA power cord	1
1702062000	24V DC cable	1
1703150200	MDB & EXE cable to 24 VDC cable	1

SRT-3352

Standard Gateway Board With Onboard ARM Cortex-A8 800 MHz RISC Processor

IoT Gateway/Node Boards



Features

- ARM Cortex-A8 800 MHz RISC Processor
- Onboard DDR3L 1 GB
- eMMC 8G
- Built-in Micro SD Card Slot x 1
- 3G/4G LTE mini PCIe connector x 1
- NB-IoT connector x 1
- SIM card socket x 1
- Gigabit Ethernet RJ-45 x 2 LAN port
- USB 2.0 x 2
- COM x 2
- 4 LED lights controlled through GPIO
- Real time clock x 1
- DC9-30V
- VGA x 1 (optional)



Specifications

System	
Processor	ARM Cortex-A8 800 MHz RISC Processor
System Memory	Onboard DDR3L 1GB
RTC	Serial real time clock x 1
Expansion Interface	3G/4G LTE mini PCIe connector; NB-IoT connector; SIM card socket
Battery	3V CR2032 Lithium battery for RTC
Power Requirement	DC9-30V
Power Consumption (Typical)	2.28 W
Dimension	3.66" x 5.35"(93mm x 136mm)
Gross Weight	88 g
Operation Temperature	32 °F ~ 140 °F (0 °C ~ 60 °C)
Storage Temperature	-40 °F ~ 176 °F (-40 °C ~ 80 °C)
Operation Humidity	10% ~ 95% relative humidity, non-condensing
MTBF (Hours)	855,890
I/O	
Storage	eMMC 8G; Micro SD slot
Serial Port	RS-485 x 2
LAN	Gigabit Ethernet, RJ-45 x 2
Universal Serial Bus	USB 2.0 x 2
GPIO	4 LED control

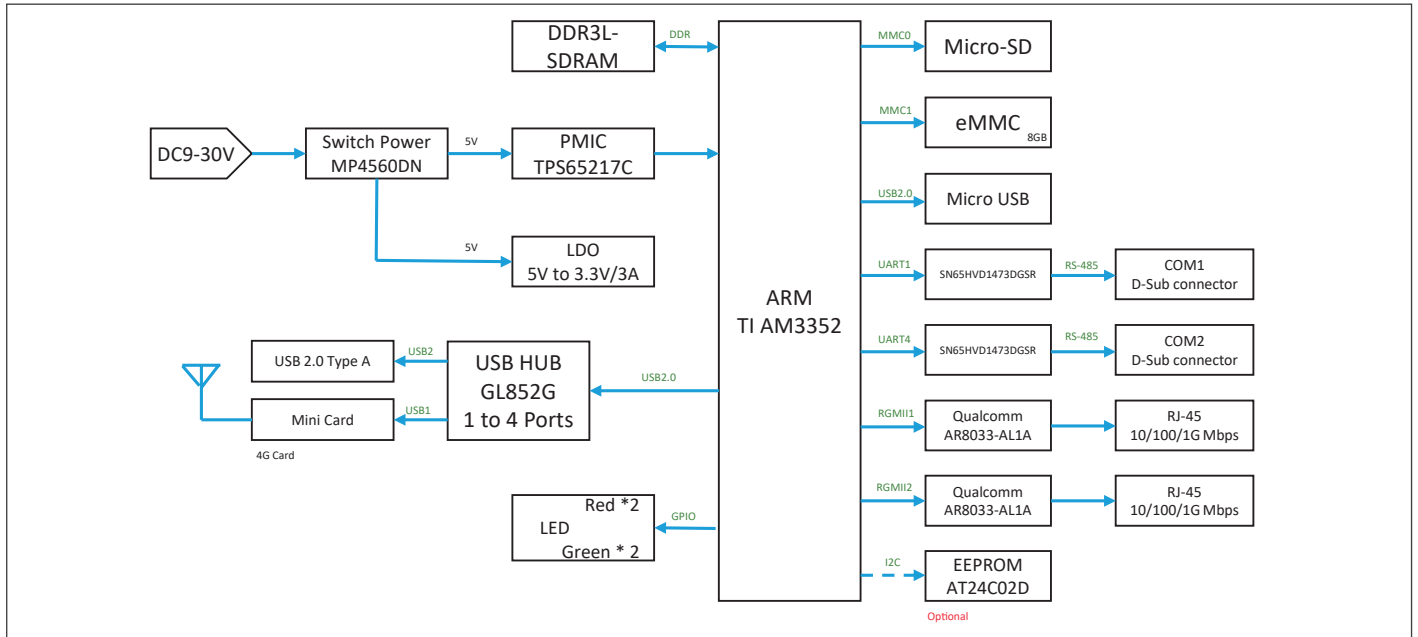
Packing List

- SRT-3352

Optional Accessories

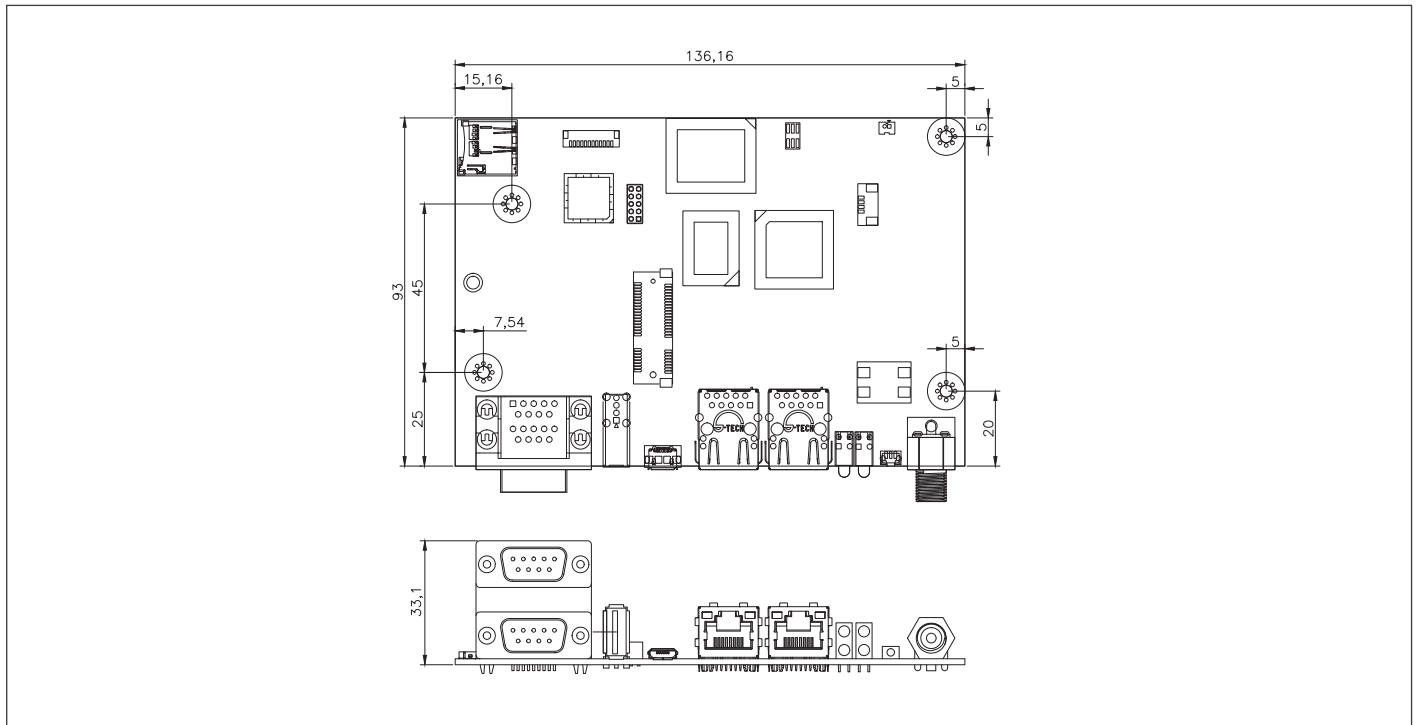
- **1255300366**
Power Adapter. AC/DC. 100-240VAC. 12VDC/3A.36W. For SRT-3352-A10-A001
- **1255300368**
Power Adapter. AC/DC. 100-240VAC. 12VDC/3A. 36W. for SRT-3352-A10-A002
- **1702031802**
POWER CORD.3P-125V 10A 180D. 1.8M. USA.
- **9741EC25E0**
PCIe mini card.4G LTE module kit with cable & Antenna, EC25-E
- **9741EG25G0**
PCIe mimi card.4G LTE.module kit.Global Band W/SIM holder.W/Cable & antenna.Quetel.EG25-G
- **9741236A00**
Mini card WiFi Kit.802.11ac/a/b/g/n,BT4.2.USB Signal.W/cable&antenna

Block Diagram



Dimension

Unit: mm

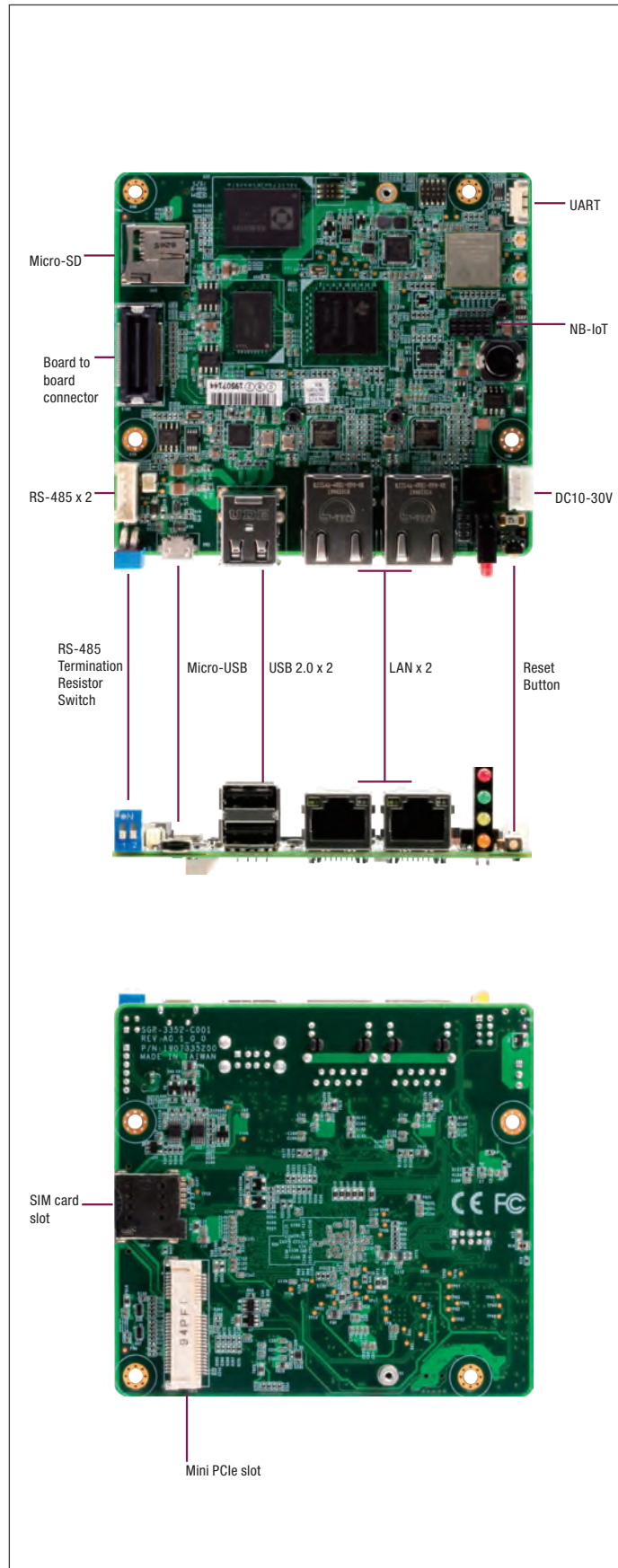


Ordering Information

PART NUMBER	CPU	Memory	Thermal	COM	Storage	LAN	USB	Expansion slot	POWER	OPERATION TEMP.	Others
SRT-3352-A10-A001	ARM Cortex-A8 800MHz	Onboard DDR3L 1G	Fanless	RS-485 x 2 (D-sub)	eMMC 8GB, MicroSD x1	GbE x 2	USB 2.0 x 1 Micro USB x 1	Mini PCIe slot x 1, SIM card socket x 1	DC9-30V	0°C ~ 60°C @ 0.5 m/s airflow	VGA x 1 (optional), 3G/4G LTE module (optional)
SRT-3352-A10-A002	ARM Cortex-A8 800MHz	Onboard DDR3L 1G	Fanless	RS-485 x 2 (phenix)	eMMC 8GB, MicroSD x1	GbE x 2	USB 2.0 x 1 Micro USB x 1	Mini PCIe slot x 1, SIM card socket x 1	DC9-30V	0°C ~ 60°C @ 0.5 m/s airflow	VGA x 1 (optional), 3G/4G LTE module (optional)

SRT-3352C

Compact Gateway Board With Onboard ARM Cortex-A8 800 MHz RISC Processor



Features

- ARM Cortex-A8 800 MHz RISC Processor
- Onboard DDR3L 1 GB
- eMMC 8G
- Built-in Micro SD Card Slot x 1
- 3G/4G LTE mini PCIe connector x 1
- NB-IoT connector x 1
- SIM card socket x 1
- Gigabit Ethernet RJ-45 x 2 LAN port
- USB 2.0 x 2
- RS-485 x 2
- Micro USB x 1
- 4 LED lights controlled through GPIO
- Real time clock x 1
- DC10-30V
- Board to Board connector
- RS-485 termination resistor switch



Specifications

System	
Processor	ARM Cortex-A8 800 MHz RISC Processor
System Memory	Onboard DDR3L 1GB
RTC	Serial real time clock x 1
Expansion Interface	3G/4G LTE mini PCIe connector; NB-IoT connector; SIM card socket x 1
Battery	3V CR2032 Lithium battery for RTC
Power Requirement	DC10-30V
Power Consumption (Typical)	1.8 W
Dimension	3.94" x 3.78" (100 x 96mm)
Gross Weight	70 g
Operation Temperature	32 °F ~ 140 °F (0 °C ~ 60 °C)
Storage Temperature	-40 °F ~ 176 °F (-40 °C ~ 80 °C)
Operation Humidity	10% ~ 95% relative humidity, non-condensing
MTBF (Hours)	855,890
I/O	
Storage	eMMC 8G; Micro SD slot
Serial Port	RS-485 x 2
LAN	Gigabit Ethernet, RJ-45 x 2
Universal Serial Bus	USB 2.0 x 2
GPIO	4 LED control

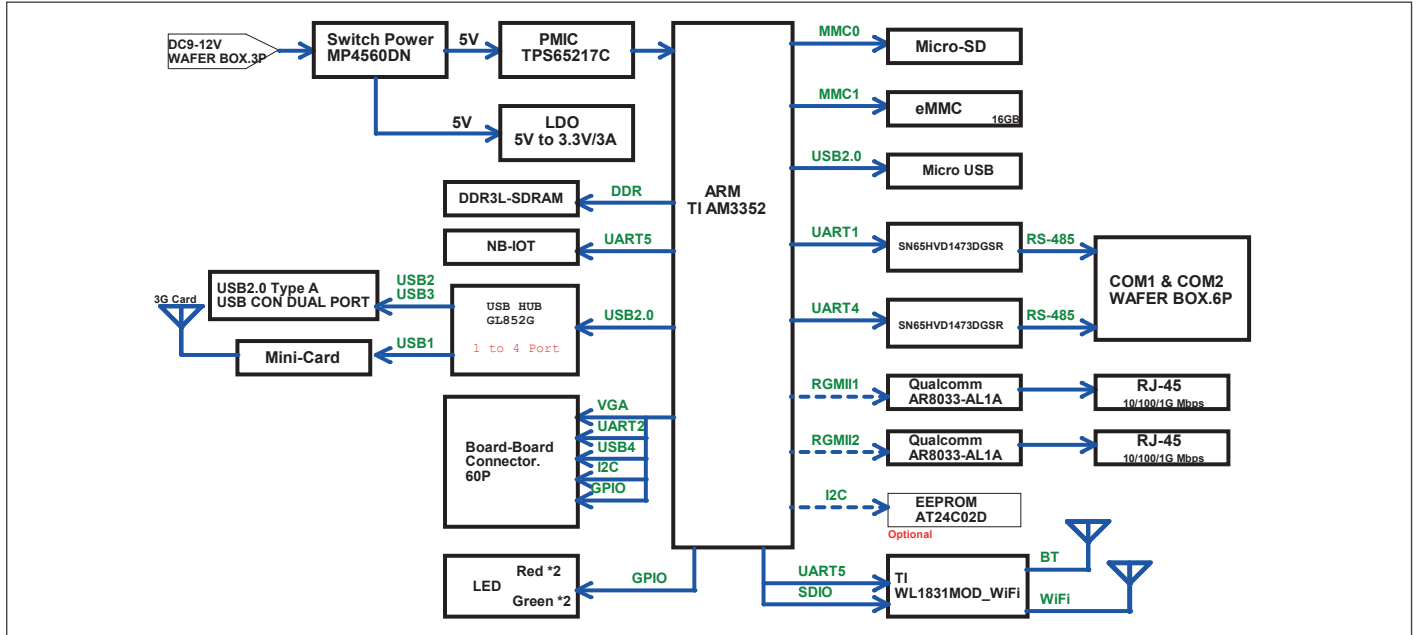
Packing List

- SRT-3352C

Optional Accessories

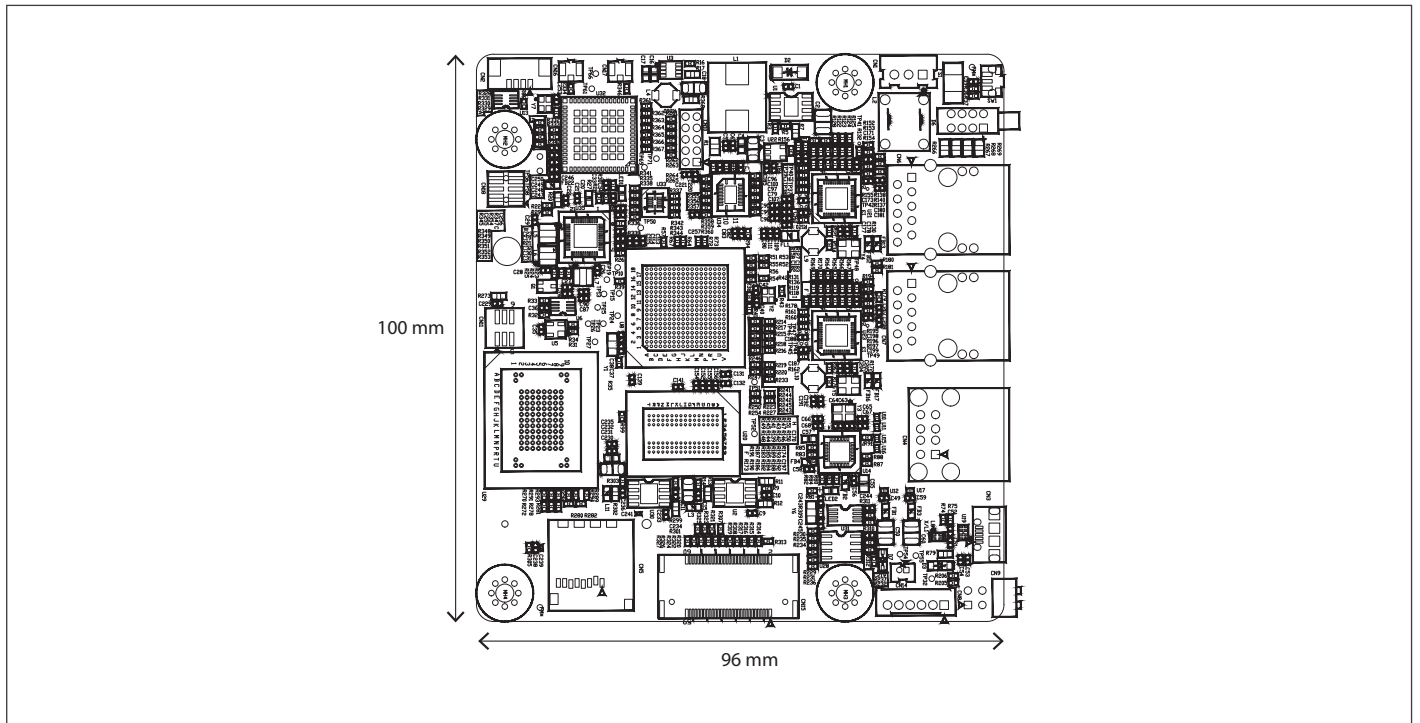
- 9741EC25E0
PCIe mini card.4G LTE module kit with cable & Antenna, EC25-E
- 9741EG25G0
PCIe mimi card. 4G LTE. module kit. Global Band W/SIM holder. W/Cable & antenna. Quectel. EG25-G

Block Diagram



Dimension

Unit: mm

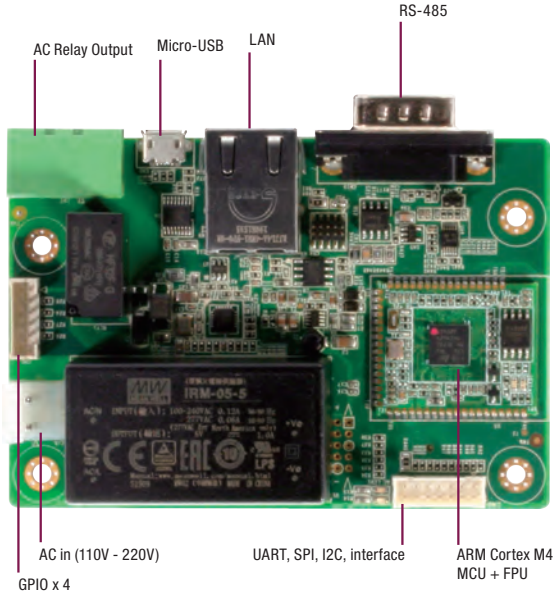


Ordering Information

PART NUMBER	CPU	Memory	Thermal	COM	Storage	LAN	USB	Expansion slot	POWER	OPERATION TEMP.	Others
SRT-3352C-A10-A001	ARM Cortex-A8 800MHz	Onboard DDR3L 1G	Fanless	RS-485 x 2	eMMC 8GB, MicroSD x1	GbE x 2	USB 2.0 x 2 Micro USB x 1	Mini PCIe slot x 1, SIM card socket x 1	DC10-30V	0°C ~ 60°C @ 0.5 m/s airflow	3G/4G LTE module (optional)

SCA-M01

Carrier Board With Onboard ARM Cortex M4 MCU + FPU

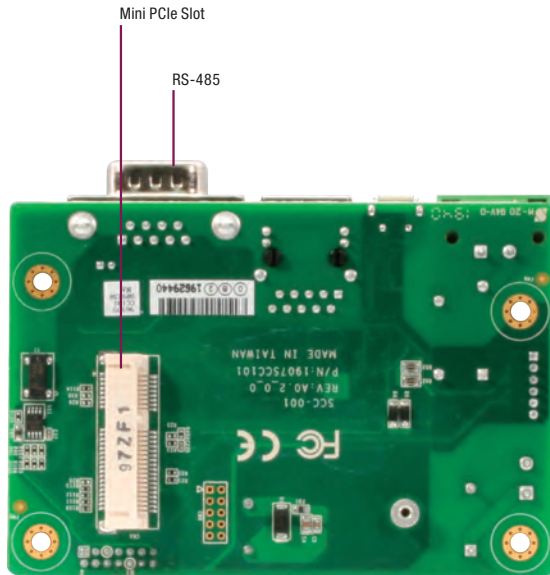


GPIO x 4

AC in (110V - 220V)

UART, SPI, I2C, interface

ARM Cortex M4
MCU + FPU



Mini PCIe Slot

RS-485

Features

- ARM-Cortex M4 MCU + FPU
- RS-485 x 1
- GPIO x 4
- 10/100 Mb/s Ethernet, RJ-45 x 1 LAN port
- Micro USB x 1
- AC Relay Output x 1
- AC in (110V~220V)
- Support UART, SPI, I2C interface
- Mini PCIe slot x 1



Specifications

System	
Micro controller	ARM-Cortex M4 MCU+FPU
Expansion interface	mini PCIe connector
Operating voltage	110 V~220V
Dimension	3.35" x 2.56" (85 mm x 65 mm)
Operation temperature	32 °F ~ 140 °F (0 °C ~ 60 °C)
Storage Temperature	-40 °F ~ 176 °F (-40 °C ~ 80 °C)
MTBF (Hours)	1,299,248
I/O port	
Serial port	RS-485
LAN	10/100 Base-TX, RJ-45 x 1
GPIO	GPIO x 4
USB	Micro USB
AC relay	Relay output
Other Interface	UART; I2C; SPI
Wireless	Support 4G/WiFi via mini PCIe slot

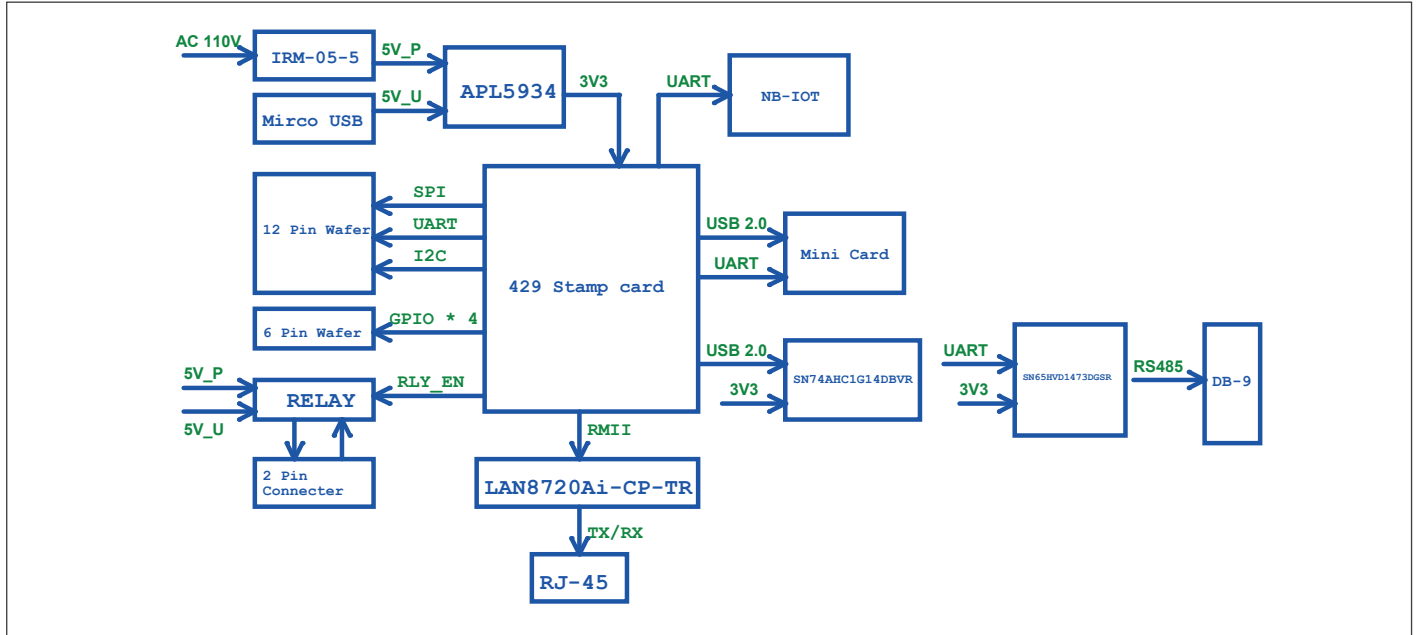
Packing List

- SCA-M01

Optional Accessories

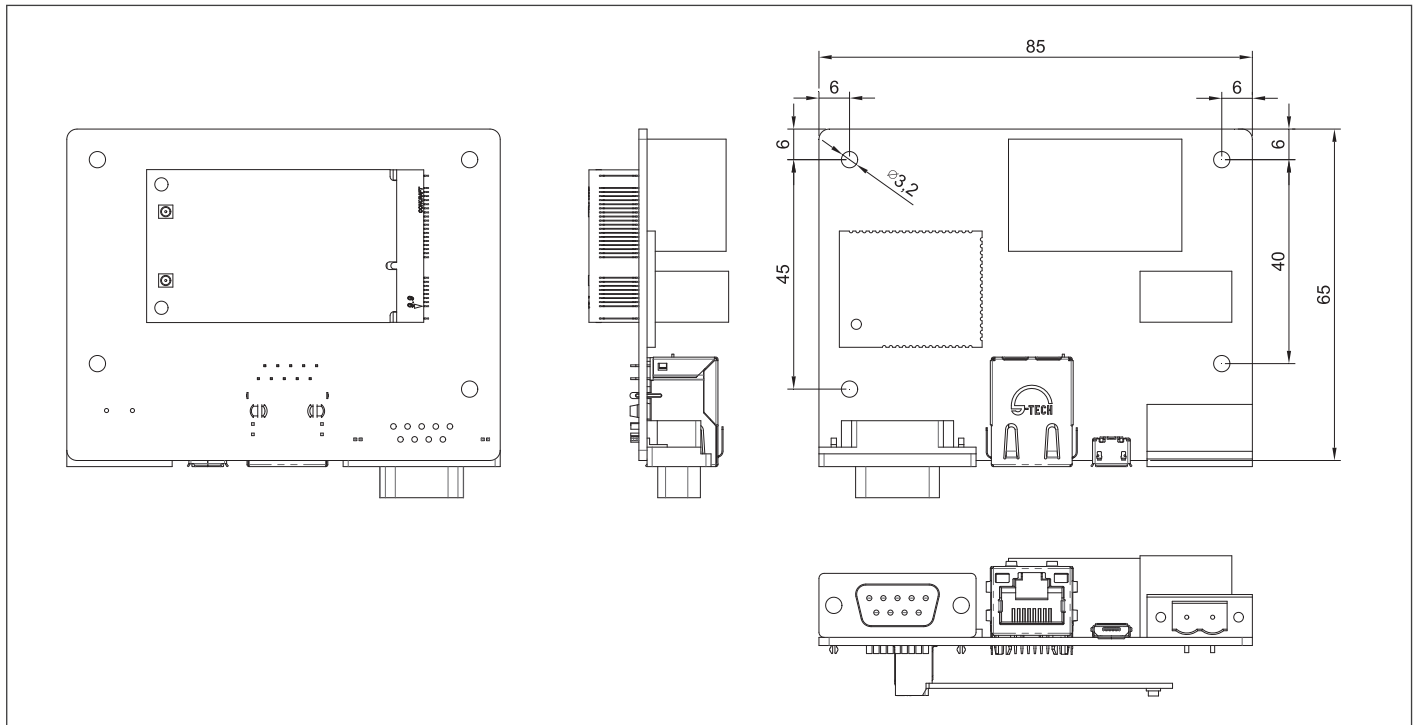
- **9741EC25E0**
PCIe mini card.4G LTE module kit with cable & Antenna, EC25-E
- **9741EC25A0**
PCIe mini card.4G LTE module kit with cable & Antenna, EC25-A
- **9741EG25G0**
PCIe mimi card.4G LTE.module kit.Global Band W/SIM holder.W/Cable & antenna.Quectel.EG25-G

Block Diagram



Dimension

Unit: mm



Ordering Information

Part Number	CPU	Thermal	COM	LAN	USB	Expansion Slot	GPIO	Support Interface	Power	Operation Temp.	Others
SCA-M01-A10-A001	ARM-Cortex M4 MCU+FPU	Fanless	RS-485 x 1	10/100 Mb/s x 1	Micro USB x 1	Mini PCIe slot x 1	GPIO x 4	UART; I2C; SPI	110V ~220V AC in	0°C ~ 60°C @ 0.5 m/s airflow	3G/4G LTE module (optional)

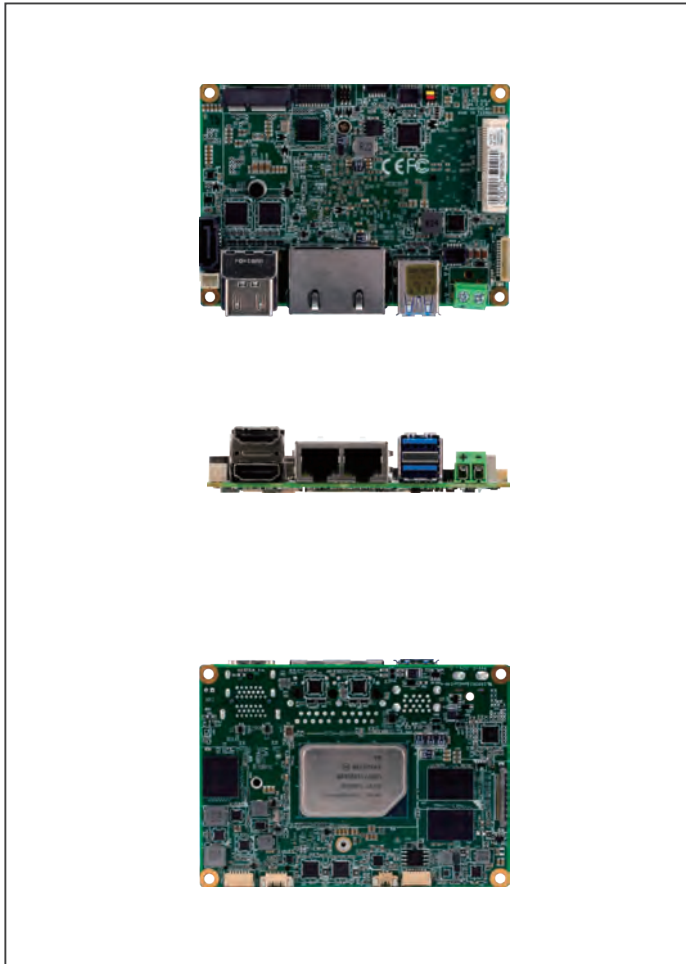
Pico-ITX Boards

03



PICO-EHL4 PRELIMINARY

Pico-ITX Board with Intel Atom® x6000E Series, and Intel® Pentium® and Celeron® N and J Series Processors



Features

- Intel Atom® x6000E Series, and Intel® Pentium® and Celeron® N and J Series Processors SoC
- HDMI2.0b x 2 + LVDS/eDP1.3 x 1
- GbE x 2 or GbE x 1 (Optional)
- USB x 4 (2 x USB 3.2 GEN2)/rear IO + (2 x USB 2.0)/header
- LPDDR4x on board memory, In-Band ECC
- eMMC x 1/SATA x 1
- COM x 2 Full/CANBUS x 1/mini-PCIe x 1/M.2 E-Key 2230 x 1



I/O	
Storage/SSD	eMMC x 1 SATA x 1 SATA Power (5V) x 1
Ethernet	RTL8111G, 10/100/1000Base, RJ45 x 2 (Compatible with RJ45 x 1)
USB Port	2 x USB 3.2 GEN2/rear IO 2 x USB 2.0/header
Serial Port	RS-232/422/485 x 2
Audio	—
DIO	4-bit
Expansion Slot	M.2 2230 E key x 1 (For WIFI/BT, PCIe/USB signal only) mini-PCIe(Full) x 1 (Default mSATA or USB 2.0, PCIe[x1]x1 by BIOS) SMBUS/I2C + eSPI x 1 CANBUS x 1
SIM	—
TPM	—
Touch	—

Specifications

System	
Form Factor	PICO-ITX
CPU	Intel Atom® x6000E Series, and Intel® Pentium® and Celeron® N and J Series Processors SoC
CPU Frequency	Up to 1.9GHz
Chipset	Intel® Elkhart Lake SoC Processor
Memory Type	LPDDR4x 4267 MHz on board memory, In-Band ECC (select SKUs)
Max. Memory Capacity	Up to 16 GB
BIOS	AMI UEFI
Wake On LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+12V AT/ATX (default)
Power Supply Type	Lockable & phoenix Terminal co-lay
Power Consumption (Typical)	TBD
System Cooling	Heat-spreader, heatsink & cooler optional
Dimension	3.94" x 2.84" (100mm x 72mm)
Gross Weight	TBD
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	TBD
Certification	CE/FCC Class A
Display	
Chipset	Intel Atom® x6000E Series, and Intel® Pentium® and Celeron® N and J Series Processors SoC
Resolution	HDMI2.0b x 2, 4K, 60Hz Single channel 12V/3.3V, 18-24 bit LVDS/ eDP 1.3 (Default: LVDS)
LCD Interface	18/24bit Single LVDS

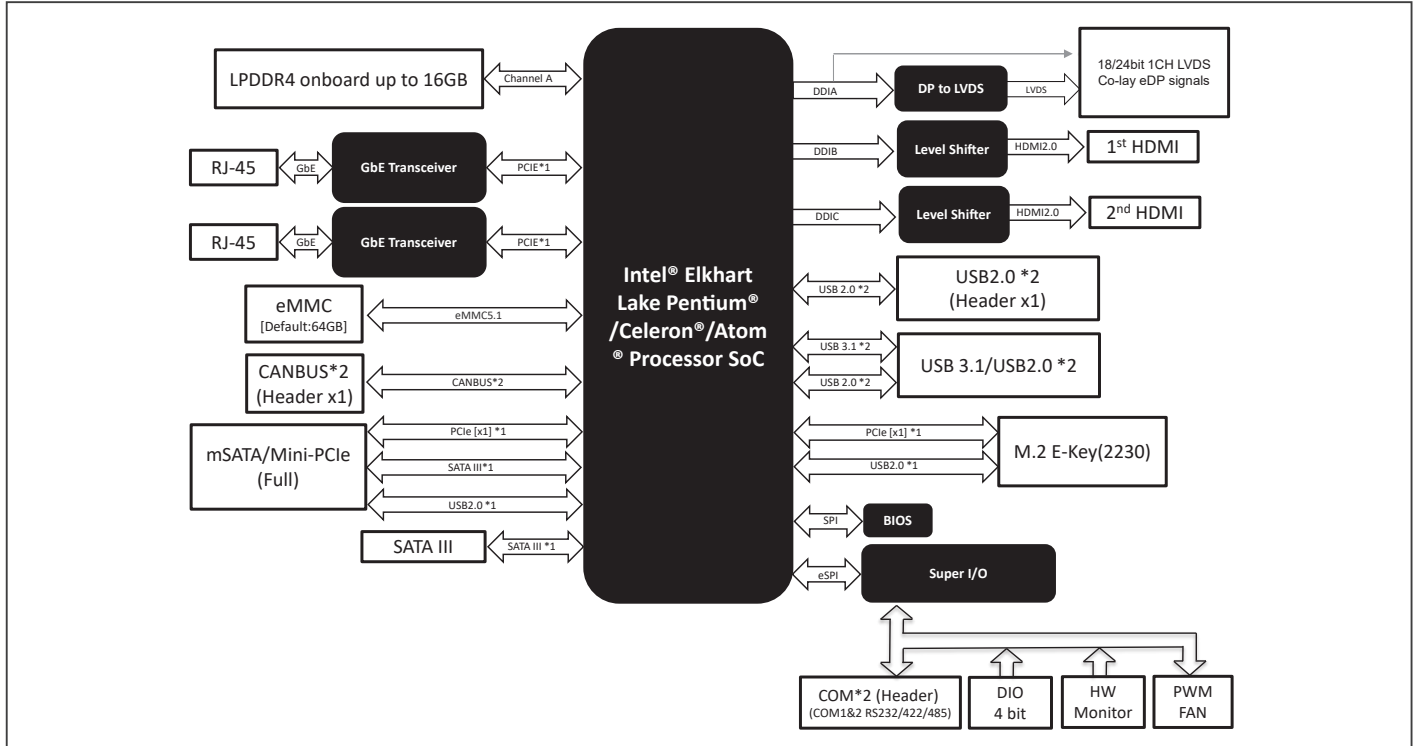
Packing List

- PICO-EHL4

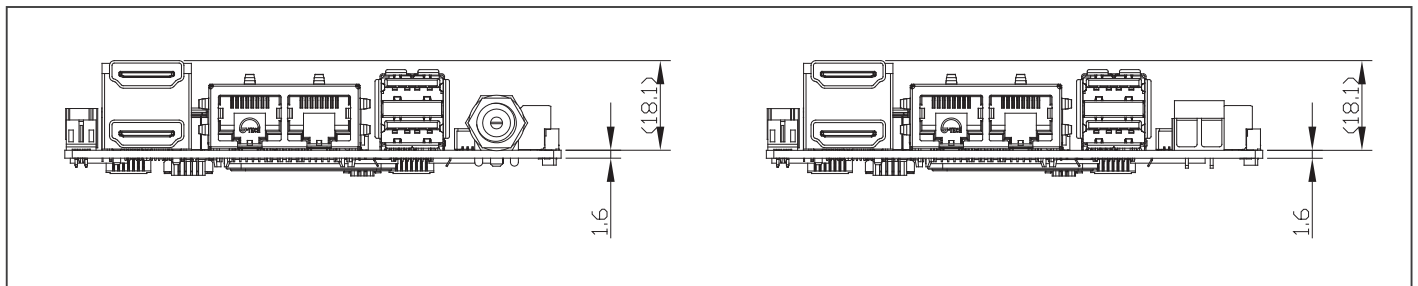
Optional Accessories

Part Number	Description	Qty.
TBD	COM cable	1
TBD	USB2.0 cable	1
TBD	eDP cable	1
TBD	LVDS signal cable	1
TBD	LVDS power cable	1

Block Diagram



Dimension Unit: mm

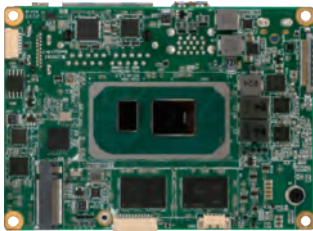


Ordering Information

Part Number	CPU	Memory	Display	Storage	LAN	USB	RS-232/422/485	Expansion Slot	Power	Power Temp	Others
PICO-EHL4-A10-0001(TBD)	Intel Celeron®	On board LPDDR4x 2G	HDMI x 2 LVDS x 1	SATAIII x 1 eMMC 32GB	GbE x 2	USB3.2 GEN2 + USB2.0 x 2/rear IO USB2.0 x 2/header	2	M.2 2230 E-key x 1 mSATA(Full-size) x 1	+12V (Terminal block)	0°C ~ 60°C	DIO 4bit SMBUS/I2C+ eSPI x 1 CANBUS x 1
PICO-EHL4-A10-0002(TBD)	Intel Atom®	On board LPDDR4x 2G	HDMI x 2 LVDS x 1	SATAIII x 1 eMMC 32GB	GbE x 2	USB3.2 GEN2 +USB2.0 x 2/rear IO USB2.0 x 2/header	2	M.2 2230 E-key x 1 mSATA(Full-size) x 1	+12V (Terminal block)	0°C ~ 60°C	DIO 4bit SMBUS/I2C+ eSPI x 1 CANBUS x 1
PICO-EHL4-A10-0003(TBD)	Intel Atom®	On board LPDDR4x 4G	HDMI x 2	SATAIII x 1 eMMC 32GB	GbE x 2	USB3.2 GEN2 +USB2.0 x 2/rear IO USB2.0 x 2/header	2	M.2 2230 E-key x 1 mSATA(Full-size) x 1	+12V (Terminal block)	0°C ~ 60°C	DIO 4bit SMBUS/I2C+ eSPI x 1 CANBUS x 1

PICO-TGU4 PRELIMINARY

Pico-ITX Board with 11th Generation Intel® Core™ i7/i5/i3/Celeron® U-Series Processor SoC



Features

- 11th Gen Intel® Core™ i7/i5/i3/Celeron Processor SoC
- LPDDR4x on board memory, Max. 32 GB
- 2.5GbE Intel i225 + 1GbE Intel i219
- HDMI2.0b x 1, 4Kx2K + eDP, up to HBR3 8K
- M.2 2280 M key(PCIE by4 GEN4/SATA) x 1
- SATA 6.0 Gb/s x 1
- Full size mSATA/mPCIe x 1 (Select by BIOS, default: mPCIe)
- 2 x USB 3.2 Gen 2, 2 x USB 3.2 Gen 1, 4 x USB 2.0
- RS-232/422/485 x 2
- Line-in/Line-out/MIC
- DIO 8 bit



I/O	
Storage/SSD	SATA x 1 SATA Power (5V) x 1
Ethernet	Intel® i225, 10/100/1000/2500Base, RJ45 x1 Intel® i219, 10/100/1000Base, RJ45 x1
USB Port	2 x USB3.2 Gen 2/rear IO 2 x USB3.2 Gen 1/header 4 x USB2.0/header
Serial Port	RS-232/422/485 x 2
Audio	High Definition Audio Interface, Line-in/Line-out/MIC
DIO	8-bit
Expansion Slot	M.2 M key 2280 x 1 (PCIe GEN4 as default, SATA select by HW BOM) x 1 Full size mSATA/mPCIe or USB2.0 (PCIe as default, select by BIOS) x 1 SMBUS/I2C/eSPI x 1
SIM	—
TPM	2.0
Touch	—

Specifications

System	
Form Factor	PICO-ITX
CPU	11th Generation Intel® Core™ i7/i5/i3/Celeron SoC
CPU Frequency	Up to 4.8GHz
Chipset	Intel® Tiger Lake-UP3 SoC Processor
Memory Type	LPDDR4x 4267 MHz on board memory, In-Band ECC (select SKUs)
Max. Memory Capacity	Up to 32GB
BIOS	AMI UEFI
Wake On LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+12V AT/ATX (default)
Power Supply Type	Lockable & phoenix Terminal co-lay
Power Consumption (Typical)	TBD
System Cooling	Heat-spreader, heatsink & cooler optional
Dimension	3.94" x 2.84" (100mm x 72mm)
Gross Weight	TBD
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	TBD
Certification	CE/FCC Class A
Display	
Chipset	11th Generation Intel® Core™ i7/i5/i3/Celeron SoC
Resolution	HDMI2.0b x 1, 4Kx2K 60Hz eDP x 1, up to HBR3, 8Kx4K 30Hz
LCD Interface	—

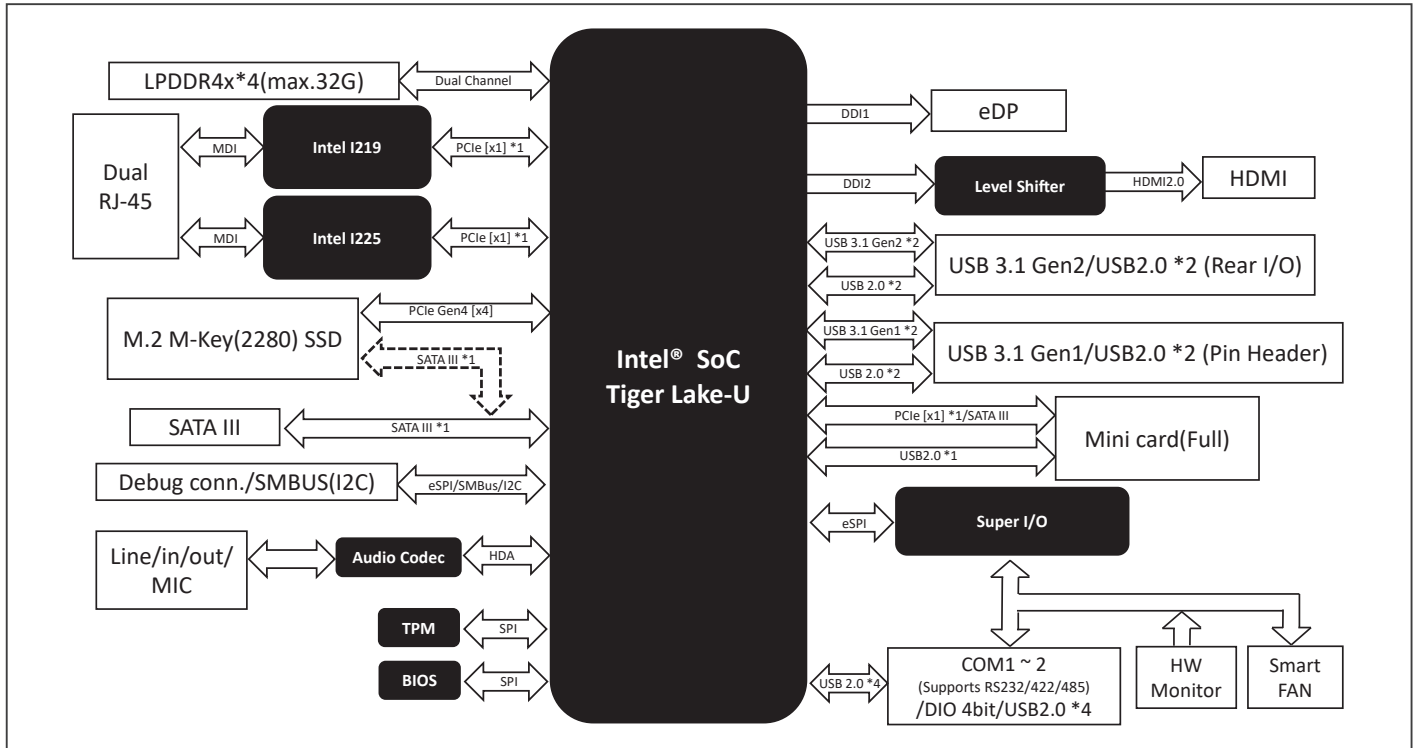
Packing List

- PICO-TGU4

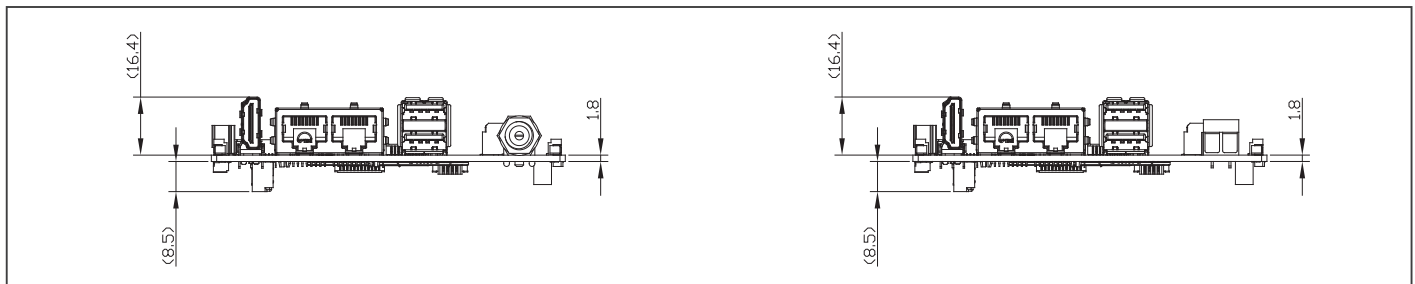
Optional Accessories

Part Number	Description	Qty.
TBD	USB3.2 GEN 1 cable	1
TBD	USB2.0 x 4 + COM x 2 +DIO x 1 cable	1
TBD	Front panel cable	1
1709070500	(TF)SATA CABLE.7P Pitch 1.27mm.50cm	1
TBD	Audio cable	1
1702150155	Power Cable.15P SATA(F).2P 2.0mm Housing(PH).15cm	1
PICO-TGU4-FAN01	Integrated Cooler for PICO-TGU4, assemble with PICO-TGU4 directly	1

Block Diagram



Dimension Unit: mm

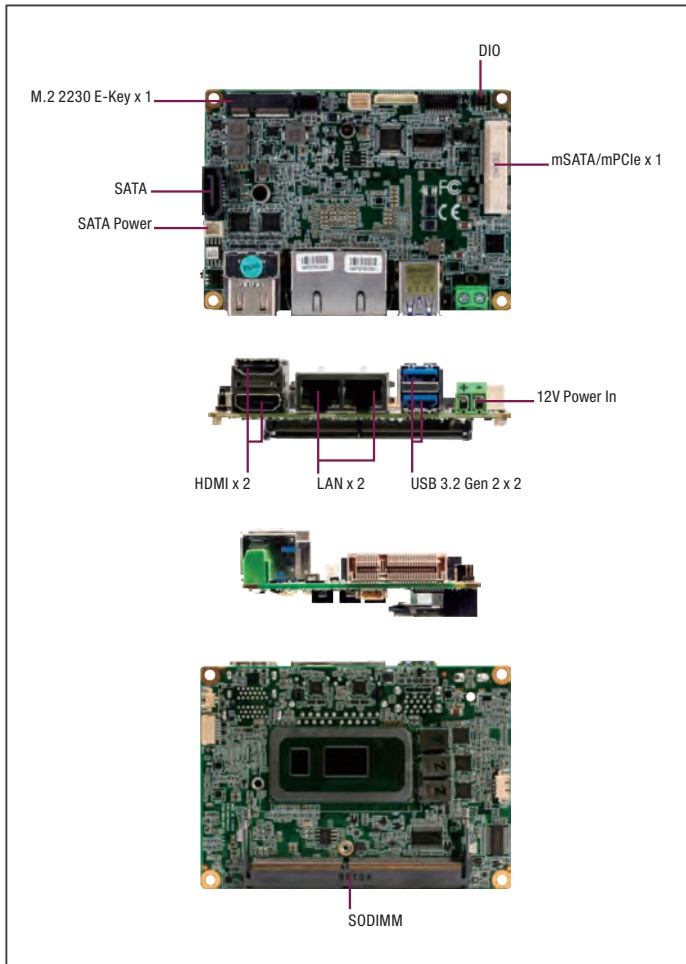


Ordering Information

Part Number	CPU	Memory	Display	Storage	LAN	USB	RS-232/422/485	Expansion Slot	Power	Power Temp	Audio	Others
PICO-TGU4-A10-0001(TBD)	Intel® i3-	On board LPDDR4x 4G	HDMI x 1 eDP x 1	SATAIII x 1	2.5GbE x 1, Intel i225 GbE x 1, Intel i219	USB3.2 GEN2 x 2 (Rear) USB3.2 GEN1 x 2 (header) USB2.0 x4 (header)	2	M.2 2280 M-key x 1 mini-Pcie(Full) x 1	+12V (Terminal block)	0°C – 60°C	Line-in/Line-out/MIC	DIO, SMBUS/I2C/eSPI x 1
PICO-TGU4-A10-0002(TBD)	Intel® i5-	On board LPDDR4x 4G	HDMI x 1	SATAIII x 1	2.5GbE x 1, Intel i225 GbE x 1, Intel i219	USB3.2 GEN2 x 2 (Rear) USB3.2 GEN1 x 2 (header) USB2.0 x4 (header)	2	M.2 2280 M-key x 1 mini-Pcie(Full) x 1	+12V (Terminal block)	0°C – 60°C	Line-in/Line-out/MIC	DIO, SMBUS/I2C/eSPI x 1
PICO-TGU4-A10-0003(TBD)	Intel® i7-	On board LPDDR4x 8G	HDMI x 1	SATAIII x 1	2.5GbE x 1, Intel i225 GbE x 1, Intel i219	USB3.2 GEN2 x 2 (Rear) USB3.2 GEN1 x 2 (header) USB2.0 x4 (header)	2	M.2 2280 M-key x 1 mini-Pcie(Full) x 1	+12V (Terminal block)	0°C – 60°C	Line-in/Line-out/MIC	DIO, SMBUS/I2C/eSPI x 1

PICO-WHU4

Pico-ITX Board with 8th Generation Intel® Core™ i7/i5/i3/Celeron® U-Series Processor SoC



Features

- 8th Intel® Core™ i7/i5/i3/Celeron Processor SoC
- Non-ECC DDR4 SODIMM Slot x 1, up to 32GB
- Dual HDMI ports (HDMI 1.4b)
- GbE x 2, SATA 6.0 Gb/s x 1, GPIO x 4
- USB 3.2 Gen 2 x 2 (Rear), USB 2.0 x 2 Pin header, RS-232/422/485 x 2
- Full size mSATA/mPCIe x 1 (Select by BIOS), M.2 2230 (E key) x 1
- 12V Only (Terminal block and DC barrel co-design)



Display	
Chipset	Intel® 8th Generation Core™ i7/i5/i3/Celeron SoC i7-8665UE (4C, 1.7GHz, up to 4.4GHz) i5-8365UE (4C, 1.6GHz, up to 4.1GHz) i3-8145UE (2C, 2.2GHz, up to 3.9GHz) 4305UE (2C, 2GHz)
Resolution	HDMI 1.4b up to 3840 x 2160 x 2
LCD Interface	—
I/O	
Storage/SSD	Full size mSATA/mPCIe or USB2.0 x 1 (PCIe as default, mSATA selected by BIOS) SATA 6.0Gb/s x 1, (5V Power)
Ethernet	Realtek 8111G*2 10/100/1000Mbps
USB Port	USB 3.2 Gen 2 x 2 (Rear) USB 2.0 x 2 Pin header
Serial Port	RS-232/422/485 x 2
Audio	—
DIO	4-bit
Expansion Slot	M.2 2230 E key x 1 (For WIFI/BT, PCIe/USB signal only) SMBUS/I2C/LPC/eSPI x 1
SIM	—
TPM	TPM2.0 (Optional via LPC cable)
Touch	—

Specifications

System	
Form Factor	PICO-ITX
CPU	Intel® 8th Generation Core™ i7/i5/i3/Celeron SoC i7-8665UE (4C, 1.7GHz, up to 4.4GHz) i5-8365UE (4C, 1.6GHz, up to 4.1GHz) i3-8145UE (2C, 2.2GHz, up to 3.9GHz) 4305UE (2C, 2GHz)
CPU Frequency	Up to 4.4GHz
Chipset	Intel® Whiskey-U SoC Processor
Memory Type	DDR4 2400MHz SODIMM x 1, Max. 32GB
Max. Memory Capacity	Up to 32GB
BIOS	UEFI only
Wake On LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+12V AT/ATX (default)
Power Supply Type	Lockable & phoenix Terminal co-lay
Power Consumption (Typical)	TBD
System Cooling	Heat-spreader, cooler optional
Dimension	3.94" x 2.84" (100mm x 72mm)
Gross Weight	TBD
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	TBD
Certification	CE, FCC

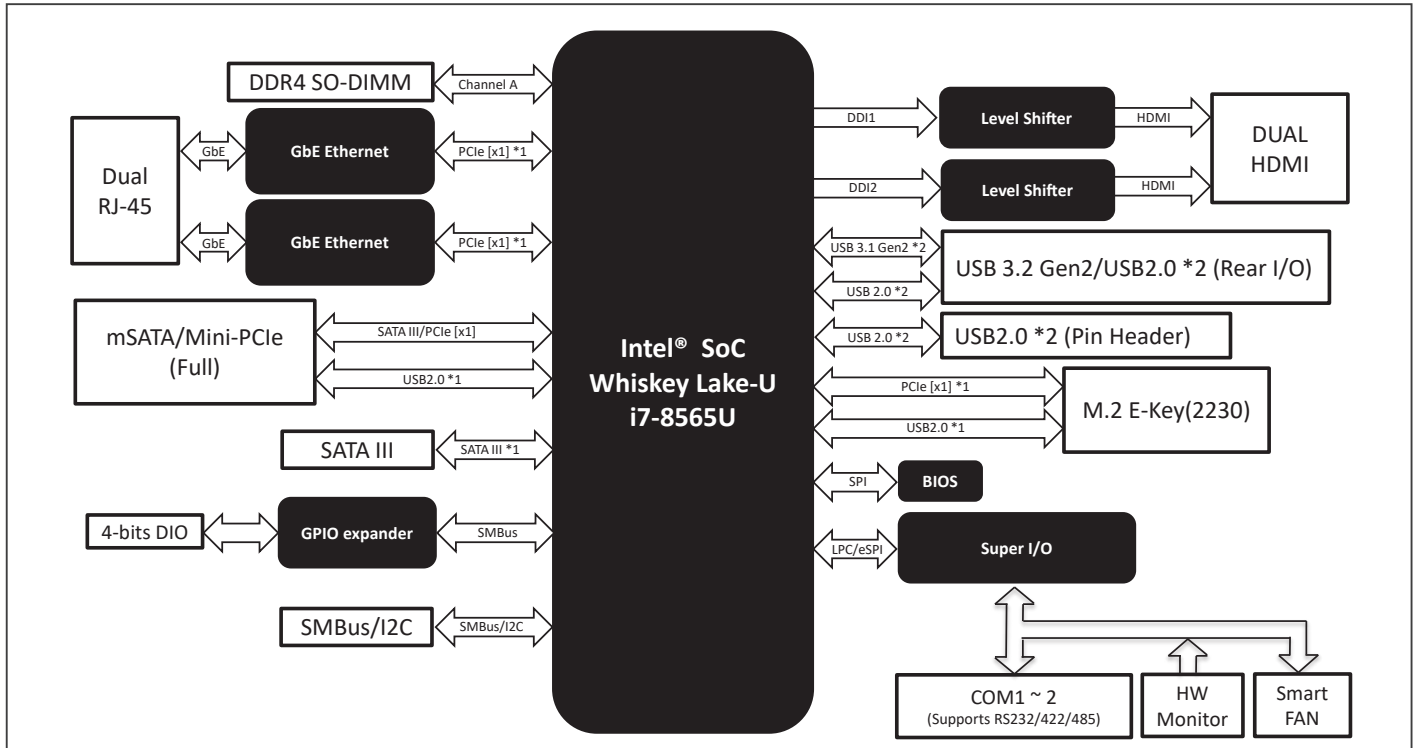
Packing List

- PICO-WHU4

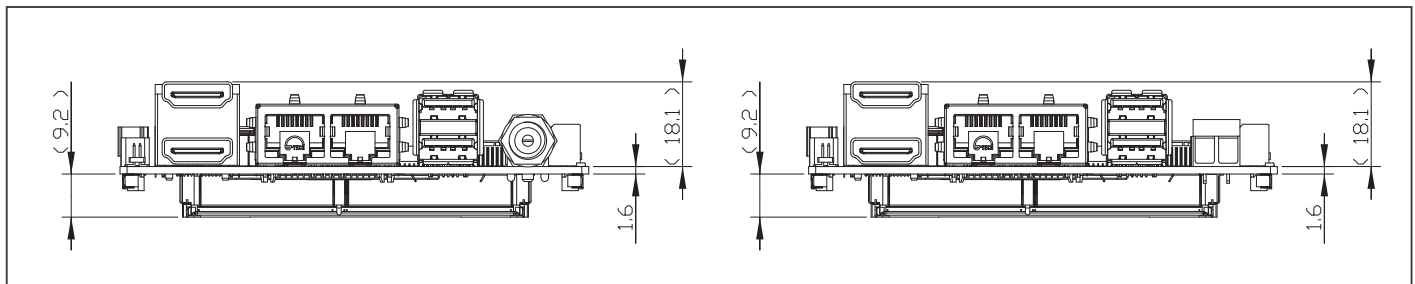
Optional Accessories

Part Number	Description	Qty.
1702150155	(TF)Power Cable.15P SATA(F).2P 2.0mm Housing(PH).15cm	1
1709070500	(TF)SATA CABLE.7P Pitch 1.27mm.50cm	1
1701200102	(TF)SERIAL Cable.WL1010H-2*10P 1.0mm Housing.Dual DB9(M).10cm	1
170010010D	USB cable (2 Port), 10cm	1
1702030176	(TF)Power Cable.3P DC jack.TERMINAL*2.17cm.TKS-G21-LN05	1
PICO-WHU4-FAN01	Integrated Cooler for PICO-WHU4, assemble with PICO-WHU4 directly	1
PICO-WHU4-HSP01	Heat Spreader for PICO-WHU4	1

Block Diagram

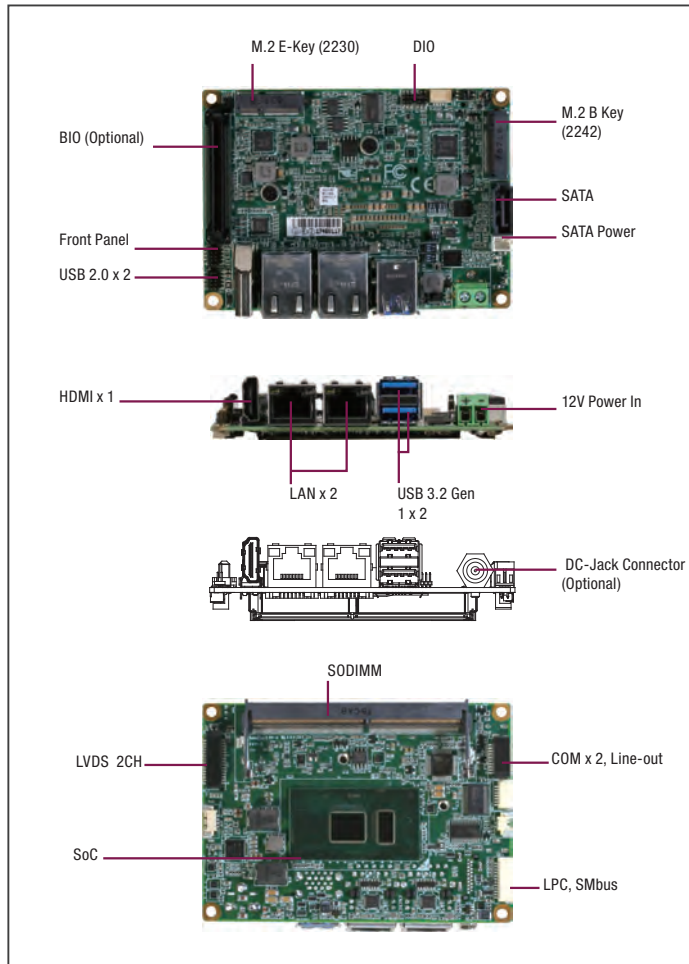


Dimension Unit: mm



Ordering Information

Part Number	CPU	Memory	Thermal	Display	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Power Temp	Others
PICO-WHU4-A11-0001	Celeron 4305UE	DDR4 Socket	Optional	HDMI x 2	SATAIII x 1 mSATA (Full size) x 1	GbE x 2	USB 3.2 Gen 2 x 2 (Rear) USB 2.0 x 2 Pin header	—	2	M.2 2230 (E Key) x 1	+12V (Terminal block)	0°C ~ 60°C	—
PICO-WHU4-A11-0002	i3-8145UE	DDR4 Socket	Optional	HDMI x 2	SATAIII x 1 mSATA (Full size) x 1	GbE x 2	USB 3.2 Gen 2 x 2 (Rear) USB 2.0 x 2 Pin header	—	2	M.2 2230 (E Key) x 1	+12V (Terminal block)	0°C ~ 60°C	—
PICO-WHU4-A11-0003	i5-8365UE	DDR4 Socket	Optional	HDMI x 2	SATAIII x 1 mSATA (Full size) x 1	GbE x 2	USB 3.2 Gen 2 x 2 (Rear) USB 2.0 x 2 Pin header	—	2	M.2 2230 (E Key) x 1	+12V (Terminal block)	0°C ~ 60°C	—
PICO-WHU4-A11-0004	i7-8665UE	DDR4 Socket	Optional	HDMI x 2	SATAIII x 1 mSATA (Full size) x 1	GbE x 2	USB 3.2 Gen 2 x 2 (Rear) USB 2.0 x 2 Pin header	—	2	M.2 2230 (E Key) x 1	+12V (Terminal block)	0°C ~ 60°C	—
PICO-WHU4-A11-DC02	i3-8145UE	DDR4 Socket	Optional	HDMI x 2	SATAIII x 1 mSATA (Full size) x 1	GbE x 2	USB 3.2 Gen 2 x 2 (Rear) USB 2.0 x 2 Pin header	—	2	M.2 2230 (E Key) x 1	+12V (DC Jack)	0°C ~ 60°C	—



Specifications

System	
Form Factor	Pico-ITX
CPU	7th Generation Intel® Core™ i processor U series, Intel® i7-7600U, i5-7300U, i3-7100U series & Celeron® 3965U (optional)
CPU Frequency	Up to 3.9/2.8 GHz
Chipset	7th Generation Intel® Core™ i processor U series, Intel® i7-7600U, i5-7300U, i3-7100U series & Celeron® 3965U (optional)
Memory Type	DDR4 1866/2133MHz SODIMM x 1, Max. 16 GB
Max. Memory Capacity	Up to 16 GB
BIOS	AMI/SPI
Wake On LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+12V AT/ATX (default)
Power Supply Type	AT/ATX (default)
Power Consumption (Typical)	i7-7600@DDR4 16GB, 12V@2.3A
System Cooling	Heat-spreader, heatsink & cooler (Smart FAN) optional
Dimension	3.94" x 2.84" (100mm x 72mm)
Gross Weight	0,55 lb (0.25 Kg)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	163,000
Certification	CE, FCC

Features

- 7th Generation Intel® Core™ i7/i5/i3/Celeron® Processor SoC
- DDR4 SODIMM Slot x 1, up to 16 GB
- Dual Gigabit Ethernet Support
- HDMI 1.4b, LVDS 2CH Display
- USB 3.2 Gen 1 x 2, USB 2.0 x 2, SATA 6.0Gb/s x 1
- COM1: RS-232; COM2: RS-232/422/485
- M.2 B Key (2242) x 1, M.2 E Key (2230) x 1
- BIO (Optional)



Display	
Chipset	7th Generation Intel® Core™ i processor U series, Intel® i7-7600U, i5-7300U, i3-7100U series & Celeron® 3965U (Optional)
Resolution	LVDS (18/24-bit 2CH) 1920 x 1200 HDMI 1.4b up to 4096 x 2304 (4K) DDI (BIO)
LCD Interface	18/24-bit 2CH LVDS
I/O	
Storage/SSD	SATA 6.0 Gb/s x 1, M.2 B-key (2242)
Ethernet	Realtek 8111G Gigabit Ethernet 10/100/1000Base-TX, RJ-45 x 2
USB Port	USB 3.2 Gen 1 x 2 Rear I/O, USB 2.0 x 2 Pin header
Serial Port	COM1: RS-232 x 1, COM2: RS-232/422/485 x 1 (Ring/ +5V/ +12V)
Audio	Line-out x1
DIO	4-bit (2-in, 2-out)
Expansion Slot	M.2 E-Key (2230), BIO (optional), Smbus x 1
SIM	—
TPM	—
Touch	—

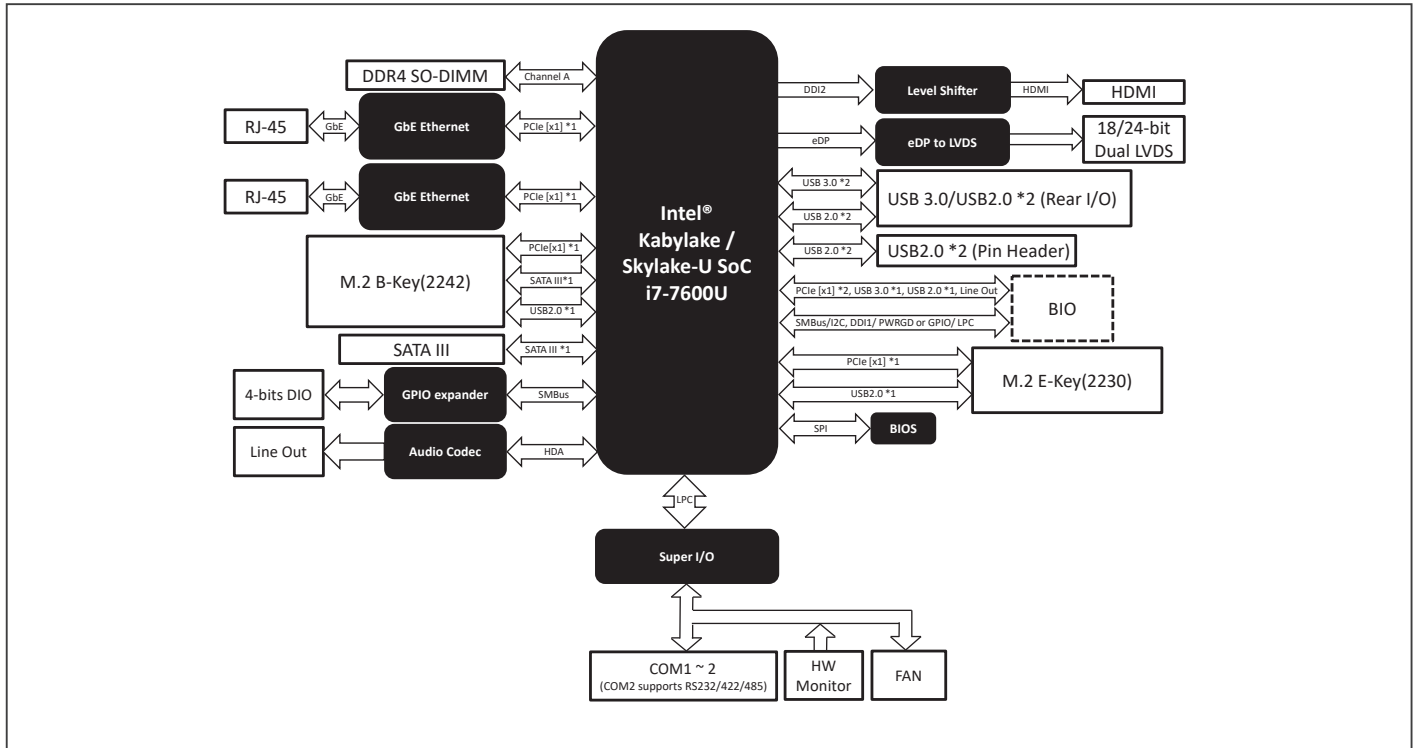
Packing List

- PICO-KBU4

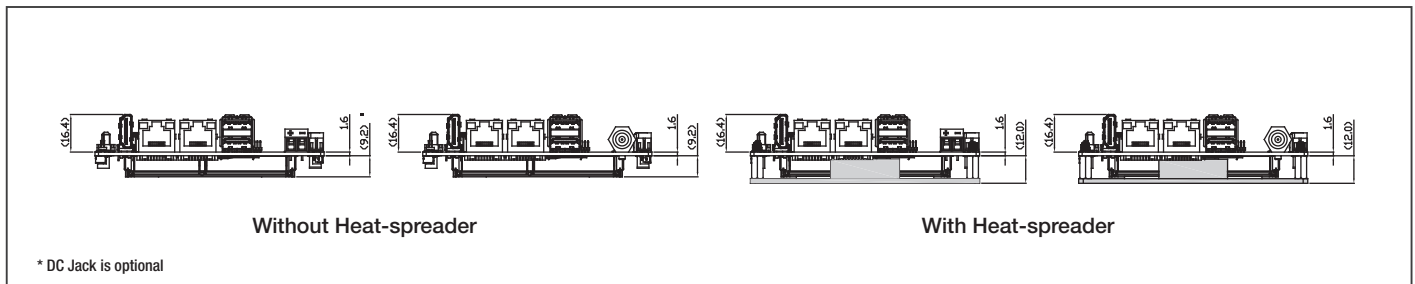
Optional Accessories

Part Number	Description	Qty.
1709070500	SATA CABLE. 7P Pitch. 27mm. 50cm	1
1702150155	SATA Power Cable, 15cm	1
170010010D	USB cable (2 Port), 10cm	1
1701200101	Cable for COM x 2 & line-out, 10 cm	1
PICO-KBU4-HSP01	Heat-spreader for PICO-KBU4	1
PICO-KBU4-FAN01	Integrated Cooler for PICO-KBU4, assemble with PICO-KBU4 directly.	1

Block Diagram

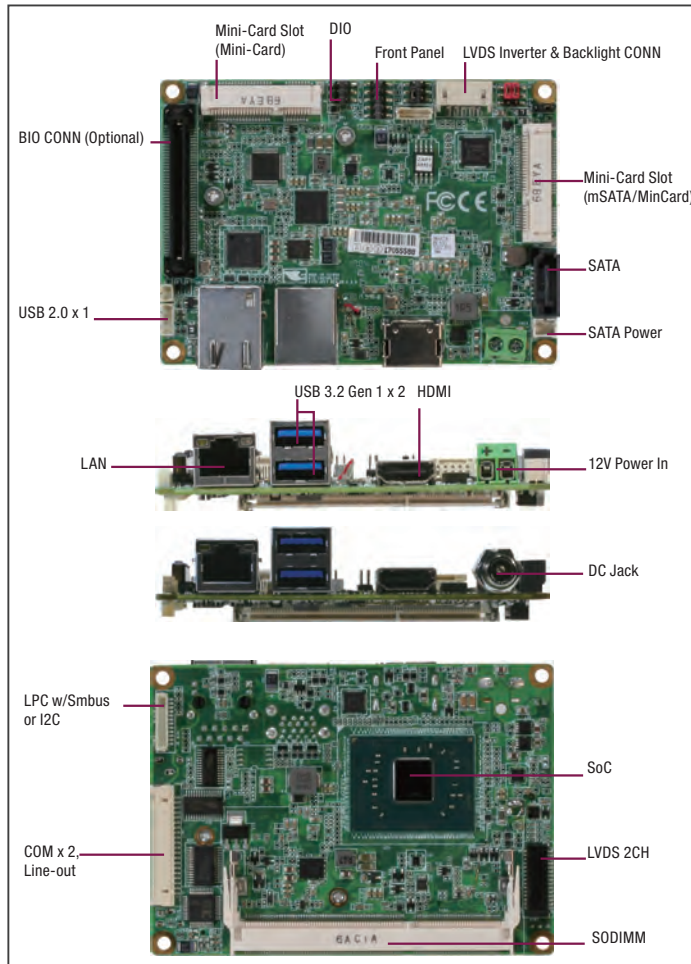


Dimension Unit: mm



Ordering Information

Part Number	CPU	Memory	Thermal	Display	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Power Temp	Others
PICO-KBU4-A10-0001	Celeron® 3965	DDR4 Socket	optional	HDMI x 1 LVDS x 1	SATAIII x 1 M.2 2242 (B Key) x 1	GbE x 2	USB 3.2 Gen 1 x 2 (Rear) USB 2.0 x 2 (Internal)	1	1	M.2 2230 (E Key) x 1	+12V (Terminal block)	0°C – 60°C	DIO x 4 bit BIO (Optional)
PICO-KBU4-A10-0002	i3-7100U	DDR4 Socket	optional	HDMI x 1 LVDS x 1	SATAIII x 1 M.2 2242 (B Key) x 1	GbE x 2	USB 3.2 Gen 1 x 2 (Rear) USB 2.0 x 2 (Internal)	1	1	M.2 2230 (E Key) x 1	+12V (Terminal block)	0°C – 60°C	DIO x 4 bit BIO (Optional)
PICO-KBU4-A10-0003	i5-7300U	DDR4 Socket	optional	HDMI x 1 LVDS x 1	SATAIII x 1 M.2 2242 (B Key) x 1	GbE x 2	USB 3.2 Gen 1 x 2 (Rear) USB 2.0 x 2 (Internal)	1	1	M.2 2230 (E Key) x 1 BIO x 1	+12V (Terminal block)	0°C – 60°C	DIO x 4 bit
PICO-KBU4-A10-0004	i7-7600U	DDR4 Socket	optional	HDMI x 1 LVDS x 1	SATAIII x 1 M.2 2242 (B Key) x 1	GbE x 2	USB 3.2 Gen 1 x 2 (Rear) USB 2.0 x 2 (Internal)	1	1	M.2 2230 (E Key) x 1 BIO x 1	+12V (Terminal block)	0°C – 60°C	DIO x 4 bit
PICO-KBU4-A10-0005 (6th Gen)	Celeron® 3955	DDR4 Socket	optional	HDMI x 1 LVDS x 1	SATAIII x 1 M.2 2242 (B Key) x 1	GbE x 2	USB 3.2 Gen 1 x 2 (Rear) USB 2.0 x 2 (Internal)	1	1	M.2 2230 (E Key) x 1	+12V (Terminal block)	0°C – 60°C	DIO x 4 bit BIO (Optional)
PICO-KBU4-A10-DC06	i3-7100U	DDR4 Socket	optional	HDMI x 1 LVDS x 1	SATAIII x 1 M.2 2242 (B Key) x 1	GbE x 2	USB 3.2 Gen 1 x 2 (Rear) USB 2.0 x 2 (Internal)	1	1	M.2 2230 (E Key) x 1	+12V (DC Jack)	0°C – 60°C	DIO x 4 bit BIO (Optional)
PICO-KBU4-A10-0007 (6th Gen)	i5-6300U	DDR4 Socket	optional	HDMI x 1 LVDS x 1	SATAIII x 1 M.2 2242 (B Key) x 1	GbE x 2	USB 3.2 Gen 1 x 2 (Rear) USB 2.0 x 2 (Internal)	1	1	M.2 2230 (E Key) x 1 BIO x 1	+12V (Terminal block)	0°C – 60°C	DIO x 4 bit
PICO-KBU4W1-A10-0004	i7-7600U	DDR4 Socket	optional	HDMI x 1 LVDS x 1	SATAIII x 1 M.2 2242 (B Key) x 1	GbE x 2	USB 3.2 Gen 1 x 2 (Rear) USB 2.0 x 2 (Internal)	1	1	M.2 2230 (E Key) x 1 BIO x 1	+12V (Terminal block)	-20°C – 70°C	DIO x 4 bit



Specifications

System	
Form Factor	Pico-ITX
CPU	Intel® Atom™ E3900 series/ Pentium® N4200/ Celeron® N3350 Processor SoC
CPU Frequency	Up to 2.0GHz
Chipset	Intel® Atom™ E3900 series/ Pentium® N4200/ Celeron® N3350 Processor SoC
Memory Type	204-pin DDR3L SODIMM x 1, DDR3L 1867MHz, Max. 8GB
Max. Memory Capacity	Up to 8GB
BIOS	AMI/SPI
Wake On LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+12V AT/ATX (default)
Power Supply Type	AT/ATX (default)
Power Consumption (Typical)	Intel® N3350 Processor, DDR3L 8GB 0.91A@+12V
System Cooling	Heat-spreader/ heatsink optional
Dimension	3.94" x 2.84" (100mm x 72mm)
Gross Weight	0.55 lb (0.25 kg)
Operating Temperature	32 °F ~ 140 °F (0°C ~ 60°C),
Storage Temperature	-40 °F ~ 176 °F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	170,000
Certification	CE, FCC
Display	
Chipset	Intel® Atom™ E3900/ Pentium® N4200/ Celeron® N3350 Processor SoC
Resolution	LVDS (18/24bit 2CH) 1920 x 1200 (optional) HDMI 1.4b up to 3840 x 2160 DDI (BIO)
LCD Interface	18/24bit 2CH LVDS

Features

- Intel® Atom™ E3900/ Pentium® N4200/ Celeron® N3350 Processor SoC
- DDR3L 1867 MHz SODIMM x 1, Up to 8 GB
- 18/24-bit Dual Channel LVDS LCD (Optional)
- Supports Triple Display (Optional)
- HDMI 1.4b Supports 3840 x 2160 (4K x 2K)
- SATA 6.0Gb/s x 1, mSATA (Full Size) x 1
- Intel® Gigabit Ethernet x 1, RJ-45 x1
- USB 3.2 Gen 1 x 2, USB 2.0 x 1
- RS-232 x 1, RS-232/422/485 x 1 (Optional by Cable)
- Mini-Card x 1 (Half-Size)
- Digital I/O 4-bit
- BIO Connector for Daughter Board (Optional)



I/O	
Storage/SSD	SATA 6.0Gb/s x 1, mSATA or Mini-PCIe by BOM (Full size) x 1
Ethernet	Intel® Gigabit Ethernet i210AT, 10/100/1000Base-TX, RJ-45 x 1
USB Port	USB 3.2 Gen 1 x 2, Rear IO, USB 2.0 x 1
Serial Port	COM1: RS-232 x 1, COM2: RS-232/422/485 x 1 (Ring/ +5V/ +12V)
Audio	Line-out x1
DIO	4-bit (2-in, 2-out)
Expansion Slot	Mini Card (Half-size) x 1, BIO (optional) x 1, I2C or SMBus x 1
SIM	—
TPM	—
Touch	—

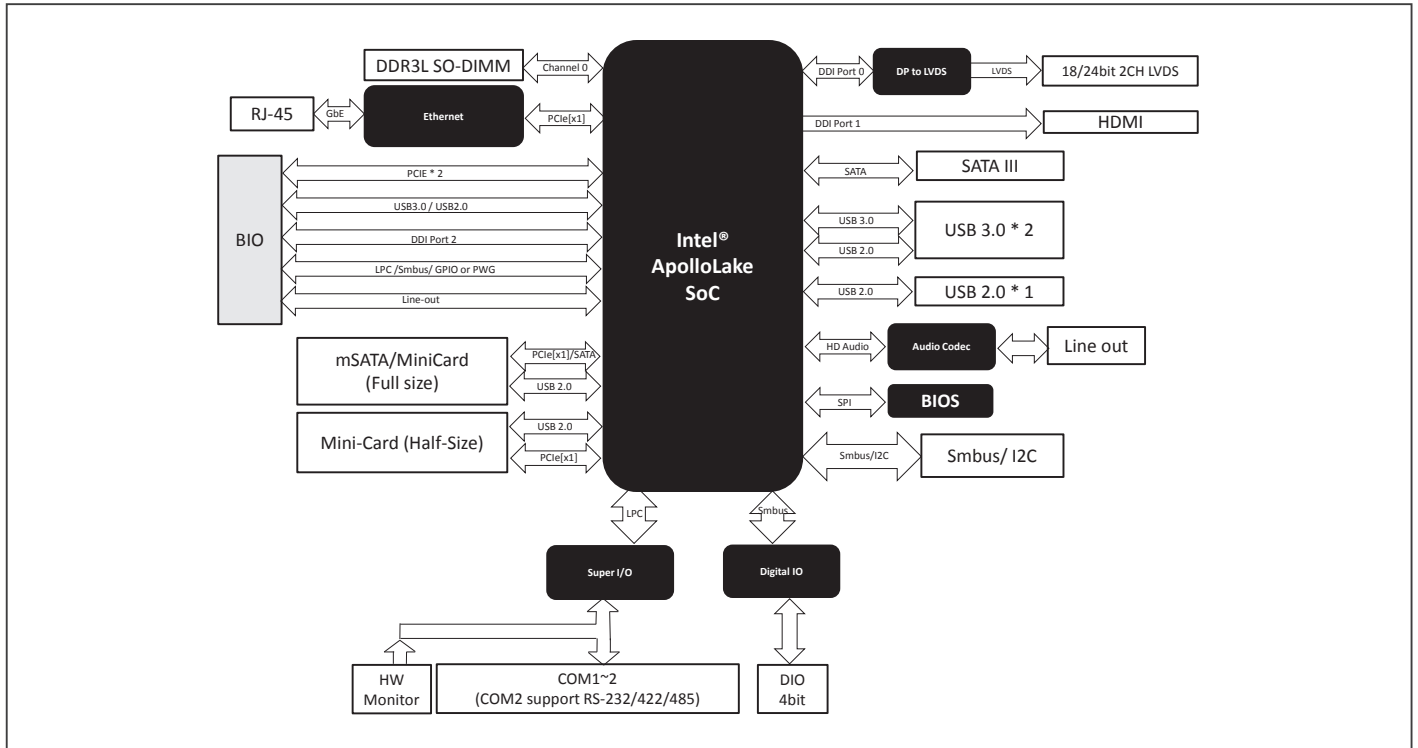
Packing List

- 1703200153 (Optional by model)
COM x 2, Line-out Cable
- PICO-APL1

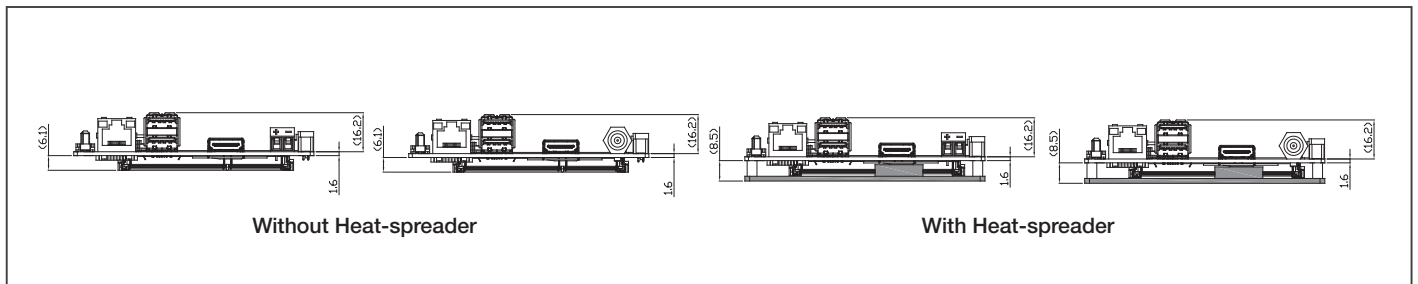
Optional Accessories

Part Number	Description	Qty.
1709070500	SATA CABLE.7P Pitch 1.27mm.50cm	1
1702150155	SATA Power Cable	1
1700050207	USB cable 20cm	1
1703200153	COM x 2, line-out cable	1
PICO-APL1-HSP01	Heat-spreader	1
PICO-APL1-HSK02	Heat-sink, to be used with Heat-spreader	1

Block Diagram



Dimension Unit: mm



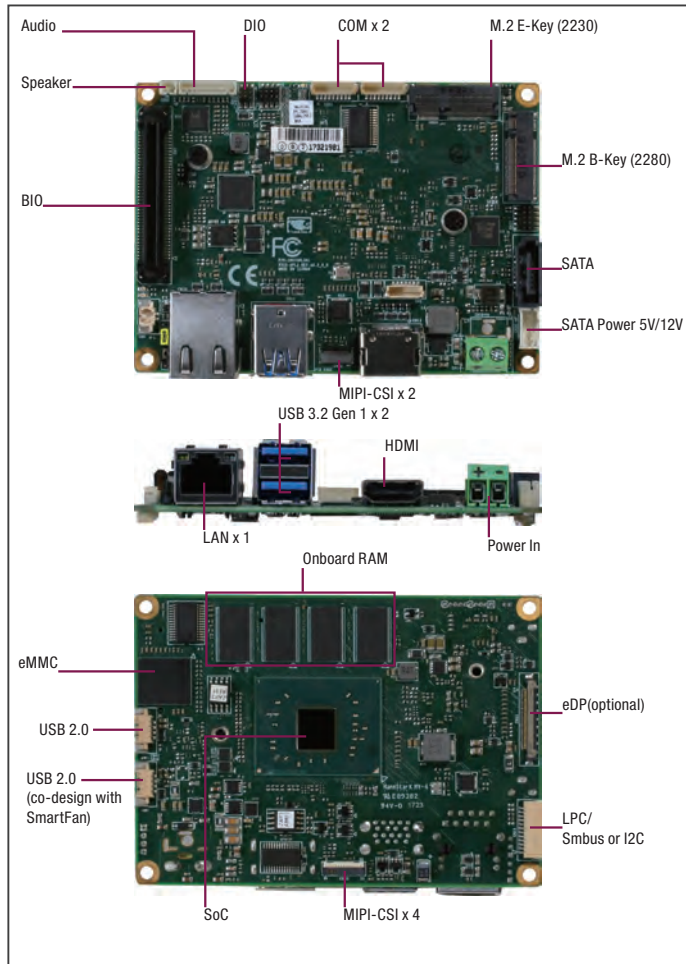
Ordering Information

Part Number	CPU	Fan/Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Temp.	Others
PICO-APL1-A10-F001	N4200	W/o Heat-spreader	LVDS/HDMI	24bit, 2CH	SATA x 1, mSATA x 1 (Full-size)	GbE x 1	USB 3.2 Gen 1 x 2 USB 2.0 x 1	1	1	miniCard x 1 (Half-size)	12V Phoenix Terminal	0°C – 60°C	DIO x 4, Line-out
PICO-APL1-A10-FD02	N3350	W/o Heat-spreader	HDMI	—	SATA x 1, mSATA x 1 (Full-size)	GbE x 1	USB 3.2 Gen 1 x 2 USB 2.0 x 1	(Optional the COM cable)	(Optional the COM cable)	miniCard x 1 (Half-size)	12V DC-Jack	0°C – 60°C	DIO x 4
PICO-APL1-A10-F003	N3350	W/o Heat-spreader	LVDS/HDMI	24bit, 2CH	SATA x 1, mSATA x 1 (Full-size)	GbE x 1	USB 3.2 Gen 1 x 2 USB 2.0 x 1	1	1	miniCard x 1 (Half-size)	12V Phoenix Terminal	0°C – 60°C	DIO x 4, Line-out, BIO

Remark: Heatspreader and cooler is recommended as the thermal solution.

PICO-APL3

Pico-ITX Board with Intel® Pentium® N4200/ Celeron® N3350/ Atom™ Processor SoC



Specifications

System	
Form Factor	Pico-ITX
CPU	Intel® Atom™ Processor SoC
CPU Frequency	Up to 2.4 GHz
Chipset	Intel® Atom™ Processor SoC
Memory Type	Onboard DDR3L 2GB (Optional to 4GB)
Max. Memory Capacity	Up to 4GB
BIOS	AMI/SPI
Wake On LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+12V, AT/ATX
Power Supply Type	Lockable & phoenix Terminal co-lay
Power Consumption (Typical)	Intel® N4200 processor, DDR3L 4GB, 1.1A@12V
System Cooling	Heat-spreader, heatsink & cooler (Optional)
Dimension	3.94" x 2.84" (100 mm x 72 mm)
Gross Weight	0.55 lb (0.25 kg)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	110,000
Certification	CE, FCC
Display	
Chipset	Intel® Atom™ Processor SoC
Resolution	HDMI 1.4b: 3840 x 2160@30Hz Internal eDP: 3840 x 2160@60Hz (Optional) DDI (Optional from BIO)
LCD Interface	eDP

Features

- Intel® Pentium® N4200/ Celeron® N3350/ Atom™ Processor SoC
- Onboard Storage eMMC 32GB (Optional to 16GB/64GB/128GB)
- Onboard DDR3L 2GB or 4GB
- Single Gigabit Ethernet Support
- HDMI 1.4b, eDP for Display
- BIO Reserved (Optional)
- USB 3.2 Gen 1 x 2, USB 2.0 x 2, SATA 6.0Gb/s x 1
- M.2 B Key (2280) x 1, M.2 E Key (2230) x 1
- Onboard HDA Audio Supports (Line in, Line-out, MIC)
- MIPI-CSI 2 Lanes x 1 for 2M Camera (Optional)
- MIPI-CSI 4 Lanes x 1 for 8M Camera (Optional)



I/O	
Storage/SSD	SATA 6.0Gb/s x 1, 5V/12V Power reserved M.2 2280 (B Key) x 1 eMMC 16GB (optional to 32GB/64GB/128GB)
Ethernet	Realtek 8111G x 1
USB Port	USB 3.2 Gen 1 x 2 Rear IO USB 2.0 x 2 (Internal, co-use with FAN connector)
Serial Port	COM1: RS-232 COM2: RS-232
Audio	ALC269 (Included Amp)
DIO	4-bit
Expansion Slot	M.2 2230 x 1 (E-Key) BIO x 1 (Optional) I2C, Smbus, I2S MIPI-CSI x 2 Lanes (Optional) MIPI-CSI x 4 Lanes (Optional)
SIM	—
TPM	TPM2.0 (Optional)
Touch	—

Packing List

- PICO-APL3

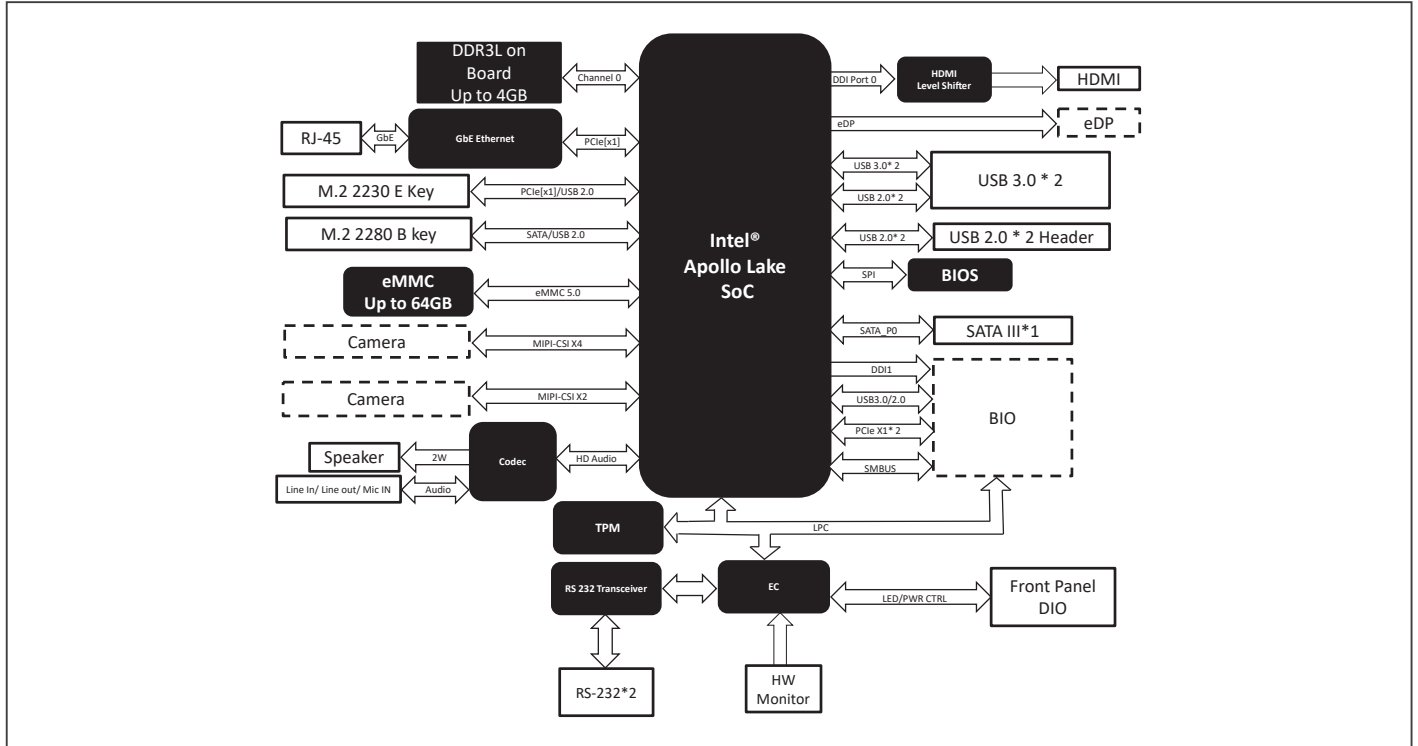
Optional Accessories

Part Number	Description	Qty
1709070500	(TF) SATA Cable, 50cm	1
1702150155	(TF) SATA Power Cable, 15cm	1
PICO-APL3-HSK01	Heatsink, used with heat spreader	1
PICO-APL3-HSP01	Heat Spreader	1
1700040151	(TF) USB Cable, 15cm	2
1701090122	(TF) Flat Cable, D-Sub 9P(M), 9P 1.0mm Housing, 12cm	2
1709100254	(TF) Phone Jack Cable, 25cm	1
1255300408	(TF) Power Adapter, 12V, 40W, FSP, FSP040-RHAN2.9NA0404990, ESD	1
1702030176	(TF) Power Cable, 3P DC jack, TERMINAL*2.17cm, TKS-G21-LN05	1

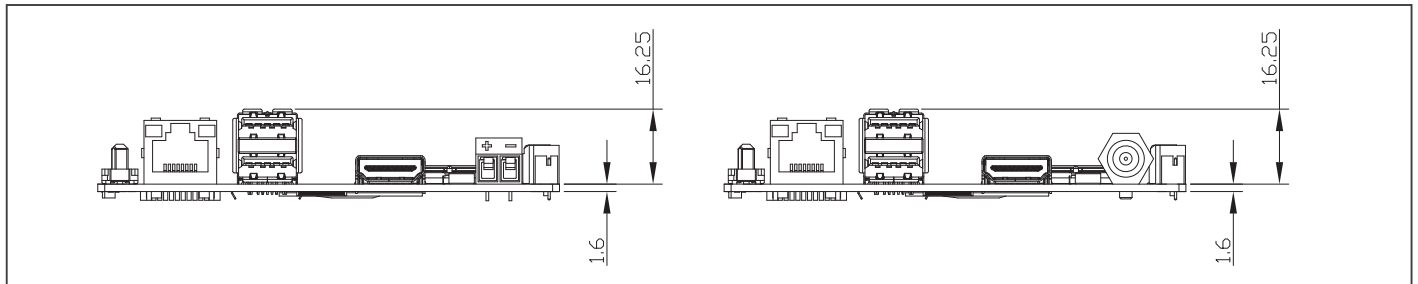
*Please refer to PICO-APL3-SEMI page for further option.

*eDP cable custom by required.

Block Diagram

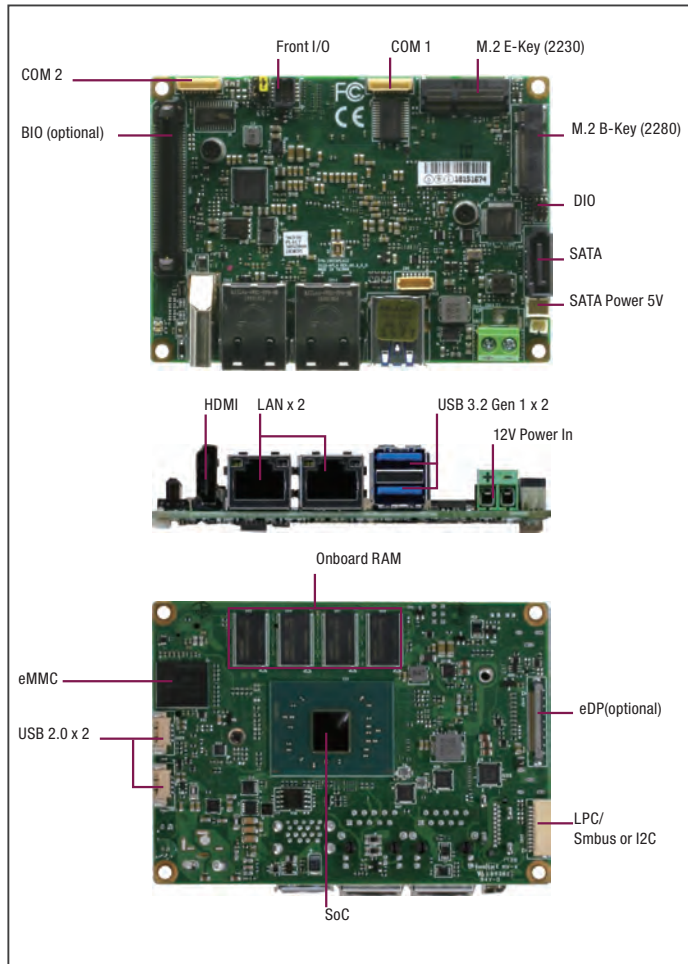


Dimension Unit: mm



Ordering Information

Part Number	CPU	Memory	Thermal	Display	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Temp.	Others
PICO-APL3-A10-F001	Celeron® N3350 (Dual Core)	Onboard DDR3L 2GB	W/o Heatspreader	HDMI x 1	SATA 3.0 x 1 M.2 2280 (B Key) x 1 eMMC 32GB	GbE x 1	USB 3.2 Gen 1 x 2 (Rear) USB 2.0 x 2 (Internal)	2	—	M.2 2230 (E Key) x 1	+12V (Phoenix Terminal)	0°C ~ 60°C	DIO 4 bit Full Audio with Amp
PICO-APL3-A10-F002	Celeron® N3350 (Dual Core)	Onboard DDR3L 4GB	W/o Heatspreader	HDMI x 1 eDP x 1	SATA 3.0 x 1 M.2 2280 (B Key) x 1 eMMC 32GB	GbE x 1	USB 3.2 Gen 1 x 2 (Rear) USB 2.0 x 2 (Internal)	2	—	M.2 2230 (E Key) x 1	+12V (Phoenix Terminal)	0°C ~ 60°C	DIO 4 bit Full Audio with Amp
PICO-APL3-A10-F003	Pentium® N4200 (Quad Core)	Onboard DDR3L 4GB	W/o Heatspreader	HDMI x 1	SATA 3.0 x 1 M.2 2280 (B Key) x 1 eMMC 32GB	GbE x 1	USB 3.2 Gen 1 x 2 (Rear) USB 2.0 x 2 (Internal)	2	—	M.2 2230 (E Key) x 1	+12V (Phoenix Terminal)	0°C ~ 60°C	DIO 4 bit Full Audio with Amp
PICO-APL3-A10-FD04	Celeron® N3350 (Dual Core)	On board DDR3L 2GB	W/o Heatspreader	HDMI x 1	SATAIII x 1 M.2 2280 (B Key) x 1 eMMC 32GB	GbE x 1	USB 3.2 Gen 1 x 2 (Rear) USB 2.0 x 2 (Internal)	2	—	M.2 2230 (E Key) x 1	+12V (DC Jack)	0°C ~ 60°C	DIO 4 bit Full Audio with Amp



Features

- Intel® Atom™/ Pentium® N4200/ Celeron® N3350 Processor SoC
- Onboard DDR3L 2GB (Optional to 4GB)
- Onboard Storage eMMC 32GB (optional to 16GB/64GB/128GB)
- Dual Gigabit Ethernet Support
- HDMI 1.4b, eDP (Optional) for Display
- BIO Reserved (Optional)
- USB 3.2 Gen 1 x 2, USB 2.0 x 2, SATA 6.0Gb/s x 1
- M.2 B Key (2280) x 1, M.2 E Key (2230) x 1



Resolution	HDMI 1.4b: 3840 x 2160@30Hz Internal eDP: 3840 x 2160@60Hz (Optional) DDI (Optional from BIO)
LCD Interface	eDP
I/O	
Storage/SSD	SATA 6.0Gb/s x 1, 5V Power reserved M.2 2280 (B Key) x 1 eMMC 32GB (Optional to 16GB/64GB/128GB)
Ethernet	Realtek 8111G x 2
USB Port	USB 3.2 Gen 1 x 2 Rear IO USB 2.0 x 2 (Internal, co-use with FAN connector)
Serial Port	COM1: RS-232 x 1 COM2: RS-232/422/485 x 1
Audio	—
DIO	4-bit
Expansion Slot	M.2 2230 x 1 (E-Key) BIO x 1 (optional) I2C, Smbus
SIM	—
TPM	—
Touch	—

Specifications

System	
Form Factor	Pico-ITX
CPU	Intel® Pentium® N4200 (4C. 1.1 GHz, up to 2.5 GHz, TDP 6W) Intel® Celeron® N3350 (2C. 1.1 GHz, up to 2.4 GHz, TDP 6W) Intel® Atom® x7-Series (4C. 1.6GHz, up to 2.00 GHz, TDP 12W)
CPU Frequency	Up to 2.4GHz
Chipset	Intel® SoC
Memory Type	Onboard DDR3L 2GB (Optional to 4GB)
Max. Memory Capacity	Up to 4GB
BIOS	AMI/SPI
Wake On LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+12V, AT/ATX
Power Supply Type	Lockable & Phoenix Terminal co-lay
Power Consumption (Typical)	Intel®Pentium®N4200@1.1GHz,DDR3L 4GB 1.43A@+12V
System Cooling	Heat-spreader, heatsink & cooler (Optional)
Dimension	3.94" x 2.84" (100 mm x 72 mm)
Gross Weight	0.55 lb (0.25 kg)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	191,895
Certification	CE,FCC
Display	
Chipset	Intel® SoC

Packing List

- PICO-APL4

Optional Accessories

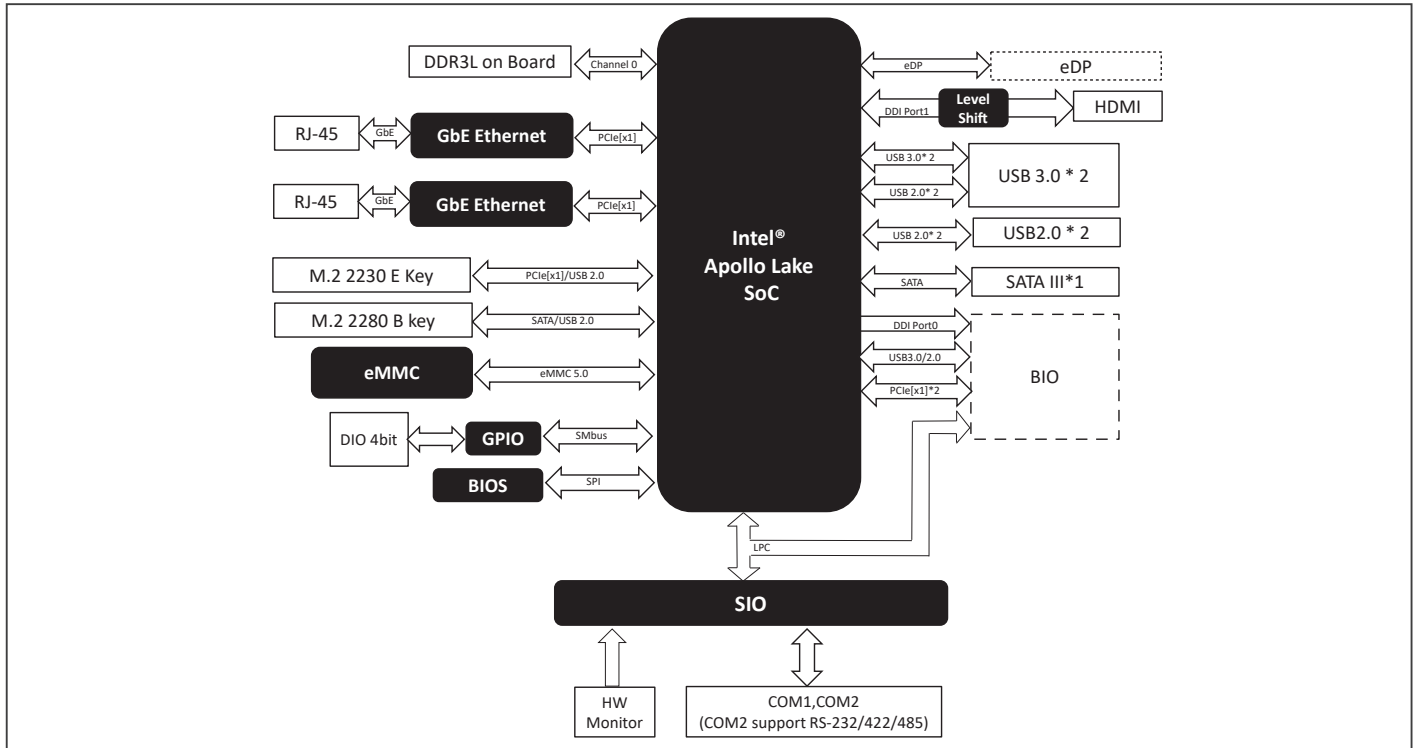
Part Number	Description	Qty
1709070500	(TF) SATA Cable, 50cm	1
1702150155	(TF) SATA Power Cable, 12cm	1
PICO-APL4-HSK01	Heat Sink.100*72*15.5mm.Silver.used with HSP	1
PICO-APL4-HSP01	Heat Spreader, 100 x 72 x 8.5 mm, Silver	1
1700040151	(TF) USB Cable, 15cm	2
1701090122	(TF)Flat Cable, D-Sub 9P(M), 9P 1.0mm Housing, 12cm	2
PICO-APL4-FAN01	CPU Cooler, 100*72*15.5mm, Silver, use w/HSP	1

*FAN Solution will be via one of internal USB port without FAN speed control.

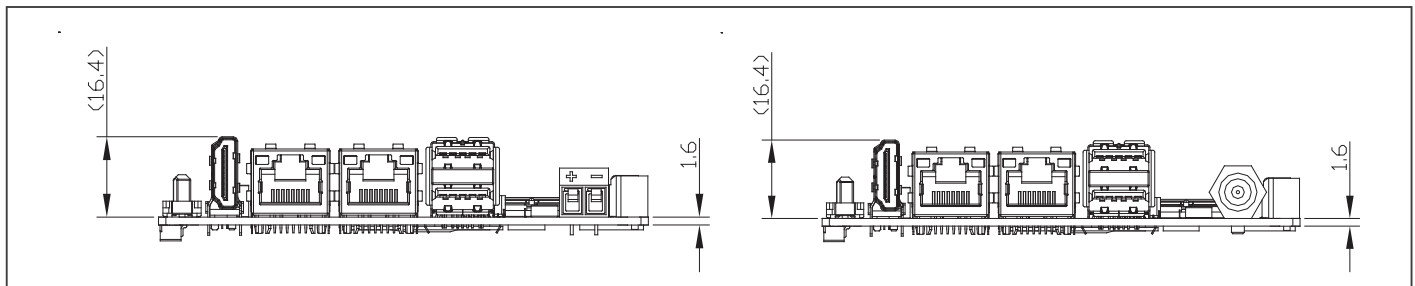
*Please refer to PICO-APL4-SEMI for further option.

*eDP cable custom by required

Block Diagram



Dimension Unit: mm



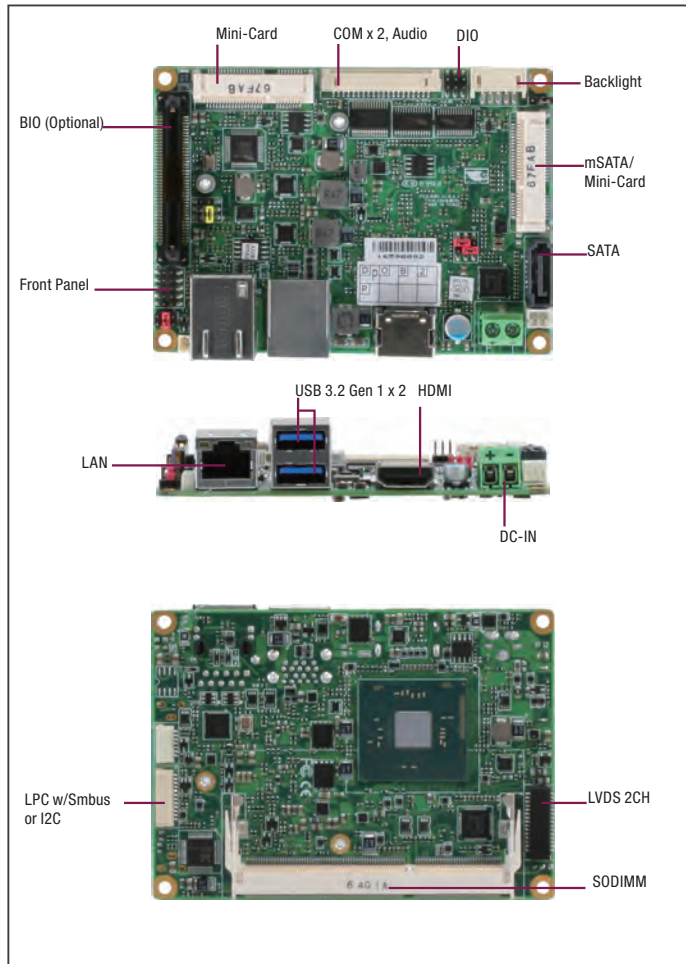
Ordering Information

Part Number	CPU	Memory	Thermal	Display	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Temp.	Others
PICO-APL4-A10-F001	Celeron® N3350 (Dual Core)	Onboard DDR3L 2GB	W/o Heatspreader	HDMI x 1	SATA 6.0Gb/s x 1 M.2 2280 (B Key) x 1 eMMC 32GB	GbE x 2	USB 3.2 Gen 1 x 2 (Rear) USB 2.0 x 2 (Internal)	1	1	M.2 2230 (E Key) x 1	+12V (Phoenix Terminal)	0°C ~ 60°C	DIO 4 bit
PICO-APL4-A10-F002	Celeron® N3350 (Dual Core)	Onboard DDR3L 4GB	W/o Heatspreader	HDMI x 1 eDP x 1	SATA 6.0Gb/s x 1 M.2 2280 (B Key) x 1 eMMC 32GB	GbE x 2	USB 3.2 Gen 1 x 2 (Rear) USB 2.0 x 2 (Internal)	1	1	M.2 2230 (E Key) x 1	+12V (Phoenix Terminal)	0°C ~ 60°C	DIO 4 bit
PICO-APL4-A10-F003	Pentium® N4200 (Quad Core)	Onboard DDR3L 4GB	W/o Heatspreader	HDMI x 1	SATA 6.0Gb/s x 1 M.2 2280 (B Key) x 1 eMMC 32GB	GbE x 2	USB 3.2 Gen 1 x 2 (Rear) USB 2.0 x 2 (Internal)	1	1	M.2 2230 (E Key) x 1	+12V (Phoenix Terminal)	0°C ~ 60°C	DIO 4 bit
PICO-APL4-A10-FD04	Celeron® N3350 (Dual Core)	Onboard DDR3L 2GB	W/o Heatspreader	HDMI x 1	SATAIII x 1 M.2 2280 (B Key) x 1 eMMC 32GB	GbE x 2	USB 3.2 Gen 1 x 2 (Rear) USB 2.0 x 2 (Internal)	1	1	M.2 2230 (E Key) x 1	+12V (DC Jack)	0°C ~ 60°C	DIO 4 bit

Remark: cooler is recommended as the thermal solution.

PICO-BSW1

Pico-ITX Board with Intel® Atom™ x5-E8000/ Pentium®/ Celeron® N3000 Series Processor SoC



Features

- Onboard Intel® Atom™ x5-E8000/ Pentium®/ Celeron® N3000 Series Processor SoC
- DDR3L 1600/1066 SODIMM x 1, Up to 8 GB
- LVDS up to 48-bit (2CH)
- Supports Triple Displays (Optional)
- HDMI Up to 3840 x 2160 (4K) Resolution
- SATA 3.0 x 1, mSATA (Full Size) x 1 or MiniCard x 1 (Optional)
- Gigabit Ethernet x 1, RJ-45 x 1
- USB 3.2 Gen 1 x 2
- RS-232 x 1, RS-232/422/485 x 1
- Mini-Card x 1 (Half-Size)
- Digital I/O 4-bit
- BIO Connector for Daughter Board (Optional)



Display	
Chipset	Intel® N3160 Quad Core 1.6GHz (6W), Intel® N3060 Dual Core 1.6GHz (6W), Intel® X5-E8000 Quad Core 1.04GHz (5W)
Resolution	LVDS (18/24bit 2CH) 1920 x 1200 HDMI up to 3840 x 2160 (4K) DDI (optional by BIO board)
LCD Interface	18/24-bit 2CH LVDS
I/O	
Storage/SSD	SATA 6.0Gb/s x 1, mSATA/MiniCard (Full size) x 1
Ethernet	Realtek RTL 8111E, 10/100/1000Base-TX, RJ-45 x 1
USB Port	USB 3.2 Gen 1 x 2 Rear I/O
Serial Port	COM1: RS-232 x 1, COM2: RS-232/422/485 x 1 (Ring/ +5V/ +12V)
Audio	Line-out x 1
DIO	4-bit (2-in, 2-out)
Expansion Slot	Mini Card(Half-size) x 1, BIO x 1, I2C x 1 or Smbus x 1, LPC
SIM	—
TPM	—
Touch	—

Specifications

System	
Form Factor	Pico-ITX
CPU	Intel® N3160 Quad Core 1.6GHz (6W), Intel® N3060 Dual Core 1.6GHz (6W), Intel® X5-E8000 Quad Core 1.04GHz (5W)
CPU Frequency	Up to 2.24 GHz
Chipset	Intel® N3160 Quad Core 1.6GHz (6W), Intel® N3060 Dual Core 1.6GHz (6W), Intel® X5-E8000 Quad Core 1.04GHz (5W)
Memory Type	204-pin DDR3L SODIMM x 1, DDR3L 1600, Max. 8GB
Max. Memory Capacity	Up to 8GB
BIOS	AMI/SPI
Wake On LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+12V DC
Power Supply Type	AT/ATX (default) optional lockable connector
Power Consumption (Typical)	Intel® Pentium® N3160@ DDR3L-1600MHz 8GB, 0.91A@+12V
System Cooling	Heat-spreader; Heat-sink & cooler (optional)
Dimension	3.94" x 2.84" (100 mm x 72 mm)
Gross Weight	0.44 lb (0.2 kg)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	100,000
Certification	CE, FCC

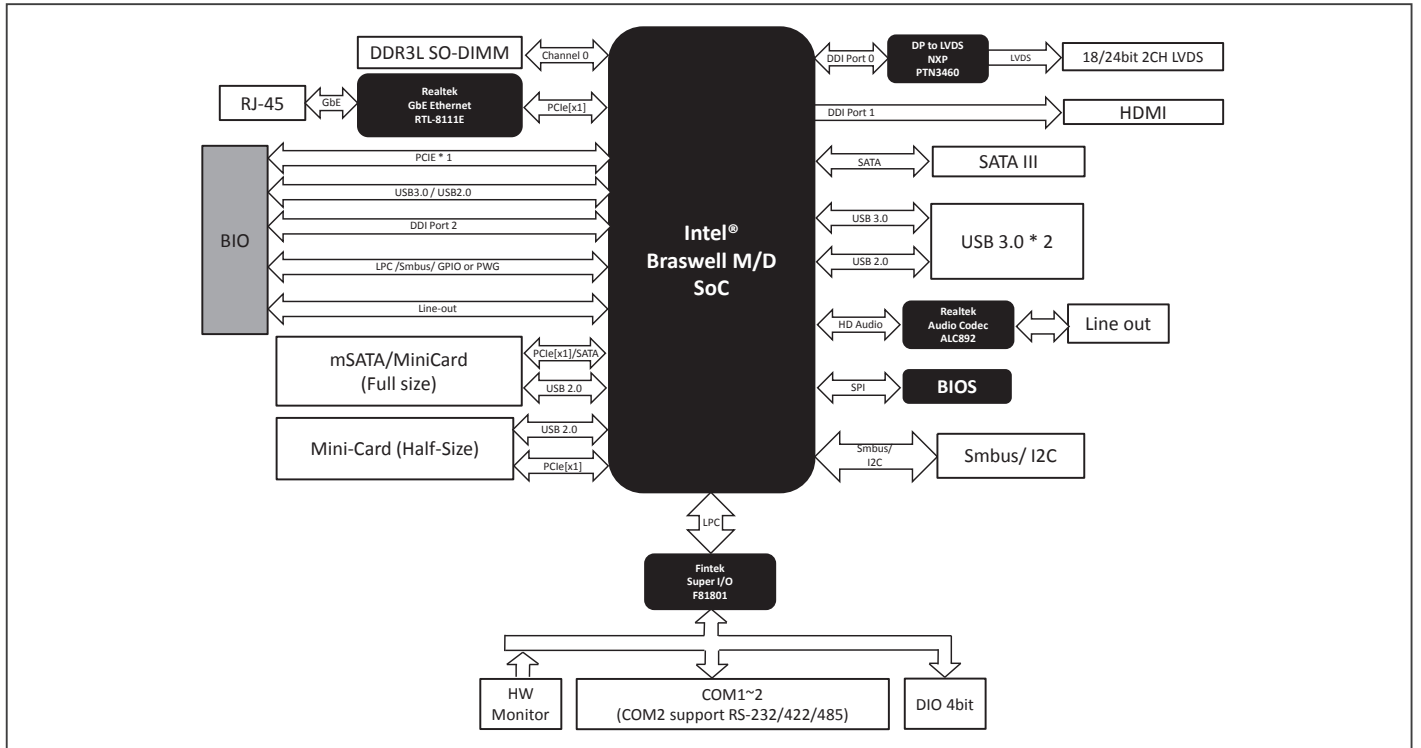
Packing List

- M10BT01010
Heat Spreader
- 1703200153
COM x 2, Line-out Cable
- PICO-BSW1

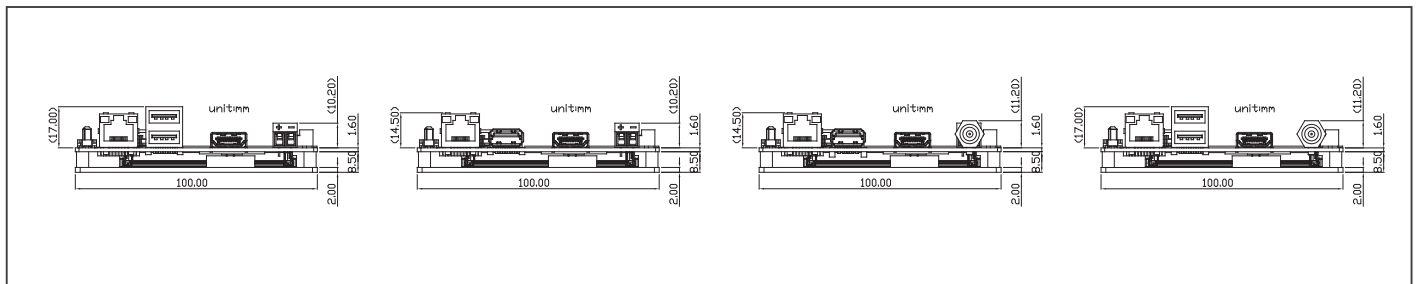
Optional Accessories

Part Number	Description	Qty.
1709070500	(TF)SATA CABLE.7P Pitch 1.27mm.50cm	1
1702150155	(TF)SATA Power Cable	1
1702040167	Power/FAN Cable 16cm	1
PICO-BSW1-FAN01	CPU Cooler.84*53*22.2mm.Silver.used with HSP	1
PICO-BSW1-HSK01	Heat Sink.100*72*15.5mm.Silver.used with HSP	1

Block Diagram



Dimension Unit: mm

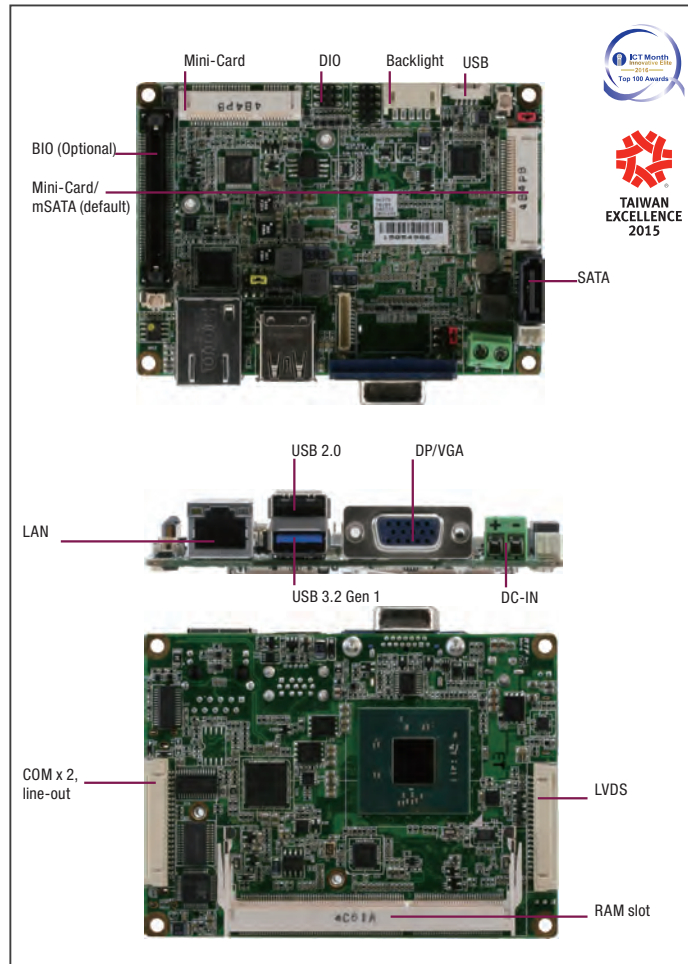


Ordering Information

Part Number	CPU	Fan/Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Temp.	Others
PICO-BSW1-A10-0001	N3160	Heat-Spreader	LVDS/HDMI	24bit,2CH	SATA x 1, mSATA x 1 (Full-size)	GbE x 1	USB 3.2 Gen 1 x 2	1	1	miniCard x 1 (Half-size)	12V (Terminal block)	0°C ~ 60°C	BIO x 1, DIO x 4, Line-out
PICO-BSW1-A10-0002	X5-E8000	Heat-Spreader	LVDS/HDMI	24bit,2CH	SATA x 1, mSATA x 1 (Full-size)	GbE x 1	USB 3.2 Gen 1 x 2	1	1	miniCard x 1 (Half-size)	12V (Terminal block)	0°C ~ 60°C	DIO x 4, Line-out

PICO-BT01

Pico-ITX Board with Intel® Atom™/ Celeron® Processor SoC



Features

- Onboard Intel® Atom™ E3800/ Celeron® J1900/N2807 Processor SoC
- DDR3L 1066/1333 MHz SODIMM x 1, Up to 8 GB
- 18/24-bit LVDS LCD, CRT Co-lay Display Port
- SATA 3.0Gb/s x 1, Mini-Card(Full size)/mSATA(default) x 1
- USB 3.2 Gen 1 x 1, USB 2.0 x 2
- Gigabit Ethernet x 1, RJ-45 x 1
- RS-232 x 1, RS-232/422/485 x 1
- Mini-card x 1 (Half size)
- 4-Bit Digital I/O
- BIO Connector for Daughter Board Optional



I/O	
Storage/SSD	SATA 3.0Gb/s x 1, Mini-Card(Full size)/mSATA(default) x 1
Ethernet	Intel Gigabit Ethernet, 10/100/1000Base-TX x 1 (Atom E series with I210IT, Celeron J/N series with I211AT)
USB Port	USB 3.2 Gen 1 x 1 Rear IO, USB 2.0 x 1 Rear IO and x 1 Pin header
Serial Port	RS-232 x 1, RS-232/422/485 x 1 (Ring /+5V/+12V)
Audio	Line-out x 1
DIO	4-bit (2-in, 2-out)
Expansion Slot	Mini-Card (Half-size) x 1, BIO x 1
SIM	Option by BIO Board
TPM	—
Touch	—

Packing List

- PICO-BT01-HSP01
Heat Spreader
- 1703200153
COM x 2, Line-out Cable
- PICO-BT01

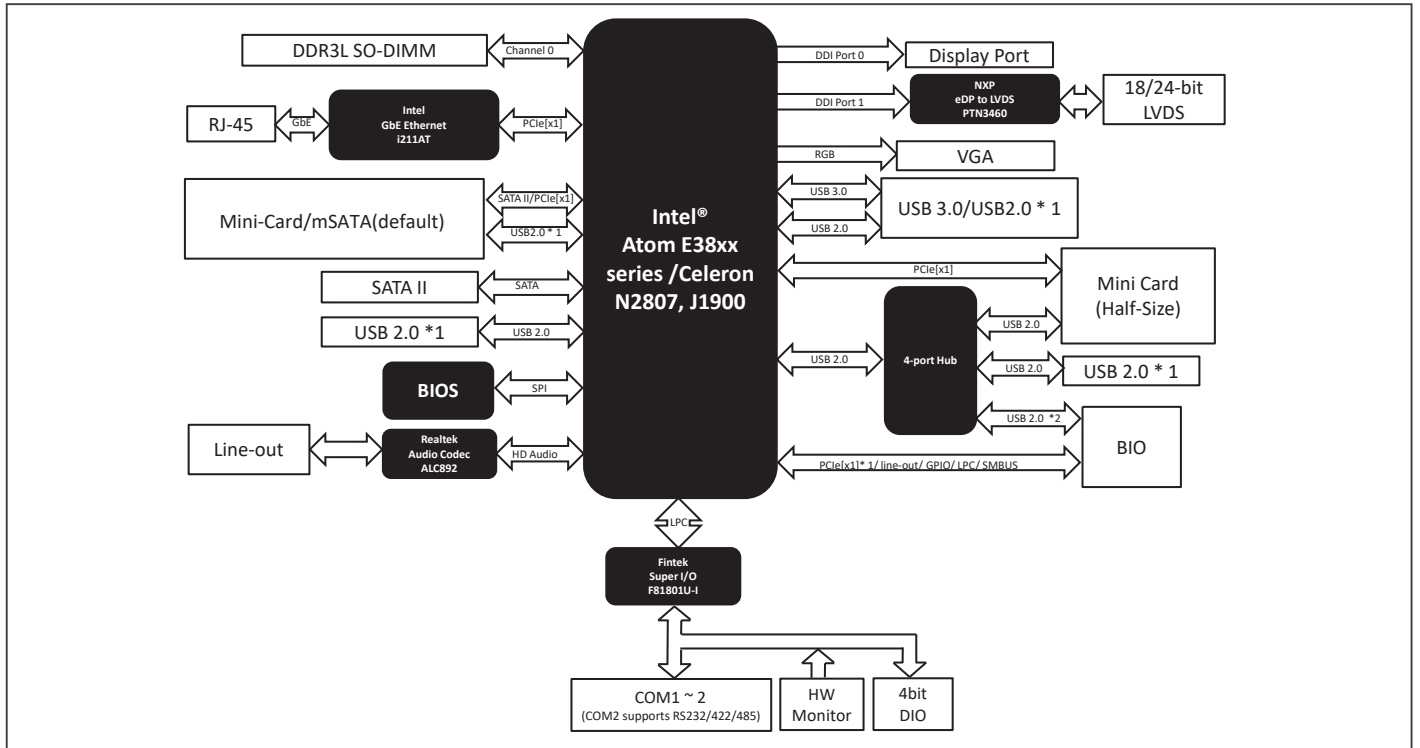
Optional Accessories

Part Number	Description	Qty.
1709070500	SATA Cable	1
1702150155	SATA Power Cable	1
1702040167	Power/FAN Cable 16cm	1
PICO-BT01-FAN01	CPU Cooler.84*53*22.2mm.Silver.used with HSP	1
PICO-BT01W1-HSK01	Heatsink for E3845 WITAS1. To be used with heat Spreader.	1
PICO-BT01-HSK01	Heatsink for standard product.To be used with heat Spreader.	1
1700050207	USB Cable 20cm	—

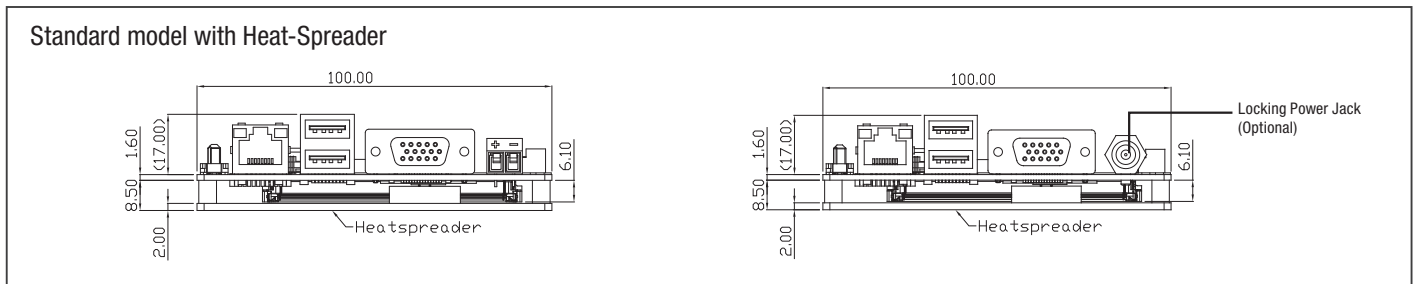
Specifications

System	
Form Factor	Pico-ITX
CPU	Onboard Intel® Atom™ E3845/ Celeron® J1900/N2807 Processor SoC
CPU Frequency	Up to 2.0 GHz
Chipset	Intel® E3845/J1900/N2807
Memory Type	204-pin DDR3L SODIMM x 1, DDR3L 1066/1333, Max. 8GB
Max. Memory Capacity	Up to 8GB
BIOS	AMI/SPI
Wake On LAN	Yes
Watchdog Timer	255 levels
Power Requirement	+12VDC
Power Supply Type	AT/ATX (default) optional lockable connector
Power Consumption (Typical)	Intel® Celeron® J1900 2.0GHz, DDR3L 1333 MHz 8 GB 1.14A@+12V
System Cooling	Heat-spreader, heatsink or cooler optional
Dimension	3.94" x 2.84" (100 mm x 72 mm)
Gross Weight	0.88lb (0.4 kg)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C) or WITAS 2 (-40°C ~ 85°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	80,000
Certification	CE,FCC
Display	
Chipset	Intel® E3845/J1900/N2807
Resolution	VGA up to 2048 x 1152 @60Hz or DP up to 2560 x 1400 @60Hz LVDS (18/24-bit) up to 1400 x 900 @60Hz
LCD Interface	18/24-bit Single LVDS

Block Diagram



Dimension Unit: mm



Ordering Information

Part Number	CPU	RAM	Fan/Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Temp.	Others
PICO-BT01-A11-0002	Celeron® N2807 (Dual Core)	DDR3L, Max. 4GB	Heat-spreader	DP+LVDS	24bit 1CH	SATAII x 1, Mini-Card (Full size)/mSATA (default) x 1	GbE x 1	USB 3.2 Gen 1 x 1, USB2.0 x 2	1	1	Mini-card x 1 (Half size), DIO 4-bit	+12V (Terminal block)	32°F ~ 131°F (0°C ~ 60°C)	Line-out
PICO-BT01-A11-0003	Atom™ E3845 (Quad Core)	DDR3L, Max. 8 GB	Heat-spreader	CRT+LVDS	24bit 1CH	SATAII x 1, Mini-Card (Full size)/mSATA (default) x 1	GbE x 1	USB 3.2 Gen 1 x 1, USB2.0 x 2	1	1	Mini-card x 1 (Half size), DIO 4-bit	+12V (Terminal block)	32°F ~ 131°F (0°C ~ 60°C)	Line-out, BIO x 1
PICO-BT01-A11-0004	Atom™ E3825 (Dual Core)	DDR3L, Max. 8 GB	Heat-spreader	DP+LVDS	24bit 1CH	SATAII x 1, Mini-Card (Full size)/mSATA (default) x 1	GbE x 1	USB 3.2 Gen 1 x 1, USB2.0 x 2	1	1	Mini-card x 1 (Half size), DIO 4-bit	+12V (Terminal block)	32°F ~ 131°F (0°C ~ 60°C)	Line-out
PICO-BT01-A11-0005	Celeron® J1900 (Quad Core)	DDR3L, Max. 8 GB	Heat-spreader	CRT+LVDS	24bit 1CH	SATAII x 1, Mini-Card (Full size)/mSATA (default) x 1	GbE x 1	USB 3.2 Gen 1 x 1, USB2.0 x 2	1	1	Mini-card x 1 (Half size), DIO 4-bit	+12V (Terminal block)	32°F ~ 131°F (0°C ~ 60°C)	Line-out
PICO-BT01W2-A11-0003	Atom™ E3845 (Quad Core)	DDR3L, Max. 8 GB	Heat-spreader	CRT+LVDS	24bit 1CH	SATAII x 1, Mini-Card (Full size)/mSATA (default) x 1	GbE x 1	USB 3.2 Gen 1 x 1, USB2.0 x 2	1	1	Mini-card x 1 (Half size), DIO 4-bit	+12V (Terminal block)	WITAS 2 (-40°C ~ 85°C)	Line-out, BIO x 1
PICO-BT01W2-A11-0004	Atom™ E3825 (Quad Core)	DDR3L, Max. 8 GB	Heat-spreader	DP+LVDS	24bit 1CH	SATAII x 1, Mini-Card (Full size)/mSATA (default) x 1	GbE x 1	USB 3.2 Gen 1 x 1, USB2.0 x 2	1	1	Mini-card x 1 (Half size), DIO 4-bit	+12V (Terminal block)	WITAS 2 (-40°C ~ 85°C)	Line-out

PICO-WHU4-SEMI

Pico-ITX Embedded Barebone with 8th Generation Intel® Core™ i7/i5/i3/Celeron® U-Series Processor SoC

Front View



Rear View



Features

- 8th Intel® Core™ i7/i5/i3/Celeron Processor SoC
- Non-ECC DDR4 SODIMM Slot x 1, up to 32GB
- Dual HDMI ports (HDMI 1.4b), GbE x 2
- SATA 6.0 Gb/s x 1, support 2.5" SSD
- Full size mSATA/mPCIe x 1 (Select by BIOS), M.2 2230 (E key) x 1
- USB 3.2 Gen 2 x 2, USB 2.0 x 2
- RS-232/422/485 x 2 (Optional)
- Lockable DC 12V



Display	
Chipset	Intel® SoC
Video Output	HDMI 1.4
Touch	—
I/O	
Storage/SSD	SATA 6.0Gb/s x 1, (5V Power) mini-PCIe(Full) x 1 (PCIe[x1]x1, USB3.2/2.0, SATA)
USB Port	USB 3.2 Gen 2 x 2 (Rear IO) USB 2.0 x 2 (Via cable to Rear IO)
Serial Port	RS-232/422/485 x 2 (Optional)
Audio	—
Expansion Slot	—
Certification	
Certification	CE, FCC

Specifications

System	
Form Factor	PICO-ITX
Processor	Intel® 8th Generation Core™ i7/i5/i3/Celeron SoC i7-8665UE (4C, 1.7GHz, up to 4.4GHz) i5-8365UE (4C, 1.6GHz, up to 4.1GHz) i3-8145UE (2C, 2.2GHz, up to 3.9GHz) Celeron® 4305UE (2C, 2GHz)
System Memory	DDR4 2400MHz SODIMM x 1, Max. 32 GB
Chipset	Intel® SOC
Ethernet	Realtek 8111G Gigabit Ethernet 10/100/1000Mbps, RJ-45 x2
BIOS	UEFI only
Wake on LAN	Yes
Watchdog Timer	255 Level
Expansion Interface	2230 M.2 E-Key x 1 (for WIFI/BT, PCIe/USB signal only) SMBUS/I2C/LPC/eSPI x 1
Power Requirement	Normal: +12V
Power Supply Type	Lockable
Power Consumption	i7-8665UE @ DDR4 16GB, 12V@2.23A
System Size	5.9" x 3.94" x 2.36" (150mm x 100mm x 60mm)
Gross Weight	982g (including packing) 635g (excluding packing)
Operation Temp.	32°F ~ 122°F (0°C ~ 50°C) without airflow 0.5m/s for SSD SKU
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Humidity	0% ~ 90% relative humidity, non-condensing
MTBF	298,762

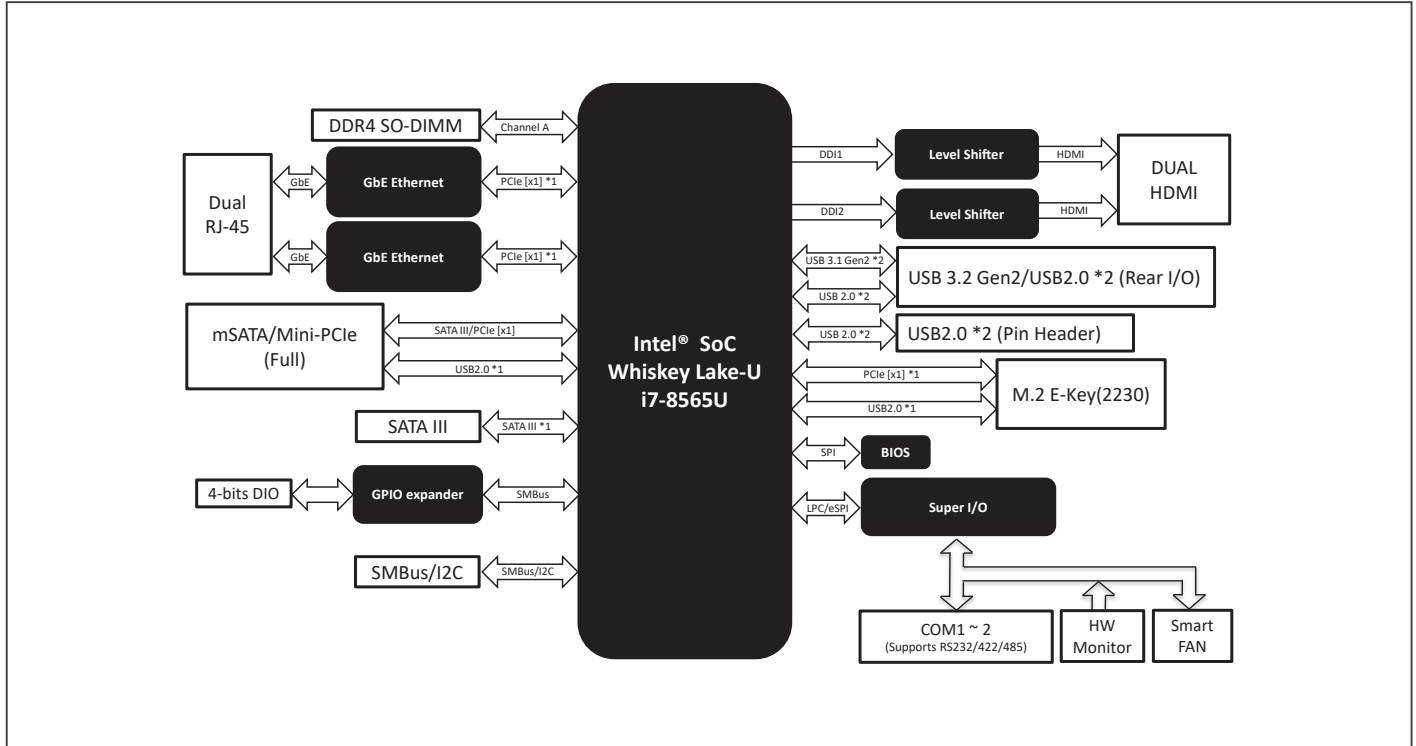
Packing List

- PICO-WHU4-SEMI

Optional Accessories

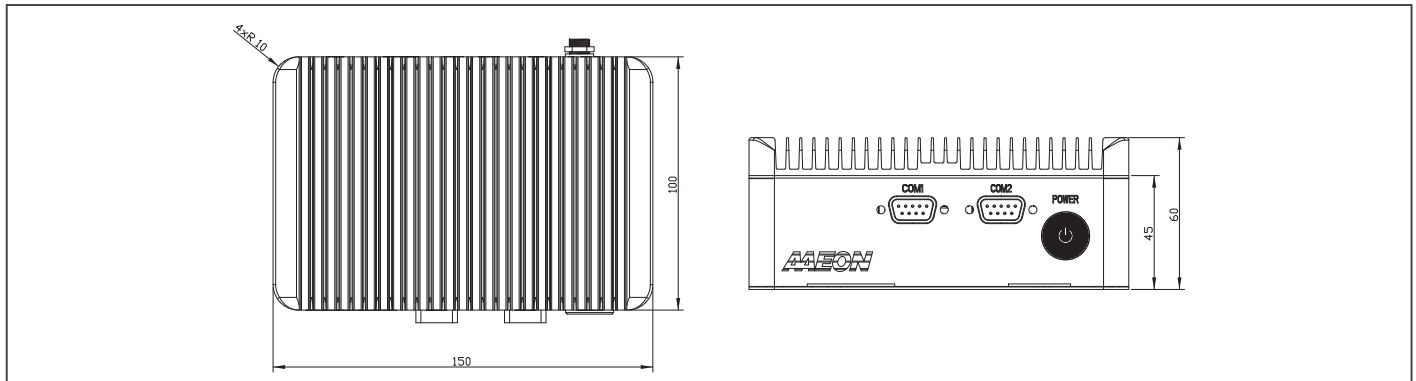
Part Number	Description	Qty.
1701200102	(TF)SERIAL Cable.WL1010H-2*10P 1.0mm Housing.Dual DB9(M).10cm	1
125530060Z	Power Adapter 12V/5A 60W FSP060-DHAN3	1
1255300960	Power Adapter 12V/8A 96W FSP096-AHAN3	1
1702031802	Power Cord (US Type)	1
1702031803	Power Cord (Europe Type)	1
170203180E	Power Cord (Japan)	1
PICO-WHU4-SEMI-VESA1	PICO-WHU4-SEMI VESA bracket kit	1
PICO-WHU4-SEMI-WMT1	PICO-WHU4-SEMI Wallmount bracket kit	1

Block Diagram



Dimension

Unit: mm



Ordering Information

Part Number	CPU	Memory	Thermal	Display	Storage	LAN	USB	RS-232/422/485	Expansion Slot	Power	Power Temp
PICO-WHU4-SEMI-A11-S001	Celeron 4305UE	DDR4 Socket	w/Cooler	HDMI x 2	SATAIII x 1 mSATA (Full size) x 1	GbE x 2	USB 3.2 Gen 2 x 2 (Rear) USB 2.0 x 2 (Via cable to Rear IO)	Optional	M.2 2230 (E Key) x 1	+12V (ATX)	0°C – 60°C
PICO-WHU4-SEMI-A11-S002	i3-8145UE	DDR4 Socket	w/Cooler	HDMI x 2	SATAIII x 1 mSATA (Full size) x 1	GbE x 2	USB 3.2 Gen 2 x 2 (Rear) USB 2.0 x 2 (Via cable to Rear IO)	Optional	M.2 2230 (E Key) x 1	+12V (ATX)	0°C – 60°C
PICO-WHU4-SEMI-A11-S003	i5-8365UE	DDR4 Socket	w/Cooler	HDMI x 2	SATAIII x 1 mSATA (Full size) x 1	GbE x 2	USB 3.2 Gen 2 x 2 (Rear) USB 2.0 x 2 (Via cable to Rear IO)	Optional	M.2 2230 (E Key) x 1	+12V (ATX)	0°C – 60°C
PICO-WHU4-SEMI-A11-S004	i7-8665UE	DDR4 Socket	w/Cooler	HDMI x 2	SATAIII x 1 mSATA (Full size) x 1	GbE x 2	USB 3.2 Gen 2 x 2 (Rear) USB 2.0 x 2 (Via cable to Rear IO)	Optional	M.2 2230 (E Key) x 1	+12V (ATX)	0°C – 60°C
PICO-WHU4-SEMI-A11-S005	i7-8665UE	8GB DDR4 2400Mhz SODIMM	w/Cooler	HDMI x 2	SATAIII x 1 mSATA (Full size) x 1	GbE x 2	USB 3.2 Gen 2 x 2 (Rear) USB 2.0 x 2 (Via cable to Rear IO)	2	M.2 2230 (E Key) x 1	+12V (ATX)	0°C – 60°C

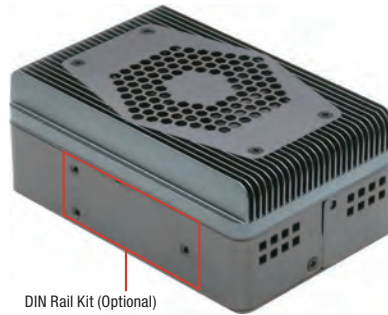
PICO-KBU4-SEMI

Pico-ITX TurnKit with 7th Generation Intel® Core™ i7/i5/i3/Celeron® U-Series Processor SoC

Front View



Rear View



DIN Rail Kit (Optional)

Features

- Extreme light system, easy to adopt everywhere
- DDR4 Non-ECC SODIMM Slot x 1, up to 16GB
- GbE x 2, HDMI x 1.4
- M.2 2242 B key for storage
- M.2 2230 E key for wireless Module
- COM x 2 (Optional)
- USB 3.2 Gen 1 x 2 (Rear IO)
- Lockable DC 12V



I/O	
Storage/SSD	M.2 2242 B key
USB Port	USB 3.2 Gen 1 x 2 (Rear IO)
Serial Port	Optional
Audio	—
Expansion Slot	RS-232 x 1, RS-232/422/485 x1 (Optional)
Certification	
Certification	CE, FCC

Packing List

- PICO-KBU4-SEMI

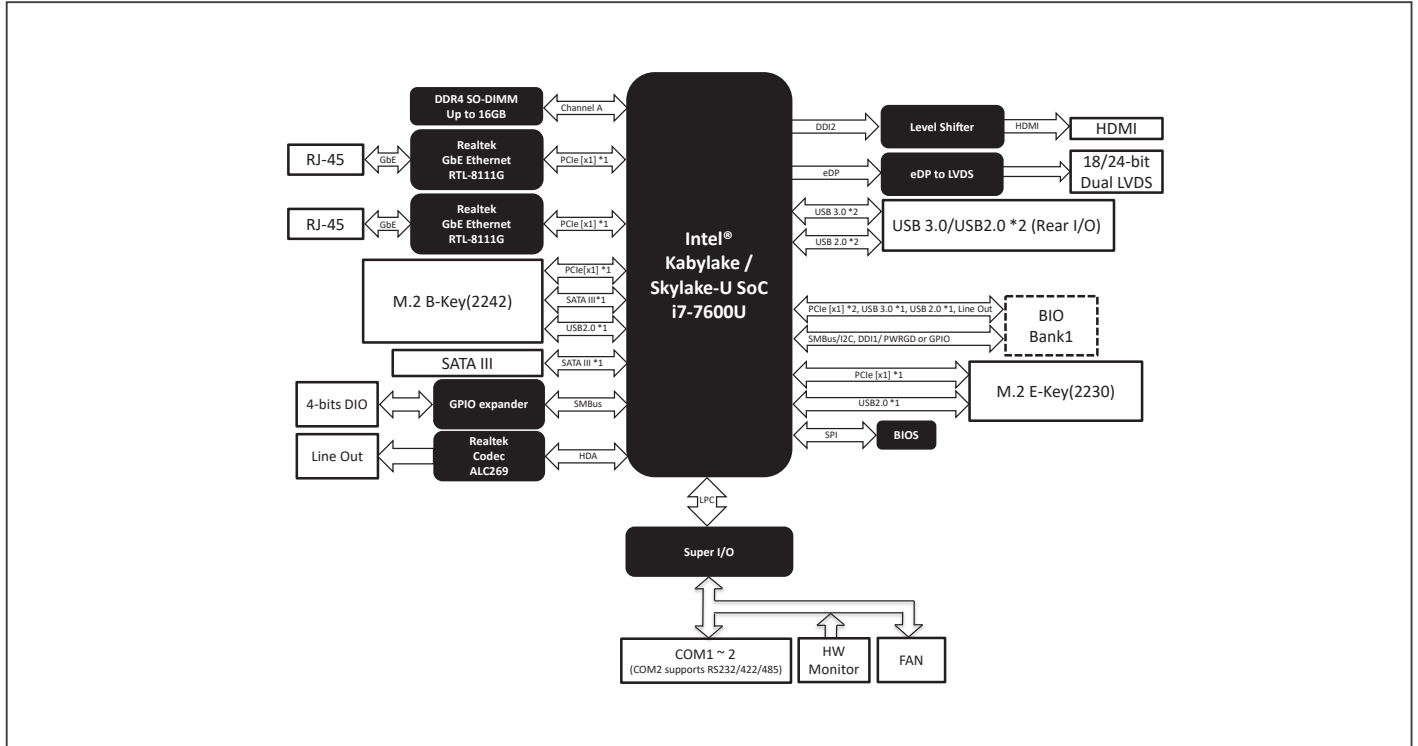
Specifications

System	
Form Factor	Pico-ITX
Processor	7th Gen Intel® Core™ i processor U series
System Memory	DDR4 SODIMM Slot x 1, Up to 16 GB
Chipset	Intel® SoC
Ethernet	Realtek 8111G Gigabit Ethernet 10/100/1000Base, RJ-45 x 2
BIOS	AMI BIOS
Wake on LAN	Yes
Watchdog Timer	255 Level
Expansion Interface	M.2 2230 E key (For WIFI/BT Module)
Power Requirement	Normal: +12V
Power Supply Type	Lockable
Power Consumption	I7-7600 @ DDR4 16GB, 12V@2.3A
System Size	4.8" x 3.15" x 2" (122 x 72 x 50 mm)
Gross Weight	0.88 lb (0.4 kg)
Operation Temp.	32°F ~ 122°F (0°C ~ 50°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Humidity	0% ~ 90% relative humidity, non-condensing
MTBF	163,000
Display	
Chipset	Intel® SoC
Video Output	HDMI 1.4
Touch	—

Optional Accessories

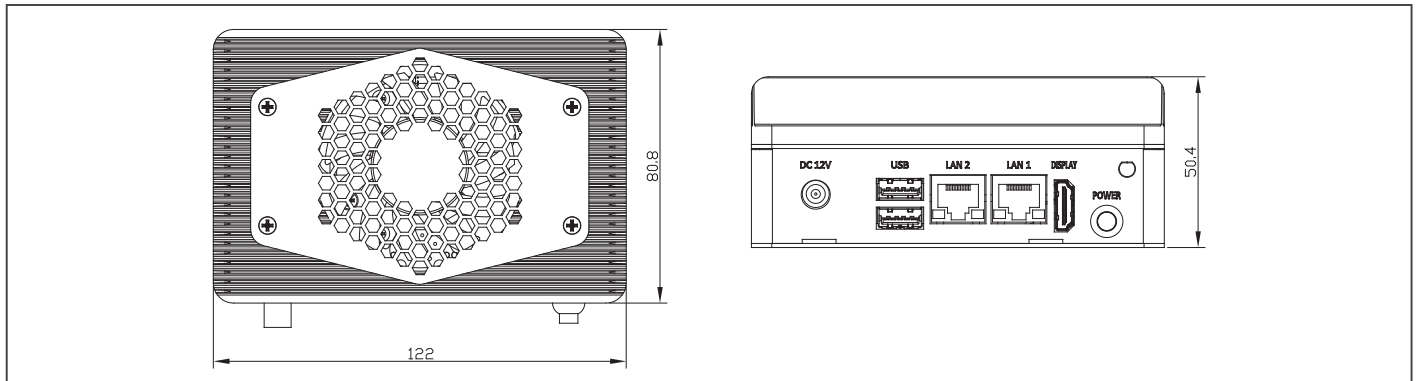
Part Number	Description	Qty.
125530040C	(TF)Power Adapter.12V.40W.FSP.FSP040-DHAN3	1
1702031802	Power Cord (US)	1
1702031803	Power Cord(European Type)	1
170203180E	Power Cord(Japan Type)	1
1701200101	(TF)SERIAL Cable.WL1010H-2*10P 1.0mm Housing.Dual DB9(M). Line-Out Jack.10cm	1
9761SEMI01	Din Rail Kit	1
9761SEMI00	Wall mount Kit	1

Block Diagram



Dimension

Unit: mm



Ordering Information

Part Number	CPU	Memory	Thermal	Display	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Power Temp	Others
PICO-KBU4-SEMI-A10-B001	Celeron 3965	DDR4 Socket	w/Cooler	HDMI x 1	SATAIII x 1 M.2 2242 (B Key) x 1	GbE x 2	USB 3.2 Gen 1 x 2 (Rear)	—	—	M.2 2230 (E Key) x 1	+12V (ATX)	0°C ~ 50°C	DIO 4 bit
PICO-KBU4-SEMI-A10-B002	I3-7100U	DDR4 Socket	w/Cooler	HDMI x 1	SATAIII x 1 M.2 2242 (B Key) x 1	GbE x 2	USB 3.2 Gen 1 x 2 (Rear)	—	—	M.2 2230 (E Key) x 1	+12V (ATX)	0°C ~ 50°C	DIO 4 bit
PICO-KBU4-SEMI-A10-B003	I5-7300U	DDR4 Socket	w/Cooler	HDMI x 1	SATAIII x 1 M.2 2242 (B Key) x 1	GbE x 2	USB 3.2 Gen 1 x 2 (Rear)	—	—	M.2 2230 (E Key) x 1	+12V (ATX)	0°C ~ 50°C	DIO 4 bit
PICO-KBU4-SEMI-A10-B004	i7-7600U	DDR4 Socket	w/Cooler	HDMI x 1	SATAIII x 1 M.2 2242 (B Key) x 1	GbE x 2	USB 3.2 Gen 1 x 2 (Rear)	—	—	M.2 2230 (E Key) x 1	+12V (ATX)	0°C ~ 50°C	DIO 4 bit
PICO-KBU4-SEMI-A10-B005 (6th Gen)	Celeron 3955	DDR4 Socket	w/Cooler	HDMI x 1	SATAIII x 1 M.2 2242 (B Key) x 1	GbE x 2	USB 3.2 Gen 1 x 2 (Rear)	—	—	M.2 2230 (E Key) x 1	+12V (ATX)	0°C ~ 50°C	DIO 4 bit

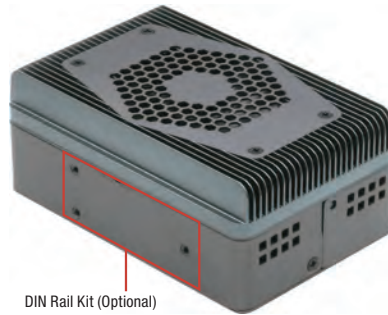
PICO-APL4-SEMI

Pico-ITX TurnKit with Intel® Atom™/ Pentium® N4200/ Celeron® N3350 Processor SoC

Front View



Rear View



DIN Rail Kit (Optional)

Features

- Extreme light system, easy to adopt everywhere
- Onboard DDR3L 2GB/4G
- Onboard Storage eMMC 32GB
- GbE x 2, HDMI x 1.4
- M.2 2280 B key for storage
- M.2 2230 E key for wireless Module
- COM x 2 (Optional)
- USB 3.2 Gen 1 x 2 (Rear IO), USB2.0 x 1 (Optional)
- Lockable DC 12V



I/O	
Storage/SSD	M.2 2280 (B Key) x 1 eMMC 32GB, up to 128GB (optional)
USB Port	USB 3.2 Gen 1 x 2 (Rear IO) USB2.0 x 2 (Internal option)
Serial Port	—
Audio	—
Expansion Slot	RS-232 x 1, RS-232/422/485 x 1 (Optional)
Certification	
Certification	CE, FCC

Packing List

- PICO-APL4-SEMI

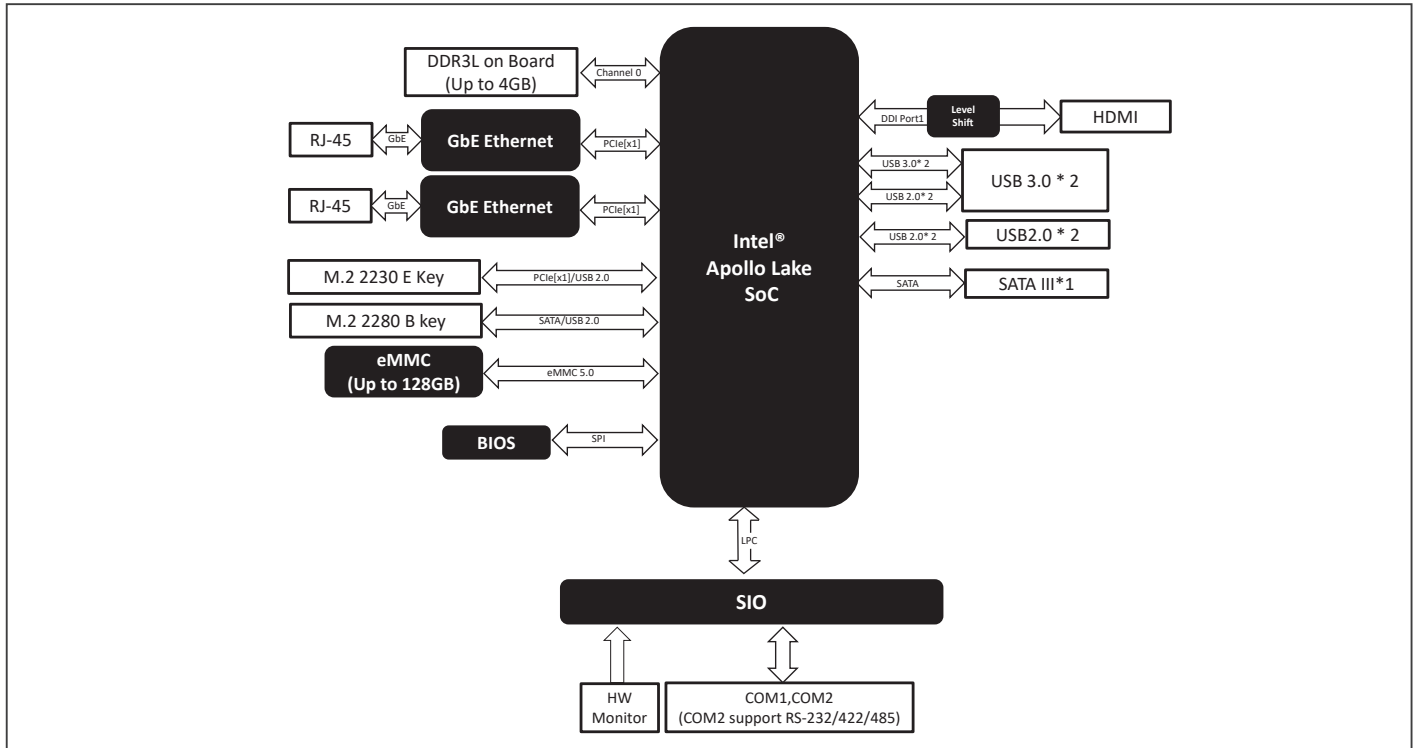
Specifications

System	
Form Factor	Pico-ITX
Processor	Intel® Pentium® N4200 (4C): 1.1GHz, up to 2.5GHz, TDP 6W Intel® Celeron® N3350 (2C): 1.1GHz, up to 2.4GHz, TDP 6W *Wait for E3900 series in 2019 within ATRF according
System Memory	DDR3L, memory down, up to 4GB
Chipset	Intel® SoC
Ethernet	Realtek 8111G x 2 10/100/1000Mbps, RJ-45 x 2
BIOS	AMI BIOS
Wake on LAN	Yes
Watchdog Timer	255 Levels
Expansion Interface	M.2 2230 E key (For WIFI/BT Module)
Power Requirement	Normal: +12V
Power Supply Type	Lockable
Power Consumption	Intel®Pentium®N4200@ 1.1GHz,DDR3L 4GB 1.43A@+12V
System Size	4.8" x 3.15" x 2" (122 mm x 72 mm x 50 mm)
Gross Weight	0.88 lb (0.4 kg)
Operation Temp.	32°F~ 122°F (0°C ~ 50°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Humidity	0% ~ 90% relative humidity, non-condensing
MTBF	191,000
Display	
Chipset	Intel® SoC
Video Output	HDMI 1.4
Touch	—

Optional Accessories

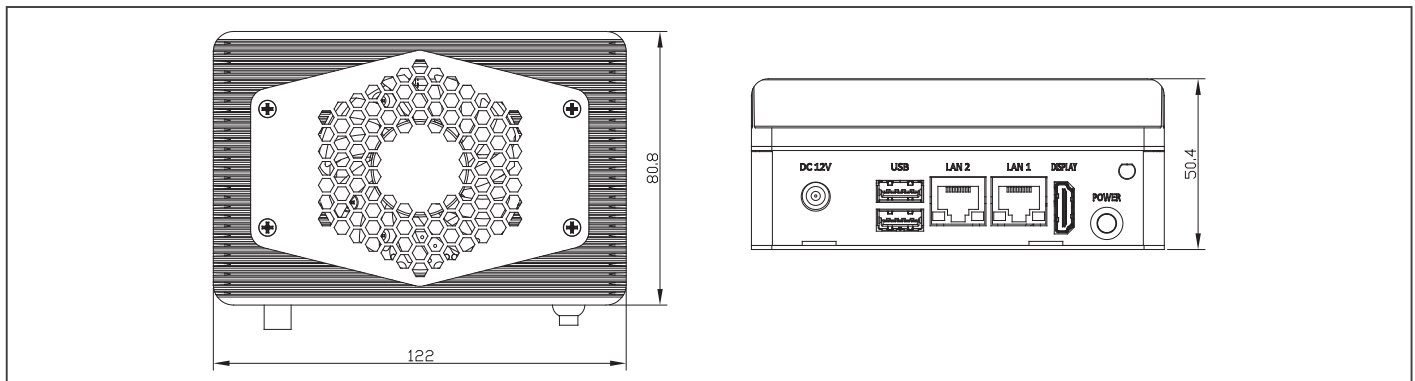
Part Number	Description	Qty.
125530040C	(TF)Power Adapter.12V.40W.FSP.FSP040-DHAN3	1
1702031802	Power Cord (US)	1
1702031803	Power Cord(European Type)	1
170203180E	Power Cord(Japan Type)	1
9761SEMI01	Din Rail Kit	1
9761SEMI00	Wall mount Kit	1
1701090122	COM Cable	2

Block Diagram



Dimension

Unit: mm



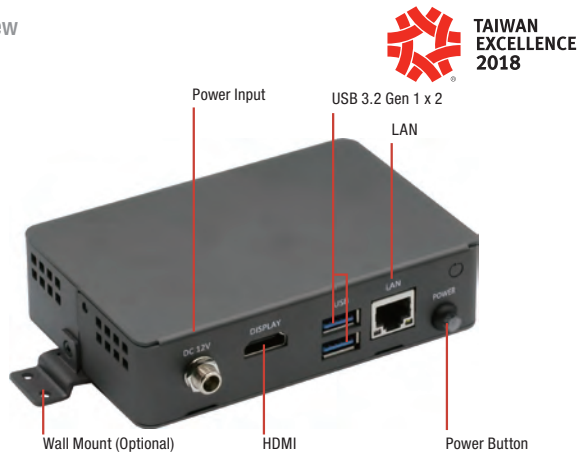
Ordering Information

Part Number	CPU	Memory	Thermal	Display	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Power Temp	Others
PICO-APL4-SEMI-A10-FS01	N3350	On board DDR3L 2GB	w/Cooler	HDMI x 1	SATAIII x 1 M.2 2280 (B Key) x 1 eMMC 32GB	GbE x 2	USB 3.2 Gen 1 x 2 (Rear)	—	—	M.2 2230 (E Key) x 1	+12V (ATX)	0°C ~ 50°C	—
PICO-APL4-SEMI-A10-FS03	N4200	On board DDR3L 4GB	w/Cooler	HDMI x 1	SATAIII x 1 M.2 2280 (B Key) x 1 eMMC 32GB	GbE x 2	USB 3.2 Gen 1 x 2 (Rear)	—	—	M.2 2230 (E Key) x 1	+12V (ATX)	0°C ~ 50°C	—

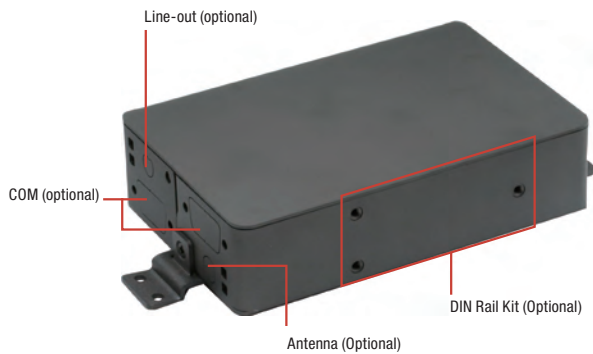
PICO-APL3-SEMI

Pico-ITX Embedded Barebone Kit with Intel® Atom™ Processor SoC

Front View



Rear View



With Heat Sink



Features

- 180g Extreme Light System, Easy To Adapter Everywhere
- Gigabit Ethernet for Networking Connection
- USB 3.2 Gen 1 Connectivity
- HDMI
- M.2 2280 (B) M.2 2230 (E) Slot for WiFi/3G/4G Bluetooth Module
- Fix Holes for Antenna, Wallmount, DIN-Rail Kit Optional
- Lockable 12V DC Input



Expansion Interface	M.2 2230 E key (For WIFI/BT Module)
Power Requirement	Normal: +12V
Power Supply Type	Lockable
Power Consumption	N4200 @ 4GB DRAM/eMMC 32GB, 12V @1.1A (Full Loading)
System Size	W/O heat sink: 4.8" x 3.15" x 1.18" (122 x 80 x 30 mm) W/ heat sink: 4.8" x 3.15" x 1.73" (122 x 80 x 44 mm)
Gross Weight	W/O heat sink: 0.4 lb (165g) W/ heat sink: 0.89 lb (407g)
Operation Temp.	32°F ~ 122°F (0°C ~ 50°C), 0.5 m/s airflow
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Humidity	0% ~ 90% relative humidity, non-condensing
MTBF	110,000
Display	
Chipset	Intel® SoC
Video Output	HDMI 1.4
Touch	—
I/O	
Storage/SSD	M.2 2280 x 1 (B-Key) eMMC 32GB, up to 128GB (optional)
USB Port	USB 3.2 Gen 1 x 2 (Rear IO) USB2.0 x 2 (Internal option)
Serial Port	Optional
Audio	Optional
Expansion Slot	RS-232 x 1, RS-232/422/485 x 1 (Optional)
Certification	
Certification	CE, FCC

Packing List

- PICO-APL3-SEMI

Optional Accessories

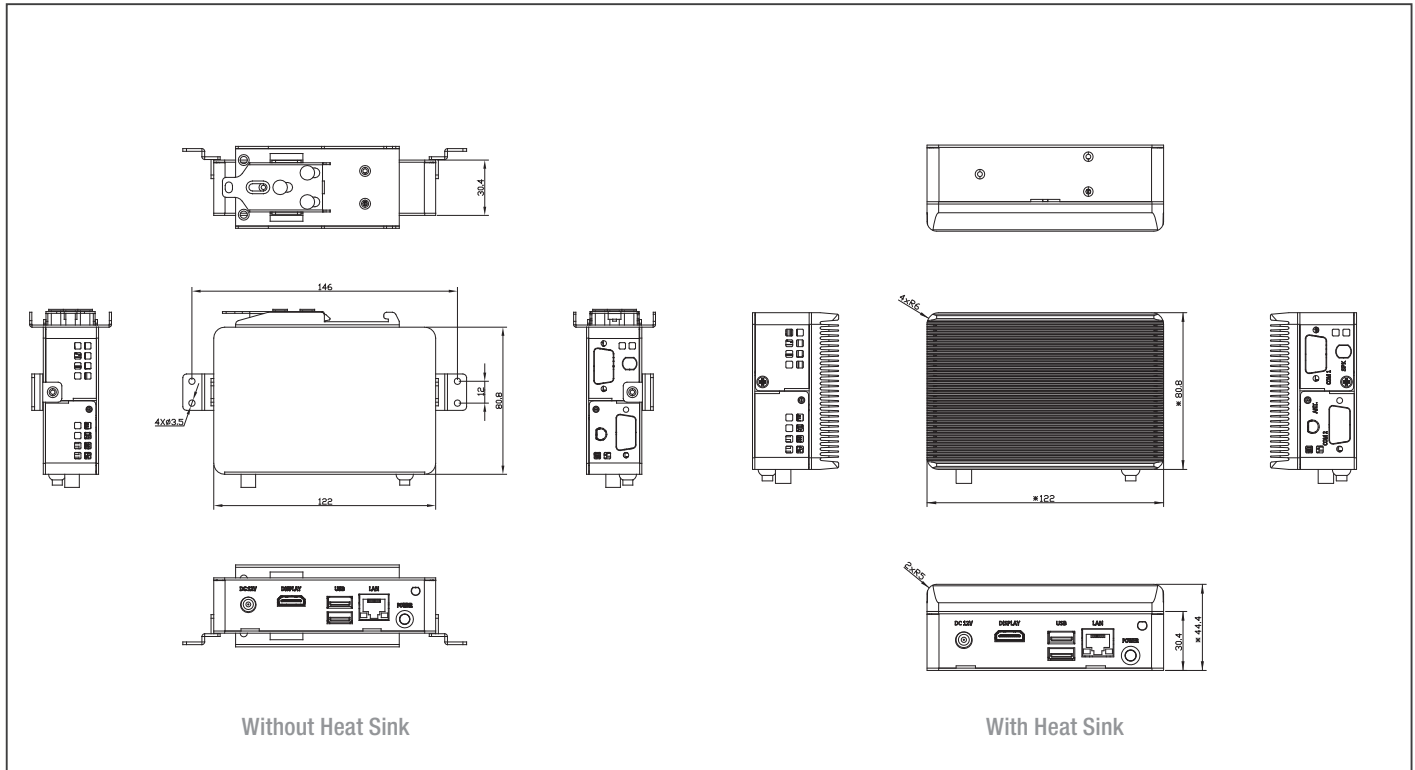
Part Number	Description	Qty.
125530040C	(TF)Power Adapter.12V.40W.FSP.FSP040-DHAN3	1
1702031802	Power Cord (US Type)	1
1702031803	Power Cord (European Type)	1
170203180E	Power Cord (Japan Type)	1
1701090122	COM Port Cable	2
1703100084	Audio Line-Out	1
9761SEMI00	Wallmount Kit	1
9761SEMI01	DIN-Rail Kit	1

Specifications

System	
Form Factor	Pico-ITX
Processor	Intel® Pentium® N4200 (4C, 1.1 GHz, up to 2.5 GHz, TDP 6W) Intel® Celeron® N3350 (2C, 1.1 GHz, up to 2.4 GHz, TDP 6W) *Wait for E3900 series in 2019 within ATRF according
System Memory	DDR3L, memory down, up to 4GB
Chipset	Intel® SoC
Ethernet	Realtek 8111G x 1 10/100/1000Mbps, RJ-45 x 1
BIOS	AMI BIOS
Wake on LAN	Yes
Watchdog Timer	255 Levels

Dimension

Unit: mm



Without Heat Sink

With Heat Sink

Installation Scenario

DIN-Rail Mount Illustration



Wall Mount Illustration



DIN Rail and Wall Mount Kit are optional parts.

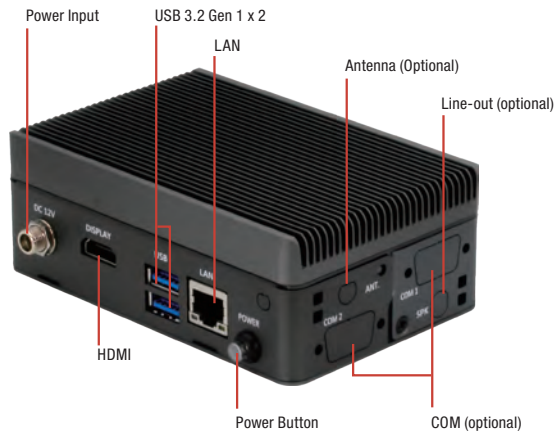
Ordering Information

Part Number	CPU	Memory	Thermal	Display	Storage	LAN	USB	Expansion Slot	Power	Power Temp	Others
PICO-APL3-SEMI-A10-FS01	Celeron® N3350 (Dual Core)	On board DDR3L 2GB	W/ heat sink	HDMI x 1	SATAIII x 1, M.2 2280 (B Key) x 1, eMMC 32GB	GbE x 1	USB 3.2 Gen 1 x 2 (Rear)	M.2 2230 (E Key) x 1	+12V (ATX)	0°C ~ 50°C @ 0.5 m/s airflow	COM (Optional) Line-Out (Optional)
PICO-APL3-SEMI-A10-FS02	Celeron® N3350 (Dual Core)	On board DDR3L 4GB	W/ heat sink	HDMI x 1	SATAIII x 1, M.2 2280 (B Key) x 1, eMMC 32GB	GbE x 1	USB 3.2 Gen 1 x 2 (Rear)	M.2 2230 (E Key) x 1	+12V (ATX)	0°C ~ 50°C @ 0.5 m/s airflow	COM (Optional) Line-Out (Optional)
PICO-APL3-SEMI-A10-FS03	Pentium® N4200 (Quad Core)	On board DDR3L 4GB	W/ heat sink	HDMI x 1	SATAIII x 1, M.2 2280 (B Key) x 1, eMMC 32GB	GbE x 1	USB 3.2 Gen 1 x 2 (Rear)	M.2 2230 (E Key) x 1	+12V (ATX)	0°C ~ 50°C @ 0.5 m/s airflow	COM (Optional) Line-Out (Optional)
PICO-APL3-SEMI-A10-FS04	Celeron® N3350 (Dual Core)	On board DDR3L 2GB	W/O heat sink	HDMI x 1	SATAIII x 1, M.2 2280 (B Key) x 1, eMMC 32GB	GbE x 1	USB 3.2 Gen 1 x 2 (Rear)	M.2 2230 (E Key) x 1	+12V (ATX)	0°C ~ 50°C @ 0.5 m/s airflow	COM (Optional) Line-Out (Optional)
PICO-APL3-SEMI-A10-FS05	Celeron® N3350 (Dual Core)	On board DDR3L 4GB	W/O heat sink	HDMI x 1	SATAIII x 1, M.2 2280 (B Key) x 1, eMMC 32GB	GbE x 1	USB 3.2 Gen 1 x 2 (Rear)	M.2 2230 (E Key) x 1	+12V (ATX)	0°C ~ 50°C @ 0.5 m/s airflow	COM (Optional) Line-Out (Optional)
PICO-APL3-SEMI-A10-FS06	Pentium® N4200 (Quad Core)	On board DDR3L 4GB	W/O heat sink	HDMI x 1	SATAIII x 1, M.2 2280 (B Key) x 1, eMMC 32GB	GbE x 1	USB 3.2 Gen 1 x 2 (Rear)	M.2 2230 (E Key) x 1	+12V (ATX)	0°C ~ 50°C @ 0.5 m/s airflow	COM (Optional) Line-Out (Optional)

PICO-APL1-SEMI

Pico-ITX Embedded Barebone Kit with Intel® Atom™ Processor SoC

Front View



Rear View



Features

- 270g Extreme Light System, Easy To Adapter Everywhere
- Gigabit Ethernet for Networking Connection
- USB 3.2 Gen 1 Connectivity
- HDMI
- mSATA and miniCard Slot for WiFi/3G/4G Bluetooth Module
- Fix Holes for Antenna, Wallmount, DIN-Rail Kit Optional
- Lockable 12V DC Input



Display	
Chipset	Intel® SoC
Video Output	HDMI 1.4
Touch	—
I/O	
Storage/SSD	mSATA(Full size) x 1
USB Port	USB 3.2 Gen 1 x 2 (Rear IO) USB2.0 x 1 (Internal option)
Serial Port	Optional
Audio	—
Expansion Slot	RS-232 x 1, RS-232/422/485 x 1 (Optional)
Certification	
Certification	CE, FCC

Specifications

System	
Form Factor	Pico-ITX
Processor	Intel® Pentium® N4200 (4C, 1.1 GHz, up to 2.5 GHz, TDP 6W) (optional) Intel® Celeron® N3350 (2C, 1.1 GHz, up to 2.4 GHz, TDP 6W) Intel® Atom™ x7-E3950 (4C, 1.6GHz, up to 2GHz, TDP 12W) Intel® Atom™ x5-E3940 (4C, 1.6GHz, up to 1.8GHz, TDP 9.5W) Intel® Atom™ x5-E3930 (2C, 1.3GHz, up to 1.8GHz, TDP 6.5W)
System Memory	DDR3L SODIMM Slot x 1, Up to 8GB
Chipset	Intel® SoC
Ethernet	Intel® Gigabit Ethernet i211AT, 10/100/1000Base, RJ-45 x 1
BIOS	AMI BIOS
Wake on LAN	Yes
Watchdog Timer	255 Levels
Expansion Interface	miniCard (Half-Size) x 1
Power Requirement	Normal: +12V
Power Supply Type	Lockable
Power Consumption	N4200 @ 4GB DRAM/eMMC 32GB, 12V @1.1A (Full Loading)
System Size	4.8" x 3.15" x 1.73" (122 x 80 x 44 mm)
Gross Weight	0.59 lb (0.27 kg)
Operation Temp.	32°F~ 122°F (0°C ~ 50°C), 0.5 m/s airflow
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Humidity	0% ~ 90% relative humidity, non-condensing
MTBF	170,000

Packing List

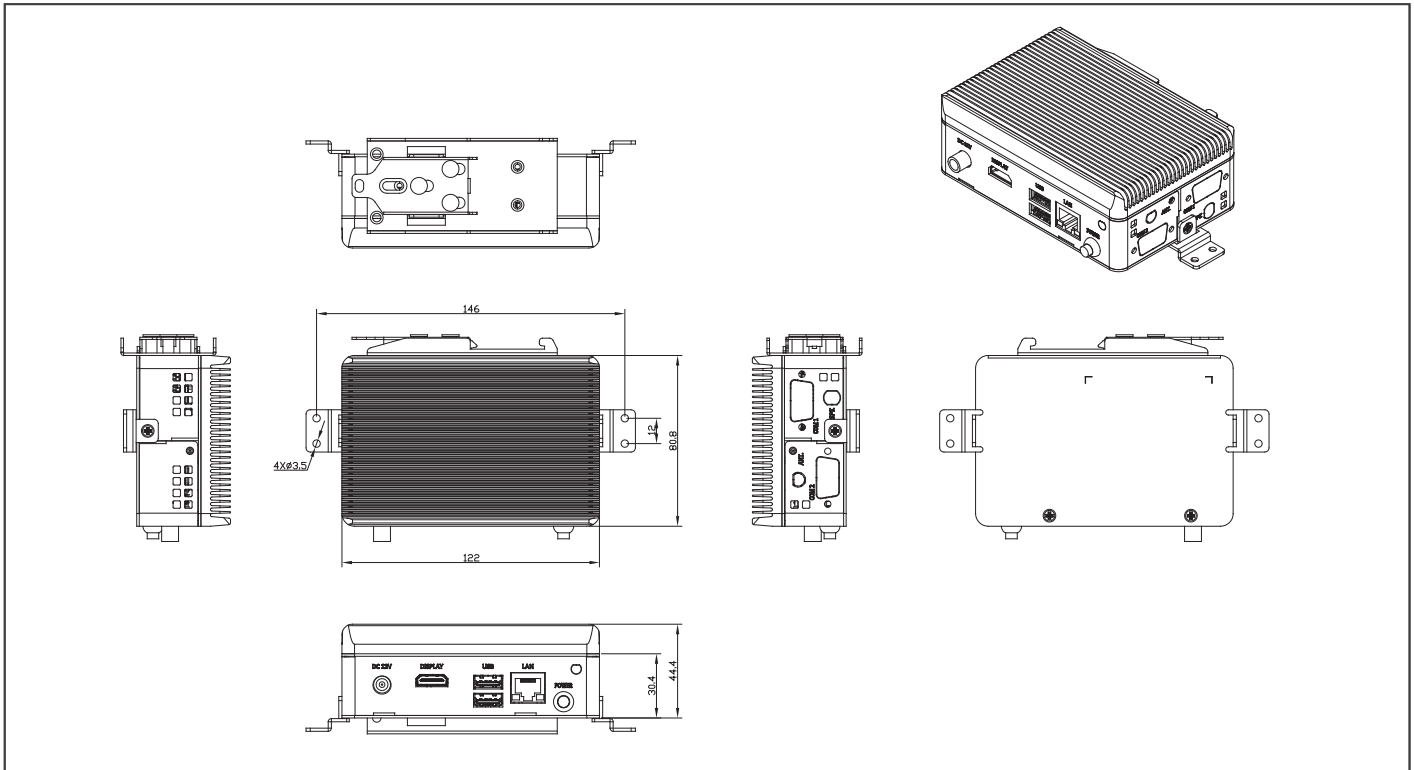
- PICO-APL1 SBC x 1
- SEMI Top Chassis x 1
- SEMI Bottom Chassis x 1
- SEMI Heatsink x 1
- SEMI power button cable x 1
- * Customer assembly required.

Optional Accessories

Part Number	Description	Qty.
125530040C	(TF)Power Adapter:12V.40W.FSP.FSP040-DHAN3	1
1702031802	Power Cord (US Type)	1
1702031803	Power Cord (European Type)	1
170203180E	Power Cord (Japan Type)	1
1703200052	COM x 2 + LINE_OUT	1
968C016G0V	SATA DOM 16GB (0°C ~ 70°C)	1
9761SEMI00	Wallmount Kit	1
9761SEMI01	DIN-Rail Mount Kit	1

Dimension

Unit: mm



Installation Scenario

DIN-Rail Mount Illustration



Wall Mount Illustration



Photos show assembled product, DIN Rail and Wall Mount kit are optional parts.

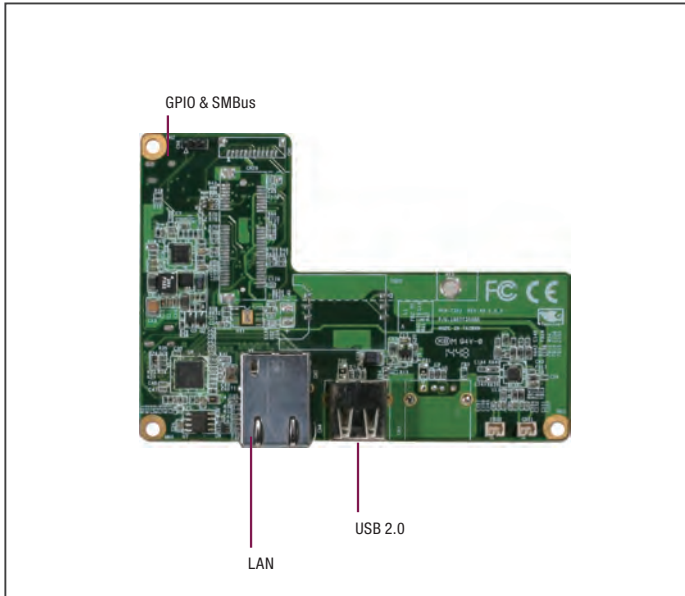
Ordering Information

Part Number	CPU	Memory	Fan/Fanless	Display	Storage	LAN	USB	Expansion Slot	Power	Temp	Others
PICO-APL1-SEMI-A10-FB02	N3350	DDR3L SODIMM Socket	Fanless	HDMI	SATA x 1, mSATA x 1 (Full-size)	GbE x 1	USB 3.2 Gen 1 x 2, USB2.0 x 1	miniCard x 1 (Half-Size)	12V DC Jack	0°C ~ 50°C @ 0.5 m/s airflow	COM Port optional

* This is a barebones kit, customer assembly is required.

BIO-ST01-L1U2

2.5" BIO Daughter Board with Gigabit LAN and USB



Features

- Gigabit Ethernet x 1, RJ-45 x 1
- USB 2.0 x 2
- Speaker Out with 2W Amp
- SMBus x 1
- LPC (Optional)



Specifications

System	
Form Factor	2.5" Board
BIO	80-Pin high speed board to board connector
Power Requirement	Power Supplied from MB via board to board connector
Dimension	3.94" x 2.84" (100mm x 72mm)
Gross Weight	0.44 lb (0.2 kg)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40 °F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
Certification	—
I/O	
Ethernet	Realtek 8111E, 10/100/1000Base-TX, RJ-45 x 1
USB	USB 2.0 x 2 on rear I/O
Audio	Speaker Out with 2W Amp
Expansion Interface	SMBus x 1
PCIe	—
Serial Port	—
SIM	—
DIO	—

Packing List

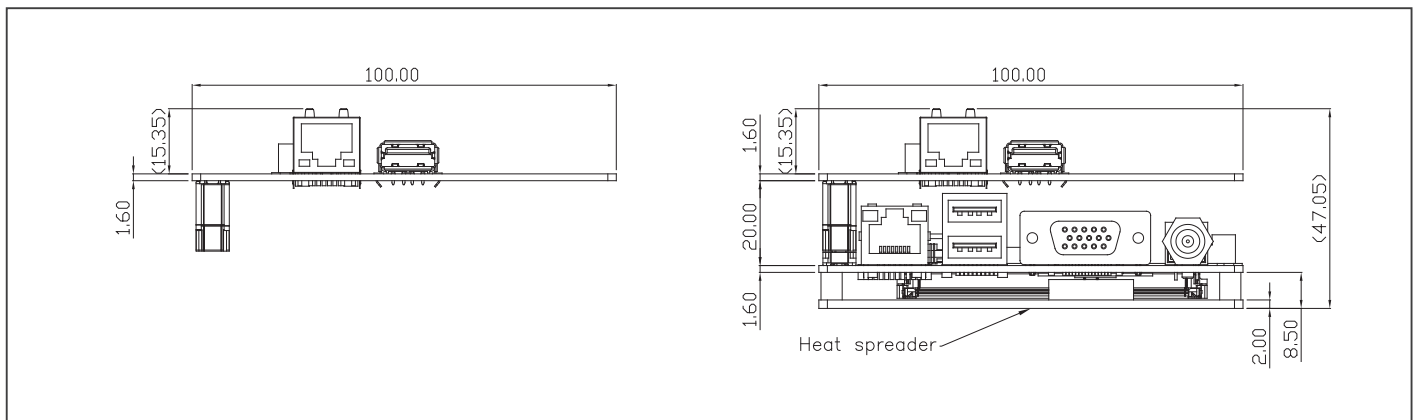
- Accessory Kit
- BIO-ST01-L1U2

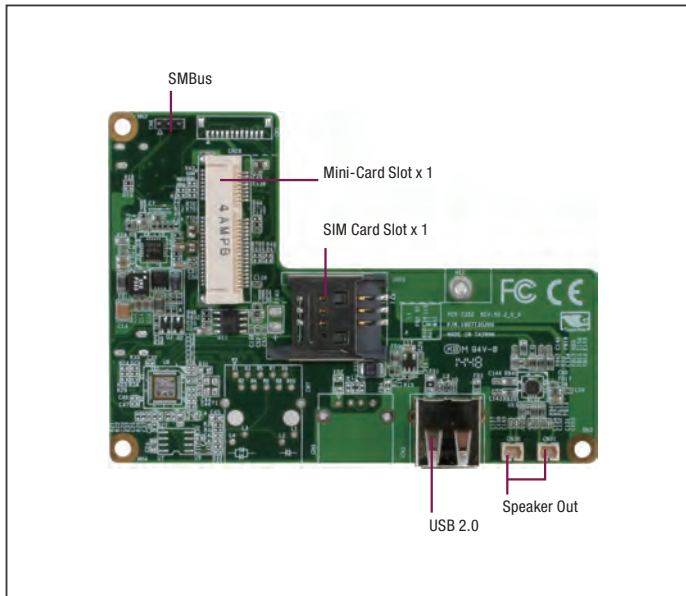
Ordering Information

P/N	LAN	USB	Expansion Slot	Temp.
BIO-ST01-L1U2-A11-0001	GbE x 1	USB 2.0 x 1	Speaker Out with 2W Amp, SMBus*1	0°C ~ 60°C

Dimension

Unit: mm





Features

- Mini-Card (Full Size) x 1, SIM slot x 1
- USB 2.0 x 1
- Speaker Out with 2W Amp
- SMBus x 1, GPIO x 1
- LPC (Optional)



Specifications

System	
Form Factor	2.5" Board
BIO	80-Pin high speed board to board connector
Power Requirement	Power Supplied from MB via board to board connector
Dimension	3.94" x 2.84" (100mm x 72mm)
Gross Weight	0.44 lb (0.2 kg)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40 °F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
Certification	—
I/O	
Ethernet	—
USB	USB 2.0 x 1 on rear I/O
Audio	Speaker Out with 2W Amp
Expansion Interface	SMBus x 1
PCIe	Mini-Card x 1
Serial Port	—
SIM	SIM Slot x 1
DIO	—

Packing List

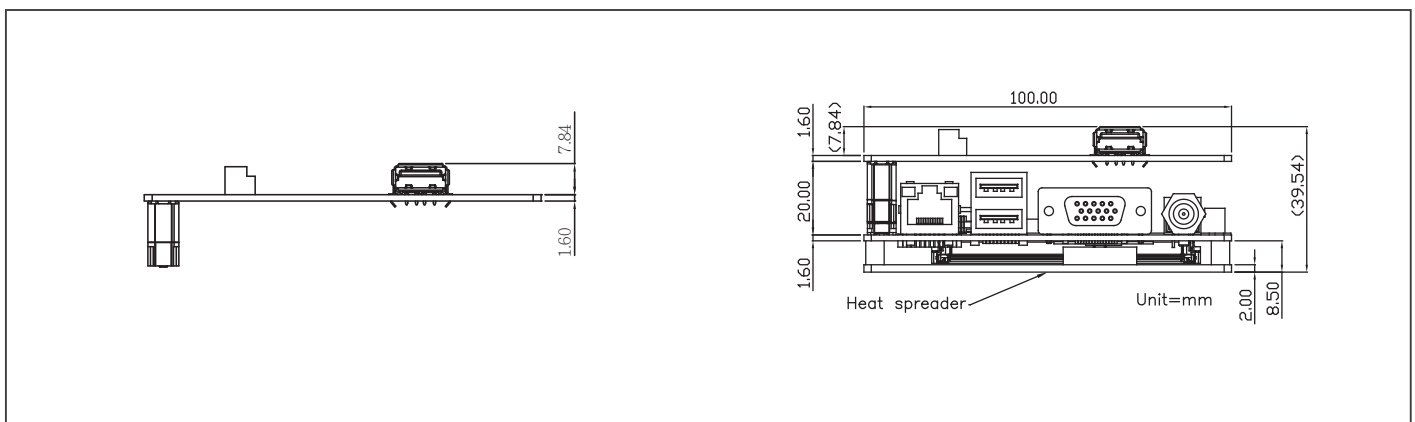
- Accessory kit
- BIO-ST01-M1U1

Ordering Information

P/N	USB	Expansion Slot	Power Temp.
BIO-ST01-M1U1-A11-0001	USB 2.0 x 1	Mini-Card x 1, SIM x 1, Speaker Out with 2W Amp. x 1, SMBus	0°C ~ 60°C

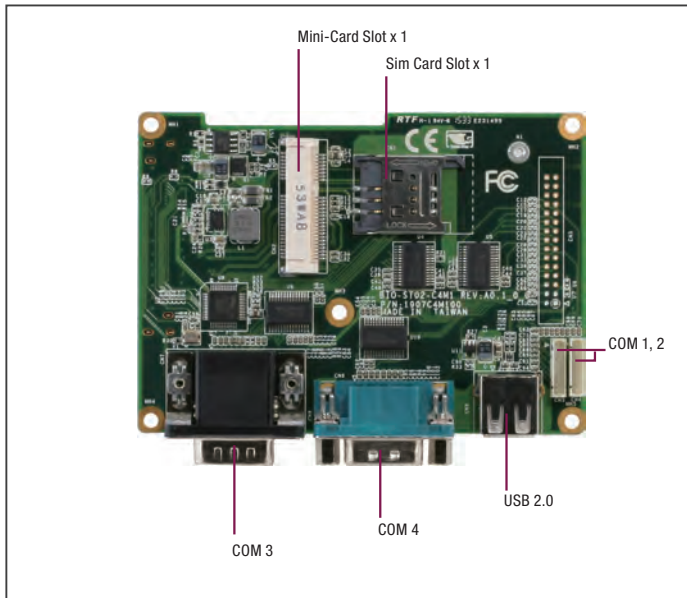
Dimension

Unit: mm



BIO-ST02-C4M1

2.5" BIO Daughter Board with COM x 4, Mini-Card, SIM and USB



Features

- RS-232 x 4
- Mini-Card (Full Size) x 1
- SIM slot x 1
- USB 2.0 x 1

- Mini-Card (Full Size): Completely compatible with PICO-BT01. PCIe x1 only for PICO-BSW/ PICO-APL1/ PICO-APL3/ PICO-APL4/ PICO-KBU4/ GENE-SKU6/ GENE-KBU6.



Specifications

System	
Form Factor	2.5" Board
BIO	80-Pin high speed Board to board connector
Power Requirement	Power Supplied from MB via board to board connector
Dimension	3.94" x 2.84" (100mm x 72mm)
Gross Weight	0.44 lb (0.2 Kg)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40 °F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
Certification	—
I/O	
Ethernet	—
USB	USB 2.0 x 1 on rear I/O
Audio	—
Expansion Interface	—
PCIe	Mini-Card x 1 (full size), SIM x 1
Serial Port	COM1, COM2 RS-232 by Pin Header COM3, COM4 RS-232 on Rear I/O
SIM	—
DIO	—

Packing List

- Accessory Kit
- COM Port Cables
- BIO-ST02-C4M1

Ordering Information

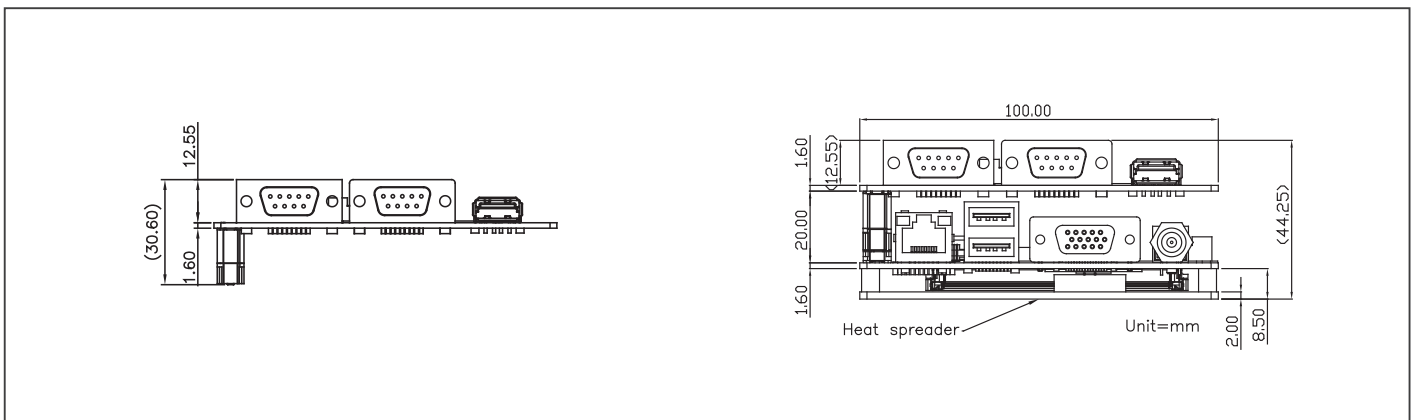
P/N	USB	RS-232	Expansion Slot	Temp.
BIO-ST02-C4M1-A10-01*	1	4	Mini-Card x 1, SIM x 1	0°C ~ 60°C

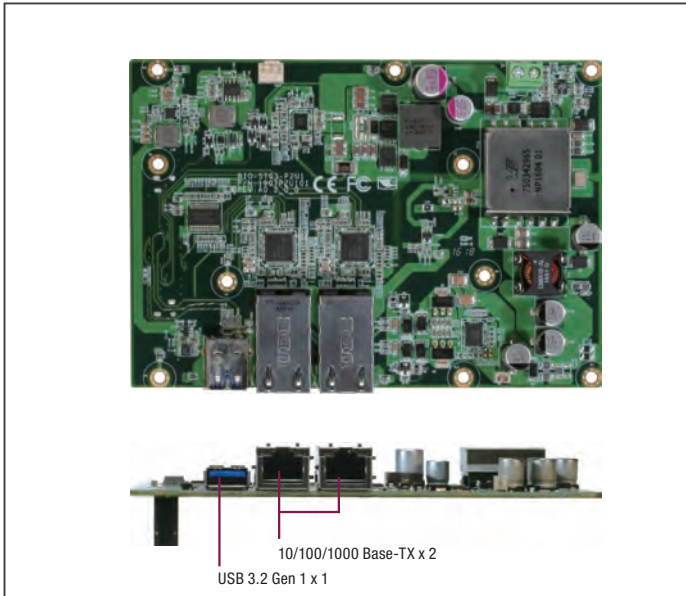
* Customized BIOS is required.

* For mini-card module expansion (via USB2.0 signal), suggest to use PICO-BT01 only.

Dimension

Unit: mm





Features

- Intel® i210, 10/100/1000Base-TX x 2 (Supports PoE 802.3af)
- USB 3.2 Gen 1 x 1
- 9~36V DC-in (+12V Only, Optional)
- Supports GENE-SKU6 and Pico-ITX Series BIO Daughter Board



Specifications

System	
Form Factor	3.5" Board
BIO	—
Power Requirement	12V or +9 ~ 36V input (external power supply)
Dimension	5.25" x 4" (146mm x 101.6mm)
Gross Weight	0.44 lb (0.2 kg)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
Certification	CE,FCC
I/O	
Ethernet	Intel® i210/i211, 10/100/1000Base-TX x 2 (support PoE 802.3af)
USB	USB 3.2 Gen 1 x 1
Audio	—
Expansion Interface	—
PCIe	—
Serial Port	—
SIM	—
DIO	—

Packing List

- Accessory Kit
- BIO-ST03-P2U1

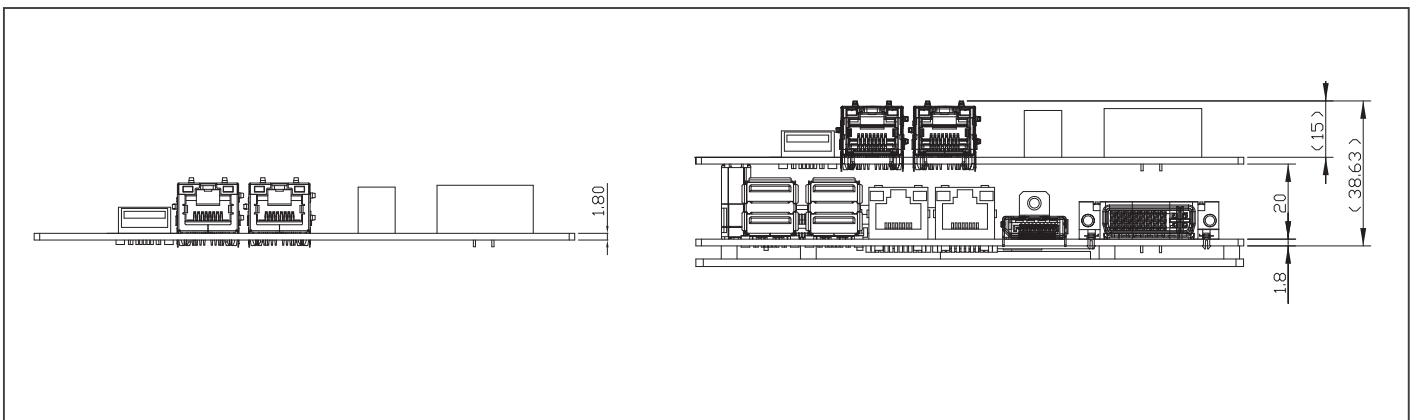
Ordering Information

P/N	LAN	USB	Power	Temp.
BIO-ST03-P2U1	PoE x 2	USB 3.2 Gen 1 x 1	9~36V	0°C ~ 60°C

* Customized BIOS is required.

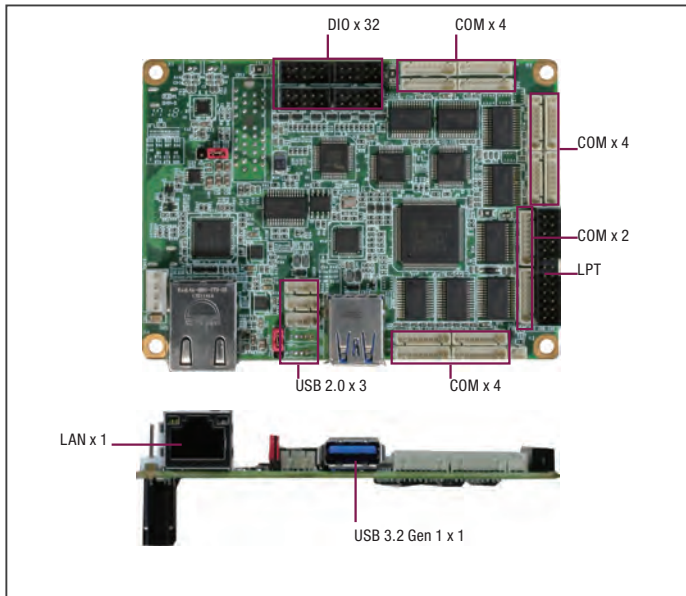
Dimension

Unit: mm



BIO-ST02-C14D32

2.5" BIO Daughter Board with 14 COM, 32bit DIO, LAN and USB 3.2 Gen 1



Features

- COM x 14, RS-232 only
- 32-bit DIO
- Intel® i211 Giga LAN x 1
- PCI-E [x1] Slot x 1 (Optional)
- USB 3.2 Gen 1 & USB 2.0 x 3
- Speaker w/2W Amp.
- LPT x 1



Specifications

System	
Form Factor	2.5" Board
BIO	80-Pin high speed board to board connector
Power Requirement	Power Supplied from MB via board to board connector
Dimension	3.94" x 2.84" (100mm x 72mm)
Gross Weight	0.44 lb (0.2 kg)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
Certification	CE,FCC
I/O	
Ethernet	Intel® i211, 10/100/1000Base-TX x 1
USB	USB 3.2 Gen 1 x 1 & USB 2.0 x 3 or USB 2.0 x5(for PICO-BT01)
Audio	Speaker output with 2W Amp.
Expansion Interface	PCIe [x1] x1 (optional), LPT x1
PCIe	—
Serial Port	COM x14, RS-232 by Pin Header
SIM	—
DIO	32 bits

Packing List

- 9697BI0000
Accessory Kit (w/ Copper Stud and Screws)
- BIO-ST02-C14D32

Ordering Information

Part Number	COM	DIO	LAN	PCIe	USB	LPT	Temp.
BIO-ST02-C14D32-A10-0001	RS-232 x14	x32 bit	GbE x 1	PCIe[x1]	USB 3.2 Gen 1 x 1 USB 2.0 x 3	x1	0°C ~ 60°C

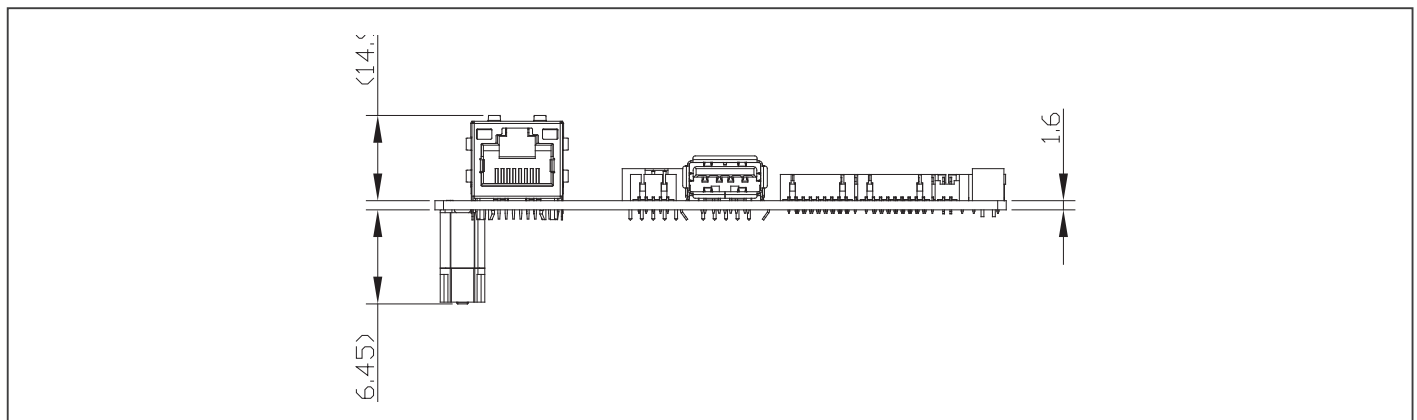
* Customized BIOS is required.

Optional Accessories

Part Number	Description	Qty.
1701090150	COM Cable 15cm	14
1700050207	USB cable 20cm	3 or 5

Dimension

Unit: mm



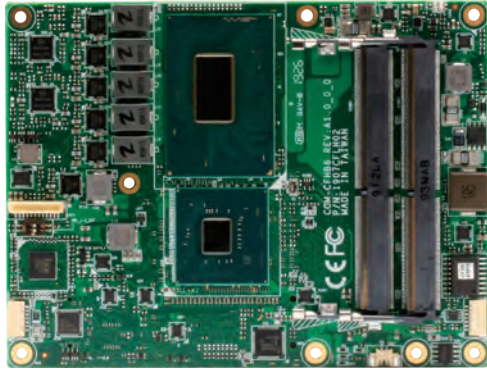
04

COM Express CPU Modules



COM-CFHB6

COM Express Type 6 Basic Size with 8th/9th Generation Intel® Core™ H-Series / Xeon™ Processors



Features

- 8th / 9th Generation Intel® Core™ i3/i5/i7/ Xeon-E Processors
- 3x SODIMM DDR4 2666 Memory up to 96GB, ECC support (by SKU, with CM246 PCH)
- Intel I219 Gigabit Ethernet
- VGA, 18/24-bit 2ch LVDS or 4-lane eDP, DDI up to 3
- High Definition Audio Interface
- SATA x 4, USB 2.0 x 8, USB 3.2 Gen 2 X 4
- PCI-Express [x1] x 8, PCI-Express[x16] x1
- GPIO x 8, SMBus, I2C, LPC
- COM Express Basic Size, Pin-Out Type 6, 125mmx95mm



Specifications

System	
Form Factor	COM Express Basic Size, Type 6
CPU	8th/9th Gen Intel® Core™ / Xeon™-E Series Processor (i7-8850H / i5-8400H / i3-8100H / Xeon™-E2176M)
CPU Frequency	Up to Xeon-E2176M, 6c/ 2.7GHz
Chipset	Intel® QM370/CM246 PCH
Memory Type	SODIMM DDR4 2666 Socket x 3
Max. Memory Capacity	Up to 96GB, Non-ECC/ECC Support (only with CM246PCH)
BIOS	AMI BIOS, Legacy free BIOS
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	Standard: +12V
Power Supply Type	AT/ATX Selection
Power Consumption (Typical)	Intel® Xeon® E-2176M CPU @2.70GHz, DDR4 16GB x 3, Full load: 62.4W, 5.2A@12V
Dimension (L x W)	4.92" x 3.75" (125mm x 95mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C) -4°F ~ 158°F (-20°C ~ 70°C) by screening
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Operating Humidity	10% ~ 95% relative humidity, non-condensing
MTBF (Hours)	80,000
Certification	CE/FCC Class A
Display	
VGA/LCD Controller	Intel® GT2-P630 (E2176M) / GT2-630 (i7/i5/i3 Series)
Video Output	VGA, 18/24b 2ch LVDS/eDP, DDI x 2 (3rd one can be added if VGA not require)
LVDS Interface	Supports 18-bit and 24-bit dual channel
I/O	
Ethernet	Intel® Ethernet I219 GbE x 1
Audio	HD Audio
USB Port	USB 2.0 x 8, USB 3.2 Gen 2 x 4
Serial Port	2-wire UART(TX/RX) x 2
HDD Interface	SATA3 x 4
Onboard Storage	—
Expansion Slot	PCIe[x1] x 8 PCIe[x16] x 1 LPC x 1 SMBUS x 1 2-wire UART x 2
GPIO	8-bit
TPM	Support 1.2 / 2.0 (Optional)

Packing List

- COM-CFHB6

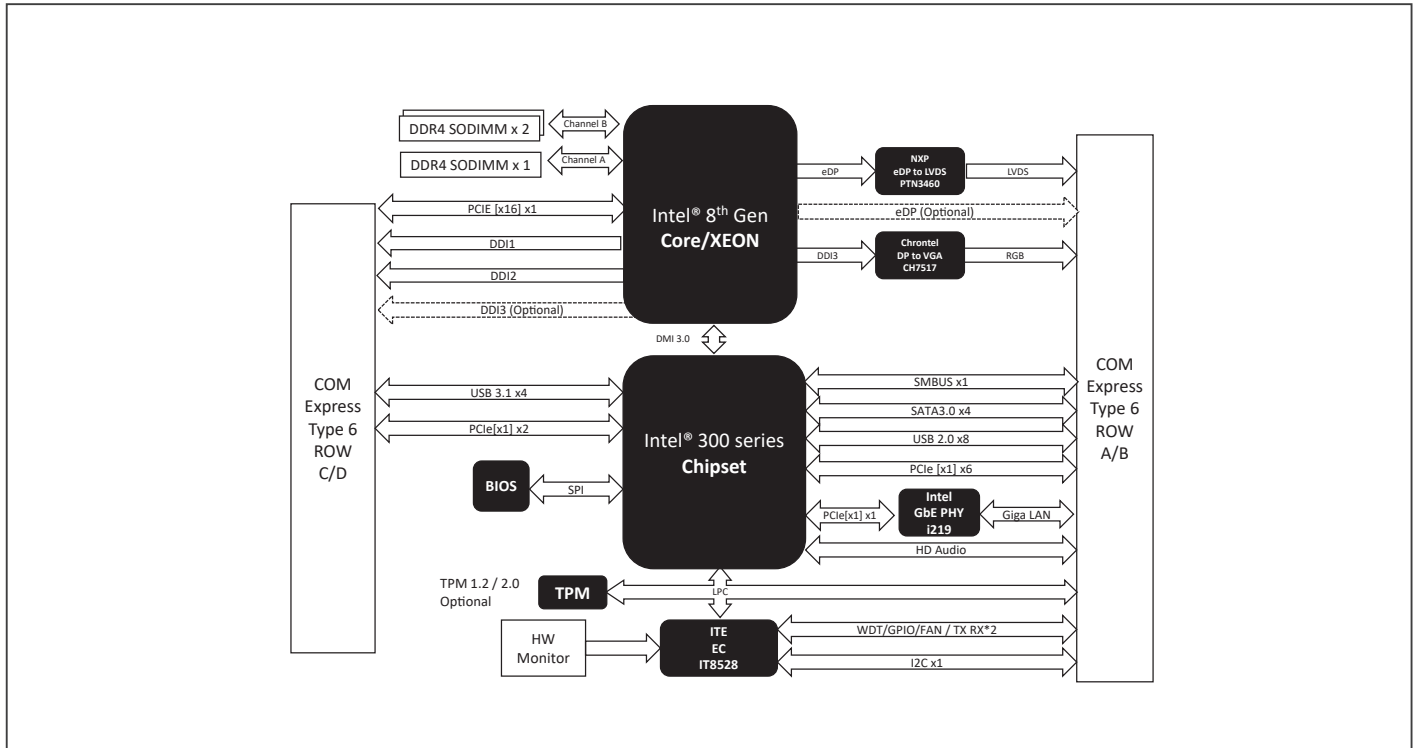
Optional Accessories

- **ECB-920A-A10-0001**
COMe Type 1/6/10. Carrier Board. ATX. GbE. 8USB, 2COM. 4SATA. PCIe. AT/ATX. Legacy Free. Rev. A.10
- **COM-CFHB6-FAN01**
CPU Cooler. FAN+Heat Sink. 125*95*41.55mm for COM-CFHB6
- **COM-CFHB6-HSP01**
Heat Spreader. 125*95. Black. COM-CFHB6
- **COM-FAN01**
CPU Cooler. 125*95. Silver. use w/HSP

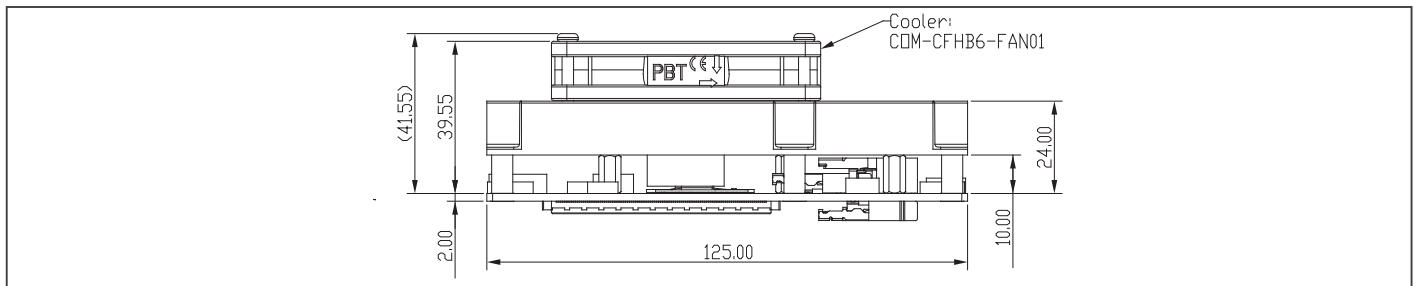
CPU Support Chart

CPU	Core/Thread. Base Clock/Turbo	Cache	ECC Support	Graphic	Chipset
XEON E-2176M	6c/12t 2.7GHz/4.4GHz	12M	V	GT2-P630	CM246
i7-8850H	6c/12t 2.6GHz/4.3GHz	9M	X	GT2-630	QM370
i5-8400H	4c/8t 2.5GHz/4.2GHz	8M	X	GT2-630	QM370
i3-8100H	4c/4t 3.0GHz	6M	X	GT2-630	QM370
XEON E-2276ME/ML	6c/12t ; HE:2.8GHz/4.5GHz; HL:2.0GHz/4.2GHz	12M	V	GT2-P630	CM246
XEON E-2254ME/ML	4c/8t; HE:2.6GHz/3.8GHz; HL:1.7GHz/3.5GHz	8M	V	GT2-P630	CM246
i7-9850HE/HL	6c/12t ; HE:2.7GHz/4.4GHz; HL:1.9GHz/4.1GHz	9M	X	GT2-630	QM370
i3-9100HL	4c/4t; 3.0GHz	6M	V	GT2-630	CM246

Block Diagram Unit: mm



Dimension Unit: mm

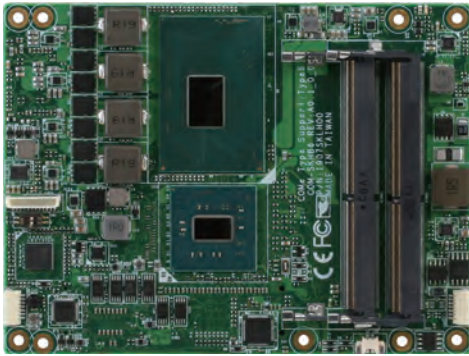


Ordering Information

Part Number	COM Express Type	CPU	Memory	Display	LVDS	Storage	LAN	USB	UART	Expansion	Power	Temperature	Other
COM-CFHB6-A10-0001	Type 6	Xeon E-2176M	DDR4 SODIMM x 3	VGA, DDI x 2 (up to 3)	18/24b 2ch LVDS/eDP	SATA3 x 2	GbE x 1	USB 3.2 Gen 2 x 4 USB 2.0 x 8	2-wire (Tx/Rx) x 2	PCIe [x1] x 8 PCIe[x16] x 1 LPC x 1 SMBUS x 1	+12V	0°C – 60°C	—
COM-CFHB6-A10-0002	Type 6	I7-8850H	DDR4 SODIMM x 3	VGA, DDI x 2 (up to 3)	18/24b 2ch LVDS/eDP	SATA3 x 2	GbE x 1	USB 3.2 Gen 2 x 4 USB 2.0 x 8	2-wire (Tx/Rx) x 2	PCIe [x1] x 8 PCIe[x16] x 1 LPC x 1 SMBUS x 1	+12V	0°C – 60°C	—
COM-CFHB6-A10-0005	Type 6	Xeon E-2276ME	DDR4 SODIMM x 3	VGA, DDI x 2 (up to 3)	18/24b 2ch LVDS/eDP	SATA3 x 2	GbE x 1	USB 3.2 Gen 2 x 4 USB 2.0 x 8	2-wire (Tx/Rx) x 2	PCIe [x1] x 8 PCIe[x16] x 1 LPC x 1 SMBUS x 1	+12V	0°C – 60°C	—

COM-KBHB6

COM Express Type 6 Basic Size with 7th Gen. Intel® Xeon® E3 v6 Series Processors



Features

- Intel® Xeon® E3-1505M v6 Processor with PCH CM238
- DDR4 SODIMM x 2, up to 32 GB, ECC Supports
- Gigabit Ethernet x 1
- 18/24-bit Dual Channel LVDS LCD or eDP, DDI x 2 (up to 3), VGA
- High Definition Audio Interface
- SATA 3 x 4
- USB 2.0 x 8, USB 3.2 Gen 2 x 4, GPIO 8-bit
- PCI-Express [x1] x 8, PCI-Express [x16] x 1
- COM Express Type 6 Basic Size 125mm x 95mm



Specifications

System	
Form Factor	COM Express Basic Size
CPU	Onboard 7th Gen. Intel® XEON E3 v6 Series Processors, E3-1505M v6 4c/3.0 GHz
CPU Frequency	Up to E3-1505M v6, 4.0 GHz
Chipset	Intel® PCH CM238
Memory Type	DDR4, SO-DIMMx2, ECC support, up to 2400
Max. Memory Capacity	32GB
BIOS	AMI BIOS, Legacy Free
Wake on LAN	Yes
Watchdog Timer	255 levels
Power Requirement	Standard: +12V
Power Supply Type	AT/ATX Selection
Power Consumption (Typical)	E3-1505M v6 3.0 GHz, DDR4 16GB, 3.7A@12V (during full loading mode)
Dimension (L x W)	4.92" x 3.75" (125 mm x 95 mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Operating Humidity	10% ~ 90% relative humidity, non-condensing
MTBF (Hours)	80,000
Certification	CE/FCC Class A
Display	
VGA/LCD Controller	Intel® HD Graphics P630
Video Output	VGA, LVDS or eDP, DDI x2 (3rd DDI could be added if VGA no required)
LVDS Interface	—
I/O	
Ethernet	Intel® I219, Gigabit Ethernet
Audio	HD Audio
USB Port	USB 2.0 x 8, USB 3.2 Gen 2 x 4
Serial Port	2-Wire UART (Tx/Rx) x 2
HDD Interface	SATA 3 x 4
Onboard Storage	—
Expansion Slot	PCIe[x16] x 1 PCIe[x1] x 8 I2C LPC SMBus
GPIO	GPIO 8-bit
TPM	Optional

Packing List

- COM-KBHB6

Optional Accessories

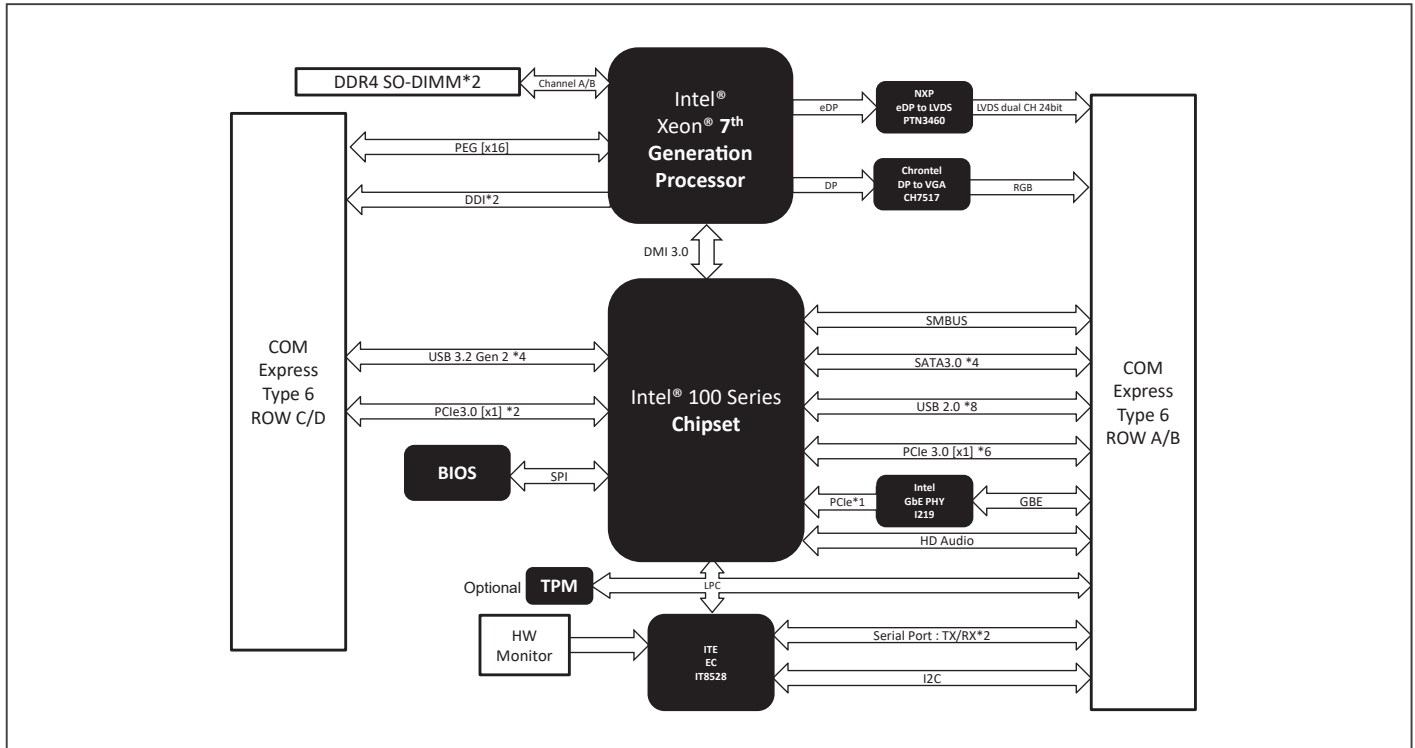
- **ECB-920A-A10-0001**
COM Express Type 1/6/10 Carrier Board, Gigabit Ethernet, USB, 2 COM, 4 SATA, PCIe, AT/ATX, Legacy Free, Rev. A1.0
- **COM-FAN01**
CPU Cooler, 125 x 95 x 26.4mm, Silver, use with HSP
- **COM-SKHB6-HSP01**
Heat Spreader, For COM-SKHB6, Onboard CPU

CPU Support Chart

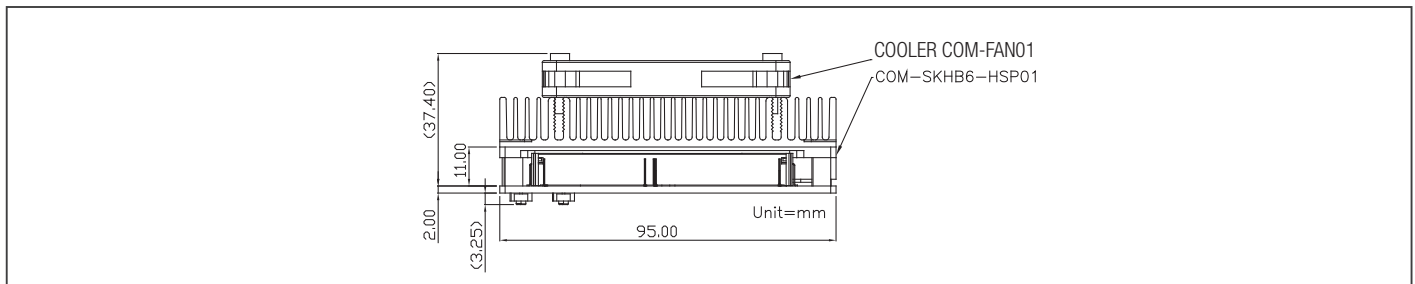
CPU	Core / Thread	Base Frequency	Max Turbo Frequency	Graphic
E3-1505M v6	4c/8t	3.0	4.0	Intel® HD Graphics P630
E3-1505L v6	4c/8t	2.2	3.0	Intel® HD Graphics P630
i7-7820EQ	4c/8t	3.0	3.7	Intel® HD Graphics 630
i5-7440EQ	4c/4t	2.9	3.6	Intel® HD Graphics 630
i5-7442EQ	4c/4t	2.1	2.9	Intel® HD Graphics 630
i3-7100E	2c/4t	2.9	—	Intel® HD Graphics 630
i3-7102E	2c/4t	2.1	—	Intel® HD Graphics 630

* Also equivalent to 7-series CPU

Block Diagram Unit: mm



Dimension Unit: mm

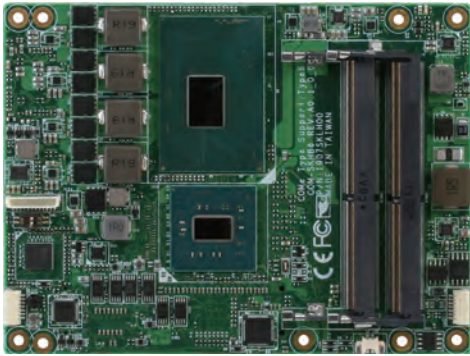


Ordering Information

Part Number	COM Express Type	CPU	Memory	Display	LVDS	Storage	LAN	USB	UART	Expansion	Power	Temperature	Other
COM-KBHB6-A10-0004	Type 6	E3-1505M v6	DDR4 SO-DIMM x2 (ECC Support)	VGA, LVDS or eDP, DDI x 2 (Up to 3)	18/24b 2CH (LVDS shared with eDP)	SATA 3 x 4	GbE x 1	USB 3.2 Gen 2 x 4 USB 2.0 x 8	2-Wire (Tx/Rx) x 2	PCIe[x16] x1, PCIe[x1] x8, I2C, LPC, SMBus	12V	0°C ~ 60°C	—

COM-SKHB6

COM Express Type 6 Basic Size with 6th Gen Intel® Core™ i-series Processor



Features

- Intel® Core™ i3/i5/i7 Processor with PCH QM170/CM236
- DDR4 SODIMM x 2, up to 32 GB, ECC Supports by SKU
- Gigabit Ethernet x 1
- 18/24-bit Dual Channel LVDS LCD or eDP, DDI x 2 (up to 3), VGA
- High Definition Audio Interface
- SATA 3 x 4
- USB 2.0 x 8, USB 3.2 Gen 2 x 4, GPIO 8-bit
- PCI-Express [x1] x 8, PCI-Express [x16] x 1
- COM Express Type 6 Basic Size 125mm x 95mm



Specifications

System	
Form Factor	COM Express Basic Size
CPU	Onboard 6th Gen Intel® Core™ i-series Processor i7-6820EQ 4c/2.8 GHz i3-6100E 2c/2.7 GHz
CPU Frequency	Up to i7-6820EQ 3.50 GHz
Chipset	PCH QM170 or CM236 (by sku)
Memory Type	DDR4, SODIMM x 2, ECC Supports with CM236 sku only, up to 2133
Max. Memory Capacity	32GB
BIOS	AMI BIOS, Legacy Free
Wake on LAN	Yes
Watchdog Timer	255 levels
Power Requirement	Standard: +12V
Power Supply Type	AT/ATX Selection
Power Consumption (Typical)	i7-6820EQ 2.8GHz, DDR4 16GB, 3.08A@12V (during full-loading mode)
Dimension (L x W)	4.92" x 3.75" (125 mm x 95 mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Operating Humidity	10% ~90% relative humidity, non-condensing
MTBF (Hours)	80,000
Certification	CE/FCC Class A
Display	
VGA/LCD Controller	Intel® HD Graphics P530 / 530
Video Output	VGA, LVDS or eDP, DDI x 2 (3rd DDI could be added if VGA no required)
LVDS Interface	—
I/O	
Ethernet	Intel® I219, Gigabit Ethernet
Audio	HD Audio
USB Port	USB2.0 x 8, USB3.2 Gen 2 x 4
Serial Port	2-Wire UART (Tx/Rx) x 2
HDD Interface	SATA 3 x 4
Onboard Storage	—
Expansion Slot	PCIe[x16] x 1 PCIe[x1] x 8 I2C LPC SMBus
GPIO	GPIO 8-bit
TPM	Optional

Packing List

- COM-SKHB6

Optional Accessories

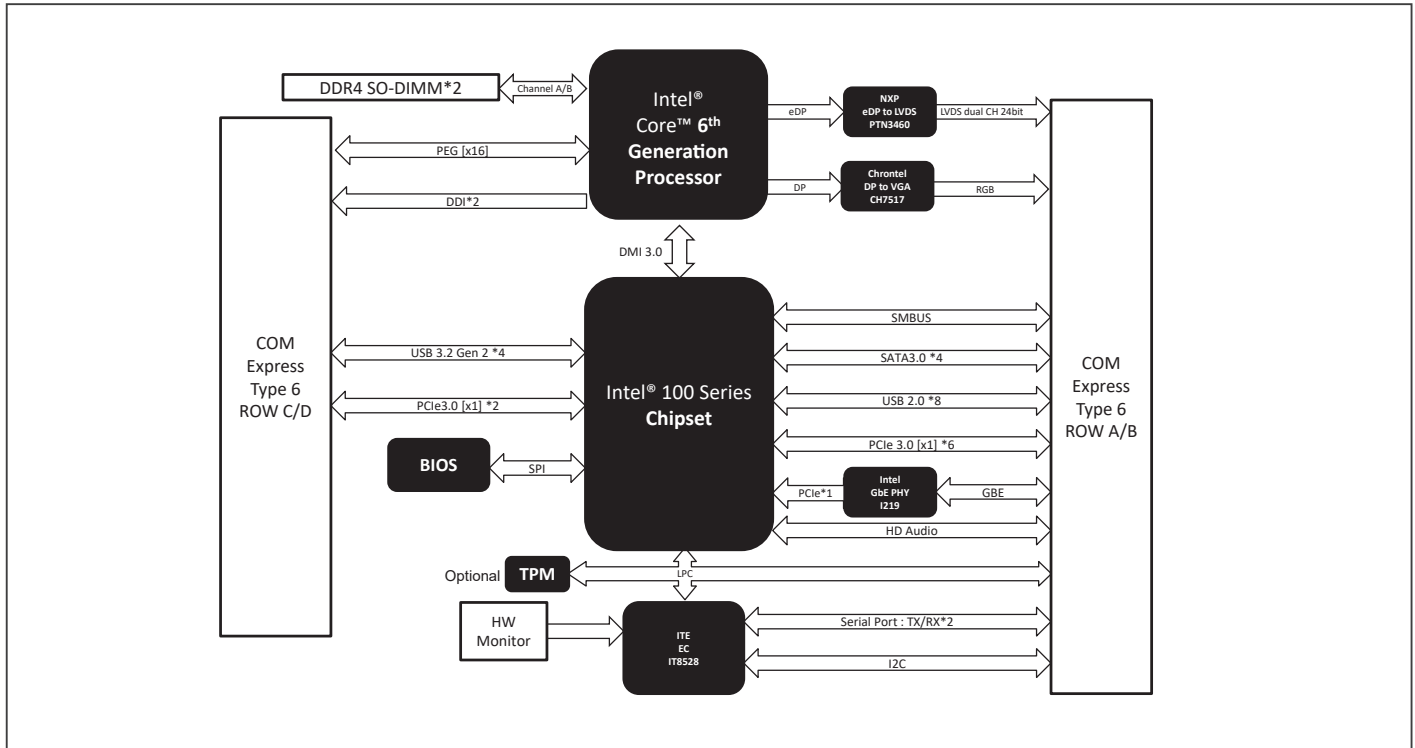
- **ECB-920A-A10-0001**
COM Express Type 1/6/10 Carrier Board, Gigabit Ethernet, USB, 2 COM, 4 SATA, PCIe, AT/ATX, Legacy Free, Rev. A1.0
- **COM-FAN01**
CPU Cooler, 125 x 95 x 26.4mm, Silver, use with HSP
- **COM-SKHB6-HSP01**
Heat Spreader, For COM-SKHB6, Onboard CPU

CPU Support Chart

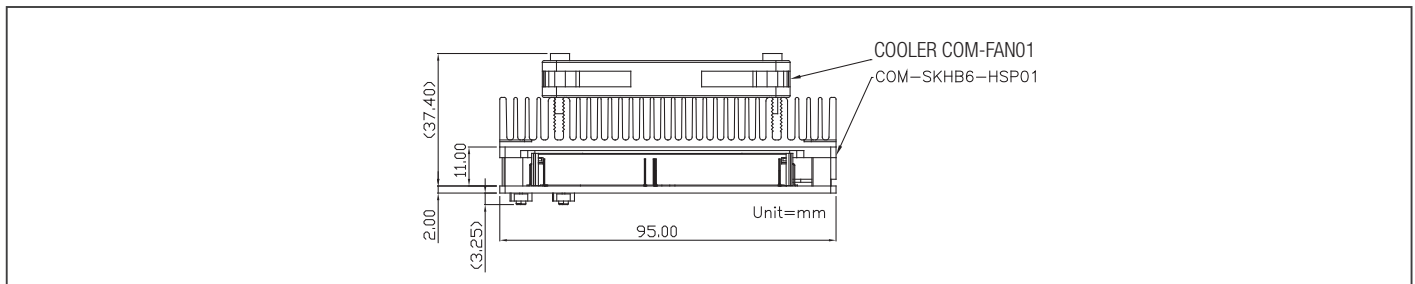
CPU	Core / Thread	Base Frequency	Max Turbo Frequency	Graphic
E3-1505M v5	4c/8t	2.8	3.7	Intel® HD Graphics P530
E3-1505L v5	4c/8t	2	2.8	Intel® HD Graphics P530
i7-6820EQ	4c/8t	2.8	3.5	Intel® HD Graphics 530
i7-6822EQ	4c/8t	2.0	2.8	Intel® HD Graphics 530
i5-6440EQ	4c/4t	2.7	3.4	Intel® HD Graphics 530
i5-6442EQ	4c/4t	1.9	2.7	Intel® HD Graphics 530
i3-6100E	2c/4t	2.7	—	Intel® HD Graphics 530
i3-6102E	2c/4t	1.9	—	Intel® HD Graphics 530
C-G3900E	2c/2t	2.4	—	Intel® HD Graphics 510
C-G3902E	2c/2t	1.6	—	Intel® HD Graphics 510

* Also equivalent to 7-series CPU

Block Diagram Unit: mm



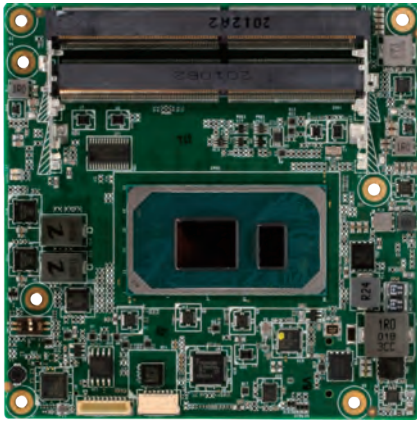
Dimension Unit: mm



Ordering Information

Part Number	COM Express Type	CPU	Memory	Display	LVDS	Storage	LAN	USB	UART	Expansion	Power	Temperature	Other
COM-SKHB6-A10-0001	Type 6	i7-6820EQ	DDR4 SO-DIMM x 2	VGA, LVDS or eDP, DDI x2 (Up to 3)	18/24b 2CH (LVDS shared with eDP)	SATA 3 x 4	GbE x 1	USB 3.2 Gen 2 x 4 USB 2.0 x 8	2-Wire (Tx/Rx) x 2	PCIe[x16] x1, PCIe[x1] x8, I2C, LPC, SMBus	12V	0°C ~ 60°C	—
COM-SKHB6-A10-0003	Type 6	i3-6100E	DDR4 SO-DIMM x 2	VGA, LVDS or eDP, DDI x2 (Up to 3)	18/24b 2CH (LVDS shared with eDP)	SATA 3 x 4	GbE x 1	USB 3.2 Gen 2 x 4 USB 2.0 x 8	2-Wire (Tx/Rx) x 2	PCIe[x16] x1, PCIe[x1] x8, I2C, LPC, SMBus	12V	0°C ~ 60°C	—

COM Express Compact Type 6 with 11th Generation Intel® Core™ Processor Family (formerly Tiger Lake UP3)



Features

- 11th Generation Intel® Core™ Tiger Lake-UP3 SoC Processor
- 2 x SODIMM DDR4 3200MHz Memory, up to 64GB (in-band ECC)
- Intel I225LM Gigabit Ethernet x 1
- VGA, 18/24-bit 2ch LVDS/eDP, DDI x 3
- High Definition Audio Interface
- SATA3.0 x 2
- USB 2.0 x 8, USB 3.2/2.0 x 4 (up to USB 3.2 Gen 2 support)
- PCI-Express [x1] x 5 (Gen3), PEG [x4] x1 (Gen4)
- 12V DC input
- COM Express Type 6, Compact size, 95mm x 95mm



Specifications

System	
Form Factor	COM Express Compact size, 95mm x 95mm
CPU	11th Generation Intel® Core™ Processor Family (formerly Tiger Lake UP3)
CPU Frequency	—
Chipset	SoC
Memory Type	DDR4 3200 MHz SODIMM x2 (Dual Channel) in-band ECC supported by SoC
Max. Memory Capacity	Up to 64GB
BIOS	AMI UEFI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	Standard: +12V
Power Supply Type	—
Power Consumption (Typical)	12Vin, TDP up to 15~36W with i7 @ max loading, stable status
Dimension (L x W)	3.75" x 3.75" (95mm x 95mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C) Option : -40°C ~ +85°C (-40°C ~ +85°C)
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	TBD
Certification	CE/FCC
Display	
VGA/LCD Controller	Intel® Iris® Xe Graphics Intel® UHD Graphics for 11th Gen Intel® Processors
Video Output	LVDS/eDP x 1 (Default : LVDS) , DDI x 3, VGA x 1
LVDS Interface	—
I/O	
Ethernet	Intel® I225LM Gigabit Ethernet x 1
Audio	High Definition Audio Interface x 1
USB Port	USB3.2 Gen 2 x 4 USB2.0 x 8
Serial Port	2-wire UART x 2 (TX/RX)
HDD Interface	SATA 3.0 x 2
Onboard Storage	—
Expansion Slot	PCIe 5 lanes, [x1] x5 PEG[x4], I2C, LPC, SMBus
GPIO	8-bit
TPM	TPM 2.0 Optional

Packing List

- COM-TGUC6

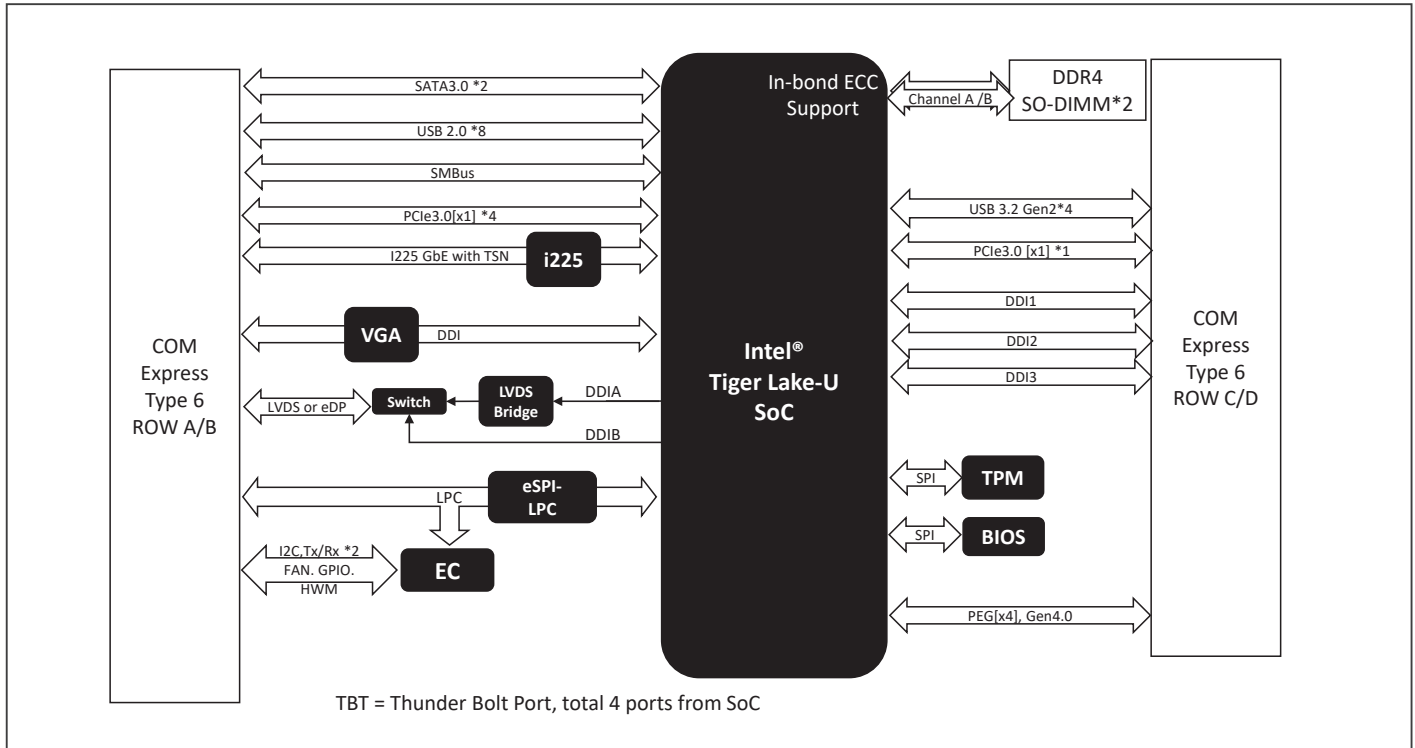
Optional Accessories

- COM-TGUC6-FAN01
Cooler.12V.3600RPM.Smart FAN.95x95x24MM.COM-TGUC6
- COM-TGUC6-HSP01
Heat Spreader.AL.95x95x11mm.Black.for COM-TGUC6
- ECB-920A-A11-0001
COMe Type 6/10.Carrier Board.ATX.GbE.8USB, 2COM.4SATA.PCIe.AT/ATX.Rev. A1.1

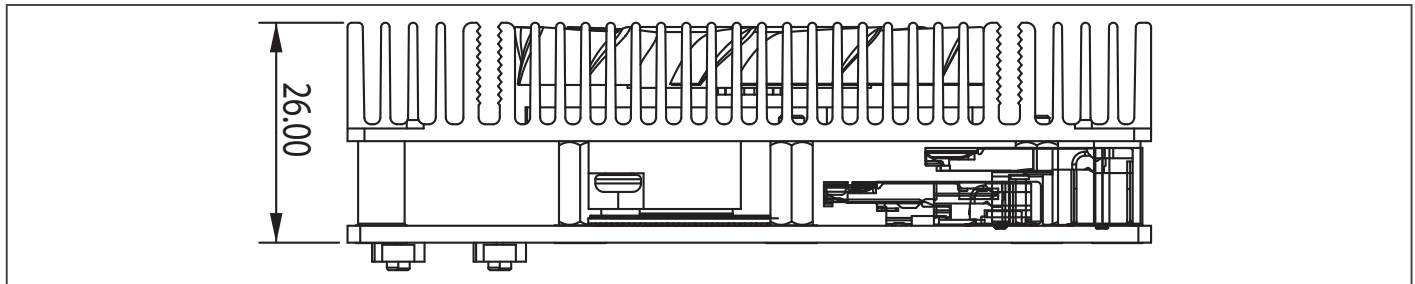
CPU Support Chart

CPU	Core / Thread	Base Frequency / Turbo	TDP	Graphic	In-band ECC	Operating Temp.
i7-1185G7E	4/8	1.8 GHz / 4.4 GHz	15W (Up to 28W)	Intel® Iris® Xe Graphics	No	Commercial Temp.
i5-1145G7E	4/8	1.5 GHz / 4.1 GHz		Intel® Iris® Xe Graphics	No	Commercial Temp.
i3-1115G4E	2/4	2.2 GHz / 3.9 GHz		Intel® UHD Graphics	No	Commercial Temp.
i7-1185GRE	4/8	1.8 GHz / 4.4 GHz		Intel® Iris® Xe Graphics	Yes	Embedded/Industrial Extended Temp.
i5-1145GRE	4/8	1.5 GHz / 4.1 GHz		Intel® Iris® Xe Graphics	Yes	Embedded/Industrial Extended Temp.
i3-1115GRE	2/4	2.2 GHz / 3.9 GHz		Intel® UHD Graphics	Yes	Embedded/Industrial Extended Temp.
Celeron 6305E	2/2	1.8 GHz / ---	15W	Intel® UHD Graphics	No	Commercial Temp.

Block Diagram Unit: mm



Dimension Unit: mm

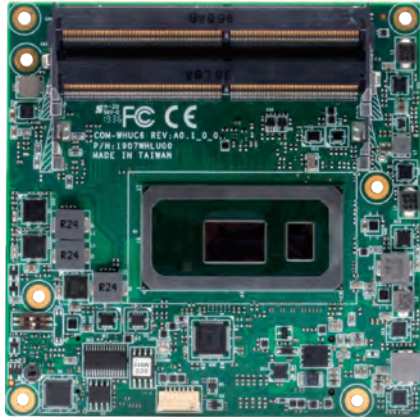


Ordering Information

Part Number	COM Express Type	CPU	Memory	Display	LVDS	Storage	LAN	USB	UART	Expansion	Power	Temperature	Other
TBD	Type 6	i7-1185G7E	DDR4 SO-DIMM x 2	DDI x 3, VGA x 1, LVDS or eDP x 1	18/24b 2ch LVDS	SATA3 x 2	I225LM x 1	USB 3.2 Gen 2 x 4 USB 2.0 x 8	2 Wire (Tx/Rx) x 2	PCIe [x1] x 5 PEG [x4] x 1	+12V	0°C ~ 60°C	—
TBD	Type 6	i7-1185G9E	DDR4 SO-DIMM x 2	DDI x 3, VGA x 1, LVDS or eDP x 1	18/24b 2ch LVDS	SATA3 x 2	I225LM x 1	USB 3.2 Gen 2 x 4 USB 2.0 x 8	2 Wire (Tx/Rx) x 2	PCIe [x1] x 5 PEG [x4] x 1	+12V	-40°C ~ +85°C	—

COM-WHUC6

COM Express Compact Type 6 with 8th Gen Intel® Core™ ULT SoC



Features

- 8th Generation Intel® Core™/Celeron™ ULT Processor
- DDR4 socket x 2, non-ECC Support
- Gigabit Ethernet x 1
- VGA, 18/24b 2ch LVDS LCDs or eDP, DDIx2 (DDI2 share with VGA)
- High Definition Audio Interface
- SATA3 x 2, eMMC onboard (up to 64GB)
- USB 3.2 Gen 2 x 4, USB2.0 x 8
- PCI-Express [x1] x 8 lanes available, 5 Devices max.
- GPIO x8, SMBus, I2C, LPC
- COM Express Type 6, Compact size, 95mm x 95mm



Specifications

System	
Form Factor	COM Express Compact size, 95mm x 95mm
CPU	8th Generation Intel® Core™ ULT Series Processor
CPU Frequency	—
Chipset	Onboard 8th Generation Intel® Core™ SoC
Memory Type	SO-DIMM DDR4 2400 Socket x2
Max. Memory Capacity	Up to 64GB
BIOS	AMI BIOS, Legacy free BIOS
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	Standard: +12V
Power Supply Type	AT/ ATX Mode
Power Consumption (Typical)	12V, estimate 18W with i7-8655UE @ 100% loading
Dimension (L x W)	3.75" x 3.75" (95mm x 95mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	TBD
Certification	CE/FCC Class A
Display	
VGA/LCD Controller	Intel® UHD Graphics 620 / 610
Video Output	DDI0: LVDS, (eDP by BOM change) DDI1: Display Port DDI2: Default VGA, (DP by SW1&2 selected)
LVDS Interface	Support 18-bit and 24-bit dual channel
I/O	
Ethernet	Intel® I219 GbE x 1
Audio	HD Audio x 1
USB Port	USB 2.0 x 8, USB 3.2 Gen 2 x 4
Serial Port	2-wire UART x 2 (TX/RX)
HDD Interface	SATA3 x 2 as default (up to 3)
Onboard Storage	eMMC x 1 (up to 64GB)
Expansion Slot	PCIe[x1] x 4 + PCIe[x4] x 1 (default), I2C, LPC, SMBus
GPIO	8-bit
TPM	TPM 2.0 Optional

Packing List

- COM-WHUC6

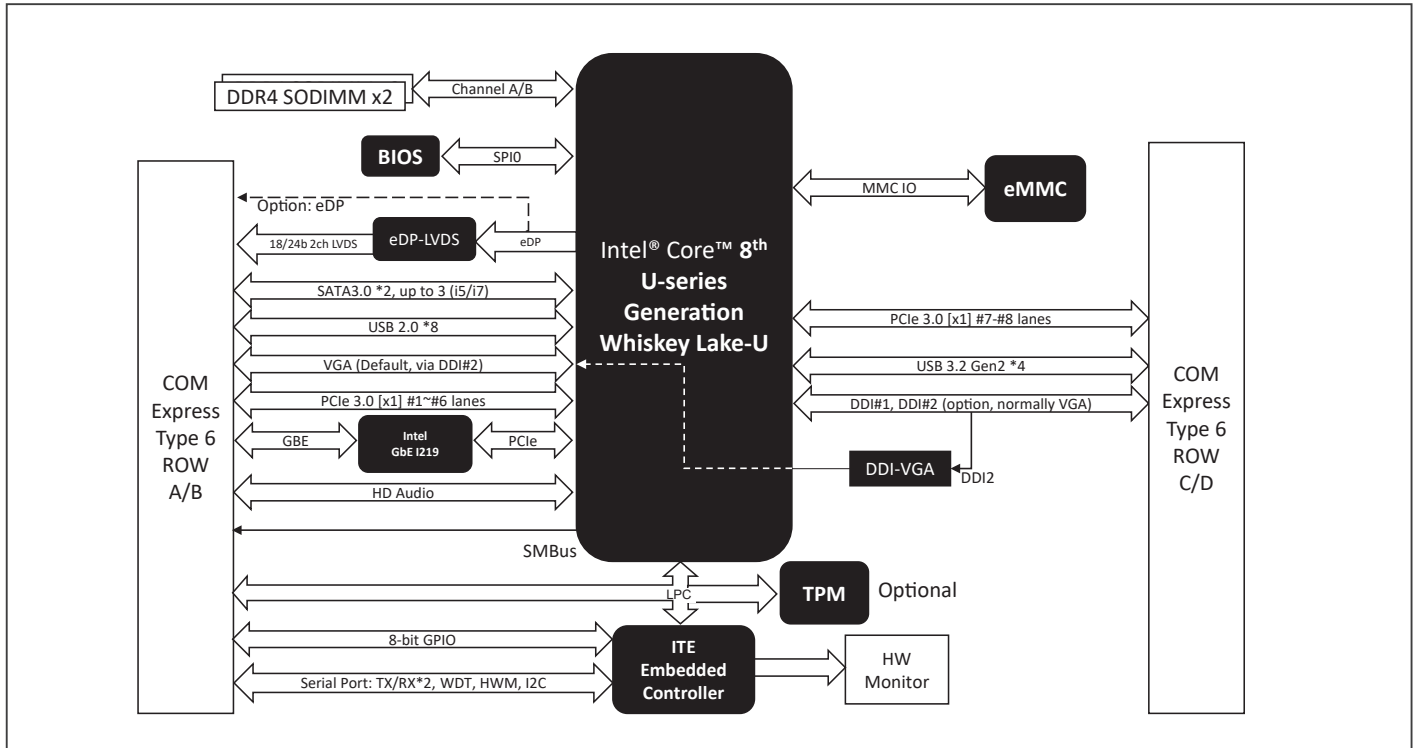
Optional Accessories

- **ECB-920A-A10-0001**
COM Express Type 1/6/10 Carrier Board, Gigabit Ethernet, USB, 2 COM, 4 SATA, PCIe, AT/ATX, Legacy Free, Rev. A1.0
- **COM-WHUC6-HSP01**
Heat Spreader, 95 x 95 x 11mm, Black, COM-WHUC6
- **COM-WHUC6-FAN01**
CPU Cooler, 95 x 95 x 36mm, Silver, FAN + Heat Sink for COM-WHUC6
- **COM-FAN02**
CPU Cooler, 95 x 95 x 26.5mm, Silver, use w/HSP

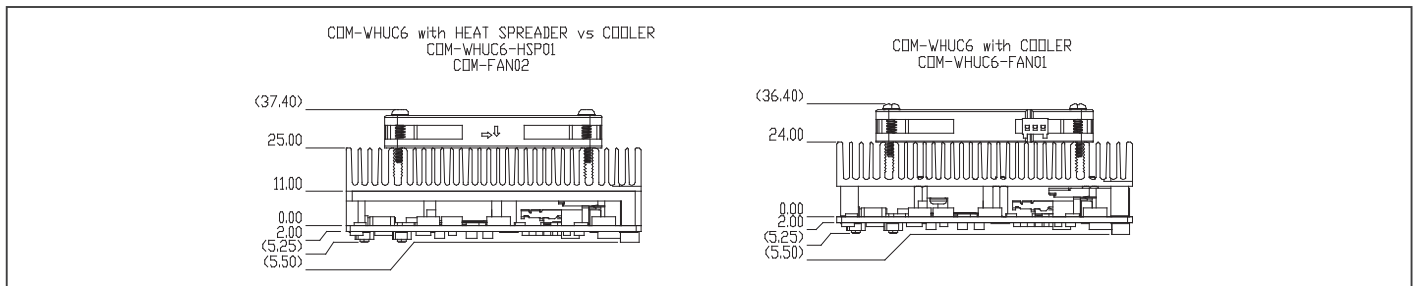
CPU Support Chart

CPU	Core / Thread	Base Frequency	Max Turbo Frequency	Graphic
i7-8665UE	4c / 8t	1.7 GHz	4.4 GHz	Intel® UHD Graphics 620
i5-8365UE	4c / 8t	1.6 GHz	4.1 GHz	Intel® UHD Graphics 620
i3-8145UE	2c / 4t	2.20 GHz	3.90 GHz	Intel® UHD Graphics 620
Celeron 4305UE	2c / 2t	2.00 GHz	2.00 GHz	Intel® UHD Graphics 610

Block Diagram Unit: mm



Dimension Unit: mm

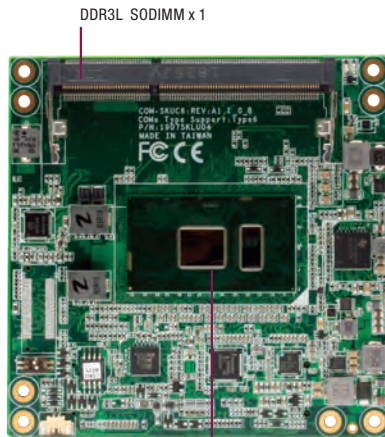


Ordering Information

Part Number	COM Express Type	CPU	Memory	Display	LVDS	Storage	LAN	USB	UART	Expansion	Power	Temperature	Other
COM-WHUC6-A10-0001	Type 6	i7-8665UE	DDR4 SO-DIMM x 2	VGA, DDI x2, LVDS or eDP	18/24b 2ch LVDS or eDP	SATA 3 x 2 eMMC x 1 (64 GB)	GbE x 1	USB 2.0 x 8 USB 3.2 Gen 2 x 4	2-Wire (Tx/Rx) x 2	PCIe[x1] x 4 + PCIe[x4] x 1 (default), I2C x 1, LPC x 1, SMBUS x 1	+12V	0°C ~ 60°C	—
COM-WHUC6-A10-0003	Type 6	i3-8145UE	DDR4 SO-DIMM x 2	VGA, DDI x2, LVDS or eDP	18/24b 2ch LVDS or eDP	SATA 3 x 2 eMMC x 1 (64 GB)	GbE x 1	USB 2.0 x 8 USB 3.2 Gen 2 x 4	2-Wire (Tx/Rx) x 2	PCIe[x1] x 4 + PCIe[x4] x 1 (default), I2C x 1, LPC x 1, SMBUS x 1	+12V	0°C ~ 60°C	—

COM-SKUC6/KBUC6

COM Express Type 6 Compact Size with Intel® 6th/7th Generation Core™/Celeron™ U-Series SoC Processors



On board 6th/7th Generation Intel® Core™ i7/ i5/ i3 U Processor

Specifications

System	
Form Factor	COM Express Compact Size, Type 6
CPU	Onboard 6th/7th Generation Intel® Core™/Celeron™ i3/i5/i7 U-series SoC Processor
CPU Frequency	Up to i7-7600U 2C/ 2.8 GHz
Chipset	Onboard 6th/7th Generation Intel® Core™/Celeron™ U-series SoC
Memory Type	DDR3L 1600, SODIMM x 1
Max. Memory Capacity	8 GB
BIOS	AMI BIOS, Legacy Free
Wake on LAN	Yes
Watchdog Timer	255 levels
Power Requirement	Standard: +12V
Power Supply Type	AT/ATX
Power Consumption (Typical)	i7-7600U, 8GB DDR3L, full loading 1.32A@12V during 100% loading burn in test
Dimension (L x W)	3.75" x 3.75" (95 mm x 95 mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	10% ~80% relative humidity, non-condensing
MTBF (Hours)	80,000
Certification	CE/FCC Class A
Display	
VGA/LCD Controller	Onboard 6th Gen Intel® Core U-Series Processor, GT2-520/510 Onboard 7th Gen Intel® Core U-Series Processor, GT2-620/610
Video Output	VGA, LVDS (eDP Optional), DDI x 1 (up to 2)
LVDS Interface	Support 18bit and 24bit dual channel
I/O	
Ethernet	Intel®PHY I219LM
Audio	High Definition Audio Interface
USB Port	USB 2.0 x 8, USB 3.2 Gen 1 x 4
Serial Port	2-Wire UART (Tx/Rx) x 2
HDD Interface	SATA3 x 2 ; i5 & i7 up to 3
Onboard Storage	—
Expansion Slot	PCIe[x1] x8, I2C, LPC, SMBus
GPIO	GPIO 8-bit
TPM	Optional

Packing List

- COM-SKUC6 or COM-KBUC6

Features

- 6th/7th Generation Intel® Core™/Celeron™ i3/i5/i7 U-Series SoC
- DDR3L SODIMM x 1, up to 8 GB, non-ECC only
- Intel® I219-LM Gigabit Ethernet x 1
- 18/24-bit Dual Channel LVDS LCD (eDP Optional), VGA, DDI up to 2 High Definition Audio Interface
- SATA3 x 3 (SATA Port 3 for i5 / i7 sku only)
- USB 2.0 x 8, USB 3.2 Gen 1 x 4, GPIO 8-bit, PCI-Express [x1] x 8
- COM Express Type 6 Compact Size 95mm x 95mm



Optional Accessories

- **ECB-920A-A10-0001**
COM Express Type 1/6/10 Carrier Board, Gigabit Ethernet, USB, 2 COM, 4 SATA, PCIe, AT/ATX, Legacy Free, Rev. A1.0
- **COM-FAN02**
CPU Cooler, 95 x 95 x 26.5mm, Silver, use with HSP
- **COM-KBUC6-HSP01**
Heatspreader, For COM-KBUC6/SKUC6, Onboard CPU

HSIO Configurable Options

PICMG PCIe No.*	Config 1 (Default)	Config 2 (Custom BIOS need)
PCIe#0	PCIe[x1]	PCIe[x4]
PCIe#1	PCIe[x1]	—
PCIe#2	PCIe[x1]	—
PCIe#3	PCIe[x1]	—
PCIe#4	PCIe[x1]	PCIe[x1]
PCIe#5	x	PCIe[x1]
PCIe#6	x	PCIe[x1]
PCIe#7	x	PCIe[x1]
GbE***	GbE	GbE
SATA#0	SATA#0	SATA#0
SATA#1	SATA#1	SATA#1
SATA#2**	SATA#2	SATA#2
Remark	6 PCIe Devices 9 PCIe Lanes	6 PCIe Devices 12 PCIe Lanes

*Only a maximum of 6 PCIe port or (Devices) or 12 PCIe Lanes can be enabled at any time

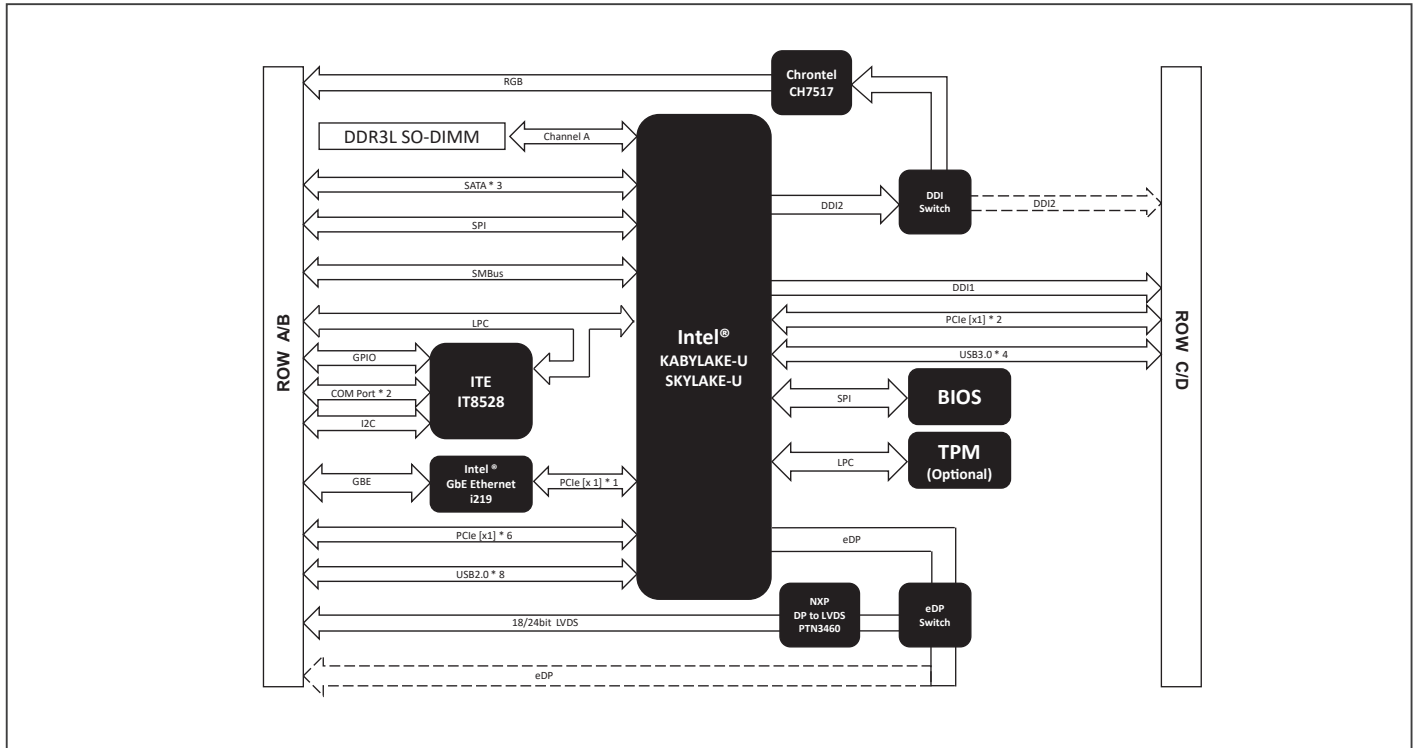
**SATA#2 default disable, SATA#2 support by i7, i5 CPU only

***5 PCIe port + GbE support as default

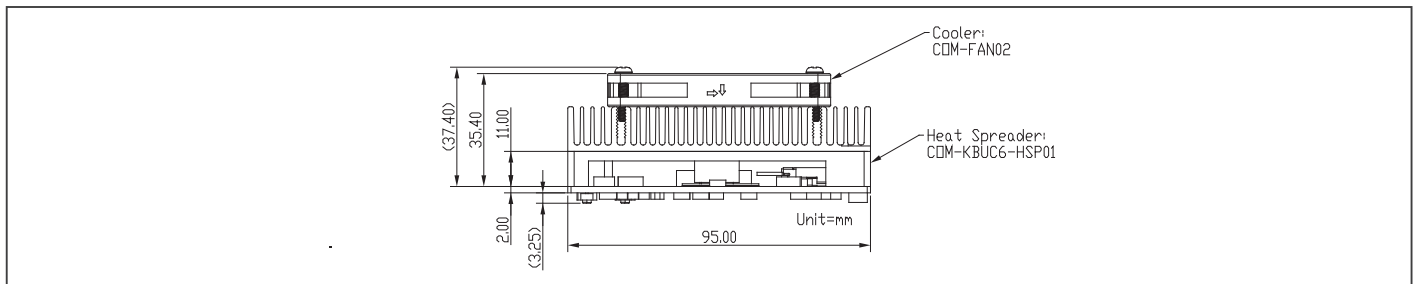
CPU Support Chart

CPU	Base Frequency/ Turbo Boost GHz	Core/ Thread	Last level Cache	TDP	Graphic
i7-7600U	2.8 GHz / 3.9 GHz	2/4	4M	15W	GT2-620
i5-7300U	2.6 GHz / 3.5 GHz	2/4	3M	15W	GT2-620
i3-7100U	2.4 GHz	2/4	3M	15W	GT2-620
C-3965U	2.2 GHz	2/2	2M	15W	GT2-610
i7-6600U	2.6 GHz / 3.4 GHz	2/4	4M	15W	GT2-520
i5-6300U	2.4 GHz / 3.0 GHz	2/4	3M	15W	GT2-520
i3-6100U	2.3 GHz	2/4	3M	15W	GT2-520
C-3955U	2.0 GHz	2/2	2M	15W	GT2-510

Block Diagram Unit: mm

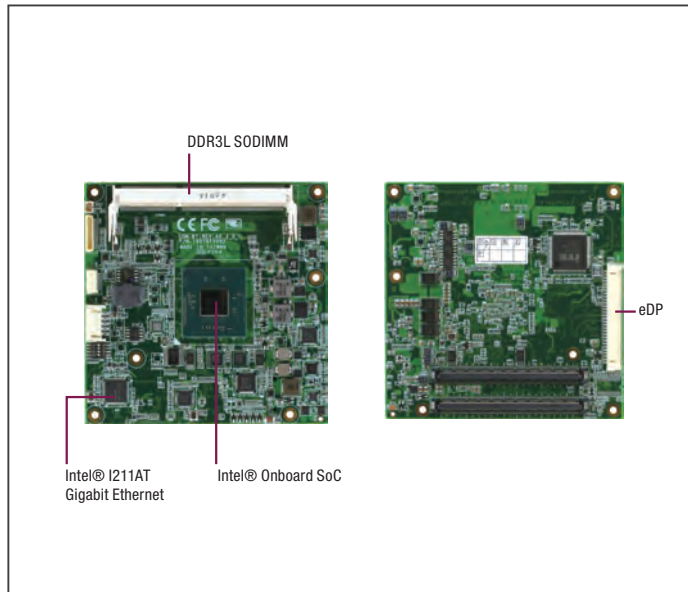


Dimension Unit: mm



Ordering Information

Part Number	Form Factor	CPU	Memory	Display	LVDS	Storage	LAN	USB	UART	Expansion	Power	Temperature	Other
COM-KBUC6-A11-0001	COM Express Type 6	i7-7600U, 2.8 GHz	DDR3L up to 8 GB, SO-DIMM x1	CRT, LVDS/eDP, DDI x1	24bit, 2CH	SATA3 x 2 (up to 3)	GbE x 1	USB 3.2 Gen 1 x 4, USB 2.0 x 8	2-wire (Tx/Rx) x 2	PCIe[x1] x 8	+12V	0°C ~ 60°C	LPC, GPIO 8 bit, I2C, SMBus
COM-KBUC6-A11-0002	COM Express Type 6	i5-7300U, 2.6 GHz	DDR3L up to 8 GB, SO-DIMM x1	CRT, LVDS/eDP, DDI x1	24bit, 2CH	SATA3 x 2 (up to 3)	GbE x 1	USB 3.2 Gen 1 x 4, USB 2.0 x 8	2-wire (Tx/Rx) x 2	PCIe[x1] x 8	+12V	0°C ~ 60°C	LPC, GPIO 8 bit, I2C, SMBus
COM-KBUC6-A11-0003	COM Express Type 6	i3-7100U, 2.4 GHz	DDR3L up to 8 GB, SO-DIMM x1	CRT, LVDS/eDP, DDI x1	24bit, 2CH	SATA3 x 2	GbE x 1	USB 3.2 Gen 1 x 4, USB 2.0 x 8	2-wire (Tx/Rx) x 2	PCIe[x1] x 8	+12V	0°C ~ 60°C	LPC, GPIO 8 bit, I2C, SMBus
COM-KBUC6-A11-0004	COM Express Type 6	Celeron® 3965U, 2GHz	DDR3L up to 8 GB, SO-DIMM x1	CRT, LVDS/eDP, DDI x1	24bit, 2CH	SATA3 x 2	GbE x 1	USB 3.2 Gen 1 x 4, USB 2.0 x 8	2-wire (Tx/Rx) x 2	PCIe[x1] x 8	+12V	0°C ~ 60°C	LPC, GPIO 8 bit, I2C, SMBus
COM-SKUC6-A11-0001	COM Express Type 6	i7-6600U, 2.6 GHz.	DDR3L up to 8 GB, SO-DIMM x1	CRT, LVDS/eDP, DDI x1	24bit, 2CH	SATA3 x 2 (up to 3)	GbE x 1	USB 3.2 Gen 1 x 4, USB 2.0 x 8	2-wire (Tx/Rx) x 2	PCIe[x1] x 8	+12V	0°C ~ 60°C	LPC, GPIO 8 bit, I2C, SMBus
COM-SKUC6-A11-0002	COM Express Type 6	i5-6300U, 2.4 GHz	DDR3L up to 8 GB, SO-DIMM x1	CRT, LVDS/eDP, DDI x1	24bit, 2CH	SATA3 x 2 (up to 3)	GbE x 1	USB 3.2 Gen 1 x 4, USB 2.0 x 8	2-wire (Tx/Rx) x 2	PCIe[x1] x 8	+12V	0°C ~ 60°C	LPC, GPIO 8 bit, I2C, SMBus
COM-SKUC6-A11-0003	COM Express Type 6	i3-6100U, 2.3 GHz	DDR3L up to 8 GB, SO-DIMM x1	CRT, LVDS/eDP, DDI x1	24bit, 2CH	SATA3 x 2	GbE x 1	USB 3.2 Gen 1 x 4, USB 2.0 x 8	2-wire (Tx/Rx) x 2	PCIe[x1] x 8	+12V	0°C ~ 60°C	LPC, GPIO 8 bit, I2C, SMBus
COM-SKUC6-A11-0004	COM Express Type 6	Celeron® 3955U, 2GHz	DDR3L up to 8 GB, SO-DIMM x1	CRT, LVDS/eDP, DDI x1	24bit, 2CH	SATA3 x 2	GbE x 1	USB 3.2 Gen 1 x 4, USB 2.0 x 8	2-wire (Tx/Rx) x 2	PCIe[x1] x 8	+12V	0°C ~ 60°C	LPC, GPIO 8 bit, I2C, SMBus



Features

- Intel® Atom™/ Celeron® Processor SoC
- DDR3L 1066/1333 MHz SODIMM x 1, Up to 8 GB
- Gigabit Ethernet with Intel® Controller
- CRT, Up to 24-bit Dual-channel LVDS, eDP (Optional), up to DDI x 2 (Share w/ eDP LVDS)
- High Definition Audio Interface
- SATA 3.0 Gb/s x 2
- USB 2.0 x 7, USB 3.2 Gen 1 x 1
- PCI-Express [x1] x 3
- COM Express Compact Module, Pin-out Type 6, COM.0 Rev. 2.1
- Supports Industrial Temperature



Specifications

System	
Form Factor	COM Express, Compact, Pin-out Type 6
CPU	Onboard Intel® Atom™ SoC
CPU Frequency	Intel® Atom™N2930 (1.83 GHz), N2807 (1.58 GHz), E3845 (1.91 GHz), E3827 (1.75 GHz), E3825 (1.33 GHz), J1900 (2.0 GHz)
Chipset	Intel® Atom™ SoC
Memory Type	DDR3L 1066/1333 MHz SODIMM x 1
Max. Memory Capacity	8 GB
BIOS	AMI BIOS
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	Standard: +12V
Power Supply Type	AT/ ATX
Power Consumption (Typical)	0.92A@12V, full load, J1900 0.48A@12V, full load, N2807
Dimension (L x W)	3.74" x 3.74" (95mm x 95mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C) -40°F ~ 185°F (-40°C ~ 85°C) optional
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	80,000
Certification	CE/FCC
Display	
VGA/LCD Controller	Intel® Atom™ SoC
Video Output	CRT, LVDS LCD, DDI
LVDS Interface	—
I/O	
Ethernet	Intel® I211, Gigabit Ethernet
Audio	High Definition Audio Interface
USB Port	USB 2.0 x 7, USB 3.2 Gen 1 x 1
Serial Port	Tx/Rx x 2
HDD Interface	SATA x 2
Onboard Storage	—
Expansion Slot	PCIe [x1] x 3 (up to 3 devices) LPC SMBus I2C
GPIO	GPIO 8-bit
TPM	—

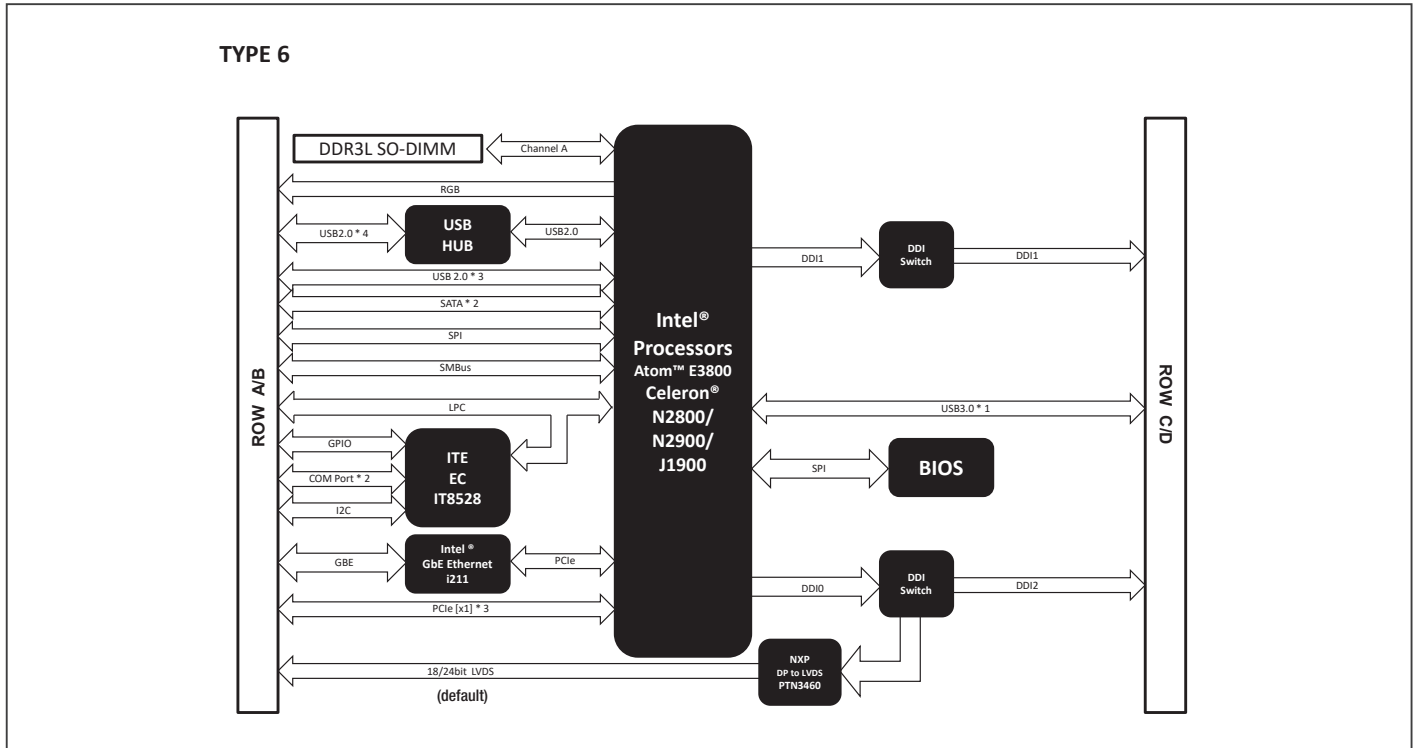
Packing List

- COM-BT Rev.A3.0

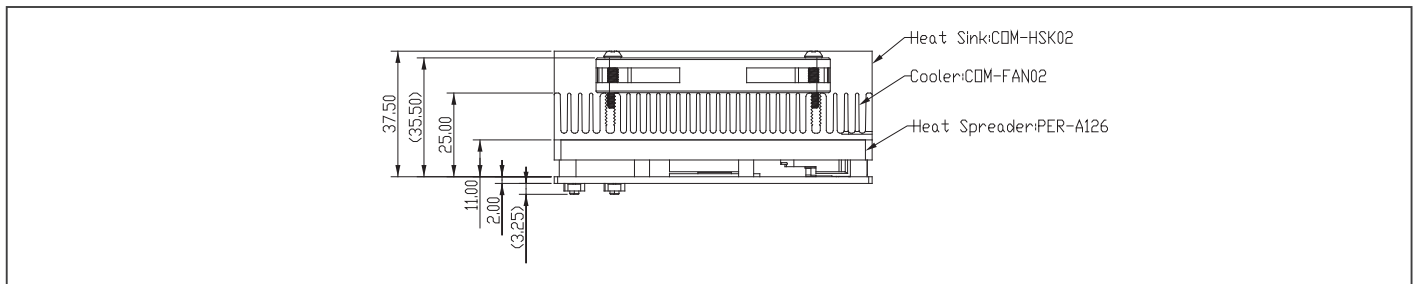
Optional Accessories

- **ECB-920A-A10-0001**
COM Type 1/6/10 Carrier Board, ATX, GbE, 8 USB, 2 COM, 4 SATA, PCIe, AT/ATX, Legacy Free, Rev. A1.0
- **PER-A126**
Heat Spreader, For COM-BT, Onboard CPU
- **COM-HSK02**
Heat Sink, 95 x 95 x 26.5mm, Silver, use w/HSP
- **COM-FAN02**
CPU Cooler, 95 x 95 x 26.5mm, Silver, use with HSP
- **COM-BT-HSK01**
Heat Sink, 95 x 95 x 22mm, Silver, COM-BT

Block Diagram Unit: mm



Dimension Unit: mm

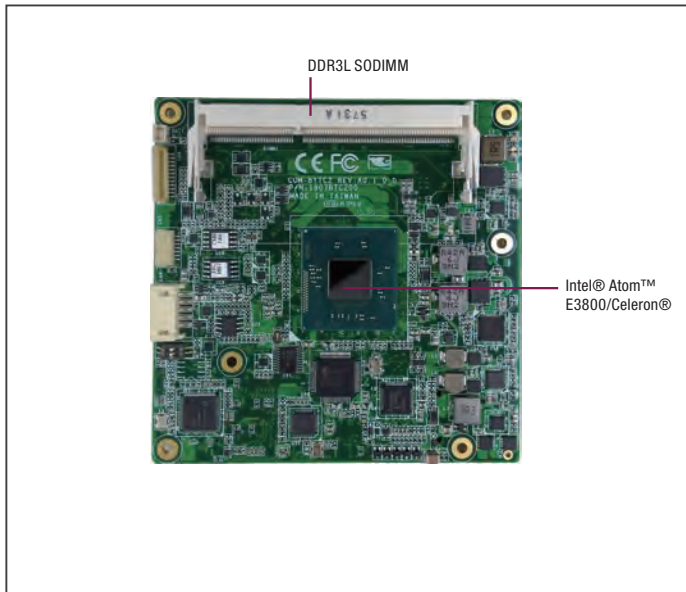


Ordering Information

Part Number	COM Express Type	CPU	Memory	Display	LVDS	Storage	LAN	USB	UART	Expansion Slot	Power	Temp.
COM-BT-A30-0001	6 (COM.0 Rev. 2.1)	Quad Core N2930 (1.83 GHz)	DDR3L1066/1333, Max. 8 GB	VGA, HDMI, LVDS, DP, eDP (Optional)	18/24b 2CH LVDS	SATA x 2	GbE x 1	USB 3.2 Gen 1 x 1 USB 2.0 x 7	2 (Tx/Rx)	PCI-Express [x1] x 3, LPC bus x 1, SMBUS x 1	12V	0°C - 60°C
COM-BT-A30-0003	6 (COM.0 Rev. 2.1)	Quad Core E3845 (1.91 GHz)	DDR3L1066/1333, Max. 8 GB	VGA, HDMI, LVDS, DP, eDP (Optional)	18/24b 2CH LVDS	SATA x 2	GbE x 1	USB 3.2 Gen 1 x 1 USB 2.0 x 7	2 (Tx/Rx)	PCI-Express [x1] x 3, LPC bus x 1, SMBUS x 1	12V	0°C - 60°C

COM-BYTC2

COM Express Type 2 Compact Size with Intel® Atom™/ Celeron® Processor



Features

- Intel® Atom™/ Celeron® Processor SoC
- DDR3L SODIMM x 1, up to 8 GB, non-ECC Support
- Gigabit Ethernet x 1
- 18/24-bit Dual Channel LVDS LCD, VGA, eDP
- High Definition Audio Interface
- SATA x 1, PATA x 1 (1 Device)
- USB 2.0 x 7, GPIO 8-bit, PCI-Express [x1] x 2 (Optional, up to 3), 32-bit PCI x 4
- COM Express Type 2 Compact Size 95mm x 95mm



Specifications

System	
Form Factor	COM Express Compact Size
CPU	Onboard Intel® Atom™ Processor SoC
CPU Frequency	Up to J1900 1.91 GHz, Quad core
Chipset	Intel® Atom™ SoC
Memory Type	DDR3L 1066/1333, SODIMM x 1
Max. Memory Capacity	8GB
BIOS	AMI BIOS, Legacy Free
Wake on LAN	Yes
Watchdog Timer	255 levels
Power Requirement	Standard: +12V
Power Supply Type	AT/ATX Selection
Power Consumption (Typical)	1A@ 12V with J1900, full load
Dimension (L x W)	3.75" x 3.75" (95mm x 95mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Operating Humidity	10% ~90% relative humidity, non-condensing
MTBF (Hours)	80,000
Certification	CE/FCC Class A
Display	
VGA/LCD Controller	Intel® Atom™ SoC
Video Output	VGA, LVDS, eDP
LVDS Interface	—
I/O	
Ethernet	Intel® I210IT, Gigabit Ethernet
Audio	HD Audio
USB Port	USB 2.0 x 7
Serial Port	—
HDD Interface	SATA x 1, PATA x 1
Onboard Storage	—
Expansion Slot	PCIe[x1] x 2 (up to 2 devices) PCI x 4 LPC SMBus I2C
GPIO	GPIO 8-bit
TPM	Optional

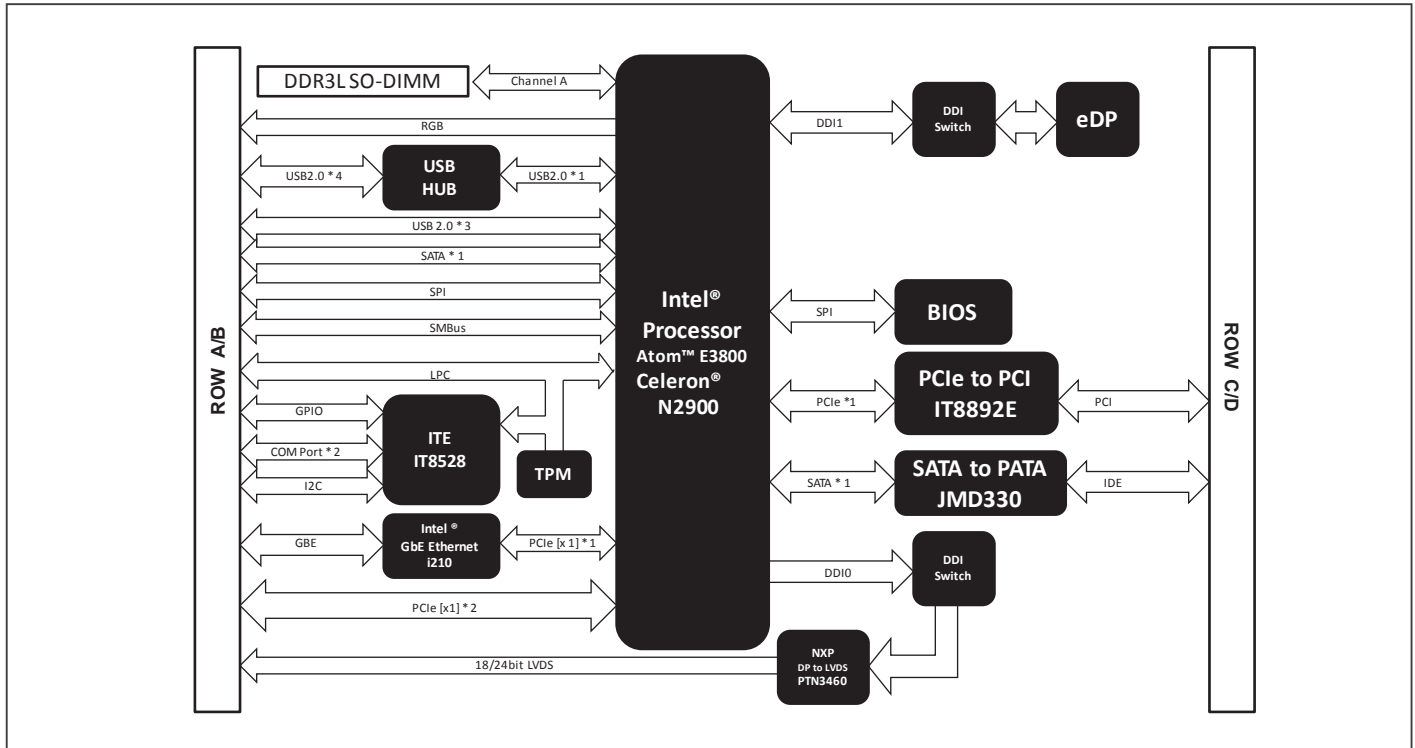
Packing List

- M2.5 Screw x 5
- COM-BYTC2

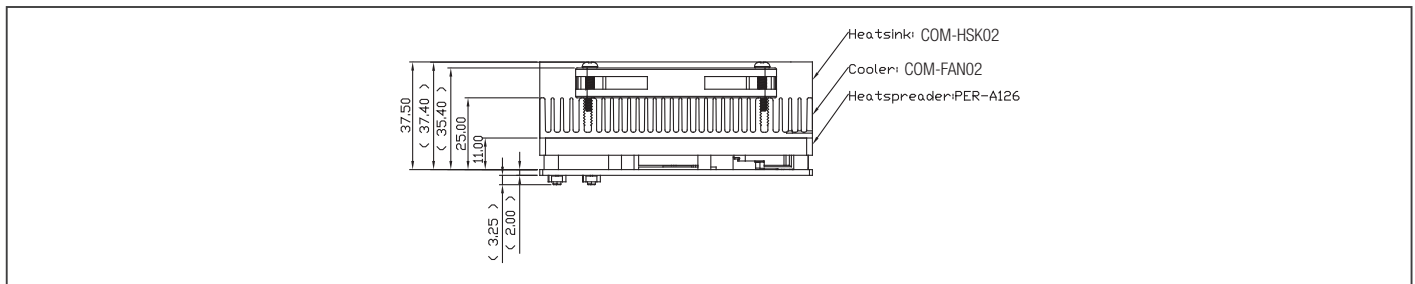
Optional Accessories

- **TF-ECB-916M-B11-01**
COM Express Carrier board, microATX, Dual Ethernet, 2 COM (Winbond), USB, PCI-Express, AT/ATX, Rev.B1.1
- **PER-A126**
Heat Spreader, For COM-BYTC2, Onboard CPU
- **COM-HSK02**
- **COM-FAN02**
CPU Cooler, 95 x 95 x 26.5mm, Silver, use with HSP

Block Diagram Unit: mm



Dimension Unit: mm



Ordering Information

Part Number	Form Factor	CPU	Memory	Display	LVDS	Storage	LAN	USB	UART	Expansion	Power	Temperature	Other
COM-BYTC2-A10-0001	COM Express Type 2	J1900, 2.0 GHz	DDR3 (Max 8 GB), SODIMM x 1	CRT, LVDS/eDP	24bit, 2CH	SATA, PATA x 1	GbE x 1	USB 2.0 x 7	—	PCIe(x1) x2(up to 3), PCI	+12V (ATX)	0°C ~ 60°C	LPC,GPIO 8Bit, HDA, I2C, SMBus
COM-BYTC2-A10-0002	COM Express Type 2	E3845, 1.91 GHz	DDR3 (Max 8 GB), SODIMM x 1	CRT, LVDS/eDP	24bit, 2CH	SATA, PATA x 1	GbE x 1	USB 2.0 x 7	—	PCIe(x1) x2(up to 3), PCI	+12V (ATX)	0°C ~ 60°C	LPC,GPIO 8Bit, HDA, I2C, SMBus

COM Express Compact Type 10 with 11th Generation Intel® Core™ Processor Family (formerly Tiger Lake UP3)

Launching in Q1

Features

- 11th Generation Intel® Core™ Processor Family (formerly Tiger Lake UP3)
- Onboard LPDDR4x Memory up to 16 GB
- Gigabit Ethernet x1
- eDP x 1 , DDI x 1
- High Definition Audio Interface
- SATA3.0 x 2 , onboard PCIe SSD x 1 (Up to 256 GB)
- USB 2.0 x 8, USB 3.2/2.0 x 2 (up to USB 3.2 Gen 2 support)
- PCI-Express [x1] x 4
- COM Express Type 10, Mini Size, 85 mm x 55 mm



Specifications

System	
Form Factor	COM Express Mini size, 84mm x 55mm
CPU	11th Generation Intel® Core™ Processor Family (formerly Tiger Lake UP3)
CPU Frequency	—
Chipset	SoC
Memory Type	Onboard LPDDR4x 3733 MHz memory in-band ECC supported by SoC
Max. Memory Capacity	Up to 16 GB
BIOS	AMI UEFI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	Standard: +12V
Power Supply Type	—
Power Consumption (Typical)	12Vin, TDP up to 15~36W with i7 @ max loading, stable status
Dimension (L x W)	3.31" x 2.17" (84 mm x 55 mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C) Option : -40°C ~ +85°C (-40°C ~ +85°C)
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	TBD
Certification	CE/FCC
Display	
VGA/LCD Controller	Intel® Iris® Xe Graphics Intel® UHD Graphics for 11th Gen Intel® Processors
Video Output	eDP x 1, DDI x 1
LVDS Interface	—
I/O	
Ethernet	Intel® I219LM Gigabit Ethernet x 1
Audio	High Definition Audio Interface x 1
USB port	USB3.2 Gen 2 x 2 USB2.0 x 8
Serial Port	2-wire UART x 2 (TX/RX)
HDD Interface	SATA 3.0 x 2
Onboard Storage	Onboard PCIe NVMe SSD x1, up to 256GB
Expansion Slot	PCIe [x1] x 4 I2C, LPC, SMBus
GPIO	8-bit
TPM	—

Packing List

- NANOCOM-TGU

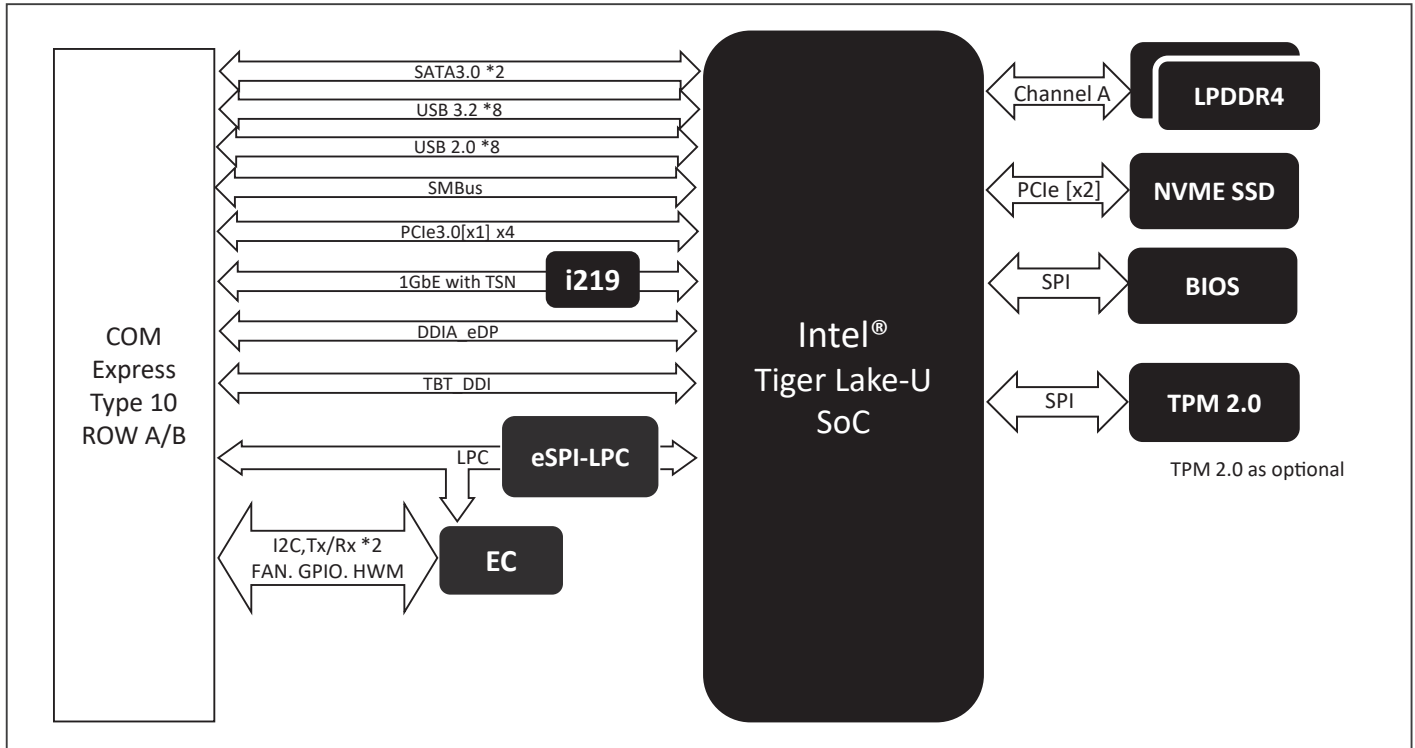
Optional Accessories

- NANOCOM-TGU-FAN01
CPU cooler.84*55*18 mm.Black.NanoCOM-TGU
- NANOCOM-TGU-HSP01
Heat Spreader.84x55x11mm.Black.for NanoCOM-TGU
- ECB-920A-A11-0001
COMe Type 6/10.Carrier Board.ATX.GbE.8USB, 2COM.4SATA.PCIe.ATX.Rev. A1.1

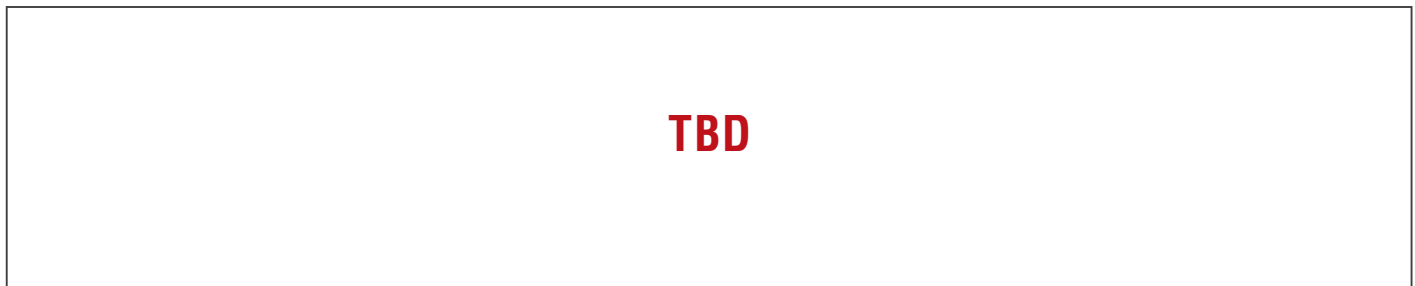
CPU Support Chart

CPU	Core / Thread	Base Frequency / Turbo	TDP	Graphic	In-band ECC	Operating Temp.
i7-1185G7E	4/8	1.8 GHz / 4.4 GHz	15W (Up to 28W)	Intel® Iris® Xe Graphics	No	Commercial Temp.
i5-1145G7E	4/8	1.5 GHz / 4.1 GHz		Intel® Iris® Xe Graphics	No	Commercial Temp.
i3-1115G4E	2/4	2.2 GHz / 3.9 GHz		Intel® UHD Graphics	No	Commercial Temp.
i7-1185GRE	4/8	1.8 GHz / 4.4 GHz		Intel® Iris® Xe Graphics	Yes	Embedded/Industrial Extended Temp.
i5-1145GRE	4/8	1.5 GHz / 4.1 GHz		Intel® Iris® Xe Graphics	Yes	Embedded/Industrial Extended Temp.
i3-1115GRE	2/4	2.2 GHz / 3.9 GHz		Intel® UHD Graphics	Yes	Embedded/Industrial Extended Temp.
Celeron 6305E	2/2	1.8 GHz / ---	15W	Intel® UHD Graphics	No	Commercial Temp.

Block Diagram Unit: mm



Dimension Unit: mm

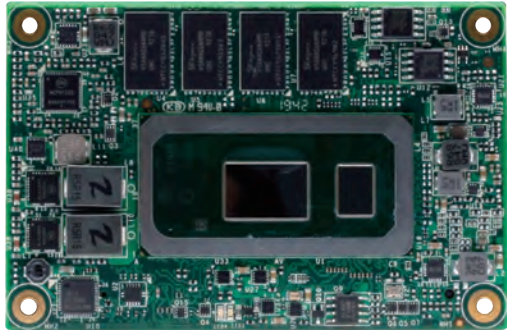


Ordering Information

Part Number	COM Express Type	CPU	Memory	Display	LVDS	Storage	LAN	USB	UART	Expansion	Power	Temperature	Other
TBD	Type 10	i7-1185G7E	Onboard LPDDR4x DDR4 16 GB	DDI x 1, eDP x 1	—	SATA3 x 2 Onboard PCIe NVMe SSD x 1	i219LM x 1	USB 3.2 Gen 2 x 2 USB 2.0 x 8	2 Wire (Tx/Rx) x 2	PCIe [x1] x 4	+12V	0°C ~ 60°C	—
TBD	Type 10	i7-1185GRE	Onboard LPDDR4x DDR4 16 GB	DDI x 1, eDP x 1	—	SATA3 x 2 Onboard PCIe NVMe SSD x 1	i219LM x 1	USB 3.2 Gen 2 x 2 USB 2.0 x 8	2 Wire (Tx/Rx) x 2	PCIe [x1] x 4	+12V	-40°C ~ +85°C	—

NanoCOM-WHU

COM Express Type 10 with 8th Generation Intel® Core™ ULT Series Processor



Features

- 8th Generation Intel® Core™/Celeron™ ULT Processor
- Onboard DDR4 memory, up to 8GB
- Gigabit Ethernet x 1
- eDP, DDI x 1
- High Definition Audio Interface
- SATA3 x 2, eMMC onboard (up to 64GB)
- USB 3.2 x 2, USB 2.0 x 8
- PCI-Express [x1] x 4
- GPIO x8, SMBus, I2C, LPC
- COM Express Type 10, Mini size, 84mm x 55mm



Specifications

System	
Form Factor	COM Express Mini size, 84mm x 55mm
CPU	8th Generation Intel® Core™ ULT Series Processor
CPU Frequency	—
Chipset	Onboard 8th Generation Intel® Core™ SoC
Memory Type	Onboard DDR4-2400/2133, non ECC support.
Max. Memory Capacity	Up to 8GB
BIOS	AMI BIOS, Legacy free BIOS
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	Standard: +12V
Power Supply Type	AT Mode
Power Consumption (Typical)	TBD
Dimension (L x W)	3.31" x 2.17" (84 mm x 55 mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	717,282
Certification	CE/FCC Class A
Display	
VGA/LCD Controller	Intel® UHD Graphics 620 / 610
Video Output	eDP, DDI x 1
LVDS Interface	—
I/O	
Ethernet	Intel® I219 GbE x 1
Audio	HD Audio x 1
USB port	USB 2.0 x 8, USB 3.2 x 2
Serial Port	2-wire UART x 2 (TX/RX)
HDD Interface	SATA3 x 2
Onboard Storage	eMMC
Expansion Slot	PCIe [x1] x4, I2C, LPC, SMBus
GPIO	8-bit
TPM	fTPM

Packing List

- NanoCOM-WHU

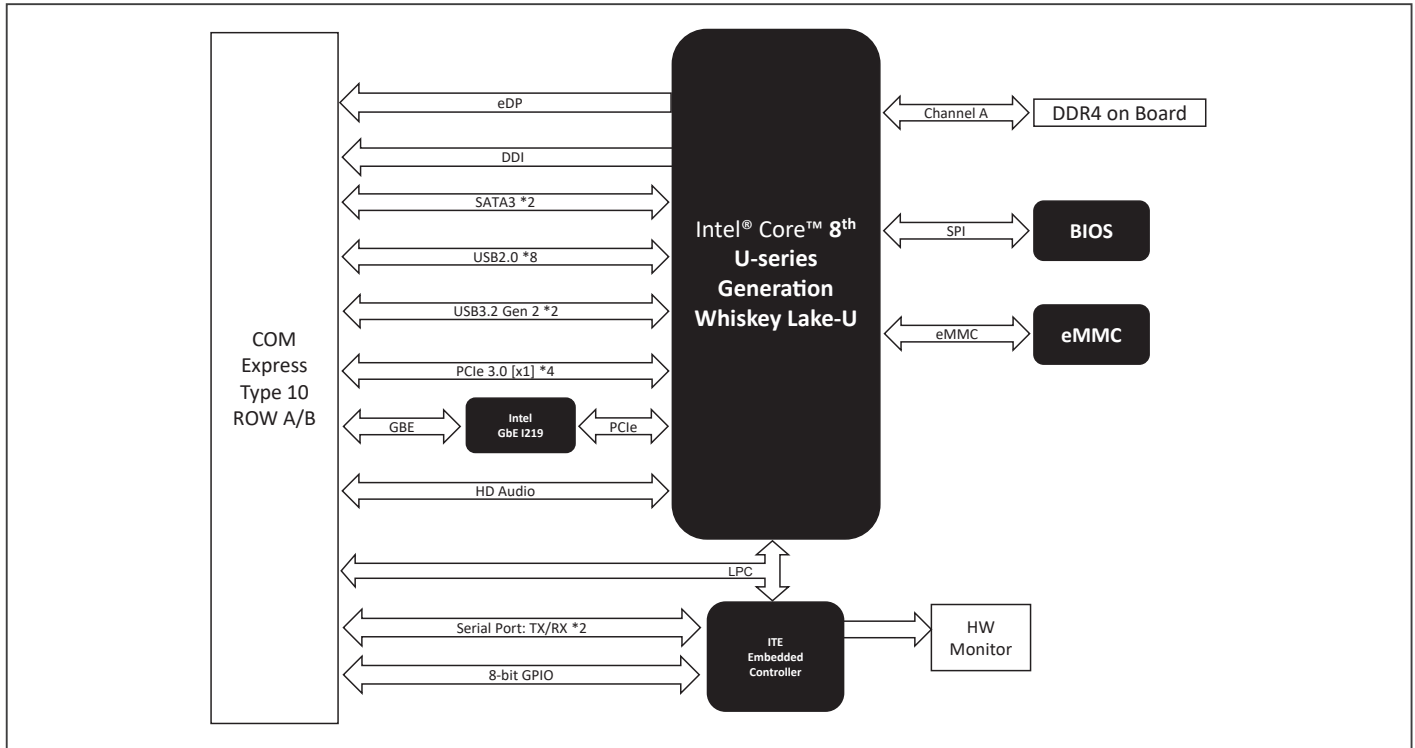
Optional Accessories

- **ECB-920A-A10-0001**
COM Type 1/6/10 Carrier Board, ATX, GbE, 8 USB, 2 COM, 4 SATA, PCIe, AT/ATX, Legacy Free, Rev. A1.0
- **NanoCOM-WHU-HSP01**
Heat Spreader, 84 x 55 x 11 mm, Black, NanoCOM-WHU
- **NanoCOM-WHU-FAN01**
CPU Cooler, 84 x 55 x 18 mm, Black, NanoCOM-WHU
- **NANOCOM-FAN02**
CPU cooler.84*53*22.2 mm.Silver.use w/HSP

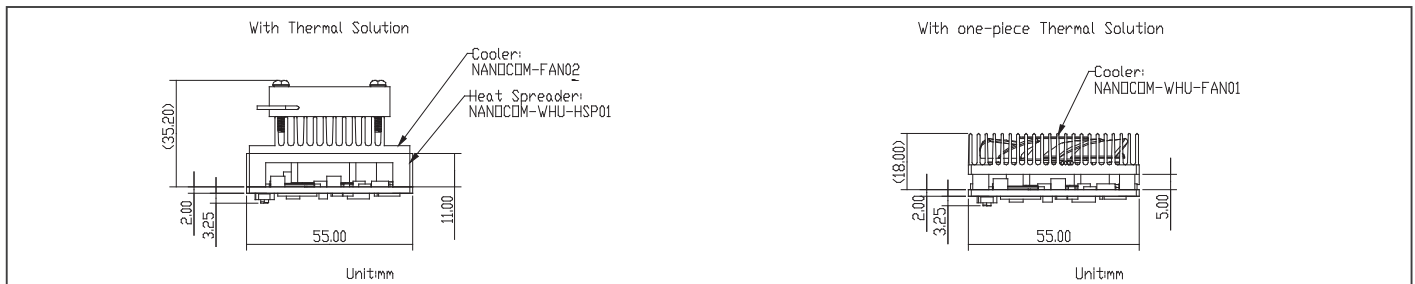
CPU Support Chart

CPU	Core / Thread	Base Frequency	Max Turbo Frequency	Graphic
i5-8365UE	4c / 8t	1.60 GHz	4.10 GHz	Intel® UHD Graphics 620
i3-8145UE	2c / 4t	2.20 GHz	3.90 GHz	Intel® UHD Graphics 620
Celeron 4305UE	2c / 2t	2.00 GHz	2.00 GHz	Intel® UHD Graphics 610

Block Diagram Unit: mm



Dimension Unit: mm

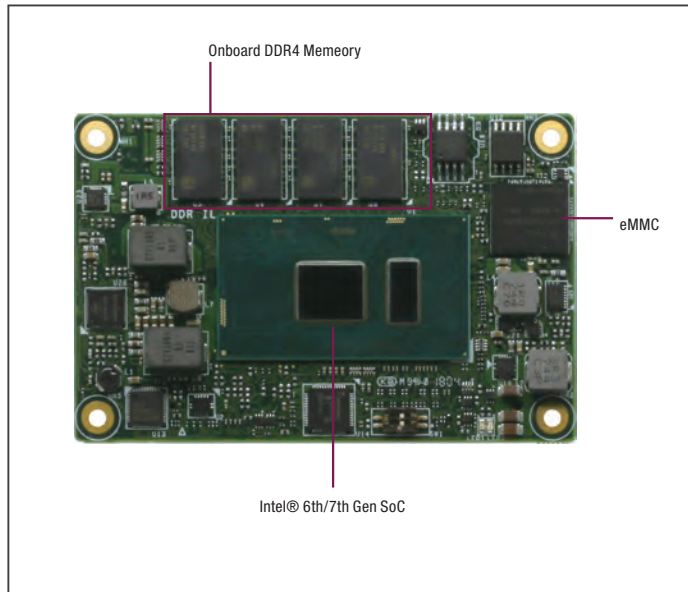


Ordering Information

Part Number	COM Express Type	CPU	Memory	Display	LVDS	Storage	LAN	USB	UART	Expansion Slot	Power	Power Temp	Others
NANOCOM-WHU-A10-0002	Type 10	i5-8365UE	Onboard DDR4 8GB	eDP, DDI x 1	—	SATA3 x 2 eMMC 64GB	GbE x 1	USB 2.0 x 8 USB 3.2 x 2	2-Wire (Tx/Rx) x 2	PCIe [x1] x 4, I2C x 1, LPC x 1, SMBUS x 1	+12V	0°C ~ 60°C	—
NANOCOM-WHU-A10-0003	Type 10	i3-8145UE	Onboard DDR4 8GB	eDP, DDI x 1	—	SATA3 x 2 eMMC 64GB	GbE x 1	USB 2.0 x 8 USB 3.2 x 2	2-Wire (Tx/Rx) x 2	PCIe [x1] x 4, I2C x 1, LPC x 1, SMBUS x 1	+12V	0°C ~ 60°C	—
NANOCOM-WHU-A10-0004	Type 10	Celeron 4305UE	Onboard DDR4 4GB	eDP, DDI x 1	—	SATA3 x 2 eMMC 32 GB	GbE x 1	USB 2.0 x 8 USB 3.2 x 2	2-Wire (Tx/Rx) x 2	PCIe [x1] x 4, I2C x 1, LPC x 1, SMBUS x 1	+12V	0°C ~ 60°C	—

NanoCOM-KBU-A20

COM Express Type 10 with 7th Generation Intel® Core™ ULT Series Processor



Features

- 7th Generation Intel® Core™ U- Series SoC Processor
- Onboard 8GB DDR4 2133 Memory
- Onboard 64 GB eMMC Support
- Intel® I219LM Gigabit Ethernet x 1
- 18/24-bit Single-Channel LVDS LCDs (Option : eDP), DDI x 1
- High Definition Audio Interface
- SATA3 x 2
- USB 3.2 Gen 1 x 2, USB 2.0 x 8
- PCI-Express [x1] x 4
- GPIO x 8, SMBus, I2C, LPC
- COM Express Type 10, Mini Size, 84 mm x 55 mm
- Supports Industrial Grade Temperature



Specifications

System	
Form Factor	COM Express Mini size, Type 10
CPU	Onboard 7th Generation Intel® Core™ U- Series SoC Processor
CPU Frequency	Up to i7-7600U 2C / 2.8 GHz
Chipset	Onboard 7th Generation Intel® Core™ U-series SoC
Memory Type	Onboard Non-ECC DDR4-2133
Max. Memory Capacity	8GB DDR4
BIOS	AMI BIOS, Legacy free
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	Standard: +12V
Power Supply Type	AT/ATX
Power Consumption (Typical)	i7-7600U, Onboard 8GB DDR4, full loading 1.83A@12V during 100% loading burn in test
Dimension (L x W)	3.31" x 2.17" (84 mm x 55 mm)
Operating Temperature	32 °F ~ 140 °F (0 °C ~ 60 °C) -40 °F ~ 185 °F (-40 °C ~ 85 °C) Option for NANOCOM-SKU series
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	80,000
Certification	CE/FCC Class A
Display	
VGA/LCD Controller	Intel® HD Graphics 620/610
Video Output	LVDS LCD (eDP Optional), DDI x 1
LVDS Interface	Supports 18-bit and 24-bit Single channel
I/O	
Ethernet	Intel® I219-LM
Audio	High Definition Audio Interface
USB port	USB 2.0 x 8, USB 3.2 Gen 1 x 2
Serial Port	2-Wire UART (TX/RX) x 2
HDD Interface	SATA3 x 2
Onboard Storage	eMMC Optional
Expansion Slot	PCIe [x1] x 4 (up to 4 devices) LPC SMBus I2C
GPIO	8-bit
TPM	fTPM Supported

Packing List

- NanoCOM-KBU-A20

Optional Accessories

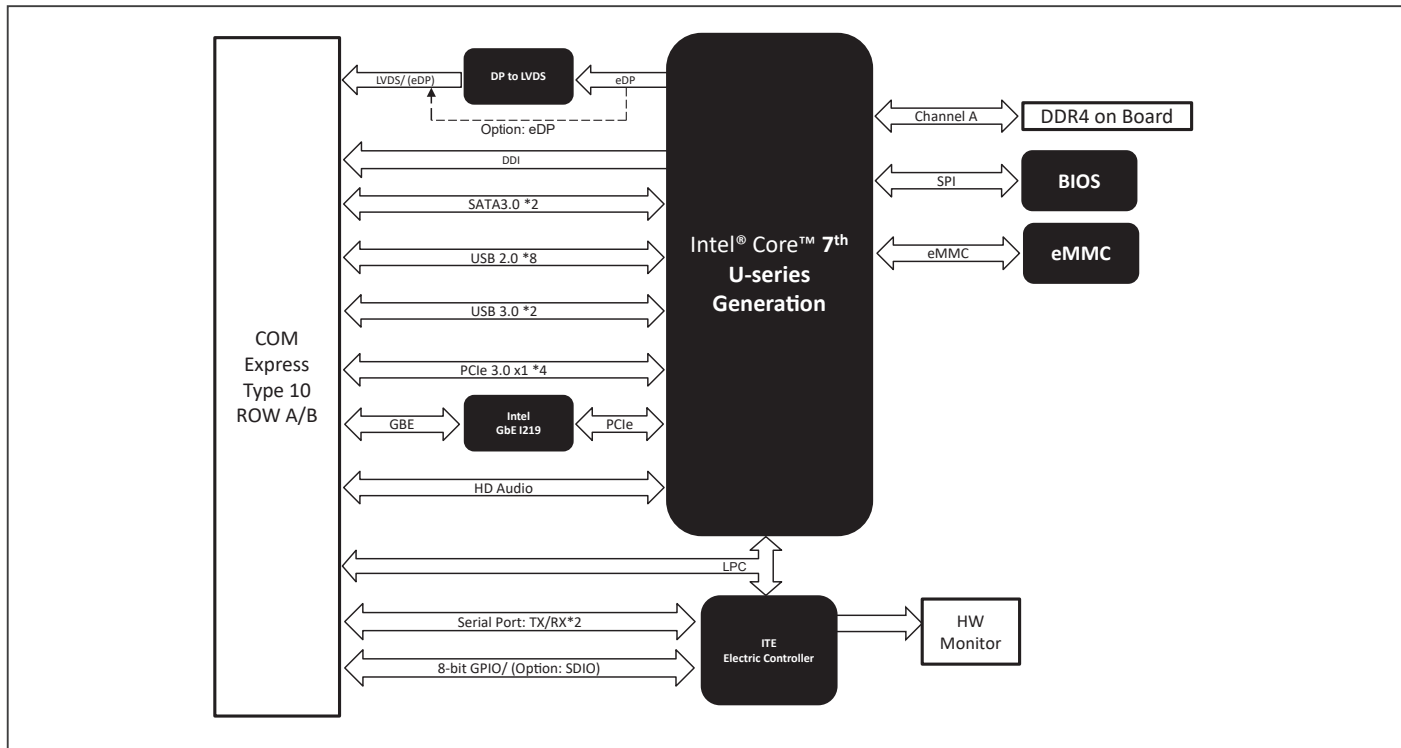
- **ECB-920A-A10-0001**
COM Type 1/6/10 Carrier Board, ATX, GbE, 8 USB, 2 COM, 4 SATA, PCIe, AT/ATX, Legacy Free, Rev. A1.0
- **NanoCOM-SKU-HSP01**
Heat Spreader, 84 x 55 x 11 mm, Black, NanoCOM-SKU
- **NanoCOM-FAN01**
CPU Cooler, 84 x 55 x 22.2 mm, Silver use w/ HSP
- **NanoCOM-KBU-FAN01**
CPU Cooler, 84 x 55 x 18 mm, Black, NanoCOM-KBU

CPU Support Chart

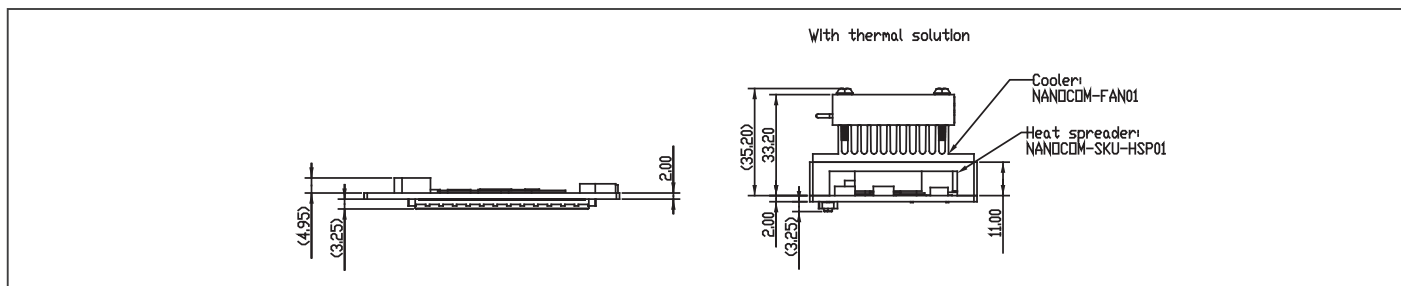
CPU Kabylake	Base Frequency/Turbo Boost GHz	Core/Thread	Graphic
i7-7600U	2.8/3.9	2/4	i7-7600U / HD620
i5-7300U	2.6/3.5	2/4	i5-7300U / HD620
i3-7100U	2.4	2/4	i3-7100U / HD620
C-3965U	2.2	2/2	C3965U / HD610

* 6xxxU SoC supported as option

Block Diagram Unit: mm

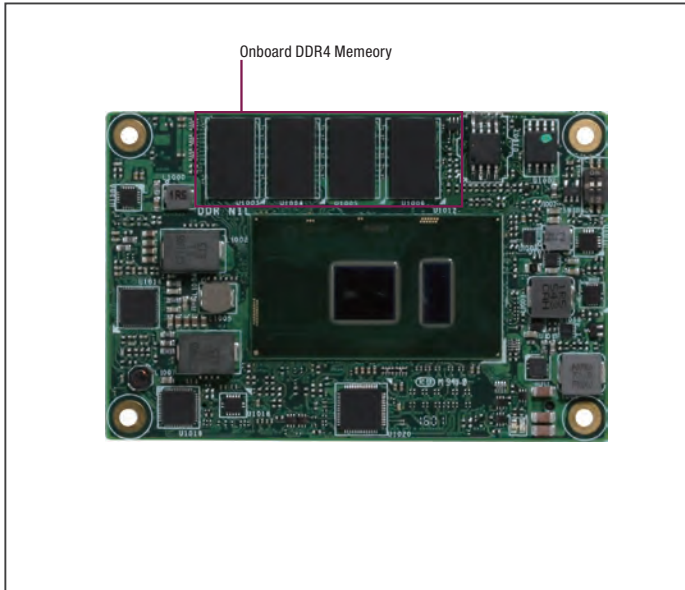


Dimension Unit: mm



Ordering Information

Standard Part Number	COM Express Type	CPU	Memory	Display	LVDS	Storage	LAN	USB	UART	Expansion Slot	Power	Temp	Others
NanoCOM-KBU-A20-0001	10 (COM.0 Rev 3.0)	7th Gen. Intel® Core™ i7-7600U 2.8 GHz	8GB DDR4	LVDS (Option : eDP), DDI x 1	18/24b 1CH (LVDS share with eDP)	SATA3 x 2 eMMC 64GB	GbE x 1	USB 3.2 Gen 1 x 2 USB 2.0 x 8	2-wire (Tx/Rx) x 2	PCIe (x1) x 4	+12V	0°C-60°C	LPC, GPIO 8 bit, I2C, SMBus



Features

- 6th Generation Intel® Core™ ULT Series Processor
- Onboard 4GB DDR4 2133 Memory
- Intel® I219LM Gigabit Ethernet x 1
- 18/24-bit Single-Channel LVDS LCDs (Option : eDP), DDI x 1
- High Definition Audio Interface
- SATA3 x 2
- USB 3.2 Gen 1 x 2, USB2.0 x 8
- PCI-Express [x1] x 4
- GPIO x 8, SMBus, I2C, LPC
- COM Express Type 10, Mini Size, 84mm x 55mm



Specifications

System	
Form Factor	COM Express Mini size, Type 10
CPU	6th generation Intel® Core™ ULT SeriesProcessor
CPU Frequency	Up to i7-6600U, 2c/4t, 2.6GHz up to 3.4GHz
Chipset	Onboard 6th Generation Intel® Core™ U-series SoC
Memory Type	Onboard Non-ECC DDR4-2133
Max. Memory Capacity	4GB DDR4
BIOS	AMI BIOS, Legacy free
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	Standard: +12V
Power Supply Type	AT/ATX
Power Consumption (Typical)	i7-6600U, Onboard12V@1.5A during 100% loading burn in test.
Dimension (L x W)	3.31" x 2.17" (84mm x 55mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C) -40°F ~ 185°F (-40°C ~ 85°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, noncondensing
MTBF (Hours)	80,000
Certification	CE/FCC Class A
Display	
VGA/LCD Controller	Intel® HD Graphics 520/510
Video Output	LVDS LCD (eDP Optional), DDI x 1
LVDS Interface	Supports 18-bit and 24-bit Single channel
I/O	
Ethernet	Intel® I219-LM
Audio	High Definition Audio Interface
USB Port	USB 2.0 x 8, USB 3.2 Gen 1 x 2
Serial Port	2-Wire UART (TX/RX) x 2
HDD Interface	SATA3 x 2
Onboard Storage	—
Expansion Slot	PCIe[x1] x4 (up to 4 devices) LPC SMBus I2C
GPIO	8-bit
TPM	fTPM optional

Packing List

- NANOCOM-SKU

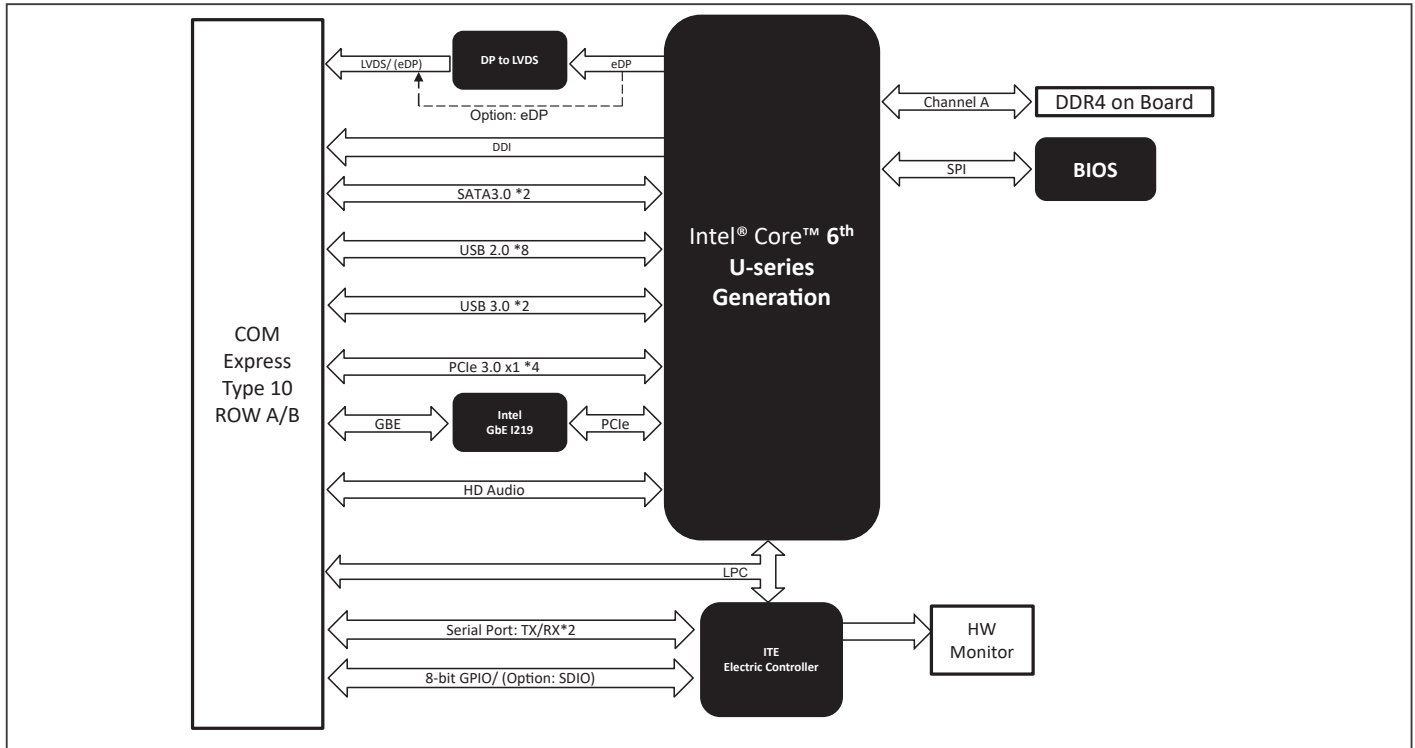
Optional Accessories

- **ECB-920A-A10-0001**
COMe Type 1/6/10.Carrier Board.ATX.GbE.8USB.COM.4SATA.PCIe.AT/ATX.Legacy Free.Rev. A1.0
- **NANOCOM-SKU-HSP01**
Heat Spreader, 84 x 55 x 11 mm, black, NanoCOM-SKU
- **NANOCOM-FAN01**
CPU Cooler, 84 x 55 x 22.2 mm, silver, use w/ HSP
- **NANOCOM-FAN02**
CPU cooler, 84 x 55 x 22.2 mm, silver, use w/HSP.WITAS II

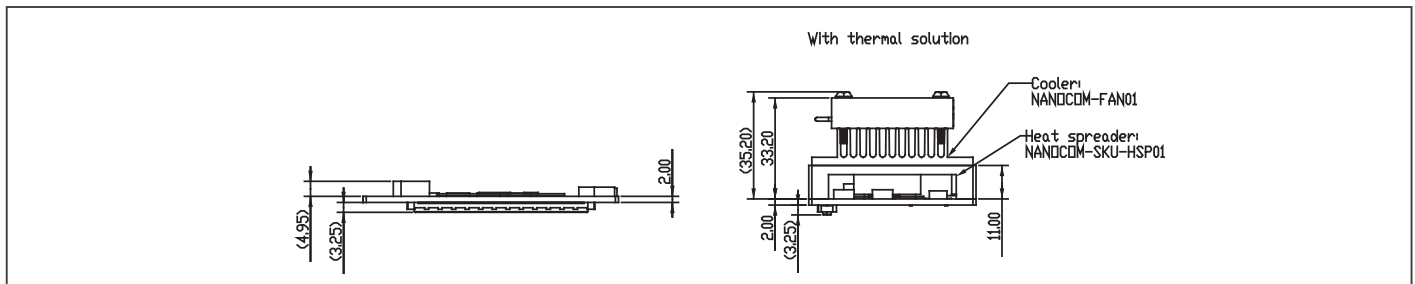
CPU Support Chart

CPU	Base Frequency/Turbo Boost GHz	Core/Thread	Graphic
i7-6600U	2.6/3.4	2/4	i7-6600U / HD520
i5-6300U	2.4/3.0	2/4	i5-6300U / HD520
i3-6100U	2.3	2/4	i3-6100U / HD520
C-3955U	2	2/2	C3955U / HD510

Block Diagram Unit: mm



Dimension Unit: mm



Ordering Information

Standard Part Number	COM Express Type	CPU	Memory	Display	LVDS	Storage	LAN	USB	UART	Expansion Slot	Power	Power Temp	Others
NanoCOM-SKU-A10-0001	10 (COM.0 Rev 2.1)	6th Gen. Intel® Core™ i7-6600U 2c/2.6GHz	4GB DDR4	LVDS (Option : eDP), DDI x 1	18/24b 1CH (LVDS shared with eDP)	SATA3 x 2	GbE x1	USB 3.2 Gen 1 x2 USB2.0 x8	2 (Tx/Rx)	PCI-E(x1) x4	12V	0°C-60°C	I2C, SMBus, 8b-GPIO/(SDIO)
NanoCOM-SKU-A10-0003	10 (COM.0 Rev 2.1)	6th Gen. Intel® Core™ i3-6100U 2c/2.3GHz	4GB DDR4	LVDS (Option : eDP), DDI x 1	18/24b 1CH (LVDS shared with eDP)	SATA3 x 2	GbE x1	USB 3.2 Gen 1 x2 USB2.0 x8	2 (Tx/Rx)	PCI-E(x1) x4	12V	0°C-60°C	I2C, SMBus, 8b-GPIO/(SDIO)
NanoCOM-SKUW2-A10-0001	10 (COM.0 Rev 2.1)	6th Gen. Intel® Core™ i7-6600U 2c/2.6GHz	4GB DDR4	LVDS (Option : eDP), DDI x 1	18/24b 1CH (LVDS shared with eDP)	SATA3 x 2	GbE x1	USB 3.2 Gen 1 x2 USB2.0 x8	2 (Tx/Rx)	PCI-E(x1) x4	12V	-45°C-85°C	I2C, SMBus, 8b-GPIO/(SDIO)

NanoCOM-APL

COM Express Type 10 Module with Intel® Atom™ Processor SoC



Features

- Intel® Atom™/Celeron®/Pentium® SoC
- Onboard Memory LPDDR4 4GB/8GB
- Intel® I210/I211
- Support eDP/LVDS, DDI D
- SATA x2, eMMC 5.x (optional, up to 64GB)
- USB 2.0 x8 + USB 3.2 Gen 1 x 2
- 2-wire UART, Tx/Rx x2
- PCI-Express [x1] x4, 3 device available at anytime
- DC Input Range, 12V
- COM Express Mini Size, Pin-Out Type 10



Specifications

System	
Form Factor	COM Express Mini size, Type 10
CPU	Onboard Intel® Atom™/Celeron®/Pentium® SoC
CPU Frequency	Up to 2.5 GHz
Chipset	Intel® Atom™/Celeron®/Pentium® SoC
Memory Type	Onboard LPDDR4 4GB (Default) / 8GB (Optional)
Max. Memory Capacity	8GB LPDDR4 Onboard
BIOS	AMI BIOS, Legacy free
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	Standard : +12V, AT/ATX
Power Supply Type	AT/ATX
Power Consumption (Typical)	Up to E3950 TDP 12W CPU
Dimension (L x W)	3.31" x 2.17" (84mm x 55mm)
Operating Temperature	32 °F ~ 140 °F (0 °C ~ 60 °C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	80,000
Certification	CE/FCC Class A
Display	
Display Controller	Intel® HD Graphics 500 / 505
Video Output	LVDS LCD/eDP, DDI x 1
LVDS Interface	Supports 18-bit and 24-bit Single channel
I/O	
Ethernet	Intel® I210IT
Audio	High Definition Audio Interface
USB port	USB 2.0 x 8, USB 3.2 Gen 1 x 2
Serial Port	TX/RX x 2
HDD Interface	SATA 3 x 2
Onboard Storage	Optional onboard eMMC
Expansion Slot	PCIe [x1] x 4 (up to 3 devices) LPC SMBus I2C
GPIO	GPIO 8-bit
TPM	—

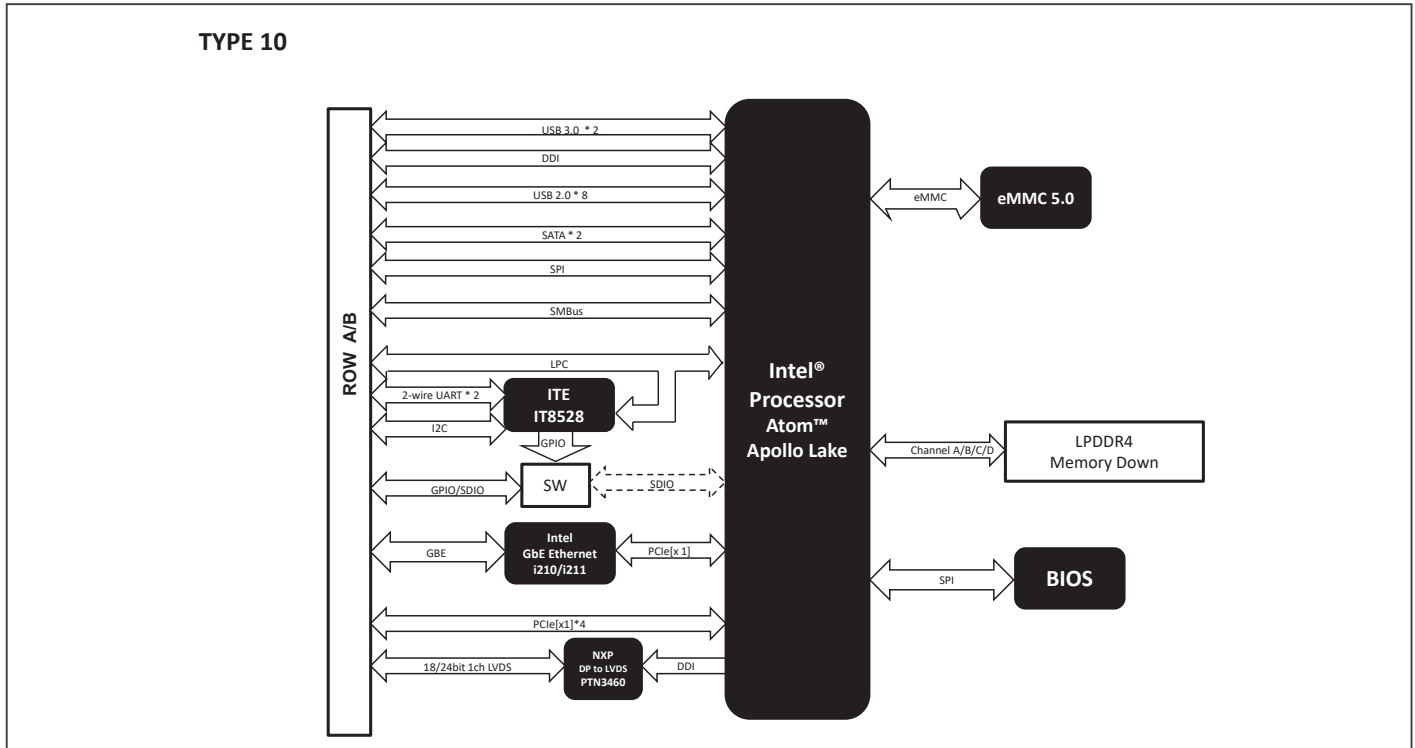
Packing List

- NanoCOM-APL

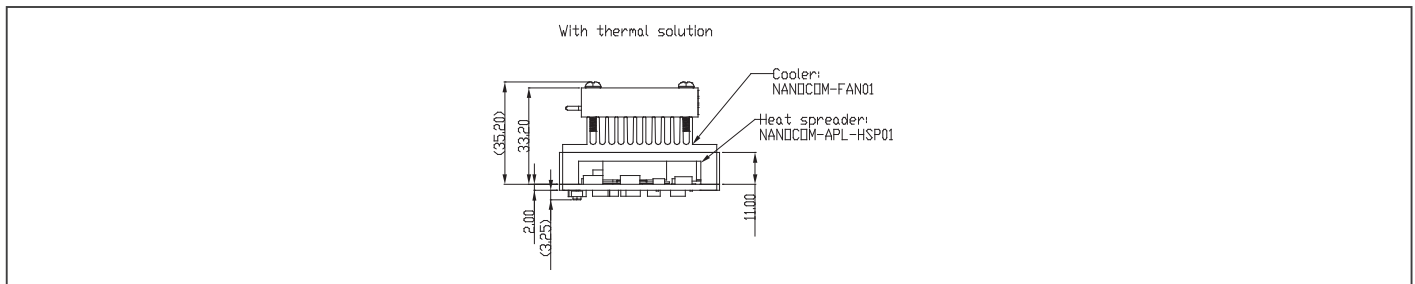
Optional Accessories

- **NanoCOM-APL-E-HSP01**
Heat Spreader 84 x 55 x 11 mm, Black, NanoCOM-APL For E39xx CPU only
- **NanoCOM-APL-N-HSP01**
Heat Spreader 84 x 55 x 11 mm, Black, NanoCOM-APL For Nxxx CPU only
- **NanoCOM-FAN01**
CPU Cooler, 84 x 55 x22.2 mm, Silver, use w/HSP
- **ECB-920A-A10-0001**
COM Type 1/6/10, Carrier Board, ATX, GbE, 8USB, 2COM, 4SATA, PCIe, AT/ATX, Legacy Free, Rev. A1.0

Block Diagram Unit: mm



Dimension Unit: mm

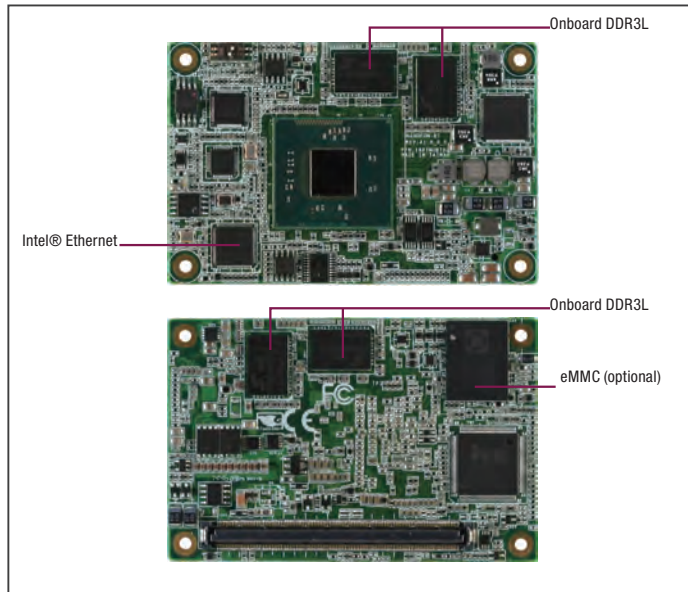


Ordering Information

Standard Part Number	COM Express Type	CPU	Memory	Display	LVDS	Storage	LAN	USB	UART	Expansion Slot	Power	Temp	Others
NanoCOM-APL-A11-0001	Type 10 (COM.0 Rev3.0)	N4200	4GB DDR4	LVDS, DDIx1	18/24 bit 1-channel (Optional : eDP)	SATA x2 32GB eMMC	GbE x 1	USB 3.2 Gen 1 x 2 USB 2.0 x 8	2 (TX/RX)	PCI-E[x1] x4	12V	0°C-60°C	I2C, SMBus, 8b-GPIO/(SDIO)
NanoCOM-APL-A11-0002	Type 10 (COM.0 Rev3.0)	N3350	4GB DDR4	LVDS, DDIx1	18/24 bit 1-channel (Optional : eDP)	SATA x2 32GB eMMC	GbE x 1	USB 3.2 Gen 1 x 2 USB 2.0 x 8	2 (TX/RX)	PCI-E[x1] x4	12V	0°C-60°C	I2C, SMBus, 8b-GPIO/(SDIO)
NanoCOM-APL-A11-0003	Type 10 (COM.0 Rev3.0)	E3950	8GB DDR4	LVDS, DDIx1	18/24 bit 1-channel (Optional : eDP)	SATA x2 64GB eMMC	GbE x 1	USB 3.2 Gen 1 x 2 USB 2.0 x 8	2 (TX/RX)	PCI-E[x1] x4	12V	0°C-60°C	I2C, SMBus, 8b-GPIO/(SDIO)

NanoCOM-BT

COM Express Type 10 CPU Module with Onboard Intel® Atom™ Processor SoC



Features

- Intel® Atom™ E3800/ Celeron® N2000 Series Processor SoC
- Onboard DDR3L 2 GB Memory (Optional to 4 GB)
- Gigabit Ethernet x 1
- 18/24-bit Single Channel LVDS LCDs, DDI x 1
- High Definition Audio Interface
- SATA x 2, eMMC (Optional)
- USB 2.0 x 6 + USB 2.0/USB 3.2 Gen 1 x 1, GPIO 8-bit, PCI-Express [x1] x 3
- COM Express Pin-out Type 10
- Mini Size, 84mm x 55mm, COM.0 Rev. 2.1



Specifications

System	
Form Factor	COM Express Mini size, Type 10
CPU	Intel® Atom™/ Celeron® Processor SoC (M/I)
CPU Frequency	Up to E3845, 1.91 GHz
Chipset	Intel® Atom™/ Celeron® Processor SoC
Memory Type	Non-ECC DDR3L-1333
Max. Memory Capacity	2 GB DDR3L Onboard (up to 4 GB)
BIOS	AMI BIOS, Legacy free
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	Standard : +12V, AT/ATX, Optional: +5V, AT/ATX
Power Supply Type	AT/ATX
Power Consumption (Typical)	0.7A@12V, full load, E3845
Dimension (L x W)	3.31" x 2.17" (84 mm x 55 mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C) -40°F ~ 185°F (-40°C ~ 85°C) by E3800, 2GB SKU
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	90,000
Certification	CE/FCC Class A
Display	
Display Controller	Intel® HD Graphic
Video Output	LVDS LCD/eDP, DDI x 1
LVDS Interface	Supports 18-bit and 24-bit Single channel
I/O	
Ethernet	Intel® I210IT
Audio	High Definition Audio Interface
USB port	USB 2.0 x 7, USB 3.2 Gen 1 x 1
Serial Port	Tx/Rx x 2
HDD Interface	SATA 2 x 2
Onboard Storage	Optional for 8GB/16GB eMMC
Expansion Slot	PCIe [x1] x 3 (up to 3 devices) LPC SMBus I2C
GPIO	GPIO 8-bit
TPM	—

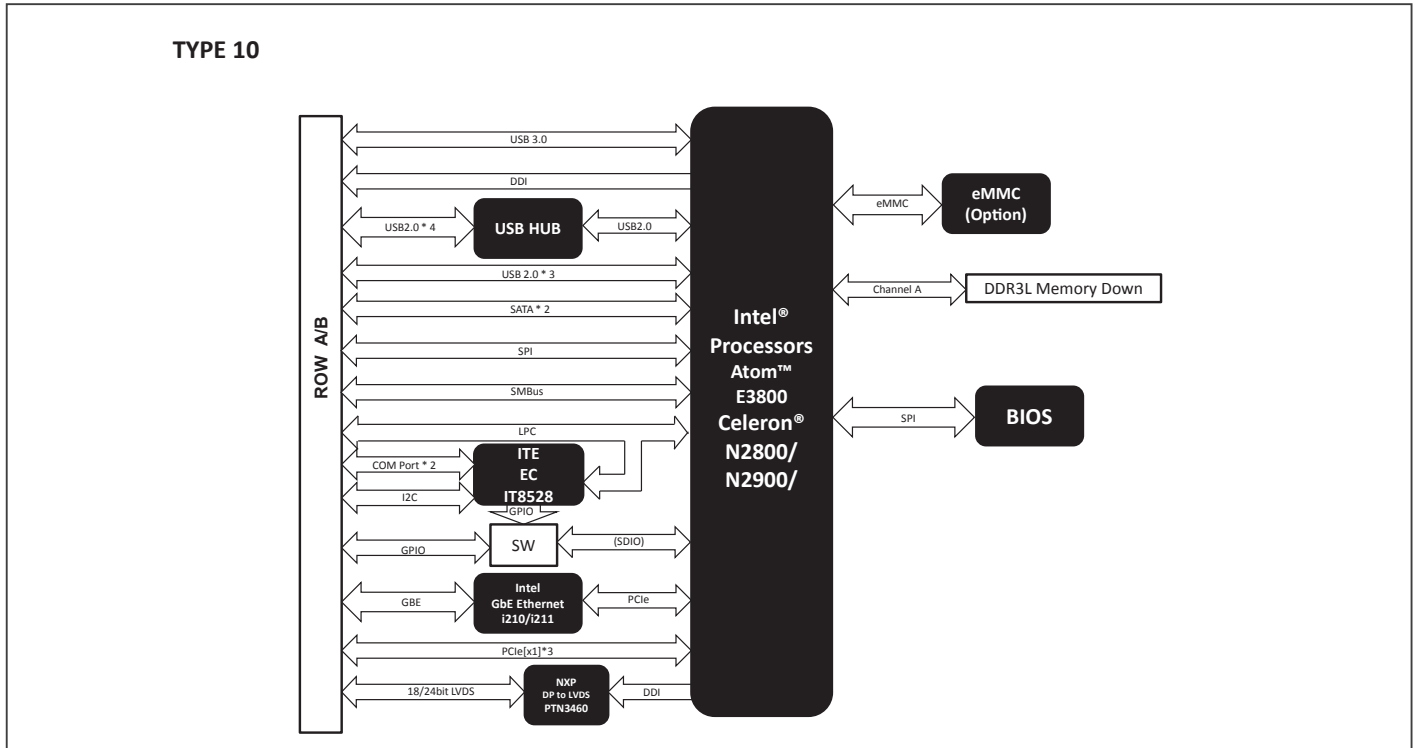
Packing List

- M2.5 Screw x 4
- NanoCOM-BT

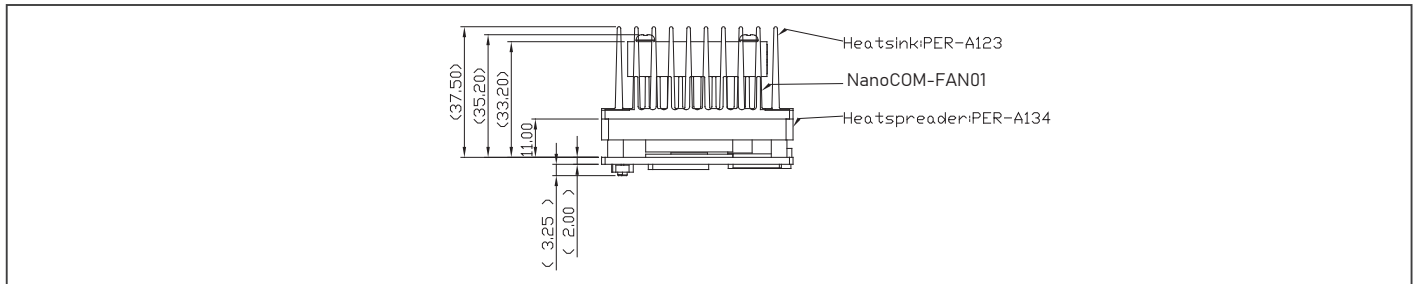
Optional Accessories

- **ECB-920A-A10-0001**
COM Type 1/6/10 Carrier Board, ATX, GbE, 8 USB, 2 COM, 4 SATA, PCIe, AT/ATX, Legacy Free, Rev. A1.0
- **PER-A134**
Heat Spreader, for NanoCOM-BT, Onboard CPU
- **NanoCOM-FAN01**
CPU Cooler, 84 x 55x 22.2 mm, used with HSP
- **PER-A123**
Passive Heatsink, for NanoCOM size, to be used with Heat Spreader

Block Diagram Unit: mm



Dimension Unit: mm

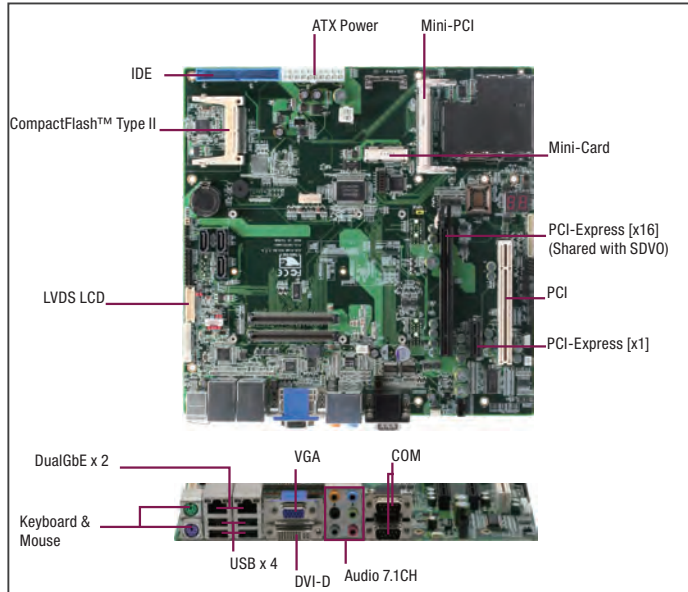


Ordering Information

Part Number	COM Express Type	CPU	Memory	Display	LVDS	Storage	LAN	USB	UART	Expansion Slot	Power	Power Temp	Others
NanoCOM-BT-A10-0001	10 (COM.0 Rev. 2.1)	N2930, 4C/1.83 GHz	2GB DDR3L	LVDS/eDP, DDI	18/24bit,1CH	SATA x 2	GbE x 1	USB 3.2 Gen 1 x 1, USB 2.0 x 7	2 (Tx/Rx)	PCIe [x1] x 3	+12V (ATX)	0°C ~ 60°C	LPC, GPIO 8Bit, HDA, I2C, SMBus
NanoCOM-BT-A10-0002	10 (COM.0 Rev. 2.1)	N2807, 2C/1.58 GHz	2GB DDR3L	LVDS/eDP, DDI	18/24bit,1CH	SATA x 2	GbE x 1	USB 3.2 Gen 1 x 1, USB 2.0 x 7	2 (Tx/Rx)	PCIe [x1] x 3	+12V (ATX)	0°C ~ 60°C	LPC, GPIO 8Bit, HDA, I2C, SMBus
NanoCOM-BT-A10-0003	10 (COM.0 Rev. 2.1)	E3845, 4C/1.91 GHz	2GB DDR3L	LVDS/eDP, DDI	18/24bit,1CH	SATA x 2 16GB eMMC	GbE x 1	USB 3.2 Gen 1 x 1, USB 2.0 x 7	2 (Tx/Rx)	PCIe [x1] x 3	+12V (ATX)	0°C ~ 60°C	LPC, GPIO 8Bit, HDA, I2C, SMBus
NanoCOM-BTW2-A10-0003	10 (COM.0 Rev. 2.1)	E3845, 4C/1.91 GHz	2GB DDR3L	LVDS/eDP, DDI	18/24bit,1CH	SATA x 2 16GB eMMC	GbE x 1	USB 3.2 Gen 1 x 1, USB 2.0 x 7	2 (Tx/Rx)	PCIe [x1] x 3	+12V (ATX)	-40°C ~ 85°C	LPC, GPIO 8Bit, HDA, I2C, SMBus
NanoCOM-BT-A10-0006	10 (COM.0 Rev. 2.1)	E3825, 2C/1.33 GHz	2GB DDR3L	LVDS/eDP, DDI	18/24bit,1CH	SATA x 2 8GB eMMC	GbE x 1	USB 3.2 Gen 1 x 1, USB 2.0 x 7	2 (Tx/Rx)	PCIe [x1] x 3	+12V (ATX)	0°C ~ 60°C	LPC, GPIO 8Bit, HDA, I2C, SMBus

ECB-916M Rev. B11

COM Express Carrier Board for PICMG COM.0 R2.0 Type 2



Features

- Supports COM Express Module Rev. 2.0 Pin-out Type 2
- Supports Gigabit Ethernet, RJ-45 x 2
- VGA/ DVI-D Connector
- 7.1 Channel Audio
- PATA Connector x 1, SATA Port x 3 (4), CompactFlash™ Type 2 Slot x 1
- USB Port x 5, COM Port x 2
- PCI-Express [x16] Slot x 1, PCI-Express [x1] Slot x 1, PCI Slot x 1
- Express Card Slot x 1, Mini-PCI Slot x 1, Mini-Card Slot x 1
- AT/ ATX Power Input
- LPC Connector x 1, microATX Form Factor



Specifications

System	
Form Factor	Micro-ATX
COM Express Connector	x2
I/O Chipset	Winbond W83627DHG
Front Panel Control	10-pin (5x2) header
Ethernet	Intel® 82573L, 10/100/1000Base-TX, RJ-45 x 1 10/100 Base-TX or 10/100/1000Base-TX, RJ-45 x 1 (From CPU module)
Expansion Interface	PCI-Express [x1] slot x 1 (additional 2 for test only) PCI-Express [x16] slot x 1 ==> Add a 3-pin header for SDVO enabled or disabled PCI slot x 1 Mini-PCI slot x 1 Mini-Card slot x 1 Express Card slot x 1
Power Supply Type	AT/ATX
CMOS Battery	RTC battery socket x 1
BIOS	SPI x 1 Firmware Hub x 1 (with DIP Switch for BIOS Selection)
Board Size	9.6" x 9.6"(243.84mm x 243.84mm)
Gross Weight	1.32 lb (0.6 kg)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	77,000
Display	
DVI/CRT	DVI 29-pin + DB 15-pin stack-type connector
LVDS	30-pin (15 x 2) Dual-Channel LVDS connector x 1
SDVO	40pin (20 x 2) SDVO connector x 1
DDI	—
I/O	
Storage	40-pin PATA connectorx1 SATA 3.0 Gb/s x 3 CompactFlash™ Type 2 slot x 1
Serial Port	RS-232 Port x 1 RS-232/422/485 Port x 1
USB	Type-A connector x 4
Audio	Audio jack x 6, Supports 7.1 channel audio Audio Codec: Realtek ALC888 Buzzer x 1
PS/2 Port	x 1
Digital I/O	Supports 8-bit (Programmable)
Switch/Button	Power button x 1 Reset button x 1
Debug LED	—
I2C	—
GPIO	—

Packing List

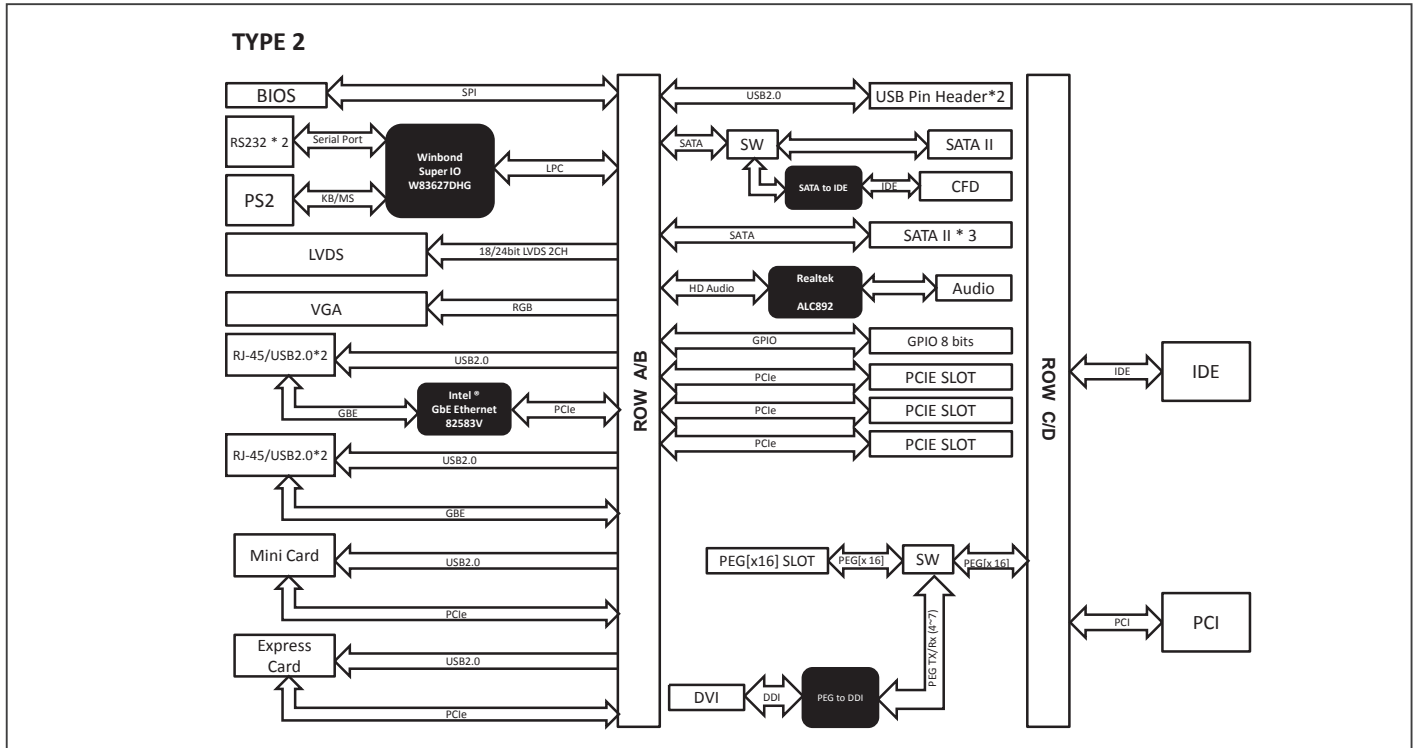
• 9681916M00

Cable Kit

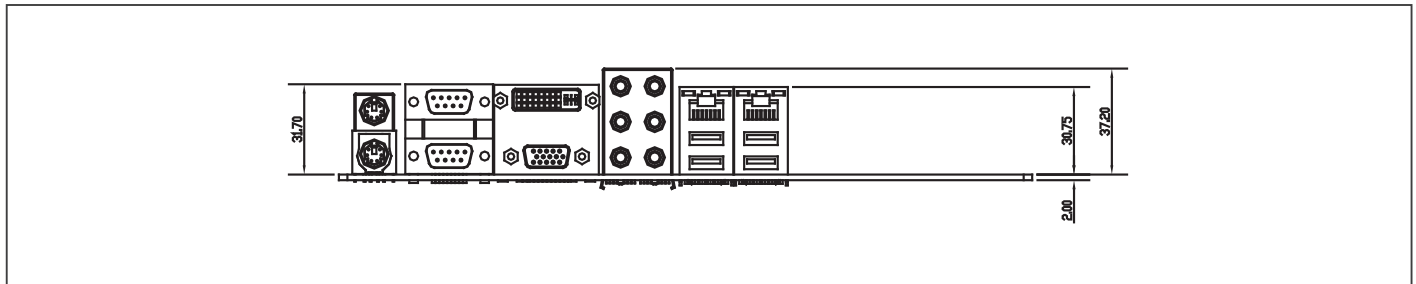
1701400453	IDE Cable x 1
1709070500	SATA Cable x 1
1702150150	SATA Power Cable x 1
1701100207	COM Port Cable x 1
S1DD308042	Copper Stud x 1
S1DC002510	Nut x 1

• ECB-916M Rev. B11

Block Diagram Unit: mm

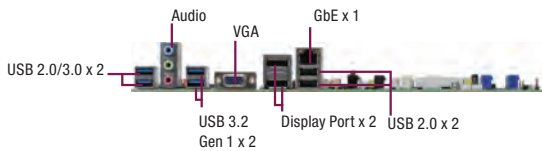
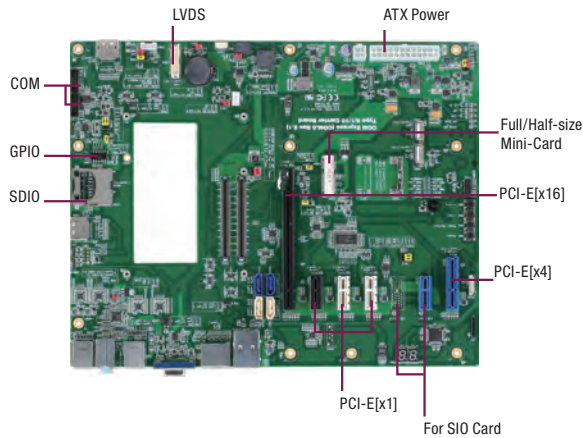


Dimension Unit: mm



Ordering Information

- **TF-ECB-916M-B11-01**
COM Express Carrier Board, Micro-ATX, Dual LAN, PCI-Express, W/ Type1 Convert Board, AT/ATX, Rev. B1.1
- Note: For COM-BYTC2 Series only



PER-T289



PER-253



Features

- Supports COM Express Module Rev. 2.1 Pin-out Type 1/6/10
- Supports Gigabit Ethernet, RJ-45
- Up to 24-bit Dual Channel LVDS Connector, DP, VGA
- High Definition Audio
- SATA Port x 4
- USB 2.0 x 8, USB 3.2 Gen 1 x 4
- ATX Power Input
- LPC Connector x 1, ATX Form Factor

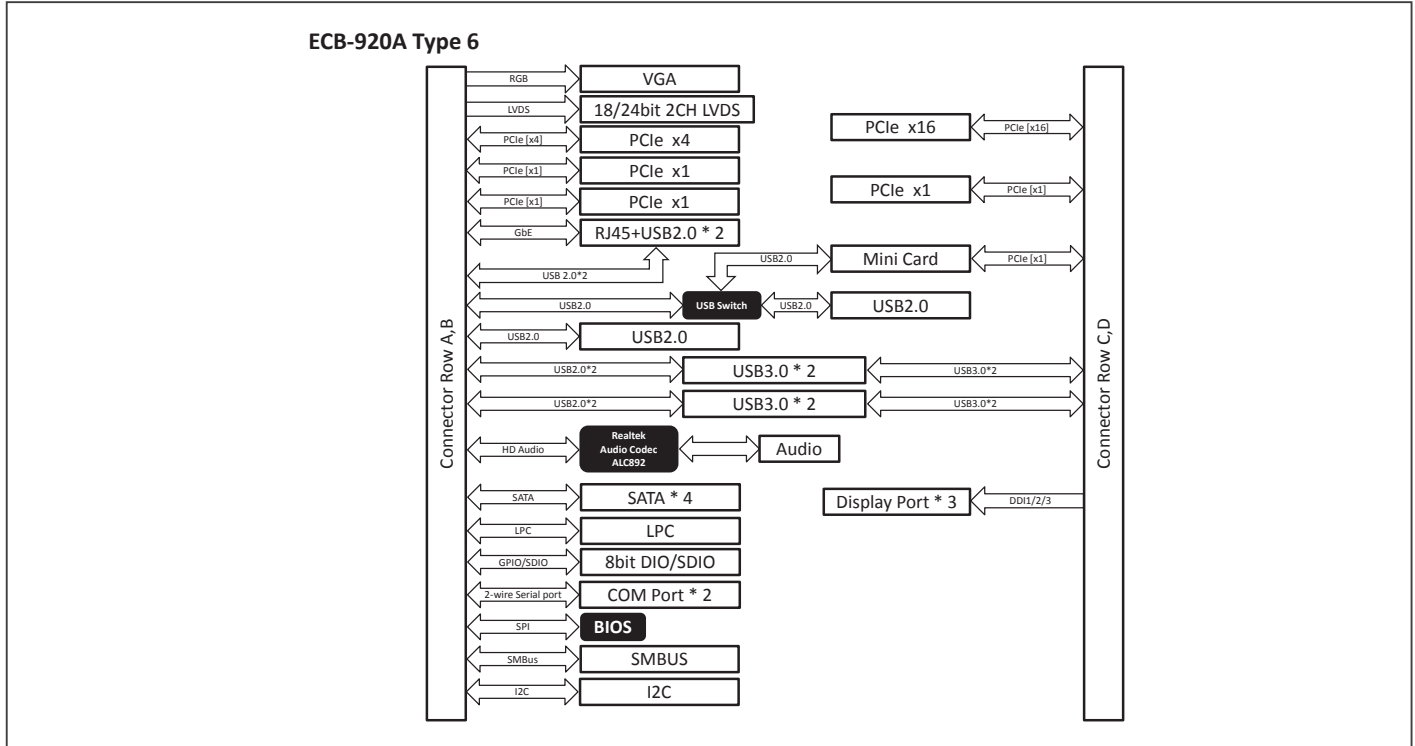


Specifications

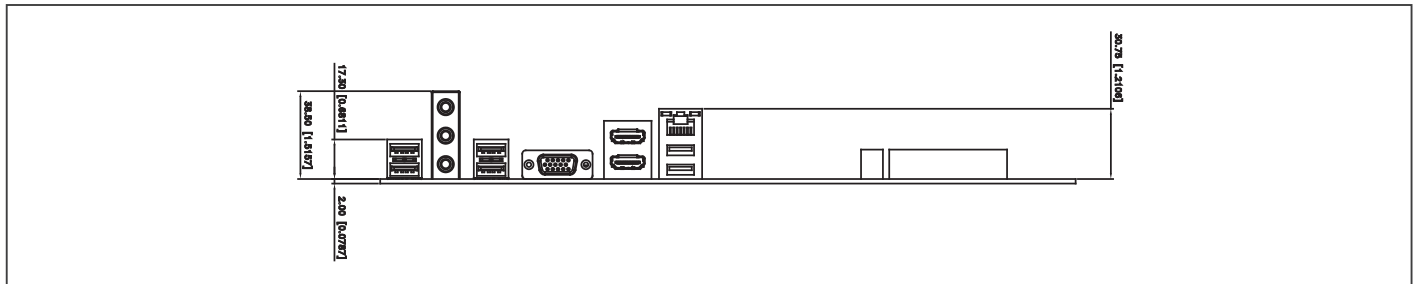
System	
Form Factor	ATX
COM Express Connector	x 2
I/O Chipset	—
Front Panel Control	10-pin (5x2) header
Ethernet	10/1000/1000Base-TX, RJ-45 x 1 (From CPU module)
Expansion Interface	PCI-Express [x1] slot x 4 (3 by PCI-E[x1] x 1 pin-out, 1 by SIO pin-out) PCI-Express [x4] slot x 1 PCI-Express [x16] slot x 1 Mini-Card slot x 1
Power Supply Type	ATX
CMOS Battery	RTC battery socket x 1
BIOS	—
Board Size	12" x 9.6" (304mm x 244mm)
Gross Weight	1.32 lb (0.6 kg)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	75,000
Display	
DVI/CRT	DB15 connector x 1
LVDS	30-pin (15 x 2) Dual-Channel LVDS connector x 1
SDVO	—
DDI	DP connector x 4 (Dual x 1, Single x 2)
I/O	
Storage	SATA x 4
Serial Port	2-wire RS-232 port x 2 (10-pin (5x2) box header x 2)
USB	Type A connector x 4 (USB 3.2 Gen 1) for Type 6, USB 2.0 port x 4
Audio	Audio Jack, supports Line-in, Line-out, Microphone
PS/2 Port	—
Digital I/O	—
Switch/Button	—
Debug LED	80 PORT
I2C	1
GPIO	GPIO 8bit

* I/O functions according to the type of module installed, please refer to function table.

Block Diagram Unit: mm



Dimension Unit: mm



Packing List

- **9681920A00**
Cable Kit
- **1709070500**
SATA Cable x 1
- **1701100206**
COM Port Cable x 1
- **COM Express Type Converter Board**
- **PCI-E[x4] to PCI-E[x1] x 4 Card**
- **ECB-920A**

Ordering Information

- **ECB-920A-A10-0001**
COM Express Type 1/6/10 Carrier Board, Gigabit Ethernet, USB, 2 COM, 4 SATA, PCIe, AT/ATX Rev. A1.0 w/ Boot Selection

Type 1/6/10 Function Table

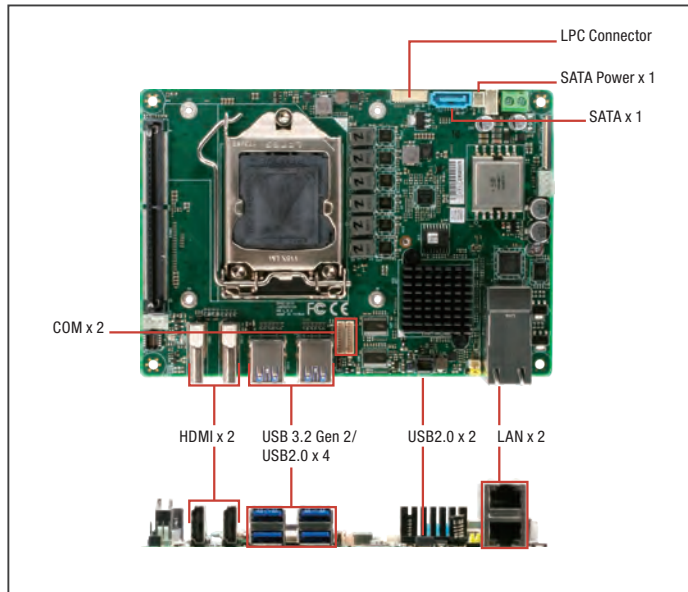
COM Type	Type 1	Type 6	Type 10
PCI-E [x16]	—	1	—
PCI-E[x4]	1 (Lane 0~3)	1 (Lane 0~3)	1 (Lane 0~3)
PCI-E[x1]	2 (Lane 4~5)	3 (Lane 4~6)	—
VGA	1	1	—
DDI	—	3 (DDI 1~3)	1 (DDI 0)
LVDS	1	1	1
LAN	1	1	1
mSATA	1 Shared with SATA Lane 0	1 Shared with SATA Lane 0	—
Mini-PCIe	—	1 (Lane 7)	—
SATA	4 (Lane 0~3)	4 (Lane 0~3)	2 (Lane 0~1)
Serial	—	2	2
USB 3.2 Gen 1	—	4 (Port 0~3)	2 (Port 0~1)
USB 2.0	8	8	8
SDIO/GPIO	—	1/8b	1/8b

EPIC Boards

05



EPIC Board with 8th Generation Intel® Core™ i-S series Processor (Socket Type)



Features

- 8th Generation Intel® Core™ i-S Series Processor (Socket Type)
- 12V Only, DDR4 SODIMM x 2, 2666MHz, up to 32 GB
- HDMI1 / HDMI2 Display
- SATA3.0 x 1
- USB 3.2 Gen 2/USB2.0 x 4 (Rear I/O), USB 2.0 x2 (Internal)
- RS-232/422/485 x 2
- PoE x 2 (Onboard design, support 802.3af only)
- mSATA/Mini-PCIe x 1 (Full size) (H310: By BOM change, Q370: By BIOS Change for mPCIe)
- Daughter Board: Additional PoE x 2 (Expansion from PCIe[x4] FPC slot, support 802.3af only); Isolated DIO 32 bit (16 in/16 out)



Specifications

System	
Form Factor	4" EPIC Board
CPU	8th Generation Intel® Core™ Processor family
CPU Frequency	Up to 4.6GHz
Chipset	Intel® H310/Q370 (TDP: 6W)
Memory Type	DDR4 2666 MHz SODIMM x 2 (Dual Channel, Non-ECC)
Max. Memory Capacity	Up to 32GB
BIOS	AMI UEFI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+12V
Power Supply Type	AT/ATX (ATX mode for system level)
Power Consumption (Typical)	TBD
Dimension (L x W)	4.53" x 6.5" (115mm x 165mm)
Operating Temperature	32°F ~ 122°F (0°C ~ 50°C)
Storage Temperature	-4°F ~ 176°F (-20°C ~ 80°C)
Operating Humidity	0 ~ 90% @ 40°C, non-condensing
MTBF (Hours)	TBD
Certification	CE/FCC Class A
Display	
VGA/LCD Controller	8th Generation Intel® Core™ Processor family
Video Output	HDMI x 2
Backlight Inverter Supply	—
I/O	
Ethernet	Intel® I211, 10/100/1000Base, RJ45 x 2 (Support PoE 802.3af)
Audio	—
USB Port	USB 3.2 Gen 2/ USB2.0 x 4 (Rear I/O) USB 2.0 x 2 (Internal header)
Serial Port	RS-232/422/485 x 2 (Internal header)
Parallel Port (printer port)	—
HDD Interface	SATA 3.0 x 1
SSD	—
Expansion Slot	PCIe[x4] FPC slot (For PoE card) Full Size mSATA/mPCIe slot x 1 LPC Bus SMBus (default) / I2C (option)
DIO	Isolated DIO 32 bits (16 bits in/16 bits out) *optional function from daughter board
TPM	—
Touch	—
SIM	—

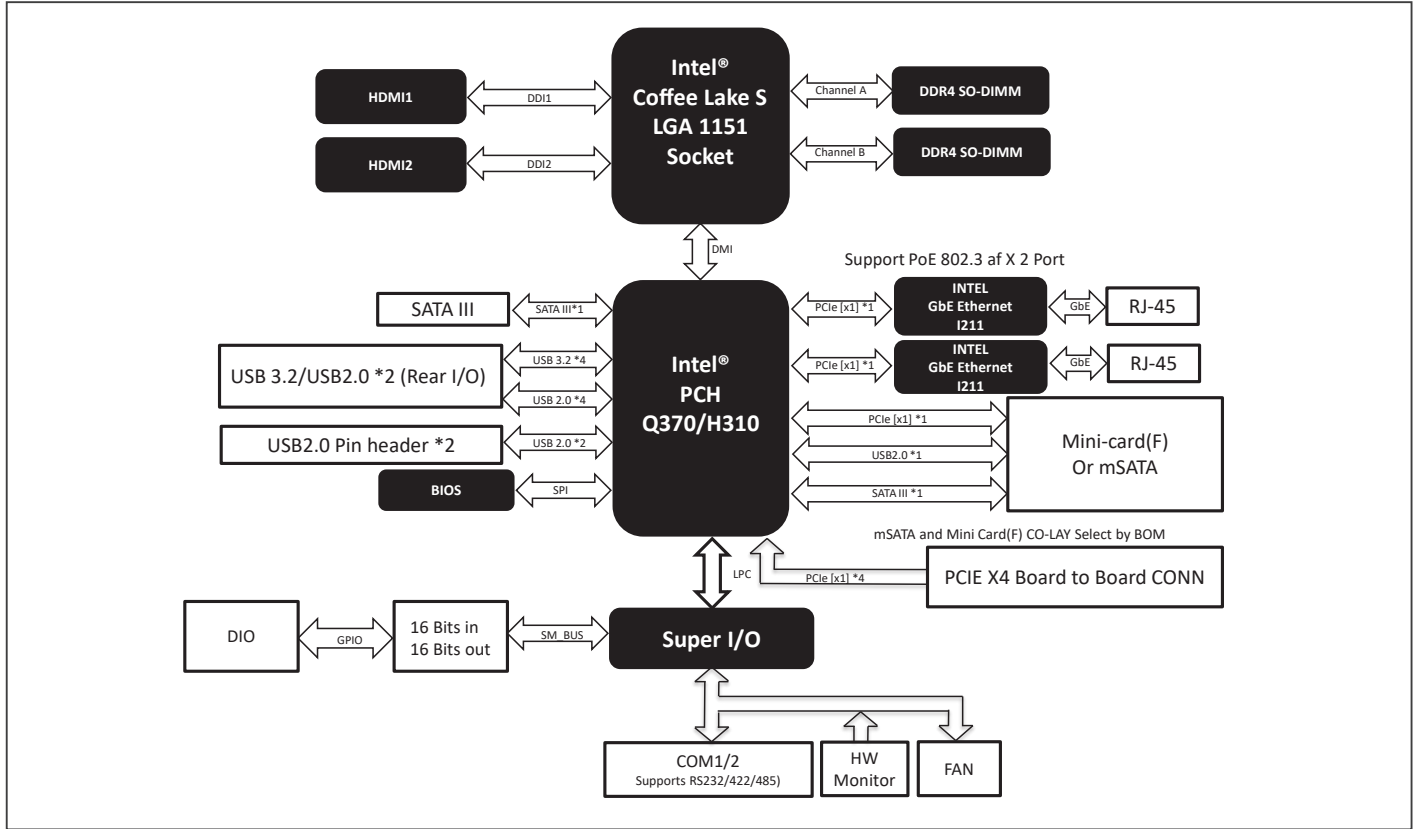
Packing List

- Jumper Cap (9657666600)
- Back plate for cooler (M09KBS9000)
- EPIC-CFS7

Optional Accessories

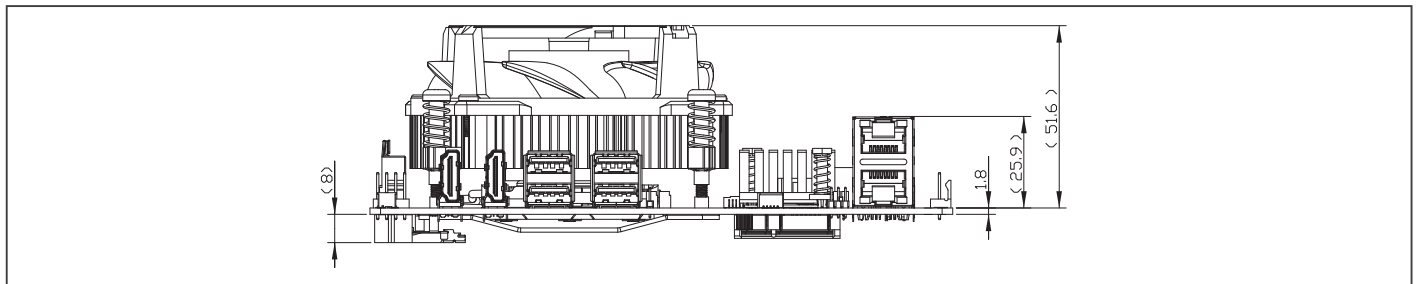
Part Number	Description	QTY
1702002010	Power Cable (2pin) 10cm	1
1709070400	SATA Cable 40cm	1
1702150155	SATA Power Cable 15cm	1
1700100100	USB2.0 Cable 10cm	1
17592KBS91	CPU Cooler	1

Block Diagram



Dimension

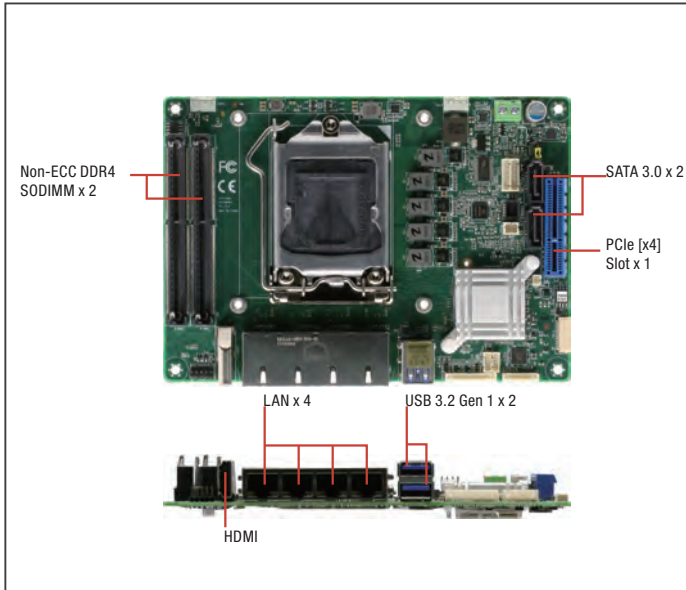
Unit: mm



Ordering Information

Part Number	CPU	Thermal	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Operating Temp	Others
EPIC-CFS7-A13-0001 (Q370)	8th gen socket type	Fan	2HDMI	—	SATA3 x 1	GbE x2 (PoE)	USB3.2 Gen2 x 2 USB2.0 x 2	—	2	Mini-card full size (SATA/PCIe) x 1 PCIE4(FPC slot) x1	DC 12V	0-60°C	SMBUS
EPIC-CFS7-A13-0002 (H310)	8th gen socket type	Fan	2HDMI	—	SATA3 x 1	GbE x2 (PoE)	USB3.2 Gen2 x 2 USB2.0 x 2	—	2	Mini-card full size (SATA/PCIe) x 1 PCIE4(FPC slot) x1	DC 12V	0-60°C	SMBUS

EPIC Board with 6th/7th Generation Intel® Core™ i-S series Processor (Socket Type)



Features

- 6th/7th Generation Intel® Core™ i-S series Processor (Socket Type)
- DDR4 (Non-ECC) SODIMM x 2, 2133MHz, up to 32G
- VGA (Internal)/HDMI Display
- USB 3.2 Gen 1 x 2 (Rear IO), USB 2.0 x 2 (Internal)
- mSATA/Mini-PCIe Full Size x 1 (Default: mSATA, Optional for Mini-PCIe by BOM Change)
- Audio Codec with Amp, SATA 6.0 Gb/s x 2, GPIO x 8, RS-232/422/485 x 2 (Internal)
- 12V Only



Specifications

System	
Form Factor	4" EPIC Board
CPU	CPU Socket Type
CPU Frequency	6th/7th Generation Intel® Core™ i3/i5/i7/Celeron® (Support up to 65W SKU)
Chipset	H110/H170/Q170 (6W)
Memory Type	DDR4 (Non-ECC) SODIMM x 2, 2133MHz, up to 32GB
Max. Memory Capacity	Up to 32GB
BIOS	AMI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+12V, AT/ATX
Power Supply Type	AT/ ATX
Power Consumption (Typical)	—
Dimension (L x W)	4.53" x 6.50" (115 mm x 165 mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	—
Certification	CE/FCC
Display	
VGA/LCD Controller	6th/7th Generation Intel® Core™ i3/i5/i7/Celeron®
Video Output	HDMI (Rear), VGA (Internal Only)
Backlight Inverter Supply	—
I/O	
Ethernet	Intel® i211 Gigabit Ethernet x 4
Audio	ALC269 (With Amp)
USB Port	USB 3.2 Gen 1 x 2 (Rear IO) USB2.0 x 2 (Internal)
Serial Port	COM x 2 (All Internal), RS-232/422/485
Parallel Port (printer port)	—
HDD Interface	SATA 3.0 x 2
SSD	mSATA x 1 (Full size)
Expansion Slot	Mini-card x 1 (Full Size) (No SIM) PCIe[x4] Slot x 1
DIO	8-bit
TPM	—
Touch	—
SIM	—

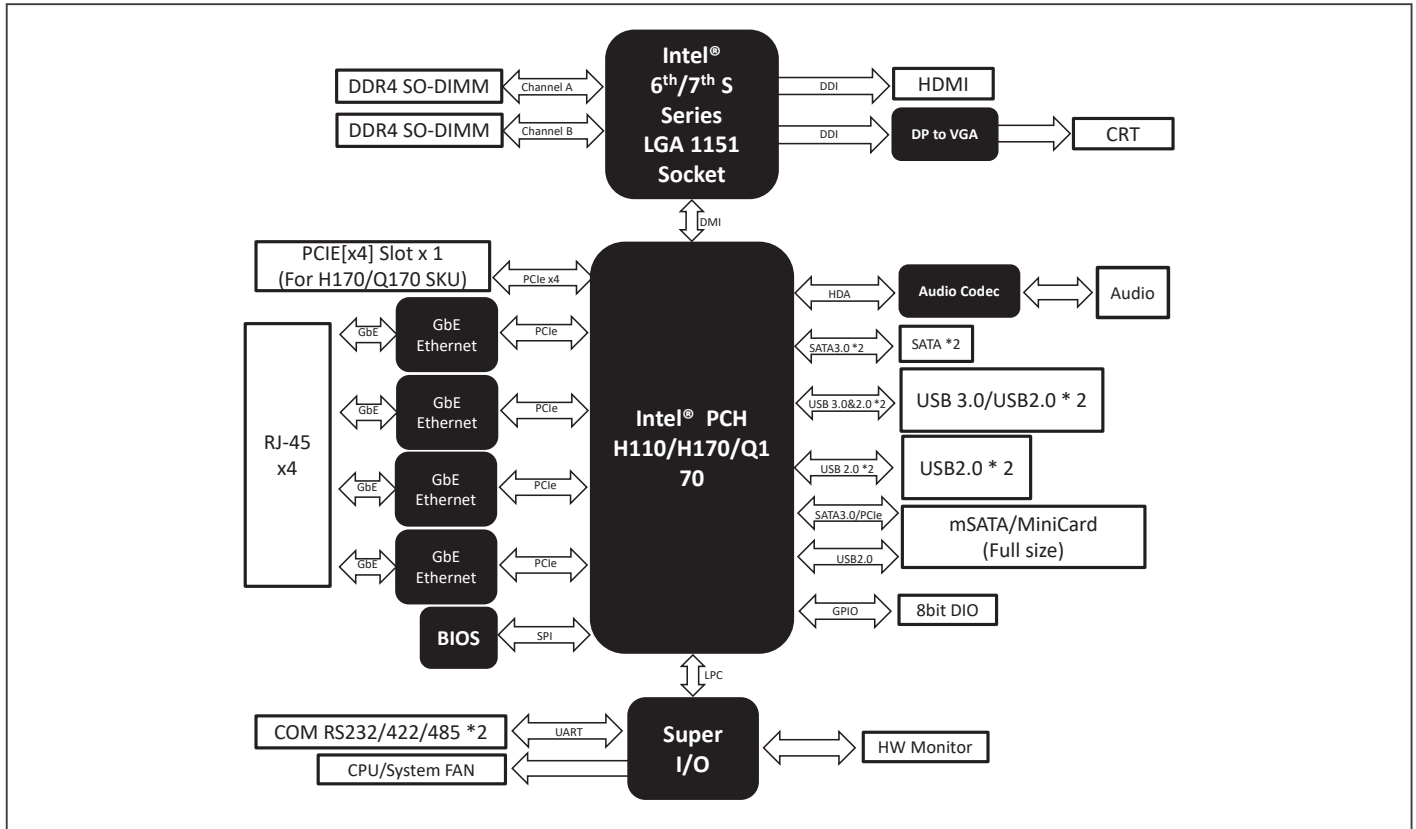
Packing List

- SATA Cable, Length 50cm (1709070500)
- SATA Power Cable, Length 15cm (1702150155)
- Jumper Cap (9657666600)
- EPIC-KBS9

Optional Accessories

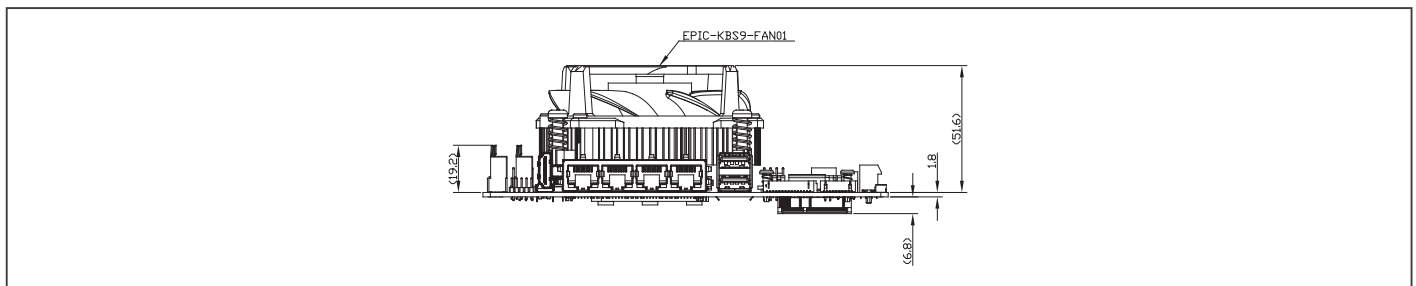
Part Number	Description	QTY
1702002010	Power Cable (2pin), Length 10cm	1
1709100254	Audio Cable (3pin), Length 25cm	1
1700050207	USB Cable (5pin), Length 20cm	2
1701090150	COM Cable (9pin), Length 15cm	2
1704150153	Internal VGA Cable	1
EPIC-KBS9-FAN01	CPU Cooler, for LGA115X, 12V/4P PWM, AL, for EPIC-KBS9	1

Block Diagram



Dimension

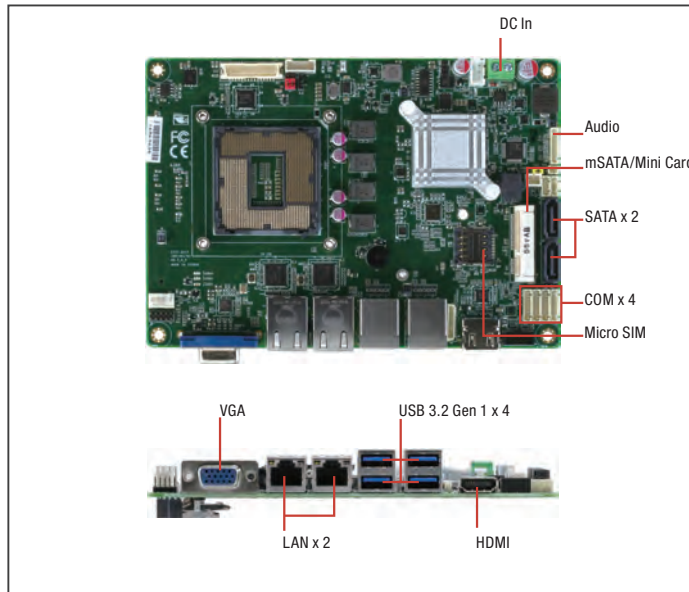
Unit: mm



Ordering Information

Part Number	CPU	Memory	Thermal	Display	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Operating Temp	Others
EPIC-KBS9-A10-0001 (H110)	LGA1151 (Socket Type)	DDR4 x2 (Max 32G)	FAN	HDMI (Rear) x 1 VGA (Internal) x1	SATAIII x 2	GbE x 4	USB 3.2 Gen 1 x 2 (Rear) USB2.0 x 2 (Internal)	—	2	mSATA/MiniCard x 1 (Full) (by BOM change for mPCle)	+12V	0°C ~ 60°C	Audio, DIO x 8
EPIC-KBS9-A10-0002 (H170)	LGA1151 (Socket Type)	DDR4 x2 (Max 32G)	FAN	HDMI (Rear) x 1 VGA (Internal) x1	SATAIII x 2	GbE x 4	USB 3.2 Gen 1 x 2 (Rear) USB2.0 x 2 (Internal)	—	2	PCle[x4] x1 mSATA/MiniCard x 1 (Full) (by BIOS change for mPCle)	+12V	0°C ~ 60°C	Audio, DIO x 8
EPIC-KBS9-A10-0003 (Q170)	LGA1151 (Socket Type)	DDR4 x2 (Max 32G)	FAN	HDMI (Rear) x 1 VGA (Internal) x1	SATAIII x 2	GbE x 4	USB 3.2 Gen 1 x 2 (Rear) USB2.0 x 2 (Internal)	—	2	PCle[x4] x1 mSATA/MiniCard x 1 (Full) (by BIOS change for mPCle)	+12V	0°C ~ 60°C	Audio, DIO x 8

EPIC Board with 6th/7th Generation Intel® Core™ i-S series Processor (Socket Type)



Features

- 6th/7th Generation Intel® Core™ i-S series Processor (Socket Type)
- 12V, 9-24V Wide Voltage, Non-ECC DDR4 SODIMM x 1 (Up to 16 GB)
- Basic VGA/HDMI/LVDS Display
- USB 3.2 Gen 1 x 4, USB 2.0 x 2, Good for Machine Vision
- mSATA/Mini-PCIe Full Size x 1 (Default: mSATA, BOM change for H110)
- mSATA/Mini-PCIe Full Size x 1 (Default: mSATA, BIOS Selection for Q170)
- HDA, SATA x 2, GPIO x 8, COM x 4



Specifications

System	
Form Factor	4" EPIC Board
CPU	6th/7th Generation CPU (Socket Type, TDP 35W, 54W Only)
CPU Frequency	6th/7th Generation Intel® Core™ i3/i5/i7/Celeron®
Chipset	H110, Q170 (6W)
Memory Type	DDR4 (Non-ECC), 2133MHz
Max. Memory Capacity	Up to 16GB
BIOS	AMI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	12V or 9-24V (Default)
Power Supply Type	AT/ ATX
Power Consumption (Typical)	50W@Full loading
Dimension (L x W)	4.53" x 6.50" (115mm x 165mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	110,000
Certification	CE/FCC
Display	
VGA/LCD Controller	6th/7th Generation Intel® Core™ i3/i5/i7/Celeron®
Video Output	CRT/LVDS/HDMI
Backlight Inverter Supply	Max. 12V
I/O	
Ethernet	LAN x 2 (Real IO) (i211 x 2)
Audio	ALC892, no Amp
USB Port	USB 3.2 Gen 1 x 4 (Real IO) USB2.0 x 2 (Internal)
Serial Port	COM x 4 (COM2: RS-232/422/485)
Parallel Port	—
HDD Interface	SATA 3.0 x 2, SATA Power (5V)
SSD	mSATA x 1 (optional for mini-Card)
Expansion Slot	Mini-card x 1, Micro SIM x 1 (Optional)
DIO	8-bit
TPM	—
Touch	—
SIM	—

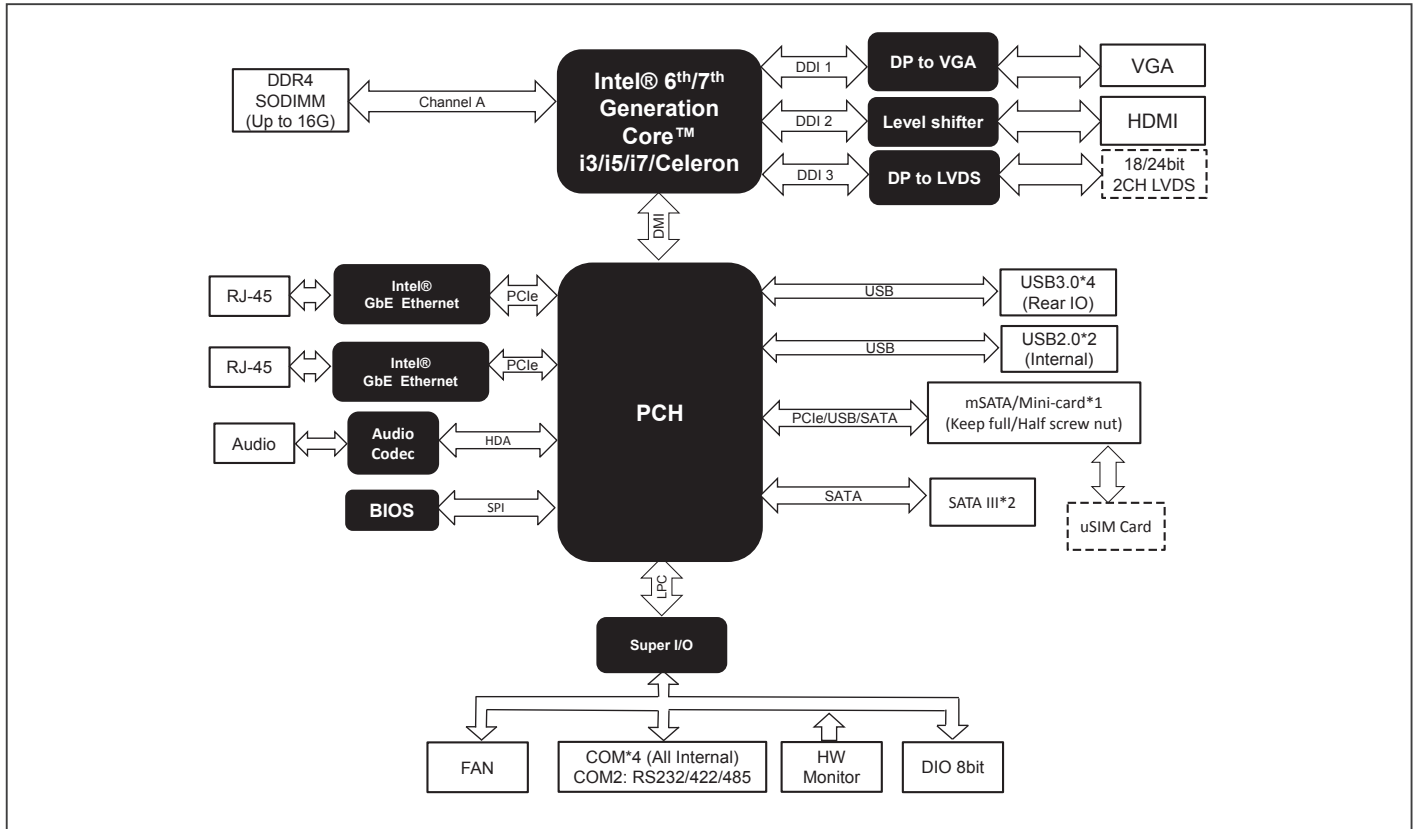
Packing List

- SATA Cable, Length 50cm (1709070500)
- SATA Power Cable, Length 15cm (1702150155)
- Jumper Cap (9657666600)
- EPIC-KBS7

Optional Accessories

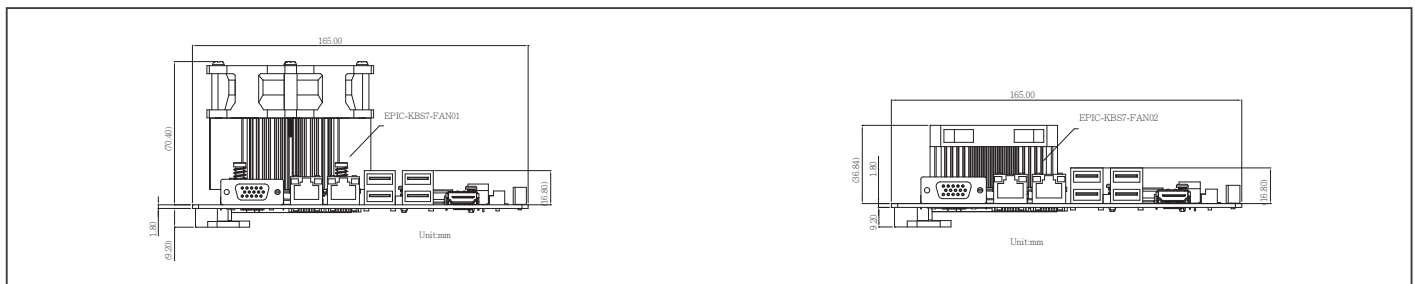
Part Number	Description	QTY
1702002010	Power Cable (2pin), Length 10cm	1
1709100254	Audio Cable (3pin), Length 25cm	1
1700050207	USB Cable (5pin), Length 20cm	2
1701090150	COM Cable (9pin), Length 15cm	4
EPIC-KBS7-FAN01	79*79*61mm. Silver. Recommended for operating temperature 0°C ~ 60°C (54W/35W)	1
EPIC-KBS7-FAN02	60*60*30mm. Silver. Recommended for operating temperature 0°C ~ 55°C (35W)	1

Block Diagram



Dimension

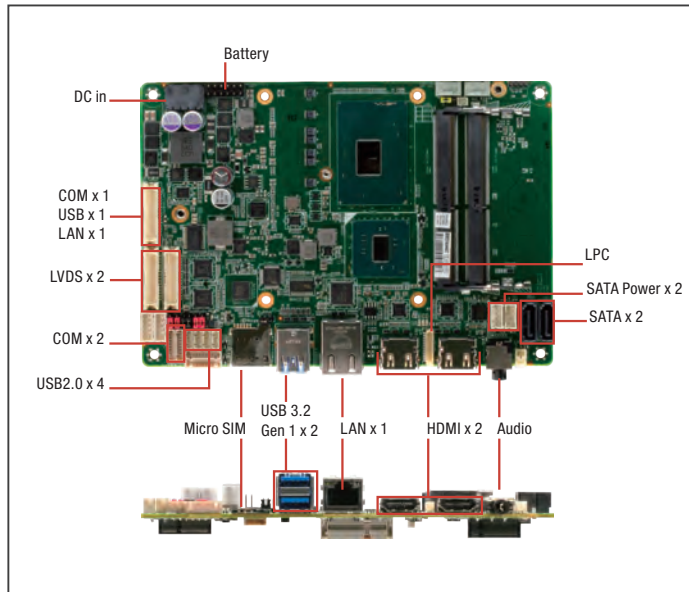
Unit: mm



Ordering Information

Part Number	CPU	Memory	Thermal	Display	LVDS	Storage	LAN	USB	RS-232	RS-232 /422/485	Expansion Slot	Power	Operating Temp	Others
EPIC-KBS7-A10-0001 (Standard, H110)	LGA1151 (Socket Type)	DDR4 (Max 16G)	FAN	VGA + HDMI	—	SATA x 2	GbE x 2	USB 3.2 Gen 1 x 4 USB2.0 x 2	3	1	mSATA x 1 (Mini-PCIe by BOM Change)	9-24V	0°C - 60°C	DIO x 8
EPIC-KBS7-A10-0002 (Advanced, Q170)	LGA1151 (Socket Type)	DDR4 (Max 16G)	FAN	VGA + LVDS + HDMI	24bit, 2CH	SATA x 2	GbE x 2	USB 3.2 Gen 1 x 4 USB2.0 x 2	3	1	mSATA/miniCard x 1	9-24V	0°C - 60°C	Micro-SIM, DIO x 8

*BIOS is ready for 6th Gen. and 7th Gen. chipset, please make sure to use the latest BIOS on website.



Features

- 6th/7th Generation Intel® Core™ i-H series Processor
- DDR4 SODIMM x 2, 2133MHz, up to 32G
- LVDSx 2, HDMI x 2
- USB 3.2 Gen 1 x 2 (Rear I/O), USB 2.0 x 5 (Internal)
- LAN x 2 (RJ45 x 1, internal x 1)
- M.2 2280 Slot x 1 (B Key: SATA/USB 3.2 Gen 1/USB2.0)
- M.2 2230 Slot x 1 (E Key: PCIe/USB2.0)
- Mini-PCIe Slot x 1 (PCIe/USB2.0), Micro-SIM slot x 1
- Audio Codec with Amp, SATA x 2, COM x 4
- +9V~36V AT/ATX
- Support dual battery



Specifications

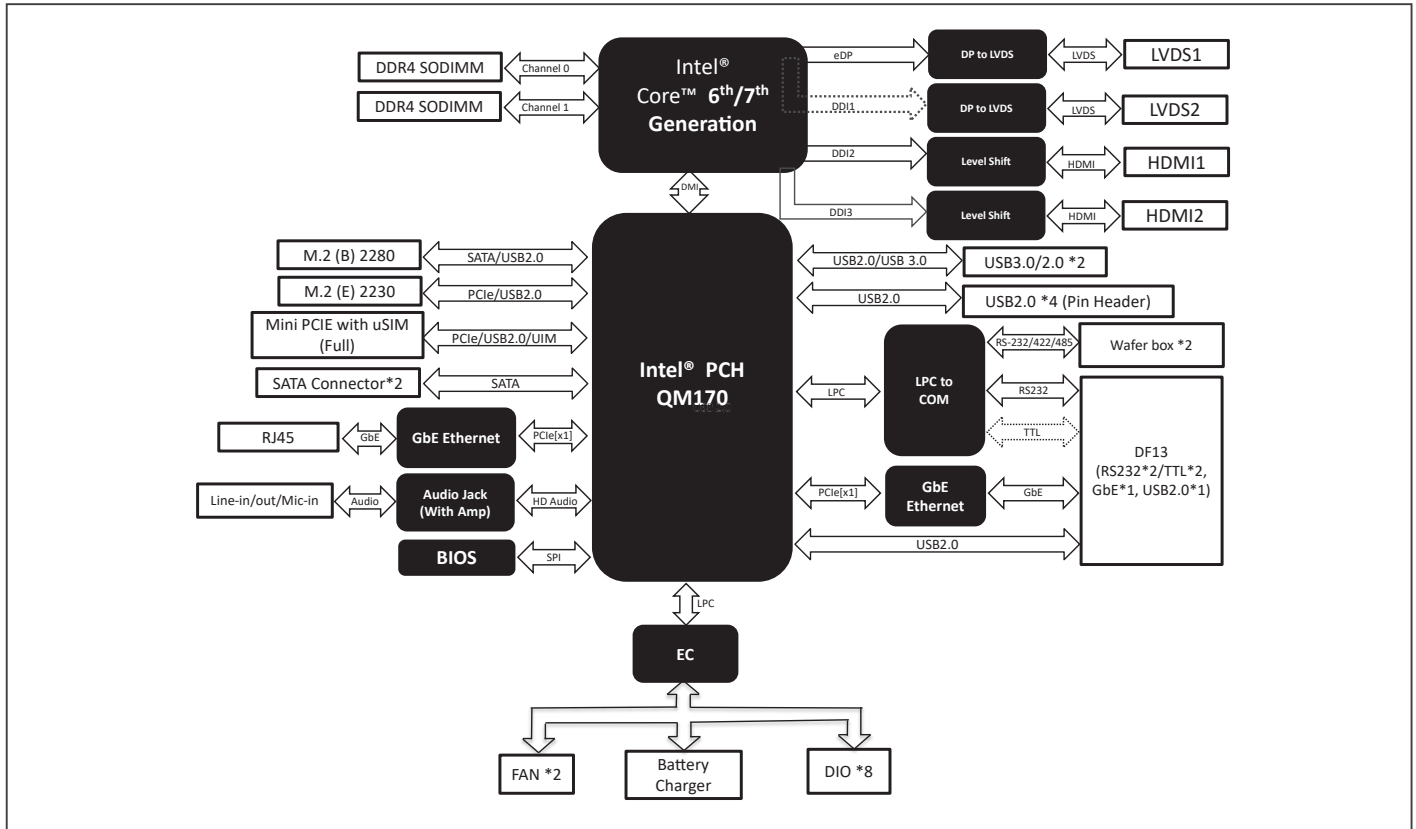
System	
Form Factor	4" EPIC Board
CPU	6th/7th Generation Intel® Core™ i-H series Processor
CPU Frequency	i7-6820EQ (4C, 2GHz, up to 2.8GHz) i7-7820EQ (4C, 3.0GHz, up to 3.7GHz)
Chipset	Intel® QM170 (TDP: 2.6W)
Memory Type	SODIMM DDR4 memory slot x 2
Max. Memory Capacity	Up to 32GB
BIOS	UEFI/Legacy
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+9V ~ 36V
Power Supply Type	AT/ATX
Power Consumption (Typical)	CPU 45W TDP
Dimension (L x W)	4.53" x 6.5" (115 x 165 mm)
Operating Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	TBD
Certification	CE/FCC Class A
Display	
VGA/LCD Controller	Intel® HD Graphics 530 Intel® HD Graphics 630
Video Output	LVDS x 2 HDMI 1.4 x 2
Backlight Inverter Supply	18/24bit (2CH)
I/O	
Ethernet	Intel GbE i211
Audio	ALC269 (With 2W Amp)
USB Port	USB 3.2 Gen 1/2.0 x 2 (Rear I/O) USB 2.0 x 5 (Internal header)

Serial Port	RS-232/422/485 x 2 (Internal header) RS-232 x 2 (Internal header)
Parallel Port	—
HDD Interface	SATA x 2
SSD	—
Expansion Slot	M.2 2280 Slot (B Key) x 1 M.2 2230 Slot (E Key) x 1 Mini-PCIe Slot (PCIe/USB2.0) x 1 Micro-SIM slot LPC Bus SMBus (default) / I2C (option)
DIO	8-bit
TPM	—
Touch	—
SIM	Micro SIM

Optional Accessories

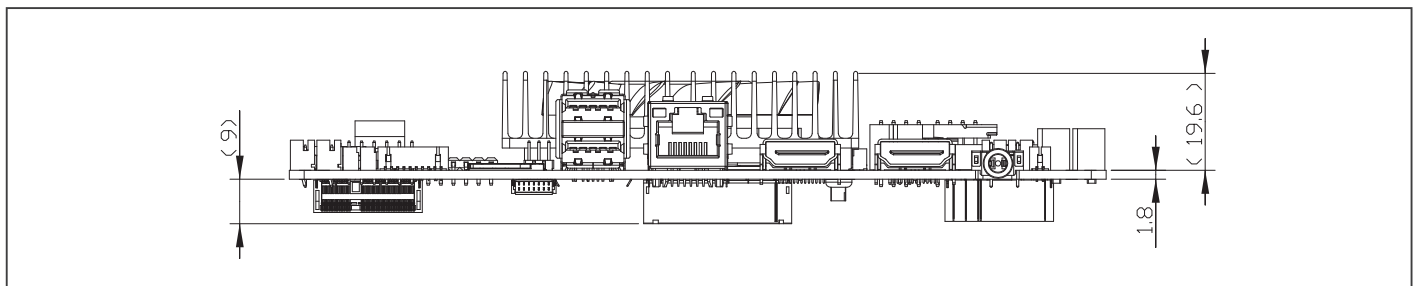
Part Number	Description	QTY
EPIC-SKH7-FAN01	CPU COOLER.AL+CU.12V.3600rpm.Smart FAN.90*72*20mm.for EPIC-SKH7	1

Block Diagram



Dimension

Unit: mm

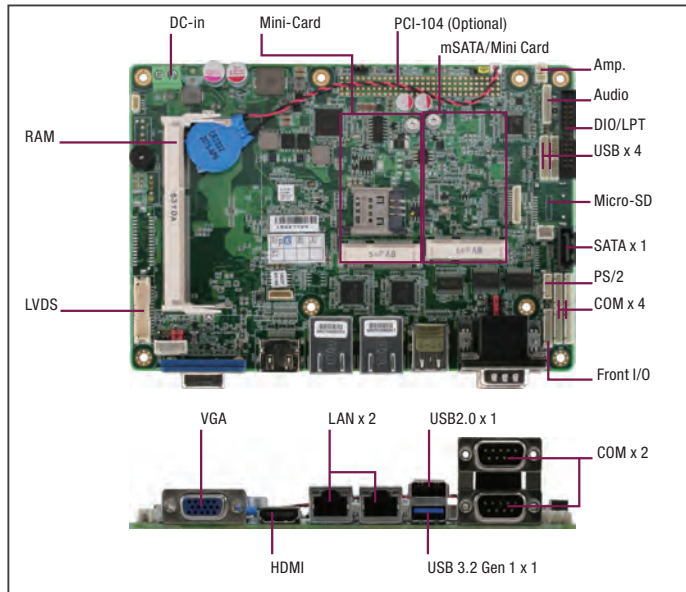


Ordering Information

Part Number	CPU	Thermal	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Operating Temp	Others
EPIC-SKH7-A10-0001	i7-7820EQ	Fan	2HDMI	18/24bits, 2CH	SATA3 x 2	GbE x2	USB3.2 Gen1 x 2 USB2.0 x 5	2	2	M.2 2280 Slot (B Key) x 1 M.2 2230 Slot (E Key) x 1 Mini-PCIe Slot (PCIe/USB2.0) x 1	DC 9-36V	0-60°C	DIO 8 bit, LPC Bus, Micro SIM, SMBUS/I2C

EPIC-BT07

EPIC Board with Intel® Atom™/ Celeron® Processor SoC



Specifications

System	
Form Factor	4" EPIC Board
CPU	Intel® Atom™ E3845/Celeron® J1900/N2807
CPU Frequency	Up to 2.0 GHz
Chipset	Intel® Atom™/ Celeron® SoC
Memory Type	DDR3L 1333, SODIMM x 1
Max. Memory Capacity	Up to 8G
BIOS	AMI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+12V or 9-24V AT/ATX (default)
Power Supply Type	AT/ ATX
Power Consumption (Typical)	11.8W
Dimension (L x W)	4.53" x 6.50" (115 mm x 165 mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	110,000
Certification	CE/FCC
Display	
VGA/LCD Controller	Intel® Atom™/ Celeron® SoC
Video Output	CRT, LVDS, HDMI
Backlight Inverter Supply	Max. 12V
I/O	
Ethernet	Intel® i211 Gigabit Ethernet, RJ-45 x 2
Audio	High Definition Audio Interface
USB Port	USB2.0 x 5 USB 3.2 Gen 1 x 1
Serial Port	COM1, 4, 5, 6 : RS-232 x 4 COM2, 3 : RS-232/422/485 x 1 (Ring/ +5V/ +12V)
Parallel Port	SPP/EPP/ECP x 1
HDD Interface	SATA 2.0 x 1
SSD	mSATA x 1 (Share with half-size Mini-Card by BOM)
Expansion Slot	Mini-Card x 1, Micro-SD x 1 (Only E3800 series) PCI-104 x 1 (optional) 16-bit DIO or LPT SMBus x 1, I2C x 1 (optional), PS/2 x 1
DIO	16-bit
TPM	Optional
Touch	Optional
SIM	SIM

Features

- Onboard Intel® Atom™ E3845/ Celeron® J1900, N2807 Processor SoC
- DDR3L 1333MHz SoDIMM x 1, Up to 8GB
- LVDS 24-bit Dual Channel
- Dual Display Configuration: VGA+ LVDS, VGA + HDMI or HDMI + LVDS
- SATA 3.0Gb/s x 1, mSATA/ Mini-Card x 1, Micro-SD Slot x 1 (E3800 Series Only)
- USB 3.2 Gen 1 x 1, USB2.0 x 5, RS-232 x 4, RS-232/422/485 x 2 (COM2, COM3)
- Mini-Card x 1, SIM x 1, PCI-104 (Optional)
- 16-bit Digital IO/LPT, SMBus x 1, I2C (Optional)
- Audio 2CH, 2W Audio Amp., TPM (Optional), Touch Controller (Optional)
- 9 ~ 24VDC Wide Range or 12VDC Power Input
- SoC Processor on Solder Side Design



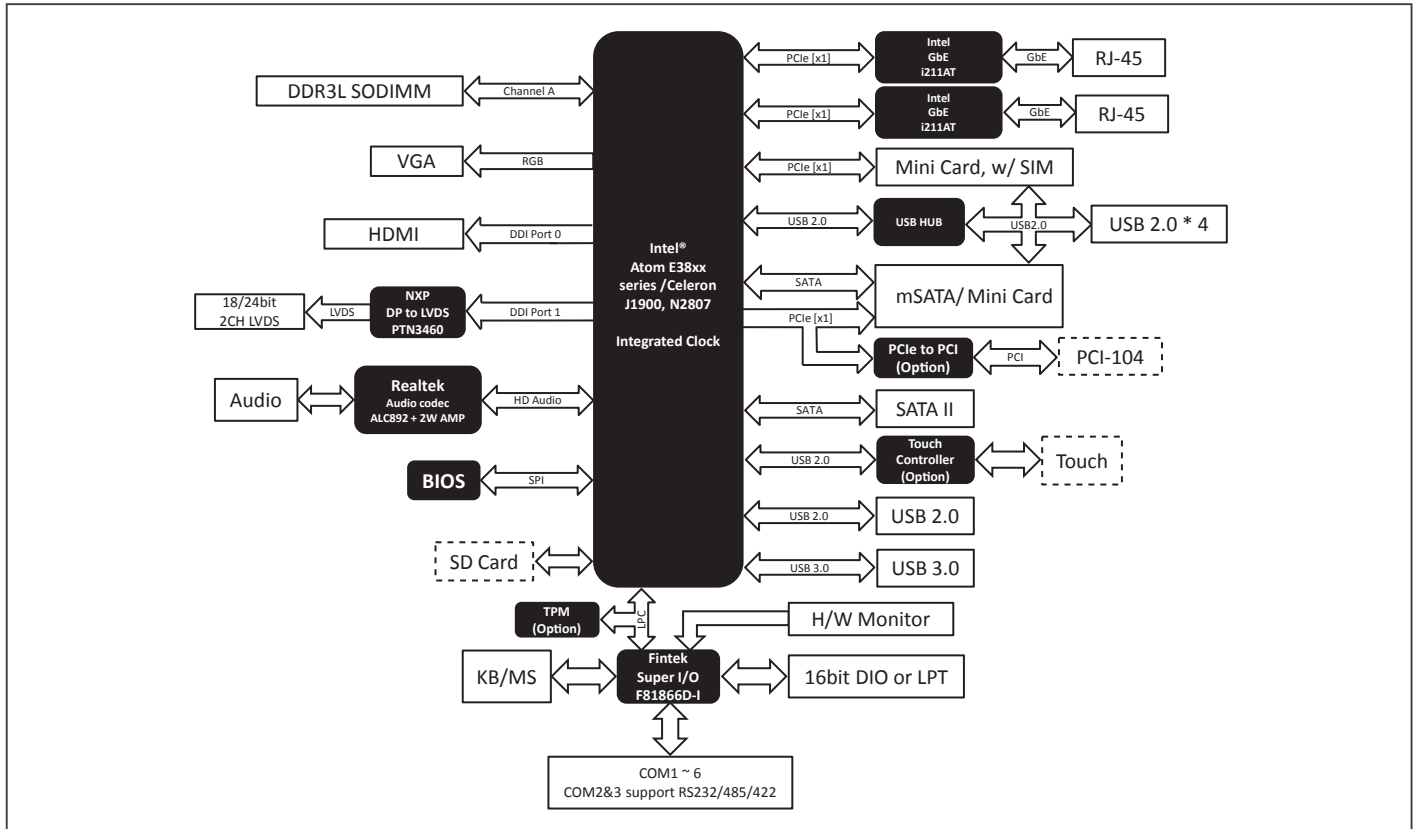
Packing List

- 1709070500
SATA Cable
- 1702150155
SATA Power Cable
- M10BT07010
Heat-Spreader
- EPIC-BT07

Optional Accessories

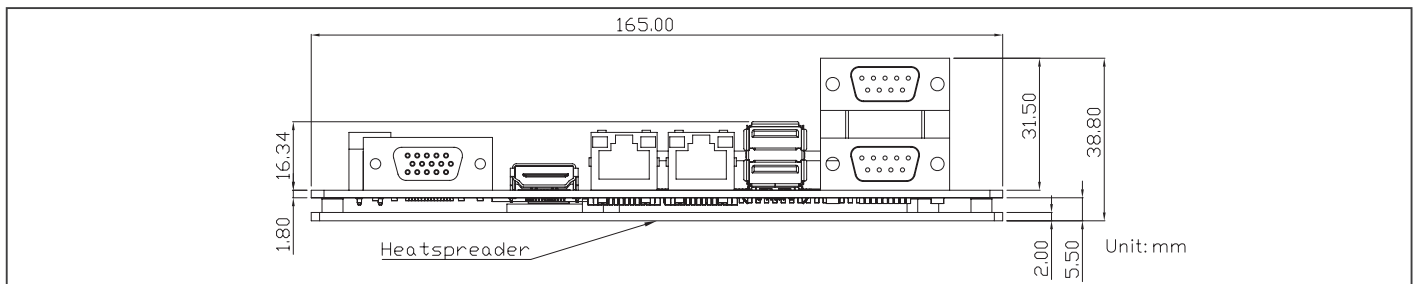
Part Number	Description	QTY
170204010R	2-Pin Power in to 4-Pin Housing Cable	1
1709100254	Audio Cable	1
1701260200	DIO/LPT Cable	1
1700050207	USB Cable	4
1700060155	PS/2 KB/Mouse Cable	1
1701090150	COM Cable	4
EPIC-BT07-HSK01	Metal, AI, Heat Sink, 165*95*14mm, Silver, EPIC-BT07 (Used with heatspreader)	1

Block Diagram



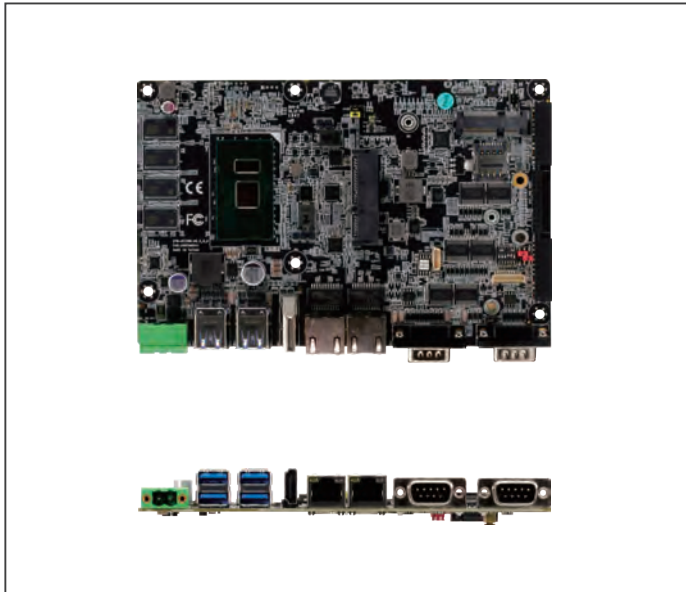
Dimension

Unit: mm



Ordering Information

Part Number	CPU	Memory	Fan/Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Operating Temp	Others
EPIC-BT07-A10-0001	Atom™ E3845 (10W)	DDR3L (Max. 8GB)	Heat-Spreader (Heat-sink option)	VGA+LVDS, VGA+HDMI, LVDS+HDMI	24b, 2CH	SATA 2 x 1, mSATA x 1	GbE x 2	USB 3.2 Gen 1 x 1 UBS2.0 x 5	4	2	Mini-Card x 1, SIM x 1, PCI-104 x 1, Micro-SD x 1	9-24VDC, AT/ATX	0°C ~ 60°C	16CH DIO or LPT, Audio, 2W Amp, PS/2, SMBus
EPIC-BT07-A10-0002	Celeron® J1900 (10W)	DDR3L (Max. 8GB)	Heat-Spreader (Heat-sink option)	VGA+LVDS, VGA+HDMI, LVDS+HDMI	24b, 2CH	SATA 2 x 1, mSATA x 1	GbE x 2	USB 3.2 Gen 1 x 1 UBS2.0 x 5	4	2	Mini-Card x 1, SIM x 1	9-24VDC, AT/ATX	0°C ~ 60°C	16CH DIO or LPT, Audio, 2W Amp, PS/2, SMBus
EPIC-BT07-A10-0003	Celeron® N2807 (4.3W)	DDR3L (Max. 4GB)	Heat-Spreader (Heat-sink option)	VGA+LVDS, VGA+HDMI, LVDS+HDMI	24b, 2CH	SATA 2 x 1, mSATA x 1	GbE x 2	USB 3.2 Gen 1 x 1 UBS2.0 x 5	4	2	Mini-Card x 1, SIM x 1	9-24VDC, AT/ATX	0°C ~ 60°C	16CH DIO or LPT, Audio, 2W Amp, PS/2, SMBus
EPIC-BT07W2-A10-0001	Atom™ E3845 (10W)	DDR3L (Max. 8GB)	Heat-Spreader (Heat-sink option)	VGA+LVDS, VGA+HDMI, LVDS+HDMI	24b, 2CH	SATA 2 x 1, mSATA x 1	GbE x 2	USB 3.2 Gen 1 x 1 UBS2.0 x 5	4	2	Mini-Card x 1, SIM x 1, PCI-104 x 1, Micro-SD x 1	9-24VDC, AT/ATX	-40°C ~ 85°C	16CH DIO or LPT, Audio, 2W Amp, PS/2, SMBus



Features

- 6th gen Intel® Core™ i5-6200U/Celeron 3855U Processor SoC
- Non-ECC DDR4 onboard (Up to 8GB)
- LVDS/eDP x 1 (Default: LVDS), HDMI x 1
- Intel GbE x 2 (210IT), SATA3 x 1 (7P + 15P right angle connector)
- USB 3.0 x 4 (Rear I/O), USB2.0 x 5 (Header x 1, rest in EXT I/O)
- Touch x 1 (via USB signal), HDA with Amp x 1
- RS-232/422/485 x 2 (Rear I/O x 2), RS-232 x 4 (In EXT I/O)
- Full size mSATA/mPCIe Slot x 1 (With Micro-SIM, default mSATA)
- M.2 2280 M key x 1 (PCIe[x4] signal only)
- EXT I/O x 3
- Wide DC Input 9-36V

Specifications

System	
Form Factor	4" EPIC Board
CPU	Intel® 6/7th Generation Core™ i5/Celeron SoC i5-6200U(15W) Celeron-3855U(15W)
CPU Frequency	Up to 2.8GHz
Chipset	Integrated SoC
Memory Type	DDR4-1866/2133 Dual Channel DDR4 (Non-ECC) onboard
Max. Memory Capacity	Up to 8GB
BIOS	UEFI only
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+9V ~ 36V
Power Supply Type	AT/ATX (Default: AT)
Power Consumption (Typical)	23.4W (Full loading mode)
Dimension (L x W)	6.89" x 4.45" (175mm x 113mm)
Operating Temperature	32°F ~ 122°F (0°C ~ 50°C)
Storage Temperature	-4°F ~ 176°F (-20°C ~ 80°C)
Operating Humidity	0-90% @ 40°C, non-condensing
MTBF (Hours)	TBD
Certification	CE/FCC Class A
Display	
VGA/LCD Controller	Intel® HD Graphics 510 Intel® HD Graphics 520
Video Output	LVDS/eDP x 1 (Default: LVDS) HDMI 1.4 x 1
Backlight Inverter Supply	Max 12V, 2A
I/O	
Ethernet	i210IT, 10/100/1000 Base, RJ45 x 2
Audio	High Definition Audio Interface, Line-in/Line-out/MIC (w/ 3W, 4 Ohm Amplifier)
USB Port	USB 3.0 x 4 (Rear I/O) USB 2.0 x 5 (Header x 1, rests in EXT I/O)

Serial Port	RS-232/422/485 x 2 (Rear I/O x 2) RS-232 x 4 (In EXT I/O)
Parallel Port	—
HDD Interface	—
SSD	1. SATA3 x 1 (7+15P connector) 2. Full size mSATA/mPCIe x 1 with Micro-SIM (mSATA as default) - Celeron 3855U: mSATA/mPCIe selected by BOM - i5-6200U: mSATA/mPCIe selected by BIOS 3. M.2 2280 M key x 1 (PCIe[x4] as default)
Expansion Slot	External port: USB2.0 x 4 COM x 4 PCIex1 x 3
DIO	—
TPM	—
Touch	Yes (co-lay with USB2.0)
SIM	Micro SIM
Others	SMBUS x 1, LPC

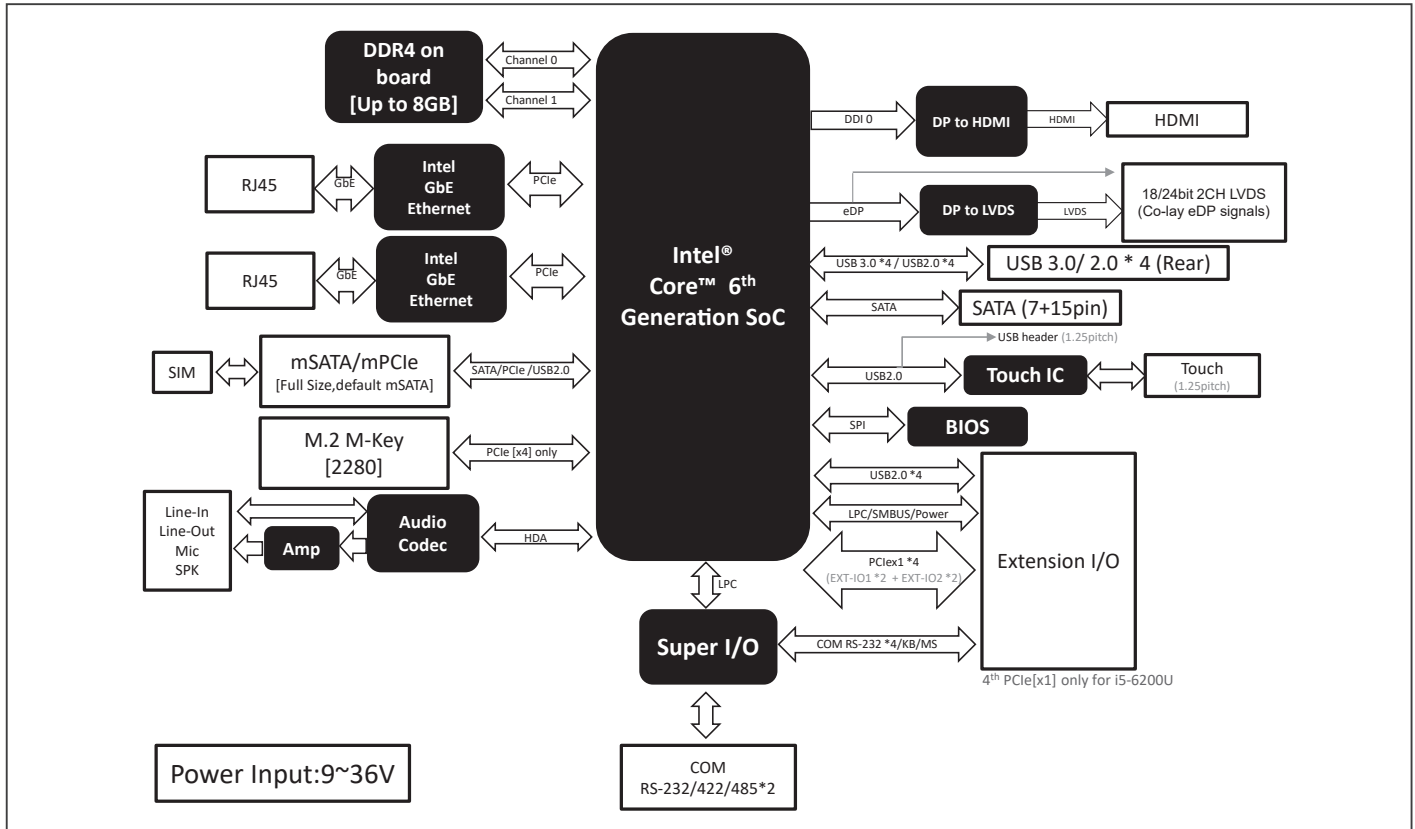
Packing List

- TBD

Optional Accessories

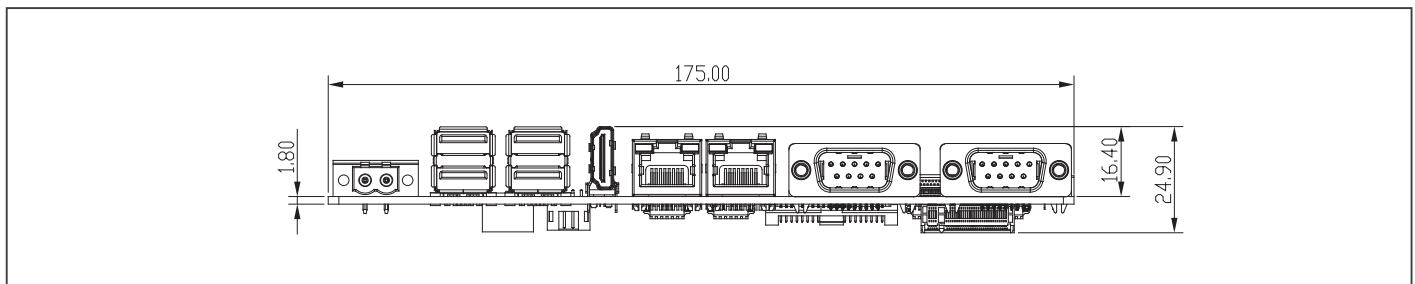
Part Number	Description	QTY
170204010R	2-Pin Power in to 4-Pin Housing Cable	1

Block Diagram



Dimension

Unit: mm

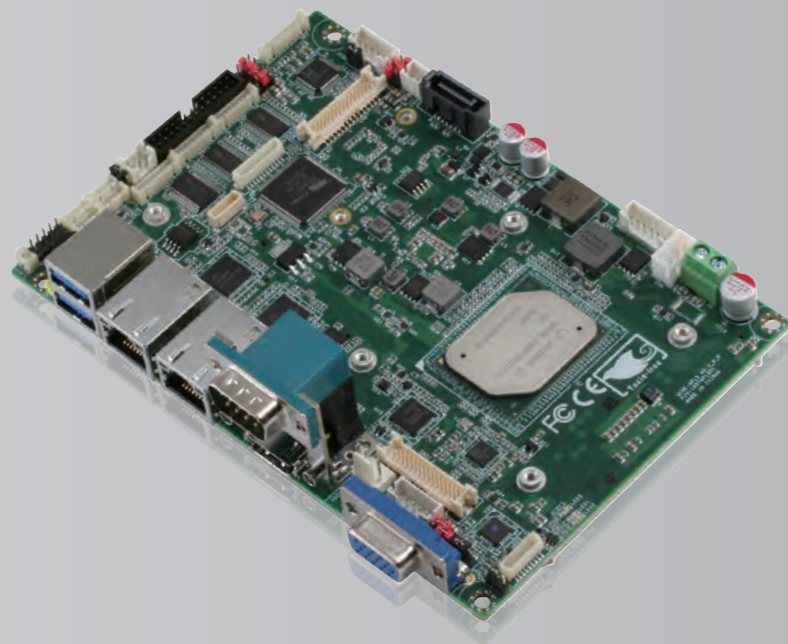


Ordering Information

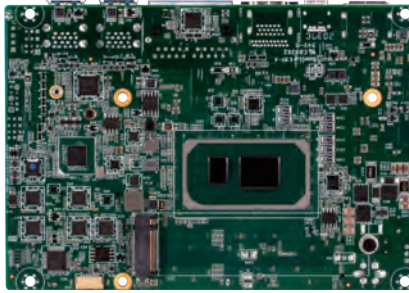
Part Number	CPU	Fan/ Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/ 422/485	Expansion Slot	Power	Operating Temp	Others
EPIC-SKU7-A10-0001	Intel®i5-6200U	Fanless	LVDS/eDP x 1 HDMI 1.4 x 1	18/24-bit, 2CH	SATA3 x 1 mSATA/mPCIe x 1 with Micro-SIM (Full size) M.2 2280 M key x 1 (PCIe x4)	GbE x 2	USB3.0 x 4 (Rear I/O) USB2.0 x 5 (Header x 1, rests in EXT I/O)	4 (external)	2	USB2.0 x 4 COM x 4 PCIex1 x 3	9~36V	0°C ~ 50°C	SMBUS LPC
EPIC-SKU7-A10-0002	Intel®Celeron-3855U	Fanless	LVDS/eDP x 1 HDMI 1.4 x 1	18/24-bit, 2CH	SATA3 x 1 mSATA/mPCIe x 1 with Micro-SIM (Full size) M.2 2280 M key x 1 (PCIe x4)	GbE x 2	USB3.0 x 4 (Rear I/O) USB2.0 x 5 (Header x 1, rests in EXT I/O)	4 (external)	2	USB2.0 x 4 COM x 4 PCIex1 x 3	9~36V	0°C ~ 50°C	SMBUS LPC

SubCompact Boards

06



3.5" SubCompact Board with 11th Generation Intel® Core™ i7/i5/i3/Celeron® Processor SoC



Specifications

System	
Form Factor	3.5" SubCompact Board
CPU	Intel® 11th Generation Core™ i7/i5/i3/Celeron SoC i7-1185G7E (4C, 1.7GHz, up to 4.4GHz, TDP-up 28W) i5-1145G7E (4C, 1.5GHz, up to 4.1GHz, TDP-up 28W) i3-1115G4E (2C, 2.2GHz, up to 3.9GHz, TDP-up 28W) Celeron® 6305E (2C, 1.80GHz, TDP 15W)
CPU Frequency	Up to 4.4GHz
Chipset	Integrated SoC
Memory Type	DDR4 3200MHz SODIMM x2 (Dual Channel ,Non-ECC)
Max. Memory Capacity	Up to 64GB
BIOS	AMI UEFI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+9 ~ 36V (Optional: +12V)
Power Supply Type	AT/ATX (Default: AT)
Power Consumption (Typical)	TBD
Dimension (L x W)	5.75" x 4" (146mm x 101.7mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-4°F-176°F (-20°C ~ 80°C)
Operating Humidity	0-90% @ 40°C, non-condensing
MTBF (Hours)	TBD
Certification	CE/FCC Class A

Features

- Intel® Core™ i7/i5/i3/Celeron Processor SoC
- Non-ECC DDR4 SODIMM Slot x 2, up to 64GB
- LVDS/eDP x 1 (Default: LVDS), DP 1.4a x 2, HDMI 2.0b x 1
- 2.5GbE x 1, GbE x1, SATA III x 1, DIO x 8bit
- USB 3.2 Gen 2 x 4 (Rear I/O), USB2.0 x 2 (Pin header), USB Type C x 1
- RS-232/422/485 x 4
- Full size mSATA/mPCIe x 1 with Nano-SIM (mSATA as default, select by BIOS)
- M.2 2280 M key x 1, M.2 2230 E key x 1
- Wide DC Input 9-36V (Optional: 12V Only)



Display	
VGA/LCD Controller	Intel® Iris® Xe Graphics Intel® UHD Graphics for 11th Gen Intel® Processors
Video Output	DP 1.4a x 2 HDMI 2.0b x 1 Dual Channel 18/24bit LVDS/eDP x 1 (Default: LVDS)
Backlight Inverter supply	Max 12V, 2A
I/O	
Ethernet	Intel ®i219-LM, 10/100/1000Base, RJ45 x 1 (Support Vpro) Intel ®i225-LM, 10/100/1000/2500Base, RJ45 x 1 (Support Vpro)
Audio	High Definition Audio Interface, Line-in/Line-out/MIC (Without Amplifier)
USB Port	USB3.2 GEN2 x 4 (Rear I/O) USB3.2 GEN2 Type C x 1 (Rear I/O) USB2.0 x 2 (Pin header)
Serial Port	RS-232/422/485 x 4 (COM2 support 5V/12V/RI)
Parallel Port	—
HDD Interface	—
FDD Interface	—
SSD	SATA 3.0 x 1 SATA power connector x 1(+5V)
Expansion Slot	Full size mSATA/mPCIe x 1 With Nano-SIM (mSATA as default, select by BIOS) M.2 E key 2230x 1 (For WIFI/BT, PCIe/USB signal only) M.2 M key 2280 PCIe x 4
DIO	8bit
SIM	x1(NANO-SMI)
TPM	TPM 2.0
Touch	x1
Others	SMBUS x1, I2C x1 (Optional)

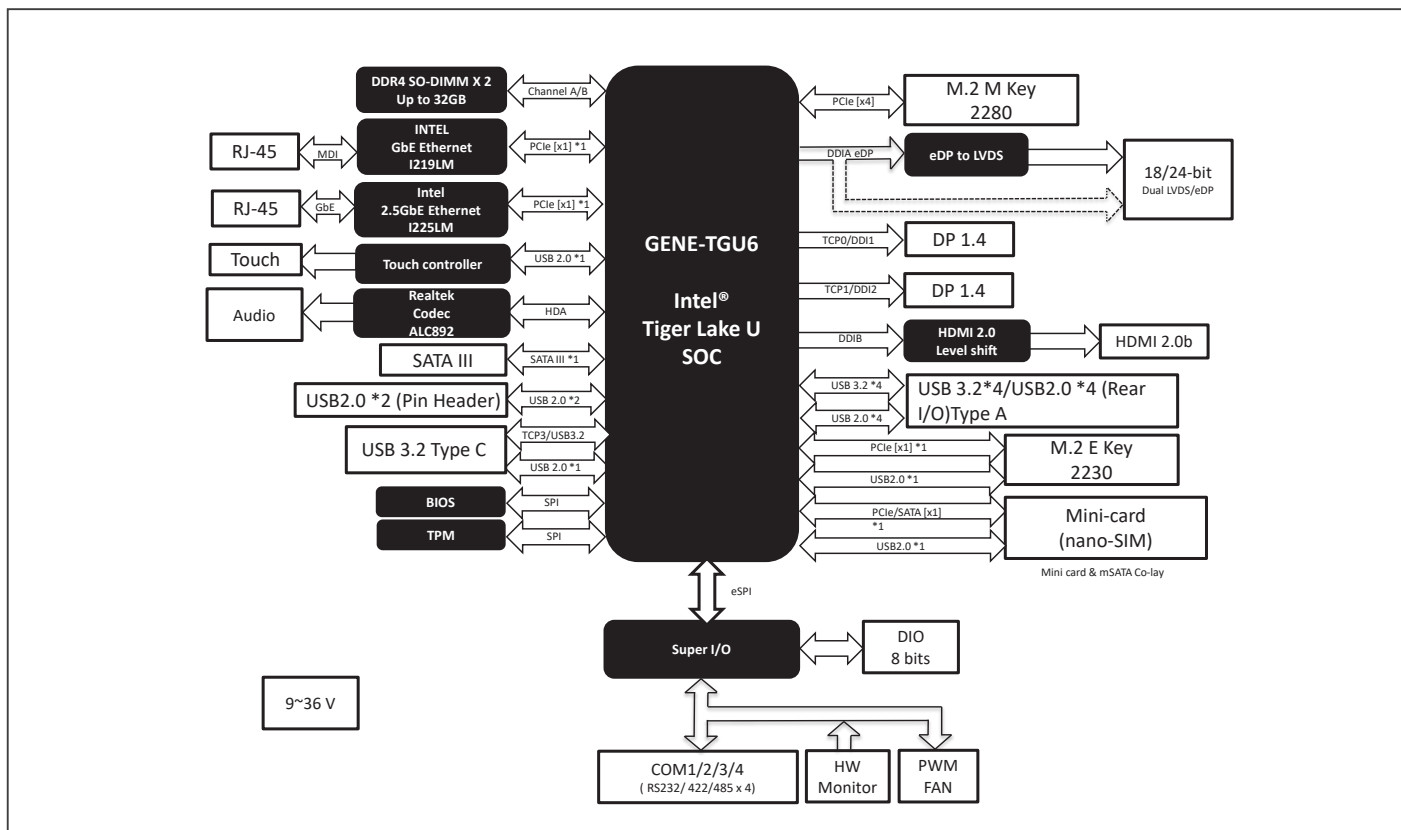
Packing List

- GENE-TGU6 with Heatspreader

Optional Accessories

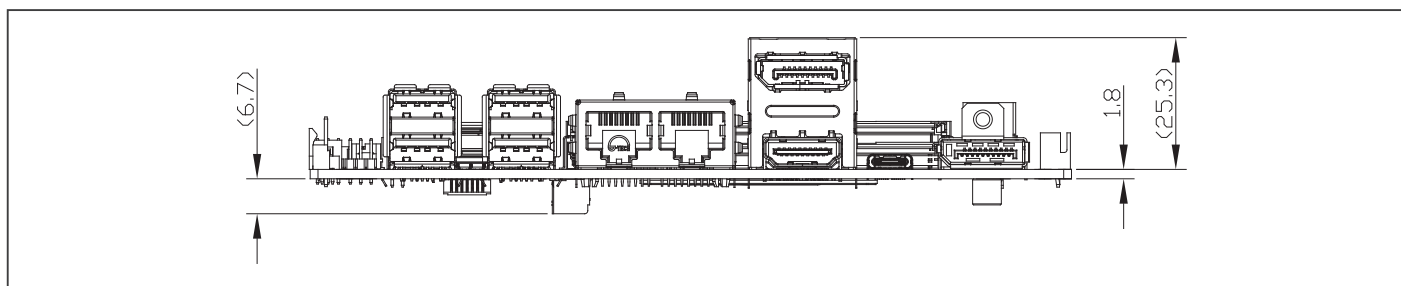
Part Number	Description	QTY
1702150155	(TF)Power Cable.15P SATA(F).2P 2.0mm Housing(PH).15cm	1
1709070500	(TF)SATA CABLE.7P Pitch 1.27mm.50cm	1
1702002010	(TF)Power CABLE.1*2P Pitch=5.0mm Housing.10cm.for PFM-945C.(12V only)	1
1709100254	(TF)PHONE JACK Cable.3P AUDIO JACK.1*10P 1.25mm HOUSING(F).25cm	1
170220020B	(TF)Power Cable.20P ATX(M).4P 5.08mm Housing(F).+3P 2.5mm Housing (XH).20cm	1
170X000156	(TF)Cable.12P.Pitch=1.0mm.250mm.FLYINGWAY.FWAA-1345.Audio cable	1
170010010D	USB cable (2 Port), 10cm	1
TBD	COM Cable	2
TBD	CPU Cooler	1

Block Diagram



Dimension

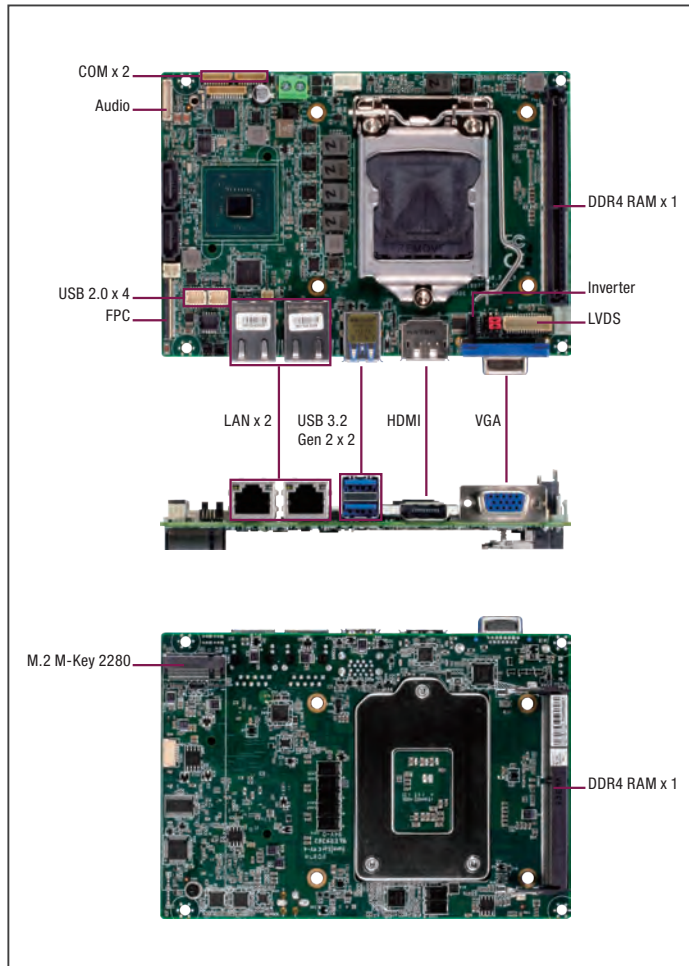
Unit: mm



Ordering Information

Part Number	CPU	Fan/ Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/ 422/485	Expansion Slot	Power	Power Temp	Others
TBD	11th Gen. Intel® Core™ i3	Fan	2DP+HDMI +LVDS	18/24-bit, 2CH	SATA x 1 mSATA (Full size)x 1	GbE x 1 2.5GbE x 1	USB 3.2 Gen 2 x 4 USB 3.2 Gen 2 Type C x 1 USB 2.0 x 2	—	4	M.2 M Key 2280 PCIe[x4] x 1 M.2 E Key 2230 x 1	9 ~ 36V	0°C ~ 60°C	DIO x 8, nano SIM, Touch Controller, TPM
TBD	11th Gen. Intel® Core™ i5	Fan	2DP+HDMI +LVDS	18/24-bit, 2CH	SATA x 1 mSATA (Full size)x 1	GbE x 1 2.5GbE x 1	USB 3.2 Gen 2 x 4 USB 3.2 Gen 2 Type C x 1 USB 2.0 x 2	—	4	M.2 M Key 2280 PCIe[x4] x 1 M.2 E Key 2230 x 1	9 ~ 36V	0°C ~ 60°C	DIO x 8, nano SIM, Touch Controller, TPM
TBD	11th Gen. Intel® Core™ i7	Fan	2DP+HDMI +LVDS	18/24-bit, 2CH	SATA x 1 mSATA (Full size)x 1	GbE x 1 2.5GbE x 1	USB 3.2 Gen 2 x 4 USB 3.2 Gen 2 Type C x 1 USB 2.0 x 2	—	4	M.2 M Key 2280 PCIe[x4] x 1 M.2 E Key 2230 x 1	9 ~ 36V	0°C ~ 60°C	DIO x 8, nano SIM, Touch Controller, TPM

3.5" SubCompact Board with 10th Generation Intel® Core™ i7/i5/i3/Pentium®/Celeron® Processor SoC



Features

- Intel® Core™ i7/i5/i3/Pentium®/Celeron® Processor SoC
- Non-ECC DDR4 SODIMM Slot x 2, up to 64GB
- DP++ x 1, VGA x 1, LVDS x 1
- GbE x 2, SATA III x 2, DIO x 8bit
- USB 3.2 Gen 2 x 2 (Rear I/O), USB 2.0 x 4 (Pin header)
- RS-232/422/485 x 2
- M.2 M Key 2280 PCIe[x4]/SATA[x1] x 1
- PCIe[x4] x 1 (through Flexible Printed Circuit interface, Q470/Q470E only)



Backlight Inverter supply	Max 12V, 2A
I/O	
Ethernet	Intel® i210/i211,10/100/1000Base, RJ45 x1 Intel® i219,10/100/1000Base, RJ45 x1 (Support Vpro only with i5/i7 + Q470/Q470E variant)
Audio	High Definition Audio Interface,Line-in/Line-out/MIC
USB Port	USB3.2 Gen 2 x 2 (Rear I/O, Gen 2 for Q470/Q470E only) USB2.0 x 4 (Pin header)
Serial Port	RS-232/422/485 x 2
Parallel Port	—
HDD Interface	—
FDD Interface	—
SSD	SATA 3.0 x 2 SATA power connector x 1 (+5V)
Expansion Slot	M.2 M Key 2280 PCIe[x4]/SATA[x1] x 1 PCIe[x4] x 1 (through Flexible Printed Circuit interface, Q470/Q470E only) I2C, SMBUS (Default as I2C, SMBUS selected by board)
DIO	8bit
SIM	—
TPM	TPM 2.0
Touch	—
Others	—

Specifications

System	
Form Factor	3.5" SubCompact Board
CPU	Intel® 10th Generation Core™ i7/i5/i3/Pentium/Celeron SoC i7-10700TE (8C, 2.0 GHz, up to 4.4 GHz) i5-10500TE (6C, 2.3 GHz, up to 3.7 GHz) i3-10100TE (4C, 2.3 GHz, up to 3.6 GHz) G6400TE (2C, 3.2 GHz) G5900TE (2C, 3.0 GHz)
CPU Frequency	Up to 4.4GHz
Chipset	Integrated SoC
Memory Type	DDR4 2933/2666/2400 MHz SODIMM x 2 (Dual Channel ,Non-ECC)
Max. Memory Capacity	Up to 64GB
BIOS	AMI UEFI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+12V
Power Supply Type	AT/ATX (Default: AT)
Power Consumption (Typical)	TBD
Dimension (L x W)	5.75" x 4" (146mm x 101.7mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 81°C)
Operating Humidity	0-90% @ 40°C, non-condensing
MTBF (Hours)	TBD
Certification	CE/FCC Class A
Display	
VGA/LCD Controller	Intel® UHD Graphics 630 for 10th Gen Intel® Processors
Video Output	DP++ x 1 VGA x 1 LVDS x 1

Packing List

- GENE-CML5

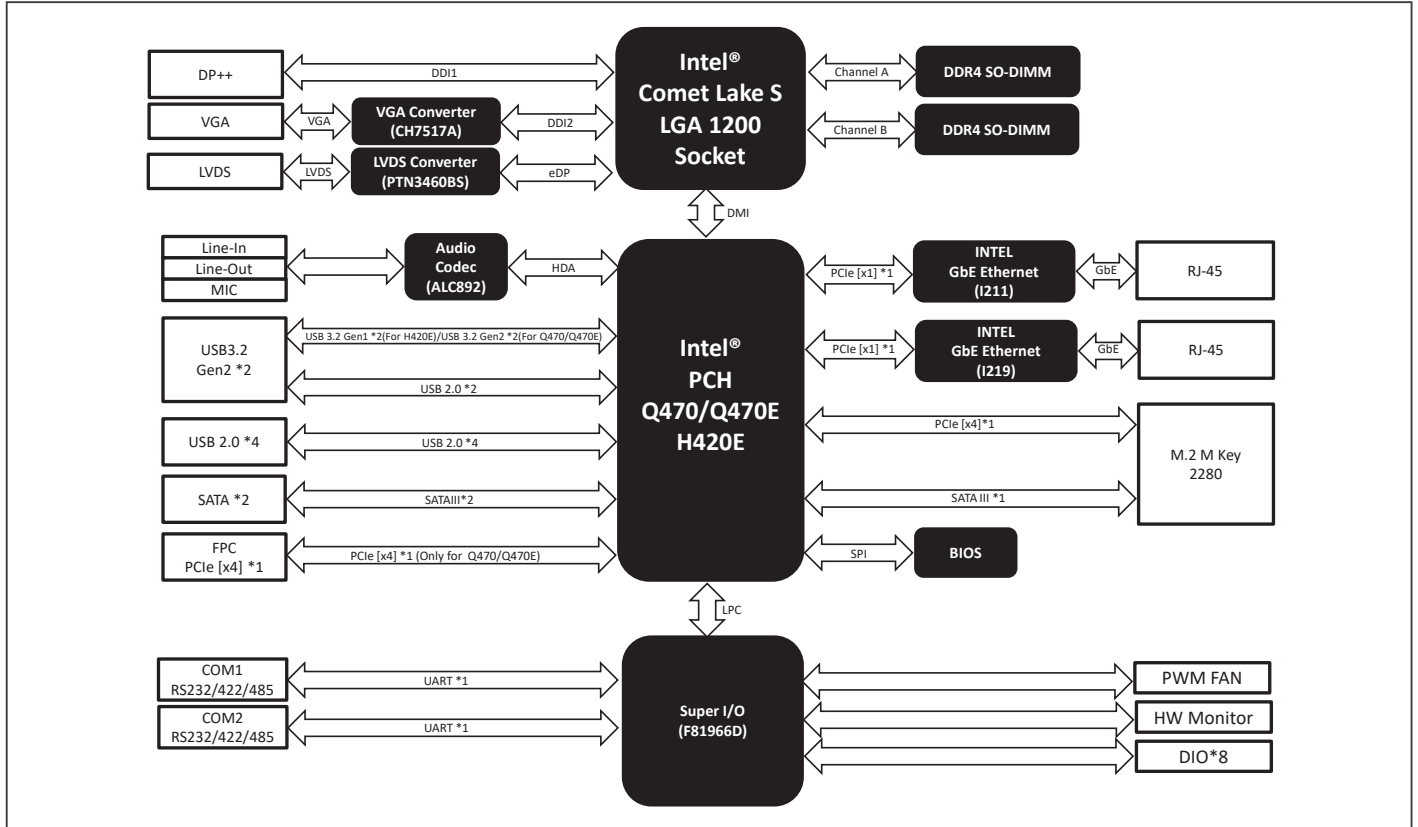
Optional Accessories

Part Number	Description	QTY
1709070460	(TF)SATA CABLE.7P Pitch 1.27mm.46cm.W/LOCK	2
1702150155	(TF)Power Cable.15P SATA(F).2P 2.0mm Housing(PH).15cm	1
170010010D	(TF)USB Cable.2*5P.Pitch=1.0mm Housing.Dual USB A type.10cm.	2
1701090122	(TF)Flat Cable.D-Sub 9P(M).9P 1.0mm Housing.12cm	2
GENE-CML5-FAN01	CPU Cooler	1

CPU Support Chart

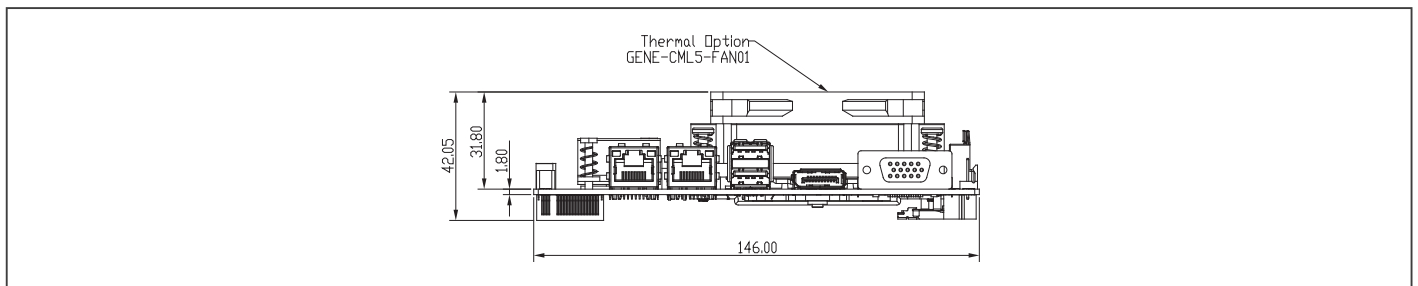
CPU	Base Frequency/ Turbo Boost GHz	Core/ Thread	Last Level Cache	TDP	Graphic
i7-10700TE	2.0/4.4	8/16	16M	35W	UHD Graphics 630
i5-10500TE	2.3/3.7	6/12	15M	35W	UHD Graphics 630
i3-10100TE	2.3/3.6	4/8	6M	35W	UHD Graphics 630
G6400TE	3.2	2/4	4M	35W	UHD Graphics 610
G5900TE	3.0	2/2	2M	35W	UHD Graphics 610

Block Diagram



Dimension

Unit: mm

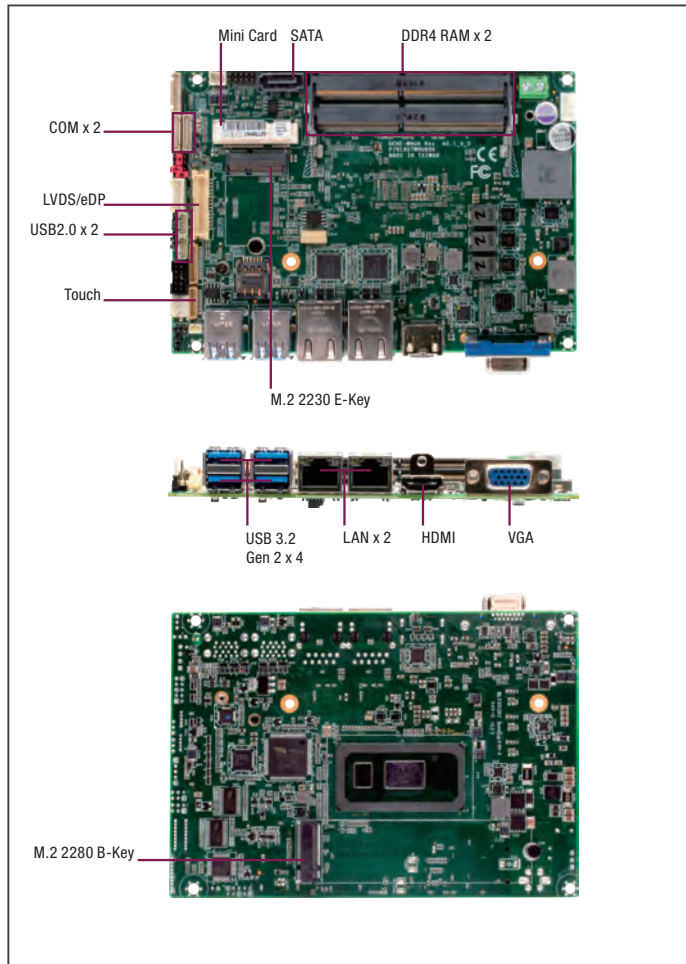


Ordering Information

Part Number	CPU	Fan/ Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/ 422/485	Expansion Slot	Power	Power Temp	Others
GENE-CML5-A10-0001 (Q470E)	FCLGA1200 (Socket Type)	Cooler	DP++ x 1, VGA x 1, LVDS x 1	18/24-bit, 2CH	SATA x 2	GbE x 2	USB 3.2 Gen 2 x 2 USB 2.0 x 4	—	2	M.2 2280 M Key x 1	12V	0°C – 60°C	DIO x 8, TPM 2.0
GENE-CML5-A10-0002 (H420E)	FCLGA1200 (Socket Type)	Cooler	DP++ x 1, VGA x 1, LVDS x 1	18/24-bit, 2CH	SATA x 2	GbE x 2	USB 3.2 Gen 1 x 2 USB 2.0 x 4	—	2	M.2 2280 M Key x 1	12V	0°C – 60°C	DIO x 8, TPM 2.0

GENE-WHU6

3.5" SubCompact Board with 8th Generation Intel® Core™ i7/i5/i3/Celeron® Processor SoC



Specifications

System	
Form Factor	3.5" SubCompact Board
CPU	Intel® 8th Generation Core™ i7/i5/i3/Celeron SoC i7-8665UE (4C, 1.7GHz, up to 4.4GHz) i5-8365UE (4C, 1.6GHz, up to 4.1GHz) i3-8145UE (2C, 2.2GHz, up to 3.9GHz) 4305UE (2C, 2GHz)
CPU Frequency	Up to 4.4GHz
Chipset	8th Generation Intel® Processor SoC
Memory Type	2400 MHz Dual Channel DDR4 (Non-ECC) SODIMM x 2
Max. Memory Capacity	Up to 64GB
BIOS	UEFI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+9-36V (Optional: +12V)
Power Supply Type	AT/ATX
Power Consumption (Typical)	Intel® i7-8665UE, DDR4 2400 MHz 16GB, 2.8A@ +12V
Dimension (L x W)	5.75" x 4" (146mm x 101.7mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 81°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	354,194
Certification	CE/FCC

Features

- Intel® Core™ i7/i5/i3/Celeron Processor SoC
- Non-ECC DDR4 SODIMM Slot x 2, up to 64GB
- LVDS/eDP x 1 (Default: LVDS), VGA x 1, HDMI 2.0 x 1
- GbE x 2, SATA III x 1, DIO x 8bit
- USB 3.2 Gen 2 x 4 (Up to Gen 2), RS-232/422/485 x 2
- Full size mSATA/mPCIe Slot x 1 (With Nano-SIM)
- M.2 2280 B key x 1, M.2 2230 E key x 1
- Wide DC Input 9-36V (Optional: 12V Only)



Display	
VGA/LCD Controller	Intel® 8th Generation Core™ i7/i5/i3/Celeron SoC
Video Output	LVDS/eDP x 1 (Default: LVDS), VGA x 1, HDMI 2.0 x 1
Backlight inverter supply	Yes
I/O	
Ethernet	Intel® i210/i211 & i219, 10/100/1000Base, RJ 45 x2
Audio	High Definition Audio Interface
USB Port	USB 3.2 Gen 2 x 4/2.0 x 2 (Up to Gen2)
Serial Port	RS-232/422/485 x 2
Parallel Port	—
HDD Interface	SATA 3.0 x 1 +5V SATA power connector x 1
FDD Interface	—
SSD	Full size mSATA/mPCIe x 1 with NANO-SIM (mSATA as default, select by BIOS) M.2 2280 B key (PCI-e as default, SATA select by BIOS)
Expansion Slot	M.2 2230 E key x 1 (For WIFI/BT, PCIe/USB signal only) SMBUS/I2C/LPC/eSPI x 1
DIO	8 Bit
SIM	x 1 (NANO-SIM)
TPM	—
Touch	x 1

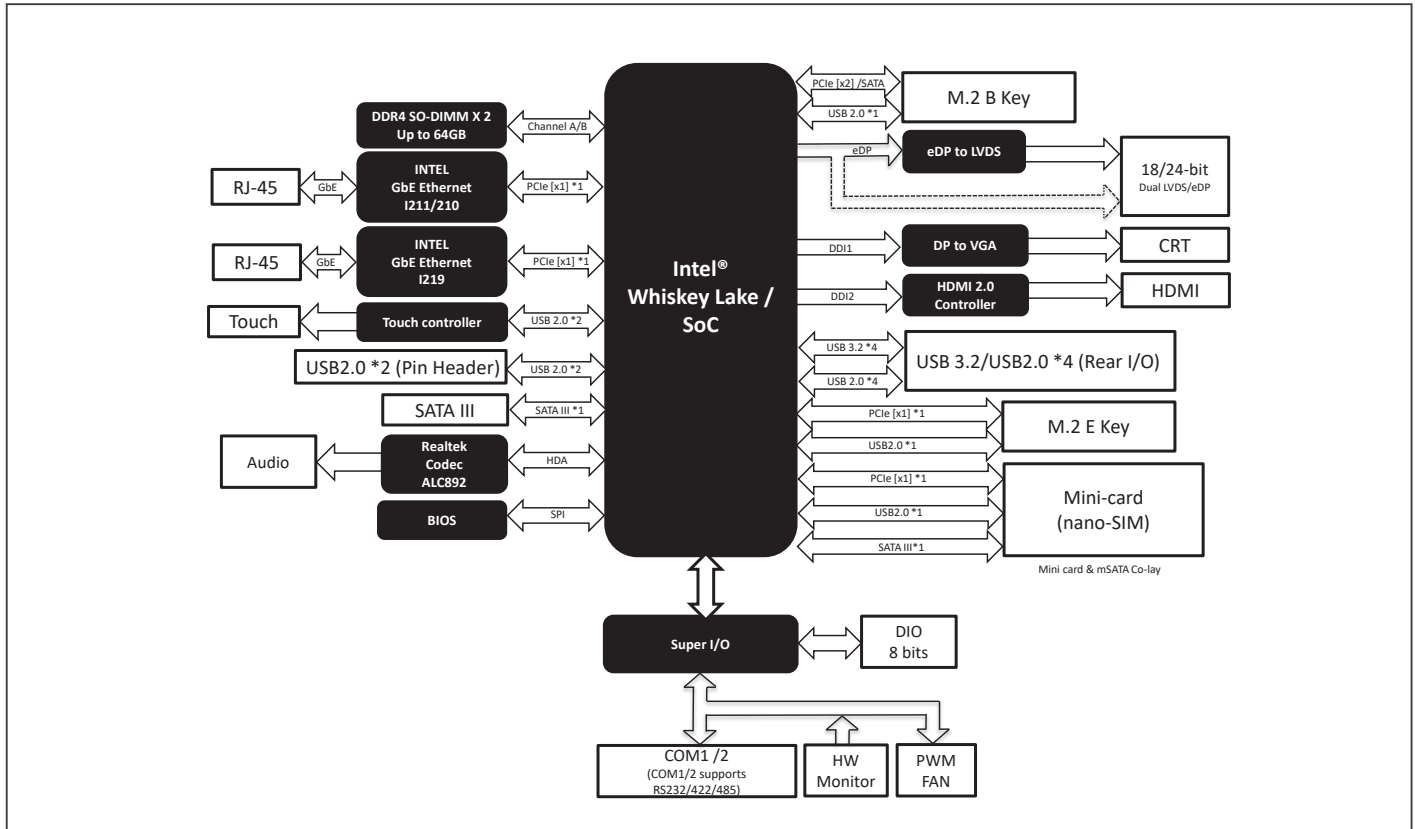
Packing List

- GENE-WHU6 with Heatspreader

Optional Accessories

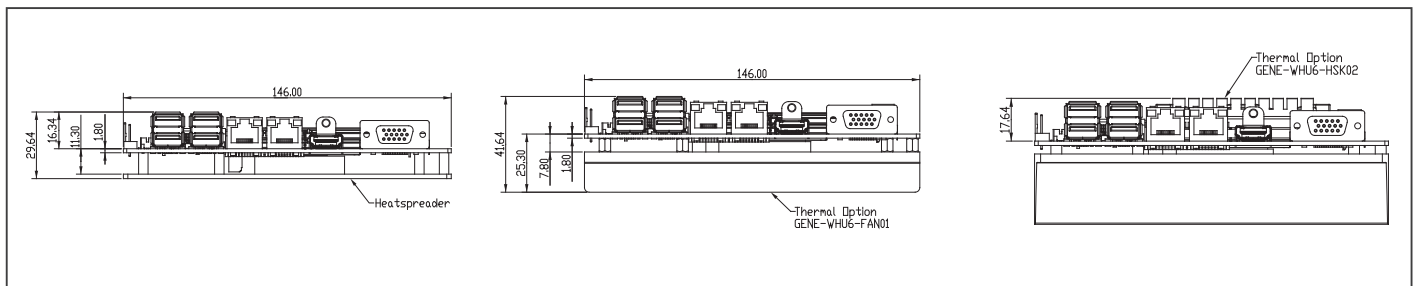
Part Number	Description	QTY
1702150155	(TF)Power Cable.15P SATA(F).2P 2.0mm Housing(PH).15cm	1
1709070500	(TF)SATA CABLE.7P Pitch 1.27mm.50cm	1
1702002010	(TF)Power CABLE.1*2P Pitch=5.0mm Housing.10cm.for PFM-945C.(12V only)	1
1709100254	(TF)PHONE JACK Cable.3P AUDIO JACK.1*10P 1.25mm HOUSING(F).25cm	1
170220020B	(TF)Power Cable.20P ATX(M).4P 5.08mm Housing(F).+3P 2.5mm Housing (XH).20cm	1
1701090150	(TF)Flat Cable.D-Sub 9(M).9P Housing.9P 1.25mm pitch Housing.15cm	2
1700050207	(TF)USB CABLE.1*5P Pitch=1.25mm Housinh.20cm.for PFM-945C	2
GENE-WHU6-FAN01	CPU Cooler.146x78.6x23.5mm.3P.3600RPM.for GENE-WHU6	1
GENE-WHU6-HSK01	Heatsink.146*101.6*32.5mm.Silver. for GENE-WHU6(for i3 & Celeron)	1
GENE-WHU6-HSK02	Heat Sink.72*28*10mm.GENE-WHU6.SODIMM DDR4	1

Block Diagram



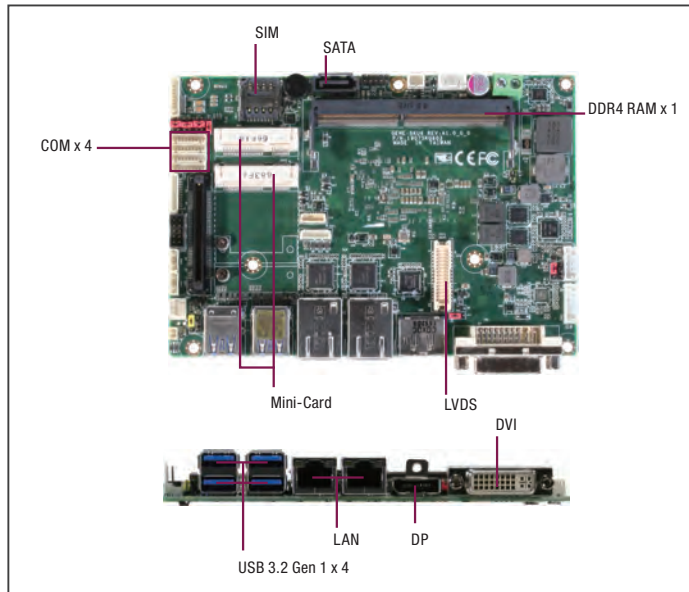
Dimension

Unit: mm



Ordering Information

Part Number	CPU	Fan/Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Power Temp	Others
GENE-WHU6-A10-0001	i3-8145UE	Fanless	VGA+HDMI+LVDS	18/24-bit, 2CH	SATA x 1 mSATA (Full size)x 1	GbE x 2	USB 3.2 Gen 2 x 4	—	2	M.2 2280 B Key x1 M.2 2230 E Key x1	9 ~ 36V	0°C ~ 60°C	DIO x 8, nano SIM, Touch Controller
GENE-WHU6-A10-0002	i5-8365UE	Fanless	VGA+HDMI+LVDS	18/24-bit, 2CH	SATA x 1 mSATA (Full size)x 1	GbE x 2	USB 3.2 Gen 2 x 4	—	2	M.2 2280 B Key x1 M.2 2230 E Key x1	9 ~ 36V	0°C ~ 60°C	DIO x 8, nano SIM, Touch Controller
GENE-WHU6-A10-0003	i7-8665UE	Fanless	VGA+HDMI+LVDS	18/24-bit, 2CH	SATA x 1 mSATA (Full size)x 1	GbE x 2	USB 3.2 Gen 2 x 4	—	2	M.2 2280 B Key x1 M.2 2230 E Key x1	9 ~ 36V	0°C ~ 60°C	DIO x 8, nano SIM, Touch Controller



Features

- 7th Generation Intel® Core™ i7/i5/i3/Celeron® Processor SoC
- DDR4 1866/2133, SODIMM x 1
- DVI, 18/24-bit Dual-Channel LVDS
- 2 CH Audio
- SATA 6.0 Gb/s x 1 & mSATA (Share with Half-size Mini-Card and Selective by BIOS)
- Supports 8-bit Digital I/O, USB 2.0 x 2, USB 3.2 Gen 1 x 4
- COM x 4 (RS-232 x 1, RS-232/422/485 x 3)
- Mini-Card Slot x 1 (Full size), TPM, SIM
- Wide DC Support 9~36V, +12V Only (Optional)
- 4/5/8-wire Resistive Touch Screen Controller
- BIO Connector for Daughter Board
- Solder Design for System Assembly and Thermal



Specifications

System	
Form Factor	3.5" SubCompact Board
CPU	7th Generation Intel® Core™ i7-7600U Processor SoC
CPU Frequency	Up to 3.9GHz
Chipset	7th Generation Intel® Processor SoC
Memory Type	DDR4 1866/2133, SODIMM x 1
Max. Memory Capacity	Up to 16GB
BIOS	UEFI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+9 ~ 36V or +12V
Power Supply Type	AT/ ATX
Power Consumption (Typical)	Intel® i7-7600U, DDR4 2400MHz 16GB, 1.85A@ +12V
Dimension (L x W)	5.75" x 4" (146 mm x 101.7 mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 81°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	123,000
Certification	CE/FCC
Display	
VGA/LCD Controller	7th Generation Intel® Processor SoC
Video Output	Default: DP+LVDS+DVI-D Option: LVDS+DVI-I(include VGA signal)
Backlight inverter supply	Yes
I/O	
Ethernet	Intel® i210/i211, 10/100/1000Base-TX, RJ-45 x 2
Audio	High Definition Audio Interface
USB Port	USB 3.2 Gen 1 x 4, USB 2.0 x 2
Serial Port	RS-232 x 1, RS-232/422/485 x 3
Parallel Port	—
HDD Interface	SATA 3.0 x 1, +5V SATA power connector x 1
FDD Interface	—
SSD	mSATA (Shared with half-size MiniCard and Selected by BIOS)
Expansion Slot	BIO x 1 Mini-Card x 2 and default is mSATA x 1 (Half-size), Mini-Card x 1 (Full-size)
DIO	8-bit
SIM	x 1
TPM	TPM 2.0 x 1
Touch	x 1

Packing List

- GENE-KBU6 with Heatspreader

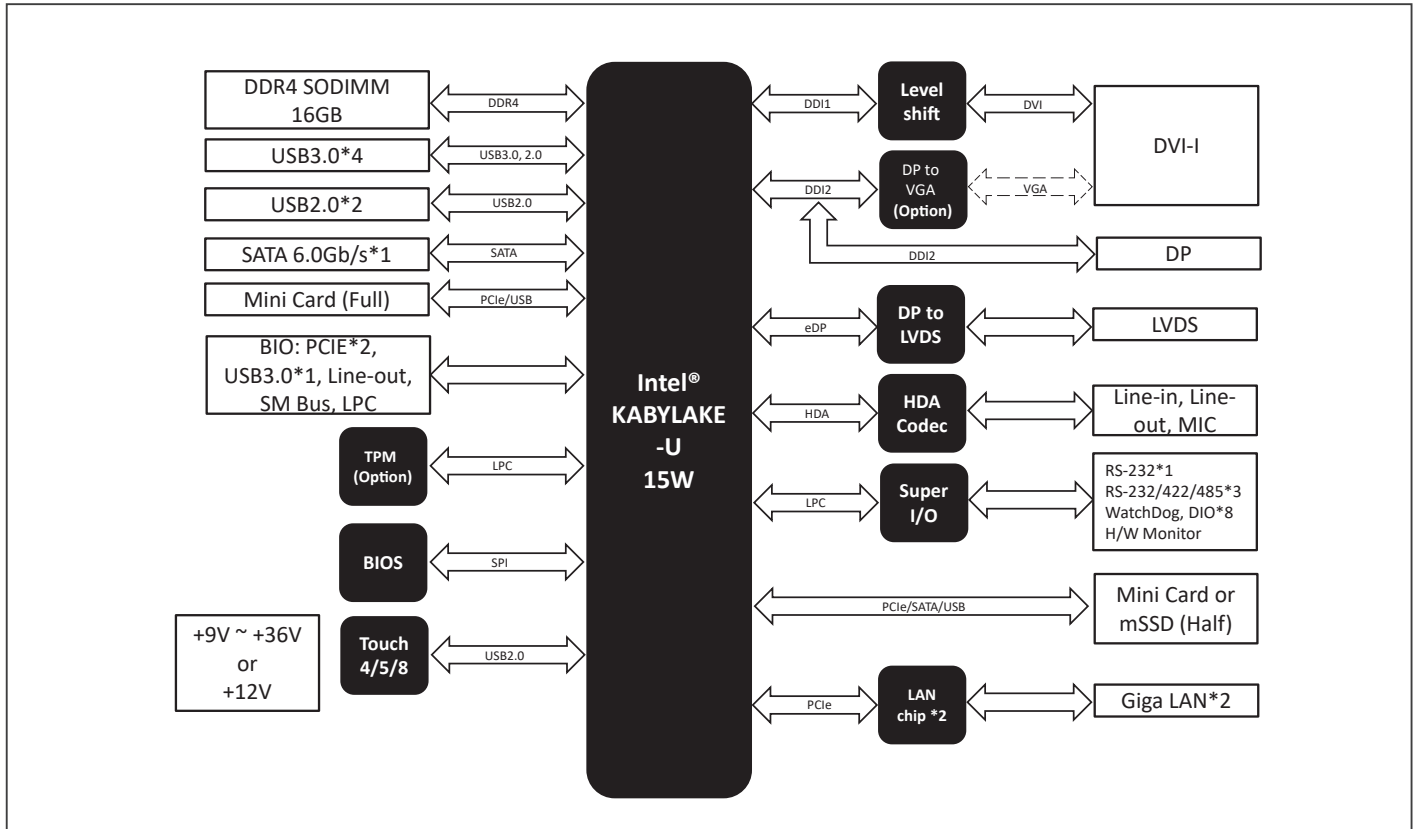
Optional Accessories

Part Number	Description	QTY
1700050207	(TF)USB CABLE, 1 x 5P Pitch=1.25mm Housinh, 20cm, for PFM-945C	2
1701090150	(TF)Flat Cable, D-Sub 9(M), 9P Housing, 9P 1.25mm pitch Housing, 15cm	4
1709100254	(TF)PHONE JACK Cable, 3P AUDIO JACK, 1 x 10P 1.25mm HOUSING(F), 25cm	1
1702150155	(TF)Power Cable, 15P SATA(F), 2P 2.0mm Housing(PH), 15cm	1
170220020B	(TF)Power Cable, 20P ATX(M), 4P 5.08mm Housing(F), +3P 2.5mm Housing (XH), 20cm	1
1702002010	(TF)Power CABLE, 1 x 2P Pitch=5.0mm Housing, 10cm, for PFM-945C, (12V only)	1
GENE-KBU6-FAN01	CPU Cooler, 3P, 5000RPM, A1.0, REV. A1.0	1
GENE-KBU6-HSK02	Heatsink, 146 x 101.6 x 29mm, Silver, for GENE-KBU6	1
GENE-KBU6-HSK03	Heatsink for DDR4 SO-DIMM	1

CPU Support Chart

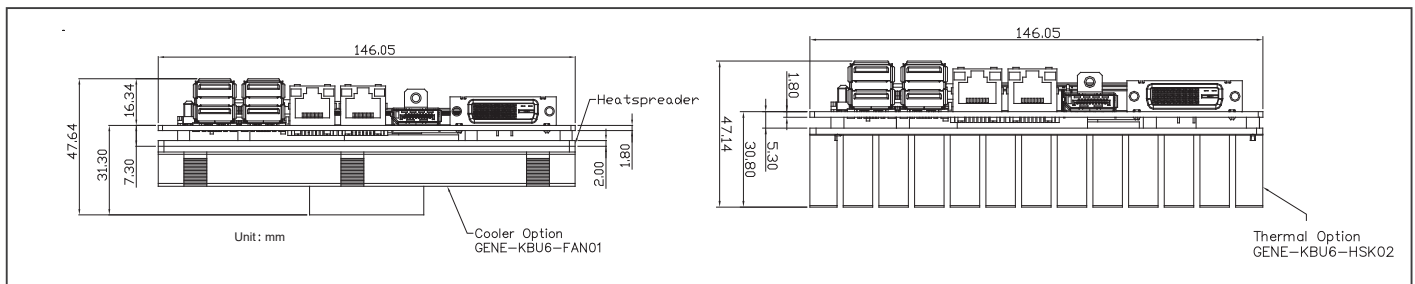
CPU	Base Frequency/ Turbo Boost GHz	Core/ Thread	Last Level Cache	TDP	Graphic
i7-7600U	2.8/3.9	2/4	4M	15W	GT2 - 620
i5-7300U	2.6/3.5	2/4	3M	15W	GT2 - 620
i3-7100U	2.4	2/4	3M	15W	GT2 - 620
C-3965U	2.2	2/2	2M	15W	GT1 - 610

Block Diagram



Dimension

Unit: mm

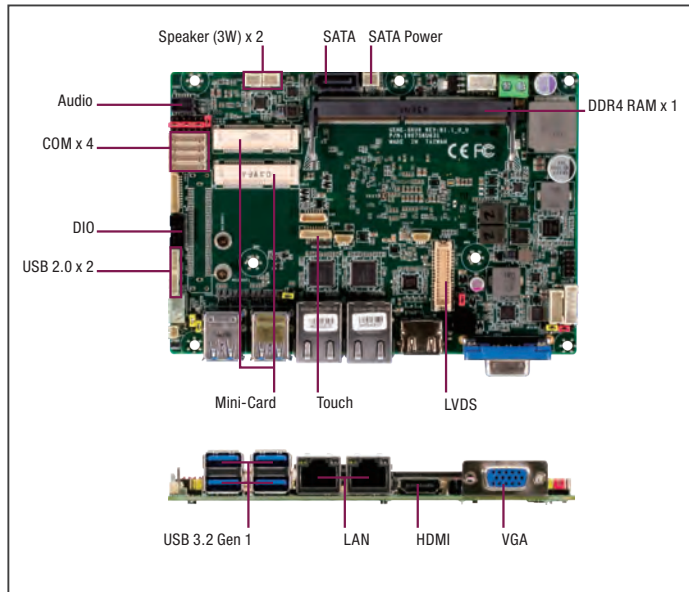


Ordering Information

Part Number	CPU	Fan/Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Power Temp	Others
GENE-KBU6-A10-0001	Intel® i7-7600U	Fanless	DVI-D+LVDS+DP	18/24-bit, 2CH	SATA x 1, mSATA x 1	GbE x 2	USB 3.2 Gen 1 x 4, USB 2.0 x 2	1	3	MiniCard x 1 (Full-size)	9~36V	0°C ~ 60°C	DIO x 8, SIM, Touch Controller, TPM
GENE-KBU6-A10-0002	Intel® i5-7300U	Fanless	DVI-D+LVDS+DP	18/24-bit, 2CH	SATA x 1, mSATA x 1	GbE x 2	USB 3.2 Gen 1 x 4, USB 2.0 x 2	1	3	MiniCard x 1 (Full-size)	9~36V	0°C ~ 60°C	DIO x 8, SIM, Touch Controller, TPM
GENE-KBU6-A10-0003	Intel® i3-7100U	Fanless	DVI-D+LVDS+DP	18/24-bit, 2CH	SATA x 1, mSATA x 1	GbE x 2	USB 3.2 Gen 1 x 4, USB 2.0 x 2	1	3	miniCard x 1 (Full-size)	9~36V	0°C ~ 60°C	DIO x 8, SIM, Touch Controller, TPM

GENE-SKU6 Rev. B

3.5" SubCompact Board with Intel® Core™ i7/i5/i3/Celeron® Processor SoC



Features

- Intel® Core™ i7/i5/i3/Celeron® Processor SoC
- DDR4 1866/2133, SODIMM x 1
- VGA, HDMI, 18/24-bit Dual Channel LVDS
- 2 CH Audio, 3W Speaker
- SATA 6.0 Gb/s x 1 & mSATA (Shared with Half-size Mini-Card and Selected by BIOS)
- Supports 8-bit Digital I/O, USB 2.0 x 2, USB 3.2 Gen 1 x 4
- COM x 4 (RS-232 x 1, RS-232/422/485 x 3)
- Mini-Card Slot x 1 (Shared with full-size mSATA and Selected by BIOS), TPM
- Wide DC Support 9~36V, +12V Only (Optional)
- 4/5/8-wire Resistive Touch Screen Controller
- BIO Connector for Daughter Board (Optional)
- Solder Design for System Assembly and Thermal



Specifications

System	
Form Factor	3.5" SubCompact Board
CPU	6th Generation Intel® Core™ Processor SoC i7-6600U, i5-6300U, i3-6100U, Celeron® 3955U
CPU Frequency	Up to 3.0GHz
Chipset	6th Generation Intel® Core™ Processor SoC i7-6600U, i5-6300U, i3-6100U, Celeron® 3955U
Memory Type	DDR4 1866/2133, SODIMM x1
Max. Memory Capacity	Up to 16 GB
BIOS	UEFI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+9~36V or +12V
Power Supply Type	AT/ ATX
Power Consumption (Typical)	Intel® i7-6600U, 6600U, DDR4 2400MHz 16GB, 0.73A at +36V
Dimension (L x W)	5.75" x 4" (146 mm x 101.7 mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 81°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	371,039
Certification	CE/FCC Class A
Display	
VGA/LCD Controller	6th Generation Intel® Core™ Processor U Series
Video Output	VGA x 1, HDMI x 1, LVDS (18/24 bit) x 1
Backlight inverter supply	Yes
I/O	
Ethernet	Intel® i210IT, 10/100/1000Base, RJ-45 x 2 (Rear I/O)
Audio	Audio x 1 (Line-in/Line-Out/Mic, pin header) Speaker 3W x 2 (2 pin)
USB Port	USB 3.2 Gen 1 x 4 (Rear I/O) USB 2.0 x 2 (Pin header)
Serial Port	RS-232 x 1, RS-232/422/485 x 3
Parallel Port	—
HDD Interface	SATA 3.0 x 1 +5V SATA power connector x 1
FDD Interface	—
SSD	mSATA x 1 (Shared with Half-size Mini-Card, selected by BIOS)
Expansion Slot	BIO x 1 (Optional) Mini-Card x 1 (shared with full-size mSATA, selected by BIOS)
DIO	8-bit
SIM	—
TPM	TPM2.0
Touch	Yes

Packing List

- GENE-SKU6 with Heatspreader

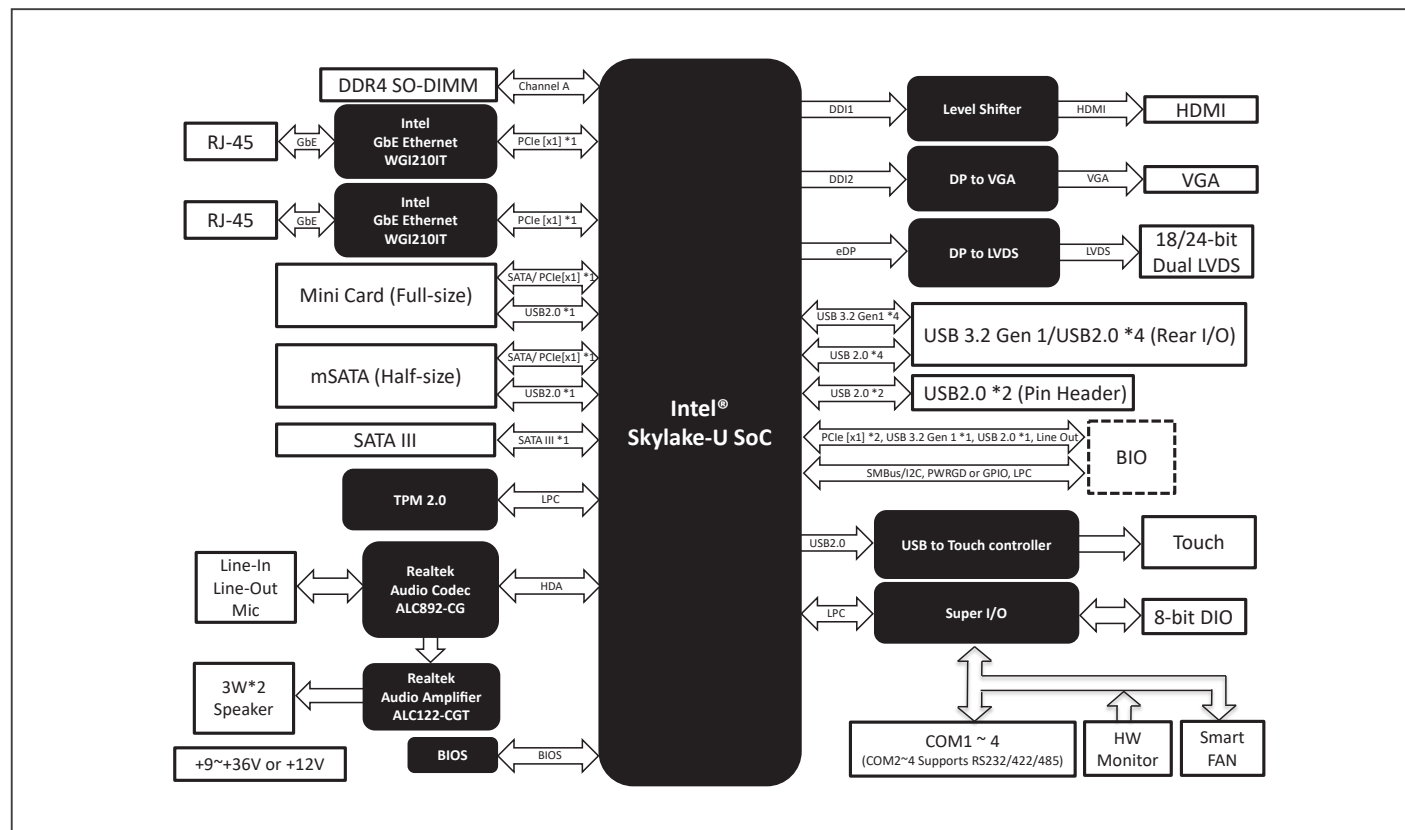
Optional Accessories

Part Number	Description	QTY
1700050207	(TF)USB CABLE.1*5P Pitch=1.25mm Housinh.20cm.for PFM-945C	2
1701090150	(TF)Flat Cable.D-Sub 9(M).9P Housing.9P 1.25mm pitch Housing.15cm	4
170X000156	(TF)Cable.12P.Pitch=1.0mm.250mm.FLYINGWAY.FWAA-1345.Audio cable	1
1702150155	(TF)Power Cable.15P SATA(F).2P 2.0mm Housing(PH).15cm	1
170220020B	(TF)Power Cable.20P ATX(M).4P 5.08mm Housing(F).+3P 2.5mm Housing(XH).20cm	1
1702002010	(TF)Power CABLE.1*2P Pitch=5.0mm Housing.10cm.for PFM-945C.(12V only)	1
GENE-SKU6-FAN01	CPU Cooler, 3P, 5000RPM, A1.0, REV. A1.0	1
GENE-SKU6-HSK02	Heatsink, 146 x 101.6 x 29mm, Silver, for GENE-SKU6	1
GENE-SKU6-HSK03	Heat Sink.72*28*10mm.GENE-SKU6.SODIMM DDR4	1

OS Support Chart

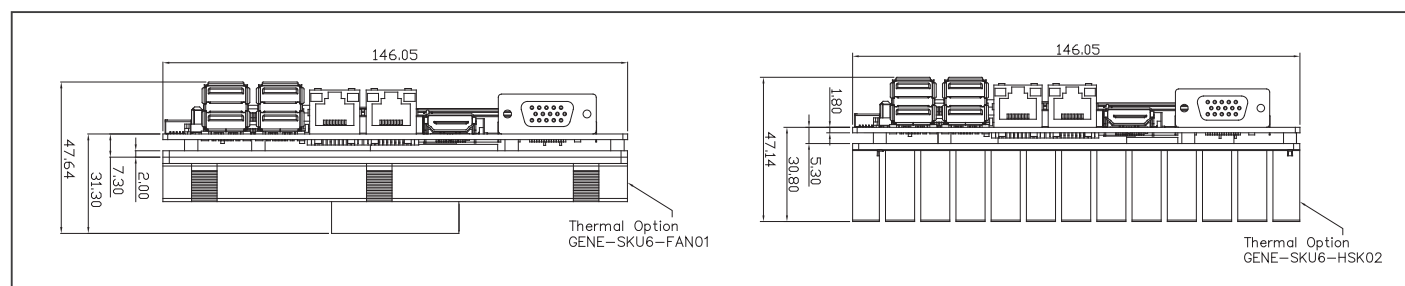
CPU	Base Frequency/ Turbo Boost GHz	Core/ Thread	Last Level Cache	TDP	Graphic
i7-6600U	2.6/3.4	2/4	4M	15W	GT2 - 520
i5-6300U	2.4/3.0	2/4	3M	15W	GT2 - 520
i3-6100U	2.3	2/4	3M	15W	GT2 - 520
C-3955U	2	2/2	2M	15W	GT1 - 510

Block Diagram



Dimension

Unit: mm

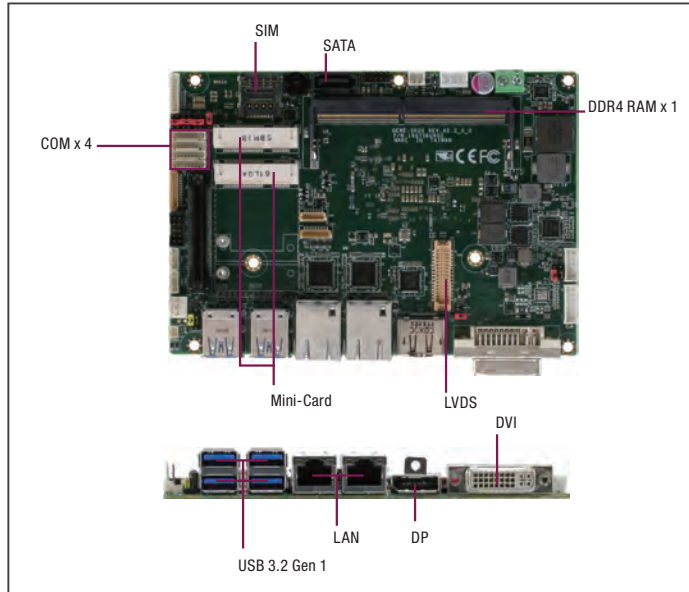


Ordering Information

Part Number	CPU	Fan/Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Power Temp	Others
GENE-SKU6-B11-0001	Intel® i7-6600U	Fanless	VGA+HDMI+LVDS	18/24-bit, 2CH	SATA x 1 mSATA x 1	GbE x 2	USB 3.2 Gen 1 x 4 USB 2.0 x 2	1	3	miniCard x 1 (Full-size)	9-36V	0°C - 60°C	DIO x 8, Touch Controller, TPM
GENE-SKU6-B11-0002	Intel® i5-6300U	Fanless	VGA+HDMI+LVDS	18/24-bit, 2CH	SATA x 1 mSATA x 1	GbE x 2	USB 3.2 Gen 1 x 4 USB 2.0 x 2	1	3	miniCard x 1 (Full-size)	9-36V	0°C - 60°C	DIO x 8, Touch Controller, TPM
GENE-SKU6-B11-0003	Intel® i3-6100U	Fanless	VGA+HDMI+LVDS	18/24-bit, 2CH	SATA x 1 mSATA x 1	GbE x 2	USB 3.2 Gen 1 x 4 USB 2.0 x 2	1	3	miniCard x 1 (Full-size)	9-36V	0°C - 60°C	DIO x 8, Touch Controller, TPM

GENE-SKU6

3.5" SubCompact Board with Intel® Core™ i7/i5/i3/Celeron® Processor SoC



Features

- Intel® Core™ i7/i5/i3/Celeron® Processor SoC
- DDR4 1866/2133, SODIMM x 1
- DVI, DP, 18/24-bit Dual-Channel LVDS
- 2 CH Audio
- SATA 6.0 Gb/s x 1 & mSATA (Shared with Half-size Mini-Card and Selected by BIOS)
- Supports 8-bit Digital I/O, USB 2.0 x 2, USB 3.2 Gen 1 x 4
- COM x 4 (RS-232 x 1, RS-232/422/485 x 3)
- Mini-Card Slot x 1 (Full size), TPM, SIM
- Wide DC Support 9~36V, +12V Only (Optional)
- 4/5/8-wire Resistive Touch Screen Controller
- BIO Connector for Daughter Board
- Solder Design for System Assembly and Thermal



Specifications

System	
Form Factor	3.5" SubCompact Board
CPU	6th Generation Intel® Core™ i7-6600U/i5-6300U Processor SoC
CPU Frequency	Up to 3.0GHz
Chipset	6th Generation Intel® Core™ i7-6600U/i5-6300U Processor SoC
Memory Type	DDR4 1866/2133, SODIMM x1
Max. Memory Capacity	Up to 16 GB
BIOS	UEFI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+9~36V or +12V
Power Supply Type	AT/ ATX
Power Consumption (Typical)	Intel® i7-6600U, DDR4 2133MHz 16GB, 1.75A@ +12V
Dimension (L x W)	5.75" x 4" (146 mm x 101.7 mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 81°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	123,000
Certification	CE/FCC
Display	
VGA/LCD Controller	6th Generation Intel® Core™ Processor SoC
Video Output	Default: DP+LVDS+DVI-D Option: LVDS+DVI-I (include VGA signal)
Backlight inverter supply	Yes
I/O	
Ethernet	Intel® i210/i211, 10/100/1000Base-TX, RJ-45 x 2
Audio	High Definition Audio Interface
USB Port	USB 3.2 Gen 1 x 4 USB 2.0 x 2
Serial Port	RS-232 x 1, RS-232/422/485 x 3
Parallel Port	—
HDD Interface	SATA 3.0 x 1 +5V SATA power connector x 1
FDD Interface	—
SSD	mSATA (Shared with Half-size Mini-Card and Selected by BIOS)
Expansion Slot	BIO x 1 mSATA x 1 (Half-size), Mini-Card x 1 (Full-size)
DIO	8-bit
SIM	x 1
TPM	TPM2.0
Touch	x 1

Packing List

- GENE-SKU6 with Heatspreader

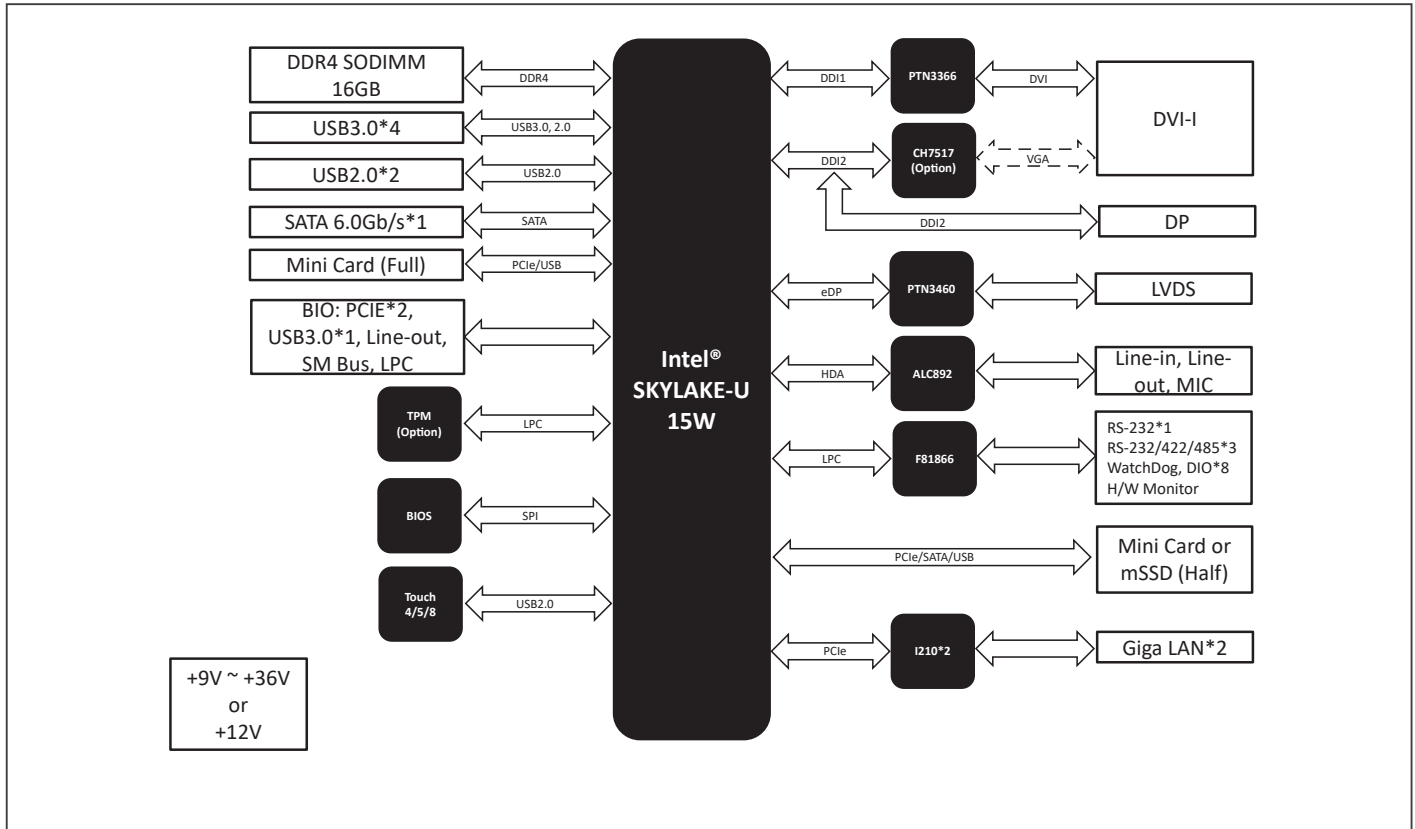
Optional Accessories

Part Number	Description	QTY
1700050207	(TF)USB CABLE.1*5P Pitch=1.25mm Housinh.20cm.for PFM-945C	2
1701090150	(TF)Flat Cable.D-Sub 9(M).9P Housing.9P 1.25mm pitch Housing.15cm	4
1709100254	(TF)PHONE JACK Cable.3P AUDIO JACK.1*10P 1.25mm HOUSING(F).25cm	1
1702150155	(TF)Power Cable.15P SATA(F).2P 2.0mm Housing(PH).15cm	1
170220020B	(TF)Power Cable.20P ATX(M).4P 5.08mm Housing(F).+3P 2.5mm Housing(XH).20cm	1
1702002010	(TF)Power CABLE.1*2P Pitch=5.0mm Housing.10cm.for PFM-945C.(12V only)	1
GENE-SKU6-FAN01	CPU Cooler, 3P, 5000RPM, A1.0, REV. A1.0	1
GENE-SKU6-HSK01	Al, Heatsink, 146 x 80 x 14mm, Silver, REV. A1.0	1
GENE-SKU6-HSK02	Heatsink, 146 x 101.6 x 29mm, Silver, for GENE-SKU6	1
GENE-SKU6-HSK03	Heat Sink.72*28*10mm.GENE-SKU6.SODIMM DDR4	1

CPU Support Chart

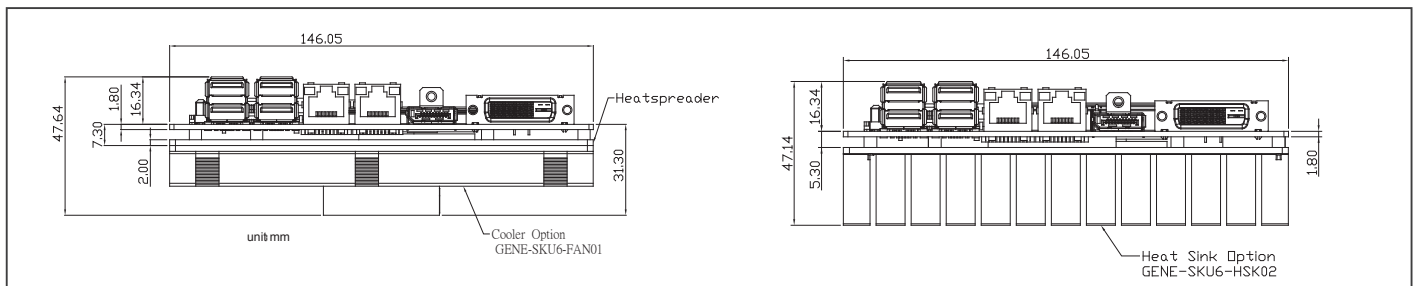
CPU	Base Frequency/ Turbo Boost GHz	Core/ Thread	Last Level Cache	TDP	Graphic
i7-6600U	2.6/3.4	2/4	4M	15W	GT2 - 520
i5-6300U	2.4/3.0	2/4	3M	15W	GT2 - 520
i3-6100U	2.3	2/4	3M	15W	GT2 - 520
C-3955U	2	2/2	2M	15W	GT1 - 510

Block Diagram



Dimension

Unit: mm

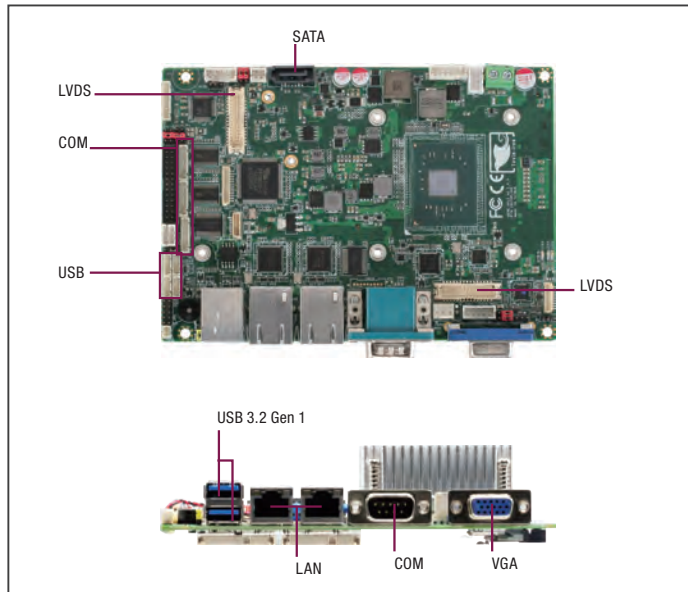


Ordering Information

Part Number	CPU	Fan/Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Power Temp	Others
GENE-SKU6-A10-0001	Intel® i5-6300U	Fanless	DVI-D+LVDS+DP	18/24-bit, 2CH	SATA x 1 mSATA x 1	GbE x 2	USB 3.2 Gen 1 x 4 USB 2.0 x 2	1	3	MiniCard x 1 (Full-size)	9~36V	0°C ~ 60°C	DIO x 8, SIM, Touch Controller, TPM
GENE-SKU6-A10-0002	Intel® i7-6600U	Fanless	DVI-D+LVDS+DP	18/24-bit, 2CH	SATA x 1 mSATA x 1	GbE x 2	USB 3.2 Gen 1 x 4 USB 2.0 x 2	1	3	MiniCard x 1 (Full-size)	9~36V	0°C ~ 60°C	DIO x 8, SIM, Touch Controller, TPM
GENE-SKU6W1-A10-0002	Intel® i7-6600U	Fanless	DVI-D+LVDS+DP	18/24-bit, 2CH	SATA x 1 mSATA x 1	GbE x 2	USB 3.2 Gen 1 x 4 USB 2.0 x 2	1	3	MiniCard x 1 (Full-size)	9~36V	-20°C ~ 70°C	DIO x 8, SIM, Touch Controller, TPM
GENE-SKU6-A10-0003	Intel® i3-6100U	Fanless	DVI-D+LVDS+DP	18/24-bit, 2CH	SATA x 1 mSATA x 1	GbE x 2	USB 3.2 Gen 1 x 4 USB 2.0 x 2	1	3	MiniCard x 1 (Full-size)	9~36V	0°C ~ 60°C	DIO x 8, SIM, Touch Controller, TPM

GENE-APL5

3.5" SubCompact Board with Intel® Pentium® N4200/ Celeron® N3350 Processor SoC



Features

- Intel® Pentium® N4200/ Celeron® N3350 Processor SoC
- DDR3L 1866 MHz SODIMM x 1, up to 8 GB
- VGA/LVDS/LVDS2 (HDMI Co-layout with LVDS2 Optional)
- 2 CH Audio, SATA 6.0 Gb/s x 1
- Supports 8-bit Digital I/O , USB 2.0 x 4 , USB 3.2 Gen 1 x 2 , COM x 4
- Mini Card x 1 (Half-size), mSATA x 1 (Full size)
- DC 12V Only or +9~19V (Optional), AT/ATX Mode
- Supports TPM (Optional)
- 4/5/8-wire Resistive Touch Screen Controller (Optional)



Specifications

System	
Form Factor	3.5" SubCompact Board
CPU	Intel® Pentium® N4200/ Celeron® N3350 Processor SoC
CPU Frequency	Up to 2.5 GHz
Chipset	Intel® Pentium® N4200/ Celeron® N3350 Processor SoC
Memory Type	DDR3L 1866MHz, SODIMM x 1
Max. Memory Capacity	Up to 8GB
BIOS	UEFI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+12V OR +9~19V (optional)
Power Supply Type	AT/ ATX
Power Consumption (Typical)	Intel® N4200, DDR3L 1600MHz 8GB, 1.57A@ +12V
Dimension (L x W)	5.75" x 4" (146 mm x 101.7 mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 81°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	128,000
Certification	CE/FCC
Display	
VGA/LCD Controller	Intel® Atom™ N4200/ N3350 Processor SoC integrate
Video Output	VGA/LVDS/ LVDS2 (co-layout with HDMI, optional)
Backlight inverter supply	Yes
I/O	
Ethernet	Intel® i210/i211, 10/100/1000Base-TX, RJ-45 x 2
Audio	High Definition Audio Interface
USB Port	USB 3.2 Gen 1 x 2 USB 2.0 x 4
Serial Port	RS-232 x 2 , RS-232/422/485 x 2
Parallel Port	SPP/EPP/ECP x 1 (Option, Shared with DIO)
HDD Interface	SATA 3.0 x 1 +5V SATA power connector x 1
FDD Interface	—
SSD	mSATA
Expansion Slot	mSATA x 1 (Full-size) MiniCard x 1 (Half-size)
DIO	8-bit
SIM	x 1 (uSIM) (Optional)
TPM	TPM2.0 x 1 (Optional)
Touch	x 1 (Optional)

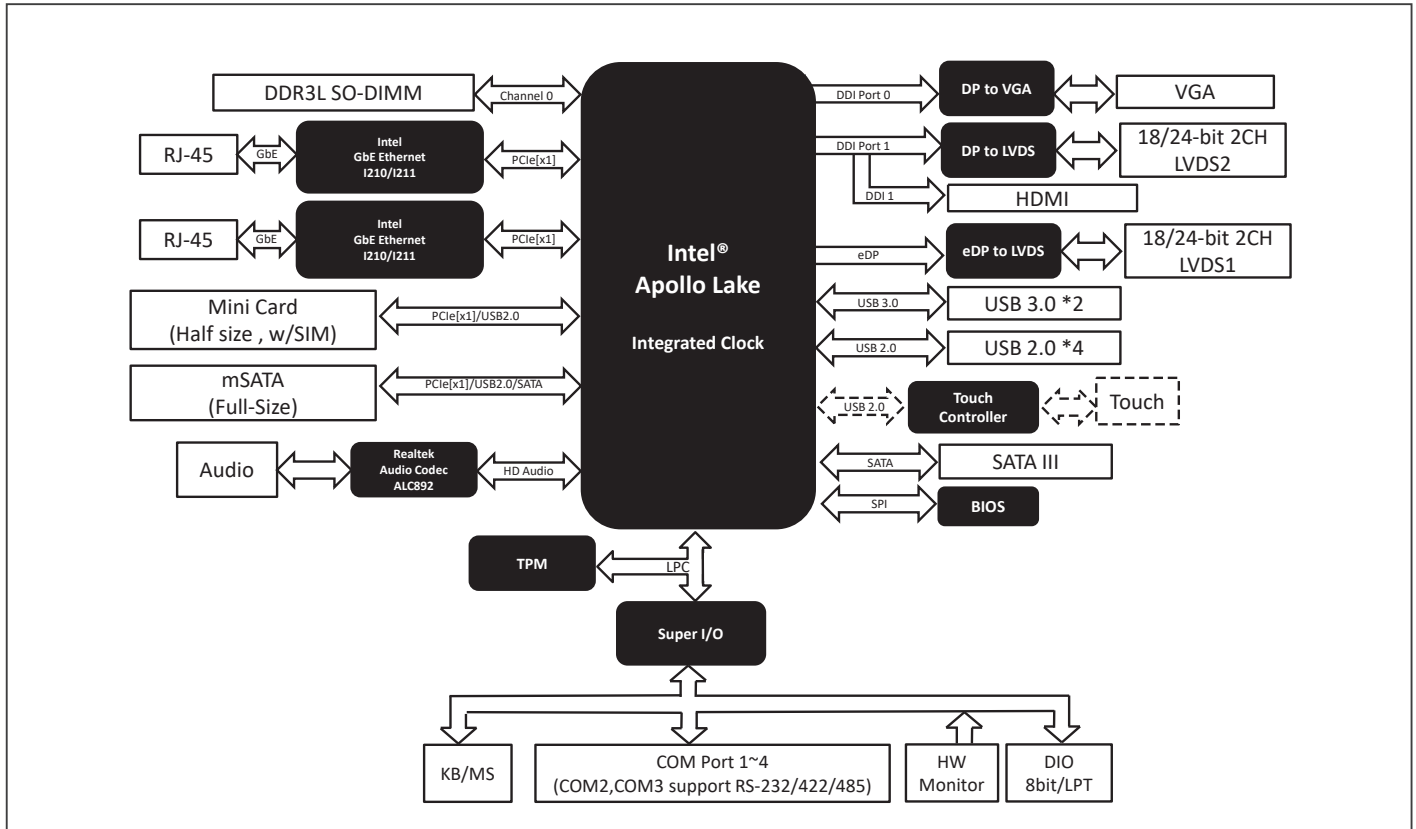
Packing List

- GENE-APL5 with Heatsink

Optional Accessories

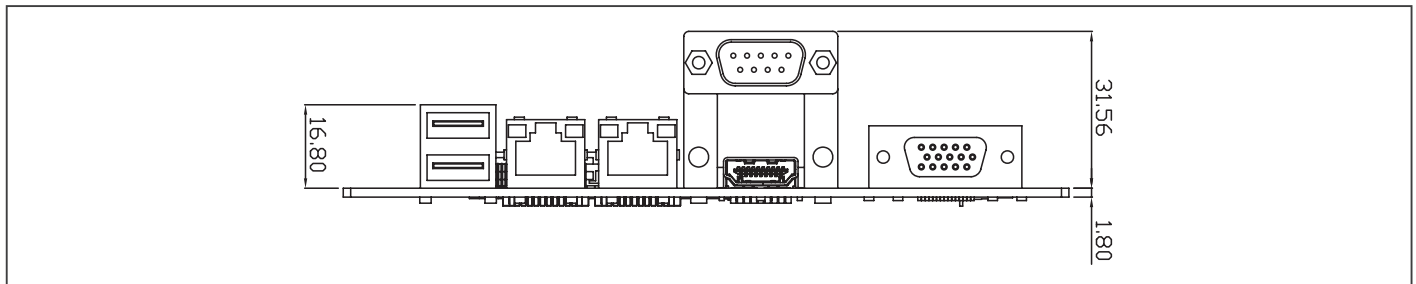
Part Number	Description	QTY
1700050207	(TF) USB CABLE.1*5P Pitch=1.25mm Housinh.20cm.for PFM-945C	4
1701090150	(TF) Flat Cable.D-Sub 9(M).9P Housing.9P 1.25mm pitch Housing.15cm	3
1709100254	(TF) PHONE JACK Cable.3P AUDIO JACK.1*10P 1.25mm HOUSING(F).25cm	1
1709070500	(TF) SATA CABLE.7P Pitch 1.27mm.50cm	1
1701260200	(TF) Flat Cable.25P D-SUB FEMALE.26P 2.00mm Pitch Housing.20cm	1
170204010R	(TF) Power Cable.Double 4P 5.08mm Housing(M).10cm	1
1702150155	(TF) Power Cable.15P SATA(F).2P 2.0mm Housing(PH).15cm	1
170220020B	(TF) Power Cable.20P ATX(M).4P 5.08mm Housing(F).+3P 2.5mm Housing(XH).20cm	1
1700060157	(TF) Cable.6P 2.0mm Housing.6P JACK W/SCREW KB&MS.15cm	1

Block Diagram



Dimension

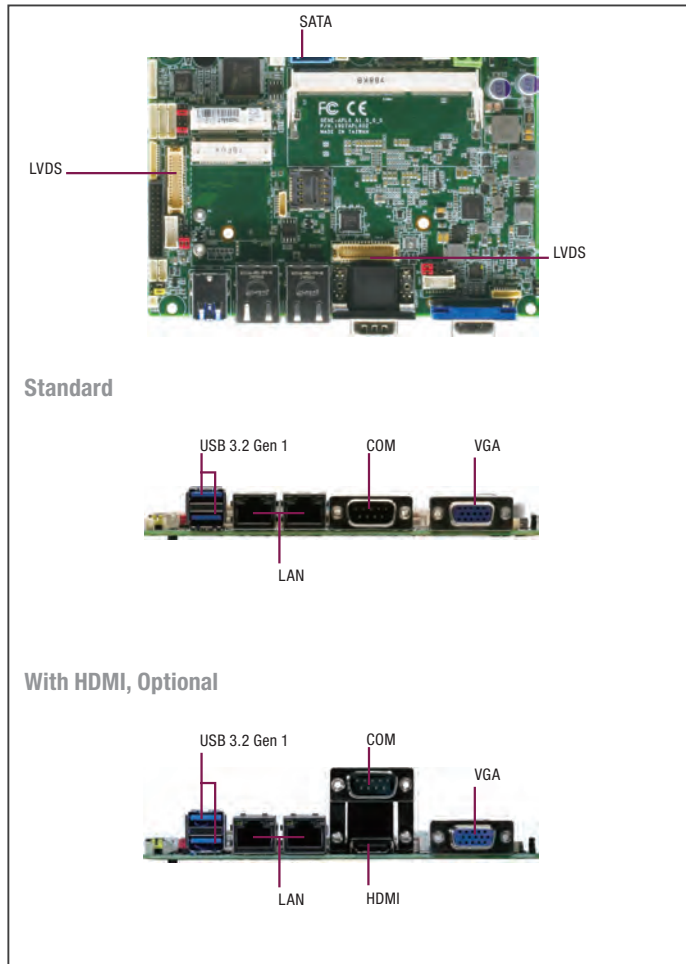
Unit: mm



Ordering Information

Part Number	CPU	Fan/Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Power Temp	Others
GENE-APL5-A11-F001	N3350	Fanless	VGA/LVDS	24bit, 2CH	SATA x 1, mSATA x 1 (Full-size)	GbE x 2	USB 3.2 Gen 1 x 2, USB 2.0 x 4	2	2	MiniCard x 1 (half size)	12V	0°C ~ 60°C	DIO x 8
GENE-APL5-A11-F002	N3350	Fanless	VGA/LVDS/ LVDS2	24bit, 2CH	SATA x 1, mSATA x 1 (Full-size)	GbE x 2	USB 3.2 Gen 1 x 2, USB 2.0 x 4	2	2	MiniCard x 1 (half size)	9~19V	0°C ~ 60°C	Touch Controller, SIM, TPM, DIO x 8
GENE-APL5-A11-F003	N4200	Fanless	VGA/LVDS/ LVDS2	24bit, 2CH	SATA x 1 mSATA x 1 (full size)	GbE x 2	USB 3.2 Gen 1 x 2, USB 2.0 x 4	2	2	MiniCard x 1 (half size)	9~19V	0°C ~ 60°C	Touch Controller, SIM, TPM, DIO x 8

3.5" SubCompact Board with Intel® Pentium® N4200/ Celeron® N3350 Processor SoC



Specifications

System	
Form Factor	3.5" SubCompact Board
CPU	Intel® Pentium® N4200/ Celeron® N3350 Processor SoC
CPU Frequency	up to 2.5GHz
Chipset	Intel® Pentium® N4200/ Celeron® N3350 Processor SoC
Memory Type	DDR3L 1866MHz, SODIMM x 1
Max. Memory Capacity	Up to 8GB
BIOS	UEFI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+9~36V or +12V
Power Supply Type	AT/ ATX
Power Consumption (Typical)	Intel® N4200, DDR3L 1600MHz 8G, 1.55A@ +12V
Dimension (L x W)	5.75" x 4" (146 mm x 101.7 mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 81°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	128,793
Certification	CE/FCC
Display	
VGA/LCD Controller	Intel® Pentium® N4200/ Celeron® N3350 Processor SoC
Video Output	LVDS, LVDS2, VGA (HDMI is option, co-layout with LVDS2)
Backlight Inverter Supply	Yes

Features

- Intel® Pentium® N4200/ Celeron® N3350 Processor SoC
- DDR3L 1866 MHz SODIMM x 1, up to 8 GB
- VGA/LVDS/LVDS2 (HDMI Co-layout with LVDS2 Optional)
- 2 CH Audio, SATA 6.0 Gb/s x 1, eMMC up to 64G (Optional)
- Supports 8-bit Digital I/O, USB 2.0 x 2, USB 3.2 Gen 1 x 2, COM x 4
- Mini Card x 1 (Full-size), mSATA x 1 (Half-size)
- 9~36V wide DC input or +12V only (Optional), AT/ATX Mode
- Supports TPM (Optional)
- 4/5/8-wire Resistive Touch Screen Controller (Optional)



I/O	
Ethernet	Intel® i210/I211, 10/100/1000Base-TX, RJ-45 x 2
Audio	High Definition Audio Interface
USB Port	USB 3.2 Gen 1 x 2 USB 2.0 x 2
Serial Port	RS-232 x 2, RS-232/422/485 x 2
Parallel Port	SPP/EPP/ECP x 1 (Option, Shared with DIO)
HDD Interface	SATA 3.0 x 1 +5V SATA power connector x 1
FDD Interface	—
SSD	eMMC 16G/32G/64G (optional)
Expansion Slot	Mini Card x 1 (Full-size) mSATA x 1 (Half-size)
DIO	8-bit
SIM	x 1 (uSIM)
TPM	TPM 2.0 x 1 (option)
Touch	x 1 (option)

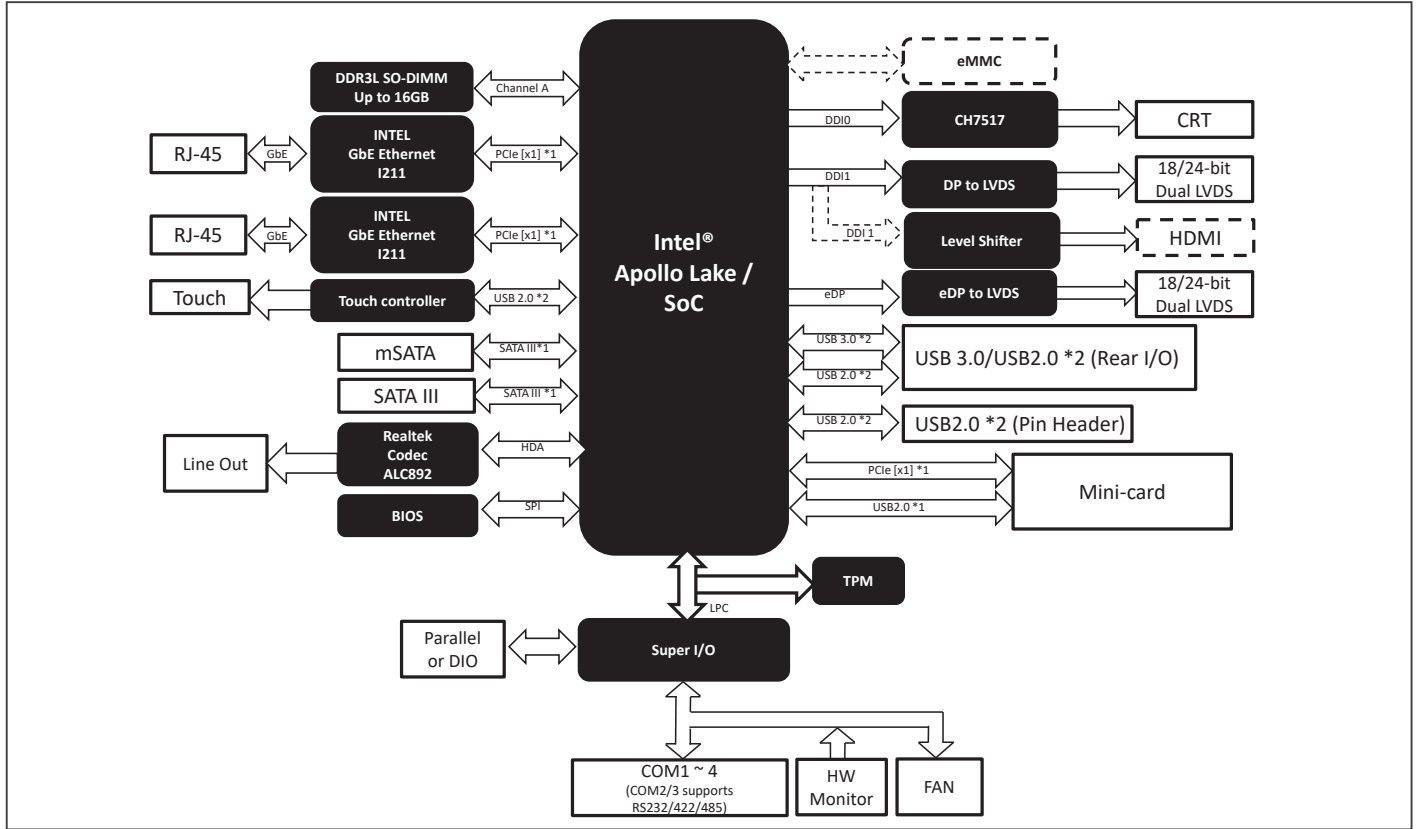
Packing List

- GENE-APL6 with Heat Spreader

Optional Accessories

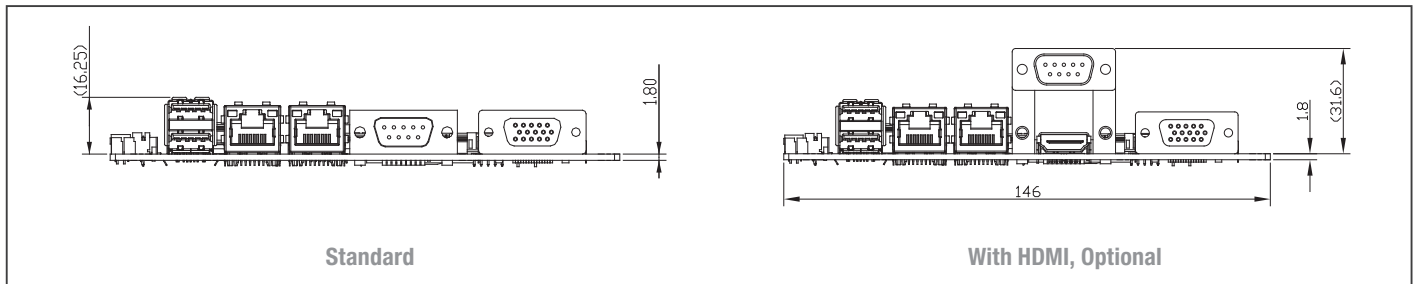
Part Number	Description	QTY
1700050207	(TF)USB CABLE.1*5P Pitch=1.25mm Housinh.20cm.for PFM-945C	2
1701090150	(TF)Flat Cable.D-Sub 9(M).9P Housing.9P 1.25mm pitch Housing.15cm	3
1709100254	(TF)PHONE JACK Cable.3P AUDIO JACK.1*10P 1.25mm HOUSING(F).25cm	1
1709070500	(TF)SATA CABLE.7P Pitch 1.27mm.50cm	1
1702150155	(TF)Power Cable.15P SATA(F).2P 2.0mm Housing(PH).15cm	1
170220020B	(TF)Power Cable.20P ATX(M).4P 5.08mm Housing(F).+3P 2.5mm Housing(XH).20cm	1
1702002010	(TF)Power CABLE. 1*2P Pitch=5.0mm Housing. 10cm. for PFM-945C. (12V only)	1
GENE-APL6-HSK01	HeatSink.146X80X14mm.Silver.GENE-APL6.(used with heat spreader)	1

Block Diagram



Dimension

Unit: mm

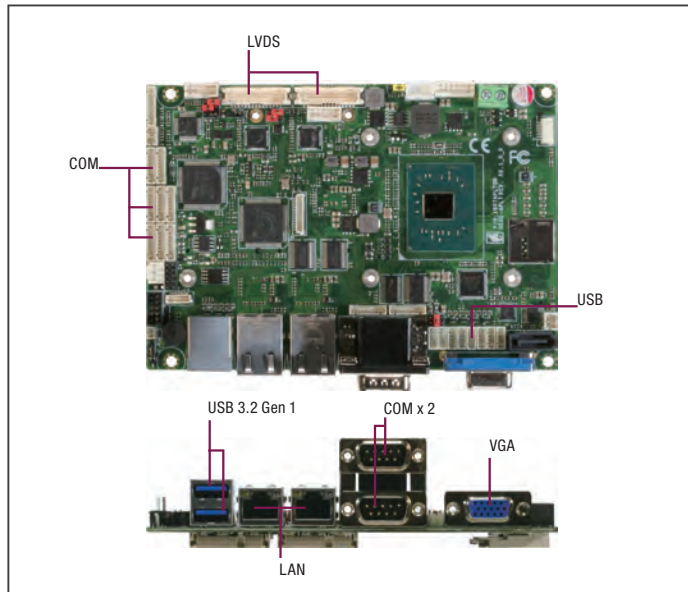


Ordering Information

Part Number	CPU	Fan/Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Power Temp	Others
GENE-APL6-A10-F001	N3350	HSP	VGA, LVDS, LVDS2	24bit,2CH	SATA x 1 mSATA x 1	GbE x 2	USB 3.2 Gen 1 x 2 USB 2.0 x 2	2	2	MiniCard x 1 (Full-size)	9-36V	0°C - 60°C	DIO x 8
GENE-APL6-A10-F002	N3350	HSP	VGA, LVDS, LVDS2	24bit,2CH	SATA x 1 eMMC 32G	GbE x 2	USB 3.2 Gen 1 x 2 USB 2.0 x 2	2	2	MiniCard x 1 (Full-size)	9-36V	0°C - 60°C	Touch Controller, SIM, TPM, DIO x 8

GENE-APL7

3.5" SubCompact Board with Intel® Pentium® N4200/ Celeron® N3350 Processor SoC



Features

- Intel® Pentium® N4200/ Celeron® N3350 Processor SoC
- DDR3L 1866 MHz SODIMM x 1, up to 8 GB
- VGA/LVDS1/LVDS2 (LVDS1 Co-design with eDP)
- SATA 6.0 Gb/s x 1, GPIO x 8
- USB 3.2 Gen 1 x 2, USB 2.0 x 8, COM x 12
- mSATA x 1 (Full size), Mini Card x 1 (Full size) with uSIM
- DC 12V Only, AT/ATX Mode



Specifications

System	
Form Factor	3.5" SubCompact Board
CPU	Intel® Pentium® N4200/ Celeron® N3350 Processor SoC
CPU Frequency	Up to 2.5 GHz
Chipset	Intel® Pentium® N4200/ Celeron® N3350 Processor SoC
Memory Type	DDR3L 1866MHz, SODIMM x 1
Max. Memory Capacity	Up to 8GB
BIOS	UEFI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	12V Only
Power Supply Type	AT/ ATX
Power Consumption (Typical)	Intel® N4200,DDR3L 1600MHz 8GB,1.61A@+12V
Dimension (L x W)	5.75" x 4" (146 mm x 101.7 mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	126,000
Certification	CE/FCC
Display	
VGA/LCD Controller	Intel® Pentium® N4200/ Celeron® N3350 Processor SoC
Video Output	VGA/LVDS1 (Option: LVDS2/eDP)
Backlight inverter supply	Max 12V, 2A
I/O	
Ethernet	Realtek RTL-8111E, RJ-45 x 2
Audio	High Definition Audio Interface (Option 2W Amp)
USB Port	Rear I/O: USB 3.2 Gen 1 x 2 Internal: USB2.0 x 8
Serial Port	Rear I/O: COM x 2 (COM2 is RS-232/422/485) Internal: COM x 4 (Option to COM x 10) COM2-5 support 5V/12V/RI
Parallel Port	—
HDD Interface	SATA 3.0 x 1
FDD Interface	—
SSD	mSATA x 1 (Full, optional for mini-card)
Expansion Slot	Mini-card x 1 (Full size)
DIO	8-bit
SIM	Micro SIM x 1 (Optional)
TPM	—
Touch	—

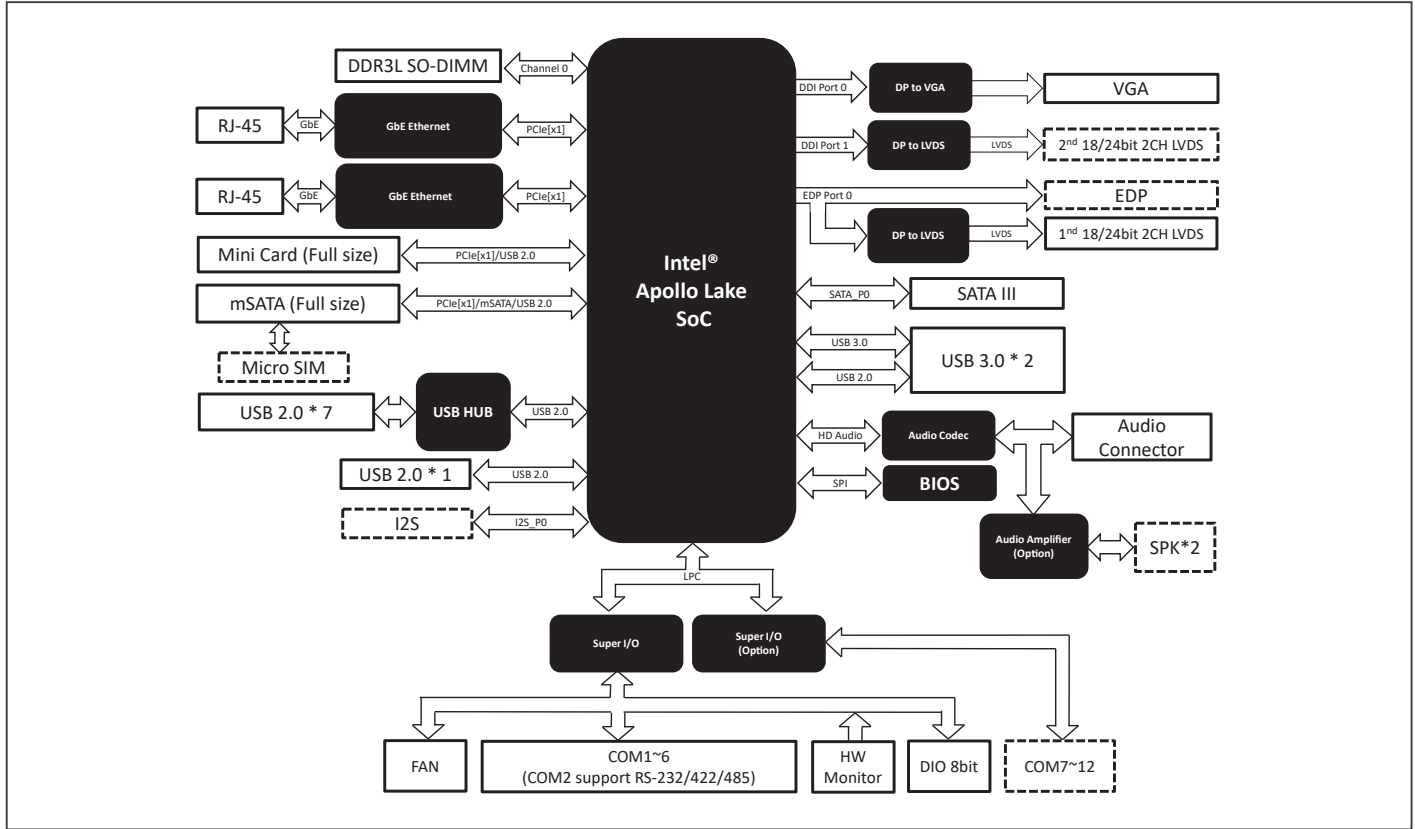
Packing List

- GENE-APL7

Optional Accessories

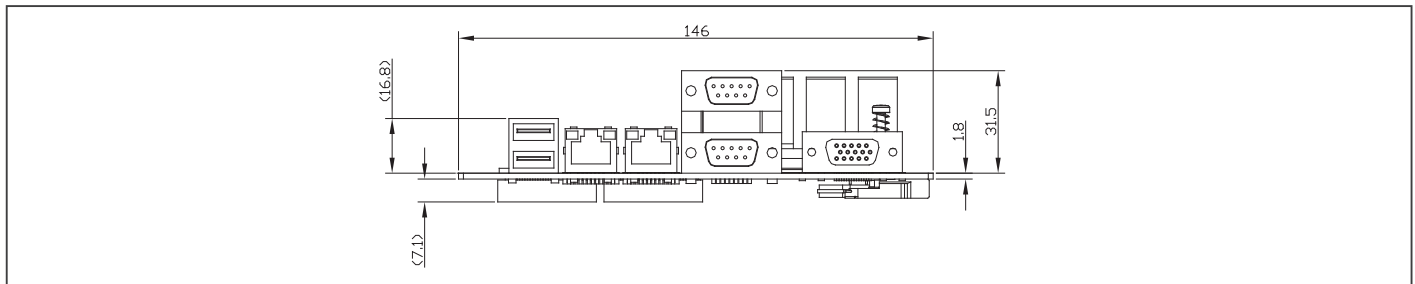
Part Number	Description	QTY
1700050207	(TF)USB CABLE.1*5P Pitch=1.25mm Housinh. 20cm. for PFM-945C	8
1701090150	(TF)Flat Cable.D-Sub 9(M).9P Housing.9P 1.25mm pitch Housing. 15cm	10
1709100254	(TF)PHONE JACK Cable. 3P AUDIO JACK. 1*10P 1.25mm HOUSING(F). 25cm	1
1702150155	(TF)Power Cable. 15P SATA(F). 2P 2.0mm Housing(PH). 15cm	1
170204010R	(TF)Power Cable. Double 4P 5.08mm Housing(M). 10cm	1
1709150151	(TF)CRT CABLE. 1*13P Pitch=1.25mm Housing. 15cm (VGA D-SUB connector co-layout with internal pin header by option)	1
GENE-APL7-HSK01	Heatsink	1

Block Diagram



Dimension

Unit: mm

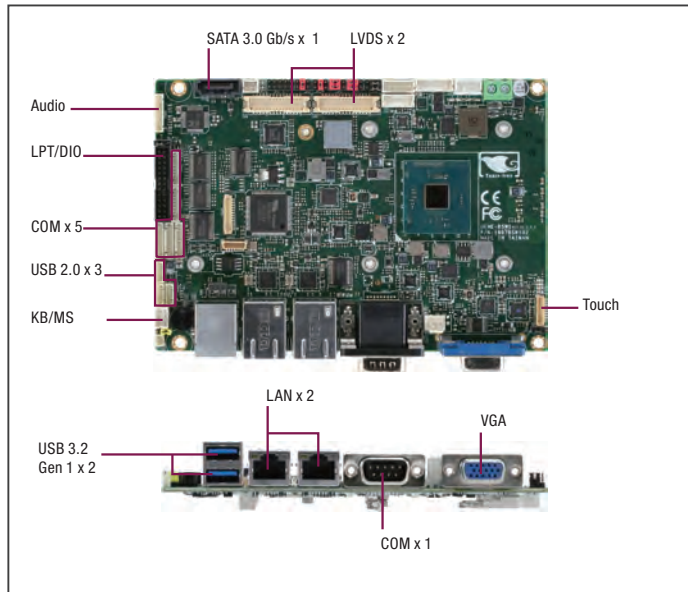


Ordering Information

Part Number	CPU	Fan/Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Power Temp	Others
GENE-APL7-A10-F001	N3350	w/o HS	VGA/LVDS	24bit,2CH	SATA x 1 mSATA x 1 (full size)	GbE x 2	USB 3.2 Gen 1 x 2 USB2.0 x 8	5	1	MiniCard x 1 (Full)	12V	0°C - 60°C	Audio, DIO x 8
GENE-APL7-A10-F002	N3350	w/o HS	VGA/LVDS/ LVDS2	24bit,2CH	SATA x 1 mSATA x 1 (full size)	GbE x 2	USB 3.2 Gen 1 x 2 USB2.0 x 8	11	1	MiniCard x 1 (Full)	12V	0°C - 60°C	Micro SIM, DIO x 8, Audio, 2W AMP

GENE-BSW5

3.5" SubCompact Board with Intel® Pentium & Celeron® N3000 Series Processor SoC



Features

- Onboard Intel® Pentium®/Celeron® N3000 Series Processor SoC
- DDR3L 1600 SODIMM x 1, Up to 8 GB
- Gigabit Ethernet x 2
- VGA, LVDS1, LVDS2/HDMI (Co-design)
- 2CH HD Audio
- Mini-Card x 1 (Full-Size)
- mSATA x 1 (Shared with Mini-Card, Half-size)
- USB 3.2 Gen 1 x 2, USB2.0 x 3, COM x 6, Digital I/O 8-bit
- +12V DC, AT/ATX



Specifications

System	
Form Factor	3.5" SubCompact Board
CPU	Intel® Pentium® & Celeron® M/D Processor SoC
CPU Frequency	Up to 2.6 GHz
Chipset	Intel® Pentium® & Celeron® M/D Processor SoC
Memory Type	DDR3L 1600, SODIMM x 1
Max. Memory Capacity	Up to 8 GB
BIOS	UEFI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+12V
Power Supply Type	AT/ ATX
Power Consumption (Typical)	Intel® Celeron® N3160 (2M Cache, up to 2.24 GHz, DDR3L 1600MHz, 8GB, 0.65A@+12V)
Dimension (L x W)	5.75" x 4" (146mm x 101.7mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 81°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	81,000
Certification	CE/FCC
Display	
VGA/LCD Controller	Intel® Pentium® & Celeron® M/D SoC
Video Output	LVDS x 2 + VGA, LVDS + HDMI + VGA
Backlight inverter supply	Up to 24-bit dual-channel LVDS
I/O	
Ethernet	Realtek RTL-8111E, 10/100/1000Base-TX, RJ-45 x2
Audio	High Definition Audio Interface
USB Port	USB 3.2 Gen 1 x 2 USB2.0 x 3
Serial Port	RS-232/422/485 x 2, RS-232 x 4
Parallel Port	SPP/EPP/ECP x 1 (Option, Shared with DIO)
HDD Interface	SATA 3.0 x 1
FDD Interface	—
SSD	mSATA x 1 (Half-size)
Expansion Slot	Mini-Card x 1(Full-size)
DIO	8-bit
SIM	x 1
TPM	—
Touch	x 1 (USB interface)

Packing List

- GENE-BSW5 with Passive Heatsink

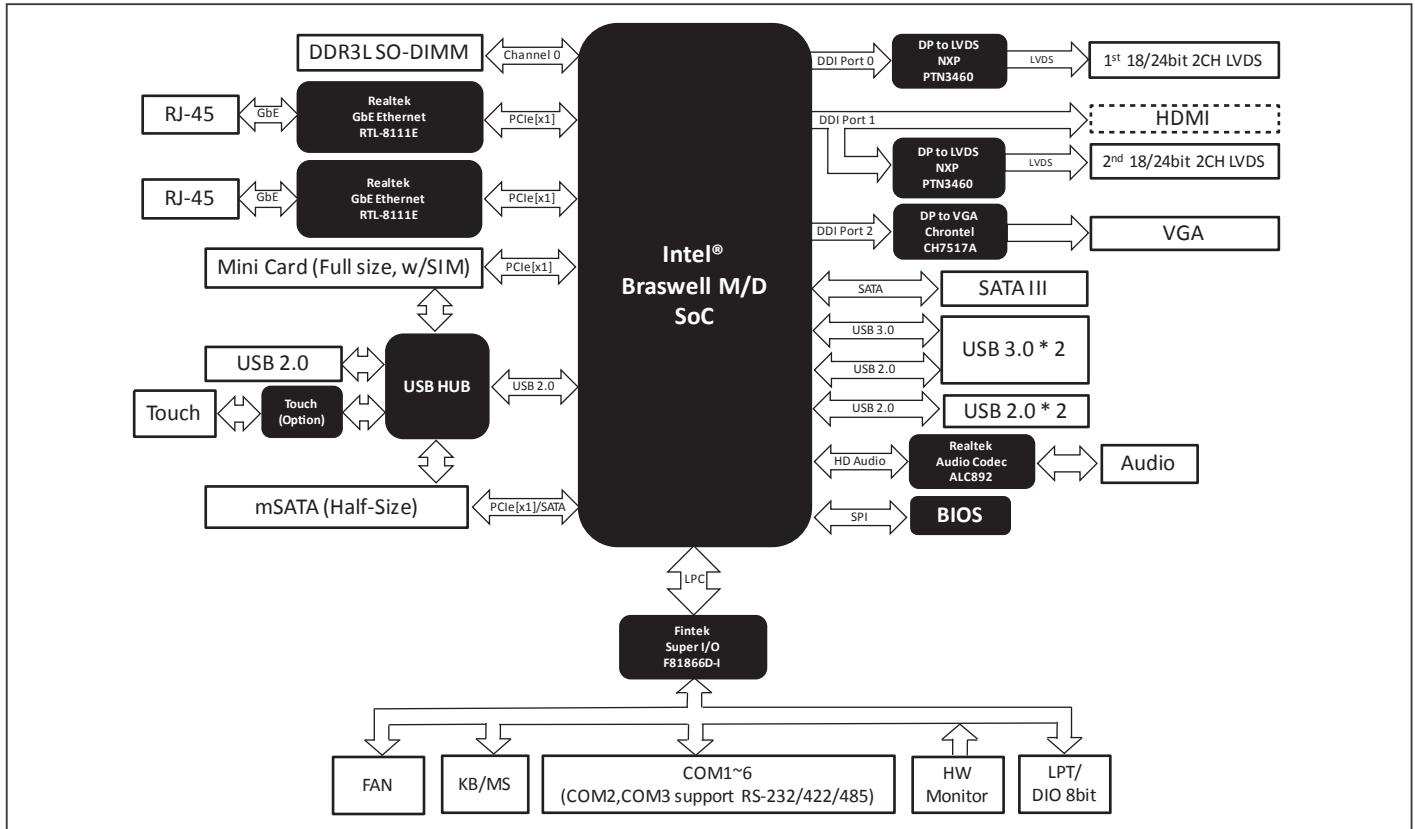
Optional Accessories

Part Number	Description	QTY
1702150155	(TF)Power Cable.15P SATA(F).2P 2.0mm Housing(PH).15cm	1
170220020B	(TF)Power Cable.20P ATX(M).4P 5.08mm Housing(F).+3P 2.5mm Housing (XH).20cm	1
1709070500	(TF)SATA CABLE.7P Pitch 1.27mm.50cm	1
170204010R	(TF)Power Cable.Double 4P 5.08mm Housing(M).10cm	1
1709100254	(TF)PHONE JACK Cable.3P AUDIO JACK.1"10P 1.25mm HOUSING(F).25cm	1
1701090150	(TF)Flat Cable.D-Sub 9(M).9P Housing.9P 1.25mm pitch Housing.15cm	5
1701260200	(TF)Flat Cable.25P D-SUB FEMALE.26P 2.00mm Pitch Housing.20cm	1
1703120130	(TF)LPC cable.12P to 12P 1.0mm Housing.13cm	1
1700050207	(TF)USB CABLE.1*5P Pitch=1.25mm Housinh.20cm.for PFM-945C	3
1700060152	(TF)Cable.6P 2.0mm Housing.W/O NOSE.6P MDM-6S KB&MS.15cm	1
175011901M	(TF)BATTERY.3V.w/Wire 110mm.MITSUBISHI.Longtrump.CR2032-HAT00(MLF)	1

OS Support

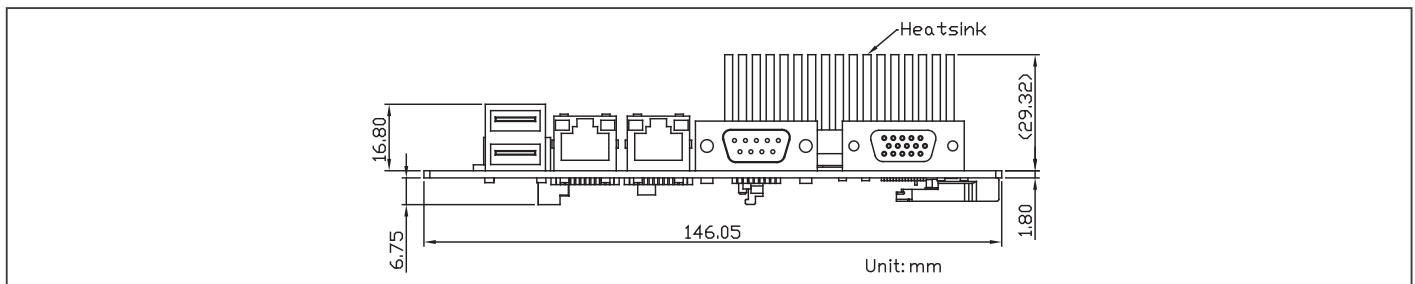
Part Number	Description
OS-W10E-600-01809-MUI	Windows® 10 IoT Ent LTSC 2019 MultiLang OEI Entry (ESD) , EPKEA,64bit
OS-W10E-300-01809-MUI	Windows® 10 IoT Ent LTSC 2019 MultiLang OEI Entry (ESD) , EPKEA,32bit

Block Diagram



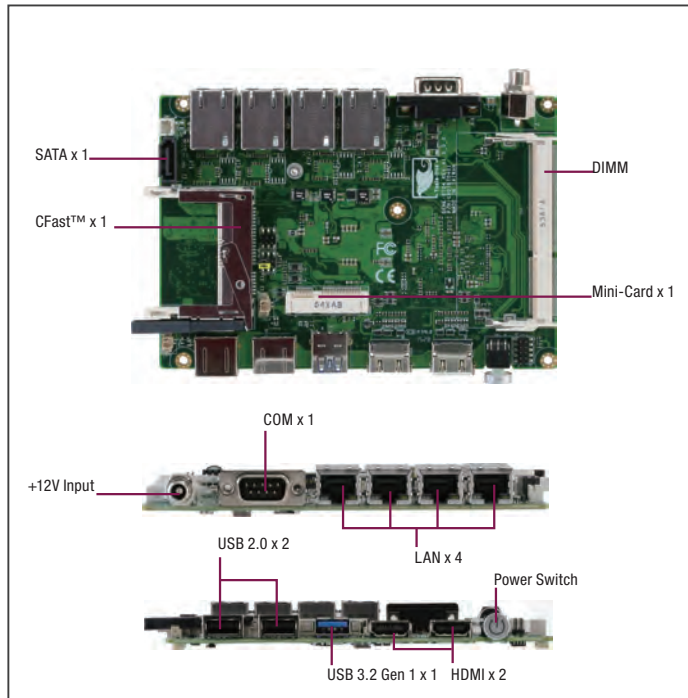
Dimension

Unit: mm



Ordering Information

Part Number	CPU	Fan/Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Power Temp	Others
GENE-BSW5-A11-0001	N3160	Fanless	VGA+LVDS	24bit,2CH	SATA x 1, mSATA x 1 (half size)	GbE x 2	USB 3.2 Gen 1 x 2 USB 2.0 x 3	2	2	miniCard x 1 (Full)	12V	0°C - 60°C	DIO x 8
GENE-BSW5-A11-0002	N3160	Fanless	VGA+LVDS x 2	24bit,2CH	SATA x 1 mSATA x 1 (half size)	GbE x 2	USB 3.2 Gen 1 x 2 USB 2.0 x 3	4	2	miniCard x 1 (Full)	12V	0°C - 60°C	Touch Controller, SIM, DIO x 8



Specifications

System	
Form Factor	3.5" SubCompact Board
CPU	Intel® Celeron® J1900/ N2807 Processor SoC
CPU Frequency	Up to 2.0GHz
Chipset	Intel® Celeron® J1900/ N2807 Processor SoC
Memory Type	DDR3L 1333, SODIMM x 1
Max. Memory Capacity	Up to 8G
BIOS	UEFI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+12V ~ +24V
Power Supply Type	ATX mode
Power Consumption (Typical)	Intel® N2807, DDR3L 1600MHz 4G, 0.65A@ +12V
Dimension (L x W)	5.75" x 4" (146mm x 101.6mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	155,000
Certification	CE/FCC
Display	
VGA/LCD Controller	Intel® Celeron® J1900/ N2807 Processor SoC
Video Output	HDMI x 2: HDMI 1(w/Audio), HDMI 2(w/o Audio)
Backlight inverter supply	—
I/O	
Ethernet	Intel® I211AT(or 210), 10/100/1000Base-TX, RJ-45 x 4
Audio	High definition audio interface
USB Port	USB 2.0 x 2, USB 3.2 Gen 1 x 1
Serial Port	RS-232 x 1
Parallel Port	—
HDD Interface	SATA 2.0 x 1
FDD Interface	—
SSD	CFast™ x 1
Expansion Slot	Mini-Card x 1 (for USB only)
DIO	4 Bit
SIM	x 1
TPM	x 1
Touch	—

Features

- Intel® Celeron® J1900/ N2807 Processor SoC
- DDR3L 1333 SODIMM slot x1, Max. up to 8GB
- Intel® LAN i211AT x4 Gigabit Ethernet, RJ-45 x 4
- HDMI x 2: HDMI 1 (w/ Audio), HDMI 2 (w/o Audio)
- USB 2.0 x 2, USB 3.2 Gen 1 x 1, COM x 1
- Mini-Card x 1 (Full-size)
- SATA 2.0 x 1
- DC 12V ATX Mode
- 12 ~ 24V DC Input, ATX Mode



Packing List

- 1702041004
Power Cable
- GENE-BT04 with Heatspreader

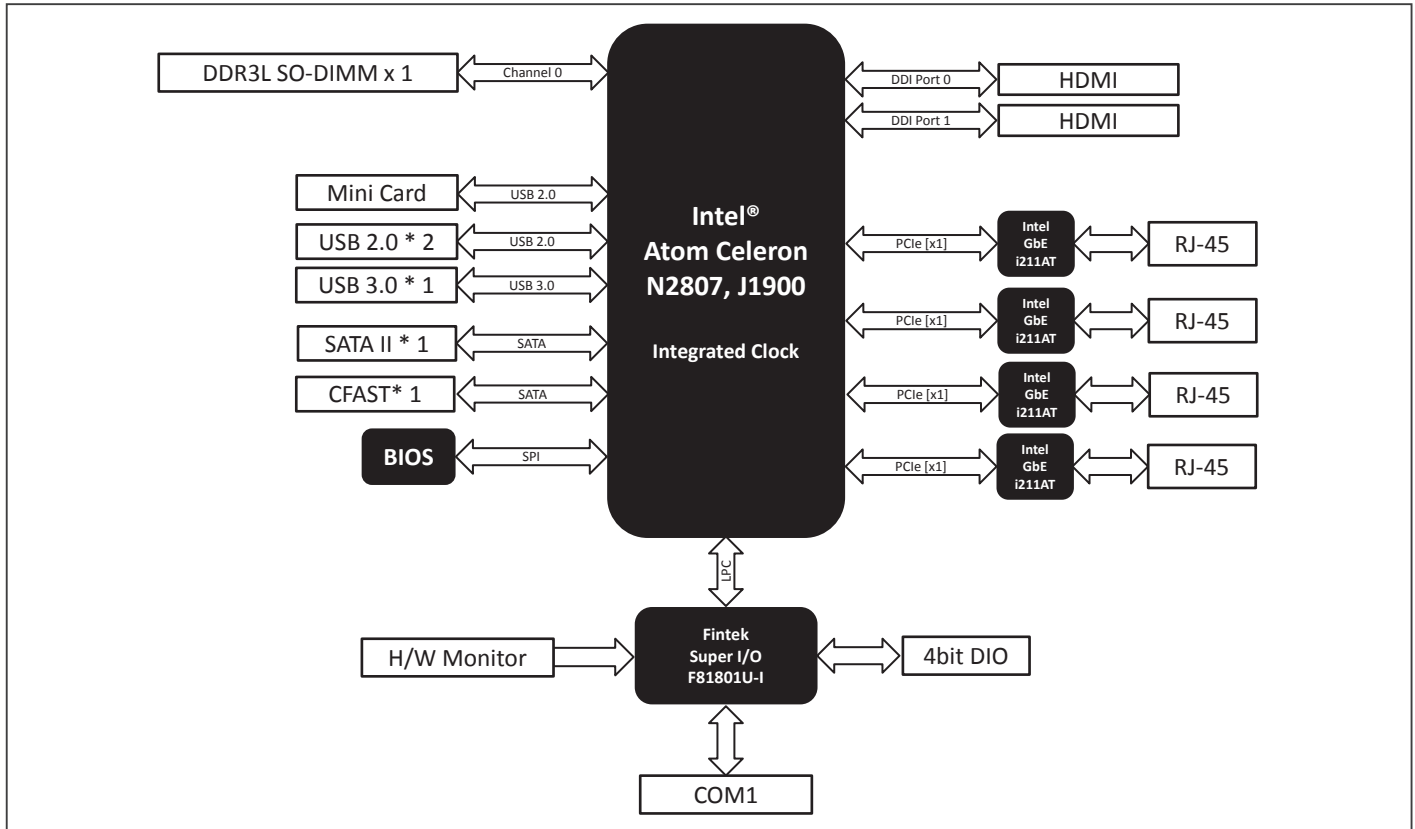
Optional Accessories

Part Number	Description	QTY
1709070500	(TF)SATA CABLE, 7P Pitch 1.27mm, 50cm	1
1702150155	(TF)Power Cable, 15P SATA(F), 2P 2.0mm Housing(PH), 15cm	1

OS Support

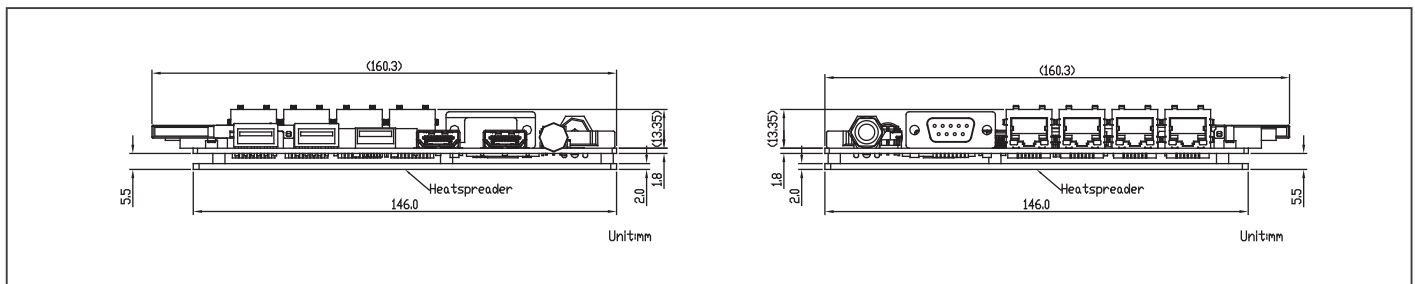
Part Number	Description
OS-W10R-600-00000-EN	Windows 10 IoT Enterprise for Retail or ThinClients.64bit MultiLang. (EngFreChiTChiSJanKor)

Block Diagram



Dimension

Unit: mm

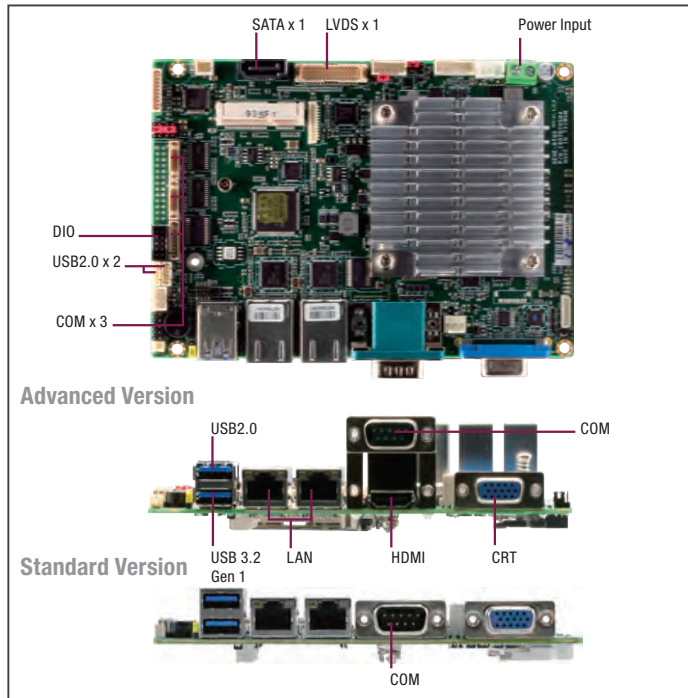


Ordering Information

Part Number	CPU	Fan/Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Power Temp	Others
GENE-BT04-A11-0001	Intel® Celeron® N2807	Fanless	HDMI x 2	—	SATA x 1	GbE x 4	USB 3.2 Gen 1 x 1 USB 2.0 x 2	1	—	Mini-Card x 1 (Full)	12V – 24V	0°C – 60°C	DIO x 4
GENE-BT04-A11-0002	Intel® Celeron® J1900	Fanless	HDMI x 2	—	SATA x 1	GbE x 4	USB 3.2 Gen 1 x 1 USB 2.0 x 2	1	—	Mini-Card x 1 (Full)	12V – 24V	0°C – 60°C	DIO x 4

GENE-BT05

3.5" SubCompact Board with Intel® Atom™ and Celeron® Processor SoC



Specifications

System	
Form Factor	3.5" SubCompact Board
CPU	Intel® N2930/N2807/J1900/E3845/E3825
CPU Frequency	Up to 2.0GHz
Chipset	Intel® N2930/N2807/J1900/E3845/E3825
Memory Type	DDR3L 1066/1333, SODIMM x 1
Max. Memory Capacity	Up to 8GB
BIOS	UEFI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+12V
Power Supply Type	AT/ATX
Power Consumption (Typical)	Intel® N2930, DDR3L 1600MHz 8G, 0.65A@+12V
Dimension (L x W)	5.75" x 4" (146 mm x 101.6 mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C) or WITAS 2 (E3825)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	111,000
Certification	CE/FCC
Display	
VGA/LCD Controller	Intel® N2930/N2807/J1900/E3845/E3825
Video Output	CRT+LVDS, HDMI+LVDS, CRT+HDMI
Backlight inverter supply	Up to 24-bit dual-channel LVDS x 1
I/O	
Ethernet	Intel® I211 (or 210), 10/100/1000Base-TX, RJ-45 x 2
Audio	High definition audio interface
USB Port	USB2.0 x 3, USB 3.2 Gen 1 x 1
Serial Port	RS-232 x 2, RS-232/422/485 x 2
Parallel Port	—
HDD Interface	SATA 2.0 x 1
FDD Interface	—
SSD	CFast™ (alternative with mSATA by BOM and also occupy one Mini-Card location)
Expansion Slot	Mini-Card x 2 (Full-size x 1, Half-size x 1)
DIO	8-bit
SIM	x 1
TPM	x 1
Touch	x 1

Features

- Onboard Intel® Atom™ and Celeron® Processor SoC
- DDR3L 1066/1333 MHz SODIMM x 1, Up to 8 GB
- Gigabit Ethernet x 2, RJ-45 x 2
- CRT, 18/24-bit Dual-Channel LVDS LCD, HDMI
- 2CH HD Audio
- SATA 3.0 Gb/s x 1, CFast™ x 1
- USB 3.2 Gen 1 x 1, USB2.0 x 3, COM x 4, 8-bit Digital I/O
- Mini-Card x 2 (Full-size x 1, Half-size x 1)
- DC 12V, AT/ATX Mode
- Onboard 4/5/8-wire Resistive Touch Screen Controller (Optional)
- AAEON Hi-Safe/SDK/Utility Supported
- mSATA x 1 (Optional, Share Mini-Card Interface)
- Onboard Trusted Platform Module (Optional)



Packing List

- GENE-BT05 with Passive Heatsink

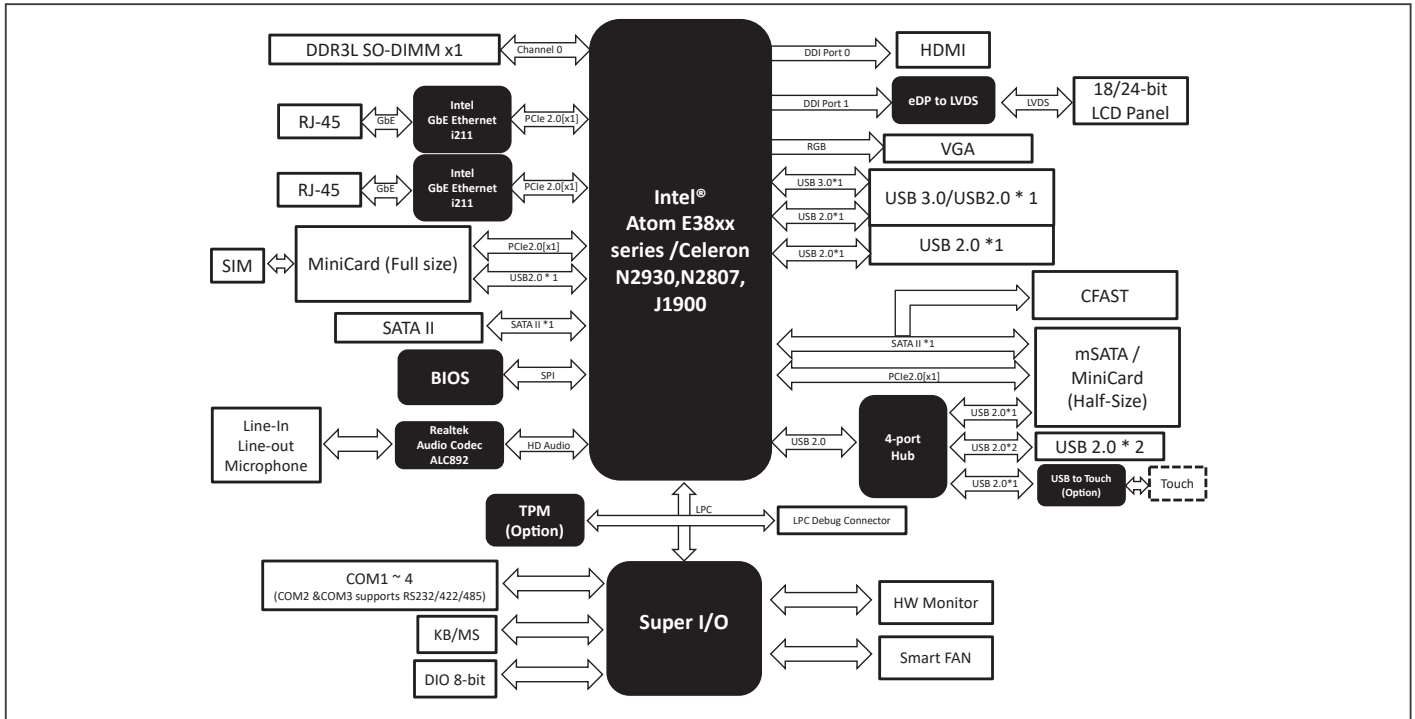
Optional Accessories

Part Number	Description	QTY
1700050207	(TF)USB CABLE, 1*5P Pitch=1.25mm Housinh, 20cm, for PFM-945C	2
1701090150	(TF)Flat Cable, D-Sub 9(M), 9P Housing, 9P 1.25mm pitch Housing, 15cm	3
1709100254	(TF)PHONE JACK Cable, 3P AUDIO JACK, 1*10P 1.25mm HOUSING(F), 25cm	1
1709070500	(TF)SATA CABLE, 7P Pitch 1.27mm, 50cm	1
1701260200	(TF)Flat Cable, 25P D-SUB FEMALE, 26P 2.00mm Pitch Housing, 20cm	1
170204010R	(TF)Power Cable, Double 4P 5.08mm Housing(M), 10cm	1
1702150155	(TF)Power Cable, 15P SATA(F), 2P 2.0mm Housing(PH), 15cm	1
170220020B	(TF)Power Cable, 20P ATX(M), 4P 5.08mm Housing(F), +3P 2.5mm Housing(XH), 20cm	1
1700060157	(TF)Cable, 6P 2.0mm Housing, 6P JACK W/SCREW KB&MS, 15cm	1

OS Support

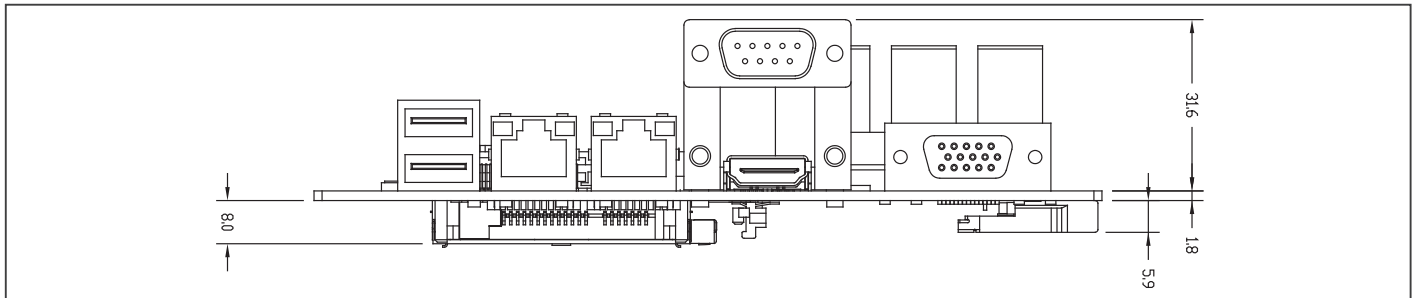
Part Number	Description
OS-W10E-600-DVD19-MUI	Win10 IoT Ent LTSC 2019.MultiLang Entry.64bit.PKEA.license W/product key.W/ OS DVD Disc
OS-WE8S-600-GBT5A-EN	Windows Embedded 8 Standard, x64 Full size English.
OS-WS7E-600-GBT5A-EN	Windows Embedded Standard 7, E SKU x64 Full size English.

Block Diagram



Dimension

Unit: mm

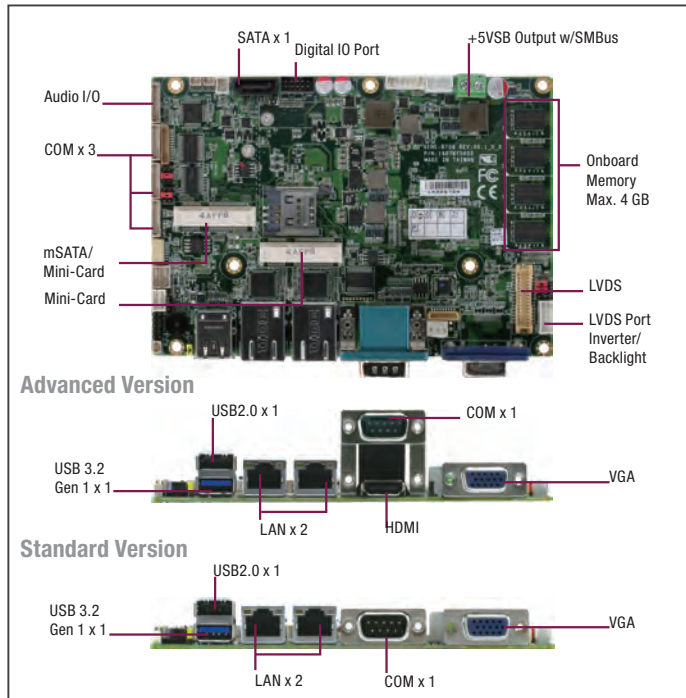


Ordering Information

Part Number	CPU	Fan/Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Power Temp	Others
GENE-BT05-A11-0001	Intel® Celeron® N2930	Fanless	CRT + LVDS, LVDS + HDMI, HDMI + CRT	24bit, 2CH	SATA x 1, CFAST™ x 1	Gbe x 2	USB 3.2 Gen 1 x 1, UBS2.0 x 3	2	2	Mini Card x 2 (Full-Size x 1, Half-Size x 1)	+12V, AT/ATX	0°C ~ 60°C	TPM, Touch, SIM, DIO x 8
GENE-BT05-A11-0002	Intel® Celeron® N2930	Fanless	CRT + LVDS	24bit, 2CH	SATA x 1 mSATA x 1 (Half Size)	Gbe x 2	USB 3.2 Gen 1 x 1, UBS2.0 x 3	2	2	Mini Card x 1 (Full-Size)	+12V, AT/ATX	0°C ~ 60°C	DIO x 8
GENE-BT05-A11-0003	Intel® Celeron® N2807	Fanless	CRT + LVDS, LVDS + HDMI, HDMI + CRT	24bit, 2CH	SATA x 1, CFAST™ x 1	Gbe x 2	USB 3.2 Gen 1 x 1, UBS2.0 x 3	2	2	Mini Card x 2 (Full-Size x 1, Half-Size x 1)	+12V, AT/ATX	0°C ~ 60°C	TPM, Touch, SIM, DIO x 8
GENE-BT05-A11-0004	Intel® Celeron® N2807	Fanless	CRT + LVDS	24bit, 2CH	SATA x 1 mSATA x 1 (Half Size)	Gbe x 2	USB 3.2 Gen 1 x 1, UBS2.0 x 3	2	2	Mini Card x 1 (Full-Size)	+12V, AT/ATX	0°C ~ 60°C	DIO x 8
GENE-BT05-A11-0005	Intel® Atom™ E3845	Fanless	CRT + LVDS, LVDS + HDMI, HDMI + CRT	24bit, 2CH	SATA x 1, CFAST™ x 1	Gbe x 2	USB 3.2 Gen 1 x 1, UBS2.0 x 3	2	2	Mini Card x 2 (Full-Size x 1, Half-Size x 1)	+12V, AT/ATX	0°C ~ 60°C	TPM, Touch, SIM, DIO x 8
GENE-BT05-A11-0006	Intel® Atom™ E3845	Fanless	CRT + LVDS	24bit, 2CH	SATA x 1 mSATA x 1 (Half Size)	Gbe x 2	USB 3.2 Gen 1 x 1, UBS2.0 x 3	2	2	Mini Card x 1 (Full-Size)	+12V, AT/ATX	0°C ~ 60°C	DIO x 8
GENE-BT05-A11-0007	Intel® Atom™ E3825	Fanless	CRT + LVDS, LVDS + HDMI, HDMI + CRT	24bit, 2CH	SATA x 1, CFAST™ x 1	Gbe x 2	USB 3.2 Gen 1 x 1, UBS2.0 x 3	2	2	Mini Card x 2 (Full-Size x 1, Half-Size x 1)	+12V, AT/ATX	0°C ~ 60°C	TPM, Touch, SIM, DIO x 8
GENE-BT05-A11-0008	Intel® Atom™ E3825	Fanless	CRT + LVDS	24bit, 2CH	SATA x 1 mSATA x 1 (Half Size)	Gbe x 2	USB 3.2 Gen 1 x 1, UBS2.0 x 3	2	2	Mini Card x 1 (Full-Size)	+12V, AT/ATX	0°C ~ 60°C	DIO x 8
GENE-BT05-A11-0009	Intel® Celeron® J1900	Fanless	CRT + LVDS, LVDS + HDMI, HDMI + CRT	24bit, 2CH	SATA x 1, CFAST™ x 1	Gbe x 2	USB 3.2 Gen 1 x 1, UBS2.0 x 3	2	2	Mini Card x 2 (Full-Size x 1, Half-Size x 1)	+12V, AT/ATX	0°C ~ 60°C	TPM, Touch, SIM, DIO x 8
GENE-BT05-A11-0010	Intel® Celeron® J1900	Fanless	CRT + LVDS	24bit, 2CH	SATA x 1 mSATA x 1 (Half Size)	Gbe x 2	USB 3.2 Gen 1 x 1, UBS2.0 x 3	2	2	Mini Card x 1 (Full-Size)	+12V, AT/ATX	0°C ~ 60°C	DIO x 8
GENE-BT05W2-A11-0006	Intel® Atom™ E3845	Fanless	CRT + LVDS	24bit, 2CH	SATA x 1 mSATA x 1 (Half Size)	Gbe x 2	USB 3.2 Gen 1 x 1, UBS2.0 x 3	2	2	Mini Card x 1 (Full-Size)	+12V, AT/ATX	WTAS 2 (-40°C~85°C)	DIO x 8
GENE-BT05W2-A11-0008	Intel® Atom™ E3825	Fanless	CRT + LVDS	24bit, 2CH	SATA x 1 mSATA x 1 (Half Size)	Gbe x 2	USB 3.2 Gen 1 x 1, UBS2.0 x 3	2	2	Mini Card x 1 (Full-Size)	+12V, AT/ATX	WTAS 2 (-40°C~85°C)	DIO x 8

GENE-BT06

3.5" SubCompact Board with Intel® Atom™ E3845/ E3825 and Celeron® Processor SoC



Specifications

System	
Form Factor	3.5" SubCompact Board
CPU	Intel® Atom™ E3845/E3825
CPU Frequency	Up to 2.0GHz
Chipset	Intel® Atom™ series Processor SoC
Memory Type	Onboard DDR3L 1066/1333
Max. Memory Capacity	Up to 4GB
BIOS	UEFI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	Wide DC support 9~24V
Power Supply Type	AT/ATX
Power Consumption (Typical)	Intel® E3845, Onboard DDR3L 1600MHz 4G, 0.64A@+12V
Dimension (L x W)	5.75" x 4" (146 mm x 101.6 mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C) or WiTAS 2 (TBD)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	110,000
Certification	CE/FCC
Display	
VGA/LCD Controller	Intel® Atom™ Processor SoC
Video Output	CRT+LVDS, HDMI+LVDS, CRT+HDMI
Backlight inverter supply	18/24-bit dual-channel LVDS LCD
I/O	
Ethernet	Intel® I211 (or 210), 10/100/1000Base-TX, RJ-45 x 2
Audio	High definition audio interface
USB Port	USB2.0 x 3, USB 3.2 Gen 1 x 1
Serial Port	RS-232 x 2, RS-232/422/485 x 2
Parallel Port	SPP/EPP/ECP x 1
HDD Interface	SATA 2.0 x 1
FDD Interface	—
SSD	mSATA (Half-size, shared with Mini-Card)
Expansion Slot	Mini-Card x 1 (Full-size)
DIO	8-bit
SIM	x 1
TPM	x 1
Touch	x 1

Features

- Intel® Atom™ E3845/ E3825 and Celeron® Processor SoC
- Onboard DDR3L Memory Max. 4 GB
- CRT, 18/24-bit Dual-Channel LVDS LCD, HDMI (DP Sharded with HDMI/CRT, Optional)
- 2 CH Audio
- SATA 3.0 Gb/s x 1 & mSATA (Sharded with Mini-Card)
- Supports 8-bit Digital I/O, USB2.0 x 3, USB 3.2 Gen 1 x 1
- RS-232 x 2, RS-232/422/485 x 2
- Mini-Card Slot x 2 (Full-size x 1, Half-size x 1)
- Wide DC Support 9~24V
- Supports TPM (Optional)
- 4/5/8-wire Resistive Touch Screen Controller (Optional)
- Solder Design For System Assembly and Thermal



Packing List

- GENE-BT06 with Heatspreader

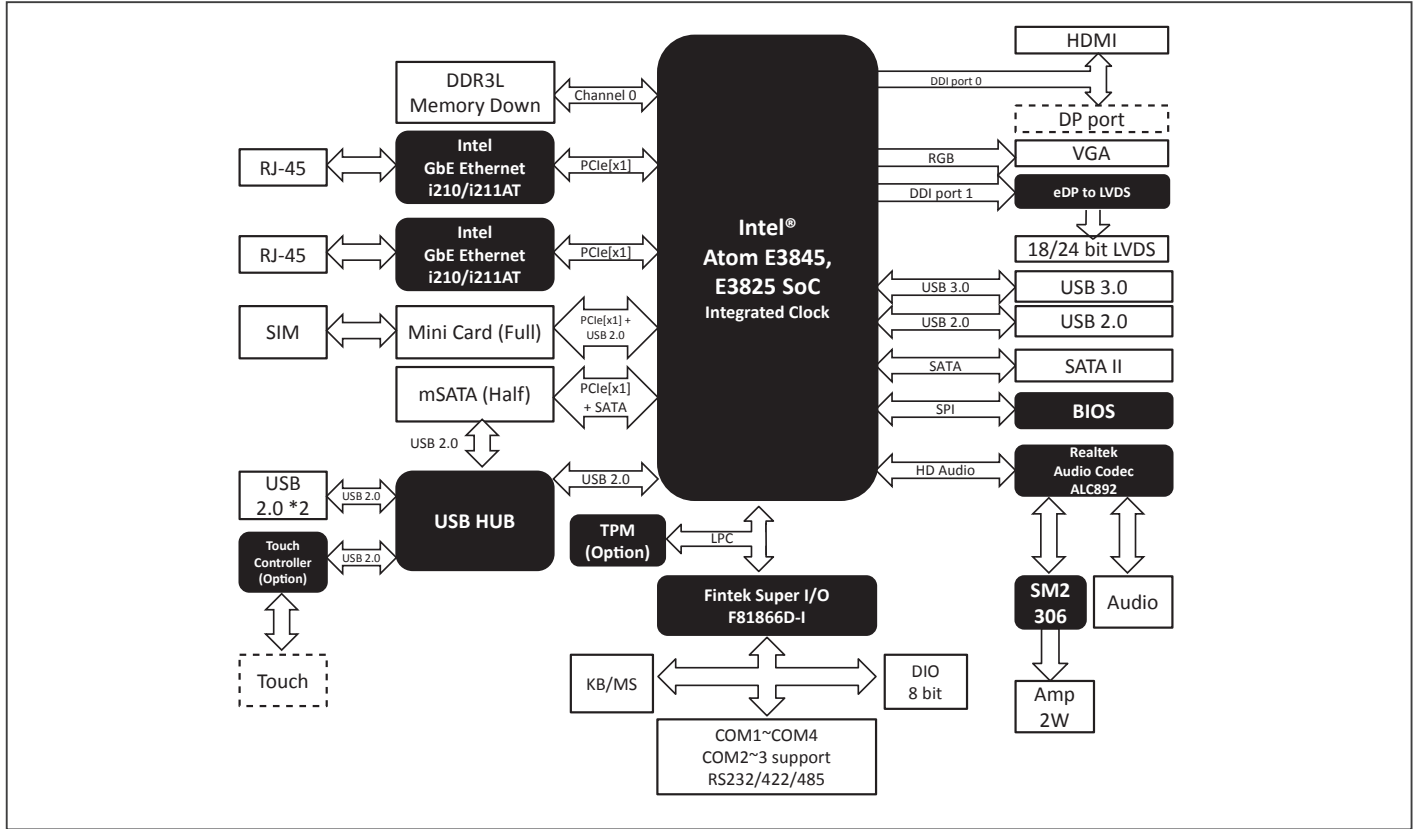
Optional Accessories

Part Number	Description	QTY
1700050207	(TF)USB CABLE, 1*5P Pitch=1.25mm Housinh, 20cm, for PFM-945C	2
1701090150	(TF)Flat Cable, D-Sub 9(M), 9P Housing, 9P 1.25mm pitch Housing, 15cm	3
1709100254	(TF)PHONE JACK Cable, 3P AUDIO JACK, 1*10P 1.25mm HOUSING(F), 25cm	1
1702150155	(TF)Power Cable, 15P SATA(F), 2P 2.0mm Housing(PH), 15cm	1
170220020B	(TF)Power Cable, 20P ATX(M), 4P 5.08mm Housing(F), +3P 2.5mm Housing (XH), 20cm	1
1700060157	(TF)Cable, 6P 2.0mm Housing, 6P JACK W/SCREW KB&MS, 15cm	1
1702002010	(TF)Power CABLE, 1*2P Pitch=5.0mm Housing, 10cm, for PFM-945C.(12V only)	1
175011901C	(TF)BATTERY, 3V, MAXELL, CR2032M1S8-LF	1

OS Support

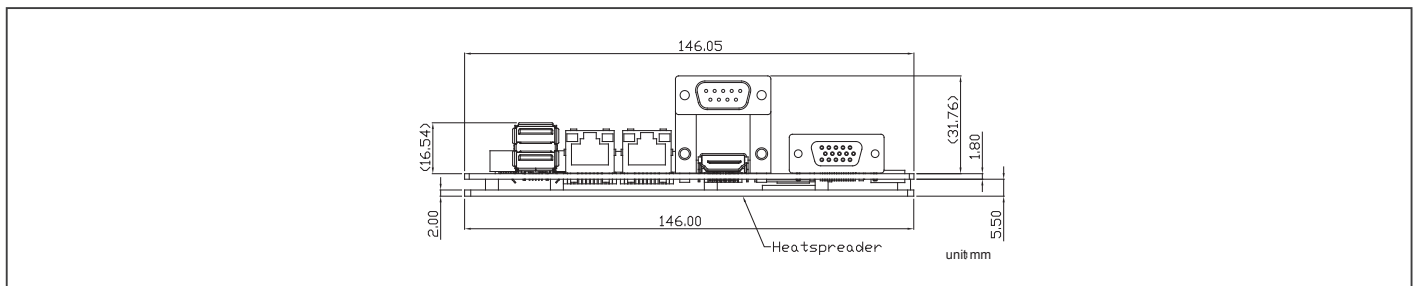
Part Number	Description
OS-W10R-600-00000-EN	Windows 10 IoT Enterprise, for Retail or ThinClients, 64bit MultiLang. (EngFreChiTChiS,JanKor)

Block Diagram



Dimension

Unit: mm

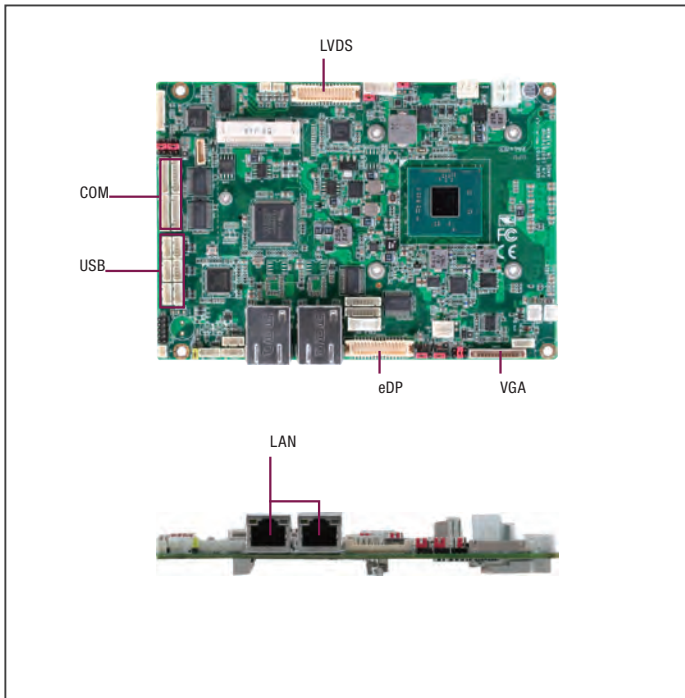


Ordering Information

Part Number	CPU	Fan/ Fanless	Memory	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/ 422/485	Expansion Slot	Power	Power Temp	Others
GENE-BT06-A11-0001	Intel® Atom™ E3825	Fanless	Onboard 2GB	VGA, LVDS	24bit, 2CH	SATA x 1 mSATA x 1 (half size)	GbE x 2	USB 3.2 Gen 1 x 1 USB 2.0 x 3	2	2	MiniCard x 1 (Full)	9~24V	0°C ~ 60°C	DIO x 8
GENE-BT06-A11-0002	Intel® Atom™ E3845	Fanless	Onboard 4GB	VGA, LVDS, HDMI	24bit, 2CH	SATA x 1 mSATA x 1 (half size)	GbE x 2	USB 3.2 Gen 1 x 1 USB 2.0 x 3	2	2	MiniCard x 1 (Full)	9~24V	0°C ~ 60°C	Touch Controller, TPM, SIM, DIO x 8
GENE-BT06W2-A11-0001	Intel® Atom™ E3825	Fanless	Onboard 2GB	VGA, LVDS	24bit, 2CH	SATA x 1 mSATA x 1 (half size)	GbE x 2	USB 3.2 Gen 1 x 1 USB 2.0 x 3	2	2	MiniCard x 1 (Full)	12V	WTAS 2 (-40°C~85°C)	DIO x 8
GENE-BT06W2-A11-0002	Intel® Atom™ E3845	Fanless	Onboard 4GB	VGA, LVDS, HDMI	24bit, 2CH	SATA x 1 mSATA x 1 (half size)	GbE x 2	USB 3.2 Gen 1 x 1 USB 2.0 x 3	2	2	MiniCard x 1 (Full)	12V	WTAS 2 (-40°C~85°C)	Touch Controller, TPM, SIM, DIO x 8

GENE-BT07

3.5" SubCompact Board with Intel® Celeron® J1900 Processor SoC



Features

- Intel® Celeron® J1900 Processor SoC
- DDR3L 1333 SODIMM Memory Max. up to 8GB
- VGA, LVDS, eDP (optional, support by BOM change)
- 2 CH Audio, Support 8ohm/2W Speaker
- 9 USB 2.0 , 6 COM
- Mini-Card Slot x 1 (Full-size), mSATA x 1(Half-size)
- DC 12V AT/ATX Mode



Specifications

System	
Form Factor	3.5" SubCompact Board
CPU	Intel® Celeron® J1900 Processor SoC
CPU Frequency	Up to 2.0 GHz
Chipset	Intel® Celeron® J1900 Processor SoC
Memory Type	DDR3L 1333MHz SODIMM x 1
Max. Memory Capacity	Up to 8GB
BIOS	UEFI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+12V
Power Supply Type	AT/ ATX Mode
Power Consumption (Typical)	Intel® Celeron® J1900, DDR3L 1600MHz 8G, 1.06A@+12V
Dimension (L x W)	5.75" x 4" (146 mm x 101.7 mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	40°F ~ 176°F (-40°C ~ 81°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	204,000
Certification	CE/FCC
Display	
VGA/LCD Controller	Intel® Celeron® J1900 Processor SoC
Video Output	VGA, LVDS, eDP (optional, support by BOM change)
Backlight inverter supply	18/24-bit dual channel LVDS LCDs
I/O	
Ethernet	RTL8111E, RJ-45 x 2
Audio	Realtek ALC892 CODEC, MIC-In AMP TI3113, Support 8ohm/4W speaker
USB Port	USB2.0 x 9
Serial Port	RS-232 x 6
Parallel Port	—
HDD Interface	—
FDD Interface	—
SSD	mSATA x 1 (half size)
Expansion Slot	Mini-Card x 1 (Full-size)
DIO	—
SIM	—
TPM	—
Touch	Reserve USB2.0 x 1 connector to expend

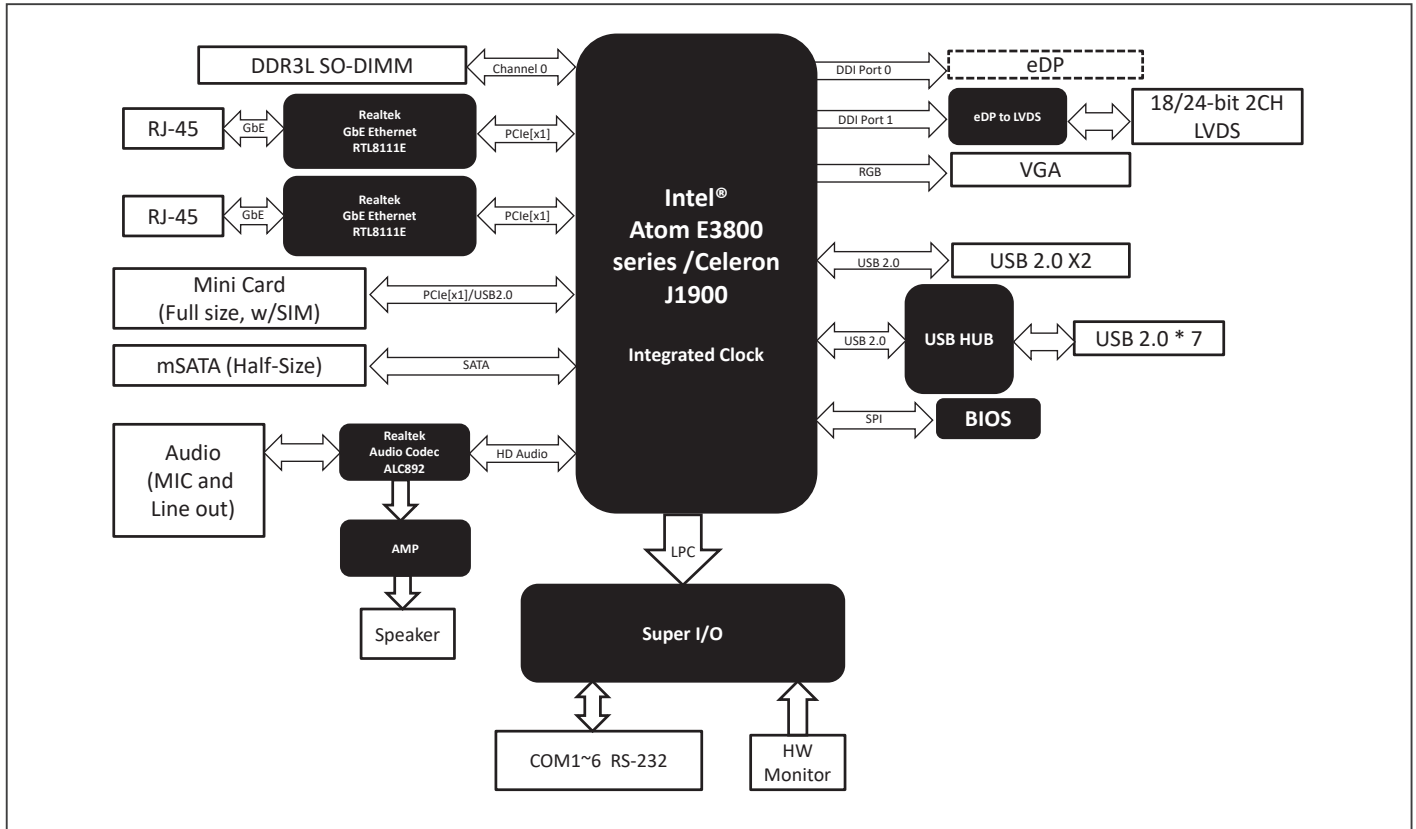
Packing List

- GENE-BT07

Optional Accessories

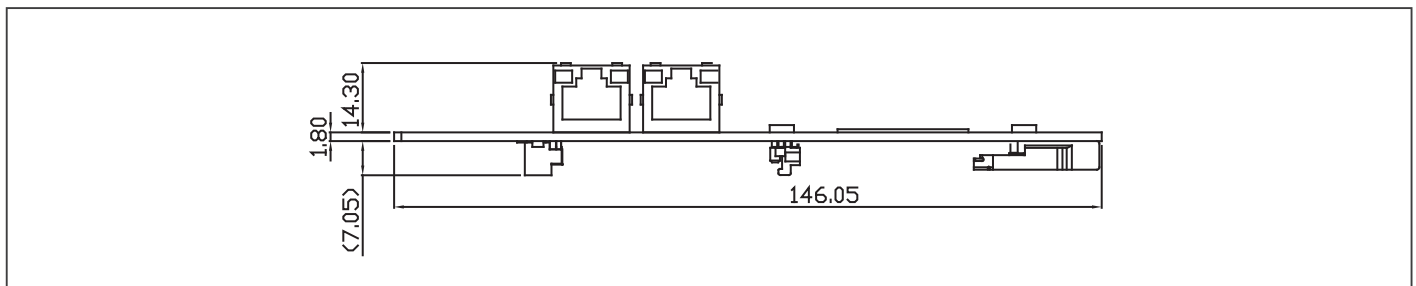
Part Number	Description	QTY
1709100254	(TF)PHONE JACK Cable. 3P AUDIO JACK. 1*10P 1.25mm HOUSING(F). 25cm	1
1700050207	(TF)USB CABLE. 1*5P Pitch=1.25mm Housinh. 20cm. for PFM-945C	9
1701090150	(TF)Flat Cable. D-Sub 9(M). 9P Housing. 9P 1.25mm pitch Housing. 15cm	6
1704150153	(TF)CRT CABLE. 1*15P Pitch=1.25mm. Housing. 15cm	1
GENE-BT07-HSK03	Heat Sink.60*60*25mm.Silver.GENE-BT07	1

Block Diagram



Dimension

Unit: mm



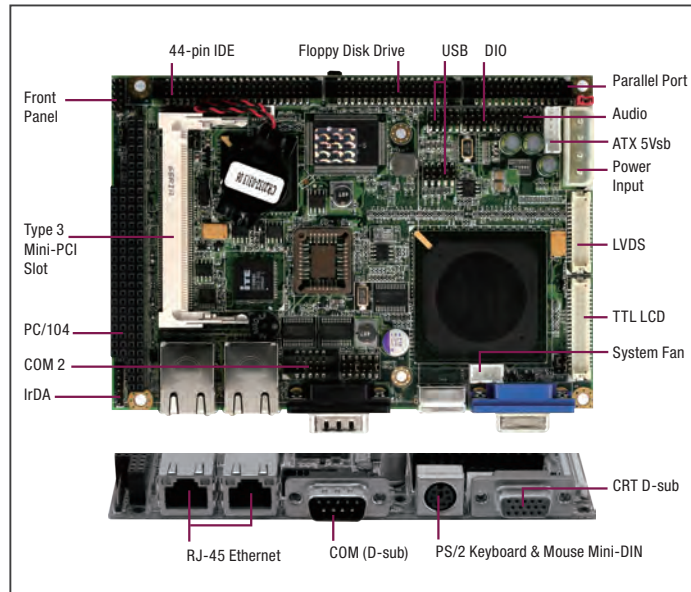
Ordering Information

Part Number	CPU	Fan/Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Power Temp	Others
GENE-BT07-A11-0001	Intel®Celeron® J1900	Fanless	CRT + LVDS	24bit,2CH	mSATA x 1 (Half-size)	Gbe x 2	UBS2.0 x 9	6	—	Mini Card x 1 (Full-Size)	+12V, AT/ATX	0°C – 60°C	SIM

GENE-5315 Rev. A

3.5" SubCompact Board with AMD Geode™ LX Series Processor

SubCompact Boards



Features

- Onboard AMD Geode™ LX800 Processor
- AMD Geode™ LX + CS5536
- DDR 333 MHz SODIMM, Up to 1 GB or DDR 400 MHz SODIMM, Up to 512 MB
- 10/100Base-TX Ethernet x 2, RJ-45 x 2
- Up to 24-bit Single Channel LVDS/ TTL LCD & CRT
- AC97 Codec 2CH Audio
- EIDE x 1, Floppy Disk Drive x 1, CompactFlash™ x 1
- COM x 2, Parallel x 1, USB2.0 x 4, 8-bit Digital I/O
- Mini-PCI And PC/104 Expansions
- +5V Only Operation



Specifications

System	
Form Factor	3.5" SubCompact Board
CPU	Onboard AMD Geode™ LX 800
CPU Frequency	500 MHz
Chipset	AMD Geode™ LX
Memory Type	DDR333 SODIMM x 1 (DDR400 optional)
Max. Memory Capacity	1 GB
BIOS	Award 1 MB
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+5V
Power Supply Type	AT/ ATX
Power Consumption (Typical)	LX 800 500 MHz, DDR400 1 GB, 1.17A@+5V
Dimension (L x W)	5.75" x 4" (146 mm x 101.6 mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C), -4°F ~ 158°F (-20°C ~ 70°C) for WITAS 1
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	90,000
Certification	CE/FCC
Display	
VGA/LCD Controller	AMD Geode™
Video Output	CRT, TTL LCD, LVDS LCD
Backlight inverter supply	Up to 24-bit single channel TTL/LVDS
I/O	
Ethernet	10/100Base-TX x 2, Realtek RTL 8139DL
Audio	High Definition Audio Interface
USB Port	USB2.0 x 4
Serial Port	RS-232 x 1, RS-232/422/485 x 1
Parallel Port	SPP/EPP/ECP x 1
HDD Interface	UDMA33 x 1
FDD Interface	FDD x 1
SSD	CompactFlash™
Expansion Slot	Mini-PCI, PC/104
DIO	8-bit
SIM	—
TPM	—
Touch	—

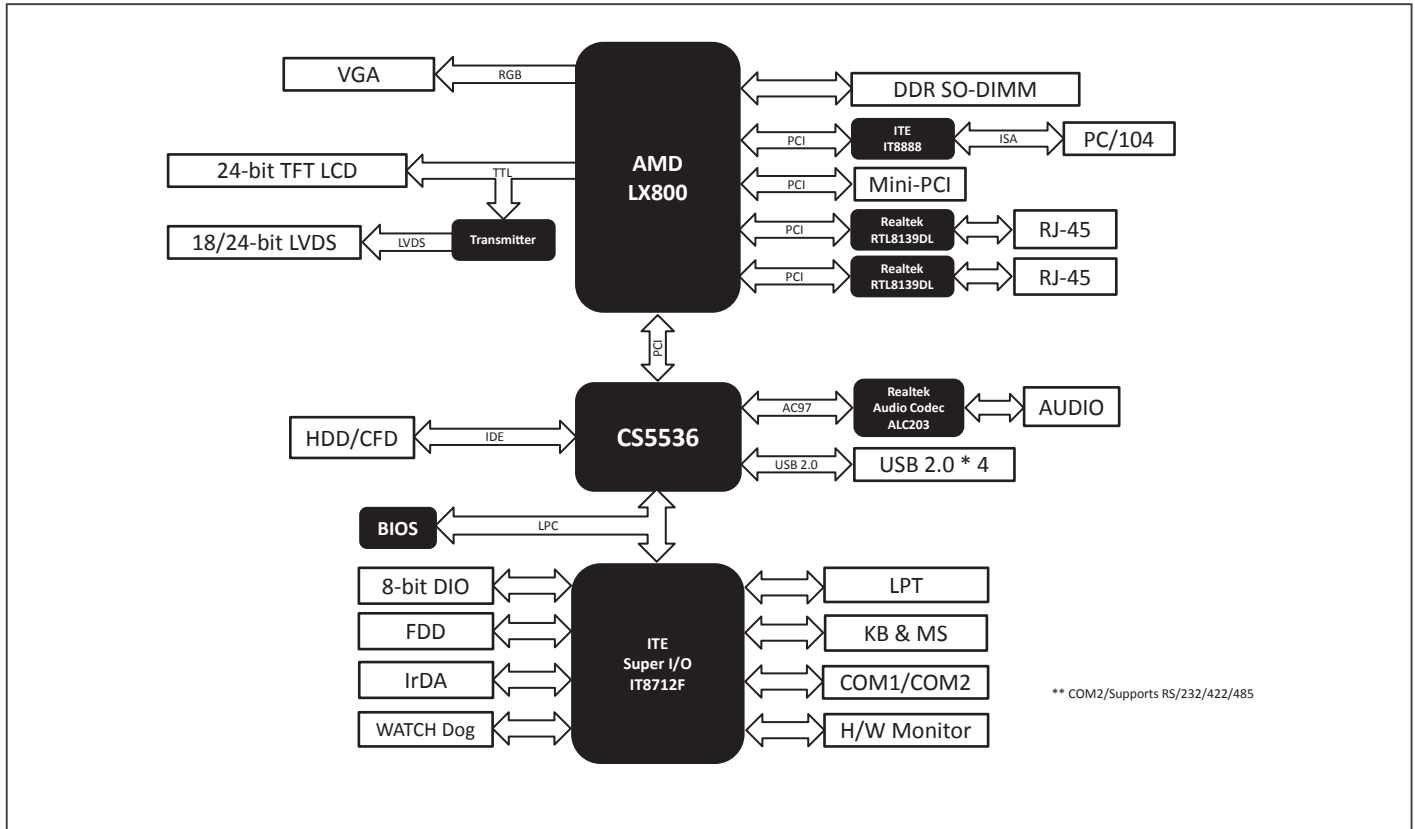
Packing List

- **9681531501**
Cable Kit for GENE-5315
 - 1700060192 Keyboard & Mouse Cable
 - 1709100201 USB Cable
 - 1701440500 IDE Cable
- **9657666600**
Jumper Cap
- **GENE-5315 Rev. A**

Optional Accessories

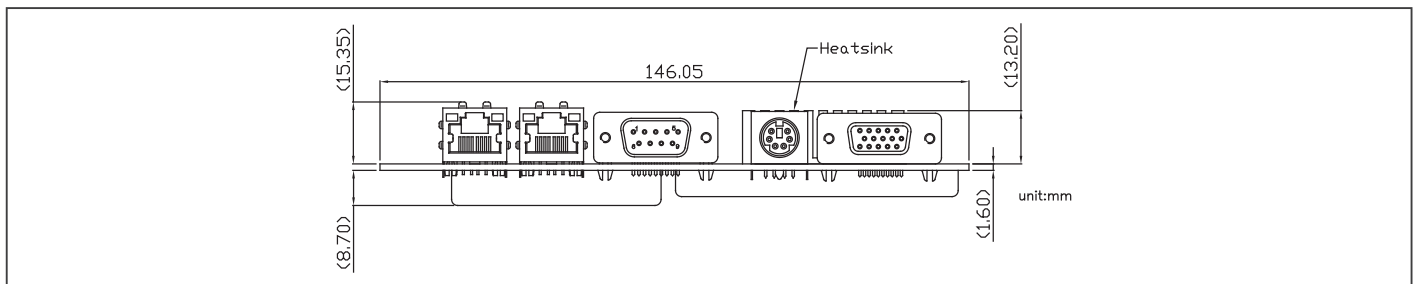
Part Number	Description	QTY
1702200205	Conversion Cable for ATX Power Supply, Length 20cm	1
1709140181	Audio Cable, Length 18cm	1
1709100208	USB Cable, Length 20cm	1
1701100206	COM Port Cable, 9P DB Male, Length 20cm	1
1701260201	Parallel Port Cable, Length 20 cm	1
1701340600	Floppy Cable, Length 60 cm	1

Block Diagram



Dimension

Unit: mm



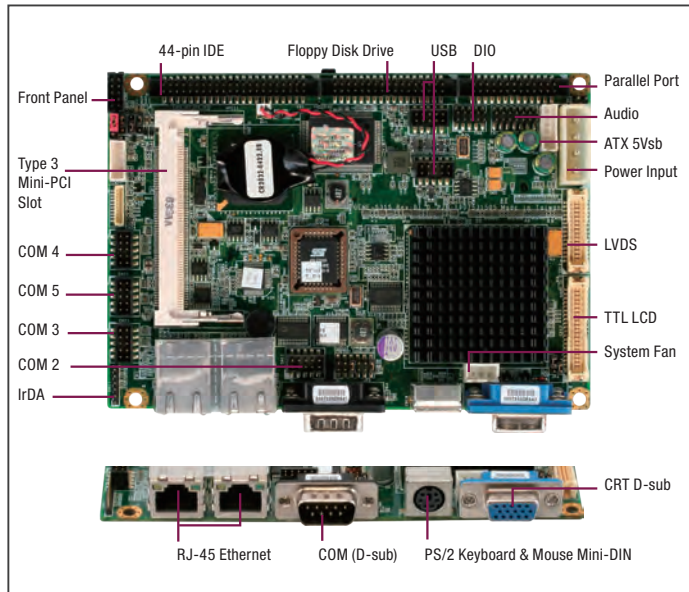
Ordering Information

Part Number	CPU	Fan/ Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Power Temp	Others
GENE-5315-A13	AMD Geode™ LX800	Fanless	CRT + LVDS CRT + TTL	24b,1CH	EIDE x 1 Floppy x 1 CompactFlash™ x 1	FE x 2	UBS2.0 x 4	1	1	Mini-PCI x 1 PC/104 x 1	+5V, AT/ATX	0°C ~ 60°C	DIO x 8
GENE-5315-A13-01	AMD Geode™ LX800	Fanless	CRT + LVDS CRT + TTL	18b, 1CH	EIDE x 1 Floppy x 1 CompactFlash™ x 1	FE x 2	UBS2.0 x 4	1	1	Mini-PCI x 1 PC/104 x 1	+5V, AT/ATX	0°C ~ 60°C	DIO x 8

GENE-5315 Rev. B

3.5" SubCompact Board with AMD Geode™ LX Series Processor

SubCompact Boards



Features

- Onboard AMD Geode™ LX800 Processor
- AMD Geode™ LX + CS5536
- DDR 333 MHz SODIMM x 1, Up to 1 GB or DDR 400 MHz SODIMM x 1, Up to 512 MB
- 10/100Base-TX Ethernet x 2, RJ-45 x 2
- Up to 24-bit Single Channel LVDS/ TTL LCD & CRT
- AC97 Codec 2CH Audio
- EIDE x 1, Floppy Disk Drive x 1, CompactFlash™ x 1
- COM x 5, Parallel x 1, USB2.0 x 4, 8-bit Digital I/O
- Mini-PCI x 1
- +5V Only Operation



Specifications

System	
Form Factor	3.5" SubCompact Board
CPU	Onboard AMD Geode™ LX 800
CPU Frequency	500 MHz
Chipset	AMD Geode™ LX
Memory Type	DDR333 SODIMM x 1 (DDR400 optional)
Max. Memory Capacity	1 GB
BIOS	Award 1 MB
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+5V
Power Supply Type	AT/ ATX
Power Consumption (Typical)	LX 800 500 MHz, DDR400 1 GB, 1.17A@+5V
Dimension (L x W)	5.75" x 4" (146 mm x 101.6 mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C), -4°F ~ 158°F (-20°C ~ 70°C) for WITAS 1
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	90,000
Certification	CE/FCC
Display	
VGA/LCD Controller	AMD Geode™
Video Output	CRT, TTL LCD, LVDS LCD
Backlight inverter supply	Up to 24-bit single channel TTL/LVDS
I/O	
Ethernet	10/100Base-TX x 2, Realtek RTL 8139DL
Audio	High Definition Audio Interface
USB Port	USB2.0 x 4
Serial Port	RS-232 x 4 & TTL UART x 1, RS-232/422/485 x 1
Parallel Port	SPP/EPP/ECP x 1
HDD Interface	UDMA33 x 1
FDD Interface	FDD x 1
SSD	CompactFlash™
Expansion Slot	Mini-PCI
DIO	8-bit
SIM	—
TPM	—
Touch	—

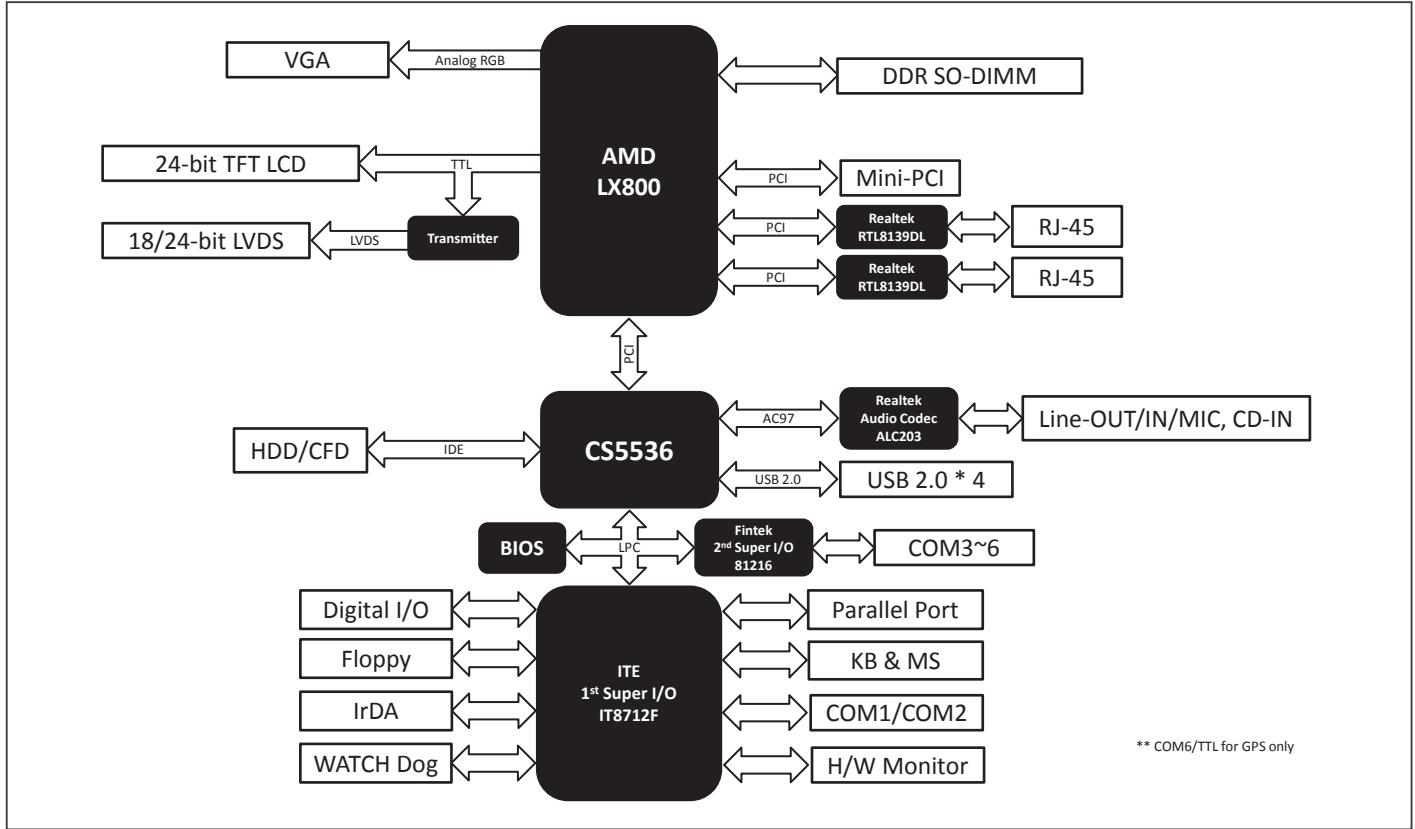
Packing List

- **9681531501**
Cable Kit for GENE-5315
 - 1700060192 Keyboard & Mouse Cable
 - 1709100201 USB Cable
 - 1701440500 IDE Cable
- **9657666600**
Jumper Cap
- **GENE-5315 Rev. B**

Optional Accessories

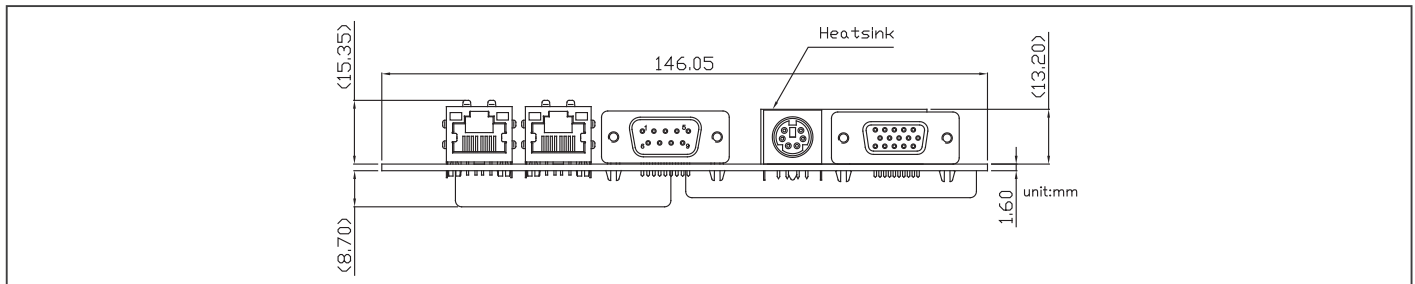
Part Number	Description	QTY
1702200205	Conversion Cable for ATX Power Supply, Length 20cm	1
1709140181	Audio Cable, Length 18cm	1
1709100208	USB Cable, Length 20cm	1
1701100206	COM Port Cable, 9P DB Male, Length 20cm	1
1701260201	Parallel Port Cable, Length 20 cm	1
1701340600	Floppy Cable, Length 60 cm	1

Block Diagram



Dimension

Unit: mm



Ordering Information

Part Number	CPU	Fan/Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Power Temp	Others
GENE-5315-B13	AMD Geode™ LX800	Fanless	CRT + LVDS CRT + TTL	24b,1CH	EIDE x 1 Floppy x 1 CompactFlash™ x 1	FE x 2	UBS2.0 x 4	4	1	Mini-PCI x 1	+5V, AT/ATX	0°C ~ 60°C	DIO x 8
GENE-5315-B13-01	AMD Geode™ LX800	Fanless	CRT + LVDS CRT + TTL	18b, 1CH	EIDE x 1 Floppy x 1 CompactFlash™ x 1	FE x 2	UBS2.0 x 4	4	1	Mini-PCI x 1	+5V, AT/ATX	0°C ~ 60°C	DIO x 8
GENE-5315W1-B13	AMD Geode™ LX800	Fanless	CRT + LVDS CRT + TTL	24b,1CH	EIDE x 1 Floppy x 1 CompactFlash™ x 1	FE x 2	UBS2.0 x 4	4	1	Mini-PCI x 1	+5V, AT/ATX	WITAS 1 (-20°C ~ 70°C)	DIO x 8
GENE-5315W1-B13-01	AMD Geode™ LX800	Fanless	CRT + LVDS CRT + TTL	18b, 1CH	EIDE x 1 Floppy x 1 CompactFlash™ x 1	FE x 2	UBS2.0 x 4	4	1	Mini-PCI x 1	+5V, AT/ATX	WITAS 1 (-20°C ~ 70°C)	DIO x 8

3.5" SubCompact Board System with 8th Generation Intel® Core™ i7/i5/i3/Celeron® Processor SoC



Features

- Intel® Core™ i7/i5/i3/Celeron Processor SoC
- Non-ECC DDR4 SODIMM Slot x 2, up to 64GB
- VGA x 1, HDMI 2.0 x 1
- GbE x 2, SATA III x 1
- USB 3.2 Gen 2 x 4 (Up to Gen 2), RS-232/422/485 x 2
- Full size mSATA/mPCIe Slot x 1 (With Nano-SIM)
- M.2 B Key 2280 x 1, M.2 E Key 2230 x 1
- Wide DC Input 9-36V (Optional: 12V Only)



Display	
VGA/LCD Controller	Intel® 8th Generation Core™ i7/i5/i3/Celeron SoC
Video Output	VGA x 1, HDMI 2.0 x 1
Backlight inverter supply	—
I/O	
Ethernet	Intel® i210/i211 & i219, 10/100/1000Base, RJ 45 x2
Audio	High Definition Audio Interface (Optional)
USB Port	USB 3.2 Gen 2 x 4/2.0 x 2 (Up to Gen2)
Serial Port	RS-232/422/485 x 2
Parallel Port	—
HDD Interface	SATA 3.0 x 1 SATA power connector x 1 (+5V)
FDD Interface	—
SSD	Full size mSATA/mPCIe x 1 with NANO-SIM (mSATA as default, select by BIOS) M.2 2280 B key (PCI-e as default, SATA select by BIOS)
Expansion Slot	M.2 2230 E key x 1 (For WIFI/BT, PCIe/USB signal only) SMBUS/I2C/LPC/eSPI x 1
DIO	—
SIM	x 1 (NANO-SIM)
TPM	—
Touch	—

Specifications

System	
Form Factor	3.5" SubCompact Board System
CPU	Intel® 8th Generation Core™ i7/i5/i3/Celeron SoC i7-8665UE (4C, 1.7GHz, up to 4.4GHz) i5-8365UE (4C, 1.6GHz, up to 4.1GHz) i3-8145UE (2C, 2.2GHz, up to 3.9GHz) 4305UE (2C, 2GHz)
CPU Frequency	Up to 4.4GHz
Chipset	8th Generation Intel® Processor SoC
Memory Type	DDR4 2400 MHz SODIMM x 2 (Dual Channel, Non-ECC)
Max. Memory Capacity	Up to 64GB
BIOS	AMI UEFI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+9 ~ 36V (Optional: +12V)
Power Supply Type	ATX
Power Consumption (Typical)	Intel® i7-8665UE, DDR4 2400 MHz 16GB, 2.8A@ +12V
Dimension (L x W)	5.75" x 4" (146mm x 101.7mm)
Operating Temperature	32°F ~ 122°F (0°C ~ 50°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	354,194
Certification	CE/FCC

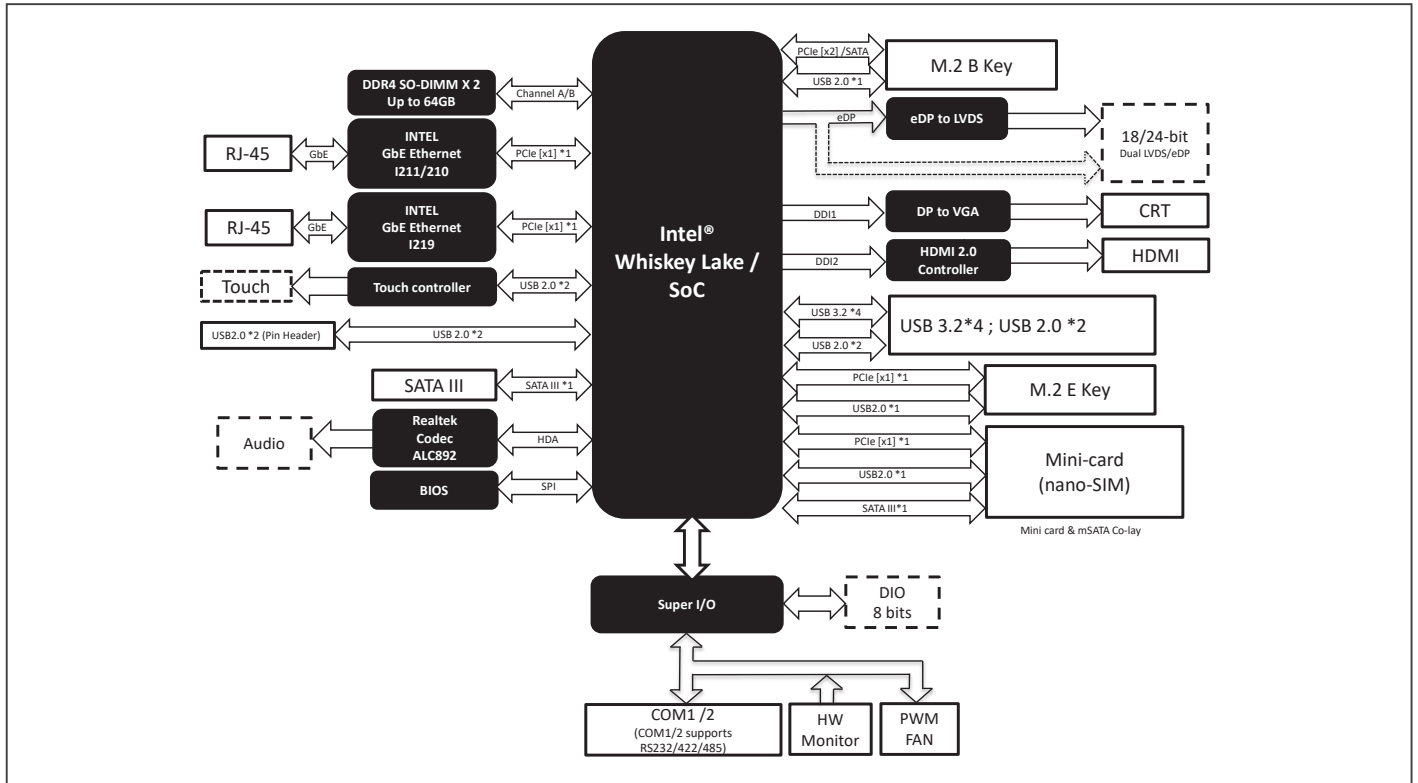
Packing List

- GENESYS-WHU6

Optional Accessories

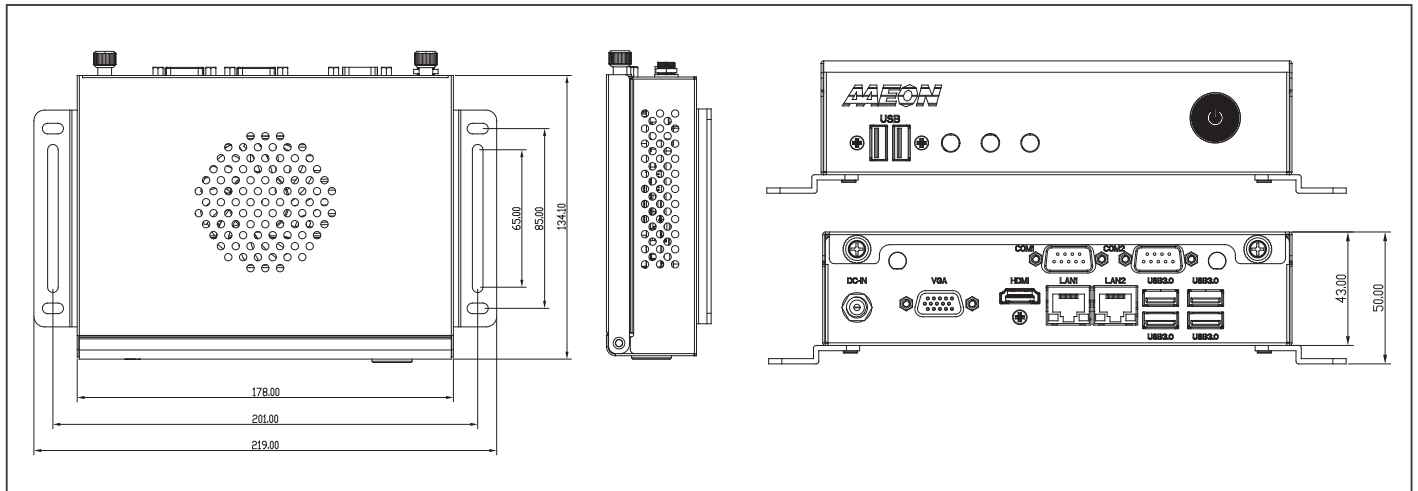
Part Number	Description	QTY
968D4004GN	(TF)DDR4.4GB.DDR4 SODIMM.2666MT/s.512Mx8.SAMSUNG.K4A4G085WX.260P.INNODISK.M4S0-4GSSNCIK-26	1
968D4008GW	(TF)DDR4.8GB.SODIMM.2666MT/s.260Pin.512Mx8 Samsung K4A4G085WX.InnoDisk.M4S0-8GSSOCIK-26	1
968C256G22	2.5" SATA3 SSD.256GB,MLC.-10~80C.Transcend.TS256GSSD420K-AA	1
968C512G06	2.5" SATA3 SSD.512GB,MLC.-10~80C.Transcend.TS512GSSD420K-AA	1
125530060Z	Power Adapter. 12V.5A.60W. FSP060-DHAN3	1
1255300960	Power Adapter. 12V.5A.96W. FSP096-DHAN3	1
1702031802	Power Cord (US)	1
1702031803	Power Cord (Europe)	1
170203180E	Power Cord (Japan)	1
GENESYS-WHU6-HDD1	HDD Kit. For GENESYS-WHU6	1
GENESYS-WHU6-WMT1	Wall Mount Kit. For GENESYS-WHU6	1
GENESYS-WHU6-VESA1	VESA Mount Kit. For GENESYS-WHU6	1

Block Diagram



Dimension

Unit: mm

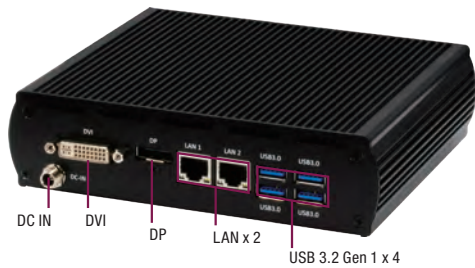


Ordering Information

Part Number	CPU	Fan/Fanless	Display	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Power Temp	Others
GENESYS-WHU6-A10-0001	i3-8145UE	Cooler	VGA x 1 HDMI x 1	mSATA/mPCIe x 1 (Full size) M.2 B key 2280 x 1	GbE x 2	USB 3.2 Gen 2 x 4 USB 2.0 x 2	—	2	M.2 E key 2230 x 1	9 – 36V	0°C – 50°C	Nano SIM
GENESYS-WHU6-A10-0002	i5-8365UE	Cooler	VGA x 1 HDMI x 1	mSATA/mPCIe x 1 (Full size) M.2 B key 2280 x 1	GbE x 2	USB 3.2 Gen 2 x 4 USB 2.0 x 2	—	2	M.2 E key 2230 x 1	9 – 36V	0°C – 50°C	Nano SIM
GENESYS-WHU6-A10-0003	i7-8665UE	Cooler	VGA x 1 HDMI x 1	mSATA/mPCIe x 1 (Full size) M.2 B key 2280 x 1	GbE x 2	USB 3.2 Gen 2 x 4 USB 2.0 x 2	—	2	M.2 E key 2230 x 1	9 – 36V	0°C – 50°C	Nano SIM
GENESYS-WHU6-A10-0004	4305UE	Cooler	VGA x 1 HDMI x 1	mSATA/mPCIe x 1 (Full size) M.2 B key 2280 x 1	GbE x 2	USB 3.2 Gen 2 x 4 USB 2.0 x 2	—	2	M.2 E key 2230 x 1	9 – 36V	0°C – 50°C	Nano SIM

GENESYS-KBU6

3.5" SubCompact Board System with 7th Generation Intel® Core™ i7/i5/i3/Celeron® Processor SoC



Features

- 7th Generation Intel® Core™ i7/i5/i3/Celeron® Processor SoC
- DDR4 1866/2133, SODIMM x 1
- DVI x 1, DP x 1
- SATA 6.0 Gb/s x 1 & mSATA
- USB 2.0 x 2, USB 3.2 Gen 1 x 4
- COM x 2 (RS-232 x 1, RS-232/422/485 x 1)
- Mini-Card Slot x 2, TPM, SIM
- Wide DC Support 9~36V, +12V Only (Optional)
- Solder Design for System Assembly and Thermal



Serial Port	RS-232 x 1, RS-232/422/485 x 1
Parallel Port	—
HDD Interface	SATA 3.0 x 1, +5V SATA power connector x 1
FDD Interface	—
SSD	mSATA (Shared with half-size MiniCard and Selected by BIOS)
Expansion Slot	Mini-Card mSATA x 1 (Half-size, default), Mini-Card x 1 (Full-size)
DIO	—
SIM	x 1
TPM	TPM 2.0 x 1
Touch	—

Packing List

- GENESYS-KBU6

Optional Accessories

Part Number	Description	QTY
968D4008GB	(TF)8GB,DDR4 2133Mhz,SODIMM 260Pin 512M*8.0~85C Non ECC, Transcend.TS9AAESD00AA	1
968D4004G0	(TF)4GB,DDR4 2133,SODIMM 260Pin.512M*8,Samsung K4A4G085WX.0~85 deg C,Transcend.TS8AAESD00AA	1
968C032G3P	(TF)Half size mSATA,32GB,MLC.3ME3 15nm.0~70 deg C,InnoDisk,DEMMSM-32GD09BC1DC-26	1
968C064G3D	(TF)Half size mSATA,64GB,MLC.3ME3.15nm.0~70 deg C,InnoDisk,DEMMSM-64GD09BC1DC-26	1
968C128G1Q	(TF)Half size mSATA,128GB,MLC.-40 ~ 85 C,Transcend.TS128GMSM360I	1
968C256G22	2.5" SATA3 SSD.256GB,MLC.-10~80C,Transcend.TS256GSSD420K-AA	1
968C512G06	2.5" SATA3 SSD.512GB,MLC.-10~80C,Transcend.TS512GSSD420K-AA	1
125530060Z	Power Adapter. 12V.5A.60W. FSP060-DHAN3	1
1255300960	Power Adapter. 12V.5A.96W. FSP096-DHAN3	1
1702031802	Power Cord (US)	1
1702031803	Power Cord (Europe)	1
170203180E	Power Cord (Japan)	1
GENESYS-KBU6-HDD1	HDD Kit. For GENESYS-KBU6	1
GENESYS-KBU6-WMT1	Wall Mount Kit. For GENESYS-KBU6	1
GENESYS-KBU6-VESA1	VESA Mount Kit. For GENESYS-KBU6	1

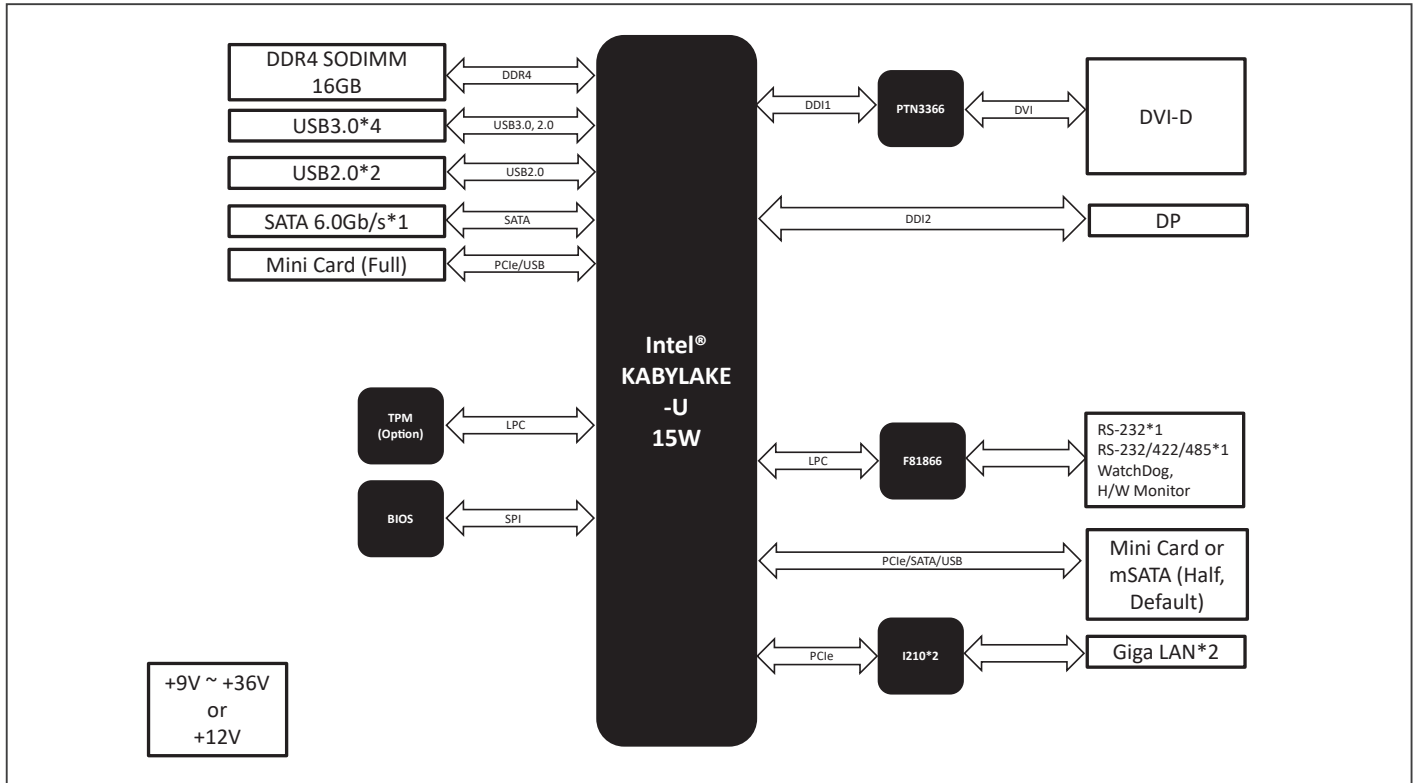
Specifications

System	
Form Factor	3.5" SubCompact Board System
CPU	7th Generation Intel® Core™ i7/i5/i3/Celeron® Processor SoC
CPU Frequency	Up to 3.9GHz
Chipset	7th Generation Intel® Processor SoC
Memory Type	DDR4 1866/2133, SODIMM x 1
Max. Memory Capacity	Up to 16GB
BIOS	AMI UEFI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+9 ~ 36V or +12V
Power Supply Type	ATX
Power Consumption (Typical)	Intel® i7-7600U, DDR4 2400MHz 16GB, 1.85A@ +12V
Dimension (L x W)	170mm x 137mm x 44.5mm
Operating Temperature	32°F ~ 122°F (0°C ~ 50°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 81°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	123,000
Certification	CE/FCC
Display	
VGA/LCD Controller	7th Generation Intel® Processor SoC
Video Output	DVI-D, DP (Default)
Backlight Inverter Supply	—
I/O	
Ethernet	Intel® i210/i211, 10/100/1000Base-TX, RJ-45 x 2
Audio	—
USB Port	USB 3.2 Gen 1 x 4, USB 2.0 x 2

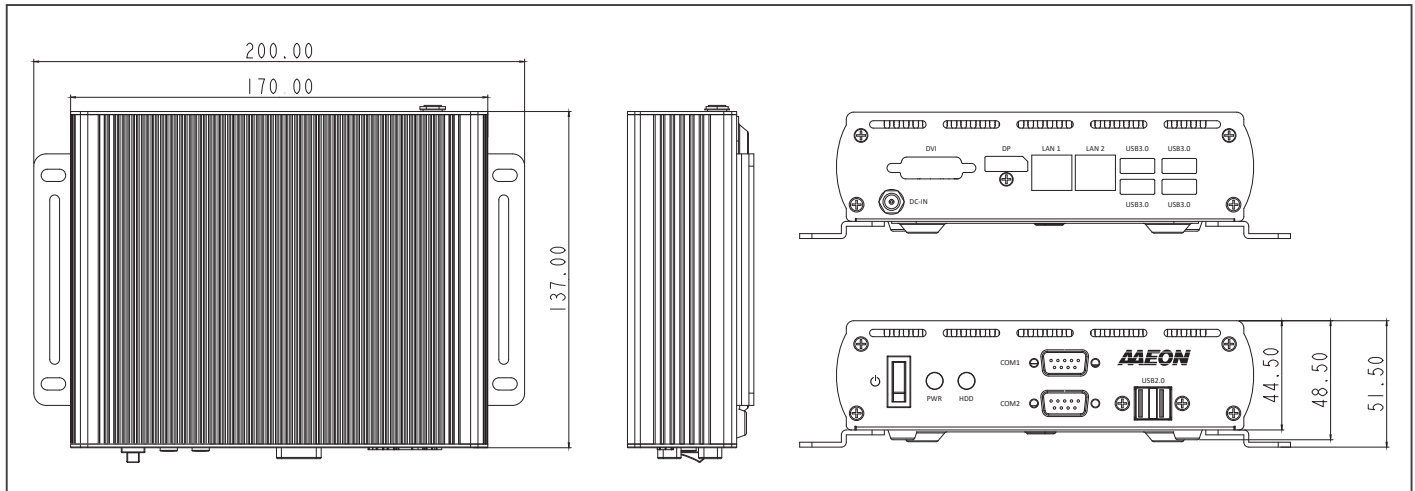
CPU Support Chart

CPU	Base Frequency/ Turbo Boost GHz	Core/ Thread	Last Level Cache	TDP	Graphic
i7-7600U	2.8/3.9	2/4	4M	15W	GT2 - 620
i5-7300U	2.6/3.5	2/4	3M	15W	GT2 - 620
i3-7100U	2.4	2/4	3M	15W	GT2 - 620
C-3965U	2.2	2/2	2M	15W	GT1 - 610

Block Diagram



Dimension Unit: mm

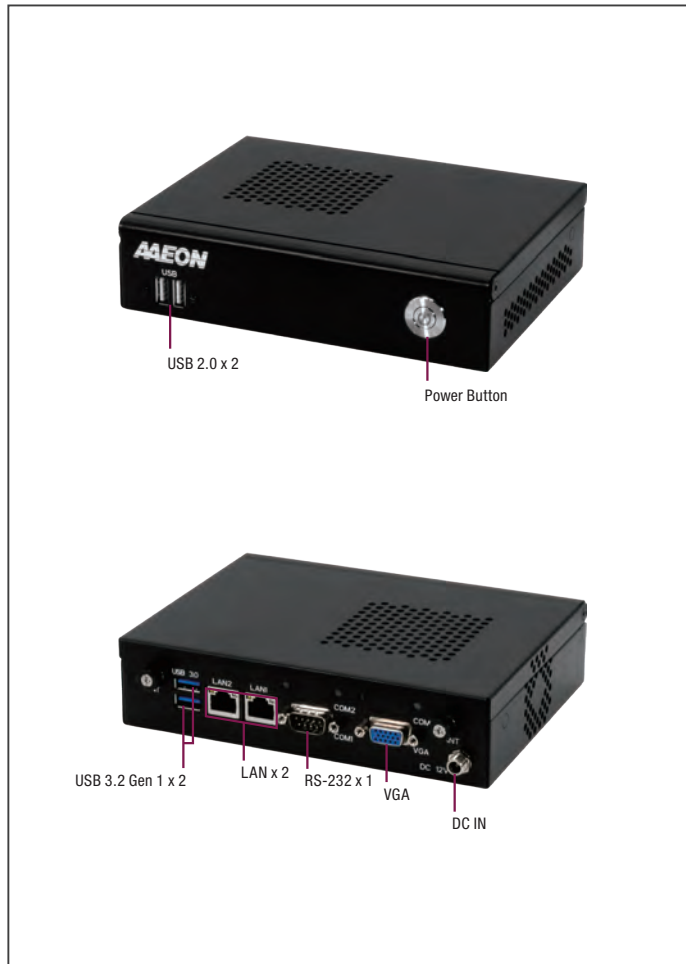


Ordering Information

Part Number	CPU	Fan/Fanless	Display	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Power Temp	Others
GENESYS-KBU6-A10-0001	i7-7600U	Fanless	DP x 1 DVI x 1	SATA x 1 mSATA x 1 (Half-size)	GbE x 2	USB 3.2 Gen 1 x 4, USB 2.0 x 2	1	1	MiniCard x 1 (Full)	9~36V	0°C ~ 50°C	—
GENESYS-KBU6-A10-0002	i5-7300U	Fanless	DP x 1 DVI x 1	SATA x 1 mSATA x 1 (Half-size)	GbE x 2	USB 3.2 Gen 1 x 4, USB 2.0 x 2	1	1	MiniCard x 1 (Full)	9~36V	0°C ~ 50°C	—
GENESYS-KBU6-A10-0003	i3-7100U	Fanless	DP x 1 DVI x 1	SATA x 1 mSATA x 1 (Half-size)	GbE x 2	USB 3.2 Gen 1 x 4, USB 2.0 x 2	1	1	MiniCard x 1 (Full)	9~36V	0°C ~ 50°C	—

GENESYS-APL7

3.5" SubCompact Board System with Intel® Pentium® N4200/ Celeron® N3350 Processor SoC



Features

- Intel® Pentium® N4200/ Celeron® N3350 Processor SoC
- DDR3L 1866 MHz SODIMM x 1, up to 8 GB
- VGA
- SATA 6.0 Gb/s x 1
- USB 3.2 Gen 1 x 2, USB 2.0 x 1, COM x 7
- mSATA x 1 (Full size), Mini Card x 1 (Full size)
- DC 12V Only, ATX Mode



I/O	
Ethernet	Realtek RTL-8111E, RJ-45 x 2
Audio	—
USB Port	Rear I/O: USB 3.2 Gen 1 x 2 Internal: USB2.0 x 2
Serial Port	Rear I/O: COM x 1 (RS-232) Internal: COM x 6 (RS-232)
Parallel Port	—
HDD Interface	SATA 3.0 x 1
FDD Interface	—
SSD	mSATA x 1 (Full, optional for mini-card)
Expansion Slot	mSATA x 1 (Full size), Mini Card x 1 (Full size) with uSIM
DIO	—
SIM	—
TPM	—
Touch	—

Specifications

System	
Form Factor	3.5" SubCompact Board System
CPU	Intel® Pentium® N4200/ Celeron® N3350 Processor SoC
CPU Frequency	Up to 2.5 GHz
Chipset	Intel® Pentium® N4200/ Celeron® N3350 Processor SoC
Memory Type	DDR3L 1866MHz, SODIMM x 1
Max. Memory Capacity	Up to 8GB
BIOS	AMI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	12V Only
Power Supply Type	ATX
Power Consumption (Typical)	Intel® N4200,DDR3L 1600MHz 8GB,1.61A@+12V
Dimension (L x W)	178mm x 134.1mm x 50mm
Operating Temperature	32°F ~ 122°F (0°C ~ 50°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	126,000
Certification	CE/FCC
Display	
VGA/LCD Controller	Intel® Pentium® N4200/ Celeron® N3350 Processor SoC
Video Output	VGA
Backlight inverter supply	—

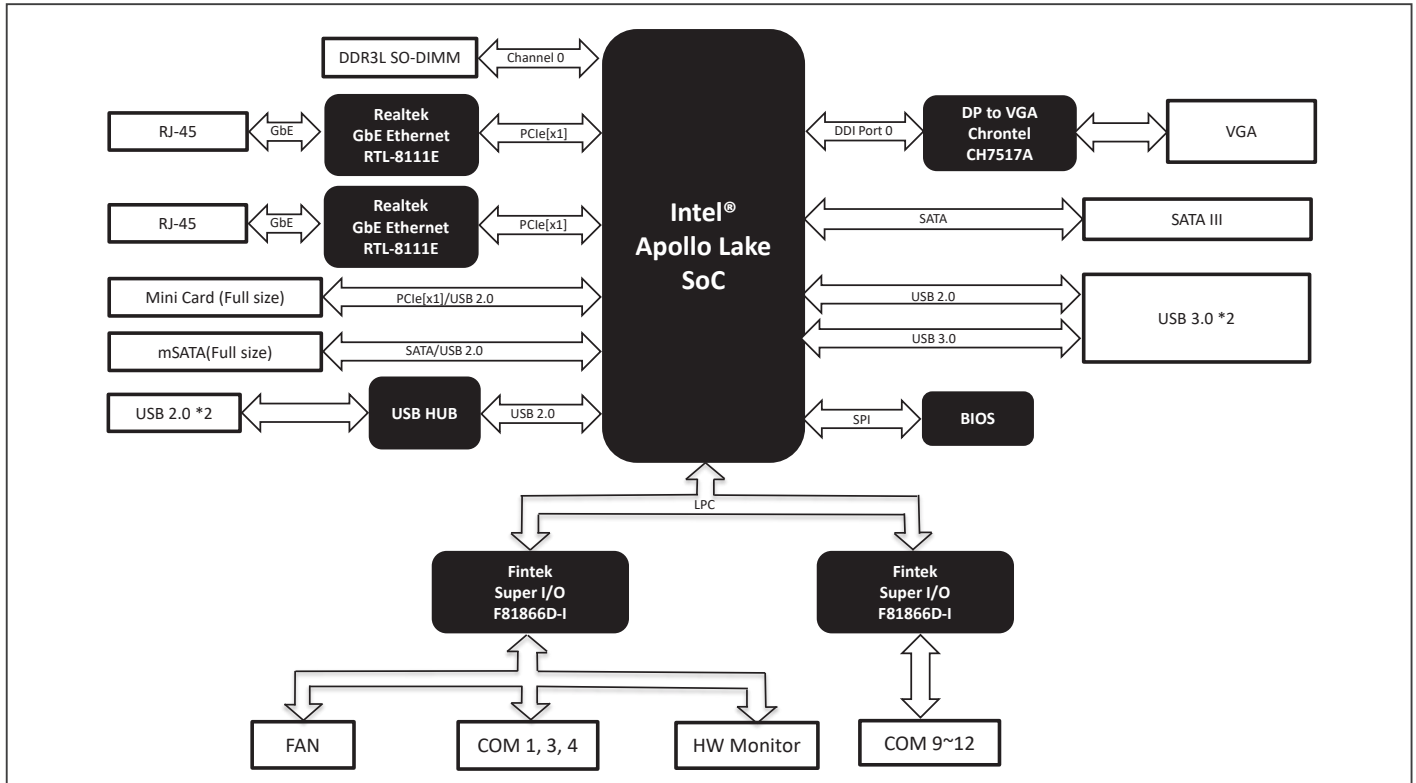
Packing List

- GENESYS-APL7

Optional Accessories

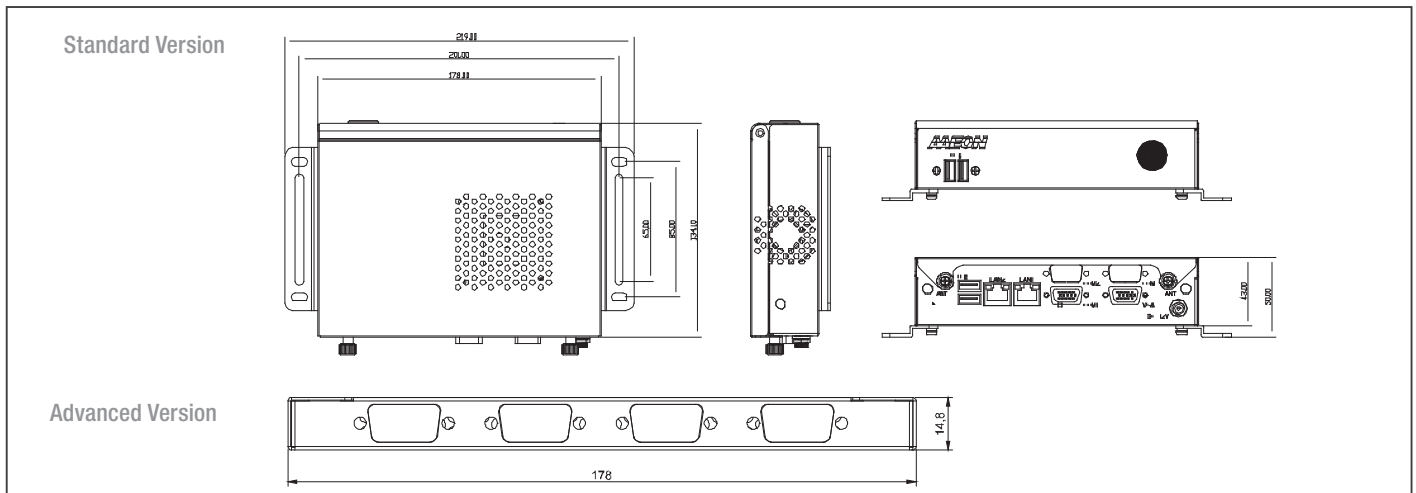
Part Number	Description	QTY
968D3004G6	4GB,DDR3L,204Pin SODIMM,1600,Transcend.TS512MSK64W6H	1
968D3008G7	8GB,DDR3L-1600,204Pin SO-DIMM,1.35V,512Mx8,Samsung.K4B4G0846X,Transcend.TS1GSK64W6H	1
968C032G32	Full-size mSATA,32GB,Transcend.TS32GMSA370	1
968C064G2K	Full-size,64GB,mSATA,MLC,Transcend.TS64GMSA370	1
968C256G22	2.5" SATA3 SSD,256GB,MLC,-10~80C,Transcend.TS256GSSD420K-AA	1
968C512G06	2.5" SATA3 SSD,512GB,MLC,-10~80C,Transcend.TS512GSSD420K-AA	1
125530060Z	Power Adapter, 12V,5A,60W, FSP060-DHAN3	1
1255300960	Power Adapter, 12V,5A,96W, FSP096-DHAN3	1
1702031802	Power Cord (US)	1
1702031803	Power Cord (Europe)	1
170203180E	Power Cord (Japan)	1
GENESYS-APL7-WMT1	Wall Mount Kit. For GENESYS-APL7	1
GENESYS-APL7-VESA1	VESA Mount Kit. For GENESYS-APL7	1
GENESYS-APL7-HDD1	HDD Kit. For GENESYS-APL7	1
GENESYS-APL7-COM1	COM Extension Kit. w/ 1 Cable. For GENESYS-APL7	1

Block Diagram



Dimension

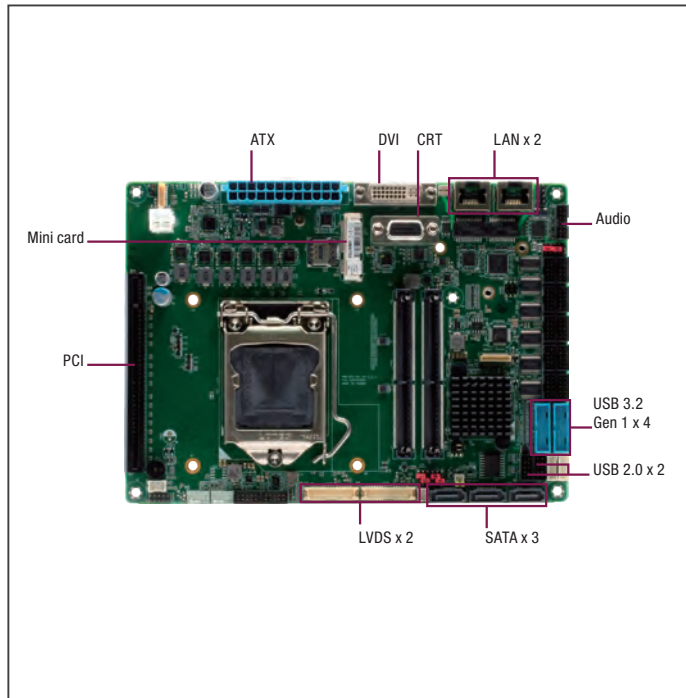
Unit: mm



Ordering Information

Part Number	CPU	Fan/Fanless	Display	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Power Temp	Others
GENESYS-APL7-A10-FS01	N3350	w/HS, Fan	VGA	SATA x 1, mSATA x 1 (full size)	GbE x 2	USB 3.2 Gen 1 x 2, USB 2.0 x 2	1	—	MiniCard x 1 (Full)	12V	0°C ~ 50°C	—
GENESYS-APL7-A10-FS02	N4200	w/HS, Fan	VGA	SATA x 1, mSATA x 1 (full size)	GbE x 2	USB 3.2 Gen 1 x 2, USB 2.0 x 2	1	—	MiniCard x 1 (Full)	12V	0°C ~ 50°C	—

Compact Board with 8th/9th Generation Intel® Core™ i7/i5/i3 and Celeron® Processor (socket type)



Features

- 8th/ 9th Gen Intel® Core™ i7/i5/i3/ Celeron Socket Type CPU (Up to 65W)
- DDR4 SODIMM Slot x 2, up to 32GB
- Dual LVDS, VGA x 1, DVI x 1
- PCIe[x16] Expansion Slot x 1
- GbE x 2, HDA x 1 (Line-in, line-out, speaker out)
- Half size mPCIe x 1 (With Nano-SIM), M.2 B key 2280 Slot x 1, M.2 M key 2280 Slot x 1
- SATA 6.0 Gb/s x 3, USB 3.2 Gen 2 x 4, USB2.0 x 4, Touch x 1 (4/5/8 Wire)
- TPM2.0 x 1, RS232 x 8, RS232/422/485 x 2
- CPU/System FAN connector x 2, DIO 16 bit
- ATX Power Design



Specifications

System	
Form Factor	5.25" Compact Board
CPU	8th/9th Generation Intel® Core™ i7/i5/i3/Celeron® Socket Type (Up to 65W)
CPU Frequency	Up to 5.0GHz
Chipset	Intel® Q370 (TDP: 6W)
Memory Type	SODIMM DDR4 Memory Slot x 2
Max. Memory Capacity	Up to 32GB
BIOS	UEFI only
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	ATX
Power Supply Type	ATX
Power Consumption (Typical)	CPU 65W TDP
Dimension (L x W)	203mm x 146mm
Operating Temperature	32°F ~ 122°F (0°C ~ 50°C)
Storage Temperature	-4°F ~ 176°F (-20°C ~ 80°C)
Operating Humidity	0 ~ 90% @ 40°C, non-condensing
MTBF (Hours)	TBD
Certification	CE/FCC Class A
Display	
VGA/LCD Controller	8th Generation Intel® Core™ Processor family
Video Output	LVDS x 2, CRT x 1, DVI x 1
Backlight inverter supply	18/24bit (2CH)
I/O	
Ethernet	Intel® GbE i219 x 1, Intel® GbE i211 x 1
Audio	ALC269 (With Amplifier)
USB Port	USB 3.2 Gen 1 x 4, USB 2.0 x 4 (All headers)
Serial Port	RS232 x 8, RS232/422/485 x 2 (All headers)
Parallel Port	—
HDD Interface	SATA 6.0 Gb/s x 3

FDD Interface	—
SSD	—
Expansion Slot	M.2 3042/2280 Slot (B key) x 1 M.2 2280 Slot (M key) x 1 Half size mPCIe x 1 SMBus/I2C/LPC x 1
DIO	16-bit
SIM	—
TPM	TPM 2.0
Touch	—

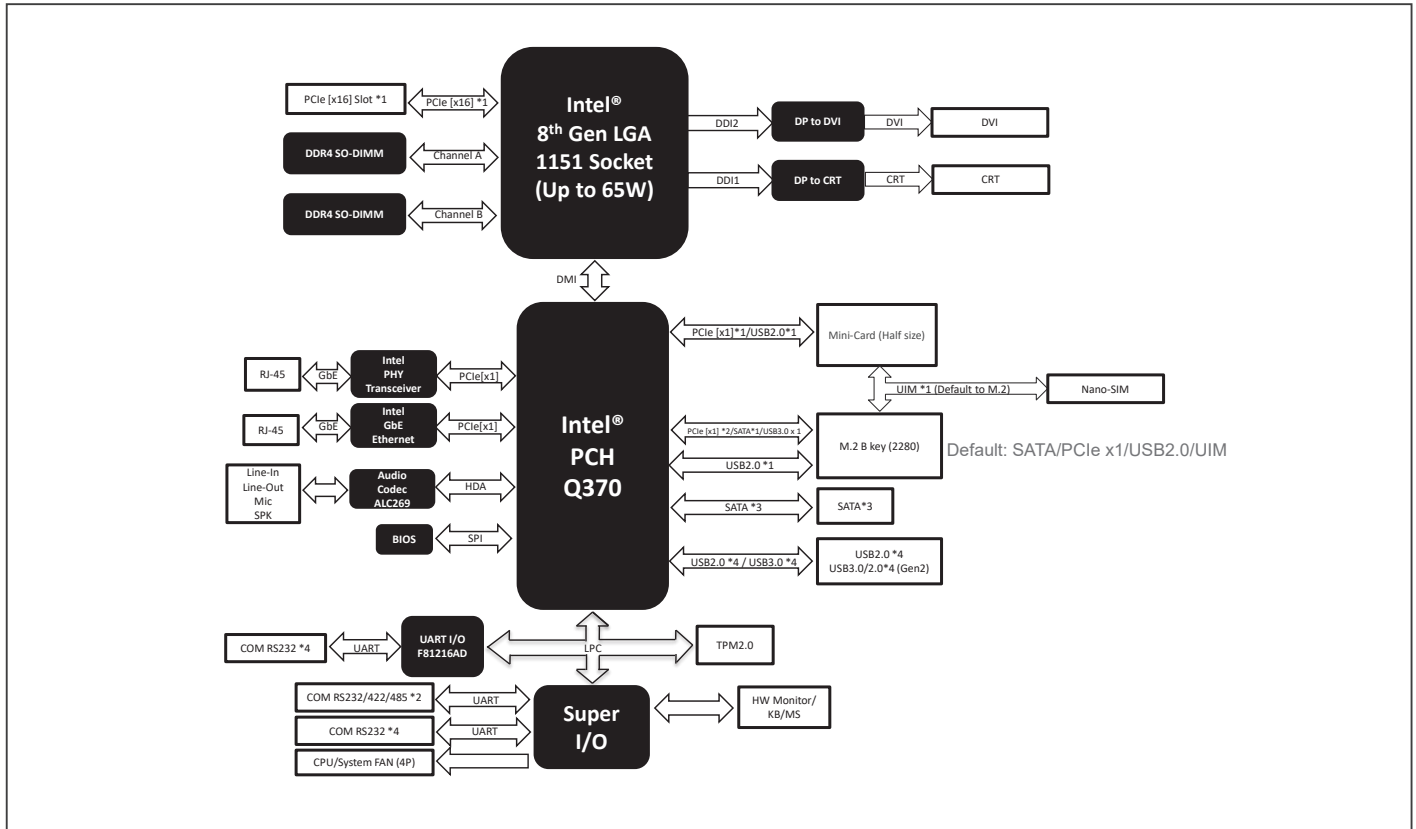
Packing List

- Jumper Cap (965766600)
- Back plate for cooler (M09KBS9000)
- PCM-CFS

Optional Accessories

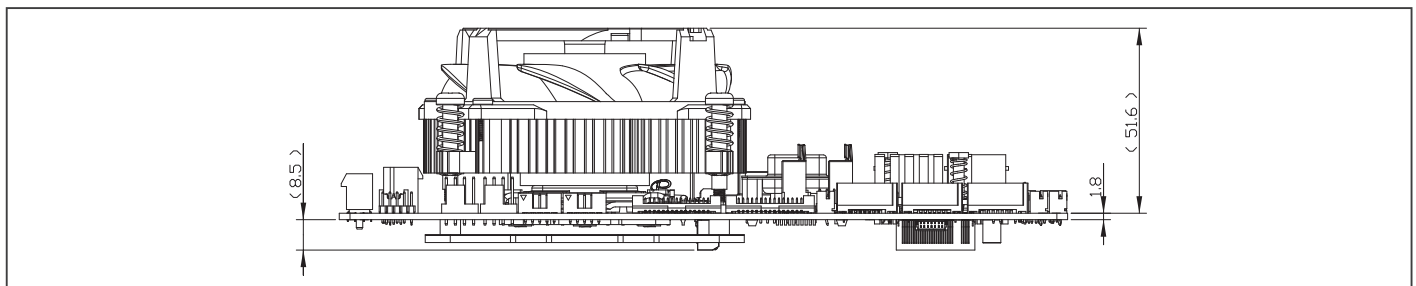
Part Number	Description	QTY
1700190450	USB 3.2 Cable.2 PORTS.w/ bracket 45cm	2
1709100201	USB Cable.2.0mm.W/Bracket 20cm	2
1701100206	COM Cable 20cm	10
1700140510	Audio Cable 51cm	1
1702150155	SATA Power Cable 15cm	1
1709070500	SATA Cable 50cm	3
17592KBS91	CPU Cooler	1

Block Diagram



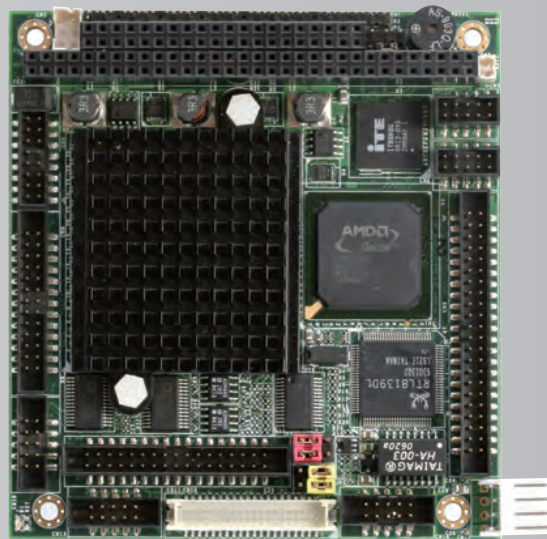
Dimension

Unit: mm



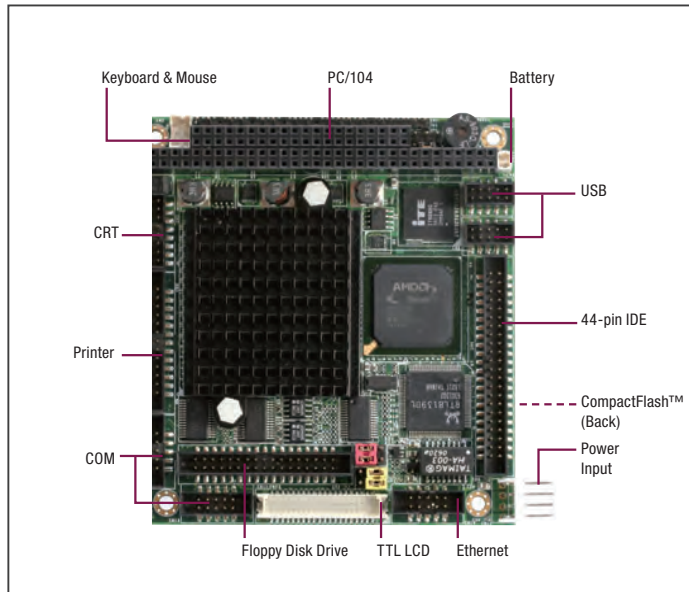
PC/104 Modules

07



PFM-540I Rev. A

PC/104 Module with AMD Geode™ LX Processor



Features

- Onboard AMD Geode™ LX800 Processor
- AMD Geode™ LX800 + CS5536
- DDR 333 MHz SODIMM x 1, Up to 1 GB or DDR 400 MHz SODIMM x 1, Up to 512 MB
- 10/100Base-TX Ethernet x 1
- 18/24-bit TTL LCD Support
- EIDE x 1, CompactFlash™ x 1
- USB2.0 x 4, COM x 2, and Parallel x 1
- PC/104 Expansion
- +5V Only Operation, AT Power Type
- Low Power Consumption



Specifications

System	
Form Factor	PC/104
CPU	Onboard AMD Geode™ LX 800
CPU Frequency	500 MHz
Chipset	AMD Geode™ LX 800 + CS5536
Memory Type	DDR333/400, SODIMM x 1, (512 MB for DDR400)
Max. Memory Capacity	1 GB
BIOS	Award 512 KB
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+5V
Power Supply Type	AT
Power Consumption (Typical)	AMD Geode™ LX 800 500 MHz, DDR400 512 MB, 1.53A@+5V
Dimension (L x W)	3.55" x 3.77" (90mm x 96mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	100,000
Certification	CE/FCC
Display	
VGA/LCD Controller	AMD Geode™ LX 800
Video Output	CRT, TTL LCD
Backlight Inverter Supply	—
I/O	
Ethernet	10/100Base-TX x 1, Realtek RTL 8139DL
Audio	—
USB Port	USB2.0 x 4
Serial Port	RS-232 x 1, RS-232/422/485 x 1
Parallel Port	SPP/EPP/ECP x 1
HDD Interface	UDMA33 x 1
FDD Interface	FDD x 1
SSD	CompactFlash™
Expansion Slot	PC/104
PWM LCD Support	—
DIO	—
TPM	—
Touch	—

Packing List

• 9681540I00

Cable Kit for PFM-540I Rev.A

1701100207	RS-232 Cable x 2
1701440350	44-pin IDE Cable x 1
1700060152	Keyboard & Mouse Cable x 1
1700100200	LAN Cable x 1
1709100201	USB Cable x 2
1701260201	Printer Port Cable x 1
1700160201	VGA Cable, Length 20cm

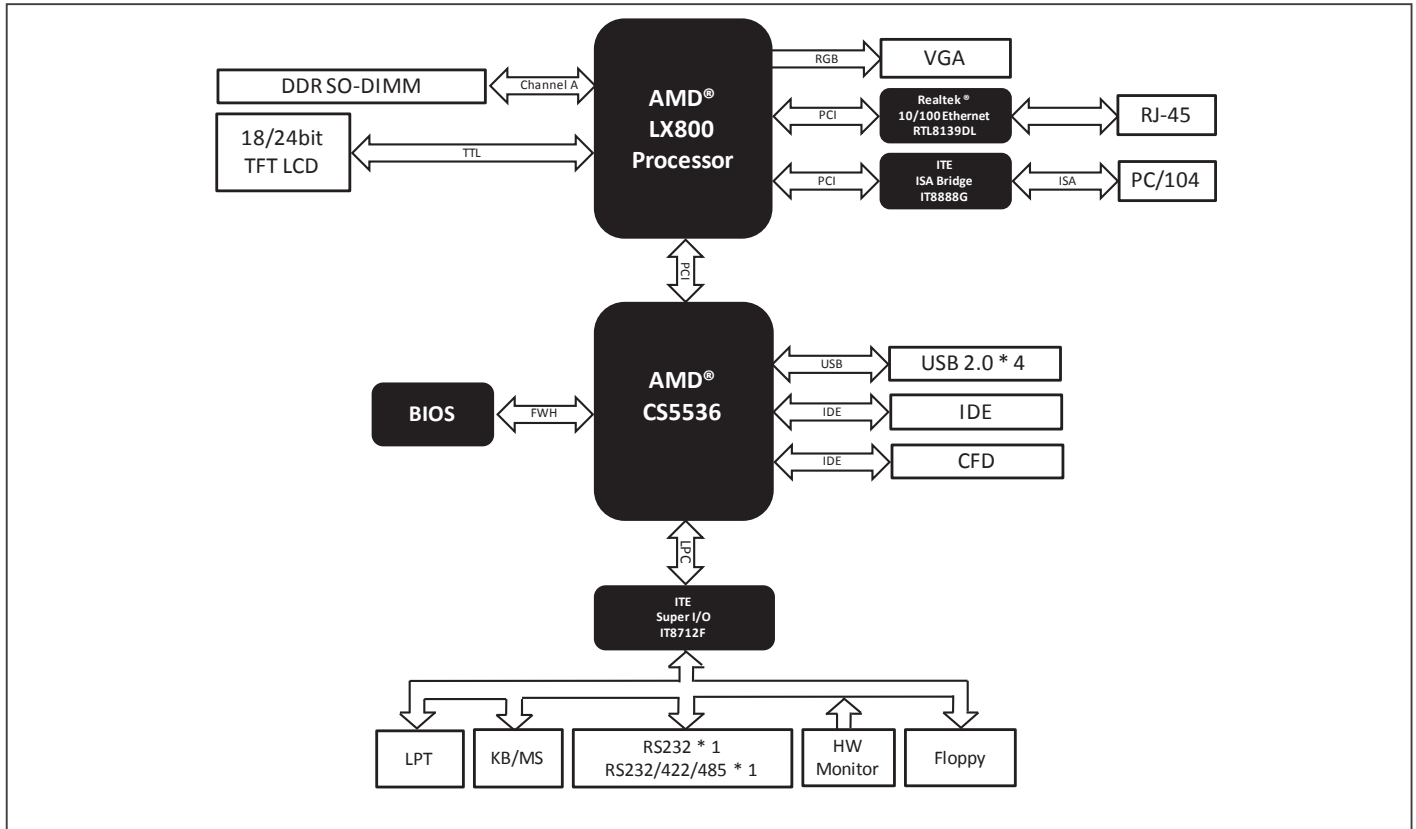
• PFM-540I Rev. A

Optional Accessories

• PCM-3538T-A10

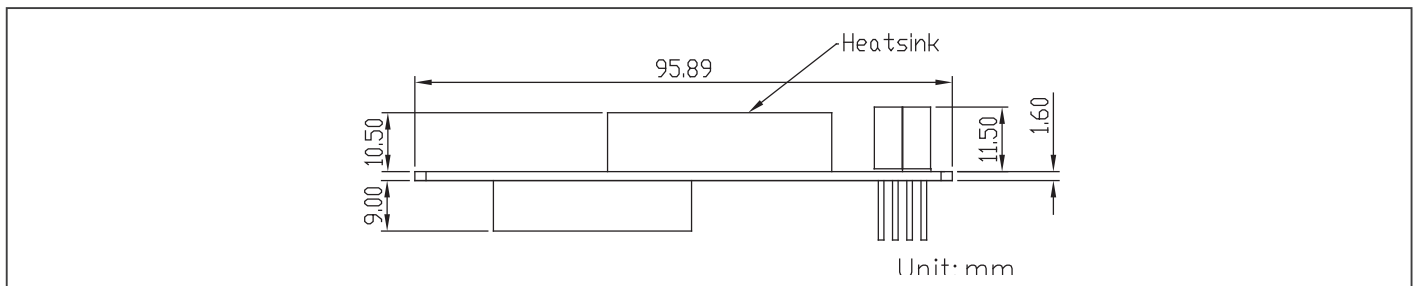
TTL to LVDS Transmitter Module Rev. A1.0

Block Diagram



Dimension

Unit: mm



Ordering Information

Part Number	CPU	RAM	Fan/ Fanless	Storage	Display	LVDS	LAN	USB	RS-232	RS-232/422/485	Parallel	Expansion Slot	Power	Temp.
TF-PFM-540I-A10	AMD Geode™ LX800	SODIMM	Fanless	EIDE x 1, CompactFlash™ x 1 FDD x 1	CRT + TTL	18/24b, 1CH	FE x 1	4	1	1	1	PC/104	+5V/AT	0°C - 60°C

Smart Display Modules

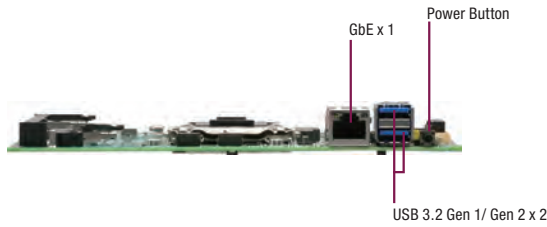
08



ASDM-L-CFS

Intel® Smart Display Module-Large Size with 8th/9th Generation Intel®Coffee Lake -S / Refresh series Processor (Socket Type)

Smart Display Module



Features

- Intel® Smart Display Module-Large Size
- 8th/9th Generation Intel® Core™ i-S series Processor (Coffee Lake-S/ Refresh)
- DDR4 2666 SO-DIMM x 2
- M.2 2242 (B key) x 1, M.2 2230 (E-Key) x 1
- USB 3.2 Gen 1 x 2 (Gen 2 supported by Q370)
- Intel® I219 GbE x 1
- HDMI 2.0 x 1, DP1.2 x 1 (through Edge Connector)



Specifications

System	
Form Factor	Intel SDM-L Module
CPU	8th/9th Generation Intel® Core™, Pentium®, and Celeron® processors (Coffee Lake S, Coffee Lake Refresh) , TDP up to 35W
CPU Frequency	Up to 4.0 GHz
Chipset	Intel® Chipsets H310/ Q370
Memory Type	DDR4 2666 SO-DIMM x 2 (Non-ECC Support)
Max. Memory Capacity	Up to 32GB
BIOS	AMI BIOS
Wake On LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	12V DC from the Docking Board through the Edge Connector
Power Supply Type	AT/ATX
Power Consumption (Typical)	12V, 6.08A, estimate 72.96W with i7-9700TE at 100% loading
Dimension (L x W x H)	3.94" x 6.89" x 0.79" (100 mm x 175 mm x 20 mm)
Operating Temperature	32°F ~ 131°F (0°C ~ 55°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	—
Certification	CE/FCC
Display	
Controller	Intel® UHD Graphics 630/620/610
Video Output	HDMI 2.0 x 1 (through edge connector) DP1.2 x 1 (through Edge connector)
Audio	Through HDMI, DP by edge connector
I/O	
Ethernet	LAN I219, RJ45 x 1
USB Port	USB 3.2 Gen 1 x 2 / USB 3.2 Gen 2 support by Q370
Storage	M.2 2242 B-Key
Expansion Slot	M.2 2230 E-Key TPM2.0(optional)

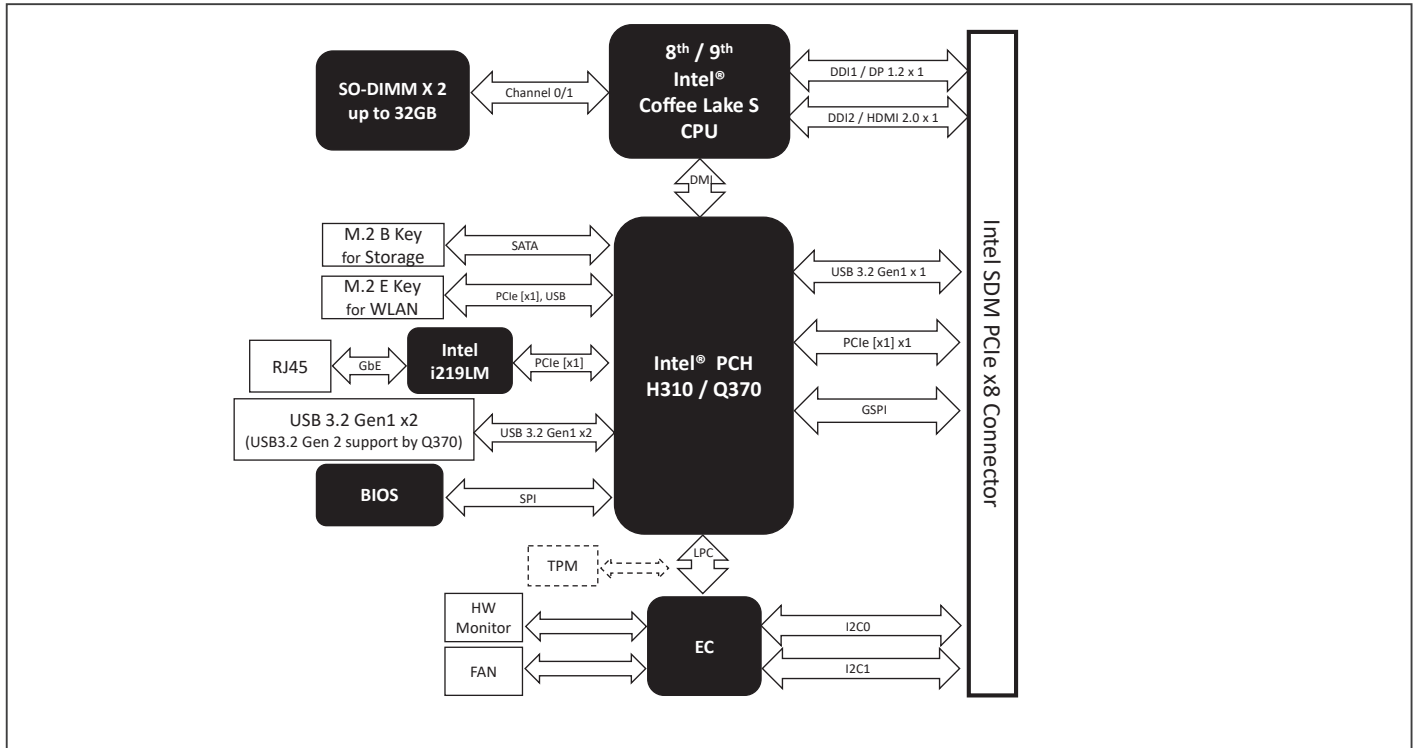
Packing List

- ASDM-L-CFS

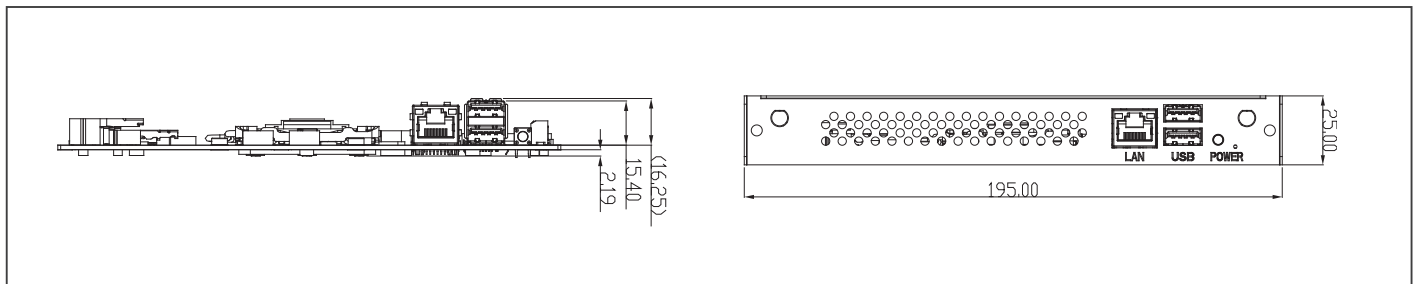
Optional Accessories

Part Number	Description	Qty
ASDM-L-CFS-FAN01	Coffee lake.CPU Cooler.132.5*96.5*15.9mm.Coppery+Black.ASDM-L-CFS	1
ASDM-L-CFS-FAN02	Coffee lake.CPU Cooler.132.5*96.5*15.9mm.Aluminum+Black.ASDM-L-CFS	1
ASDM-L-BRKT01	ASDM.Coffee Lake.IO Bracket.195*25*18mm.for ASDM-L-CFS	1
ASDM-CRB-A11-0001	ASDM Carrier Board.HDMI.DP.3USB.1COM.MicroSD.Rev A1.1	1

Block Diagram



Dimension Unit: mm

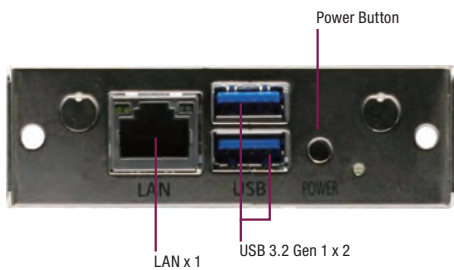
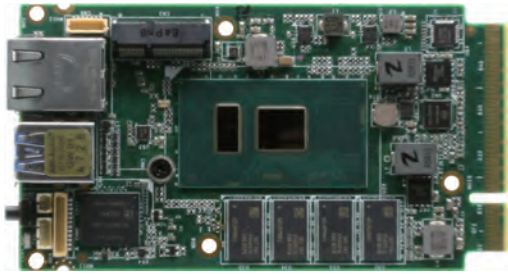


Ordering Information

Part Number	CPU	Chipset	Fan/Fanless	Display	Memory	Storage	LAN	USB	Expansion Slot	Power	Power Temp
ASDM-L-CFS-A10-0003	8th/9th Gen Coffee Lake-S/Refresh Socket Type	H310	Fan	HDMI 2.0 x1 DP 1.2 x1	DDR4 SO-DIMM x 2	M.2 2242 B-Key x 1	GbE x 1	USB 3.2 Gen 1 x 2	M.2 2230 E-Key x 1	+12V, AT/ATX	0°C ~ 55°C
ASDM-L-CFS-A10-0004	8th/9th Gen Coffee Lake-S/Refresh Socket Type	Q370	Fan	HDMI 2.0 x1 DP 1.2 x1	DDR4 SO-DIMM x 2	M.2 2242 B-Key x 1	GbE x 1	USB 3.2 Gen 2 x 2	M.2 2230 E-Key x 1	+12V, AT/ATX	0°C ~ 55°C

ASDM-S-KBU

Intel® Smart Display Module-Small Size with 6/7th Generation Intel® Core™ i-U series Processor SoC



Features

- Intel® Smart Display Module- Small Size
- 6/7th Generation Intel® Core™ i-U series Processor SoC
- Onboard DDR4 up to 8GB
- Onboard eMMC up to 128G
- M.2 2230 (E-Key) x 1
- USB 3.2 Gen 1 x 2; LAN I211, RJ45 x 1
- HDMI 1.4 x1, DP1.2 x1 (through Edge Connector)



Specifications

System	
Form Factor	Intel® SDM-S Module
CPU	7th Generation Intel® Core™ i7-7600U/ i5-7300U/ i3-7100U/ Celeron® 3965U SoC
CPU Frequency	i7-7600U up to 3.9 GHz i5-7300U up to 3.5 GHz i3-7100U up to 2.4 GHz Celeron 3965U up to 2.2 GHz
Chipset	7th Generation Intel® Core™ i7-7600U/ i5-7300U/ i3-7100U/ Celeron® 3965U SoC
Memory Type	onboard DDR4
Max. Memory Capacity	Up to 8GB
BIOS	AMI BIOS
Wake On LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	12V DC from the Docking Board through the Edge Connector
Power Supply Type	AT/ATX
Power Consumption (Typical)	Intel® Core™ i7-7600U, DDR4 4G, 64G eMMC, 2.4A @ 12V
Dimension (L x W x H)	3.94" x 2.36" x 0.79" (100 mm x 60 mm x 20 mm)
Operating Temperature	32°F ~ 131°F (0°C ~ 55°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	—
Certification	CE/FCC
Display	
Controller	7th Generation Intel® Core™ : Intel® HD Graphics 620 Intel® Celeron: intel® HD Graphics 610
Video Output	HDMI 1.4 x 1 (through Edge connector) DP1.2 x 1 (through Edge connector)
Audio	Through HDMI, DP by edge connector
I/O	
Ethernet	Intel I211, RJ45 x 1
USB Port	USB 3.2 Gen 1 x 2
Storage	eMMC 32/64/128G
Expansion Slot	M.2 2230 (E-Key)

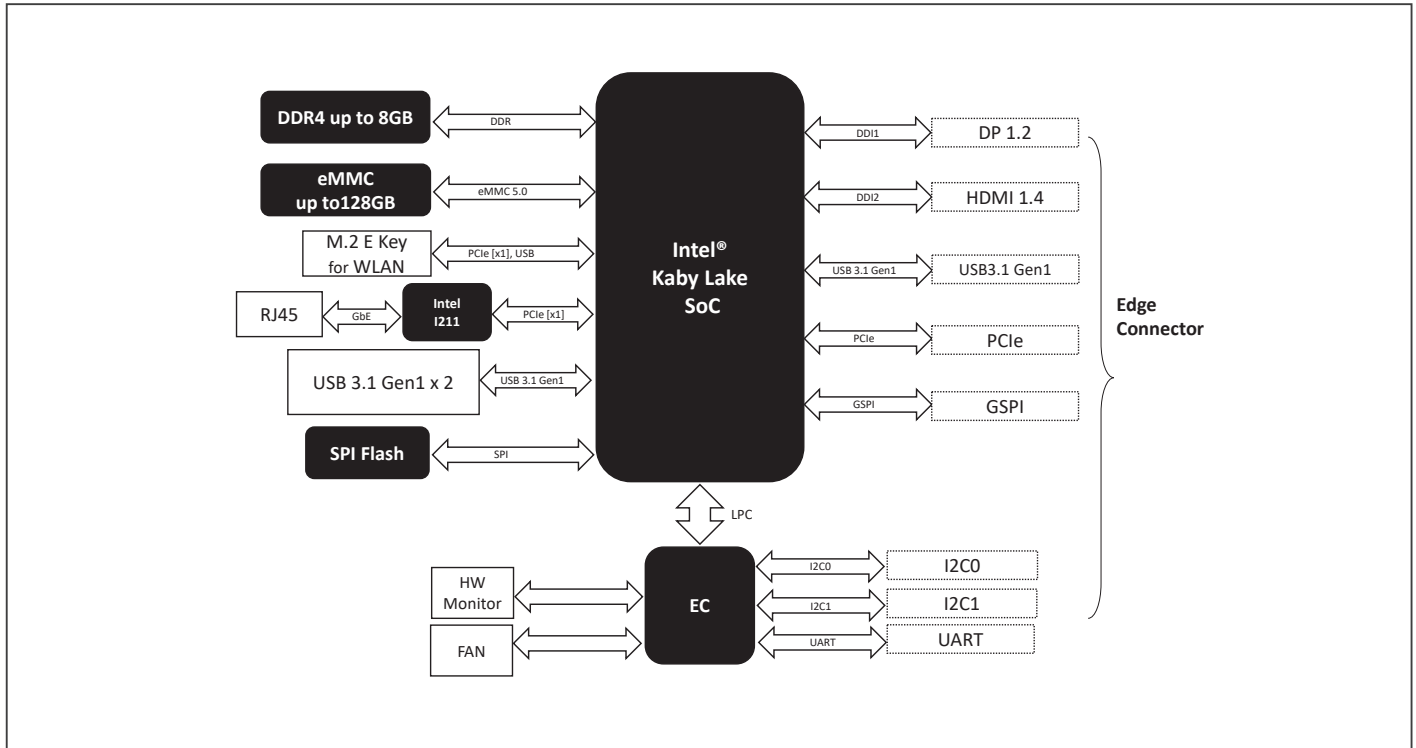
Packing List

- ASDM-S-KBU

Optional Accessories

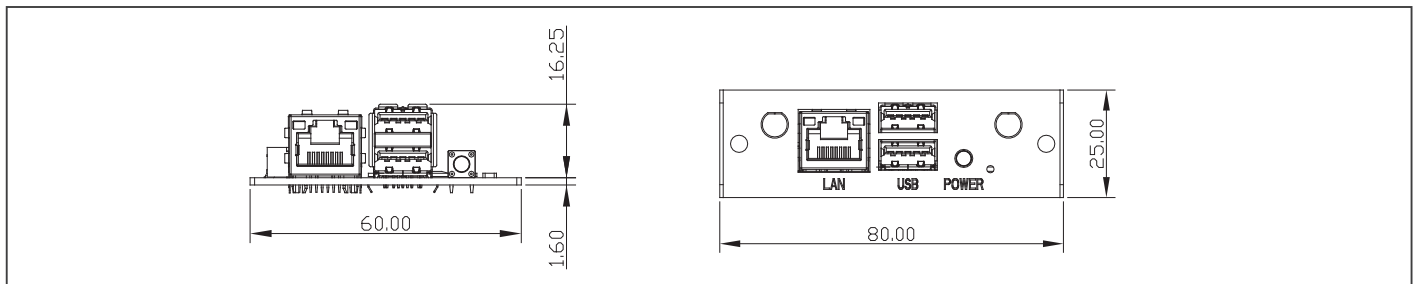
Part Number	Description	Qty.
ASDM-S-KBU-FAN01	FAN+Heat Sink	1
ASDM-S-BRK01	Bracket for SDM-S module	1

Block Diagram



Dimension

Unit: mm



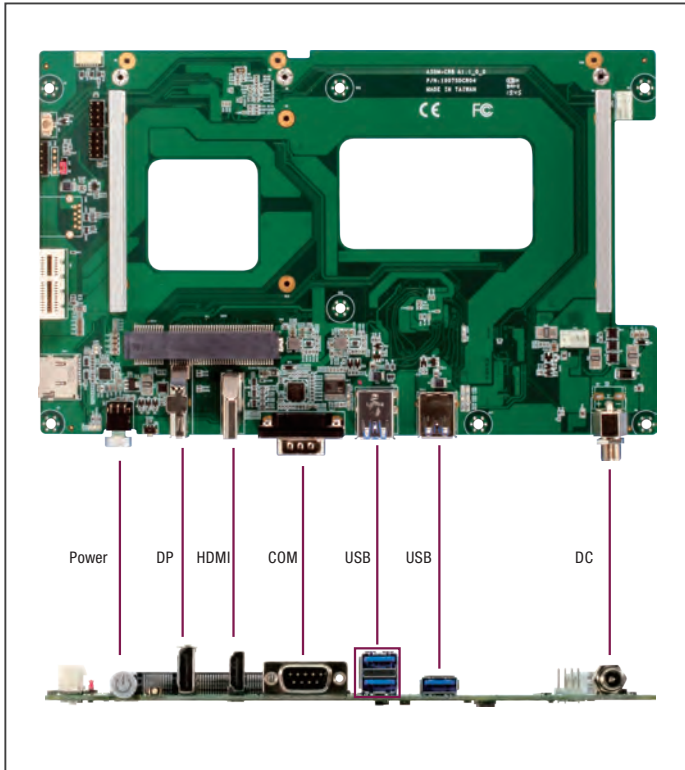
Ordering Information

Part Number	CPU	Fan/Fanless	Display	Memory	Storage	LAN	USB	Expansion Slot	Power	Power Temp	Others
ASDM-S-KBU-A10-0001	Intel® Core i5-7300U	Fan	HDMI+ DP	onboard DDR4 4G	onboard eMMC 64G	GbE x 1	USB 3.2 Gen 1 x 2	M.2 (E-key) x 1	+12V, AT/ATX from PIB	0°C - 55°C	—

ASDM-CRB-A12

Carrier Board for Intel® Smart Display Module Rev.2.0

Smart Display Module



Features

- SDM peripheral interface board
- PCIe [x1] x 1
- HDMI x 1, DP x 1
- USB 3.2 Gen 1 x 3
- RS232 x 1 (TX/RX ONLY)
- Micro SD 3.0 x 1
- 12V power input



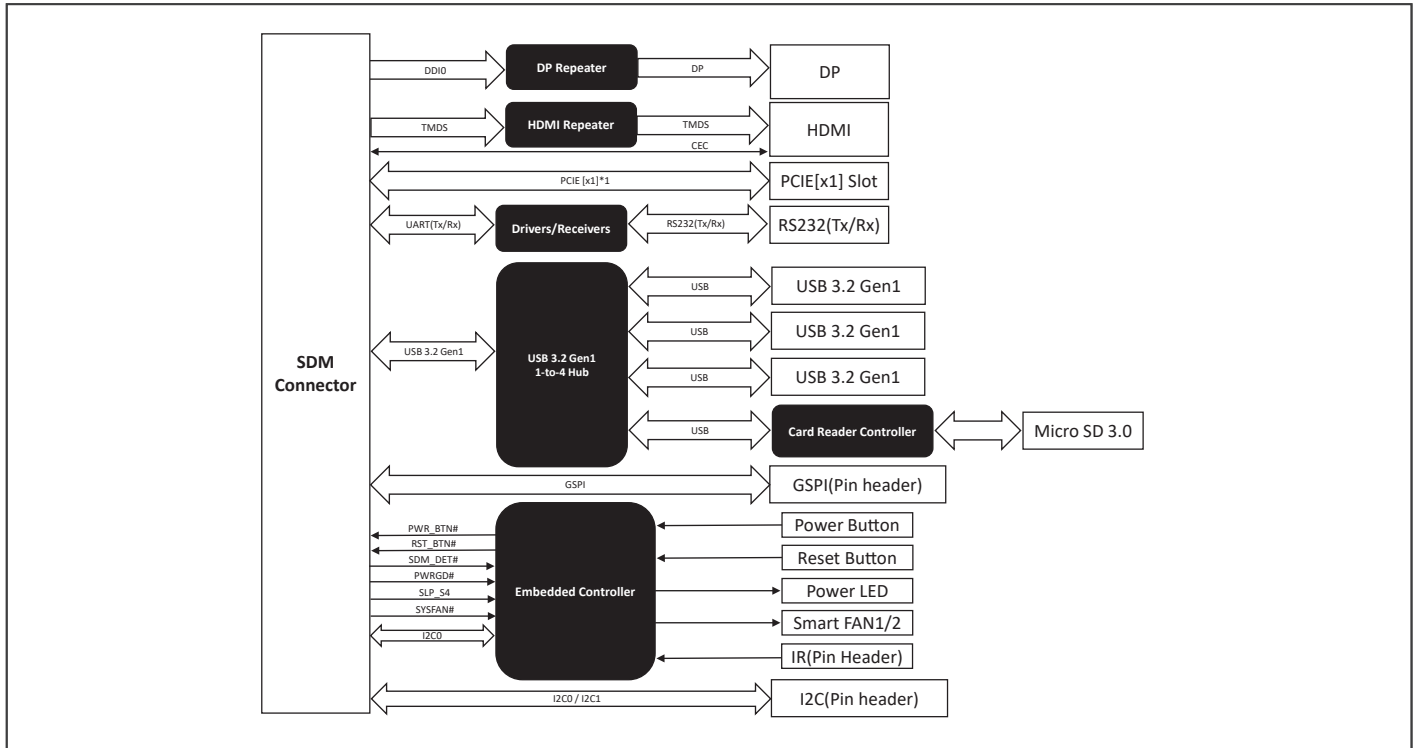
Specifications

System	
Form Factor	AAEON SDM carrier board
Power Supply Type	AT (ATX is option)
Dimension (L x W x H)	5.51" x 8.86" (140 mm x 225 mm)
Operating Temperature	32°F ~ 131°F (0°C ~ 55°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	TBD
Certification	—
Display	
Display Interface	HDMI, DP (support version depends on SDM module boards' chipset original signal)
Audio	Through HDMI, DP by edge connector
I/O	
Switch/ Button	Power button x 1 Reset button x 1
Power input	DC Jack x 1 (co-layout with phoenix connector, by option)
USB Port	USB3.1 x 3
Serial Port	RS-232 x 1 (Only Tx/Rx)
Expansion Slot	Intel SDM socket slot I2C GSPi Smart fan PCIe[x1] Slot x 1 Micro SD 3.0 x 1

Packing List

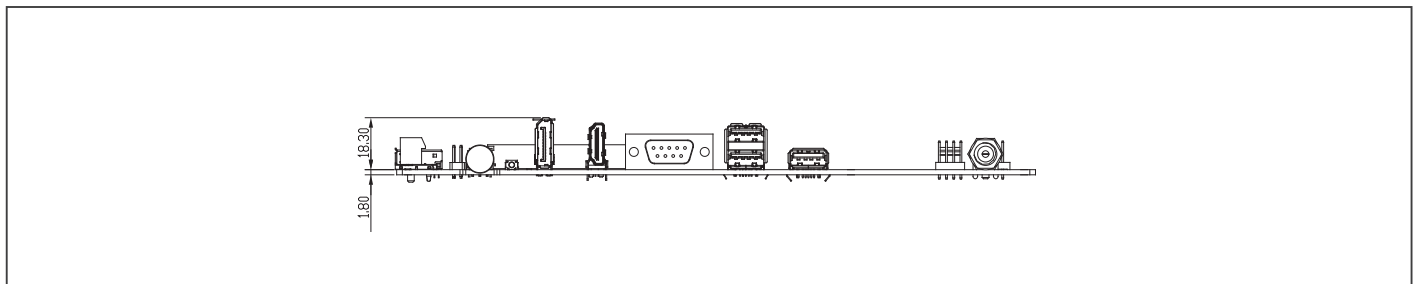
- ASDM-CRB-A12-0001
- rail kit

Block Diagram



Dimension

Unit: mm

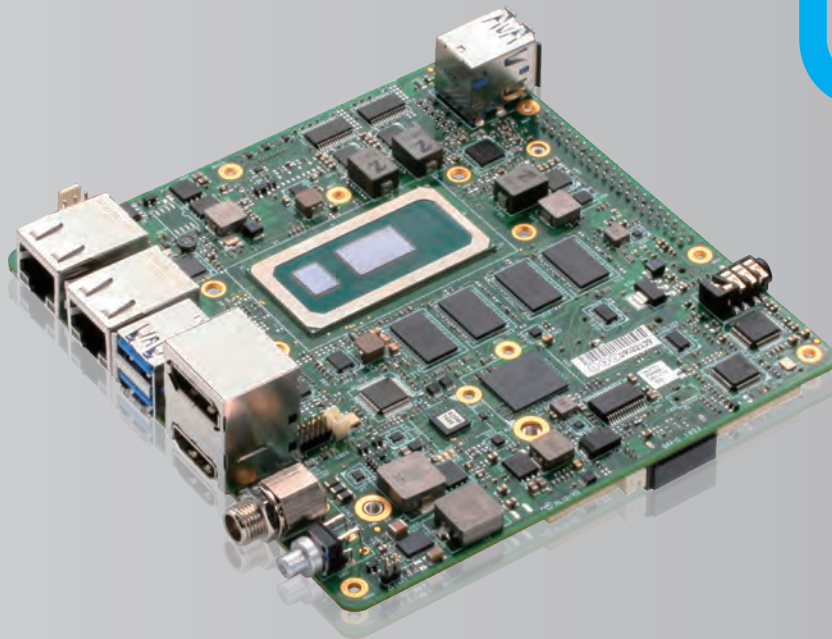


Ordering Information

- ASDM-CRB-A12-0001

UP Boards

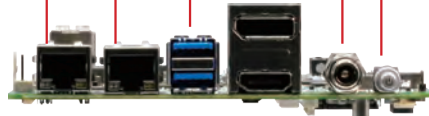
09



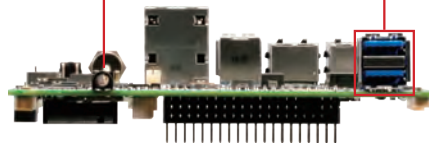
UP
bridge
the gap



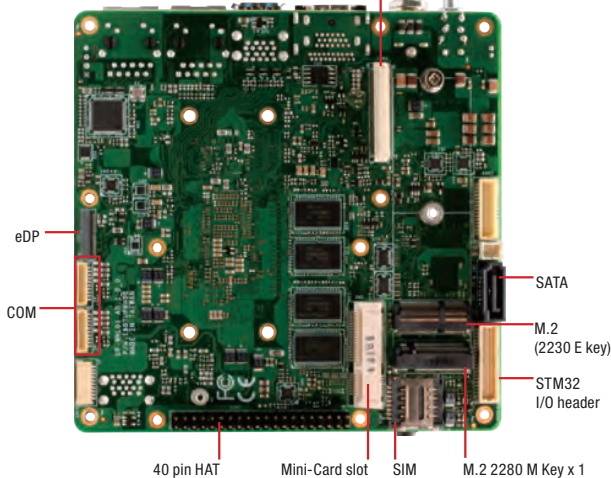
LAN (i210) LAN (i219) USB 3.2 Gen 2 x 2 HDMI & DP Locable 12-60V Power Button



Audio Jack (Line out + MIC) USB 3.2 Gen 2 x 2



100 pin docking connector



eDP COM 40 pin HAT Mini-Card slot SIM M.2 2280 M Key x 1 SATA M.2 (2230 E key) STM32 I/O header

Features

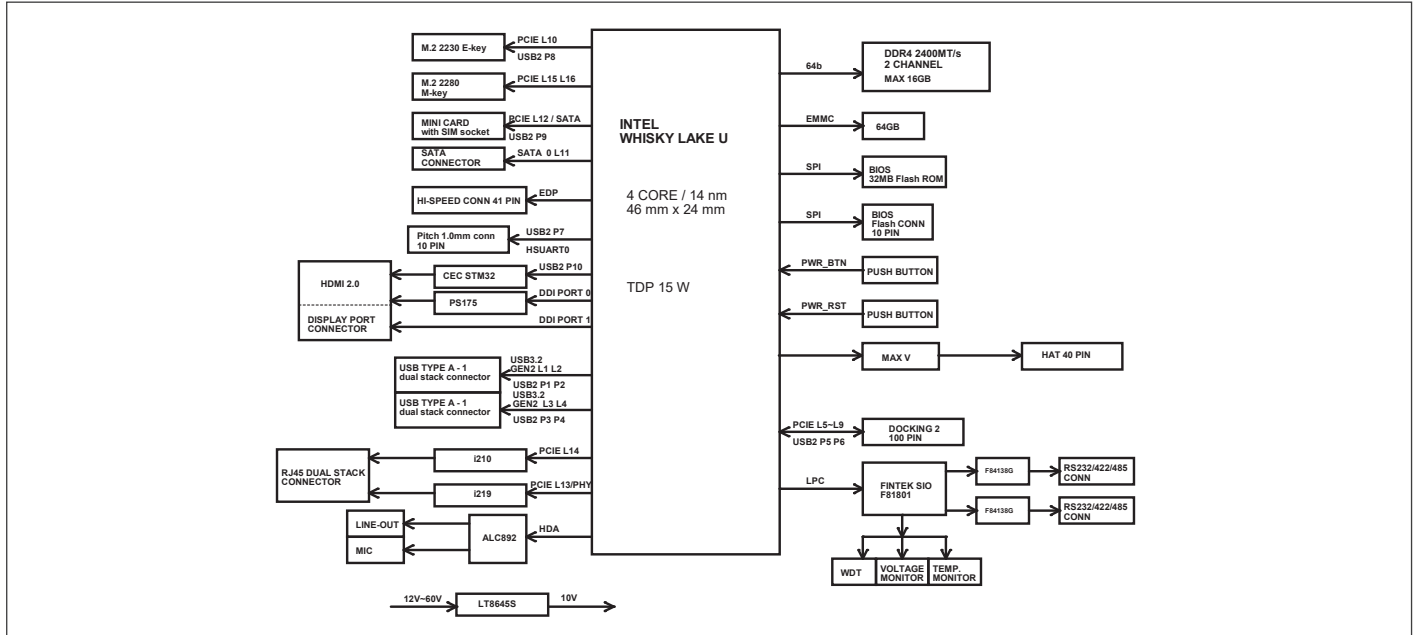
- Intel® WHL-U Core i7/i5/i3/Celeron® Processor SoC
- Onboard DDR4 memory, Max 16GB
- eMMC 64GB
- 40Pin HAT Connector
- 100pin docking connector
- SATA 6.0Gb/s x 3
- Mini-card slot x 1
- M.2 2280 M Key x 1
- M.2 2230 E key x 1
- Audio Jack x 1 (line out + Mic)
- Lockable DC connector



Specifications

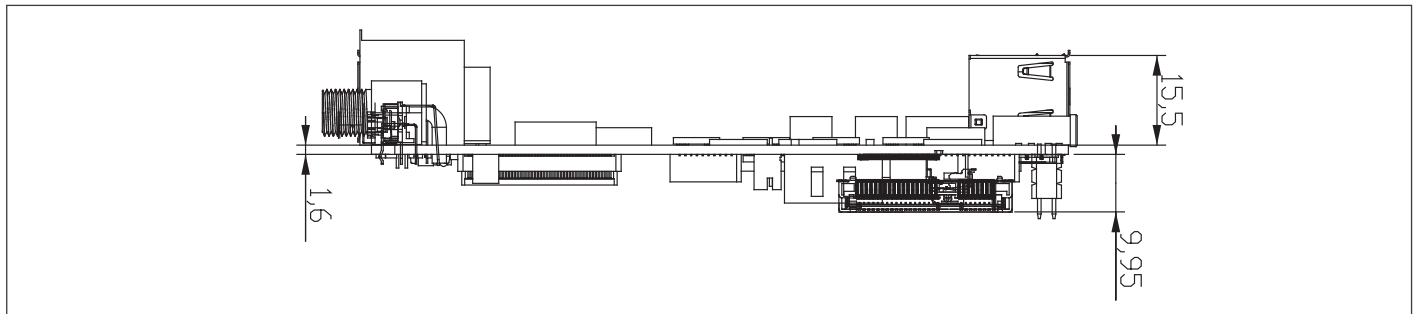
System	
Processor	8th generation Intel® Core i7/i5/i3/Celeron® Processor SoC
Graphics	Intel® Graphics , GEN 9
I/O	RJ45 Ethernet Connector x 2 HDMI/DP STACK Connector x 1 Power Button / LED x 1 Audio Jack (Line out + MIC) x 1 DC connector (Lockable) x 1 STM32 connector x 1 eDP with Backlight control Header x 1 10 pin 1xUSB2.0 x 1 / HSUART (TTL) x 1 SATA Connector with power connector (5V, GND) x 1 4 pin Fan connector x1 Power Button header x 1 Reset Pin header x 1 M.2 2230 E Key x 1 M.2 2280 M Key x 1 40 pin HAT connector x 1 mPCIe slot x 1 10 pin RS232/422/485 pin header x 2 100pin connector x 1
Camera	—
USB	USB 3.2 Gen 2 STACK Connector for 2 ports (Front) x 1 USB 3.2 Gen 2 STACK Connector for 2 ports (Rear) x 1
Expansion	M.2 2230 E Key x 1 M.2 2280 M key x 1 mPCIe slot x 1 100pin connector x 1 40pin HAT
RTC	RTC battery, CR2032 x 1
Power	12V - 60VDC
Dimension	122 x 120 mm
Memory	Onboard DDR4 memory, Max 16GB Single Channel: 4GB Dual Channel: 8GB, 16GB
Storage	SATA3 (6Gb/s) x 3: a. SATA connector x 1 b. M.2 2280 SATA option (auto detect) x 1 c. minicard mSATA option (auto detect) x 1
Display Interface	HDMI2.0 x 1 DP1.2 x 1 eDP x 1 CEC support with STM32 on HDMI x 1
Ethernet	i7/i5 SKU LAN (i210 AT) x 1, LAN (i219 LM) x 1 i3/Celeron® LAN (i210 AT) x 1, LAN (i219 V) x 1
OS Support	Win 10 Linux Ubuntu 18.04 with Kernel 5.0 Linux Yocto 2.7 with Kernel 4.19
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Operation Humidity	0% ~ 90% relative humidity, non-condensing
Certification	CE/FCC class A, RoHS Compliant, REACH

Block Diagram



Dimension

Unit: mm



Ordering Information

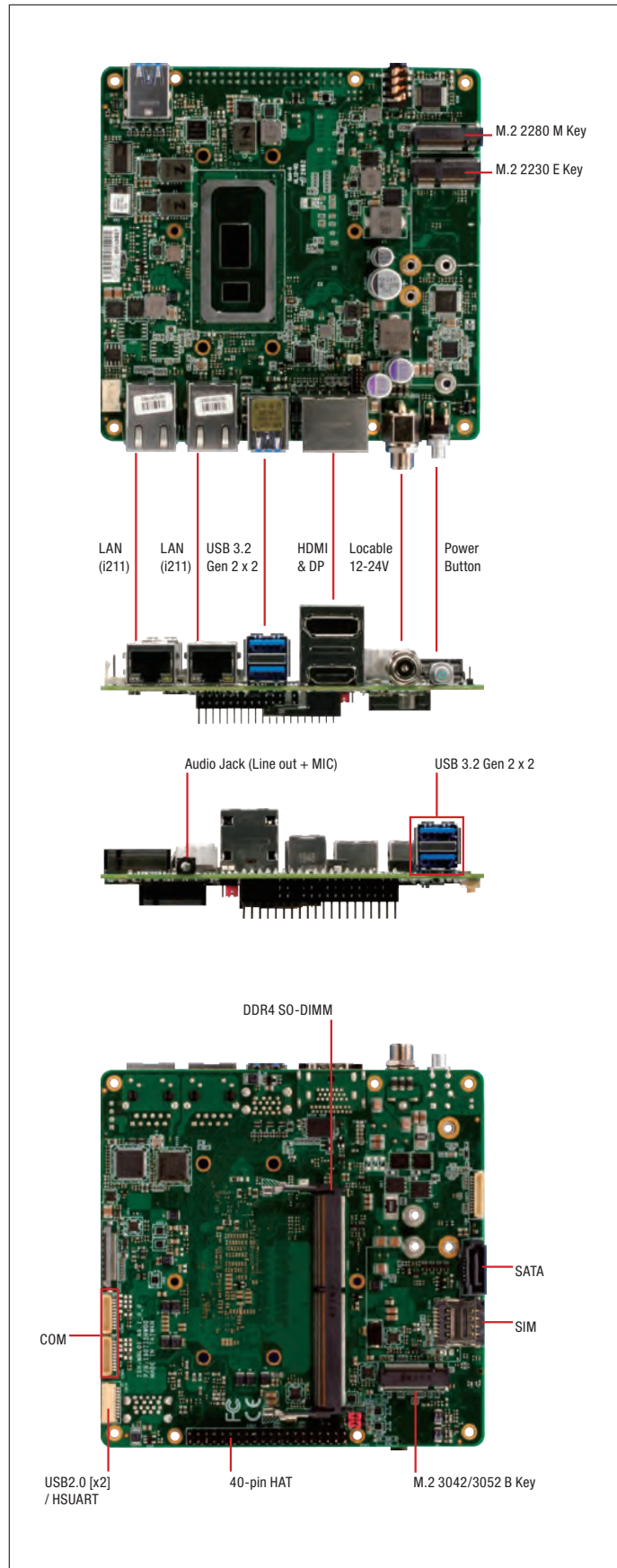
Part number	CPU	RAM	Storage	LAN	USB	RS-232/422/485	Expansion Slot	Power	Operation Temp.
UPX-WHLI7-A20-16064	Core I7-8665UE	16GB	64GB	GbE x 2	USB 3.2 Gen 2 x 4 USB 2.0 x 1	2	Mini card x 1, M.2 2280 B + M key x 1, M.2 2230 E key x 1	12-60V	32°F ~140°F (0°C ~ 60°C)
UPX-WHLI5-A20-08064	Core I5-8365UE	8GB	64GB	GbE x 2	USB 3.2 Gen 2 x 4 USB 2.0 x 1	2	Mini card x 1, M.2 2280 B + M key x 1, M.2 2230 E key x 1	12-60V	32°F ~140°F (0°C ~ 60°C)
UPX-WHLI3-A20-08064	Core I3-8145UE	8GB	64GB	GbE x 2	USB 3.2 Gen 2 x 4 USB 2.0 x 1	2	Mini card x 1, M.2 2280 B + M key x 1, M.2 2230 E key x 1	12-60V	32°F ~140°F (0°C ~ 60°C)
UPX-WHLCR-A20-04064	Celeron 4305UE	4GB	64GB	GbE x 2	USB 3.2 Gen 2 x 4 USB 2.0 x 1	2	Mini card x 1, M.2 2280 B + M key x 1, M.2 2230 E key x 1	12-60V	32°F ~140°F (0°C ~ 60°C)
UPX-WHLI7C-A20-16064	Core I7-8565U	16GB	64GB	GbE x 2	USB 3.2 Gen 2 x 4 USB 2.0 x 1	2	Mini card x 1, M.2 2280 B + M key x 1, M.2 2230 E key x 1	12-60V	32°F ~140°F (0°C ~ 60°C)

Packing List

- UPX-WHL01 with Heatsink + cooler

Optional Accessories

Part Number	Description
125530065A	19Vdc/3.42A.65W power adapter
1702031830	Power cord for USA
9741364A00	Wireless LAN Kit M.2 2230 802.11ac/a/b/g/n + BT4.0,2T2R,with 2 sets of cable & antenna (Enli,QCNFA364A)
9741159H00	(TF)Wireless LAN kit.IEEE 802.11.b/g/n.w/BT 4.0/3.0.(AzureWave.AW-NB159H).w/cable.&antenna (mini card)
PER-TAIX2-A10-2280	AI Core XM 2280.M.2 2280 B+M key card.with Dual Myriad X.15 mm heat sink with FAN
UPCP-CR-VPX3-A10-001	Vision Plus X.w/ 3x Myriad X 2485.fan heatsink.REV.A1.0
UPCP-CR-NPL4-A10-002	Net Plus.i210-IT.for UP core Plus.A1.0



Features

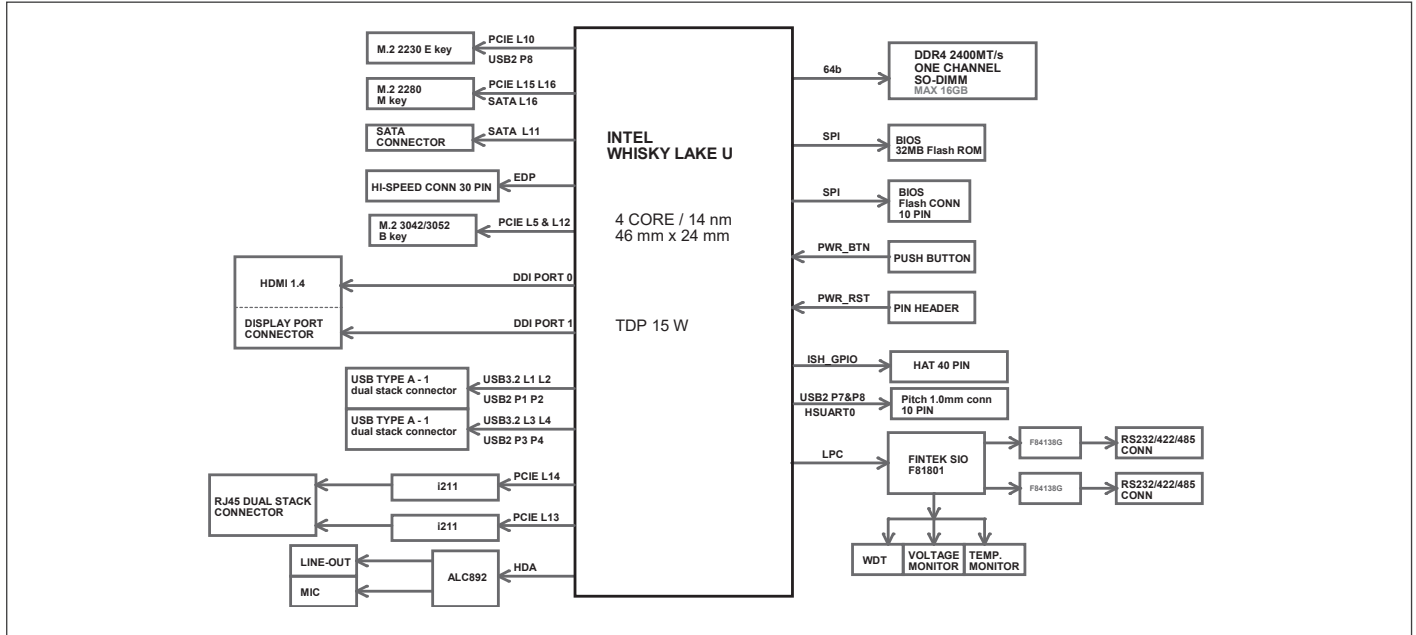
- Intel® WHL-U Core i7/i5/i3/Celeron® Processor SoC
- DDR4 SO-DIMM Slot x 1 (up to 16GB)
- 40-pin HAT Connector
- SATA 6.0Gb/s x 1
- M.2 3042/3052 B Key x 1
- M.2 2280 M Key x 1 (PCIe [x2])
- M.2 2230 E Key x 1
- Audio Jack x 1 (line out + Mic)
- Lockable DC Connector



Specifications

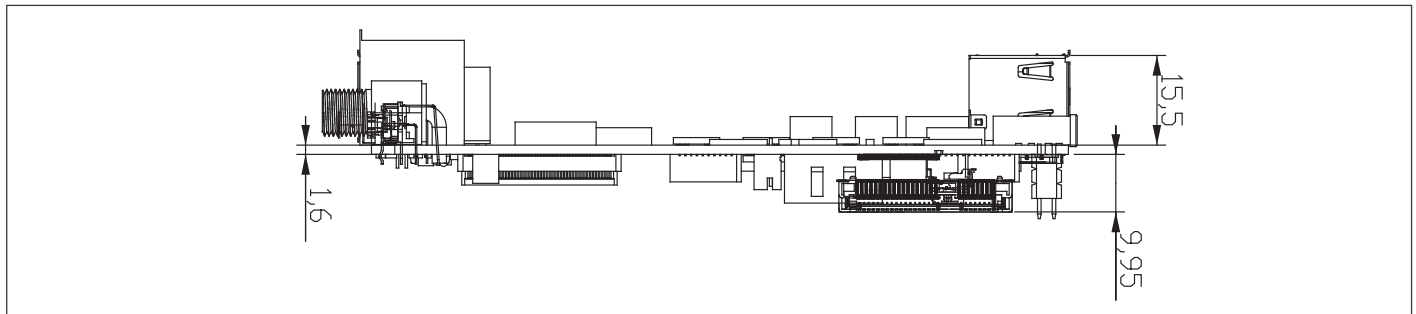
System	
Processor	8th generation Intel® Core i7/i5/i3/Celeron® Processor SoC
Graphics	Intel® Graphics , GEN 9
I/O	RJ45 Ethernet Connector x 2 HDMI/DP Stack Connector x 1 Power Button / LED x 1 Audio Jack (Line out + MIC) x 1 DC Connector (Lockable) x 1 10-pin USB 2.0 x 2 / HSUART x 1 SATA Connector with Power Connector (5V, GND) x 1 4-pin Fan Connector x1 Power Button Header x 1 Reset Pin Header x 1 M.2 2230 E Key x 1 M.2 2280 M Key x 1 (PCIe [x2]) 40-pin HAT Connector x 1 M.2 3042/3052 B Key x 1 10-pin RS232/422/485 Pin Header x 2
Camera	—
USB	USB 3.2 Gen 2 Type-A x 2 (Front) USB 3.2 Gen 2 Type-A x 2 (Rear) 10-pin USB 2.0 x 2
Expansion	M.2 2230 E Key x 1 M.2 2280 M Key x 1 (PCIe [x2]) M.2 3042/3052 B Key x 1 40-pin HAT Connector x 1
RTC	RTC battery, CR2032 x 1
Power	12V - 24VDC
Dimension	122 x 120 mm
Memory	DDR4 SO-DIMM Slot x 1 (up to 16GB)
Storage	SATA3 (6Gb/s) x 1: a. SATA Connector x 1 b. M.2 2280 M Key NVMe(PCIe [x2])/SATA (auto-detect) x 1
Display Interface	HDMI 1.4 x 1 DP 1.2 x 1
Ethernet	Intel® i211 GbE port x 2
OS Support	Win 10 Linux Ubuntu 18.04 with Kernel 5.0 Linux Yocto 2.7 with Kernel 4.19
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Operation Humidity	0% ~ 90% relative humidity, non-condensing
Certification	CE/FCC class A, RoHS Compliant, REACH

Block Diagram



Dimension

Unit: mm



Ordering Information

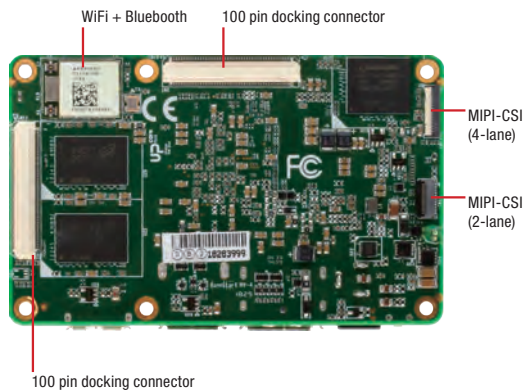
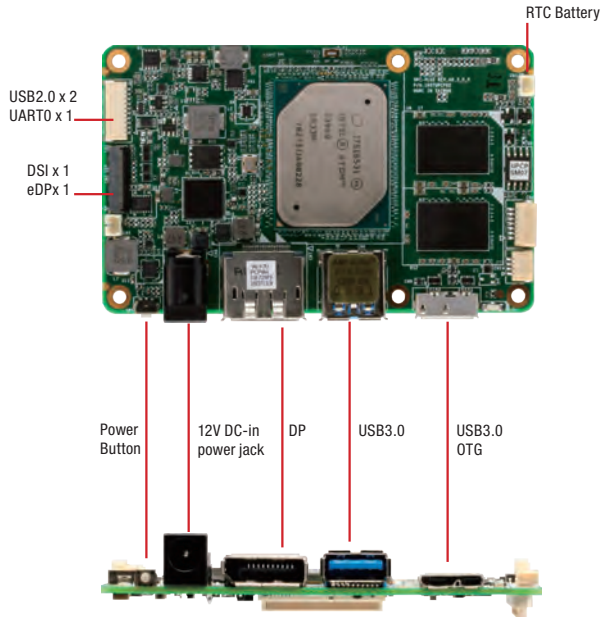
Part number	CPU	LAN	USB	RS-232/422/485	Expansion Slot	Power	Operation Temp.
UPX-WHLI7C-A10-0000	Core i7-8565U	GbE x 2	USB 3.2 Gen 2 Type-A x 4 10-pin USB 2.0 x 2	2	M.2 2280 M Key x 1, M.2 2230 E Key x 1, M.2 3042/3052 B Key x 1	12-24V	32°F ~140°F (0°C ~ 60°C)
UPX-WHLI5C-A10-0000	Core i5-8265U	GbE x 2	USB 3.2 Gen 2 Type-A x 4 10-pin USB 2.0 x 2	2	M.2 2280 M Key x 1, M.2 2230 E Key x 1, M.2 3042/3052 B Key x 1	12-24V	32°F ~140°F (0°C ~ 60°C)
UPX-WHLI3C-A10-0000	Core i3-8145U	GbE x 2	USB 3.2 Gen 2 Type-A x 4 10-pin USB 2.0 x 2	2	M.2 2280 M Key x 1, M.2 2230 E Key x 1, M.2 3042/3052 B Key x 1	12-24V	32°F ~140°F (0°C ~ 60°C)

Packing List

- UPX-WHL02 with Heatsink + cooler

Optional Accessories

Part Number	Description
125530065A	19Vdc/3.42A.65W power adapter
1702031830	Power cord for USA
9741364A00	Wireless LAN Kit M.2 2230 802.11ac/a/b/g/n + BT4.0,2T2R,with 2 sets of cable & antenna (Enli,QCNFA364A)
PER-TAIX2-A10-2280	AI Core XM 2280.M.2 2280 B+M key card.with Dual Myriad X.15 mm heat sink with FAN



Features

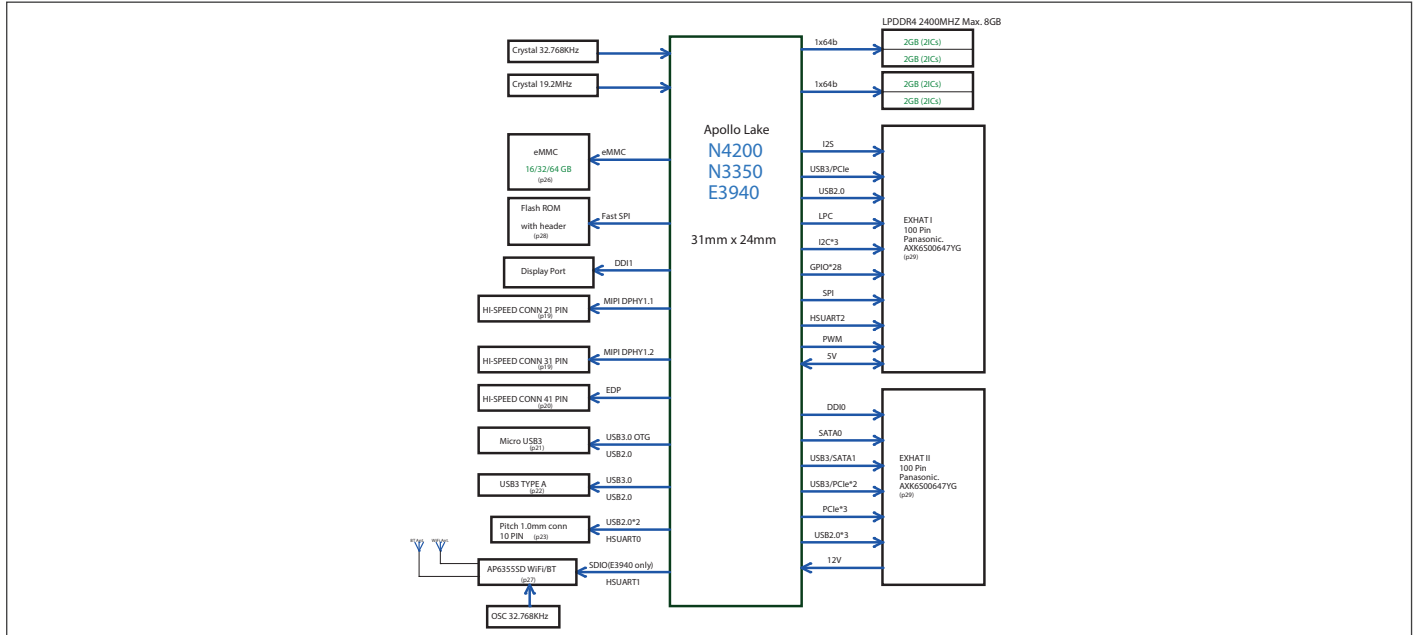
- Intel® Atom™ x5-E3930/x5-E3940/x7-E3950 Processor SoC
- Onboard LPDDR4 Memory up to 8GB
- Onboard eMMC Storage up to 64GB
- USB 2.0 pin header x 2, USB 3.0 x 1, USB3.0 OTG x 1
- 12V DC-in
- DP/eDP x 1
- MIPI-CSI 4-Lane x 1, 2-Lane x 1
- 100pin docking connector x 2
- Wi-Fi + Bluetooth



Specifications

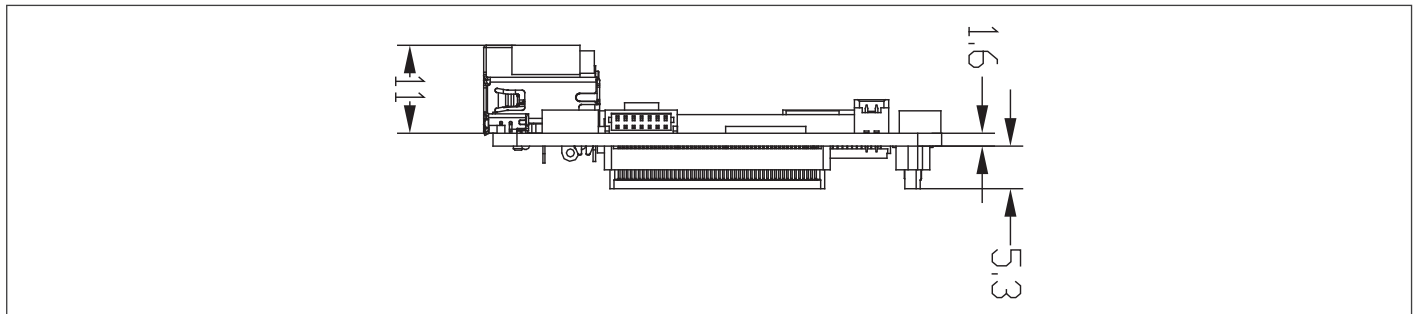
System	
Processor	Intel® Atom™ x5-E3930/x5-E3940/x7-E3950 Processor SoC
Graphics	Intel® HD 500 Graphics / x5-3900 Series Intel® HD 505 Graphics / x7-3900 Series
I/O	eDP x 1, DP x 1 Audio Port via HDMI and I2S (from docking)
Camera	CSI 2-Lane x 1 CSI 4-Lane x 1
USB	USB 2.0 pin header x 2 USB3.0 OTG x 1 USB3.0 x 1
Expansion	100pin docking connector x 2 including: USB 2.0, USB 3.0, 6 PCI-E Lane, SATA, I2C, I2S, SPI, PWM, LPC, SDIO, HUART, ISH, GPIO
RTC	Yes
Power	12V DC-in @ 3A -5A 5.5/2.1mm jack
Dimension	2.4" x 3.54" (56 mm x 90 mm)
Memory	2GB (single channel) LPDDR4 4GB/8GB (dual channel) LPDDR4
Storage	eMMC 32 GB / 64 GB/ 128GB
Display Interface	eDP x 1, DP x 1
Ethernet	—
OS Support	Microsoft Windows 10 Professional, Microsoft Windows 10, IoT Core, Linux (Ubuntu, Yocto), Android 7.0
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Operation Humidity	10% ~ 80% relative humidity, non-condensing
Certification	CE/FCC Class A, RoHS Compliant, REACH

Block Diagram



Dimension

Unit: mm

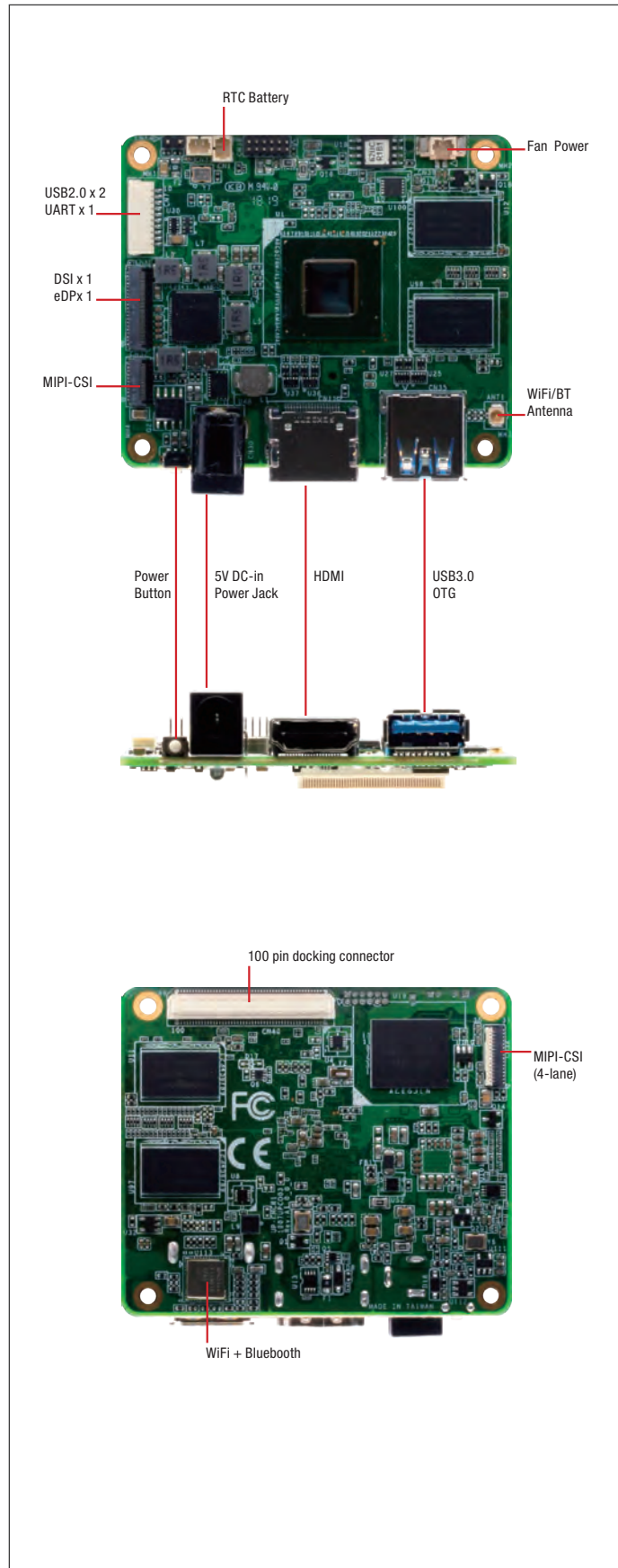


Ordering Information

Part number	Description
UPC-PLUSX5D-A20-0232	UP Core Plus E3930 2GB/32GB
UPC-PLUSX5Q-A20-0464	UP Core Plus E3940 4GB/64GB
UPC-PLUSX7-A20-0864	UP Core Plus E3950 8GB/64GB
UPC-PLUSX7-A20-08128	UP Core Plus E3950 8GB/128GB

Packing List

- UPC-PLUS with Heatsink



Features

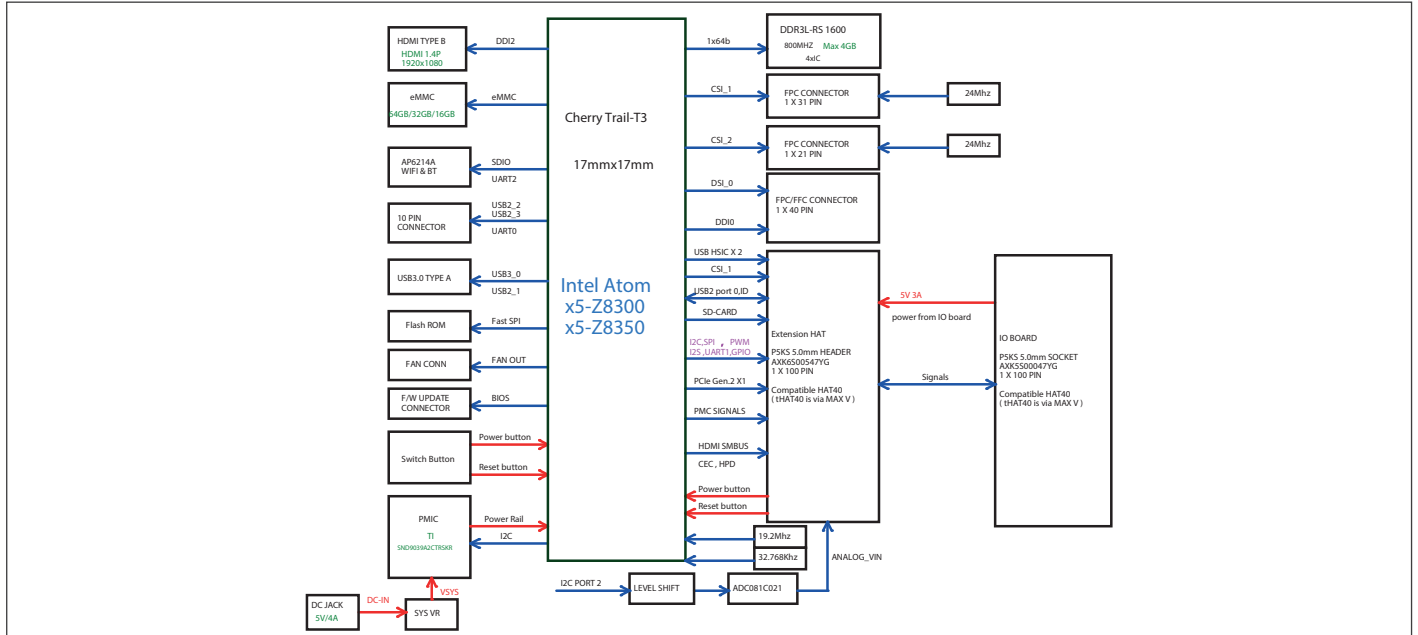
- Intel® Atom™ x5-Z8350 SoC
- Onboard DDR3L Memory up to 4GB
- Onboard eMMC Storage up to 64GB
- DSI/eDP x 1, HDMI x 1
- MIPI-CSI x 2
- 100pin docking connector
- WiFi+ Bluetooth
- USB3.0 x 1



Specifications

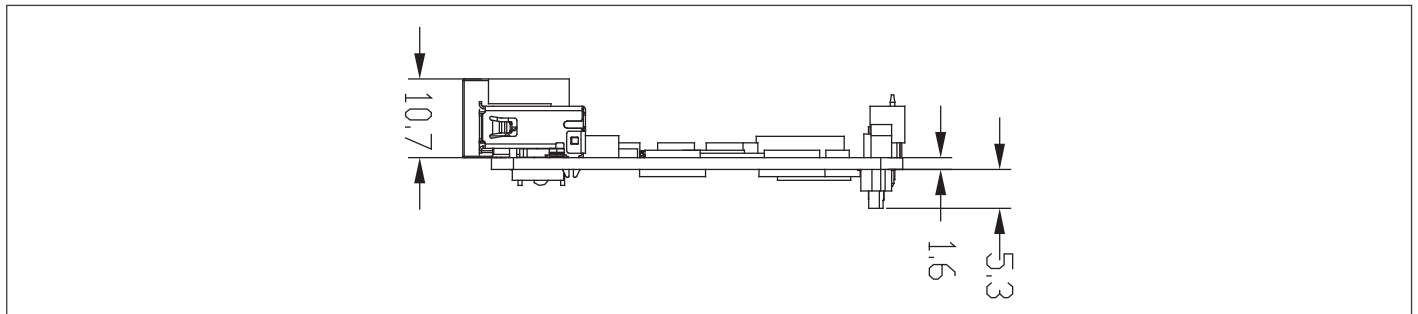
System	
Processor	Intel® Atom™ x5-Z8350 Processor SoC
Graphics	Intel® HD 400 Graphics
I/O	Full eDP x 1 HDMI x 1 Audio via HDMI and I2C (from docking)
Camera	MIPI-CSI (2 Lane) MIPI-CSI (4 Lane)
USB	USB 3.0 Host x 1 USB 2.0 pin header x 2
Expansion	100 pin docking connector
RTC	Yes
Power	5V DC-in @ 4A 5.5/2.1mm jack
Dimension	56.5 mm × 66 mm
Memory	2GB/ 4GB DDR3L-1600
Storage	eMMC 16GB / 32GB/ 64GB
Display Interface	DSI/eDP x 1
Ethernet	—
OS Support	Win 10 Linux (ublinux, Ubuntu, Yocto) Android Marshmallow
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Operation Humidity	10% ~ 80% relative humidity, non-condensing
Certification	CE/FCC Class A, RoHS Compliant, REACH

Block Diagram



Dimension

Unit: mm

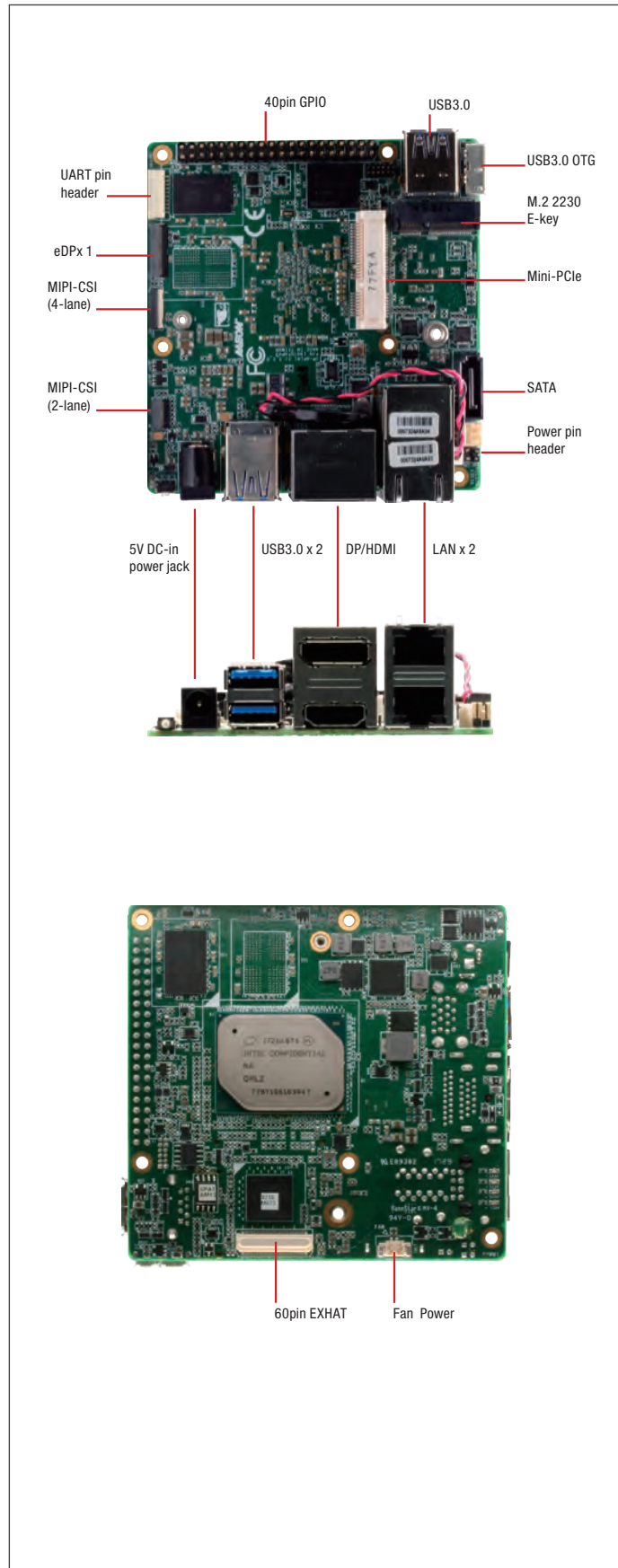


Ordering Information

Part number	Description
UPC-CHT01-A20-0116-A11	UP Core with z8350 CPU, 1GB RAM + 16GB eMMC, passive heatsink, WIFI 802.11 b/g/n + Bluetooth 4.2 on board powered by AMPAK AP6214A
UPC-CHT01-A20-0216-A11	UP Core with z8350 CPU, 2GB RAM + 16GB eMMC, passive heatsink, WIFI 802.11 b/g/n + Bluetooth 4.2 on board powered by AMPAK AP6214A
UPC-CHT01-A20-0232-A11	UP Core with z8350 CPU, 2GB RAM + 32GB eMMC, passive heatsink, WIFI 802.11 b/g/n + Bluetooth 4.2 on board powered by AMPAK AP6214A
UPC-CHT01-A20-0432-A11	UP Core with z8350 CPU, 4GB RAM + 32GB eMMC, passive heatsink, WIFI 802.11 b/g/n + Bluetooth 4.2 on board powered by AMPAK AP6214A
UPC-CHT01-A20-0464-A11	UP Core with z8350 CPU, 4GB RAM + 64GB eMMC, passive heatsink, WIFI 802.11 b/g/n + Bluetooth 4.2 on board powered by AMPAK AP6214A

Packing List

- UPC-CHT01 with Heatsink



Features

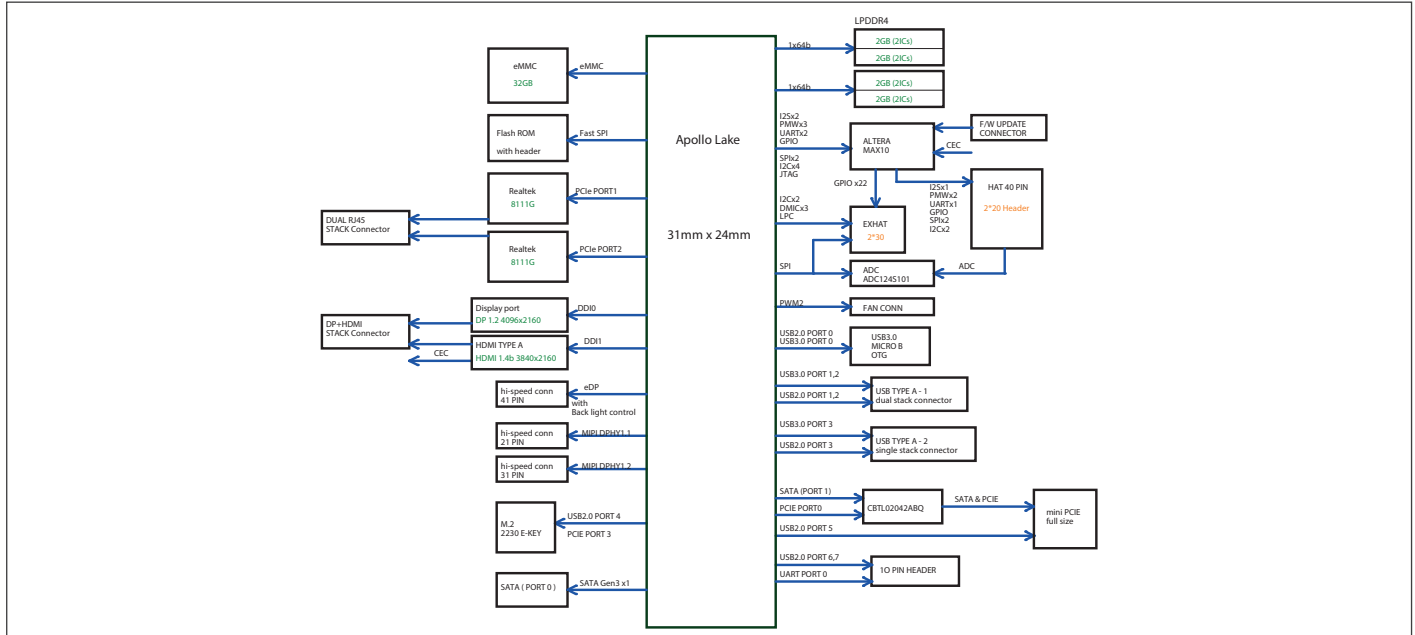
- Intel® Pentium® N4200/ Celeron® N3350 Processor SoC
- Onboard LPDDR4 Memory up to 8GB
- Onboard eMMC Storage up to 128GB
- Gigabit LAN x 2, USB 2.0 x 2, USB 3.0 (Type A) x 3
- 5V DC-in, 4-6A
- 40 pin GPIO x 1
- DP/eDP/HDMI x 1
- MIPI-CSI (4-Lane & 2-Lane) x 1
- Mini-PCIe /M.2 2230 x 1
- SATA3 x 1
- 60pin EXHAT



Specifications

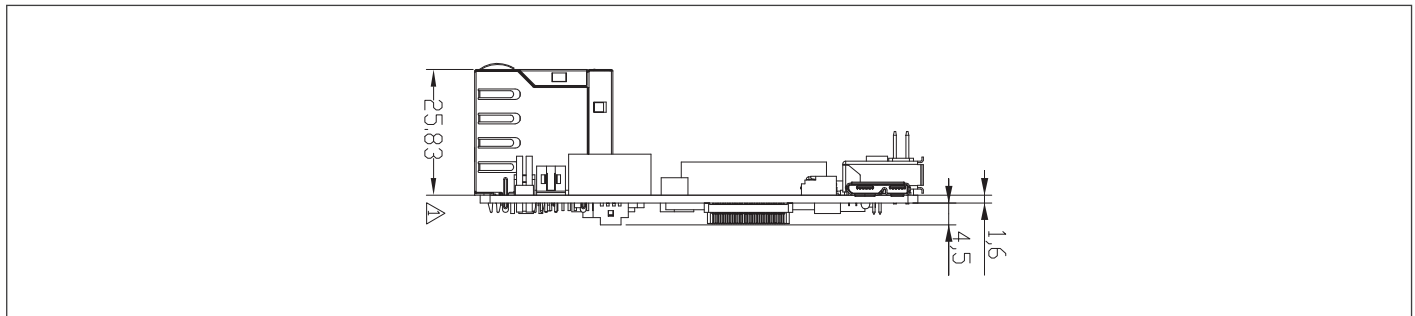
System	
Processor	Intel® Pentium® N4200/ Celeron® N3350/ Atom™ E3940/ E3950 Processor SoC
Graphics	Intel® Gen 9 HD, supporting 4K Codec Decode and Encode for HEVC4, H.264, VP8
I/O	HDMI x 1 DP x 1 I2S Audio Port
Camera	CSI 2-Lane + CSI 4-Lane
USB	USB 2.0 x 2 USB3.0 OTG x 1 USB3.0 (Type A) x 3
Expansion	40 pin GPIO x 1 Mini-PCIe x 1 M.2 2230 x 1 SATA3 x 1 60 pin EXHAT x 1
RTC	Yes
Power	5V DC-in @ 4A-6A
Dimension	3.37" x 3.54" (85.6 mm x 90 mm)
Memory	2GB (single channel) LPDDR4 4GB/8GB (dual channel) LPDDR4
Storage	eMMC 32 GB / 64 GB / 128 GB
Display Interface	eDP
Ethernet	Gb Ethernet (full speed) RJ-45 x 2
OS Support	Microsoft Windows 10 (full), Windows IOT Core, Linux (ublinux, Ubuntu, Yocto), Android Nougat
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Operation Humidity	0% ~ 90% relative humidity, non-condensing
Certification	CE/FCC Class A, RoHS Compliant, REACH

Block Diagram



Dimension

Unit: mm



Ordering Information

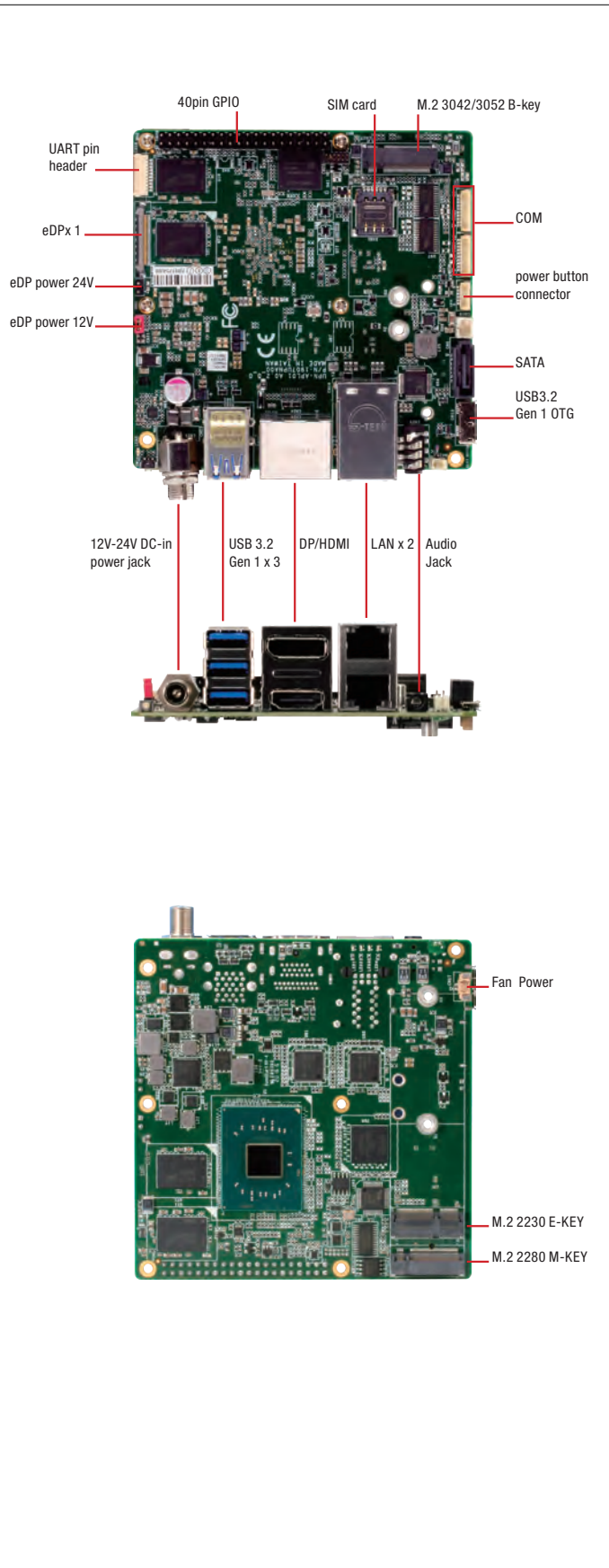
Part number	Description
UPS-APLC2-A20-0232	UP ² (UP Squared) board with Intel® Celeron® Dual Core N3350 up to 2.4GHz, on board 2GB DDR4, 32GB eMMC
UPS-APLC2-A20-0432	UP ² (UP Squared) board with Intel® Celeron® Dual Core N3350 up to 2.4GHz, on board 4GB DDR4, 32GB eMMC
UPS-APLP4-A20-0432	UP ² (UP Squared) board with Intel® Pentium® N4200 Quad Core up to 2.5 GHz, on board 4GB DDR4, 32GB eMMC
UPS-APLP4-A20-0864	UP ² (UP Squared) board with Intel® Pentium® N4200 Quad Core up to 2.5 GHz, on board 8GB DDR4, 64GB eMMC
UPS-APLP4-A20-08128	UP ² (UP Squared) board with Intel® Pentium® N4200 Quad Core up to 2.5 GHz, on board 8GB DDR4, 128GB eMMC
UPS-APLX5-A20-0432	UP ² (UP Squared) board with Intel® Atom™ E3940.4G memory 32G eMMC.Rev.1.0
UPS-APLX7-A20-0464	UP ² (UP Squared) board with Intel® Atom™ E3950.4G memory 64G eMMC.Rev.1.0

Packing List

- UPS-APL with Heatsink

Optional Accessories

- **1702020910**
Power cord for EU
- **1702020911**
Power cord for US
- **1255300362**
30W.5VDC/6A power adapter
- **PER-TAICX-A10-001**
AI Core X mPCIe card.with 30 mm heat sink
- **PER-TAICX-A10-002**
AI Core X mPCIe card.with 15 mm heat sink with FAN



Features

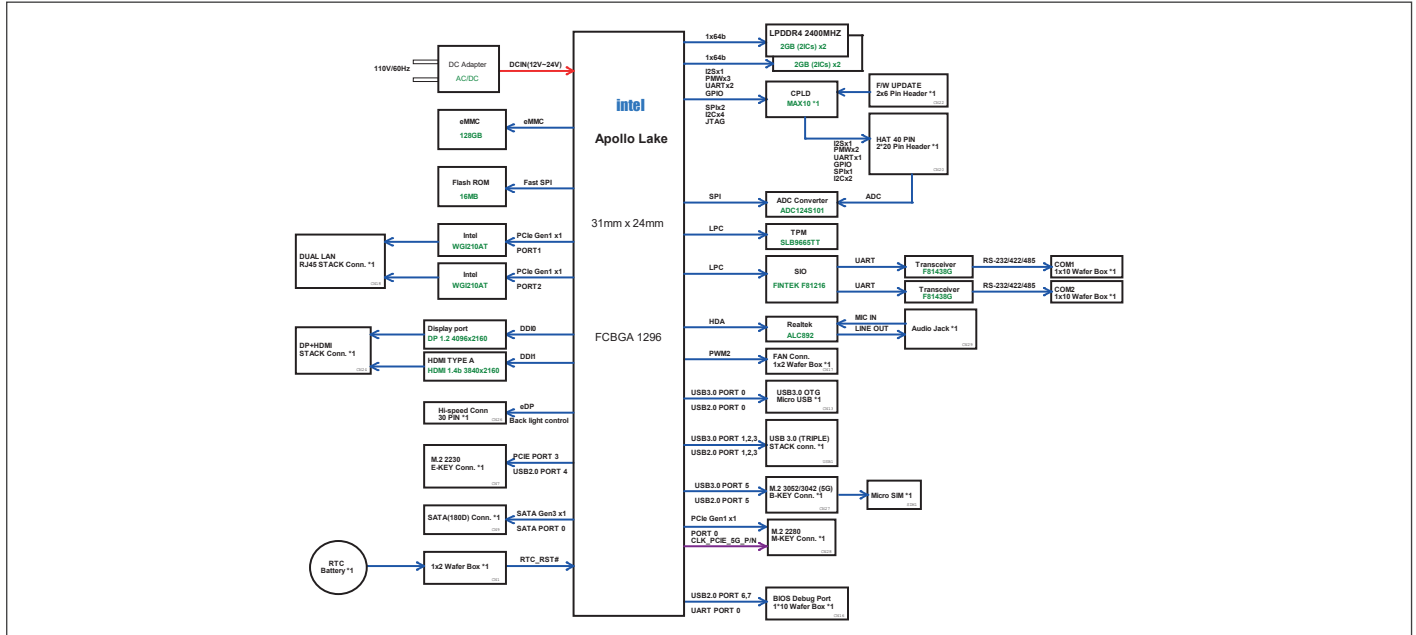
- Intel® Pentium® N4200/ Celeron® N3350/ Atom E3950™ Processor SoC
- Onboard LPDDR4 Memory up to 8GB
- Onboard eMMC Storage up to 64GB
- Gigabit LAN x 2, USB 2.0 x 2, USB 3.2 Gen 1 (Type A) x 3
- 12 VDC-in, 5A
- 40 pin GPIO x 1
- DP/eDP/HDMI x 1
- M.2 2230 E-key x 1
- M.2 2280 M-key x 1
- SATA3 x 1
- M.2 3042/3052 B-key x 1



Specifications

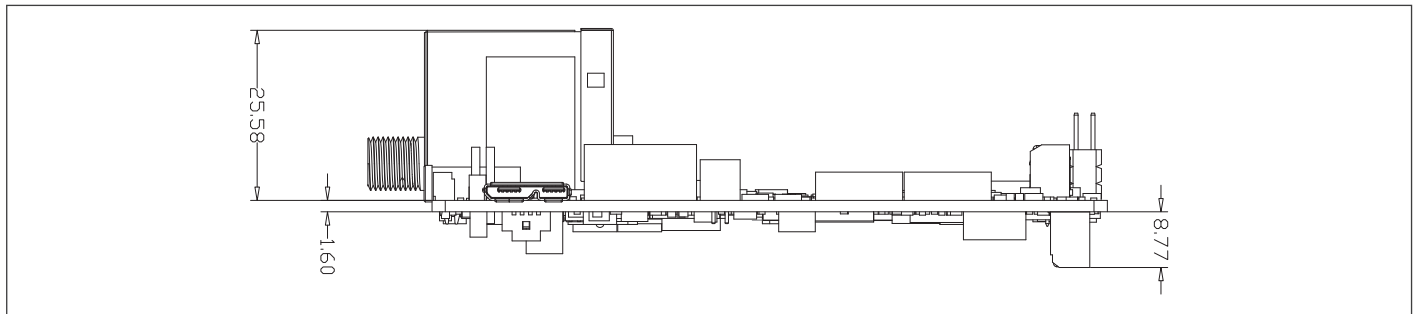
System	
Processor	Intel® Pentium® N4200/ Celeron® N3350/ Atom™ E3950 Processor SoC
Graphics	Intel® Gen 9 HD, supporting 4K Codec Decode and Encode for HEVC4, H.264, VP8
I/O	HDMI x 1 DP x 1 COM port (RS422/RS232/RS485) x 2 Audio Jack x 1
Camera	—
USB	USB 2.0 x 2 USB 3.2 Gen 1 OTG x 1 USB 3.2 Gen 1 (Type A) x 3
Expansion	40 pin GPIO x 1 M.2 2230 E-key x 1 M.2 2280 M-key x 1 SATA3 x 1 M.2 3042/3052 B-key x 1
RTC	Yes
Power	12V-24V DC-in (Lockable plug)/ Phoenix connector (optional)
Dimension	10.16cm x 10.16cm
Memory	2GB (single channel) LPDDR4 4GB/8GB (dual channel) LPDDR4
Storage	eMMC 32 GB / 64 GB
Display Interface	HDMI2.0 x 1 DP1.2 x 1 eDP x 1
Ethernet	Gb Ethernet (full speed) RJ-45 x 2
OS Support	Microsoft Windows 10 (full), Windows IOT Core Linux: Ubuntu 18.04.5, Ubuntu 20.04.1
Operating Temperature	with Fan: 32°F ~ 140°F (0°C ~ 60°C) with Heatsink: 32°F ~ 122°F (0°C ~ 50°C)
Operation Humidity	0% ~ 90% relative humidity, non-condensing
Certification	CE/FCC Class A, RoHS Compliant, REACH

Block Diagram



Dimension

Unit: mm



Ordering Information

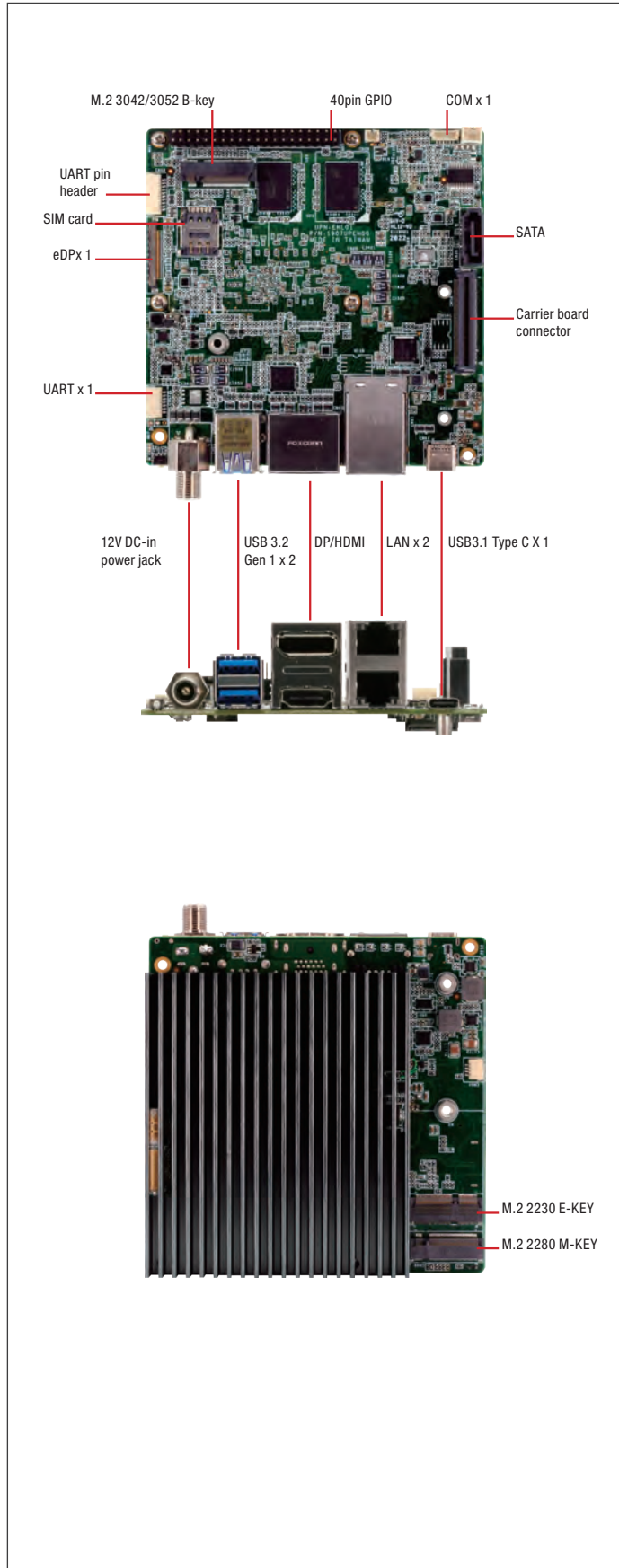
Part number	Description
UPN-APLC2F-A10-0232	UPN-APL01.CPU N3350(F1).Memory 2GB.eMMC 32GB.REV.A1.0
UPN-APLC2F-A10-0432	UPN-APL01.CPU N3350(F1).Memory 4GB.eMMC 32GB.REV.A1.0
UPN-APLP4F-A10-0432	UPN-APL01.CPU N4200(F1).Memory 4GB.eMMC 32GB.REV.A1.0
UPN-APLP4F-A10-0864	UPN-APL01.CPU N4200(F1).Memory 8GB.eMMC 64GB.REV.A1.0
UPN-APLX7F-A10-0464	UPN-APL01.CPU E3950(F1).Memory 4GB.eMMC 64GB.REV.A1.0

Optional Accessories

Part Number	Description
1255X00032	12VDC/6A Adapter
1702031803	Power cord for EU
1702031802	Power cord for US
PER-TAIX2-A10-2280	AI Core XM M.2 2280 B+M key card 15mm heatsink with fan
9651926001	M.2 2230 WiFi Kit.802.11ac.2.4G/5G,W/BT w/2 cable & antenna
9741364A00	Wireless LAN Kit M.2 2230 802.11ac/a/b/g/n + BT4.0,2T2R,with 2 sets of cable & antenna

Packing List

- UPN-APL01 with heatsink



Features

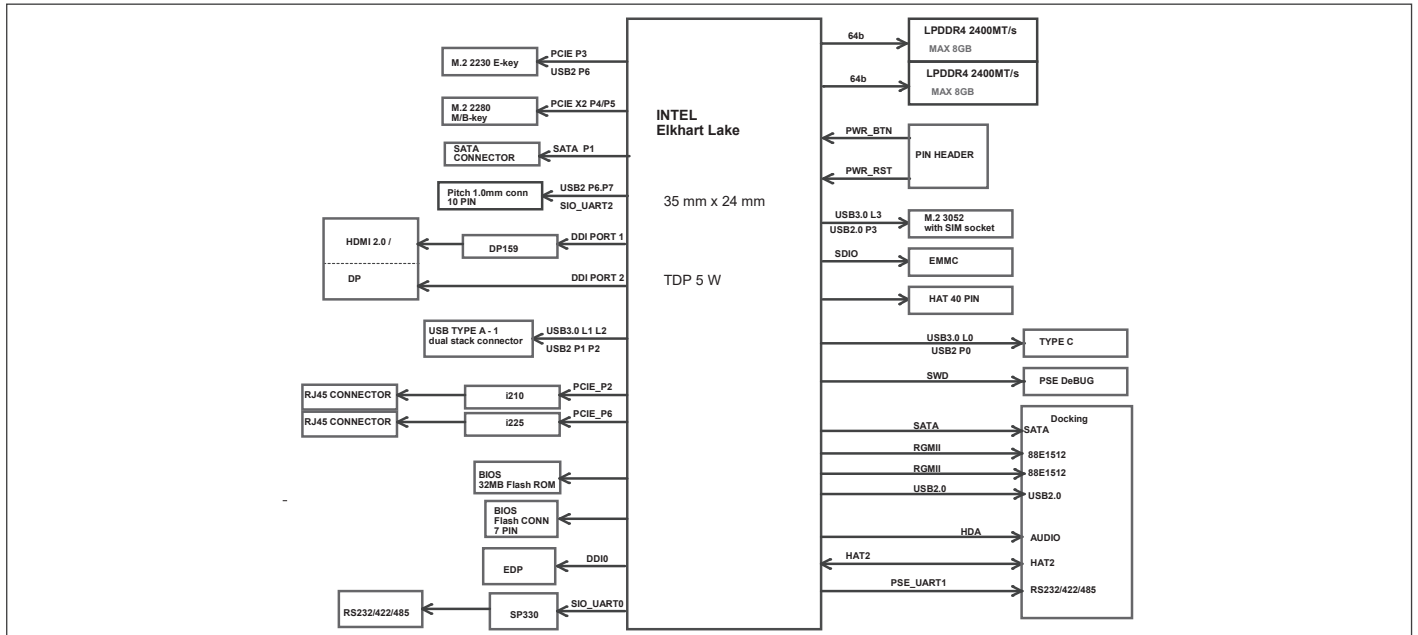
- Intel® Atom™ X6000E Series and Intel Pentium® and Celeron® N and J Series Processor(formerly Elkhart Lake)
- Gigabit LAN x 2, USB 3.2 Gen 1 (Type A) x 2
- 12 VDC-in, 5A
- 40 pin GPIO x 1
- DP/eDP/HDMI x 1
- M.2 2230 E-key x 1
- M.2 2280 M-key x 1
- SATA3 x 1
- M.2 3042/3052 B-key x 1



Specifications

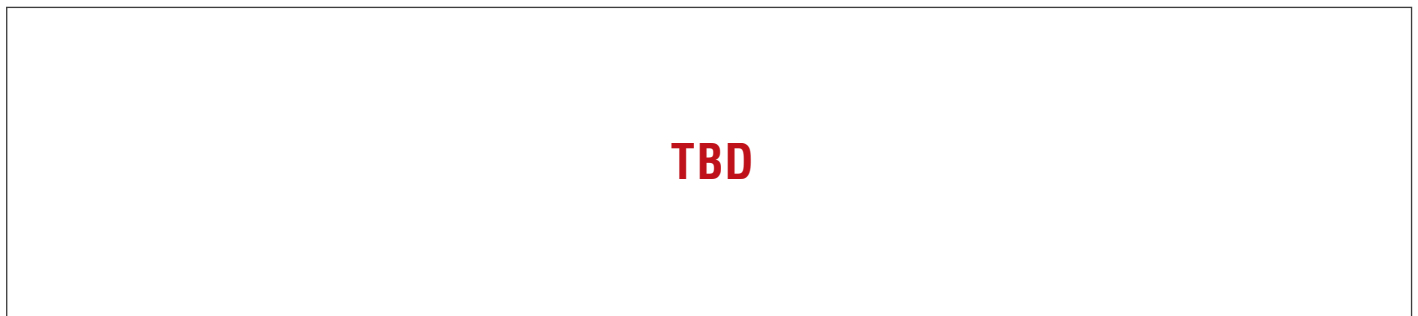
System	
Processor	Intel® Atom™ X6000E Series and Intel Pentium® and Celeron® N and J Series Processor(formerly Elkhart Lake)
Graphics	Intel® Graphics, GEN 11
I/O	HDMI x 1 DP x 1 COM port(RS232/422/485) x 1 DC connector x1 Audio Jack x1 on carrier board mPCIe x1 on carrier board
Camera	
USB	2 x USB3.2 Gen1 Connector 1 x USB3.2 Gen1 TYPE C Connector for 1 ports (OTG support)
Expansion	1 x M.2 2230 E Key (1x PCIe1, 1x USB2.0) bottom 1 x M.2 2242/2280 M Key (1 x PCIe) 1 x M.2 3042/3052 B Key (1xUSB3.0)
RTC	Yes
Power	12V
Dimension	10.16cm x 10.16cm
Memory	up to 16G
Storage	eMMC up to 64GB
Display Interface	HDMI x 1 DP 1.2 x 1 eDP x 1
Ethernet	Gb Ethernet (full speed) RJ-45 x 2 Gb Ethernet (full speed) RJ-45 x 2 on carrier board
TPM	TPM2.0
OS Support	Win 10/ 10 IoT Core Linux: Ubuntu 18.04 and 20.04, Yocto 3.1
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Operation Humidity	0% ~ 90% relative humidity, non-condensing
Certification	CE/FCC Class A, RoHS Compliant, REACH

Block Diagram



Dimension

Unit: mm



Ordering Information

- TBD

Packing List

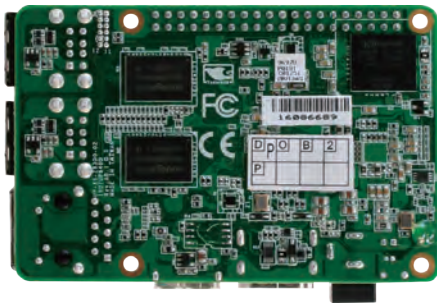
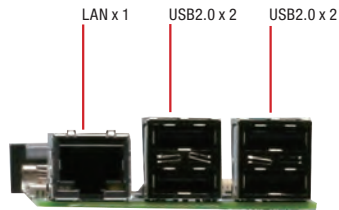
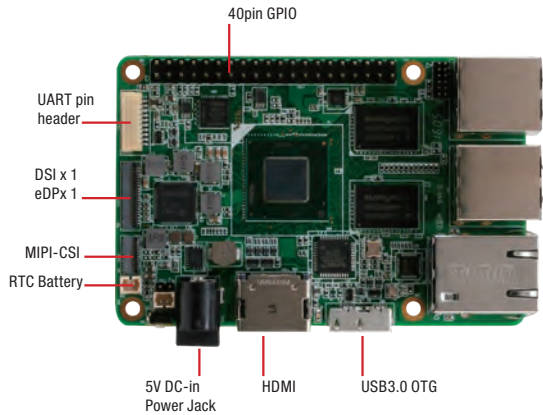
- TBD

Optional Accessories

- TBD

UP Board

UP Developer Board with Intel® Atom™ x5-Z8350 Processor SoC



Features

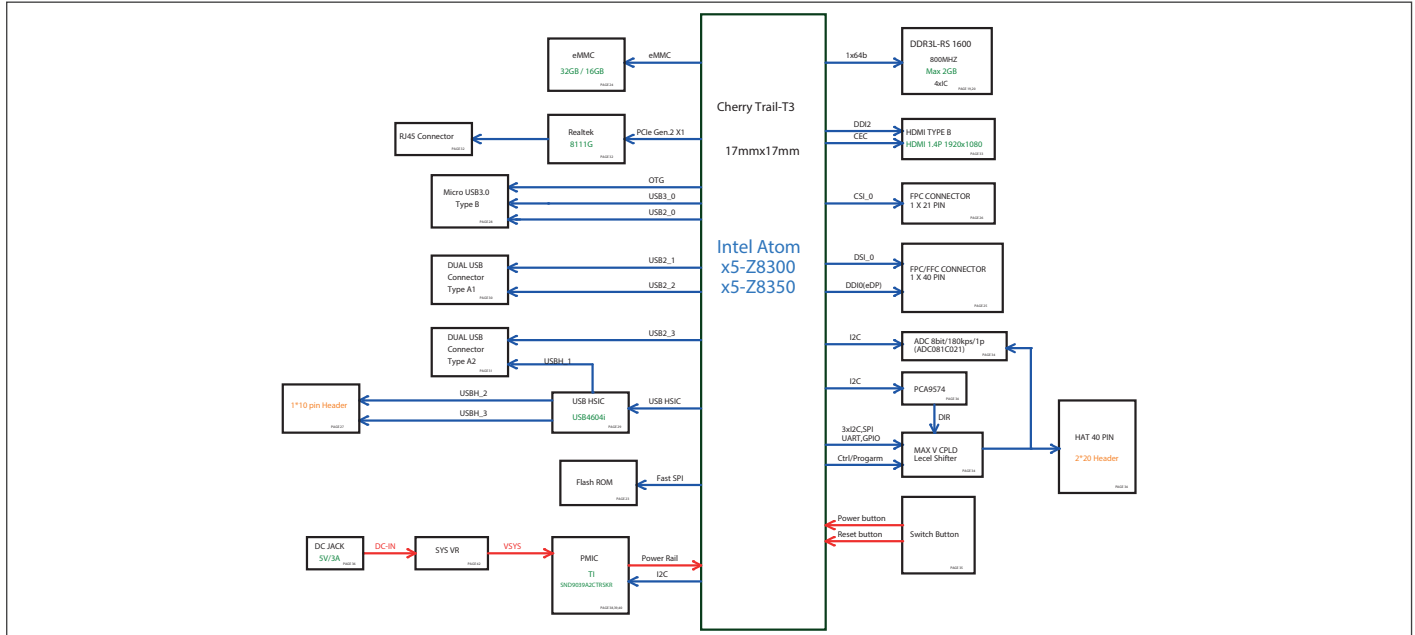
- Intel® Atom™ x5-Z8350 SoC
- Onboard DDR3L Memory up to 4GB
- Onboard eMMC Storage up to 64GB
- Gigabit LAN x 1, USB 2.0 x 4, USB 3.0 x 1, HDMI x 1
- 5V DC-in
- 40 pin GPIO x 1
- DSI/eDP x 1
- MIPI-CSI x 1



Specifications

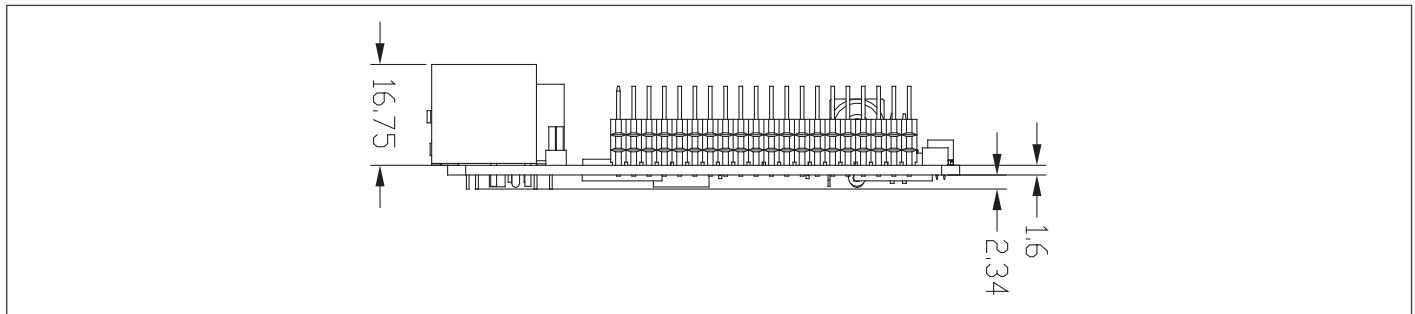
System	
Processor	Intel® Atom™ x5-Z8350 Processor SoC
Graphics	Intel® HD 400 Graphics, 12 EU GEN 8, up to 500MHz Support DX*11.1/12, Open GL*42, Open CL* 1.2 OGL ES3.0, H.264, HEVC(decode), VP8
I/O	HDMI x 1 I2S Audio port x 1
Camera	MIPI-CSI (4 MEGA pixel)
USB	USB 2.0 x4 USB 2.0 pin header (10 pins in total) x 2 USB3.0 OTG x 1
Expansion	40 pin General Purpose bus, supported by Altera Max V. ADC 8-bit@188ksos
RTC	Yes
Power	5V DC-in @ 4A 5.5/2.1mm jack
Dimension	3.37" x 2.22" (85.6mm x 56.5mm)
Memory	1GB/ 2GB/ 4GB DDR3L-1600
Storage	eMMC 16GB / 32GB/ 64GB
Display Interface	DSI/eDP
Ethernet	Gb Ethernet (full speed) RJ-45 x 1
OS Support	Win 10 Linux (ubinux, Ubuntu, Yocto) Android Marshmallow
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Operation Humidity	10% ~ 80% relative humidity, non-condensing
Certification	CE/FCC Class A, RoHS Compliant

Block Diagram



Dimension

Unit: mm



Ordering Information

Part number	Description
UP-CHT01-A20-0116-A11	UP board with z8350 CPU, 1GB RAM+16GB eMMC, passive heatsink
UP-CHT01-A20-0216-A11	UP board with z8350 CPU, 2GB RAM+16GB eMMC, passive heatsink
UP-CHT01-A20-0232-A11	UP board with z8350 CPU, 2GB RAM+32GB eMMC, passive heatsink
UP-CHT01-A20-0432-A11	UP board with z8350 CPU, 4GB RAM+32GB eMMC, passive heatsink
UP-CHT01-A20-0464-A11	UP board with z8350 CPU, 4GB RAM+64GB eMMC, passive heatsink

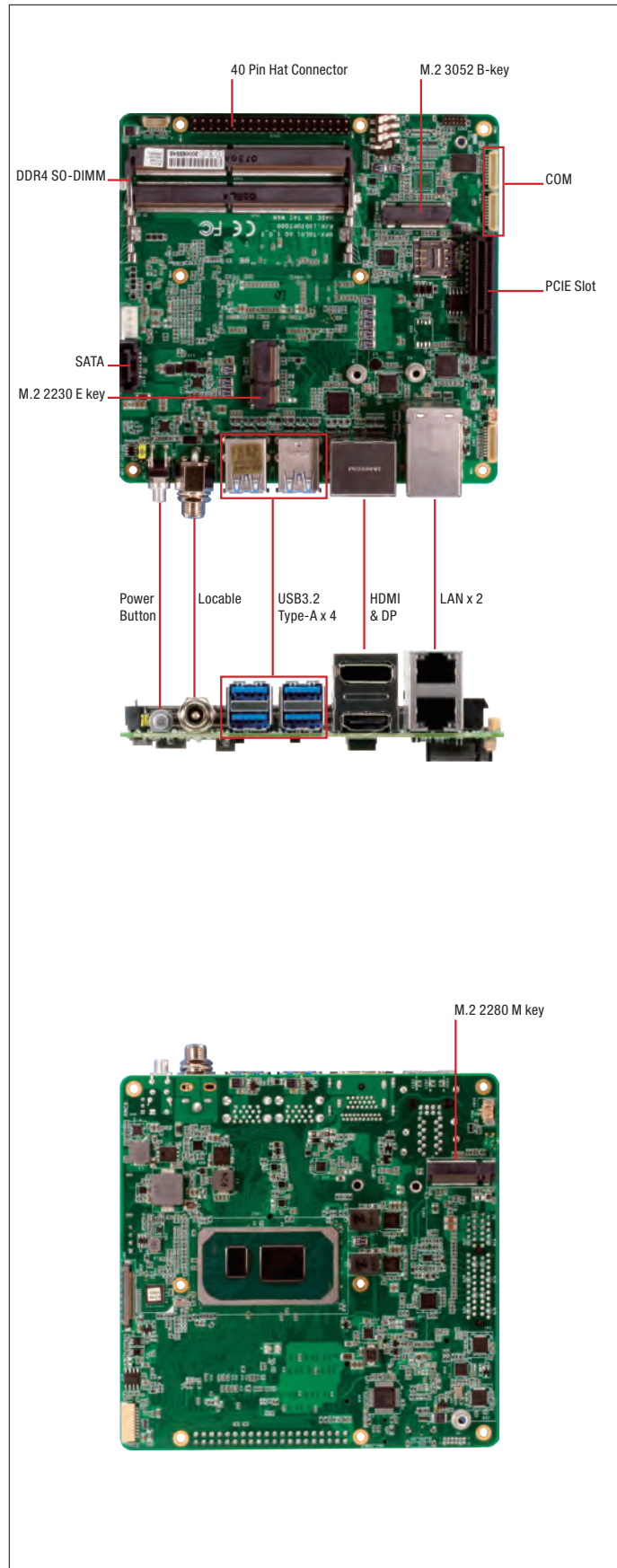
Packing List

- UP-CHT01 with Heatsink

UP Xtreme i11 PRELIMINARY

UP Xtreme i11 developer board with 11th generation Intel® Core™ i7/i5/i3/Celeron® Processor SoC (formerly Tiger Lake UP3)

UP Boards



Features

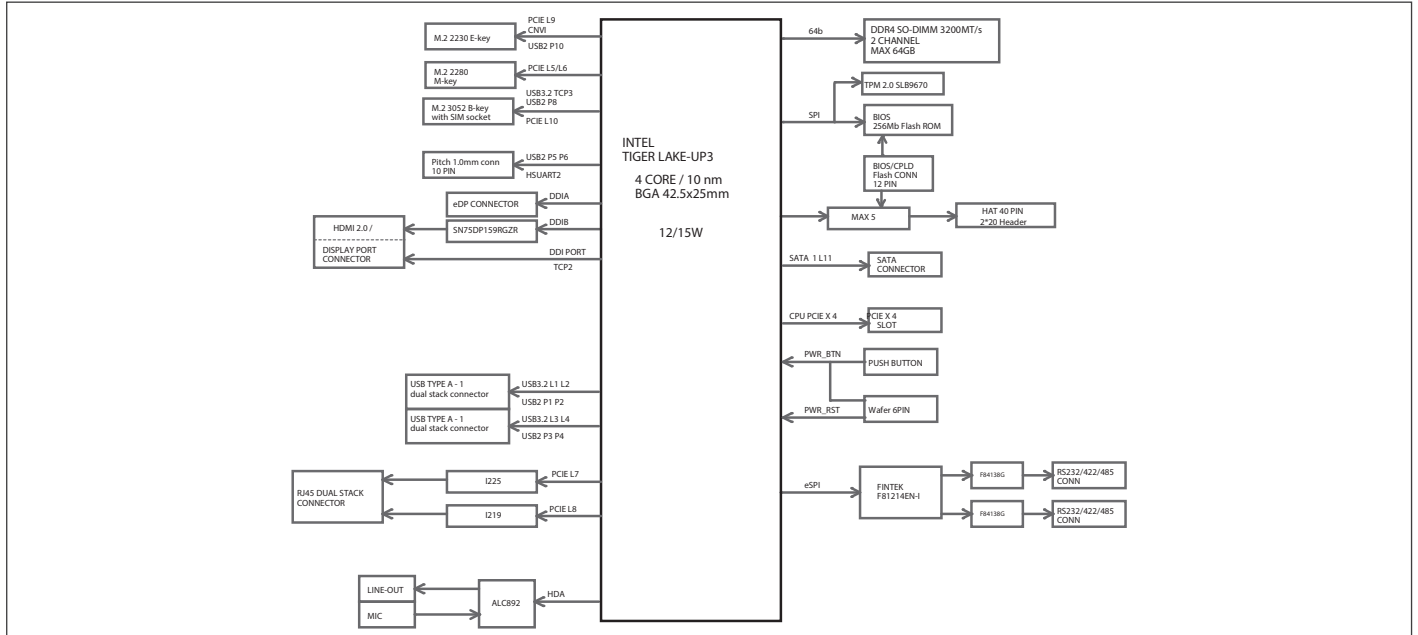
- 11th generation Intel® Core™ i7/i5/i3/Celeron® Processor SoC (formerly Tiger Lake UP3)
- DDR4 SO-DIMM Slot x 1 (up to 64GB)
- 40-pin HAT Connector
- SATA 6.0Gb/s x 1
- M.2 3052 B Key x 1
- M.2 2280 M Key x 1
- M.2 2230 E Key x 1
- Support USB 4.0
- PCIe x 4 slot



Specifications

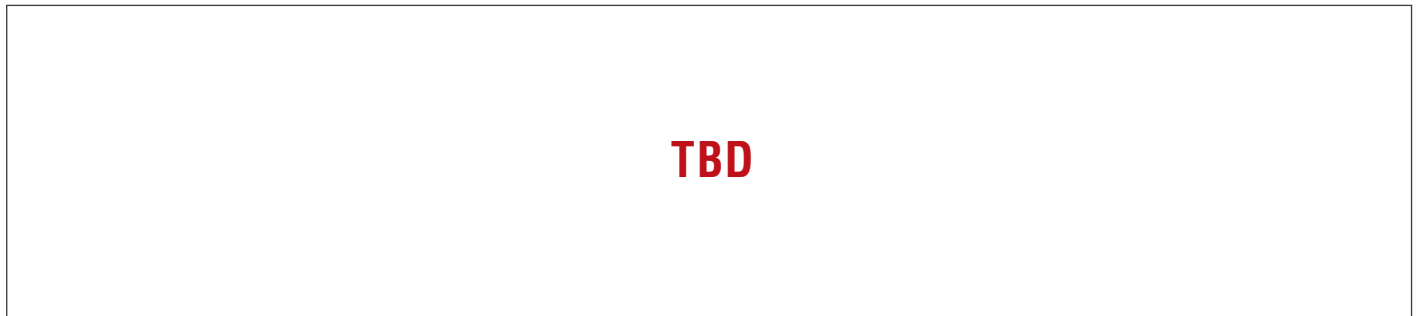
System	
Processor	11th generation Intel® Core™ i7/i5/i3/Celeron® Processor SoC (formerly Tiger Lake UP3)
Graphics	Intel® Graphics , GEN 12
I/O	RJ45 Ethernet Connector x 2 HDMI/DP Stack Connector x 1 Power Button / LED x 1 DC Connector (Lockable) x 1 10-pin USB 2.0 x 2 / HUART x 1 SATA Connector with Power Connector (5V, GND) x 1 2-pin Fan Connector x1 Power Button Header x 1 Reset Pin Header x 1 M.2 2230 E Key x 1 M.2 2280 M Key x 1 40-pin HAT Connector x 1 M.2 3052 B Key x 1 with SIM 10-pin RS232/422/485 Pin Header x 2
Camera	—
USB	USB 3.2 Gen 2 Type A x 3 USB 2.0 x 1 USB4.0 x 1/Thunderbolt Type-C (optional)
Expansion	M.2 2230 E Key x 1 M.2 2280 M Key x 1 M.2 3052 B Key x 1 40-pin HAT Connector x 1 PCIe x 4 Slot
RTC	RTC battery, CR2032 x 1
Power	12V - 24VDC
Dimension	120.35 x 122.5 mm
Memory	DDR4 SO-DIMM Slot x 1 (up to 64GB)
Storage	SATA3 (6Gb/s) x 1: a. SATA Connector x 1 b. M.2 2280 M Key NVMe(PCIe [x2])/SATA x 1
Display Interface	HDMI 1.4 x 1 DP 1.2 x 1 + eDP x 1, 4K60 internal panel
Ethernet	Intel® i211 GbE port x 2, Intel i225IT (TSN/TCC) x 2, Intel i219 (vPRO) x 1
OS Support	Win 10/IOT Linux Ubuntu 20.04 with Kernel 5.4 Linux Yocto 3.0 with Kernel 5.4
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Operation Humidity	0% ~ 90% relative humidity, non-condensing
Certification	CE/FCC class A, RoHS Compliant, REACH

Block Diagram



Dimension

Unit: mm



Ordering Information

- TBD

Packing List

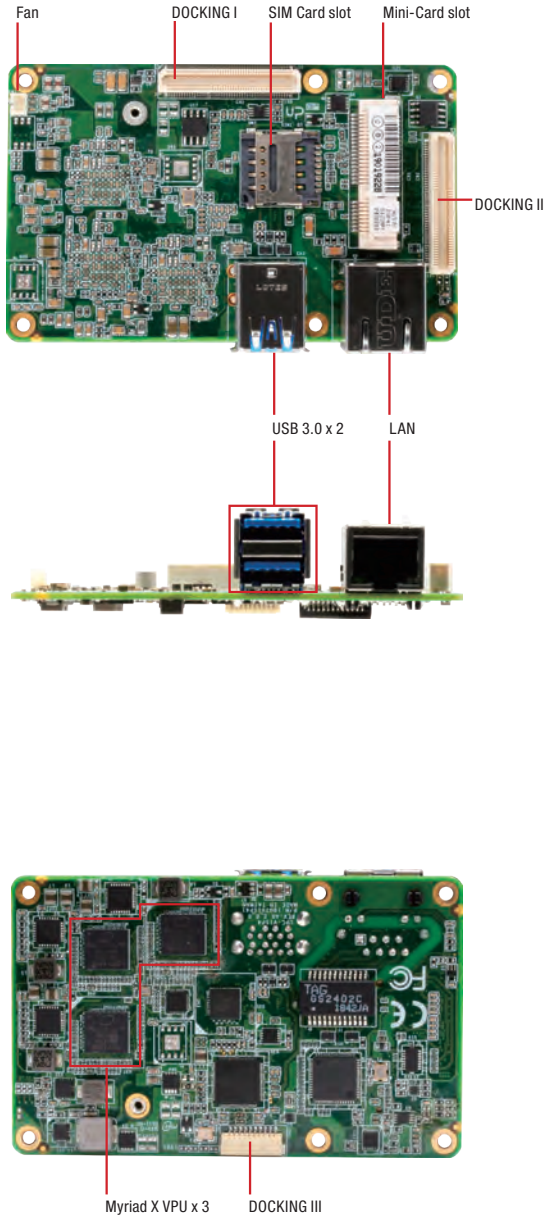
- TBD

Optional Accessories

- TBD

Vision Plus X

Vision accelerator with 3 x Intel® Movidius™ Myriad™ X VPU for UP Core Plus



Features

- Intel® Movidius™ Myriad™ X VPU x 3
- Intel® Vision Accelerator Design SW SDK
- Supported Framework: TensorFlow, Caffe, MXNET
- Ubuntu 16.04, Windows® 10
- USB3.0 Type A x 2
- Gigabit LAN x 1
- Mini-Card (Full-sized) x 1



Specifications

System	
VPU	Intel® Movidius™ Myriad™ X VPU x 3 , MA2485
Ethernet	Intel® WG1211AT PCI-E Gigabit Ethernet x 1
Power Requirement	12V5A
Power Supply Type	12VDC from M/B
Power Consumption (Typical)	Max 25W
Dimensions (L x W)	3.54" x 2.2" (90 mm x 56 mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Operation Humidity	10 ~ 80% relative humidity, non-condensing
Certification	CE/FCC Class B
OS Support	Microsoft Windows 10 Linux: ubilinux, Ubuntu, Yocto Android-IA 9.0
I/O	
Ethernet	RJ45 x 1 (Intel WG1211AT PCI-E Gigabit Ethernet)
USB	USB 3.0 Type A x 2
SATA	—
Expansion Slot	mPCIe Slot (Full Size) (SATA/USB/PCIe) x 1 SIM Card Slot x 1 DOCKING I (2x I2C) DOCKING II (3x PCIe.G2, 1x USB3.0, 1x SATA, 2x USB 2.0)

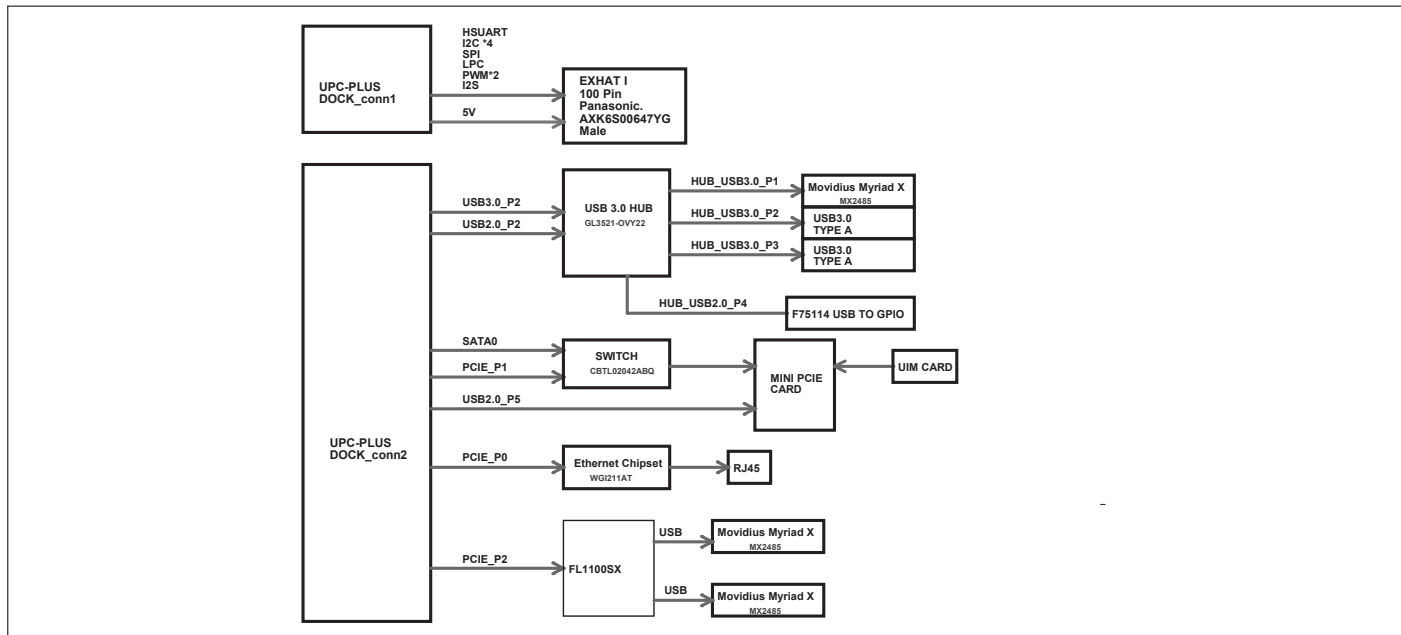
Packing List

- Adapter Board i x 1
- Adapter Board ii x 1
- Heatsink x 1
- Standoff x 6
- Screw x 6
- UP Vision Plus X x 1

Ordering Information

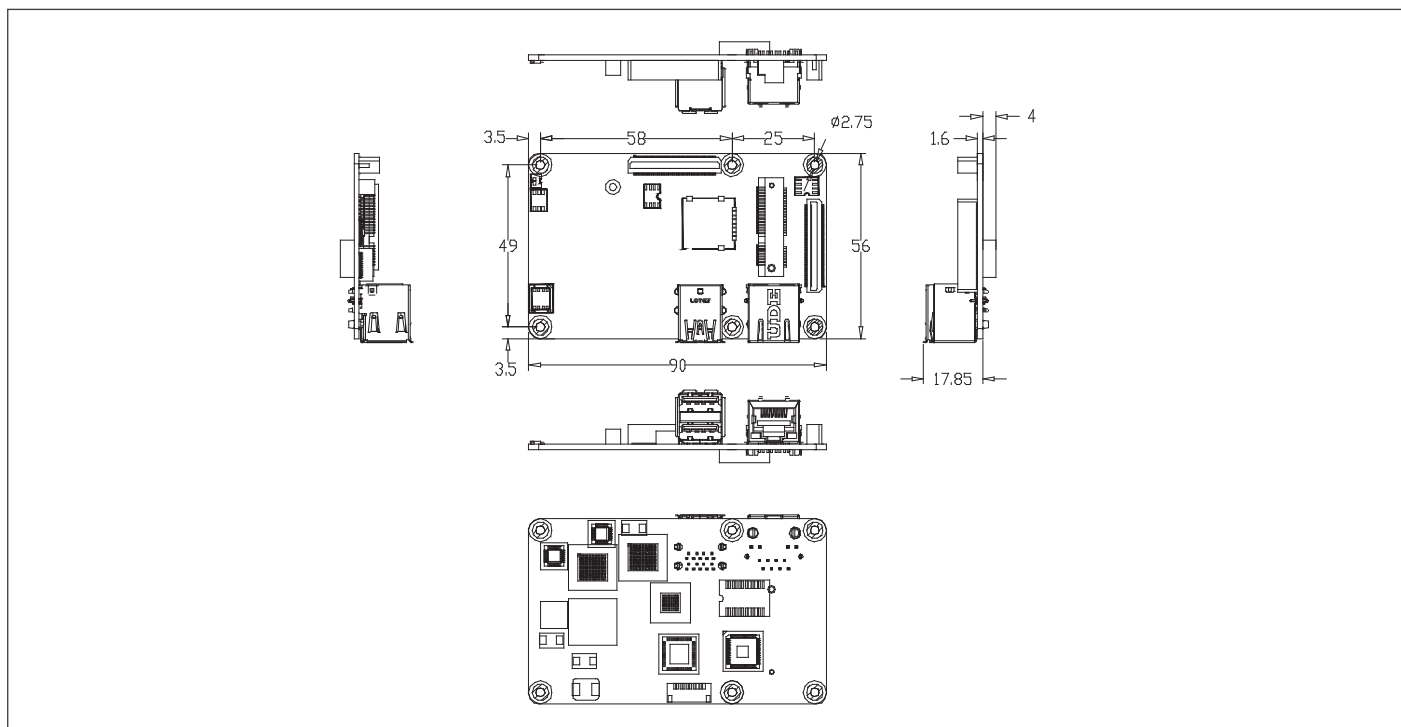
Part Number	Description
UPCC-CR-VPX3-A10-001	Vision Plus X, w/ 3x Myriad™ X 2485, fan heatsink, REV.A1.0

Block Diagram

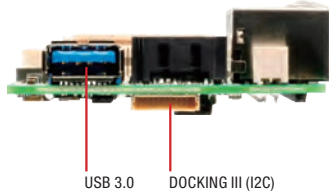
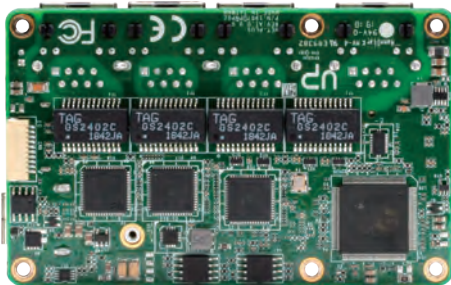
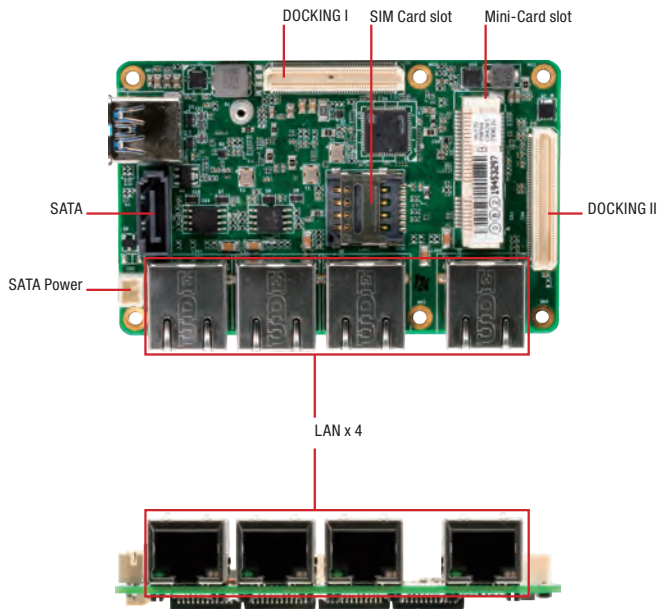


Dimension

Unit: mm



Expansion board with 4 x Gigabit LAN powered by Intel® i211-AT/i210-IT for UP Core Plus



Features

- Gigabit LAN x 4
- Intel® I211-AT (optional with I210-IT for wide temperature) x 4
- USB3.0 Type A x 1
- Mini-Card (Full-sized) x 1
- Windows® 10, Linux (ubinux, Ubuntu, Yocto), Android-IA 9.0
- SATA x 1



Specifications

System	
VPU	—
Ethernet	Intel I211-AT x 4 (A10-001) Intel I210-IT for wide temperature x 4 (A10-002)
Power Requirement	12V5A
Power Supply Type	12VDC from M/B
Power Consumption (Typical)	Max 10W
Dimensions (L x W)	3.54" x 2.2" (90 mm x 56 mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Operation Humidity	10 ~ 80% relative humidity, non-condensing
Certification	CE/FCC Class B
OS Support	Microsoft Windows 10 Linux: ubinux, Ubuntu, Yocto Android-IA 9.0
I/O	
Ethernet	001: Intel® I211-AT x 4 002: Intel® I210-IT x 4 for wide temperature
USB	USB 3.0 Type A x 1
SATA	SATA x 1 (vertical)
Expansion Slot	mPCIe Slot (Full Size) x 1 (SATA/USB/PCIE) SIM Card Slot x 1 DOCKING I DOCKING II

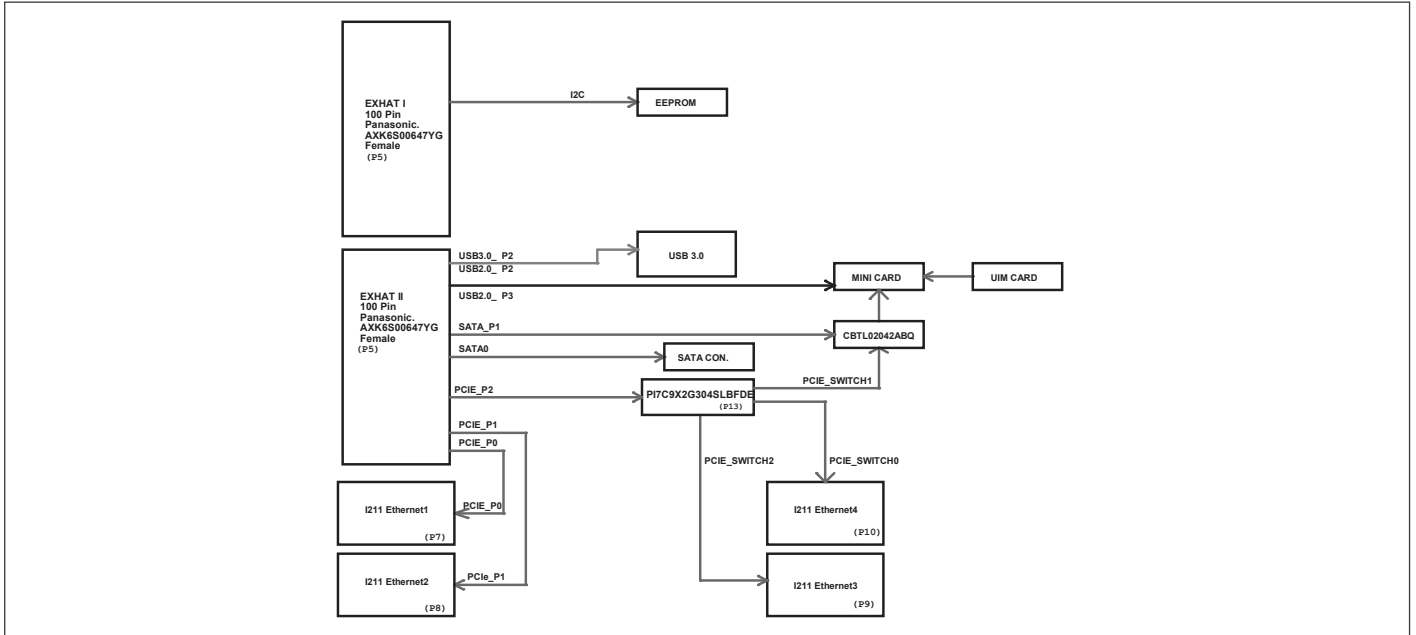
Packing List

- Adapter Board i x 1
- Adapter Board ii x 1
- Standoff x 12
- UP Net Plus x 1

Ordering Information

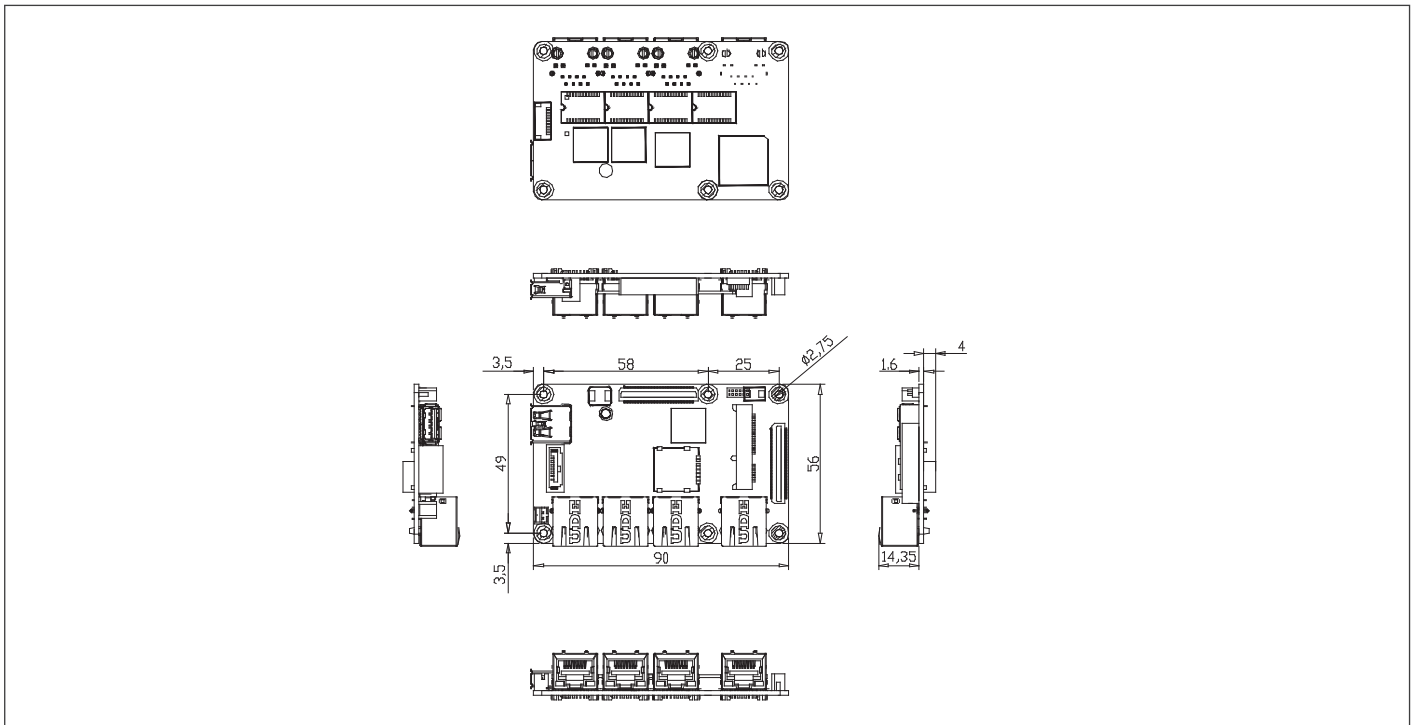
Part Number	Description
UPCP-CR-NPL4-A10-001	Net Plus.i211-AT.for UP core Plus.A1.0
UPCP-CR-NPL4-A10-002	Net Plus.i210-IT.for UP core Plus.A1.0

Block Diagram

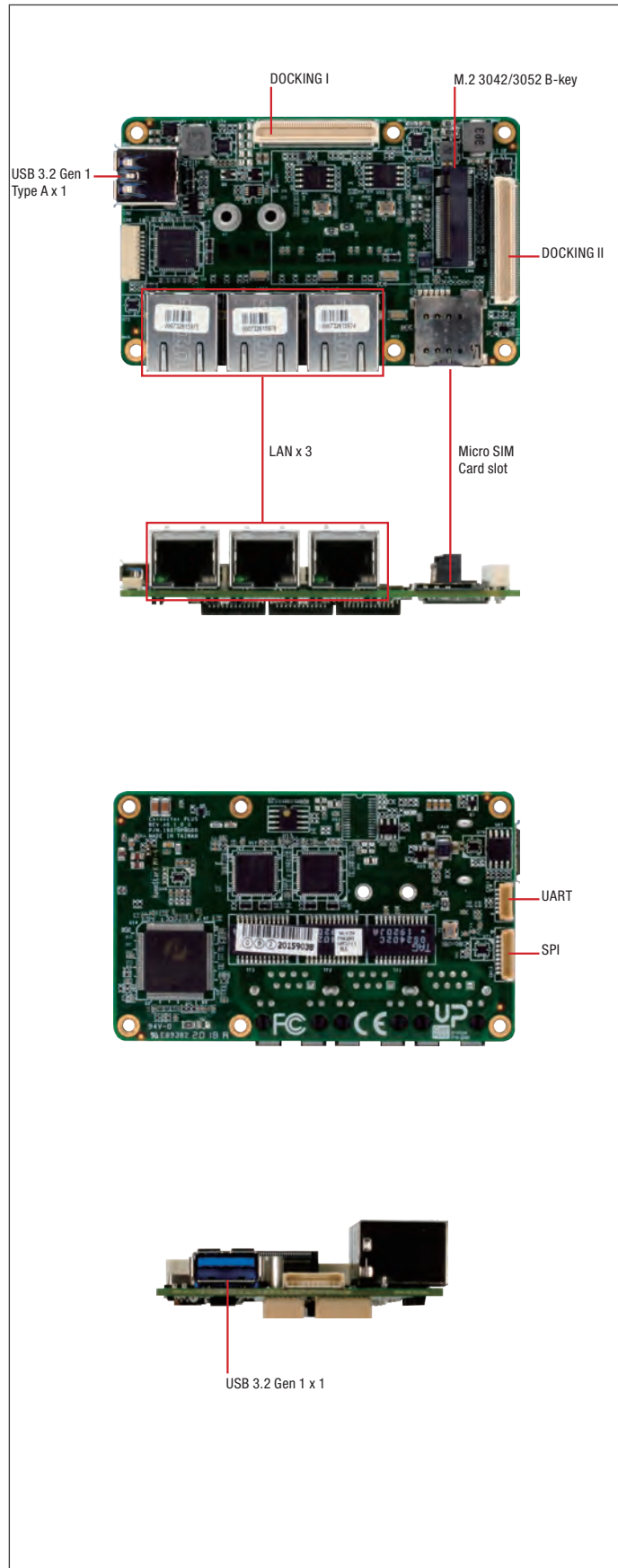


Dimension

Unit: mm



Expansion board with 3 x Gigabit LAN powered by Intel® i211-AT/i210-IT for UP Core Plus, Up Xtreme



Features

- Gigabit LAN x 3
- Intel® I211-AT (optional with I210-IT for wide temperature) x 4
- USB 3.2 Gen 1 Type A x 1
- Windows® 10, Linux (ubinux, Ubuntu, Yocto), Android-IA 9.0
- UART x 1
- SPI x 1



Specifications

System	
VPU	—
Ethernet	Intel I211-AT x 3 (A10-001) Intel I210-IT for wide temperature x 3 (A10-002)
Power Requirement	12V5A
Power Supply Type	12VDC from M/B
Power Consumption (Typical)	Max 13.5W w/o 5G module
Dimensions (L x W)	3.54" x 2.2" (90 mm x 56 mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Operation Humidity	10 ~ 80% relative humidity, non-condensing
Certification	CE/FCC Class A
OS Support	Microsoft Windows 10 Linux: ubinux, Ubuntu, Yocto Android-IA 9.0
I/O	
Ethernet	001: Intel® I211-AT x 3 002: Intel® I210-IT for wide temperature
USB	USB 3.0 Type A x 1
SATA	—
Expansion Slot	Micro SIM card DOCKING I DOCKING II UART x 1 SPI x 1

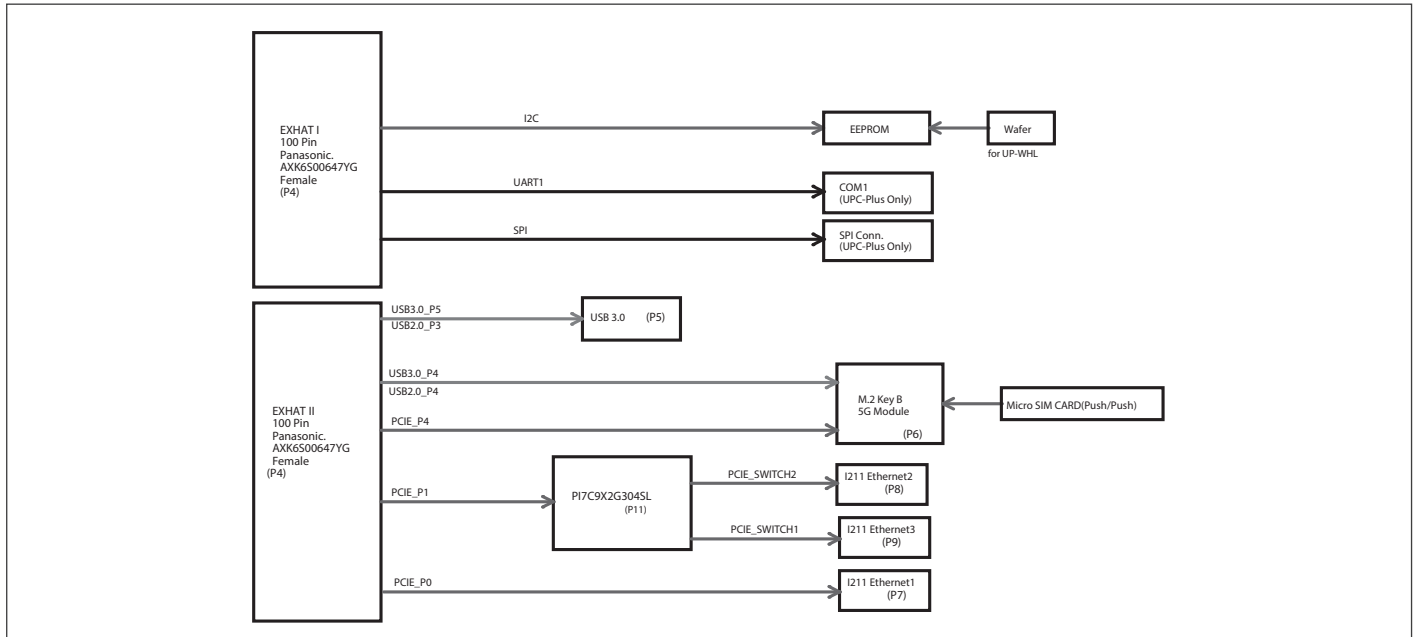
Packing List

- Adapter Board i x 1
- Adapter Board ii x 1
- Standoff x 12
- UP Connector Plus x 1

Ordering Information

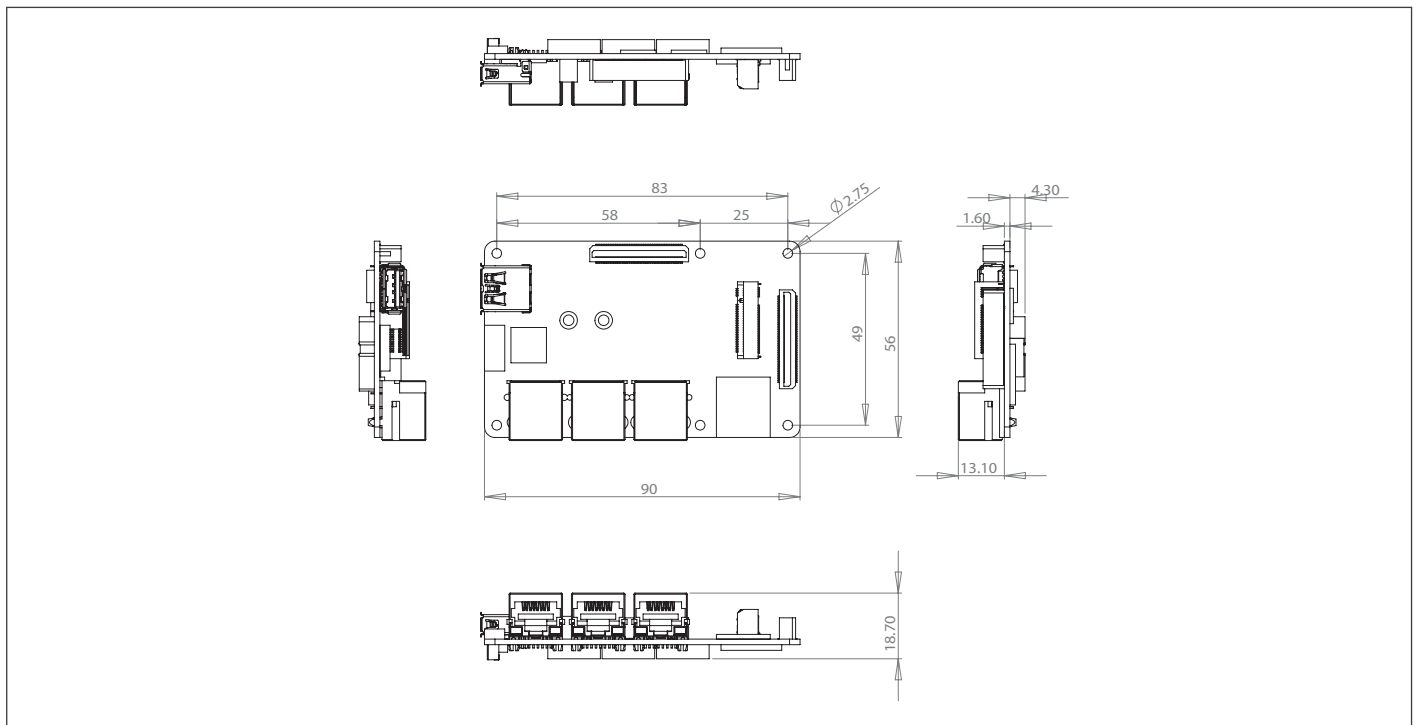
- TBD

Block Diagram



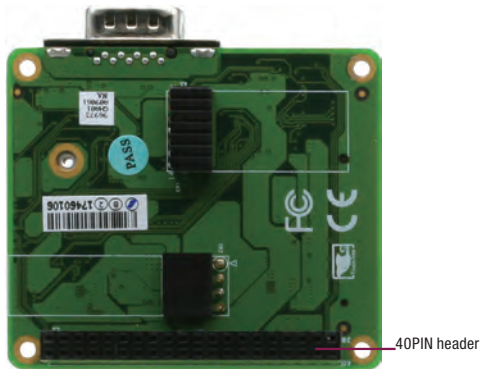
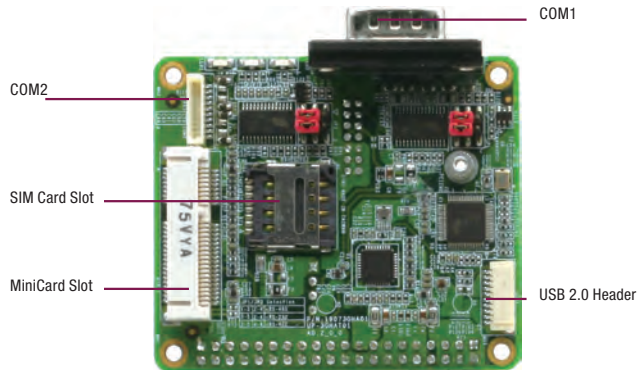
Dimension

Unit: mm



UP-3G HAT

RS-232/422/485 x 2, Mini Card x 1, uSIM Card Reader x 1



Features

- RS-232/422/485 x 2
- Minicard x 1, uSIM Card Reader x 1
- HAT 40-pin Header x 1
- WiFi Module Header for x 1



Specifications

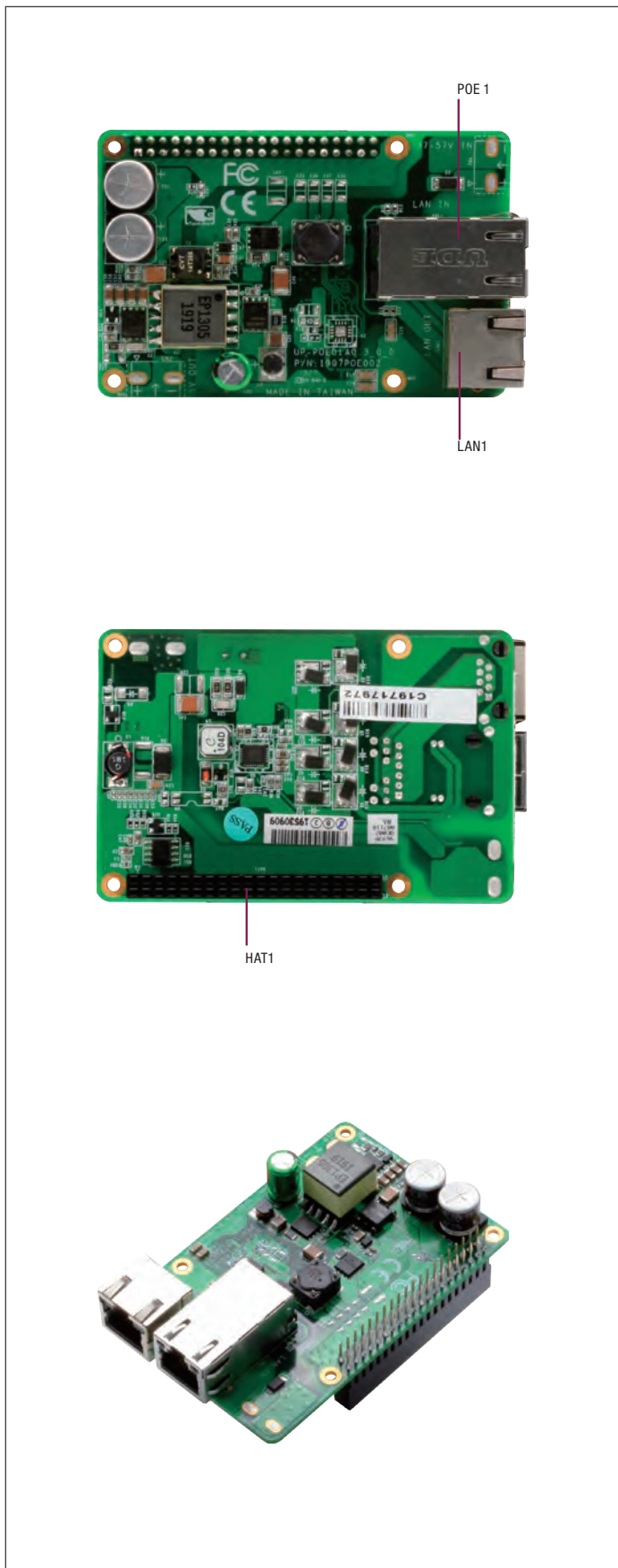
System	
IC	2-CH FULL-SPEED USB UART x 1 USB 2.0 Hub x 1 RS-232/RS-485/RS-422 transceiver x 2
I/O Placements	
External Ports	RS-232/422/485 Connector (DB9) x 1
Internal connector	RS-232 wafer (RS-232/422/485) x 1 USB wafer x 1 Minicard x 1 uSIM Card Reader x 1 HAT 40 GPIO male (4x GPIO, 3.3V, 5V, GND) x 1 WiFi LED x 1 3G LED x 1 Power LED x 1
Others	
Form Factor	2.56" x 2.2" (65 mm x 56 mm)
Certification	CE/FCC Class A
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Operating Humidity	10%~80% RH, non-condensing
Optional	
WiFi Module	UP-WIFIMD-A20-7001 (WiFi module: 7M02) UP-WIFIMD-A20-4001 (WiFi module: 4M02)
BT Module	UP-BTMD-A20-0001
3G Module	9741UC20G0 (3G module: UC20-G)

Packing List

- UP-3G HAT

Ordering Information

Part Number	Description
UP-3GHAT-A20-0001	3G HAT



Features

- IEEE802.3 AT Standard
- Max 25W Power Supply
- 10/100/1000 Mbps LAN
- RJ45 Input x 1
- RJ45 Output x 1



Specifications

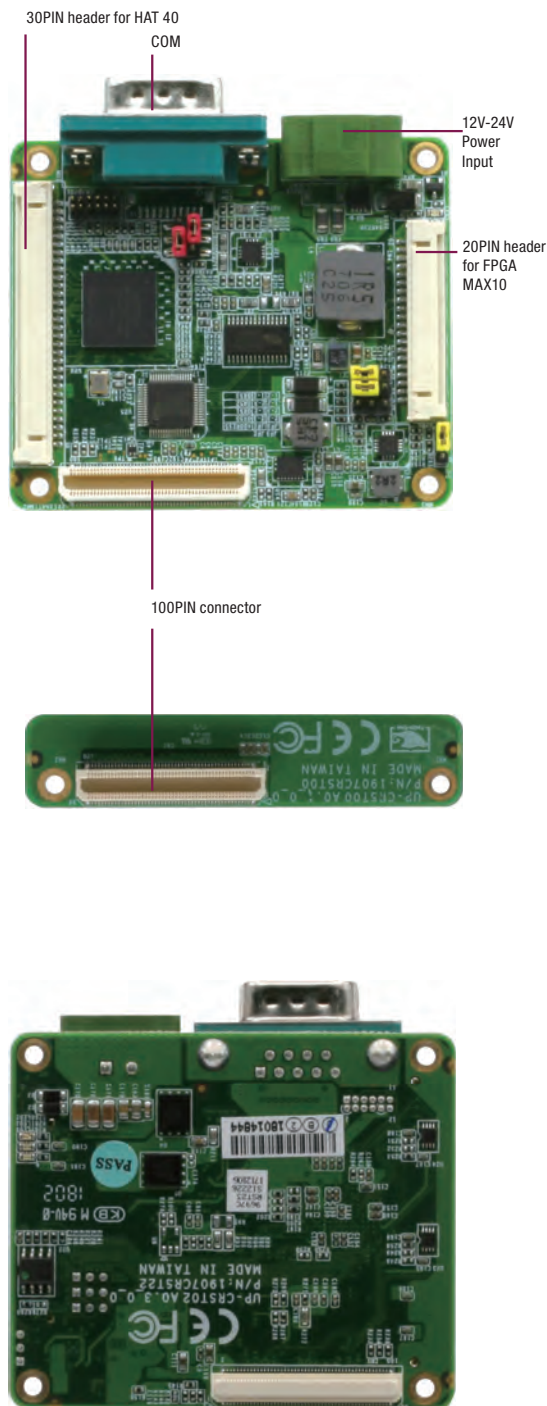
System	
IC	LT4321I (PoE Ideal Diode Bridge Controller) x 1 LT4276B (PD Forward / Flyback Controller) x 1
I/O Placements	
External Ports	RJ45 input x 1 RJ45 output x 1
Internal connector	HAT 40 GPIO male (5V, GND) x 1
Others	
Form Factor	3.37" x 2.22" x 0.98" (85.6 mm x 56.5 mm x 25 mm)
Certification	CE / FCC Class A
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
OS Support	No OS limitation

Packing List

- LAN cable
- UP-POE HAT

Ordering Information

Part Number	Description
UP-POE-A20-0001	POE board



Features

- RS-232/422/485 x 1
- 12-24V Power Input x 1
- MAX10 FPGA for 40pin Setting x 1



Specifications

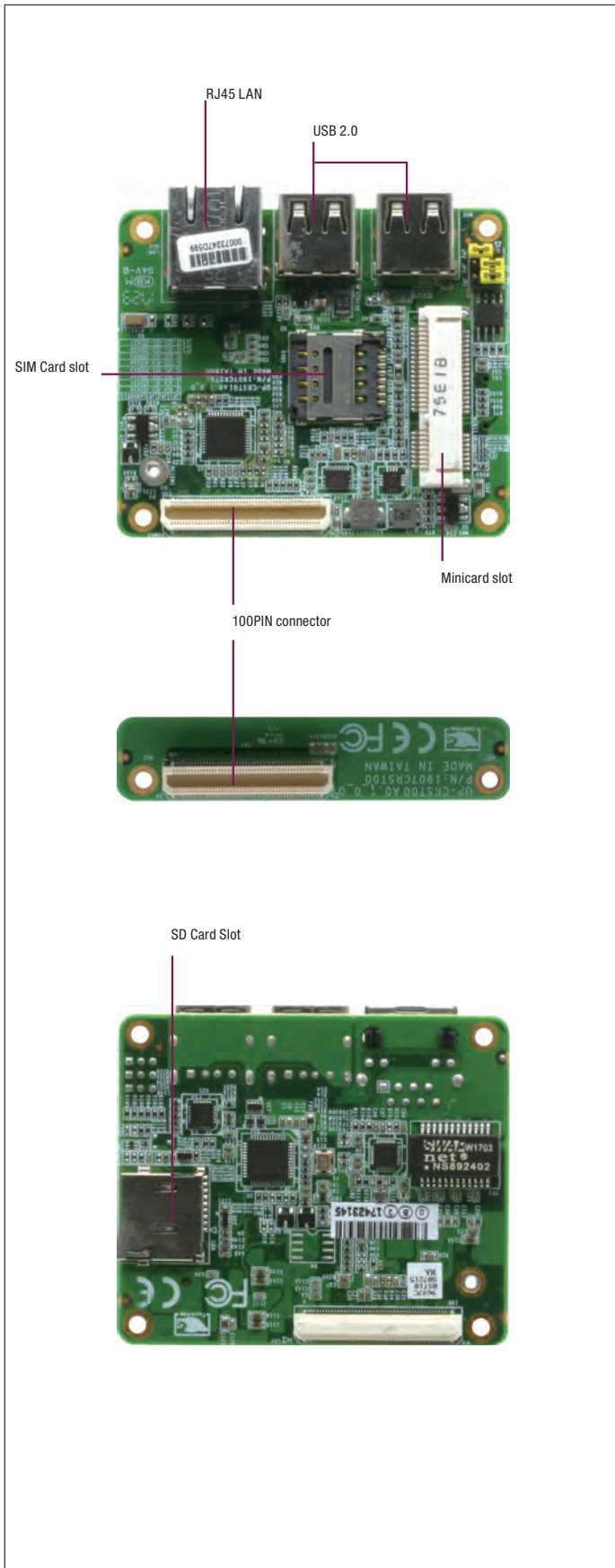
System	
IC	MAX10 FPGA for 40pin setting x 1 2-CH FULL-SPEED USB UART x 1 RS-232/485/422 transceiver x 1 EEPROM on I2CO 4Kb with Jumper for A0-A2 address x 1
I/O Placements	
External Ports	RS-232/422/485 Connector (DB9) x 1 12-24V Power input (+-10%) x 1
Internal Connector	Jumper for RS-232/422/485 x 1 Power LED x 1 100PIN board-board connector(M) x 1 100PIN board-board connector(F) x 1 30 pin wafer box header for HAT 40 IO pins x 1 20 pin wafer box header for FPGA MAX10 reserved pins x 1
Others	
Form Factor	2.22" x 2.6" (56.5 mm x 66 mm)
Certification	CE/FCC Class A
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Operating Humidity	10%~80%RH, non-condensing

Packing List

- CRST00 Spacer x 1
- UPC-CRST02 x 1

Ordering Information

Part Number	Description
UPC-CRSTL-A20-0001	UPC-CRST02 low speed carrier board



Features

- LAN PORT x 1
- 2 Channel PCIe Switch x 1
- USB 2.0 x 2
- Minicard x 1, uSIM Card Reader x 1
- SD Card Slot x 1



Specifications

System	
IC	2 channel PCIe Switch x 1 Realtek RTL8111G-CG x 1 HSIC to USB to 3 USB ports (1 x minicard, 2 x connector) x 1 EEPROM on I2CO 4Kb with Jumper for A0-A2 address x 1
I/O Placements	
External Ports	RJ45 Ethernet port x 1 USB 2.0 x 2 SD Card (Pluggable at back side) x 1
Internal Connector	Power LED x 1 Minicard x 1 uSIM Card Reader x 1 100PIN board-board connector(M) x 1 100PIN board-board connector(F) x 1
Others	
Form Factor	2.22" x 2.6" (56.5 mm x 66 mm)
Certification	CE/FCC Class A
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Operating Humidity	10%~80%RH, non-condensing

Packing List

- CRST00 Spacer x 1
- UPC-CRST01 x 1

Ordering Information

Part Number	Description
UPC-CRSTH-A20-0001	High Speed Carrier Board for UP Core Series

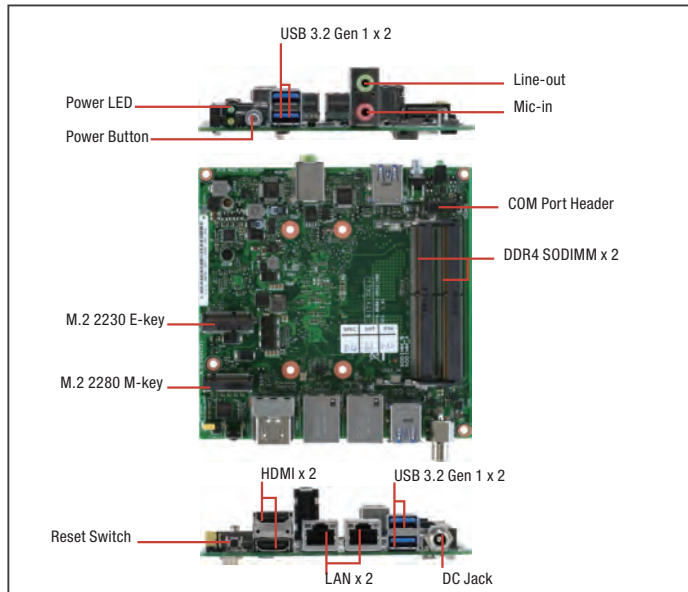
Industrial Motherboards

10



NITX-SKL1

6th Generation Intel® Core™ 15W Processor Nano-ITX Board with HDMI x 2, LAN Port x 2, COM Port x 1 and USB Port x 4



Specifications

System	
Processor	6th generation Intel® 14nm ULT Core™, BGA CPU, 15W TDP. i7-6600U 2C/4T GT2 2.6/3.4 GHz 4M/ i5-6300U 2C/4T GT2 2.4/3.0 GHz 3M/ i3-6100U 2C/4T GT2 2.3 GHz 3M/ Celeron® 3955U 2C/2T GT1 (f) 2.0 GHz 2M
Chipset	Integrated into SoC
Memory	SODIMM x 2, max. 32 GB, DDR4 2133/1867 MHz non-ECC, un-buffered memory
I/O Chipset	NCT5538D
Ethernet	Realtek 8111G Gb LAN x 2, RJ-45 x 2
Audio	Realtek® ALC887
TPM	—
Expansion Slots	M.2 2280 M-Key slot x 1 (PCIe x4 + SATA) M.2 2230 E-Key slot x 1 (PCIe+USB)
BIOS	128Mbit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/System Voltage Monitor on Vcore/5V/3.3V/12V Fan Monitor on Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	Chassis Fan
Wake On LAN / PXE	Yes (WOL/PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Integrated Graphics
Graphics Multi Display	HDMI + HDMI
VGA	—
DVI	—
HDMI	HDMI 1.4 up to 4096 x 2160@24Hz
Display Port	—
LVDS	—
eDP	—
Backlight Control	—
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	DC Power x 1 (DC: 12V~19V, wide rage:12V-5%~ 19V+10%)
Operating Temperature	FANLESS : 0°C~40°C, FAN : 0°C~50°C
Storage Temperature	—
Operating Humidity	20%~90% R/H, non-condensing
Certificate	CE & FCC class A
Form Factor	NANO ITX: 4.72" x 4.72" (120mm x 120mm)
Weight	—
MTBF (Hours)	—

Features

- 6th Generation Intel® Core™ i7/i5/i3/Celeron® 15W BGA Processor
- Dual Gigabit Ethernet
- Dual HDMI Port
- USB 3.2 Gen 1 Port x 4
- COM Port x 1



Front Panel I/O	
USB	USB 3.2 Gen 1 port x 2
Audio	Audio Jack x 2: Line-out (green), Mic-in(pink)
Power	On/Off Button x 1
Others	Power LED + HD LED x 1
Rear Panel I/O Ports	
USB	USB 3.2 Gen 1 port x 2
Display I/O	HDMI Connector x 2
Audio I/O	—
LAN I/O	RJ-45 connector x 2
Serial Port	—
PS/2 Port	—
Others	Reset Switch x 1, DC power jack x 1
Internal I/O	
Serial port	RS-232 9PIN 1.25mm Header
Storage	M.2 2280 M-Key slot x 1
FAN	Chassis Fan connector x 1 (3-pin, p=2.00mm)
Others	Reset Switch 2-pin header x 1, power button 2-pin header x 1, M.2 2230 E-Key slot x 1
OS	
OS Support	Windows® 7 32-bit, Windows® 7 64-bit, Windows® 8.1 64-bit, Windows® 10 64-bit, Linux Fedora* 22 (64b)

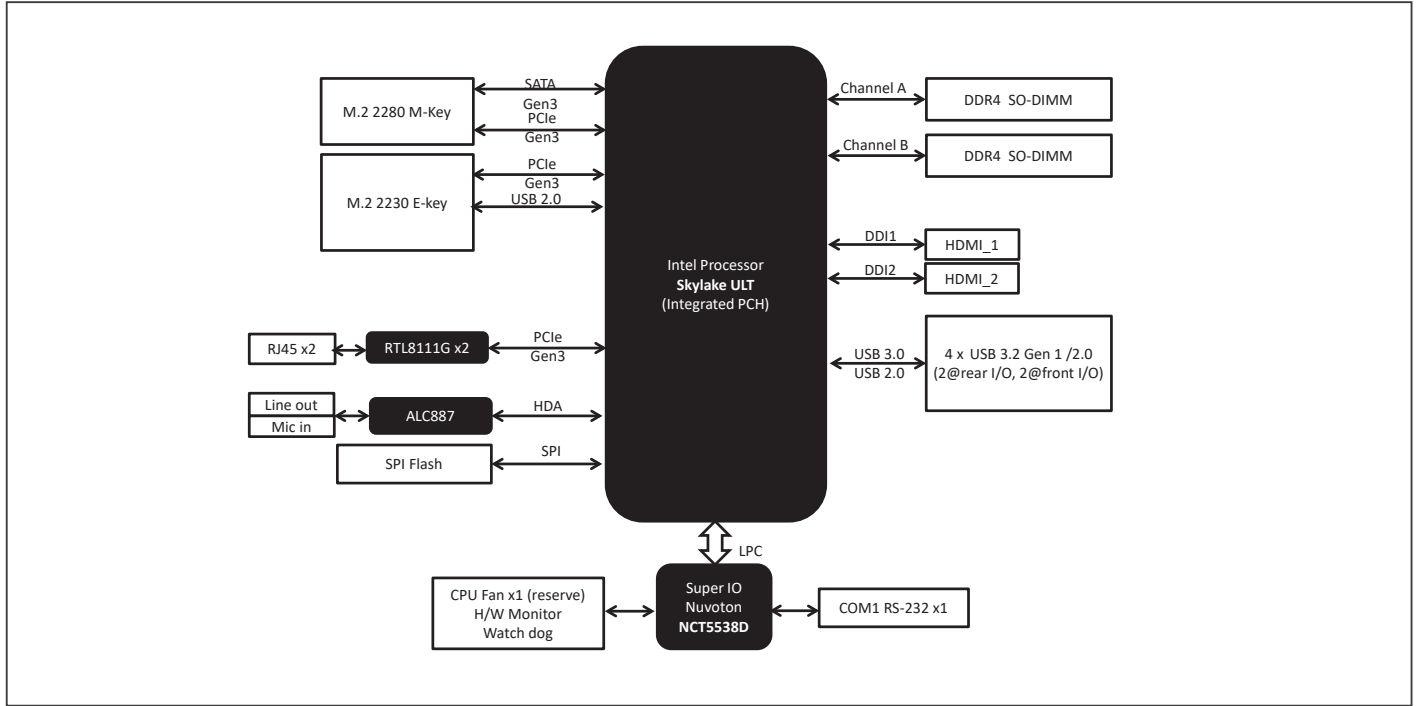
Packing List

- NITX-SKL1

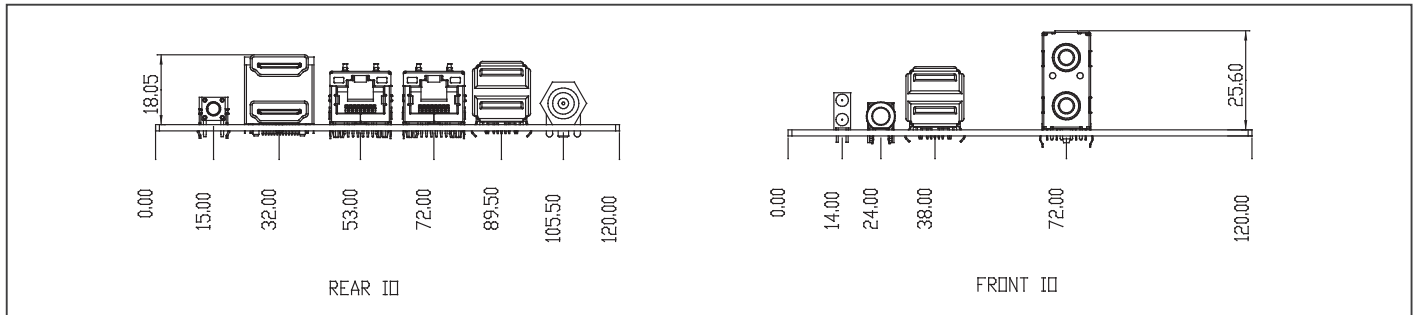
Optional Accessories

Part Number	Description
1255300607	60W Power Adapter
968C032G1L	M.2 2280 32GB SSD
968C064G2X	M.2 2280 64GB SSD
968C128G1G	M.2 2280 128GB SSD

Block Diagram

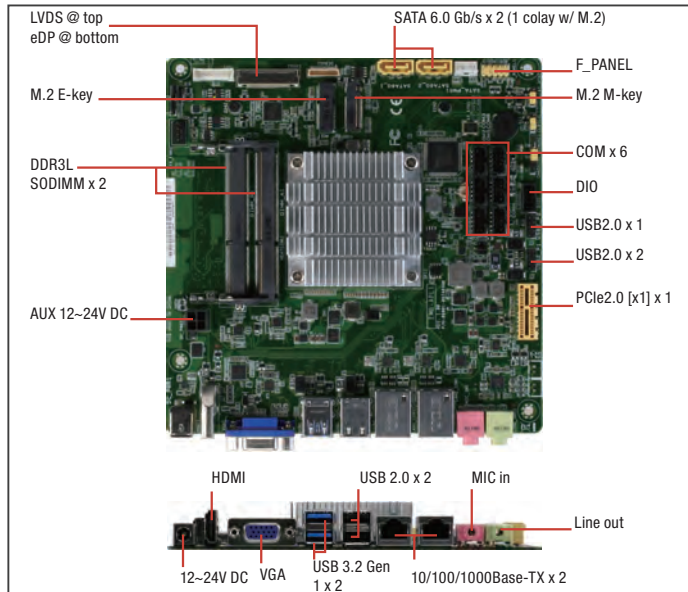


Dimension Unit: mm



Ordering Information

Part Number	CPU	RAM	Fan/Fanless	Display	Storage	LAN	USB	USB	RS-232	Expansion Slot	Power	Temp.
NITX-SKL1-3955-A10	Celeron 3955U 2.0G/2M	DDR4 2133/1867 SODIMM	Depends on customer's Mechanical design	HDMI x 2	M.2 2280 M-key Slot	GbE x 2	USB 3.2 Gen 1 Port x 4	USB 3.2 Gen 1 Port x 4	RS-232 x 1	M.2 2230 E-Key Slot	DC12-19V	32°F ~140°F (0°C ~ 60°C)
NITX-SKL1-6100-A10	I3-6100U 2.3G/3M	DDR4 2133/1867 SODIMM		HDMI x 2	M.2 2280 M-key Slot	GbE x 2	USB 3.2 Gen 1 Port x 4	USB 3.2 Gen 1 Port x 4	RS-232 x 1	M.2 2230 E-Key Slot	DC12-19V	32°F ~140°F (0°C ~ 60°C)
NITX-SKL1-6300-A10	I5-6300U 2.4G/3M	DDR4 2133/1867 SODIMM		HDMI x 2	M.2 2280 M-key Slot	GbE x 2	USB 3.2 Gen 1 Port x 4	USB 3.2 Gen 1 Port x 4	RS-232 x 1	M.2 2230 E-Key Slot	DC12-19V	32°F ~140°F (0°C ~ 60°C)
NITX-SKL1-6600-A10	I7-6600U 2.6G/4M	DDR4 2133/1867 SODIMM		HDMI x 2	M.2 2280 M-key Slot	GbE x 2	USB 3.2 Gen 1 Port x 4	USB 3.2 Gen 1 Port x 4	RS-232 x 1	M.2 2230 E-Key Slot	DC12-19V	32°F ~140°F (0°C ~ 60°C)



Specifications

System	
Processor	N4200, (4C @ 2.50GHz CPU [Burst Mode], 750MHz GFX [Turbo], ~6W TDP) N3350, (2C @ 2.40GHz CPU [Burst Mode], 650MHz GFX [Turbo], ~6W TDP)
Chipset	Integrated into SoC
Memory	DDR3L 1333/1600/1867MHz SODIMM x 2, max. 8GB, non-ECC, un-buffered memory
I/O Chipset	NCT6116D
Ethernet	Realtek PCIe Gb LAN 8111G x 2
Audio	Realtek® ALC3236-CG
TPM	Nuvoton NPCT652ABCYX TPM2.0 (default: No)
Expansion Slots	PCIe2.0 [x1] x 1 M.2 M key (22 x 42mm) x 1, for SATA M.2 E Key (22 x 30mm) x 1, for PCIe
BIOS	128Mbit Flash ROM x 1, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	Chassis Fan (Fanless)
Wake On LAN/ PXE	Yes (WOL/PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® HD Graphics
Graphics Multi Display	Three Independent Display
VGA	Up to 1920 x 1200 @60Hz
DVI	—
HDMI	Up to 3840 x 2160 @ 30Hz
Display Port	—
LVDS	Up to 1920 x 1200 @60Hz, dual-channel 18/24 bit (via PS8625) (colay with eDP)
eDP	Up to 4096 x 2160 @60Hz
Backlight Control	Voltage/PWM
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	12V~24V wide-range voltage input back panel DC jack x 1; 4-pin ATX Power connector x 1
Operation Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operation Humidity	0% ~ 90% RH, non-condensing
Certificate	CE & FCC Class A
Form Factor	Mini-ITX: 6.7" x 6.7" (170mm x 170mm)
Weight	1.1 lb (0.5 Kg)
MTBF (Hours)	263,080

Features

- DDR3L 1333/1600/1867 MHz SODIMM x 2, Up to 8 GB
- Three Independent Display: VGA x 1, HDMI x 1, LVDS/eDP x 1
- Realtek 8111G, Gigabit Ethernet x 2
- COM Port x 6 (RS-232 x 5, RS-232/422/485 x 1)
- M.2 Slot(M-key) x 1, M.2 Slot(E-key) x 1, PCIe2.0 [x1] x 1
- 12~24V DC Wide Range Voltage Power Input
- Low Profile



Rear Panel I/O Ports

USB	USB 3.2 Gen 1 (5 Gbps) x 2, USB 2.0 x 2
Display I/O	HDMI x 1, VGA x 1
Audio I/O	Mic-in, Line-out
LAN I/O	RJ-45 x 2
Serial Port	—
PS/2 Port	—
Others	DC power jack x 1

Internal I/O Connectors

Storage	SATA 6.0Gb/s x 2(1 colay with M.2 M-key), M.2 M-key (22 x 42mm) x 1
USB	USB 2.0 headers support additional 3 USB ports (2*5-pin, p=2.00mm) x 2
Display I/O	40-pin LVDS/eDP connector x 1 (default LVDS)
Audio I/O	—
Serial Port	RS-232/422/485 x 1, RS-232 x 5
PS/2 Port	—
Parallel Port	—
DIO	8-bit x 1 (In/Out programmable)
FAN	4-pin Chassis Fan x 1
Power	—
Others	Front panel header x 1, Clear CMOS jumper x 1, AT/ATX mode select jumper (optional) x 1, SATA power connector x 1, M.2 E key (22 x 30mm) for PCIe x 1
OS	
OS Support	Windows® 10 64bit, Ubuntu16.04.02/Kernel4.8.0

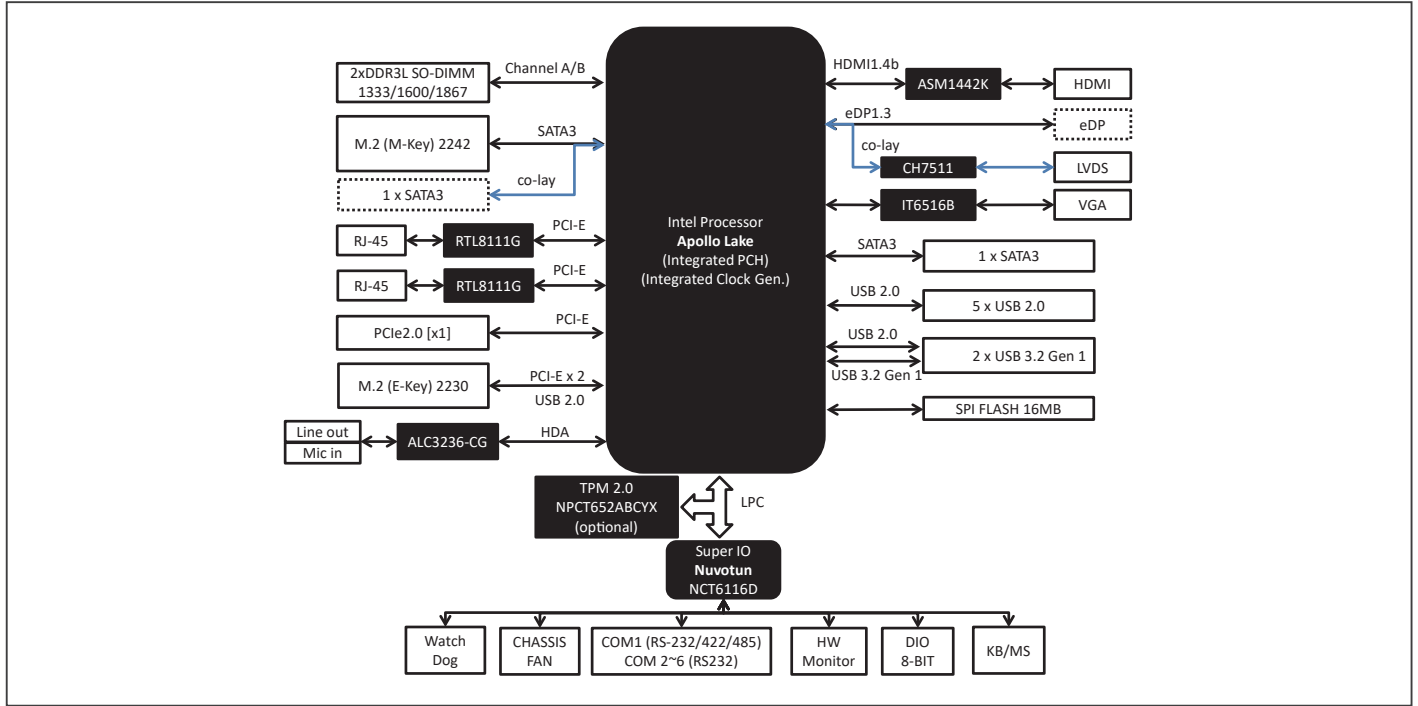
Packing List

- Heatsink
- I/O Shield
- EMB-APL1

Optional Accessories

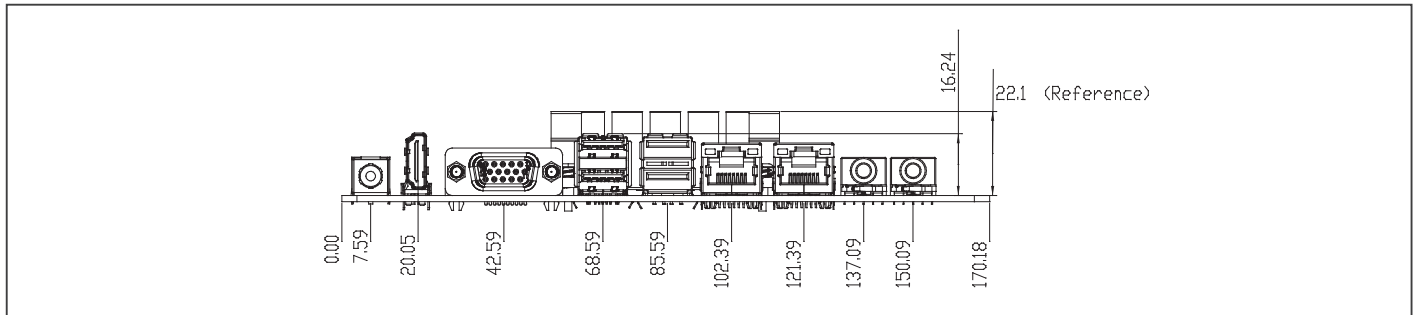
Part Number	Description
1709100201	USB 2.0 Cable (10P, 200MM, p=2.00mm, w/bracket)
1700100491	USB 2.0 Cable (2 x 5P, 490mm, p=2.00mm)
1709050201	USB 2.0 Cable (5P, 220mm, p=2.00mm)
1701100206	COM Cable (200MM, p=2.00mm)
1702150300	SATA Power Cable (4P, 300MM p=2.54mm)
125530060Z	Adapter.60W.180D.W/Lock.FSP060-DHAN3

Block Diagram



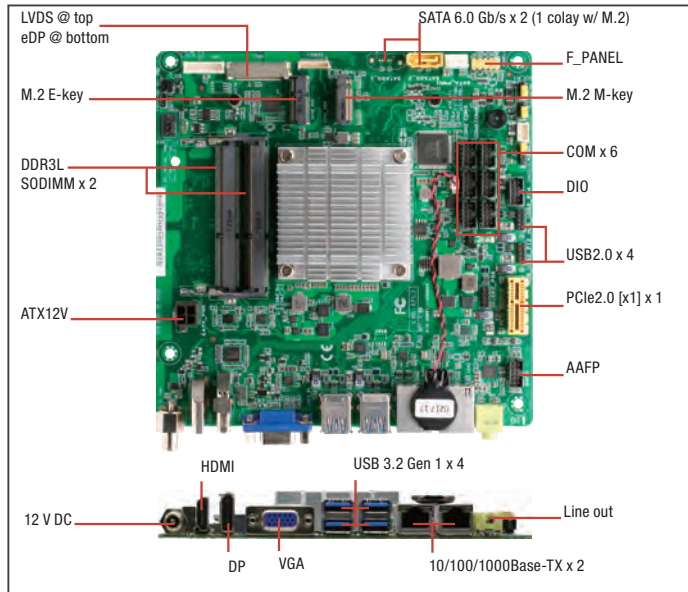
Dimension

Unit: mm



Order Information

Part Number	CPU	RAM	Fan/ Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
EMB-APL1-A10-4200-LV	N4200	SODIMM x 2	Fanless	VGA, HDMI, LVDS	SATA3 x 1, M.2(M-key)	Daul Channel 18/24 bit	GbE x 2	USB2.0 x 5, USB 3.2 Gen 1 x 2	5	1	PCIe2.0[x1] x 1, M.2(M-key) x 1, M.2(E-Key) x 1	12V-24V DC	—	32°F ~140°F (0°C ~ 60°C)
EMB-APL1-A10-3350-LV	N3350	SODIMM x 2	Fanless	VGA, HDMI, LVDS	SATA3 x 1, M.2(M-key)	Daul Channel 18/24 bit	GbE x 2	USB2.0 x 5, USB 3.2 Gen 1 x 2	5	1	PCIe2.0[x1] x 1, M.2(M-key) x 1, M.2(E-Key) x 1	12V-24V DC	—	32°F ~140°F (0°C ~ 60°C)



Specifications

System	
Processor	N4200, (4C @ 2.50GHz CPU [Burst Mode] 750MHz GFX [Turbo], ~6W TDP) N3350, (2C @ 2.40GHz CPU [Burst Mode], 650MHz GFX [Turbo], ~6W TDP)
Chipset	Integrated into SoC
Memory	DDR3L 1333/1600/1867MHz SODIMM x 2, max. 8GB, non-ECC, un-buffered memory
I/O Chipset	NCT6116D
Ethernet	Realtek® PCIe Gb LAN 8111H x 2
Audio	Realtek® ALC3236-CG
TPM	Nuvoton NPCT652ABCYX TPM2.0 (default: No)
Expansion Slots	PCIe2.0 [x1] x 1 M.2 M key (22 x 42mm) x 1, for SATA M.2 E Key (22 x 30mm) x 1, for PCIe
BIOS	128Mbit Flash ROM x 1, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	Chassis Fan (Fanless)
Wake On LAN/ PXE	Yes (WOL / PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® HD Graphics
Graphics Multi Display	Three Independent Display
VGA	Up to 1920 x 1200 @ 60 Hz
DVI	—
HDMI	Up to 3840 x 2160 @30 Hz(HDMI 1.4b)
Display Port	Up to 4096 x 2160 @ 24 Hz / 3840 x 2160 @ 60 Hz (Colay with VGA)
LVDS	Up to 1920 x 1200 @60Hz, dual-channel 18/24 bit (via PS8625) (colay with eDP)
eDP	Up to 4096 x 2160 @60Hz
Backlight Control	Voltage/PWM
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	12V DC jack (screw type) 4-pin internal power connector
Operation Temperature	32°F ~140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~185°F (-40°C ~85°C)
Operation Humidity	0%~90%RH, non-condensing
Certificate	CE & FCC
Form Factor	Mini-ITX: 6.7" x 6.7" (170mm x 170mm)
Weight	1.1 lb (0.5 Kg)
MTBF (Hours)	230,820

Features

- DDR3L 1333/1600/1867 MHz SODIMM x 2, Up to 8 GB
- Three Independent Display: VGA x 1, HDMI/DP x 1, LVDS/eDP x 1
- Realtek 8111H, Gigabit Ethernet x 2
- COM Port x 6 (RS-232 x 5, RS-232/422/485 x 1)
- M.2 Slot (M-key) x 1, M.2 Slot(E-key) x 1, PCIe2.0 [x1] x 1
- 12V DC Power Input
- Low Profile



Rear Panel I/O Ports

USB	USB 3.2 Gen 1 (5 Gbps) x 4
Display I/O	VGA/DP x 1, HDMI x 1
Audio I/O	Line-out x 1
LAN I/O	LAN (RJ-45) port x 2
Serial Port	—
PS/2 Port	—
Others	DC power jack x 1

Internal I/O Connectors

Storage	SATA 6.0Gb/s x 2(1 colay with M.2 M-key), M.2 M-key (22 x 42mm) x 1
USB	USB 2.0 headers support additional 6 USB ports (2*5-pin, p=2.00mm) x 3
Display I/O	40-pin LVDS/eDP connector x 1(default LVDS)
Audio I/O	AAFP
Serial Port	RS-232/422/485 x 1, RS-232 x 5
PS/2 Port	—
Parallel Port	—
DIO	8-bit x 1 (In/Out programmable)
FAN	4-pin Chassis Fan x 1
Power	—
Others	Front panel header x 1, Clear CMOS jumper x 1, AT/ATX mode select jumper (optional) x 1, SATA power connector x 1,d M.2 E key (22 x 30mm) for PCIe x 1
OS	
OS Support	Windows® 10 64bit Ubuntu16.04.02/Kernel4.8.0

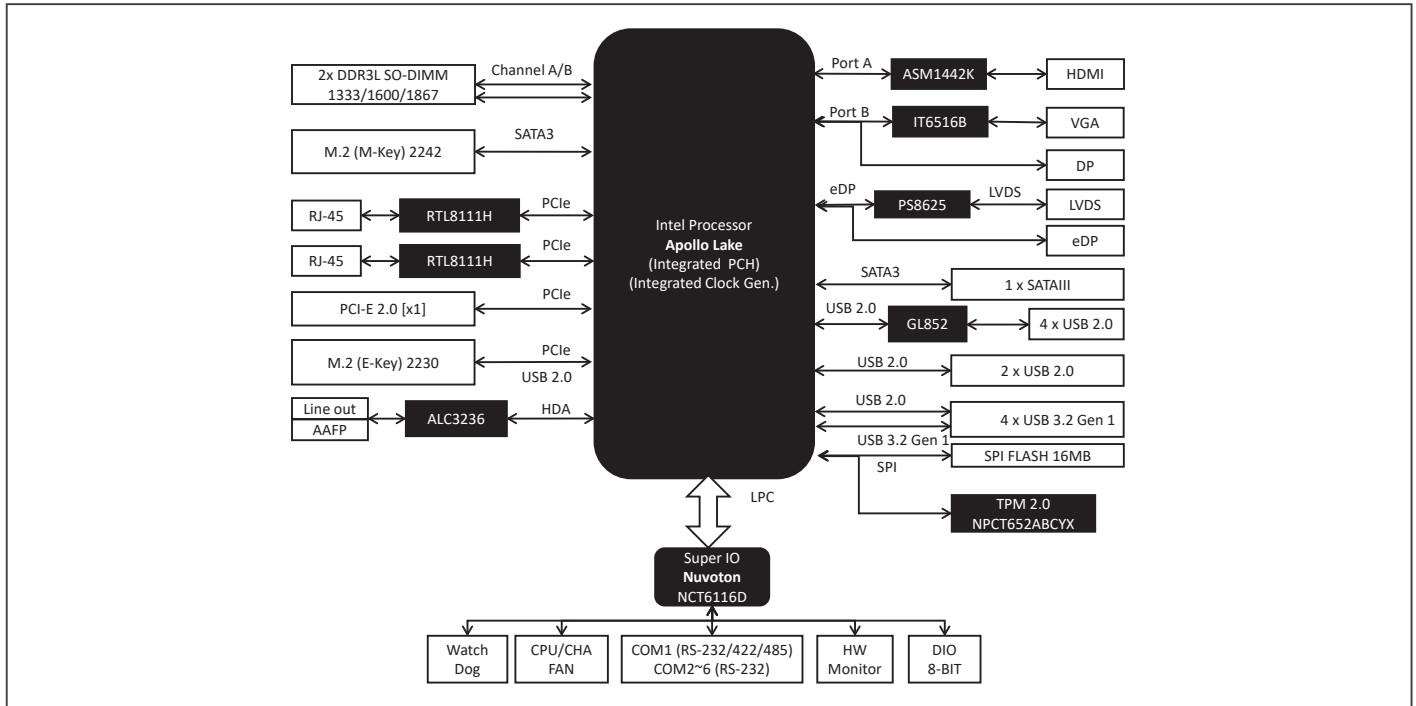
Packing List

- Heatsink
- I/O Shield
- EMB-APL3

Optional Accessories

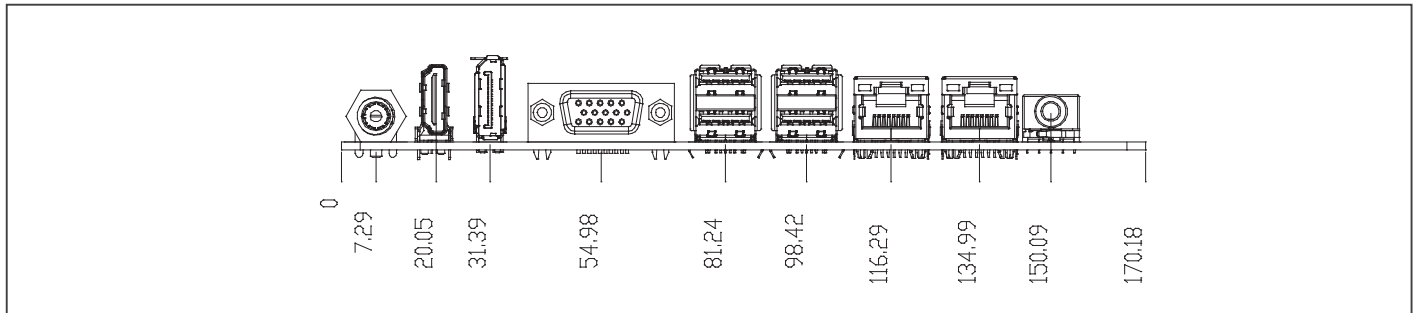
Part Number	Description
1709100201	USB 2.0 Cable (10P, 200MM, p=2.00mm, w/bracket)
1700100491	USB 2.0 Cable (2 x 5P, 490mm, p=2.00mm)
1709050201	USB 2.0 Cable (5P, 220mm, p=2.00mm)
1701100206	COM Cable (200MM, p=2.00mm)
1702150300	SATA Power Cable (4P, 300MM p=2.54mm)
125530060Z	Adapter.60W.180D.W/Lock.FSP060-DHAN3

Block Diagram



Dimension

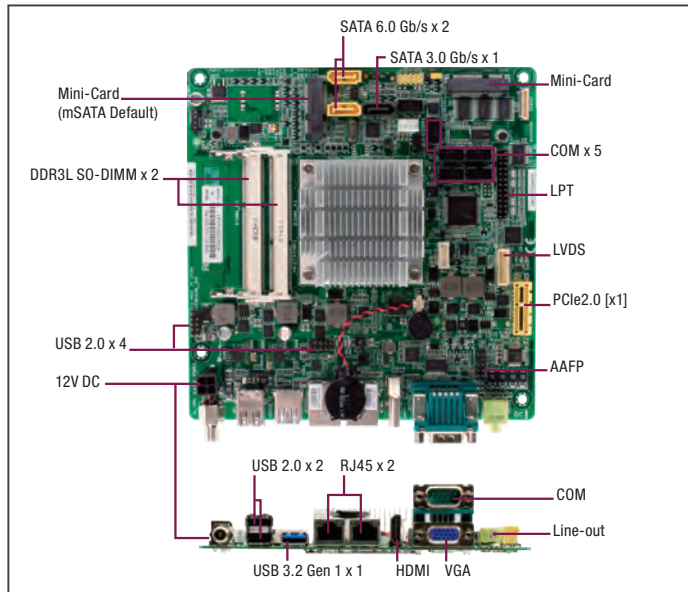
Unit: mm



Order Information

Part Number	CPU	RAM	Fan/ Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
EMB-APL3-A10-3350-LV	N3350	SODIMM x 2	Fanless	VGA, HDMI, LVDS	Daul Channel 18/24 bit	SATA3 x 1, M.2(M-key)	GbE x 2	USB2.0 x 5, USB 3.2 Gen 1 x 2	5	1	PCIe2.0[x1] x 1, M.2(M-key) x 1, M.2(E-Key) x 1	12V DC	—	32°F ~140°F (0°C ~ 60°C)
EMB-APL3-A10-4200-LV	N4200	SODIMM x 2	Fanless	VGA, HDMI, LVDS	Daul Channel 18/24 bit	SATA3 x 1, M.2(M-key)	GbE x 2	USB2.0 x 5, USB 3.2 Gen 1 x 2	5	1	PCIe2.0[x1] x 1, M.2(M-key) x 1, M.2(E-Key) x 1	12V DC	—	32°F ~140°F (0°C ~ 60°C)

Mini-ITX Embedded Motherboard with Intel® Celeron® J1900/N2807/ Atom™ E3845/E3825 Processor, SATA3 x 2, SATA2 x 2, USB x 8



Specifications

System	
Processor	Intel® Celeron® J1900 Processor (4C @ 2.00 GHz CPU, 688/854 MHz GFX, 10W TDP), Intel® Celeron® N2807 Processor (2C @ 1.58 GHz CPU, 313/750 MHz GFX, 4.3W TDP), Intel® Atom™ E3845 Processor (4C @ 1.91 GHz CPU, 542/792 MHz GFX, 10W TDP), Intel® Atom™ E3825 Processor (2C @ 1.33 GHz CPU, 533 MHz GFX, 6W TDP)
Chipset	—
Memory	DDR3L 1333 MHz SODIMM x 2 up to 8 GB (for J1900 / E3845), DDR3L 1333 MHz SODIMM x 1 up to 4 GB (for N2807), DDR3L 1067 MHz SODIMM x 1 up to 4 GB (for E3825), Non-ECC, un-buffered memory, Dual-channel memory architecture flat type
I/O Chipset	Fintech 81866D
Ethernet	Realtek® PCIe Gb LAN 8111G x 2
Audio	Realtek® ALC887
TPM	Infineon SLB9635 TT 1.2 (default : No)
Expansion Slots	Full-size Mini-Card (mSATA default) (PCIe+USB optional) + SIM Card (default: No) x 1, Half-size Mini-Card (PCIe+USB) x 1, PCIe [x1] x 1
BIOS	64 M bit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	Chassis Fan (fanless)
Wake On LAN/ PXE	Yes (WOL/PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® HD Graphics
Graphics Multi Display	VGA+LVDS, VGA+HDMI, LVDS+HDMI
VGA	Up to 1920 x 1200 @60 Hz
DVI	—
HDMI	Up to 1920 x 1200 @60 Hz
Display Port	—
LVDS	Up to 1920 x 1080 @60Hz, dual-channel 18/24-bit (via CH7511)
eDP	—
Backlight Control	Voltage/PWM
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	12VDC
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% R/H, non-condensing
Certificate	CE & FCC
Form Factor	Mini-ITX 6.7" x 6.7" (170mm x 170mm)
Weight	1.1 lb (0.5 Kg)
MTBF (Hours)	111,131

Features

- Intel® Celeron® J1900/N2807/ Atom™ E3845/E3825 Processor
- Dual Displays: VGA x 1, HDMI x 1, LVDS x 1
- Realtek 8111G, Gigabit Ethernet x 2
- SATA 6.0 Gb/s x 2, SATA 3.0 Gb/s x 2 (1 Colay with mSATA)
- USB 3.2 Gen 1 x 1, USB 2.0 x 7
- Full-size Mini-Card with mSATA x 1, Half-size Mini-Card x 1, PCI-E[x1] x 1
- 12V DC Power Input



Rear Panel I/O Ports

USB	USB 3.2 Gen 1 (5 Gbps)/2.0 x 1, USB 2.0 x 2
Display I/O	VGA x 1, HDMI x 1
Audio I/O	Line-out x 1
LAN I/O	LAN (RJ-45) port x 2
Serial Port	COM (RS-232) (optional) x 1
PS/2 Port	—
Others	DC port (12V) Screw type x 1

Internal I/O Connectors

Storage	SATA3 (6.0Gb/s) x 2, SATA2 (3.0Gb/s) x 2 (1 colay with mSATA), SATA power connector x 1, Full Size Mini-Card slot (mSATA) x 1
USB	USB 2.0 (2 x 5-pin, 2.54mm) x 2 ports support additional 4 USB, USB 2.0 (1x 5-pin, 2.0mm) x 1 port supports additional 1 USB
Display I/O	LVDS connector x 1, LVDS 3V /5V jumper x 1, LCD DC / PWM mode jumper x 1, LCD backlight connector (inverter) x 1, LCD backlight 12V /5V jumper x 1
Audio I/O	AAFP x 1
Serial Port	Boxer header for COM (RS-232) x 4, Boxer header for COM (RS-232/422/485) x 1
PS/2 Port	PS/2 Keyboard Mouse 6 PIN Connector x 1
Parallel Port	SPP/EPP Mode
DIO	DIO (4in/4out) x 1
FAN	Chassis Fan connector x 1
Power	12V AUX Power Connector x 1, AT/ATX mode select jumper (default : No) x 1
Others	Half-size Mini-Card (PCIe + USB) x 1, PCIe [x1] x 1, SIM Card Socket (default : No) x 1, LPT PIN header x 1, Front Panel connector x 1, CMOS jumper x 1
OS	
OS Support	Windows® 10 64-bit, Windows® 7 32/64-bit, Windows® 8.1 32/64-bit, Linux Fedora

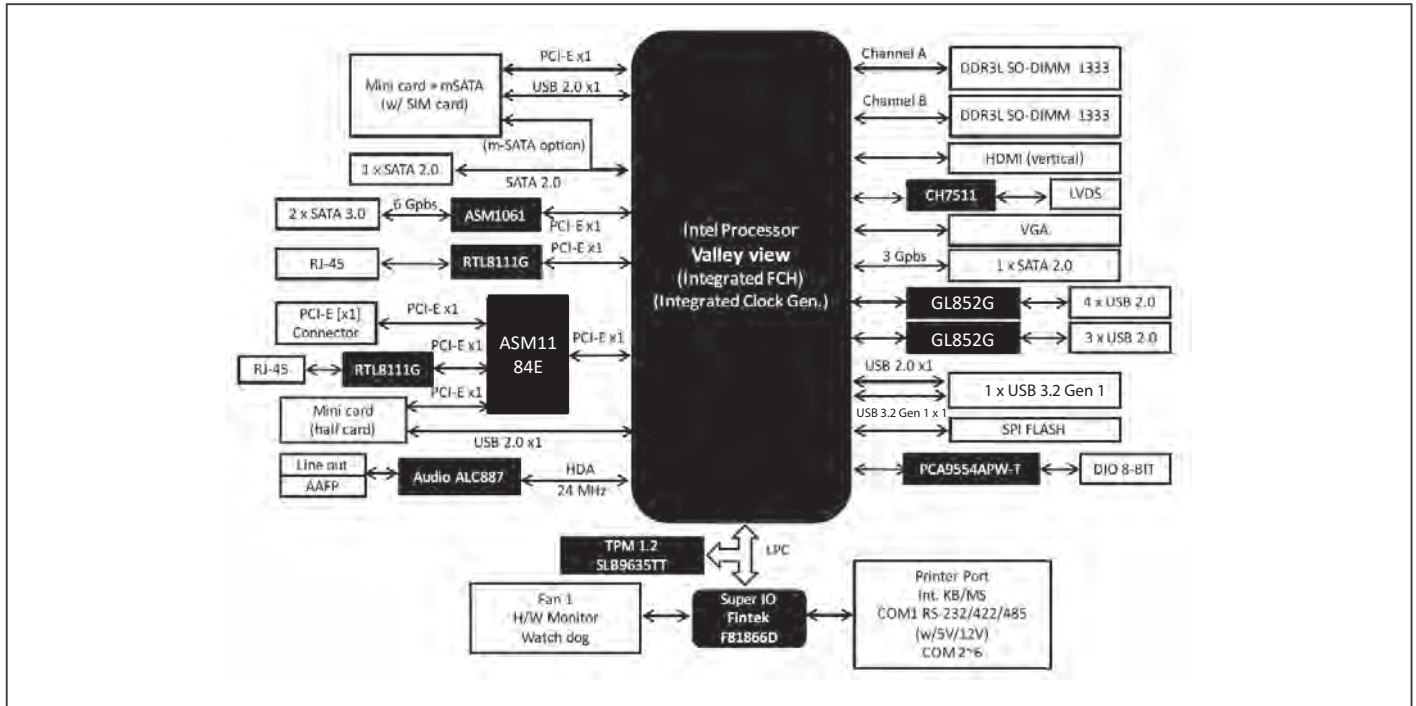
Packing List

- SATA Cable
- SATA Power Cable
- I/O Shield
- Heatsink
- EMB-BT1

Optional Accessories

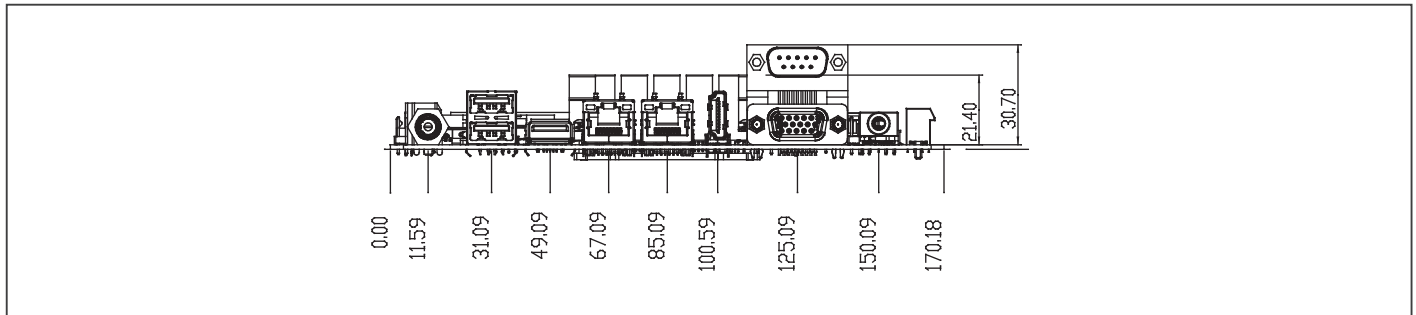
Part Number	Description
1709100330	USB 2.0 Cable (9P, 330MM, p=2.54mm, w/ bracket)
1709050201	USB 2.0 Cable (5P, 220MM, p=2.00mm)
1701260305	LPT Cable (25P, 270MM)
1701100206	COM Port Cable
1700060152	PS/2 Cable (6P, 150mm, p=2.00mm)
170910020K	USB 2.0 Cable (9P, 200MM, p=2.54mm, w/o bracket)
1702150300	SATA Power Cable 4P, 2.54mm
125590084A	Adapter 12V, 84W/N3

Block Diagram



Dimension

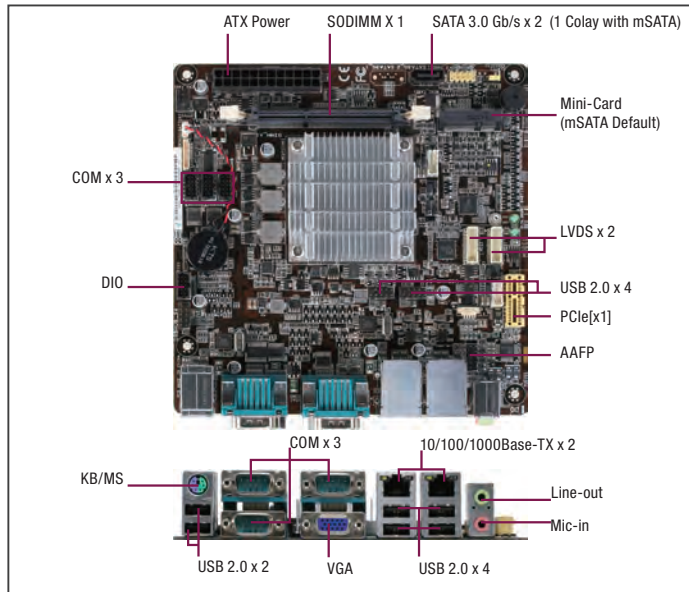
Unit: mm



Ordering Information

Part Number	CPU	RAM	Fan/Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
EMB-BT1-A30-1900-MS	J1900	DDR3L-1333 x 2	Fanless	VGA, LVDS, HDMI	SATA2 x 1, SATA3 x 2, Full size Mini-Card x 1 (mSATA)	Dual Channel 18/24-bit	GbE x 2	USB 3.2 Gen 1 x 1, USB 2.0 x 7	5	1	PCIe [x1] x 1, Half-size Mini-Card x 1 (PCIe [x1] x 1 & USB)	12V DC	—	32°F ~ 140°F (0°C ~ 60°C)
EMB-BT1-A30-3825-MS	E3825	DDR3L-1066 x 1	Fanless	VGA, LVDS, HDMI	SATA2 x 1, SATA3 x 2, Full size Mini-Card x 1 (mSATA)	Dual Channel 18/24-bit	GbE x 2	USB 3.2 Gen 1 x 1, USB 2.0 x 7	5	1	PCIe [x1] x 1, half size Mini-Card x 1 (PCIe [x1] x 1 & USB)	12V DC	—	32°F ~ 140°F (0°C ~ 60°C)
EMB-BT1-A30-3845-MS	E3845	DDR3L-1333 x 2	Fanless	VGA, LVDS, HDMI	SATA2 x 1, SATA3 x 2, Full size Mini-Card x 1 (mSATA)	Dual Channel 18/24-bit	GbE x 2	USB 3.2 Gen 1 x 1, USB 2.0 x 7	5	1	PCIe [x1] x 1, half size Mini-Card x 1 (PCIe [x1] x 1 & USB)	12V DC	—	32°F ~ 140°F (0°C ~ 60°C)

Mini-ITX Embedded Motherboard with Intel® Celeron® J1900 Processor, SATA2 x 2, USB 2.0 x 10, Dual LVDS



Specifications

System	
Processor	Intel® Celeron® J1900 Processor (4C @ 2.00 GHz CPU, 688/854 MHz GFX, 10W TDP)
Chipset	—
Memory	DDR3L 1333 MHz SODIMM x 1 up to 8 GB, Non-ECC, un-buffered memory
I/O Chipset	Fintech 81866D
Ethernet	Realtek PCIe Gb LAN 8111G x 2
Audio	Realtek® ALC887 (colay ALC892/886)
TPM	Infineon SLB9635 TT 1.2 (default : No)
Expansion Slots	Full-size Mini-Card (mSATA default PCIe+USB optional) x 1, PCIe [x1] x 1
BIOS	64 M bit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	Chassis Fan (fanless)
Wake On LAN/ PXE	Yes (WOL/PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® HD Graphics
Graphics Multi Display	VGA+LVDS, Dual LVDS
VGA	Up to 1920 x 1200 @60 Hz
DVI	—
HDMI	—
Display Port	—
LVDS	Dual LVDS, Up to 1920 x 1080 @60Hz, dual-channel 18/24-bit (via CH7511)
eDP	—
Backlight Control	Voltage/PWM
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	ATX
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~185°F (-40°C ~85°C)
Operating Humidity	0% ~ 90% R/H, non-condensing
Certificate	CE & FCC
Form Factor	Mini-ITX: 6.7" x 6.7" (170mm x 170mm)
Weight	1.1 lb (0.5 Kg)
MTBF (Hours)	290,990
Rear Panel I/O Ports	
USB	USB 2.0 x 6
Display I/O	VGA x 1
Audio I/O	Mic-in x 1, Line-out x 1
LAN I/O	LAN (RJ-45) port x 2
Serial Port	COM (RS-232/422/485) x 1, COM (RS-232) x 2

Features

- Intel® Celeron® J1900 Processor
- Realtek 8111G, Gigabit Ethernet x 2
- Dual Displays: VGA + LVDS, Dual LVDS
- SATA 3.0 Gb/s x 2
- USB 2.0 x 10
- Full-size Mini-Card with mSATA x 1, PCI-E [x1] x 1
- ATX Power



PS/2 Port	PS/2 Keyboard Mouse combo x 1
Others	—
Internal I/O Connectors	
Storage	SATA2 (3.0Gb/s) x 2 (1 colay with mSATA), Full Size Mini-Card slot (mSATA) x 1
USB	USB 2.0 (2 x 5-pin, 2.54mm) x 2 ports support additional 4 USB
Display I/O	LVDS connector x 2, LVDS 3V/5V jumper x 2, LCD DC / PWM mode jumper x 2, LCD backlight connector (inverter) x 2, LCD backlight 12V/5V jumper x 2, LCD push button for backlight control (2PIN) x 2
Audio I/O	AAFP x 1, Speaker x 1
Serial Port	Boxer header for COM (RS-232) x 3
PS/2 Port	—
Parallel Port	—
DIO	DIO (4in/4out) x 1
FAN	Chassis Fan connector x 1
Power	24PIN ATX power connector x 1, AT/ATX mode select jumper (default : No) x 1
Others	Front Panel connector x 1, CMOS jumper x 1
OS	
OS Support	Windows® 10 64-bit, Windows® 7 32/64-bit, Windows® 8.1 32/64-bit, Linux Fedora

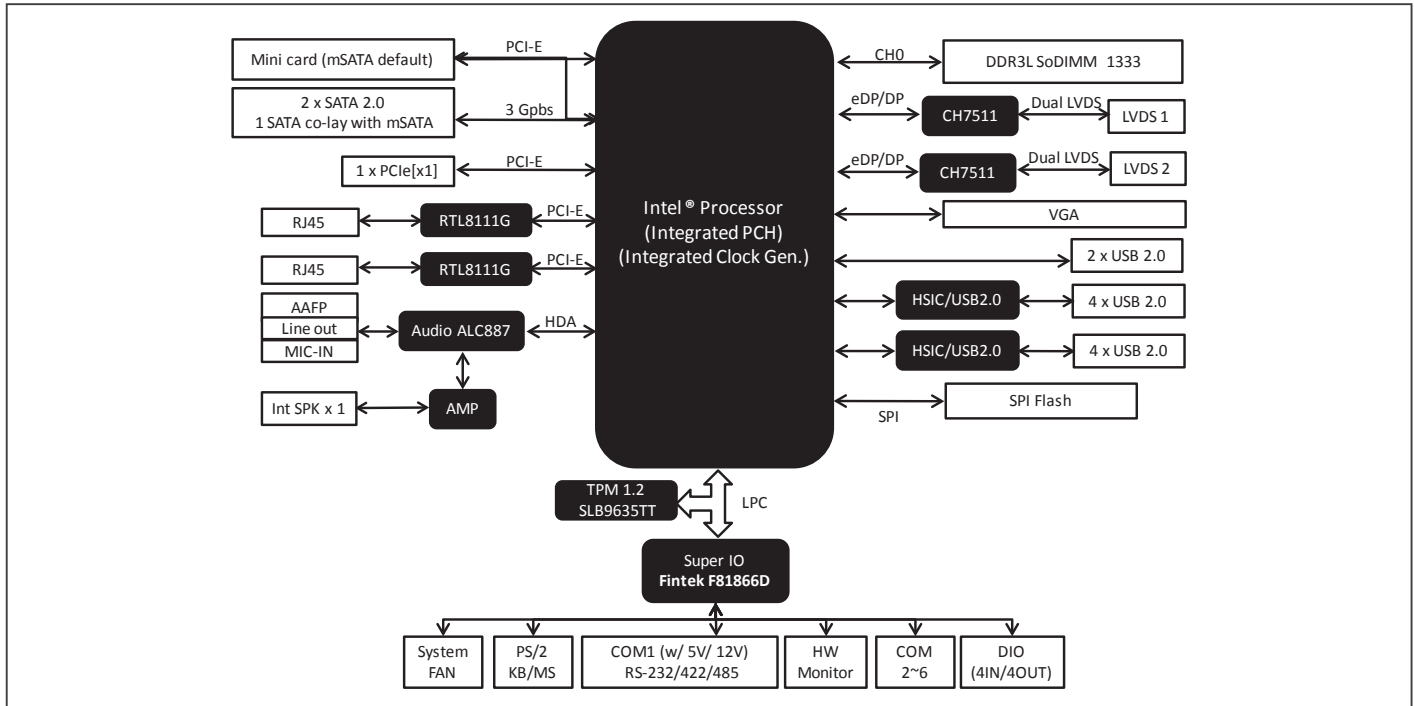
Packing List

- SATA 3G Cable
- Heatsink
- I/O Shield
- EMB-BT2

Optional Accessories

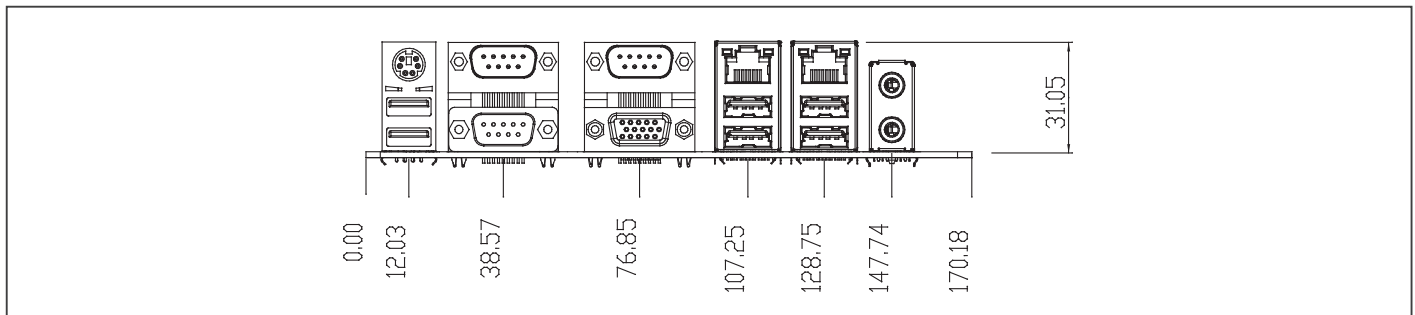
Part Number	Description
1709100330	USB 2.0 Cable (9P, 330MM, p=2.54mm, w/ bracket)
1701100206	COM Port Cable
170910020K	USB 2.0 Cable (9P, 200MM, p=2.54mm, w/o bracket)

Block Diagram



Dimension

Unit: mm

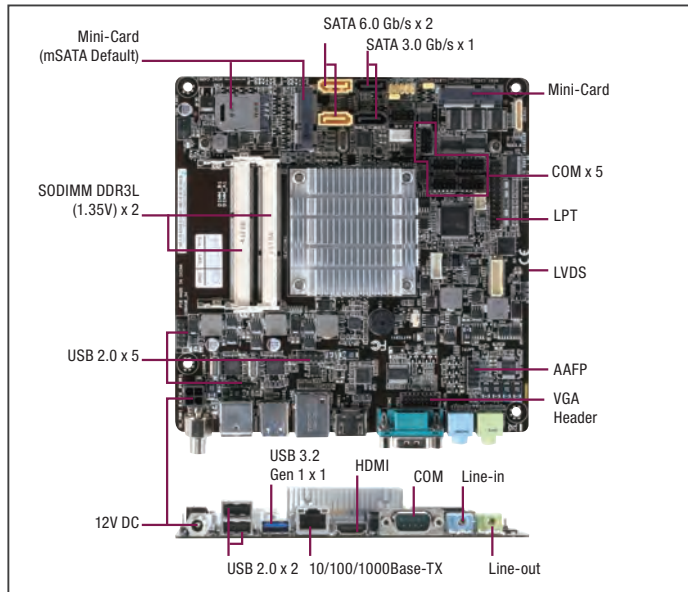


Order Information

Part Number	CPU	RAM	Fan/Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
EMB-BT2-A11-1900-MS	J1900	SODIMM x 1	Fanless	VGA, LVDS x 2	SATA2 x 1, Full-Size Mini-Card x 1 (mSATA)	Dual Channel 18/24-bit x 2	GbE x 2	USB 2.0 x 10	5	1	Full-size Mini-Card (mSATA default, PCIe x 1 optional) x 1, PCIe[x1] x 1	ATX	—	32°F ~ 140°F (0°C ~ 60°C)

EMB-BT4

Thin Mini-ITX Embedded Motherboard with Intel® Celeron® J1900/N2807 Processor, SATA 6.0 Gb/s x 2, SATA 3.0 Gb/s x 2, USB x 8



Specifications

System	
Processor	Intel® Celeron® J1900 Processor (4C @ 2.00 GHz CPU, 688/854 MHz GFX, 10W TDP), Intel® Celeron® N2807 Processor (2C @ 1.58 GHz CPU, 313/750 MHz GFX, 4.3W TDP)
Chipset	—
Memory	DDR3L 1333 MHz SODIMM x 2 up to 8 GB (for J1900), DDR3L 1333 MHz SODIMM x 1 up to 4 GB (for N2807), Non-ECC, un-buffered memory, Dual-channel memory architecture flat type
I/O Chipset	Fintech 81866D
Ethernet	Realtek PCIe Gb LAN 8111G x 1
Audio	Realtek® ALC887 (colay ALC892/886)
TPM	Infineon SLB9635 TT 1.2 (default : No)
Expansion Slots	Full-size Mini-Card (mSATA default) (PCIe+USB optional) + SIM Card (default: No) x 1, Half-size Mini-Card (PCIe+USB) x 1
BIOS	64 M bit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	Chassis Fan (fanless)
Wake On LAN/PXE	Yes (WOL/PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® HD Graphics
Graphics Multi Display	VGA+LVDS, VGA+HDMI, LVDS+HDMI
VGA	Up to 1920 x 1200 @60 Hz
DVI	—
HDMI	Up to 1920 x 1200 @60 Hz
Display Port	—
LVDS	Up to 1920 x 1080 @60Hz, dual-channel 18/24-bit (via CH7511)
eDP	—
Backlight Control	Voltage/PWM
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	12VDC
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% R/H, non-condensing
Certificate	CE & FCC
Form Factor	Mini-ITX: 6.7" x 6.7" (170mm x 170mm)
Weight	1.1 lb (0.5 Kg)
MTBF (Hours)	295,750

Features

- Intel® Celeron® J1900/N2807 Processor
- DDR3L 1333 MHz SODIMM x 2, Up to 8 GB, (J1900)
- DDR3L 1333 MHz SODIMM x 1, Up to 4 GB, (N2807)
- Dual Displays: LVDS x 1, VGA x 1, HDMI x 1,
- SATA 6.0 Gb/s x 2, SATA 3.0 Gb/s x 2
- USB 3.2 Gen 1 x 1, USB 2.0 x 7
- Full-size Mini-Card + SIM Card (mSATA Default) x 1, Half-size Mini-Card x 1
- 12V DC Power Input
- Low Profile



Rear Panel I/O Ports	
USB	USB 3.2 Gen 1/2.0 x 1, USB 2.0 x 2
Display I/O	HDMI x 1
Audio I/O	Line in x 1, Line-out x 1
LAN I/O	LAN (RJ-45) port x 1
Serial Port	COM (RS-232) x 1
PS/2 Port	—
Others	DC port (12V) Screw type x 1
Internal I/O Connectors	
Storage	SATA3 (6.0Gb/s) x 2, SATA2 (3.0Gb/s) x 2 (1 colay with mSATA), SATA power connector x 1, Full Size Mini-Card slot (mSATA) x 1
USB	USB 2.0 (2 x 5-pin, 2.54mm) x 2 ports support additional 4 USB, USB 2.0 (1x 5-pin, 2.0mm) x 1 port supports additional 1 USB
Display I/O	VGA pin header x 1, LVDS connector x 1, LVDS 3V /5V jumper x 1, LCD DC / PWM mode jumper x 1, LCD backlight connector (inverter) x 1, LCD backlight 12V /5V jumper x 1
Audio I/O	AAFP x 1
Serial Port	Boxer header for COM (RS-232) x 4, Boxer header for COM (RS-232/422/485) x 1
PS/2 Port	PS/2 Keyboard Mouse 6 PIN Connector x 1
Parallel Port	SPP/EPP Mode
DIO	DIO (4in/4out) x 1
FAN	Chassis Fan connector x 1
Power	12V AUX Power Connector x 1, AT/ATX mode select jumper (default : No) x 1
Others	Half-size Mini-Card (PCIe + USB) x 1, SIM Card Socket(default : No) x 1, LPT PIN header x 1, Front Panel connector x 1, CMOS jumper x 1
OS	
OS Support	Windows® 10 64-bit, Windows® 7 32/64-bit, Windows® 8.1 32/64-bit, Linux Fedora

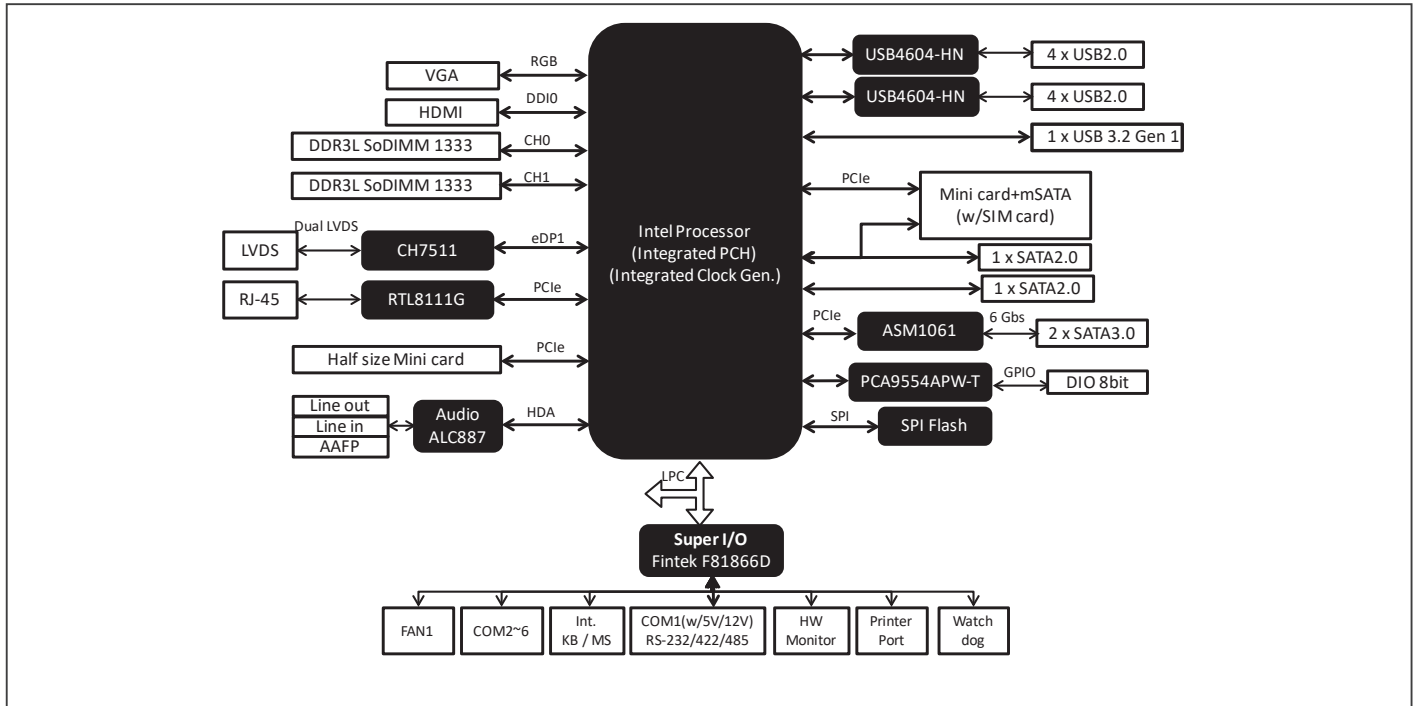
Packing List

- SATA Cable
- SATA Power Cable
- I/O Shield
- Heatsink
- EMB-BT4

Optional Accessories

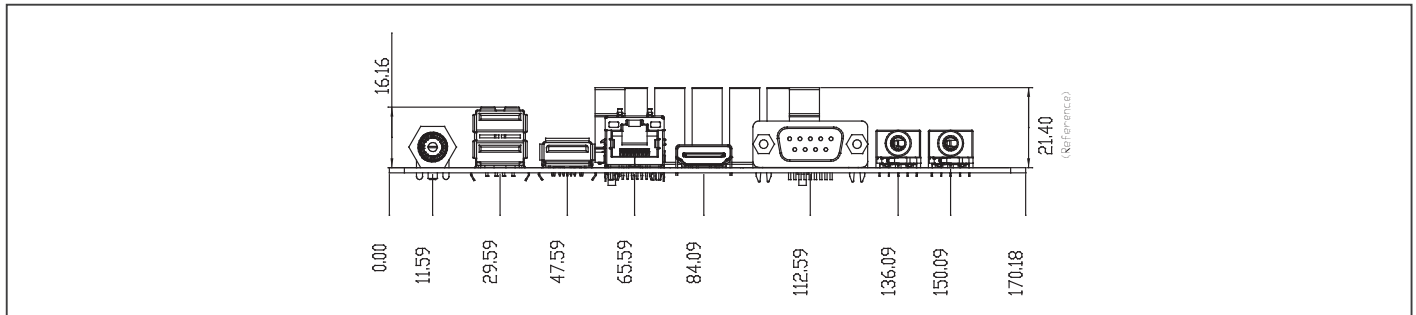
Part Number	Description
1709100330	USB 2.0 Cable (9P, 330MM, p=2.54mm, w/ bracket)
1709050201	USB 2.0 Cable (5P, 220MM, p=2.00mm)
1701260305	LPT Cable (25P, 270MM)
125590084A	Adapter 12V, 84W/N3
1701100206	COM Port Cable
1700060152	PS/2 cable (6P, 150mm, p=2.00mm)
170910020K	USB 2.0 Cable (9P, 200MM, p=2.54mm, w/o bracket)
1702150300	SATA Power Cable 4P, 2.54mm
125530060A	Lockable Adapter 60W, 12V, 5A, 60W
1701160201	VGA Cable

Block Diagram



Dimension

Unit: mm



Order Information

Part Number	CPU	RAM	Fan/Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
EMB-BT4-A11-1900-MS	J1900	SODIMM x 2	Fanless	VGA, HDMI, LVDS	SATA2 x 1, SATA3 x 2, Full-Size Mini-Card (mSATA) x 1	Dual Channel 18/24-bit x 2	GbE x 1	USB 3.2 Gen 1 x 1, USB 2.0 x 7	5	1	Half-size Mini-Card (PCIe + USB) x 1 w/o SIM slot	12V DC	—	32°F ~ 140°F (0°C ~ 60°C)
EMB-BT4-A11-2807-MS	N2807	SODIMM x 1	Fanless	VGA, HDMI, LVDS	SATA2 x 1, SATA3 x 2, Full-Size Mini-Card (mSATA) x 1	Dual Channel 18/24-bit x 2	GbE x 1	USB 3.2 Gen 1 x 1, USB 2.0 x 7	5	1	Half-size Mini-Card (PCIe + USB) x 1 w/o SIM slot	12V DC	—	32°F ~ 140°F (0°C ~ 60°C)

MIX-EHLD1

PRELIMINARY

Mini-ITX with Intel® Atom x6000E/ Pentium/ Celeron N and J series processors , Max. 12W TDPs, Flexible rear IO, 12V DC input

Launching in Q2

Features

- Intel® Elkhart Lake Processor
- DDR4 SODIMM x 2, Max. 32GB
- M.2 Slot (M key; 2280) x 1, mini card x 1
- USB 3.2 Gen1 Ports x 4, USB 2.0 Ports x 4
- RTL8111H x 2
- HDMI2.0 x 1, VGA x 1, LVDS/eDP x 1
- Flexible rear IO (Full IO or Low profile)
- 12V DC input



Specifications

System	
Processor	Intel® Elkhart LAKE Processor Max. 12W TDPs
Chipset	—
Memory	SO-DIMM, max. 32GB , DDR4 3200MTS x 2
I/O Chipset	NCT6126D
Ethernet	RTL8111H x 2
Audio	Realtek® ALC887
TPM	Nuvoton NPCT750 TPM2.0 onboard
Expansion Slots	M.2 M-key (2280;PCIex2) x 1 mini-PCIe(Full/Half) (1 x SIM socket) x 1
BIOS	128Mbit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/Chassis Fan
Wake On LAN/ PXE	Yes (WOL/PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® UHD Graphics
Graphics Multi Display	3 Independent Display(1xVGA+1x HDMI + 1x LVDS/eDP)
VGA	Up to 1920 x 1200 @60 Hz
DVI	—
HDMI	Up to 4096 x 2160 @ 60Hz
Display Port	—
LVDS	Up to 1920 x 1080 @60Hz, Daul Channel 18/24 bit (via CH7511) co-layout eDP (default LVDS)
eDP	Up to 4096 x 2160 @60Hz co-layout LVDS)
Backlight Control	Voltage / PWM, use HW control
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	12(+/-5%) DC
Operating Temperature	32°F ~140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~185°F (-40°C ~85°C)
Operating Humidity	0%~90%RH, non-condensing
Certificate	CE & FCC Class A
Form Factor	Mini-ITX: 6.7" x 6.7" (170mm x 170mm)
Weight	1.1 lb (0.5 Kg)
MTBF (Hours):	—
Rear Panel I/O Ports	
USB	USB 3.2(Gen2) ports x 2 USB 2.0 ports x 4 (upper 2 ports by BOM Optional)
Display I/O	HDMI x 1, VGA x 1
Audio I/O	Mic-in x 1, Line out x 1

LAN I/O	1GbE x 2
Serial Port	RS232 by BOM Optional
PS/2 Port	—
Others	DC Jack x 1
Internal I/O Connectors	
Storage	SATA 6Gb/s (co-layout mini-card) x 1 SATA power connector (5V / 12V @1A) x 1
USB	USB 3.2(Gen1) ports x 2
Display I/O	40-pin LVDS connector x 1 or 40-pin eDP connector x 1
Audio I/O	AAFP follow ASUS pin out x 1
Serial Port	Boxer header x 4 for COM (COM1: RS-232/422/485 supports 5V/12V/ R;COM2~4: RS-232)
PS/2 Port	—
Parallel Port	—
DIO	Digital I/O box header x 1
FAN	4-pin Chassis Fan connector x 1
Power	—
Others	Front Panel connector x 1, Chassis Intrusion x 1, Buzzer onboard x 1, Clear CMOS jumper x 1, AT/ATX mode select jumper x 1; SIM socket x 1
OS	
OS Support	Windows® 10 64-bit, Linux Ubuntu 64 bit (20.04.0/Kernel 5.4)

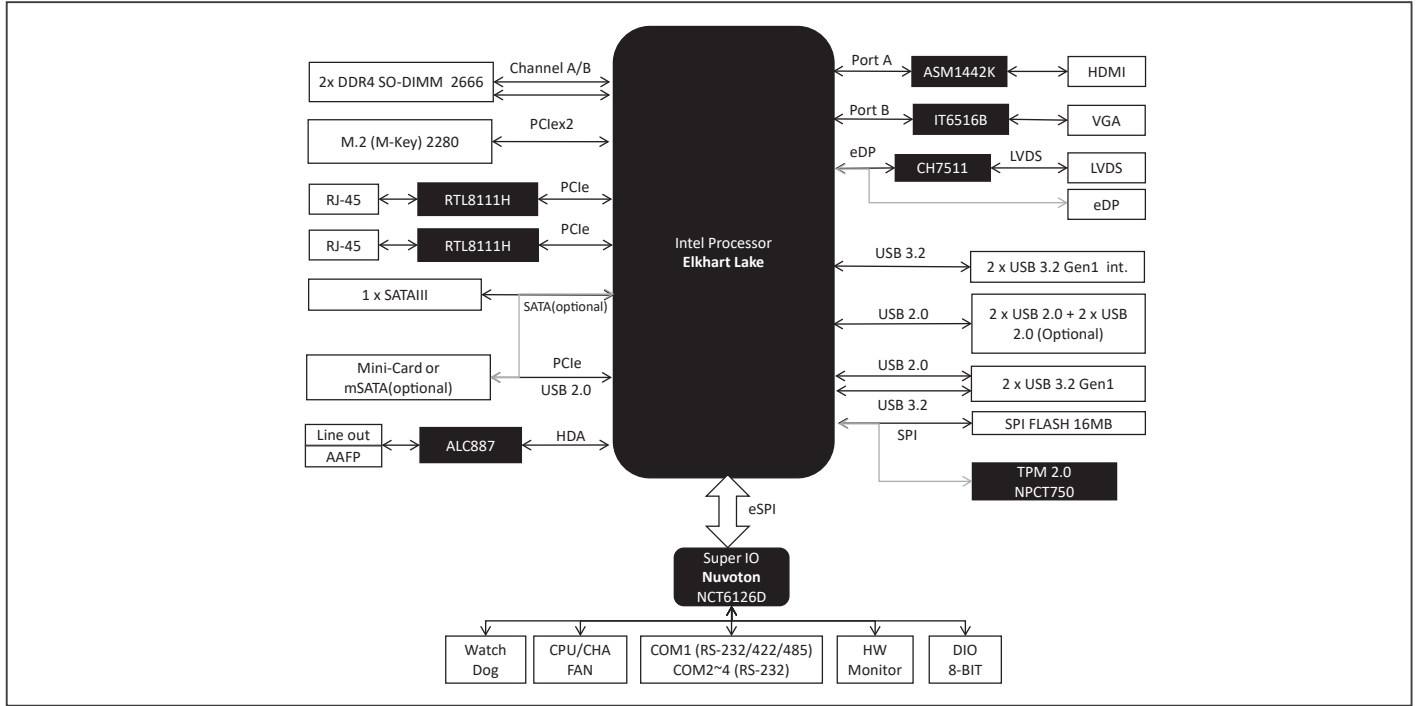
Packing List

- SATA Cable
- I/O Shield
- MIX-EHLD1

Optional Accessories

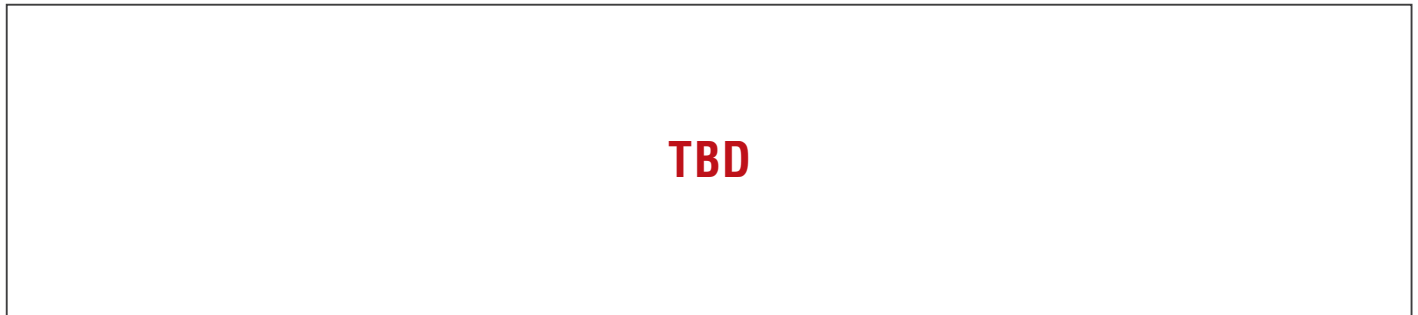
- TBD

Block Diagram



Dimension

Unit: mm

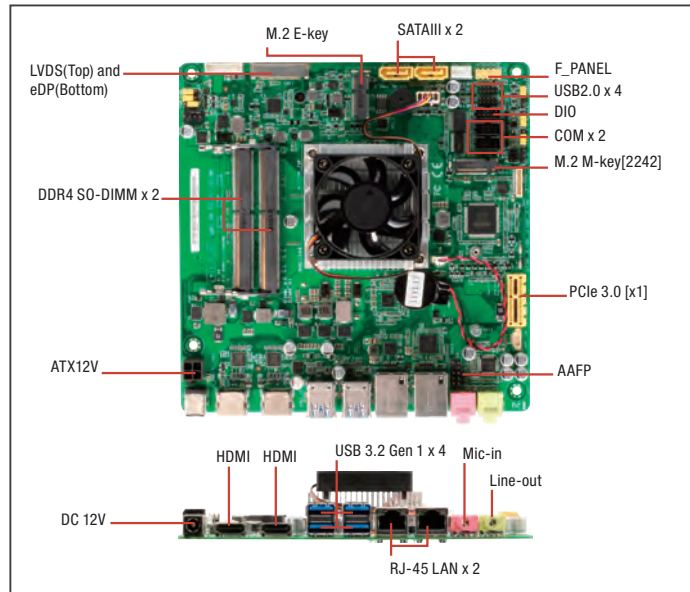


Ordering Information

- TBD

MIX-KLUD1

Mini-ITX, 14nm, FCBGA1356 7th Gen Intel® Core™ processor family, 15~25W TDP



Specifications

System	
Processor	Intel® 7th gen. 14nm KabyLake U, FCBGA1356 Core™ i7-7600U, 2C/4C, 2.8/3.9(turbo)GHz, 4M, 300MHz/1.15GHz (Turbo) GFX, ~15W TDP (Optional) Core™ i5-7300U, 2C/4C, 2.6/3.5(turbo)GHz, 3M, 300MHz/1.10GHz (Turbo) GFX, ~15W TDP(Optional) Core™ i3-7100U, 2C/4C, 2.4GHz, 3M, 300MHz/1.00GHz (Turbo) GFX, ~15W TDP Celeron® 3965U, 2C, 2.2GHz, 2M, 300MHz/900MHz (Turbo) GFX, ~15W TDP(Optional)
Chipset	—
Memory	SODIMM x 2, max. 32GB, DDR4-2133 non-ECC, un-buffered memory
I/O Chipset	NCT6793D
Ethernet	Intel® PCIe Gb LAN 219LM for vPro (i7-7600U/i5-7300U) x 1 Intel® PCIe Gb LAN 211AT x 1
Audio	Realtek® ALC887 with Amp.
TPM	NPCT650ABBYX TPM2.0 onboard (default: No)
Expansion Slots	PCIe 3.0 [x1] x 1 M.2 M key (22 x 80 mm) x 1, SATA & PCIe [x4] M.2 E key (22 x 30 mm) x 1 for Wireless-wifi module (PCIe+USB)
BIOS	128Mbit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/Chassis Fan
Wake On LAN/ PXE	Yes (WOL/PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® UHD Graphics
Graphics Multi Display	HDMI x 2, eDP x 1 or LVDS x 1
VGA	—
DVI	—
HDMI	HDMI 1.4 up to 4096 x 2340 @24Hz
Display Port	—
LVDS	Up to 1920 x 1200 @ 60 Hz, Dual Channel 18/24 bit
eDP	UP to 4096 x 2304 @ 60Hz
Backlight Control	Voltage/PWM; Max 1A
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	12V DC
Operating Temperature	32°F ~ 131°F (0°C ~ 55°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90%RH, non-condensing
Certificate	CE & FCC (Class A)
Form Factor	Mini-ITX: 6.7" x 6.7" (170 mm x 170 mm)

Features

- DDR4 SODIMM x 2, Up to 32GB
- Three Independent Display: VGA x 1 or HDMI x 1, eDP x 1 or LVDS x 1
- Intel® LAN i211AT x 1, 219LM for iAMT 12.0 x 1
- M.2 Slot (M-key) x 1
- M.2 Slot (E-key) x 1
- PCIe3.0 [x1] x 1
- 12V DC



Weight	1.1 lb (0.5 Kg)
MTBF (Hours):	400,330
Rear Panel I/O Ports	
USB	USB 3.2 Gen 1 (5 Gbps) x 4
Display I/O	HDMI x 2
Audio I/O	Mic-in x 1, Line-out x 1
LAN I/O	LAN (RJ-45) port x 2
Serial Port	—
PS/2 Port	—
Others	DC Power Jack x 1
Internal I/O Connectors	
Storage	M.2 M key (22 x 80mm) for PCIe [x4]/SATA storage x 1, SATA 6.0Gb/s x 2, 4-pin SATA power x 1
USB	USB 2.0 pin header x 2 support additional 4 USB ports
Display I/O	40-pin LVDS connector x 1, 40-pin eDP connector x 1, LCD backlight connector(inverter) x 1
Audio I/O	Speaker for 2W@4Ω x 1, AAFP follow ASUS pin out x 1
Serial Port	Boxer header x 2 for COM (COM1: RS-232/422/485 supports 5V/12V/RI)
PS/2 Port	—
Parallel Port	—
DIO	8-bit programmable (4-in/4-out) x 1
FAN	4-pin CPU Fan connector x 1, 4-pin Chassis Fan connector x 1
Power	—
Others	Front Panel connector x 1, Chassis Intrusion x 1, Buzzer onboard x 1, CMOS jumper x 1
OS	
OS Support	Windows® 10 64-bit

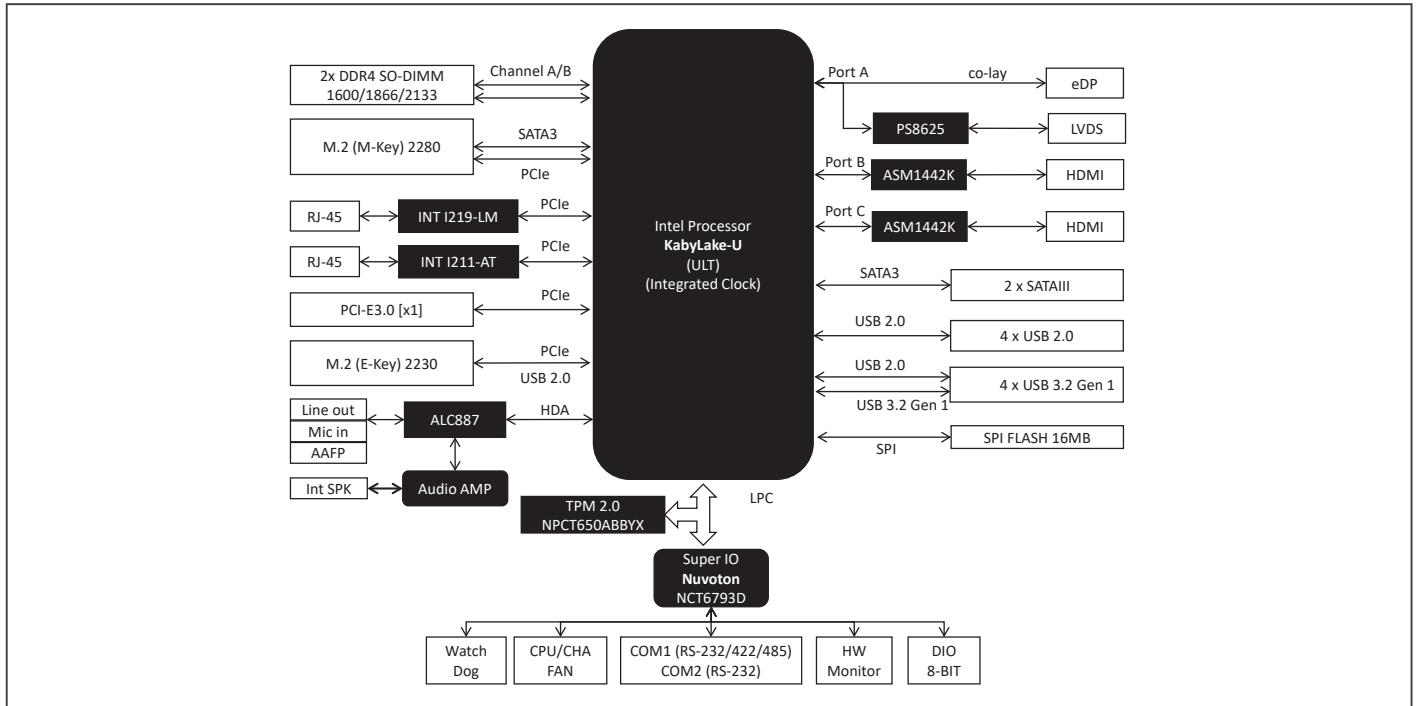
Packing List

- Heatsink/CPU Fan
- SATA Cable
- SATA Power Cable
- I/O Shield
- MIX-KLUD1

Optional Accessories

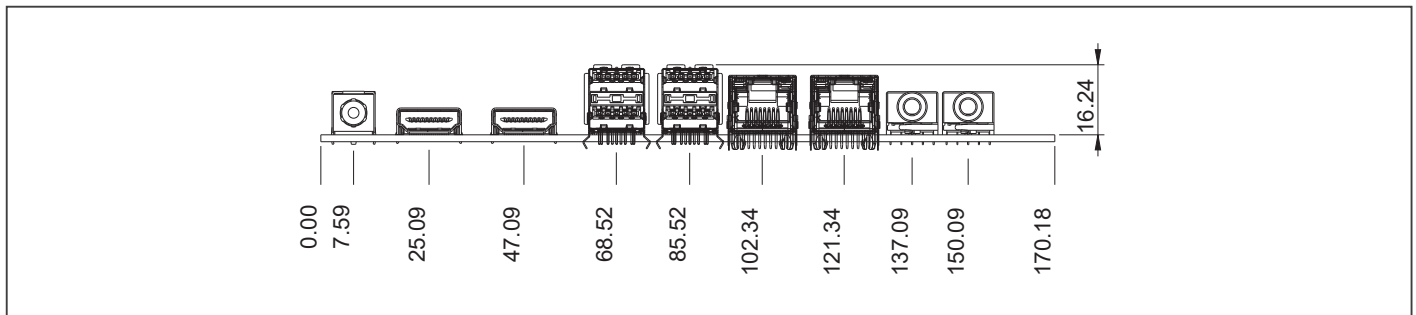
Part Number	Description
1709100201	USB 2.0 Cable (10P, 200MM, p=2.00mm, w/bracket)
1700100491	USB 2.0 Cable (2 x 5P, 490mm, p=2.00mm)
1709050201	USB 2.0 Cable (5P, 220mm, p=2.00mm)
1701100206	COM Cable (200MM, p=2.00mm)
1702150300	SATA Power Cable (4P, 300MM p=2.54mm)
1702151201	SATA Power Cable (4P, 120MM, p=2.5mm)

Block Diagram



Dimension

Unit: mm

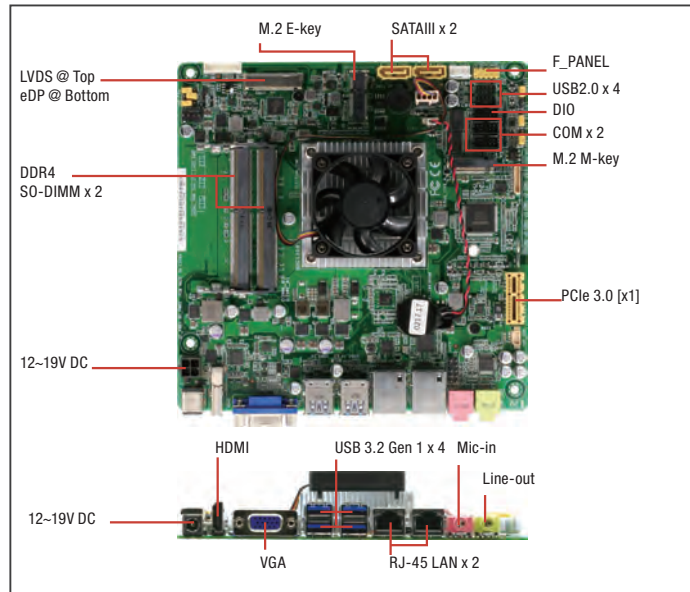


Ordering Information

PART NUMBER	CPU	RAM	FAN/ FANLESS	DISPLAY	STORAGE	LVDS	LAN	USB	RS-232	RS- 232/422/485	EXPANSION SLOT	POWER	TPM	TEMP.
MIX-KLUD1-A10-7100-LV	i3-7100U	SODIMM x 2	Fanless	HDMI x 2, LVDS	SATA3 x 2, M.2 (M-key)	Dual Channel 18/24 bit	GbE x 2	USB 3.2 Gen 1 x 4, USB2.0 x 4	1	1	PCIe[x1] x 1, M.2(M-key) x 1, M.2(E-Key) x 1	12V DC	—	32°F – 131°F (0°C – 55°C)

MIX-KLUW1

Mini-ITX, 14nm, FCBGA1356 7th Gen Intel® Core™ processor family, 15~25W TDP



Specifications

System	
Processor	14nm 7th Gen. Intel® Core™ (formerly Kaby Lake-U), FCBGA1356 Core i7-7600U, 2C/4C, 2.8/3.9(turbo)GHz, 4M, 300MHz/1.15GHz (Turbo) GFX, ~15W TDP (Optional) Core i5-7300U, 2C/4C, 2.6/3.5(turbo)GHz, 3M, 300MHz/1.10GHz (Turbo) GFX, ~15W TDP (Optional) Core i3-7100U, 2C/4C, 2.4GHz, 3M, 300MHz/1.00GHz (Turbo) GFX, ~15W TDP Celeron 3965U, 2C, 2.2GHz, 2M, 300MHz/900MHz (Turbo) GFX, ~15W TDP
Chipset	—
Memory	SODIMM x 2, max. 32GB, DDR4-2133 non-ECC, un-buffered memory
I/O Chipset	NCT6793D
Ethernet	Intel® PCIe Gb LAN 219LM for vPro (i7-7600U/i5-7300U) x 1 Intel® PCIe Gb LAN 211AT x 1
Audio	Realtek® ALC887
TPM	Nuvoton NPCT650ABBYX TPM2.0 onboard (default: No)
Expansion Slots	PCIe 3.0 [x1] x 1 M.2 M key (22 x 80mm) x 1, SATA & PCIe [x4] M.2 E key (22 x 30mm) x 1 for Wireless-wifi module (PCIe+USB)
BIOS	128Mbit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/Chassis Fan
Wake On LAN/ PXE	Yes (WOL/PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® UHD Graphics
Graphics Multi Display	Supports three display of LVDS+eDP+VGA or LVDS+eDP+HDMI (by SKU selection)
VGA	Up to 1920 x 1200 @60 Hz coloy with HDMI (default: VGA)
DVI	—
HDMI	HDMI 1.4 up to 4096 x 2340 @24Hz coloy with VGA (default: VGA)
Display Port	—
LVDS	LVDS Up to 1920 x 1200 @60Hz, dual-channel 18/24 bit (via CH7511)
eDP	eDP UP to 4096 x 2304 @ 60Hz
Backlight Control	Voltage/PWM; Max 1A
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	12(-5%)~19V(+5%) DC
Operating Temperature	32°F ~ 131°F (0°C ~ 55°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% R/H, non-condensing
Certificate	CE & FCC (Class A)
Form Factor	Mini-ITX: 6.7" x 6.7" (170mm x 170mm)

Features

- DDR4 SODIMM x 2, Up to 32GB
- Three Independent Display: eDP x 1, LVDS x 1, VGA (Default) or HDMI
- Intel® LAN i211AT x 1, 219LM for iAMT 12.0 x 1
- M.2 Slot (M-key) x 1
- M.2 Slot (E-key) x 1
- PCIe3.0 [x1] x 1
- 12-19V DC wide range voltage power input
- USB 3.2 Gen 1x 4, USB2.0 x 4



Weight	1.1 lb (0.5 Kg)
MTBF (Hours):	275,650
Rear Panel I/O Ports	
USB	USB 3.2 Gen 1 (5 Gbps) x 4
Display I/O	VGA x 1, HMDI Coloy (default: VGA x 1)
Audio I/O	Mic-in x 1, Line out x 1
LAN I/O	LAN (RJ45) port x 2
Serial Port	—
PS/2 Port	—
Others	DC Power Jack x 1
Internal I/O Connectors	
Storage	M.2 M key (22 x 80mm) for PCIe [x4]/SATA storage x 1, SATA 6.0Gb/s x 2, 4-pin SATA power x 1
USB	USB 2.0 pin header x 2 support additional 4 USB ports
Display I/O	40-pin LVDS connector x 1, 40-pin eDP connector x 1, LCD backlight connector (inverter) x 1
Audio I/O	Speaker for 2W@4Ω x 1, AAFP follow ASUS pin out x 1
Serial Port	Boxer header x 2 for COM (COM1: RS-232/422/485 supports 5V/12V/RI)
PS/2 Port	—
Parallel Port	—
DIO	8-bit programmable (4-in/4-out) x 1
FAN	4-pin Chassis Fan connector x 1, 4-pin CPU Fan connector x 1
Power	2 x 2 Pin DC-in 12~19V(-5%~+5%) x 1
Others	Clear CMOS jumper x 1, AT/ATX mode select jumper x 1
OS	
OS Support	Windows 10 64 bit, Ubuntu 16.04.LTS

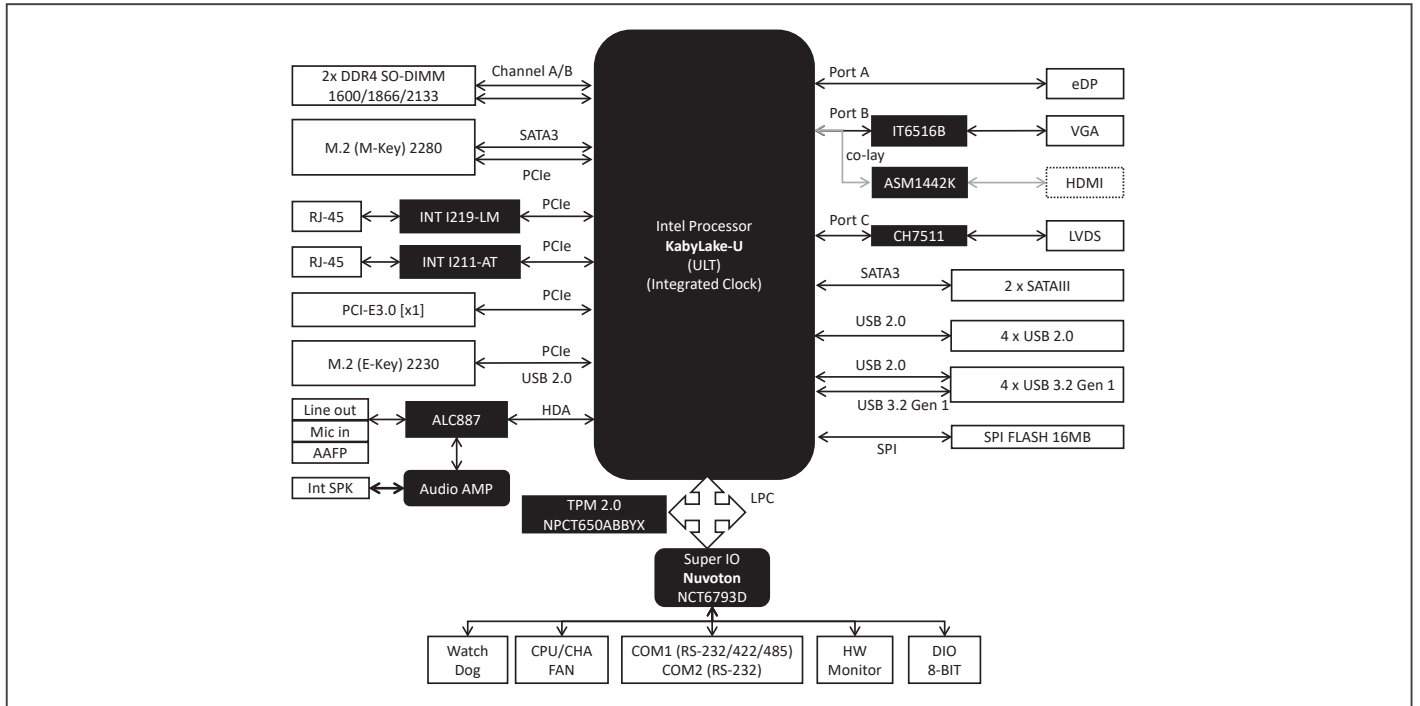
Packing List

- Heatsink/CPU Fan
- SATA Cable
- SATA Power Cable
- I/O Shield
- MIX-KLUW1

Optional Accessories

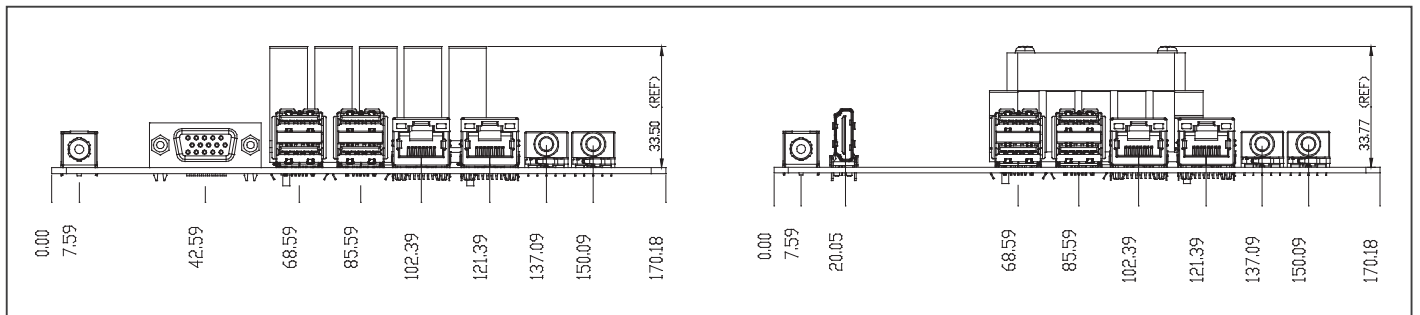
Part Number	Description
1709100201	USB 2.0 Cable (10P, 200MM, p=2.00mm, w/bracket)
1700100491	USB 2.0 Cable (2 x 5P, 490mm, p=2.00mm)
1709050201	USB 2.0 Cable (5P, 220mm, p=2.00mm)
1701100206	COM Cable (200MM, p=2.00mm)
1702150300	SATA Power Cable (4P, 300MM p=2.54mm)
1702151201	SATA Power Cable (4P, 120MM, p=2.5mm)

Block Diagram



Dimension

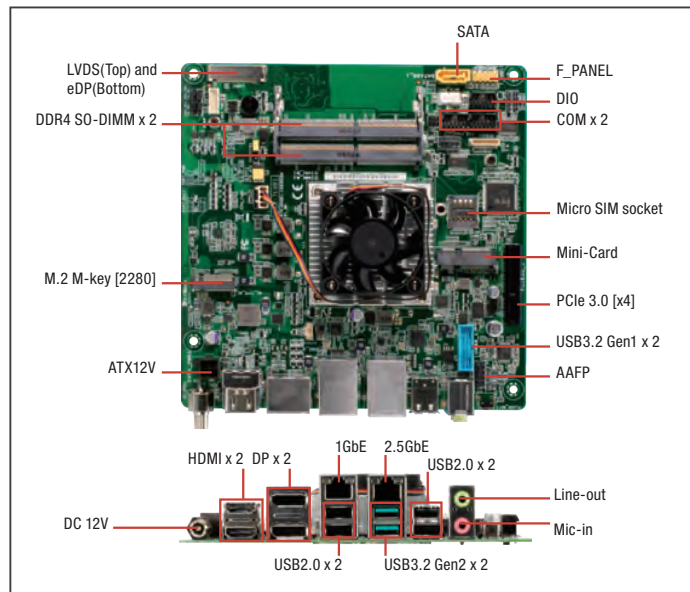
Unit: mm



Ordering Information

PART NUMBER	CPU	RAM	FAN/ FANLESS	DISPLAY	STORAGE	LVDS	LAN	USB	RS-232	RS- 232/422/485	EXPANSION SLOT	POWER	TPM	TEMP.
MIX-KLUW1-A10-3965V	Celeron® 3965U	SODIMM x 2	Fanless	VGA, LVDS, eDP	SATA3 x 2, M.2 (M-key)	Dual Channel 18/24 bit	GbE x 2	USB2.0 x 4, USB 3.2 Gen 1 x 4	1	1	PCIe[x1] x 1, M.2(M-key) x 1, M.2(E-Key) x 1	12-19V DC	—	32°F – 131°F (0°C – 55°C)
MIX-KLUW1-A10-3965H	Celeron® 3965U	SODIMM x 2	Fanless	HDMI, LVDS, eDP	SATA3 x 2, M.2 (M-key)	Dual Channel 18/24 bit	GbE x 2	USB2.0 x 4, USB 3.2 Gen 1 x 4	1	1	PCIe[x1] x 1, M.2(M-key) x 1, M.2(E-Key) x 1	12-19V DC	—	32°F – 131°F (0°C – 55°C)
MIX-KLUW1-A10-7100H	i3-7100U	SODIMM x 2	Fanless	HDMI, LVDS, eDP	SATA3 x 2, M.2 (M-key)	Dual Channel 18/24 bit	GbE x 2	USB2.0 x 4, USB 3.2 Gen 1 x 4	1	1	PCIe[x1] x 1, M.2(M-key) x 1, M.2(E-Key) x 1	12-19V DC	—	32°F – 131°F (0°C – 55°C)

Mini-ITX with 11th Gen Intel® Core™ U-Processor, Max. 28W TDPs, 4 Display output, 2.5GbE x 1 + 1GbE x 1



Specifications

System	
Processor	Intel® Tiger Lake Processor Max. 28W TDPs
Chipset	—
Memory	DDR4 2666/3200 MHz SODIMM x 2, Up to 64GB, non-ECC/IBECC
I/O Chipset	IT5121E
Ethernet	Intel® PCIe Gb LAN 219V Intel® PCIe Gb LAN 225V x 1
Audio	Realtek® ALC887
TPM	Nuvoton NPCT750 TPM2.0 onboard
Expansion Slots	PCIe 3.0 [x4] x 1, mini-card x 1(PCIe/SATA; BOM Optional)
BIOS	256Mbit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/Chassis Fan
Wake On LAN/ PXE	Yes (WOL/PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® Xe(Gen 12) Graphics
Graphics Multi Display	Four Independent Display
VGA	—
DVI	—
HDMI	HDMI 2.0
Display Port	DP 1.4
LVDS	Up to 1920 x 1200 @60Hz, Dual Channel 18/24 bit (via CH7511B)
eDP	eDP1.4b
Backlight Control	—
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	12(+/-5%) DC
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90%RH, non-condensing
Certificate	CE & FCC Class A
Form Factor	Mini-ITX: 6.7" x 6.7" (170mm x 170mm)
Weight	1.1 lb (0.5 Kg)
MTBF (Hours):	—

Features

- 11th Gen. Intel® Core™ Processor
- DDR4 SODIMM x 2, Max. 64GB
- M.2 Slot (M key; 2280) x 1, mini card x 1
- USB 3.2 Ports x 4, USB 2.0 Ports x 4
- Intel® LAN 225V x 1, 219V x 1
- HDMI2.0 x 2, DP1.4 x 2
- LVDS x 1, eDP x 1
- PCI-Express [x4] x 1
- DC 12V



Rear Panel I/O Ports

USB	USB 3.2 Gen2 x 2, USB2.0 x 4
Display I/O	HDMI x 2, DP++ x 2
Audio I/O	Mic-in x 1, Line out x 1
LAN I/O	1GbE x 1, 2.5GbE x 1
Serial Port	—
PS/2 Port	—
Others	DC Jack x 1 BIOS recovery button x 1

Internal I/O Connectors

Storage	M.2 M key (2280) for (NVMe;PCIex4) storage x 1 SATA 6.0Gb/s x 1
USB	USB 3.0 Box header x 1 (support additional USB3.2 Gen1 x 2ports)
Display I/O	40-pin LVDS connector x 1, 40-pin eDP connector x 1
Audio I/O	AAFP follow ASUS pin out x 1
Serial Port	Boxer header x 2 for COM (COM1: RS-232/422/485 supports 5V/12V/Rt; COM2: RS-232)
PS/2 Port	—
Parallel Port	—
DIO	Digital I/O box header x 1
FAN	4-pin CPU Fan connector x 1 4-pin Chassis Fan connector x 1
Power	—
Others	Front Panel connector x 1, Chassis Intrusion x 1, Buzzer onboard x 1, Clear CMOS jumper x 1, AT/ATX mode select jumper x 1; SIM socket x 1; BIOS recovery
OS	
OS Support	Windows® 10 64-bit, 21.04.0/Kernel 5.8

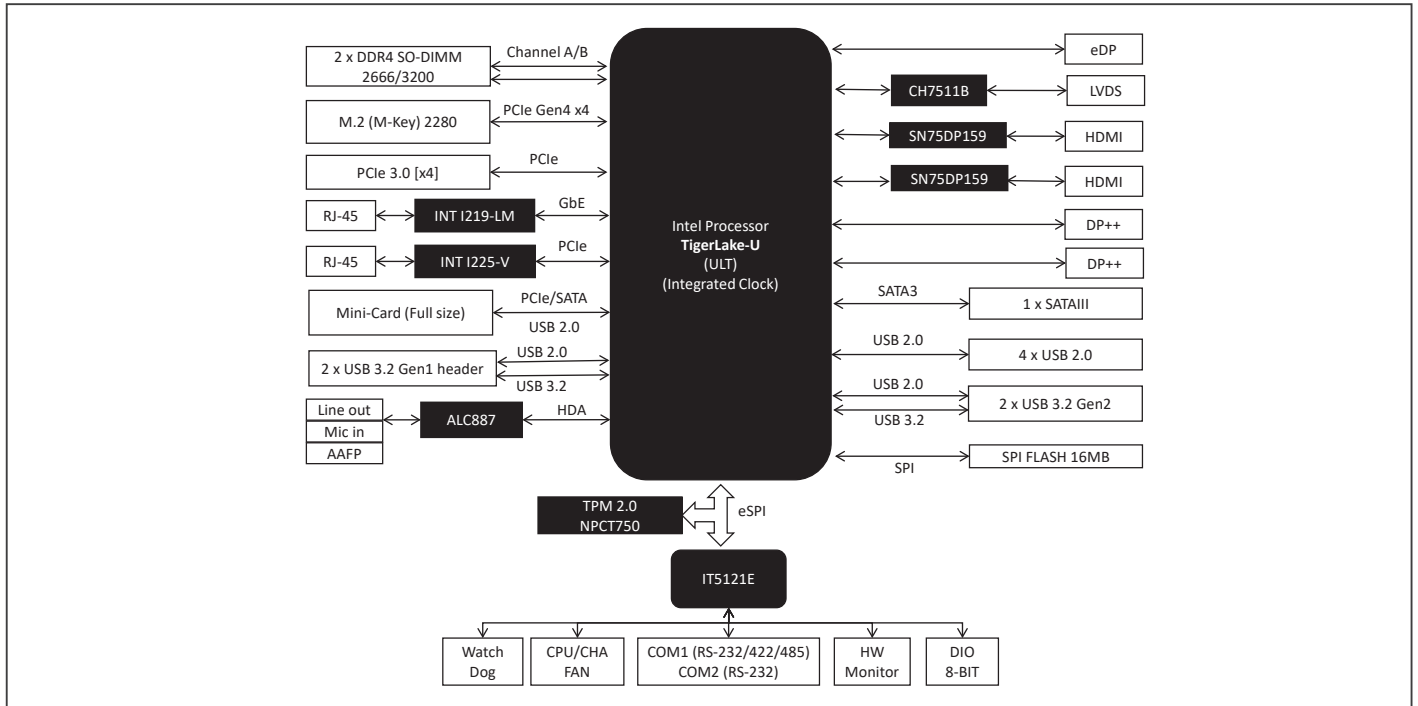
Packing List

- SATA Cable
- I/O Shield
- MIX-TLUD1

Optional Accessories

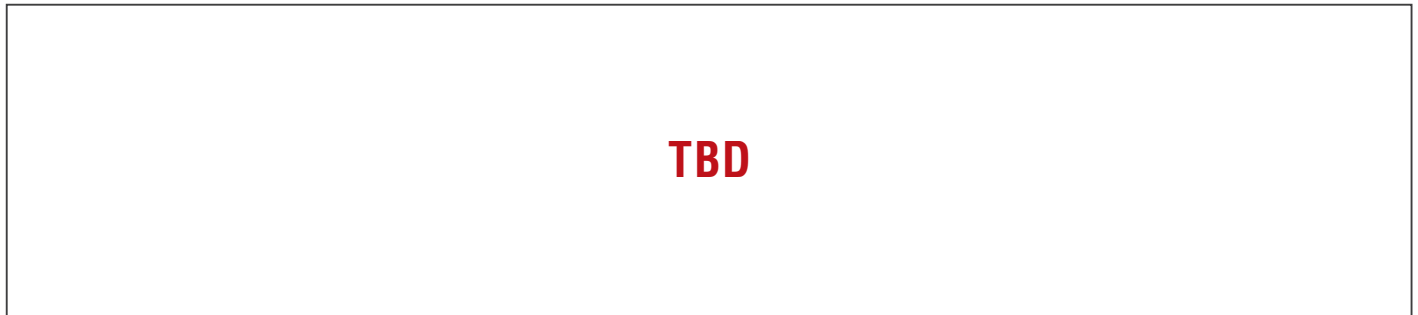
- TBD

Block Diagram



Dimension

Unit: mm

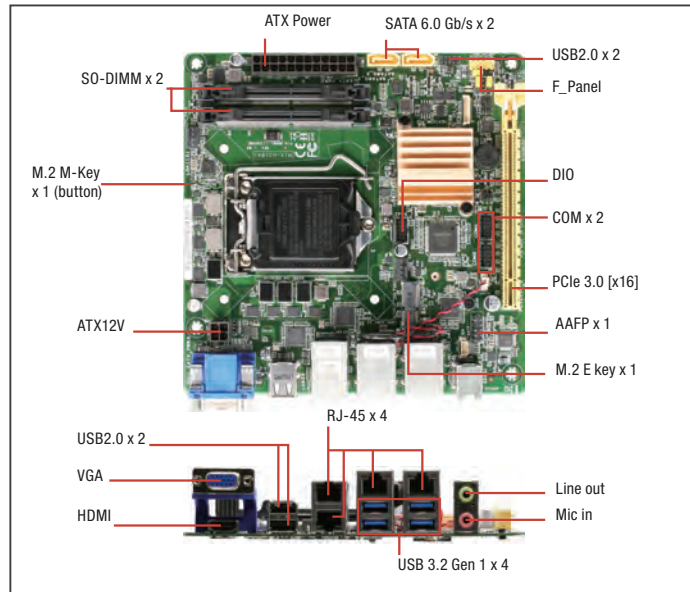


Ordering Information

- TBD

MIX-H310A1

Mini-ITX with 8th/9th Gen Intel® Core™ Processor Family, Max. 65W TDPs, Giga-LAN x 4



Specifications

System	
Processor	8th/9th Gen. Intel® Core™ LGA 1151 socket Processor (formerly Coffee Lake-S), Max. 65W TDPs
Chipset	Intel® H310 Express Chipset
Memory	DDR4 2666/2400/2133 MHz SODIMM x 2, Up to 32GB, Non-ECC, Un-buffered Memory, Dual channel memory architecture
I/O Chipset	NCT6793D
Ethernet	Intel® PCIe Gb LAN 219V x 1, Intel® PCIe Gb LAN i211AT x 3
Audio	Realtek® ALC887 with Amp.
TPM	NPCT650ABBYX TPM2.0 (default: No)
Expansion Slots	PCIe3.0 [x16] x 1, M.2 M-key(22x80mm) at bottom side x 1 for SATA, M.2 E-key(22x30mm)
BIOS	128Mbit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/ Chassis Fan
Wake On LAN/ PXE	Yes (WOL / PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® UHD Graphics
Graphics Multi Display	HDMI+VGA
VGA	Up to 1920 x 1200 @ 60 Hz
DVI	—
HDMI	Up to 4096 x 2160 @30Hz(HDMI 1.4)
Display Port	—
LVDS	—
eDP	—
Backlight Control	—
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	ATX
Operation Temperature	32°F ~140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~185°F (-40°C ~85°C)
Operation Humidity	0%~90%RH, non-condensing
Certificate	CE & FCC
Form Factor	Mini-ITX: 6.7" x 6.7" (170mm x 170mm)
Weight	1.1 lb (0.5 Kg)
MTBF (Hours)	288,900

Features

- 8th/9th Gen. Intel® Core™ LGA1151 Processor
- DDR4 SODIMM x 2, Up to 32 GB
- M.2 Slot(M Key-SATA), M.2 Slot(E key) x 1
- Two Independent Display : HDMI, VGA
- USB 3.2 Gen 1 Port x 4, USB 2.0 Port x 4
- Intel® LAN 211AT x 3, 219V for iAMT 12.0 x 1
- SATA 6.0 Gb/s x 2
- PCI-Express [x16] (Gen3) x 1
- ATX Power



Rear Panel I/O Ports

USB	USB 3.2 Gen 1 (5 Gbps) x 4, USB 2.0 x 2
Display I/O	VGA x 1, HDMI x 1
Audio I/O	Mic-in x 1, Line-out x 1
LAN I/O	LAN (RJ-45) port x 4
Serial Port	—
PS/2 Port	—
Others	—

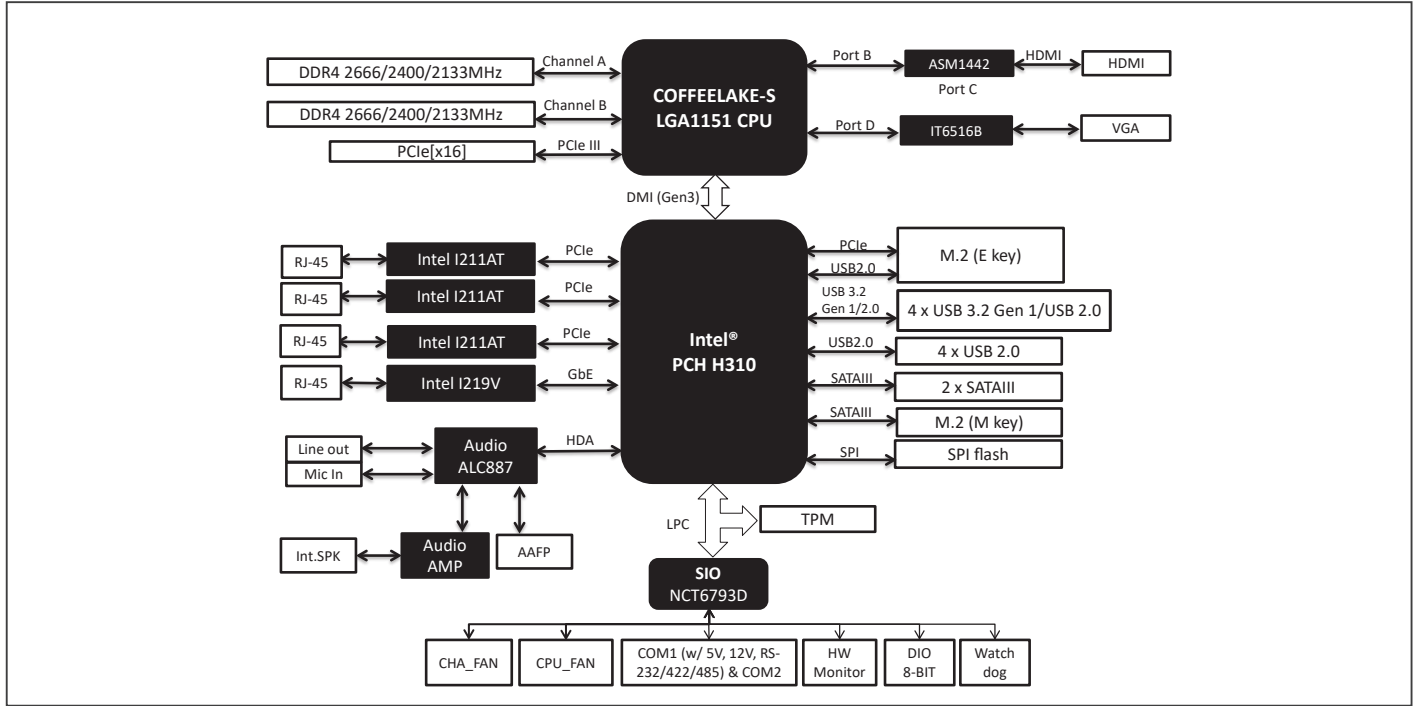
Internal I/O Connectors

Storage	SATA3.0 (6.0Gb/s) x 2, M.2 M-key (22 x 80mm) at bottom side x 1 (SATA only)
USB	USB 2.0 (2 x 5-pin, 2.00mm) x 1 ports support additional 2 USB.
Display I/O	—
Audio I/O	AAFP x 1, Speaker x 1
Serial Port	Boxer header for COM (RS-232/422/485) x 1, Boxer header for COM (RS-232) x 1
PS/2 Port	—
Parallel Port	—
DIO	Digital I/O box header x 1
FAN	4-pin CPU Fan connector x 1, 4-pin Chassis Fan connector x 1
Power	—
Others	Front Panel connector x 1, Chassis Intrusion x 1, Buzzer onboard x 1, CMOS jumper x 1
OS	
OS Support	Windows® 10 64-bit, Linux Ubuntu 18.04 LTS

Packing List

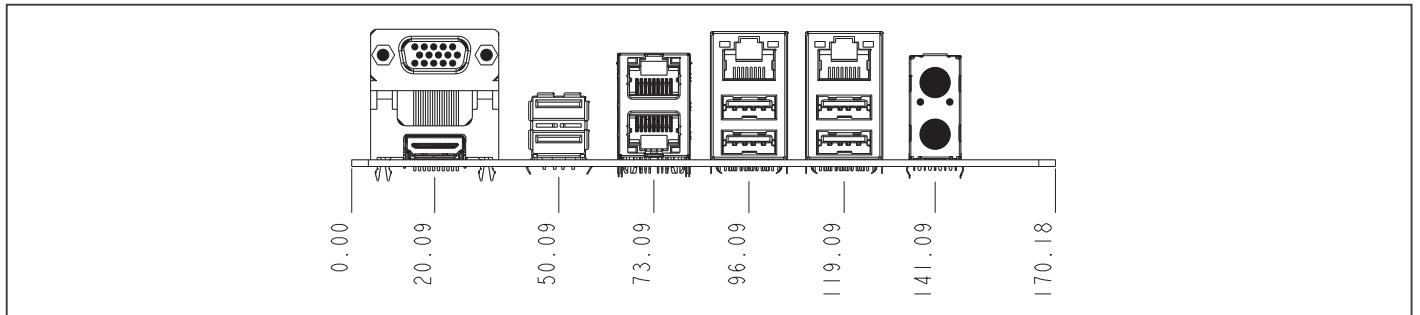
- SATA Cable
- I/O Shield
- MIX-H310A1

Block Diagram



Dimension

Unit: mm



Ordering Information

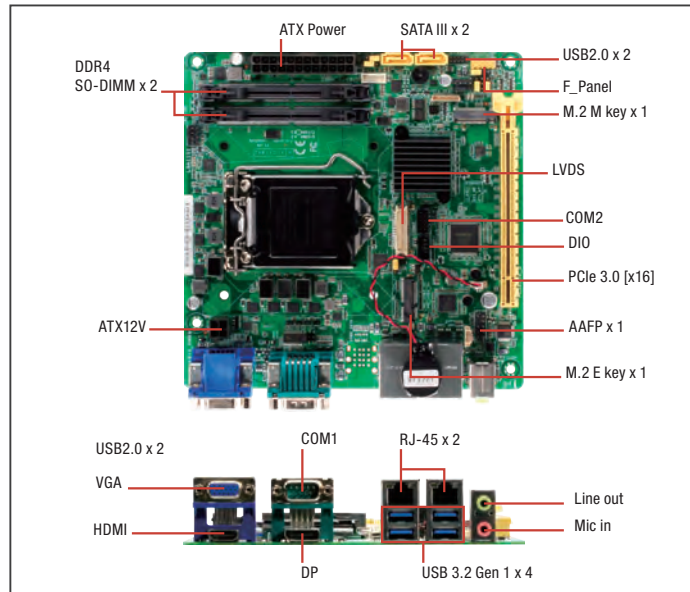
Part number	CPU	RAM	Fan/Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
MIX-H310A1-A10-2L	Socket	SODIMM x 2	Fan	VGA, HDMI	SATA3 x2, M.2(M-key)	—	GbE x 2	USB2.0 x 4 USB 3.2 Gen 1 x 4	1	1	PCIe3.0(x16) x 1, M.2(M-key) x1, M.2(E-Key) x 1	ATX	—	0-60°C
MIX-H310A1-A10-4L	Socket	SODIMM x 2	Fan	VGA, HDMI	SATA3 x2, M.2(M-key)	—	GbE x 4	USB2.0 x 4 USB 3.2 Gen 1 x 4	1	1	PCIe3.0(x16) x 1, M.2(M-key) x1, M.2(E-Key) x 1	ATX	—	0-60°C

Optional Accessories

Part Number	Description
1759200172	CPU Cooler (2-Ball, Screw with Retention Plate)
175921156B	CPU Cooler (2-Ball, Push-pin Type)
COOLER-65W-01	CPU Cooler
1709100201	USB 2.0 Cable (10P, 200mm, p=2.00mm, w/bracket)
1701100206	COM Cable (200mm, p=2.00mm)
1700100491	USB 2.0 Cable (10P, 490mm, p=2.00mm)
1709050201	USB 2.0 Cable (5P, 220mm, p=2.00mm)

MIX-H310A2

Mini-ITX with 8th/9th Generation Intel® Core™ LGA1151 Socket Processor, Max. 65W TDPs, Giga-LAN x 2



Specifications

System	
Processor	8th/9th Gen. Intel® Core™ LGA 1151 socket Processor (formerly Coffee Lake-S), Max. 65W TDPs
Chipset	Intel® H310 Express Chipset
Memory	DDR4 2666/2400/2133 MHz SODIMM x 2, Up to 32GB, Non-ECC, Un-buffered Memory, Dual channel memory architecture
I/O Chipset	NCT6793D
Ethernet	Intel® PCIe Gb LAN 219V x 1, Intel® PCIe Gb LAN i211AT x 1
Audio	Realtek® ALC887 with Amp.
TPM	NPCT650ABBYX TPM2.0 (default: No)
Expansion Slots	PCIe3.0 [x16] x 1
BIOS	256Mbit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/ Chassis Fan
Wake On LAN/ PXE	Yes (WOL / PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® UHD Graphics
Graphics Multi Display	HDMI+VGA+DP+LVDS
VGA	Up to 1920 x 1200 @ 60 Hz
DVI	—
HDMI	Up to 3840 x 2160 @30 Hz(HDMI 1.4b)
Display Port	Up to 4096 x 2160 @ 24 Hz / 3840 x 2160 @ 60 Hz
LVDS	LVDS Up to 1920 x 1200 @60 Hz, Dual Channel 18/24 bit (1 x inverter)
eDP	—
Backlight Control	—
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	ATX
Operation Temperature	32°F ~140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~185°F (-40°C ~85°C)
Operation Humidity	0%~90%RH, non-condensing
Certificate	CE & FCC
Form Factor	Mini-ITX: 6.7" x 6.7" (170mm x 170mm)
Weight	1.1 lb (0.5 Kg)
MTBF (Hours)	333,520

Features

- 8th /9th Gen. Intel® Core™ LGA1151 Processor
- DDR4 DRAM Support, 2666MHz, Max. 32GB
- M.2 Slot (M key) x 1, M.2 Slot (E key) x 1
- USB 3.2 Gen 1 Port x 4, USB 2.0 Port x 2
- Intel® Gigabit Ethernet x 2
- SATA 6.0 Gb/s x 2
- PCI-Express [x16] (Gen3) x 1
- ATX Power



Rear Panel I/O Ports

USB	USB 3.2 Gen 1 (5 Gbps) x 4
Display I/O	VGA x 1, HDMI x 1, DP x 1
Audio I/O	Mic-in x 1, Line-out x 1
LAN I/O	LAN (RJ-45) port x 2
Serial Port	1x COM(RS485/422/232)
PS/2 Port	—
Others	—

Internal I/O Connectors

Storage	SATA3.0 (6.0Gb/s) x 2, M.2 M-key (22 x 80mm) x 1
USB	USB 2.0 (2 x 5-pin, 2.00mm) x 1 port support additional 2 USB.
Display I/O	LVDS x 1
Audio I/O	AAFP x 1, Speaker x 1
Serial Port	Boxer header for COM (RS-232) x 1
PS/2 Port	—
Parallel Port	—
DIO	Digital I/O box header x 1
FAN	4-pin CPU Fan connector x 1, 4-pin Chassis Fan connector x 1
Power	—
Others	Front Panel connector x 1, Chassis Intrusion x 1, Buzzer onboard x 1, CMOS jumper x 1

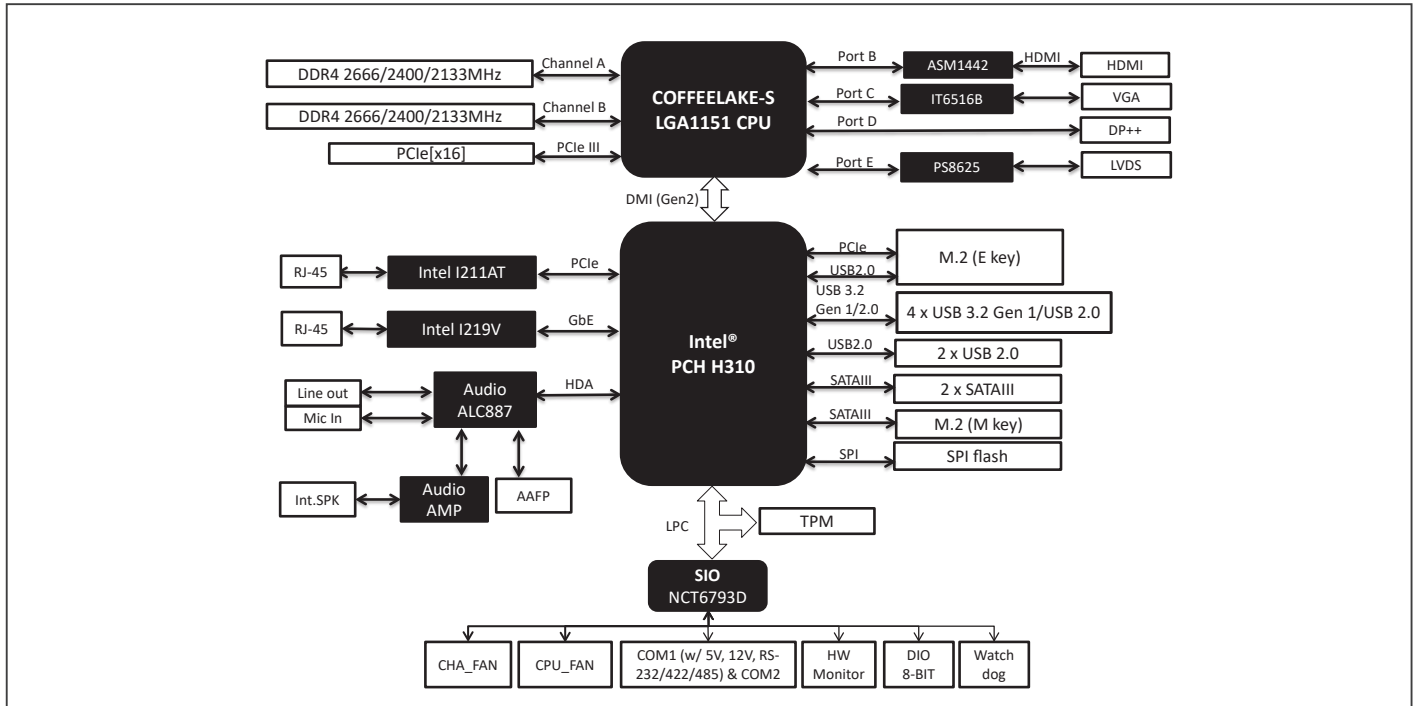
OS

OS Support	Windows® 10 64-bit, Linux Ubuntu 18.04 LTS
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Packing List

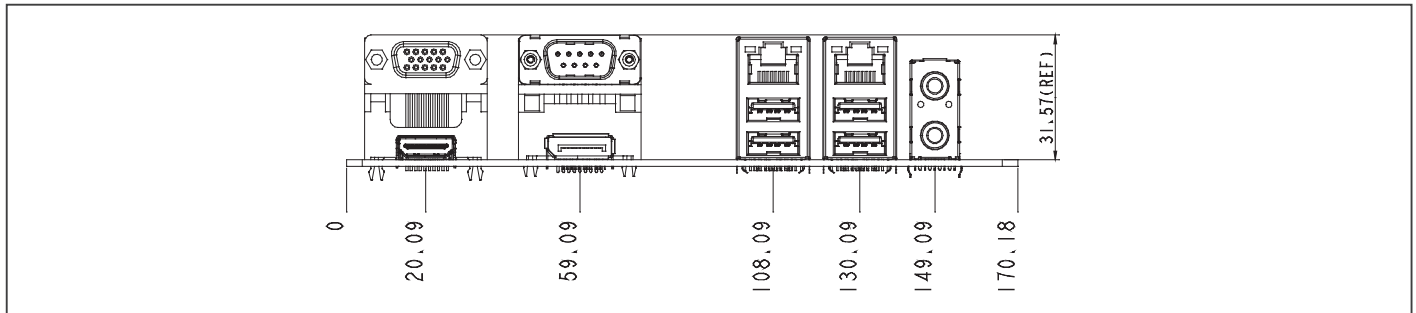
- SATA Cable
- I/O Shield
- MIX-H310A2

Block Diagram



Dimension

Unit: mm



Ordering Information

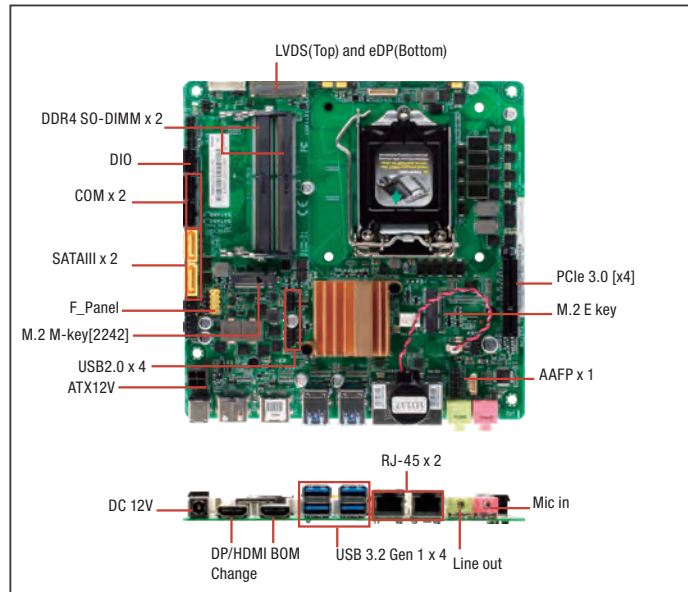
Part number	CPU	RAM	Fan/Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
MIX-H310A2-A11	Socket	SODIMM x 2	Fan	VGA, HDMI, LVDS, DP	SATA3 x2, M.2(M-key)	1	GbE x 2	USB2.0 x 2 USB 3.2 Gen 1 x 4	1	1	PCIe3.0(x16) x 1	ATX	—	0-60°C

Optional Accessories

Part Number	Description
1759200172	CPU Cooler (2-Ball, Screw with Retention Plate)
175921156B	CPU Cooler (2-Ball, Push-pin Type)
COOLER-65W-01	CPU Cooler
1709100201	USB 2.0 Cable (10P, 200mm, p=2.00mm, w/bracket)
1701100206	COM Cable (200mm, p=2.00mm)
1700100491	USB 2.0 Cable (10P, 490mm, p=2.00mm)
1709050201	USB 2.0 Cable (5P, 220mm, p=2.00mm)

MIX-H310D1

Mini-ITX with 8th/9th Generation Intel® Core™ LGA1151 Socket Processor, Max. 65W TDPs, 12V DC Power input



Specifications

System	
Processor	8th/9th Gen. Intel® Core™ LGA 1151 socket Processor (formerly Coffee Lake-S), Max. 65W TDPs
Chipset	Intel® H310 Express Chipset
Memory	DDR4 2666 MHz SODIMM x 2, Up to 32GB, Non-ECC, Un-buffered Memory, Dual channel memory architecture
I/O Chipset	NCT6793D
Ethernet	Realtek® PCIe Gb LAN RTL8111H
Audio	Realtek® ALC887 with Amp.
TPM	NPCT650ABBYX TPM2.0 (default: No)
Expansion Slots	PCIe3.0 [x4] x 1 M.2 E-key(22 x 30 mm) x 1 for Wireless-wifi module (PCIe+USB)
BIOS	128Mbit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/ Chassis Fan
Wake On LAN/ PXE	Yes (WOL / PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® UHD Graphics
Graphics Multi Display	HDMI1+HDMI2, HDMI1+DP2, DP1+HDMI2, HDMI1+LVDS, HDMI2+LVDS, HDMI1+eDP, HDMI2+eDP, DP1+DP2, DP1+LVDS, DP2+LVDS, DP1+eDP, DP2+eDP
VGA	—
DVI	—
HDMI	Up to 4096 x 2304@24Hz (HDMI 1.4b)
Display Port	Up to 4096 x 2304@60Hz
LVDS	Up to 1920 x 1200 @ 60 Hz, dual-channel 18/24 bit (via CH 7511)
eDP	UP to 4096 x 2304 @ 60Hz
Backlight Control	Voltage/PWM
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	12V DC
Operation Temperature	32°F ~140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~185°F (-40°C ~85°C)
Operation Humidity	0%~90%RH, non-condensing
Certificate	CE & FCC
Form Factor	Mini-ITX: 6.7" x 6.7" (170 mm x 170 mm)
Weight	1.1 lb (0.5 kg)
MTBF (Hours)	246,210

Features

- 8th/9th Gen. Intel® Core™ LGA1151 Processor
- DDR4 SODIMM x 2, Up to 32 GB
- Two Independent Display: DP, HDMI, eDP, LVDS
- M.2 Slot (M-key, 2242) x 1, M.2 Slot (E-key) x 1
- PCIe [x4] x 1
- Low Profile
- 12V DC Power Input
- USB 3.2 Gen 1 x 4, USB 2.0 x 5



Rear Panel I/O Ports

USB	USB 3.2 Gen 1 (5 Gbps) x 4
Display I/O	HDMI x 2, DP x 1 + HDMI x 1 (Optional), DP x 2 (Optional)
Audio I/O	Mic-in x 1, Line-out x 1
LAN I/O	LAN (RJ-45) port x 2
Serial Port	—
PS/2 Port	—
Others	DC Jack

Internal I/O Connectors

Storage	SATA3.0 (6.0Gb/s) x 2 M.2 M-key (SATA) (22 x 42mm) x 1
USB	USB 2.0 (2 x 5-pin, 2.00mm) x 3 ports support additional 5 USB.
Display I/O	—
Audio I/O	AAFP x 1, Speaker header x 1
Serial Port	Boxer header for COM (RS-232/422/485) x 1 Boxer header for COM (RS-232) x 1
PS/2 Port	—
Parallel Port	—
DIO	Digital I/O box header x 1
FAN	4-pin CPU Fan connector x 1, 4-pin Chassis Fan connector x 1
Power	—
Others	Front Panel connector x 1, Chassis Intrusion x 1, Buzzer onboard x 1, CMOS jumper x 1

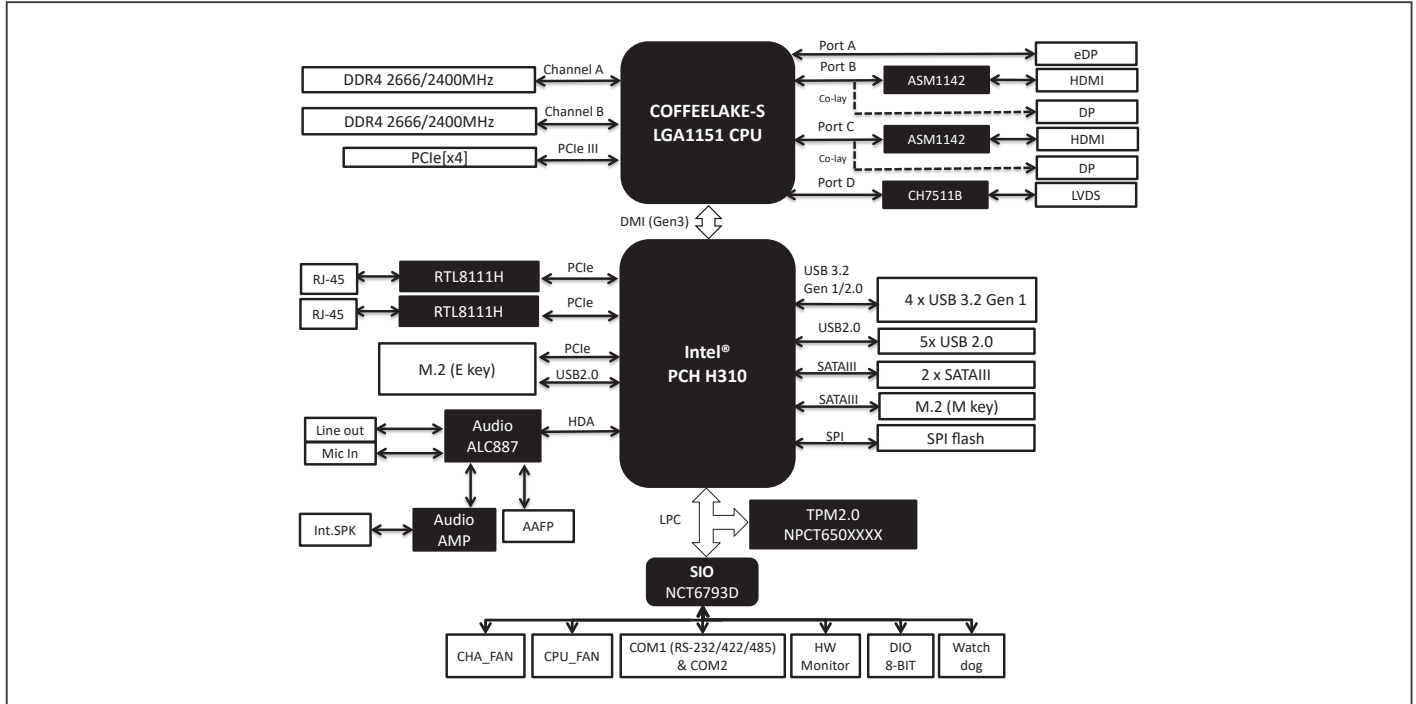
OS

OS Support	Windows® 10 64-bit Linux Ubuntu 18.04 LTS
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Packing List

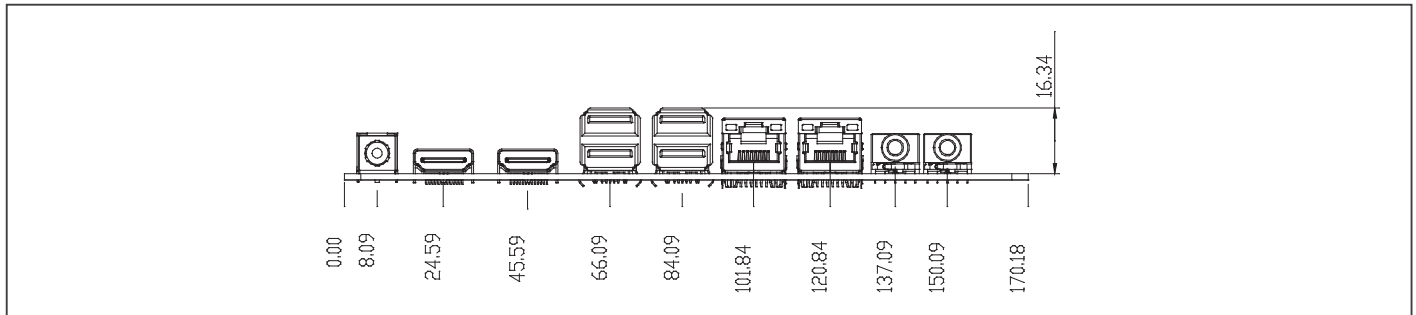
- SATA Cable
- SATA Power Cable
- I/O Shield
- MIX-H310D1

Block Diagram



Dimension

Unit: mm



Ordering Information

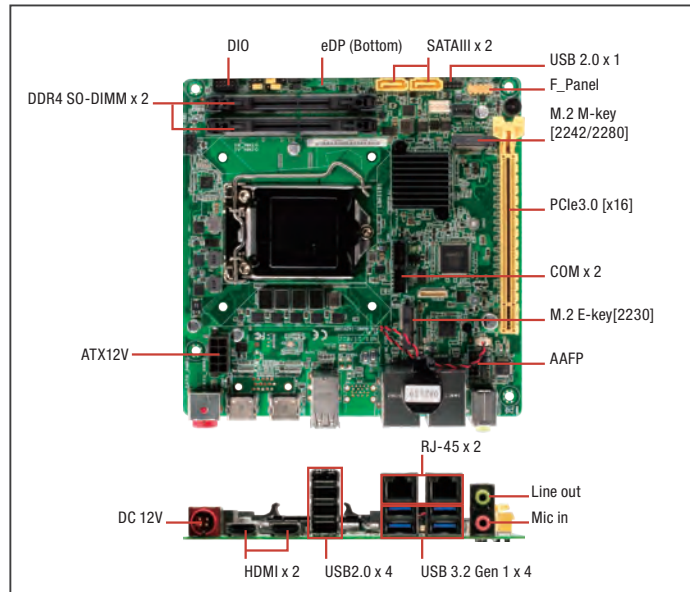
Part number	CPU	RAM	Fan/Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
MIX-H310D1-A10-HH	Socket	SODIMM x 2	Fan	Dual HDMI, eDP, LVDS	SATA3 x 2, M.2 (M-key; SATA)	Dual Channel 18/24 bit	GbE x 2	USB 2.0 x 5 USB 3.2 Gen 1 x 4	1	1	PCIe3.0(x4) x 1, M.2 (E-Key) x 1	12V DC	—	32°F ~140°F (0°C ~ 60°C)

Optional Accessories

Part Number	Description
1759200172	(TF)CPU Cooler Fan, LGA 1156 socket, 4P, 12V, 2-Ball Bearing, Dynatron, K785, (2U cooler)
175921156B	(TF)CPU Cooler Fan, LGA 1156 socket, 12V, 4P, 2Ball (Tray), Dreamer, DSA-00273
COOLER-65W-01	CPU Cooler, LGA 1156, 12V, 65W, 4P, Kingcooler, 0571-1463R
1709100201	USB 2.0 Cable (10P, 200mm, p=2.00mm, w/bracket)
1700100491	USB 2.0 Cable (2 x 5P, 490mm, p=2.00mm)
1709050201	USB 2.0 Cable (5P, 220mm, p=2.00mm)
1701100206	COM Cable (200mm, p=2.00mm)
1702150300	SATA Power Cable (4P, 300mm p=2.54mm)
1702151201	SATA Power Cable (4P, 120mm, p=2.5mm)

MIX-H310D2

Mini-ITX with Intel® 8th / 9th Generation Core™ LGA1151 Socket Processor, Max. 65W TDPs, USB 3.2 Gen 1 Port x 4, USB 2.0 Port x 5, 12V DC input



Specifications

System	
Processor	8th/9th Gen. Intel® Core™ LGA 1151 socket Processor (formerly Coffee Lake-S), Max. 65W TDPs
Chipset	Intel® H310 Express Chipset
Memory	DDR4 2666/2400/2133 MHz SODIMM x 2, Up to 64GB, Non-ECC, Un-buffered Memory, Dual channel memory architecture
I/O Chipset	NCT6793D
Ethernet	Intel® GbE LAN i219V x 1, Intel® GbE LAN i211AT x 1
Audio	Realtek® ALC887
TPM	NPCT750AABYX TPM2.0 (default: No)
Expansion Slots	PCIe3.0 [x16] x 1 M.2 E-key(22 x 30 mm) x1 for Wireless-wifi module (PCIe+USB; CNVi)
BIOS	256Mbit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/ Chassis Fan
Wake On LAN/ PXE	Yes (WOL / PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® UHD Graphics
Graphics Multi Display	HDMI+HDMI, HDMI+eDP, HDMI+VGA, VGA+eDP
VGA	Up to 1920 x 1200 @ 60 Hz (Optional)
DVI	—
HDMI	Up to 3840 x 2160 @30 Hz(HDMI 1.4)
Display Port	—
LVDS	—
eDP	UP to 4096 x 2304 @ 60Hz
Backlight Control	Support eDP
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	12V DC
Operation Temperature	32°F ~140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~185°F (-40°C ~85°C)
Operation Humidity	0%~90%RH, non-condensing
Certificate	CE & FCC
Form Factor	Mini-ITX: 6.7" x 6.7" (170 mm x 170 mm)
Weight	1.1 lb (0.5 kg)
MTBF (Hours)	373,720

Features

- 8th /9th Gen. Intel® Core™ LGA1151 Processor
- DDR4 DRAM Support, 2666MHz, Max. 64GB
- M.2 Slot (M key; PCIe) x 1, M.2 Slot (E key) x 1
- USB 3.2 Gen 1 Port x 4, USB 2.0 Port x 5
- Intel® Gigabit Ethernet x 2
- SATA 6.0 Gb/s x 2
- PCI-Express [x16] (Gen3) x 1
- 12VDC input



Rear Panel I/O Ports

USB	USB 3.2 Gen 1 x 4, USB 2.0 x 4
Display I/O	HDMI x 2, VGA x 1 (Optional)
Audio I/O	Mic-in x 1, Line-out x 1
LAN I/O	LAN (RJ-45) port x 2
Serial Port	—
PS/2 Port	—
Others	12V DC Jack (max:192W)

Internal I/O Connectors

Storage	SATA3.0 (6.0Gb/s) x 2 M.2 M-key (22 x 42/80mm; PCIe) x 1
USB	USB 2.0 (2 x 5-pin, 2.00mm) x 1 port support additional 1 USB
Display I/O	eDP x 1
Audio I/O	AAFP x 1
Serial Port	Boxer header for COM (RS-232) x 1; RS-232/422/485 x 1
PS/2 Port	—
Parallel Port	—
DIO	Digital I/O box header x 1
FAN	4-pin CPU Fan connector x 1, 4-pin Chassis Fan connector x 1
Power	—
Others	Front Panel connector x 1, Chassis Intrusion x 1, Buzzer onboard x 1, CMOS jumper x 1, ATX/AT mode select x 1, ME disable x 1, eDP Tcon IC voltage select x 1, eDP panel backlight voltage select x 1, COM RI select jumper x 1, SATA PWR x 1

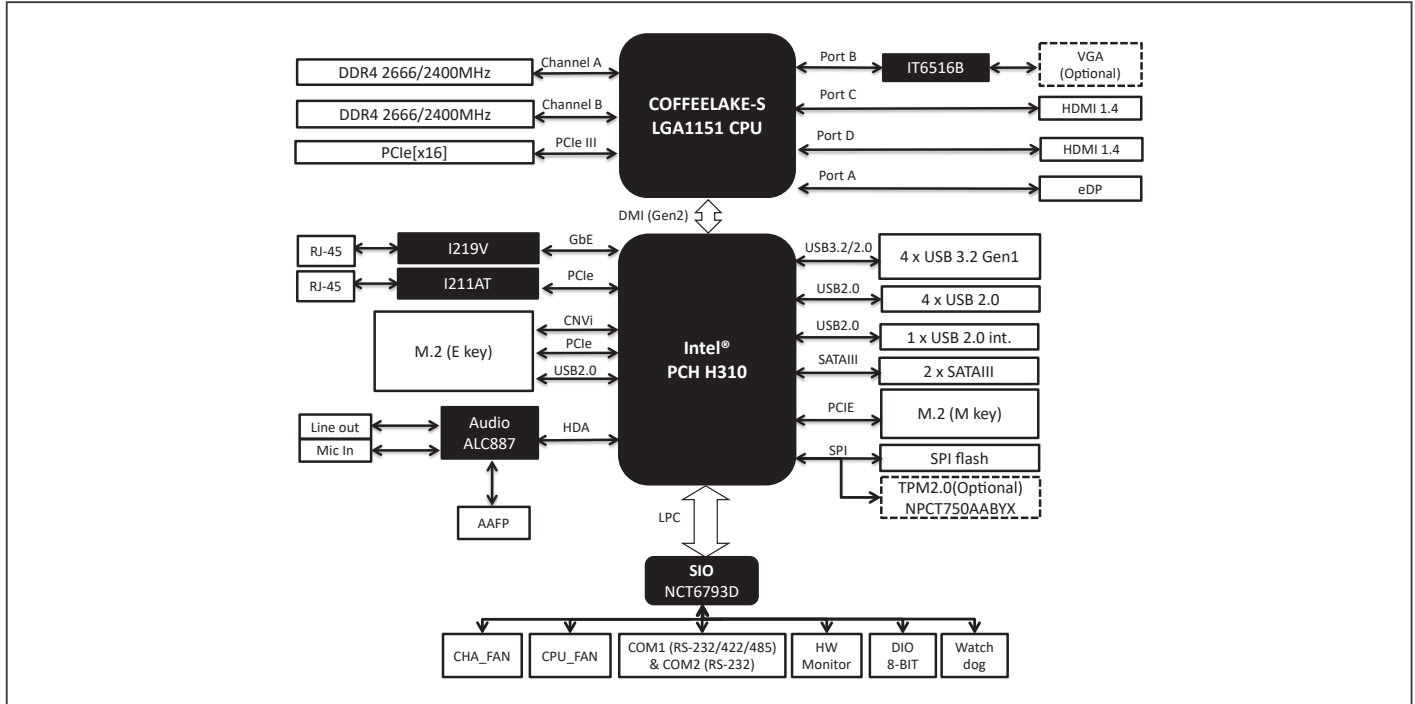
OS

OS Support	Windows® 10 64-bit, Linux Ubuntu 18.04.2
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Packing List

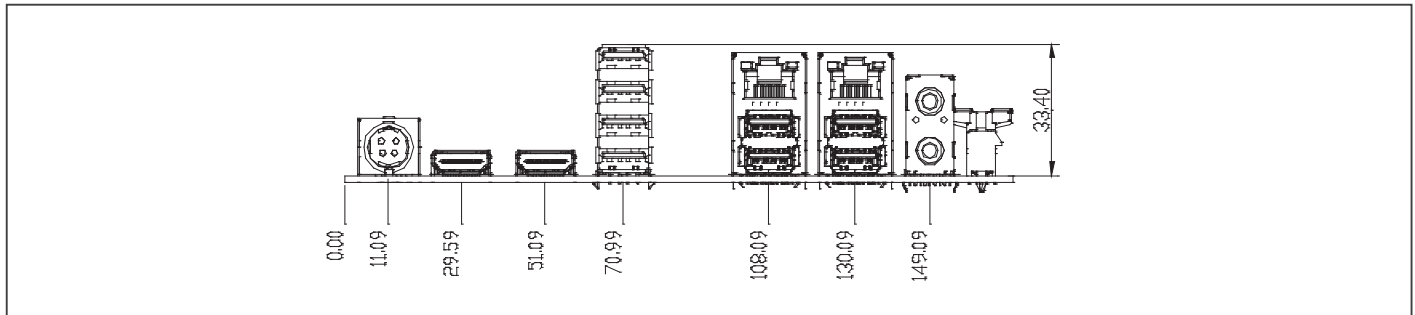
- SATA Cable
- SATA Power Cable
- I/O Shield
- MIX-H310D2

Block Diagram



Dimension

Unit: mm



Ordering Information

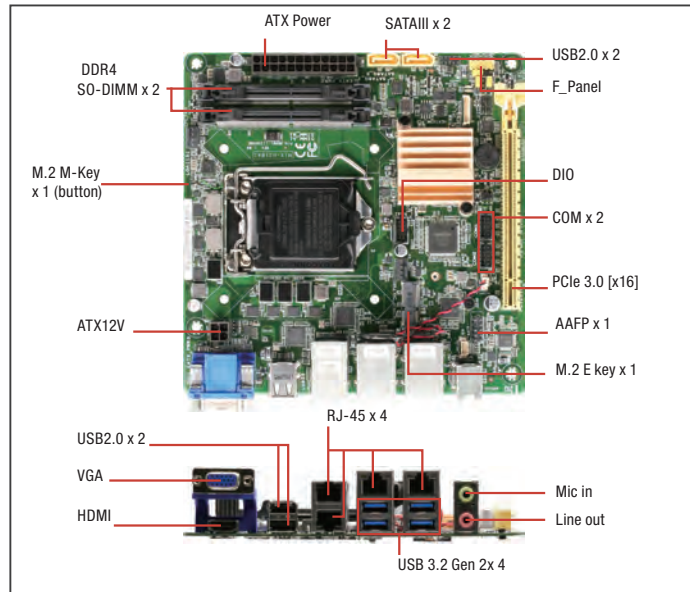
Part number	CPU	RAM	Fan/Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
MIX-H310D2-A10	Socket	SODIMM x 2	Fan	HDMI x 2 eDP	SATA3 x 2 M.2(M-key) x 1	—	GbE x 2	USB2.0 x 5, USB3.2 Gen 1 x 4	1	1	PCIe3.0(x16) x 1, M.2(E-Key) x 1	12V DC	—	32°F ~140°F (0°C ~ 60°C)

Optional Accessories

Part Number	Description
1759200172	CPU Cooler (2-Ball, Screw with Retention Plate)
175921156B	CPU Cooler (2-Ball, Push-pin Type)
COOLER-65W-01	CPU Cooler, LGA 1156, 12V, 65W, 4P, Kingcooler, 0571-1463R
1709100201	USB 2.0 Cable (10P, 200MM, p=2.00mm, w/bracket)
1701100206	COM Cable (200MM, p=2.00mm)
1709050201	USB 2.0 Cable (5P, 220mm, p=2.00mm)
1255X00011	(TF)AC/DC Adapter.12V.192W.16A.FSP192-AHAN3.9NA1920100

MIX-Q370A1

Mini-ITX with 8th/9th Gen Intel® Core™ Processor Family, Max. 65W TDPs, Giga-LAN x 4



Specifications

System	
Processor	8th/9th Gen. Intel® Core™ LGA 1151 socket Processor (formerly Coffee Lake-S), Max. 65W TDPs
Chipset	Intel® Q370 Express Chipset
Memory	DDR4 2666/2400/2133 MHz SODIMM x 2, Up to 32GB, Non-ECC, Un-buffered Memory, dual-channel memory architecture
I/O Chipset	NCT6793D
Ethernet	Intel® PCIe Gb LAN 219LM x 1, Intel® PCIe Gb LAN i211AT x 3
Audio	Realtek® ALC887 with Amp.
TPM	NPCT650ABBYX TPM2.0 (default: No)
Expansion Slots	PCIe3.0 [x16] x 1 M.2 E-key (22 x 30mm; Support CNVi)
BIOS	256Mbit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/ Chassis Fan
Wake On LAN/ PXE	Yes (WOL / PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® UHD Graphics
Graphics Multi Display	HDMI+VGA
VGA	Up to 1920 x 1200 @ 60 Hz
DVI	—
HDMI	Up to 4096 x 2160 @30Hz (HDMI 1.4)
Display Port	—
LVDS	—
eDP	—
Backlight Control	—
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	ATX
Operation Temperature	32°F ~140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~185°F (-40°C ~85°C)
Operation Humidity	0%~90%RH, non-condensing
Certificate	CE & FCC
Form Factor	Mini-ITX: 6.7" x 6.7" (170mm x 170mm)
Weight	1.1 lb (0.5 kg)
MTBF (Hours)	—

Features

- 8th/9th Gen. Intel® Core™ LGA1151 Processor
- DDR4 DRAM Support, 2666MHz, Max. 32GB
- M.2 Slot (M key- SATA only) x 1, M.2 Slot (E key) x 1
- USB 3.2 Gen 2 Port x 4, USB 2.0 Port x 4
- Intel® LAN 211AT x 3, 219LM for iAMT 12.0 x 1
- SATA 6.0 Gb/s x 2
- PCI-Express [x16] (Gen3) x 1
- ATX Power



Rear Panel I/O Ports

USB	USB 3.2 Gen 2 (10 Gbps) x 4, USB 2.0 x 2
Display I/O	VGA x 1, HDMI x 1
Audio I/O	Mic-in x 1, Line-out x 1
LAN I/O	LAN (RJ-45) port x 4
Serial Port	—
PS/2 Port	—
Others	—

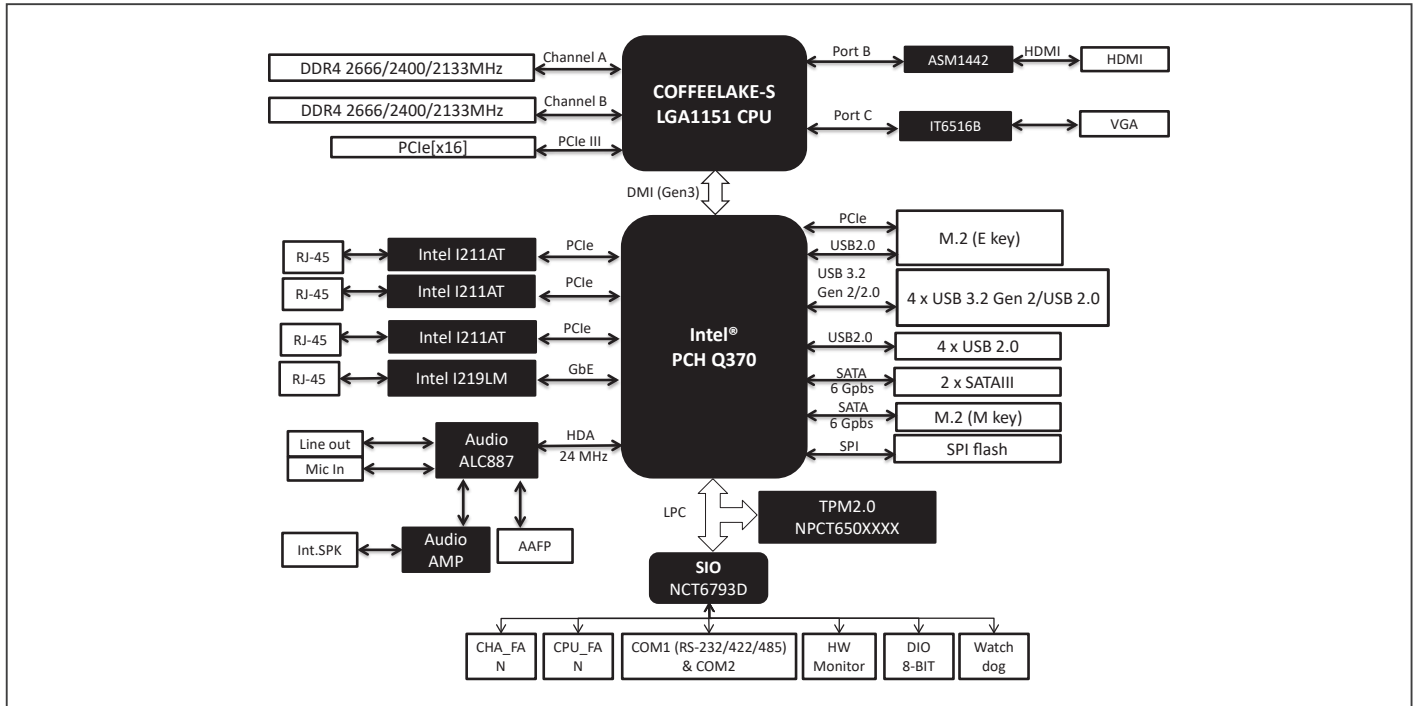
Internal I/O Connectors

Storage	SATA3.0 (6.0Gb/s) x 2, M.2 M-key (22 x 80mm) at bottom side x 1(SATA only)
USB	USB 2.0 (2 x 5-pin, 2.00mm) x 1 ports support additional 2 USB
Display I/O	—
Audio I/O	AAFP x 1, Speaker x 1
Serial Port	Boxer header for COM (RS-232/422/485) x 1 Boxer header for COM (RS-232) x 1
PS/2 Port	—
Parallel Port	—
DIO	Digital I/O box header x 1
FAN	4-pin CPU Fan connector x 1, 4-pin Chassis Fan connector x 1
Power	—
Others	Front Panel connector x 1 Chassis Intrusion x 1 Buzzer onboard x 1 CMOS jumper x 1
OS	
OS Support	Windows® 10 64-bit, Linux Ubuntu 18.04. 64-bit

Packing List

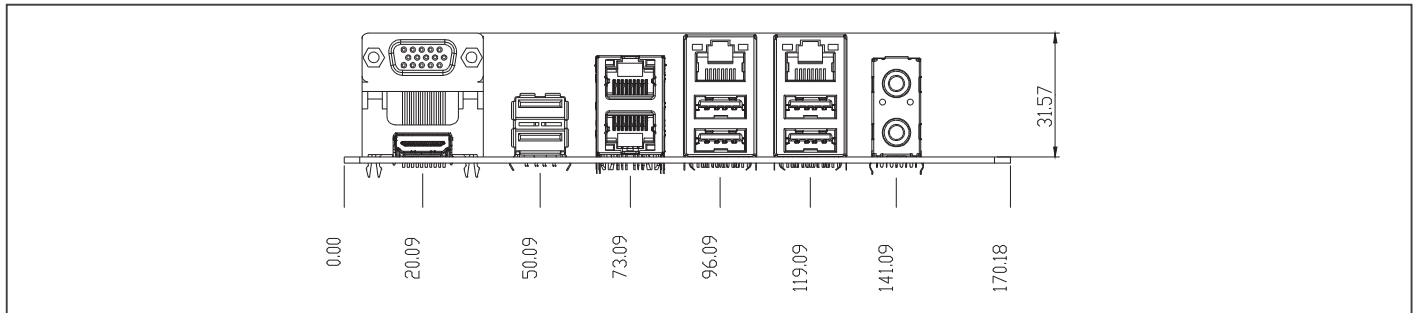
- SATA Cable
- I/O Shield
- MIX-Q370A1

Block Diagram



Dimension

Unit: mm



Ordering Information

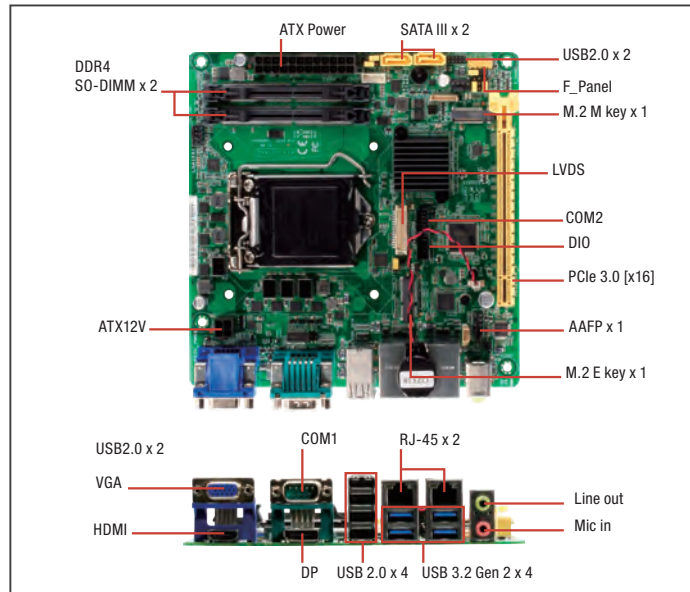
Part number	CPU	RAM	Fan/Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
MIX-Q370A1-A10-4L	Socket	SODIMM x 2	Fan	VGA, HDMI	SATA3 x2, M.2(M-key)	—	GbE x 4	USB2.0 x 4 USB 3.2 Gen 2 x 4	1	1	PCIe3.0[x16] x 1, M.2(E-Key) x 1	ATX	—	0-60°C
MIX-Q370A1-A10-2L	Socket	SODIMM x 2	Fan	VGA, HDMI	SATA3 x2, M.2(M-key)	—	GbE x 2	USB2.0 x 4 USB 3.2 Gen 2 x 4	1	1	PCIe3.0[x16] x 1, M.2(E-Key) x 1	ATX	—	0-60°C

Optional Accessories

Part Number	Description
1759200172	CPU Cooler (2-Ball, Screw with Retention Plate)
175921156B	CPU Cooler (2-Ball, Push-pin Type)
COOLER -65W-01	CPU Cooler
1709100201	USB 2.0 Cable (10P, 200mm, p=2.00mm, w/bracket)
1701100206	COM Cable (200mm, p=2.00mm)
1700100491	USB 2.0 Cable (10P, 490mm, p=2.00mm)
1709050201	USB 2.0 Cable (5P, 220mm, p=2.00mm)

MIX-Q370A2

Mini-ITX with 8th/9th Generation Intel® Core™ LGA1151 Socket Processor, Max. 65W TDPs, Giga-LAN x 2



Specifications

System	
Processor	8th/9th Gen. Intel® Core™ LGA 1151 socket Processor (formerly Coffee Lake-S), Max. 65W TDPs
Chipset	Intel® Q370 Express Chipset
Memory	DDR4 2666/2400/2133 MHz SODIMM x 2, Up to 32GB, Non-ECC, Un-buffered Memory, Dual channel memory architecture
I/O Chipset	NCT6793D
Ethernet	Intel® PCIe Gb LAN 219LM x 1, Intel® PCIe Gb LAN i211AT x 1
Audio	Realtek® ALC887 with Amp.
TPM	NPCT650ABBYX TPM2.0 (default: No)
Expansion Slots	PCIe3.0 [x16] x 1
BIOS	256Mbit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 step by software program
Smart Fan Control	CPU Fan/ Chassis Fan
Wake On LAN/ PXE	Yes (WOL / PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® UHD Graphics
Graphics Multi Display	HDMI+VGA+DP+LVDS
VGA	Up to 1920 x 1200 @ 60 Hz
DVI	—
HDMI	Up to 3840 x 2160 @30 Hz(HDMI 1.4b)
Display Port	Up to 4096 x 2160 @ 24 Hz / 3840 x 2160 @ 60 Hz
LVDS	Up to 1920 x 1200 @60 Hz, Dual Channel 18/24 bit (1 x inverter)
eDP	—
Backlight Control	—
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	ATX
Operation Temperature	32°F ~140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~185°F (-40°C ~85°C)
Operation Humidity	0%~90%RH, non-condensing
Certificate	CE & FCC
Form Factor	Mini-ITX: 6.7" x 6.7" (170mm x 170mm)
Weight	1.1 lb (0.5 kg)
MTBF (Hours)	329,280

Features

- 8th /9th Gen. Intel® Core™ LGA1151 Processor
- DDR4 DRAM Support, 2666MHz, Max. 32GB
- M.2 Slot (M key) x 1, M.2 Slot (E key) x 1
- USB 3.2 Gen 2 Port x 4, USB 2.0 Port x 6
- Intel® Gigabit Ethernet x 2
- SATA 6.0 Gb/s x 2
- PCI-Express [x16] (Gen3) x 1
- ATX Power



Rear Panel I/O Ports

USB	USB 3.2 Gen 2 (10 Gbps) x 4, USB2.0 x 4
Display I/O	VGA x 1, HDMI x 1, DP x 1
Audio I/O	Mic-in x 1, Line-out x 1
LAN I/O	LAN (RJ-45) port x 2
Serial Port	1x COM(RS485/422/232)
PS/2 Port	—
Others	—

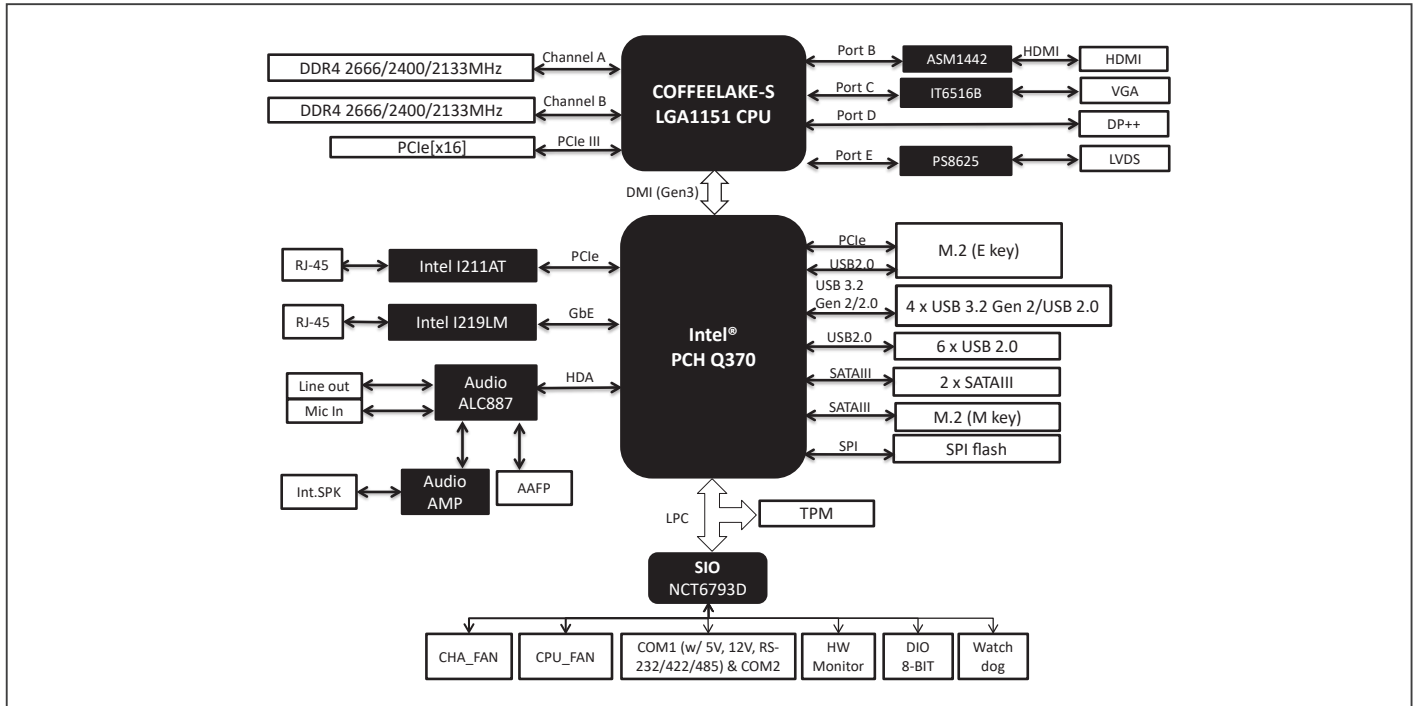
Internal I/O Connectors

Storage	SATA3.0 (6.0Gb/s) x 2, M.2 M-key (22 x 80mm) x 1
USB	USB 2.0 (2 x 5-pin, 2.00mm) x 1 port support additional 2 USB.
Display I/O	LVDS x 1
Audio I/O	AAFP x 1, Speaker x 1
Serial Port	Boxer header for COM (RS-232) x 1
PS/2 Port	—
Parallel Port	—
DIO	Digital I/O box header x 1
FAN	4-pin CPU Fan connector x 1, 4-pin Chassis Fan connector x 1
Power	—
Others	Front Panel connector x 1 Chassis Intrusion x 1 Buzzer onboard x 1 CMOS jumper x 1
OS	
OS Support	Windows® 10 64-bit, Linux Ubuntu 18.04 LTS

Packing List

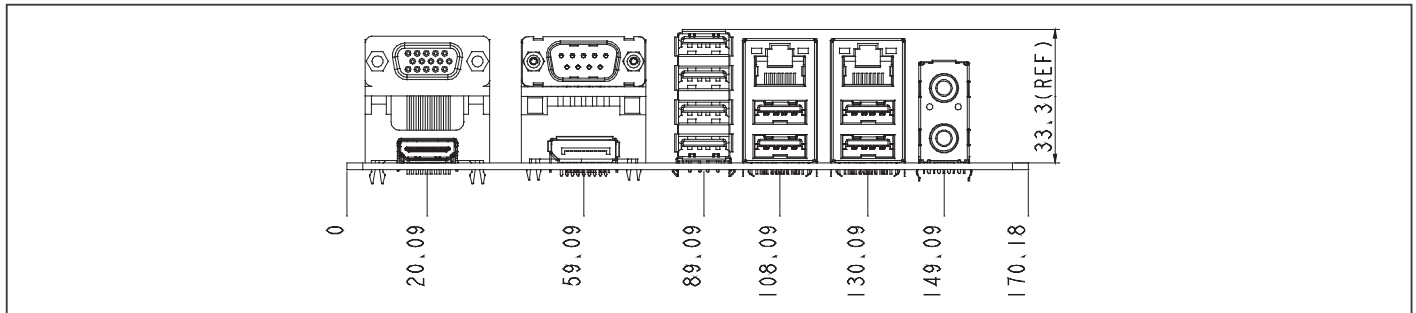
- SATA Cable
- I/O Shield
- MIX-Q370A2

Block Diagram



Dimension

Unit: mm



Ordering Information

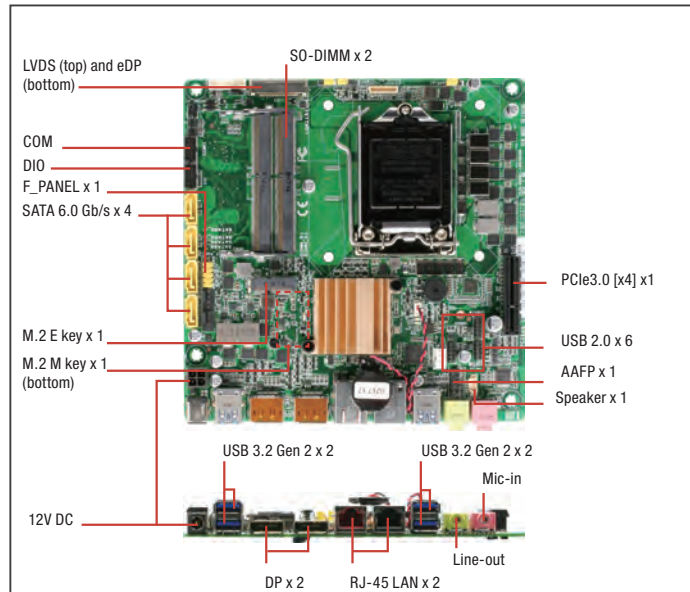
Part number	CPU	RAM	Fan/Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
MIX-Q370A2-A11	Socket	SODIMM x 2	Fan	VGA, HDMI, DP, LVDS	SATA3 x 2, M.2(M-key)	1	GbE x 2	USB 2.0 x 6 USB 3.2 Gen 2 x 4	1	1	PCIe3.0[x16] x 1	ATX	—	0-60°C

Optional Accessories

Part Number	Description
1759200172	CPU Cooler (2-Ball, Screw with Retention Plate)
175921156B	CPU Cooler (2-Ball, Push-pin Type)
COOLER-65W-01	CPU Cooler
1709100201	USB 2.0 Cable (10P, 200mm, p=2.00mm, w/bracket)
1701100206	COM Cable (200mm, p=2.00mm)
1700100491	USB 2.0 Cable (10P, 490mm, p=2.00mm)
1709050201	USB 2.0 Cable (5P, 220mm, p=2.00mm)

MIX-Q370D1

Mini-ITX with 8th/9th Gen Intel® Core™ Processor Family, DDR4 DRAM, USB x 10, Max. 65W TDPs



Specifications

System	
Processor	8th/9th Generation Intel® Core™ i7/ i5 /i3, Pentium® LGA 1151 socket Processor (formerly Coffee Lake-S), Max. 65W TDPs
Chipset	Intel® Q370 Express Chipset
Memory	SODIMM x 2, Max. 32GB, DDR4 2666/2400 MHz, Non-ECC, Un-buffered Memory, Dual channel
I/O Chipset	NCT6793D
Ethernet	Intel® PHY i219LM Giga LAN (support Intel® AMT 12.0) x 1 Intel® i210AT Giga LAN x 1
Audio	Realtek® ALC887
TPM	Nuvoton TPM version 2.0
Expansion Slots	PCIe 3.0 [x4] x 1 M.2 M key (22 x 80 mm) x 1 at Bottom side, SATA & PCIe [x4] M.2 E key (22 x 30 mm) x 1 for Wireless-wifi module (PCIe+USB)
BIOS	256M bit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/Chassis Fan
Wake On LAN/ PXE	Yes (WOL/PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® UHD Graphics
Graphics Multi Display	Three Independent Display
VGA	—
DVI	—
HDMI	—
Display Port	Up to 4096 x 2160 @ 24 Hz / 3840 x 2160 @ 60 Hz, with Digital Audio, DP++ supported
LVDS	LVDS Up to 1920 x 1200 @ 60 Hz, dual-channel 18/24 bit (via Chrontel 7511)
eDP	eDP UP to 4096 x 2304 @ 60Hz
Backlight Control	Voltage/PWM
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	12V DC
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% R/H, non-condensing
Certificate	CE & FCC (Class A)
Form Factor	Mini-ITX: 6.7" x 6.7" (170 mm x 170 mm)
Weight	1.1 lb (0.5 Kg)
MTBF (Hours)	256,310

Features

- DDR4 SODIMM x 2, Up to 32 GB
- Three Independent Display: DP x 2, eDP x 1, LVDS x 1
- Intel® LAN 210AT x 1, 219LM for iAMT 12.0 x 1
- M.2 Slot (M-key) x 1
- M.2 Slot (E-key) x 1
- USB 3.2 Gen 2 x 4, USB 2.0 x 6
- PCIe [x4] x 1
- Low Profile
- 12V DC Power Input
- Support Intel® NVMe M.2 SSD



Rear Panel I/O Ports

USB	USB 3.2 Gen 2 (10 Gbps) x 4
Display I/O	DP x 2
Audio I/O	Mic-in x 1, Line out x 1
LAN I/O	LAN (RJ45) port x 2
Serial Port	—
PS/2 Port	—
Others	DC Jack

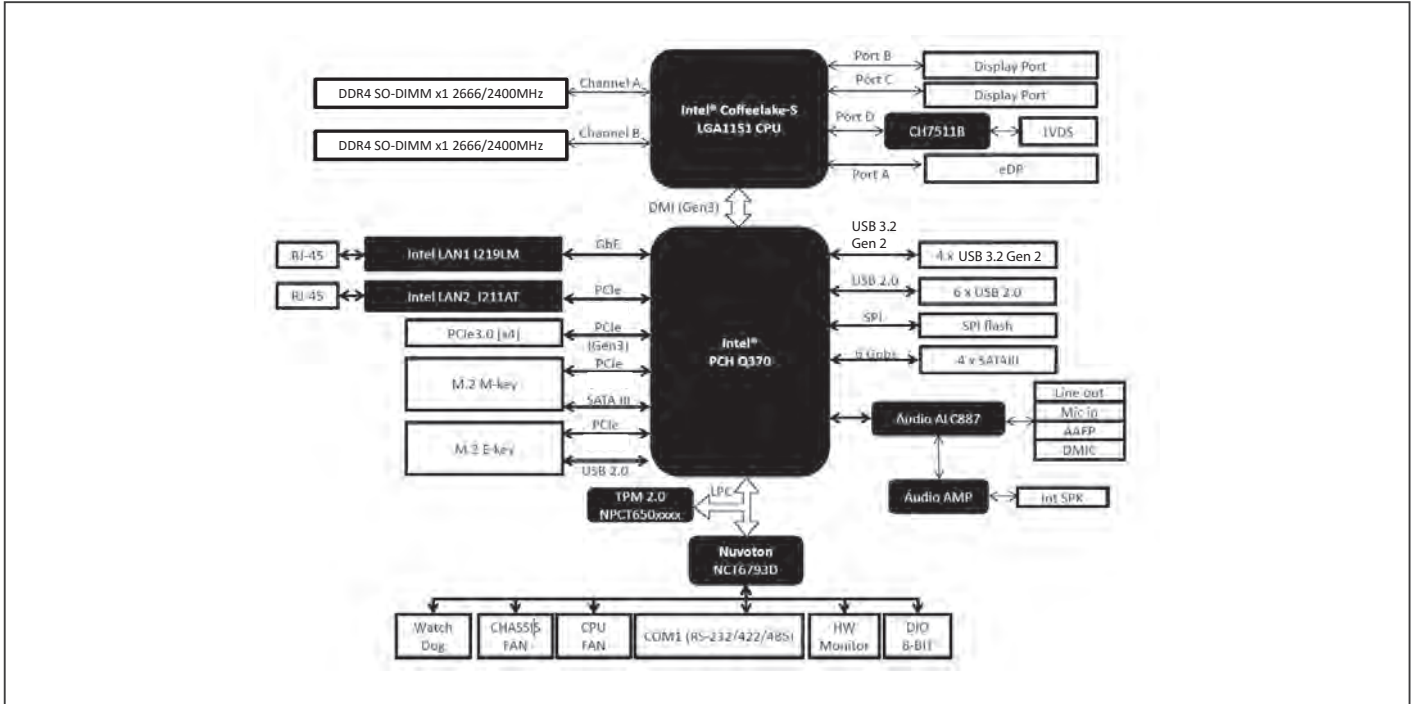
Internal I/O Connectors

Storage	SATA 6.0Gb/s x4 M.2 M key (22 x 80 mm) x1 (Support Intel® NVMe M.2 SSD)
USB	3 x USB 2.0 pin header support additional 6 USB ports
Display I/O	40-pin LVDS connector x 1 40-pin eDP connector x 1 LCD backlight connector (inverter) x 1
Audio I/O	Speaker for 2W/4Ω x 1 AAFP follow ASUS pin out x 1
Serial Port	Boxer header x 1 for COM (COM1: RS-232/422/485 supports 5V/12V/RI)
PS/2 Port	—
Parallel Port	—
DIO	8-bit x 1 (In/Out programmable)
FAN	4-pin Chassis Fan connector x 1 4-pin CPU Fan connector x 1
Power	12V DC Power jack x 1
Others	Front panel header x 1 Clear CMOS jumper x 1 AT/ATX select jumper x 1 Chassis Intrusion x 1 4-pin SATA power x 1
OS	
OS Support	Windows® 10 64 bit, Ubuntu 16.04 LTS

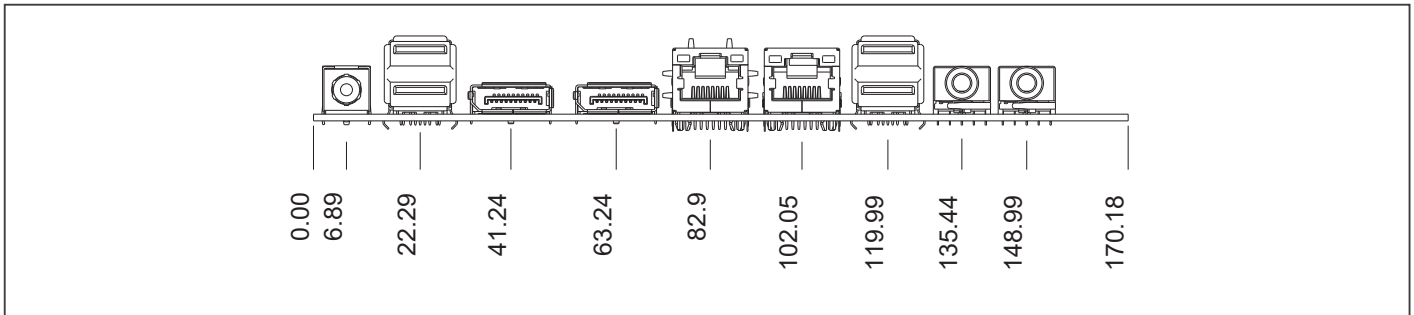
Packing List

- SATA Cable
- SATA Power Cable
- I/O Shield
- MIX-Q370D1

Block Diagram



Dimension Unit: mm



Ordering Information

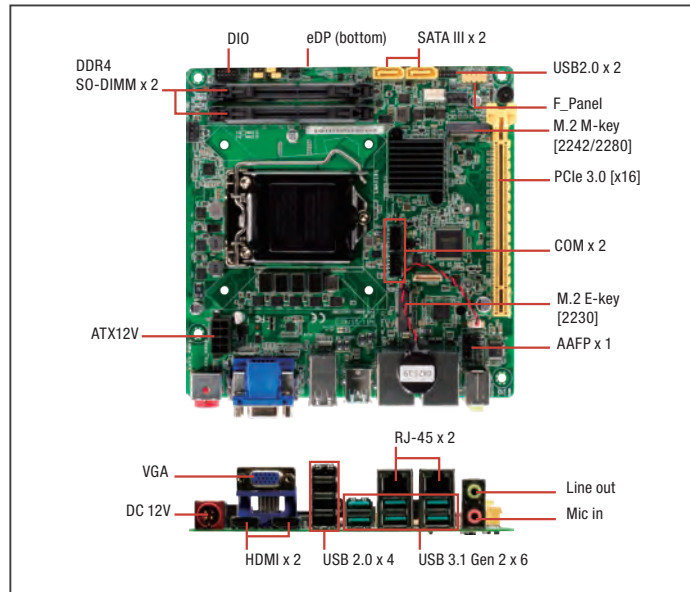
Part Number	CPU	RAM	Fan/Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
MIX-Q370D1-A11	Socket	SODIMM x 2	Fan	DP x 2, LVDS, eDP	SATA3 x 4, M.2(M-key)	Dual Channel 18/24 bit	GbE x 2	USB2.0 x 6, USB 3.2 Gen 2 x 4	—	1	PCIe3.0(x4) x 1, M.2(M-key) x 1, M.2(E-Key) x 1	12V DC	—	32°F -140°F (0°C - 60°C)

Optional Accessories

Part Number	Description
1759200172	(TF)CPU Cooler Fan, LGA 1156 socket, 4P, 12V, 2-Ball Bearing, Dynatron, K785, (2U cooler)
175921156B	(TF)CPU Cooler Fan, LGA 1156 socket, 12V, 4P, 2Ball (Tray), Dreamer, DSA-00273
COOLER-65W-01	CPU Cooler, LGA 1156, 12V, 65W, 4P, Kingcooler, 0571-1463R
1709100201	USB 2.0 Cable (10P, 200MM, p=2.00mm, w/bracket)
1700100491	USB 2.0 Cable (2 x 5P, 490mm, p=2.00mm)
1709050201	USB 2.0 Cable (5P, 220mm, p=2.00mm)
1701100206	COM Cable (200MM, p=2.00mm)
1702150300	SATA Power Cable (4P, 300MM p=2.54mm)

MIX-Q370D2

Mini-ITX with Intel® 8th / 9th Generation Core™ LGA1151 Socket Processor, Max. 65W TDPs, USB 3.2 Gen 2 Port x 6, USB 2.0 Port x 6, 12V DC input



Features

- 8th/9th Gen. Intel® Core™ LGA1151 Processor
- DDR4 DRAM Support, 2666MHz, Max. 64GB
- M.2 Slot (M key; NVME/SATA) x 1, M.2 Slot (E key) x 1
- USB 3.2 Gen 2 Port x 6, USB 2.0 Port x 6
- Intel® Gigabit Ethernet x 2
- SATA 6.0 Gb/s x 2
- PCI-Express [x16] (Gen3) x 1
- 12VDC input



Specifications

System	
Processor	8th/9th Gen. Intel® Core™ LGA 1151 socket Processor (formerly Coffee Lake-S), Max. 65W TDPs
Chipset	Intel® Q370 Express Chipset
Memory	DDR4 2666/2400/2133 MHz SODIMM x 2, Up to 64GB, Non-ECC, Un-buffered Memory, Dual channel memory architecture
I/O Chipset	NCT6793D
Ethernet	Intel® GbE LAN i219V x 1, Intel® GbE LAN i211AT x 1
Audio	Realtek® ALC887
TPM	NPCT750AAAYX TPM2.0
Expansion Slots	PCIe3.0 [x16] x 1 M.2 E-key(22 x 30 mm) x1 for Wireless-wifi module (PCIe+USB; CNVi)
BIOS	256Mbit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/Chassis Fan
Wake On LAN/PXE	Yes (WOL/PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® UHD Graphics
Graphics Multi Display	HDMI x 2 + VGA + eDP
VGA	Up to 1920 x 1200 @ 60 Hz
DVI	—
HDMI	Up to 3840 x 2160 @30 Hz(HDMI 1.4b)
Display Port	—
LVDS	—
eDP	eDP UP to 4096 x 2304 @ 60Hz
Backlight Control	Support eDP
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	12V DC
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% R/H, non-condensing
Certificate	CE & FCC
Form Factor	Mini-ITX: 6.7" x 6.7" (170 mm x 170 mm)
Weight	1.1 lb (0.5 Kg)
MTBF (Hours)	319,160
Rear Panel I/O Ports	
USB	USB 3.2 Gen2 x 6, USB2.0 x 4

Display I/O	VGA x 1, HDMI x 2
Audio I/O	Mic-in x 1, Line-out x 1
LAN I/O	LAN (RJ-45) port x 2
Serial Port	—
PS/2 Port	—
Others	12V DC Jack (max:192W)

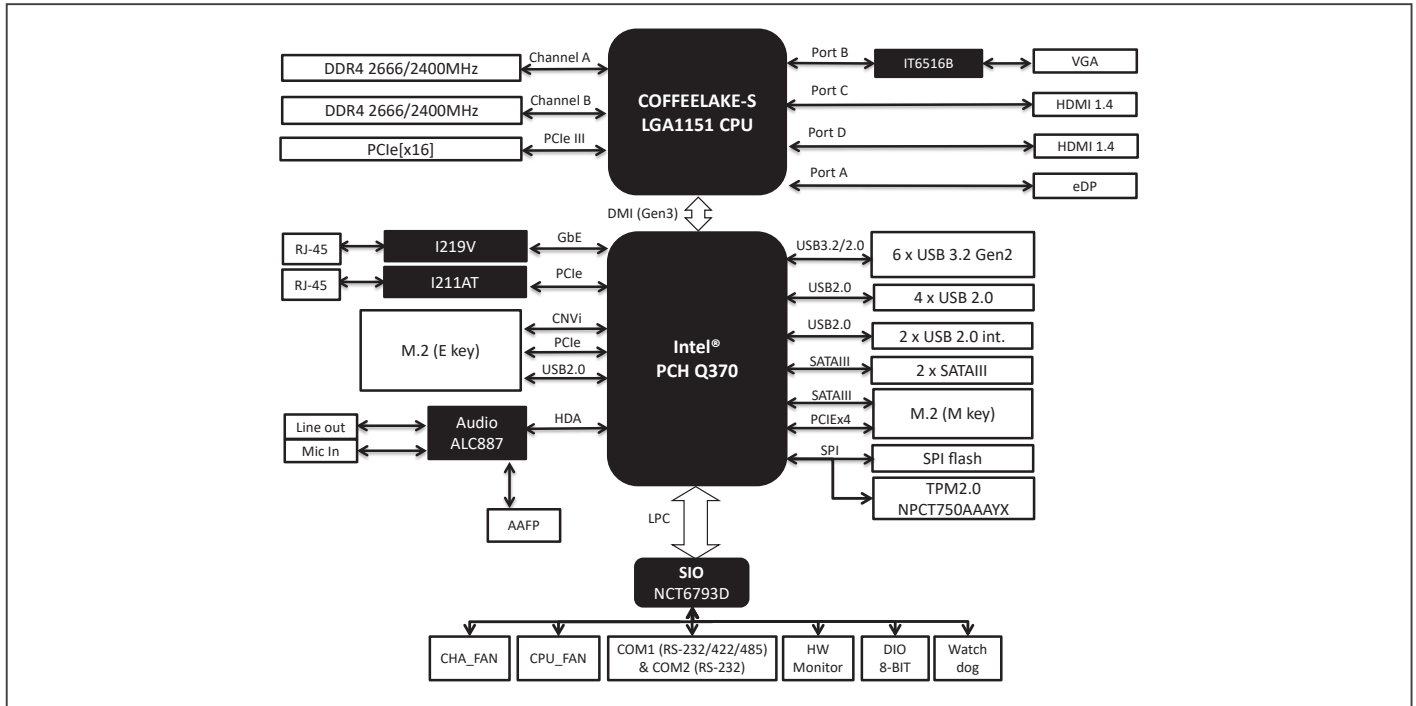
Internal I/O Connectors

Storage	SATA3.0 (6.0Gb/s) x 2 M.2 M-key (22 x 42/80mm; NVME/SATA) x 1
USB	USB 2.0 (2 x 5-pin, 2.00mm) x 1 port support additional 2 USB
Display I/O	eDP x 1
Audio I/O	AAFP x 1
Serial Port	Boxer header for COM (RS-232) x 1; RS-232/422/485 x 1
PS/2 Port	—
Parallel Port	—
DIO	Digital I/O box header x 1
FAN	4-pin CPU Fan connector x 1, 4-pin Chassis Fan connector x 1
Power	12V ATX Power Connector x 1
Others	Front Panel connector x 1 Chassis Intrusion x 1 Buzzer onboard x 1 CMOS jumper x 1 SATA Power connector x 1 SPI ROM programming header x 1 ATX/AT mode jumper x 1 eDP backlight power jumper x 1 eDP T-con IC power jumper x 1
OS	
OS Support	Windows® 10 64-bit, Linux Ubuntu 18.04.2

Packing List

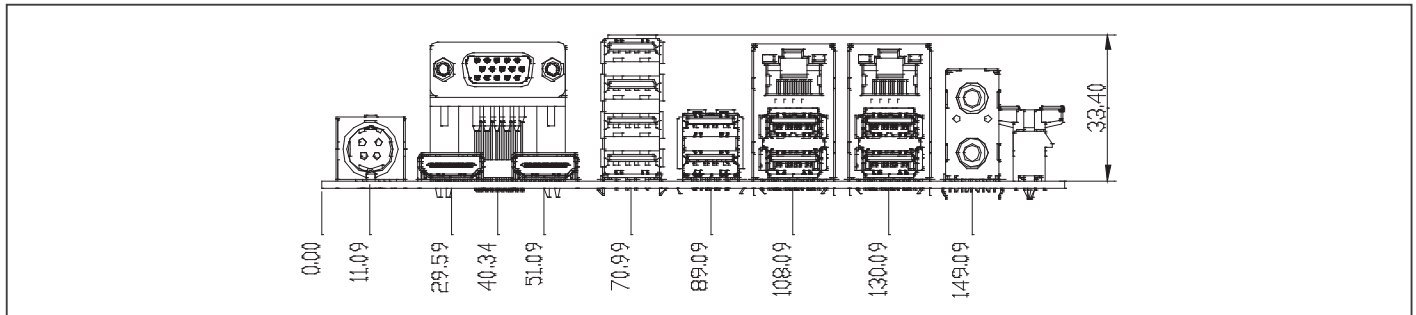
- SATA Cable
- SATA Power Cable
- I/O Shield
- MIX-Q370D2

Block Diagram



Dimension

Unit: mm



Ordering Information

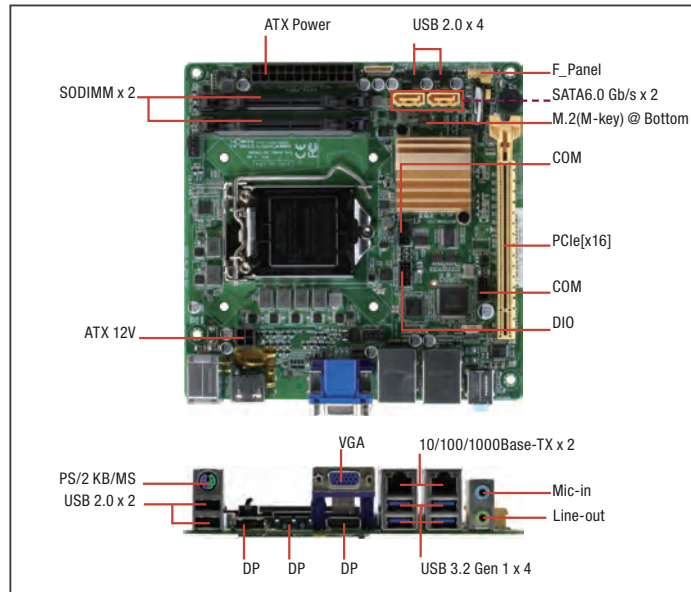
Part Number	CPU	RAM	Fan/Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
MIX-Q370D2-A10	Socket	SODIMM x 2	Fan	VGA, HDMI x 2, eDP	SATA3 x2 M.2(M-key) x 1	—	GbE x 2	USB2.0 x 6 USB3.2 Gen 2 x 6	1	1	PCIe3.0[x16] x 1 M.2(E-Key) x 1	12V DC	2.0	32°F -140°F (0°C - 60°C)

Optional Accessories

Part Number	Description
1759200172	CPU Cooler (2-Ball, Screw with Retention Plate)
175921156B	CPU Cooler (2-Ball, Push-pin Type)
COOLER-65W-01	CPU Cooler, LGA 1156, 12V, 65W, 4P, Kingcooler, 0571-1463R
1709100201	USB 2.0 Cable (10P, 200MM, p=2.00mm, w/bracket)
1701100206	COM Cable (200MM, p=2.00mm)
1700100491	USB 2.0 Cable (10P, 490mm, p=2.00mm)
1255X00011	(TF)AC/DC Adapter.12V.192W.16A.FSP192-AHAN3.9NA1920100

EMB-Q170A

6th/7th Generation Intel® Core™ i Series, LGA1151 Socket Processor, Max. 65W TDPs, M.2 x 1, SATA 6.0 Gb/s x 2, USB x 10



Specifications

System	
Processor	6th/7th Generation Intel® Core™ i7/i5/i3, LGA1151 Socket Processor, Max. 65W TDPs
Chipset	Intel® Q170
Memory	DDR4 2133/1867 MHz SODIMM x 2, Up to 32GB, Non-ECC, Un-buffered Memory, Dual channel memory architecture
I/O Chipset	NCT6791D
Ethernet	Intel® PCIe Gb LAN 219LM x 1, Intel® PCIe Gb LAN i211AT x 1
Audio	Realtek® ALC887
TPM	Infineon SLB96XX TT 1.2/2.0 (default: No)
Expansion Slots	PCIe3.0 [x16] x 1, M.2 M-key(22 x 80 mm) at bottom side x 1
BIOS	128M bit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/ Chassis Fan
Wake On LAN/PXE	Yes (WOL/PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® HD Graphics
Graphics Multi Display	DP+DP, DP+VGA, DP+DP+VGA, DP+DP+DP
VGA	Up to 1920 x 1200 @60 Hz
DVI	—
HDMI	—
Display Port	Up to 4096 x 2160 @24 Hz / 3840 x 2160 @60 Hz, with Digital Audio
LVDS	—
eDP	—
Backlight Control	—
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	ATX
Operating Temperature	32°F ~140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~185°F (-40°C ~85°C)
Operating Humidity	0% ~ 90% R/H, non-condensing
Certificate	CE & FCC
Form Factor	Mini-ITX: 6.7" x 6.7" (170 mm x 170 mm)
Weight	1.1 lb (0.5 Kg)
MTBF (Hours)	221,850

Features

- LGA1151 Socket For 6th/7th Generation Intel® Core™ i Series Processor
- DDR4 SODIMM x 2, Up to 32 GB
- Three Independent Display: DP x 3, VGA x 1
- 4K for Display Port
- Intel® LAN 211AT x 1, LAN 219LM for vPro x 1 (LAN1 Supports iAMT11.0)
- SATA 6.0 Gb/s x 2, M.2 slot (M-key) x 1
- PCI-Express [x16] (Gen3) x 1
- ATX Power



Rear Panel I/O Ports

USB	USB 3.2 Gen 1 (5 Gbps) x 4, USB 2.0 x 2
Display I/O	VGA x 1, DP x 3
Audio I/O	Mic-in x 1, Line-out x 1
LAN I/O	LAN (RJ-45) port x 2
Serial Port	—
PS/2 Port	PS/2 for KB/MS x 1
Others	—

Internal I/O Connectors

Storage	SATA3.0 (6.0Gb/s) x 2, M.2 M-key (22 x 80 mm) at bottom side x 1
USB	USB 2.0 (2 x 5-pin, 2.00mm) x 2 ports support additional 4 USB.
Display I/O	—
Audio I/O	Speaker x 1
Serial Port	Boxer header for COM (RS-232/422/485) x 1, Boxer header for COM (RS-232) x 1
PS/2 Port	—
Parallel Port	—
DIO	Digital I/O box header x 1
FAN	4-pin CPU Fan connector x 1, 4-pin Chassis Fan connector x 1
Power	ATX Power Connector x 2, AT/ATX mode select jumper (optional) x 1
Others	Front Panel connector x 1, Chassis Intrusion x 1, Buzzer onboard x 1, CMOS jumper x 1

OS

OS Support	Windows® 7 32/64-bit, Windows® 8.1 32/64-bit, Windows® 10 64-bit, Ubuntu16.04.02/Kernel4.8.0
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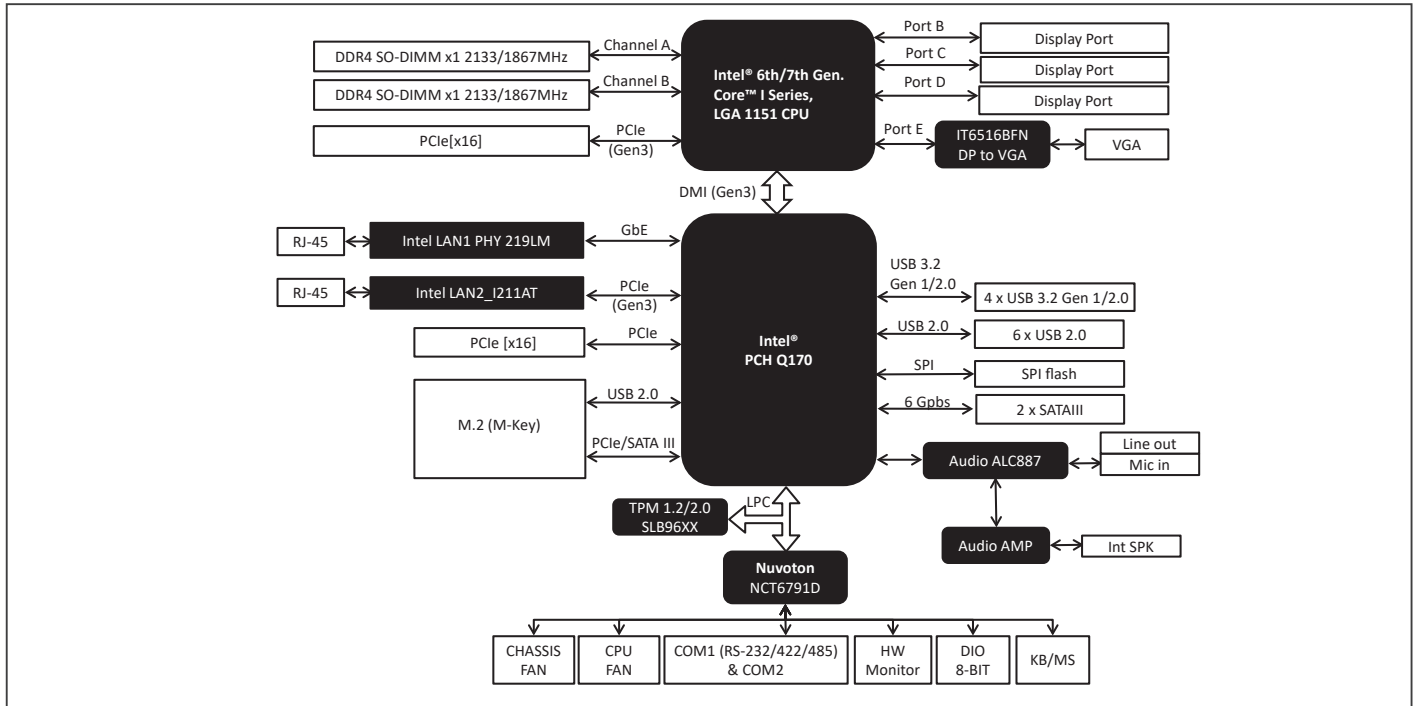
Packing List

- 14001-00630100
SATA 6G Cable (7P, 180; 90, 500mm 2 in1)
- I/O Shield
- EMB-Q170A

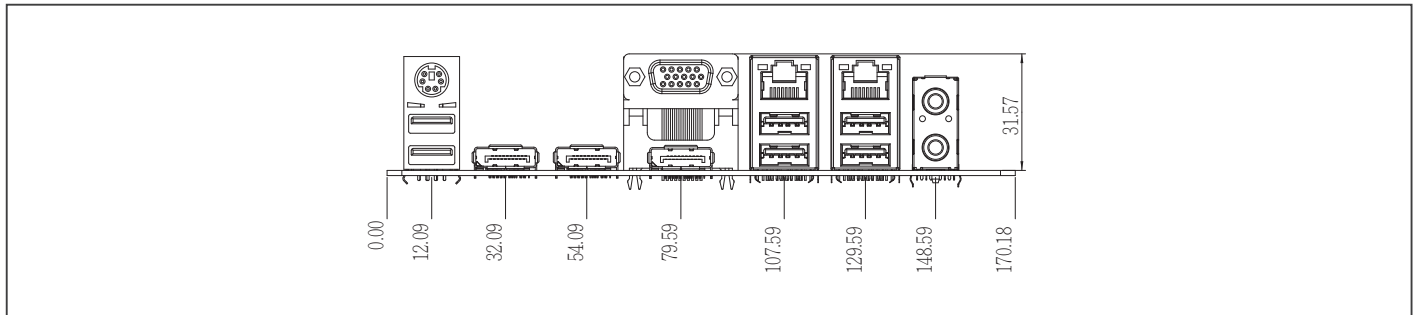
Optional Accessories

Part Number	Description
1759200172	CPU Cooler (2-Ball, Screw with Retention Plate)
175921156B	CPU Cooler (2-Ball, Push-pin Type)
COOLER-65W-01	CPU Cooler
1709100201	USB 2.0 Cable (10P, 200MM, p=2.00mm, w/ bracket)
1701100206	COM Cable (200MM, p=2.00mm)
1700100491	USB 2.0 Cable (10P, 490mm, p=2.00mm)
1709050201	USB 2.0 Cable (5P, 220mm, p=2.00mm)

Block Diagram



Dimension Unit: mm

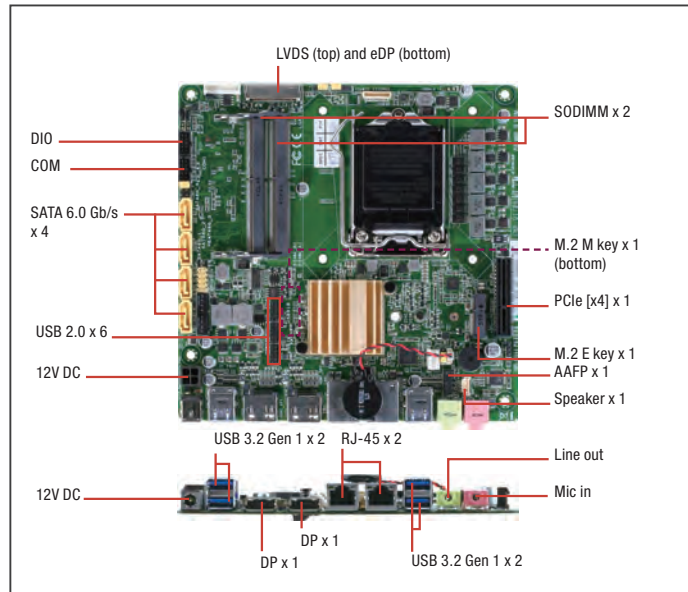


Ordering Information

Part Number	CPU	RAM	Fan/Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
EMB-Q170A-A10-K	Socket	SODIMM x 2	Fan	VGA, DP	SATA3 x 2, M.2(M-key)	—	GbE x 2	USB 3.2 Gen 1 x 4, USB2.0 x 6	1	1	PCIe3.0[x16] x 1, M.2(M-key) x 1	ATX	—	32°F ~140°F (0°C ~ 60°C)

EMB-Q170B

6th/7th Generation Intel® Core™ i Series, LGA1151 Socket Processor, Max. 65W TDPs, M.2 x 2, SATA 6.0 Gb/s x 2, USB x 10



Specifications

System	
Processor	6th/7th Generation Intel® Core™ i7/i5/i3, LGA1151 Socket Processor, Max. 65W TDPs
Chipset	Intel® Q170
Memory	DDR4 2133/1867 MHz SODIMM x 2, Up to 32GB, Non-ECC, Un-buffered Memory, Dual channel memory architecture
I/O Chipset	NCT6791D
Ethernet	Intel® PCIe Gb LAN 219LM for vPro x 1, Intel® PCIe Gb LAN 211AT x 1
Audio	Realtek® ALC887
TPM	Infineon SLB96XX TT 1.2/2.0 (default: No)
Expansion Slots	PCIe 3.0 [x4] x 1 M.2 M key (22 x 80 mm) at Bottom side x 1 M.2 E key (22 x 30 mm) at Top side x 1
BIOS	128M bit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on VCore™ 5V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/ Chassis Fan
Wake On LAN/ PXE	Yes (WOL/PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® HD Graphics
Graphics Multi Display	2DP + LVDS, DP + eDP + LVDS, 2DP + eDP
VGA	—
DVI	—
HDMI	—
Display Port	Up to 4096 x 2160 @24 Hz / 3840 x 2160 @60 Hz, with Digital Audio
LVDS	Up to 1920 x 1200 @60 Hz, dual-channel 18/24-bit
eDP	UP to 4096 x 2340 @60Hz
Backlight Control	Voltage/PWM
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	12VDC
Operating Temperature	32°F ~140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~85°C)
Operating Humidity	0% ~ 90% RH, non-condensing
Certificate	CE & FCC
Form Factor	Mini-ITX: 6.7" x 6.7" (170mm x 170mm)
Weight	1.1 lb (0.5 Kg)
MTBF (Hours)	292,450

Features

- 6th/7th Generation Intel® Core™ i Series, LGA1151 Socket Processor
- DDR4 SODIMM x 2, Up to 32GB
- Three Independent Display: DP x 2, eDP x 1, LVDS x 1
- M.2 Slot (E-key) x 1 @Top Side, (M-key) x 1 @Bottom Side
- PCI-Express [x4] x 1
- Low Profile
- 4K for DP/eDP
- LAN1 Supports iAMT11.0



Rear Panel I/O Ports

USB	USB 3.2 Gen 1 x 4
Display I/O	DP x 2
Audio I/O	Mic-in x 1, Line-out x 1
LAN I/O	LAN (RJ-45) port x 2
Serial Port	—
PS/2 Port	—
Others	DC Jack x 1

Internal I/O Connectors

Storage	SATA3 (6.0Gb/s) x 4, SATA power connector x 1, M.2 M key (22 x 80mm) at Bottom side x 1, M.2 E key (22 x 30mm) at Top side x 1
USB	USB 2.0 (2 x 5-pin, 2.00mm) x 3 ports support additional 6 USB.
Display I/O	40-pin LVDS connector x 1, 40-pin eDP connector x 1, LVDS 3.3V/5V jumper x 1, LCD DC / PWM mode jumper x 1, LCD backlight connector (inverter) x 1, LCD backlight 12V/5V jumper x 1
Audio I/O	AAFP x 1, Speaker x 1 (pin out refer to manual)
Serial Port	Boxer header for COM (RS-232/422/485) x 1
PS/2 Port	—
Parallel Port	—
DIO	Digital I/O box header x 1
FAN	4-pin CPU Fan connector x 1, 4-pin Chassis Fan connector x 1
Power	12V AUX Power Connector x 1, AT/ATX mode select jumper (optional) x 1
Others	Front Panel connector x 1, Chassis Intrusion x 1, Buzzer onboard (pin header) x 1, CMOS jumper x 1
OS	
OS Support	Windows® 7 32/64-bit, Windows® 8.1 32/64-bit, Windows® 10 64-bit, Ubuntu16.04.02/Kernel4.8.0

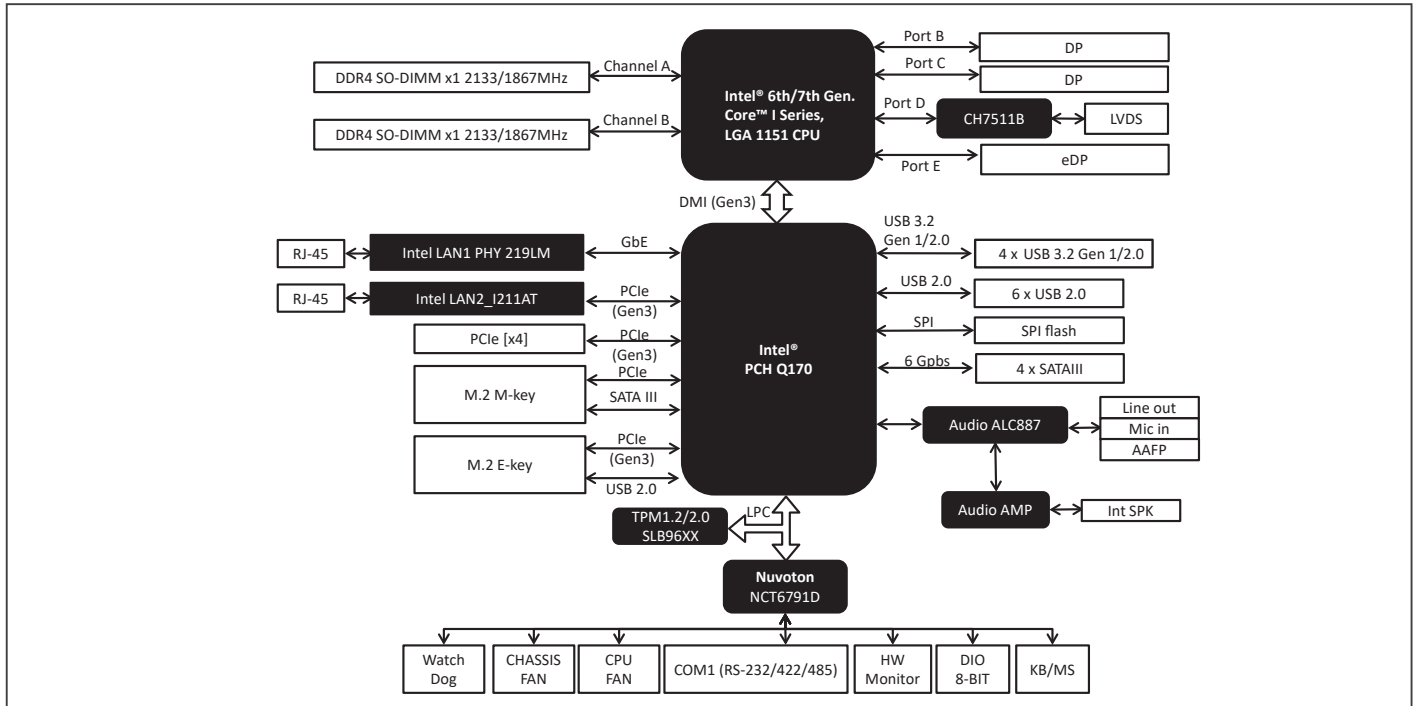
Packing List

- SATA Cable
- SATA Power Cable
- I/O Shield
- EMB-Q170B

Optional Accessories

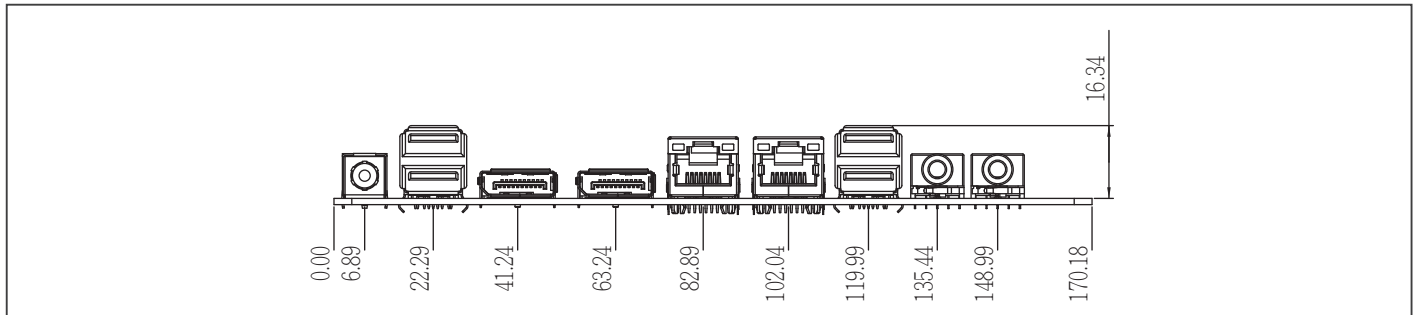
Part Number	Description
1759200172	(TF)CPU Cooler Fan, LGA 1156 socket, 4P, 12V, 2-Ball Bearing, Dynatron, K785 (2U cooler)
175921156B	(TF)CPU Cooler Fan, LGA 1156 socket, 12V, 4P, 2Ball (Tray), Dreamer, DSA-00273
1709100201	USB 2.0 Cable (10P, 200MM, p=2.00mm, w/bracket)
1701100206	COM Cable (200MM, p=2.00mm)
1702150300	SATA Power Cable (4P, 300MM p=2.54mm)
COOLER-65W-01	CPU Cooler, LGA 1156, 12V, 65W, 4P, Kingcooler, 0571-1463R
1702151201	SATA Power Cable (4P, 120MM, p=2.5mm)
1700100491	USB 2.0 Cable (2 x 5P, 490mm, p=2.00mm)
125590084A	Adapter 12V, 84W/N3
1709050201	USB 2.0 Cable (5P, 220mm, p=2.00mm)

Block Diagram



Dimension

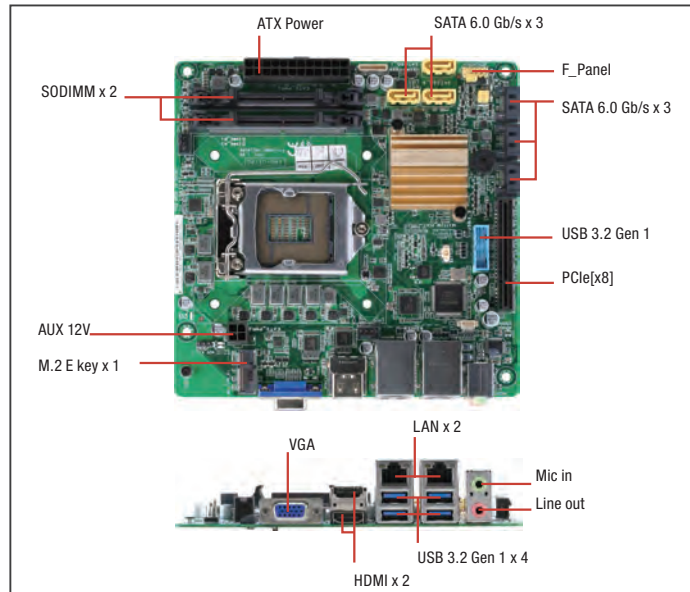
Unit: mm



Order Information

Part Number	CPU	RAM	Fan/Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
EMB-Q170B-A10-K	Socket	SODIMM x 2	Fan	LVDS, eDP, DP	SATA3 x 4, M.2 (M-key)	Dual Channel 18/24 bit	GbE x 2	USB 3.2 Gen 1 x 4, USB2.0 x 6	—	1	PCIe [x4] x 1, M.2(M-key) x 1, M.2(E-Key) x 1	12VDC	—	32°F ~ 140°F (0°C ~ 60°C)

6th/7th Generation Intel® Core™ i Series, LGA1151 Socket Processor, Max. 65W TDPs, M.2 x 1, SATA 6.0 Gb/s x 6



Specifications

System	
Processor	6th/7th Generation Intel® Core™ i7/ i5 /i3, LGA 1151 socket Processor, Max. 65W TDPs
Chipset	Intel® Q170
Memory	DDR4 2133/1867 MHz SODIMM x 2, Up to 32GB, Non-ECC, Un-buffered Memory, Dual channel memory architecture
I/O Chipset	NCT6791D
Ethernet	Intel® PCIe Gb LAN 219LM for vPro x 1, Intel® PCIe Gb LAN i211AT x 1
Audio	Realtek® ALC887 with Amp.
TPM	Infineon SLB9665 TT 2.0 (optional)
Expansion Slots	PCIe3.0 [x8] x 1 M.2 E-key (22 x 30 mm) for PCIe x 1
BIOS	128Mbit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/Chassis Fan
Wake On LAN / PXE	Yes (WOL/PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® HD Graphics
Graphics Multi Display	VGA + HDMI + HDMI
VGA	Up to 1920 x 1200 @ 60 Hz
DVI	—
HDMI	Up to 4096 x 2160 @24 Hz ; 3840 x 2160 @60 Hz, with Digital Audio
Display Port	—
LVDS	—
eDP	—
Backlight Control	—
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	ATX
Operating Temperature	32°F ~140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0%~90% R/H, non-condensing
Certificate	CE & FCC
Form Factor	Mini-ITX 6.7" x 6.7" (170mm x 170mm)
Weight	1.1 lb (0.5 Kg)
MTBF (Hours)	282,880

Features

- 6th/7th Generation Intel® Core™ i Series, LGA 1151 Socket Processor, Max. 65W TDPs
- DDR4 SODIMM x 2, Up to 32 GB
- Three Independent Display : VGA x 1, HDMI x 2
- SATA 6.0Gb/s x 6, M.2 E-key 2230 for PCIe
- PCIe [x8] x 1
- ATX Power
- LAN1 Supports iAMT11.0



Back Panel I/O Ports

USB	USB 3.2 Gen 1 (5 Gbps) x 4
Display I/O	VGA x 1, HDMI x 2
Audio I/O	Mic-in x 1, Line out x 1
LAN I/O	LAN (RJ45) port x 2
Serial Port	—
PS/2 Port	—
Others	—

Internal I/O Connectors

Storage	SATA3 (6.0Gb/s) x 6, SATA power connector x 1
USB	USB 3.2 Gen 1 (2x10-PIN, 2.00mm) x 1 port supports additional 2 USB
Display I/O	—
Audio I/O	Speaker x 1
Serial Port	—
PS/2 Port	—
Parallel Port	—
DIO	—
FAN	4-pin CPU Fan connector x 1, 4-pin Chassis Fan connector x 1
Power	12V AUX Power Connector x 1, AT/ATX mode select jumper (optional) x 1
Others	M.2 E-key(22 x 30 mm) for PCIe x 1 Front Panel connector x 1 Chassis Intrusion x 1 Buzzer onboard x 1 CMOS jumper x 1
OS	
OS Support	Windows® 7 32/64-bit, Windows® 8.1 64-bit, Windows® 10 64-bit, Ubuntu16.04.02/Kernel4.8.0

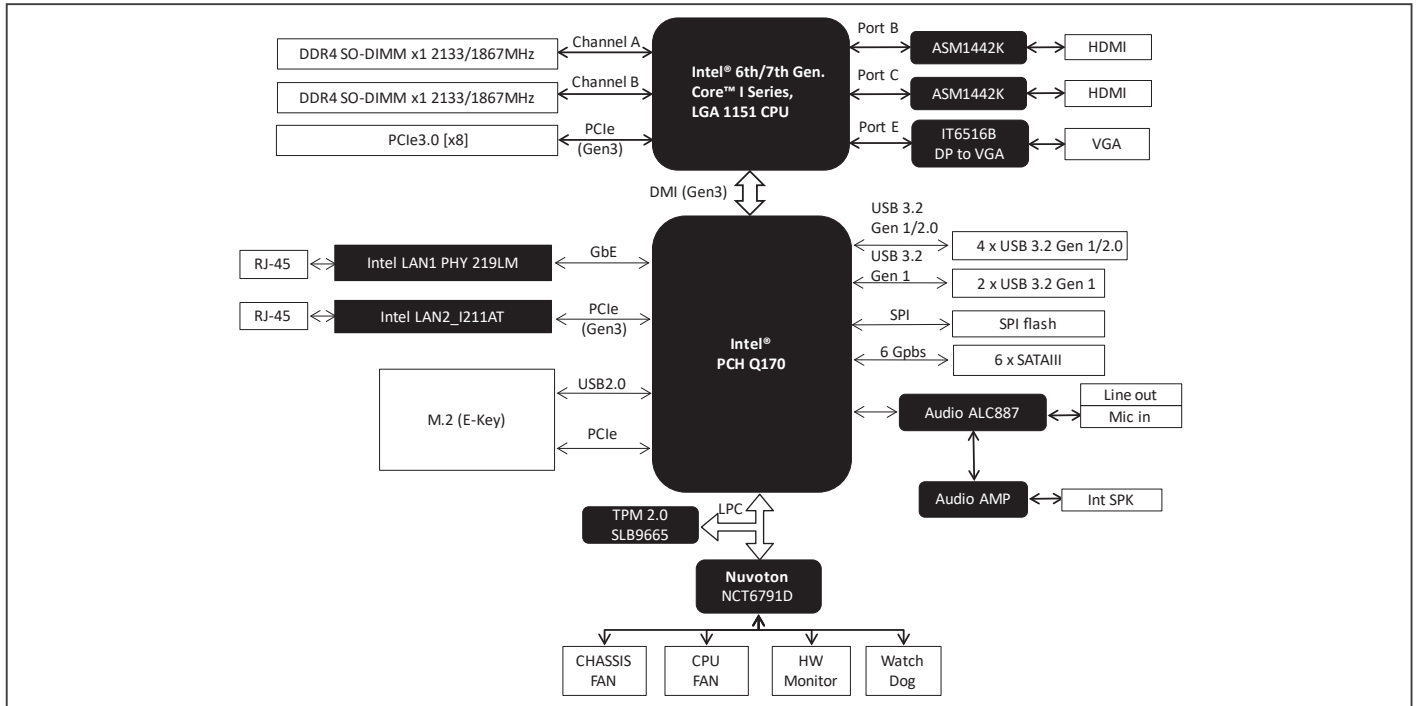
Packing List

- 14001-00630100
SATA 6G Cable (7P, 180; 90, 500mm 2 in1)
- I/O Shield
- EMB-Q170C

Optional Accessories

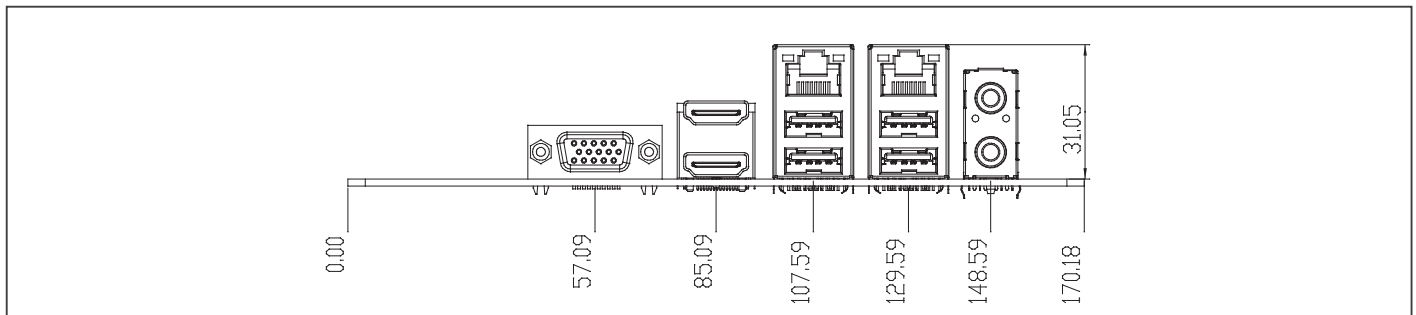
Part Number	Description
1759200172	CPU Cooler (2-Ball, Screw with Retention Plate)
175921156B	CPU Cooler (2-Ball, Push-pin Type)
COOLER-65W-01	CPU Cooler, 1U, 12V, 65W, 4P
1400100630100	SATA 6G Cable (7p, 180; 90, 500mm 2 in 1)
1700190450	(TF) USB 3.2 Gen 1 Cable 2 Ports USB 3.2 Gen 1 to 19P w/ bracket 450mm

Block Diagram



Dimension

Unit: mm

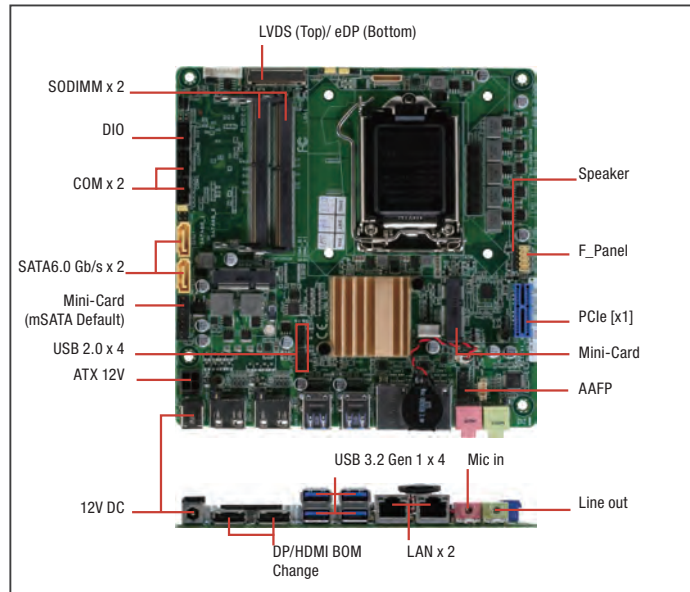


Order Information

Part Number	CPU	RAM	Fan/Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
EMB-Q170C-A10-K	Socket	SODIMM x 2	Fan	VGA x 1, HDMI x 2	SATA3 x 6	No	GbE x 2	USB 3.2 Gen 1 x 6	0	0	PCIe3.0 [x8] x 1 M.2, E-key (22x30mm) x 1	ATX	—	32°F ~ 140°F (0°C ~ 60°C)

EMB-H110B

6th/7th Generation Intel® Core™ i Series, LGA1151 Socket Processor, Max. 65W TDPs, SATA 6.0 Gb/s x 2, USB x 8



Specifications

System	
Processor	6th/7th Generation Intel® Core™ i7/i5/i3, LGA1151 Socket Processor, Max. 65W TDPs
Chipset	Intel® H110
Memory	DDR4 2133/1867 MHz SODIMM x 2, Up to 32GB, Non-ECC, Un-buffered Memory, Dual channel memory architecture
I/O Chipset	NCT6791D
Ethernet	Realtek® PCIe Gb LAN 8111G x 2
Audio	Realtek® ALC887
TPM	Infineon SLB96XX TT 1.2/2.0 (default: No)
Expansion Slots	PCIe2.0 [x1] x 1, Full-size Mini-Card (mSATA default) (PCIe+USB optional)x 1, Half-size Mini-Card (PCIe+USB) x 1
BIOS	64 M bit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/ Chassis Fan
Wake On LAN/ PXE	Yes (WOL/PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	—
Graphics Multi Display	HDMI1+HDMI2, HDMI1+DP2, DP1+HDMI2, HDMI1+LVDS, HDMI2+LVDS, HDMI1+eDP, HDMI2+eDP, DP1+DP2, DP1+LVDS, DP2+LVDS, DP1+eDP, DP2+eDP
VGA	—
DVI	—
HDMI	Up to 4096 x 2160 @24 Hz / 2560 x 1600 @60 Hz, with Digital Audio (HDMI/ DP Combo)
Display Port	Up to 1920 x 1200 @60 Hz, with Digital Audio (HDMI/DP Combo)
LVDS	Up to 1920 x 1200 @60 Hz, dual-channel 18/24-bit coloy
eDP	UP to 4096 x 2340 @60Hz
Backlight Control	Voltage/PWM
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	12VDC
Operating Temperature	32°F ~140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~185°F (-40°C ~85°C)
Operating Humidity	0% ~ 90% R/H, non-condensing
Certificate	CE & FCC
Form Factor	Mini-ITX: 6.7" x 6.7" (170mm x 170mm)
Weight	1.1 lb (0.5 Kg)
MTBF (Hours)	315,210

Features

- LGA1151 Socket For 6th/7th Generation Intel® Core™ i Series Processor
- DDR4 SODIMM x 2, Up to 32GB
- Two Independent Display: DP/HDMI (BOM Change), LVDS, eDP
- SATA 6.0 Gb/s x 2, Half-size Mini-Card x 1, Full/Half-size Mini-Card x 1
- PCI-Express [x1] x 1
- 12V DC
- Low Profile
- 4K for HDMI/eDP



Rear Panel I/O Ports

USB	USB 3.2 Gen 1 x 4
Display I/O	DP/HDMI (BOM Change) x 2
Audio I/O	Mic-in x 1, Line-out x 1
LAN I/O	LAN (RJ-45) port x 2
Serial Port	—
PS/2 Port	—
Others	DC Jack x 1

Internal I/O Connectors

Storage	SATA3 (6.0Gb/s) x 2, Full Size Mini-Card (mSATA) x 1, SATA power connector x 1
USB	USB 2.0 (2 x 5-pin, 2.00mm) x 2 ports support additional 4 USB.
Display I/O	40-pin LVDS connector x 1, 40-pin eDP connector x 1, LVDS 3.3V/5V jumper x 1, LCD DC / PWM mode jumper x 1, LCD backlight connector (inverter) x 1, LCD backlight 12V/5V jumper x 1
Audio I/O	AAFP x 1, Speaker x 1
Serial Port	Boxer header for COM (RS-232/422/485) x 1, Boxer header for COM (RS-232) x 1
PS/2 Port	—
Parallel Port	—
DIO	Digital I/O box header x 1
FAN	4-pin CPU Fan connector x 1, 4-pin Chassis Fan connector x 1
Power	12V AUX Power Connector x 1, AT/ATX mode select jumper (optional) x 1
Others	Front Panel connector x 1, Chassis Intrusion x 1, Buzzer onboard (pin header) x 1, CMOS jumper x 1
OS	
OS Support	Windows® 7 32/64-bit, Windows® 8.1 32/64-bit, Windows® 10 64-bit, Ubuntu16.04.02/Kernel4.8.0

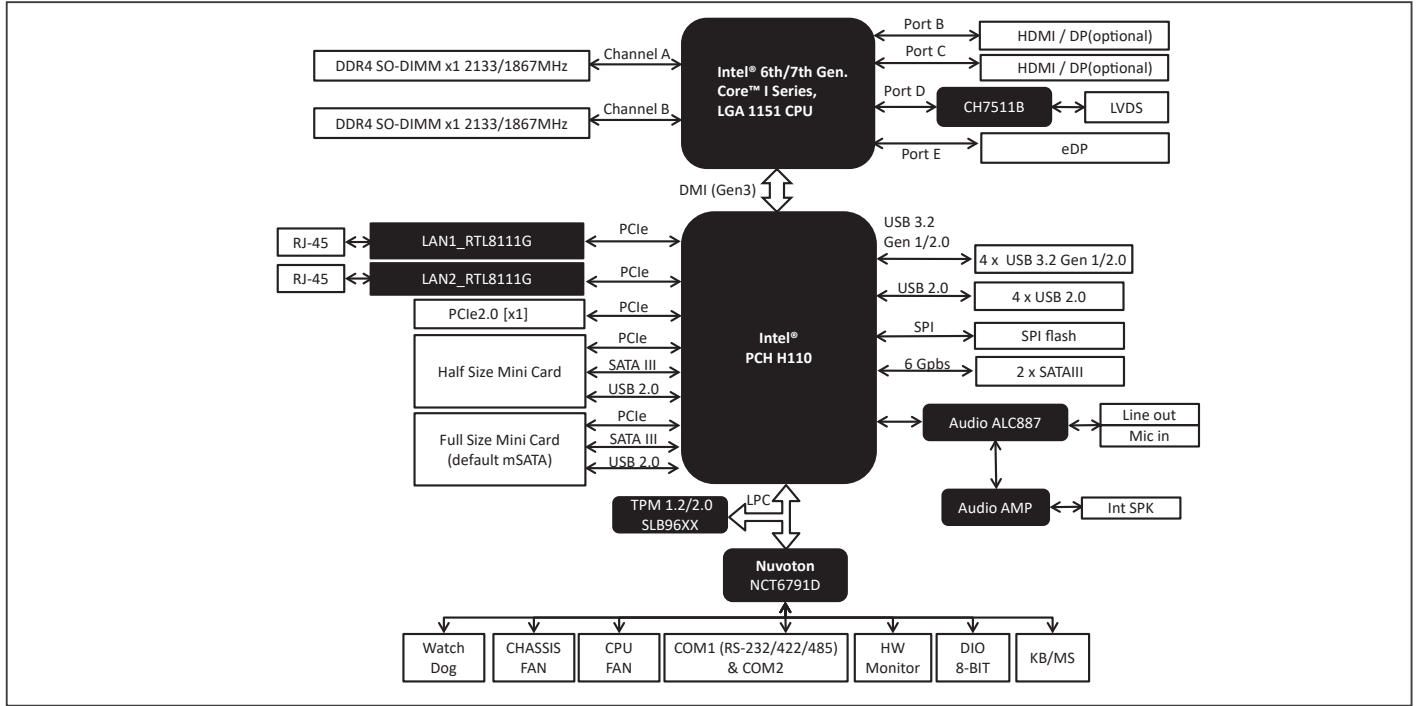
Packing List

- 14001-00630100
SATA 6G Cable (7P, 180; 90, 500mm 2 in1)
- I/O Shield
- EMB-H110B
- 14001-00230100
SATA to Power Cable (4P, 120MM)

Optional Accessories

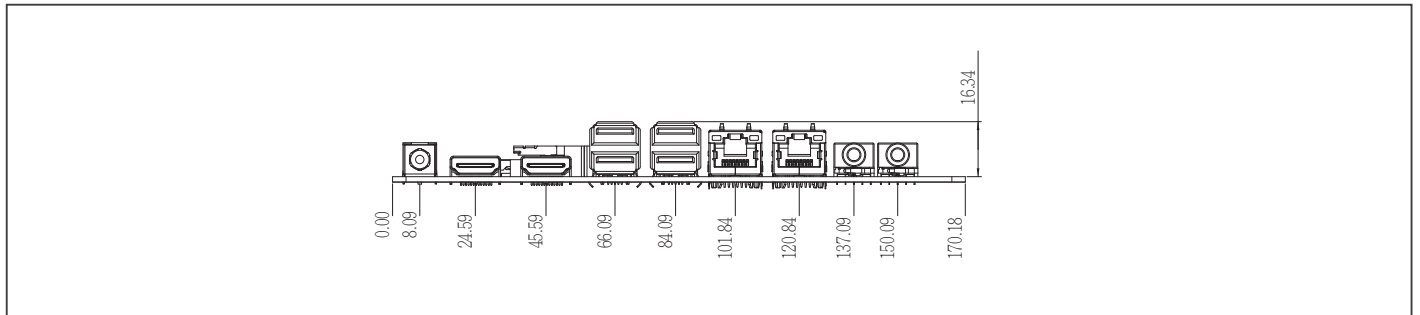
Part Number	Description
1759200172	CPU Cooler (2-Ball, Screw with Retention Plate)
175921156B	CPU Cooler (2-Ball, Push-pin Type)
COOLER-65W-01	CPU Cooler, 1U, 12V, 65W, 4P
1709100201	USB 2.0 Cable (10P, 200MM, p=2.00mm, w/ bracket)
1701100206	COM Cable (200MM, p=2.00mm)
1702150300	SATA Power Cable, 4P, 2.54mm
125590084A	Adapter 12V, 84W/N3
1700100491	USB 2.0 Cable (2 x 5P, 490mm, p=2.00mm)
1709050201	USB 2.0 Cable (5P, 220mm, p=2.00mm)

Block Diagram



Dimension

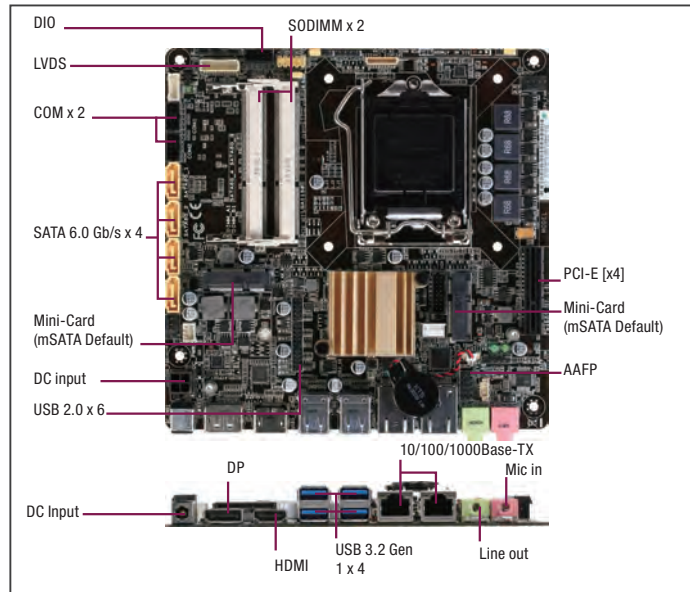
Unit: mm



Ordering Information

Part Number	CPU	RAM	Fan/Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
EMB-H110B-A10-HH-K	Socket	SODIMM x 2	Fan	LVDS, eDP, HDMI x 2	SATA3 x 2, Full size mini card x 1 (mSATA)	Dual Channel 18/24 bit	GbE x 2	USB 3.2 Gen 1 x 4, USB2.0 x 4	1	1	PCIe2.0 [x1] x 1, Half-size Mini Card (PCIe +USB default) x 1	12VDC	—	32°F ~ 140°F (0°C ~ 60°C)

Thin Mini-ITX Embedded Motherboard with 4th Generation Intel® Core™ i Series Processor, 12~24V DC Wide Range Power Input



Specifications

System	
Processor	4th Generation Intel® Core™ i Series 22nm LGA1150 socket Processor, Max. 65W, TDPs
Chipset	Intel® Q87
Memory	DDR3 1333/1600 MHz SODIMM x 2, Up to 16GB, Non-ECC, Dual-channel memory architecture (flat type)
I/O Chipset	NCT6791D
Ethernet	Intel® PHY I217LM Gb LAN x 1, Intel® I210AT Gb LAN x 1
Audio	Realtek® ALC887
TPM	Infineon SLB96XX TT 1.2/2.0 (default: 1.2)
Expansion Slots	PCIe [x4] x 1, Full-size Mini-Card x 1 (mSATA default) (PCIe+USB optional, selected by Jumper), Half-size Mini-Card x 1 (PCIe+USB default, selected by Jumper).
BIOS	128M bit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on VCore™ 5V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/ Chassis Fan
Wake On LAN/PXE	Yes (WOL/PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® HD Graphics
Graphics Multi Display	VGA+HDMI, VGA+DP, VGA+LVDS, HDMI+DP, HDMI+LVDS, DP+LVDS, VGA+HDMI+DP, VGA+HDMI+LVDS, HDMI+DP+LVDS, VGA+DP+LVDS
VGA	Up to 1920 x 1200 @60 Hz
DVI	—
HDMI	Up to 4096 x 2160 @24 Hz ; 3840 x 2160 @60 Hz, with Digital Audio
Display Port	Up to 4096 x 2160 @24 Hz ; 3840 x 2160 @60 Hz, with Digital Audio
LVDS	Up to 1920 x 1200 @60 Hz, dual-channel 18/24-bit
eDP	—
Backlight Control	Voltage/PWM
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	12~24V DC (wide rage:12V~5%~ 24V+10%)
Operating Temperature	32°F ~140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~185°F (-40°C ~85°C)
Operating Humidity	0% ~ 90% R/H, non-condensing
Certificate	CE & FCC
Form Factor	Mini-ITX: 6.7" x 6.7" (170mm x 170mm)
Weight	1.1 lb (0.5 Kg)
MTBF (Hours)	104,363

Features

- LGA1150 Socket For 4th Generation Intel® Core™ i Series 22nm Processor
- LAN1 Supports iAMT9.0
- DDR3 1333/1600 MHz SODIMM x 2, Up to 16 GB
- Three Independent Display: LVDS, VGA, HDMI, DP
- SATA 6.0 Gb/s x 4
- USB 3.2 Gen 1 x 4, USB 2.0 x 6
- PCI-E2.0[x4] x 1, Full-size Mini-Card with Default mSATA x 1, Half-size Mini-Card x 1
- 12V~24V DC Wide Range Voltage Power Input
- Low Profile



Rear Panel I/O Ports

USB	USB 3.2 Gen 1 (5 Gbps) x 4
Display I/O	HDMI x 1, DP x 1
Audio I/O	Mic-in x 1, Line-out x 1
LAN I/O	LAN (RJ-45) port x 2
Serial Port	—
PS/2 Port	—
Others	DC Jack x 1

Internal I/O Connectors

Storage	SATA3 (6.0Gb/s) x 4, SATA power connector x 1, Full Size Mini-Card (mSATA) x 1
USB	USB 2.0 (2 x 5-pin, 2.00mm) x 3 ports support additional 6 USB
Display I/O	VGA x 1, LVDS connector x 1, LVDS 3.3V /5V jumper x 1, LCD DC / PWM mode jumper x 1, LCD backlight connector (inverter) x 1, LCD backlight 12V /5V jumper x 1
Audio I/O	AAFP x 1, Speaker x 1, DMIC (optional) x 1
Serial Port	Boxer header for COM (RS-232) x 2
PS/2 Port	PS/2 Keyboard Mouse 6 PIN Connector x 1
Parallel Port	—
DIO	Digital I/O header x 1
FAN	4-pin CPU Fan connector x 1, 4-pin Chassis Fan connector x 1
Power	12V AUX Power Connector x 1, AT/ATX mode select jumper (optional) x 1
Others	Front Panel connector x 1, Chassis Intrusion x 1, CMOS jumper x 1
OS	
OS Support	Windows® 7 32/64-bit, Windows® 8.1 32/64-bit, Windows® 10 64-bit, Linux Fedora

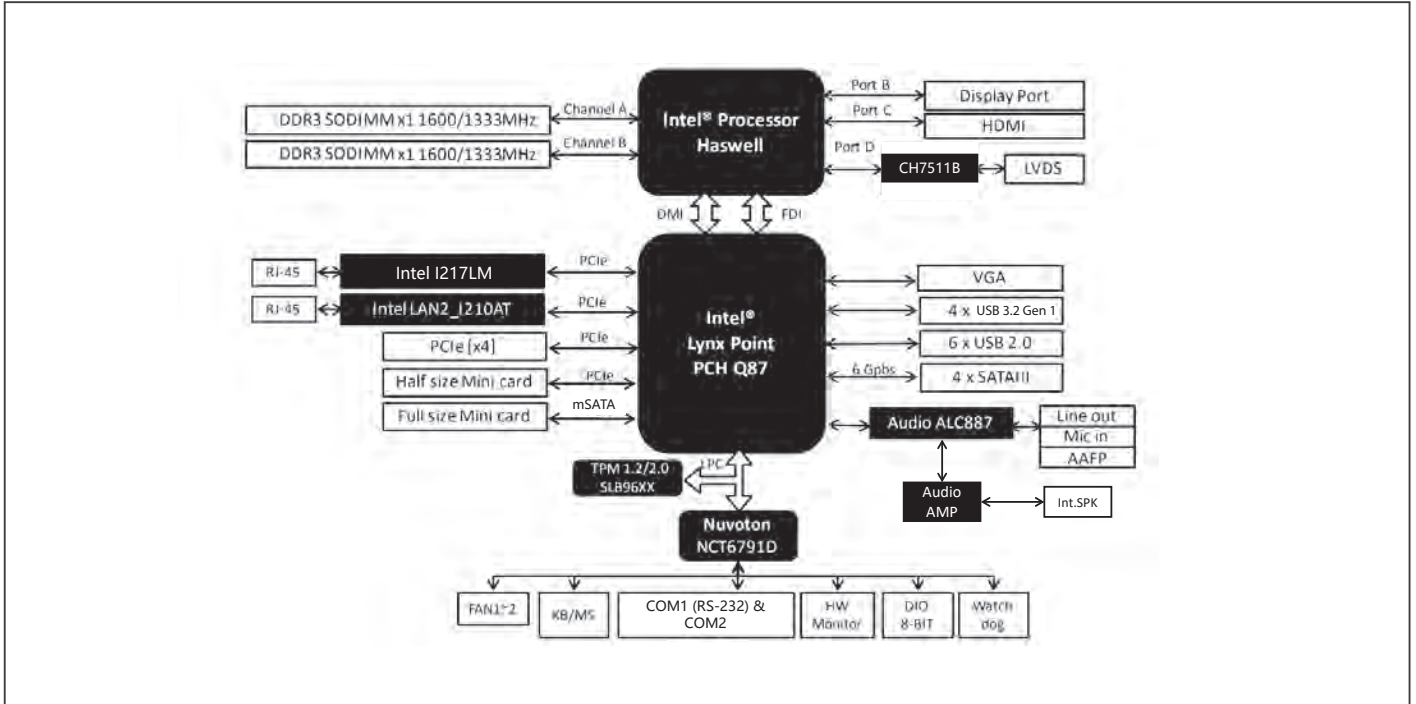
Packing List

- SATA Cable
- SATA Power Cable
- I/O Shield
- EMB-Q87A

Optional Accessories

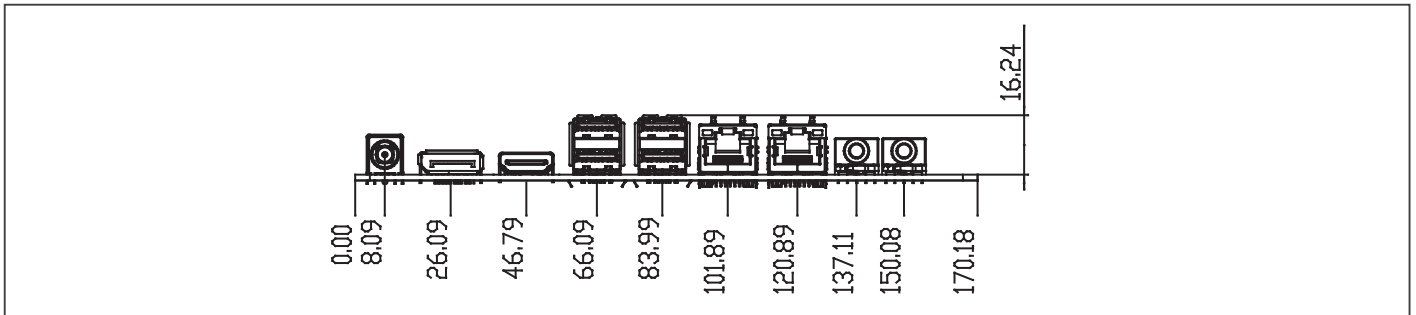
Part Number	Description
1759200172	CPU Cooler (2-Ball, Screw with Retention Plate)
175921156B	CPU Cooler (2-Ball, Push-pin Type)
1701160201	VGA Cable (200MM, p=2.00mm)
Cooler-65W-01	CPU Cooler, 1U, 12V, 65W, 4P
1709100201	USB 2.0 Cable (10P, 200MM, p=2.00mm, w/ bracket)
1701100206	COM Cable (200MM, p=2.00mm)
1700060152	PS/2 Cable (6P, 150mm, P=2.0mm)
1702150300	SATA Power Cable, 4P, 2.54mm
125590084A	Adapter 12V, 84W/N3
17592AM901	CPU Cooler, LGA 1155/1156, 1U, 4P, 12V

Block Diagram



Dimension

Unit: mm

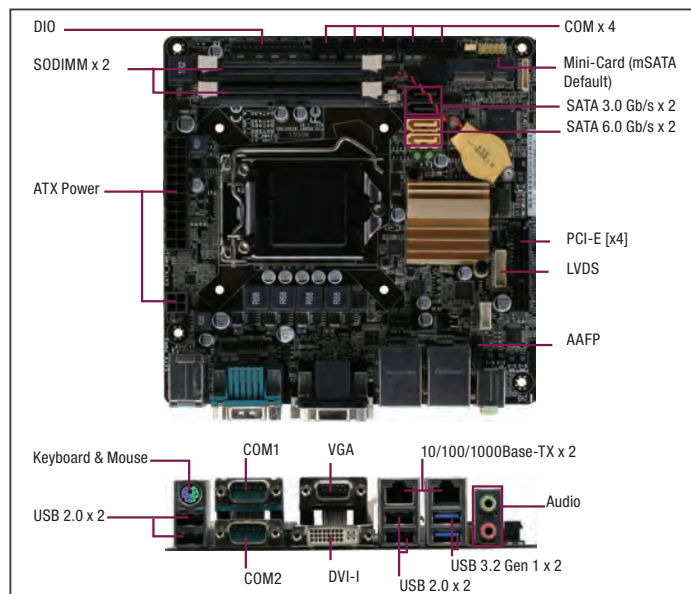


Order Information

Part Number	CPU	RAM	Fan/Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
EMB-Q87A-B10	Socket	SODIMM x 2	Fan	VGA, HDMI, DP, LVDS	SATA3 x 4, Full size Mini-Card (mSATA)	Dual Channel 18/24-bit	GbE x 2	USB 3.2 Gen 1 x 4, USB 2.0 x 6	2	—	PCIe [x4] x 1, Full size Mini- Card x 1, Half size Mini-Card x 1	12V-24V DC	TPM1.2 Onboard	32°F ~ 140°F (0°C ~ 60°C)

EMB-H81A

Mini-ITX with LGA1150 Socket for 4th Generation Intel® Core™ i Series Processor, SATA 6.0 Gb/s x 2, SATA 3.0Gb/s x 2, USB x 9



Features

- LGA1150 Socket for 4th Generation Intel® Core™ i Series Processor
- Dual Independent Display: VGA, DVI-I, LVDS
- Gigabit Ethernet x 2
- SATA 6.0 Gb/s x 2
- USB 3.2 Gen 1 x 2, USB 2.0 x 7
- PCI-E2.0 [x4] x 1, Full-size Mini-Card (PCI-E + USB) with mSATA (Optional) x 1



Specifications

System	
Processor	4th Generation Intel® Core™ i Series 22nm LGA1150 socket Processor, Max. 65W, TDPs
Chipset	Intel® H81
Memory	DDR3 1333/1600 MHz SODIMM x 2, Up to 16GB, Non-ECC, Dual-channel memory architecture(flat type)
I/O Chipset	NCT6791D, NCT5104D
Ethernet	Realtek® PCIe Gb LAN 8111F x 2
Audio	Realtek® ALC887
TPM	Infineon SLB9635 TT 1.2
Expansion Slots	PCIe [x4] x 1, Full-size Mini-Card (PCIe+USB default) (mSATA Default) x 1,
BIOS	64 M bit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/ Chassis Fan
Wake On LAN/ PXE	Yes (WOL/PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® HD Graphics
Graphics Multi Display	VGA + LVDS, VGA + DVI-I, LVDS + DVI-I
VGA	Up to 1920 x 1200 @60 Hz
DVI	Up to 1920 x 1200 @60 Hz
HDMI	—
Display Port	—
LVDS	Up to 1920 x 1200 @60 Hz, dual-channel 18/24-bit Supports LVDS
eDP	—
Backlight Control	Voltage/PWM
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	24-pin ATX connector x 1, 4pin ATX 12V Power connector x 1
Operating Temperature	32°F ~140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~185°F (-40°C ~85°C)
Operating Humidity	0% ~ 90% R/H, non-condensing
Certificate	CE & FCC
Form Factor	Mini-ITX: 6.7" x 6.7" (170mm x 170mm)
Weight	1.1 lb (0.5 Kg)
MTBF (Hours)	288,500
Rear Panel I/O Ports	
USB	USB 3.2 Gen 1 x 2, USB 2.0 x 4
Display I/O	VGA x 1, DVI-I x 1
Audio I/O	Mic-in x 1, Line-out x 1
LAN I/O	LAN (RJ-45) port x 2

Serial Port	COM (RS-232/422/485) x 1, COM (RS-232) x 2
PS/2 Port	—
Others	—
Internal I/O Connectors	
Storage	SATA3 (6.0Gb/s) x 2, SATA2 (3.0Gb/s) x 2 (1 colay with mainboard), Full/Half Size Mini-Card slot x 1
USB	USB 2.0 connectors support additional 2 USB ports (2.54mm) x 1, USB 2.0 connectors support additional 1 USB ports (2.00mm) x 1
Display I/O	LVDS connector x 1, LCD Inverter connector x 1
Audio I/O	AAFP x 1
Serial Port	Box header for COM (RS-232) x 4
PS/2 Port	—
Parallel Port	SPP/EPP/ECP Mode
DIO	Digital I/O header x 1
FAN	CPU Fan connector x 1, Chassis Fan connector x 1
Power	12V AUX Power Connector x 1, 24-pin EATX Power connector x 1
Others	Front Panel connector x 1
OS	
OS Support	Windows® 10 64-bit, Windows® 7 32/64-bit, Windows® 8 32/64-bit, Linux Fedora

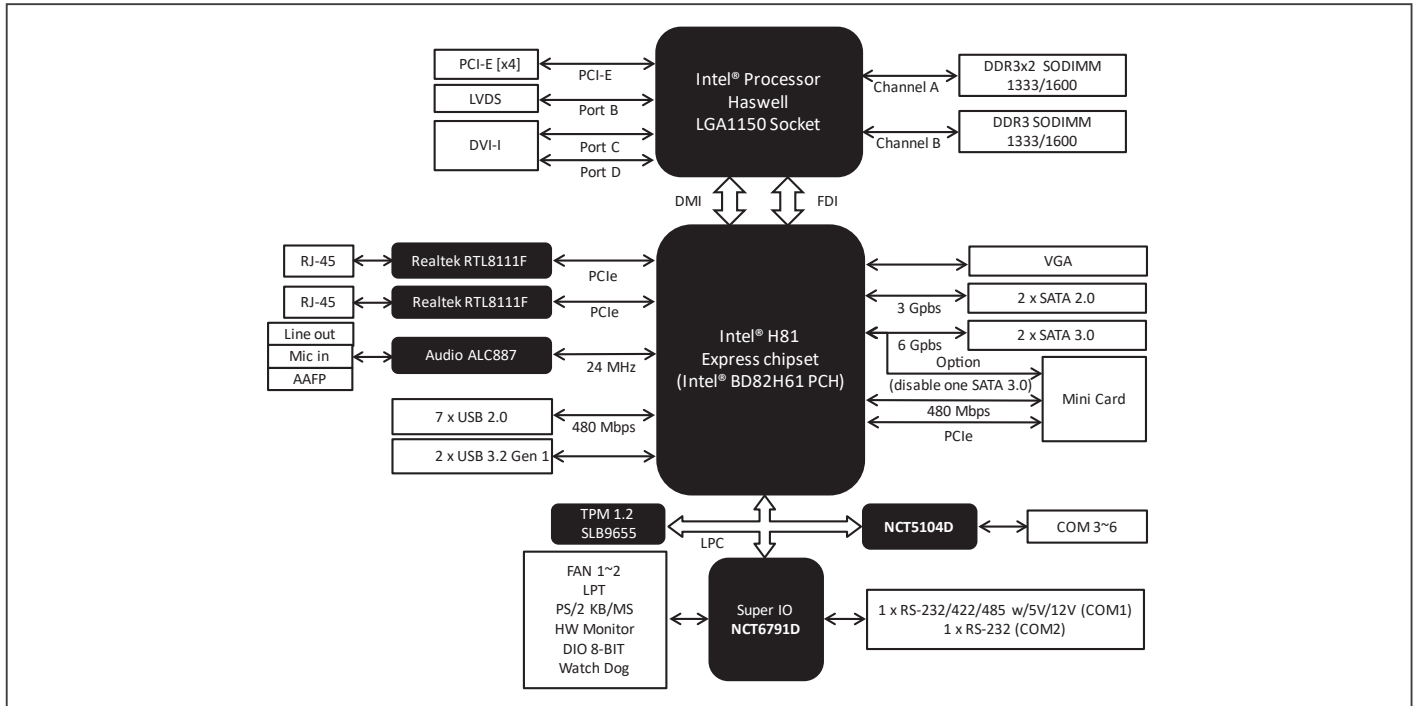
Packing List

- SATA Cable
- I/O Shield
- EMB-H81A

Optional Accessories

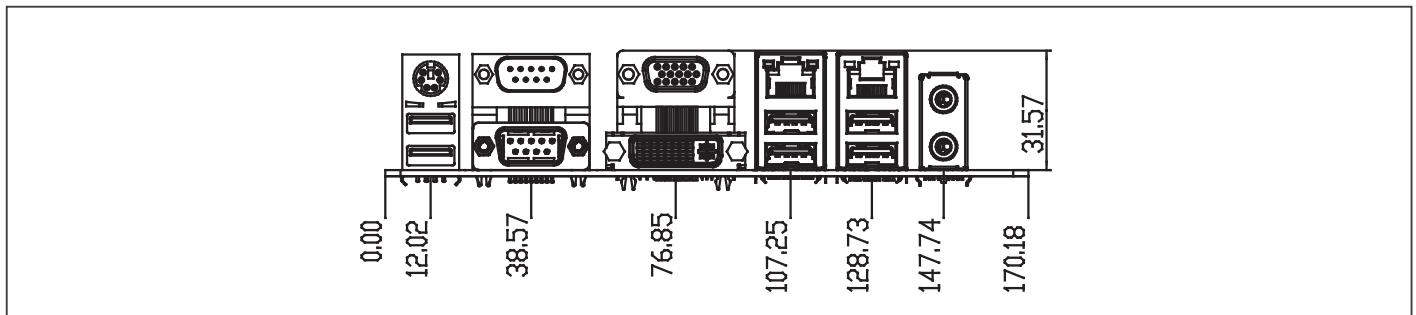
Part Number	Description
1759200172	CPU Cooler (2-Ball, Screw with Retention Plate)
175921156B	CPU Cooler (2-Ball, Push-pin Type)
1709100330	USB 2.0 Cable (9P, 330MM, p=2.54mm, w/ bracket)
1709100201	USB 2.0 Cable (10P, 200MM, p=2.00mm, w/ bracket)
1701100206	COM cable (200MM, p=2.00mm)
1701260305	LPT Cable (25P, 270MM)
1701100206	COM Cable (200MM, p=2.00mm)
1700060192	PS/2 Cable (6P, 190mm, P=2.0mm)
170910020K	USB 2.0 Cable (9P, 200MM, p=2.54mm, w/o bracket)
1702150300	SATA Power Cable, 4P, 2.54mm
1709050201	USB 2.0 Cable (5P, 220MM, p=2.00mm)

Block Diagram



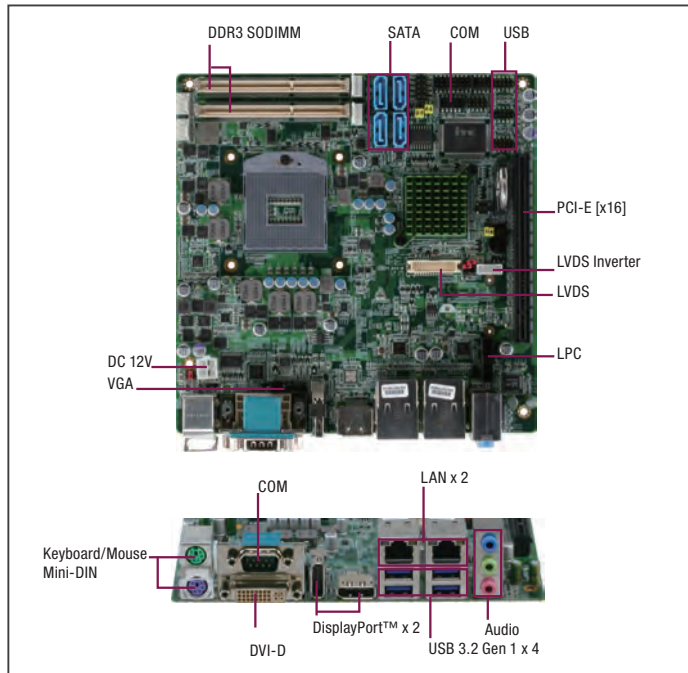
Dimension

Unit: mm



Order Information

Part Number	CPU	RAM	Fan/Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
EMB-H81A-A10	Socket	SODIMM	Fan	VGA, LVDS, DVI-I	SATA3 x 2, SATA2 x 2	Dual Channel 18/24-bit	GbE x 2	USB 3.2 Gen 1 x 2, USB 2.0 x 7	5	1	PCI-E[x4] x 1, Full size Mini-Card x 1	ATX	TPM1.2 Onboard	32°F ~ 140°F (0°C ~ 60°C)
EMB-H81A-A10-MS	Socket	SODIMM	Fan	VGA, LVDS, DVI-I	SATA3 x 2, SATA2 x 1	Dual Channel 18/24-bit	GbE x 2	USB 3.2 Gen 1 x 2, USB 2.0 x 7	5	1	PCI-E[x4] x 1, Full size Mini-Card x 1	ATX	TPM1.2 Onboard	32°F ~ 140°F (0°C ~ 60°C)



Specifications

System	
Processor	Socket 3rd Generation Intel® rPGA988 Processor
Chipset	Intel® QM77
Memory	Dual-channel with 204-pin SDRAM x 2, DDR3 1600/1333/1066, up to 16GB
I/O Chipset	ITE IT8728F+Fintek F81216DG
Ethernet	Intel® PHY WG82579LM / Realtek® RTL 8111E, Gb LAN x 2
Audio	Realtek® ALC892/886/662
TPM	Infineon SLB9635TT 1.2
Expansion Slots	PCIe [x16] x 1, Mini-PCIe x 1, CFast x 1
BIOS	AMI BIOS - 128MB ROM
H/W Monitor	Supports system temperature, voltage, and cooling fan status monitoring
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/Chassis Fan
Wake On LAN/ PXE	Yes
Power State	S3,S4,S5
Graphics	
Graphics Chipset	Intel® Core™ i7/i5/i3 + QM77
Graphics Multi Display	DP x 2+VGA, DP x 2+LVDS, HDMI+DP,HDMI+VGA, HDMI+LVDS
VGA	1
DVI	1
HDMI	1 (by SKU)
Display Port	2 (by SKU)
LVDS	1
eDP	—
Backlight Control	Voltage/PWM
Environment & Power & ME	
Battery	Lithium Battery
Power Requirement	12V DC
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40 °F ~ 176 °F (-40 °C ~ 80 °C)
Operating Humidity	0% ~ 90% R/H, non-condensing
Certificate	CE/FCC
Form Factor	Mini-ITX: 6.7" x 6.7" (170mm x 170mm)
Weight	1.32 lb (0.6 kg)
MTBF (Hours)	60,000

Features

- Socket rPGA988, 3rd Generation Intel® Core™ i7/i5/Celeron® Processor
- Intel® Core™ i7/i5 + QM77
- 204-pin Dual-channel DDR3 1066/1333/1600 MHz SODIMM x 2, Up to 16 GB
- Gigabit Ethernet x 2
- Dual Display Version: CRT, Dual 24-bit LVDS, DVI-D, HDMI, DisplayPort™
- Three Display Version: CRT, Dual 24-bit LVDS, DVI-D, DisplayPort™ x 2 (Optional)
- SATA 6.0 Gb/s x 2, SATA 3.0 Gb/s x 2, Supports RAID 0,1,5,10
- USB 2.0 x 6, USB 3.2 Gen 1 x 4, COM x 2
- PCI-Express [x16] x 1, Mini-Card x 1, CFast™ x 1, TPM x 1



Rear Panel I/O Ports

USB	USB 3.2 Gen 1 x 4
Display I/O	DP x 2 or DP x 1+HDMI x 1, DVI-D x 1
Audio I/O	Line-in, Mic-in, Line-out
LAN I/O	RJ-45 x 2
Serial Port	RS-232/422/485 x 1
PS/2 Port	Mini-Din PS/2 K/B and Mouse x 1
Others	—

Internal I/O Connectors

Storage	SATA 6.0 Gb/s x 2, SATA 3.0 Gb/s x 2, Supports RAID 0,1,5,10
USB	USB 2.0 x 6
Display I/O	VGAx 1, LVDSx 1
Audio I/O	—
Serial Port	RS-232 x 1
PS/2 Port	—
Parallel Port	—
DIO	8-bit programmable (4-in/4-out)
FAN	CPU Fan connector(s) (4-pin) x 1, Chassis Fan connector(s) (4-pin) x 1
Power	4-pin connector x 1
Others	—
OS	
OS Support	Windows® XP, Windows® 7 32/64-bit, Windows® 8.1 32/64-bit, Linux Fedora

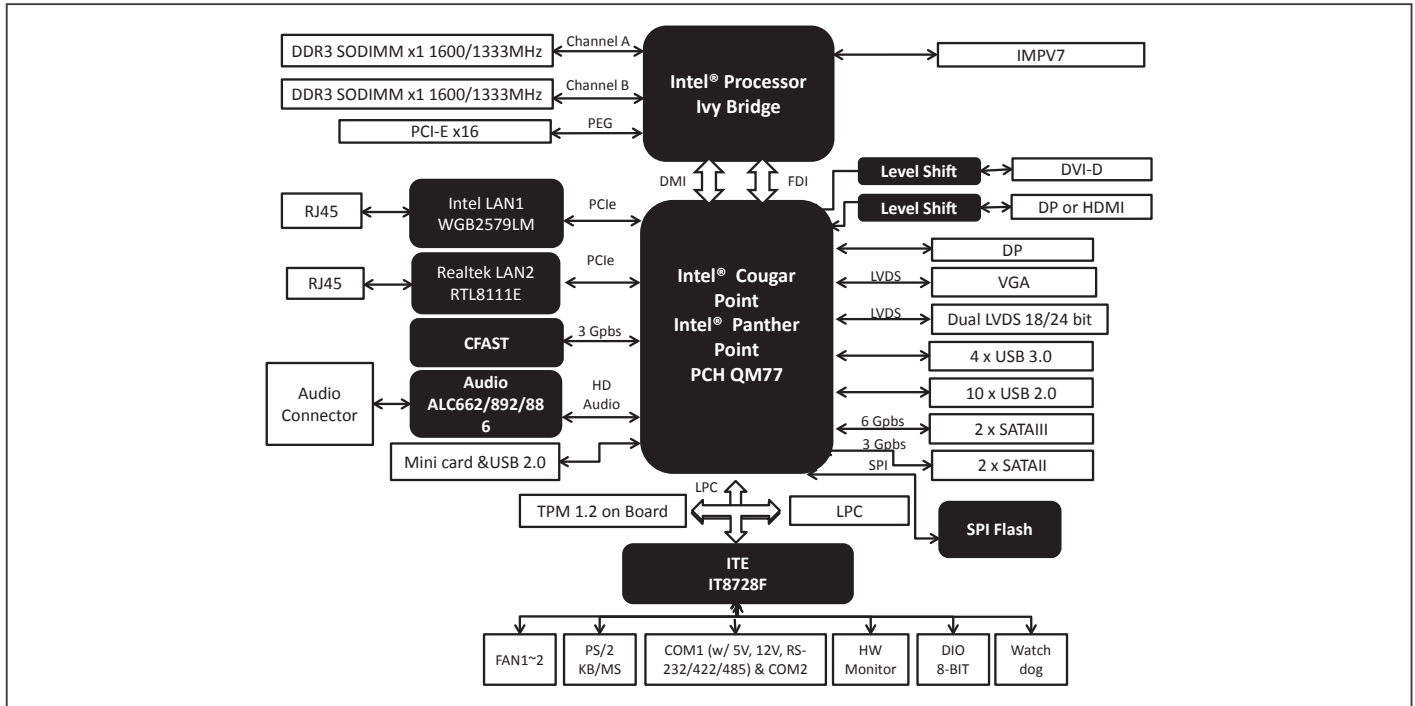
Packing List

- 1701160201
VGA Cable
- 1709100201
USB Cable w/ bracket
- 1701100206
COM Cable
- 1709070800
SATA Cable
- 1702151201
SATA Power Cable (4-pin)
- Metal I/O Bracket
- EMB-QM77

Optional Accessories

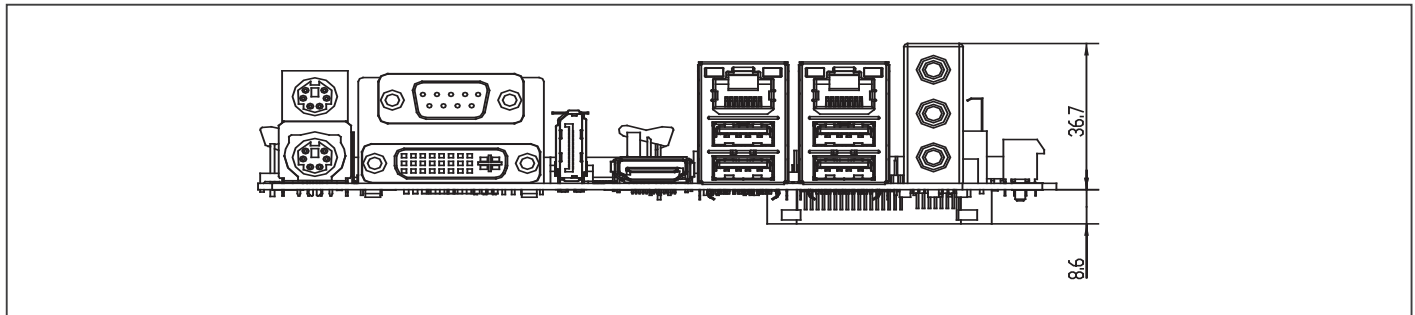
- 17592QM672
CPU Cooler 4P, 60mm x 60mm x 26.5mm

Block Diagram



Dimension

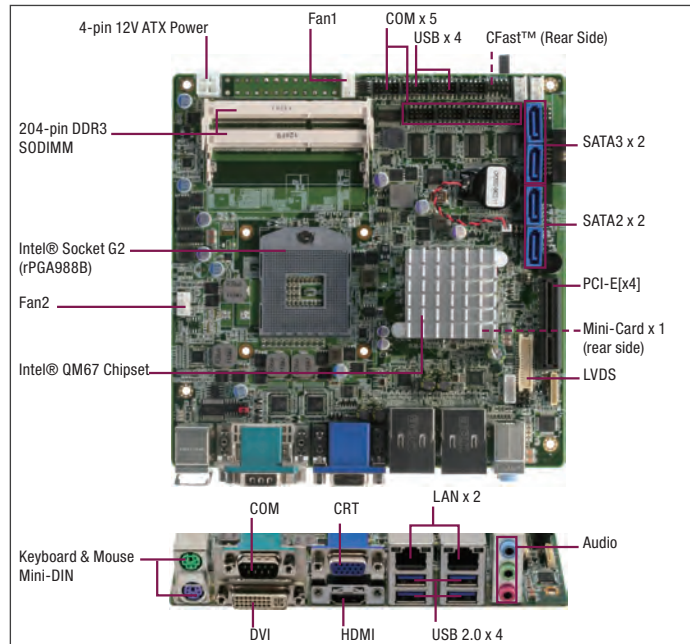
Unit: mm



Ordering Information

Part Number	CPU	RAM	Fan/ Fanless	Display	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
TF-EMB-QM77-A10-OSP	Socket	DDR3 16GB	Fan	VGA/DVI-D/LVDS/DP	SATA2 x 2, SATA3 x 2, CFAST x 1	GbE x 2	USB 3.2 Gen 1 x 4, USB 2.0 x 6	1	1	PCIe [x16] x 1, mPCIe x 1	+12V DC	1.2	32°F ~ 140°F (0°C ~ 60°C)
TF-EMB-QM77-A10-01-OSP	Socket	DDR3 16GB	Fan	VGA/DVI-D/LVDS/DP/HDMI	SATA2 x 2, SATA3 x 2, CFAST x 1	GbE x 2	USB 3.2 Gen 1 x 4, USB 2.0 x 6	1	1	PCIe [x16] x 1, mPCIe x 1	+12V DC	1.2	32°F ~ 140°F (0°C ~ 60°C)

Embedded Motherboard with Socket G2 (rPGA988B) 2nd Generation Intel® Core™ i7/i5/Celeron® QC/ DC Processor



Specifications

System	
Processor	Socket 2nd Generation Intel® rPGA988 Processor
Chipset	Intel® QM67
Memory	Dual-channel with 204-pin SDRAM x 2, DDR3 1600/1333/1066, up to 16GB
I/O Chipset	ITE IT8728F+Fintek F81216DG
Ethernet	Intel® PHY WG82579LM / Realtek® RTL 8111E, Gb LAN x 2
Audio	Realtek® ALC892/886/662
TPM	Infineon SLB9635TT 1.2 (Optional)
Expansion Slots	PCIe [x4] x 1, Mini-PCIe x 1, CFast x 1
BIOS	AMI BIOS - 64MB ROM
H/W Monitor	Supports system temperature, voltage, and cooling fan status monitoring
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/Chassis Fan
Wake On LAN/PXE	Yes
Power State	S3,S4,S5
Graphics	
Graphics Chipset	Intel® Core™ i7/i5/Celeron® + QM67
Graphics Multi Display	VGA+HDMI, VGA + LVDS, VGA+DVI, HDMI+DVI, HDMI+LVDS, DVI+LVDS
VGA	1
DVI	1
HDMI	1
Display Port	—
LVDS	1
eDP	—
Backlight Control	Voltage
Environment & Power & ME	
Battery	Lithium Battery
Power Requirement	12V DC
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% R/H, non-condensing
Certificate	CE/FCC
Form Factor	Mini-ITX: 6.7" x 6.7" (170 mm x 170 mm)
Weight	1.32 lb (0.6 kg)
MTBF	70,000
Rear Panel I/O Ports	
USB	USB 2.0 x 4
Display I/O	HDMI x 1, DVI-D x 1, VGA x 1
Audio I/O	Line-in, Mic-in, Line-out
LAN I/O	RJ-45 x 2

Features

- Socket G2 (rPGA988B) for 2nd Generation Intel® Core™ i7/i5/Celeron® QC/ DC Processor
- Intel® QM67
- 204-pin Dual-Channel DDR3 1066/1333/1600 MHz SODIMM x 2, Up to 16 GB
- Gigabit Ethernet x 2
- Intel® Integrated Graphics Engine Supports Dual View by VGA, DVI, HDMI, 24b, 2CH LVDS
- HD Audio
- SATA 3.0 Gb/s x 2, Supports RAID 0,1,5,10
- USB 2.0 x 8, COM x 6
- PCI-Express [x4] x 1, Mini-PCIe x 1, CFast™ x 1, TPM x 1 (Optional)



Serial Port	RS-232/422/485 x 1
PS/2 Port	Mini-Din PS/2 K/B and Mouse x 1
Others	—
Internal I/O Connectors	
Storage	SATA 3.0 Gb/s x 2, Supports RAID 0,1,5,10
USB	USB 2.0 x 4
Display I/O	LVDS x 1
Audio I/O	—
Serial Port	RS-232 x 5
PS/2 Port	—
Parallel Port	—
DIO	8-bit programmable (4-in/4-out)
FAN	CPU Fan connector(s) (4-pin) x 1, Chassis Fan connector(s) (4-pin) x 1
Power	4-pin connector x 1
Others	—
OS	
OS Support	Windows® XP, Windows® 7 32/64-bit, Linux Fedora

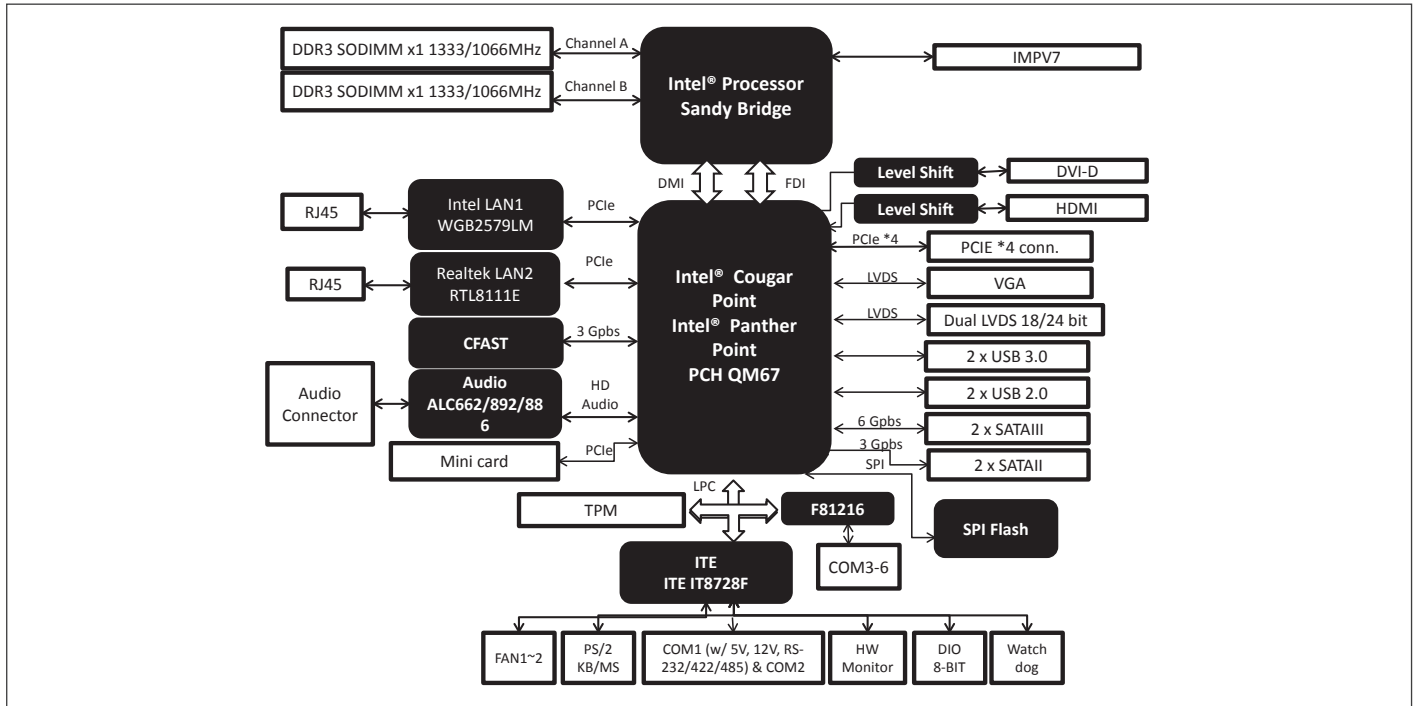
Packing List

- 1709070800
SATA Cable
- 1702151201
SATA Power Cable
- M200QM6700
Metal I/O Bracket
- 1701100206
COM Cable
- EMB-QM67

Optional Accessories

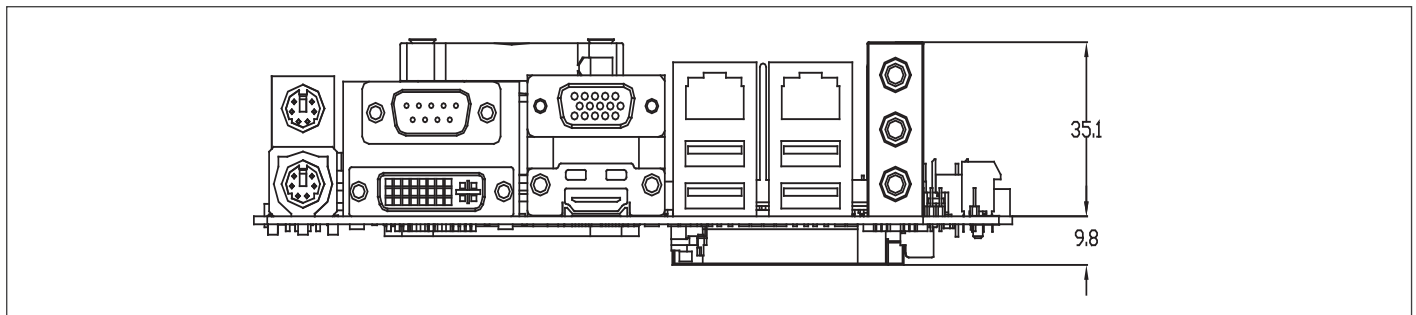
- 17592QM671
CPU Cooler, Fan + Heatsink, 3P, 60 x 60 x 27 mm for EMB-QM67
- 1709100208
USB Cable
- 17592QM672
CPU Cooler, Fan + Heatsink, 4P, 60mm x 60mm x 27mm

Block Diagram



Dimension

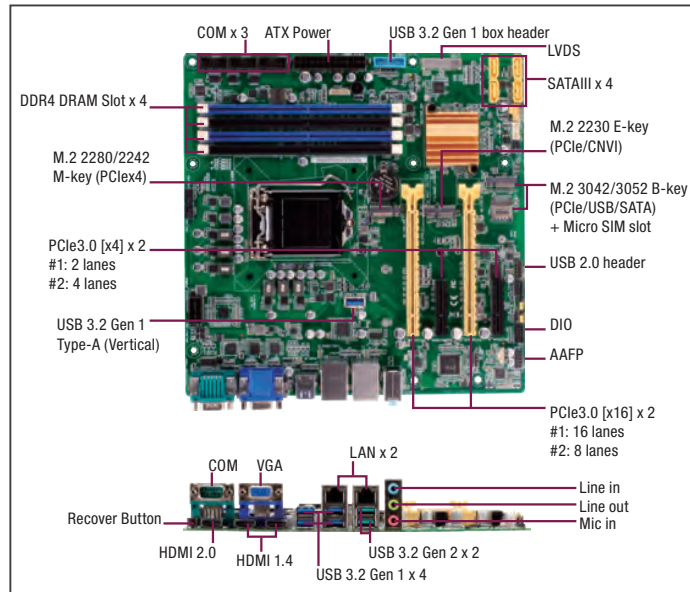
Unit: mm



Ordering Information

Part Number	CPU	RAM	Fan/Fanless	Display	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
TF-EMB-QM67-A12	Socket	DDR3 16GB	Fan	VGA/DVI-D/ LVDS/HDMI	SATA2 x 2, SATA3 x 2, CFAST x 1	GbE x 2	USB 2.0 x 8	5	1	PCIe [x4] x 1, mPCIe x 1	+12V DC	—	32°F ~ 140°F (0°C ~ 60°C)
TF-EMB-QM67-A12-01	Socket	DDR3 16GB	Fan	VGA/DVI-D/ LVDS/HDMI	SATA2 x 2, SATA3 x 2, CFAST x 1	GbE x 2	USB 2.0 x 8	5	1	PCIe [x4] x 1, mPCIe x 1	ATX	—	32°F ~ 140°F (0°C ~ 60°C)

Micro-ATX Industrial Motherboard with 10th Generation Intel® Core™ Processor, DDR4 DRAM, Multiple Display Ports, Supports iAMT 12.0



Specifications

System	
Processor	Intel® 10th Generation (Comet Lake-S) Core™ i9 /i7/ i5 /i3, Pentium 14nm LGA 1200 socket Processor, Max. 10 Core 80W
Chipset	Intel® Q470E Express Chipset
Memory	DIMM x 4, DDR4 (2933/2666/2400 MHz, max. 128GB) non-ECC, un-buffered memory Dual channel memory architecture
I/O Chipset	IT5121E + F81216HD
Ethernet	Intel® PHY i219LM Giga LAN (supports Intel® AMT 12.0) x 1 Intel® i211AT Giga LAN x 1, RJ45 x 2
Audio	Realtek® ALC897 6-Channel High Definition Audio CODEC
TPM	Nuvoton NPCT750AADYX TPM2.0 onboard (optional)
Expansion Slots	PCIe 3.0[x16] Slot (16 lanes) (8 lanes when dual use PCIe[x16]) x 1, PCIe 3.0 [x16] (8 lanes) x 1, PCIe 3.0[x4] Slot x 1, PCIe 3.0[x4] Slot (2 lanes) x 1, M.2 2230 E-key (PCIe/CNV1) x 1, M.2 2280/2242 M-key (PCIex4) x 1, M.2 3042/3052/2242 B-key (PCIe/USB/SATA) x 1, Micro SIM card Slot x 1
BIOS	256Mbit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/ Chassis Fan x 2
Wake On LAN/ PXE	Yes (WOL / PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® Graphics Media Accelerator
Graphics Multi Display	HDMI+HDMI+VGA, HDMI+HDMI+LVDS, HDMI+VGA+LVDS, HDMI+HDMI+HDMI
VGA	Up to 1920 x 1200 @60Hz (via IT6516B)
DVI	—
HDMI	Up to 4096 x 2160 @ 60 / 30 Hz, with Digital Audio
Display Port	—
LVDS	Up to 1920 x 1200 @ 60 Hz, Dual Channel 18/24 bit
eDP	—
Backlight Control	—
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	24-pin ATX connector x 1, 8-pin (2x4) ATX 12V Power connector x 1
Operation Temperature	32°F ~140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~185°F (-40°C ~85°C)
Operation Humidity	0%~90%RH, non-condensing

Features

- 10th Generation Intel® Core™ LGA1200 Processor
- Supports Power 10 Core 80W max.
- DDR4 2933/2666/2400 MHz, max. 128GB
- Three Independent Displays: HDMI x 3 (2.0 x 1, 1.4 x 2), VGA x 1, LVDS x 1
- Dual Intel® Gigabit Ethernet, LAN1 Supports iAMT 12.0
- USB 3.2 Gen2 x 2, USB 3.2 Gen1 x 7, USB 2.0 x 2
- BIOS recovery function, convenient way to flash BIOS if needed
- TPM Onboard (Optional)

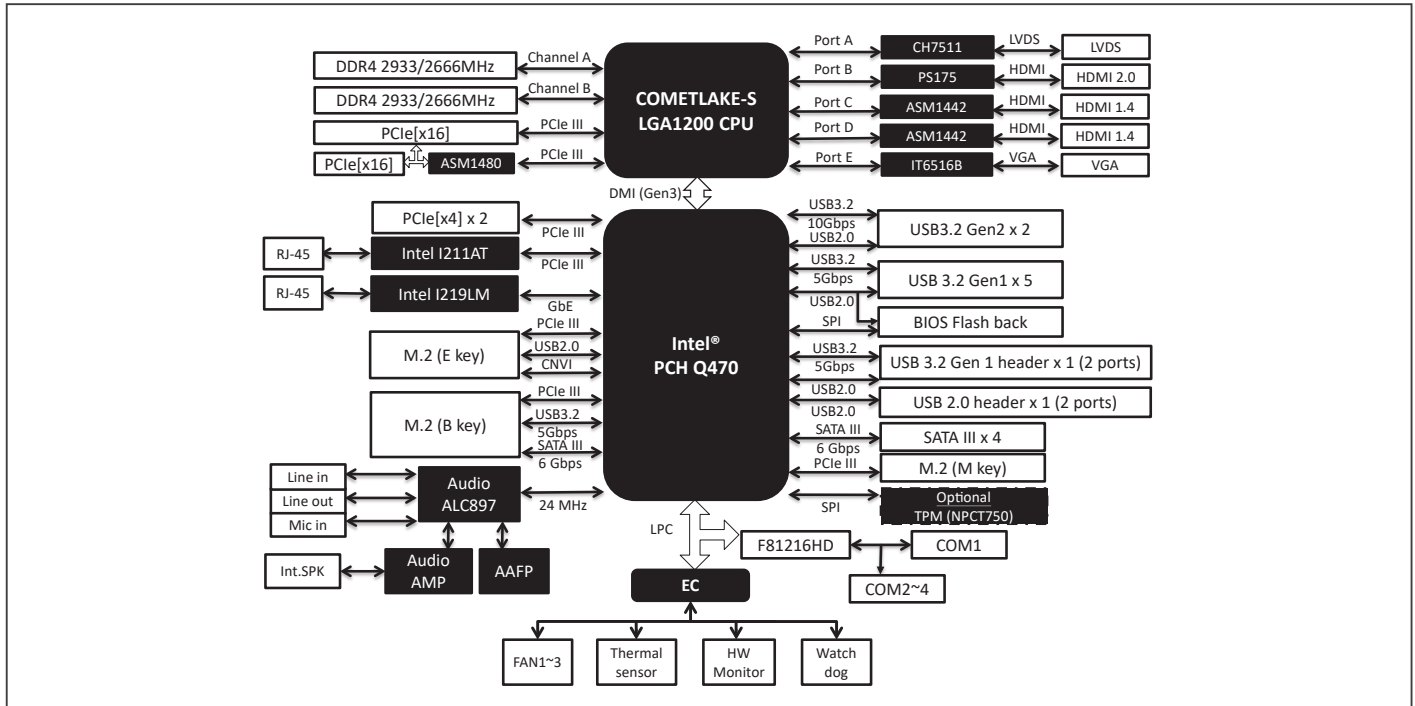


Certificate	CE & FCC Class A
Form Factor	Micro-ATX Form Factor, 9.6"x9.6" (244 mm x 244 mm)
Weight	1.76 lb (0.8 Kg)
MTBF (Hours)	—
Rear Panel I/O Ports	
USB	USB 3.2 Gen2 ports (10 Gbps) x 2, USB 3.2 Gen1 ports (5 Gbps) x 4
Display I/O	VGA x 1, HDMI x 3 (2.0 x 1, 1.4 x 2)
Audio I/O	Audio Jack x 3: Line-in, Mic-in, Line-out
LAN I/O	LAN (RJ45) ports x 2
Serial Port	DB-9 COM (supports RS-232/422/485, 5V/12V/RI) x 1
PS/2 Port	—
Others	—
Internal I/O Connectors	
Storage	SATA III (6.0Gb/s) ports x 4, support RAID 0/1/5/10 M.2 2280/2242 M-key (PCIex4) x 1
USB	USB3.2 Gen1 box header support additional 2 USB ports (2x5PIN, p=2.54mm) x 1, USB3.2 Gen1 Type A (vertical) connector x 1, USB 2.0 header support additional 2 USB ports (2x5PIN, p=2.54mm) x 1
Display I/O	40-pin LVDS connector x 1
Audio I/O	speaker header (Line-out) x 1, AAFF x 1
Serial Port	RS-232 headers x 3
PS/2 Port	—
Parallel Port	—
DIO	8-bit Digital I/O interface (In/Out programmable) x 1
FAN	CPU Fan connector(s) (4-pin) x 1, Chassis Fan connector(s) (4-pin) x 2
Power	—
Others	Chassis Intrusion x 1, AT/ATX mode select jumper x 1, Front panel header x 1, Clear CMOS jumper x 1, 3-pin ME lock header x 1
OS	
OS Support	Windows® 10 64bit, Linux Ubuntu 64bit (20.04.0/Kernel 5.4)

Packing List

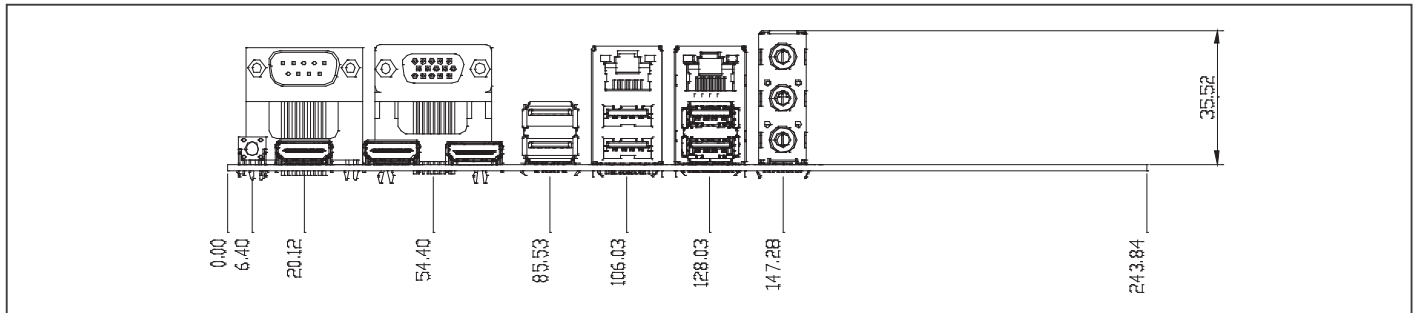
- 14001-00630100 SATA 6G Cable (7P, 180; 90, 500mm 2 in 1)
- 14001-00400100 COM Port Cable (9P, 260mm, p=2.54mm w/bracket)
- I/O Shield
- MAX-Q470A

Block Diagram



Dimension

Unit: mm



Ordering Information

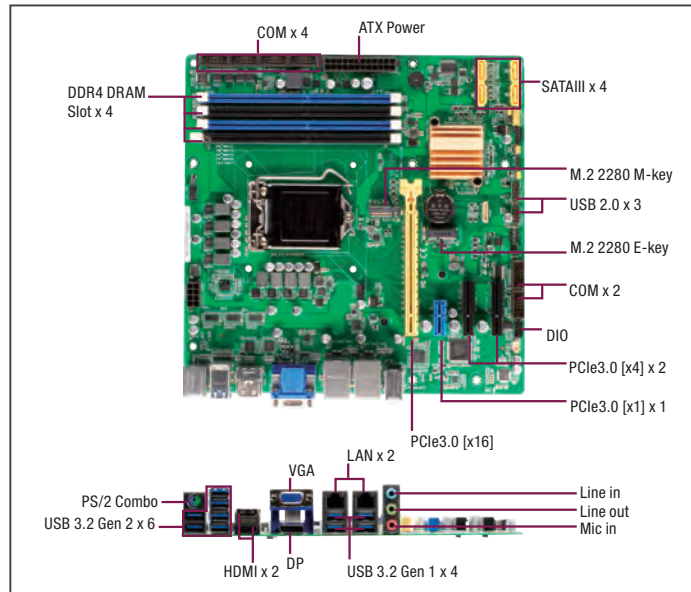
Part number	CPU	RAM	Fan/ Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/ 422/485	Expansion Slot	Power	TPM	Temp.
MAX-Q470A-A10	LGA 1200 socket	DDR4 2933/2666/2400	Fan	HDMI x 3, VGA x 1, LVDS x 1	1	SATA3 x 4, M.2 2280/2242 M-key (PCIex4) x 1	Intel@GbE x 2	USB 3.2 Gen2 x 2, USB 3.2 Gen1 x 4, USB 3.2 Gen1 box header x 1, USB 3.2 Gen1 (vertical) type A x 1, USB 2.0 header x 1	3	1	PCIe[x16] x 1, PCIe[x16] (8lanes) x 1, PCIe[x4] x 1, PCIe[x4] (2lanes) x 1, M.2 2230 E-key (PCIe/CNV) x 1, M.2 2280/2242 M-key (PCIex4) x 1, M.2 3042/3052/2242 B-key (PCIe/USB/SATA) x 1, Micro SIM card Slot x 1	ATX	Onboard	32°F - 140°F (0°C - 60°C)

Optional Accessories

Part Number	Description
1709100330	USB 2.0 cable (9P, 330MM, p=2.54mm, w/bracket)
170910020K	USB 2.0 cable (9P, 200MM, p=2.54mm, w/o bracket)
1700190450	USB3.2 Gen 1 Cable (19P, 450mm, w/bracket)

MAX-Q370A

Micro-ATX Industrial Motherboard with 8th/9th Generation Intel® Core™ Processor, DDR4 DRAM, Multiple Display Ports, Supports iAMT 12.0



Specifications

System	
Processor	8th/9th Generation Intel® (Coffee Lake-S/Coffee Lake-S Refresh) Core™ i9/ i7/ i5 /i3, Pentium™ 14nm LGA 1151 socket processor, max. TDP 8 Core 95W
Chipset	Intel® Q370 Express Chipset
Memory	DIMM x 4, DDR4 (2666/2400/2133 MHz, max. 128GB) Non-ECC, un-buffered memory Dual-channel memory architecture
I/O Chipset	NCT6793D+ F81216HD
Ethernet	Intel® PHY i219LM Gb LAN (supports Intel® AMT 12.0) x 1 Intel® i211AT Gb LAN x 1, RJ45 x 2
Audio	Realtek® ALC887 6-Channel High Definition Audio CODEC
TPM	Nuvoton NPCT750AABYX TPM2.0 onboard
Expansion Slots	PCIe 3.0[x16] Slot x 1 PCIe 3.0[x4] Slot (open edge) x 2 PCIe 3.0[x1] Slot (open edge) x 1 M.2 2230 E-key (PCIe/USB) x 1 M.2 2280 M-key (PCIex4/SATA3) x 1
BIOS	256Mbit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/ Chassis Fan x 2
Wake On LAN/ PXE	Yes (WOL / PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® UHD Graphics
Graphics Multi Display	HDMI+VGA+DP, HDMI+HDMI+VGA, HDMI+HDMI+DP
VGA	Up to 1920 x 1200 @60Hz (via IT6516B)
DVI	—
HDMI	Up to 4096 x 2160 @ 24 Hz / 2560 x 1600 @ 60 Hz, with Digital Audio
Display Port	Up to 4096 x 2160 @ 24 Hz / 3840 x 2160 @ 60 Hz, with Digital Audio
LVDS	—
eDP	—
Backlight Control	—
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	24-pin ATX connector x 1, 8-pin (2x4) ATX 12V Power connector x 1
Operation Temperature	32°F ~140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~185°F (-40°C ~85°C)
Operation Humidity	0%~90%RH, non-condensing
Certificate	CE & FCC Class A
Form Factor	Micro-ATX Form Factor, 9.6"x9.6" (244 mm x 244 mm)

Features

- 8th/9th Generation Intel® Core™ LGA1151 Processor
- Supports Max. TDP 8 Core 95W.
- DDR4 2666/2400/2133 MHz, max. 128GB
- Three Independent Displays: HDMI x 2, VGA x 1, DP x 1
- Dual Intel® Gigabit Ethernet, i211AT x 1, i219LM x 1, i219LM Supports iAMT 12.0
- USB 3.2 Gen 2 ports x 6, USB 3.2 Gen 1 ports x 4, USB 2.0 ports x 3
- M.2 E-key (PCIe/USB) x 1, M.2 M-key (PCIex4/SATA3) x 1
- TPM Onboard

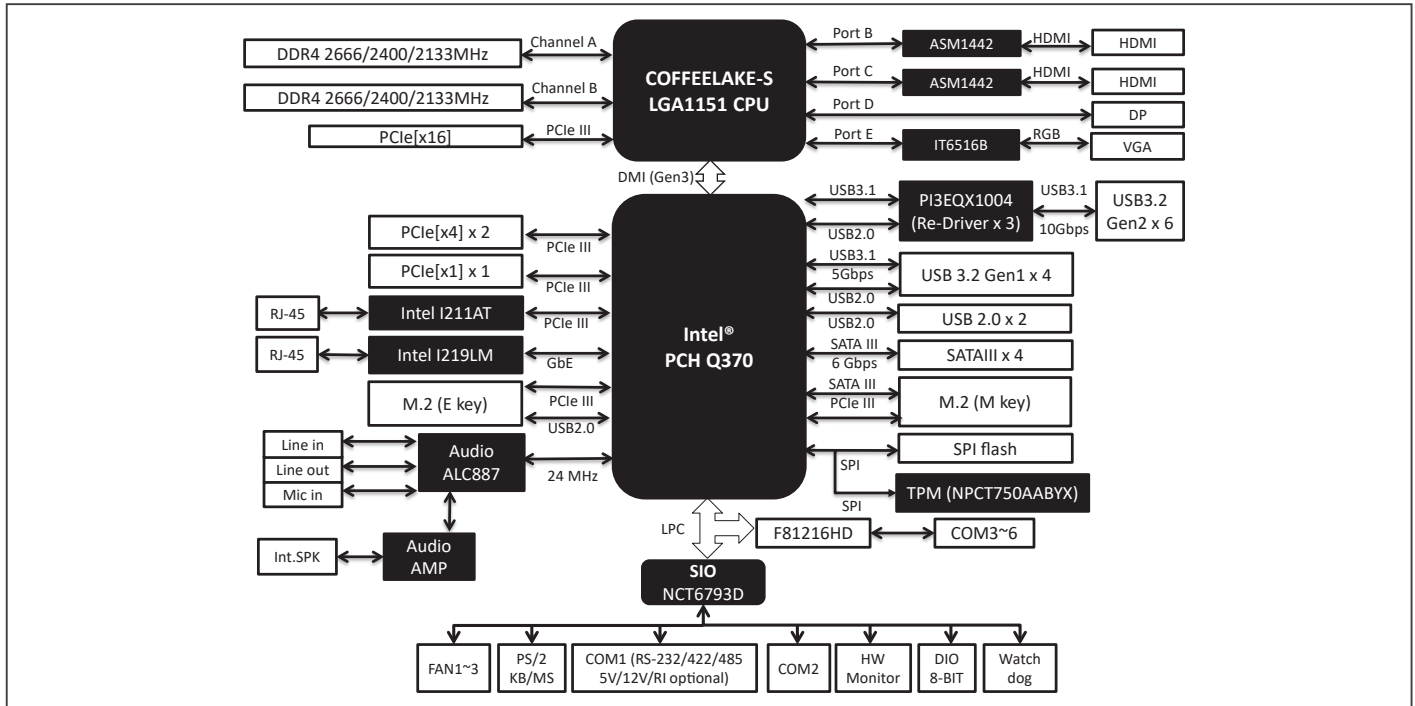


Weight	1.76 lb (0.8 Kg)
MTBF (Hours)	264,820
Rear Panel I/O Ports	
USB	USB 3.2 Gen 2 ports (10 Gbps) x 6, USB 3.2 Gen 1 ports (5 Gbps) x 4
Display I/O	DP x 1, VGA x 1, HDMI x 2
Audio I/O	Audio Jack x 3: Line-in, Mic-in, Line-out
LAN I/O	LAN (RJ45) ports x 2
Serial Port	—
PS/2 Port	PS/2 combo Port (Keyboard & Mouse) x 1
Others	—
Internal I/O Connectors	
Storage	SATA3 (6.0Gb/s) ports x 4, support RAID 0/1/5/10 M.2 2280 M-key (PCIex4/SATA3) x 1
USB	USB 2.0 headers support additional 3 USB ports (2x5PIN, p=2.54mm)
Display I/O	—
Audio I/O	Speaker for 2W@4Ω x 1
Serial Port	RS-232 Boxer headers x 5 RS-232/422/485 Boxer header (COM1, Pin9 supports 5V/12V/RI optional) x 1
PS/2 Port	—
Parallel Port	—
DIO	8-bit Digital I/O interface (In/Out programmable) x 1
FAN	CPU Fan connector (4-pin) x 1 Chassis Fan connector(s) (4-pin) x 2
Power	—
Others	Chassis intrusion x 1 AT/ATX mode select jumper x 1 Front panel header x 1 Clear CMOS jumper x 1
OS	
OS Support	Windows® 10 64bit, Linux Ubuntu 64bit (18.04.1/Kernel4.8.0)

Packing List

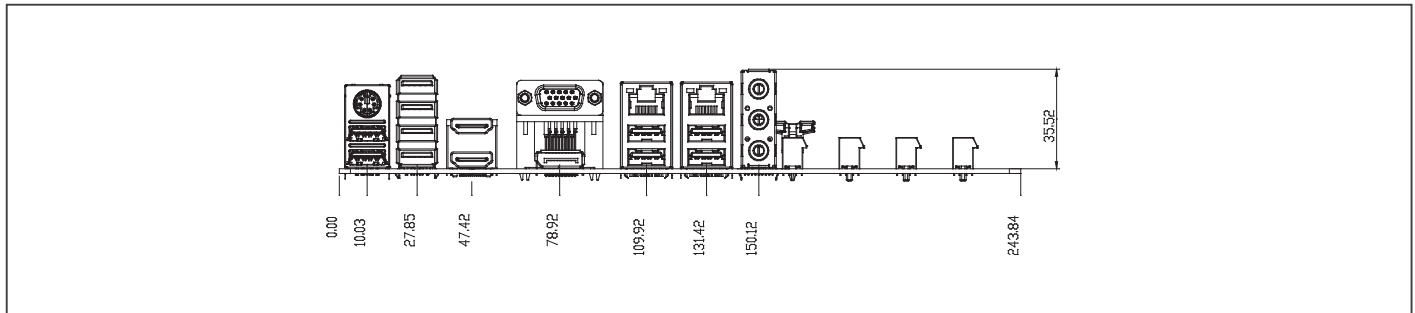
- 14001-00630100 SATA 6G Cable (7P, 180; 90, 500mm 2 in 1)
- 14001-00400100 COM Port Cable (9P, 260mm, p=2.54mm w/bracket)
- I/O Shield
- MAX-Q370A

Block Diagram



Dimension

Unit: mm



Ordering Information

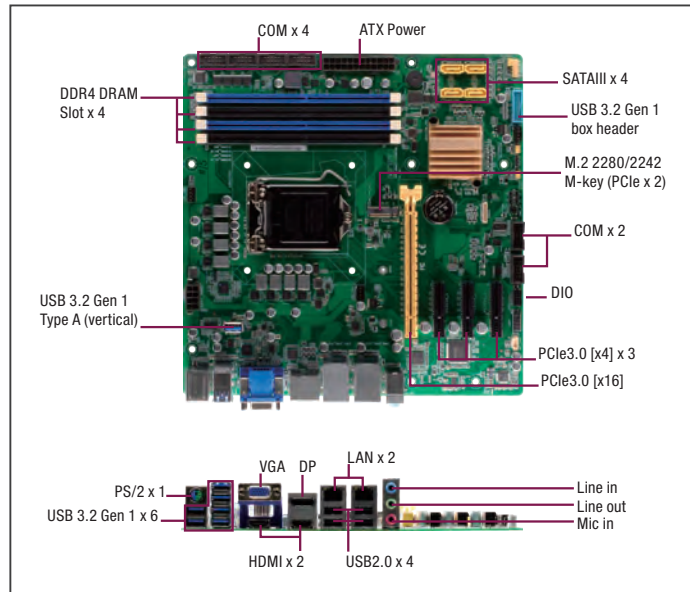
Part number	CPU	RAM	Fan/ Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS- 232/422/485	Expansion Slot	Power	TPM	Temp.
MAX-Q370A-A10	LGA 1151 socket	DDR4 2666/2400/2133	Fan	HDMI x 2 VGA x 1 DP x 1	—	SATA3 x 4 M.2 2280 M-key x 1	Intel@GbE x 2	USB 3.2 Gen 2 x 6 USB 3.2 Gen 1 x 4 USB 2.0 x 3	5	1	PCIe[x16] x 1, PCIe[x4] x 2, PCIe[x1] x 1, M.2 2230 E-key x 1, M.2 2280 M-key x 1	ATX	Onboard	32°F ~140°F (0°C ~ 60°C)

Optional Accessories

Part Number	Description
AP-FNTH1Q370010	CPU Cooler (2-Ball Bearing, 2U, TDP Max. 100W)
1709100330	USB 2.0 cable (9P, 330MM, p=2.54mm, w/bracket)
170910020K	USB 2.0 cable (9P, 200MM, p=2.54mm, w/o bracket)
175921156B	CPU Cooler (2-Ball, Push-pin Type)
1759200172	CPU Cooler (2-Ball, Screw with Retention Plate)

MAX-Q370C

Micro-ATX Industrial Motherboard with 8th/9th Generation Intel® Core™ Processor, DDR4 DRAM, Multiple Display Ports, Supports iAMT 12.0



Features

- 8th/9th Generation Intel® Core™ LGA1151 Processor
- Supports Max. TDP 6 Core 95W, Do Not Support 8 Core 65W/ 95W
- DDR4 2666/2400/2133 MHz, max. 128GB
- Three Independent Displays: HDMI x 2, VGA x 1, DP x 1
- Dual Intel® Gigabit Ethernet, LAN1 Supports iAMT 12.0
- USB 3.2 Gen 1 x 9, USB 2.0 x 4
- Internal USB 3.2 Gen 1 box header x 1, USB 3.2 Gen 1 Type A (vertical) x 1, M.2 2280/2242 M-key (PCIe x 2) x 1
- TPM Onboard (Optional)



Specifications

System	
Processor	Intel® 8th/9th Generation (Coffee Lake-S/Coffee Lake-S Refresh) Core™ i9 /i7/ i5 /i3, Pentium 14nm LGA 1151 socket Processor, Max. 6 Core 95W
Chipset	Intel® Q370 Express Chipset
Memory	DIMM x 4, DDR4 (2666/2400/2133 MHz, max. 128GB) non-ECC, un-buffered memory Dual channel memory architecture
I/O Chipset	NCT6793D+ F81216HD
Ethernet	Intel® PHY i219LM Giga LAN (supports Intel® AMT 12.0) x 1 Intel® i211AT Giga LAN x 1, RJ45 x 2
Audio	Realtek® ALC887 6-Channel High Definition Audio CODEC
TPM	Nuvoton NPCT750AABYX TPM2.0 onboard (optional)
Expansion Slots	PCIe 3.0[x16] Slot x 1 PCIe 3.0[x4] Slot (open edge) x 3 M.2 2280/2242 M-key (PCIe SSD (Ideal speed: 800MB/S)) x 1
BIOS	256 Mbit Flash ROM x 1, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/ Chassis Fan x 2
Wake On LAN/ PXE	Yes (WOL / PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® Graphics Media Accelerator
Graphics Multi Display	HDMI+VGA+DP, HDMI+HDMI+VGA, HDMI+HDMI+DP
VGA	Up to 1920 x 1200 @60Hz (via IT6516B)
DVI	—
HDMI	Up to 4096 x 2160 @ 24 Hz / 2560 x 1600 @ 60 Hz, with Digital Audio
Display Port	Up to 4096 x 2160 @ 24 Hz / 3840 x 2160 @ 60 Hz, with Digital Audio
LVDS	—
eDP	—
Backlight Control	—
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	24-pin ATX connector x 1, 8-pin (2x4) ATX 12V Power connector x 1
Operation Temperature	32°F ~140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~185°F (-40°C ~85°C)
Operation Humidity	0%~90%RH, non-condensing
Certificate	CE & FCC Class A
Form Factor	Micro-ATX Form Factor, 9.6"x9.6" (244 mm x 244 mm)
Weight	1.76 lb (0.8 Kg)
MTBF (Hours)	264,820

Rear Panel I/O Ports

USB	USB 3.2 Gen 1 ports (5 Gbps) x 6, USB 2.0 ports x 4
Display I/O	DP x 1, VGA x 1, HDMI x 2
Audio I/O	Audio Jack x 3: Line-in, Mic-in, Line-out
LAN I/O	LAN (RJ45) ports x 2
Serial Port	—
PS/2 Port	PS/2 combo Port (Keyboard & Mouse) x 1
Others	—

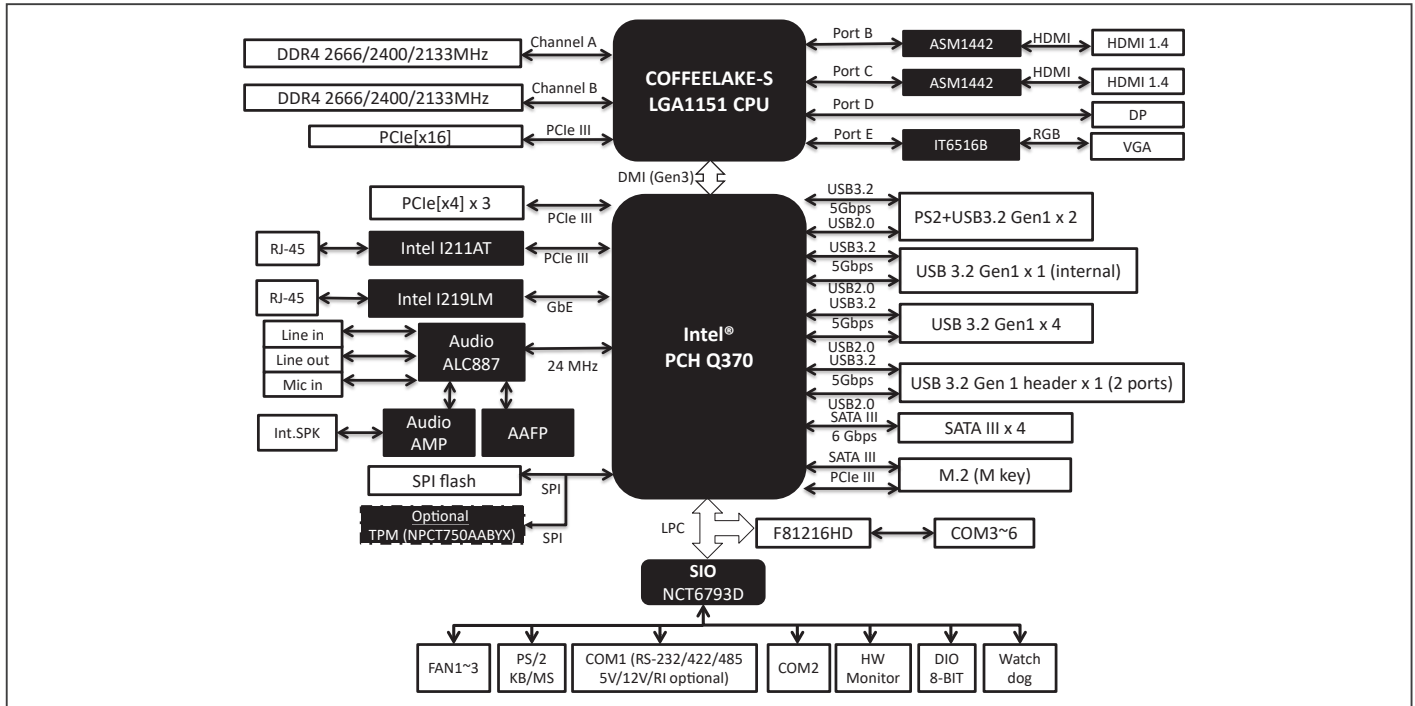
Internal I/O Connectors

Storage	SATA III (6.0Gb/s) ports x 4, support RAID 0/1/5/10 M.2 2280/2242 M-key (PCIe SSD (Ideal speed: 800MB/S)) x 1
USB	USB 3.2 Gen 1 box header x 1, support additional 2 ports (2x5PIN, p=2.54mm), USB 3.2 Gen 1 Type A (vertical) connector x 1
Display I/O	—
Audio I/O	speaker header (Line-out) x 1, AAFP x 1
Serial Port	RS-232 headers x 5 RS-232/422/485 (COM1, supports 5V/12V/Ri optional) x 1
PS/2 Port	—
Parallel Port	—
DIO	8-bit Digital I/O interface (In/Out programmable) x 1
FAN	CPU Fan connector(s) (4-pin) x 1, Chassis Fan connector(s) (4-pin) x 2
Power	—
Others	Chassis Intrusion x 1 AT/ATX mode select jumper x 1 Front panel header x 1 Clear CMOS jumper x 1 3-pin ME lock header x 1
OS	
OS Support	Windows® 10 64bit, Linux Ubuntu 64bit (18.04.1/Kernal4.8.0)

Packing List

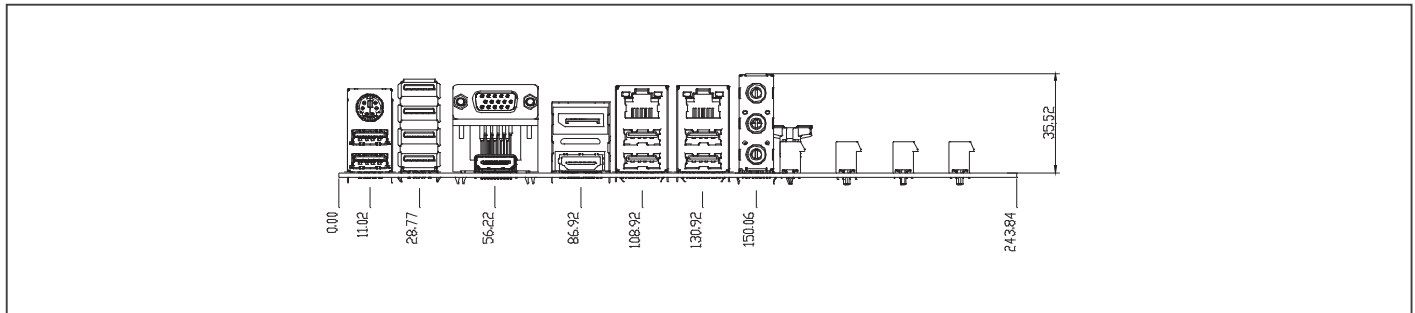
- 14001-00630100 SATA 6G Cable (7P, 180; 90, 500mm 2 in 1)
- 14001-00400100 COM Port Cable (9P, 260mm, p=2.54mm w/bracket)
- I/O Shield
- MAX-Q370C

Block Diagram



Dimension

Unit: mm



Ordering Information

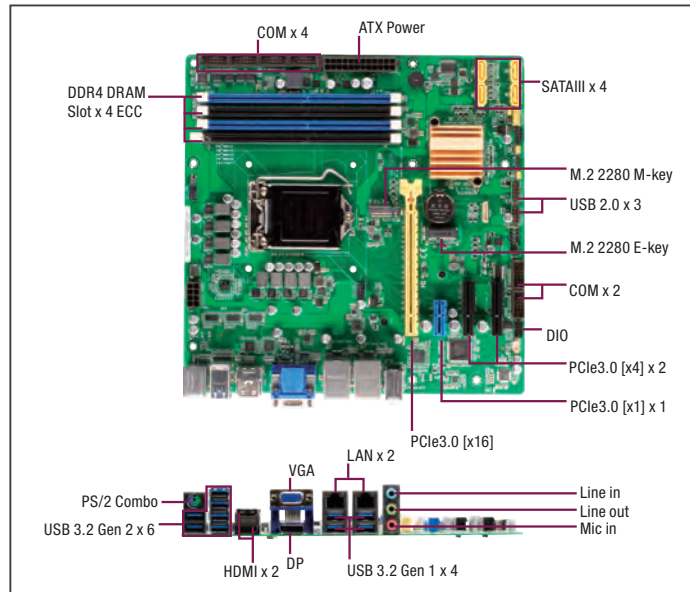
Part number	CPU	RAM	Fan/ Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/ 422/485	Expansion Slot	Power	TPM	Temp.
MAX-Q370C-A10	LGA 1151 socket	DDR4 2666/2400/2133	Fan	HDMI x 2, VGA x 1, DP x 1	—	SATA3 x 4, M.2 2280/2242 M-key x 1	Intel@GbE x 2	USB 3.2 Gen 1 x 6, USB 2.0 x 4, USB 3.2 Gen 1 box header x 1, USB 3.2 Gen 1 type A (vertical) x 1	5	1	PCIe[x16] x 1, PCIe[x4] (open edge) x 3, M.2 2280/2242 M-key x 1	ATX	Onboard	32°F ~140°F (0°C ~ 60°C)

Optional Accessories

Part Number	Description
1700190450	USB 3.2 Gen 1 Cable (19P, 450mm, w/bracket)
AP-FNTH1Q370010	CPU Cooler (2-Ball Bearing, 2U, TDP Max. 100W)
1709100330	USB 2.0 cable (9P, 330MM, p=2.54mm, w/bracket)
170910020K	USB 2.0 cable (9P, 200MM, p=2.54mm, w/o bracket)
175921156B	CPU Cooler (2-Ball, Push-pin Type)
1759200172	CPU Cooler (2-Ball, Screw with Retention Plate)

MAX-C246A

Micro-ATX Industrial Motherboard with 8th/9th Generation Intel® Core™ Processor, DDR4 DRAM, Multiple Display Ports, Supports iAMT 12.0



Specifications

System	
Processor	8th/9th Generation Intel® (Coffee Lake-S/Coffee Lake-S Refresh) Core™ i9/ i7/ i5 /i3, Pentium™ 14nm, Celeron™, Xeon™ E-2200/2100, LGA 1151 socket Processor, max. TDP 8 Core 95W
Chipset	Intel® C246 Express Chipset
Memory	DIMM x 4, DDR4 (2666/2400/2133 MHz, max. 128GB) ECC, un-buffered memory Dual-channel memory architecture
I/O Chipset	NCT6793D+ F81216HD
Ethernet	Intel® PHY i219LM Gb LAN (supports Intel® AMT 12.0) x 1 Intel® i211AT Gb LAN x 1 RJ45 x 2
Audio	Realtek® ALC887 6-Channel High Definition Audio CODEC
TPM	Nuvoton NPCT750AABYX TPM2.0 onboard
Expansion Slots	PCIe 3.0[x16] Slot x 1 PCIe 3.0[x4] Slot x 2(open edge) PCIe 3.0[x1] Slot x 1(open edge) M.2 2230 E-key x 1(PCIe/USB) M.2 2280 M-key x 1(PCIex4/SATA3)
BIOS	256Mbit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/ Chassis Fan x 2
Wake On LAN/ PXE	Yes (WOL / PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® UHD Graphics
Graphics Multi Display	HDMI+VGA+DP, HDMI+HDMI+VGA, HDMI+HDMI+DP
VGA	Up to 1920 x 1200 @60Hz (via IT6516B)
DVI	—
HDMI	Up to 4096 x 2160 @ 24 Hz / 2560 x 1600 @ 60 Hz, with Digital Audio
Display Port	Up to 4096 x 2160 @ 24 Hz / 3840 x 2160 @ 60 Hz, with Digital Audio
LVDS	—
eDP	—
Backlight Control	—
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	24-pin ATX connector x 1, 8-pin (2x4) ATX 12V Power connector x 1
Operation Temperature	32°F ~140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~185°F (-40°C ~85°C)
Operation Humidity	0%~90%RH, non-condensing
Certificate	CE & FCC Class A

Features

- 8th/9th Generation Intel® Core™ LGA1151 Processor
- Supports Power 95W max.
- DDR4 2666/2400/2133 MHz, max. 128GB
- Three Independent Displays: HDMI x 2, VGA x 1, DP x 1
- Dual Intel® Gigabit Ethernet, i211AT x 1, i219LM x 1, i219LM Supports iAMT 12.0
- USB 3.2 Gen 2 ports x 6, USB 3.2 Gen 1 ports x 4, USB 2.0 ports x 3
- M.2 E-key (PCIe/USB) x 1, M.2 M-key (PCIex4/SATA3) x 1
- TPM Onboard

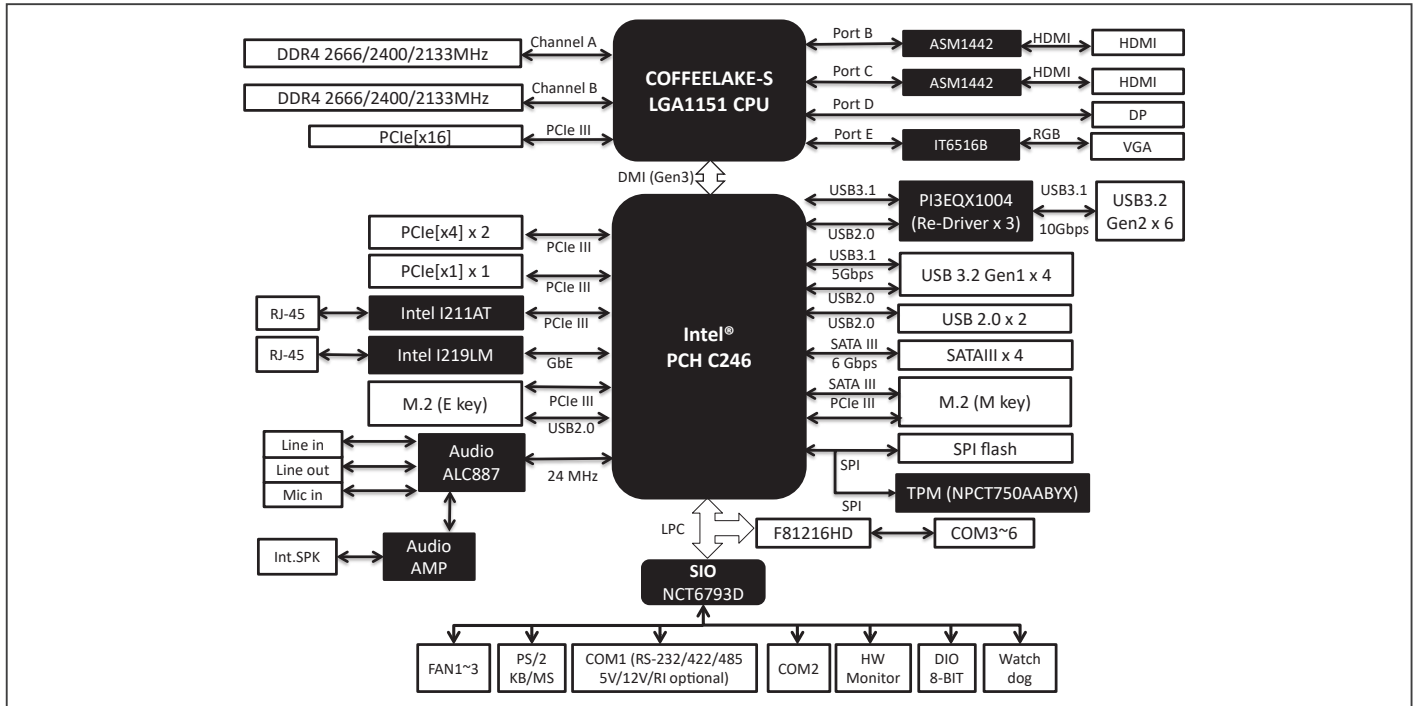


Form Factor	Micro-ATX Form Factor, 9.6"x9.6" (244mmx244mm)
Weight	1.76 lb (0.8 Kg)
MTBF (Hours)	264,820
Rear Panel I/O Ports	
USB	USB 3.2 Gen 2 ports (10 Gbps) x 6, USB 3.2 Gen 1 ports (5 Gbps) x 4
Display I/O	DP x 1, VGA x 1, HDMI x 2
Audio I/O	Audio Jack x 3: Line-in, Mic-in, Line-out
LAN I/O	LAN (RJ45) ports x 2
Serial Port	—
PS/2 Port	PS/2 combo port (Keyboard & Mouse) x 1
Others	—
Internal I/O Connectors	
Storage	SATA3 (6.0Gb/s) ports x 4, support RAID 0/1/5/10 M.2 2280 M-key (PCIex4/SATA3) x 1
USB	USB 2.0 headers support additional 3 USB ports (2x5PIN, p=2.54mm)
Display I/O	—
Audio I/O	Speaker for 2W@4Ω x 1
Serial Port	RS-232 Boxer headers x 5 RS-232/422/485 Boxer header (COM1, Pin9 supports 5V/12V/RI optional) x 1
PS/2 Port	—
Parallel Port	—
DIO	8-bit Digital I/O interface (In/Out programmable) x 1
FAN	CPU Fan connector (4-pin) x 1 Chassis Fan connector(s) (4-pin) x 2
Power	—
Others	Chassis Intrusion x 1 AT/ATX mode select jumper x 1 Front panel header x 1 Clear CMOS jumper x 1
OS	
OS Support	Windows® 10 64-bit, Linux Ubuntu 64-bit (18.04.1/Kernal4.8.0)

Packing List

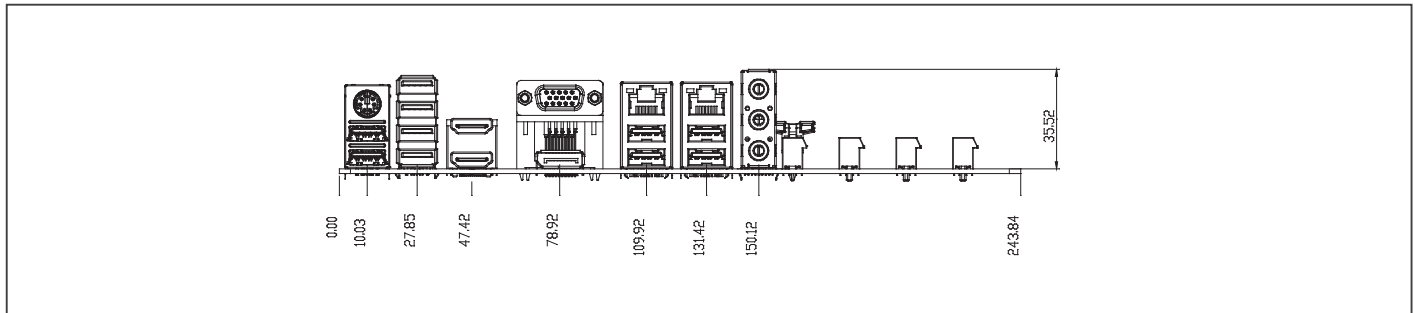
- 14001-00630100 SATA 6G Cable (7P, 180; 90, 500mm 2 in 1)
- 14001-00400100 COM Port Cable (9P, 260mm, p=2.54mm w/bracket)
- I/O Shield
- MAX-C246A

Block Diagram



Dimension

Unit: mm



Ordering Information

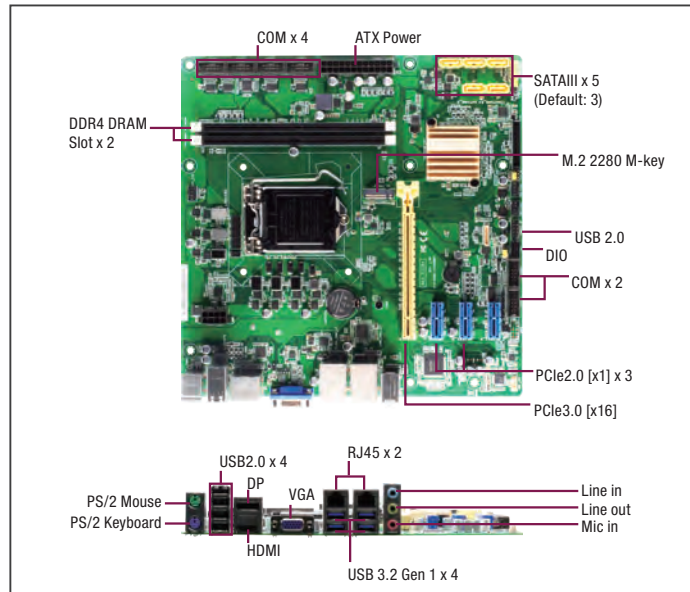
Part number	CPU	RAM	Fan/ Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
MAX-C246A-A10	LGA 1151 socket	DDR4 2666/2400/2133	Fan	HDMI x 2 VGA x 1 DP x 1	—	SATA3 x 4, M.2 2280 M-key x 1	Intel®GbE x 2	USB 3.2 Gen 2 x 6 USB 3.2 Gen 1 x 4 USB 2.0 x 3	5	1	PCIe[x16] x 1, PCIe[x4] x 2, PCIe[x1] x 1, M.2 2230 E-key x 1, M.2 2280 M-key x 1	ATX	Onboard	32°F ~140°F (0°C ~ 60°C)

Optional Accessories

Part Number	Description
AP-FNTH1Q370010	CPU Cooler (2-Ball Bearing, 2U, TDP Max. 100W)
1709100330	USB 2.0 cable (9P, 330MM, p=2.54mm, w/bracket)
170910020K	USB 2.0 cable (9P, 200MM, p=2.54mm, w/o bracket)
175921156B	CPU Cooler (2-Ball, Push-pin Type)
1759200172	CPU Cooler (2-Ball, Screw with Retention Plate)

MAX-H310A

Micro-ATX Industrial Motherboard with 8th/9th Generation Intel® Core™ Processor, DDR4 DRAM



Specifications

System	
Processor	8th/9th Generation Intel® (Coffee Lake-S/Coffee Lake-S Refresh) Core™ i9/ i7/ i5/ i3, Pentium 14nm LGA 1151 socket Processor
Chipset	Intel® H310 Express Chipset
Memory	DIMM x 2, DDR4 (2666/2400/2133 MHz, max. 64GB) non-ECC, un-buffered memory Dual-channel memory architecture
I/O Chipset	NCT6793D+ F81216HD
Ethernet	Intel® PHY i219V Gb LAN x 1 Intel® i211AT Gb LAN x 1 RJ45 x 2
Audio	Realtek® ALC887 6-Channel High Definition Audio CODEC
TPM	Nuvoton NPCT650ABBYX TPM2.0 onboard (default: No)
Expansion Slots	PCIe 3.0[x16] Slot x 1 PCIe 2.0[x1] Slot (open edge) x 3 M.2 2280 M-key (BOM option: PCIe or SATA; default: SATA) x 1
BIOS	128Mbit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan x 1 Chassis Fan x 2
Wake On LAN/ PXE	Yes (WOL / PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® UHD Graphics
Graphics Multi Display	VGA+DP; VGA+HDMI; DP+HDMI
VGA	Up to 1920 x 1200 @60Hz (via IT6516B)
DVI	—
HDMI	Up to 4096 x 2160 @ 24 Hz / 2560 x 1600 @ 60 Hz, with Digital Audio
Display Port	Up to 4096 x 2160 @ 24 Hz / 3840 x 2160 @ 60 Hz, with Digital Audio
LVDS	—
eDP	—
Backlight Control	—
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	24-pin ATX connector x 1, 8-pin (2x4) ATX 12V Power connector x 1
Operation Temperature	32°F ~140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~185°F (-40°C ~85°C)
Operation Humidity	0%~90%RH, non-condensing
Certificate	CE & FCC Class A
Form Factor	Micro-ATX Form Factor, 9.6"x9.6" (244 mm x 244 mm)

Features

- 8th/9th Generation Intel® Core™ LGA1151 Processor
- DDR4 2666/2400/2133 MHz, max. 64GB
- Two Independent Displays: HDMI x 1, VGA x 1, DP x 1
- Dual Intel® Gigabit Ethernet, i211AT x 1, i219V x 1
- USB 3.2 Gen 1 ports x 4, USB 2.0 ports x 6
- M.2 M-key (PCIe or SATA) x 1, up to 5 SATA III (Optional)
- TPM Onboard (Optional)

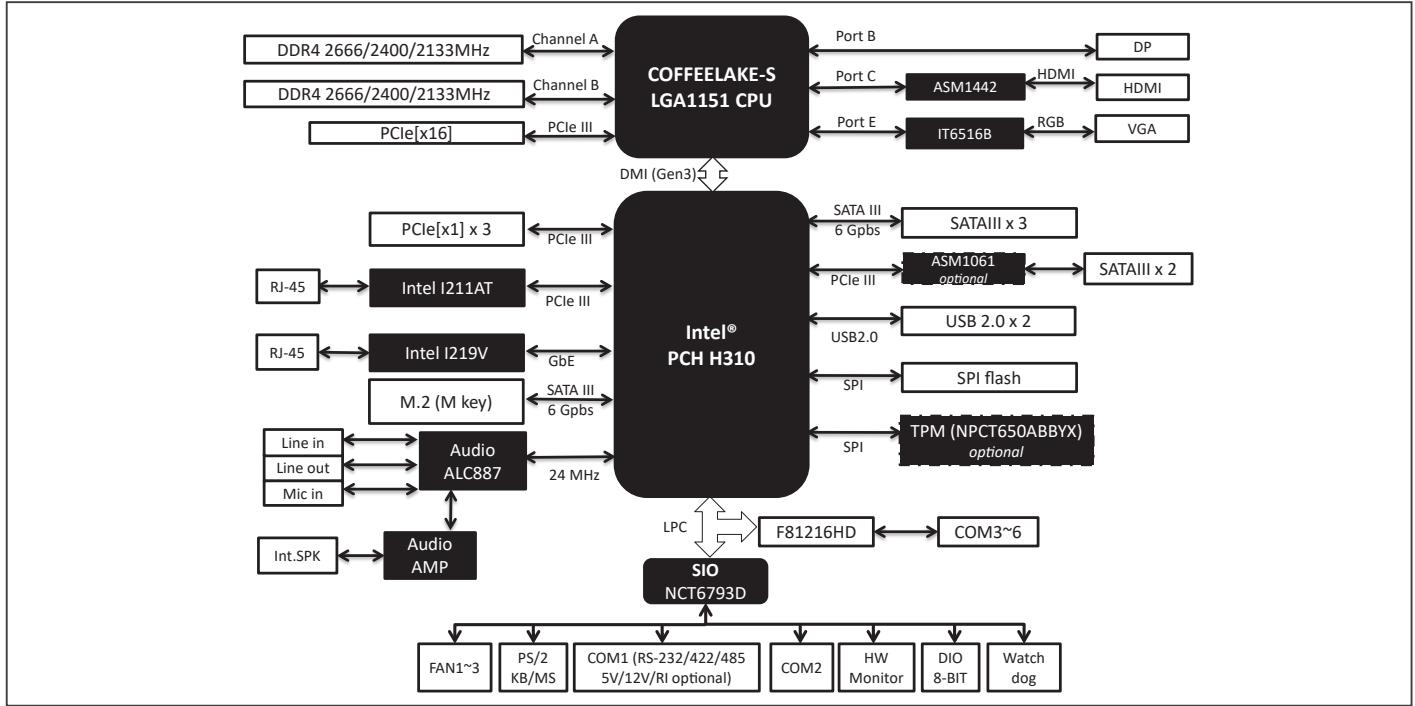


Weight	1.76 lb (0.8 Kg)
MTBF (Hours)	261,090
Rear Panel I/O Ports	
USB	USB 3.2 Gen 1 ports (5 Gbps) x 4, USB 2.0 ports x 4
Display I/O	DP x 1, VGA x 1, HDMI x 1
Audio I/O	Audio Jack x 3: Line-in, Mic-in, Line-out
LAN I/O	LAN (RJ45) ports x 2
Serial Port	—
PS/2 Port	PS/2 stack Port (Keyboard & Mouse) x 1
Others	—
Internal I/O Connectors	
Storage	SATA III (6.0Gb/s) ports (BOM option: additional 2 SATA) x 3 M.2 2280 M-key (BOM option: PCIe x1 or SATA; default: SATA) x 1
USB	USB 2.0 header support additional 2 USB ports (2x5PIN, p=2.54mm) x 1
Display I/O	—
Audio I/O	Speaker header (Line-out) x 1, AAFP x 1
Serial Port	RS-232 Boxer headers x 5 RS-232/422/485 Boxer header (COM1, Pin9 supports 5V/12V/RI optional) x 1
PS/2 Port	—
Parallel Port	—
DIO	8-bit Digital I/O interface (In/Out programmable) x 1
FAN	CPU Fan connector (4-pin) x 1 Chassis Fan connector(s) (4-pin) x 2
Power	—
Others	Chassis intrusion x 1 AT/ATX mode select jumper x 1 Front panel header x 1 Clear CMOS jumper x 1 LPC boxer header x 1
OS	
OS Support	Windows® 10 64bit, Linux Ubuntu 64bit (18.04.1/Kernal4.8.0)

Packing List

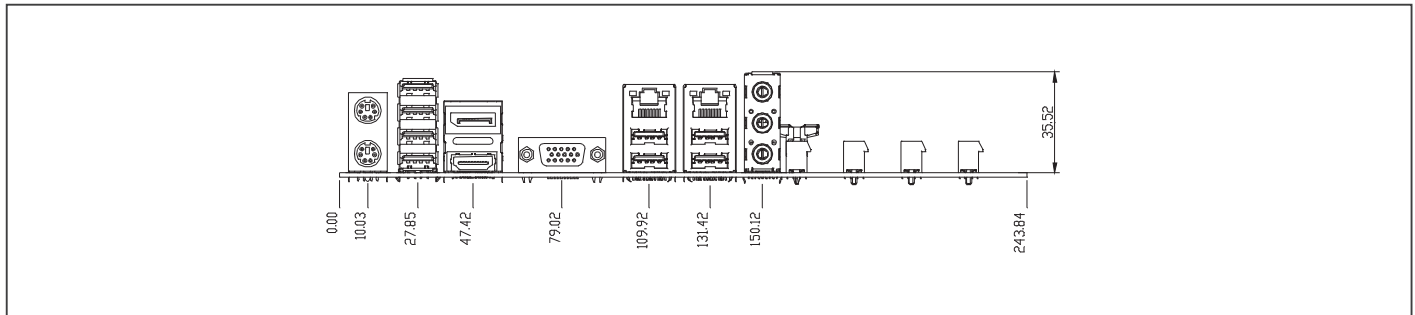
- 14001-00630100 SATA 6G Cable (7P, 180; 90, 500mm 2 in 1)
- 14001-00400100 COM Port Cable (9P, 260mm, p=2.54mm w/bracket)
- I/O Shield
- MAX-H310A

Block Diagram



Dimension

Unit: mm



Ordering Information

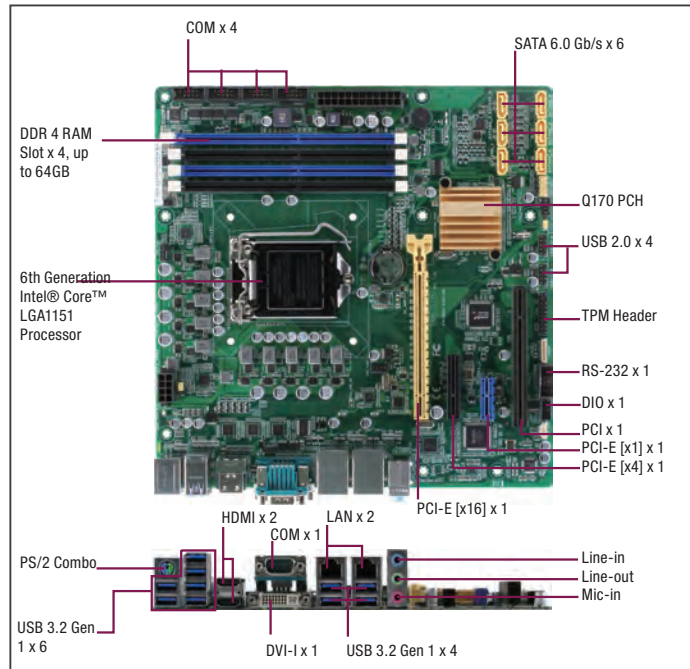
Part number	CPU	RAM	Fan/ Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS- 232/422/485	Expansion Slot	Power	TPM	Temp.
MAX-H310A-A10	LGA 1151 socket	DDR4 2666/2400/2133	Fan	HDMI x 1 VGA x 1 DP x 1	—	SATA3 x 3 M.2 2280 M-key (SATA) x 1	Intel@GbE x 2	USB 3.2 Gen 1 x 4 USB 2.0 x 6	5	1	PCIe[x16] x 1 PCIe[x1] x 3 M.2 2280 M-key (SATA) x 1	ATX	—	32°F ~140°F (0°C ~ 60°C)

Optional Accessories

Part Number	Description
1709100330	USB 2.0 cable (9P, 330MM, p=2.54mm, w/bracket)
170910020K	USB 2.0 cable (9P, 200MM, p=2.54mm, w/o bracket)
175921156B	CPU Cooler (2-Ball, Push-pin Type)
1759200172	CPU Cooler (2-Ball, Screw with Retention Plate)

IMBM-Q170A

Micro-ATX with 7th/6th Generation Intel® Core™ Processor, DDR4 DRAM, USB x 14, Supports iAMT 11.0



Specifications

System	
Processor	7th/6th Generation Intel® Core™ i7/i5/i3/Pentium®/ Celeron® 14nm LGA1151 Socket Processor
Chipset	Intel® Q170 Express Chipset
Memory	288-pin DIMM x 4, max. 64GB, DDR4 2133/1867 MHz, non-ECC, un-buffered memory, dual-channel memory architecture
I/O Chipset	NCT6791D, F81216HD
Ethernet	LAN 1: Intel® PHY i219LM Gb LAN (supports iAMT 11.0) x 1 LAN 2: Intel® i211AT Gb LAN x 1, RJ-45 x 2
Audio	Realtek® ALC887 (Colay with ALC886)
TPM	20-1 PIN header for TPM1.2/FW3.19
Expansion Slots	PCIe 3.0/2.0[x16] Slot x 1, PCIe 3.0/2.0[x4] Slot (open edge) x 1, PCIe 3.0/2.0[x1] Slot (open edge) x 1, PCI x 1
BIOS	128M bit Flash ROM x 1, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/ Chassis Fan x 2
Wake On LAN/ PXE	Yes (WOL/PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® HD Graphics
Graphics Multi Display	DVI-I+HDMI, HDMI+HDMI
VGA	Up to 1920 x 1200 @60Hz
DVI	Up to 1920 x 1200 @60Hz
HDMI	HDMI 1.4 up to 4096 x 2304 @30Hz
Display Port	—
LVDS	—
eDP	—
Backlight Control	—
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	24-pin ATX connector x 1, 8-pin ATX 12V Power connector x 1
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% RH, non-condensing
Certificate	CE & FCC Class A
Form Factor	Micro-ATX Form Factor, 9.6" x 9.6" (244mm x 244mm)
Weight	1.76 lb (0.8 Kg)
MTBF (Hours)	193,470

Features

- 6th/7th Generation Intel® Core™ LGA1151 Processor
- DDR4 DRAM Support, 2133 MHz, Max. 64GB
- Three Independent Display: HDMI x 2, DVI-I Port x 1
- Dual Intel® Gigabit Ethernet, LAN1 Supports iAMT 11.0
- USB 3.2 Gen 1 Port x 10, USB 2.0 Port x 4
- TPM Optional (Via Pin Header)



Rear Panel I/O Ports

USB	USB 3.2 Gen 1 port x 10
Display I/O	DVI-I x 1, HDMI x 2
Audio I/O	Audio Jack x 3: Line-in, Mic-in, Line-out
LAN I/O	LAN (RJ-45) port x 2
Serial Port	RS-232/422/485 DB-9 connector x 1 (COM1, supports 5/12V on RI pin)
PS/2 Port	PS/2 Combo Port (Keyboard & Mouse) x 1
Others	—

Internal I/O Connectors

Storage	SATA3 (6.0Gb/s) port x 6, supports RAID 0/1/5/10
USB	USB 2.0 header supports additional 2 USB ports x 2
Display I/O	—
Audio I/O	Speaker header x 1 (Line-out)
Serial Port	RS-232 header x 5
PS/2 Port	—
Parallel Port	—
DIO	8-bit Digital I/O interface x 1 (In/Out programmable)
FAN	CPU Fan connector(s) (4-pin) x 1, Chassis Fan connector(s) (4-pin) x 2
Power	—
Others	Front panel header x 1, Clear CMOS jumper x 1, TPM header x 1, BIOS flash header (2[x4]P p=1.27mm) x 1, Chassis Intrusion x 1
OS	
OS Support	Windows® 7 32/64-bit, Windows® 8.1 64-bit, Windows® 10 64-bit, Linux Fedora 64bit

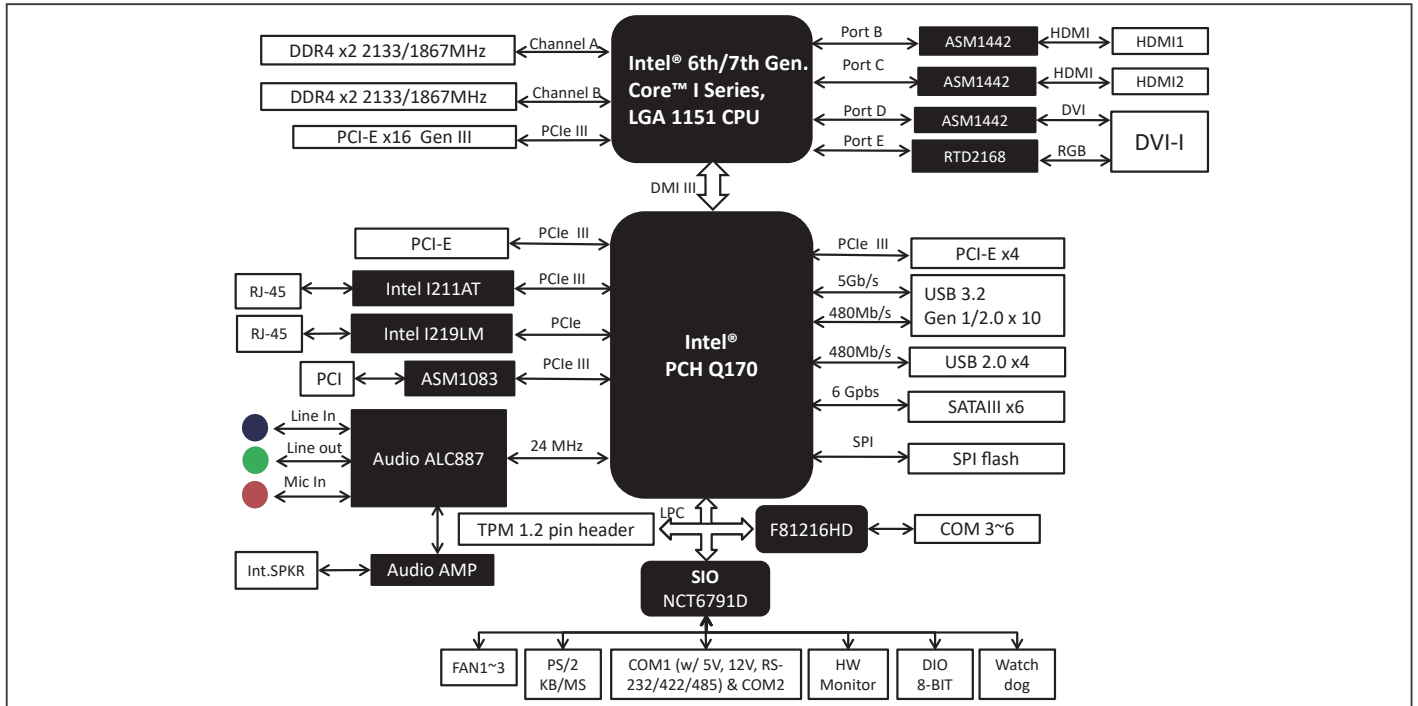
Packing List

- 14001-00630100
SATA 6G Cable (7P, 180; 90, 500mm 2 in 1)
- 14001-00400100
COM Port Cable (9P, 260mm, p=2.54mm w/bracket)
- I/O Shield
- IMBM-Q170A

Optional Accessories

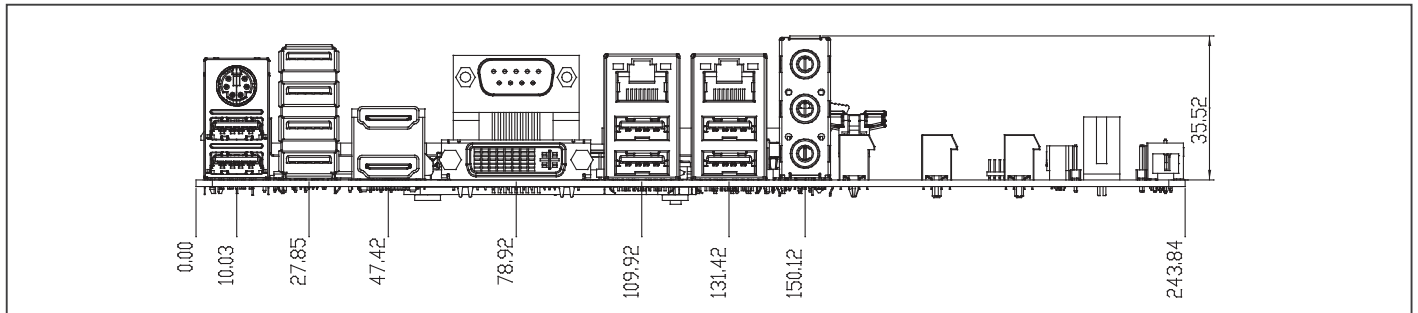
Part Number	Description
1709100330	USB 2.0 cable (9P, 330MM, p=2.54mm, w/bracket)
170910020K	USB 2.0 cable (9P, 200MM, p=2.54mm, w/o bracket)
175921156B	CPU Cooler (2-Ball, Push-pin Type)
1759200172	CPU Cooler (2-Ball, Screw with Retention Plate)
TBD	TPM Module

Block Diagram



Dimension

Unit: mm

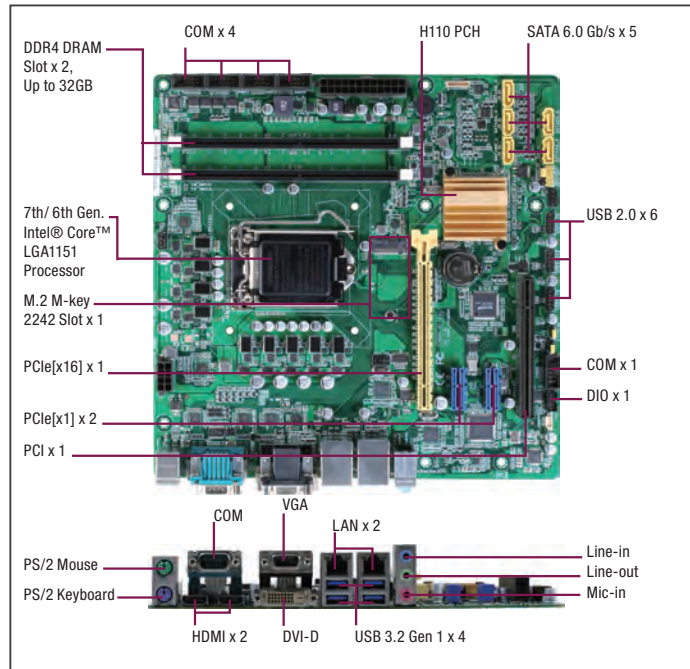


Ordering Information

Part Number	CPU	RAM	Fan/Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
IMBM-Q170A-A10-K	LGA1151 socket	DDR4 2133	Fan	DVI-I x 1, HDMI x 2	SATA3 x 6	—	Intel®GbE x 2	USB 3.2 Gen 1 x 10, USB 2.0 x 4	5	1	PCIe[x16] x 1, PCIe [x4] x 1, PCIe[x1] x 1, PCI x 1	ATX	20-1 Pin Header	32°F – 140°F (0°C – 60°C)

IMBM-H110A

Micro-ATX with 7th/6th Generation Intel® Core™ Processor, DDR4 DRAM, M.2 x 1, USB x 10



Specifications

System	
Processor	7th/6th Generation Intel® Core™ i7/i5/i3/Pentium®/ Celeron® 14nm LGA1151 Socket Processor
Chipset	Intel® H110
Memory	288-pin DIMM x 2, max. 32GB, DDR4 2400/2133/1867, dual-channel
I/O Chipset	NCT6791D, F81216HD
Ethernet	Intel® I211AT Gb LAN x 2
Audio	Realtek® ALC887 (Colay with ALC886)
TPM	Nuvoton NPCT650ABBYX TPM2.0 (default : No)
Expansion Slots	PCIe [x16] x 1, PCIe [x1] (open edge) x 2, PCI x 1, M.2 M key (22 x 42mm) x 1
BIOS	128M bit Flash ROM x 1, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/3.3V/12V/3VSB/VBAT, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan x 1, Chassis Fan x 2
Wake On LAN/ PXE	Yes (WOL/PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® HD Graphics
Graphics Multi Display	DVI-D+HDMI, HDMI+HDMI, VGA+HDMI, DVI-D+VGA
VGA	Up to 1920 x 1200 @60Hz
DVI	Up to 1920 x 1200 @60Hz
HDMI	HDMI 1.4 up to 4096 x 2304 @24Hz
Display Port	—
LVDS	—
eDP	—
Backlight Control	—
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	24-pin ATX connector x 1, 8-pin ATX 12V Power connector x 1
Operation Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operation Humidity	0% ~ 90% RH, non-condensing
Certificate	CE & FCC Class A
Form Factor	Micro-ATX, 9.6" x 9.6" (244mm x 244mm)
Weight	1.76 lb (0.8 Kg)
MTBF (Hours)	245,250

Features

- 7th/6th Generation Intel® Core™ LGA1151 Processor
- DDR4 DRAM Support, 2400MHz, Max. 32GB
- Two Independent Display: HDMI x 2, VGA x 1, DVI-D x 1
- Dual Intel® Gigabit Ethernet
- M.2 Slot (M key) x 1
- USB 3.2 Gen 1 Port x 4, USB 2.0 Port x 6



Rear Panel I/O Ports

USB	USB 3.2 Gen 1 x 4
Display I/O	HDMI x 2, VGA x 1, DVI-D x 1
Audio I/O	Line-in, Mic-in, Line-out
LAN I/O	RJ-45 x 2
Serial Port	DB-9 COM x 1 (supports RS-232/422/485)
PS/2 Port	Stack Port (Keyboard & Mouse) x 1
Others	—

Internal I/O Connectors

Storage	SATA 6.0Gb/s x 5, M.2 M key (22 x 42mm) x 1
USB	USB 2.0 x 6
Display I/O	—
Audio I/O	AMP speaker header x 1 (Line-out)
Serial Port	RS-232 header x 5
PS/2 Port	—
Parallel Port	—
DIO	8-bit x 1 (In/Out programmable)
FAN	4-pin CPU Fan x 1, 4-pin Chassis Fan x 2
Power	—
Others	Front panel header x 1, Clear CMOS jumper x 1, BIOS flash header (2[x4]P p=1.27mm) x 1, Chassis Intrusion x 1, AT/ATX mode select jumper x 1

OS

OS Support	Windows® 7 32/64-bit (not supported when a Kaby Lake processor is used), Windows® 8.1 64-bit (not supported when a Kaby Lake processor is used), Windows® 10 64-bit, Linux Fedora 64bit
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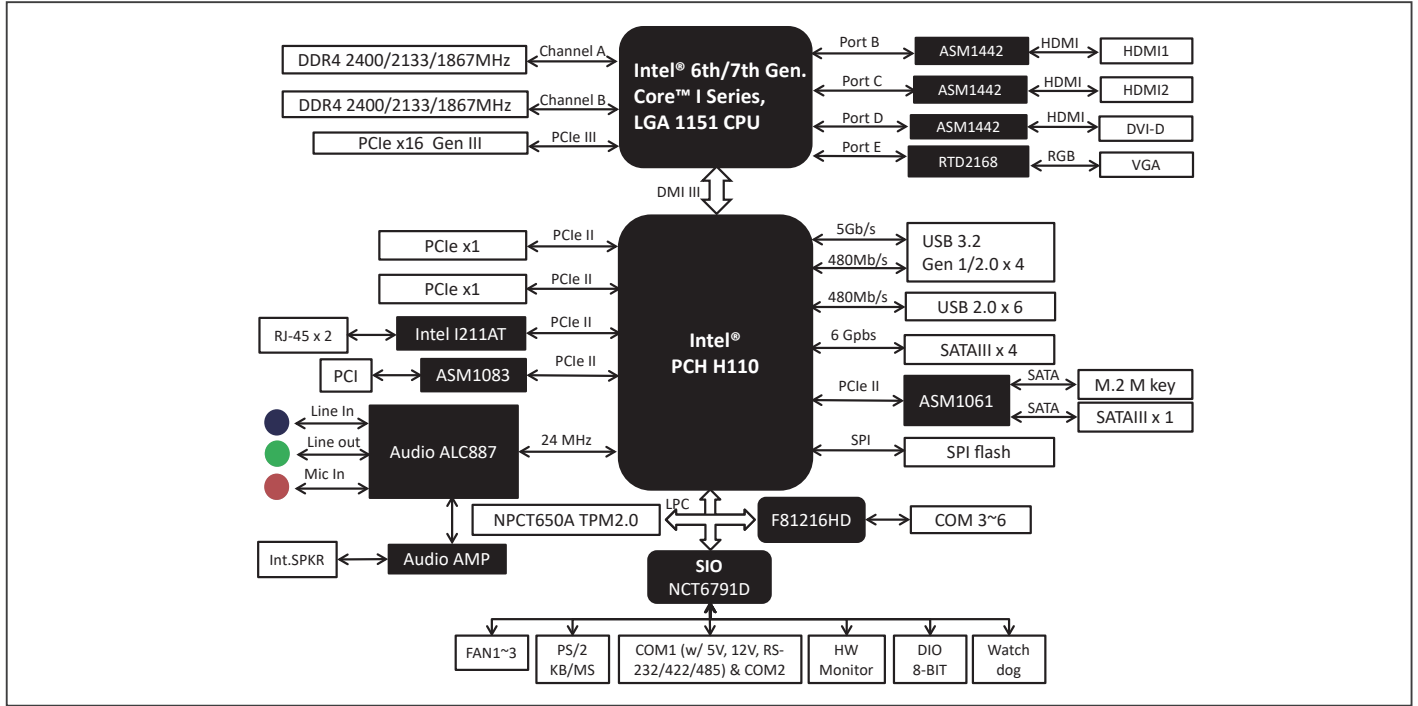
Packing List

- 14001-00630100
SATA 6G Cable (7P, 180; 90, 500mm 2 in1)
- 14001-00400100
COM Port Cable (9P, 260mm, p=2.54mm w/bracket)
- I/O Shield
- IMBM-H110A

Optional Accessories

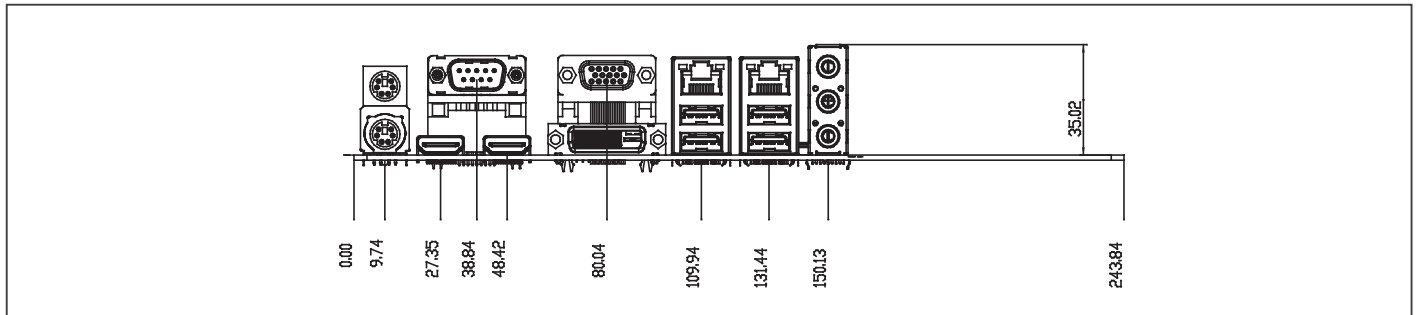
- 1709100330
USB 2.0 cable (9P, 330MM, p=2.54mm, w/bracket)
- 170910020K
USB 2.0 cable (9P, 330MM, p=2.54mm, w/o bracket)
- 175921156B
CPU Cooler (2-Ball, Push-pin Type)
- 1759200172
CPU Cooler (2-Ball, Screw with Retention Plate)

Block Diagram



Dimension

Unit: mm

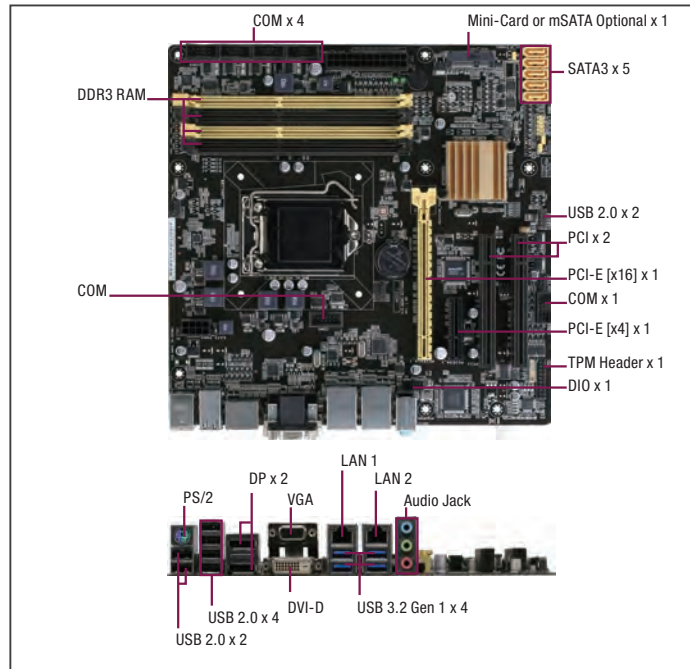


Ordering Information

Part Number	CPU	RAM	Fan/Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
IMBM-H110A-A10	LGA1151 socket	DDR4 2400	Fan	HDMI x 2, VGA x 1, DVI-D x 1	M.2 M key 2242 x 1 SATA3 x 5	—	GbE x 2	USB 3.2 Gen 1 x 4, USB 2.0 x 6	5	1	PCIe[x16] x 1, PCIe[x1] x 2, PCI x 1	ATX	—	32°F~140°F (0°C~60°C)

IMBM-Q87A

Micro-ATX Industrial Motherboard with 4th Generation Intel® LGA1150 Processor, SATA3 x 5, Multiple Display Ports, Supports iAMT 9.0



Features

- 4th Generation Intel® Core™ i7/i5/i3 22nm LGA 1150 Socket Processor
- Three/Dual Independent Display: VGA, DVI-D, DP x 2
- Dual Gigabit Ethernet, LAN1 Supports iAMT 9.0
- SATA 6.0 Gb/s x 5, USB 3.2 Gen 1 x 4, USB 2.0 x 8
- Rich Expansion Slot: PCI-E [x16] x 1, PCI-E [x4] x 1, PCI x 2, Mini-Card (or Optional mSATA) x 1
- TPM Optional (Via Pin Header)



Rear Panel I/O Ports

USB	USB 3.2 Gen 1 port x 4, USB 2.0 port x 6
Display I/O	DVI-D x 1, DP x 2, VGA x 1
Audio I/O	Audio Jack x 3: Line-in, Mic-in, Line-out
LAN I/O	LAN (RJ-45) port x 2
Serial Port	—
PS/2 Port	PS/2 Combo Port (Keyboard & Mouse) x 1
Others	—

Internal I/O Connectors

Storage	SATA3 (6.0Gb/s) port x 5, supports RAID 0/1/5/10; Half size Mini-Card (PCIe + USB, or mSATA optional) x 1
USB	USB 2.0 connector x 1 supports additional 2 USB ports
Display I/O	—
Audio I/O	—
Serial Port	RS-232 header x 5, RS-232/422/485 DB-9 connector x 1 (COM1, supports 5/12V on RI pin)
PS/2 Port	—
Parallel Port	—
DIO	8-bit Digital I/O interface x 1 (In/Out programmable)
FAN	CPU Fan connector(s) (4-pin) x 1, Chassis Fan connector(s) (4-pin) x 2
Power	—
Others	Front panel header x 1, Clear CMOS jumper x 1, TPM header x 1, BIOS flash header (2[x4]P p=1.27mm) x 1, Chassis Intrusion x 1
OS	
OS Support	Windows® 7 32/64-bit, Windows® 8.1 32/64-bit, Windows® 10 32/64-bit, Linux Fedora

Specifications

System	
Processor	4th Generation Intel® Core™ i7/i5/i3/Pentium®/ Celeron® 22nm LGA 1150 socket Processor
Chipset	Intel® Q87 Express Chipset
Memory	240-pin DIMM x 4, max. 32GB, DDR3 1600/1333 MHz, non-ECC, un-buffered memory, dual-channel memory architecture
I/O Chipset	NCT6791D, F81216HD
Ethernet	Intel® PHY I217LM Gb LAN (supports iAMT 9.0) x 1, Intel® I210AT Gb LAN x 1, RJ-45 x 2
Audio	Realtek® ALC887 (Colay with ALC886)
TPM	20-1 PIN header for TPM1.2/FW3.19
Expansion Slots	PCIe 3.0/2.0[x16] Slot x 1, PCIe 2.0 [x4] Slot x 1, PCI x 2, Half size Mini-Card x 1 (PCIe + USB) or mSATA optional
BIOS	64Mbit Flash ROM x 2, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/ Chassis Fan
Wake On LAN/ PXE	Yes (WOL/PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® HD Graphics
Graphics Multi Display	DVI-D+DP, DP+DP, VGA+DVI-D, VGA+DP, DVI-D+DP+DP, VGA+DP+DP
VGA	Up to 1920 x 1200 @60Hz
DVI	Up to 1920 x 1200 @60Hz
HDMI	—
Display Port	DP 1.2, up to 3840 x 2160 @60Hz
LVDS	—
eDP	—
Backlight Control	—
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	24-pin ATX connector x 1, 8-pin ATX 12V Power connector x 1
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% RH, non-condensing
Certificate	CE & FCC Class A
Form Factor	Micro-ATX Form Factor, 9.6" x 9.6" (244mm x 244mm)
Weight	1.76 lb (0.8 Kg)
MTBF (Hours)	100,000

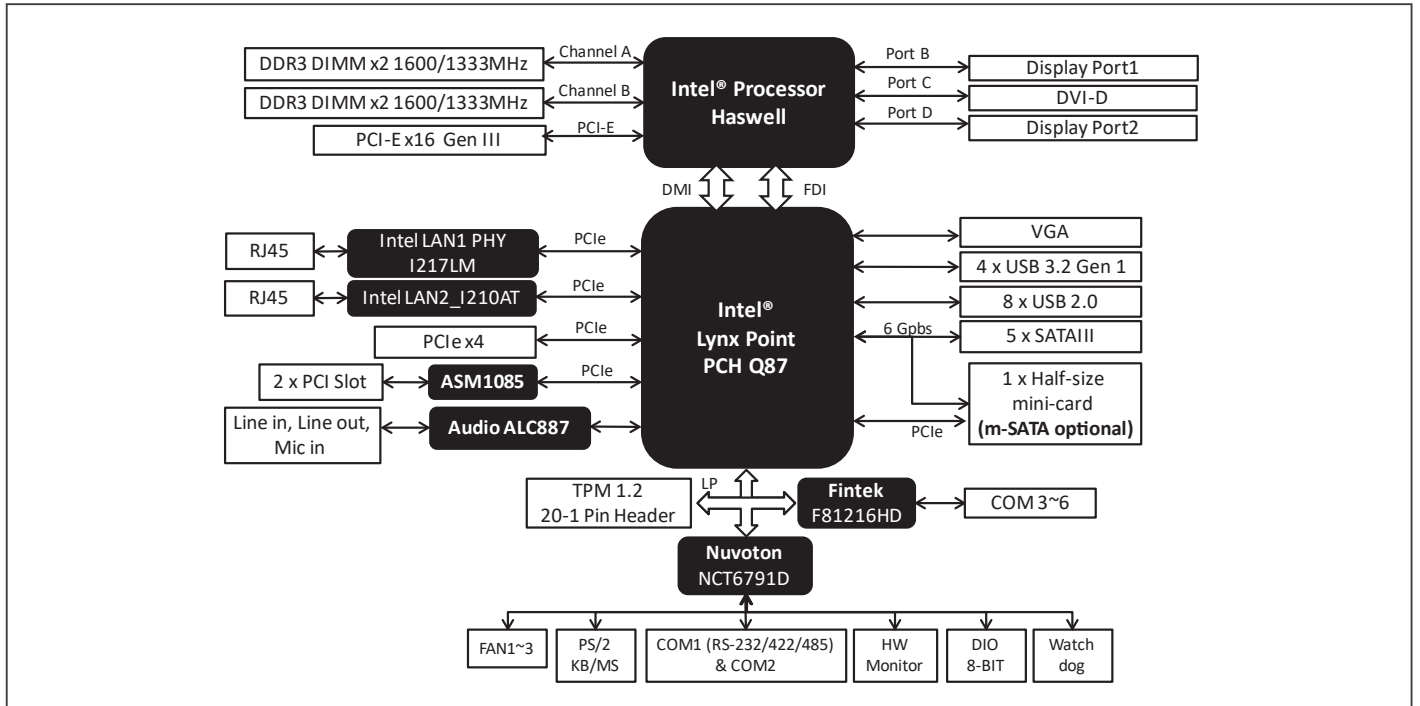
Packing List

- 14001-00400100
COM Cable (9P, 260MM, p=2.54mm) w/bracket
- I/O Shield
- 14001-00630100
SATA 6G Cable (7P, 180; 90, 500mm) 2 in 1
- IMBM-Q87A

Optional Accessories

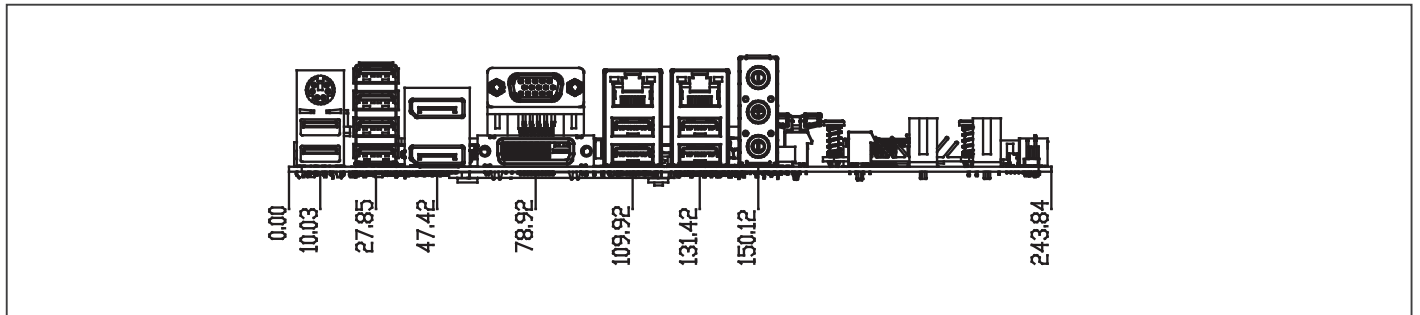
- 1709100330
USB 2.0 cable (9P, 330MM, p=2.54mm, w/bracket)
- 170910020K
USB 2.0 cable (9P, 200MM, p=2.54mm, w/o bracket)
- 1701260305
LPT Cable (25P, 270mm)
- 175921156B
CPU Cooler (2-Ball, Push-pin Type)
- 1759200172
CPU Cooler (2-Ball, Screw with Retention Plate)
- 1701160201
VGA Cable (200mm, p=2.00mm)
- 1700060192
PS/2 Combo Cable, 6P, 190mm

Block Diagram



Dimension

Unit: mm

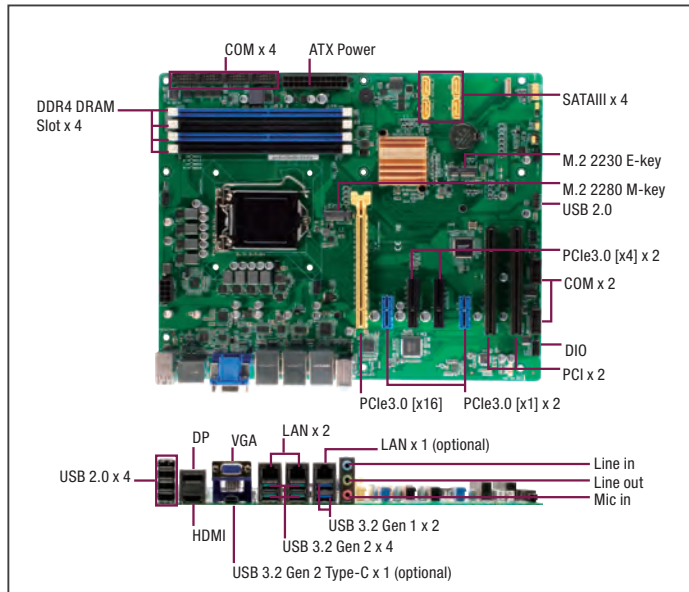


Ordering Information

Part Number	CPU	RAM	Fan/Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
IMBM-Q87A-A10	LGA1150 socket	DDR3 1600/1333	Fan	VGA, DVI, DP x 2	SATA3 x 5	—	Intel® GbE x 2	USB 3.2 Gen 1 x 4, USB 2.0 x 8	5	1	PCIe[x16] x 1, PCIe [x4] x 1, PCI x 2, Half-size Minicard x 1	ATX	20-1 Pin Header	32°F ~ 140°F (0°C ~ 60°C)
IMBM-Q87A-A10-MS	LGA1150 socket	DDR3 1600/1333	Fan	VGA, DVI, DP x 2	SATA3 x 5, m-SATA x 1 (Half-size Mini-PCI-E Slot)	—	Intel® GbE x 2	USB 3.2 Gen 1 x 4, USB 2.0 x 8	5	1	PCIe[x16] x 1, PCIe [x4] x 1, PCI x 2	ATX	20-1 Pin Header	32°F ~ 140°F (0°C ~ 60°C)

ATX-Q370A

ATX Industrial Motherboard with 8th/9th Generation Intel® Core™ Processor, DDR4 DRAM, Supports iAMT 12.0, and Intel® CNVi WLAN Card, Option: LAN x 3, Type-C Alternate (Display + Data USB 3.2 Gen 1) Function



Specifications

System	
Processor	Intel® 8th/9th Generation (Coffee Lake-S/Coffee Lake-S Refresh) Core™ i9/ i7/ i5 /i3, Pentium 14nm LGA 1151 socket Processor, max. TDP 8 Core 95W
Chipset	Intel® Q370 Express Chipset
Memory	DIMM x 4, DDR4 (2666/2400/2133 MHz, max. 128GB) Non-ECC, un-buffered memory Dual channel memory architecture
I/O Chipset	NCT6793D + F81216HD
Ethernet	Intel® PHY i219LM Giga LAN x 1 (supports Intel® AMT 12.0) Intel® i211AT Giga LAN x 1 (BOM option: i211AT x 2) RJ45 x 2 (BOM option: RJ45 x 3)
Audio	Realtek® ALC887 6-Channel High Definition Audio CODEC
TPM	Nuvoton NPCT750AABYX TPM2.0 onboard
Expansion Slots	PCIe 3.0[x16] Slot x 1, PCIe 3.0[x4] Slot (open edge) x 2, PCIe 3.0[x1] Slot (open edge) x 2, PCI x 2, M.2 2230 E-key (PCIex1/USB2.0/CNVi) x 1, M.2 2280 M-key (PCIex4/SATA3) x 1
BIOS	256Mbit Flash ROM x 1, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/ Chassis Fan x 2
Wake On LAN/ PXE	Yes (WOL / PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® Graphics Media Accelerator
Graphics Multi Display	HDMI+VGA+DP (BOM option: USB 3.2 Gen 2-10Gbps Type-C connector (Alternate Mode: USB+DP) x 1)
VGA	Up to 1920 x 1200 @60Hz (via IT6516B)
DVI	—
HDMI	Up to 4096 x 2160 @ 24 Hz / 2560 x 1600 @ 60 Hz, with Digital Audio
Display Port	Up to 4096 x 2160 @ 24 Hz / 3840 x 2160 @ 60 Hz, with Digital Audio
LVDS	—
eDP	—
Backlight Control	—
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	24-pin ATX connector x 1, 8-pin (2x4) ATX 12V Power connector x 1
Operation Temperature	32°F ~140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~185°F (-40°C ~85°C)
Operation Humidity	0%~90%RH, non-condensing
Certificate	CE & FCC Class A
Form Factor	ATX Form Factor, 12"x9.6" (305mm x 244mm)

Features

- 8th/9th Generation Intel® Core™ LGA1151 Processor
- Supports Power 95W max.
- DDR4 2666/2400/2133 MHz, max. 128GB
- Three Independent Displays: HDMI x 1, VGA x 1, DP x 1, USB Type-C x 1 (optional)
- Dual Intel® Gigabit Ethernet, i211AT x 1 (option: i211AT x 2), i219LM x 1
- USB 3.2 Gen 2 ports x 4, USB 3.2 Gen 1 ports x 2, USB 2.0 ports x 6
- M.2 E-key (PCIex1/USB2.0/CNVi) x 1, M.2 M-key (PCIex4/SATA3) x 1
- TPM Onboard

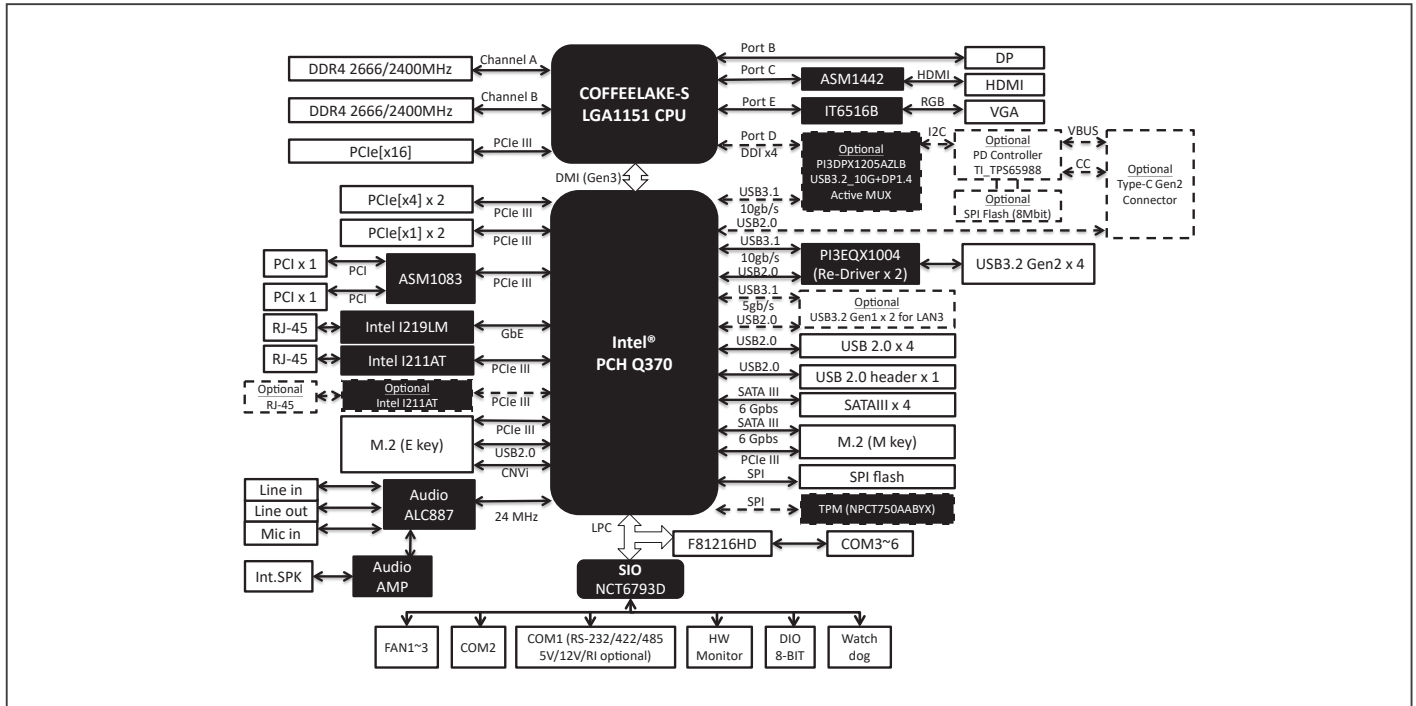


Weight	1.76 lb (0.8 Kg)
MTBF (Hours)	281,410
Rear Panel I/O Ports	
USB	USB 3.2 Gen 2 ports (10 Gbps) x 4, USB 3.2 Gen 1 ports (5 Gbps) x 2, USB 2.0 ports x 4
Display I/O	HDMI x 1, VGA x 1, DP x 1, USB Type-C x 1 (optional)
Audio I/O	Audio Jack x 3: Line-in, Mic-in, Line-out
LAN I/O	LAN (RJ45) ports x 2 (BOM option: RJ45 x 3)
Serial Port	—
PS/2 Port	—
Others	—
Internal I/O Connectors	
Storage	SATA III (6.0Gb/s) ports x 4, support RAID 0/1/5/10 M.2 2280 M-key (PCIex4/SATA3) x 1
USB	USB 2.0 headers x 1 support additional 2 USB ports (2x5PIN, p=2.54mm)
Display I/O	—
Audio I/O	1 x speaker header (Line-out)
Serial Port	5 x RS-232 headers 1 x RS-232/422/485 (COM1, supports 5V/12V/RI optional)
PS/2 Port	—
Parallel Port	—
DIO	8-bit Digital I/O interface (In/Out programmable) x 1
FAN	CPU Fan connector(s) (4-pin) x 1 Chassis Fan connector(s) (4-pin) x 2
Power	—
Others	Chassis Intrusion x 1 AT/ATX mode select jumper x 1 Front panel header x 1 Clear CMOS jumper x 1
OS	
OS Support	Windows® 10 64bit, Linux Ubuntu 64bit (18.04.1/Kernal4.8.0)

Packing List

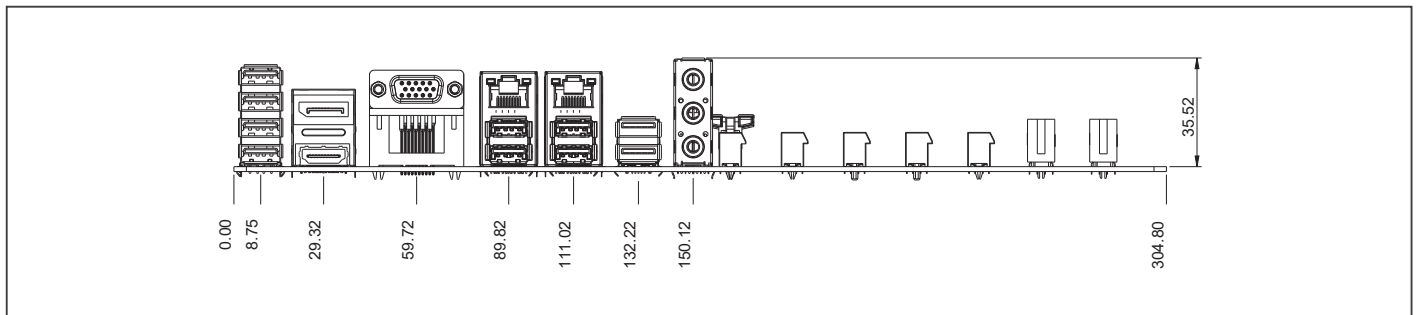
- 14001-00630100 SATA 6G Cable (7P, 180; 90, 500mm 2 in 1)
- 14001-00400100 COM Port Cable (9P, 260mm, p=2.54mm w/bracket)
- I/O Shield
- ATX-Q370A

Block Diagram



Dimension

Unit: mm



Ordering Information

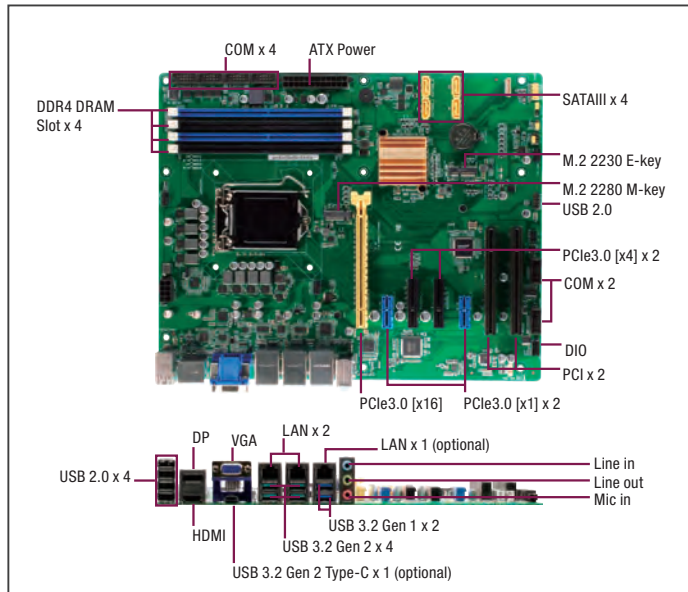
Part number	CPU	RAM	Fan/ Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232 /422/485	Expansion Slot	Power	TPM	Temp.
ATX-0370A-A10-2L	LGA 1151 socket	DDR4 2666/2400/2133	Fan	HDMI x 1 VGA x 1 DP x 1	—	SATA3 x 4 M.2 2280 M-key x 1	Intel@GbE x 2	USB 3.2 Gen 2 x 4 USB 3.2 Gen 1 x 2 USB 2.0 x 6	5	1	PCIe[x16] x 1, PCIe[x4] (open edge) x 2, PCIe[x1] (open edge) x 2, PCI x 2, M.2 2230 E-key x 1, M.2 2280 M-key x 1	ATX	Onboard	32°F ~140°F (0°C ~ 60°C)

Optional Accessories

Part Number	Description
AP-FNTH1Q370010	CPU Cooler (2-Ball Bearing, 2U, TDP Max. 100W)
1709100330	USB 2.0 cable (9P, 330MM, p=2.54mm, w/bracket)
170910020K	USB 2.0 cable (9P, 200MM, p=2.54mm, w/o bracket)
175921156B	CPU Cooler (2-Ball, Push-pin Type)
1759200172	CPU Cooler (2-Ball, Screw with Retention Plate)

ATX-C246A

ATX Industrial Motherboard with 8th/9th Generation Intel® Core™ Processor, DDR4 DRAM, Supports iAMT 12.0, and Intel® CNVi WLAN Card, Option: LAN x 3, Type-C Alternate (Display + Data USB 3.2 Gen 2) Function



Specifications

System	
Processor	Intel® 8th/9th Generation (Coffee Lake-S/Coffee Lake-S Refresh) Core™ i9/i7/i5 /i3, Pentium 14nm, Celeron™, Xeon E-2200/2100, LGA 1151 socket Processor, max. TDP 8 Core 95W
Chipset	Intel® C246 Express Chipset
Memory	DIMM x 4, DDR4 (2666/2400/2133 MHz, max. 128GB) ECC, un-buffered memory Dual channel memory architecture
I/O Chipset	NCT6793D + F81216HD
Ethernet	Intel® PHY i219LM Giga LAN x 1 (supports Intel® AMT 12.0) Intel® i211AT Giga LAN x 1 (BOM option: i211AT x 2) RJ45 x 2 (BOM option: RJ45 x 3)
Audio	Realtek® ALC887 6-Channel High Definition Audio CODEC
TPM	Nuvoton NPCT750AABYX TPM2.0 onboard
Expansion Slots	PCIe 3.0[x16] Slot x 1, PCIe 3.0[x4] Slot (open edge) x 2, PCIe 3.0[x1] Slot (open edge) x 2, PCI x 2, M.2 2230 E-key (PCIex1/USB2.0/CNVi) x 1, M.2 2280 M-key (PCIex4/SATA3) x 1
BIOS	256Mbit Flash ROM x 1, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/ Chassis Fan x 2
Wake On LAN/ PXE	Yes (WOL / PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® Graphics Media Accelerator
Graphics Multi Display	HDMI+VGA+DP (BOM option: USB 3.2 Gen 2-10Gbps Type-C connector (Alternate Mode: USB+DP) x 1)
VGA	Up to 1920 x 1200 @60Hz (via IT6516B)
DVI	—
HDMI	Up to 4096 x 2160 @ 24 Hz / 2560 x 1600 @ 60 Hz, with Digital Audio
Display Port	Up to 4096 x 2160 @ 24 Hz / 3840 x 2160 @ 60 Hz, with Digital Audio
LVDS	—
eDP	—
Backlight Control	—
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	24-pin ATX connector x 1, 8-pin (2x4) ATX 12V Power connector x 1
Operation Temperature	32°F ~140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~185°F (-40°C ~85°C)
Operation Humidity	0%~90%RH, non-condensing
Certificate	CE & FCC Class A
Form Factor	ATX Form Factor, 12"x9.6" (305mm x 244mm)

Features

- 8th/9th Generation Intel® Core™ LGA1151 Processor
- Supports Power 95W max.
- DDR4 2666/2400/2133 MHz, max. 128GB
- Three Independent Displays: HDMI x 1, VGA x 1, DP x 1, USB Type-C x 1 (optional)
- Dual Intel® Gigabit Ethernet, i211AT x 1 (option: i211AT x 2), i219LM x 1
- USB 3.2 Gen 2 ports x 4, USB 3.2 Gen 1 ports x 2, USB 2.0 ports x 6
- M.2 E-key (PCIex1/USB2.0/CNVi) x 1, M.2 M-key (PCIex4/SATA3) x 1
- TPM Onboard (optional)

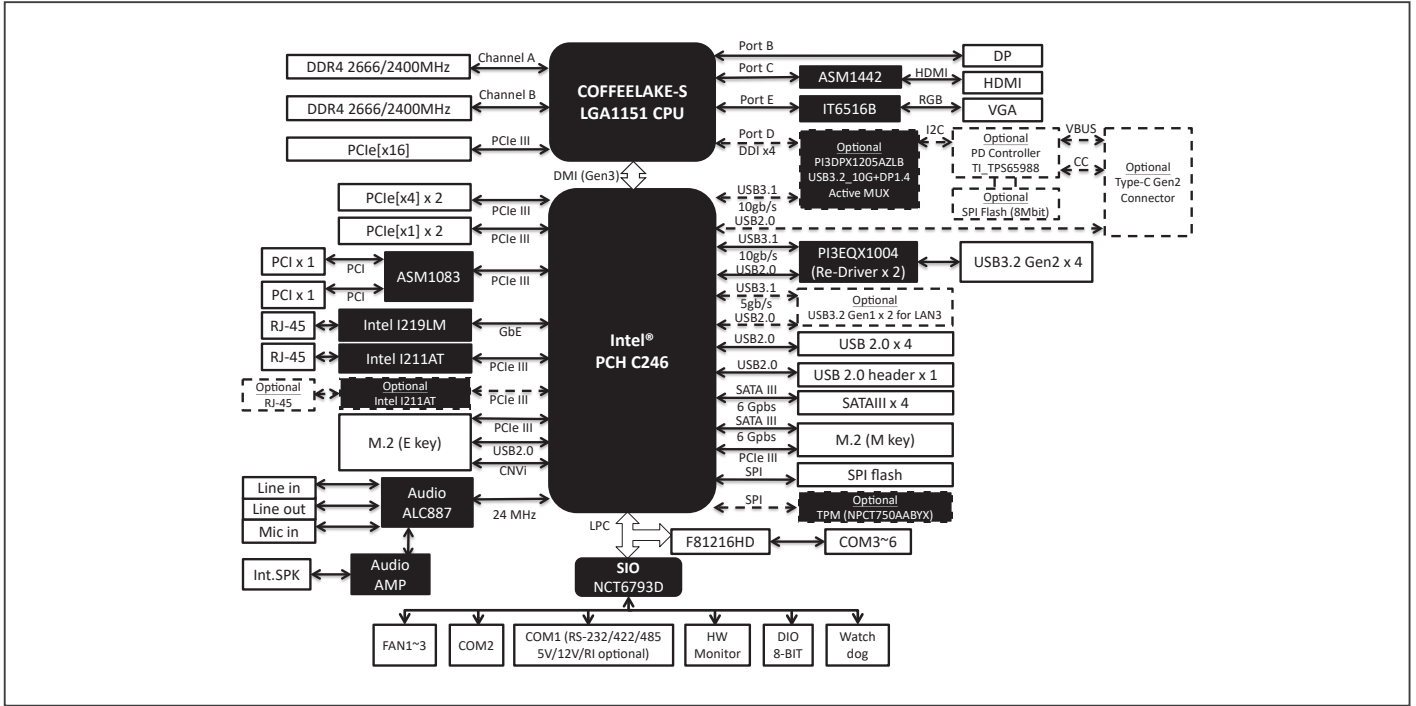


Weight	1.76 lb (0.8 Kg)
MTBF (Hours)	281,410
Rear Panel I/O Ports	
USB	USB 3.2 Gen 2 ports (10 Gbps) x 4, USB 3.2 Gen 1 ports (5 Gbps) x 2, USB 2.0 ports x 4
Display I/O	HDMI x 1, VGA x 1, DP x 1, USB Type-C x 1 (optional)
Audio I/O	Audio Jack x 3: Line-in, Mic-in, Line-out
LAN I/O	LAN (RJ45) ports x 2 (BOM option: RJ45 x 3)
Serial Port	—
PS/2 Port	—
Others	—
Internal I/O Connectors	
Storage	SATA III (6.0Gb/s) ports x 4, support RAID 0/1/5/10 M.2 2280 M-key (PCIex4/SATA3) x 1
USB	USB 2.0 headers x 1 support additional 2 USB ports (2x5PIN, p=2.54mm)
Display I/O	—
Audio I/O	1 x speaker header (Line-out)
Serial Port	5 x RS-232 headers 1 x RS-232/422/485 (COM1, supports 5V/12V/RI optional)
PS/2 Port	—
Parallel Port	—
DIO	8-bit Digital I/O interface (In/Out programmable) x 1
FAN	CPU Fan connector(s) (4-pin) x 1 Chassis Fan connector(s) (4-pin) x 2
Power	—
Others	Chassis Intrusion x 1 AT/ATX mode select jumper x 1 Front panel header x 1 Clear CMOS jumper x 1
OS	
OS Support	Windows® 10 64bit, Linux Ubuntu 64bit (18.04.1/Kernal4.8.0)

Packing List

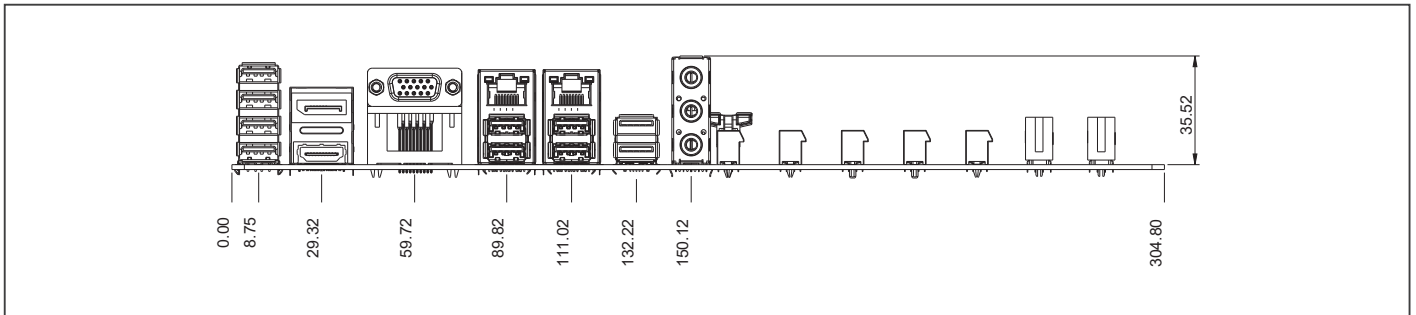
- 14001-00630100 SATA 6G Cable (7P, 180; 90, 500mm 2 in 1)
- 14001-00400100 COM Port Cable (9P, 260mm, p=2.54mm w/bracket)
- I/O Shield
- ATX-C246A

Block Diagram



Dimension

Unit: mm



Ordering Information

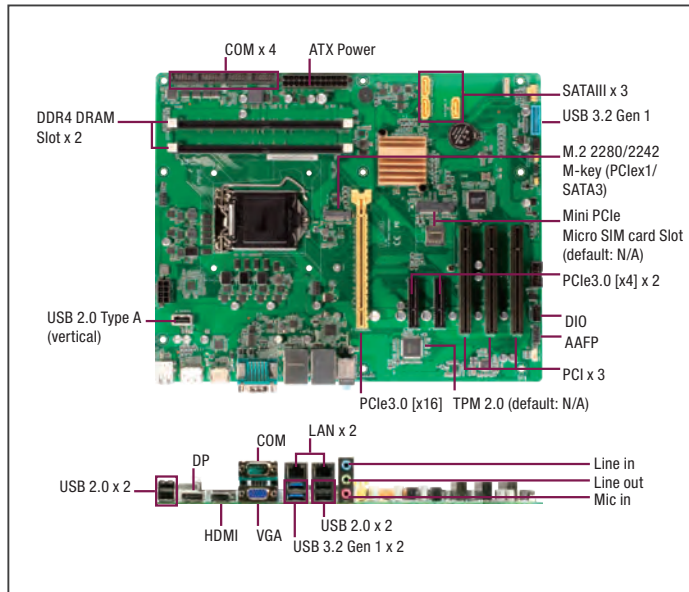
Part number	CPU	RAM	Fan/ Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232 /422/485	Expansion Slot	Power	TPM	Temp.
ATX-C246A-A10-2L	LGA 1151 socket	DDR4 2666/2400/2133	Fan	HDMI x 1 VGA x 1 DP x 1	—	SATA3 x 4 M.2 2280 M-key x 1	Intel®GbE x 2	USB 3.2 Gen 2 x 4 USB 3.2 Gen 1 x 2 USB 2.0 x 6	5	1	PCIe[x16] x 1, PCIe[x4] (open edge) x 2, PCIe[x1] (open edge) x 2, PCI x 2, M.2 2230 E-key x 1, M.2 2280 M-key x 1	ATX	Onboard	32°F ~140°F (0°C ~ 60°C)

Optional Accessories

Part Number	Description
AP-FNTH1Q370010	CPU Cooler (2-Ball Bearing, 2U, TDP Max. 100W)
1709100330	USB 2.0 cable (9P, 330MM, p=2.54mm, w/bracket)
170910020K	USB 2.0 cable (9P, 200MM, p=2.54mm, w/o bracket)
175921156B	CPU Cooler (2-Ball, Push-pin Type)
1759200172	CPU Cooler (2-Ball, Screw with Retention Plate)

ATX-H310A

ATX Industrial Motherboard with 8th/9th Generation Intel® Core™ Processor, DDR4 DRAM, Option: 4G+LTE Function



Specifications

System	
Processor	Intel® 8th/9th Generation (Coffee Lake-S/Coffee Lake-S Refresh) Core™ i9/ i7/ i5/ i3, Pentium 14nm LGA 1151 socket Processor, Max. 6 Core 95W
Chipset	Intel® H310 Express Chipset
Memory	DIMM x 2, DDR4 (2666/2400/2133 MHz, max. 64GB) non-ECC, un-buffered memory Dual channel memory architecture
I/O Chipset	NCT6793D+ F81216HD
Ethernet	Intel® PHY i219V Giga LAN x 1 Intel® i211AT Giga LAN x 1 RJ45 x 2
Audio	Realtek® ALC887 6-Channel High Definition Audio CODEC
TPM	Nuvoton NPCT750AABYX TPM2.0 onboard (optional, default: N/A)
Expansion Slots	PCIe 3.0[x16] Slot x 1, PCIe 2.0[x4] Slot (open edge) x 2 (#1: 1Lane #2: Default: 2Lanes, only support 1Lane when Mini PCIe slot is installed.), PCI x 3, M.2 2280/2242 M-key (PCIex1/SATA3) x 1, Mini PCIe + Micro SIM card Slot (optional, default: N/A)
BIOS	128Mbit Flash ROM x 1, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/ Chassis Fan x 2
Wake On LAN/ PXE	Yes (WOL / PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® Graphics Media Accelerator
Graphics Multi Display	HDMI+VGA+DP
VGA	Up to 1920 x 1200 @60Hz (via IT6516B)
DVI	—
HDMI	Up to 4096 x 2160 @ 30 Hz
Display Port	Up to 4096 x 2160 @ 24 Hz / 3840 x 2160 @ 60 Hz, with Digital Audio
LVDS	—
eDP	—
Backlight Control	—
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	24-pin ATX connector x 1, 8-pin (2x4) ATX 12V Power connector x 1
Operation Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operation Humidity	0% ~ 90%RH, non-condensing
Certificate	CE & FCC Class A
Form Factor	ATX Form Factor, 12" x 9.6" (305mm x 244mm)

Features

- 8th/9th Generation Intel® Core™ LGA1151 Processor
- Supports Max. TDP 6 Core 95W
- DDR4 2666/2400/2133 MHz, max. 64GB
- Two Independent Displays: HDMI x 1, VGA x 1, DP x 1
- Dual Intel® Gigabit Ethernet, i211AT x 1, i219V x 1
- USB 3.2 Gen1 ports x 4, USB 2.0 ports x 5
- M.2 2280/2242 M-key (PCIex1/SATA3) x 1
- TPM Onboard (optional)

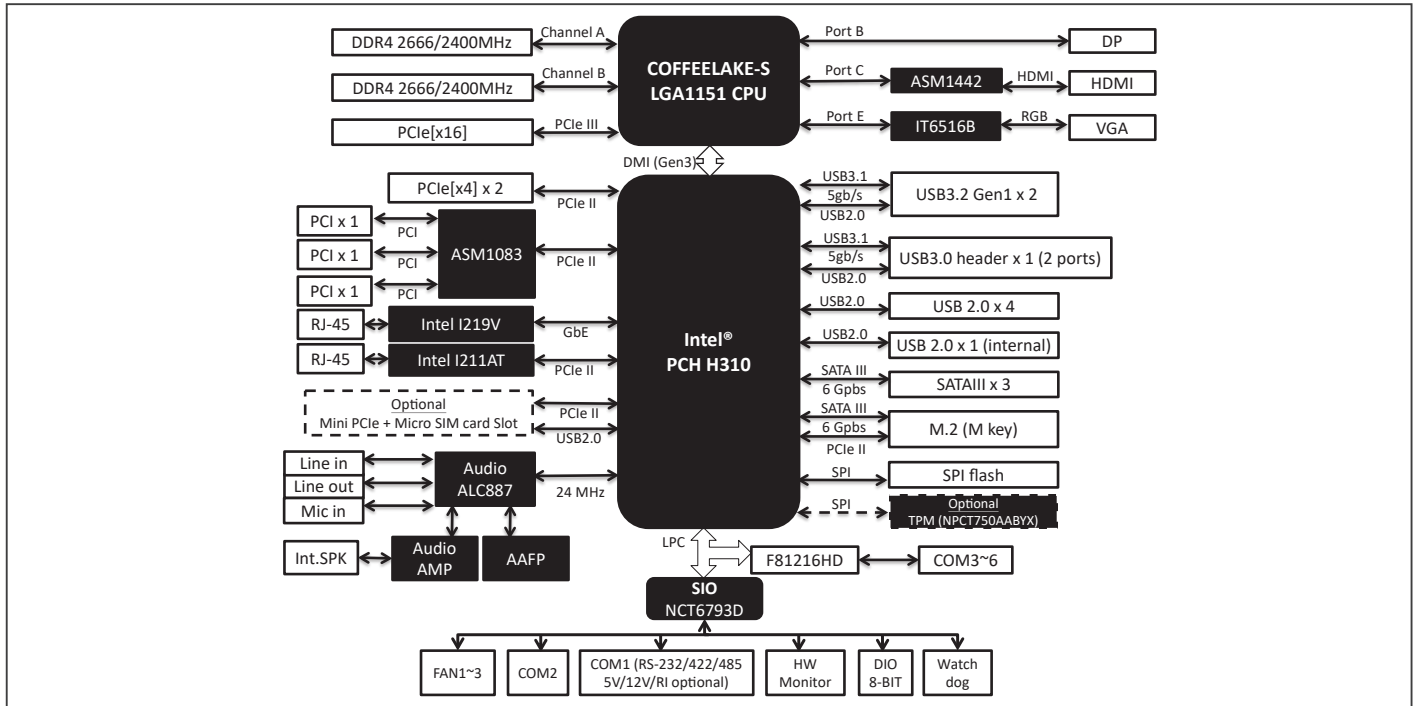


Weight	1.76 lb (0.8 Kg)
MTBF (Hours)	285,600
Rear Panel I/O Ports	
USB	USB 3.2 Gen 1 ports x 2, USB 2.0 ports x 4
Display I/O	HDMI x 1, VGA x 1, DP x 1
Audio I/O	Audio Jack x 3: Line-in, Mic-in, Line-out
LAN I/O	LAN (RJ45) ports x 2
Serial Port	DB-9 COM x 1 (supports RS-232/422/485, 5V/12V/RI)
PS/2 Port	—
Others	—
Internal I/O Connectors	
Storage	SATA III (6.0Gb/s) ports x 3, support RAID 0/1/5/10 M.2 2280/2242 M-key (PCIex1/SATA3) x 1
USB	USB 3.2 Gen 1 headers support additional 2 USB ports (2x5PIN, p=2.54mm) x 1, USB 2.0 Type A (vertical) x 1
Display I/O	—
Audio I/O	Speaker header (Line-out) x 1, AAFP x 1
Serial Port	RS-232 headers x 5
PS/2 Port	—
Parallel Port	—
DIO	8-bit Digital I/O interface (In/Out programmable) x 1
FAN	CPU Fan connector(s) (4-pin) x 1, Chassis Fan connector(s) (4-pin) x 2
Power	—
Others	Chassis Intrusion x 1, AT/ATX mode select jumper x 1, Front panel header x 1, Clear CMOS jumper x 1
OS	
OS Support	Windows® 10 64bit, Linux Ubuntu 64 bit (18.04.3/Kernel5)

Packing List

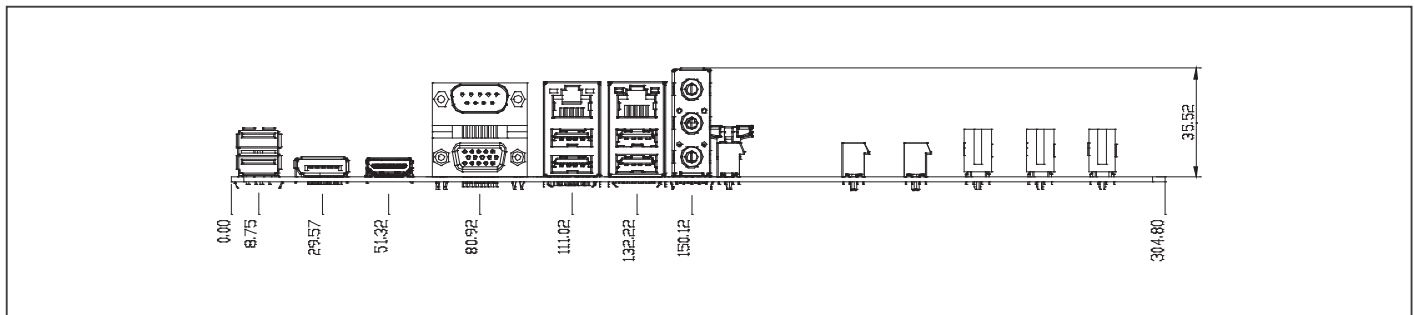
- 14001-00630100 SATA 6G Cable (7P, 180; 90, 500mm 2 in 1)
- 14001-00400100 COM Port Cable (9P, 260mm, p=2.54mm w/bracket)
- I/O Shield
- ATX-H310A

Block Diagram



Dimension

Unit: mm



Ordering Information

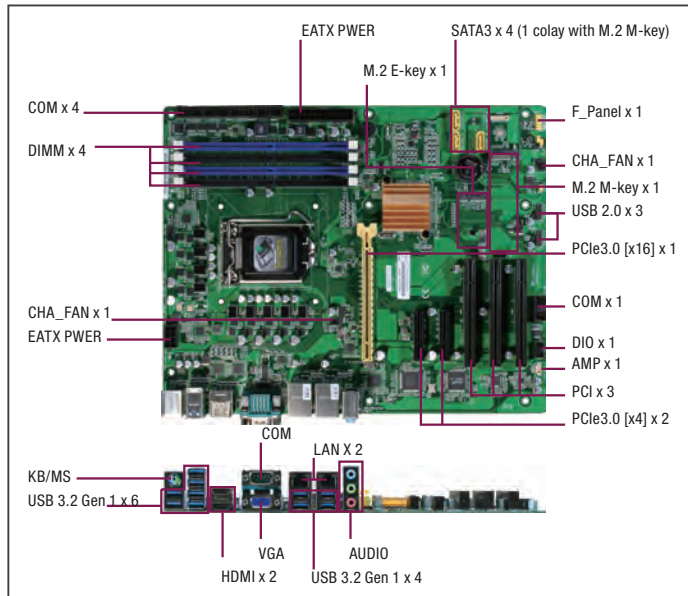
Part number	CPU	RAM	Fan/ Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232 /422/485	Expansion Slot	Power	TPM	Temp.
ATX-H310A-A10	LGA 1151 socket	DDR4 2666/2400/2133	Fan	HDMI x 1 VGA x 1 DP x 1	—	SATA3 x 3, M.2 2280/2242 M-key x 1	Intel@GbE x 2	USB 3.2 Gen 1 x 2 USB 2.0 x 4 USB 3.2 Gen 1 header x 1 USB 2.0 type A (vertical) x 1	5	1	PCIe[x16] x 1, PCIe[x4] (open edge) x 2 (#1: 1Lane, #2: 2Lanes), PCI x 3, M.2 2280/2242 M-key x 1	ATX	—	32°F ~140°F (0°C ~ 60°C)

Optional Accessories

Part Number	Description
1700190450	USB3.2 Gen 1 Cable (19P, 450mm, w/bracket)
1709100330	USB 2.0 cable (9P, 330MM, p=2.54mm, w/bracket)
170910020K	USB 2.0 cable (9P, 200MM, p=2.54mm, w/o bracket)
175921156B	CPU Cooler (2-Ball, Push-pin Type)
1759200172	CPU Cooler (2-Ball, Screw with Retention Plate)
AP-FNTH1Q370010	CPU Cooler (2-Ball Bearing, 2U, TDP Max. 100W)

IMBA-Q170A

ATX with 7th/6th Generation Intel® Core™ Processor, DDR4 DRAM, USB x 14, Supports iAMT 11.0



Specifications

System	
Processor	Intel® 7th/ 6th Generation(Kaby Lake-S/ Skylake-S) Core™ i7/i5/i3/Pentium®/ Celeron® 14nm LGA1151 Socket Processor
Chipset	Intel® Q170
Memory	288-pin DIMM x 4, max. 64GB, DDR4 2400/2133/1867, dual-channel
I/O Chipset	NCT6791D, F81216HD
Ethernet	LAN1: Intel® PHY I219LM Gb LAN (supports iAMT 11.0), LAN2: Intel® I211AT Gb LAN
Audio	Realtek® ALC887 (Colay with ALC886)
TPM	Nuvoton NPCT6xx TPM2.0 (Optional)
Expansion Slots	SKU1: PCIe [x16] x 1, PCIe [x4] (open edge) x 2, PCI x 3, M.2 E key (22 x 30mm) x 1, M.2 M key (22 x 80mm, for SATA) x 1 SKU2: PCIe [x16] x 1, PCIe [x4] (open edge) x 1, PCI x 3, M.2 E key x 1, M.2 M key (for SATA & PCIe4) x 1
BIOS	128M bit Flash ROM x 1, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan x1, Chassis Fan x 2
Wake On LAN/ PXE	Yes (WOL/PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® HD Graphics
Graphics Multi Display	VGA+HDMI, HDMI+HDMI, VGA+HDMI+HDMI
VGA	Up to 1920 x 1200 @60Hz
DVI	—
HDMI	HDMI 1.4 up to 4096 x 2304 @24Hz
Display Port	—
LVDS	—
eDP	—
Backlight Control	—
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	24-pin ATX connector x 1, 8-pin ATX 12V Power connector x 1
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% RH, non-condensing
Certificate	CE & FCC Class A
Form Factor	ATX, 12" x 9.6" (305 mm x 244 mm)
Weight	1.76 lb (0.8 Kg)
MTBF (Hours)	219,970

Features

- 7th/6th Generation Intel® Core™ LGA1151 Processor
- DDR4 DRAM Support, 2400 MHz, Max. 64GB
- Three Independent Display: HDMI x 2, VGA x 1
- Dual Intel® Gigabit Ethernet, LAN1 Supports iAMT 11.0
- PCIe [x16] x 1, PCIe [x4] x 2, PCI x 3
- M.2 Slot (M key) x 1, M.2 Slot (E key) x 1
- USB 3.2 Gen 1 Port x 10, USB 2.0 Port x 3



Rear Panel I/O Ports

USB	USB 3.2 Gen 1 x 10
Display I/O	HDMI x 2, VGA x 1
Audio I/O	Line-in, Mic-in, Line-out
LAN I/O	RJ-45 x 2
Serial Port	DB-9 COM x 1 (supports RS-232/422/485, 5V/12V/RI)
PS/2 Port	Stack Port (Keyboard & Mouse) x 1
Others	—

Internal I/O Connectors

Storage	Supports RAID 0/1/5/10 SKU1: SATA 6.0Gb/s x 3, M.2 M key (SATA) x 1 SKU2: SATA 6.0Gb/s x 4, M.2 M key (PCIe4) x 1
USB	USB 2.0 x 3
Display I/O	—
Audio I/O	Speaker header x 1 (Line-out)
Serial Port	RS-232 header x 5
PS/2 Port	—
Parallel Port	—
DIO	8-bit DIO x 1 (In/Out programmable)
FAN	4-pin CPU Fan x 1, 4-pin Chassis Fan x 2
Power	—
Others	Front panel header x 1, Clear CMOS jumper x 1, BIOS flash header (2[x4]P p=1.27mm) x 1, Chassis Intrusion x 1, AT/ATX mode select jumper x 1
OS	
OS Support	Windows® 7 32/64-bit (not supported when a Kaby Lake processor is used), Windows® 8.1 64-bit (not supported when a Kaby Lake processor is used), Windows® 10 64-bit, Linux Fedora 64bit

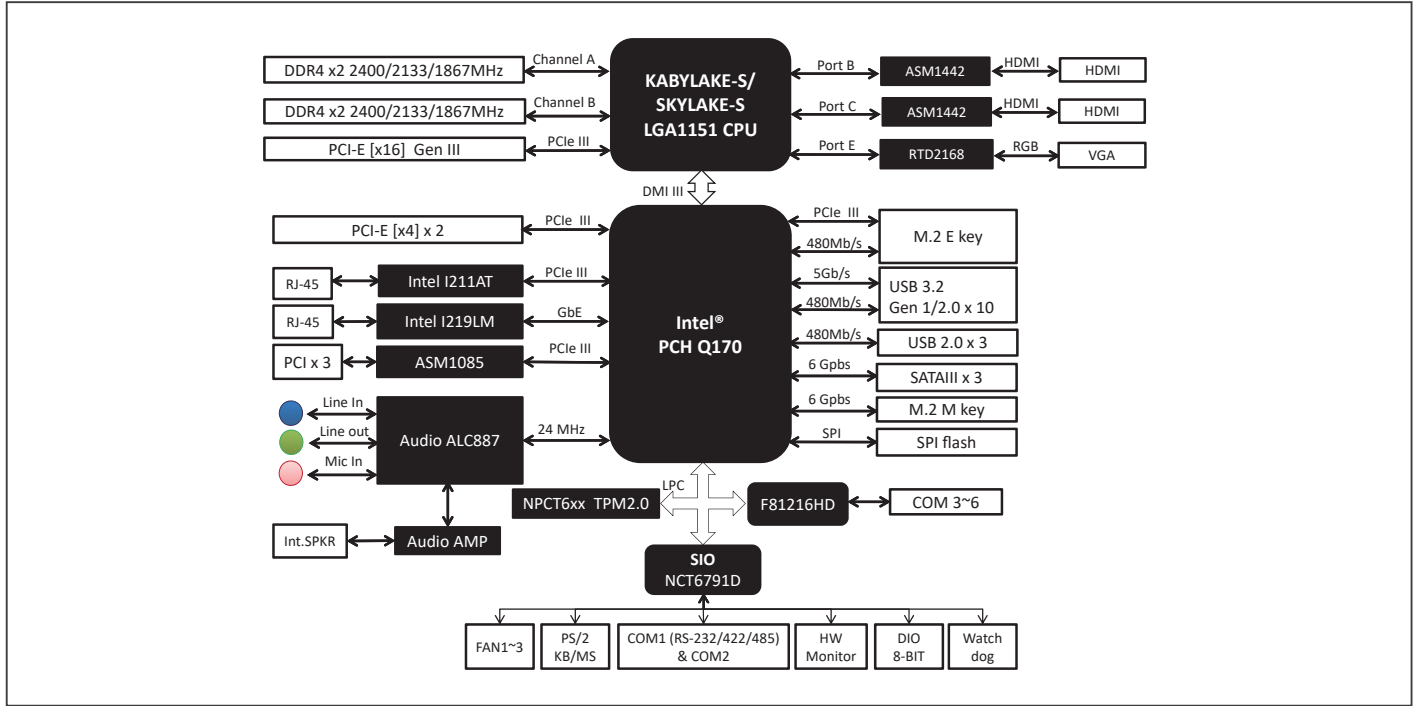
Packing List

- **14001-00630100**
SATA 6G Cable (7P, 180; 90, 500mm 2 in1)
- **14001-00400100**
COM Port Cable (9P, 260mm, p=2.54mm w/bracket)
- **I/O Shield**
- **IMBA-Q170A**

Optional Accessories

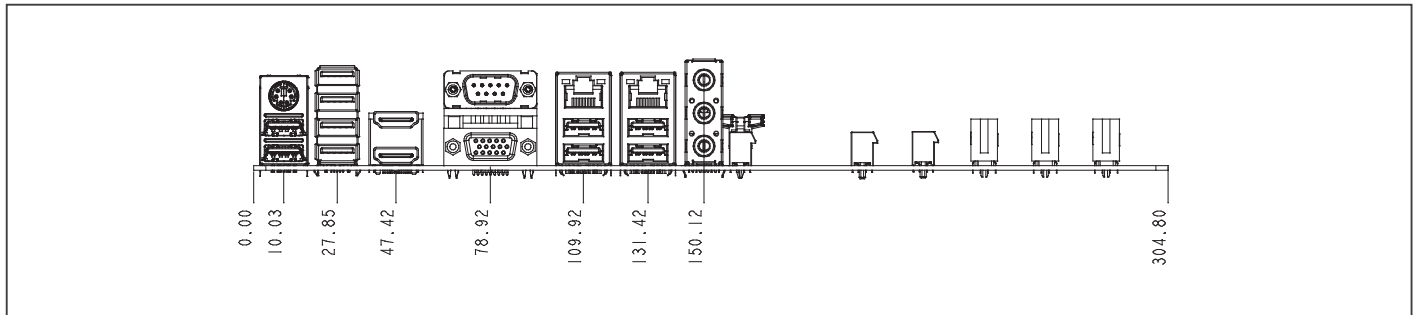
- **1709100330**
USB 2.0 cable (9P, 330MM, p=2.54mm, w/bracket)
- **175921156B**
CPU Cooler (2-Ball, Push-pin Type)
- **170910020K**
USB 2.0 cable (9P, 330MM, p=2.54mm, w/o bracket)
- **1759200172**
CPU Cooler (2-Ball, Screw with Retention Plate)

Block Diagram



Dimension

Unit: mm

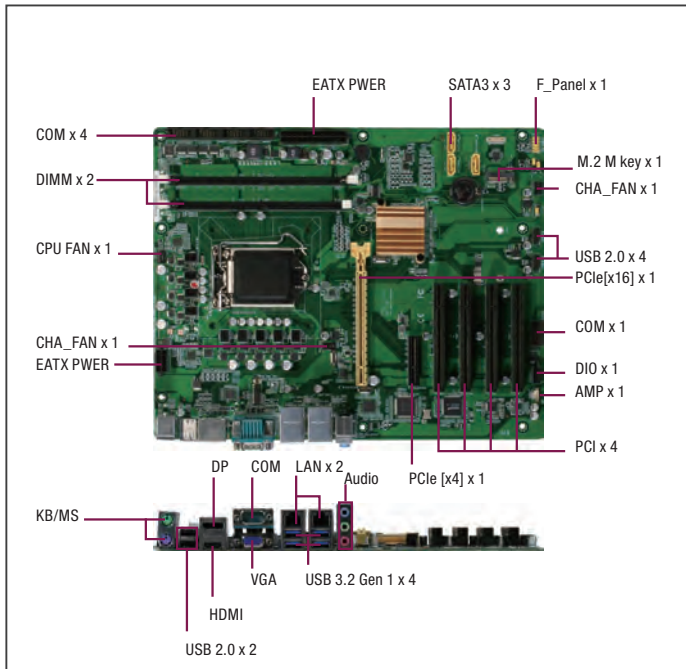


Ordering Information

PN	CPU	RAM	Fan/Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
IMBA-Q170A-A10-2P4	LGA1151 socket	DDR4 2400	Fan	VGA x 1, HDMI x 2	M.2 M key 2280 x 1 (SATA module only), SATA3 x 3	—	GbE x 2	USB 3.2 Gen 1 x 10, USB2.0 x 3	5	1	PCIe[x16] x 1, PCIe [x4] x 2, PCI x 3, M.2 E key 2230 x 1	ATX	—	32°F ~ 140°F (0°C ~ 60°C)
IMBA-Q170A-A10-1P4	LGA1151 socket	DDR4 2400	Fan	VGA x 1, HDMI x 2	M.2 M key 2280 x 1 (PCIe [x4] module only), SATA3 x 4	—	GbE x 2	USB 3.2 Gen 1 x 10, USB2.0 x 3	5	1	PCIe[x16] x 1, PCIe [x4] x 1, PCI x 3, M.2 E key 2230 x 1	ATX	—	32°F ~ 140°F (0°C ~ 60°C)

IMBA-H110A

ATX with 7th/6th Generation Intel® Core™ Processor, DDR4 Max. 32GB, M.2 x 1, USB x 10



Specifications

System	
Processor	7th/6th Generation Intel® Core™ i7/i5/i3/Pentium®/ Celeron® 14nm LGA1151 Socket Processor
Chipset	Intel® H110
Memory	288-pin DIMM x 2, max. 32GB, DDR4 2400/2133/1867, dual-channel
I/O Chipset	NCT6791D, F81216HD
Ethernet	LAN1: Intel® PHY I219V Gb LAN, LAN2: Intel® I211AT Gb LAN
Audio	Realtek® ALC887 (Colay with ALC886)
TPM	Nuvoton NPCT650ABBYX TPM2.0 (default : No)
Expansion Slots	PCIe [x16] x 1, PCIe [x4] (open edge) x 1, PCI x 4, M.2 M key (22 x 80mm) x 1
BIOS	128M bit Flash ROM x 1, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/Chassis, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan x 1, Chassis Fan x 2
Wake On LAN/ PXE	Yes (WOL/PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® HD Graphics
Graphics Multi Display	VGA+HDMI, VGA+DP, HDMI+DP
VGA	Up to 1920 x 1200 @60Hz
DVI	—
HDMI	HDMI 1.4 up to 4096 x 2304 @24 Hz
Display Port	DP 1.2, up to 4096 x 2304 @60 Hz
LVDS	—
eDP	—
Backlight Control	—
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	24-pin ATX connector x 1, 8-pin ATX 12V Power connector x 1
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% RH, non-condensing
Certificate	CE & FCC Class A
Form Factor	ATX, 12" x 9.6" (305 mm x 244 mm)
Weight	1.76 lb (0.8 Kg)
MTBF (Hours)	244,580

Features

- 7th/6th Generation Intel® Core™ LGA1151 Processor
- DDR4 DRAM Support, 2400 MHz, Max. 32GB
- Two Independent Display: HDMI x 1, DP x 1, VGA x 1
- Dual Intel® Gigabit Ethernet
- M.2 Slot (M key) x 1
- USB 3.2 Gen 1 Port x 4, USB 2.0 Port x 6



Rear Panel I/O Ports

USB	USB 3.2 Gen 1 x 4, USB 2.0 x 2
Display I/O	HDMI x 1, DP x 1, VGA x 1
Audio I/O	Line-in, Mic-in, Line-out
LAN I/O	RJ-45 x 2
Serial Port	DB-9 COM x 1 (supports RS-232/422/485)
PS/2 Port	Stack Port (Keyboard & Mouse) x 1
Others	—

Internal I/O Connectors

Storage	SATA 6.0Gb/s x 3, M.2 M key (22 x 80mm) x 1
USB	USB 2.0 x 4
Display I/O	—
Audio I/O	Speaker header x 1 (Line-out)
Serial Port	RS-232 header x 5
PS/2 Port	—
Parallel Port	—
DIO	8-bit x 1 (In/Out programmable)
FAN	4-pin CPU Fan x 1, 4-pin Chassis Fan x 2
Power	—
Others	Front panel header x 1, Clear CMOS jumper x 1, BIOS flash header (2[x4]P p=1.27mm) x 1, Chassis Intrusion x 1, AT/ATX mode select jumper x 1
OS	
OS Support	Windows® 7 32/64-bit (not supported when a Kaby Lake processor is used), Windows® 8.1 64-bit (not supported when a Kaby Lake processor is used), Windows® 10 64-bit, Linux Fedora 64bit

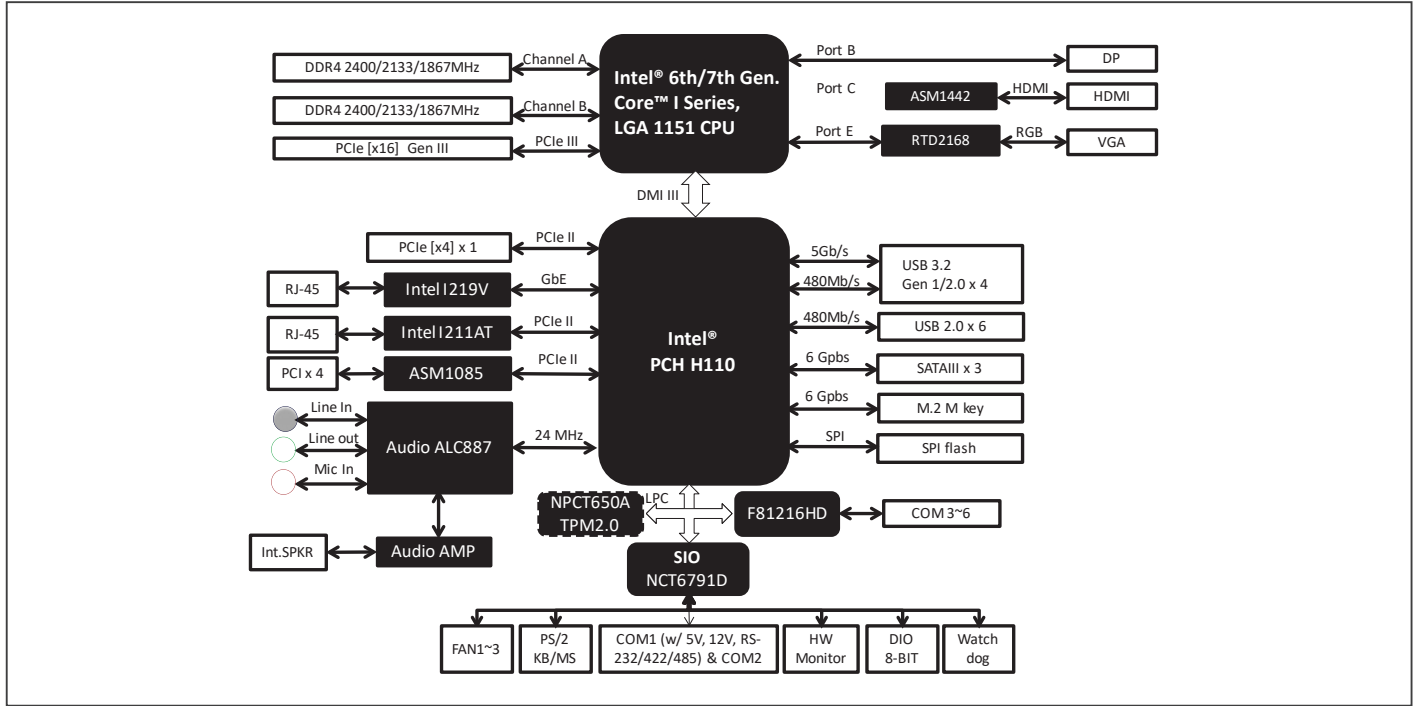
Packing List

- 14001-0063010
SATA 6G Cable (7P, 180; 90, 500mm 2 in1)
- 14001-00400100
COM Port Cable (9P, 260mm, p=2.54mm w/bracket)
- I/O Shield
- IMBA-H110A

Optional Accessories

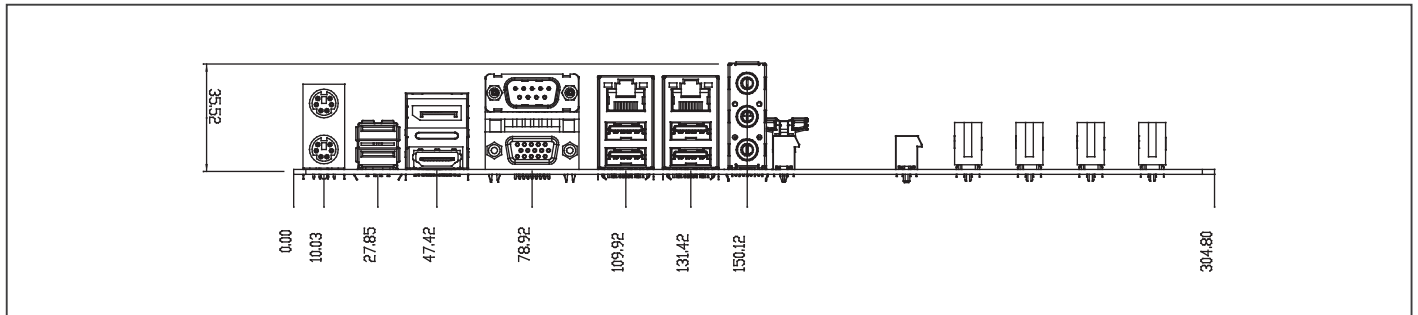
- 1709100330
USB 2.0 cable (9P, 330MM, p=2.54mm, w/bracket)
- 175921156B
CPU Cooler (2-Ball, Push-pin Type)
- 170910020K
USB 2.0 cable (9P, 330MM, p=2.54mm, w/o bracket)
- 1759200172
CPU Cooler (2-Ball, Screw with Retention Plate)

Block Diagram



Dimension

Unit: mm

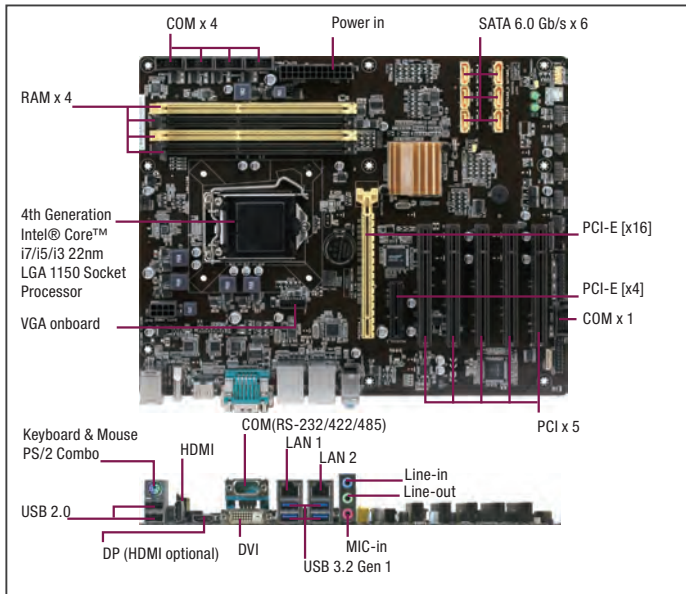


Ordering Information

Part Number	CPU	RAM	Fan/Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
IMBA-H110A-A10	LGA1151 socket	DDR4	Fan	HDMI x 1, DP x 1, VGA x 1	M.2 M key 2280 x 1 SATA3 x 3	—	GbE x 2	USB 3.2 Gen 1 x 4, USB2.0 x 6	5	1	PCIe[x16] x 1, PCIe [x4] x 1, PCI x 4	ATX	TPM2.0	32°F ~ 140°F (0°C ~ 60°C)

IMBA-Q87A

ATX Industrial Motherboard with 4th Generation Intel® LGA1150 Processor, SATA3 x 6, PCI x 5, Multiple Display Ports, Supports iAMT 9.0



Specifications

System	
Processor	4th Generation Intel® Core™ i7/i5/i3/Pentium®/ Celeron® 22nm LGA 1150 socket Processor
Chipset	Intel® Q87 Express Chipset
Memory	240-pin DIMM x 4, max. 32GB, DDR3 1600/1333 MHz, non-ECC, un-buffered memory, dual-channel memory architecture
I/O Chipset	NCT6791D, F81216HD
Ethernet	LAN1: Intel® PHY I217LM Gb LAN (supports iAMT 9.0) x 1 LAN2: Intel® I210AT Gb LAN x 1, RJ-45 x 2
Audio	Realtek® ALC887 (Colay with ALC886)
TPM	20-1 PIN header for TPM1.2/FW3.19
Expansion Slots	PCIe 3.0/2.0 [x16] Slot x 1, PCIe 2.0 [x4] Slot x 1, PCI x 5
BIOS	64Mbit Flash ROM x 2, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	CPU Fan/ Chassis Fan
Wake On LAN/PXE	Yes (WOL/PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® HD Graphics
Graphics Multi Display	SKU1 (VGA/ DVI/ HDMI/ DP): VGA+DVI, VGA+HDMI, VGA+DP, DVI+HDMI, DVI+DP, HDMI+DP, VGA+DVI+HDMI, VGA+DVI+DP, HDMI+DP+VGA; SKU2 (VGA/ DVI/ 2xHDMI): VGA+DVI, VGA+HDMI1, VGA+HDMI2, DVI+HDMI1, DVI+HDMI2, HDMI1+HDMI2, VGA+HDMI1+HDMI2, VGA+HDMI1+DVI, VGA+HDMI2+DVI
VGA	Up to 1920 x 1200 @60Hz
DVI	Up to 1920 x 1200 @60Hz
HDMI	HDMI 1.4, up to 4096 x 2304 @24Hz
Display Port	DP 1.2, up to 3840 x 2160 @60Hz
LVDS	—
eDP	—
Backlight Control	—
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	24-pin ATX connector x 1, 8-pin ATX 12V Power connector x 1
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% RH, non-condensing
Certificate	CE & FCC Class A
Form Factor	ATX Form Factor, 12" x 9.6" (305 mm x 244 mm)
Weight	1.76 lb (0.8 Kg)
MTBF (Hours)	86,000

Features

- 4th Generation Intel® Core™ i7/i5/i3 22nm LGA 1150 Socket Processor
- Three/Dual Independent Display: VGA, DVI-D, HDMI, DP (HDMI Optional)
- Dual Gigabit Ethernet, LAN1 Supports iAMT 9.0
- SATA 6.0 Gb/s x 6, USB 3.2 Gen 1 x 4, USB 2.0 x 10
- Rich Expansion Slot: PCI-E 3.0/2.0 [x16] x 1, PCI-E [x4] x 1, PCI x 5
- TPM Optional (Via Pin Header)



Rear Panel I/O Ports

USB	USB 3.2 Gen 1 port x 4, USB 2.0 port x 2
Display I/O	DVI-D x 1, HDMI x 1 (Dual HDMI optional), DP x 1 (will disable if choose 2 HDMI)
Audio I/O	Audio Jack x 3: Line-in, Mic-in, Line-out
LAN I/O	LAN (RJ-45) port x 2
Serial Port	RS-232/422/485 DB-9 connector x 1 (COM1, supports 5/12V on RI pin)
PS/2 Port	PS/2 Combo Port (Keyboard & Mouse) x 1
Others	—

Internal I/O Connectors

Storage	SATA3 (6.0Gb/s) port x 6, supports RAID 0/1/5/10
USB	USB 2.0 connector x 4 supports additional 8 USB ports
Display I/O	VGA x 1
Audio I/O	—
Serial Port	RS-232 header x 5
PS/2 Port	—
Parallel Port	LPT connector x 1
DIO	8-bit Digital I/O interface x 1 (In/Out programmable)
FAN	CPU Fan connector(s) (4-pin) x 1, Chassis Fan connector(s) (4-pin) x 2
Power	—
Others	Front panel header x 1, Clear CMOS jumper x 1, BIOS flash header (2[x4]P p=1.27mm) x 1
OS	
OS Support	Windows® 7 32/64-bit, Windows® 8.1 32/64-bit, Windows® 10 32/64-bit, Linux Fedora

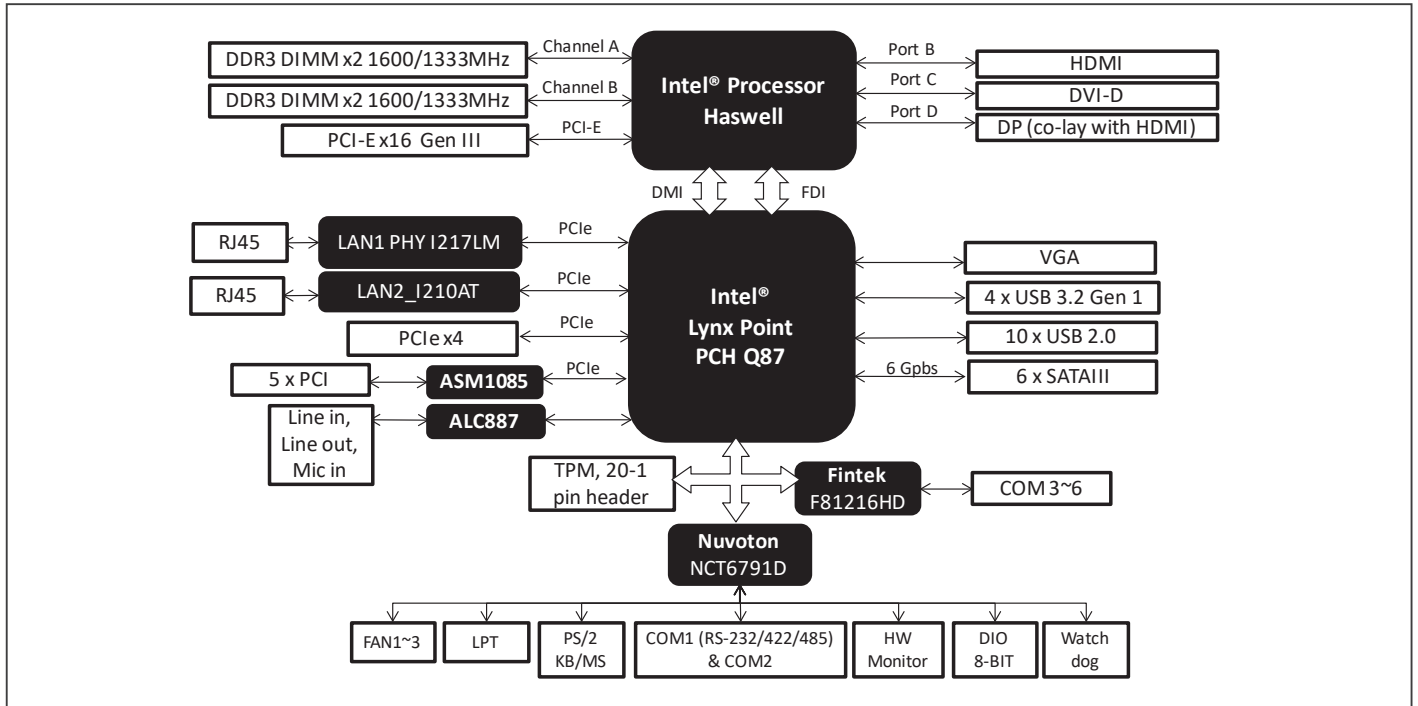
Packing List

- **14001-00400100**
COM Cable (9P, 260mm, P=2.54mm w/ bracket)
- **14001-00630100**
SATA 6G Cable (7P, 180; 90, 500MM) 2 in 1
- **I/O Shield**
- **IMBA-Q87A**

Optional Accessories

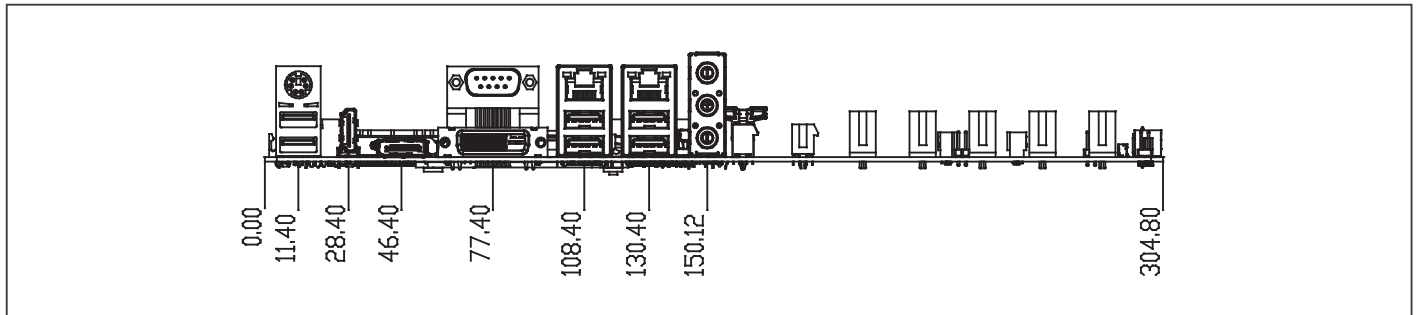
- **1709100330**
USB 2.0 cable (9P, 330MM, p=2.54mm, w/bracket)
- **170910020K**
USB 2.0 cable (9P, 200MM, p=2.54mm, w/o bracket)
- **1701260305**
LPT Cable (25P, 270MM)
- **1759200172**
CPU Cooler (2-Ball, Screw with Retention Plate)
- **175921156B**
CPU Cooler (2-Ball, Push-pin Type)
- **1701160201**
VGA Cable (200MM, p=2.00mm)
- **1700060192**
PS/2 Combo Cable, 6P, 190mm

Block Diagram



Dimension

Unit: mm



Ordering Information

PN	CPU	RAM	Fan/Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
IMBA-Q87A-A10-DH	LGA1150 socket	DDR3 1600/1333	Fan	VGA, DVI, HDMI, DP	SATA3 x 6	—	IntelGbE x 2	USB 3.2 Gen 1 x 4 USB 2.0 x 10	5	1	PCI-Express [x16] x 1 PCI-Express [x4] x 1 PCI x 5	ATX	20-1 Pin Header	32°F ~ 140°F (0°C ~ 60°C)
IMBA-Q87A-A10-HH	LGA1150 socket	DDR3 1600/1333	Fan	VGA, DVI, HDMI x 2	SATA3 x 6	—	IntelGbE x 2	USB 3.2 Gen 1 x 4 USB 2.0 x 10	5	1	PCI-Express [x16] x 1 PCI-Express [x4] x 1 PCI x 5	ATX	20-1 Pin Header	32°F ~ 140°F (0°C ~ 60°C)

Half-size SBC - ISA

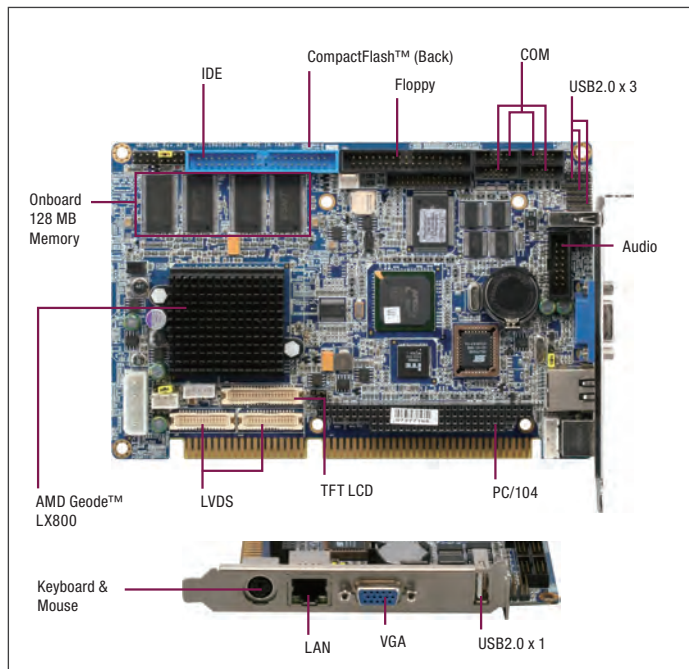
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HSB-800I-A11

ISA Half-Size SBC with AMD Geode™ LX800 Processor

Half-Size SBCs - ISA



Features

- AMD Geode™ LX800 Processor
- AMD Geode™ LX800 + CS5536
- Onboard DDR 400 MHz, Up to 128 MB
- 10/100Base-TX Ethernet x 1 or Gigabit Ethernet x 1 (Optional)
- Integrated 2D Graphics Accelerator, VGA Support, CRT, TFT/ LVDS Support
- AC97 Codec Audio
- Ultra ATA33 x 1, CompactFlash™ Type 2 x 1
- USB2.0 x 4, COM x 4, Parallel x 1, IrDA x 1, Digital I/O
- PC/104 Expansion
- +5V, +12V Operation, AT Power



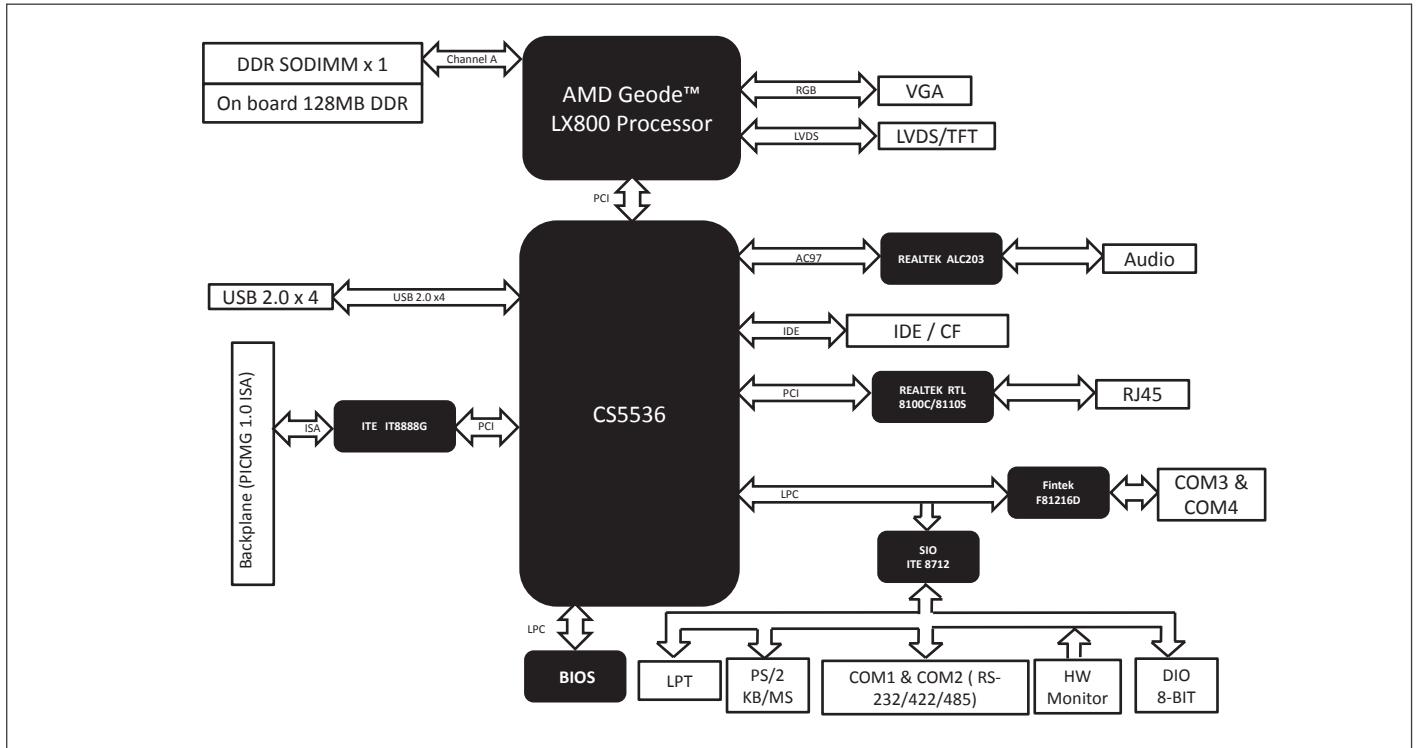
Specifications

System	
Form Factor	Half-size CPU Card
Bus Interface	ISA
CPU	Onboard AMD Geode™ LX800
Memory Type	Onboard 128 MB (DDR 400)
Chipset	AMD Geode™ LX800 + CS 5536
BIOS	Award
Wake on LAN	No
Watchdog Timer	255 Levels
Power Requirement	ATX 2.1
Power Consumption (Typical)	AMD LX800, DDR400 128MB 0.19A@+12V, 1.51A@+5V, 9.83W
Power Supply Type	+5V, +12V operation
Dimension (L x W)	7.3" x 4.8" (185mm x 122mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	85,000
Certification	CE/FCC, Class A
Display	
VGA/LCD Controller	AMD Geode™ LX800
Video Output	1600 x 1200@32bpp at 100 MHz for CRT 1600 x 1200@24bpp for LCD
Backlight inverter supply	5V/12V
I/O	
Ethernet	10/100 or 10/100/1000Base-TX (optional)
Audio	Yes
USB Port	USB2.0 x 4
Serial Port	RS-232 x 3 RS-232/422/485 x 1
Parallel Port	1
HDD Interface	IDE x 1
FDD Interface	1
SSD	CompactFlash™
Expansion Slot	ISA, PC/104
DIO	8-bit Programmable (4-in/4-out)
TPM	—

Packing List

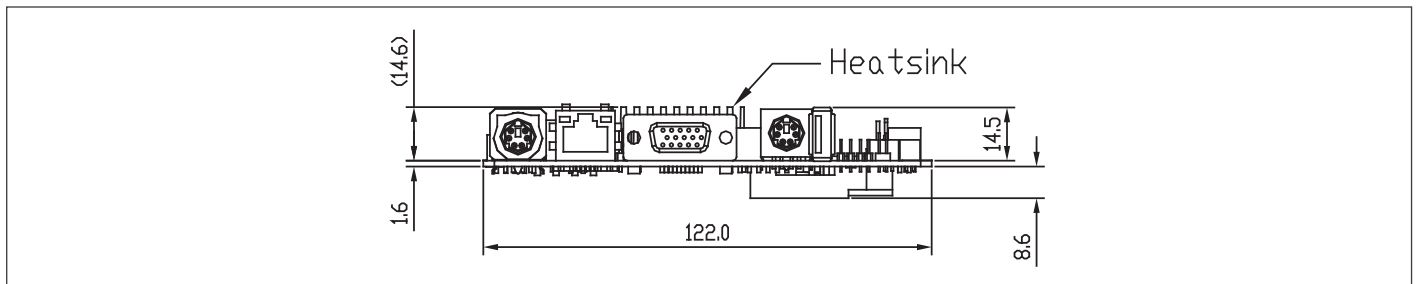
- **1701260307**
Flat Cable.9P/DB9P MALE&25P DB25P FEMALE.10P 2mm&26P 2mm/IDC NO FOLD.30cm.W/BKT
- **1701400453**
Cable.40P 2.54mm IDC W/Nose W/Fold.40P 2.54mm IDC W/Nose W/Fold.45cm.Blue ATA-100
- **1700060192**
Cable.6P-6P.6P.19cm.IVORY PS2/KB&Mouse
- **1701340704**
Flat Cable.34P.70cm.GRAY for FDD
- **1703030501**
Wire.3P 2.5mm Housing.3P 2.5mm Housing.50cm
- **170910020A**
Usb Cable.USB*2.5P 2.mm Housing*2.20cm.W/Bracket
- **1709140302**
Cable.Phone Jack*3.10 14P 2.54mm Housing.DB9P(M) 10P 2.0mm IDC.4P 2.54mm Housing.30cm.W/Bracket
- **1701200301**
Flat Cable.9P DB9P MALE.10P 2.0mm Pitch*2.30cm.IDC NO FOLD.W/BRACKET
- **2087800I11**
CD-ROM.HSB-800I.Rev.A.2nd Ed.
- **HSB-800I-A11**

Block Diagram



Dimension

Unit: mm



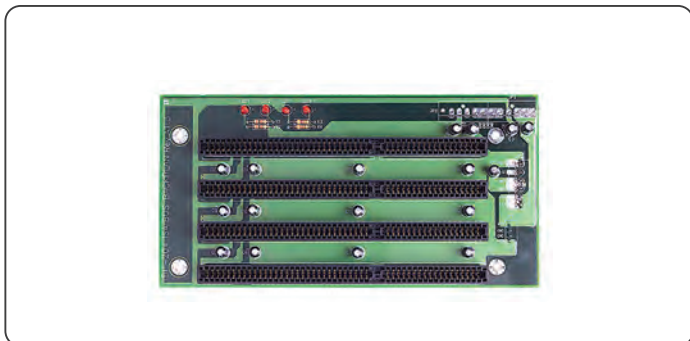
Ordering Information

Part Number	CPU	RAM	Fan/Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Temp.
HSB-800I-A11-VG-0001	AMD Geode™ LX800	Onboard 128 MB DDR 400	Fanless	VGA + LVDS/TTL	IDE x 1, Floppy x 1, CF x 1	24b, 1CH	GbE x 1	USB2.0 x 4	3	1	ISA, PC/104	+5V, +12V, AT	0°C ~ 60°C
HSB-800I-A11-VE-0001	AMD Geode™ LX800	Onboard 128 MB DDR 400	Fanless	VGA + LVDS/TTL	IDE x 1, Floppy x 1, CF x 1	24b, 1CH	10/100 Mbps LAN x 1	USB2.0 x 4	3	1	ISA, PC/104	+5V, +12V, AT	0°C ~ 60°C

Wallmount Backplanes

BP-204SI

Wallmount, ISA, 4-Slot Backplane, 4 ISA, Single Segment



Master	ISA
ISA	4
System	Single
AT Power Connector	1
Dimension	7.3" x 3.7" (186mm x 95mm)

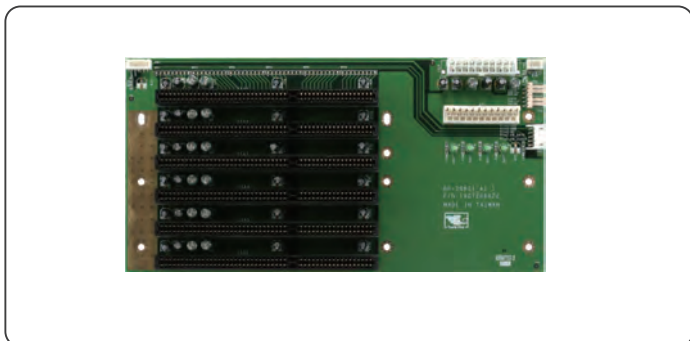
Ordering Information

- **TF-BP-204SI-A13**

Wallmount, ISA, 4-Slot Backplane, 4 ISA, Single Segment, AT , Rev.A1.3

BP-206SI

Wallmount, ISA, 6-Slot Backplane, Single Segment



Master	ISA
ISA	6
System	Single
Fan Connector	2
AT Power Connector	1
ATX Control Connector	1
ATX Power Connector	1
Dimension	9.2" x 5.3" (234mm x 134mm)

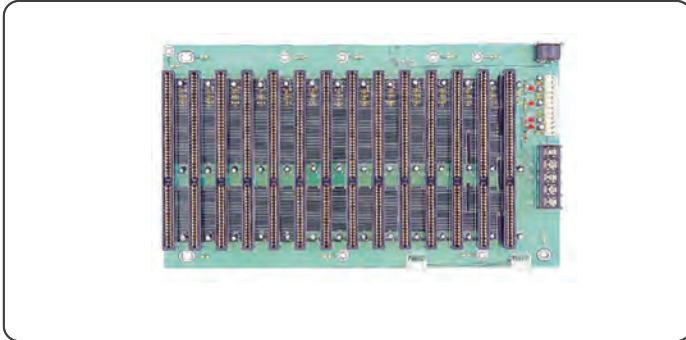
Ordering Information

- **TF-BP-206SI-A11**

Wallmount, ISA, 6-slot Backplane, AT/ATX , Rev.A1.1

BP-214SI-V61

Rackmount, ISA, 14-Slot Backplane, 14 ISA, Single Segment



Ordering Information

- **TF-BP-214SI-V61**

Rackmount, ISA, 14-Slot Backplane, 14 ISA, Single Segment, AT, Ver 6.1

Master	ISA
ISA	14
System	Single
AT Power Connector	1
Dimension	12.2" x 6.9" (311mm x 175mm)

AI@Edge Solutions

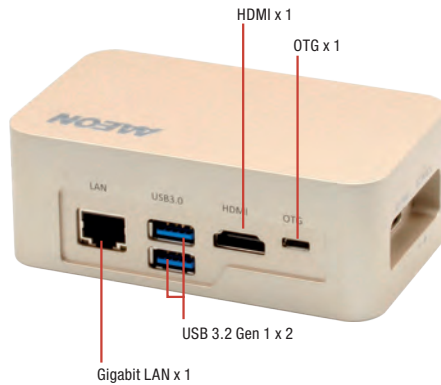
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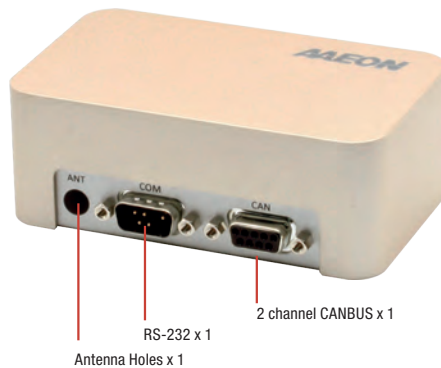




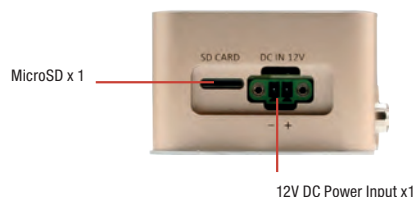
Front View



Rear View



Side View



Features

- NVIDIA Jetson TX2
- Support AAEON ACLinux 4.9, Compliance with Ubuntu 18.04
- 8GB LPDDR4, 32GB eMMC 5.1
- HMP Dual Denver 2 + Quad ARM A57
- HDMI 2.0 x 1, USB 3.2 Gen 1 x 2
- RS-232 x 1, CANBUS x 2 Channel
- OTG x 1
- LAN x 1
- MicroSD x 1

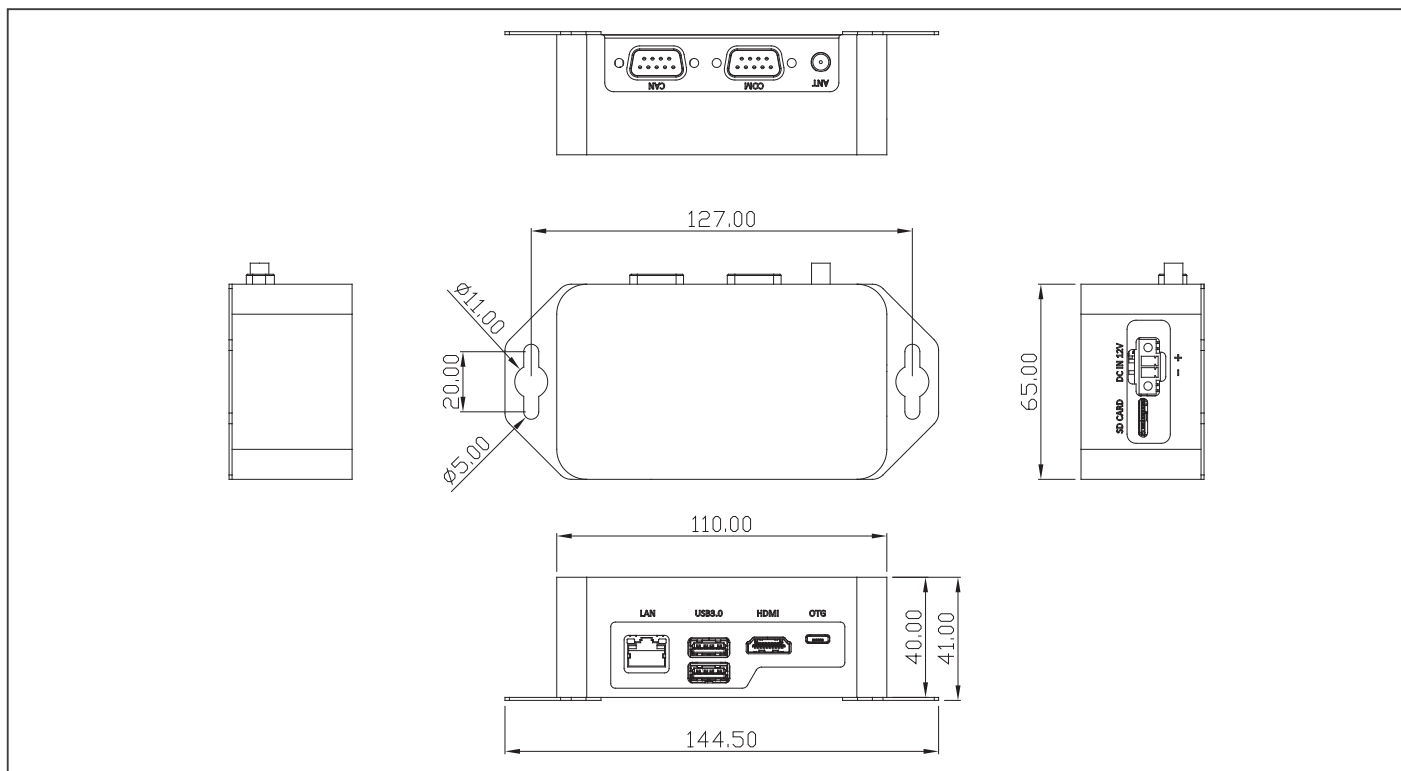


Specifications

System	
AI Accelerator	Nvidia Jetson TX2
CPU	HMP Dual Denver 2 + Quad ARM A57
System Memory	8GB LPDDR4
Storage Device	32GB eMMC 5.1, MicroSD
Display Interface	HDMI 2.0
Ethernet	10/100/1000 Base-TX x 1
I/O	USB 3.2 Gen 1 x 2 HDMI x 1 LAN x 1 MicroSD x 1 OTG x 1 Antenna Hole x 1 DC Power Input x 1 2 channel CANBUS x 1 DB-9 RS-232 x 1
Expansion	—
Indicator	—
OS Support	AAEON ACLinux 4.9, Compliance with Ubuntu 18.04
Power Supply	
Power Requirement	12V with 2-pin terminal block
Mechanical	
Mounting	Wallmount
Dimensions (W x H x D)	4.33" x 1.57" x 2.56" (110mm x 40mm x 65mm)
Gross Weight	2.20 lb (1 kg)
Net Weight	1.10 lb (0.5 kg)
Environmental	
Operating Temperature	-4°F ~122°F (-20°C ~ 50°C, according to IEC60068-2 with 0.5 m/s AirFlow; with Industrial Device)
Storage Temperature	-49°F ~176°F (-45°C ~ 80°C)
Storage Humidity	95% @ 40°C, non-condensing
Anti-Vibration	3 Grms/ 5 ~ 500Hz/ operation – eMMC
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	CPU	PCH	RAM	LAN	USB 3.2 Gen 1	USB 2.0	RS-232	CANBUS	Digital I/O	Audio	Storage	Display	Expansion	Mounting	Power	Operation temp.
BOXER-8110AI-A1-1010	HMP Dual Denver 2 + Quad ARM A57	—	8	1	2	—	1	1	—	—	32G eMMC	HDMI x 1	MicroSD x 1	Wallmount	12V	-20°C ~ 50°C

Packing List

- Wallmount Bracket x 2
- BOXER-8110AI

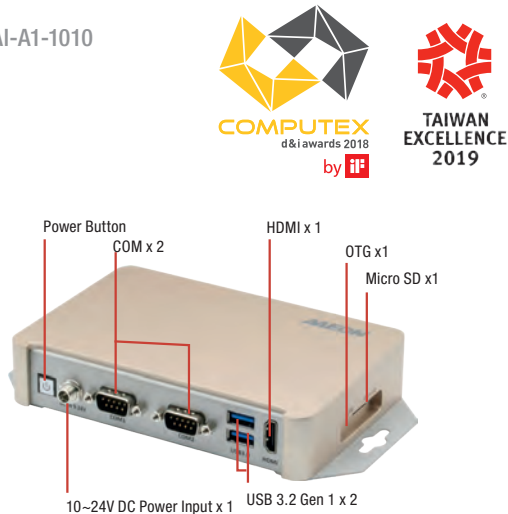
Optional Accessories

- 1255300611
Power Adapter
- 1702031802
Power Cord (US Type)
- 1702031803
Power Cord (Europe)
- 170203180E
Power Cord (Japan)

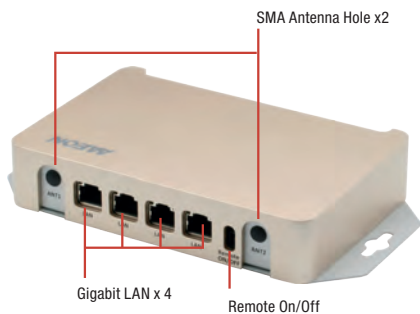
BOXER-8120AI

AI@Edge Fanless Embedded Box PC with NVIDIA Jetson TX2, 4 GbE LAN Ports

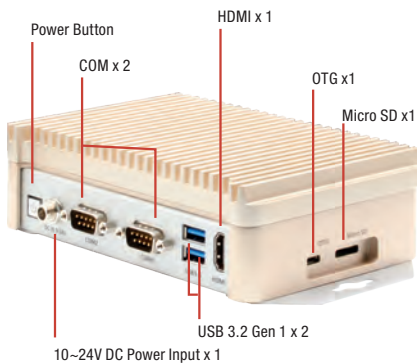
BOXER-8120AI-A1-1010
Front View



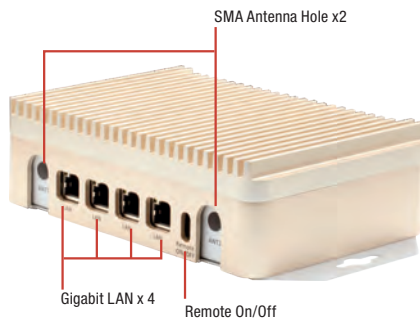
Rear View



BOXER-8120AI-A1-CS-N0001
Front View



Rear View



Features

- Nvidia Jetson TX2
- HMP Dual Denver 2 + Quad ARM A57
- Support AAEON ACLinux 4.9, Compliance with Ubuntu 18.04
- 8GB LPDDR4, 32GB eMMC 5.1
- RS-232 x 2, USB 3.2 Gen 1 x 2, OTG x 1
- HDMI 2.0 x 1, LAN x 4 (Intel i211*3, Native*1)
- Micro-SD x 1, Remote On/Off
- Power input: 10~24V

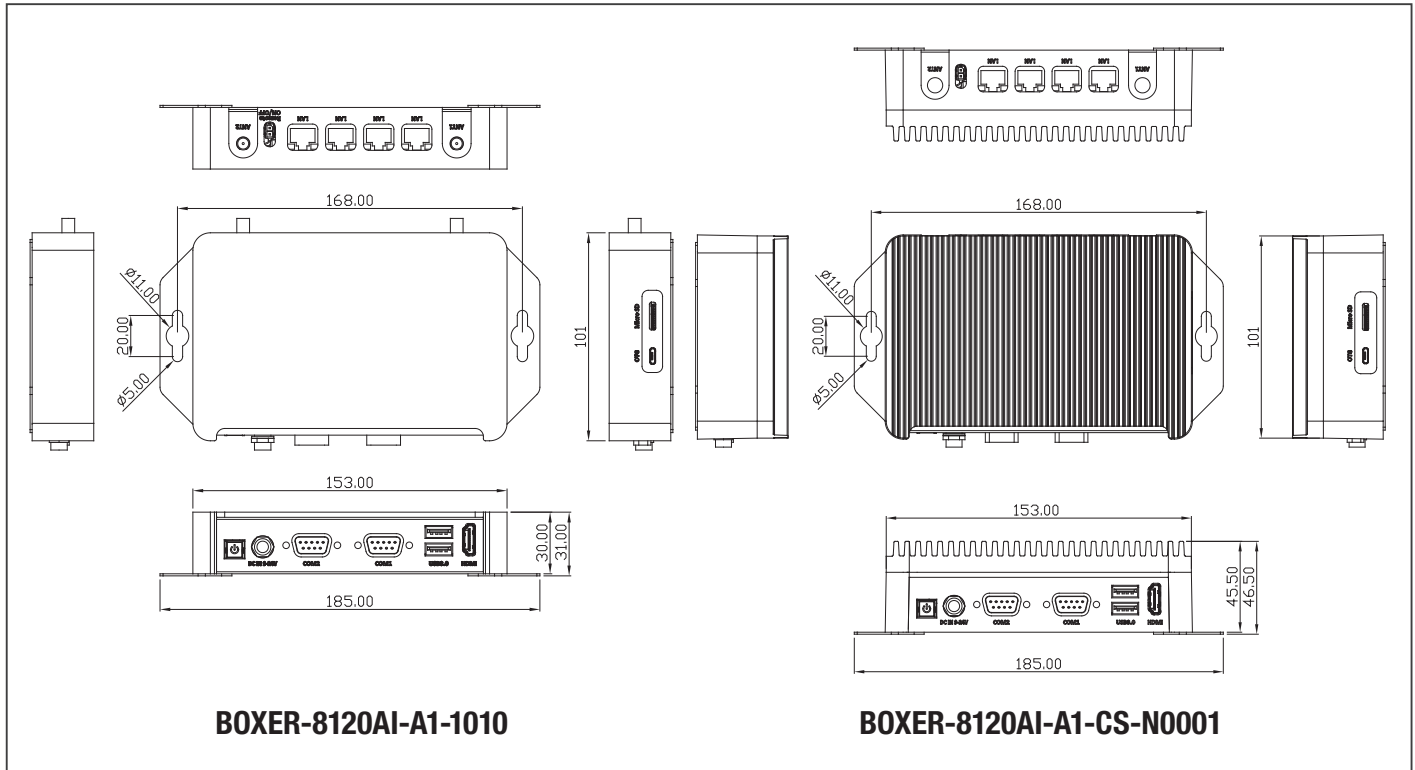


Specifications

System	
AI Accelerator	Nvidia Jetson TX2
CPU	HMP Dual Denver 2 + Quad ARM A57
System Memory	8GB LPDDR4
Storage Device	32GB eMMC 5.1 MicroSD x 1
Display Interface	HDMI 2.0
Ethernet	10/100/1000Base-TX x 4
I/O	USB 3.2 Gen 1 x 2 HDMI x 1 LAN x 4 COM x 2 OTG x 1 Power Button x 1 SMA Antenna Holes x 2 10~24V DC-In Power input x 1 Remote Power On/Off x 1
Expansion	MicroSD x 1 SATA x 1 (optional) USB 2.0 x 3 (optional)
Indicator	Power LED
OS Support	AAEON ACLinux 4.9, Compliance with Ubuntu 18.04
Power Supply	
Power Requirement	10~24V DC-In with DC Jack
Mechanical	
Mounting	Wallmount
Dimensions (W x H x D)	6.02" x 1.18" x 3.98" (153mm x 30mm x 101mm) 6.02" x 1.79" x 3.98" (153mm x 45.5mm x 101mm) for CS-N0001
Gross Weight	4.40 lb (2 Kg) 5.51 lb (2.5 Kg) for CS-N0001
Net Weight	2.20 lb (1 Kg) 3.31 lb (1.5 Kg) for CS-N0001
Environmental	
Operating Temperature	-4°F ~ 122°F (-20°C ~ 50°C, according to IEC682-14 with 0.5 m/s AirFlow; with industrial Devices) for BOXER-8120AI-A1-1010 -4°F ~ 131°F (-20°C ~ 55°C, according to IEC682-14 with 0.5 m/s AirFlow; with industrial Devices) for BOXER-8120AI-A1-CS-N0001
Storage Temperature	-13°F ~ 176°F (-25°C ~ 80°C)
Storage Humidity	95% @ 40°C, non-condensing
Anti-Vibration	Random, 5 Grms/5 ~ 500Hz/ operation
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	CPU	PCH	RAM	LAN	USB 3.2 Gen 1	USB 2.0	RS-232	RS-232/422/485	Digital I/O	Audio	Storage	Display	Expansion	Mounting	Power	Operation temp.
BOXER-8120AI-A1-1010	HMP Dual Denver 2 + Quad ARM A57	—	8	4	2	—	2	—	—	—	32G eMMC	HDMI x 1	MicroSD x1 SATA x1 (option) USB 2.0 x 3 (option)	Wallmount	10 ~ 24V	-20°C ~ 50°C
BOXER-8120AI-A1-CS-N0001	HMP Dual Denver 2 + Quad ARM A57	—	8	4	2	—	2	—	—	—	32G eMMC	HDMI x 1	MicroSD x1 SATA x1 (option) USB 2.0 x 3 (option)	Wallmount	10 ~ 24V	-20°C ~ 50°C

Packing List

- Wallmount Bracket x 1
- Screw Package x 1
- BOXER-8120AI

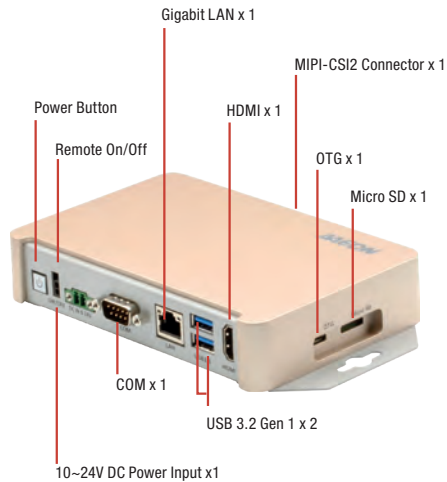
Optional Accessories

- 125530060Z
Power Adapter
- 1702031802
Power Cord (US Type)
- 1702031803
Power Cord (Europe)
- 170203180E
Power Cord (Japan)

BOXER-8130AI

AI@Edge Fanless Embedded Box PC with NVIDIA Jetson TX2, MIPI-CSI2 interface

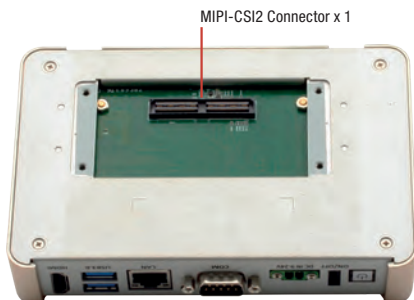
Front View



Rear View



Bottom View



Features

- Nvidia TX2 Module
- HMP Dual Denver 2 + Quad ARM A57
- 8GB LPDDR4
- 32GB eMMC 5.1
- HDMI 2.0
- USB 3.2 Gen 1 x 2
- GbE LAN x 1
- RS-232 x1
- MIPI-CSI2 connector x1
- Compact Size chassis

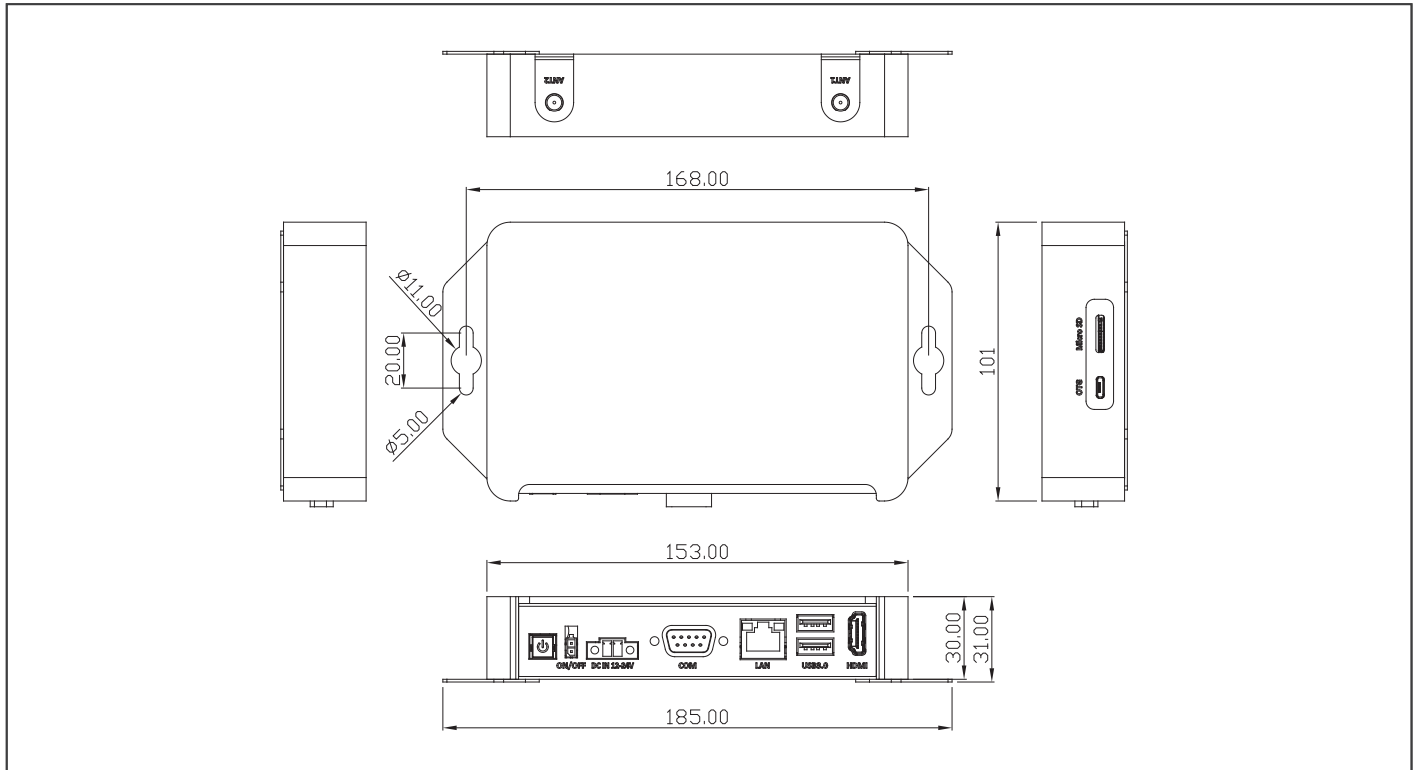


Specifications

System	
AI Accelerator	Nvidia Jetson TX2
CPU	HMP Dual Denver 2 + Quad ARM A57
System Memory	8GB LPDDR4
Storage Device	32GB eMMC 5.1 MicroSD
Display Interface	HDMI 2.0 x 1
Ethernet	10/100/1000 Base-TX x 1
I/O	USB Type A x 2 for USB 3.2 Gen 1 RJ-45 x 1 for GbE LAN Ethernet DB-9 x 1 for RS-232 Remote on/off switch x 1 Antenna Holes x 2 MicroSD x 1 OTG x 1
Expansion	SATA x1 (optional) USB 2 x 3 (optional) MIPI-CSI2 board to board connector x 1 (The connector used on the carrier board is a Samtec QSH-060-01-H-D-A. The mating connector is a Samtec QTH-060-01-H-D-A.)
Indicator	Power LED
OS Support	AAEON AALinux 4.9, Compliance with Ubuntu 18.04
Power Supply	
Power Requirement	10~24V with 2-pin terminal block
Mechanical	
Mounting	Wallmount
Dimensions (W x H x D)	6.02" x 1.18" x 3.98" (153mm x 30mm x 101mm)
Gross Weight	4.40 lb (2 Kg)
Net Weight	2.20 lb (1 Kg)
Environmental	
Operating Temperature	-4°F ~ 122°F(-20°C ~ 50°C, with 0.5 m/s AirFlow)
Storage Temperature	-13°F ~176 °F (-25°C ~ 80°C)
Storage Humidity	95% @ 40°C, non-condensing
Anti-Vibration	Random, 5 Grm, 5~500Hz
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	CPU	PCH	RAM	LAN	USB 3.2 Gen 1	USB 2.0	RS-232	RS-232/422/485	Digital I/O	Audio	Storage	Display	Expansion	Mounting	Power	Operation temp.
BOXER-8130AI-A1-1010	HMP Dual Denver 2 + Quad ARM A57	—	8	1	2	—	1	—	—	—	32G eMMC	HDMI x 1	MicroSD x1 SATA x1 (option) USB 2 x 3 (option) MIPI-CSI2 board to board connector x1	Wallmount	10V – 24V	-20°C – 50°C

Packing List

- Wallmount Bracket x 1
- Power Connector x 1
- BOXER-8130AI

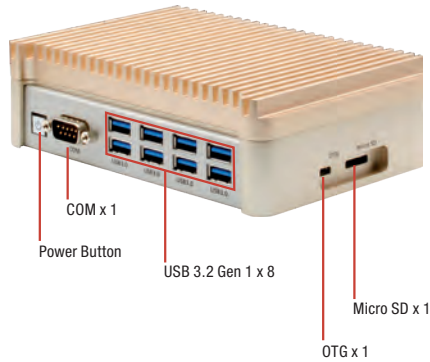
Optional Accessories

- 1255300611
Power Adapter
- 1702031802
Power Cord (US Type)
- 1702031803
Power Cord (Europe)
- 170203180E
Power Cord (Japan)

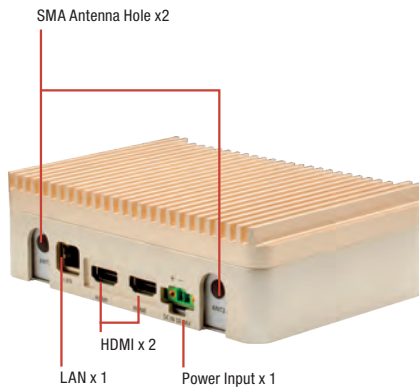
BOXER-8150AI

AI@Edge Fanless Embedded Box PC with NVIDIA Jetson TX2, 8 USB 3.2 Gen 1

Front View



Rear View



Features

- Nvidia TX2 Module
- HMP Dual Denver 2 + Quad ARM A57
- 8GB LPDDR4
- 32GB eMMC 5.1
- HDMI 2.0
- USB 3.2 Gen 1 x 8
- GbE LAN x 1, COM x 1
- Compact Size chassis

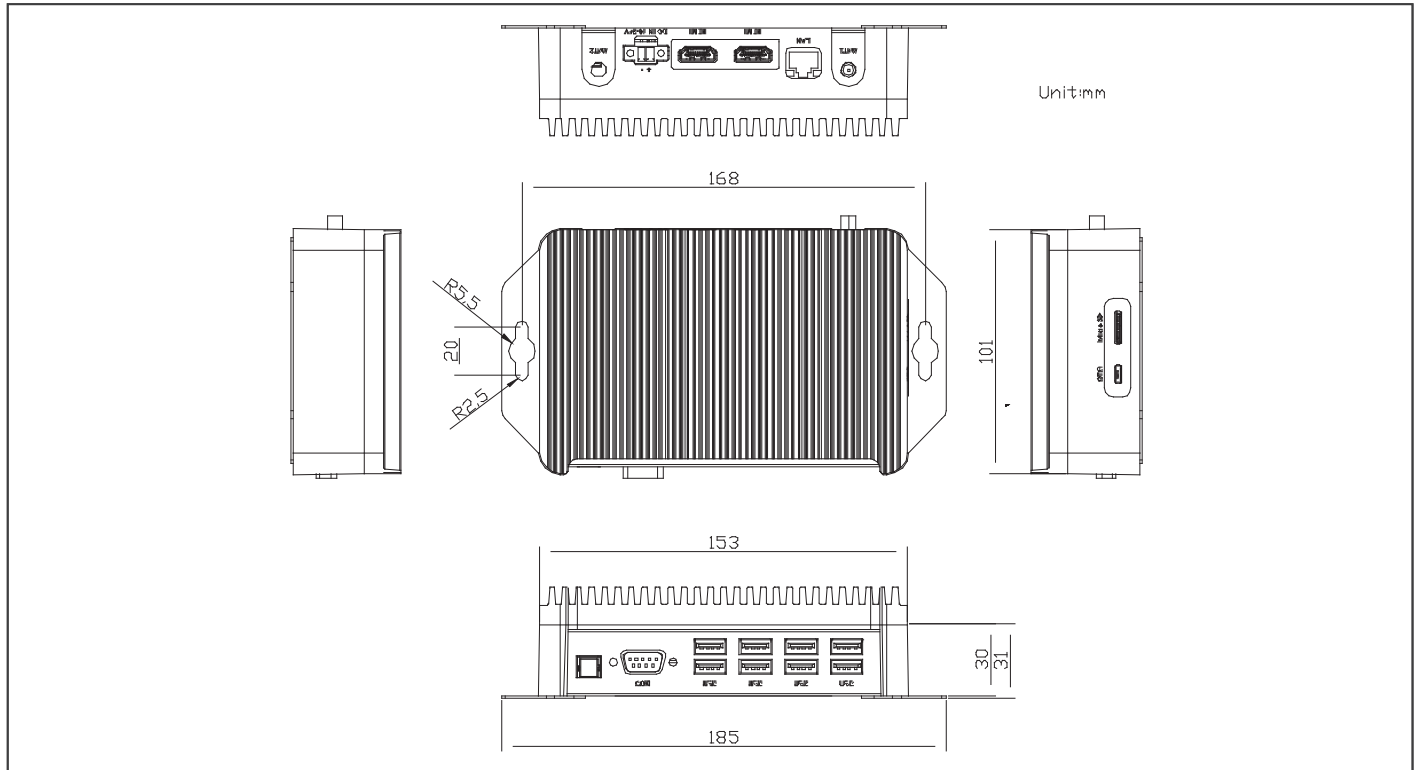


Specifications

System	
AI Accelerator	Nvidia Jetson TX2
CPU	HMP Dual Denver 2 + Quad ARM® A57
System Memory	8GB LPDDR4
Storage Device	32GB eMMC 5.1 MicroSD
Display Interface	HDMI 2.0 x 2
Ethernet	10/100/1000 Base-TX x 1
I/O	USB Type A x 8 for USB 3.2 Gen 1 DB-9 x1 for RS-232 HDMI 2.0 x 2 Power Switch 2-pin 10~24V DC-in Connector RJ-45 x1 for GbE LAN Ethernet Antenna Holes x 2 MicroSD x 1 OTG x 1
Expansion	SATA x1 (optional) DB-9 RS-232 x1 (optional) 2 channel CANBUS x1 (optional)
Indicator	Power LED
OS Support	AAEON AALinux 4.9, Compliance with Ubuntu 18.04
Power Supply	
Power Requirement	10~24V with 2-pin terminal block
Mechanical	
Mounting	Wallmount
Dimensions (W x H x D)	6.02" x 1.77" x 3.98" (153mm x 45mm x 101mm)
Gross Weight	4.40 lb (2 Kg)
Net Weight	2.2 lb (1 Kg)
Environmental	
Operating Temperature	-4°F ~122°F (-20°C ~ 50°C, according to IEC60068-2 with 0.5 m/s AirFlow; with Industrial Device)
Storage Temperature	-13°F ~176 °F (-25°C ~ 80°C)
Storage Humidity	95% @ 40°C, non-condensing
Anti-Vibration	Random, 3 Grms, 5~500Hz
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	CPU	PCH	RAM	LAN	USB 3.2 Gen 1	USB 2.0	RS-232	RS-232 /422/485	Digital I/O	Audio	Storage	Display	Expansion	Mounting	Power	Operation temp.
BOXER-8150AI-A1-1010	HMP Dual Denver 2 + Quad ARM A57	—	8	1	8	—	1	—	—	—	32GB eMMC	HDMI x2	MicroSD x1 SATA x1 (option) DB-9 RS-232 x1 (option) 2 channel CANBUS x1 (option)	Wallmount	10V ~ 24V	-20°C ~ 50°C

Packing List

- Wallmount Bracket x 1
- Power Connector x 1
- BOXER-8150AI

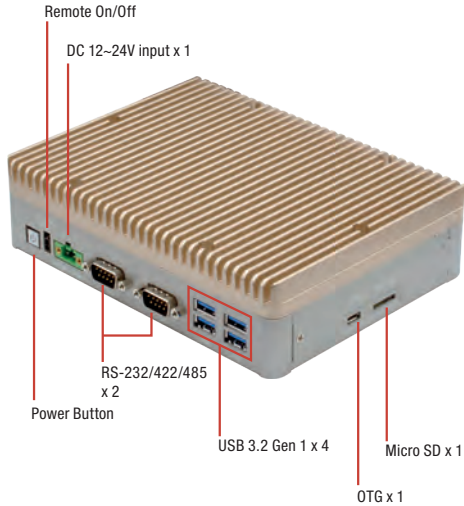
Optional Accessories

- 1255300611
Power Adapter
- 1702031802
Power Cord (US Type)
- 1702031803
Power Cord (Europe)
- 170203180E
Power Cord (Japan)

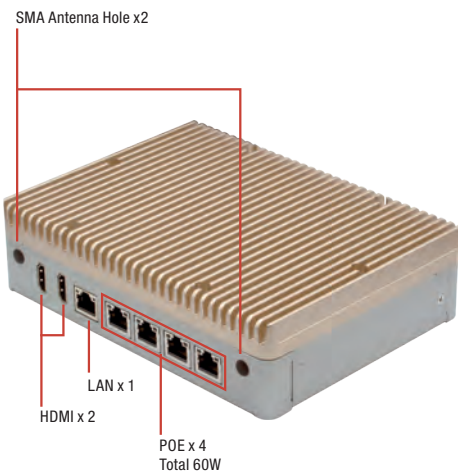
BOXER-8170AI

AI@Edge Fanless Embedded Box PC with NVIDIA Jetson TX2, 4 PoE LAN

Front View



Rear View



Features

- Designed for Embedded AI vehicle Controller
- Gigabit Ethernet x 1 and 802.3af PoE x 4 for surveillance
- Nvidia TX2 Module
- HMP Dual Denver 2 + Quad ARM A57
- 8GB LPDDR4
- 32GB eMMC 5.1
- HDMI 2.0 x 2
- USB 3.2 Gen 1 x 4
- COM x 2
- DC 12 ~ 24V

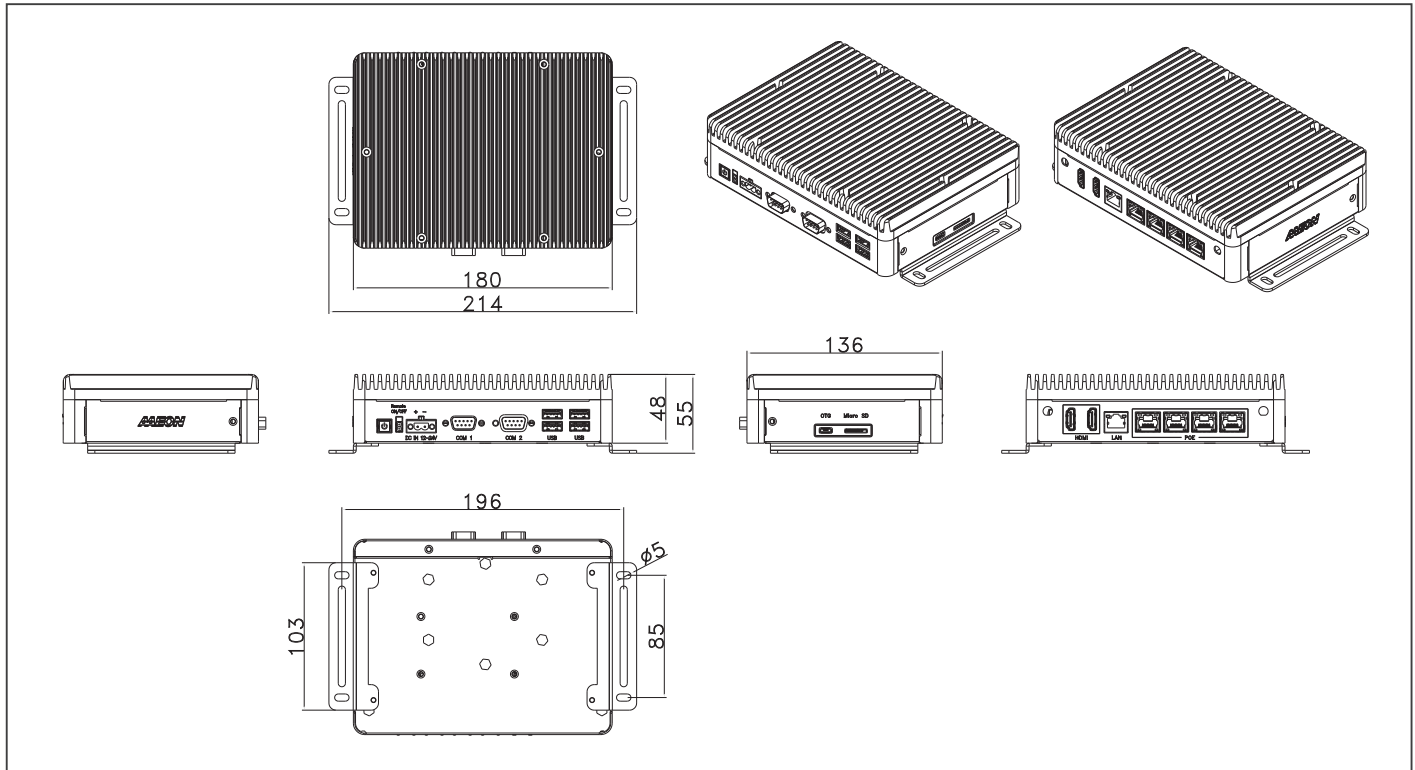


Specifications

System	
AI Accelerator	Nvidia Jetson TX2
CPU	HMP Dual Denver 2 + Quad ARM A57
System Memory	8GB LPDDR4
Storage Device	32GB eMMC 5.1 Micro-SD
Display Interface	HDMI 2.0
Ethernet	10/100/1000 Base-TX x 1 IEEE 802.3af PoE LAN x 4
I/O	RJ-45 x 1 for GbE LAN IEEE 802.3af PoE x 4 (60W total power budget) HDMI Type A x 2 for HDMI 2.0 USB Type A x 4 for USB 3.2 Gen 1 DB-9 RS-232/422/485 x 2 Power On/Off Button x 1 DC-In 2-pin terminal block x 1 USB OTG x 1 12~24V DC-in Power Input x 1 SMA Antenna Holes x 2
Expansion	SATA x 1 (optional) USB 2 x 1 (optional) 2 Channel CANBUS x 1 (optional)
Indicator	Power LED
OS Support	AAEON AALinux 4.9, Compliance with Ubuntu 18.04
Power Supply	
Power Requirement	12 ~ 24V with 2-pin terminal block
Mechanical	
Mounting	Wallmount
Dimensions (W x H x D)	7.09" x 1.89" x 5.35" (180 mm x 48 mm x 136 mm)
Gross Weight	6.39 lb (2.9 Kg)
Net Weight	4.73 lb (2.15 Kg)
Environmental	
Operating Temperature	-20°C ~ 50°C (according to IEC68-2-14 with 0.5 m/s AirFlow ; with industrial devices)
Storage Temperature	-40°F ~176 °F (-40°C ~ 80°C)
Storage Humidity	5~95% @ 40°C, non-condensing
Anti-Vibration	3 Grms/ 5 ~ 500Hz/ operation
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	RAM	LAN	PCH	PDE	USB 3.2 Gen 1	USB 2.0	RS-232	RS-232/422/485	Digital I/O	Audio	Storage	Display	Expansion	Mounting	Power	Operation temp.
BOXER-8170AI-A1-1010	8GB LPDDR4	1	—	4	4	0	—	2	—	—	32GB eMMC	HDMI x 2	MicroSD x1 SATA x1 (option) USB 2 x1 (option) 2 Channel CANBUS x1 (option)	Wallmount	24V DC-in (12V testing)	-20°C ~ 50°C

Packing List

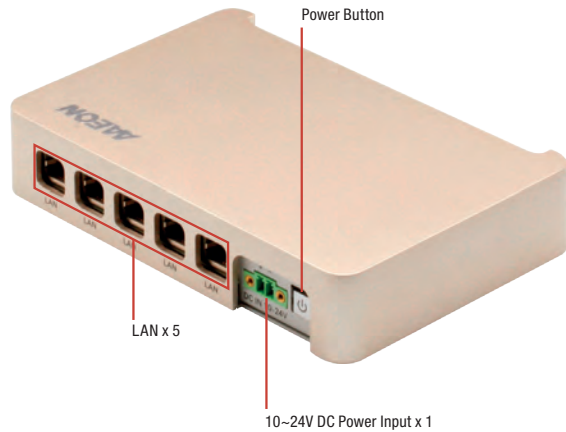
- Wallmount Bracket x 2
- Power Connector x 1
- Screw Pack x 1
- BOXER-8170AI

Optional Accessories

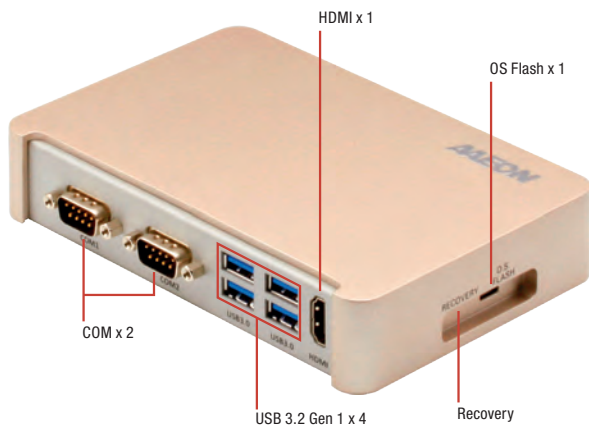
- 1255900849
Power Adapter
- 1702031802
Power Cord (US Type)
- 1702031803
Power Cord (Europe)
- 170203180E
Power Cord (Japan)

AI@Edge Fanless Embedded Box PC with NVIDIA Jetson Nano, 5 GbE LAN Ports

Front View



Rear View



Features

- NVIDIA Jetson nano
- Quad Core ARM A57 Processor
- 4GB LPDDR4 + 16GB Micro-SD or eMMC
- LAN x 5
- USB 3.2 Gen 1 x 4
- 10-24Vdc Power input

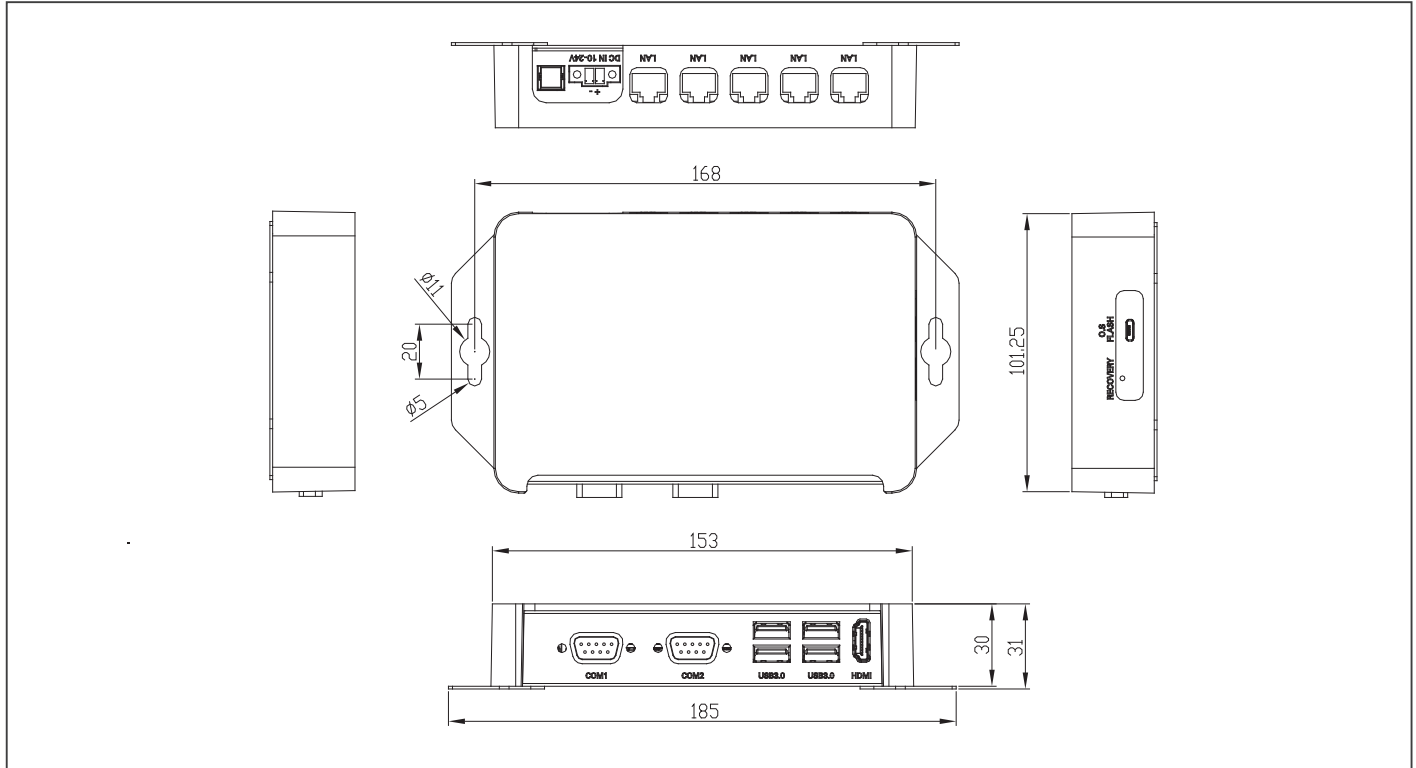


Specifications

System	
AI Accelerator	Nvidia Jetson Nano
CPU	Quad Core ARM® Cortex®-A57 MPCore Processor
System Memory	4GB LPDDR4
Storage Device	16GB Micro-SD or eMMC
Display Interface	HDMI 2.0
Ethernet	10/100/1000Base-TX x 5
I/O	USB 3.2 Gen 1 x 4 LAN x 5 RS-232 x 2 HDMI x 1 Micro-USB for Flash OS x 1 DC Power Input x 1 Power Button x 1 Recovery Button x 1
Expansion	—
Indicator	Power LED x 1
OS Support	ACLinux 4.9 or above (Compatible with Ubuntu 18.04)
Power Supply	
Power Requirement	10 ~ 24V DC with 2-pin terminal block
Mechanical	
Mounting	Wallmount
Dimensions (W x D x H)	6.06" x 3.98" x 1.18" (154 mm x 101 mm x 30 mm)
Gross Weight	4.40 lbs (2 Kg)
Net Weight	2.20 lbs (1 Kg)
Environmental	
Operating Temperature	-4°F ~ 140°F (-20°C ~ 60°C, according to IEC60068-2 with 0.5 m/s AirFlow)
Storage Temperature	-49°F ~ 176°F (-45°C ~ 80°C)
Storage Humidity	95% @ 40°C, non-condensing
Anti-Vibration	3 Grms/ 5 ~ 500Hz/ operation – MicroSD or eMMC
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	AI solution	LAN	USB 3.2 Gen 1	RS-232	Storage	Display	Mounting	Power	Operation temp.
BOXER-8220AI-A1-1010	Jetson Nano	5	4	2	16GB MicroSD x 1	HDMI x 1	Wallmount	10~24V	-20°C ~ 60°C

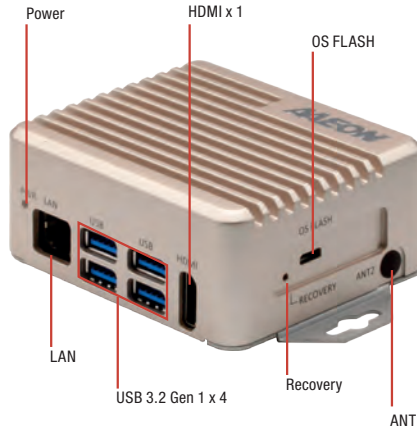
Packing List

- Wallmount Bracket x 2
- Power Connector x 1
- BOXER-8220AI

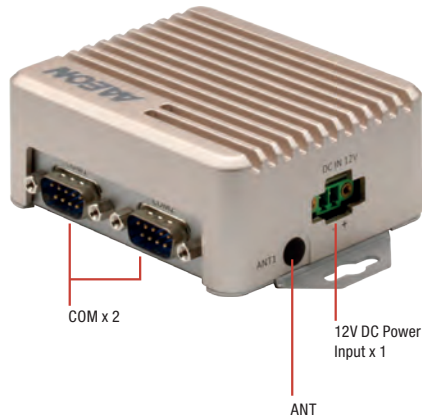
Optional Accessories

- 1255300611
60W Power Adapter
- 1702031802
Power Cord (US type)
- 1702031803
Power Cord (European Type)
- 170203180E
Power Cord (Japanese Type)

Front View



Rear View



Features

- NVIDIA Jetson nano
- Quad core ARM A57 Processor
- 4GB LPDDR4 + 16GB Micro-SD or eMMC
- LAN x 1 + RS-232 x 2
- 12Vdc Power input

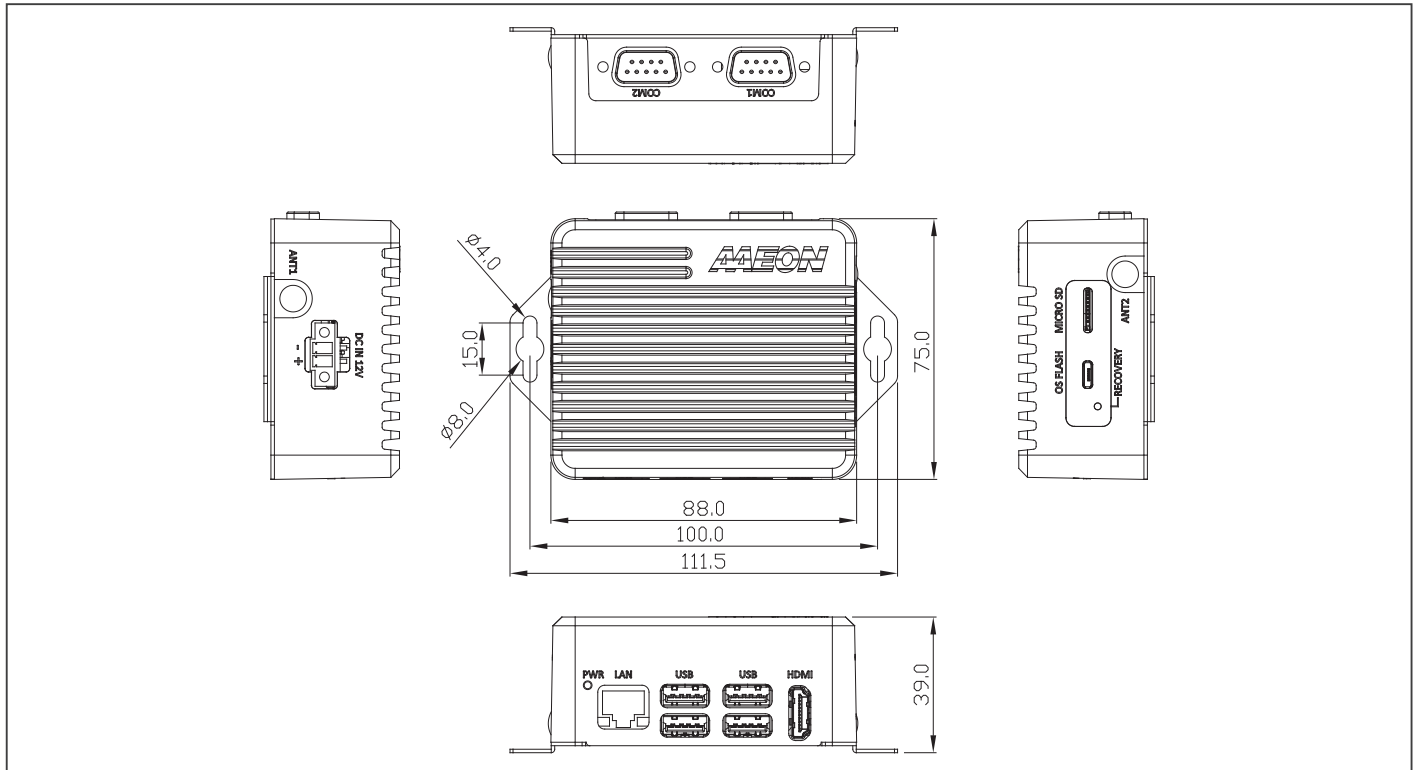


Specifications

System	
AI Accelerator	Nvidia Jetson Nano
CPU	Quad Core ARM® Cortex®-A57 MPCore Processor
System Memory	4GB LPDDR4
Storage Device	32GB Micro-SD (A version) or 16GB eMMC (B version)
Display Interface	HDMI 2.0
Ethernet	10/100/1000Base-TX x 1
I/O	USB 3.2 Gen 1 x 4 LAN x 1 RS-232 x 2 HDMI x 1 MicroSD x 1 DC Power Input x 1 Recovery Button x 1 Micro-USB for Flash OS x 1
Expansion	M.2 E-Key 2230 x 1(for WiFi)
Indicator	Power LED x 1
OS Support	Linux (AAEON ACLinux 4.9, Compliance with Ubuntu 18.04)
Power Supply	
Power Requirement	12Vdc w/ 2-pin terminal block
Mechanical	
Mounting	Wallmount
Dimensions (W x D x H)	3.39" x 2.87" x 1.3" (88mm x 75mm x 39mm)
Gross Weight	1.10 lb (0.5 Kg)
Net Weight	0.66 lb (0.3 Kg)
Environmental	
Operating Temperature	-4°F ~ 122°F (-20°C ~ 50°C, according to IEC60068-2 with 0.5 m/s AirFlow)
Storage Temperature	-49°F ~ 176°F (-45°C ~ 80°C)
Storage Humidity	95% @ 40°C, non-condensing
Anti-Vibration	3 Grms/ 5 ~ 500Hz/ operation – MicroSD or eMMC
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	AI solution	LAN	USB 3.2 Gen 1	RS-232	Storage	Display	Mounting	Power	Operation temp.
BOXER-8221AI-A1-1110	Jetson Nano	1	4	2	16GB MicroSD x 1	HDMI x 1	Wallmount	12Vdc w/ 2 pin terminal block	-20°C ~ 50°C
BOXER-8221AI-A2-1110	Jetson Nano	1	4	2	32GB MicroSD x 1	HDMI x 1	Wallmount	12Vdc w/ 2 pin terminal block	-20°C ~ 50°C
BOXER-8221AI-B1-1111	Jetson Nano	1	4	2	16GB eMMC MicroSD Slot x 1	HDMI x 1	Wallmount	12Vdc w/ 2 pin terminal block	-20°C ~ 50°C

Packing List

- Wallmount Bracket x 2
- Power Connector x 1
- BOXER-8221AI

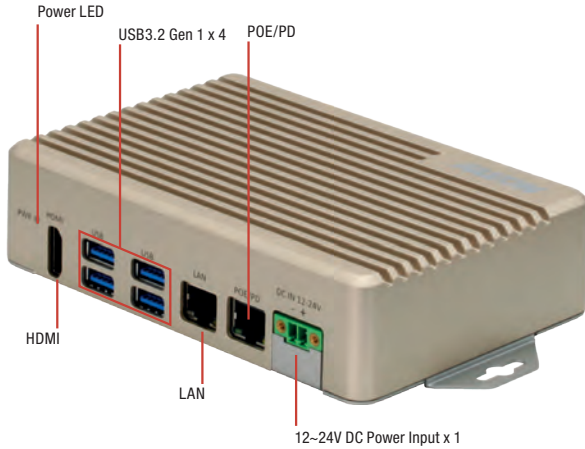
Optional Accessories

- 1255300611
60W Power Adapter
- 1702031802
Power Cord (US type)
- 1702031803
Power Cord (European Type)
- 170203180E
Power Cord (Japanese Type)

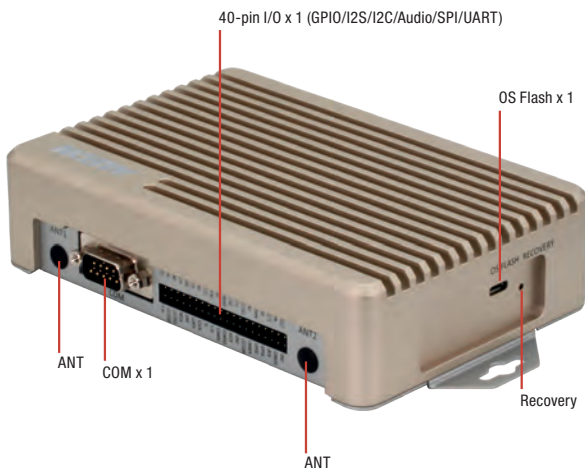
BOXER-8222AI

AI@Edge Fanless Embedded Box PC with NVIDIA Jetson Nano, PD Port

Front View



Rear View



Features

- NVIDIA Jetson Nano
- PoE/PD x 1
- 4GB LPDDR4 + 32GB SD card slot
- USB 3.2 Gen 1 x 4
- M.2 E-key slot x 1 for WiFi function expansion
- DC 12 ~ 24V wide voltage power input
- Wide working temperature -10°C ~ 70°C

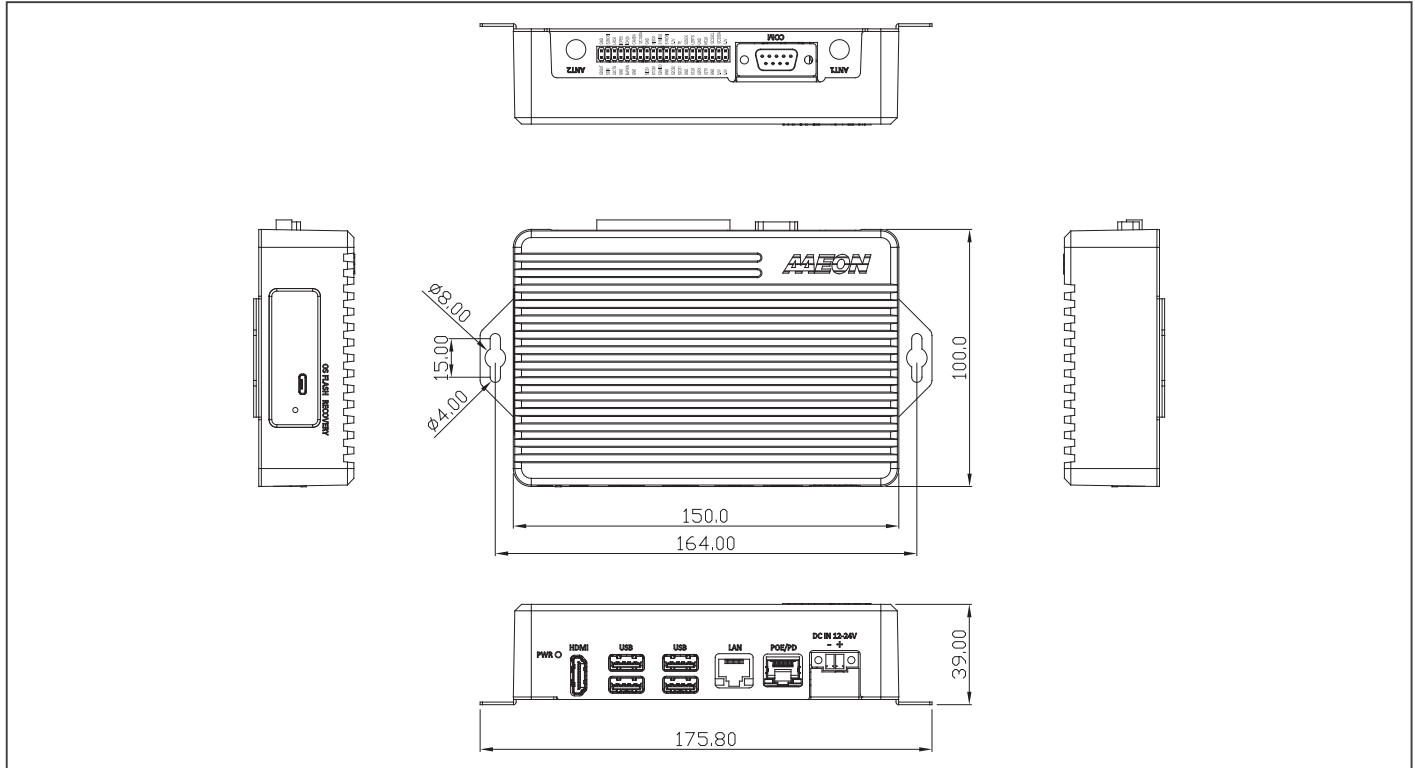


Specifications

System	
AI Accelerator	NVidia® Jetson Nano™
CPU	Quad Core ARM® Cortex®-A57 MPCore Processor
System Memory	4GB LPDDR4
Storage Device	32 GB MicroSD Card (Jetson Nano version B) Mini-Card (Full Size) x 1 (PCIe+SATA+USB)
Display Interface	HDMI 2.0 x 1
Ethernet	10/100/1000Base-TX x 2
I/O	USB3.2 Gen 1 x 4 (USB Type A) GbE LAN x 2 (GbE PD x 1 + GbE LAN x 1) 40-pin I/O x 1 (GPIO/I2S/I2C/Audio/SPI/UART) DB-9 (RS-232) x 1 HDMI 2.0 a/b x 1 (HDMI Type A) OS Flash port x 1 (Micro USB) Recovery port x 1 Antenna opening x 2
Expansion	Antenna x 2 M.2 2230 E Key x 1 (for Wi-Fi)
Indicator	Power LED x 1
OS Support	ACLinux 4.9 or above (Compatible with Ubuntu 18.04)
Power Supply	
Power Requirement	DC 12V~24V 2-pin terminal
Mechanical	
Mounting	Wallmount
Dimensions (W x D x H)	6.92" x 3.94" x 1.54" (175.8 mm x 100.0 mm x 39.0 mm)
Gross Weight	2.31 lbs (1.05 kg)
Net Weight	1.28 lbs (0.58 kg)
Environmental	
Operating Temperature	14°F ~ 158°F (-10°C ~ 70°C, according to IEC60068-2 with 0.5 m/s AirFlow)
Storage Temperature	-40 °F ~ 176°F(-40°C ~ 80°C)
Storage Humidity	95% @ 40C, non-condensing
Anti-Vibration	Random, 3.5Grms, 5~500Hz
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	AI solution	LAN	USB 3.2 Gen 1	RS-232	40-pin I/O	Storage	Expansion	Display	Mounting	Power	Operation temp.
BOXER-8222AI-A1-1010	Nvidia® Jetson Nano™	GbE PD x 1 GbE LAN x 1	4	1	3.3V x 2 pin, 5.0V x 2 pin, GND x 8 pin, I2C x 2, SPI x 2, I2S x 1, UART x 1, GPIO x 4	32 GB MicroSD Card x 1 Mini-Card (Full Size) slot x 1	M.2 E-key 2230 slot x 1	HDMI x 1	Wallmount	DC 12V-24V	-10°C ~ 70°C with 0.5m/s airflow

Packing List

- Power Connector x 1
- BOXER-8222AI

Optional Accessories

- **1255300611**
60W Power Adapter
- **1702031802**
Power Cord (US type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)

Front View

Launching in Q1

Rear View

Features

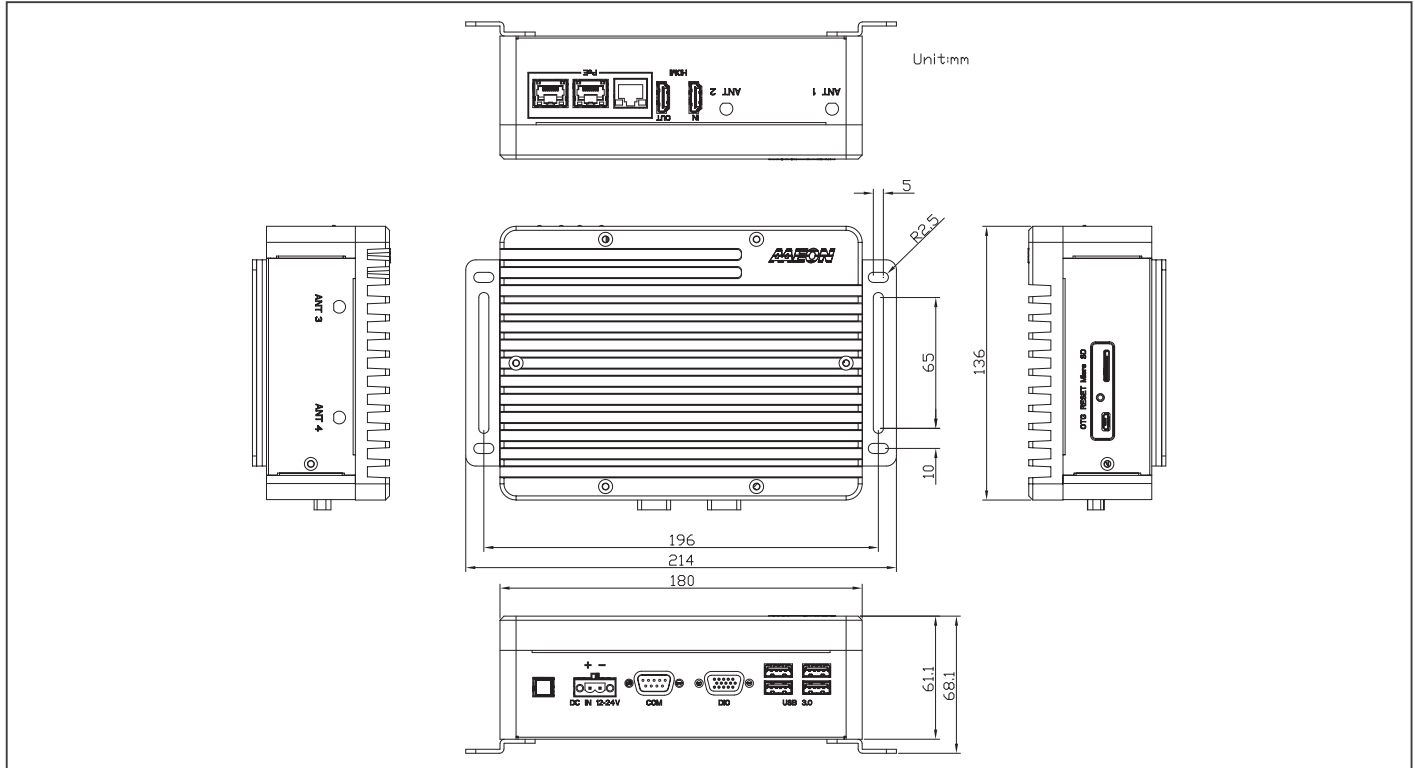
- NVIDIA Jetson Nano
- 4GBLPDDR4
- 32GB MicroSD card + Micro SD card slot
- PoE/PSE GbE LAN x 2
- HDMI Input, CANbus
- Digital I/O 13-channel
- Full-size Minicard x 1 w/ SIM Slot
- 12~24Vdc Power Input

Specifications

System	
AI Accelerator	Nvidia Jetson Nano
CPU	Quad Core ARM® Cortex®-A57 MPCore Processor
System Memory	4GB LPDDR4
Storage Device	32GB SD card
Display Interface	HDMI Type A 2.0 *1 (Output) HDMI Type A 1.4 *1 (Input via MIPI CSI)
Ethernet	POE PSE LAN x2 (802.3af)
I/O	USB Type A x 4 for USB 3.2 Gen 1 GbE LAN with LED Indicator (via PHY) POE PSE LAN x2 (802.3af) DB-9 x 1 for RS-232/485 DB15 x1 Female for 12 Channel DIO 0.S Flash port x 1 Recovery port x1 Antenna opening x 2 HDMI Type A 2.0 *1 (Output) HDMI Type A 1.4 *1 (Input via MIPI CSI) Power bottom *1
Expansion	Minicard*1 w/ SIM slot M.2 E-Key 2230 x 1(for WiFi) CANBUS (only for Jetson Xavier NX, BOM option) Antenna *2
Indicator	Power LED x 1
OS Support	AAEON ACLinux 4.9, Compliance with Ubuntu 18.04
Power Supply	
Power Requirement	DC 12V~24V with 2-pin terminal block ATX mode
Mechanical	
Mounting	Wall mount kit (default)
Dimensions (W x D x H)	TBD
Gross Weight	TBD
Net Weight	TBD
Environmental	
Operating Temperature	-4°F ~ 140°F (-20°C ~ 60°C), with 0.5m/s airflow
Storage Temperature	-4°F ~ 158°F (-40°C ~ 70°C)
Storage Humidity	95% @ 40C, non-condensing
Anti-Vibration	Random, 3 Grms, 5~500Hz
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

- TBD

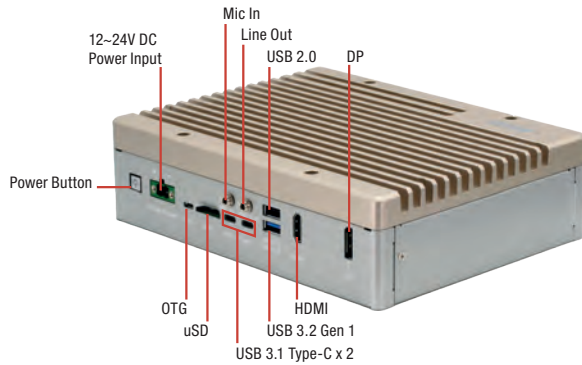
Packing List

- BOXER-8223AI

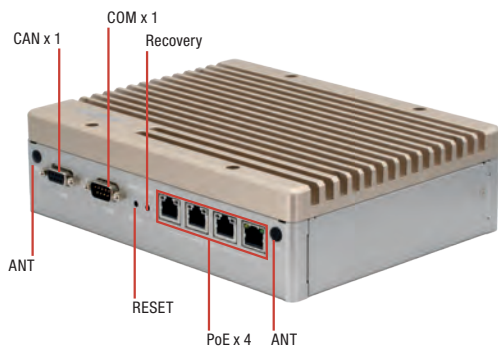
Optional Accessories

- **1255300611**
60W Power Adapter
- **1702031802**
Power Cord (US type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)

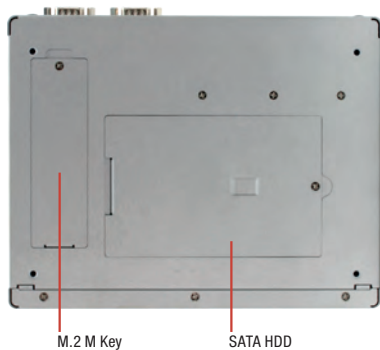
Front View



Rear View



Bottom View



Features

- 512-core Volta GPU with Tensor Cores
- Support RJ-45 x 4 for PoE (802.11af, total 60W)
- Support DB-9 x 1 for RS-232/422/485, CANBUS x 1
- Support GPIO 40 pins, Mic in and Line out
- Support M.2 E key, M key and SATA storage

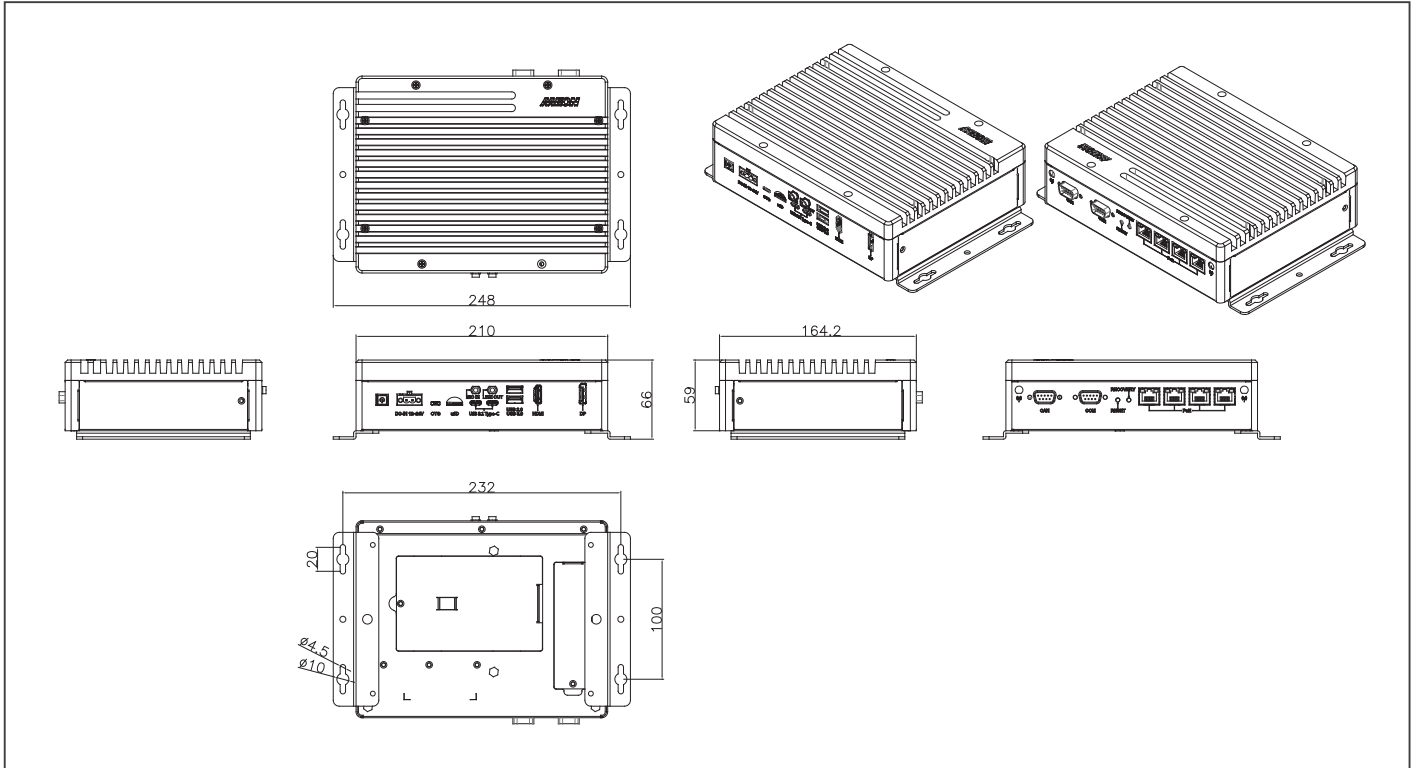


Specifications

System	
AI Accelerator	NVIDIA® AGX Xavier
CPU	8-core ARM v8.2 64bit CPU, 8MB L2 + 4MB L3
System Memory	32 GB 256-Bit LPDDR4 x 1 137 GB/s
Storage Device	32GB eMMC + M.2 Key M 2280 x1 (PCIe[x4]) + uSD slot + SATA
Display Interface	HDMI 2.0 x 1
Ethernet	10/100/1000 Base-TX with IEEE 802.11 af PoE LAN x 4
I/O	RJ-45 x 4 for PoE (802.11af, total 60W) USB type C x 2 for USB 3.2 Gen 1 USB Type A x 1 for USB 3.2 Gen 1 USB Type A x 1 for USB 2.0 Mic-in x 1 Line-out x 1 HDMI type A for HDMI v2.0 x 1 DisplayPort v1.4 x 1 DB-9 x 1 for RS-232/422/485 (By switch) CANBUS x 1 uSD card slot x 1 2-pin terminal block for 12~24V power input Recovery x 1 Reset x 1 Power ON/OFF switch x 1
Expansion	Expansion header 40-pin GPIO compliance with Nvidia Dev Kit 40 pins (4 pins CANBUS occupied) USB 2.0 header x 1 (Optional, circuit reserved) M.2 Key E 2230 x 1 for WiFi/Bluetooth (PCIe[x1] + USB) M.2 Key M 2280 x 1 (PCIe[x4]) SATA x 1 RS-232/422/485 pin header x 1
Indicator	Power LED x 1
OS Support	ACLinux 4.9 or above (Compatible with Ubuntu 18.04)
Power Supply	
Power Requirement	DC 12V~24V 2-pin terminal
Mechanical	
Mounting	Wallmount
Dimensions (W x D x H)	8.26" x 6.46" x 2.32" (210mm x 164.2mm x 59mm)
Gross Weight	6 lbs (2.72kg)
Net Weight	4.23 lbs (1.92kg)
Environmental	
Operating Temperature	14°F ~ 131°F (-10°C ~ 55°C, according to IEC60068-2 with 0.5 m/s AirFlow)
Storage Temperature	-40 °F ~ 158°F(-40°C ~ 70°C)
Storage Humidity	95% @ 40°C, non-condensing
Anti-Vibration	Random, 3 Grms, 5 ~ 500Hz
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	AI Accelerator	POE	USB 3.2 Gen 1	RS-232/422/485	Canbus	Storage	Expansion	Display	Mounting	Power	Operation temp.
BOXER-8240AI-A1-1010	NVidia® AGX Xavier	4	2+2 (TypeA+C)	1	1	eMMC / M.2 M key / SD CARD/SATA	M.2 E key (WiFi) 40 pin DIO (compliance with Jetson nano 40pins)	HDMI x 1 DP x 1	Wallmount	DC 12V-24V	-10°C - 55°C with 0.5m/s airflow

Packing List

- BOXER-8240AI

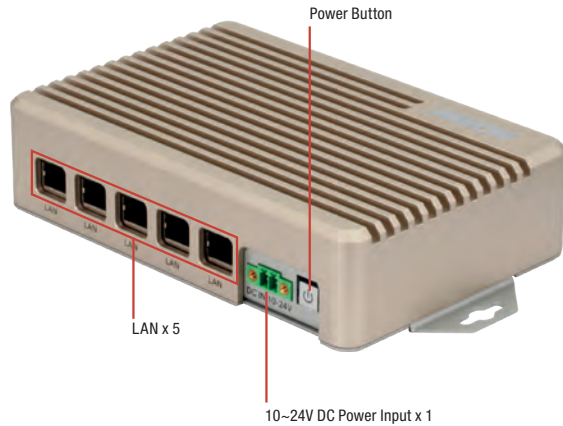
Optional Accessories

- 1255X00035
120W Power Adapter
- 1702031802
Power Cord (US type)
- 1702031803
Power Cord (European Type)
- 170203180E
Power Cord (Japanese Type)

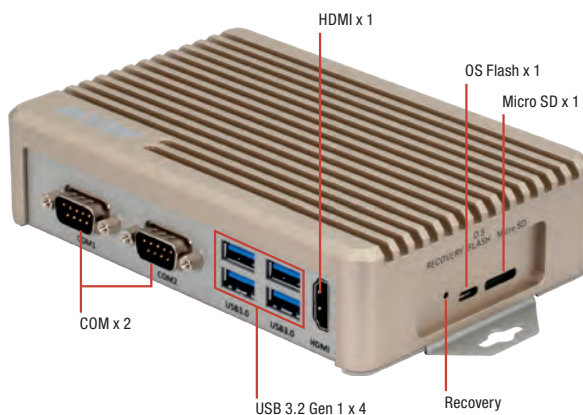
BOXER-8250AI

AI@Edge Fanless Embedded Box PC with NVIDIA Jetson Xavier NX, 5 GbE LAN Ports

Front View



Rear View



Features

- NVIDIA Jetson Xavier NX
- 6-core NVIDIA Carmel ARM®v8.2 64-bit CP
- 8GB LPDDR4x + 16GB eMMC + Micro-SD card slot
- GbE LAN x 5
- USB 3.2 Gen 1 x 4
- 10-24Vdc Power input

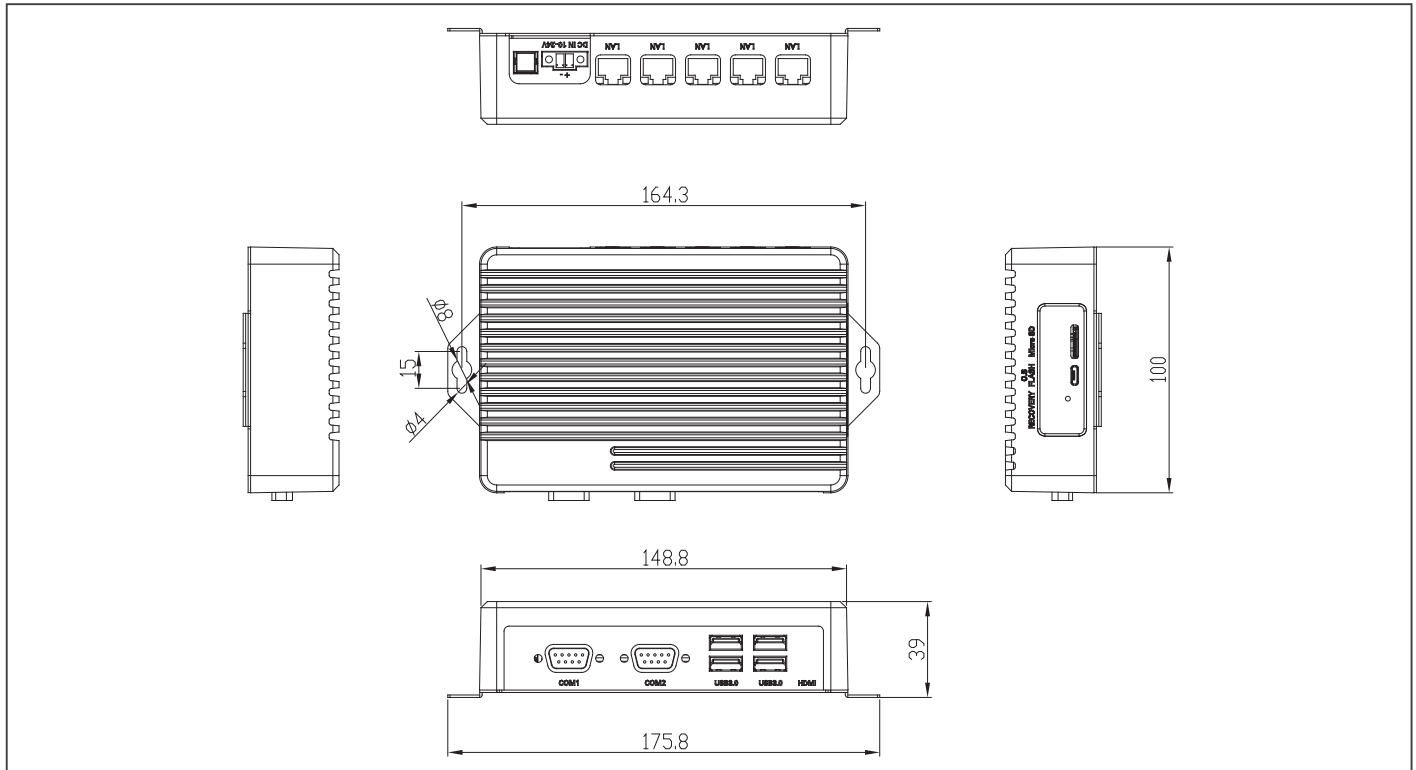


Specifications

System	
AI Accelerator	Nvidia Jetson Xavier NX
CPU	6-core NVIDIA Carmel ARM® v8.2 64-bit CP
System Memory	8GB LPDDR4x
Storage Device	16 eMMC and Micro-SD card slot
Display Interface	HDMI 2.0
Ethernet	10/100/1000Base-TX x 5
I/O	USB 3.2 Gen 1 x 4 GbE LAN x 5 RS-232 x 2 HDMI x 1 Micro-USB for Flash OS x 1 DC Power Input x 1 Power Button x 1 Recovery Button x 1 Micro-SD card slot x 1
Expansion	—
Indicator	Power LED x 1
OS Support	ACLinux 4.9 or above (Compatible with Ubuntu 18.04)
Power Supply	
Power Requirement	10 ~ 24V DC with 2-pin terminal block
Mechanical	
Mounting	Wallmount
Dimensions (W x D x H)	6.92" x 3.94" x 1.54" (175.8mm x 100.0mm x 39.0mm)
Gross Weight	2.48 lbs (1.12 kg)
Net Weight	1.46 lbs (0.66 kg)
Environmental	
Operating Temperature	14°F ~ 149°F (-10°C ~ 65°C, according to IEC60068-2 with 0.5 m/s AirFlow)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Storage Humidity	95% @ 40°C, non-condensing
Anti-Vibration	3.5 Grms/5 ~ 500Hz/ operation MicroSD or eMMC
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	AI solution	LAN	USB 3.2 Gen 1	RS-232	Storage	Display	Mounting	Power
BOXER-8250AI-A1-1010	Jetson Xavier NX	5	4	2	16GB eMMC and Micro-SD card slot	HDMI x 1	Wallmount	10~24V

Packing List

- Power Connector x 1
- BOXER-8250AI

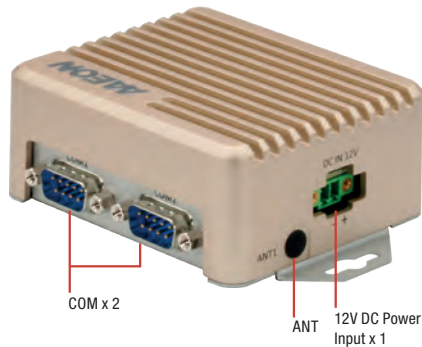
Optional Accessories

- 1255300611
60W Power Adapter
- 1702031802
Power Cord (US type)
- 1702031803
Power Cord (European Type)
- 170203180E
Power Cord (Japanese Type)

Front View



Rear View



Features

- NVIDIA Jetson Xavier NX
- 6 Core ARM® Carmel®V8.2 Processor
- 8GB LPDDR4 + 16GB eMMC
- LAN x 1 + RS-232 x 2
- 12Vdc Power input



Specifications

System	
AI Accelerator	Nvidia Jetson Xavier NX
CPU	6 Core ARM® Carmel®V8.2 64bit CPU 6MB L2 + 4MB L3
System Memory	8GB LPDDR4
Storage Device	16GB eMMC + MicroSD
Display Interface	HDMI 2.0
Ethernet	10/100/1000Base-TX x 1
I/O	USB 3.2 Gen 1 x 4 LAN x 1 RS-232 x 2 HDMI x 1 MicroSD x 1 DC Power Input x 1 Recovery Button x 1 Micro-USB for Flash OS x 1
Expansion	M.2 E-Key 2230 x 1(for WiFi)
Indicator	Power LED x 1
OS Support	Linux (AAEON ACLinux 4.9, Compliance with Ubuntu 18.04)
Power Supply	
Power Requirement	12Vdc w/ 2-pin terminal block
Mechanical	
Mounting	Wallmount
Dimensions (W x D x H)	3.46" x 2.95" x 1.53" (88mm x 75mm x 39mm)
Gross Weight	1.10 lb (0.5 kg)
Net Weight	0.66 lb (0.3 kg)
Environmental	
Storage Temperature	-40°F ~ 158°F (-40°C ~ 70°C)
Storage Humidity	95% @ 40°C, non-condensing
Anti-Vibration	3 Grms/ 5 ~ 500Hz/ operation – MicroSD or eMMC
Certification	CE/FCC class A

Operating Temperature

Power Mode	CPU Core	CPU Maximum Frequency	Operation Temp.
15W	6 Core	1.4GHz	-20°C ~ 40°C
	4 Core	1.4GHz	-20°C ~ 40°C
	2 Core	1.9GHz	-20°C ~ 50°C
10W	4 Core	1.2GHz	-20°C ~ 50°C
	2 Core	1.5GHz	-20°C ~ 50°C

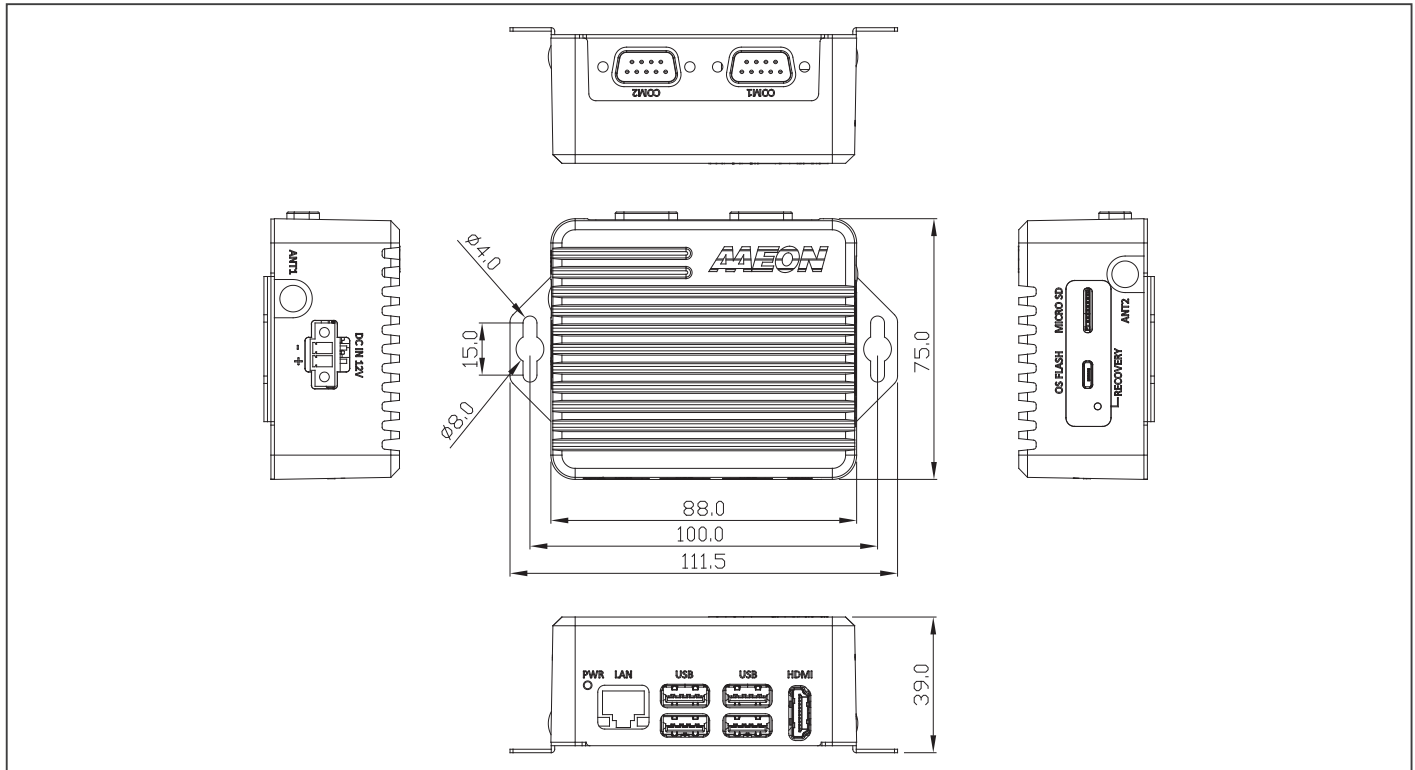
Note 1: 100% CPU Load 100% / 100% GPU load

Note 2: No throttling of CPU

Note 3: Air flow 0.5m/s

Dimension

Unit: mm



Ordering Information

Part Number	AI solution	LAN	USB 3.2 Gen 1	RS-232	Storage	Display	Mounting	Power
BOXER-8251AI-A1-1010	Jetson Xavier NX	1	4	2	16GB eMMC + MicroSD	HDMI x 1	Wallmount	12Vdc w/ 2 pin terminal block

Packing List

- Power Connector x 1
- BOXER-8251AI

Optional Accessories

- 1255300611
60W Power Adapter
- 1702031802
Power Cord (US type)
- 1702031803
Power Cord (European Type)
- 170203180E
Power Cord (Japanese Type)

AI@Edge Compact Fanless Embedded BOX PC with NVIDIA Jetson Xavier NX

Front View



Rear View



Features

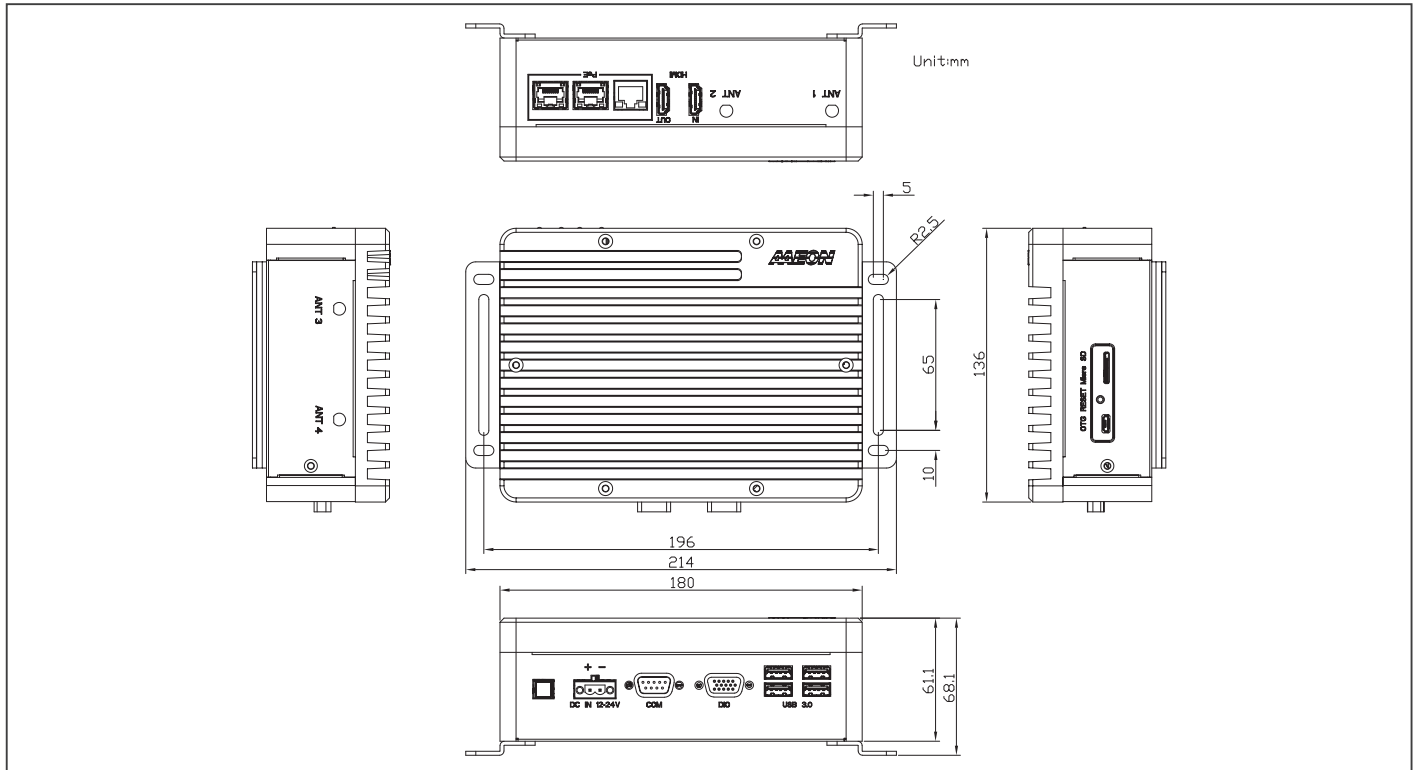
- NVIDIA Jetson XavierNX
- 8GBLPDDR4
- 16GBeMMC+SATA+ mSD card
- PoE/PSE GbE LAN x 2
- HDMI Input, CANbus
- Digital I/O 13-channel
- Full-size Minicard x 1 w/ SIM Slot
- 12~24Vdc Power input

Specifications

System	
AI Accelerator	Nvidia Jetson Xavier NX
CPU	6 Core ARM® Carmel®V8.2 64bit CPU 6MB L2 + 4MB L3
System Memory	8GB LPDDR4
Storage Device	16GB eMMC + MicroSD card expansion
Display Interface	HDMI Type A 2.0 *1 (Output) HDMI Type A 1.4 *1 (Input via MIPI CSI)
Ethernet	POE PSE LAN x 2 (802.3af)
I/O	USB Type A x 4 for USB 3.2 Gen 1 USB Micro A/B x 1 for OS Flash LAN with LED Indicator (via PHY) RJ45 x 2 for GbE PoE/PSE x 2 (802.3at) RJ-45 x 1 for GbE LAN DB-9 x 1 for RS-232/485 & CANbus DB15 x1 for Digital I/O 13-Channel (programmable) Recovery port x1 MicroSD slot x 1 Antenna opening x 2 HDMI Type A for HDMI v2.0 x 1 (Output) HDMI Type A for HDMI v1.4 x 1 (Input via MIPI CSI) Power switch x 1
Expansion	Full-size minicard slot x1 (PCIe/USB/mSATA, default PCIe) M.2 E-Key 2230 x 1 (for WiFi) SIM socket x 1 SATA III port x 1 for 2.5" drive
Indicator	Power LED x 1
OS Support	AAEON ACLinux 4.9, Compliance with Ubuntu 18.04
Power Supply	
Power Requirement	DC 12V~24V with 2-pin terminal block ATX mode
Mechanical	
Mounting	Wall mount kit
Dimensions (W x D x H)	TBD
Gross Weight	TBD
Net Weight	TBD
Environmental	
Operating Temperature	-4°F ~ 131°F (-20°C ~ 55°C with 0.5m/s airflow)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Storage Humidity	5 ~ 95% @ 40°C, non-condensing
Anti-Vibration	Random, 3.5 Grms, 5~500Hz
Certification	CE / FCC class A

Dimension

Unit: mm



Ordering Information

- TBD

Packing List

- BOXER-8253AI

Optional Accessories

- **1255300611**
60W Power Adapter
- **1702031802**
Power Cord (US type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)

Front View

Launching in Q1

Rear View

Features

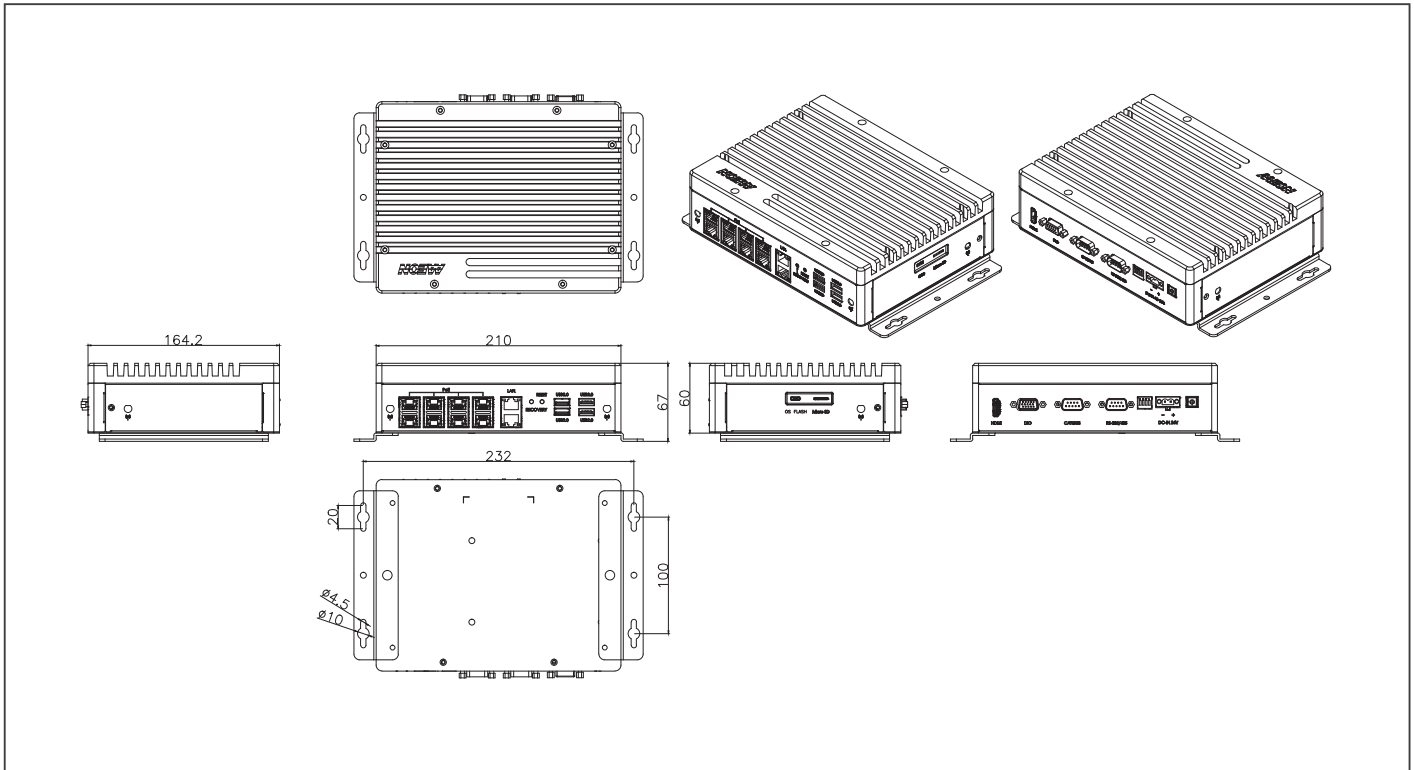
- Nvidia Jetson Xavier NX
- LPDDR4 8GB, eMMC 16GB
- PoE x 8, LAN x 2, USB x 4, RS-232/485 x 1, CAN x 1
- Support Wide Operating Temperature
- M.2 2230 x 1, Minicard x 1

Specifications

System	
AI Accelerator	Nvidia Jetson Xavier NX
CPU	6 Core ARM® Carmel®V8.2 64bit CPU 6MB L2 + 4MB L3
System Memory	8GB LPDDR4
Storage Device	16GB eMMC + MicroSD card expansion
Display Interface	HDMI 2.0
Ethernet	POE PSE LAN x 8 (802.3af)
I/O	RJ-45 x 8 for 10/100 PoE (802.11af, total 120W) RJ-45 x 2 for GbE LAN USB Type A x 1 for USB 3.2 Gen 2 USB Type A x 3 for USB 2.0 USB Micro A/B x 1 for OS Flash HDMI type A x1 for HDMI 2.0 a/b DB-9 x 1 for RS-232/485 COM switch x 1 for RS-232/485 DB-9 x 1 for CANbus DB-9 x 1 for Digital I/O 8-channel (programmable) MicroSD slot x 1 Power ON/OFF switch x 1 Recovery button x 1 Reset button x 1 Antenna Opening x 4
Expansion	Full-Size minicard slot x 1 (PCIe/USB/msATA, default PCIe) M.2 E-Key 2230 x 1 for WiFi SIM socket x 1 SATA III port x 1 for 2.5" drive Header x 1 for RS-232 x1 Header x 1 for USB2.0 x 1 Wafer x 1 for Mic-in x 1 & Lin-out x 1
Indicator	Power LED x 1
OS Support	AAEON ACLinux 4.9, Compliance with Ubuntu 18.04
Power Supply	
Power Requirement	DC 24V with 2-pin terminal block ATX mode
Mechanical	
Mounting	Wall mount kit
Dimensions (W x D x H)	210mm x 164.2mm x 67mm
Gross Weight	TBD
Net Weight	TBD
Environmental	
Operating Temperature	14°F ~ 140°F (-10°C ~ 60°C, according to IEC60068-2 with 0.5 m/s AirFlow)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Storage Humidity	5 ~ 95% @ 40°C, non-condensing
Anti-Vibration	Random, 3.5 Grms, 5~500Hz
Certification	CE / FCC class A

Dimension

Unit: mm



Ordering Information

- TBD

Packing List

- BOXER-8254AI

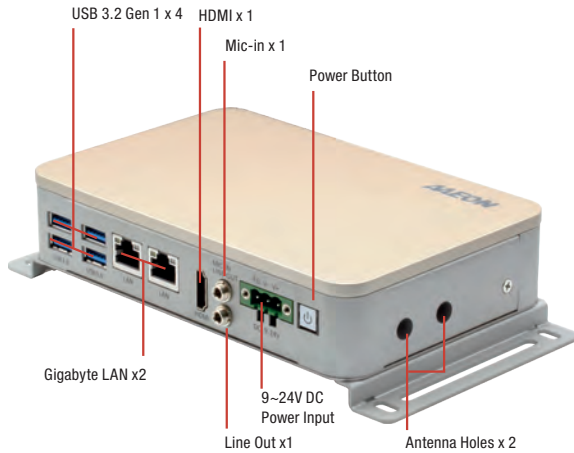
Optional Accessories

- 1255300611
60W Power Adapter
- 1702031802
Power Cord (US type)
- 1702031803
Power Cord (European Type)
- 170203180E
Power Cord (Japanese Type)

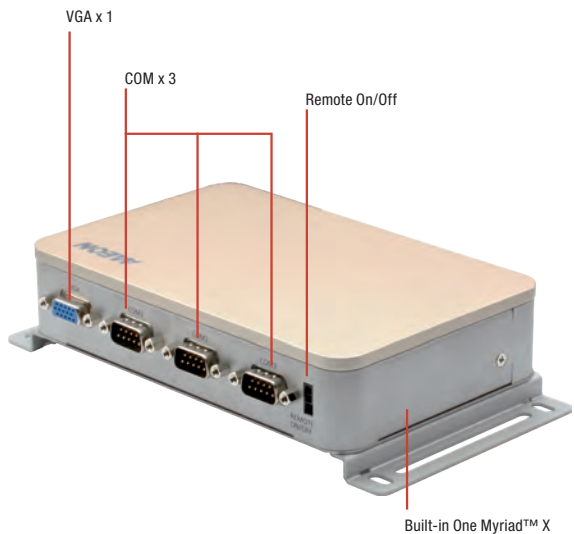
BOXER-8310AI

AI@Edge Din Rail Mount Embedded BOX PC with Intel® Movidius™ Myriad™ VPU & Intel® Pentium™ Processor

Front View



Rear View



Features

- Design for AI@Edge application
- Built-in Intel® Movidius™ Myriad™ X VPU, support AI computing
- Slim Boxer Design: 35mm
- Rich I/O, Design for Auto System Control
- Gigabit Ethernet x 2, USB 3.2 Gen 1 x 4
- Support Wallmount

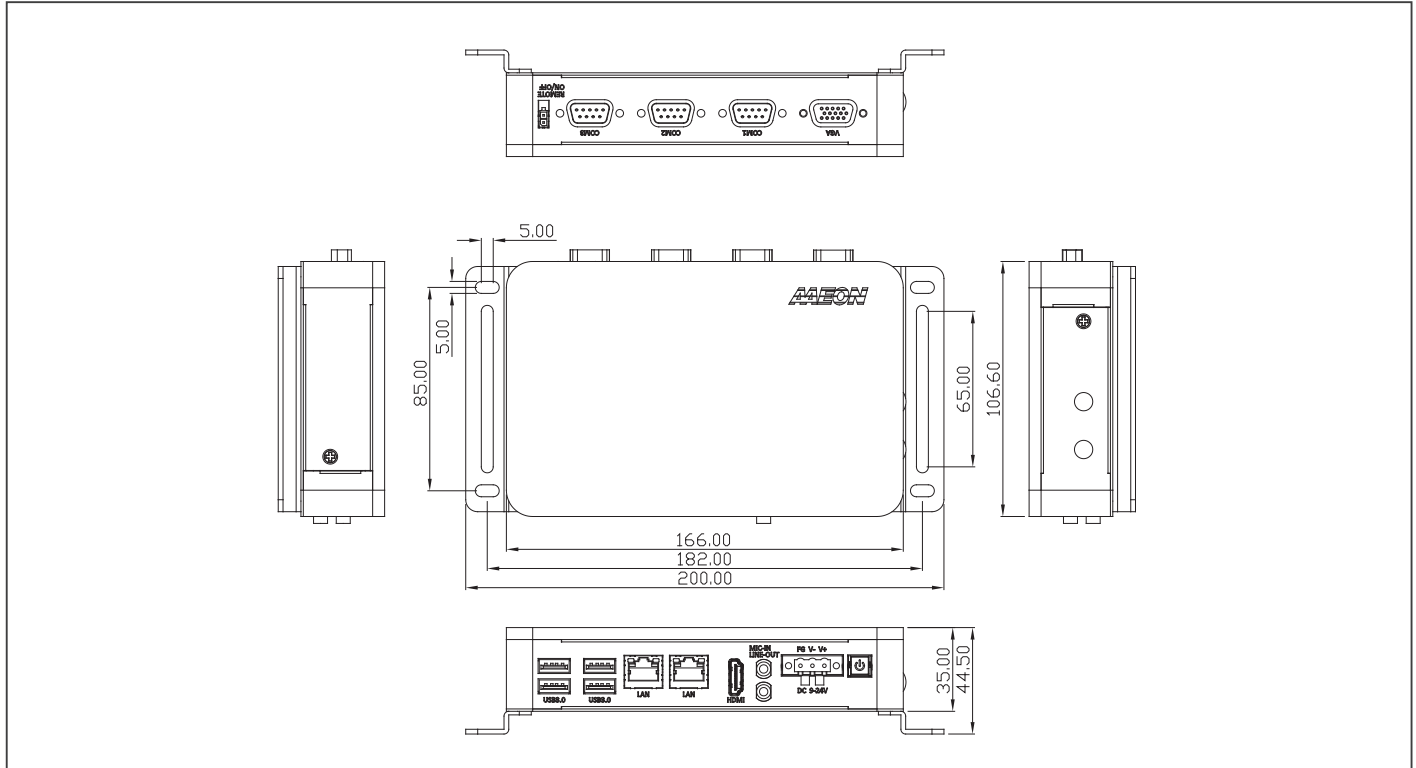


Specifications

System	
AI Accelerator	Intel® Movidius™ Myriad™ X x 1
CPU	Intel® Pentium® N4200 Intel® Celeron® N3350
System Memory	DDR3L SODIMM slot x 1 Supports 1867 MHz and up to 8GB
Storage Device	mSATA
Display Interface	HDMI 1.4 VGA
Ethernet	10/100/1000 Base-TX x 2
I/O	Power Button x 1 USB Type A x 4 for USB 3.2 Gen 1 HDMI type A x 1 for HDMI v1.4b RJ45 x 2 for GbE LAN with LED indicator (i211-AT x2) Power Input x 1 3-pin terminal block in default (+, -, GND) Co-layout Mic-in x 1, Line-out x 1 DB-9 x 3 for RS-242/422/485 (Switch by BIOS) DB-15 x1 for VGA Remote On/Off Antenna Holes x 2 DC-in 3-pin terminal block (9~24V) x 1
Expansion	Half-size Minicard slot x 1 (mSATA only)
Indicator	Power LED x1, HDD active LED x 1
OS Support	Linux (Debian 9.8)
Power Supply	
Power Requirement	3 Pin 9-24V DC-in terminal block
Mechanical	
Mounting	Wallmount
Dimensions (W x H x D)	6.54" x 4.2" x 1.38" (166mm x 106.6mm x 35mm)
Gross Weight	3.6 lb (1.6 kg)
Net Weight	1.3 lb (0.6 kg)
Environmental	
Operating Temperature	-13°F ~ 131°F (-25°C ~ 55°C) with W.T. SSD (according to IEC68-2-14 with 0.5 m/s airFlow ; with industrial devices)
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	95% @ 40°C, non-condensing
Anti-Vibration	3 Grms/ 5 ~ 500Hz/ operation – mSATA
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	CPU	PCH	RAM	LAN	USB 3.2 Gen 1	USB 2.0	RS-232	RS-232/422/485	Digital I/O	Audio	Storage	Display	AI Solution	Mounting	Power	Operation temp.
BOXER-8310AI-A1-1010	N3350	SoC	—	2	4	—	—	3	—	MIC-in, Line-out	Half size miniCard for mSATA x1	VGA/ HDMI x1	Intel® Movidius™ Myriad™ X x 1	Wallmount	9~24V	-25°C ~ 55°C
BOXER-8310AI-A2-1010	N4200	SoC	—	2	4	—	—	3	—	MIC-in, Line-out	Half size miniCard for mSATA x1	VGA/ HDMI x1	Intel® Movidius™ Myriad™ X x 1	Wallmount	9~24V	-25°C ~ 55°C

Packing List

- Wallmount Bracket x 2
- 3 Pin DC-in Power Connector x 1
- BOXER-8310AI

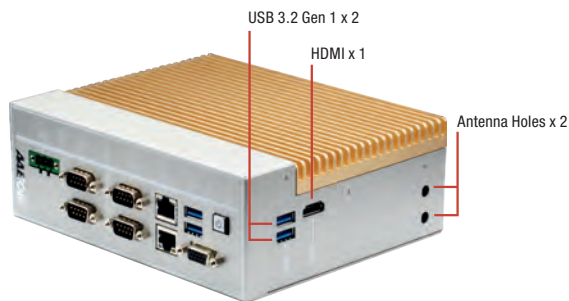
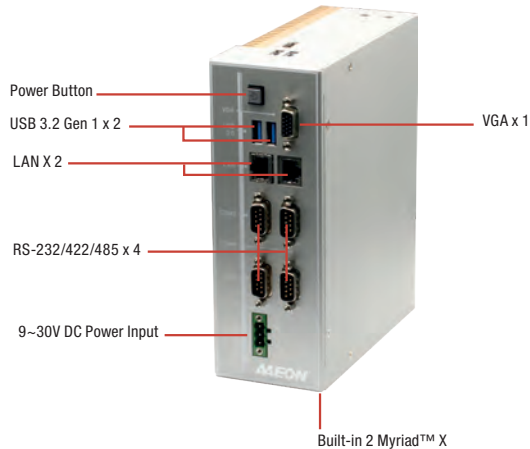
Optional Accessories

- 125530040F
40W Power Adapter
- 1702031802
Power Cord (US type)
- 1702031803
Power Cord (European Type)
- 170203180E
Power Cord (Japanese Type)
- 9741640404
Din Rail Mount Kit

BOXER-8320AI

AI@Edge Din Rail Mount Embedded BOX PC with Dual Intel® Movidius™ Myriad™ VPU & Intel® Core™ i3-6100U Processor

Front View



Features

- Design for AI@Edge application
- Built-in dual Intel® Movidius™ Myriad™ X VPUs, support AI computing
- Built-in Intel® Core™ i3-6100U Processor
- DDR4 SO-DIMM slot x 1, Support 2133MHz and up to 16GB
- Supports Industrial-grade Intel® GbE LAN x 2
- Supports BIOS Selectable RS-232/422/485 x 4
- VGA + HDMI Dual Display Output
- USB 3.2 Gen 1 x 4
- 8-bit Digital Input and Output x 1 (Optional)
- Wide Range DC 9~30V Input With Power Protection
- Din-Rail Mount Design

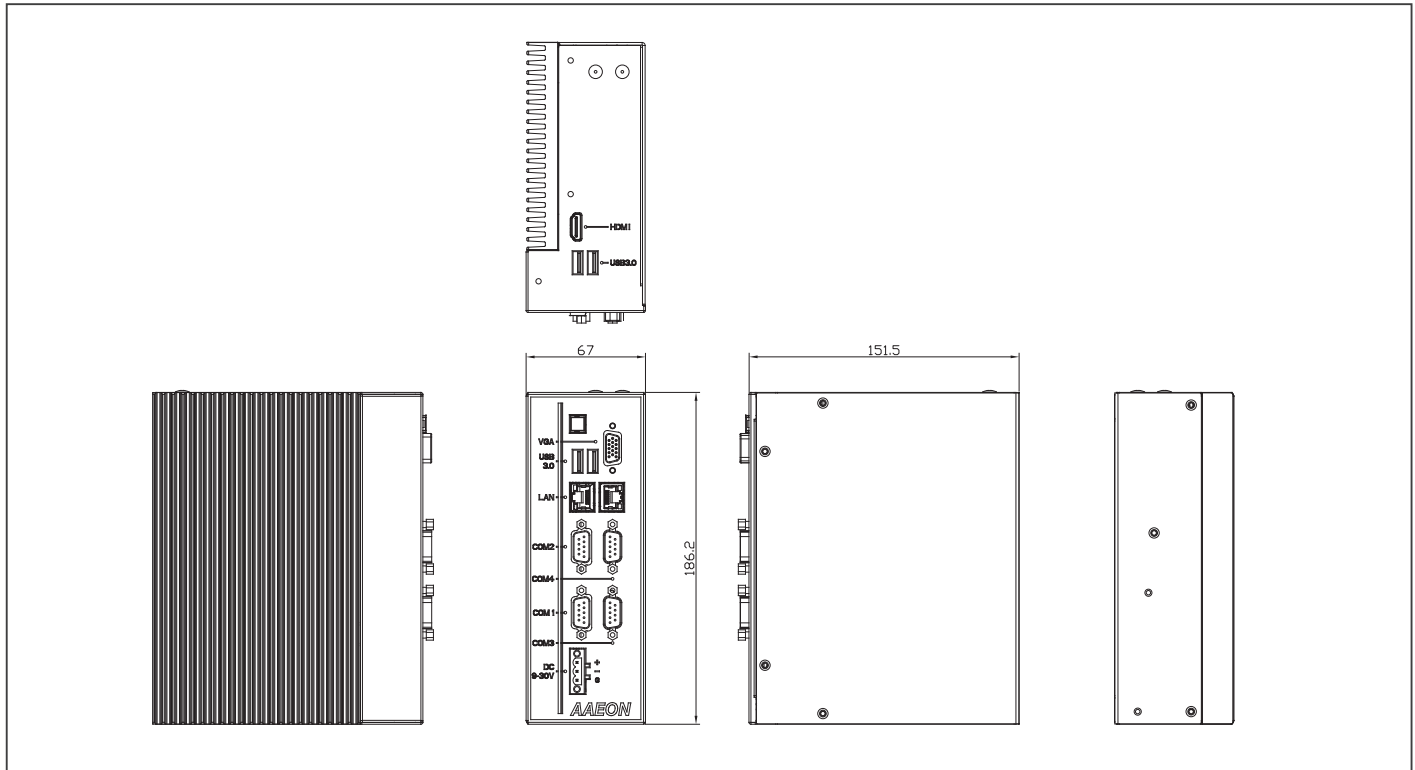


Specifications

System	
AI Accelerator	Intel® Movidius™ Myriad™ X x 2
CPU	Intel® Core™ i3-6100U
System Memory	DDR4 SO-DIMM slot x 1, Support 2133MHz and up to 16GB
Storage Device	HDD/SSD
Display Interface	HDMI, VGA
Ethernet	10/100/1000 Base-TX x 2
I/O	DB-9 x4 for RS-232/422/485 RJ-45 x 2 for GbE (i210IT x 2) USB 3.2 Gen 1 x 4 VGA x 1 HDMI x 1 Antenna Holes x 2 Power Button Power Input
Expansion	—
Indicator	Power LED
OS Support	Linux (Debian 9.8)
Power Supply	
Power Requirement	9~30V with 3-pin terminal block
Mechanical	
Mounting	DIN Rail Mount Wallmount (Mounting kit is optional)
Dimensions (W x H x D)	2.68" x 7.33" x 5.96" (67mm x 186.2mm x 151.5 mm)
Gross Weight	6.1 lb (2.8 kg)
Net Weight	3.9 lb (1.8 kg)
Environmental	
Operating Temperature	-13°F ~140°F (-25°C ~ 60°C) with W.T. SSD (according to IEC68-2-14 with 0.5 m/s airFlow ; with industrial devices)
Storage Temperature	-49°F ~ 176°F (-45°C ~ 80°C)
Storage Humidity	95% @ 40°C, non-condensing
Anti-Vibration	3 Grms/ 5 ~ 500Hz/ operation - SSD
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	CPU	AI Solution	RAM	LAN	USB 3.2 Gen 1	USB 2.0	RS-232	RS-232/422/485	Digital I/O	Audio	Storage	Display	Mounting	Power	Operation temp.
BOXER-8320AI-A1-1010	Intel® Core™ i3-6100U	Intel® Movidius™ Myriad™ X x 2	—	2	4	—	—	4	—	—	2.5" SATA Drive Bay x1	VGA x 1 HDMI x 1	Din Rail Optional Wallmount	9-30V	-25°C ~ 60°C

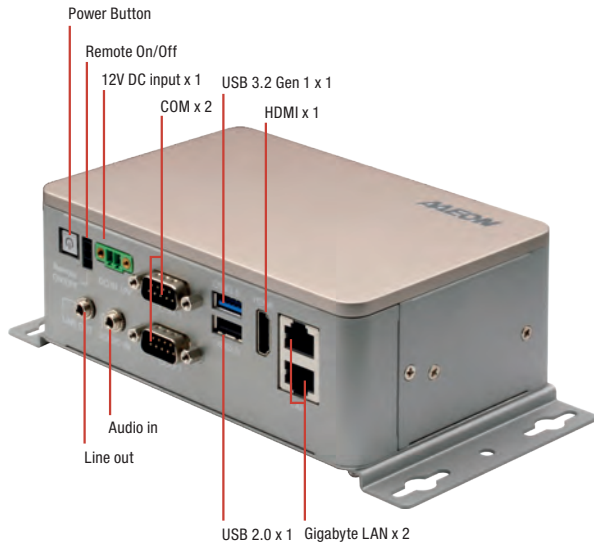
Packing List

- Din Rail Bracket x 1
- Screw Package x 1
- 3 Pin DC-in Power Connector x 1
- BOXER-8320AI

Optional Accessories

- **1255900849**
84W Power Adapter
- **1702031802**
Power Cord (US Type)
- **1702031803**
Power Cord (Europe)
- **170203180E**
Power Cord (Japan)
- **9741640404**
Din Rail Mount Kit

Front View



Rear View



Features

- HiSilicon Hi3559A
- Onboard 4GB/8GB DDR4 & 32GB/64GB eMMC
- Support GbE LAN x 2
- Support USB 3.2 Gen 1 Type A x 1
- Support Audio in/Line out
- Support 2.5" SATA Storage device

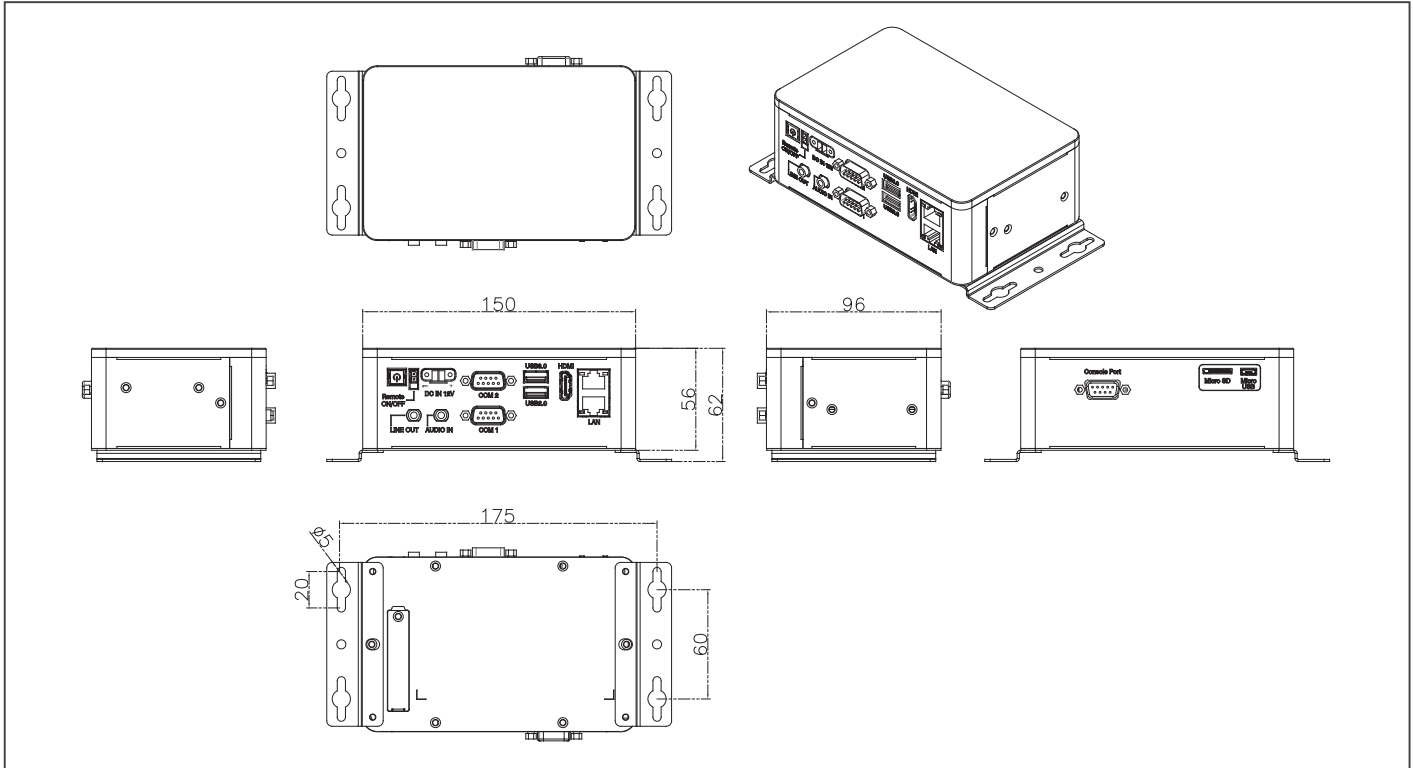


Specifications

System	
AI Accelerator	Hi3559A
CPU	Dual-core ARM Cortex A73@1.8 GHz Dual-core ARM Cortex A53@1.2 GHz Single-core ARM Cortex A53@1 GHz Neon acceleration and integrated FPU
System Memory	4GB/8GB LPDDR4
Storage Device	Onboard 32GB/64GB eMMC Micro-SD slot x 1 SATA III (6.0 Gbps) Port x 1
Display Interface	HDMI 2.0 x 1
Ethernet	10/100/1000 Base-TX x 2
I/O	Power Button with LED indicator x 1 USB 3.2 Gen 1 Type A x 1 USB 2.0 Type A x 1 Micro USB Type B (USB 2.0) x 1 (for flash image) RJ-45 GbE LAN x 2 DB-9 RS-232 x 2 DB-9 Console Port x 1 Audio in x 1 Line out x 1 2-pin terminal block +12V DC-in x 1 MicroSD x 1 Remote Power On/Off
Expansion	—
Indicator	Power LED x 1
OS Support	HiLinux
Power Supply	
Power Requirement	12VDC-in with 2-pin terminal block
Mechanical	
Mounting	Wallmount kit (default)
Dimensions (W x D x H)	150 mm(W) x 96 mm(D) x 56 mm(H)
Gross Weight	2.20 lbs. (1 kg)
Net Weight	1.10 lbs. (0.5 kg)
Environmental	
Operating Temperature	-4°F ~ 131°F (-20°C ~ 55°C, according to IEC60068-2 with 0.5 m/s AirFlow)
Storage Temperature	-4°F ~176 °F (-40°C ~ 80°C)
Storage Humidity	5 ~ 95% @ 40°C, non-condensing
Anti-Vibration	Random, 1Grm, 5 ~ 500Hz
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	AI Accelerator	LAN	USB 3.2 Gen 1	USB 2.0	RS-232	Audio-in	Line-out	Storage	Display	Mounting	Power	Operation temp.
BOXER-8410AI-A1-1010	Hi3559A	2	1	1	2	1	1	Onboard 32GB eMMC Micro-SD slot x 1 SATA III (6.0 Gbps) Port x 1	HDMI x 1	Wallmount	12VDC-in with 2-pin terminal block	-4°F ~ 131°F (-20°C ~ 55°C, according to IEC60068-2 with 0.5 m/s AirFlow)
BOXER-8410AI-A2-1010	Hi3559A	2	1	1	2	1	1	Onboard 64GB eMMC Micro-SD slot x 1 SATA III (6.0 Gbps) Port x 1	HDMI x 1	Wallmount	12VDC-in with 2-pin terminal block	-4°F ~ 131°F (-20°C ~ 55°C, according to IEC60068-2 with 0.5 m/s AirFlow)

Packing List

- Wallmount Bracket x 2
- Screw Package x 1
- 2 Pin Power Connector x 1
- BOXER-8410AI

Optional Accessories

- 1255300611
Power Adapter
- 1702031802
Power Cord (US type)
- 1702031803
Power Cord (European Type)
- 170203180E
Power Cord (Japanese Type)

AI@Edge Compact Fanless Embedded BOX PC with Google Edge TPU

Front View



Rear View

**Features**

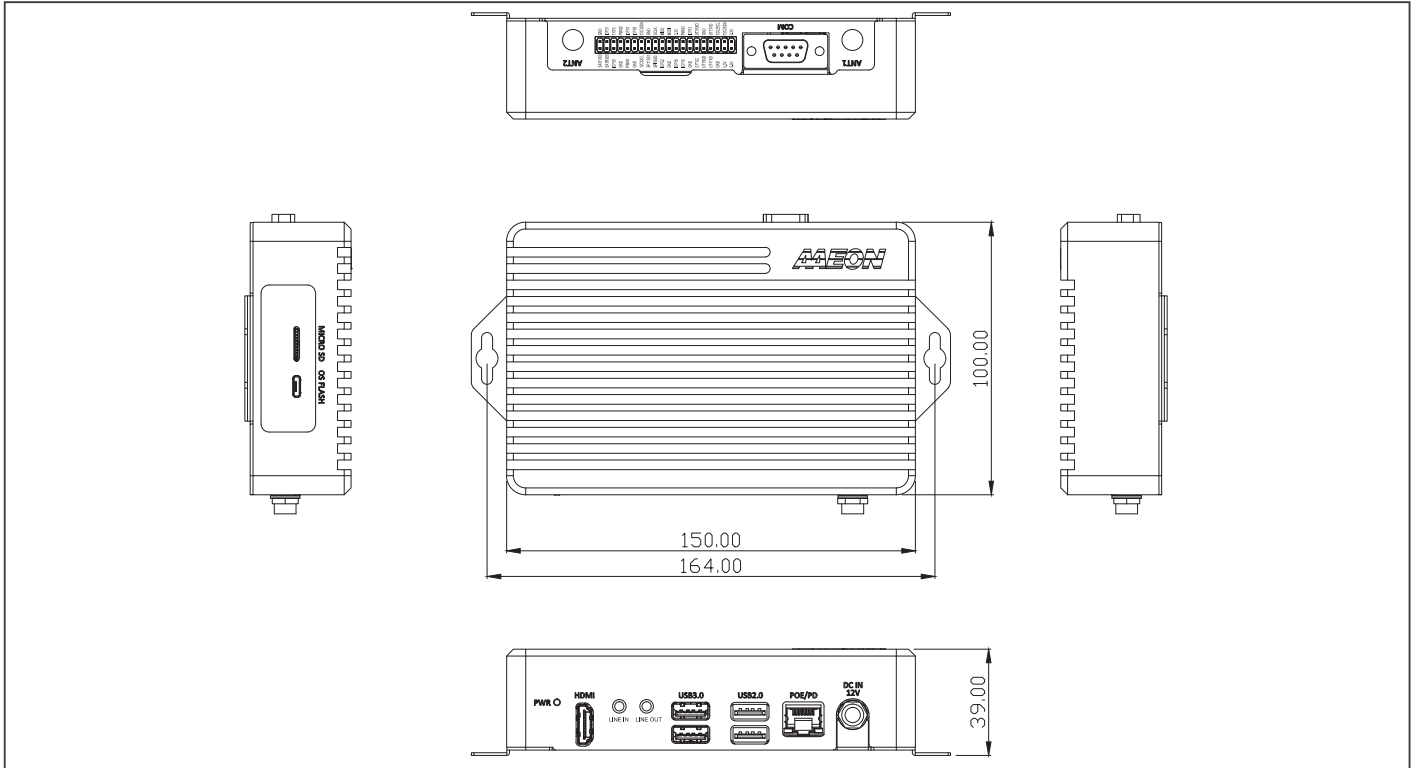
- Google edge TPU with 4 x Cortex-A53 and GC7000 Lite graphic with 4 Tops computing power
- GbE PoE/PD x 1
- USB3.2 Gen 1 x 2 & USB2.0 x 2
- Mic-in & Line-out
- MEMS x 2 (Optional)
- Built-in WiFi 2x2 MIMO (802.11b/g/n/ac 2.4/5GHz) & Bluetooth 4.1
- 40 pins with GPIO, I2C, UART, PWM, 5Vpower, 3V3 power

**Specifications**

System	
AI Accelerator	Google Edge TPU ML accelerator coprocessor
CPU	NXP i.MX 8M SoC (Quad-core Cortex-A53, plus Cortex-M4F)
System Memory	1GB LPDDR4x
Storage Device	8GB eMMC
Display Interface	HDMI 2.0 x 1
Ethernet	10/100/1000Base-TX x 1
I/O	HDMI 2.0a x 1 USB typeA x 2 for USB3.2 Gen 1 USB type A x 2 for USB2.0 RJ-45 x 1 for 10/100/1000 base-T & Powered Device (802.3at) 12Vdc (DC Jack w/lockable) Mic -in x 1 Line-out x 1 40-pin connector DB-9 x 1 for RS-232/485 OTG x 1 Micro-SD slot x 1
Expansion	—
Indicator	Power LED x 1
OS Support	Mendel Linux (derivative of Debian)
Power Supply	
Power Requirement	Powered Device (802.3at) 12Vdc (DC Jack w/lockable)
Mechanical	
Mounting	Wallmount
Dimensions (W x D x H)	TBD
Gross Weight	TBD
Net Weight	TBD
Environmental	
Operating Temperature	-4°F ~ 140°F (-20°C ~ 60°C, according to IEC60068-2 with 0.5 m/s AirFlow)
Storage Temperature	-49°F ~ 176°F (-45°C ~ 80°C)
Storage Humidity	95% @ 40°C, non-condensing
Anti-Vibration	1 Grms/5-500Hz/operation
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

- TBD

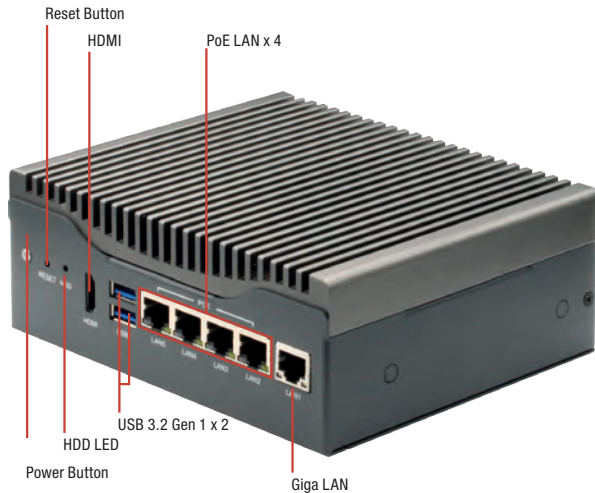
Packing List

- TBD

Optional Accessories

- TBD

Myriad™ X x 2



Myriad™ X x 4 (Project base)



Features

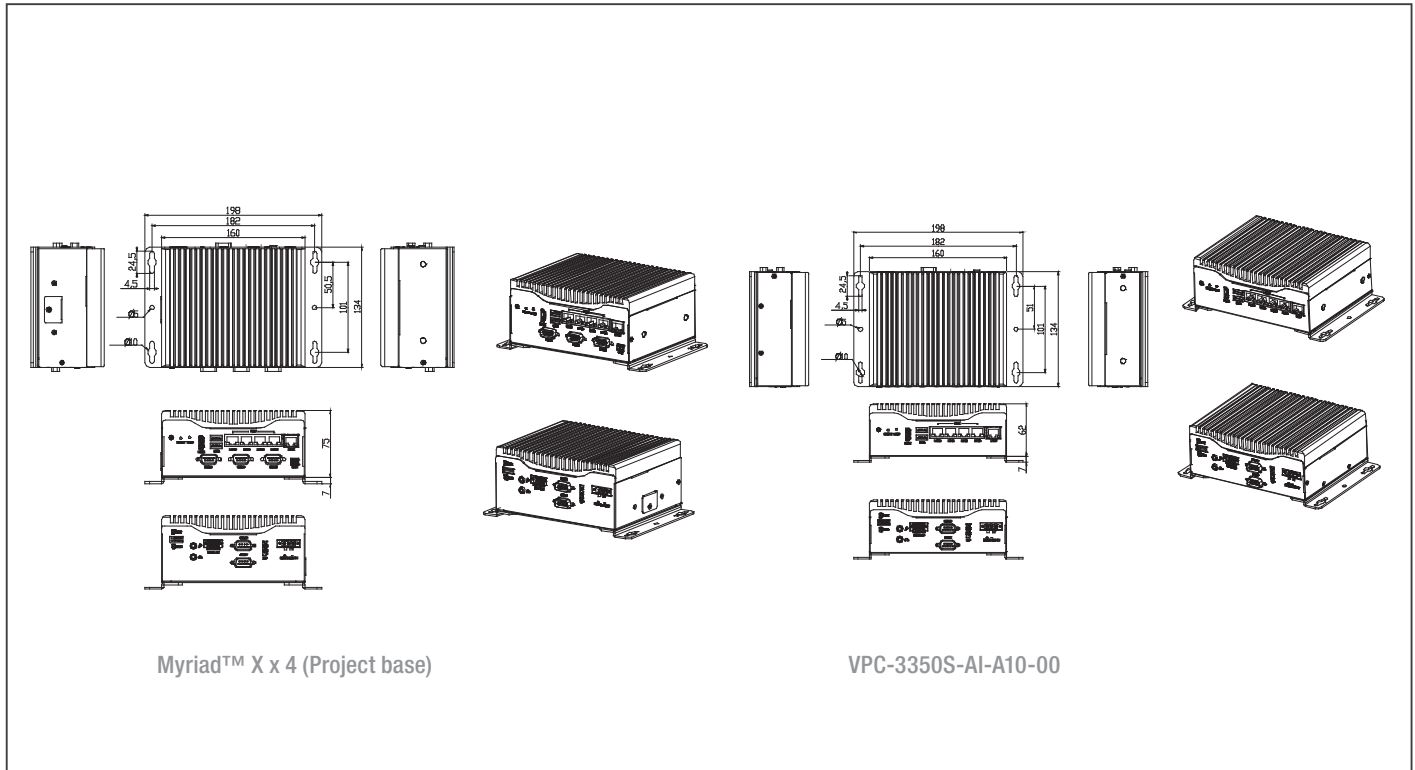
- Intel® Atom® x5-E3940 Processor
- 2 x Intel® Myriad™ X VPU inside
- Supports DDR3L SODIMM up to 8 GB
- Supports Two Display by HDMI x1, DP x 1
- Intel® Giga Ethernet x 5 Ports, including 4 x PoE Ports, 1 x LAN
- 4-CH DI & 4-CH DO (Isolation, optional)
- -20 °C to 60 °C fanless operation



System	
Form Factor	Multi-PoE & Fanless Appliance
Processor	Intel® Pentium®/ Celeron®/ Atom™ Processor (Default: E3940; Project base: N4200/N3350, or E3950 w/ customized chassis)
AI Accelerator	2 x Intel® Myriad™ X, up to 4 Myriad™ X (Project base)
Main Memory	Up to 8GB, DDR3L 204-pin SODIMM
Display	HDMI x 1, DP x 1
Ethernet	Intel® i211 (colay i210)
Smart PoE	4 ports, sharing 60W of power budget for every four PoE ports
RAID support	—
Expansion Slot	SATA x 1
GPS, G-Sensor	—
Front I/O Panel	Power Button x 1 Reset Button x 1 Power/HDD, LED x 2 USB 3.2 Gen 1 x 2 GbE port (RJ-45) x 1 PoE LAN x 4 (IEEE 802.3 at/af) HDMI x 1
Rear I/O Panel	DC-In power x 1 8-bit DIO x 1, 4-ch digital input, 4-ch digital output RS-232/422/485 x 2 DP x 1 Audio Line-out x 1, Mic-In x 1 Micro SIM slot x 2
Storage	
HDD Tray	2.5" HDD/SSD Bay x 1
CF/CFast/mSATA Slot	—
Environmental	
Operating Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Storage Humidity	10%~80% @40°C, non-condensing
Vibration/Shock	MIL-STD-810G
Certification	CE & FCC Class A
Power Requirement	
Power Supply	DC 12-24V
Mechanical	
Removable HDD Tray	—
Internal System HDD Bay	—
Dimension	6.3" x 5.28" x 2.44" (160mm x 134mm x 62mm)
Gross Weight	5.07 lb (2.3 kg)
Note	—

Dimension

Unit: mm



Myriad™ X x 4 (Project base)

VPC-3350S-AI-A10-00

Ordering Information

Part Number	Processor	RAM	Cooler	Storage	AI Accelerator	Display	LAN	PoE	USB	RS-232	RS-232/422/485	Expansion Slot	Form Factor	Power
VPC-3350S-AI-A10-00	Intel® Atom®x5 E3940	DDR3L 204-pin SODIMM	Fanless	Supporting 2.5" SSD x 1 (Optional SKU: Supporting additional mSATA x1 & eMMC)	Intel® Myriad™ X x 2	DP x 1, HDMI x 1	GbE x 1	4 Ports	USB 3.2 Gen 1 x 2	—	2	—	Desktop	DC 12-24V

Packing List

- Wallmount bracket
- SATA cable x 1
- Power cable x 1 (for SATA)
- VPC-3350AI

Optional Accessories

- **9741236A00**
WiFi module kit, 802.11ac/a/b/g/n.BT4.2.USB Signal.SparkLan.WPET-236ACN(BT).W/2 sets of cable&antenna
- **978966660G**
GPS Antenna
- **9741EG25G0**
PCIe mimi card 4G LTE module kit Global Band W/SIM holder w/ Cable & antenna
- **1702031803**
Power Cord.3P-250V 10A 180D.1.8M.VDE.FAN-JET.YP-22/YC-12 (Euro)
- **1702031802**
Power Cord.3P-125V 10A 180D.1.8M.USA.FANJET.YP12/YC-12 (USA)
- **170203180E**
Power Cord. 3P. 125V/7A. 1. 8M. PSE YP12/YC12 Certification (JPN)

Front View

Launching in Q1

Rear View

Features

- Intel® Atom® x5-E3940 Processor
- The Gen 3 Intel® Movidius™ VPU inside (formerly Keem Bay)
- Supports DDR4 SODIMM up to 64 GB
- Supports Two Display by HDMI x1, DP x 1
- Intel® Giga Ethernet x 5 Ports, including 4 x PoE Ports, 1 x LAN
- 8 bits DIO (Isolated 4DI & 4DO / 8DI/ 8DO by BOM option)

Specifications

System	
Form Factor	Multi-PoE & Fanless Appliance
Processor	8th Gen Intel® Core™ (formerly Whiskey Lake)(Default: i7-8665UE; Project base: i5-8365UE, i3-8145UE or 4305UE)
Chipset	The Gen 3 Intel® Movidius™ VPU M.2 2280 (formerly Keem Bay)
Main Memory	Up to 64GB, DDR4 260-pin SODIMM
Display	HDMI x 1, DP x 1
Ethernet	GbE x 1, Intel i211, support Wake on LAN and PXE supported
Smart PoE	4 ports, IEEE 802.3 at/af, sharing 60W of power budget for every four PoE ports. Able to power management in each independent PoE port (SDK available)
RAID support	0/1
Expansion Slot	mPCIe Full-Size x 1 (USB+PCIe) mPCIe Full-Size x 1 (USB+SATA) colay SATA
GPS, G-Sensor	—
Front I/O Panel	RJ45 Smart PoE Port (60W) x 4 USB 3.2 Gen 1 x 4, Giga LAN x 1 DP x 1 Power button Status LED, HDD LED, Wireless LED Micro SIM slots x 2 Antenna holes x 2
Rear I/O Panel	jack for Line out & MIC in x 1 HDMI x 1 RS-232/422/485 x 2 (Isolated by BOM option) HW Reset x 1, 3pin Power input x 1 8 bits DIO (Isolated 4DI & 4DO / 8DI/ 8DO by BOM option) Antenna holes x 2
Storage	
HDD Tray	2.5" HDD/SSD Bay x 2
CF/CFast/mSATA Slot	—
Environmental	
Operating Temperature	TBD
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Storage Humidity	10%~80% @40°C, non-condensing
Vibration/Shock	MIL-STD-810G
Certification	CE & FCC Class A
Power Requirement	
Power Supply	DC 12-24V
Mechanical	
Removable HDD Tray	—
Internal System HDD Bay	—
Dimension	TBD
Gross Weight	TBD
Note	—

Dimension

Unit: mm

TBD

Ordering Information

Part Number	Chipset	RAM	Cooler	Storage	RAID Support	Display	LAN	PoE	USB	RS-232	RS-232/422/485	Expansion Slot	Form Factor	Power
VPC-5620S-AI-A10-00	Intel® i7-8665UE	260-pin SODIMM	Fanless	Supporting 2.5" SSD x 2 (Optional SKU for supporting 2.5" SSD x 1, mSATA x 1)	Intel® Movidius™ KeemBay	DP x 1, HDMI x 1	GbE x 1	4 Ports	USB 3.2 Gen1 x 4	—	2	Mini-Card x 2	Desktop	DC 12-24V

Packing List

- VPC-5620AI

Optional Accessories

- **9741236A00**
WiFi module kit, 802.11ac/a/b/g/n.BT4.2.USB Signal.SparkLan.WPET-236ACN(BT).W/2 sets of cable&antenna
- **978966660G**
GPS Antenna
- **9741EG25G0**
PCIe mimi card 4G LTE module kit Global Band W/SIM holder w/ Cable & antenna
- **1702031803**
Power Cord.3P-250V 10A 180D.1.8M.VDE.FAN-JET.YP-22/YC-12 (Euro)
- **1702031802**
Power Cord.3P-125V 10A 180D.1.8M.USA.FANJET.YP12/YC-12 (USA)
- **170203180E**
Power Cord. 3P. 125V/7A. 1. 8M. PSE YP12/YC12 Certification (JPN)

IoT Gateway/Node Systems

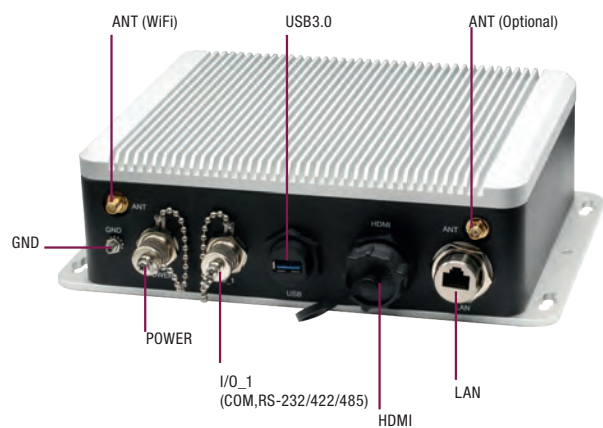
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Front View



Rear View



Features

- IP68 Compliance Gateway System
- Intel® Atom™ E3940 Processor/Celeron® N3350 Processor
- Onboard 4GB LPDDR4 Memory
- Onboard 32 GB eMMC
- Gigabit LAN x 1, HDMI x 1
- USB3.0 x 1, RS-232 x 2
- Wi-Fi/Bluetooth Function
- Optional LORA Function, 3G, 4G LTE

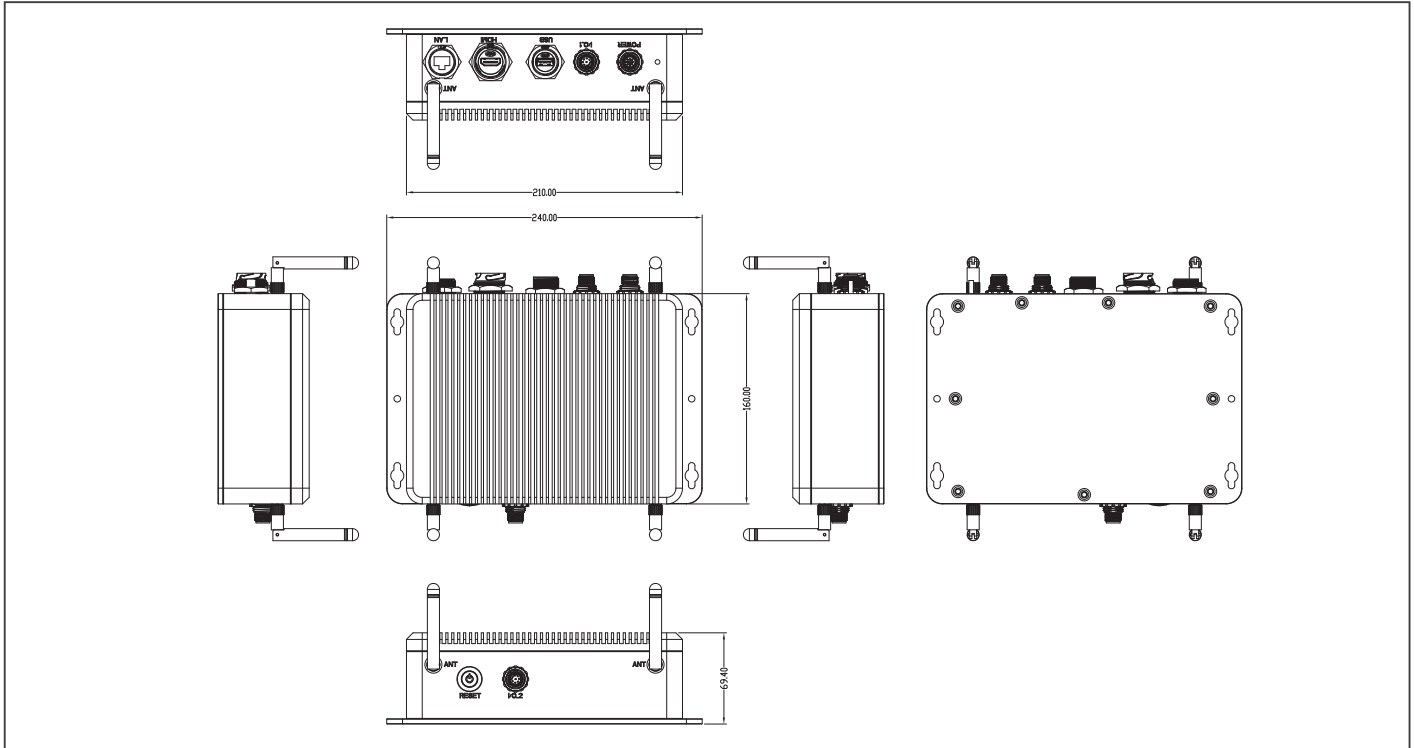


Specifications

System	
CPU	Intel® Atom™ E3940 Processor Intel® Celeron® N3350 Processor
Chipset	Intel® System on Chip
Memory	Onboard 4GB/ 2GB LPDDR4 memory
Storage	32GB eMMC onboard
Display	HDMI
Ethernet	Standard: Realtek® 8111G x 1 Wide temperature: Intel® i211 x 1
USB	USB 3.0 x 1
COM	RS-232/422/485 x 2
Digital I/O	—
Expansion Slot	Mini PCIe card x 1 SIM card x 1
Indicator	—
Wi-Fi	801.11ac
Bluetooth	BT4.0
Lora	868/915 MHz (Optional)
POE	IEEE802.3 AT Standard, Max 25W Power Supply
OS Support	Windows® 10 (full), Windows® IOT Core, Linux ubilinux, Ubuntu, Yocto
I/O Placements	
Front I/O	M12 Connector x 1 (RS-232) Reset button x 1 GND Screw x 1 Antenna connector x 1 Antenna x 1
Rear I/O	RJ45 Connector x 1 HDMI Connector x 1 USB 3.0 Connector x 1 M12 Connector x 1 (RS-232) Antenna connector x 1 Antenna x 1
Right Side I/O	—
Left Side I/O	—
Power	
Power Requirement	5V DC in
Mechanical	
IP	IP68
Dimension	9.43" x 6.28" x 2.73" (239.4 mm x 159.4 mm x 69.4 mm)
Mounting	Wallmount
Gross Weight	7.8 lb (3.5 kg)
Net Weight	5.6 lb (2.5 kg)
Environment	
Operating Temperature	-4°F ~ 158°F (-20°C ~ 70°C) (E3940) 32°F ~ 122°F (0°C ~ 50°C) (N3350)
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	5~95% @ 40°C, non-condensing
Anti-Vibration	3 Grms /5 ~50Hz/Operation
Certification	CE, FCC Class A

Dimension

Unit: mm



Ordering Information

Part Number	CPU	RAM	Storage	LAN	USB	COM	Digital I/O	Display	WiFi/BT	LoRa	Mounting	PoE	Power	Operation Temp.
AIOT-IP6801-A11-AP40432W	Intel® Atom™ E3940 Processor	4GB	32GB	1	3.0 x 1	RS-232 x 2	—	HDMI x 1	Wi-Fi 801.11ac+BT4.0	—	Wallmount	—	5V DC In	-4°F ~ 158°F(-20°C ~ 70°C)
AIOT-IP6801-A12-AP40432W	Intel® Atom™ E3940 Processor	4GB	32GB	1	3.0 x 1	RS-422 x 2	—	HDMI x 1	Wi-Fi 801.11ac+BT4.0	—	Wallmount	—	5V DC In	-4°F ~ 158°F(-20°C ~ 70°C)
AIOT-IP6801-A13-AP40432W	Intel® Atom™ E3940 Processor	4GB	32GB	1	3.0 x 1	RS-485 x 2	—	HDMI x 1	Wi-Fi 801.11ac+BT4.0	—	Wallmount	—	5V DC In	-4°F ~ 158°F(-20°C ~ 70°C)

Packing List

- Antenna x 2
- AIOT-IP6801

Optional Accessories

- **1255300362**
5V/6A Power Adapter
- **1702020910**
Power cord for EU
- **1702020911**
Power cord for US
- **1702020912**
Power cord for Japan
- **1702020913**
Power cord for China
- **170204100E**
Waterproof Power Cable, M12 to DC PLUG, 100cm
- **1700091002**
Waterproof COM Cable, D-SUB to M12, 100cm
- **1709081000**
Waterproof RJ45 Cable, 100cm
- **1709191000**
Waterproof HDMI Cable, Male to Male, 100cm

Front View



Rear View



Features

- Intel® Apollo Lake Pentium® N4200 Processor
- Onboard 8G memory, 64G eMMC storage
- Intel® Myriad™ X module
- LAN/USB/HDMI/DP
- Support 2nd storage HDD up to 1TB
- Optional Wi-Fi / Bluetooth

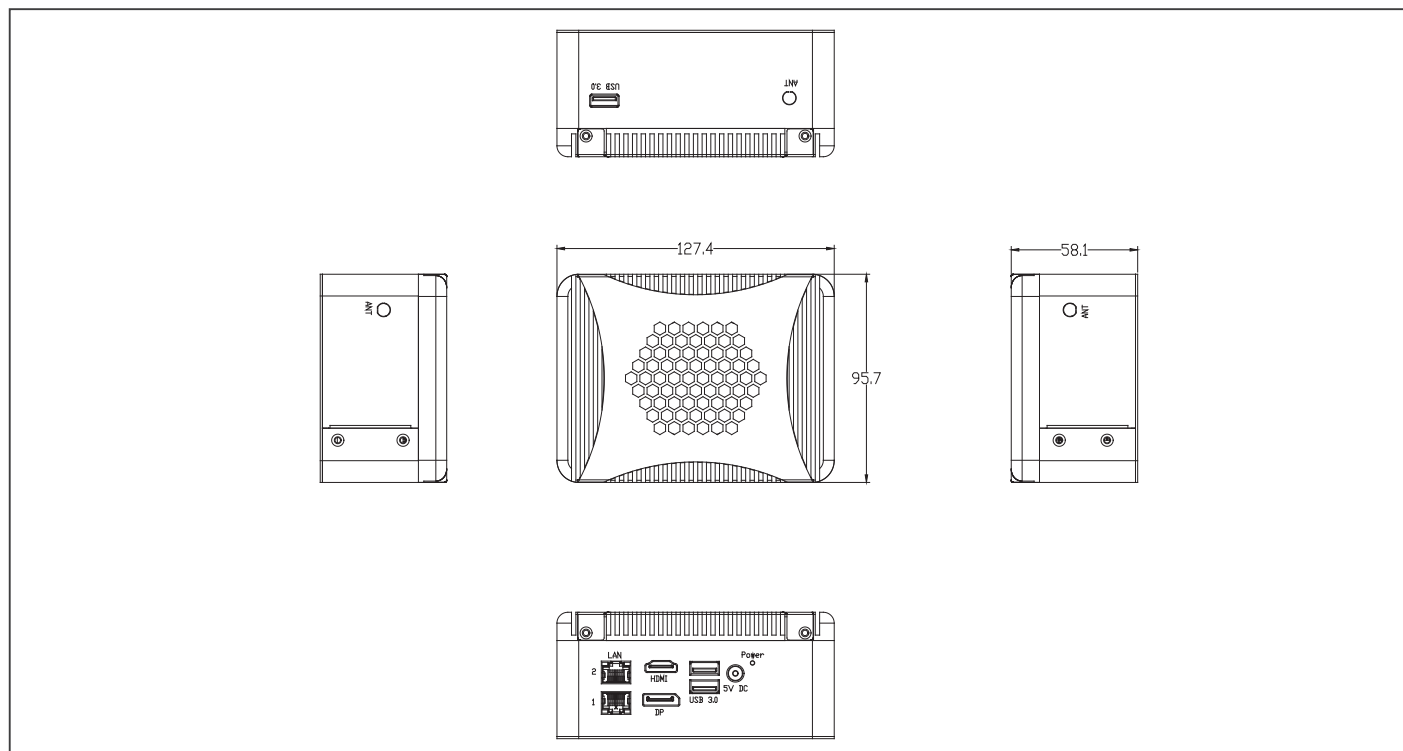


Specifications

System	
CPU	Intel® Pentium® N4200 Processor
Chipset	Intel® System on Chip
Memory	Onboard 8GB LPDDR4 memory
Storage	64GB eMMC on board 500GB HDD x 1 (Optional)
Display	HDMI x 1 DP x 1
Ethernet	Realtek® 8111G x 2
USB	USB 3.0 x 3
COM	—
Digital I/O	—
Expansion Slot	AI core X mini card module x 1 M.2 2230 E-Key x 1
Indicator	—
Wi-Fi	801.11ac (Optional)
Bluetooth	BT4.0 (Optional)
Lora	—
POE	—
OS Support	Windows® 10, Linux Ubuntu, OpenVino
I/O Placements	
Front I/O	RJ45 Connector x 2 Power button x 1 HDMI x 1 DP x 1 USB3.0 x 2 Power input x 1 Power button x 1
Rear I/O	USB 3.0 x 1 Antenna connector x 1 (Optional)
Right side I/O	Antenna connector x 1 (Optional)
Left side I/O	Antenna connector x 1 (Optional)
Power	
Power Requirement	5V DC in
Mechanical	
IP	—
Dimension	4.96" x 3.74" x 2.28" (126 mm x 95 mm x 58 mm)
Mounting	VESA Mount
Gross Weight	2.4lb (1.1 kg)
Net Weight	1.5lb (0.7 kg)
Environment	
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	5~95% @ 40°C, non-condensing
Anti-Vibration	3 Grms/ 5 ~ 500Hz/ operation – eMMC 1 Grms/ 5~ 500Hz/ operation – HDD
Certification	CE, FCC Class A

Dimension

Unit: mm



Ordering Information

Part Number	CPU	RAM	Storage	LAN	USB	Display	WiFi/BT	LoRa	Mounting	PoE	Power	Operation Temp.
AIOT-AIVD01-A10-AP40864	Intel® Pentium® N4200 Processor	8GB	64GB	—	USB3.0 x 3	HDMI x 1 DP x 1	—	—	—	—	5V DC In	32°F ~ 140°F (0°C ~ 60°C)

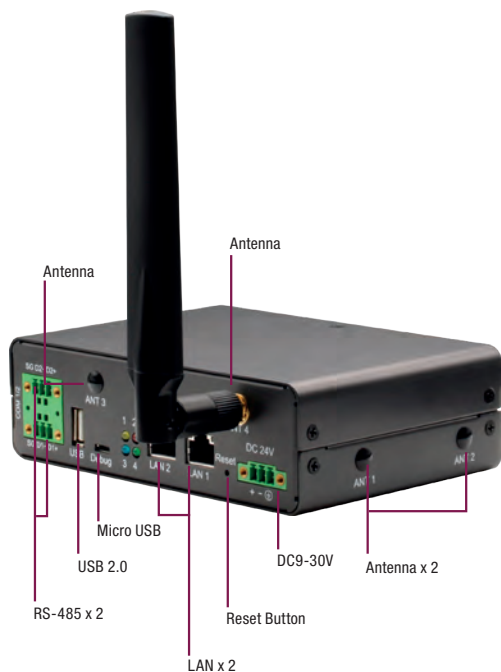
Packing List

- AIOT-AIVD

Optional Accessories

- **1255300362**
5V/6A Power Adapter
- **1702020910**
Power cord for EU
- **1702020911**
Power cord for US
- **1702020912**
Power cord for Japan
- **1702020913**
Power cord for China

Front View



Rear View



Features

- ARM Cortex-A8 800 MHz RISC Processor
- Onboard DDR3L 1 GB
- eMMC 8G
- Built-in Micro SD Card Slot x 1
- 3G/4G LTE mini PCIe connector x 1
- NB-IoT connector x 1
- SIM card socket x 1
- Gigabit Ethernet RJ-45 x 2 LAN port
- USB2.0 x 2
- RS-485 x 2
- 4 LED lights controlled through GPIO
- Real time clock x 1
- DC9-30V
- Option for wall mounting or DIN rail mounting
- Antenna x 2 (optional)
- VGA x 1 (optional)

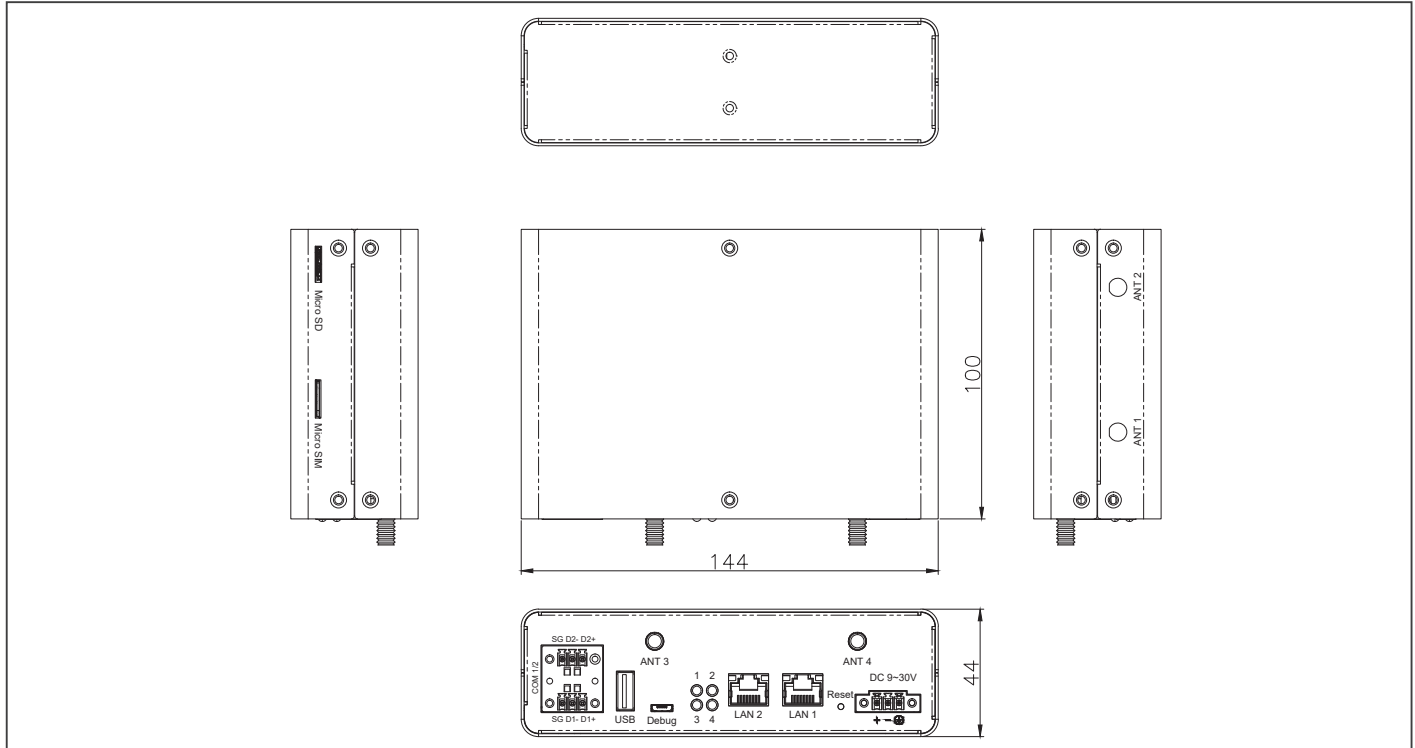


Specifications

System	
Processor	ARM Cortex-A8 800 MHz RISC Processor
System Memory	Onboard DDR3L 1GB
RTC	Serial real time clock x 1
Expansion Interface	3G/4G LTE mini PCIe connector; NB-IoT connector; SIM card socket x 1
Battery	3V CR2032 Lithium battery for RTC
Power Requirement	DC9-30V
Power Consumption	2.28 W
Dimension	5.67" x 3.94" x 1.73"(144 x 100 x 44mm)
Gross Weight	512 g
Operation Temperature	32 °F ~ 140 °F (0 °C ~ 60 °C)
Storage Temperature	-40 °F ~ 176 °F (-40 °C ~ 80 °C)
Operation Humidity	10% ~ 95% relative humidity, non-condensing
MTBF (Hours)	855,890
Wireless	—
I/O	
Storage	eMMC 8G; Micro SD slot
Serial Port	RS-485 x 2
LAN	Gigabit Ethernet, RJ-45 x 2
USB	USB 2.0 x 2
GPIO	4 LED control
Other Interface	—

Dimension

Unit: mm



Ordering Information

Part Number	CPU	Memory	Thermal	COM	Storage	LAN	USB	Expansion slot	Power	Operation Temp.	Others
SRG-3352-A10-A001	ARM Cortex-A8 800MHz	Onboard DDR3L 1G	Fanless	RS-485 (D-sub)	eMMC 8GB, MicroSD x1	GbE x 2	USB 2.0 x 1 Micro USB x 1	Mini PCIe slot x 1, SIM card socket x 1	DC9-30V	0°C ~ 60°C @ 0.5 m/s airflow	VGA x 1 (optional), 3G/4G LTE module (optional)
SRG-3352-A10-A002	ARM Cortex-A8 800MHz	Onboard DDR3L 1G	Fanless	RS-485 (phoenix)	eMMC 8GB, MicroSD x1	GbE x 2	USB 2.0 x 1 Micro USB x 1	Mini PCIe slot x 1, SIM card socket x 1	DC9-30V	0°C ~ 60°C @ 0.5 m/s airflow	VGA x 1 (optional), 3G/4G LTE module (optional)

Packing List

- SRG-3352

Installation Scenario



DIN-Rail Mount Illustration



Wall Mount Illustration

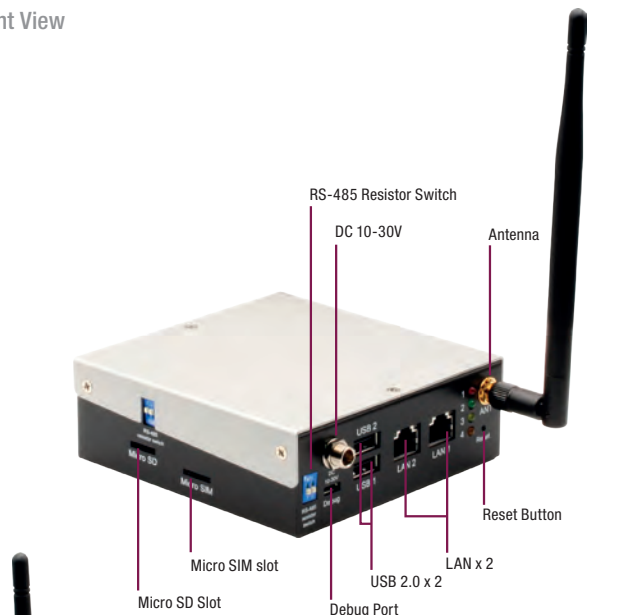
Optional Accessories

- **1255300368**
Power Adapter. AC/DC. 100-240VAC. 12VDC/3A. 36W. AOEM. ADS036T-W120300. (phoenix connector)
- **9741EC25E0**
PCIe mini card.4G LTE module kit with cable & Antenna, EC25-E
- **9741EG25G0**
PCIe mimi card. 4G LTE. module kit. Global Band W/SIM holder. W/Cable & antenna. Quectel. EG25-G
- **9741236A00**
Mini card WiFi Kit.802.11ac/a/b/g/n,BT4.2.USB Signal.W/cable&antenna
- **9751335201**
Din rail kit. 44 x 48.3mm
- **9751335202**
Wall mount kit. 100 x 35mm

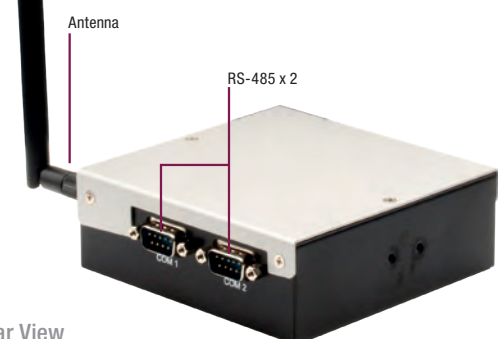
SRG-3352C

Standard IoT Gateway System With Onboard ARM Cortex-A8 800 MHz RISC Processor

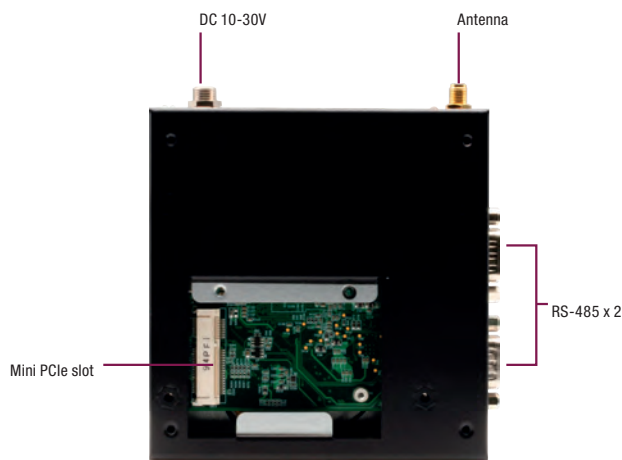
Front View



Rear View



Bottom View



Features

- ARM Cortex-A8 800 MHz RISC Processor
- Onboard DDR3L 1 GB
- eMMC 8G
- Built-in Micro SD Card Slot x 1
- 3G/4G LTE mini PCIe connector x 1
- NB-IoT connector x 1
- SIM card socket x 1
- Gigabit Ethernet RJ-45 x 2 LAN port
- USB2.0 x 2
- RS-485 x 2
- Micro USB x 1
- On board WiFi/Bluetooth Module x 1
- 4 LED lights controlled through GPIO
- Real time clock x 1
- DC10-30V
- Board to Board connector
- RS-485 termination resistor switch

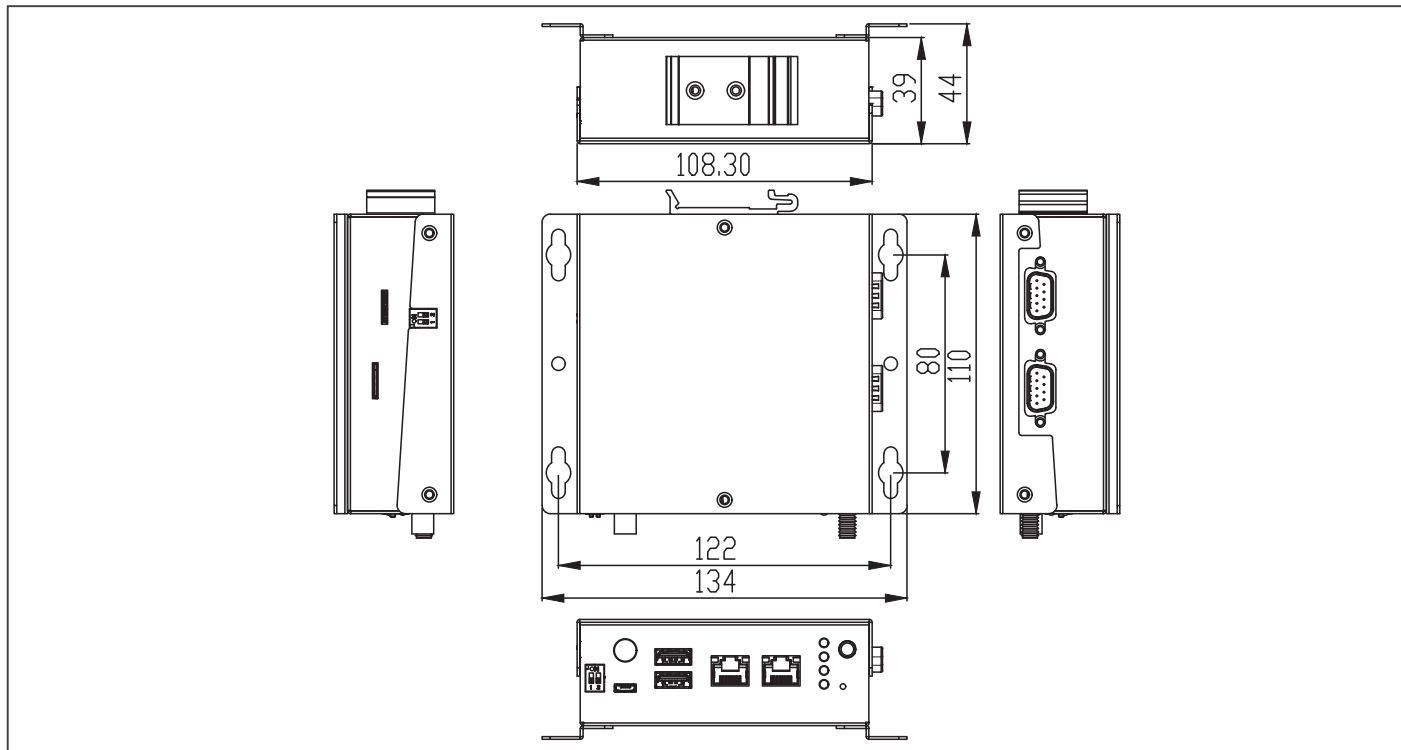


Specifications

System	
Processor	ARM Cortex-A8 800 MHz RISC Processor
System Memory	Onboard DDR3L 1GB
RTC	Serial real time clock x 1
Expansion Interface	3G/4G LTE mini PCIe connector; NB-IoT connector; SIM card socket x 1
Battery	3V CR2032 Lithium battery for RTC
Power Requirement	DC10-30V
Power Consumption	1.8 W
Dimension	4.3" x 4.33" x 1.54" (109 x 110 x 39 mm)
Gross Weight	430 g
Operation Temperature	32 °F ~ 140 °F (0 °C ~ 60 °C)
Storage Temperature	-40 °F ~ 176 °F (-40 °C ~ 80 °C)
Operation Humidity	10% ~ 95% relative humidity, non-condensing
MTBF (Hours)	855,590
Wireless	On board WiFi/Bluetooth Module x 1
I/O	
Storage	eMMC 8G; Micro SD slot
Serial Port	RS-485 x 2
LAN	Gigabit Ethernet, RJ-45 x 2
USB	USB 2.0 x 2
GPIO	4 LED control
Other Interface	—

Dimension

Unit: mm



Ordering Information

Part Number	CPU	Memory	Thermal	COM	Storage	LAN	USB	Expansion slot	Power	Operation Temp.	Others
SRG-3352C-A10-A001	ARM Cortex-A8 800MHz	Onboard DDR3L 1G	Fanless	RS-485 x 2	eMMC 8GB, MicroSD x1	GbE x 2	USB 2.0 x 2 Micro USB x 1	Mini PCIe slot x 1, SIM card socket x 1	DC 10-30V	0°C ~ 60°C @ 0.5 m/s airflow	3G/4G LTE module (optional)

Packing List

- SRG-3352C

Installation Scenario



DIN-Rail Mount Illustration



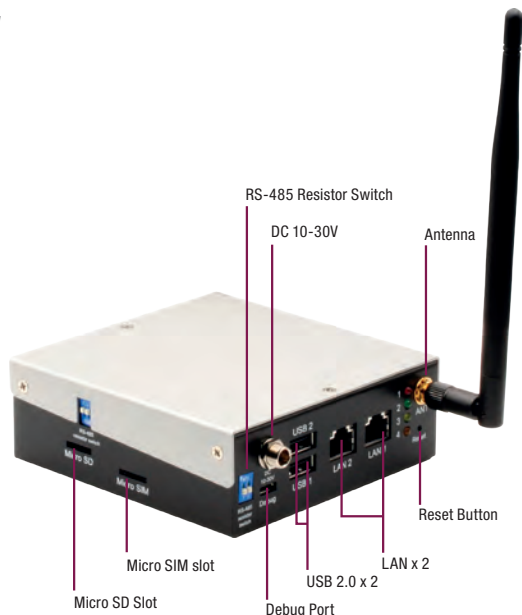
Wall Mount Illustration

Optional Accessories

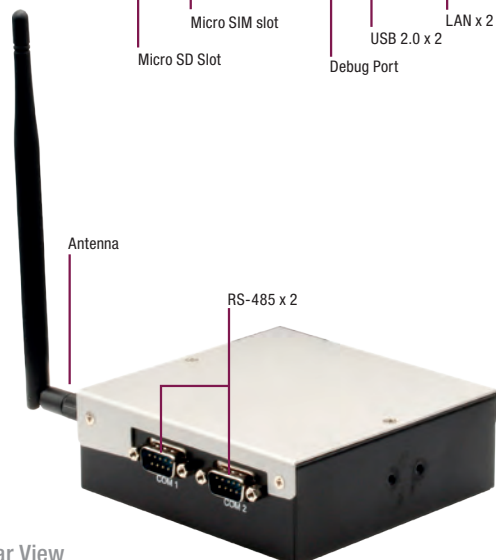
- **1255300366**
Power Adapter. AC/DC. 100-240VAC. 12VDC/3A.36W.
- **9741EC25E0**
PCIe mini card.4G LTE module kit with cable & Antenna, EC25-E
- **9741EG25G0**
PCIe mimi card. 4G LTE. module kit. Global Band W/SIM holder. W/Cable & antenna. Quectel. EG25-G
- **M10SRG3000**
Din rail kit. 49 x 25mm
- **M16SRG3040**
Wall mount kit. 110 x 26mm

Standard IoT Gateway with Onboard ARM i.MX 8M Mini Quad Cortex-A53 1500 MHz RISC Processor

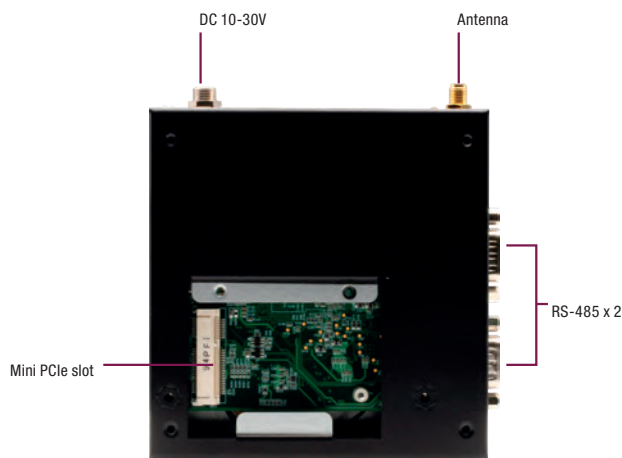
Front View



Rear View



Bottom View



Features

- i.MX 8M Mini Quad Cortex-A53 1500 MHz RISC Processor
- Onboard LPDDR4 2GB / 1GB
- Onboard eMMC 16GB / 8GB
- Built-in Micro SD Card Slot x 1
- 3G/4G LTE mini PCIe Slot x 1
- SIM card socket x 1
- Gigabit Ethernet RJ-45 x 2 LAN port
- USB2.0 x 2
- RS-485 x 2
- 4 LED lights controlled through GPIO
- Real time clock x 1
- DC10-30V
- Option for wall mounting or DIN rail mounting
- Antenna x 2 (optional)

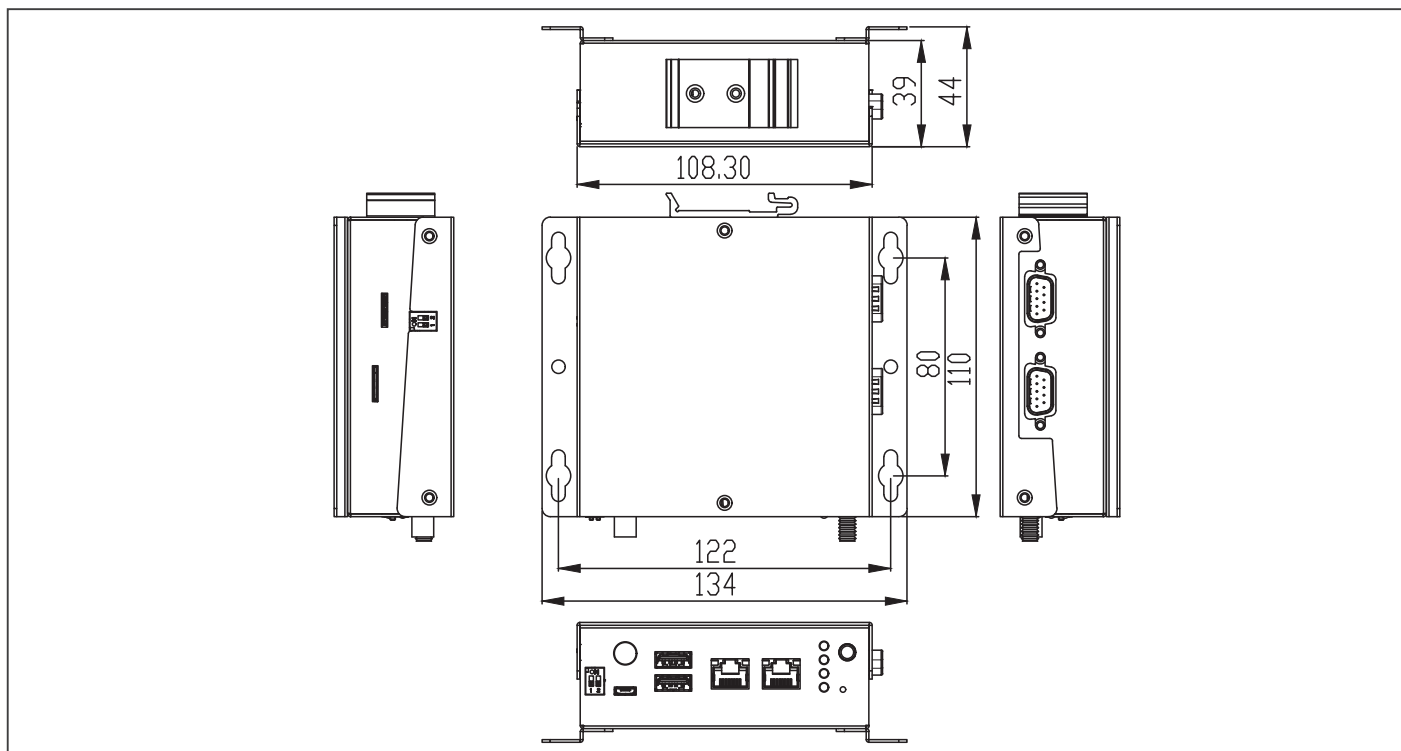


Specifications

System	
Processor	i.MX 8M Mini Quad Cortex-A53 1500 MHz RISC Processor
System Memory	Onboard LPDDR4 2GB/1GB
RTC	Real time clock x 1
Expansion Interface	3G/4G LTE mini PCIe connector; SIM card socket x 1
Battery	3V CR2032 Lithium battery for RTC
Power Requirement	DC10-30V
Power Consumption	1.8 W
Dimension	4.3" x 4.33" x 1.54"(109 x 110 x 39 mm)
Gross Weight	430 g
Operation Temperature	32 °F ~ 140 °F (0 °C ~ 60 °C)
Storage Temperature	-40 °F ~ 176 °F (-40 °C ~ 80 °C)
Operation Humidity	10% ~ 95% relative humidity, non-condensing
MTBF (Hours)	855,590
Wireless	On board WiFi/Bluetooth Module x 1(Optional)
I/O	
Storage	eMMC 16G / 8G; Micro SD slot
Serial Port	RS-485 x 2
LAN	Gigabit Ethernet, RJ-45 x 2
USB	USB 2.0 x 2
GPIO	4 LED control
Other Interface	—

Dimension

Unit: mm



Ordering Information

Part Number	CPU	Memory	Thermal	COM	Storage	LAN	USB	Expansion slot	Power	Operation Temp.	Others
SRG-IMX8-A10-A001	ARM Cortex-A53 1500MHz	Onboard LPDDR4 2G	Fanless	RS-485 x 2	eMMC 16GB, MicroSD x1	GbE x 2	USB 2.0 x 2 Micro USB x 1	Mini PCIe slot x 1, SIM card socket x 1	DC 10-30V	0°C ~ 60°C @ 0.5 m/s airflow	3G/4G LTE module (optional)

Packing List

- SRG-IMX8

Installation Scenario



DIN-Rail Mount Illustration



Wall Mount Illustration

Optional Accessories

- **1255300366**
Power Adapter. AC/DC. 100-240VAC. 12VDC/3A.36W.
- **9741EC25E0**
PCIe mini card.4G LTE module kit with cable & Antenna, EC25-E
- **9741EG25G0**
PCIe mimi card. 4G LTE. module kit. Global Band W/SIM holder. W/Cable & antenna. Quectel. EG25-G
- **M10SRG3000**
Din rail kit. 49 x 25mm
- **M16SRG3040**
Wall mount kit. 110 x 26mm

Vision System BOX PC & Frame Grabber Card

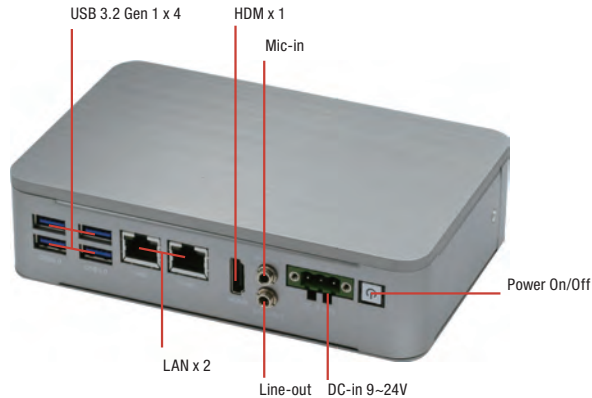
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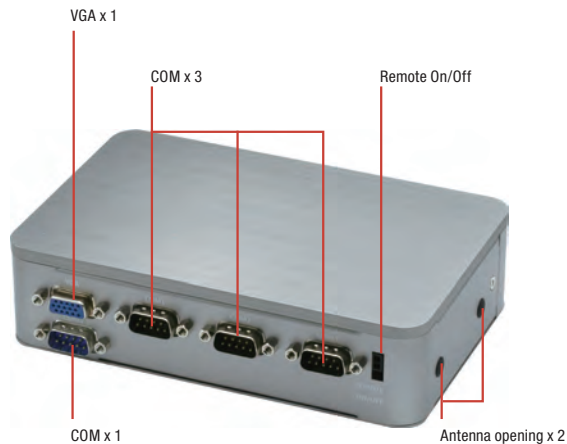
BOXER-6405M

Fanless Compact Embedded Computer with Intel® Celeron®/Pentium® Processor

Front View

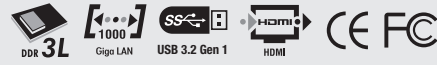


Rear View



Features

- Slim Boxer Design: 42mm
- Rich I/O, Design for Auto System Control
- Wide Operating Temperature -30°C ~ 60°C
- Gigabit Ethernet x 2, USB x 4
- Support Wallmount

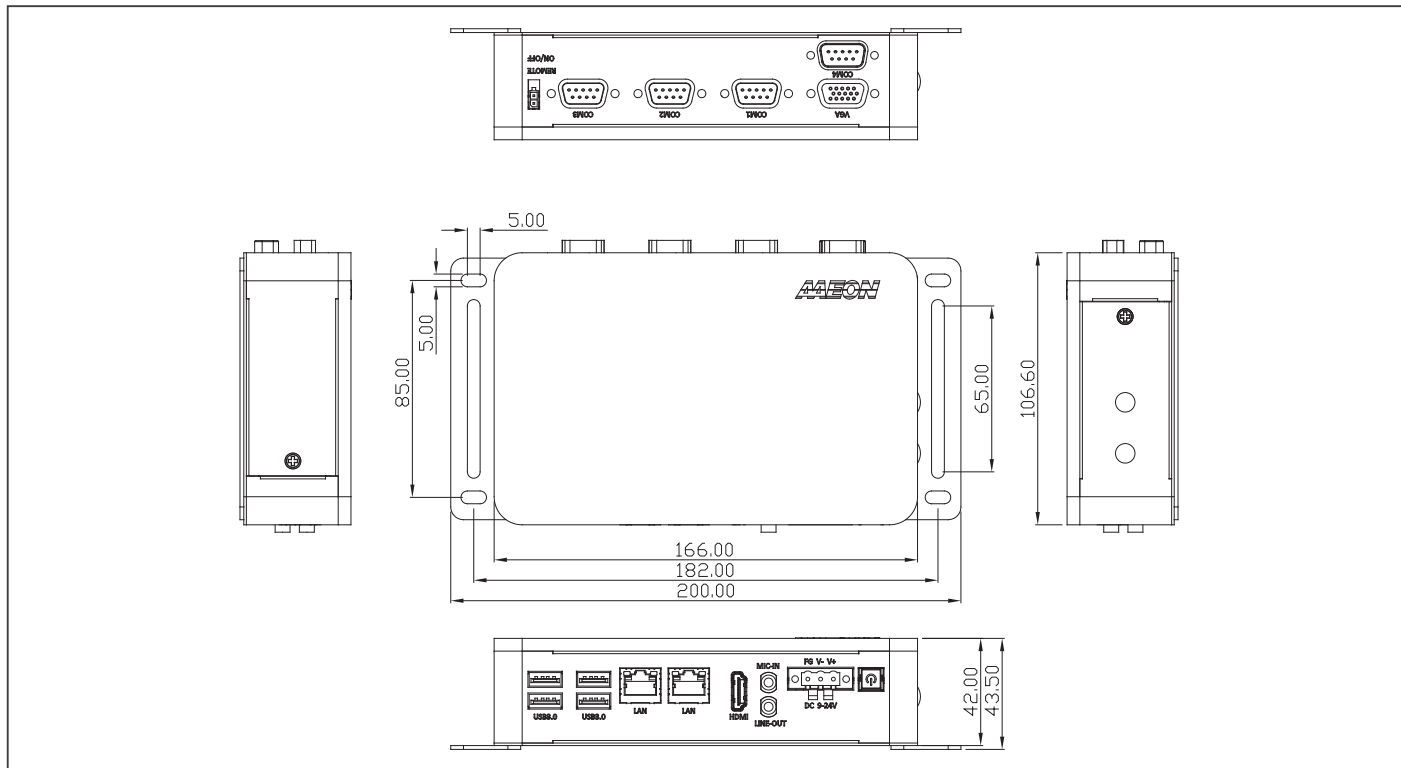


Specifications

System	
CPU	Intel® Celeron®/Pentium® processor
Chipset	Intel® System on Chip
System Memory	DDR3L SODIMM slot x 1 Supports 1867MHz and up to 8GB
Display Interface	HDMI type A x 1 for HDMI v1.4b VGA x 1
Storage Device	HDD/SSD, (mSATA BOM option)
Ethernet	Intel® i211-AT x 2
I/O	Power Button x 1 USB Type A x 4 for USB 3.2 Gen 1 HDMI type A x 1 for HDMI v1.4b RJ-45 x 2 for GbE LAN with LED indicator (i211-AT x 2) Power input x 1 3-pin terminal block in default (+, -, GND) Co-layout 3-pin terminal block & lockable DC-in jack, Co-layout internal DC Mic-in x 1, Line-out x 1 RS-232/422/485 x 4 with automatic flow control (switch by BIOS) VGA x 1 Remote On/Off Antenna opening x 2
Expansion	Full-size Mini PCIe slot x 1 (PCIe/USB/SIM slot), one screw Half-size Minicard slot x 1 (optional for mSATA,PCIe/mSATA)
Indicator	Power LED x 1, HDD active LED x 1
OS Support	Windows® 10, Windows® 10 IoT, Linux
Power Supply	
Power Requirement	3-pin Phoenix DC Input 9~24V without power protection
Mechanical	
Mounting	Wallmount
Dimensions (W x H x D)	6.54" x 4.2" x 1.65" (166mm x 106.6mm x 42mm)
Gross Weight	3.6 lb (1.6kg)
Net Weight	1.7 lb (0.8 kg)
Environmental	
Operating Temperature	-22°F ~ 140°F (-30°C ~ 60°C) with W.T. mSATA (according to IEC68-2-14 with 0.5 m/s AirFlow; with industrial decives)
Storage Temperature	-22°F ~ 140°F (-30°C ~ 60°C)
Storage Humidity	95% @ 40°C, non-condensing
Anti-Vibration	3 Grms/ 5 ~ 500Hz/ operation – mSATA 1 Grms /5 ~ 500Hz/ operation - HDD
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	CPU	RAM	LAN	USB 3.2 Gen 1	USB 2.0	RS-232	RS-232/422/485	Digital I/O	Audio	Storage	Display	Expansion	Mounting	Power	Operation temp.
BOXER-6405M-A1-1010	Intel® N3350	—	2	4	—	—	4	—	MIC-in, Line-out	SSD/HDD x 1	VGA/HDMI x 1	Full-size Minicard x 1 Half-size Minicard x 1	Wallmount	9-24V	-30°C ~ 60°C
BOXER-6405M-A2-1010	Intel® N4200	—	2	4	—	—	4	—	MIC-in, Line-out	SSD/HDD x 1	VGA/HDMI x 1	Full-size Minicard x 1 Half-size Minicard x 1	Wallmount	9-24V	-30°C ~ 60°C

Packing List

- Wallmount Bracket x 2
- 3 Pin DC-In Power Connector x 1
- BOXER-6405M

Optional Accessories

- **125530040F**
Power Adapter
- **1702031802**
Power Cord (US type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **9741238H00**
WiFi Module & Antenna
- **9741EC20E0**
4G Module & Antenna (for Europe)
- **9741640404**
Din Rail Mount Kit

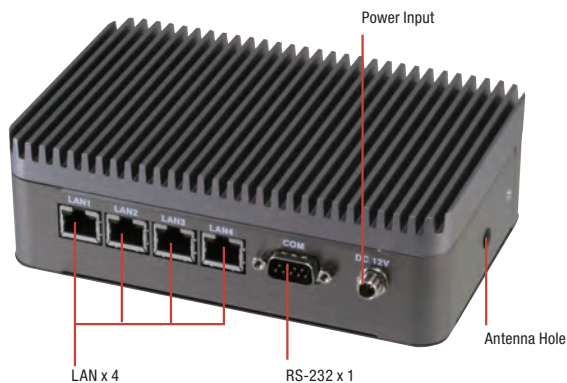
BOXER-6404M

Wide Temperature Compact Embedded Box PC with LAN x 4, HDMI x 2, Intel® Celeron® J1900/N2807 Processor SoC

Front View



Rear View



Features

- Quad GbE LAN Port for Industrial Network Appliance
- 2.5" HDD/SDD Bay x 1
- Dual HDMI Port
- USB 3.2 Gen 1 Port Connectivity
- Easy Access Storage Bay
- Operating in -22°F ~ 167°F (-30°C ~ 75°C) Environment

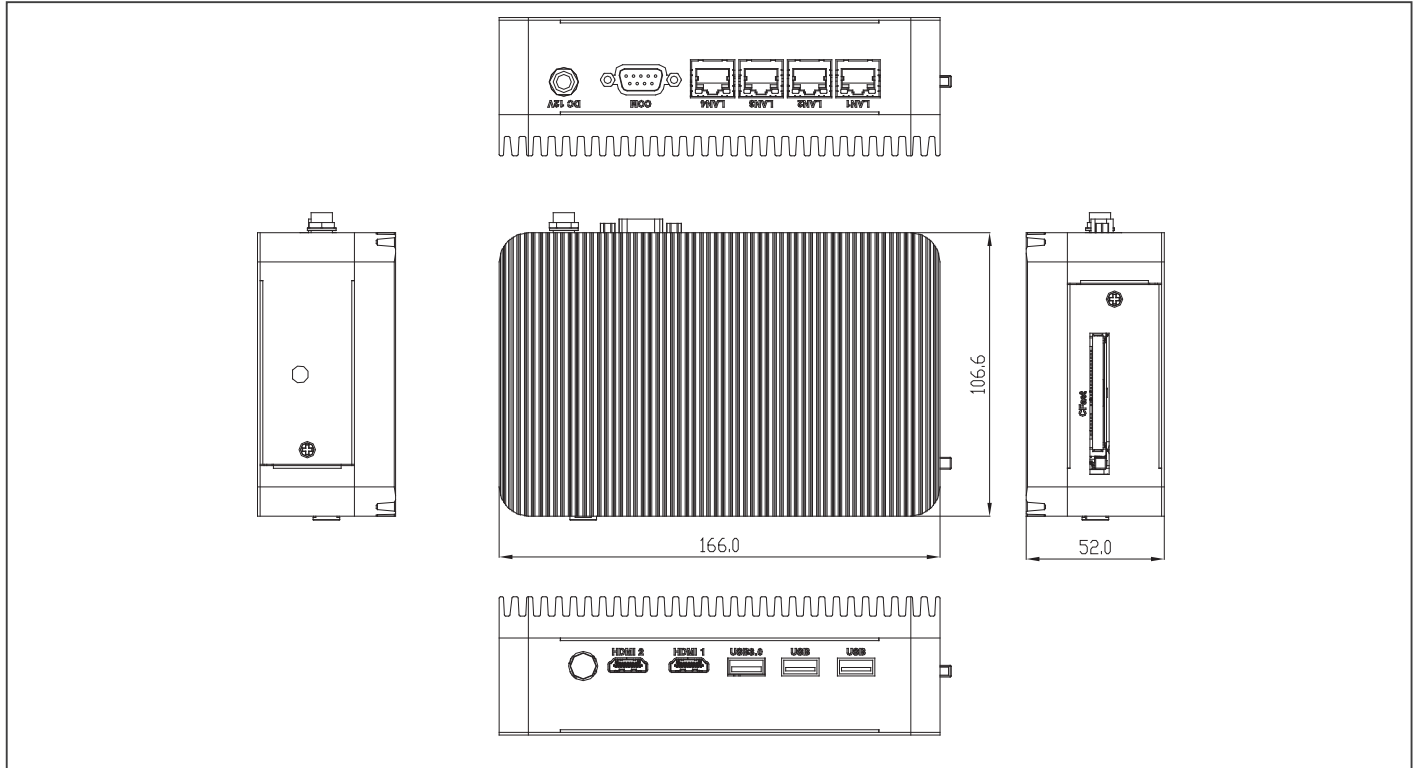


Specifications

System	
CPU	Intel® Celeron® J1900, 2.0 GHz Intel® Celeron® N2807, 1.58 GHz
Chipset	Intel® System on Chip
System Memory	DDR3L 1333 SODIMM slot x 1, up to 8 GB (J1900) or 4 GB (N2807)
Display Interface	HDMI
Storage Device	CFAST™, HDD/SSD
Ethernet	Intel® I211, 10/100/1000Base-TX x 4
I/O	RS-232 x 1 USB 2.0 x 2 USB 3.2 Gen 1 x 1 HDMI x 2 LAN x 4 CFAST slot x 1 Antenna hole x 1 Power button Power input
Expansion	Full-size Mini-Card (USB interface only) x 1
Indicator	Power LED on power button
OS support	Windows® 10, Windows® 8.1, Windows® 7, Windows® Embedded 8, Windows® Embedded 7, Linux Fedora
Power Supply	
Power Requirement	12V - 24V with lockable DC jack
Mechanical	
Mounting	VESA (Mounting kit is optional) DIN rail (Mounting kit is optional)
Dimensions (W x H x D)	6.53" x 4.20" x 2.05" (166mm x 106.6mm x 52mm)
Gross Weight	3.81 lb (1.73 kg)
Net Weight	2.8 lb (1.27 kg)
Environmental	
Operating Temperature	-22°F ~ 167°F (-30°C ~ 75°C) with wide temperature CFAST™ card (according to IEC68-2-14 with 0.5 m/s AirFlow; with industrial devices)
Storage Temperature	-22°F ~ 176°F (-30°C ~ 80°C)
Storage Humidity	95% @ 40°C, non-condensing
Anti-Vibration	5 Grms/ 5 ~ 500Hz/ operation -CFAST™ card or SSD 1 Grms/ 5 ~ 500Hz/ operation -HDD
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	CPU	RAM	LAN	USB 3.2 Gen 1	USB 2.0	RS-232	Storage	Display	Expansion	Mounting	Power	Operating Temp.
BOXER-6404M-A1-1110	Intel® J1900	—	4	1	2	1	CFAST™ bay x 1 2.5" HDD/SSD bay x 1	HDMI x 2	Full size Mini-card slot x 1 (USB signal)	Din Rail/VESA 75	12V - 24V DC in	-30°C ~ 75°C (-22°F ~ 167°F) with 0.5m/s airflow
BOXER-6404M-A2-1110	Intel® N2807	—	2	1	2	1	CFAST™ bay x 1 2.5" HDD/SSD bay x 1	HDMI x 1	Full size Mini-card slot x 1 (USB signal)	Din Rail/VESA 75	12V - 24V DC in	-30°C ~ 75°C (-22°F ~ 167°F) with 0.5m/s airflow

Packing List

- **125530040C**
Power Adapter
- **BOXER-6404M**

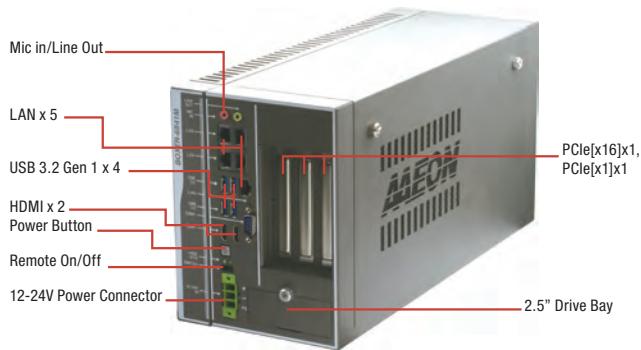
Optional Accessories

- **1702031802**
Power Cord (US type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **9741236A00**
WiFi Module & Antenna
- **9741EC20E1**
4G Module & Antenna (For Europe)
- **9741640400**
VESA Mount Kit
- **9641640401**
DIN Rail Mount Kit
- **9741640402**
CFAST™ Cover Kit

BOXER-6841M-A1

Vision System Embedded Box PC with 6th / 7th Generation Intel® Core™ Desktop Processor and PCIe(x16) + PCIe (x1)

Front View



Rear View



Features

- Support 6th / 7th Core-i desktop processor, Max 65W
- Intel® H110 PCH
- Easy Installation design for expand slot
- Support PCIe[x16] x1, PCIe[x1] x1
- Support up to max 180W Graphic Card
- System Fan with PWM function

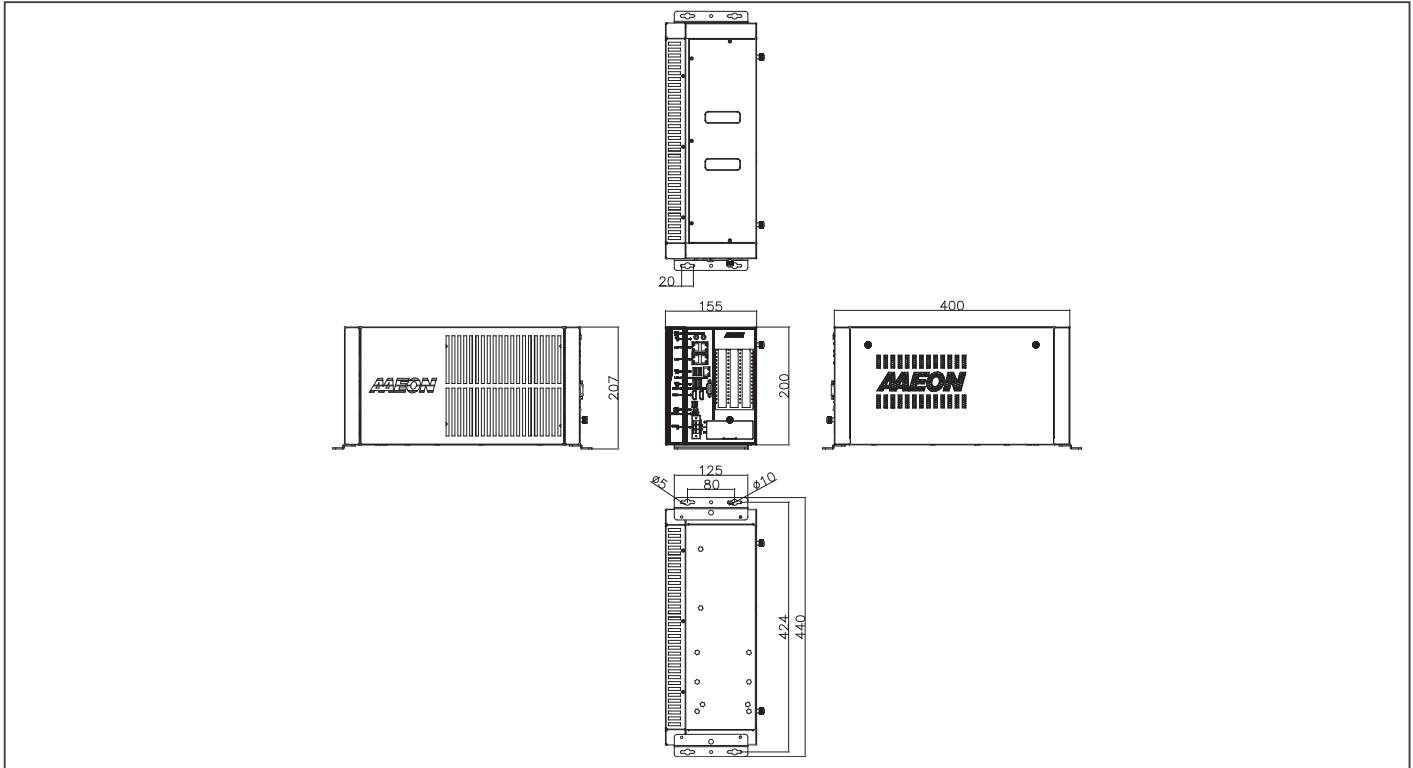


Specifications

System	
CPU	6th / 7th Generation Intel® Core™-i desktop Processor -Intel® Core™ i7-6700TE, 2.4 GHz -Intel® Core™ i5-6500TE, 2.3 GHz -Intel® Core™ i3-6100TE, 2.7 GHz -Intel® Core™ i7-7700, 3.6 GHz -Intel® Core™ i7-7700T, 2.9 GHz -Intel® Core™ i3-7101TE, 3.4 GHz
Chipset	Intel® H110 PCH
System Memory	DDR4 ECC or Non-ECC SODIMM, up to 32GB
Display Interface	HDMI type A x 2 for HDMI v1.4b
Storage Device	2.5" Drive Bay x 2
Ethernet	RJ-45 x 5 for GbE (Intel i211AT x 4, i219LM x 1)
I/O	2 pin Remote Power on/off connector Power ON/OFF Switch x 1 HDMI 1.4b x 2 Audio x 2 (MIC-in, Line-out) USB 3.2 Gen 1 x 4 DB-9 x 1 for RS-232/422/485 3 pin DC Power input x 1 (+, -, GND)
Expansion	Full-size Mini card x 2 (USB, w/ 1 SIM slot) PCIe [x1] x 1 PCIe [x16] x 1 - Power Consumption of GPU card max. 180W - Max. size of GPU card 312 x 113 x 40 mm (Option) Max. size of GPU card 312 x 113 x 60 mm (Riser Card: 9697T50300)
Indicator	Power LED x 1, HDD active LED x 1
OS Support	Skylake S Windows® 10, Windows® 10 IoT, Windows® 8.1, Windows® Embedded Standard 8, Windows® 7, Windows® Embedded Standard 7, Ubuntu 16.04.2 Kabylake Windows® 10, Windows® 10 IoT, Ubuntu 16.04.2
Power Supply	
Power Requirement	DC-In 12~24V - CPU < 65W, No Graphic Card: 120W Adapter - CPU ≤ 65W, 180W Graphic Card: 330W Adapter
Mechanical	
Mounting	Wallmount
Dimensions (W x H x D)	6.10" x 7.87" x 15.75" (155mm x 200mm x 400mm)
Gross Weight	18.29 lb (8.3 Kg)
Net Weight	14.53 lb (7 Kg)
Environmental	
Operating Temperature	-4°F ~ 131°F (-20°C ~ 55°C) according to IEC60068-2 with 0.5m/s airflow (TDP 35W Processor)
Storage Temperature	-4°F ~ 176°F (-40°C ~ 80°C)
Storage Humidity	5 ~ 95% @ 40°C, non-condensing
Anti-Vibration	Random, 1 Grms, 5~500Hz, Anti-vibration design
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	CPU	PCH	LAN	USB 3.2 Gen 1	RS-232/422/485	RS-232	Digital I/O	Audio	Storage	Display	Expansion	Mounting	Power	Operation temp.
BOXER-6841M-A1-1010	—	H110	5	4	1	—	—	MIC-in, Line-out	2.5" Drive Bay x2	HDMI x2	Full-size Minicard x2, PCIe[x16] x1, PCIe[x1]x1	Wallmount	DC12~24V - CPU < 65W, No Graphic Card: 120W Adapter - CPU ≤ 65W, 180W Graphic Card: 330W Adapter	-20°C ~ 55°C with 0.5m/s airflow (TDP 35W Processor) -20°C ~ 45°C with 0.5m/s airflow (TDP 65W Processor)

Packing List

- Wallmount Bracket x 2
- 3 Pin DC-in Power Connector x 1
- Screw Package x 1
- Thermal Pad Package x 1
- BOXER-6841M-A1

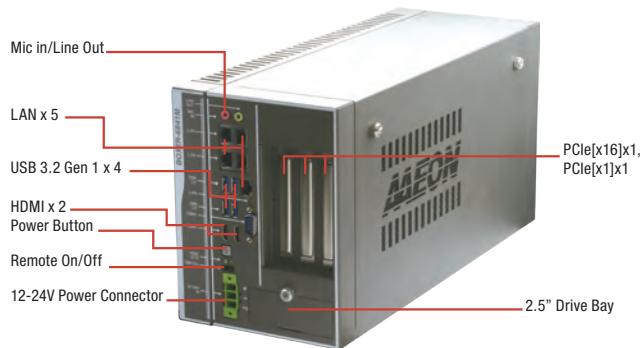
Optional Accessories

- **1255901209**
120W Power Adapter
- **1255903300**
330W Power Adapter
- **1702031802**
Power Cord (US type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **9741238H00**
WiFi Module & Antenna
- **9741EC20E0**
4G Module & Antenna (for Europe)
- **9741EC25A0**
4G Module & Antenna (for USA-AT&T)
- **9741EC25V0**
4G Module & Antenna (for USA-Verizon)
- **9697T50300**
Riser Card with PCIe [x16] x 1, max. size of GPU card 312 /190mm x 113mm x 60mm

BOXER-6841M-A2

Vision System Embedded Box PC with 6th / 7th Generation Intel® Core™ Desktop Processor and PCIe(x16) + PCIe (x1)

Front View



Rear View



Features

- Support 6th / 7th Core-i desktop processor, Max 65W
- Intel® H110 PCH
- Easy Installation design for expand slot
- Support PCIe[x16] x1, PCIe[x1] x1
- Support up to max 250W Graphic Card
- System Fan with PWM function

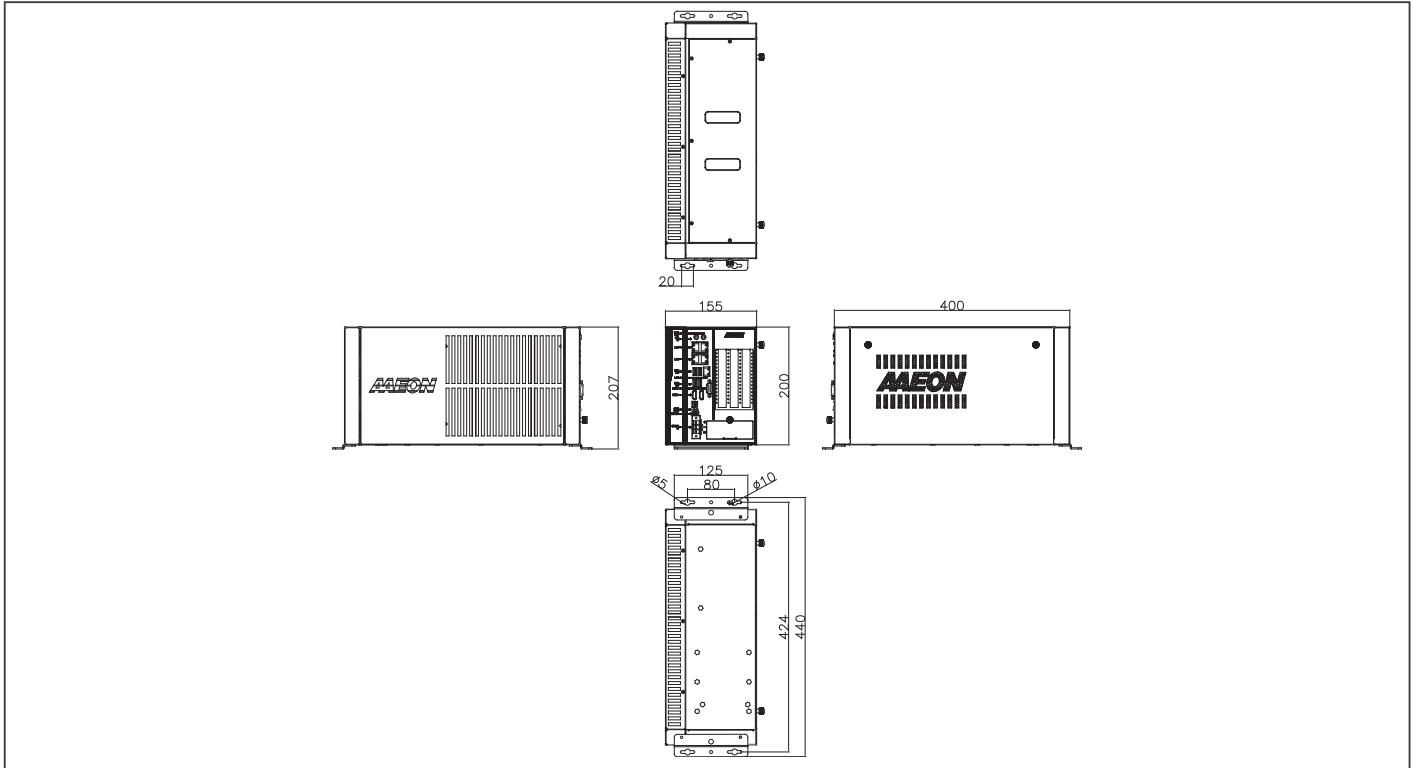


Specifications

System	
CPU	6th / 7th Generation Intel® Core™-i desktop Processor -Intel® Core™ i7-6700TE, 2.4 GHz -Intel® Core™ i5-6500TE, 2.3 GHz -Intel® Core™ i3-6100TE, 2.7 GHz -Intel® Core™ i7-7700, 3.6 GHz -Intel® Core™ i7-7700T, 2.9 GHz -Intel® Core™ i3-7101TE, 3.4 GHz
Chipset	Intel® H110 PCH
System Memory	DDR4 ECC or Non-ECC SODIMM, up to 32GB
Display Interface	HDMI type A x 2 for HDMI v1.4b
Storage Device	2.5" Drive Bay x 2
Ethernet	RJ-45 x 5 for GbE (Intel® i211AT x 4, i219LM x 1)
I/O	2 pin Remote Power on/off connector Power ON/OFF Switch x 1 HDMI 1.4b x 2 Audio x 2 (MIC-in, Line-out) USB 3.2 Gen 1 x 4 DB-9 x 1 for RS-232/422/485 3 pin DC Power input x 1 (+, -, GND)
Expansion	Full-size Mini card x 2 (USB, w/ 1 SIM slot) PCIe [x1] x 1 PCIe [x16] x 1 - Power Consumption of GPU card max. 250W - Max. size of GPU card 312 x 113 x 40 mm (Option) Max. size of GPU card 312 x 113 x 60 mm (Riser Card: 9697T50300)
Indicator	Power LED x 1, HDD active LED x 1
OS Support	Skylake S Windows® 10, Windows® 10 IoT, Windows® 8.1, Windows® Embedded Standard 8, Windows® 7, Windows® Embedded Standard 7, Ubuntu 16.04.2 Kabylake Windows® 10, Windows® 10 IoT, Ubuntu 16.04.2
Power Supply	
Power Requirement	DC-In 12~24V For System power, 12V only for Graphic Card - CPU < 65W, No Graphic Card: 120W Adapter - CPU ≤ 65W, 180W < Graphic Card < 250W: 240W Adapter x 2
Mechanical	
Mounting	Wallmount
Dimensions (W x H x D)	6.10" x 7.87" x 15.75" (155mm x 200mm x 400mm)
Gross Weight	18.29 lb (8.3 Kg)
Net Weight	14.53 lb (7 Kg)
Environmental	
Operating Temperature	-4°F ~ 131°F (-20°C ~ 55°C) according to IEC60068-2 with 0.5m/s airflow (TDP 35W Processor)
Storage Temperature	-4°F ~ 176°F (-40°C ~ 80°C)
Storage Humidity	5 ~ 95% @ 40°C, non-condensing
Anti-Vibration	Random, 1 Grms, 5~500Hz, Anti-vibration design
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	CPU	PCH	LAN	USB 3.2 Gen 1	RS-232/422/485	RS-232	Digital I/O	Audio	Storage	Display	Expansion	Mounting	Power	Operation temp.
BOXER-6841M-A2-1010	—	H110	5	4	1	—	—	MIC-in, Line-out	2.5" Drive Bay x 2	HDMI x2	Full-size Minicard x2, PCIe[x16] x1, PCIe[x1]x1	Wallmount	DC-In 12-24V For System power, 12V only for Graphic Card - CPU < 65W, No Graphic Card: 120W Adapter - CPU ≤ 65W, 180W < Graphic Card < 250W: 240W Adapter x 2	-20°C ~ 55°C with 0.5m/s airflow (TDP 35W Processor) -20°C ~ 45°C with 0.5m/s airflow (TDP 65W Processor)

Packing List

- Wallmount Bracket x 2
- 3 Pin DC-in Power Connector x 1
- Screw Package x 1
- Thermal Pad Package x 1
- BOXER-6841M-A2

Optional Accessories

- **1255901209**
120W Power Adapter
- **1255902400**
240W Power Adapter
- **1702031802**
Power Cord (US type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **9741238H00**
WiFi Module & Antenna
- **9741EC20E0**
4G Module & Antenna (for Europe)
- **9741EC25A0**
4G Module & Antenna (for USA-AT&T)
- **9741EC25V0**
4G Module & Antenna (for USA-Verizon)
- **9697T50300**
Riser Card with PCIe [x16] x 1, max. size of GPU card 312 /190mm x 113mm x 60mm

BOXER-6841M-A3

Vision System Embedded Box PC with 6th / 7th Generation Intel® Core™ Desktop / Xeon® server-grade Processor and PCIe(x16) + PCIe (x1)

Front View



Rear View



Features

- Support 6th / 7th Core-i desktop and Xeon® server-grade processor, Max 73W.
- Intel® C236 PCH
- Easy Installation design for expand slot
- Support PCIe[x16] x1, PCIe[x1] x1
- Support up to max 180W Graphic Card
- System Fan with PWM function

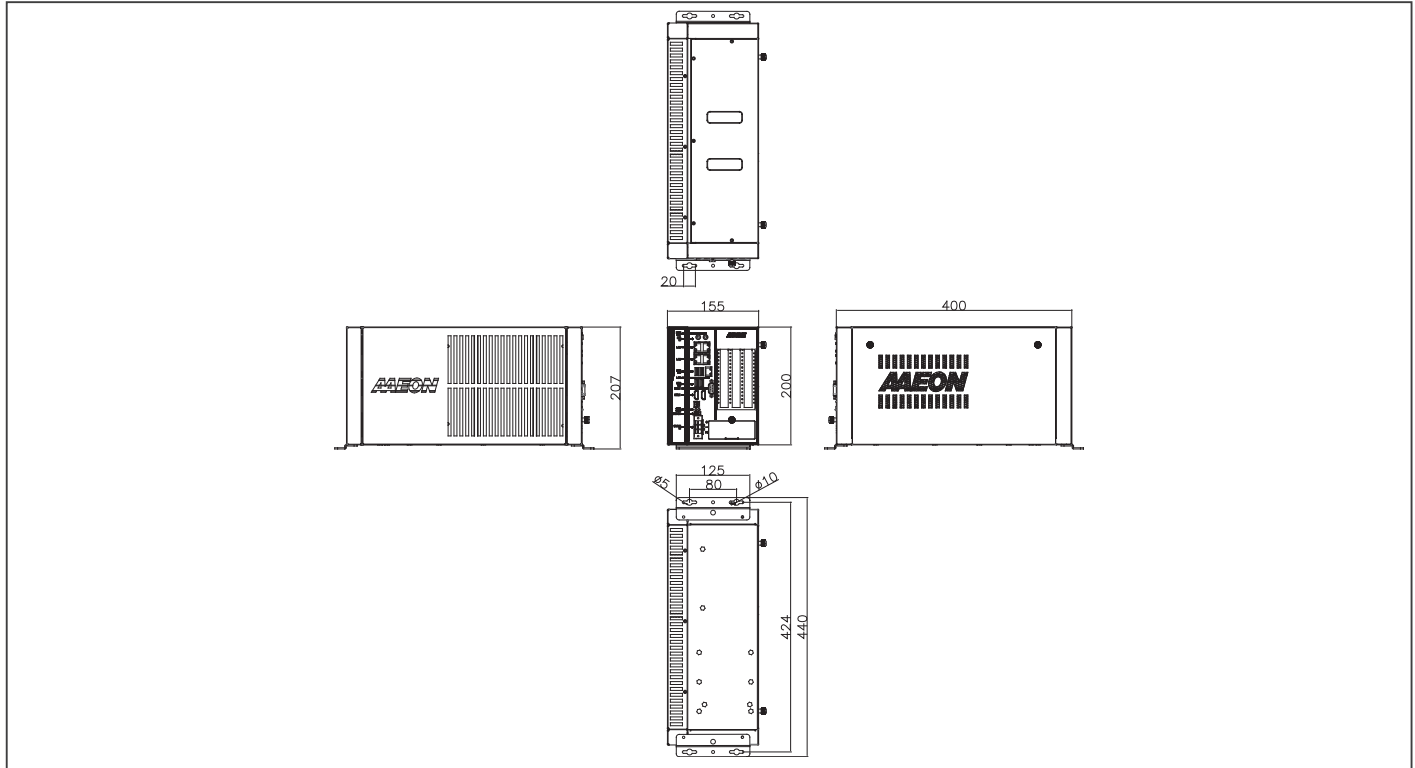


Specifications

System	
CPU	6th / 7th Generation Intel® Core™-i desktop and Xeon® server grade processor -Intel® Core™ i7-6700TE, 2.4 GHz -Intel® Core™ i5-6500TE, 2.3 GHz -Intel® Core™ i3-6100TE, 2.7 GHz -Intel® Core™ i7-7700, 3.6 GHz -Intel® Core™ i7-7700T, 2.9 GHz -Intel® Core™ i3-7101TE, 3.4 GHz -Intel® Xeon® E3-1268L v5, 2.40 GHz -Intel® Xeon® E3-1275 v6, 3.80 GHz
Chipset	Intel® C236 PCH
System Memory	DDR4 ECC or Non-ECC SODIMM, up to 32GB
Display Interface	HDMI type A x 2 for HDMI v1.4b
Storage Device	2.5" Drive Bay x 2
Ethernet	RJ-45 x 5 for GbE (Intel i211AT x 4, i219LM x 1)
I/O	2 pin Remote Power on/off connector Power ON/OFF Switch x 1 HDMI 1.4b x 2 Audio x 2 (MIC-in, Line-out) USB 3.2 Gen 1 x 4 DB-9 x 1 for RS-232/422/485 3 pin DC Power input x 1 (+, -, GND)
Expansion	Full-size Mini card x 2 (USB, w/ 1 SIM slot) PCIe [x1] x 1 PCIe [x16] x 1 - Power Consumption of GPU card max. 180W - Max. size of GPU card 312 x 113 x 40 mm (Option) Max. size of GPU card 312 x 113 x 60 mm (Riser Card: 9697T50300)
Indicator	Power LED x 1, HDD active LED x 1
OS Support	Skylake S Windows® 10, Windows® 10 IoT, Windows® 8.1, Windows® Embedded Standard 8, Windows® 7, Windows® Embedded Standard 7, Ubuntu 16.04.2 Kabylake Windows® 10, Windows® 10 IoT, Ubuntu 16.04.2
Power Supply	
Power Requirement	DC-In 12~24V - CPU < 73W, No Graphic Card: 120W Adapter - CPU ≤ 73W, 180W Graphic Card: 330W Adapter
Mechanical	
Mounting	Wallmount
Dimensions (W x H x D)	6.10" x 7.87" x 15.75" (155mm x 200mm x 400mm)
Gross Weight	18.29 lb (8.3 Kg)
Net Weight	14.53 lb (7 Kg)
Environmental	
Operating Temperature	-4°F ~131°F (-20°C ~ 55°C) according to IEC60068-2 with 0.5m/s airflow (TDP 35W Processor) -4°F ~113°F (-20°C ~ 45°C) according to IEC60068-2 with 0.5m/s airflow (TDP 73W Processor)
Storage Temperature	-4°F ~ 176°F (-40°C ~ 80°C)
Storage Humidity	5 ~ 95% @ 40°C, non-condensing
Anti-Vibration	Random, 1 Grms, 5~500Hz, Anti-vibration design
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	CPU	PCH	LAN	USB 3.2 Gen 1	RS-232/422/485	RS-232	Digital I/O	Audio	Storage	Display	Expansion	Mounting	Power	Operation temp.
BOXER-6841M-A3-1010	—	C236	5	4	1	—	—	MIC-in, Line-out	2.5" Drive Bay x 2	HDMI x2	Full-size Minicard x2, PCIe[x16] x1, PCIe[x1]x1	Wallmount	DC-In 12-24V - CPU < 73W, No Graphic Card: 120W Adapter - CPU ≤ 73W, 180W Graphic Card: 330W Adapter	-20°C - 55°C with 0.5m/s airflow (TDP 35W Processor) -20°C - 45°C with 0.5m/s airflow (TDP 73W Processor)

Packing List

- Wallmount Bracket x 2
- 3 Pin DC-in Power Connector x 1
- Screw Package x 1
- Thermal Pad Package x 1
- BOXER-6841M-A3

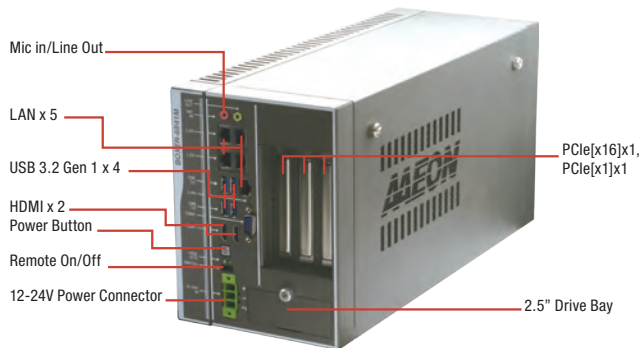
Optional Accessories

- **1255901209**
120W Power Adapter
- **1255903300**
330W Power Adapter
- **1702031802**
Power Cord (US type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **9741238H00**
WiFi Module & Antenna
- **9741EC20E0**
4G Module & Antenna (for Europe)
- **9741EC25A0**
4G Module & Antenna (for USA-AT&T)
- **9741EC25V0**
4G Module & Antenna (for USA-Verizon)
- **9697T50300**
Riser Card with PCIe [x16] x 1, max. size of GPU card 312 /190mm x 113mm x 60mm

BOXER-6841M-A4

Vision System Embedded Box PC with 6th/7th Generation Intel® Core™ Desktop / Xeon® server-grade Processor and PCIe(x16) + PCIe (x1)

Front View



Rear View



Features

- Support 6th / 7th Core-i desktop and Xeon® server-grade processor, Max 73W.
- Intel® C236 PCH
- Easy Installation design for expand slot
- Support PCIe[x16] x1, PCIe[x1] x1
- Support up to max 250W Graphic Card
- System Fan with PWM function

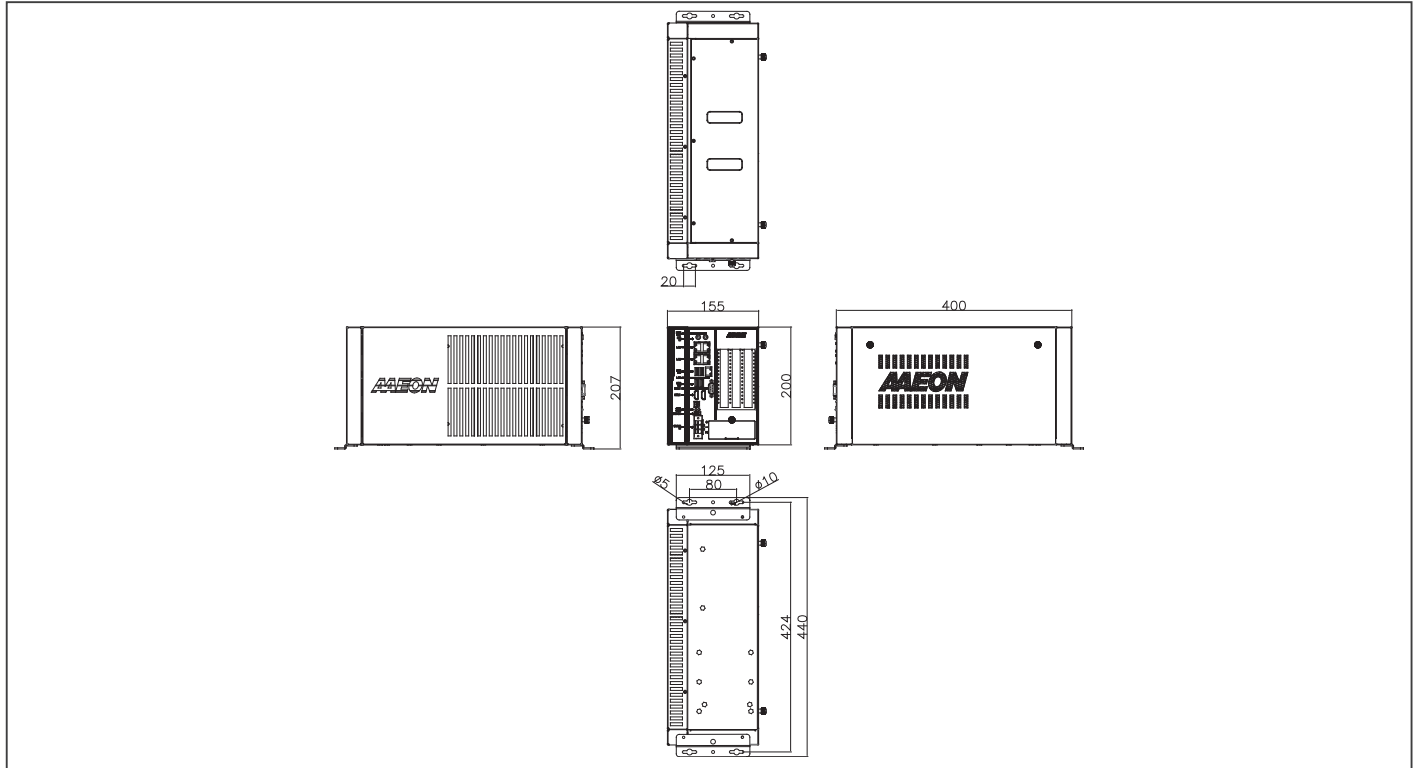


Specifications

System	
CPU	6th / 7th Generation Intel® Core™-i desktop and Xeon® server grade processor -Intel® Core™ i7-6700TE, 2.4 GHz -Intel® Core™ i5-6500TE, 2.3 GHz -Intel® Core™ i3-6100TE, 2.7 GHz -Intel® Core™ i7-7700, 3.6 GHz -Intel® Core™ i7-7700T, 2.9 GHz -Intel® Core™ i3-7101TE, 3.4 GHz -Intel® Xeon® E3-1268L v5, 2.40 GHz -Intel® Xeon® E3-1275 v6, 3.80 GHz
Chipset	Intel® C236 PCH
System Memory	DDR4 ECC or Non-ECC SODIMM, up to 32GB
Display Interface	HDMI type A x 2 for HDMI v1.4b
Storage Device	2.5" Drive Bay x 2
Ethernet	RJ-45 x 5 for GbE (Intel i211AT x4, i219LM x1)
I/O	2 pin Remote Power on/off connector Power ON/OFF Switch x 1 HDMI 1.4b x 2 Audio x 2 (MIC-in, Line-out) USB 3.2 Gen 1 x 4 DB-9 x 1 for RS-232/422/485 3 pin DC Power input x 1 (+, -, GND)
Expansion	Full-size Mini card x 2 (USB, w/ 1 SIM slot) PCIe [x1] x 1 PCIe [x16] x 1 - Power Consumption of GPU card max. 250W - Max. size of GPU card 312 x 113 x 40 mm (Option) Max. size of GPU card 312 x 113 x 60 mm (Riser Card: 9697T50300)
Indicator	Power LED x1, HDD active LED x1
OS Support	Skylake S Windows® 10, Windows® 10 IoT, Windows® 8.1, Windows® Embedded Standard 8, Windows® 7, Windows® Embedded Standard 7, Ubuntu 16.04.2 Kabylake Windows® 10, Windows® 10 IoT, Ubuntu 16.04.2
Power Supply	
Power Requirement	DC-In 12~24V For System Power, 12V only for Graphic Card - CPU < 73W, No Graphic Card: 120W Adapter - CPU ≤ 73W, 250W Graphic Card: 240W Adapter x 2
Mechanical	
Mounting	Wallmount
Dimensions (W x H x D)	6.10" x 7.87" x 15.75" (155mm x 200mm x 400mm)
Gross Weight	18.29 lb (8.3 Kg)
Net Weight	14.53 lb (7 Kg)
Environmental	
Operating Temperature	-4°F ~131°F (-20°C ~ 55°C) according to IEC60068-2 with 0.5m/s airflow (TDP 35W Processor) -4°F ~113°F (-20°C ~ 45°C) according to IEC60068-2 with 0.5m/s airflow (TDP 73W Processor)
Storage Temperature	-4°F ~ 176°F (-40°C ~ 80°C)
Storage Humidity	5 ~ 95% @ 40°C, non-condensing
Anti-Vibration	Random, 1Grm, 5~500Hz, Anti-vibration design
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	CPU	PCH	LAN	USB 3.2 Gen 1	RS-232/422/485	RS-232	Digital I/O	Audio	Storage	Display	Expansion	Mounting	Power	Operation temp.
BOXER-6841M-A4-1010	—	C236	5	4	1	—	—	MIC-in, Line-out	2.5" Drive Bay x 2	HDMI x2	Full-size Minicard x2, PCIe[x16] x1, PCIe[x1]x1	Wallmount	DC-In 12~24V For System Power, 12V only for Graphic Card - CPU < 73W, No Graphic Card: 120W Adapter - CPU ≤ 73W, 250W Graphic Card: 240W Adapter x 2	-20°C ~ 55°C with 0.5m/s airflow (TDP 35W Processor) -20°C ~ 45°C with 0.5m/s airflow (TDP 73W Processor)

Packing List

- Wallmount Bracket x 2
- 3 Pin DC-in Power Connector x 1
- Screw Package x 1
- Thermal Pad Package x 1
- BOXER-6841M-A4

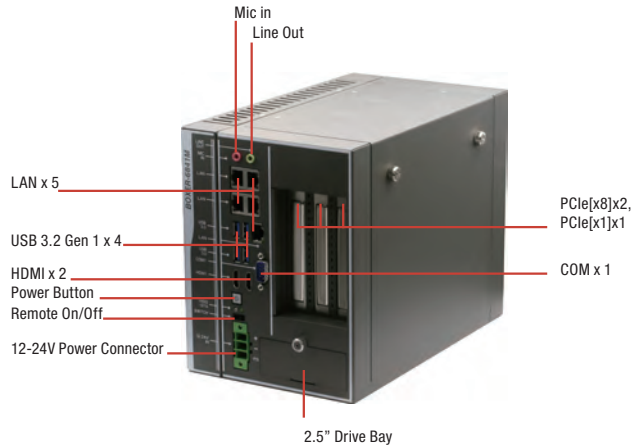
Optional Accessories

- **1255901209**
120W Power Adapter
- **1255902400**
240W Power Adapter
- **1702031802**
Power Cord (US type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **9741238H00**
WiFi Module & Antenna
- **9741EC20E0**
4G Module & Antenna (for Europe)
- **9741EC25A0**
4G Module & Antenna (for USA-AT&T)
- **9741EC25V0**
4G Module & Antenna (for USA-Verizon)
- **9697T50300**
Riser Card with PCIe [x16] x 1, max. size of GPU card 312 /190mm x 113mm x 60mm

BOXER-6841M-A5

Vision System Fanless Embedded Box PC with 6th/ 7th Generation Intel® Core™ Desktop / Xeon® server-grade Processor and 2 PCIe(x8) + PCIe (x1)

Front View



Rear View



Features

- Support 6th / 7th Core-i desktop and Xeon® server-grade processor, Max 73W.
- Intel® C236 PCH
- Easy Installation design for expand slot
- Support PCIe[x8] x2, PCIe[x1] x1
- Support frame grabber card
- Fanless system

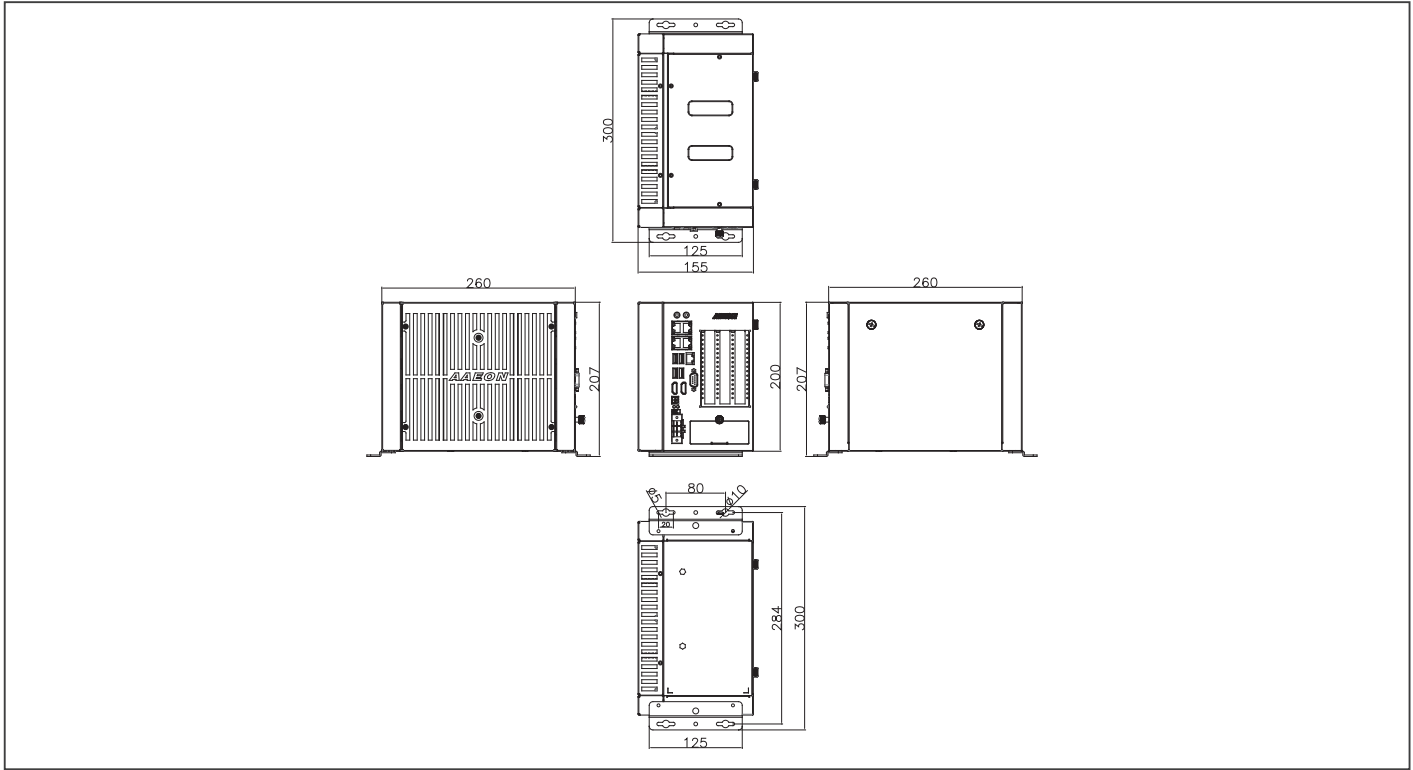


Specifications

System	
CPU	6th / 7th Generation Intel® Core™-i desktop and Xeon® server grade processor -Intel® Core™ i7-6700TE, 2.4 GHz -Intel® Core™ i5-6500TE, 2.3 GHz -Intel® Core™ i3-6100TE, 2.7 GHz -Intel® Core™ i7-7700, 3.6 GHz -Intel® Core™ i7-7700T, 2.9 GHz -Intel® Core™ i3-7101TE, 3.4 GHz -Intel® Xeon® E3-1268L v5, 2.40 GHz -Intel® Xeon® E3-1275 v6, 3.80 GHz
Chipset	Intel® C236 PCH
System Memory	DDR4 ECC or Non-ECC SODIMM, up to 32GB
Display Interface	HDMI type A x 2 for HDMI v1.4b
Storage Device	2.5" Drive Bay x 2
Ethernet	RJ-45 x 5 for GbE (Intel i211AT x 4, i219LM x 1)
I/O	2 pin Remote Power on/off connector Power ON/OFF Switch x 1 HDMI 1.4b x2 Audio x 2 (MIC-in, Line-out) USB 3.2 Gen 1 x 4 DB-9 x 1 for RS-232/422/485 3 pin DC Power input x 1 (+, -, GND)
Expansion	Full-size Mini card x 2 (USB, w/ 1 SIM slot) PCIe [x8] x 2 Extension card size limit: 114.55mm(H) x 192mm (L) PCIe [x1] x 1
Indicator	Power LED x 1, HDD active LED x 1
OS Support	Skylake S Windows® 10, Windows® 10 IoT, Windows® 8.1, Windows® Embedded Standard 8, Windows® 7, Windows® Embedded Standard 7, Ubuntu 16.04.2 Kabylake Windows® 10, Windows® 10 IoT, Ubuntu 16.04.2
Power Supply	
Power Requirement	DC-In 12-24V - CPU = 35W: 120W Adapter - 35W < CPU ≤ 73W: 240W Adapter
Mechanical	
Mounting	Wallmount
Dimensions (W x H x D)	6.10" x 7.87" x 10.24" (155mm x 200mm x 260mm)
Gross Weight	12.75 lb (5.8 kg)
Net Weight	9.9 lb (4.5 Kg)
Environmental	
Operating Temperature	-4°F ~131°F (-20°C ~ 55°C) according to IEC60068-2 with 0.5m/s airflow (TDP 35W Processor) -4°F ~113°F (-20°C ~ 45°C) according to IEC60068-2 with 0.5m/s airflow (TDP 73W Processor)
Storage Temperature	-4°F ~ 176°F (-40°C ~ 80°C)
Storage Humidity	5 ~ 95% @ 40°C, non-condensing
Anti-Vibration	Random, 1Grm, 5~500Hz, Anti-vibration design
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	CPU	PCH	LAN	USB 3.2 Gen 1	RS-232/422/485	RS-232	Digital I/O	Audio	Storage	Display	Expansion	Mounting	Power	Operation temp.
BOXER-6841M-A5-1010	—	C236	5	4	1	—	—	MIC-in, Line-out	2.5" Drive Bay x 2	HDMI x2	Full-size Minitcard x2, PCIe[x8] x2, PCIe[x1]x1	Wallmount	DC-In 12-24V - CPU = 35W: 120W Adapter - 35W < CPU ≤ 73W: 240W Adapter	-20°C ~ 55°C with 0.5m/s airflow (TDP 35W Processor) -20°C ~ 45°C with 0.5m/s airflow (TDP 73W Processor)

Packing List

- Wallmount Bracket x 2
- 3 Pin DC-in Power Connector x 1
- Screw Package x 1
- Thermal Pad Package x 1
- BOXER-6841M-A5

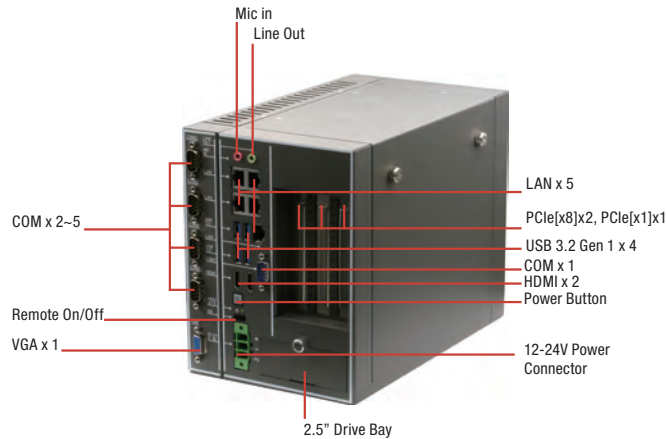
Optional Accessories

- **1255901209**
120W Power Adapter
- **1255902400**
240W Power Adapter
- **1702031802**
Power Cord (US type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **9741238H00**
WiFi Module & Antenna
- **9741EC20E0**
4G Module & Antenna (for Europe)
- **9741EC25A0**
4G Module & Antenna (for USA-AT&T)
- **9741EC25V0**
4G Module & Antenna (for USA-Verizon)
- **M046841140**
Main heatsink cover

BOXER-6841M-A6

Vision System Fanless Embedded Box PC with 6th/ 7th Generation Intel® Core™ Desktop / Xeon® server-grade Processor and 2 PCIe(x8) + PCIe (x1)

Front View



Rear View



Features

- Support 6th / 7th Core-i desktop and Xeon® server-grade processor, Max 73W.
- Intel® C236 PCH
- Easy Installation design for expand slot
- Support PCIe[x8] x2, PCIe[x1] x1
- Support frame grabber card
- Fanless system
- 5 COM Port and VGA + HDMIx2 Triple display

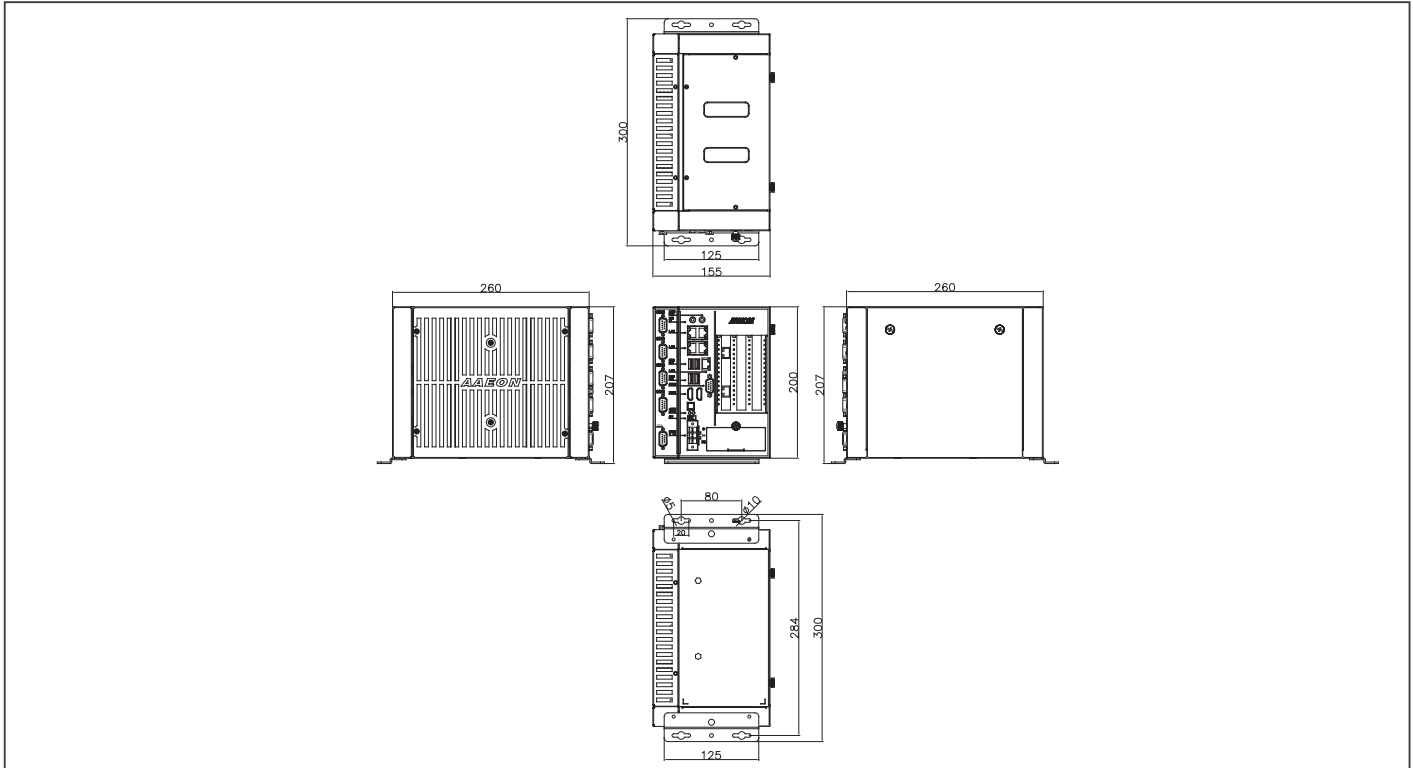


Specifications

System	
CPU	6th / 7th Generation Intel® Core™-i desktop and Xeon® server grade processor -Intel® Core™ i7-6700TE, 2.4 GHz -Intel® Core™ i5-6500TE, 2.3 GHz -Intel® Core™ i3-6100TE, 2.7 GHz -Intel® Core™ i7-7700, 3.6 GHz -Intel® Core™ i7-7700T, 2.9 GHz -Intel® Core™ i3-7101TE, 3.4 GHz -Intel® Xeon® E3-1268L v5, 2.40 GHz -Intel® Xeon® E3-1275 v6, 3.80 GHz
Chipset	Intel® C236 PCH
System Memory	DDR4 ECC or Non-ECC SODIMM, up to 32GB
Display Interface	HDMI type A x 2 for HDMI v1.4b VGA x 1
Storage Device	2.5" Drive Bay x 2
Ethernet	RJ-45 x 5 for GbE (Intel i211AT x 4, i219LM x 1)
I/O	2 pin Remote Power on/off connector Power ON/OFF Switch x 1 HDMI 1.4b x 2 VGA x 1 Audio x 2 (MIC-in, Line-out) USB 3.2 Gen 1 x 4 DB-9 x 1 for RS-232/422/485 DB-9 x 4 for RS-232 3 pin DC Power input x 1 (+, -, GND)
Expansion	Full-size Mini card x 2 (USB, w/ 1 SIM slot) PCle[x8] x 2 Extension card size limit: 114.55mm(H) x 192mm (L) PCle[x1] x 1
Indicator	Power LED x 1, HDD active LED x 1
OS Support	Skylake S Windows® 10, Windows® 10 IoT, Windows® 8.1, Windows® Embedded Standard 8, Windows® 7, Windows® Embedded Standard 7, Ubuntu 16.04.2 Kabylake Windows® 10, Windows® 10 IoT, Ubuntu 16.04.2
Power Supply	
Power Requirement	DC-In 12~24V - CPU = 35W: 120W Adapter - 35W < CPU ≤ 73W: 240W Adapter
Mechanical	
Mounting	Wallmount
Dimensions (W x H x D)	6.10" x 7.87" x 10.24" (155mm x 200mm x 260mm)
Gross Weight	12.75 lb (5.8 kg)
Net Weight	9.9 lb (4.5 Kg)
Environmental	
Operating Temperature	-4°F ~131°F (-20°C ~ 55°C) according to IEC60068-2 with 0.5m/s airflow (TDP 35W Processor) -4°F ~113°F (-20°C ~ 45°C) according to IEC60068-2 with 0.5m/s airflow (TDP 73W Processor)
Storage Temperature	-4°F ~ 176°F (-40°C ~ 80°C)
Storage Humidity	5 ~ 95% @ 40°C, non-condensing
Anti-Vibration	Random, 1 Grms, 5~500Hz, Anti-vibration design
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	CPU	PCH	LAN	USB 3.2 Gen 1	RS-232/422/485	RS-232	Digital I/O	Audio	Storage	Display	Expansion	Mounting	Power	Operation temp.
BOXER-6841M-A6-1010	—	C236	5	4	1	4	—	MIC-in, Line-out	2.5" Drive Bay x2	HDMI x2, VGA x1	Full-size Minicard x2, PCIe[x8] x2, PCIe[x1]x1	Wallmount	DC-In 12-24V - CPU = 35W: 120W Adapter - 35W < CPU ≤ 73W: 240W Adapter	-20°C ~ 55°C with 0.5m/s airflow (TDP 35W Processor) -20°C ~ 45°C with 0.5m/s airflow (TDP 73W Processor)

Packing List

- Wallmount Bracket x 2
- 3 Pin DC-in Power Connector x 1
- Screw Package x 1
- Thermal Pad Package x 1
- BOXER-6841M-A6

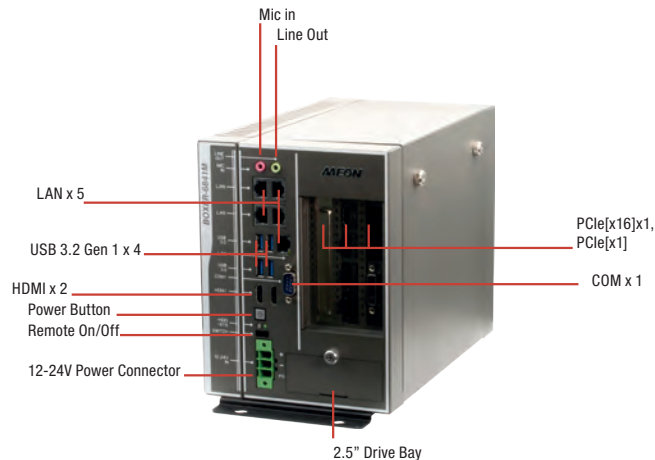
Optional Accessories

- **1255901209**
120W Power Adapter
- **1255902400**
240W Power Adapter
- **1702031802**
Power Cord (US type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **9741238H00**
WiFi Module & Antenna
- **9741EC20E0**
4G Module & Antenna (for Europe)
- **9741EC25A0**
4G Module & Antenna (for USA-AT&T)
- **9741EC25V0**
4G Module & Antenna (for USA-Verizon)
- **M046841140**
Main heatsink cover

BOXER-6841M-A7

Vision System Embedded Box PC with 6th/ 7th Generation Intel® Core™ Desktop / Xeon® server-grade Processor and PCIe[x16] + PCIe [x1]

Front View



Rear View



Features

- Support 6th / 7th Core-i desktop and Xeon® server-grade processor, Max 73W.
- Intel® C236 PCH
- Easy Installation design for expand slot
- Support PCIe[x16] x 1, PCIe[x1] x 1
- System Fan with PWM function

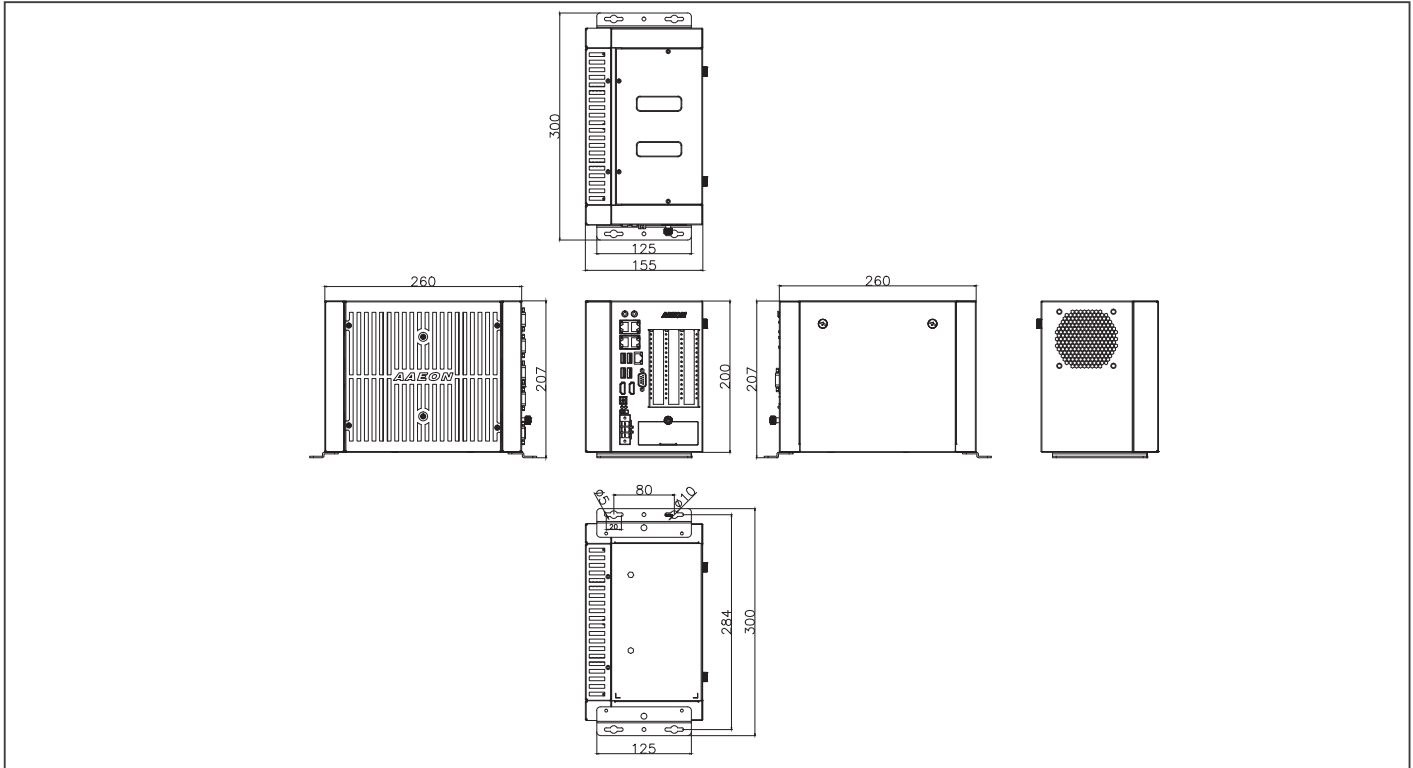


Specifications

System	
CPU	6th / 7th Generation Intel® Core™-i desktop and Xeon® server grade processor -Intel® Core™ i7-6700TE, 2.4 GHz -Intel® Core™ i5-6500TE, 2.3 GHz -Intel® Core™ i3-6100TE, 2.7 GHz -Intel® Core™ i7-7700, 3.6 GHz -Intel® Core™ i7-7700T, 2.9 GHz -Intel® Core™ i3-7101TE, 3.4 GHz -Intel® Xeon® E3-1268L v5, 2.40 GHz -Intel® Xeon® E3-1275 v6, 3.80 GHz
Chipset	Intel® C236 PCH
System Memory	DDR4 ECC or Non-ECC SODIMM, up to 32GB
Display Interface	HDMI 1.4b
Storage Device	2.5" Drive Bay x 2
Ethernet	RJ-45 x 5 for GbE (Intel® i211AT x4, i219LM x1)
I/O	Audio x 2 (MIC-in, Line-out) RJ-45 x 5 for GbE LAN USB Type A x 4 for USB 3.2 Gen 1 DB-9 x 1 for RS-232/422/485 HDMI type A x2 for HDMI v1.4b Power ON/OFF Switch x 1 2 pin Remote Power on/off connector x1 Power input x 1
Expansion	Full-size Mini card x2 (USB, w/ 1 SIM slot) PCIe [x1] x 1 PCIe [x16] x 1 - Power Consumption of GPU card max. 180W - Max. size of GPU card 190 x 113 x 40 mm (Option) Max. size of GPU card 190 x 113 x 60 mm (Riser Card: 9697T50300)
Indicator	Power LED x 1, HDD active LED x 1
OS Support	Skylake S Windows® 10, Windows® 10 IoT, Windows® 8.1, Windows® Embedded Standard 8, Windows® 7, Windows® Embedded Standard 7, Ubuntu 16.04.2 Kabylake Windows® 10, Windows® 10 IoT, Ubuntu 16.04.2
Power Supply	
Power Requirement	DC-In 12~24V - CPU < 73W, No Graphic Card: 120W Adapter - CPU ≤ 73W, 180W Graphic Card: 330W Adapter
Mechanical	
Mounting	Wallmount
Dimensions (W x H x D)	6.10" x 7.87" x 10.24" (155mm x 200mm x 260mm)
Gross Weight	12.75 lb (5.8 kg)
Net Weight	9.9 lb (4.5 Kg)
Environmental	
Operating Temperature	-4°F ~131°F (-20°C ~ 55°C) according to IEC60068-2 with 0.5m/s airflow (TDP 35W Processor) -4°F ~113°F (-20°C ~ 45°C) according to IEC60068-2 with 0.5m/s airflow (TDP 73W Processor)
Storage Temperature	-4°F ~ 176°F (-40°C ~ 80°C)
Storage Humidity	5 ~ 95% @ 40°C, non-condensing
Anti-Vibration	Random, 1 Grms, 5~500Hz, Anti-vibration design
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	CPU	PCH	LAN	USB 3.2 Gen 1	RS-232 /422/485	RS-232	Digital I/O	Audio	Storage	Display	Expansion	Mounting	Power	Operation temp.
BOXER-6841M-A7-1010	—	C236	5	4	1	—	—	MIC-in, Line-out	2.5" Drive Bay x2	HDMI x2	Full-size Minicard x2, PCIe[x16] x 1, PCIe[x1] x 1	Wallmount	DC-In 12-24V - CPU < 73W, No Graphic Card: 120W Adapter - CPU ≤ 73W, 180W Graphic Card: 330W Adapter	-20°C ~ 55°C with 0.5m/s airflow (TDP 35W Processor) -20°C ~ 45°C with 0.5m/s airflow (TDP 73W Processor)

Packing List

- Wallmount Bracket x 2
- 3 Pin DC-in Power Connector x 1
- Screw Package x 1
- Thermal Pad Package x 1
- BOXER-6841M-A7

Optional Accessories

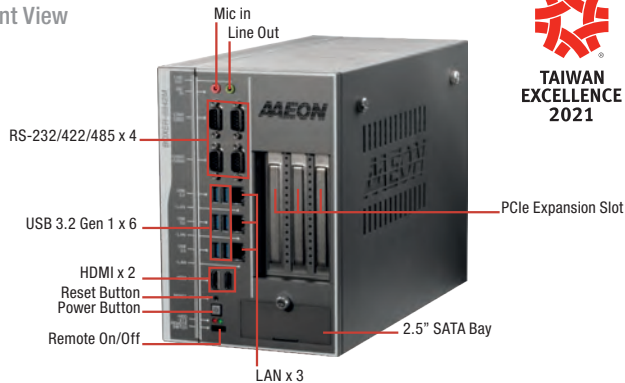
- **1255901209**
120W Power Adapter
- **1255903300**
330W Power Adapter
- **1702031802**
Power Cord (US type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **9741238H00**
WiFi Module & Antenna
- **9741EC20E0**
4G Module & Antenna (for Europe)
- **9741EC25A0**
4G Module & Antenna (for USA-AT&T)
- **9741EC25V0**
4G Module & Antenna (for USA-Verizon)
- **M046841140**
Main heatsink cover
- **9697T50300**
Riser Card with PCIe [x16] x 1, max. size of GPU card 312 /190mm x 113mm x 60mm

BOXER-6842M

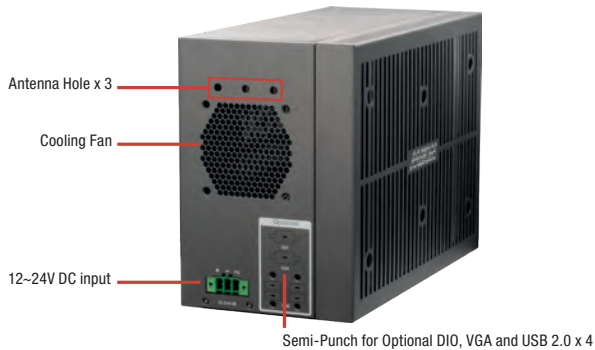
Fanless Embedded Controller with 8th/9th Generation Intel® Processor

BOXER-6842M-A2/A3

Front View



Rear View



BOXER-6842M-A4

Front View



Rear View



Features

- High Computing Power
- Intel® Coffee Lake-S LGA 1151 Desktop Processor
- HDMI x 2 for Dual Display
- Support C246 PCH
- Support PCIe16 + PCIe4/ 2PCIe x8 (in x16 slot) + PCIe x4
- Single Power Input (for both System & one Graphics Card)
- Fanless System (A3) or Fan System with PWM function (A2/A4)
- Support dual Graphics Cards with Two Power Inputs (A4)



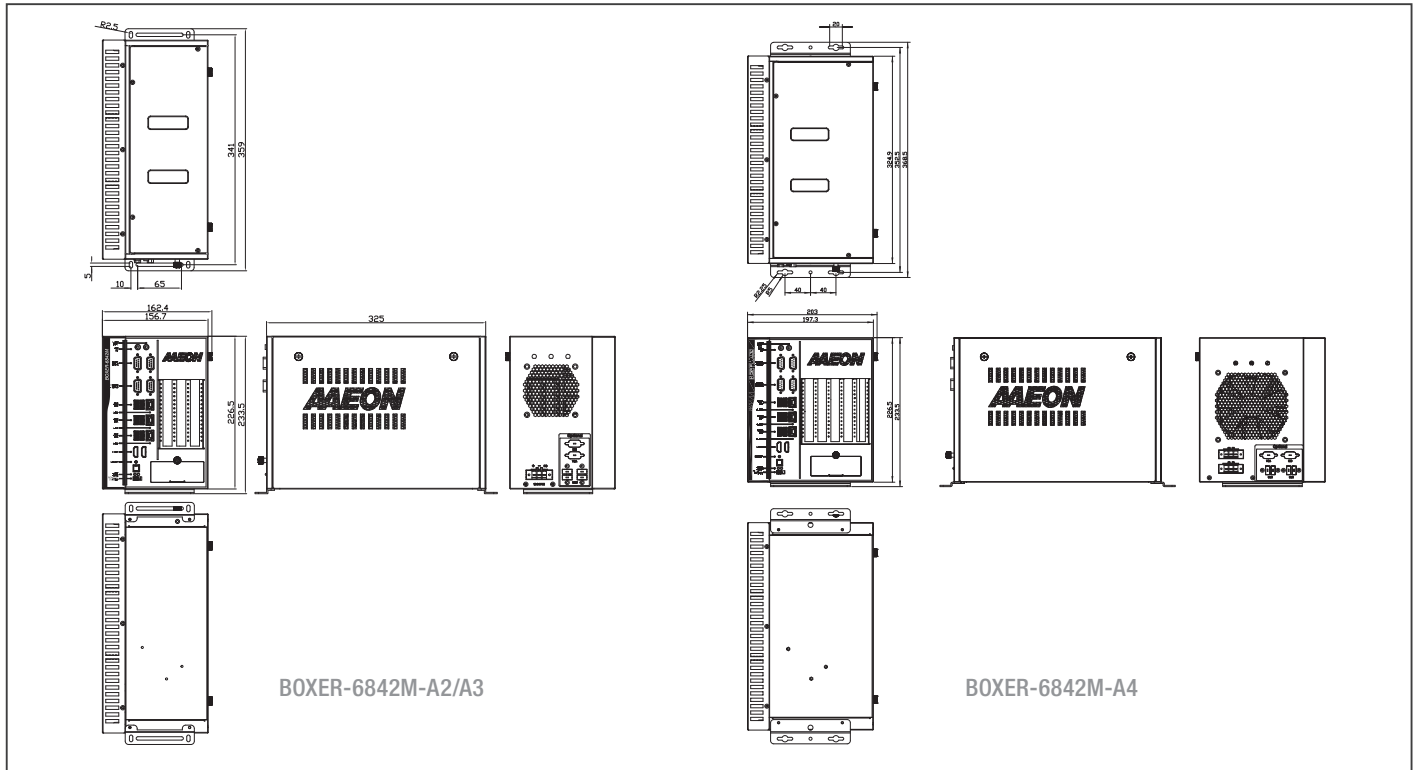
I/O	HDMI x 2 Audio (Mic-in, Line-out) USB 3.2 Gen1 x 6 DB-9 x4 for RS-232/422/485 with automatic flow control 3 pin DC Power input x 1 (+, -, GND) Power ON/OFF switch x 1 2 pin Remote power on/off connector Reset switch
Expansion	A2 Full-size Minicard x 1 (PCIE + USB with 1 SIM Slot) Half-size Minicard x 1 (PCIE + USB, optional for mSATA) M.2 M key (2280) x 1 (PCIEx4) PCIe [x4] x 1 PCIe [x16] x 1 - Max. Power Consumption of GPU card 250W - Max. Size of GPU card 280mm x150mm x 40mm A3 Full-size Minicard x1 (PCIE + USB with 1 SIM Slot) Half-size Minicard x1 (PCIE + USB, optional for mSATA) M.2 M key (2280) x1 (PCIEx4) PCIe [x4] x1 PCIe [x8] (in x16 slot) x 2 A4 Full-size Minicard x1 (PCIE + USB with 1 SIM Slot) Half-size Minicard x1 (PCIE + USB, optional for mSATA) M.2 M key (2280) x1 (PCIEx4) PCIe [x4] x1 PCIe [x8] (in x16 slot) x2 Support dual Graphics Cards with two power inputs - Max. Power Consumption of GPU card 250W x2 - Max. Size of GPU card 280mm x150mm x 40mm Note: A3 is fanless system. A2 & A4 is fan system with PWM function (Recommend for users need install GPU card).
Reserved Connector	Internal, SATA x 2; Internal, 8bit DIO x 1; Internal, USB 2.0 x 4; Internal, LPC x 1; Internal, Secondary System Fan Connector x 1
Indicator	System Power LED x 1 (Green), Storage Active LED x 1 (Red)
OS Support	Windows® 10 Enterprise 64 bit, Ubuntu 18.04.4
Power Supply	
Power Requirement	A2/A3/A4 DC In 12-24V with 3-pin terminal block No Graphics Card: CPU 35W->120W Adapter x 1, CPU 71W->240W Adapter x 1 With 250W Graphics Card x1: 480W Adapter x 1 A4 DC In 12-24V with 3-pin terminal block With 250W Graphics Card x2: 330W Adapter x 1 + 480W Adapter x 1
Mechanical	
Mounting	Wallmount
Dimensions (W x H x D)	A2/A3: 6.17" x 8.92" x 12.8" (156.7mm x 226.5mm x 325mm) A4: 7.77" x 8.92" x 12.8" (197.3mm x 226.5mm x 325mm)
Gross Weight	A2/A3: 18.52 lb (8.4 Kg) A4: 20.72 lb (9.4 Kg)
Net Weight	A2/A3: 15.65 lb (7.1 Kg) A4: 17.66 lb (8.1 Kg)
Environmental	
Operating Temperature	Without Graphics Cards: -4°F ~ 149°F (-20°C ~ 65°C) with 0.5m/s airflow With 250W Graphics Card: 32°F ~ 113°F (0°C ~ 45°C) with 0.5m/s airflow
Storage Temperature	-49°F ~ 176°F (-45°C ~ 80°C)
Storage Humidity	5 ~ 95% @ 40°C, non-condensing
Anti-Vibration	HDD: Random, 1Grm, 5~500Hz
Certification	CE / FCC class A

Specifications

System	
CPU	Intel® Xeon® E-2124G; Intel® Core™ i9-9900T; Intel® Core™ i7-8700T; Intel® Core™ i5-8500T; Intel® Core™ i3-8100T; Intel® Pentium® G5400T; Intel® Celeron® G4900T Note: Support max. TPD 71W Processor
Chipset	C246, No H310 downward support
System Memory	DDR4 SO-DIMM socket x4 (double deck) Support max. 2666MHz up to 128GB Support un-buffered and ECC / non-ECC type SODIMM
Display Interface	HDMI x 2 Support Dual Independent Display, 4K Ultra HD displays
Storage Device	2.5" SATA Drive Bay x2 (4 SATA Port w/ RAID Function) mSATA x 1 (optional) M.2 2280 NVMe SSD slot x 1
Ethernet	RJ-45 x 3 for GbE (Intel i211AT x 2, i219LM x 1)

Dimension

Unit: mm



BOXER-6842M-A2/A3

BOXER-6842M-A4

Ordering Information

Part Number	CPU	PCH	LAN	Fan	USB 3.2 Gen1	RS-232/422/485	RS-232	Digital I/O	Audio	Storage	Display	Expansion	Mounting	Power	Operation temp.
BOXER-6842M-A2-1010	—	C246	3	Fan System	6	4	—	—	Mic-in Line-out x 1	2.5" SATA Drive bay x 2 mSATA x 1 (optional) M.2 2280 NVMe SSD slot x 1	HDMI x 2	Full-size Minicard x 1, Half-size Minicard x 1, M.2 M key (2280) x 1, PCIe [x4] x 1, PCIe [x16] x 1	Wallmount	DC In 12-24V with 3-pin terminal block	-20°C ~ 65°C with 0.5m/s airflow
BOXER-6842M-A3-1010	—	C246	3	Fanless System	6	4	—	—	Mic-in Line-out x 1	2.5" SATA Drive bay x 2 mSATA x 1 (optional) M.2 2280 NVMe SSD slot x 1	HDMI x 2	Full-size Minicard x 1, Half-size Minicard x 1, M.2 M key (2280) x 1, PCIe [x4] x 1, PCIe [x8] x 2 (in x16 slot)	Wallmount	DC In 12-24V with 3-pin terminal block	-20°C ~ 65°C with 0.5m/s airflow
BOXER-6842M-A4-1010	—	C246	3	Fan System	6	4	—	—	Mic-in Line-out x 1	2.5" SATA Drive bay x 2 mSATA x 1 (optional) M.2 2280 NVMe SSD slot x 1	HDMI x 2	Full-size Minicard x 1, Half-size Minicard x 1, M.2 M key (2280) x 1, PCIe [x4] x 1, PCIe [x8] x 2 (in x16 slot)	Wallmount	DC In 12-24V with 3-pin terminal block	-20°C ~ 65°C with 0.5m/s airflow

Packing List

- Wallmount Bracket x 2
- 3 Pin DC-in Power Connector x 1
- Screw Package x 1
- Thermal Pad Package x 1
- BOXER-6842M

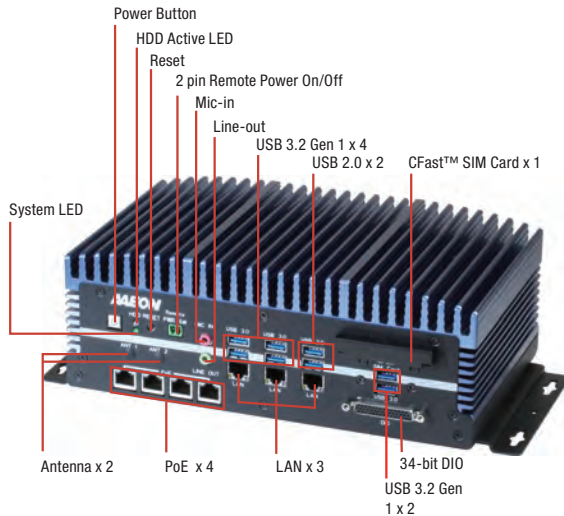
Optional Accessories

- **1255901209**
120W Power Adapter
- **1255902400**
240W Power Adapter
- **1255903300**
330W Power Adapter
- **1702031802**
Power Cord (US type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **9741238H00**
WiFi Module & Antenna
- **9741EG25G0**
4G Module & Antenna (for global)
- **9741EC25A0**
4G Module & Antenna (for USA-AT&T)
- **9741EC25V0**
4G Module & Antenna (for USA-Verizon)
- **9697T60101-D**
Riser card with 1 PCIe x 16 + 1 PCIe x 4
- **9697T62100-D**
Riser card with 2PCIe x 8 (in x 16 slot) +1PCIe x 4
- **1255X00021**
480W Power Adapter (DIN Rail)

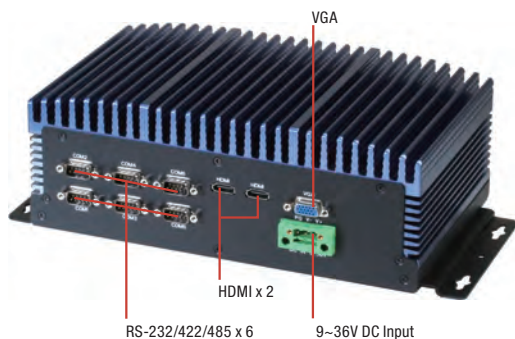
BOXER-6639M

Vision System Fanless Embedded Box PC with 6th/ 7th Generation Intel® Core™ Desktop Processor and PoE

Front View



Rear View



Features

- Extreme Computing Power & Graphic Display Capability
- Desktop Grade Socket Type Processor with Longevity Support
- DDR4 ECC or Non-ECC SODIMM, Up to 32GB
- VGA + HDMI x 2 Triple Display, HDMI 4K Display
- 802.3at GbE PoE x 4 (Max. 80W in total)
- USB 3.2 Gen 1 x 6
- Industrial-grade Intel® GbE LAN x 3
- Supports BIOS Selectable RS-232/422/485 x 6
- Easy Access Design
- Wide Range DC 12~36V Input
- 34-bit Digital Input and Output

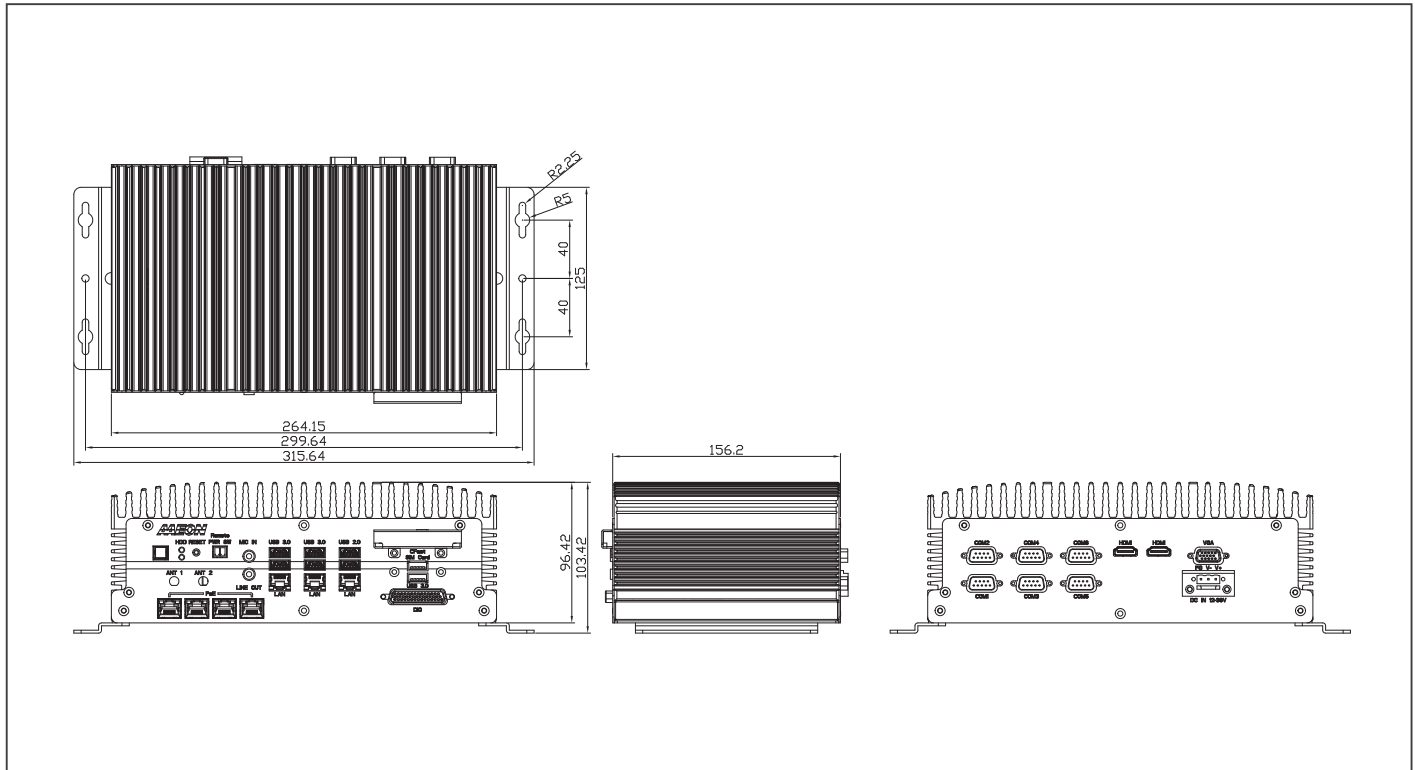


Specifications

System	
CPU	7th Generation Intel® Core™ Processor family: Intel® Core™ i7-7700T, 2.9 GHz Intel® Core™ i5-7500T, 2.8 GHz Intel® Core™ i3-7101TE, 3.4 GHz Intel® Pentium® G4600T, 3.0 GHz Intel® Pentium® G4560T, 2.9 GHz Intel® Celeron® G3930T, 2.7 GHz 6th Generation Intel® Core™ Processor family: Intel® Core™ i7-6700TE, 2.4 GHz Intel® Core™ i5-6500TE, 2.3 GHz Intel® Core™ i3-6100TE, 2.7 GHz Intel® Pentium® G4500T, 3.0 GHz Intel® Pentium® G4400T, 2.9 GHz Intel® Celeron® G3900T, 2.6 GHz
Chipset	Intel® Q170
System memory	DDR4 1866/2133 SODIMM slot x 2, up to 32GB
Display Interface	HDMI, VGA
Storage Device	CFast™, HDD/SSD
Ethernet	Intel® I210, 10/100/1000 Base-TX x 3
I/O	RS-232/422/485 x 6, USB Type A x 6 for USB 3.2 Gen 1, USB Type A x 2 for USB 2.0 RJ-45 x 3 for GbE LAN, RJ-45 x 4 for PoE (802.3at, max. 80W in total) DB-44 for 34-bit Digital I/O (5V), CFast™ slot x 1, SIM card slot x 1 Power On/Off Button x 1, 2 pin Remote power on/off, Reset switch Mic-in x 1, Line-out x 1, Antenna opening x 2, SYS LED indicator x 1, HDD LED indicator x 1, DB-15 x 1 for VGA, HDMI v1.3 x 2, DC-in 3-pin terminal block (12~36V)
Expansion	Full-size Mini-Card x 1 (PCI-E + USB, w/ SIM slot) Full-size Mini-Card x 1 (PCI-E + USB, Optional for mSATA and SIM Slot)
Indicator	Power LED, HDD active LED
OS Support	7th Generation Intel® Core™ Processor family: Windows® 10 IoT (64bit), Ubuntu 16.04 above, Fedora 25 above, CentOS 7.3 above 6th Generation Intel® Core™ Processor family: Windows® 10 IoT (64bit), Windows® 8.1 (64bit), Windows® Embedded 8 Standard (64bit), Windows® 7 (32/64bit), Windows® Embedded Standard 7 (32/64bit), Ubuntu 16.04 above, Fedora 25 above, CentOS 7.3 above
Power Supply	
Power Requirement	12 - 36V with 3-pin terminal block
Mechanical	
Mounting	Wallmount
Dimensions (W x H x D)	10.4" x 3.8" x 6.1" (264.2mm x 96.4mm x 154.2mm)
Gross Weight	13.0 lb (5.9 kg)
Net Weight	8.8 lb (4.0 kg)
Environmental	
Operating Temperature	-13°F ~ 131°F (-25°C ~ 55°C) (according to IEC68-2-14 with 0.5 m/s AirFlow; with industrial devices)
Storage Temperature	-49°F ~ 176°F (-45°C ~ 80°C)
Storage Humidity	5~95% @ 40°C, non-condensing
Anti-Vibration	5 Grms/ 5 ~ 500Hz/ operation – SSD/CFast™ card 1 Grms/ 5~ 500Hz/ operation – HDD
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	CPU	RAM	LAN	PoE	USB 3.2 Gen 1	USB 2.0	RS-232/422/485	Digital I/O	Audio	Storage	Display	Expansion	Mounting	Power	Operating Temp.
BOXER-6639M-A1-1010	—	—	3	4	6	2	6	34 bit	MIC-in x 1 Line-Out x 1	2.5" Drive Bay x 1 CFast™ x 1	VGA x 1 HDMI x 2	Full-size Minicard x 2	Wallmount	12-36V DC in	-13°F ~ 131°F (-25°C ~ 55°C)

Packing List

- Wallmount Bracket x 2
- Screw Package x 1
- Thermal Pad x 3
- Phoenix Connector x 2
- BOXER-6639M

Optional Accessories

- **1255902200**
220W Power Adapter (for 2 or above PoE cameras)
- **1255901202**
120W Power Adapter (for only 1 PoE camera)
- **1702031802**
Power Cord (US Type)
- **1702031803**
Power Cord (Europe)
- **170203180E**
Power Cord (Japan)
- **9741159H00**
WiFi/Bluetooth Module & Antenna
- **9741EC25E0**
4G Module & Antenna (For Europe)
- **9741EC25A0**
4G Module & Antenna (For USA-AT&T)
- **9741EC25V0**
4G Module & Antenna (For USA-Verizon)
- **9761639M00**
2nd HDD Kit

9741681003

DIN Rail Mounting Kit



Features

- Universal Patented Spring Lock Design
- DIN Rail: NS 35/7.5, NS 35/15
- For AEC-6612/6613, BOXER-6614

Ordering Information

- 9741681003
DIN Rail Mounting Kit



Features

- PCI-Express® [x4] Gen. 2 Compliant
- 4 Independent USB 3.2 Gen 1 Host Controller
- Supports Bandwidth 5 Gb/s for Each Port
- Supports Lockable USB Connector



Specifications

System	
Bus Interface	PCI-Express® [x4], Gen 2 PCI-Express Specification Revision 2.1 at 5GT/s
USB	4 independent USB 3.2 Gen 1 host controllers 900mA @ 5V for each port Compliant with USB 3.2 Gen 1 Specification Revision 1.0 4 downstream USB ports support SS/HS/FS/LS data rates (5Gbps/480Mbps/12Mbps/1.5Mbps)
USB Connector	4 USB 3.2 Gen 1 Type-A connectors with lockable screw threads
OS Support	Windows® 10, Windows® 8.1 (32/64-bit), Windows® 7(32/64-bit) Linux
Power Supply	
Power Requirement	12V from external IDE 4-pin power connector
Mechanical	
Dimensions (W x D)	4.72" x 4.21" (120mm x 107mm)
Environmental	
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C) (according to IEC68-2-14 with 0.5 m/s AirFlow ; with industrial devices)
Storage Temperature	-49°F ~ 176°F (-45°C ~ 80°C)
Storage Humidity	5 ~ 95% @ 40°C, non-condensing

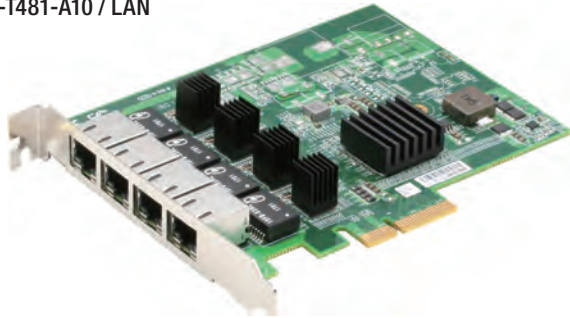
Ordering Information

- PER-T479-A11-00
4-Port USB 3.2 Gen 1 PCI-E [x4] Frame Grabber Card

PER-T481

4-Port/ 2-Port Intel® GbE LAN/ PoE PCI-E [x4] Frame Grabber Card

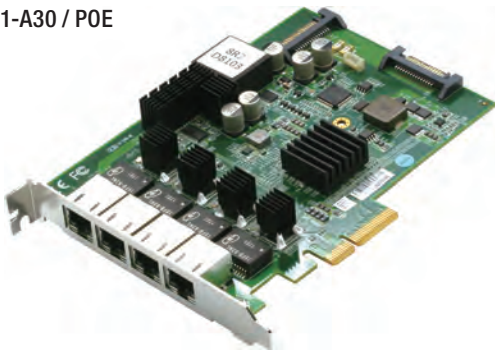
PER-T481-A10 / LAN



PER-T481-A20 / LAN



PER-T481-A30 / POE



PER-T481-A40 / POE



Features

LAN:

- PCI-Express® [x4] Gen. 2 Compliant
- Gigabit Ethernet Controller, Intel® i211AT
- Supports Bandwidth 1Gb/s for Each Port
- Supports for Link Aggregation/Jumbo Frames (9 KByte)

POE:

- PCI-Express® [x4] Gen 2 Compliant
- Gigabit Ethernet Controller, Intel® i211AT
- Supports Bandwidth 1Gb/s for Each Port
- Supports for Link Aggregation/Jumbo Frames (9 KByte)
- Supports Smart POE (Linux not Supported)



Specifications

System	
Bus Interface	PCI-Express® [x4], Gen 2 PCI-Express Specification Revision 2.0 at 5GT/s
USB	—
USB Connector	—
Ethernet	LAN: Intel® i211AT Ethernet Controller x 4 (A10) Intel® i211AT Ethernet Controller x 2 (A20) Fully compliant with IEEE 802.3 and IEEE 802.3u Support IEEE 1588 precision time synchronization POE: Intel® i211AT Ethernet Controller x 4 (A30) Intel® i211AT Ethernet Controller x 2 (A40) Fully compliant with IEEE 802.3 and IEEE 802.3u Support IEEE 1588 precision time synchronization Support IEEE 802.3 at
OS Support	LAN: Windows® 10(32/64-bit), Windows® 8.1 (32/64-bit), Windows® 7(32/64-bit), Linux POE: Windows® 10(32/64-bit), Windows® 8.1 (32/64-bit), Windows® 7(32/64-bit) (Linux not Supported)
Power Supply	
Power Requirement	LAN: Max. 10W POE: 4POE DUAL SATA Power (15 pin) DC Input 12~24V, Max. 90W for 4ports (A30) 2POE DUAL SATA Power (15 pin) DC Input 12~24V, Max. 60W for 2ports (A40)
Mechanical	
Dimensions (W x D)	LAN: 4.33" x 5.35" (110mm x 136mm) POE: 4.41" x 5.91" (112mm x 150mm)
Environmental	
Operating Temperature	LAN: -4°F ~ 140°F(-20°C ~ 60°C) (according to IEC68-2-14 with 0.5 m/s AirFlow; with industrial devices) POE: -4°F ~ 131°F(-20°C ~ 55°C) (according to IEC68-2-14 with 0.5 m/s AirFlow; 90W loading) (A30) -4°F ~ 131°F(-20°C ~ 55°C) (according to IEC68-2-14 with 0.5 m/s AirFlow; 60W loading) (A40)
Storage Temperature	-49°F ~ 176°F (-45°C ~ 80°C)
Storage Humidity	5 ~ 95% @ 40°C, non-condensing

Ordering Information

- **PER-T481-A10-00**
4-Port Intel GbE LAN PCIE x4 Lane Frame Grabber Card
- **PER-T481-A20-00**
2-Port Intel GbE LAN PCIE x4 Lane Frame Grabber Card
- **PER-T481-A30-00**
4-Port Intel POE PCI-E [x4] Frame Grabber Card
- **PER-T481-A40-00**
2-Port Intel POE PCI-E [x4] Frame Grabber Card



Features

- PCI-Express® [x4] Gen. 3 Compliant
- 1 Independent USB 3.2 Gen 2 Host Controller
- Supports Bandwidth 10 Gb/s for Each Port
- Supports Lockable USB Connector



Specifications

System	
Bus Interface	PCI-Express® [x4], Gen 3 PCI-Express Specification Revision 3.0 at 8GT/s
USB	1 independent USB 3.2 Gen 2 host controllers 900mA @ 5V for each port Compliant with USB 3.2 Gen 2 specification Revision 1.0
USB Connector	2 USB 3.2 Gen 2 Type-A connectors with lockable screw threads
OS Support	Windows® 10, Windows® 8.1 (32/64-bit), Windows® 7 (32/64-bit) Linux
Power Supply	
Power Requirement	From PCIe bus
Mechanical	
Dimensions (W x D)	3.94" x 2.8" (100mm x 71mm)
Environmental	
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C) (according to IEC68-2-14 with 0.5 m/s AirFlow ; with industrial devices)
Storage Temperature	-49°F ~ 176°F (-45°C ~ 80°C)
Storage Humidity	5 ~ 95% @ 40°C, non-condensing

Ordering Information

- PER-T499-A10-00
2-Port USB 3.2 Gen 2 PCI-E [x4] Frame Grabber Card

PER-T500

2-Port USB 3.2 Gen 1 PCI-E [x1] Frame Grabber Card



Features

- PCI-Express® [x1] Gen. 2 Compliant
- 1 Independent USB 3.2 Gen 1 Host Controller
- Supports Lockable USB Connector

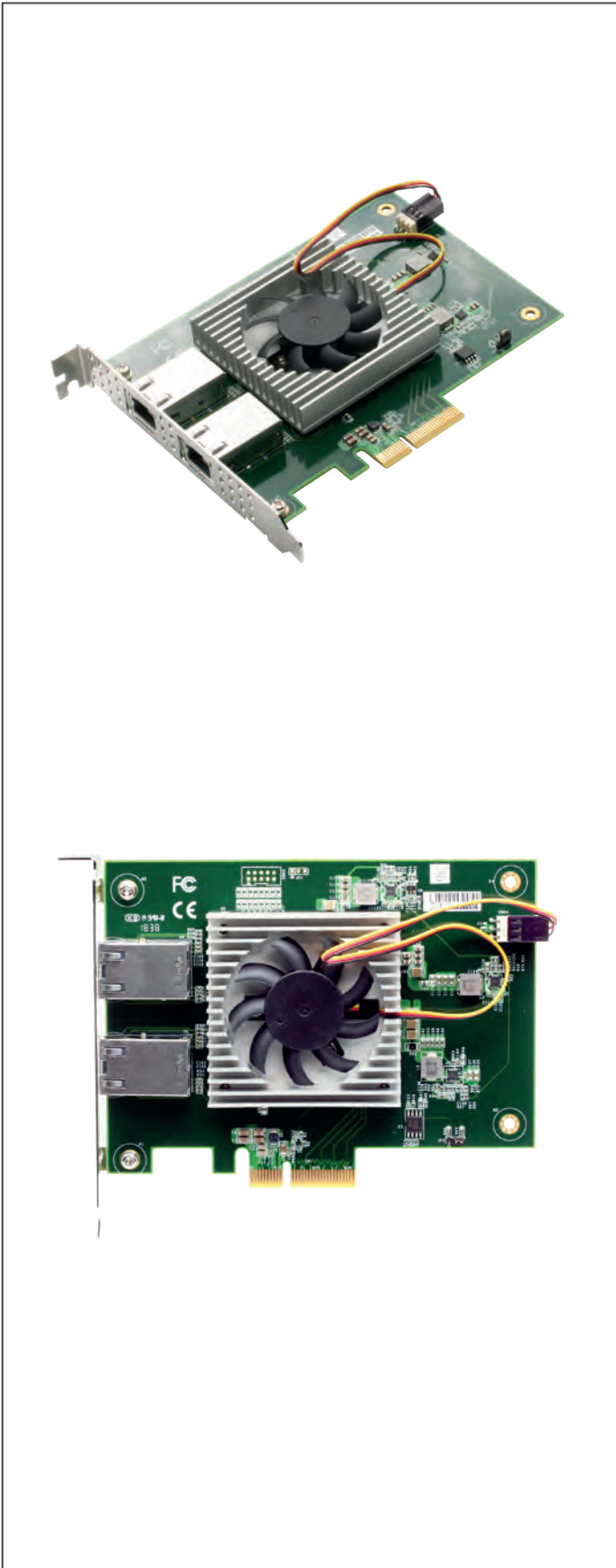


Specifications

System	
Bus Interface	PCI-Express® [x1], Gen 2
USB	1 independent USB 3.2 Gen 1 host controller 900mA @ 5V for each port Compliant with USB 3.2 Gen 1 Specification Revision 1.0
USB Connector	2 USB 3.2 Gen 1 Type-A connectors with lockable screw threads
OS Support	Windows® 10, Windows® 8.1 (32/64-bit), Windows® 7(32/64-bit) Linux
Power Supply	
Power Requirement	From PCIe bus
Mechanical	
Dimensions (W x D)	3.07" x 2.8" (78mm x 71mm)
Environmental	
Operating Temperature	32°F ~ 122°F(0°C ~ 50°C)(according to IEC68-2-14 with 0.5 m/s with air-flow; with industrial devices)
Storage Temperature	-49°F ~ 176°F (-45°C ~ 80°C)
Storage Humidity	5 ~ 95% @ 40°C, non-condensing

Ordering Information

- PER-T500-A10-00
2-Port USB 3.2 Gen 1 PCI-E [x1] Frame Grabber Card



Features

- PCI-Express® [x4] Gen 2 Compliant
- 2 10Gigabit Ethernet Controller, Intel® x550
- Supports CAT-6/6a RJ45 cable
- Supports NBASE-T and 1000BASE-T with CAT-5/ 5e cable
- Supports 15.5 KB Jumbo Frame, NIC teaming and IEEE 1588



Specifications

System	
Bus Interface	PCI-Express® [x4], Gen 2 PCI-Express Specification Revision 2.1 at 5GT/s
USB	—
USB Connector	—
Ethernet	2 Ports 10GbE Ethernet w/ Intel X550 Controller Fully compliant with IEEE 802.3 and IEEE 802.3u Support IEEE 1588 precision time synchronization Support 15.5 KB Jumbo Frame, teaming Support IEEE 802.3 Ethernet interface for 10GBASE-T (IEEE 802.3an) Support NBASE-T (IEEE 802.3bz) and 1000BASE-T (IEEE 802.3ab)
OS Support	Windows® 10 (64-bit), Windows® 8.1 (64-bit), Windows® 7 (64-bit), Linux 18.04.1
Power Supply	
Power Requirement	Max. 7.84W
Mechanical	
Dimensions (W x D)	3.94" x 5.35" (100mm x 136mm)
Environmental	
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C) (according to IEC68-2-14 with 0.5 m/s AirFlow ; with industrial devices)
Storage Temperature	-49°F ~ 176°F (-45°C ~ 80°C)
Storage Humidity	5 ~ 95% @ 40°C, non-condensing

Ordering Information

- **PER-T514-A10-00**
2 Ports Intel® 10GbE LAN PCI-E [x4] Frame Grabber Card

Compact Fanless BOX PC Solutions

15



BOXER-6616

Fanless Embedded Box PC with Intel® Celeron® Processor N3350/N4200

Front View



Features

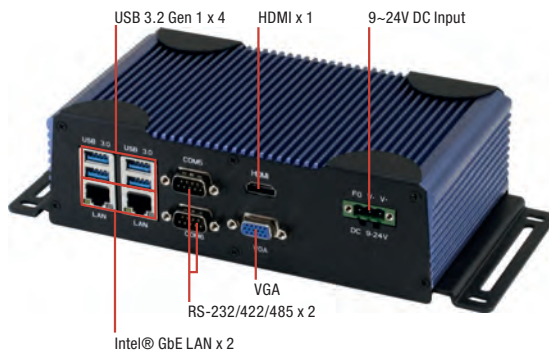
- Intel® Pentium® N4200 2.5 GHz/ Celeron® N3350 2.4 GHz
- DDR3L 1866 SODIMM x 1, Memory Max. up to 8GB
- COM x 6: RS-232/422/485 x 2 + RS-232 x 4
- USB 3.2 Gen 1 x 4
- VGA + HDMI Output, Support Dual View/ Simultaneous Display
- Supports 2.5" Drive Bay x 1, mSATA
- Supports 8 Channel TTL Level DIO x 1 (Optional)
- AAEON's Hi-Safe Support
- Supports DC 9~24V with Power Protection
- Wide Operating Temperature: -4°F ~ 158°F (-20°C ~ 70°C)
- AT/ATX Switch, Remote Power On/Off Switch



Specifications

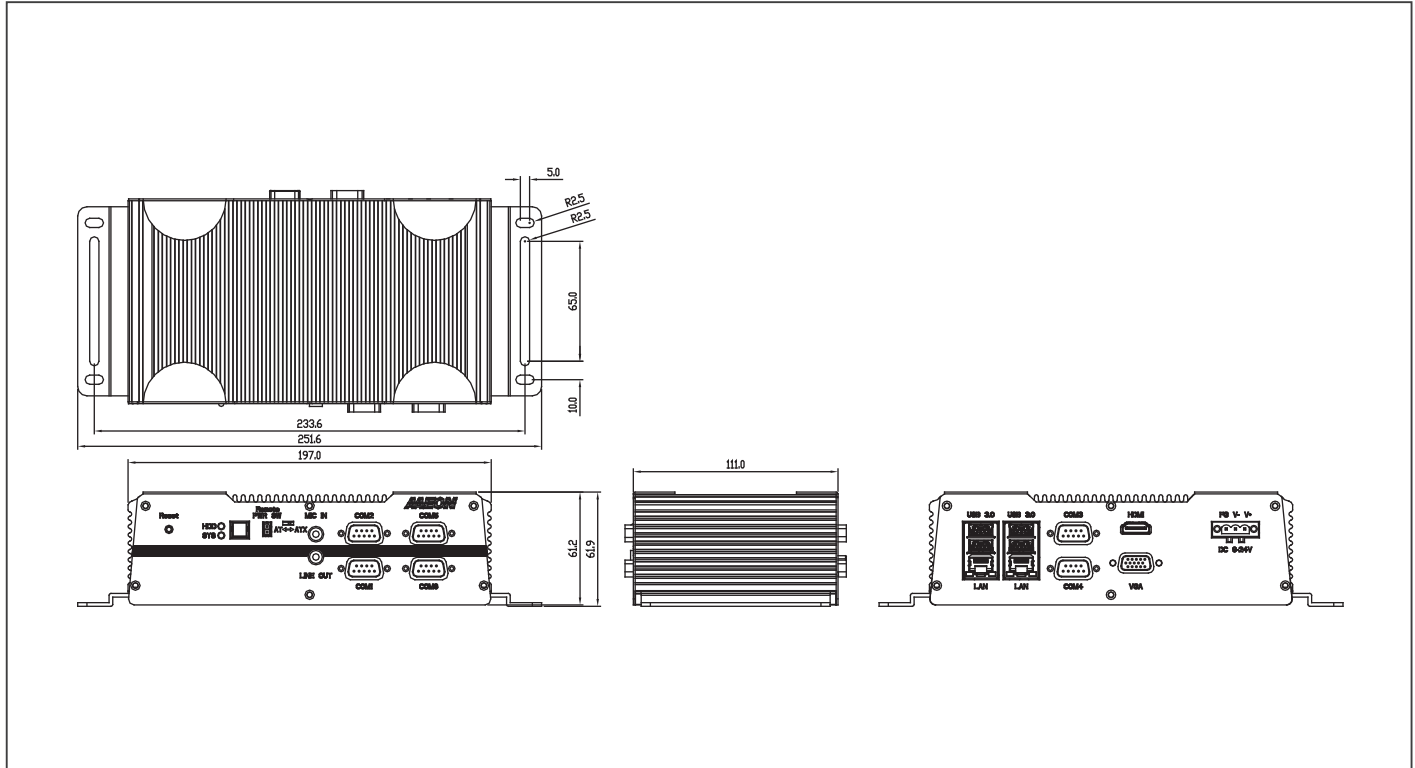
System	
CPU	Intel® Pentium® N4200, 2.5 GHz Intel® Celeron® N3350, 2.4 GHz
Chipset	Intel® System on Chip
System memory	DDR3L 1866 SODIMM slot x 1, up to 8GB
Display Interface	HDMI (max. 2048 x 1152) VGA (max. 2048 x 1152)
Storage Device	mSATA, HDD/SSD
Ethernet	Intel® I211, 10/100/1000 Base-TX x 2
I/O	RS-232/422/485 x 2 RS-232 x 4 USB 3.2 Gen 1 x 4 VGA x 1 HDMI x 1 LAN x 2 Remote On/Off x 1 Reset Button x 1 AT/ATX DIP Switch Mic-In x 1 Line-Out x 1 Antenna holes x 1 Power button Power input
Expansion	Full-size Mini-Card x 1 (PCI-E + USB, w/ SIM slot) Half-size Mini-Card x 1 (A1:PCI-E + USB, A2: mSATA + USB)
Indicator	Power LED HDD active LED
OS Support	Windows® 10 Windows® 10 IOT Linux
Power Supply	
Power Requirement	9-24V with 3-pin terminal block
Mechanical	
Mounting	Wallmount DIN Rail (Mounting kit is optional)
Dimensions (W x H x D)	7.76" x 2.17" x 4.33" (197mm x 55mm x 110mm)
Gross Weight	6.6 lb (2.8 kg)
Net Weight	4.4 lb (2 kg)
Environmental	
Operating Temperature	-4°F ~ 158°F (-20°C ~ 70°C) with W.T. SSD/HDD/mSATA (according to IEC682-14 with 0.5 m/s AirFlow; with industrial devices)
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	95% @ 40°C, non-condensing
Anti-Vibration	3 Grms/ 5 ~ 500Hz/ operation – mSATA/SSD 1 Grms/ 5~ 500Hz/ operation – HDD
Certification	CE/FCC class A

Rear View



Dimension

Unit: mm



Ordering Information

Part Number	CPU	RAM	LAN	PoE	USB 3.2 Gen 1	USB 2.0	RS-232	RS-232/422/485	Digital I/O	Audio	Storage	Display	Expansion	Mounting	Power	Operation Temp.
BOXER-6616-A1-1010	Intel® Pentium® N4200 2.5 GHz	—	2	—	4	0	4	2	—	MIC-in x 1 Line-Out x 1	2.5" Drive Bay x 1	VGA x 1 HDMI x 1	Full-size Minicard x 1 Half-size Minicard x 1	Wallmount Optional Dinrail Optional VESA-Mount	9~24V DC In	-4°F ~ 158°F (-20°C ~ 70°C)
BOXER-6616-A2-1010	Intel® Celeron® N3350 2.4 GHz	—	2	—	4	0	4	2	—	MIC-in x 1 Line-Out x 1	2.5" Drive Bay x 1 mSATA x 1	VGA x 1 HDMI x 1	Full-size Minicard x 1 Half-size Minicard x 1	Wallmount Optional Dinrail Optional VESA-Mount	9~24V DC In	-4°F ~ 158°F (-20°C ~ 70°C)

Packing List

- Wallmount Bracket x 2
- Screw Package x 1
- 3 Pin DC-In Power Connector x 1
- BOXER-6616

Optional Accessories

- **1255900849**
12V 84W Power Adapter
- **1702031802**
Power Cord (US Type)
- **1702031803**
Power Cord (Europe)
- **170203180E**
Power Cord (Japan)
- **9741640404**
Din Rail Mount Kit
- **9751640300**
4G (EU) & GPS Module Kit
- **9751640301**
4G (US) & GPS Module Kit
- **9741C50W04**
WiFi 802.11 b/g/n + BT 3.0 Kit

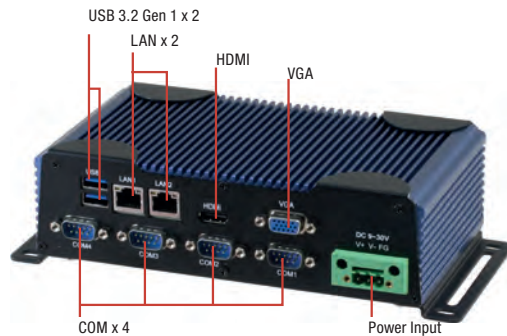
BOXER-6615

Fanless Embedded Box PC with Intel® Pentium® N3710, 1.6 GHz

Front View



Rear View



Features

- Intel® Pentium® N3710 1.6 GHz
- 6COMs: RS-232/422/485 x 2 + RS-232 x 4
- USB 3.2 Gen 1 x 2, USB2.0 x 2
- VGA + HDMI Output, Support Dual View/ Simultaneous Display
- Supports 2.5" Drive Bay x 1, mSATA
- Supports 8 Channel DIO x 1
- DDR3L 1600 SODIMM x 1, Memory Max. up to 8 GB
- AAEON's Hi-Safe Support

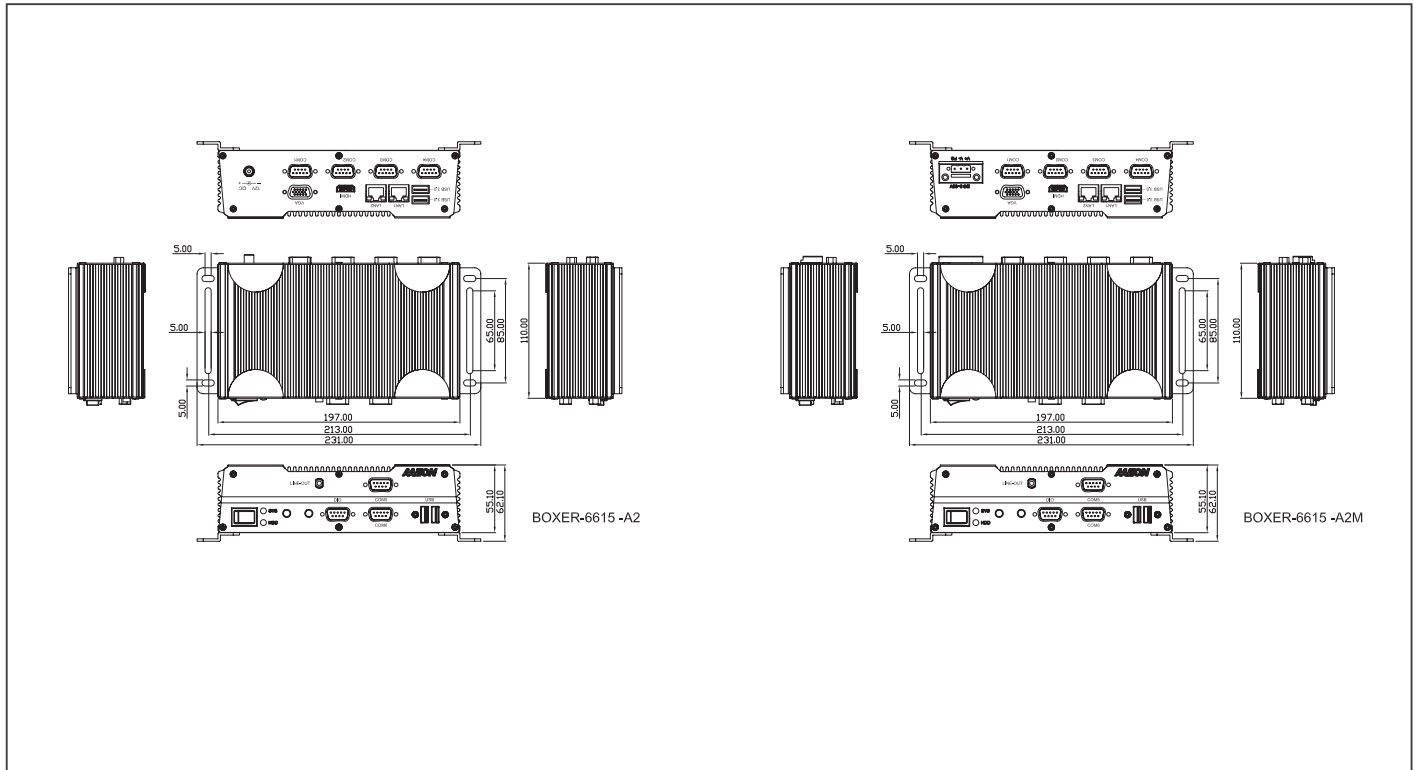


Specifications

System	
CPU	Intel® Pentium® N3710 1.6GHz
Chipset	Intel® System on Chip
System memory	204-pin 1600 DDR3L SODIMM x 1, up to 8GB
Display Interface	VGA, HDMI
Storage Device	mSATA, 2.5" HDD/SSD
Ethernet	Realtek® RTL-8111E, 10/100/1000 Base x2
I/O	RS-232/422/485 x 2 RS-232 x 4 USB 3.2 Gen 1 x 2 USB2.0 x 2 VGA x 1 HDMI x 1 DIO x 1 Line-Out x 1 Antenna holes x 2 Power switch Power input
Expansion	Full-size Mini-Card x 1 (PCI-E + USB, w/ SIM slot) Half-size Mini-Card x 1 (mSATA + USB)
Indicator	Power LED HDD active LED
OS Support	Windows® 10, Windows® 8.1 (32/64-bit), Windows® 7 (32/64-bit), WES7/ WES8, Windows® 10 IOT, Linux
Power Supply	
Power Requirement	9 - 30V with 3-pin terminal block, 12V with lockable DC jack
Mechanical	
Mounting	Wallmount DIN Rail (Mounting kit is optional)
Dimensions (W x H x D)	7.76" x 2.17" x 4.33" (197mm x 55mm x 110mm)
Gross Weight	6.6 lb (2.8 kg)
Net Weight	4.4 lb (2 kg)
Environmental	
Operating Temperature	-4°F ~ 140°F (-20°C ~ 60°C) with W.T. SSD/HDD/mSATA (according to IEC68-2-14 with 0.5 m/s AirFlow; with industrial devices)
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	95% @ 40°C, non-condensing
Anti-Vibration	5 Grms/ 5 ~ 500Hz/ operation –mSATA/SSD 1 Grms/ 5~ 500Hz/ operation – HDD
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	CPU	RAM	LAN	USB 3.2 Gen 1	USB 2.0	RS-232	RS-232 /422/485	DIO	Audio	Storage	Display	Expansion	Mounting	Power	Temp.
BOXER-6615-A2-1010	Intel® Pentium® N3710 1.6GHz	—	2	2	2	4	2	8 bit	Line-Out	SATA 2.5" HDD bay x 1 mSATA x 1	VGA x 1 HDMI x 1	Full Size Mini-Card x 1 Half Size Mini-Card x 1	Wallmount Din Rail Mounting Kit (Optional)	DC 12V	-4°F ~ 140°F (-20°C ~ 60°C) with W.T. SSD/HDD/mSATA (according to IEC68-2-14)
BOXER-6615-A2M-1010	Intel® Pentium® N3710 1.6GHz	—	2	2	2	4	2	8 bit	Line-Out	SATA 2.5" HDD bay x 1 mSATA x 1	VGA x 1 HDMI x 1	Full Size Mini-Card x 1 Half Size Mini-Card x 1	Wallmount Din Rail Mounting Kit (Optional)	DC 9-30V	-4°F ~ 140°F (-20°C ~ 60°C) with W.T. SSD/HDD/mSATA (according to IEC68-2-14)

Packing List

- Wallmount Bracket x 2
- Screw Package x 1
- 3 Pin DC-In Power Connector x 1 (For A2M, DC 9 ~30 V only)
- BOXER-6615

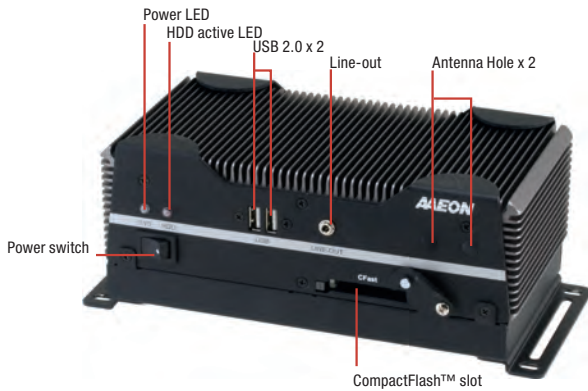
Optional Accessories

- **125530060A**
DC Jack for 6615-A2, Power Adapter, AC, 100/240V, 12V/5A, 60W, W/ Lock
- **1255900841**
3 pin for 6615-A2M, Power Adapter, AC, 100/240V, 12V/7A, 84W
- **1702031802**
Power Cord (US Type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **9741640404**
Din Rail Mount Kit

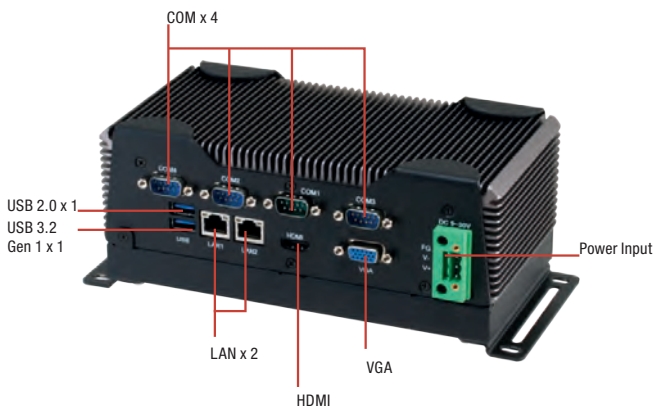
BOXER-6614

Fanless Embedded Box PC with Intel® Celeron® N2930 Quad Core 1.83 GHz/ Celeron® N2807 Dual Core 1.58 GHz

Front View



Rear View



Features

- Intel® Celeron® N2930 Quad Core 1.83 GHz/ Celeron® N2807 Dual Core 1.58 GHz
- Intel® HD Graphics Engine
- DDR3L 1333 MHz SODIMM x 1, Memory up to 8 GB
- Intel® Gigabit Ethernet x 2
- VGA + HDMI Output, Supports Dual View/Simultaneous Display
- RS-232/422/485 x 2, RS-232 x 2, USB 3.2 Gen 1 x 1, USB 2.0 x 3
- Full-size Mini-Card with SIM Card Slot x 1, Half-size Mini-Card x 1 for Factory-Install
- Compact Size & Low Power
- Cost-Effective Design
- Fanless System Design
- AAEON's Hi-Safe Support

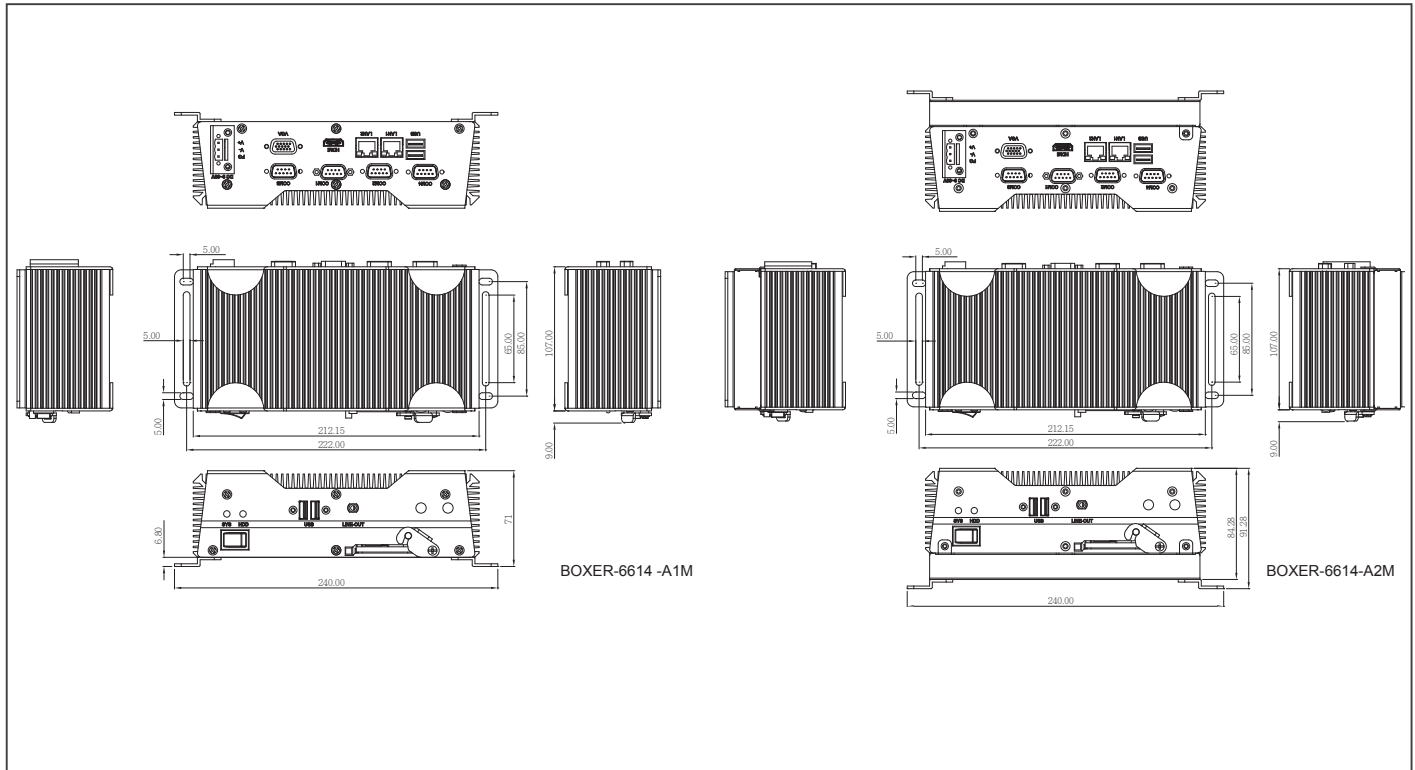


Specifications

System	
CPU	Intel® Celeron® N2930, 1.83 GHz Intel® Celeron® N2807, 1.58GHz
Chipset	Intel® System on Chip
System Memory	DDR3L 1333 SODIMM slot x 1, up to 8 GB (N2930) or 4 GB (N2807)
Display Interface	VGA, HDMI
Storage Device	CFlash™, HDD/SSD
Ethernet	Intel® I210/I211, 10/100/1000 Base-TX x 2
I/O	RS-232/422/485 x 2 RS-232 x 2 USB 2.0 x 3 USB 3.2 Gen 1 x 1 VGA x 1 HDMI x 1 Line-out x 1 LAN x 2 CFlash slot x 1 Antenna holes x 2 Power switch Power input
Expansion	Full-size Mini-Card x 1 (PCI-E + USB, w/ SIM slot) Half-size Mini-Card x 1 (PCI-E + USB)
Indicator	Power LED HDD active LED
OS support	Windows® 10, Windows® 8.1 (32/64-bit), Windows® 7 (32/64-bit), WES7/WES8, Linux Ubuntu 14.04/ Kernel 3.13.0
Power Supply	
Power Requirement	9 - 30V with 3-pin terminal block, 12V with lockable DC jack
Mechanical	
Mounting	Wallmount DIN Rail (Mounting kit is optional)
Dimensions (W x H x D)	8.35" x 4.21" x 2.53" (212.15mm x 107mm x 64.2mm)
Gross Weight	6.6 lb (2.8 kg)
Net Weight	4.4 lb (2 kg)
Environmental	
Operating Temperature	-4°F ~ 131°F (-20°C ~ 55°C) with wide temperature CFlash™ card -4°F ~ 140°F (-20°C ~ 60°C) with wide temperature HDD (according to IEC68-2-14 with 0.5 m/s AirFlow; with industrial devices)
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	95% @ 40°C, non-condensing
Anti-Vibration	5 Grms/ 5 ~ 500Hz/ operation –CFlash™ card 1 Grms/ 5 ~ 500Hz/ operation – HDD
Certification	CE/FCC class A, UL

Dimension

Unit: mm



Ordering Information

Part Number	CPU	RAM	LAN	USB	RS-232	RS-232/422/485	Storage	Display	Expansion	Mounting	Power	Temp.
BOXER-6614-A1-1110	Intel® Celeron® SoC N2930	—	2	4	2	2	CFast Socket x 1 (Easy-to-swap)	VGA x 1 HDMI x 1	Full Size Mini-Card x 1 Half Size Mini-Card x 1	Wallmount/ Din Rail Mounting Kit (Optional)	DC 12V	-20°C~55°C with Wide Temp. CFast(with 0.5 m/s air flow, according to IEC68-2-14)
BOXER-6614-A1M-1110	Intel® Celeron® SoC N2930	—	2	4	2	2	CFast Socket x 1 (Easy-to-swap)	VGA x 1 HDMI x 1	Full Size Mini-Card x 1 Half Size Mini-Card x 1	Wallmount/ Din Rail Mounting Kit (Optional)	DC 9-30V	-20°C~55°C with Wide Temp. CFast(with 0.5 m/s air flow, according to IEC68-2-14)
BOXER-6614-A2-1110	Intel® Celeron® SoC N2930	—	2	4	2	2	CFast Socket x 1 (Easy-to-swap) SATA 2.5" HDD bay x 1	VGA x 1 HDMI x 1	Full Size Mini-Card x 1 Half Size Mini-Card x 1	Wallmount/ Din Rail Mounting Kit (Optional)	DC 12V	-20°C~55°C with Wide Temp. CFast(with 0.5 m/s air flow, according to IEC68-2-14)
BOXER-6614-A2M-1110	Intel® Celeron® SoC N2930	—	2	4	2	2	CFast Socket x 1 (Easy-to-swap) SATA 2.5" HDD bay x 1	VGA x 1 HDMI x 1	Full Size Mini-Card x 1 Half Size Mini-Card x 1	Wallmount/ Din Rail Mounting Kit (Optional)	DC 9-30V	-20°C~60°C with Wide Temp. HDD(with 0.5 m/s air flow, according to IEC68-2-14)
BOXER-6614-A11M-1110	Intel® Celeron® SoC N2807	—	2	4	2	2	CFast Socket x 1 (Easy-to-swap)	VGA x 1 HDMI x 1	Full Size Mini-Card x 1 Half Size Mini-Card x 1	Wallmount/ Din Rail Mounting Kit (Optional)	DC 9-30V	-20°C~55°C with Wide Temp. CFast(with 0.5 m/s air flow, according to IEC68-2-14)
BOXER-6614-A12-1110	Intel® Celeron® SoC N2807	—	2	4	2	2	CFast Socket x 1 (Easy-to-swap) SATA 2.5" HDD bay x 1	VGA x 1 HDMI x 1	Full Size Mini-Card x 1 Half Size Mini-Card x 1	Wallmount/ Din Rail Mounting Kit (Optional)	DC 12V	-20°C~55°C with Wide Temp. CFast(with 0.5 m/s air flow, according to IEC68-2-14) -20°C~60°C with Wide Temp. HDD(with 0.5 m/s air flow, according to IEC68-2-14)

Packing List

- Wallmount Bracket x 2
- Screw Package x 1
- RAM Thermal Pad x 1 (60mm x 25mm x 3mm) (For A1/A1M the SKU without HDD kit only)
- 3 Pin DC-In Power Connector x 1 (For A1M/A2M, for DC 9 ~30 V only)
- BOXER-6614

Optional Accessories

- 125530060Z - DC Jack for 6614-A1/A2
- 1702031803 Power Adapter, AC, 100/240V, 12V/5A, 60W, W/ Lock, FSP, FSP060-DHAN3
- 170203180E Power Cord (European Type)
- 1255900849 - 3 pin for 6614-A1M/A2M
- 170203180E Power Cord (Japanese Type)
- 9741681003 Power Adapter, AC, 100/240V, 12V/7A, 84W, FSP, FSP084-DHAN3
- 9741681003 Din Rail Mount Kit
- 1702031802 Power Cord (US Type)

Launching in Q1**Features**

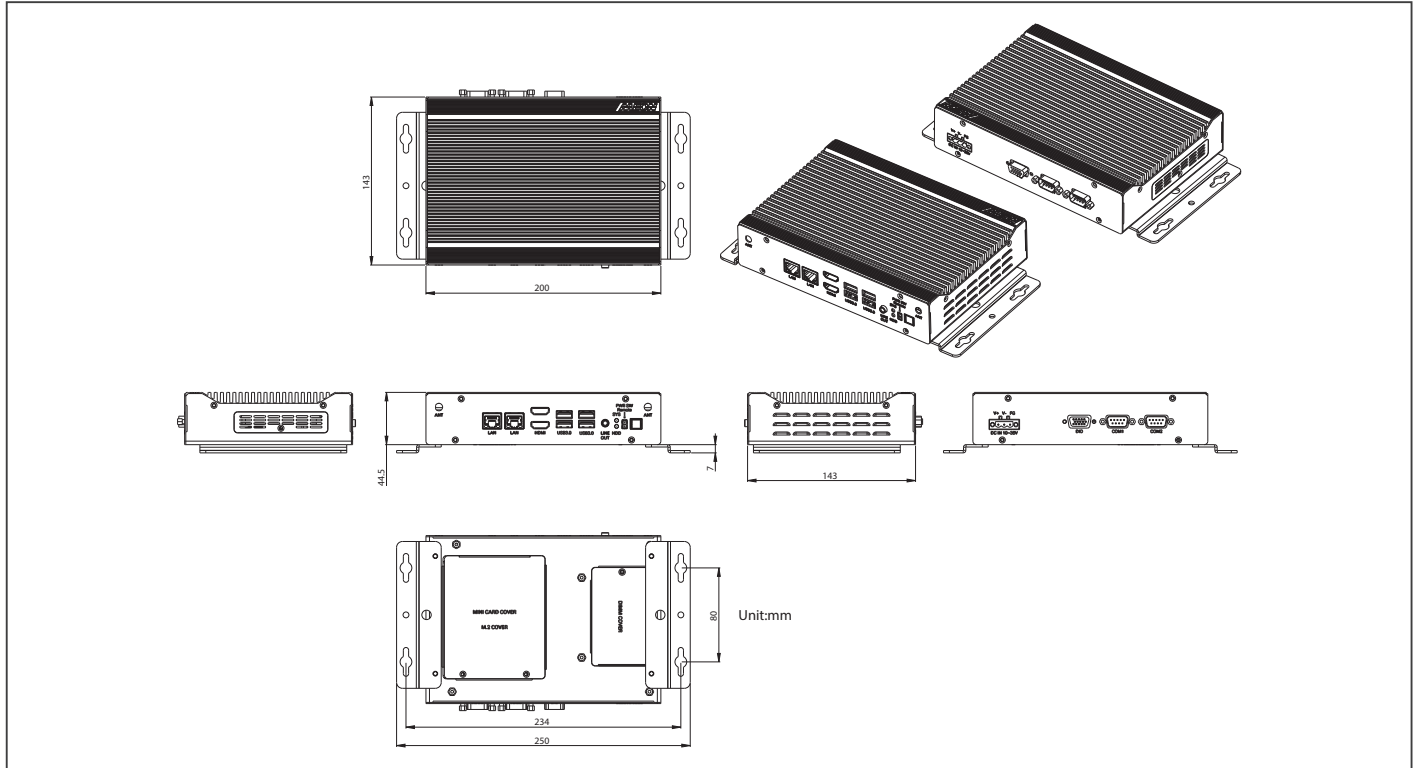
- Extreme Computing Power with Intel® SoC Processor
- DDR4 slot x2, up to 64GB
- Support High Speed NVMe storage (M.2 2280)
- GbE LAN x 1 (Intel I219) + 2.5GbE LAN x 1 (Intel I225)
- Supports M.2 3052 B Key for 5G module
- Wide Range 9-36V DC input
- Wide Range -20~60 °C Operating Temperature

**Specifications**

System	
CPU	Intel® Core™ i7-1185G7E Intel® Core™ i5-1145G7E Intel® Core™ i3-1115G4E
Chipset	Intel® SoC
System Memory	DDR4 SO-DIMM x 2, up to 64GB
Display Interface	HDMI 1.4 x 2
Storage Device	M.2 2280 M key slot x 1 (PCIex4), 2.5" SATA SSD/HDD bay x 1
Ethernet	Intel® i219 x 1, i225 x 1
I/O	HDMI x 2 RJ-45 x 2 for 1G/2.5GbE LAN (i219 x 1, i225 x 1) USB 3.2 Gen 2 x 4 DB-9 x 2 for RS-232/422/485 DB15 x1 Male for Digital I/O 8-channel Line out x 1 3 pin 9~36V Power Input x 1 Power Button with LED x 1
Expansion	M.2 2280 M Key x 1 M.2 3052 B Key x 1 (for 5G module) Full-Size Mini Card x1 (mSATA/PCIe Auto Switch) SIM x 1
Indicator	Power / System LED
OS Support	Windows® 10 IoT Enterprise 64-bit Linux Ubuntu 20.04
Power Supply	
Power Requirement	9-36V DC-in with 3-pin terminal block
Mechanical	
Mounting	Wallmount
Dimensions (W x H x D)	11.02" x 5.98" x 1.73" (280mm x 152mm x 44mm)
Gross Weight	—
Net Weight	—
Environmental	
Operating Temperature	-4°F ~ 140°F (-20°C ~ 60°C), according to IEC68-2-14 with 0.5 m/s AirFlow
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Storage Humidity	5 ~ 95% @ 40°C, non-condensing
Anti-Vibration	2 Grms/ 5 ~ 500Hz/ operation
Certification	CE/FCC Compliance

Dimension

Unit: mm



Ordering Information

- TBD

Packing List

- Wallmount Bracket x 2
- 3 Pin DC-in Power Connector x 1
- Screw Package x 1
- BOXER-6643-TGU x 1

Optional Accessories

- 125590120B
120W Power Adapter
- 1702031803
Power Cord (Europe)
- 1702031802
Power Cord (US Type)
- 170203180E
Power Cord (Japan)

Fanless Embedded Box PC with Socket Type 10th Generation Intel® Core™ Processor

Front View



Rear View



Features

- Extreme Computing Power & Graphic Display Capability
- DDR4 slot x2, up to 64GB
- Support High Speed NVMe storage (M.2 2280)
- Compatible with Intel® Keem Bay VPU (M.2 2280)
- GbE LAN x 2, RS232/422/485 x 2
- Supports Intel® AMT
- Support dTPM
- Wide Range 10-35V DC input
- Wide Range -20~55 °C Operating Temperature

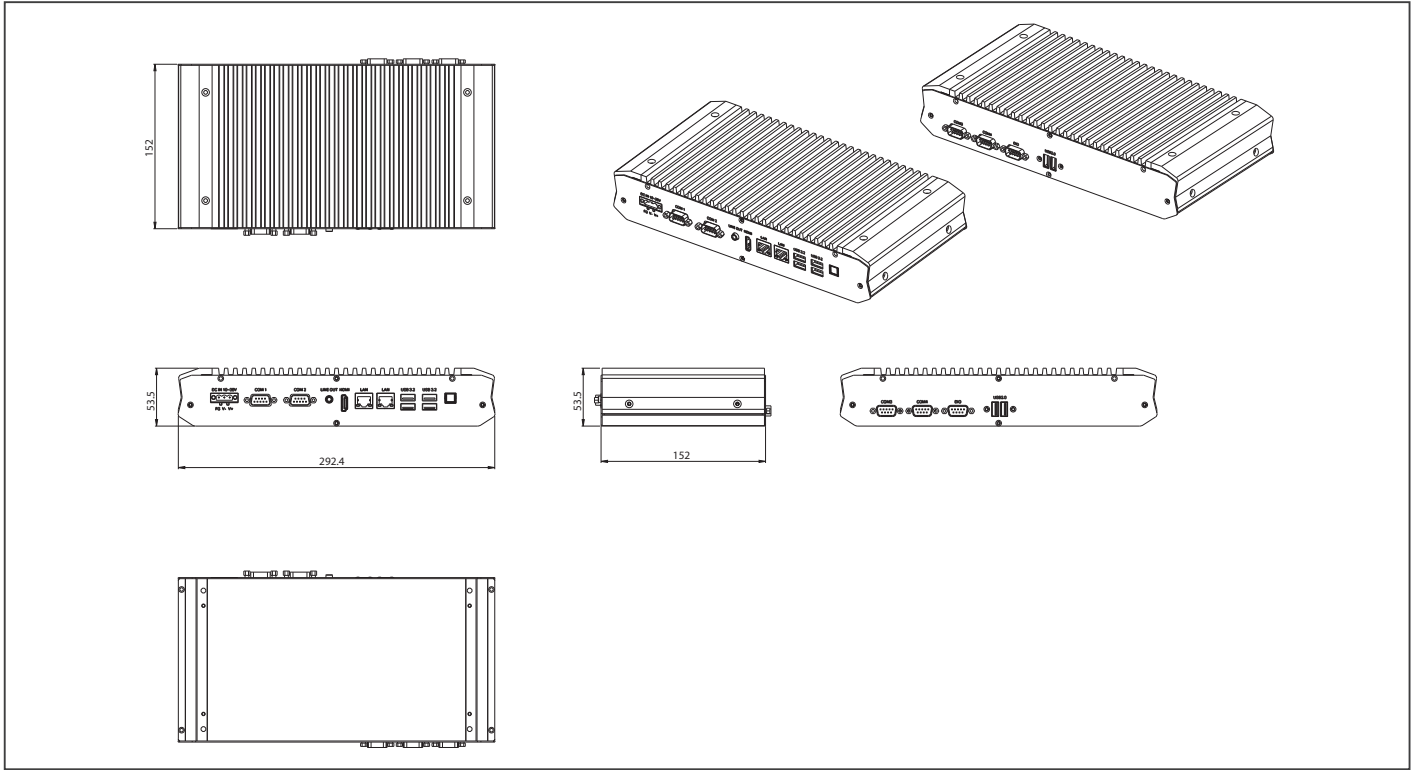


Specifications

System	
CPU	Intel® Core™ i7-10700TE Intel® Core™ i5-10500TE Intel® Core™ i3-10100TE Intel® Pentium™ G6400TE Intel® Celeron® G5900TE
Chipset	Intel® Q470E
System Memory	LPDDR4 SO-DIMM x 2, up to 64GB
Display Interface	HDMI 1.4 x 1
Storage Device	M.2 2280 slot x 1 (PCIex4), 2.5" SATA SSD/HDD bay x 1
Ethernet	Intel® i211 x 1, i219 x 1
I/O	HDMI x 1 RJ-45 x 2 for GbE LAN (i211 x 1, i219 x 1) USB 3.2 Gen 2 x 4 USB 2.0 x 2 DB-9 x 4 for RS-232/422/485 DB15 x 1 for B channel DIO Line out x 1 3 pin 10~35V Power Input x 1 Power Button with LED x 1
Expansion	M.2 2230 E Key x 1 M.2 2280 M Key x 1 Full-Size Mini Card x1 (mSATA/PCIe switch by BIOS, default PCIe) SIM x 1
Indicator	Power LED
OS Support	Windows® 10 IoT Enterprise 64-bit Linux Ubuntu 20.04
Power Supply	
Power Requirement	10-35V DC-in with 3-pin terminal block
Mechanical	
Mounting	Wallmount
Dimensions (W x H x D)	11.02" x 5.98" x 1.73" (280mm x 152mm x 44mm)
Gross Weight	—
Net Weight	—
Environmental	
Operating Temperature	-4°F ~ 131°F (-20°C ~ 55°C) (35W CPU), according to IEC68-2-14 with 0.5 m/s AirFlow
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Storage Humidity	5 ~ 95% @ 40°C, non-condensing
Anti-Vibration	2 Grms/ 5 ~ 500Hz/ operation
Certification	CE/FCC Compliance

Dimension

Unit: mm



Ordering Information

- TBD

Packing List

- Wallmount Bracket x 2
- 3 Pin DC-in Power Connector x 1
- Screw Package x 1
- BOXER-6642-CML x 1

Optional Accessories

- 125590120B
120W Power Adapter
- 1702031803
Power Cord (Europe)
- 1702031802
Power Cord (US Type)
- 170203180E
Power Cord (Japan)

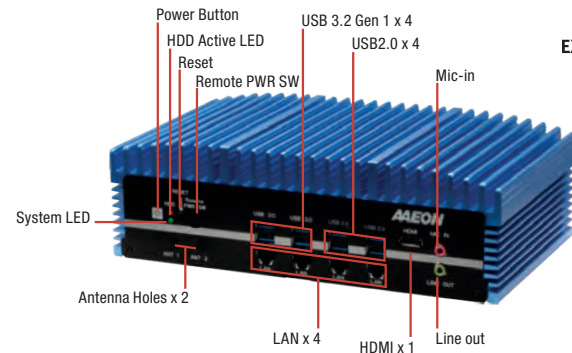
BOXER-6641

Fanless Embedded Box PC with Socket Type 8th Generation Intel® Processor

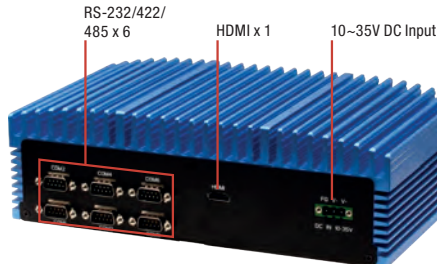
Compact Fanless BOX PC Solutions

BOXER-6641-A1-1010(H310)

Front View

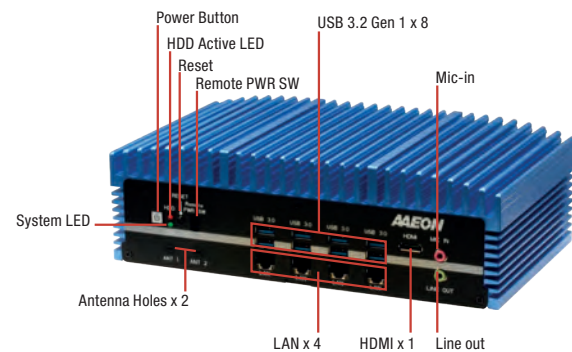


Rear View

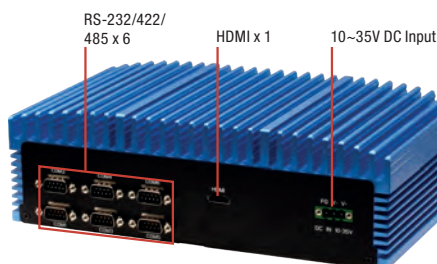


BOXER-6641-A2-1010(C246)

Front View



Rear View



Features

- Extreme Computing Power & Graphic Display Capability
- Desktop Grade Socket Type Core™ - i3/i5/i7/i9 Processor for A1 model (max. TDP up to 65W)
- Desktop Grade Socket Type Core™ - i3/i5/i7/i9/Xeon® Processor for A2 model (max. TDP up to 71W)
- Supports DDR4 ECC or Non-ECC SODIMM, Up to 64GB
- Supports Intel® GbE LAN x 4 (i211 x 3 + i219 x 1)
- Supports Intel® AMT (A2 Model)
- Supports HDMI x 2 Dual Display
- Supports USB 3.2 Gen 1 x 8 (A2 model)
- Supports BIOS Selectable RS-232/422/485 x 6
- Wide Range DC 10~35V Input

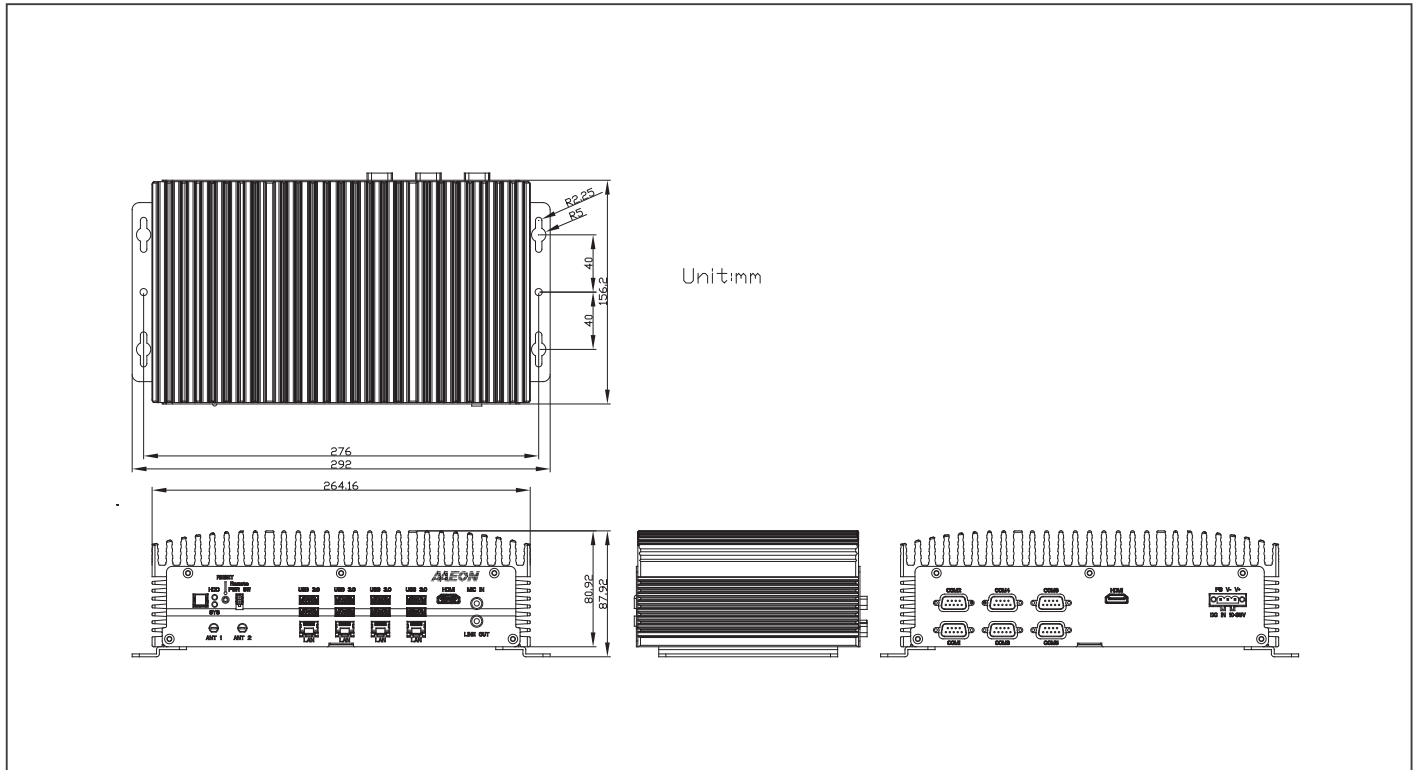


Specifications

System	
CPU	Intel® Xeon® E-2124G (for A2 model only) Intel® i9-9900T Intel® i7-9700TE Intel® i7-8700T Intel® i5-8500T Intel® i3-8100T Pentium® G5400T Celeron® G4900T
Chipset	Intel® C246/H310
System Memory	DDR4-2666 SO-DIMM slot x 2, Up to 64GB, ECC or Non-ECC Support
Display Interface	HDMI x 2
Storage Device	2.5" SATA HDD/SSD Bay x 1 (Optional x 2)
Ethernet	Intel® i211 x 3, i219 x 1
I/O	HDMI x 2 RJ-45 x 4 for GbE LAN (i211 x 3, i219 x 1) USB 3.2 Gen 1 x 4, USB 2.0 x 4 (A1 model) USB 3.2 Gen 1 x 8 (A2 model) DB-9 x 6 for RS-232/422/485 Audio x 1 (MIC-in, Line-out) 3 pin 10~35V Power Input x 1 Power Button x 1 Remote Power switch x 1 Reset Button x 1 HDD LED x 1 SYS LED x 1
Expansion	Full-size Mini PCIe x 1 Full-size Mini Card x 1 (PCIe/mSATA switch by BIOS, Default: mSATA) SIM slot x 1
Indicator	HDD LED x 1 SYS LED x 1
OS Support	Windows® 10 64-bit Linux Ubuntu 18.04
Power Supply	
Power Requirement	3-pin DC Input 10~35V
Mechanical	
Mounting	Wallmount
Dimensions (W x H x D)	10.4" x 3.19" x 6.15" (264.2mm x 80.92mm x 156.2mm)
Gross Weight	10.4 lb (4.7 kg)
Net Weight	8.2 lb (3.7 kg)
Environmental	
Operating Temperature	-4°F ~ 131°F (-20°C ~ 55°C) with 0.5 m/s airflow – with TDP ≤ 35W CPU -4°F ~ 113°F (-20°C ~ 45°C) with 0.5 m/s airflow – with TDP >35W CPU
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Storage Humidity	5 ~ 95% @ 40°C, non-condensing
Anti-Vibration	2 Grms/ 5 ~ 500Hz/ operation – SSD/mSATA 1 Grms/ 5 ~ 500Hz/ operation – HDD
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	LAN	USB 3.2 Gen 1	USB 2.0	RS-232	RS-232/422/485	Audio	Storage	Display	Expansion	Mounting	Power	Operation temp.
BOXER-6641-A1-1010(H310)	4	4	4	—	RS-232/422/482 x 6	Mic-in Line-out	Internal 2.5" SATA Drive bay x 1 (optional x 2)	HDMI x 2	Full-size Mini-Card x 2 SIM x 1	Wallmount	10~35V	-4°F ~ 131°F (-20°C ~ 55°C) with 0.5 m/s airflow – with TDP ≤ 35W CPU -4°F ~ 113°F (-20°C ~ 45°C) with 0.5 m/s airflow – with TDP >35W CPU
BOXER-6641-A2-1010(C246)	4	8	—	—	RS-232/422/482 x 6	Mic-in Line-out	Internal 2.5" SATA Drive bay x 1 (optional x 2)	HDMI x 2	Full-size Mini-Card x 2 SIM x 1	Wallmount	10~35V	-4°F ~ 131°F (-20°C ~ 55°C) with 0.5 m/s airflow – with TDP ≤ 35W CPU -4°F ~ 113°F (-20°C ~ 45°C) with 0.5 m/s airflow – with TDP >35W CPU

Packing List

- Wallmount Bracket x 2
- 3 Pin DC-In Power Connector x 1
- Screw Package x 1
- BOXER-6641

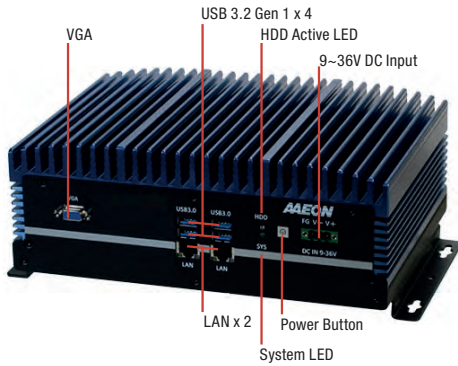
Optional Accessories

- 125590120B
120W Power Adapter
- 1255302300
230W Power Adapter
- 1702031802
Power Cord (US Type)
- 1702031803
Power Cord (Europe)
- 170203180E
Power Cord (Japan)

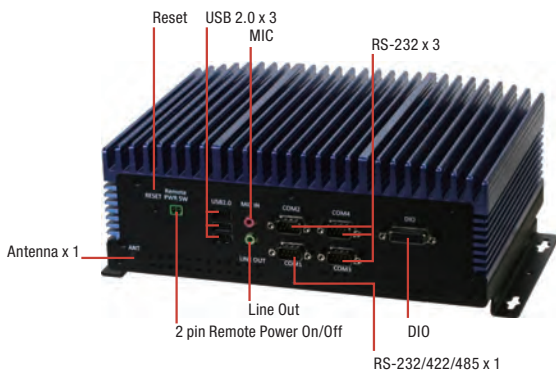
BOXER-6640

Fanless Embedded Box PC with 6th/7th Generation Intel® Core™ Desktop Processor and GbE

Front View



Rear View



Features

- Extreme Computing Power & Graphic Display Capability
- Desktop Grade Socket Type Processor
- Supports DDR4 ECC or Non-ECC SODIMM, Up to 32GB
- Support VGA x 1
- Supports USB 3.2 Gen 1 x 4
- Supports Intel® GbE LAN x 2
- Wide Range DC 9~36V Input
- 8-bit Digital Input and Output

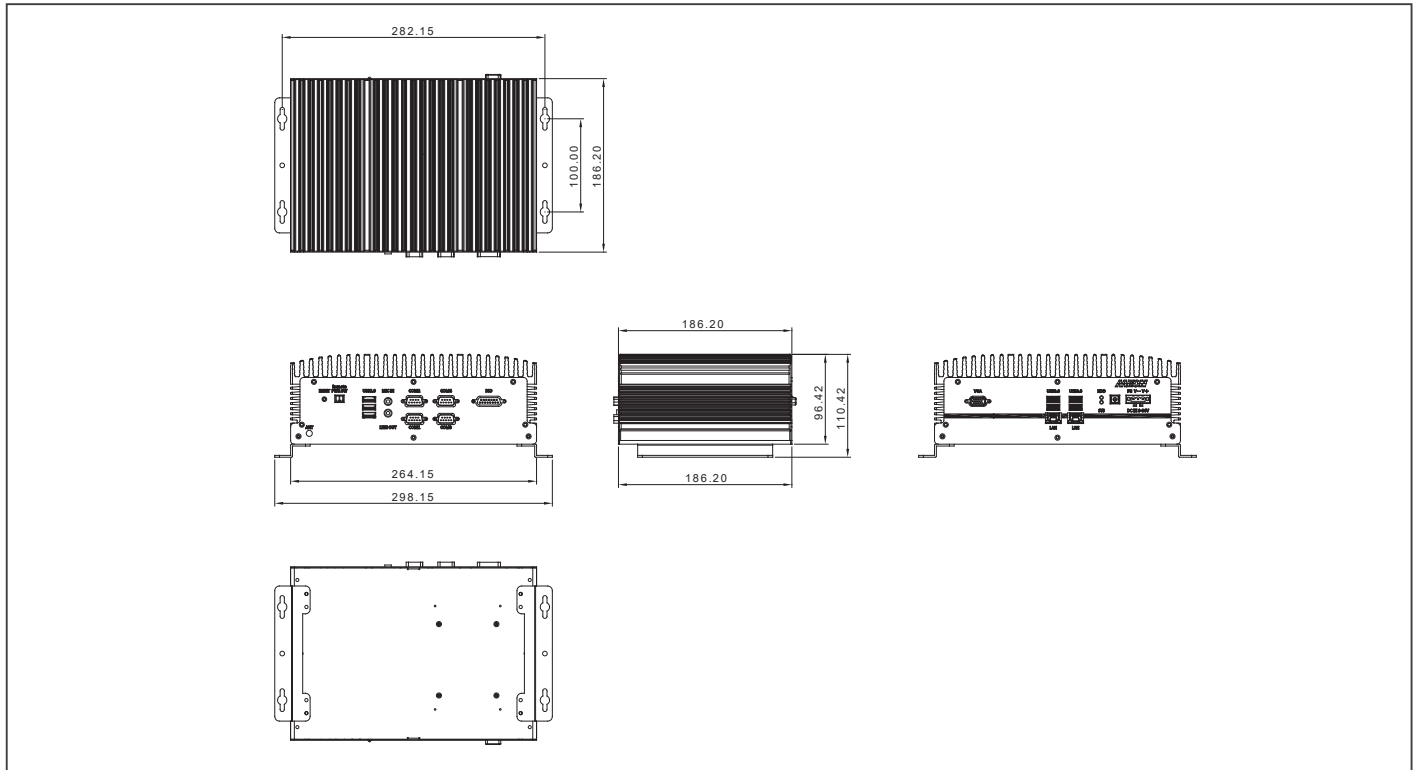


Specifications

System	
CPU	Intel® Core™ i7-7700T, Quad Core, 2.9 GHz Intel® Core™ i5-7600T, Quad Core, 2.8 GHz Intel® Core™ i3-7300T, Dual Core, 3.5 GHz Intel® Core™ i7-6700TE, Quad Core, 2.4 GHz Intel® Core™ i5-6500TE, Quad Core, 2.3 GHz Intel® Core™ i3-6100TE, Dual Core, 2.7 GHz
Chipset	Intel® H110
System Memory	DDR4 SODIMM socket (double deck) x 2 Supports 1866/2133MHz DDR4 and up to 32GB Supports un-buffered and ECC / non-ECC type SODIMM
Display Interface	VGA x 1, HDMI x 2 (Combo DP x 2) - A1 Sku VGA x 1 - A2 Sku
Storage Device	mSATA, SATA HDD/SSD
Ethernet	Intel® I211AT x 1, I219LM x 1
I/O	2 pin Remote power on/off connector Audio x1 (MIC-in, Line-out) USB 2.0 x 3 DB-9 x 3 for RS-232 8-bit DIO DB-9 x 1 for RS-232/422/485 with auto flow control Power ON/OFF switch x 1 3 pin 9~36V DC Power input x 1 (+, -, GND) VGA x 1 HDMI x 2 (Combo DP x 2) USB 3.2 Gen 1 x 4 RJ-45 x 2 for GbE (I211AT x 1, I219LM x 1)
Expansion	Full-size Mini-Card x 1 (PCI-E + USB, w/ SIM slot) Full-size Mini-Card x 1 (mSATA + USB) LPC x 1
Indicator	Power LED HDD active LED
OS Support	Windows® 10 64-bit (Kabylake, Skylake CPU) Windows® 8.1 64-bit (Skylake CPU only) Windows® embedded 8 standard 64-bit (Skylake CPU only)
Power Supply	
Power Requirement	3-pin Phoenix DC Input 9~36V
Mechanical	
Mounting	Wallmount
Dimensions (W x H x D)	10.39" x 3.8" x 7.33" (264mm x 96.4mm x 186.2mm)
Gross Weight	12.76 lb (5.8 kg)
Net Weight	9.9 lb (4.5 kg)
Environmental	
Operating Temperature	-4°F ~ 131°F (-20°C ~ 55°C) (according to IEC68-2-14 with 0.5 m/s AirFlow; with industrial devices)
Storage Temperature	-49 °F ~ 176°F (-45°C ~ 80°C)
Storage Humidity	5 ~ 95% @ 40°C, non-condensing
Anti-Vibration	2 Grms/ 5 ~ 500Hz/ operation - SSD 1 Grms/ 5 ~ 500Hz/ operation - HDD
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	CPU	RAM	LAN	USB 3.2 Gen 1	USB 2.0	RS-232/422/485	Digital I/O	Audio	Storage	Display	Expansion	Mounting	Power	Operation Temp.
BOXER-6640-A1-1010	—	—	2	4	3	RS-232: 3 RS-232/422/485: 1	8 bit	MIC-in, Line-out	2.5" SATA Drive bay x 1	VGA x 1 HDMI x 2	Full-size Minicard x 2	Wallmount	9-36V	-4°F ~ 131°F (-20°C ~ 55°C)
BOXER-6640-A2-1010	—	—	2	4	3	RS-232: 3 RS-232/422/485: 1	8 bit	MIC-in, Line-out	2.5" SATA Drive bay x 1	VGA x 1	Full-size Minicard x 2	Wallmount	9-36V	-4°F ~ 131°F (-20°C ~ 55°C)

Packing List

- 3 Pin DC-In Power Connector x 1
- 2 Pin Remote on/off Connector
- Thermal Pad
- Wallmount Bracket x 2
- Screw Package x 1
- BOXER-6640

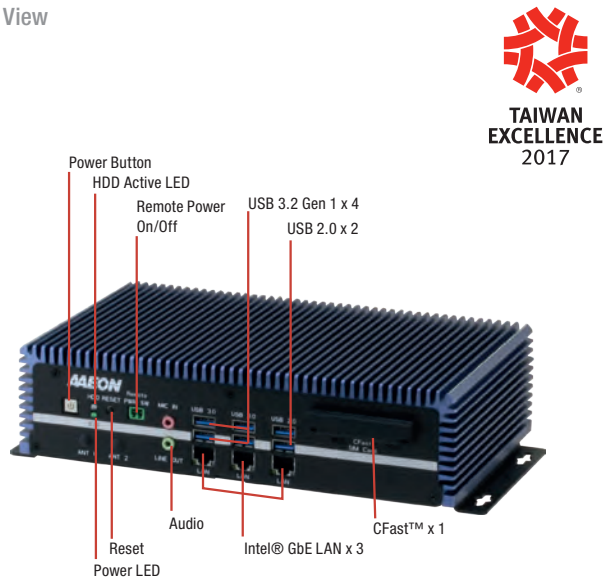
Optional Accessories

- **125590120B**
Power Adapter
- **1702031802**
Power Cord (US Type)
- **1702031803**
Power Cord (Europe)
- **170203180E**
Power Cord (Japan)

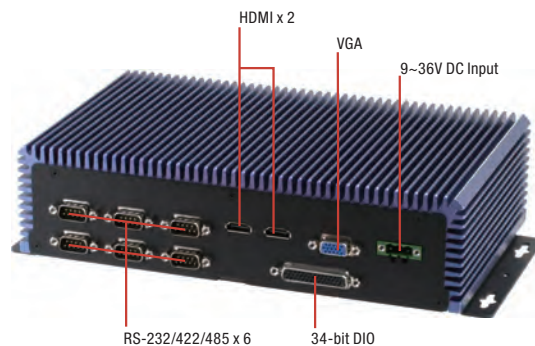
BOXER-6639

Fanless Embedded Box PC with Socket Type 6th Generation Intel® Processor and Q170 Chipset

Front View



Rear View



Features

- Extreme Computing Power & Graphic Display Capability
- Desktop Grade Socket Type Processor with Longevity Support
- Supports DDR4 ECC or Non-ECC SODIMM, Up to 32GB
- Supports VGA + HDMI x 2 Triple Display, HDMI 4K Display
- Supports USB 3.2 Gen 1 x 4, USB 2.0 x 2
- Supports Industrial-grade Intel® GbE LAN x 3
- Supports BIOS Selectable RS-232/422/485 x 3
- Compact Size and Easy Access Design
- Wide Range DC 9~36V Input
- 34-bit Digital Input and Output

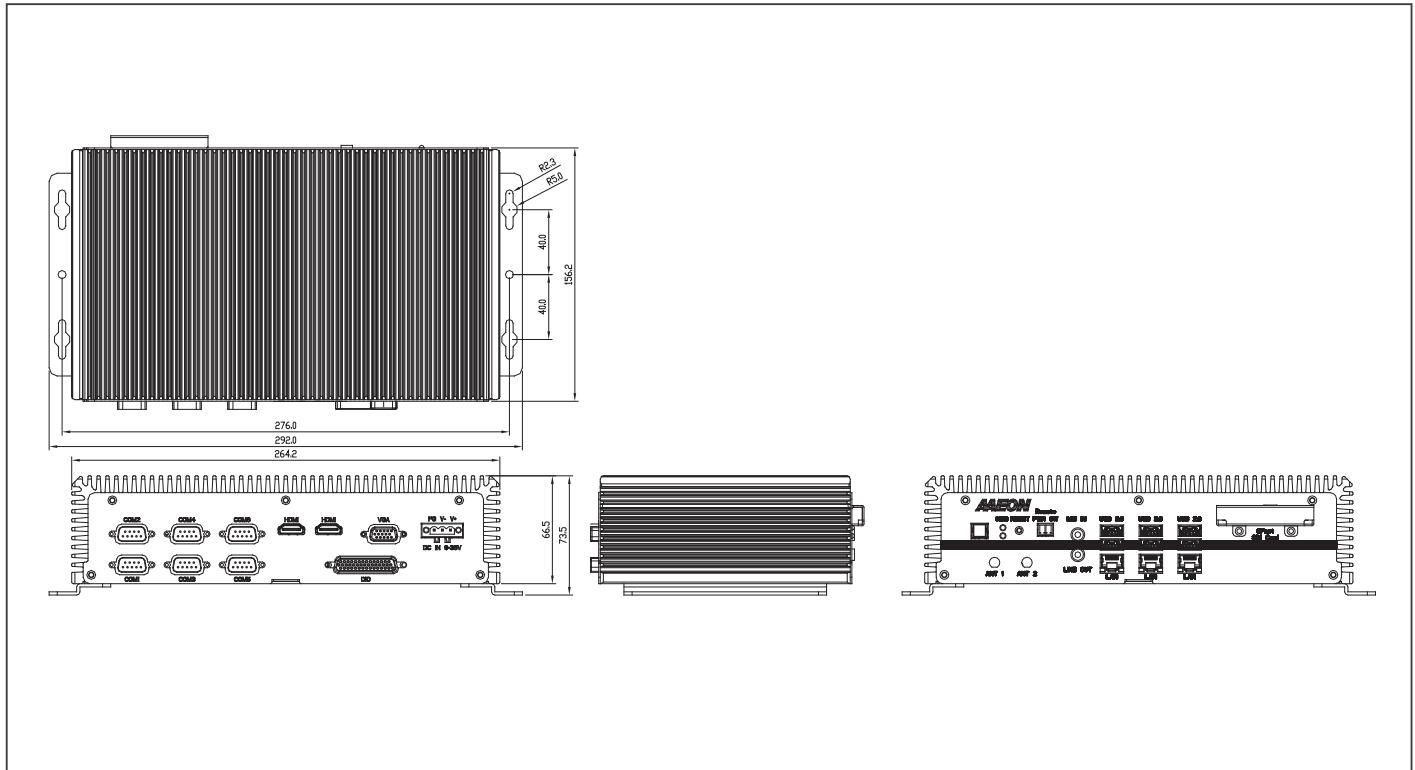


Specifications

System	
CPU	Intel® Core™ i7-7700T, 2.9 GHz Intel® Core™ i5-7500T, 2.7 GHz Intel® Core™ i7-6700TE, 2.4 GHz Intel® Core™ i5-6500TE, 2.3 GHz Intel® Core™ i3-6100TE, 2.7 GHz Intel® Pentium® G4400TE, 2.4 GHz Intel® Celeron® G3900TE, 2.3 GHz
Chipset	Q170
System Memory	DDR4 1866/2133 SODIMM slot x 2, up to 32 GB, ECC or Non-ECC support
Display Interface	VGA, HDMI
Storage Device	CFast, SATA HDD/SSD (Optional: x2)
Ethernet	Intel® i210, 10/100/1000Base-TX x 3
I/O	RS-232/422/485 x 6 USB 3.2 Gen 1 x 4 USB 2.0 x 2 VGA x 1 HDMI x 2 Line-out x 1 Mic-in x 1 LAN x 3 CFast slot x 1 SIM slot x 1 Antenna holes x 2 34bit DIO x 1(A2 & A4 SKU) Power switch Power input Remote power switch Reset Button
Expansion	Full-size Mini-Card x 1 (PCI-E + USB, w/ SIM slot) Full-size Mini-Card x 1 (PCI-E + USB, Optional for mSATA and SIM Slot)
Indicator	Power LED HDD active LED
OS support	Windows® 7 (32/64-bit), Windows® 8/8.1 (64-bit), Windows® 10 (64-bit)
Power Supply	
Power Requirement	9 - 36V with 3-pin terminal block
Mechanical	
Mounting	Wallmount, DIN Rail (Mounting Kit is optional)
Dimensions (W x H x D)	10.4" x 2.6" x 6.1" (264.2mm x 66.5mm x 156.2mm)
Gross Weight	7.7 lb (3.5 kg)
Net Weight	6.6 lb (3 kg)
Environmental	
Operating Temperature	-4°F ~ 131°F (-20°C ~ 55°C) (according to IEC68-2-14 with 0.5 m/s AirFlow; with industrial devices)
Storage Temperature	-49°F ~ 176°F (-45°C ~ 80°C)
Storage Humidity	5~95% @ 40°C, non-condensing
Anti-Vibration	2 Grms/ 5 ~ 500Hz/ operation - CFast™ card 1 Grms/ 5 ~ 500Hz/ operation - HDD
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	CPU	RAM	LAN	USB 3.2 Gen 1	USB 2.0	RS-232/422/485	DIO	Audio	Storage	Display	Expansion	Mounting	Power	Temp.
BOXER-6639-A1-1110	—	—	3	4	2	6	—	Mic-in, Line-out	2.5" SATA Drive bay x 1, CFast™ slot x 1	VGA x 1, HDMI x 2	Full-size Mini-Card x 2	Wallmount	9-36V	-4°F ~ 131°F (-20°C ~ 55°C)
BOXER-6639-A2-1110	—	—	3	4	2	6	34 bit	Mic-in, Line-out	2.5" SATA Drive bay x 1, CFast™ slot x 1	VGA x 1, HDMI x 2	Full-size Mini-Card x 2	Wallmount	9-36V	-4°F ~ 131°F (-20°C ~ 55°C)
BOXER-6639-A3-1010	—	—	3	4	2	6	—	Mic-in, Line-out	2.5" SATA Drive bay x 2, CFast™ slot x 1	VGA x 1, HDMI x 2	Full-size Mini-Card x 2	Wallmount	9-36V	-4°F ~ 131°F (-20°C ~ 55°C)
BOXER-6639-A4-1010	—	—	3	4	2	6	34 bit	Mic-in, Line-out	2.5" SATA Drive bay x 2, CFast™ slot x 1	VGA x 1, HDMI x 2	Full-size Mini-Card x 2	Wallmount	9-36V	-4°F ~ 131°F (-20°C ~ 55°C)

Packing List

- Wallmount Bracket x 2
- Screw Package x 1
- BOXER-6639

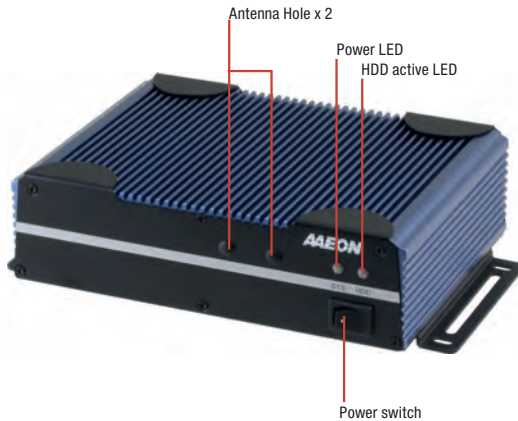
Optional Accessories

- **125590120B**
Power Adapter
- **170203180Z**
Power Cord (US Type)
- **1702031803**
Power Cord (Europe)
- **170203180E**
Power Cord (Japan)
- **9741663902**
Din Rail Mount Kit
- **9741663900**
I/O Dust Cover Kit. For BOXER-6639 (A1 & A3 sku)

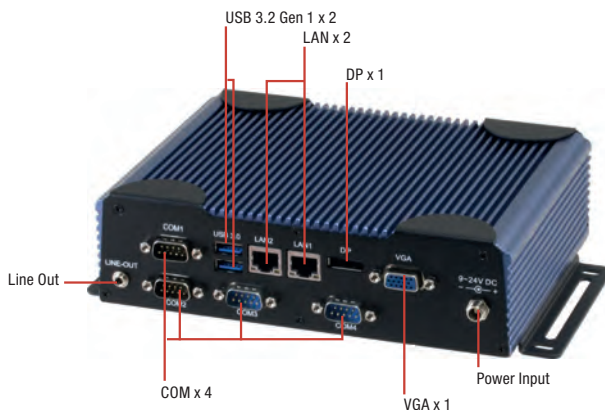
BOXER-6638U

Fanless Embedded Box PC with 5th Generation Intel® Core™ i3 Processor SoC

Front View



Rear View



Features

- U-Series CPU: Intel® Core™ i3-5010U
- Good for Industrial Use with 4 COM Ports
- Wide Temperature Support: -4°F ~ 140°F (-20°C ~ 60°C)
- Wide Voltage Support: 9 - 24 V

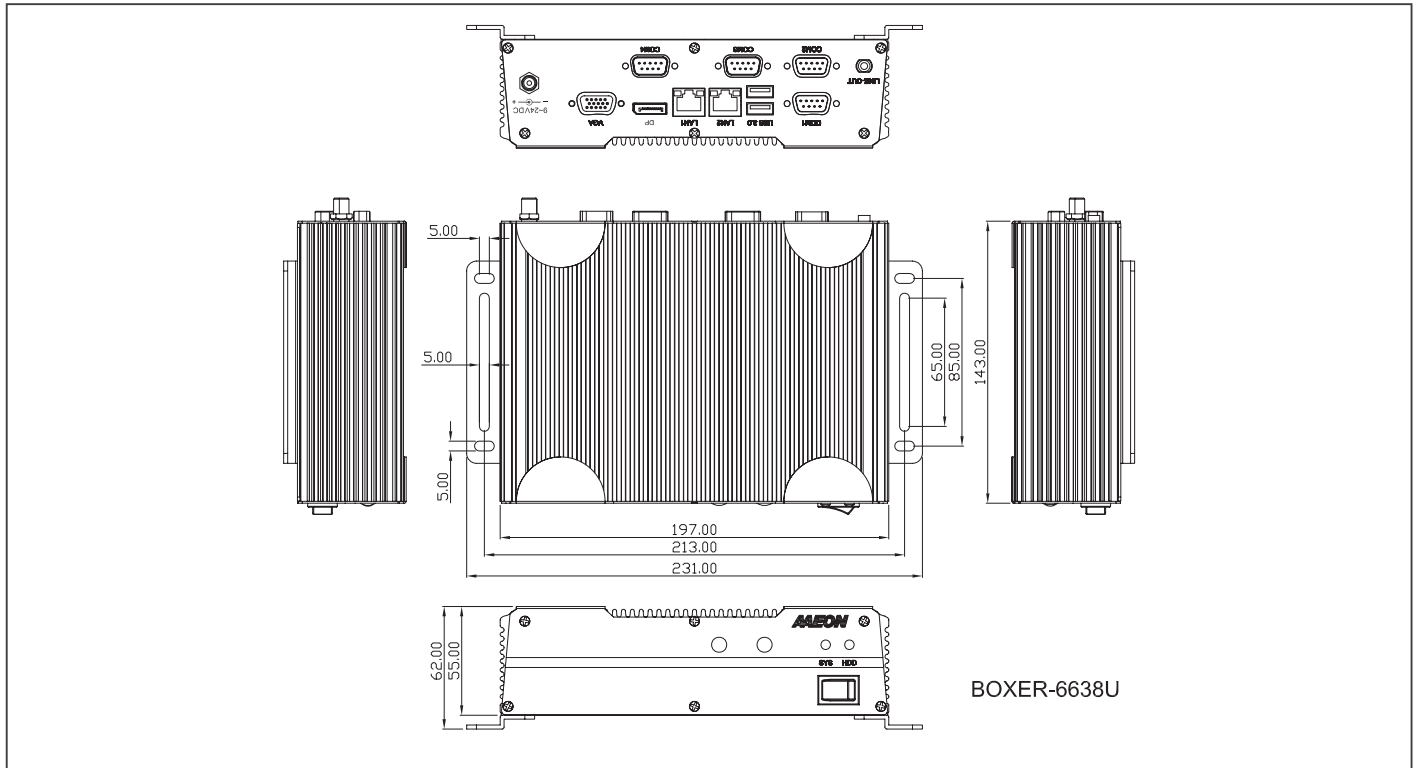


Specifications

System	
CPU	5th Generation Intel® Core™ i3-5010U, 2.1 GHz
Chipset	Intel® System on Chip
System Memory	DDR3L 1600 SODIMM slot x 1, up to 8 GB
Display Interface	VGA, DP
Storage Device	mSATA, HDD/SSD
Ethernet	Intel® WGI211AT, 10/100/1000 Base-TX x 1 Intel® WGI218LM, 10/100/1000 Base-TX x 1
I/O	RS-232/422/485 x 2 RS-232 x 2 USB 2.0 x 2 (A2M) USB 3.2 Gen 1 x 2 VGA x 1 DP x 1 Line-out x 1 LAN x 2 Antenna holes x 2 Power switch Power input
Expansion	Full-size Mini-Card x 1 (mSATA + USB, w/ SIM slot, optional for PCI-E) Half-size Mini-Card x 1 (PCI-E + USB)
Indicator	Power LED HDD active LED
OS support	Windows® 10 (64-bit), Windows® 8.1(32/64-bit), Windows® 7 (32/64-bit), Linux Ubuntu 14.10
Power Supply	
Power Requirement	9 - 24V with lockable DC jack
Mechanical	
Mounting	Wallmount
Dimensions (W x H x D)	7.76" x 2.17" x 5.63" (197mm x 55mm x 143mm)
Gross Weight	5.5 lb (2.5 kg)
Net Weight	3.3 lb (1.5 kg)
Environmental	
Operating Temperature	-4°F ~ 140°F (-20°C ~ 60°C) with wide temperature HDD (according to IEC68-2-14 with 0.5 m/s AirFlow; with industrial devices)
Storage Temperature	-49°F ~ 176°F (-45°C ~ 80°C)
Storage Humidity	95% @ 40°C, non-condensing
Anti-Vibration	5 Grms/ 5 ~ 500Hz/ operation –mSATA / SSD 1 Grms/ 5~ 500Hz/ operation – HDD
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	CPU	RAM	LAN	USB	RS-232	RS-232/422/485	Storage	Display	Expansion	Mounting	Power	Temp.
BOXER-6638U-A2M-1010	Intel® Core i3-5010U	—	2	4	2	2	HDD/SSD	VGA x 1 DP x 1	Full-size Mini-Card x 1 Half-size Mini-Card x 1	Wallmount	DC 9-24V	-4°F ~ 140°F (-20°C ~ 60°C) According to IEC60068-2, 0.5m/s air flow

Packing List

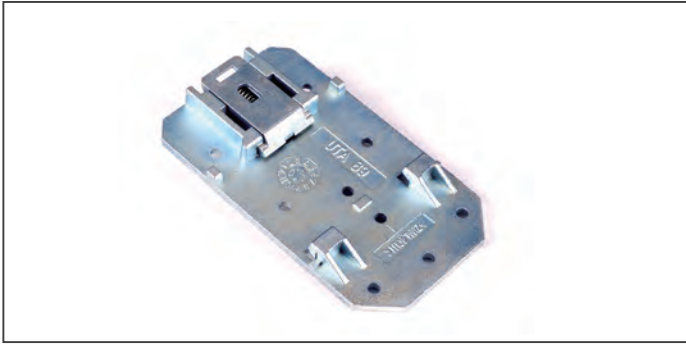
- Wallmount Bracket x 2
- Screw Package x 1
- BOXER-6638U

Optional Accessories

- **125530060Y**
Power Adapter, 12V, 5A, 60W
- **170203180E**
Power Cord (Japan Type)
- **170203180Z**
Power Cord (US Type)
- **9741681003**
Din Rail Mount Kit
- **1702031803**
Power Cord (Europe Type)

9741681003

DIN Rail Mounting Kit



Features

- Universal Patented Spring Lock Design
- DIN Rail: NS 35/7.5, NS 35/15
- For AEC-6612/6613, BOXER-6614

Ordering Information

- 9741681003
DIN Rail Mounting Kit

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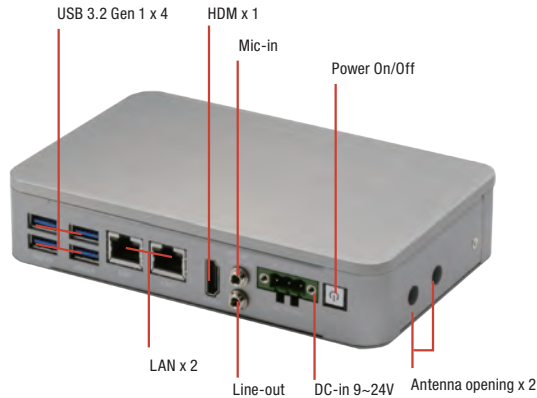
Ultra Slim Fanless BOX PC Solutions



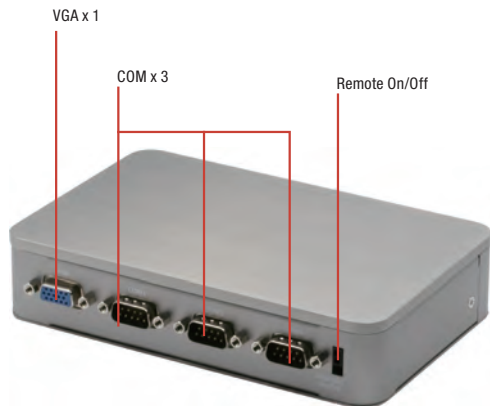
BOXER-6405

Fanless Compact Embedded Computer with Intel® Celeron/Pentium™ Processor

Front View



Rear View



Features

- Slim Boxer Design: 37mm
- Rich I/O, Design for Auto System Control
- Wide Operating Temperature -30°C ~ 60°C
- Gigabit Ethernet x 2, USB x 4
- Support Wallmount

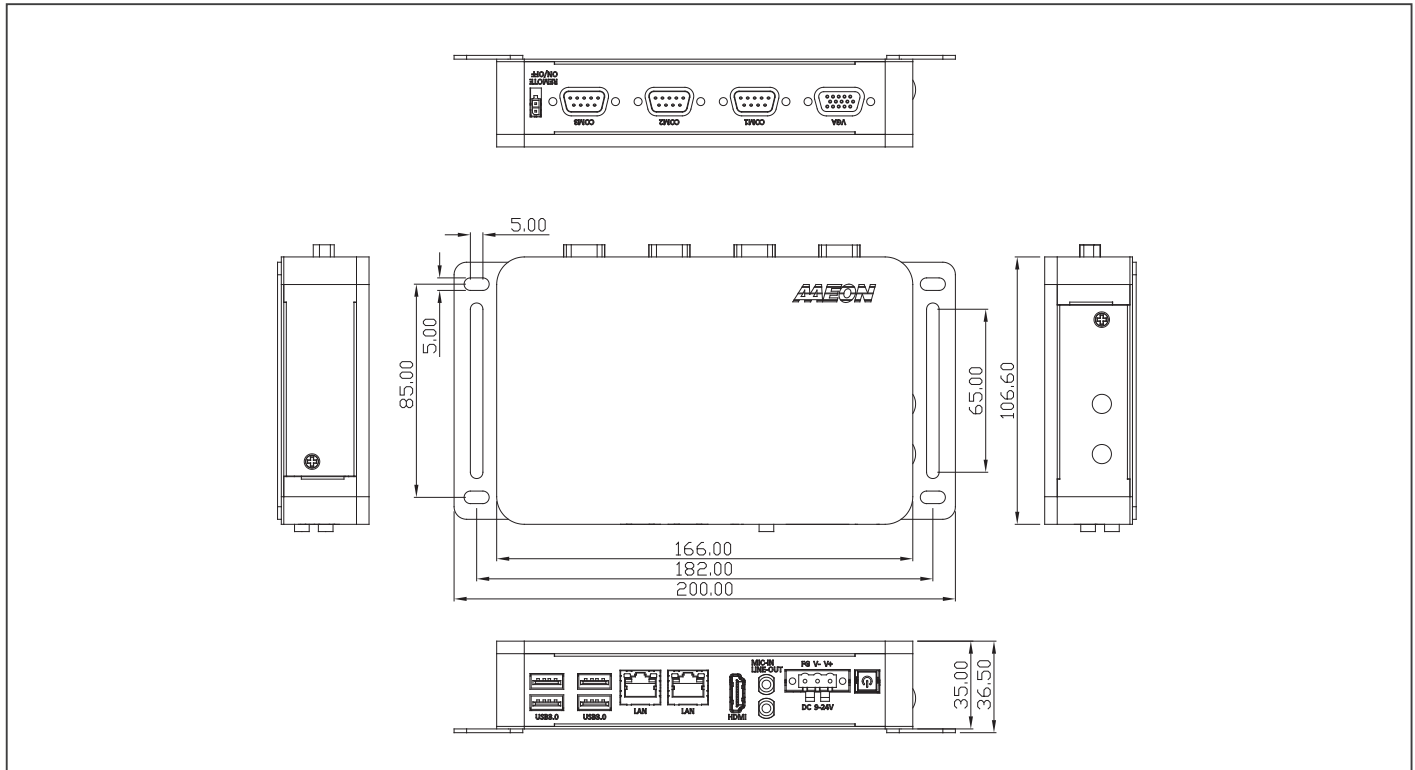


Specifications

System	
CPU	Intel® Celeron/Pentium™ processor
Chipset	Intel® System on Chip
System Memory	DDR3L SODIMM slot x 1 Supports 1867 MHz and up to 8GB
Display Interface	HDMI (max. 1920 x 1080)
Storage Device	mSATA
Ethernet	Intel® i211-AT x 2
I/O	Power Button x 1 USB Type A x 4 for USB 3.2 Gen 1 HDMI type A x 1 for HDMI v1.4b RJ-45 x 2 for GbE LAN with LED indicator (i211-AT x 2) Power input x 1 3-pin terminal block in default (+, -, GND) Co-layout 3-pin terminal block & lockable DC-in jack.) Co-layout internal DC Mic-in x 1, Line-out x 1 RS-232/422/485 x 3 with automatic flow control (switch by BIOS) VGA x 1 Remote On/Off Antenna opening x 2 DC-in 3-pin terminal block(9~24V) x 1
Expansion	Full-size Mini PCIe slot x 1 (PCIe/USB/SIM slot), one screw Half-size Minicard slot x 1 (mSATA only)
Indicator	Power LED x1, HDD active LED x1
OS Support	Windows® 10, Windows® 10 IoT, Linux
Power Supply	
Power Requirement	9-24V with 3-pin terminal block
Mechanical	
Mounting	Wallmount
Dimensions (W x H x D)	6.54" x 4.2" x 1.45" (166mm x 106.6mm x 37mm)
Gross Weight	3.6 lb (1.6kg)
Net Weight	1.76 lb (0.8 kg)
Environmental	
Operating Temperature	-22°F ~ 140°F (-30°C ~ 60°C) with W.T. mSATA (according to IEC68-2-14 with 0.5 m/s AirFlow; with industrial decives)
Storage Temperature	-22°F ~ 140°F (-30°C ~ 60°C)
Storage Humidity	95% @ 40°C, non-condensing
Anti-Vibration	3 Grms/ 5 ~ 500Hz/ operation – mSATA 1 Grms/ 5 ~ 500Hz/ operation - HDD
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	CPU	PCH	RAM	LAN	USB 3.2 Gen 1	USB 2.0	RS-232	RS-232/422/485	Digital I/O	Audio	Storage	Display	Expansion	Mounting	Power	Operation temp.
BOXER-6405-A1-1010	N3350	SoC	—	2	4	—	—	3	—	MIC-in, Line-out	mSATA x 1	VGA/ HDMI x1	Full-size Minicard x 1 Half-size Minicard x 1	Wallmount	9~24V	-30°C ~ 60°C
BOXER-6405-A2-1010	N4200	SoC	—	2	4	—	—	3	—	MIC-in, Line-out	mSATA x 1	VGA/ HDMI x1	Full-size Minicard x 1 Half-size Minicard x 1	Wallmount	9~24V	-30°C ~ 60°C

Packing List

- Wallmount Bracket x 2
- 3 Pin DC-In Power Connector x 1
- BOXER-6405

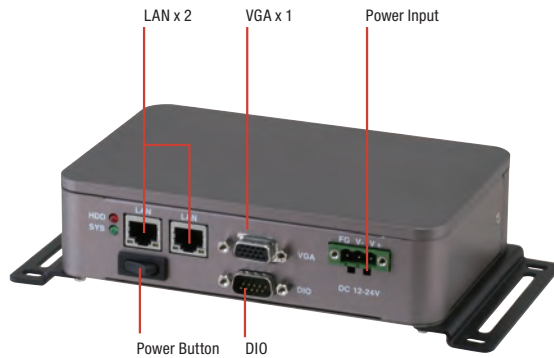
Optional Accessories

- **125530040F**
Power Adapter
- **1702031802**
Power Cord (US type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **9741238H00**
WiFi Module & Antenna
- **9741EC20E0**
4G Module & Antenna (for Europe)
- **9741640404**
Din Rail Mount Kit

BOXER-6404U

Compact Embedded Box PC with Intel® Celeron® Processor SoC

Front View



Rear View



Features

- Dual GbE LAN Port for Industrial Network Appliance
- 2.5" HDD/SDD Bay x 1
- USB 3.2 Gen 1 Port Connectivity
- 8-bit Programmable Digital Input/Output
- 12 ~ 24V DC-in Support

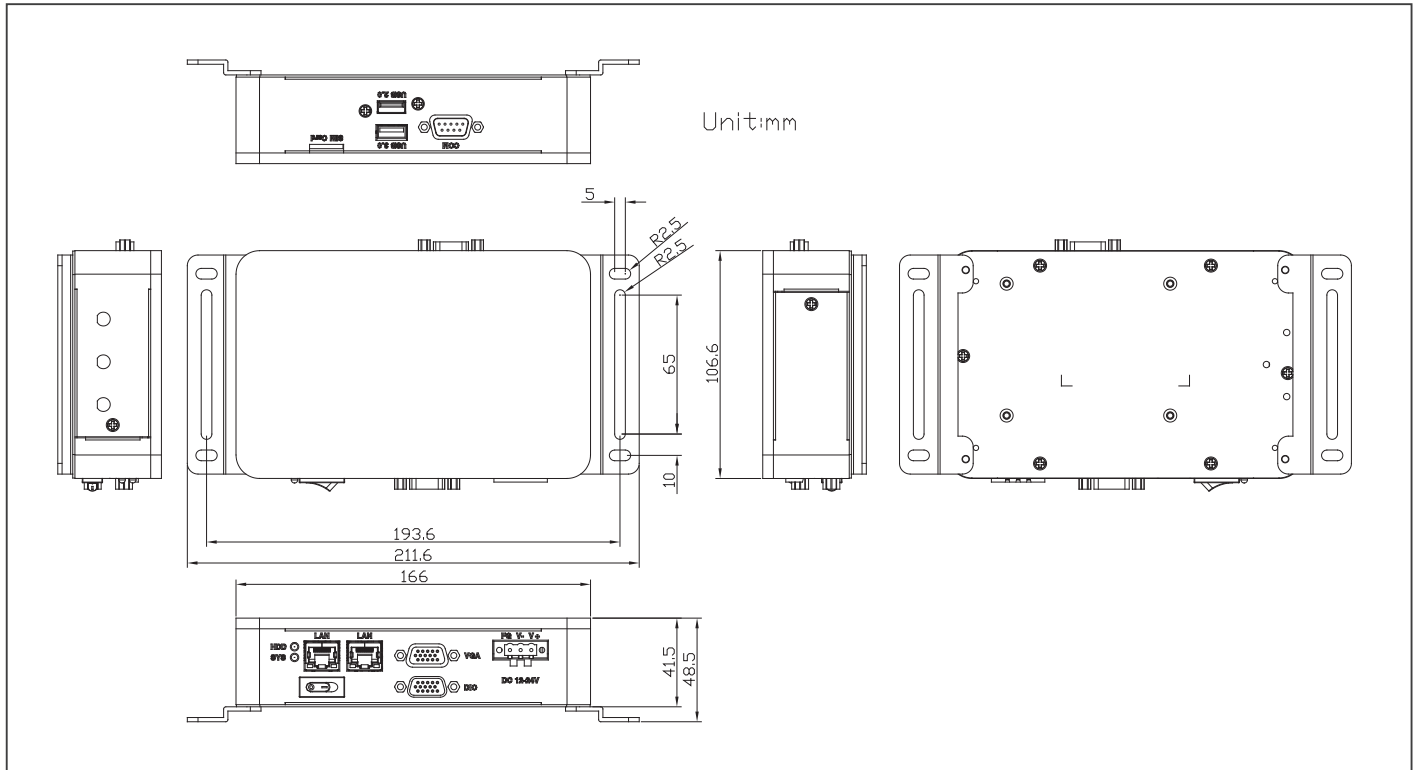


Specifications

System	
CPU	Intel® Celeron™ J1900, 2.0 GHz Intel® Celeron™ N2807, 1.58 GHz
Chipset	Intel® System on Chip
System Memory	DDR3L 1333 SODIMM slot x 1, up to 8 GB (J1900) or 4 GB (N2807)
Display Interface	VGA
Storage Device	mSATA, HDD/SSD
Ethernet	Realtek® RTL8111E-VL-CG, 10/100/1000Base-TX x 2
I/O	RS-232 x 1 USB 2.0 x 1 USB 3.2 Gen 1 x 1 VGA x 1 LAN x 2 Digital I/O x 8 bit Antenna holes x 3 Power switch Power input
Expansion	Full-size Mini-Card x 1 Half Mini-Card x 1 (for mSATA) SIM card slot x 1
Indicator	Power LED HDD active LED
OS support	Windows® 10, Windows® 8.1, Windows® 7, Windows® Embedded 8, Windows® Embedded 7, Linux Fedora
Power Supply	
Power Requirement	12 - 24V with 3-pin terminal block
Mechanical	
Mounting	Wallmount VESA (Mounting kit is optional) DIN rail (Mounting kit is optional)
Dimensions (W x H x D)	6.53" x 4.20" x 1.63" (166 mm x 106.6 mm x 41.5 mm)
Gross Weight	3.6 lb (1.6 kg)
Net Weight	1.76 lb (0.8 kg)
Environmental	
Operating Temperature	-13°F ~ 140°F (-25°C ~ 60°C) with wide temperature HDD/mSATA (according to IEC68-2-14 with 0.5 m/s AirFlow; with industrial devices)
Storage Temperature	-22°F ~ 176°F (-30°C ~ 80°C)
Storage Humidity	95% @ 40°C, non-condensing
Anti-Vibration	5 Grms/ 5 ~ 500Hz/ operation -mSATA
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	CPU	RAM	LAN	USB 3.2 Gen 1	USB 2.0	RS-232	Digital I/O	Storage	Display	Expansion	Mounting	Power	Operation Temp.
BOXER-6404U-A1-1010	Intel® J1900	—	2	1	1	1	8 bit	2.5" Drive Bay x 1, Half-size mSATA bay x 1	VGA x 1	Full-size Minicard x 1, Half-size Minicard x 1	Wallmount/Din Rail/ VESA 75	DC in 12-24V	-13°F ~ 140°F (-25°C ~ 60°C)
BOXER-6404U-A2-1010	Intel® N2807	—	2	1	1	1	8 bit	2.5" Drive Bay x 1, Half-size mSATA bay x 1	VGA x 1	Full-size Minicard x 1, Half-size Minicard x 1	Wallmount/Din Rail/ VESA 75	DC in 12-24V	-13°F ~ 140°F (-25°C ~ 60°C)

Packing List

- Wallmount Bracket x 2
- Phoenix Power Connector x 1
- BOXER-6404U

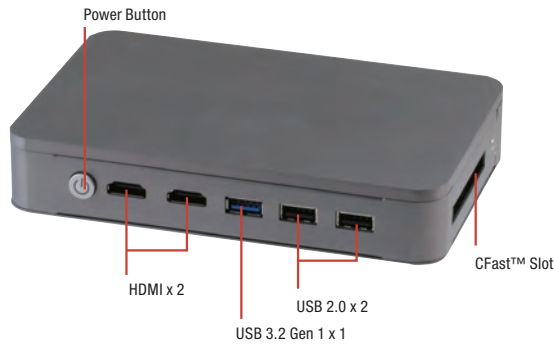
Optional Accessories

- **125530040F**
Power Adapter
- **1702031802**
Power Cord (US type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **9741238H00**
WiFi Module & Antenna
- **9741EC20E0**
4G Module & Antenna (for Europe)
- **9741640403**
VESA Mount Kit
- **9741640404**
Din rail Mount Kit

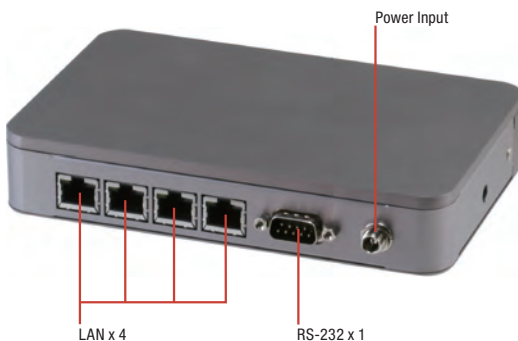
BOXER-6404

Compact Embedded Box PC with LAN x 4, HDMI x 2, Intel® Celeron® J1900/N2807 Processor SoC

Front View



Rear View



Features

- Slim Boxer Design: 30mm
- RJ-45 LAN Port x 4, HDMI Port x 2
- Operating in -22°F ~ 149°F (-30°C ~ 65°C) Environment

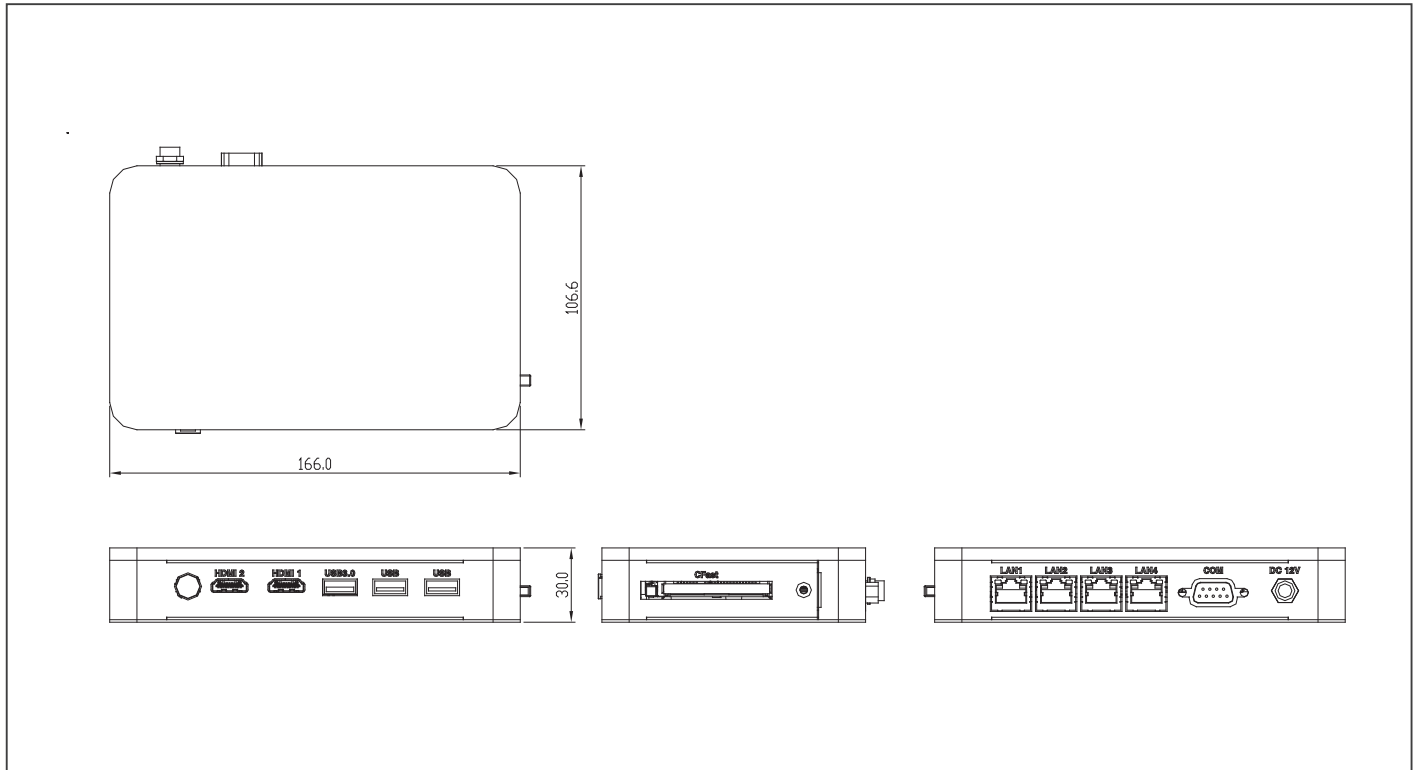


Specifications

System	
CPU	Intel® Celeron™ J1900, 2.0 GHz Intel® Celeron™ N2807, 1.58 GHz
Chipset	Intel® System on Chip
System Memory	DDR3L 1333 SODIMM slot x 1, up to 8 GB (J1900) or 4 GB (N2807)
Display Interface	HDMI (max. 1920 x 1080)
Storage Device	CFast™
Ethernet	Intel® I211, 10/100/1000Base-TX x 4
I/O	RS-232 x 1 USB 2.0 x 2 USB 3.2 Gen 1 x 1 HDMI x 2 LAN x 4 CFast slot x 1 Antenna holes x 1 Power button Power input
Expansion	Full-size Mini-Card (USB interface only) x 1
Indicator	Power LED on power button
OS support	Windows® 10, Windows® 8.1, Windows® 7, Windows® Embedded 8, Windows® Embedded 7, Linux Fedora
Power Supply	
Power Requirement	12V - 24V with lockable DC jack
Mechanical	
Mounting	VESA (Mounting kit is optional) DIN rail (Mounting kit is optional)
Dimensions (W x H x D)	6.53" x 4.20" x 1.18" (166 mm x 106.6 mm x 30 mm)
Gross Weight	2.9 lb (1.3 kg)
Net Weight	1.9 lb (0.86 kg)
Environmental	
Operating Temperature	-22°F ~ 149°F (-30°C ~ 65°C) with wide temperature CFast™ card (according to IEC68-2-14 with 0.5 m/s AirFlow; with industrial devices)
Storage Temperature	-22°F ~ 176°F (-30°C ~ 80°C)
Storage Humidity	95% @ 40°C, non-condensing
Anti-Vibration	5 Grms/ 5 ~ 500Hz/ operation -CFast™ card
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	CPU	RAM	LAN	Display	USB 3.2 Gen 1	USB 2.0	RS-232	Storage	Expansion	Power	Operating Temp.
BOXER-6404-A1-1110	Intel® J1900	—	4	HDMI x 2	1	2	1	CFast™	Mini-Card x 1 (USB Interface)	12V - 24V DC in	-30 ~ 65°C with 0.5 m/s airflow
BOXER-6404-A2-1110	Intel® J1900	—	2	HDMI x 1	1	2	1	CFast™	Mini-Card x 1 (USB Interface)	12V - 24V DC in	-30 ~ 65°C with 0.5 m/s airflow
BOXER-6404-A3-1110	Intel® N2807	—	4	HDMI x 2	1	2	1	CFast™	Mini-Card x 1 (USB Interface)	12V - 24V DC in	-30 ~ 65°C with 0.5 m/s airflow
BOXER-6404-A4-1110	Intel® N2807	—	2	HDMI x 1	1	2	1	CFast™	Mini-Card x 1 (USB Interface)	12V - 24V DC in	-30 ~ 65°C with 0.5 m/s airflow

Packing List

- **125530040C**
Power Adapter
- **BOXER-6404**

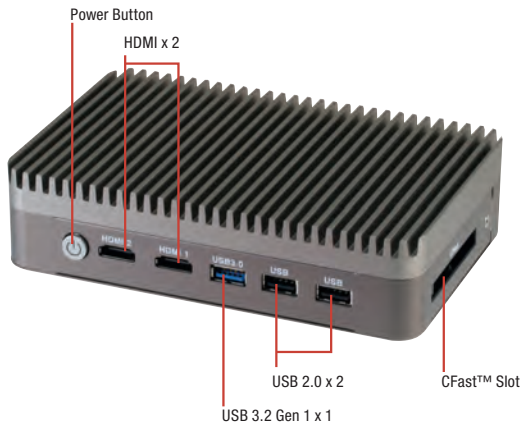
Optional Accessories

- **1702031802**
Power Cord (US type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **9741236A00**
WiFi Module & Antenna
- **9741EC20E1**
4G Module & Antenna (For Europe)
- **9741640400**
VESA Mount Kit
- **9741640401**
DIN Rail Mount Kit
- **9741640402**
CFast™ Cover Kit

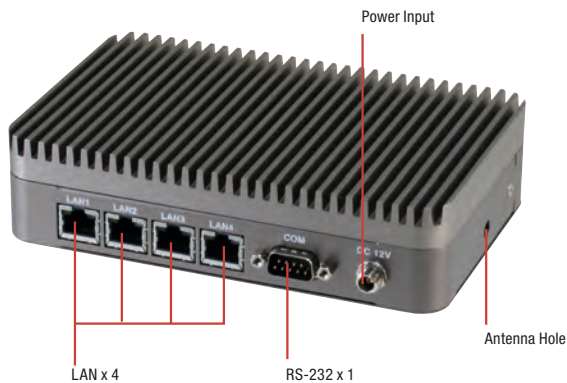
BOXER-6404WT

Wide Temperature Compact Embedded Box PC with Intel® Celeron® J1900/ N2807 Processor SoC

Front View



Rear View



Features

- Quad GbE LAN Port for Industrial Network Appliance
- Dual HDMI Port
- USB 3.2 Gen 1 Port Connectivity
- Easy Access Storage Bay
- Operating in -22°F ~ 167°F (-30°C ~ 75°C) Environment

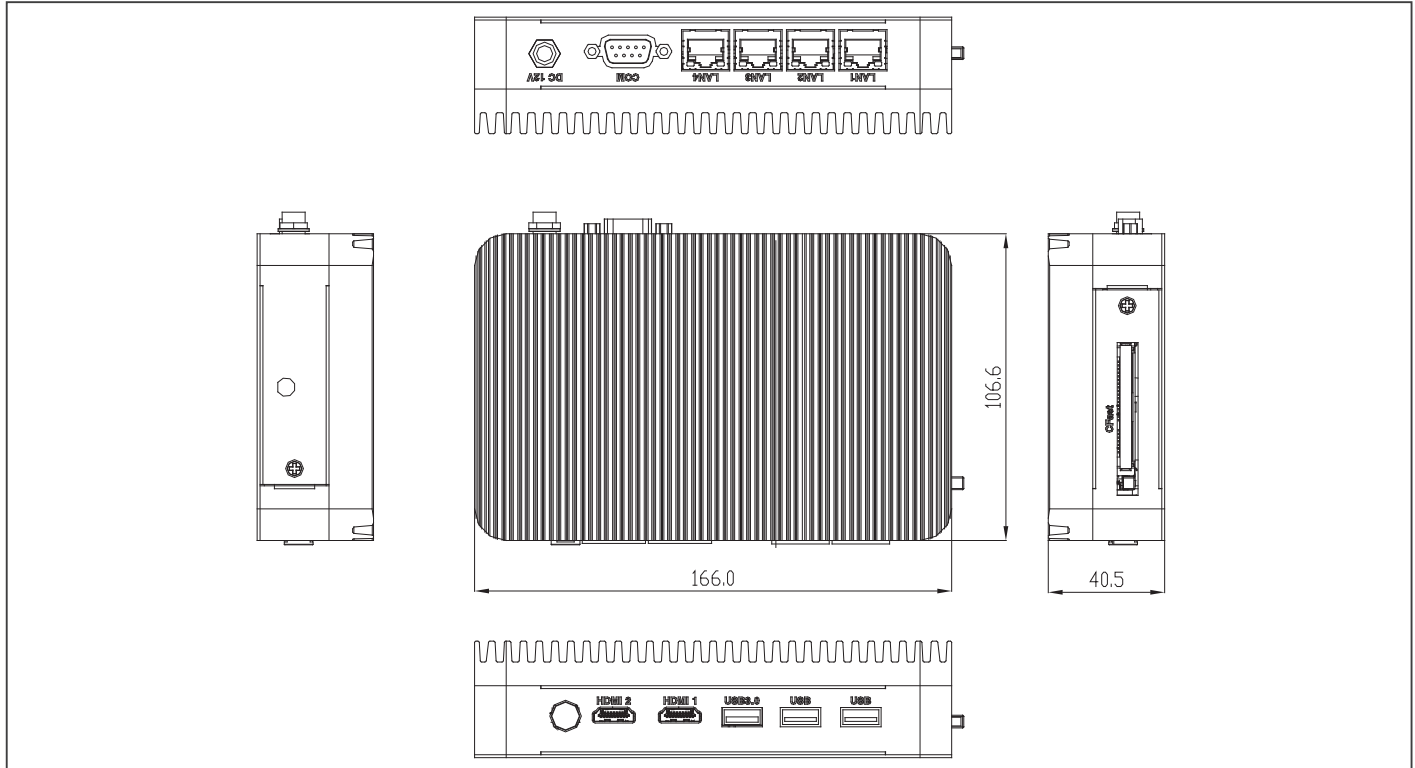


Specifications

System	
CPU	Intel® Celeron™ J1900, 2.0 GHz Intel® Celeron™ N2807, 1.58 GHz
Chipset	Intel® System on Chip
System Memory	DDR3L 1333 SODIMM slot x 1, up to 8 GB (J1900) or 4 GB (N2807)
Display Interface	HDMI
Storage Device	CFast™
Ethernet	Intel® I211, 10/100/1000Base-TX x 4
I/O	RS-232 x 1 USB 2.0 x 2 USB 3.2 Gen 1 x 1 HDMI x 2 LAN x 4 CFast™ slot x 1 Antenna holes x 1 Power button Power input
Expansion	Full-size Mini-Card (USB interface only) x 1
Indicator	Power LED on power button
OS support	Windows® 10, Windows® 8.1, Windows® 7, Windows® Embedded 8, Windows® Embedded 7, Linux Fedora
Power Supply	
Power Requirement	12V - 24V with lockable DC jack
Mechanical	
Mounting	VESA (Mounting kit is optional) DIN rail (Mounting kit is optional)
Dimensions (W x H x D)	6.53" x 4.20" x 1.59" (166mm x 106.6mm x 40.5mm)
Gross Weight	3.59 lb (1.63 kg)
Net Weight	2.6 lb (1.17 kg)
Environmental	
Operating Temperature	-22°F ~ 167°F (-30°C ~ 75°C) with wide temperature CFast™ card (according to IEC68-2-14 with 0.5 m/s AirFlow; with industrial devices)
Storage Temperature	-22°F ~ 176°F (-30°C ~ 80°C)
Storage Humidity	95% @ 40°C, non-condensing
Anti-Vibration	5 Grms/ 5 ~ 500Hz/ operation -CFast™ card
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	CPU	RAM	LAN	USB 3.2 Gen 1	USB2.0	RS-232	Storage	Display	Expansion	Mounting	Power	Operating Temp.
BOXER-6404WT-A1-1110	Intel® J1900	—	4	1	2	1	CFast™ bay x 1	HDMI x 2	Full size Mini-card slot x 1 (USB signal)	Din Rail/VESA 75	12V - 24V DC in	-22°F ~ 167°F (-30°C ~ 75°C) with 0.5m/s airflow
BOXER-6404WT-A2-1110	Intel® N2807	—	2	1	2	1	CFast™ bay x 1	HDMI x 1	Full size Mini-card slot x 1 (USB signal)	Din Rail/VESA 75	12V - 24V DC in	-22°F ~ 167°F (-30°C ~ 75°C) with 0.5m/s airflow

Packing List

- **125530040C**
Power Adapter
- **BOXER-6404WT**

Optional Accessories

- **1702031802**
Power Cord (US type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **9741236A00**
WiFi Module & Antenna
- **9741EC20E1**
4G Module & Antenna (For Europe)
- **9741640400**
VESA Mount Kit
- **9741640401**
DIN Rail Mount Kit
- **9741640402**
CFast™ Cover Kit

Din Rail Fanless BOX PC

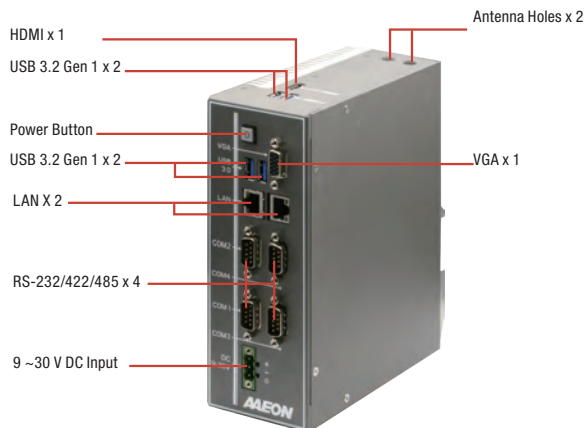
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BOXER-6750

Din Rail Mount Embedded BOX PC with Intel® Core™ i3-6100U or Celeron® 3955U Processor

Front View



Rear View



Features

- U-Series CPU: Intel® Core™ i3-6100U/ Celeron® 3955U
- DDR4 2133 MHz SODIMM x 1, Memory Max. up to 16GB
- Supports Industrial-grade Intel® GbE LAN x 2
- Supports BIOS Selectable RS-232/422/485 x 4
- VGA + HDMI Dual Display Output
- USB 3.2 Gen 1 x 4
- 8-bit Digital Input and Output x 1 (Optional)
- Wide Range DC 9~30V Input With Power Protection
- Wide Temperature -20 °C ~ 60 °C
- Din-Rail Mount Design



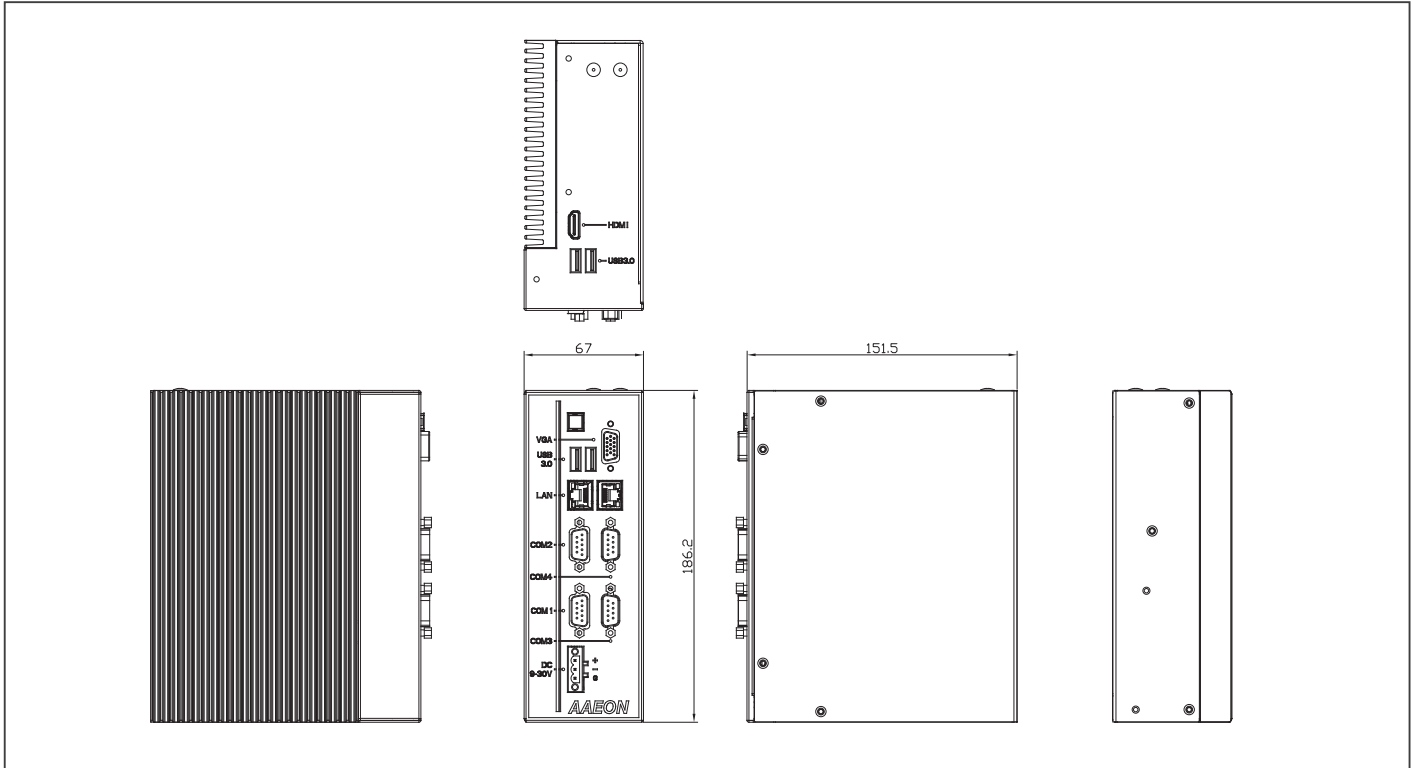
Power Supply	
Power Requirement	9 - 30V with 3-pin terminal block
Mechanical	
Mounting	DIN Rail Mount Wallmount (Mounting kit is optional)
Dimensions (W x H x D)	2.72" x 7.2" x 6.1" (69mm x 183mm x 155mm)
Gross Weight	6.1 lb (2.8kg)
Net Weight	3.9 lb (1.8kg)
Environmental	
Operating Temperature	-4°F ~ 140°F (-20°C ~ 60°C) with W.T. SSD/HDD/mSATA (according to IEC68-2-14 with 0.5 m/s AirFlow ; with industrial devices)
Storage Temperature	-49°F ~ 176°F (-45°C ~ 80°C)
Storage Humidity	95% @ 40°C, non-condensing
Anti-Vibration	3 Grms/ 5 ~ 500Hz/ operation – mSATA/SSD 1 Grms/ 5~ 500Hz/ operation – HDD
Certification	CE/FCC class A

Specifications

System	
CPU	Intel® Core™ i3-6100U Intel® Celeron® 3955U
Chipset	Intel® System on Chip
System Memory	DDR4 2133MHz SODIMM slot x 1, up to 16GB
Display Interface	HDMI x 1, VGA x 1
Storage Device	mSATA, HDD/SSD
Ethernet	Intel® i210-IT x 2
I/O	RS-232/422/485 x 4 RJ-45 x 2 for GbE (i210IT x 2) USB 3.2 Gen 1 x 4 VGA x 1 HDMI x 1 Antenna Holes x 2 Power Switch Power Input
Expansion	Full-size minicard x 1 (PCIe+USB with SIM slot, optional for mSATA) Full-size minicard x 1 (PCIe+USB)
Indicator	Power LED on power button
OS Support	Windows® 10 (64-bit) Windows® 8.1 (64-bit) Windows® 7 (32/64-bit) Linux

Dimension

Unit: mm



Ordering Information

Part Number	CPU	RAM	LAN	USB 3.2 Gen 1	USB 2.0	RS-232	RS-232/422/485	Digital I/O	Audio	Storage	Display	Expansion	Mounting	Power	Operation temp.
BOXER-6750-A1-1010	Intel® Core™ i3-6100U	—	2	4	—	—	4	—	—	2.5" SATA Drive bay x 1 Optional mSATA x 1	VGA x 1 HDMI x 1	Full-size Minicard x 2	Din Rail Optional Wallmount	9-30V	-20°C ~ 60°C
BOXER-6750-A2-1010	Intel® Celeron® 3955U	—	2	4	—	—	4	—	—	2.5" SATA Drive bay x 1 Optional mSATA x 1	VGA x 1 HDMI x 1	Full-size Minicard x 2	Din Rail Optional Wallmount	9-30V	-20°C ~ 60°C

Packing List

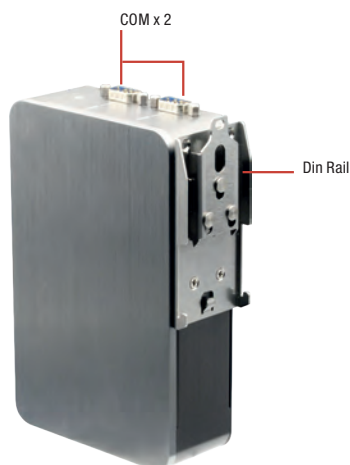
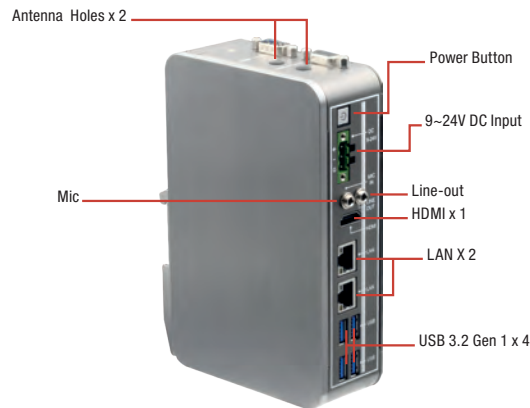
- Din Rail Bracket x 1
- Screw Package x 1
- 3 Pin DC-In Power Connector x 1
- BOXER-6750

Optional Accessories

- 1255900849 Power Adapter
- 1702031802 Power Cord (US Type)
- 1702031803 Power Cord (Europe)
- 170203180E Power Cord (Japan)
- 9741909A00 Wifi 802.11 a/b/g/n + BT 4.0 Kit
- 9741UC20G0 3G module Kit

BOXER-6710

Din Rail Mount Embedded BOX PC with Intel® Atom™ Processor N4200 or N3350



Features

- Slim Design: Min. width 44mm
- Designed for Embedded Automation Controller
- Gigabit Ethernet x 2, USB x 4
- Operate in -30°C ~ 60°C Environment
- Support Din Rail Mount

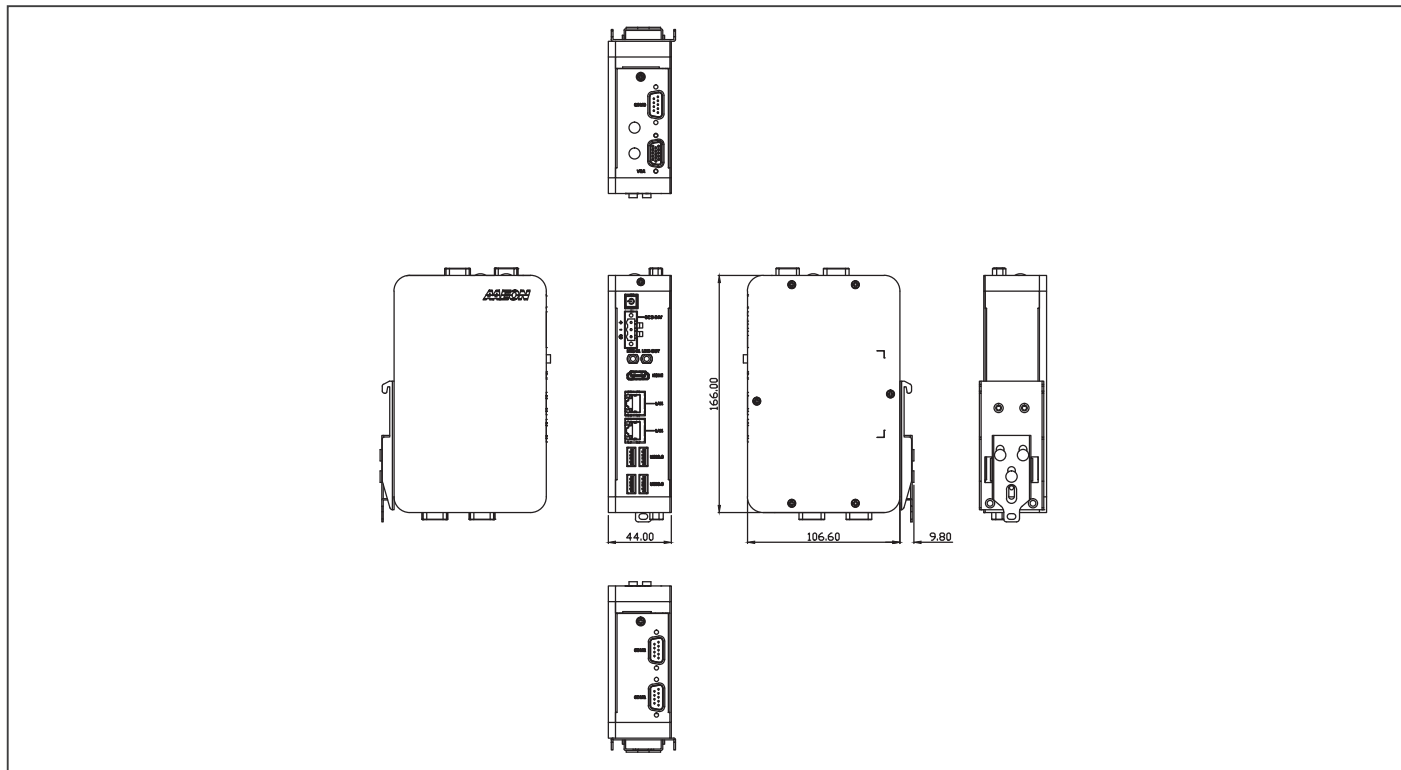


Specifications

System	
CPU	Intel® Pentium® processor N4200 Intel® Celeron® processor N3350
Chipset	Intel® System on Chip
System Memory	DDR3L 1866 SODIMM slot x 1, up to 8GB
Display Interface	HDMI, VGA
Storage Device	HDD/SSD, optional mSATA
Network	Intel® i211-AT x 1 Intel® i219-LM x 1
I/O	VGA x 1 HDMI x 1 RJ-45 x 2 for GbE LAN USB Type A x 4 for USB 3.2 Gen 1 Mic-in x 1 Line-out x 1 RS-232/422/485 x 3 with automatic flow control Power On/Off Button x 1 DC-in 3-pin terminal block (9~24V) x 1
Expansion	Full-size Minicard x 1 w/ SIM Slot Half-size Minicard x 1 (optional for mSATA)
Indicator	Power LED on power button
OS Support	Windows® 10 (64-bit) Windows® 10 IoT (64-bit) Linux Ubuntu 16.04.4
Power Supply	
Power Requirement	9 - 24V with 3-pin terminal block
Mechanical	
Mounting	DIN Rail Mount
Dimensions (W x H x D)	1.73" x 6.54" x 4.17" (44mm x 166mm x 106mm)
Gross Weight	3.08lb (1.4kg)
Net Weight	1.32lb (0.6kg)
Environmental	
Operating Temperature	-22°F ~ 140°F (-30°C ~ 60°C) with W.T. SSD/HDD/mSATA (according to IEC68-2-14 with 0.5 m/s AirFlow ; with industrial devices)
Storage Temperature	-49°F ~ 176°F (-45°C ~ 80°C)
Storage Humidity	95% @ 40°C, non-condensing
Anti-Vibration	3 Grms/ 5 ~ 500Hz/ operation – mSATA/SSD 1 Grms/ 5 ~ 500Hz/ operation – HDD
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	CPU	PCH	RAM	LAN	USB 3.2 Gen 1	USB 2.0	RS-232	RS-232/422/485	Digital I/O	Audio	Storage	Display	Expansion	Mounting	Power	Operation temp.
BOXER-6710-A1-1010	N3350	SoC	—	2	4	—	—	3	—	MIC-in, Line-out	2.5" SATA Drive bay x 1 Optional mSATA x 1	VGA x 1 HDMI x 1	Full-size Minicard x 1 Half-size Minicard x 1	Din Rail Mount	9-24V	-30°C ~ 60°C
BOXER-6710-A2-1010	N4200	SoC	—	2	4	—	—	3	—	MIC-in, Line-out	2.5" SATA Drive bay x 1 Optional mSATA x 1	VGA x 1 HDMI x 1	Full-size Minicard x 1 Half-size Minicard x 1	Din Rail Mount	9-24V	-30°C ~ 60°C

Packing List

- Din Rail Bracket x 1
- Screw Package x 1
- 3 Pin DC-In Power Connector x 1
- BOXER-6710

Optional Accessories

- 125530040F Power Adapter
- 1702031802 Power Cord (US Type)
- 1702031803 Power Cord (Europe)
- 170203180E Power Cord (Japan)
- 9741238H00 WiFi Module & Antenna
- 9741EC20E0 4G Module & Antenna(for Europe)

Expandable Fanless BOX PC Solutions

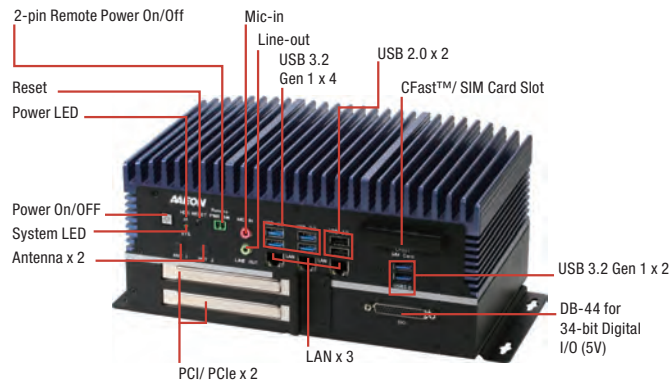
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BOXER-6839

Expandable Fanless Embedded Box PC with 6th/ 7th Generation Intel® Core™ Desktop Processor and PCIe [x4] & PCI Expansion

Front View



Rear View



Specifications

System	
CPU	7th Generation Intel® Core™ Processor family: Intel® Core™ i7-7700T, 2.9 GHz Intel® Core™ i5-7500T, 2.8 GHz Intel® Core™ i3-7101TE, 3.4 GHz Intel® Pentium® G4600T, 3.0 GHz Intel® Pentium® G4500T, 2.9 GHz Intel® Celeron® G3930T, 2.7 GHz 6th Generation Intel® Core™ Processor family: Intel® Core™ i7-6700TE, 2.4 GHz Intel® Core™ i5-6500TE, 2.3 GHz Intel® Core™ i3-6100TE, 2.7 GHz Intel® Pentium® G4500T, 3.0 GHz Intel® Pentium® G4400T, 2.9 GHz Intel® Celeron® G3900T, 2.6 GHz
Chipset	Intel® Q170
System Memory	DDR4 1866/2133 SODIMM slot x 2, up to 32GB
Display Interface	HDMI, VGA
Storage Device	CFAST™, HDD/SSD
Ethernet	Intel® I210, 10/100/1000 Base-TX x 3

Features

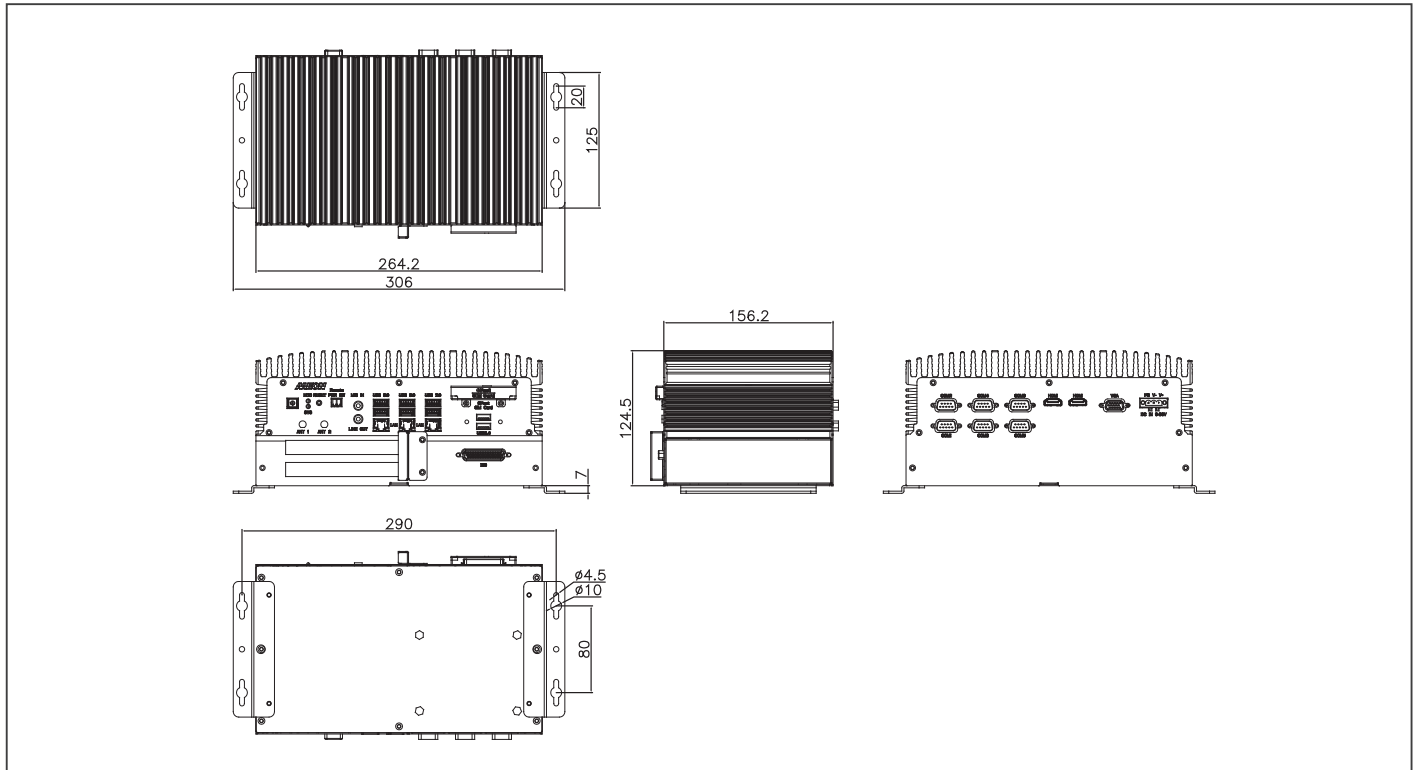
- Extreme Computing Power & Graphic Display Capability
- Desktop Grade Socket Type Processor with Longevity Support
- DDR4 ECC or Non-ECC SODIMM, Up to 32GB
- VGA + HDMI x 2 Triple Display, HDMI 4K Display
- PCIe [x4] & PCI Expansion
- USB 3.2 Gen 1 x 6
- Industrial-grade Intel® GbE LAN x 3
- Supports BIOS Selectable RS-232/422/485 x 6
- Easy Access Design
- Wide Range DC 9~36V Input
- 34-bit Digital Input and Output



I/O	RS-232/422/485 x 6 USB Type A x 6 for USB 3.2 Gen 1 USB Type A x 2 for USB 2.0 RJ-45 x 3 for GbE LAN DB-44 for 34-bit Digital I/O (5V) CFAST™ slot x 1 SIM card slot x 1 Power On/Off Button x 1 2 pin Remote power on/off Reset switch Mic-in x 1 Line-out x 1 Antenna opening x 2 SYS LED indicator x 1 HDD LED indicator x 1 DB-15 x 1 for VGA HDMI v1.3 x 2 DC-in 3-pin terminal block (9~36V)
Expansion	Full-size Mini-Card x 2 PCIe [x4] x 1 & PCIe [x1] x 1 (for A1) PCIe [x4] x 1 & PCI x 1 (for A2) PCI x 2 (for A3)
Indicator	Power LED HDD active LED
OS Support	7th Generation Intel® Core™ Processor family: Windows® 10 IOT (64bit) Ubuntu 16.04 above Fedora 25 above CentOS 7.3 above 6th Generation Intel® Core™ Processor family: Windows® 10 IOT (64bit) Windows® 8.1 (64bit) Windows® embedded 8 standard (64bit) Windows® 7 (64bit/32bit) Windows® embedded standard 7 (32/64bit) Ubuntu 16.04 above Fedora 25 above CentOS 7.3 above
Power Supply	
Power Requirement	9 - 36V with 3-pin terminal block
Mechanical	
Mounting	Wallmount
Dimensions (W x H x D)	10.40" x 4.90" x 6.15" (264.2mm x 124.5mm x 156.2mm)
Gross Weight	13.2 lb (6.0 kg)
Net Weight	9.9 lb (4.5 kg)
Environmental	
Operating Temperature	-4°F ~ 131°F (-20°C ~ 55°C) (according to IEC68-2-14 with 0.5 m/s AirFlow; with industrial devices)
Storage Temperature	-49°F ~ 176°F (-45°C ~ 80°C)
Storage Humidity	5~95% @ 40°C, non-condensing
Anti-Vibration	5 Grms/ 5 ~ 500Hz/ operation - SSD/CFAST™ card 1 Grms/ 5 ~ 500Hz/ operation - HDD
Certification	CE/FCC class A

Dimension

Unit: mm



Ordering Information

Part Number	CPU	RAM	LAN	USB 3.2 Gen 1	USB 2.0	RS-232/422/485	Digital I/O	Audio	Storage	Display	Expansion	Mounting	Power	Operating Temp.
BOXER-6839-A1-1010	—	—	3	6	2	6	34 bit	MIC-in x 1 Line-Out x 1	2.5" Drive Bay x 2 CFast™ x 1	VGA x 1 HDMI x 2	PCIe[x4] + PCIe[x1] Full-size Minitcard x 2	Wallmount	9~36V DC In	-4°F ~ 131°F (-20°C ~ 55°C)
BOXER-6839-A2-1010	—	—	3	6	2	6	34 bit	MIC-in x 1 Line-Out x 1	2.5" Drive Bay x 2 CFast™ x 1	VGA x 1 HDMI x 2	PCIe[x4] + PCI Full-size Minitcard x 2	Wallmount	9~36V DC In	-4°F ~ 131°F (-20°C ~ 55°C)
BOXER-6839-A3-1010	—	—	3	6	2	6	34 bit	MIC-in x 1 Line-Out x 1	2.5" Drive Bay x 2 CFast™ x 1	VGA x 1 HDMI x 2	PCI x 2 Full-size Minitcard x 2	Wallmount	9~36V DC In	-4°F ~ 131°F (-20°C ~ 55°C)

Packing List

- Wallmount Bracket x 2
- Screw Package x 1
- Thermal Pad x 3
- Phoenix Power Connector x 1
- BOXER-6839

Optional Accessories

- **125590120B**
Power Adapter
- **1702031802**
Power Cord (US Type)
- **1702031803**
Power Cord (Europe)
- **170203180E**
Power Cord (Japan)
- **9741159H00**
WiFi/Bluetooth Module & Antenna
- **9741EC25E0**
4G Module & Antenna (For Europe)
- **9741EC25A0**
4G Module & Antenna (For USA-AT&T)
- **9741EC25V0**
4G Module & Antenna (For USA-Verizon)

Transportation BOX PC Solutions

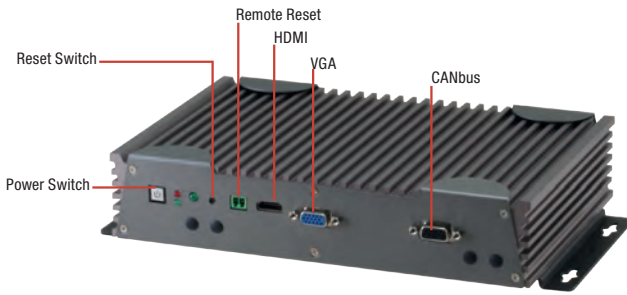
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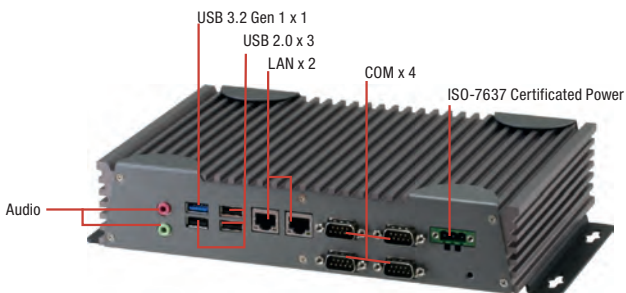
BOXER-6313U

In-Vehicle Box PC with Intel® Atom™ E3845, 1.91 GHz Processor

Front View



Rear View



Features

- Intel® Atom™ E3845, 1.91 GHz Processor, Optional for J1900, N2807
- Supports OVP/UVP/Reverse Protection, On/Off Delay and Battery Protection
- Fanless Operation
- Mini PCIe x 3 and SIM x3
- Onboard CANBUS/ GPS
- Supports DC +12V or DC +24V Vehicle Power and ACC Function

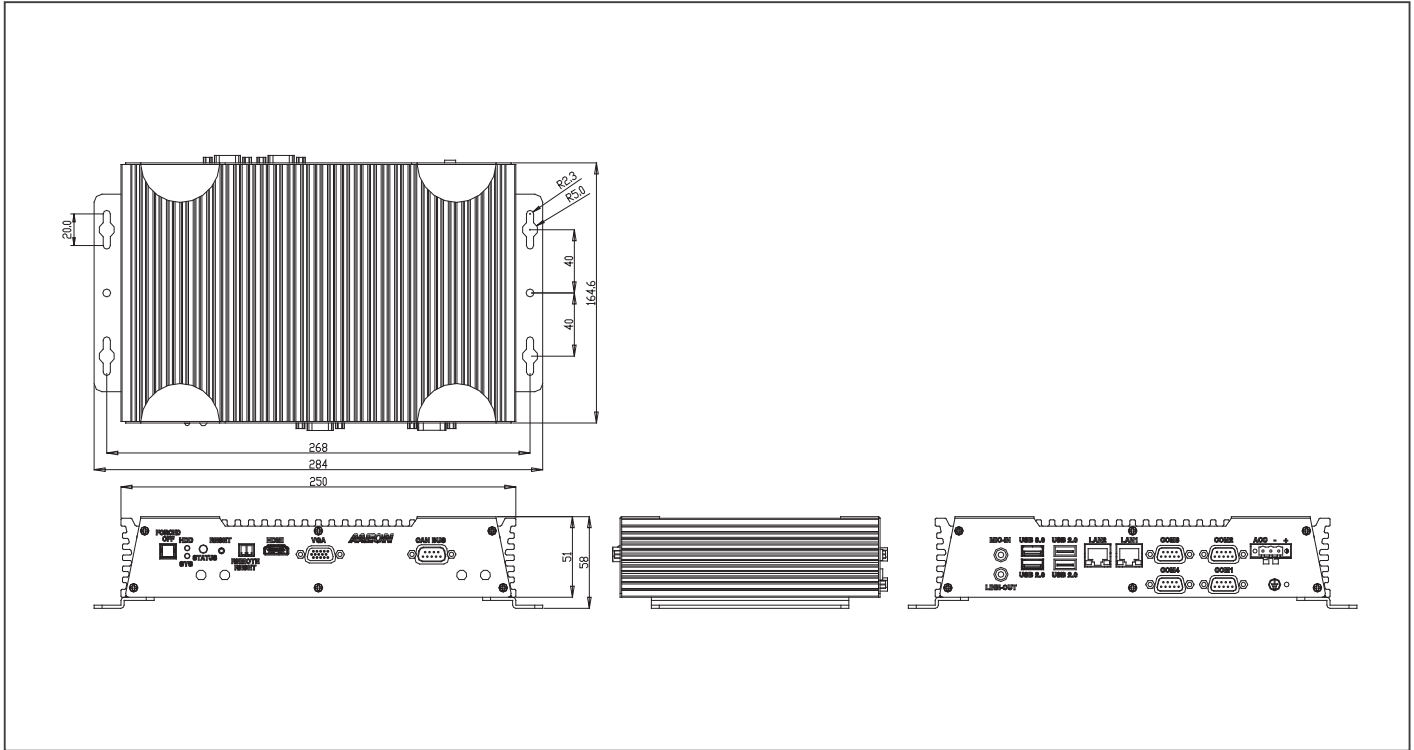


Specifications

System	
CPU	Intel® Atom™ E3845, 1.91 GHz
Chipset	Intel® System on Chip
System Memory	DDR3L 1066/1333 SODIMM slot x 1, up to 8 GB
Display Interface	HDMI, VGA
Storage Device	2.5" HDD bay x 2
Ethernet	Intel® I211, 10/100/1000 Base-TX x 2
I/O	RS-232/422/485 x 2 isolated RS-232 x 2 USB 3.2 Gen 1 x 1 USB 2.0 x 3 HDMI x 1 VGA x 1 LAN x 2 2 Channel CANBUS x 1 Mic-in x 1 Line-out x 1 Antenna hole x 4 Power on/off LED button x 1 Power input
Expansion	Full-size Mini-Card x 3 with SIM slot x 3
Indicator	Power LED on power button HDD active LED
OS support	Windows® 10, Windows® 8.1, Windows® 7, Linux Fedora
Power Supply	
Power Requirement	9-30V with 3-pin terminal block
Mechanical	
Mounting	Wallmount
Dimensions (W x H x D)	10.55" x 6.48" x 2.00" (268mm x 164.6mm x 51mm)
Gross Weight	9.0 lb (4.1 kg)
Net Weight	6.6 lb (3.1 kg)
Environmental	
Operating Temperature	5°F ~ 149°F (-15°C ~ 65°C)(according to IEC60068-2, with 0.5m/s AirFlow)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 80°C)
Storage Humidity	95% @ 40°C, non-condensing
Anti-Vibration	3 Grms/ 5~ 500Hz/ operation - CFast™
Certification	CE/FCC class A, E13, ISO7637

Dimension

Unit: mm



Ordering Information

Part Number	CPU	RAM	LAN	POE	USB 3.2 Gen 1	USB 2.0	RS-232	RS-232 /422/485	DIO	Audio	Storage	Display	Expansion	Mounting	Power	Temp.
BOXER-6313U-A1-1010	Intel® Atom™ E3845 1.91 GHz	—	2	—	1	3	2	2	—	MIC-in x 1 Line-Out x 1	2.5" Drive Bay x 2	VGA x 1 HDMI x 1	Full-size Minicard x 3	Wallmount	DC12V Battery	-15°C – 65°C
BOXER-6313U-A2-1010	Intel® Atom™ E3845 1.91 GHz	—	2	—	1	3	2	2	—	MIC-in x 1 Line-Out x 1	2.5" Drive Bay x 2	VGA x 1 HDMI x 1	Full-size Minicard x 3	Wallmount	DC24V Battery	-15°C – 65°C

Packing List

- Phoenix 2-pin Remote Reset Connector x 1
- GPS Antenna x 1
- Screw Pack x 1
- Wallmount Bracket x 2
- RAM Thermal Kit x 1
- BOXER-6313U

Optional Accessories

- **9751640300**
4G (EU) & GPS Module Kit
- **9751640301**
4G (US) & GPS Module Kit
- **9741C50W04**
WiFi 802.11 b/g/n + BT 3.0 Kit

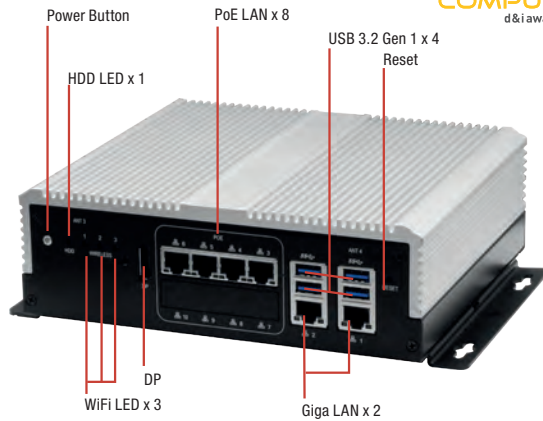
Network Video Recorder & Mobile NVR

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TAIWAN
EXCELLENCE
2018COMPUTEX
d&i awards 2017
by iF

Front View



Rear View



Project Base



Features

- In-Vehicle Platform
- 260-pin DDR4 2133 MHz SODIMM x 2, up to 32 GB
- Intel® Integrated Graphics Engine Supports Two Display by HDMI x 1, DP x 1
- Realtek® Ethernet Connection x 6 Ports (including 4 x PoE Ports). 8 x PoE Ports support is project based
- Mini-PCIe Socket x 3 (Full-size x 2 & Half-size x 1), mSATA Slot x 1 (Optional)
- Built-in CAN 2.0B. Optional OBDII Function (SAE J1939/J1708) (UART Interface)
- E-Mark Certified

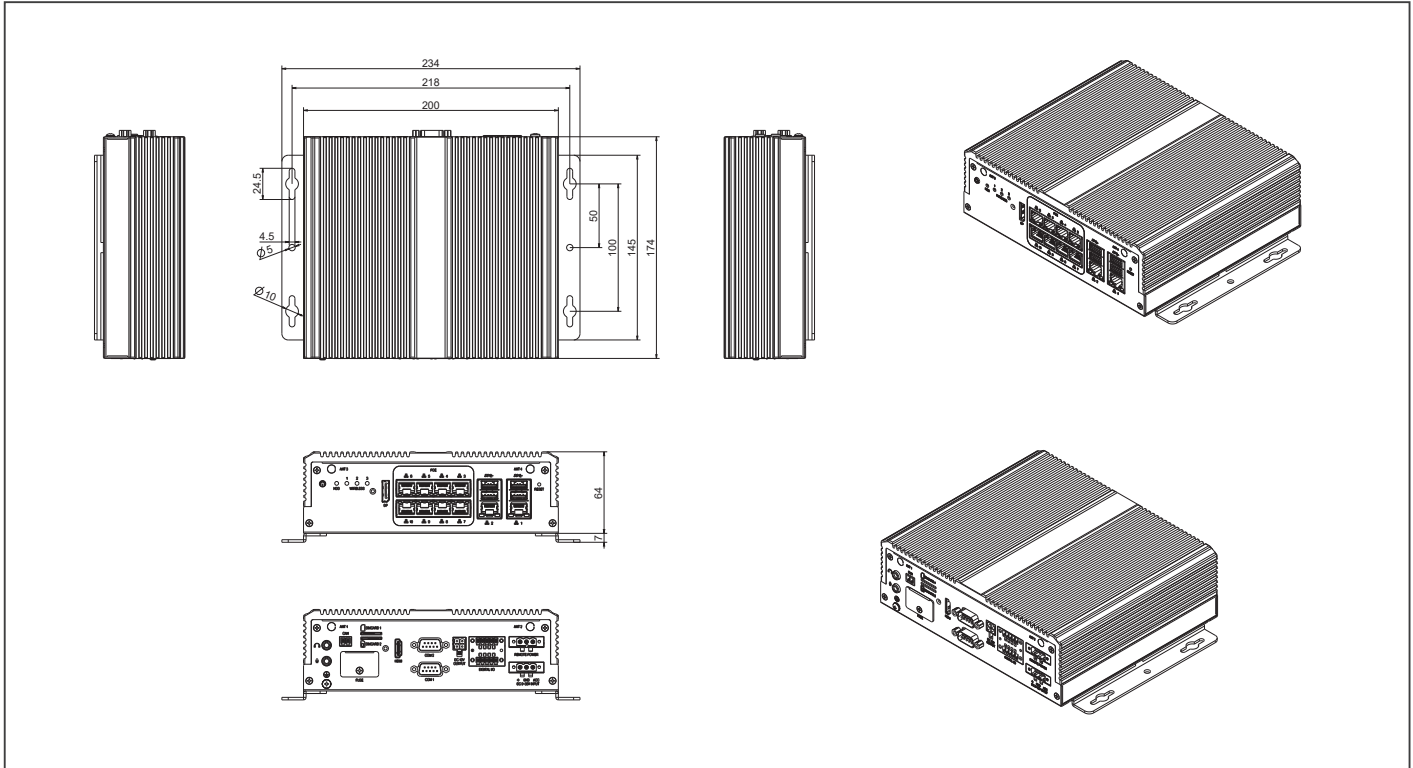


Specifications

System	
Form Factor	Multi-PoE & Fanless Appliance
Processor	Intel® 7th Gen. Core™ i3/i5/i7 Processor (Default: i3-7100U; Project base: i5-7300U, i7-7600U)
Chipset	—
Main Memory	Up to 32GB, DDR4 260-pin SODIMM
Display	HDMI x 1, DP x 1
Ethernet	LAN x 2 + 4 PoE Ports (Up to 8 PoE ports), RTL8111E 10/100/1000 Base
Smart PoE	4 ports (Max. 8 ports), sharing 60W of power budget for every four PoE ports.
RAID support	0/1
Expansion Slot	Mini-Card slot x 3 (USB2.0 x 2 + PCIe & USB 2.0 x 1) Built-in CAN 2.0B x 1
GPS, G-Sensor	On board (GPS/GLONASS), G Sensor
Front I/O Panel	Power Button x 1 3G/4G/WIFI LED x 3 USB 3.2 Gen 1 x 4 GbE port (RJ-45) x 2 PoE LAN x 4 (IEEE 802.3 at/af), Max. 8 ports DP x 1 Reset Button x 1
Rear I/O Panel	DC-In power x 1 Remote Power x 1 8-bit DIO x 1, 4-ch digital input (Wet/dry contact with Isolation Protection 3,000 VDC), 4-ch digital output (Compatible 5 V/TTL, 31 mA max. per channel) DC 12V/1A Output x 1 RS-232/422/485 x 2 HDMI x 1 CanBus connector x 1, Audio Line-out x 1, Mic-In x 1 SIM slot x 2
Storage	
HDD Tray	2.5" SSD x 2
CF/CFast/mSATA Slot	mSATA Slot x 1 (If mSATA x 1 used, then only one SATA available)
Environmental	
Operating Temperature	-4°F ~ 158°F (-20°C ~ 70°C); Project base, -40°C ~ 85°C
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Storage Humidity	10%~80% @40°C, non-condensing
Vibration/Shock	MIL-STD-810G
Certification	CE & FCC Class A, EMARK
Power Requirement	
Power Supply	DC 10-36V, with ignition pin
Mechanical	
Removable HDD Tray	Hot swappable 2.5" SSD x 2 (Project base) via extension module
Internal System HDD Bay	2.5" HDD x 2
Dimension	6.85" x 7.87" x 2.52" (174mm x 200mm x 64mm)
Gross Weight	5.7 lb (2.6 kg)
Note	—

Dimension

Unit: mm



Ordering Information

Part Number	Chipset	RAM	Cooler	Storage	RAID Support	Display	LAN	PoE	USB	RS-232	RS-232/422/485	Expansion Slot	Form Factor	Power
VPC-5600S-143-A10-W1	Intel® i3-7100U	260-pin SODIMM	Fanless	Supporting 2.5" SSD x 2 (Supporting 2.5" SSD x 1, mSATA x 1, by project base)	0/1	DP x 1, HDMI x 1	GbE x 2	4 Ports	USB 3.2 Gen 1 x 4	—	2	Mini-Card x 3 Built-in CAN2.0B x 1	Desktop	DC 10-36V

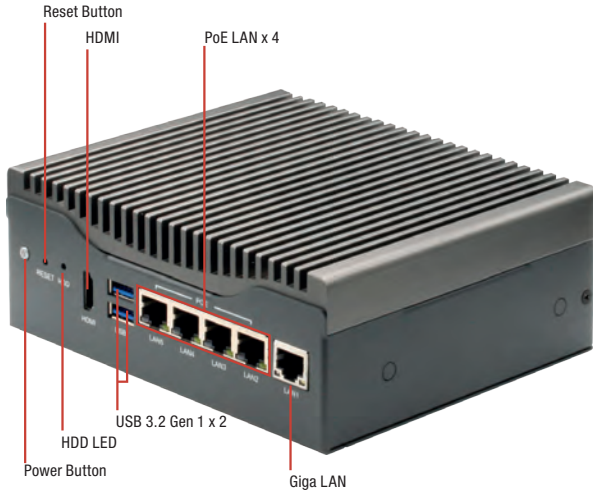
Packing List

- Wall mount bracket
- SATA cable x 2,
- Power cable x 2 (for SATA)
- VPC-5600S

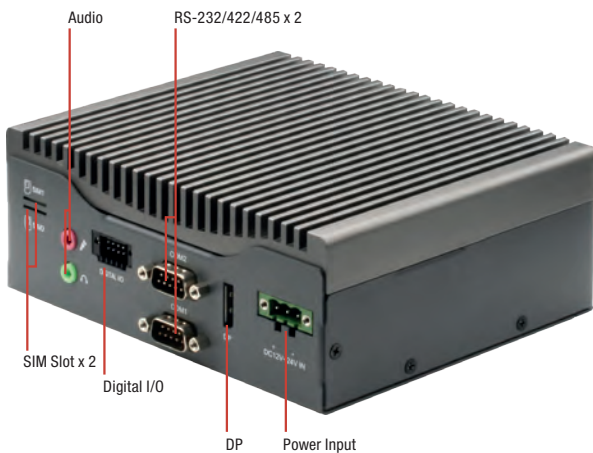
Optional Accessories

- **9741236A00**
WiFi module kit, 802.11ac/a/b/g/n.BT4.2.USB Signal.SparkLan.WPET-236ACN(BT).W/2 sets of cable&antenna
- **978966660G**
GPS Antenna
- **9741EG25G0**
PCIe mimi card 4G LTE module kit Global Band W/SIM holder w/ Cable & antenna
- **1702031803**
Power Cord.3P-250V 10A 180D.1.8M.VDE.FAN-JET.YP-22/YC-12 (Euro)
- **1702031802**
Power Cord.3P-125V 10A 180D.1.8M.USA.FANJET.YP12/YC-12 (USA)
- **170203180E**
Power Cord. 3P. 125V/7A. 1. 8M. PSE YP12/YC12 Certificat (JPN)

Front View



Rear View



Features

- Mobile Industrial Platform
- 204-pin Single Channel DDR3L 1866 MHz SODIMM up to 8 GB
- Intel® Integrated Graphics Engine Supports Two Display by HDMI x 1, DP x 1
- Intel® Ethernet Connection x 5 Ports (including 4 x PoE Ports)
- Full Mini-PCIe Socket x 2 (USB + PCIe); (Support up to Mini-PCIe Socket x 4, In-vehicle platform)
- Built-in CANBus, GPS & G-Sensor (In-vehicle platform)
- E-Mark Certified (In-vehicle platform)

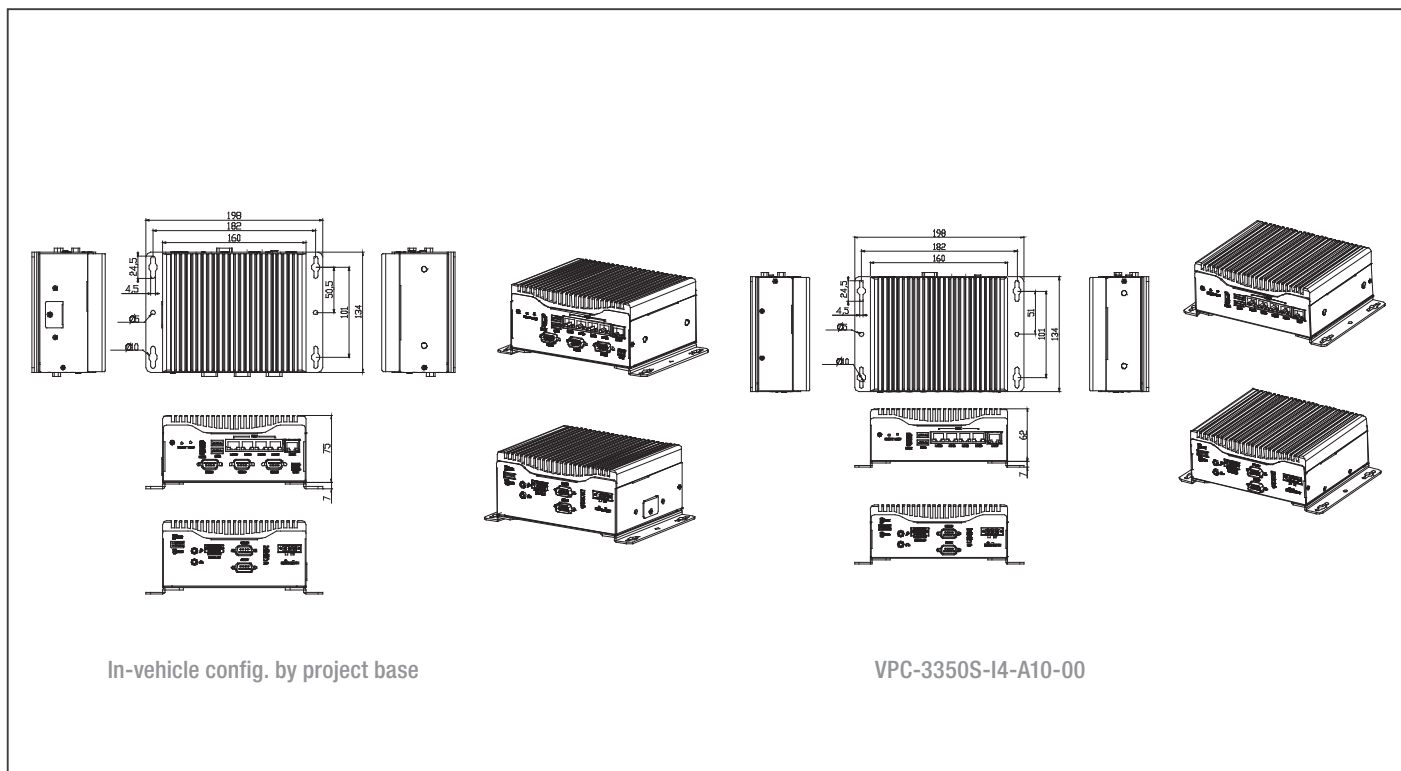


Specifications

System	
Form Factor	Multi-PoE & Fanless Appliance
Processor	Intel® Pentium®/ Celeron®/ Atom™ Processor (Default: E3940; Project base: N4200/N3350, or E3950 w/ customized chassis)
Chipset	—
Main Memory	Up to 8GB, DDR3L 204-pin SODIMM
Display	HDMI x 1, DP x 1
Ethernet	Intel® i211 (colay i210)
Smart PoE	4 ports, sharing 60W of power budget for every four PoE ports
RAID support	—
Expansion Slot	Mini-Card slot x 2 (USB 2.0 + PCIe, full size), up to 4 slots (In-vehicle platform) SATA x 1 Built-in CANBus (In-vehicle platform)
GPS, G-Sensor	Built-in GPS & G-Sensor (In-vehicle platform)
Front I/O Panel	Power Button x 1 Reset Button x 1 Power/HDD, LED x 2 USB 3.2 Gen 1 x 2 GbE port (RJ-45) x 1 PoE LAN x 4 (IEEE 802.3 at/af) HDMI x 1 CanBus connector x 1 (In-vehicle platform) RS-232 x 3 (In-vehicle platform)
Rear I/O Panel	DC-In power x 1 8-bit DIO x 1, 4-ch digital input, 4-ch digital output RS-232/422/485 x 2 DP x 1 Audio Line-out x 1, Mic-In x 1 Micro SIM slot x 2
Storage	
HDD Tray	2.5" HDD/SSD Bay x 1
CF/CFast/mSATA Slot	—
Environmental	
Operating Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Storage Humidity	10%~80% @40°C, non-condensing
Vibration/Shock	MIL-STD-810G
Certification	CE & FCC Class A, E-Mark (In-vehicle platform)
Power Requirement	
Power Supply	DC 12-24V; DC9-36V with power ignition (In-vehicle platform)
Mechanical	
Removable HDD Tray	—
Internal System HDD Bay	—
Dimension	6.3" x 5.28" x 2.44" (160mm x 134mm x 62mm) 6.3" x 5.28" x 2.95" (160mm x 134mm x 75mm), In-vehicle platform.
Gross Weight	3.96 lb (1.8 kg)
Note	—

Dimension

Unit: mm



Ordering Information

Part Number	Processor	RAM	Cooler	Storage	RAID Support	Display	LAN	PoE	USB	RS-232	RS-232/422/485	Expansion Slot	Form Factor	Power
VPC-3350S-I4-A10-00	Intel® Atom®x5 E3940	DDR3L 204-pin SODIMM	Fanless	Supporting 2.5" SSD x 1 (Optional SKU: Supporting additional mSATA x1 & eMMC)	—	DP x 1, HDMI x 1	GbE x 1	4 Ports	USB 3.2 Gen 1 x 2	—	2	Mini-Card x 2	Desktop	DC 12-24V

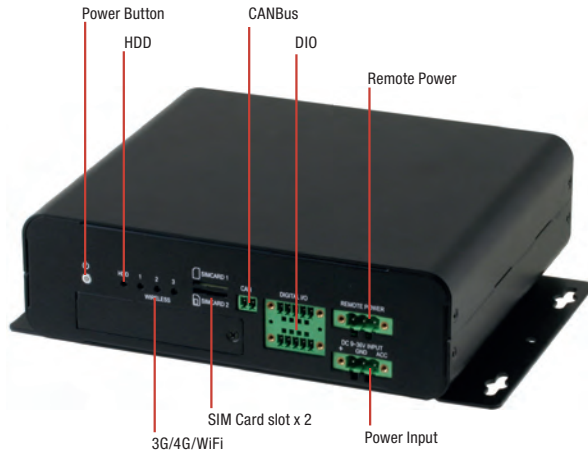
Packing List

- Wallmount bracket
- SATA cable x 1
- Power cable x 1 (for SATA)
- VPC-3350S

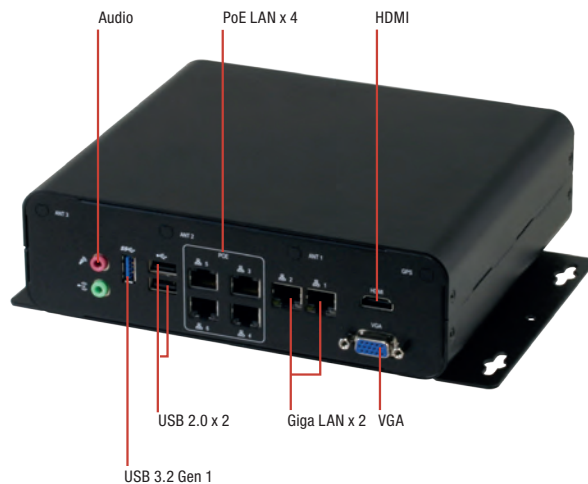
Optional Accessories

- **9741236A00**
WiFi module kit, 802.11ac/a/b/g/n.BT4.2.USB Signal.SparkLan.WPET-236ACN(BT).W/2 sets of cable&antenna
- **978966660G**
GPS Antenna
- **9741EG25G0**
PCIe mimi card 4G LTE module kit Global Band W/SIM holder w/ Cable & antenna
- **1702031803**
Power Cord.3P-250V 10A 180D.1.8M.VDE.FAN-JET.YP-22/YC-12 (Euro)
- **1702031802**
Power Cord.3P-125V 10A 180D.1.8M.USA.FANJET.YP12/YC-12 (USA)
- **170203180E**
Power Cord. 3P. 125V/7A. 1. 8M. PSE YP12/YC12 Certificat (JPN)

Front View



Rear View



Features

- In-Vehicle Platform
- 204-pin Single Channel DDR3L 1600 MHz SODIMM up to 8 GB
- Intel® Integrated Graphics Engine Supports Dual Independent Display by VGA x 1, HDMI x 1
- Realtek® Ethernet Connection x 6 w/4 Port PoE
- Mini-PCIe Socket x 3 (Full Card Size) , (1 x w/ USB)
- Built-in CAN 2.0B. Optional OBDII Function (SAE J1939/J1708)(UART Interface)
- EMARK Certified

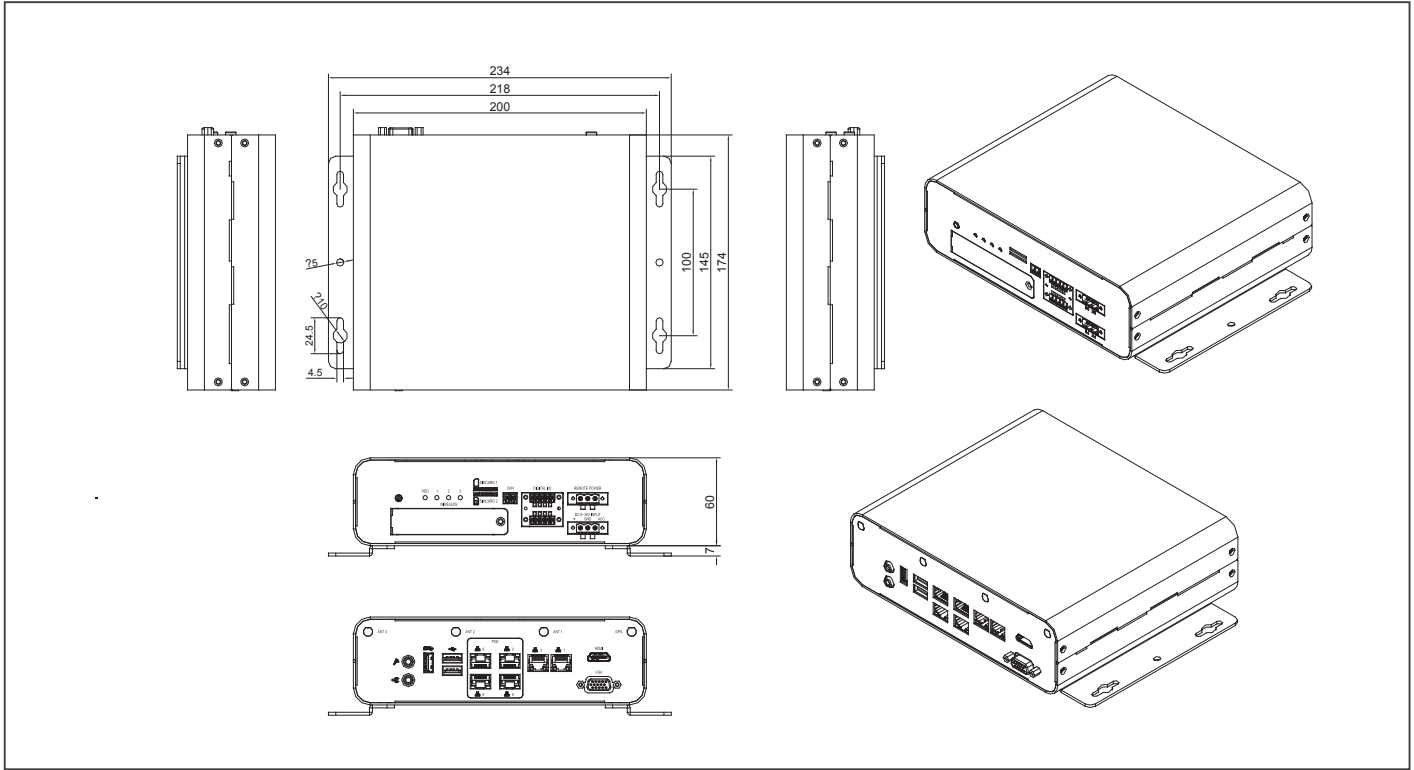


Specifications

System	
Form Factor	Multi-PoE & Fanless Appliance
Processor	Intel® Celeron® J1900 Processor
Chipset	Quad Core SoC
Main Memory	Up to 8GB, DDR3L 204-pin SODIMM
Display	VGA x 1, HDMI x 1
Ethernet	10/100/1000Base-TX x 6
Smart PoE	4 ports, RJ-45 ports support IEEE 802.3 at/af with total PoE Power budget of 60W
RAID support	—
Expansion Slot	Mini-Card x 3, Built-in CAN 2.0B x 1
GPS, G-Sensor	On board (GPS/GLONASS)
Front I/O Panel	Power Button x 1 Power Input x 1 Remote Power x 1 3G/4G/WiFi LED x 3 SIM slot x 2 HDD LED x 1 CanBus connector x 1 8bit DIO x 1, 4-ch digital input (Wet/dry contact with Isolation Protection 3,000 VDC) , 4-ch digital output (Compatible 5 V/TTL, 31 mA max. per channel)
Rear I/O Panel	VGA out x 1, HDMI x 1 GbE port (RJ-45) x 2 PoE LAN x 4 USB2.0 x 2, USB 3.2 Gen 1 x 1 Audio Line-out x 1, Mic-In x 1
Storage	
HDD Tray	2.5" HDD/SSD Bay x 1
CF/CFast/mSATA Slot	mSATA Slot x 1 (default; colay w/ 2.5" HDD x 1)
Environmental	
Operating Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Storage Humidity	10%~80% @40°C, non-condensing
Vibration/Shock	MIL-STD-810G
Certification	CE & FCC Class A, EMARK
Power Requirement	
Power Supply	DC 9-36V, with Ignition Pin
Mechanical	
Removable HDD Tray	2.5" HDD x 2 (Optional, MOQ apply)
Internal System HDD Bay	2.5" HDD x 1 (Optional SKU if support HDD x 2)
Dimension	6.85" x 7.87" x 2.36" (174mm x 200mm x 60mm)
Gross Weight	5.7 lb (2.6 kg)
Note	—

Dimension

Unit: mm



Ordering Information

Part Number	Chipset	RAM	Cooler	Storage	Display	LAN	PoE	USB	RS-232	RS-232/422/485	Expansion Slot	Form Factor	Power
VPC-3300S-I4-A10-W1	Intel® J1900 SoC	8 GB, DDR3L 204-pin SODIMM	Fanless	2.5" HDD tray x 1, mSATA slot x 1 (Optional SKU if support HDD x 2)	VGA x 1, HDMI x 1	GbE x 6	4 Ports	USB 3.2 Gen 1 x 1, UBS2.0 x 2	—	—	Mini-Card x 3 Built-in CAN2.0B x 1	Desktop	DC 9 - 36V
VPC-3300S-I4-A10-W11	Intel® J1900 SoC	2 GB, DDR3L 204-pin SODIMM	Fanless	2.5" HDD tray x 1, mSATA slot x 1 (Optional SKU if support HDD x 2)	VGA x 1, HDMI x 1	GbE x 6	4 Ports	USB 3.2 Gen 1 x 1, UBS2.0 x 2	—	—	Mini-Card x 3 Built-in CAN2.0B x 1	Desktop	DC 9 - 36V
VPC-3300S-I4-A10-W12	Intel® J1900 SoC	4 GB, DDR3L 204-pin SODIMM	Fanless	2.5" HDD tray x 1, mSATA slot x 1 (Optional SKU if support HDD x 2)	VGA x 1, HDMI x 1	GbE x 6	4 Ports	USB 3.2 Gen 1 x 1, UBS2.0 x 2	—	—	Mini-Card x 3 Built-in CAN2.0B x 1	Desktop	DC 9 - 36V

Packing List

- VPC-3300S

Optional Accessories

- **9741236A00**
WiFi module kit, 802.11ac/a/b/g/n.BT4.2.USB Signal.SparkLan.WPET-236ACN(BT).W/2 sets of cable&antenna
- **978966660G**
GPS Antenna
- **9741EG25G0**
PCIe mimi card 4G LTE module kit Global Band W/SIM holder w/ Cable & antenna
- **1702031803**
Power Cord.3P-250V 10A 180D.1.8M.VDE.FAN-JET.YP-22/YC-12 (Euro)
- **1702031802**
Power Cord.3P-125V 10A 180D.1.8M.USA.FANJET.YP12/YC-12 (USA)
- **170203180E**
Power Cord. 3P. 125V/7A. 1. 8M. PSE YP12/YC12 Certificat (JPN)

Front View



Rear View



Features

- Mobile Industrial Platform
- Intel® 8th Generation Whisky Lake processor
- Supporting up to 64 GB DDR4 2400 SDRAM, two slots
- DP x 1, HDMI x 1
- RS232/422/485 COM port x 2 (Isolated by BOM option), USB3.0 port x 4
- GigE connector x 5 (PoE x 4, GigE x 1), up to 8 PoE ports (by project base)
- DC 12-24V power Input, up to DC 9~36V (In-vehicle config. by project base)
- 1 x jack for Line out & MIC in
- 8 bits DIO (Isolated 4DI & 4DO / 8DI/ 8DO by BOM option)
- Wide Temperature: -20°C ~ 70°C
- LAN LED indicator (ACTx5, LNKx5), Status LED x1, HDD LED x 1, Wireless LED x 1, Power button w/indicator x 1, Reset button x 1

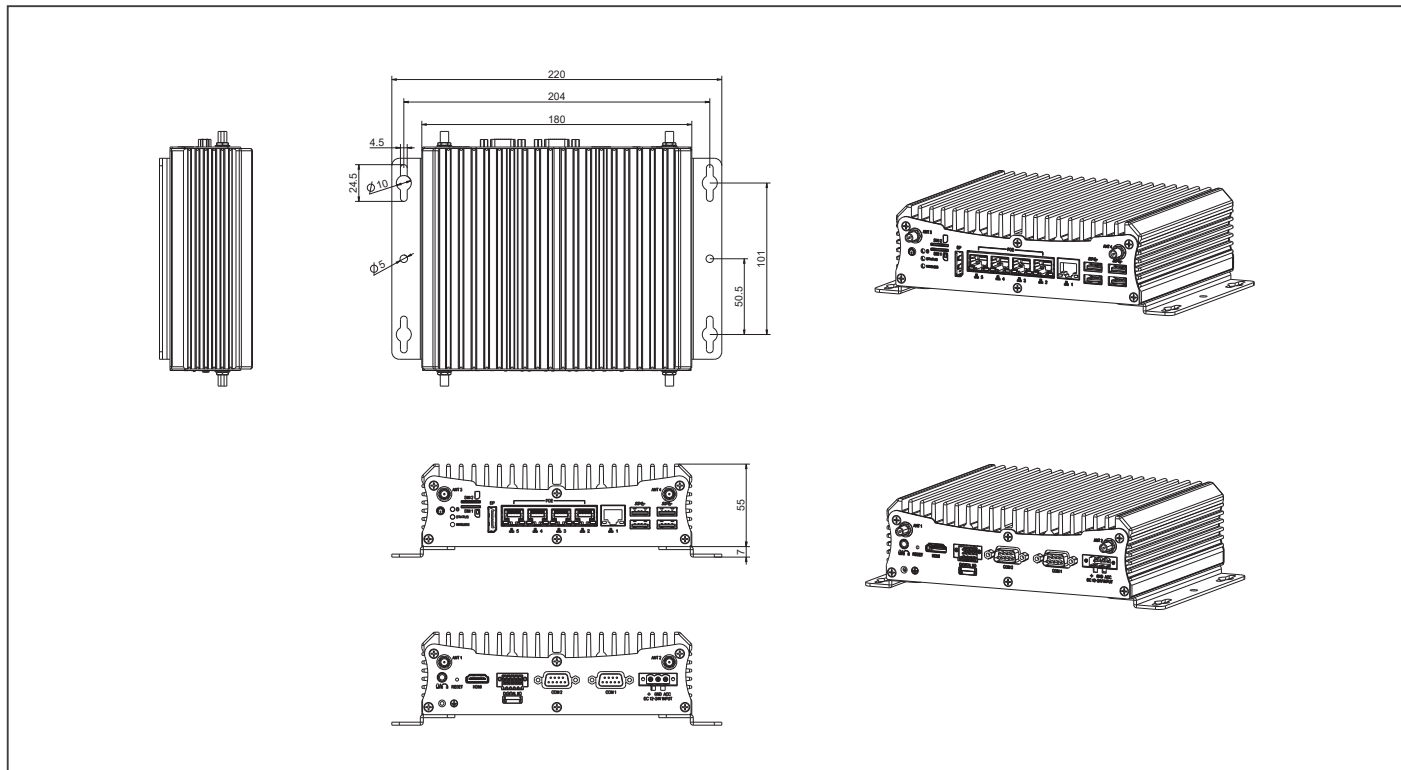


Specifications

System	
Form Factor	Multi-PoE & Fanless Appliance
Processor	Intel® Whisky Lake Processor (Default: i7-8665UE; Project base: i5-8365UE, i3-8145UE or 4305UE)
Chipset	—
Main Memory	Up to 64GB, DDR4 260-pin SODIMM
Display	HDMI x 1, DP x 1
Ethernet	1x GbE, Intel i211, support Wake on LAN and PXE supported
Smart PoE	4 ports (Max. 8 ports by project base), IEEE 802.3 at/af, sharing 60W of power budget for every four PoE ports. Able to power management in each independent PoE port (SDK available)
RAID support	0/1
Expansion Slot	1 x mPCIe Full-Size (USB+PCIe) 1 x mPCIe Full-Size (USB+SATA) colay SATA 1 x M.2 2280 (USB+PCIe), support NVME PCIe [x4] SSD
GPS, G-Sensor	Built-in GPS, Gyro & G-Sensor (In-vehicle config. by project base)
Front I/O Panel	4 x RJ45 Smart PoE Port (60W), 4 x USB 3.2 Gen 1, 1 x Giga LAN, 1 x DP, Power button, Status LED, HDD LED, Wireless LED, 2x Micro SIM slots, 2 x Antenna holes
Rear I/O Panel	1 x jack for Line out & MIC in 1 x HDMI 2 x RS-232/422/485 (Isolated by BOM option) 1 x HW Reset, 1 x 3pin Power input 8 bits DIO (Isolated 4DI & 4DO / 8DI/ 8DO by BOM option) 2x Antenna holes
Storage	
HDD Tray	2.5" HDD/SSD Bay x 2
CF/CFast/mSATA Slot	—
Environmental	
Operating Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Storage Humidity	10%~80% @40°C, non-condensing
Vibration/Shock	MIL-STD-810G
Certification	CE & FCC Class A
Power Requirement	
Power Supply	DC 12-24V; DC9-36V with power ignition (In-vehicle config. by project base)
Mechanical	
Removable HDD Tray	—
Internal System HDD Bay	2.5" HDD x 2
Dimension	6.3" x 5.87" x 2.16" (180mm x 149mm x 55mm)
Gross Weight	TBD
Note	—

Dimension

Unit: mm



Ordering Information

Part Number	Chipset	RAM	Cooler	Storage	RAID Support	Display	LAN	PoE	USB	RS-232	RS-232/422/485	Expansion Slot	Form Factor	Power
VPC-5620S-IS-A10-00	Intel® i7-8665UE	260-pin SODIMM	Fanless	Supporting 2.5" SSD x 2 (Supporting 2.5" SSD x 1, mSATA x 1, by project base)	0/1	DP x 1, HDMI x 1	GbE x 1	4 Ports	USB 3.2 Gen1 x 4	—	2	Mini-Card x 2 M.2 2280 M key x 1	Desktop	DC 12-24V

Packing List

- Wall mount bracket
- SATA cable x 2,
- Power cable x 2 (for SATA)
- Matting connector for power input
- VPC-5620S

Optional Accessories

- **9741236A00**
WiFi module kit, 802.11ac/a/b/g/n.BT4.2.USB Signal.SparkLan.WPET-236ACN(BT).W/2 sets of cable&antenna
- **978966660G**
GPS Antenna
- **9741EG25G0**
PCIe mimi card 4G LTE module kit Global Band W/SIM holder w/ Cable & antenna
- **1702031803**
Power Cord.3P-250V 10A 180D.1.8M.VDE.FAN-JET.YP-22/YC-12 (Euro)
- **1702031802**
Power Cord.3P-125V 10A 180D.1.8M.USA.FANJET.YP12/YC-12 (USA)
- **170203180E**
Power Cord. 3P. 125V/7A. 1. 8M. PSE YP12/YC12 Certificat (JPN)

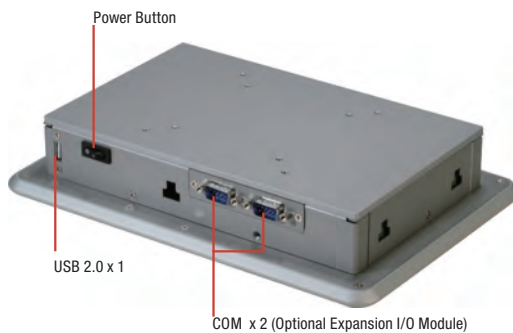
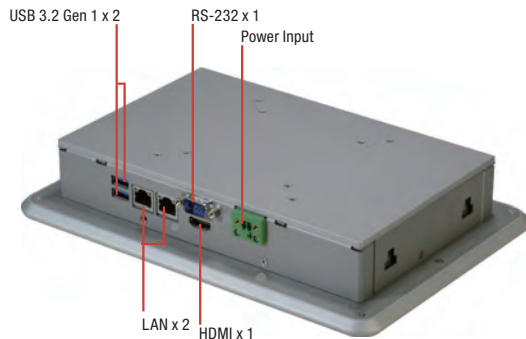
Ultra-Slim Multi-Touch Panel Solutions

21



ACP-1106

10.1" WXGA Multi-Touch Panel PC With Intel® Pentium® N4200/ Celeron® N3350 Processor, 4 GB RAM



9761107601
USB 2.0 x 2



9761107600
RS-232/422/485 x 2



Features

- 10.1" WXGA (1280 x 800) Color TFT LCD Display
- Intel® Pentium® N4200/ Celeron® N3350 Processor
- Projected Capacitive Multi Touch
- IP65 Compliant Aluminum Front Bezel
- Fanless System
- VESA 75/Panel Mount Support
- DC 9~30V

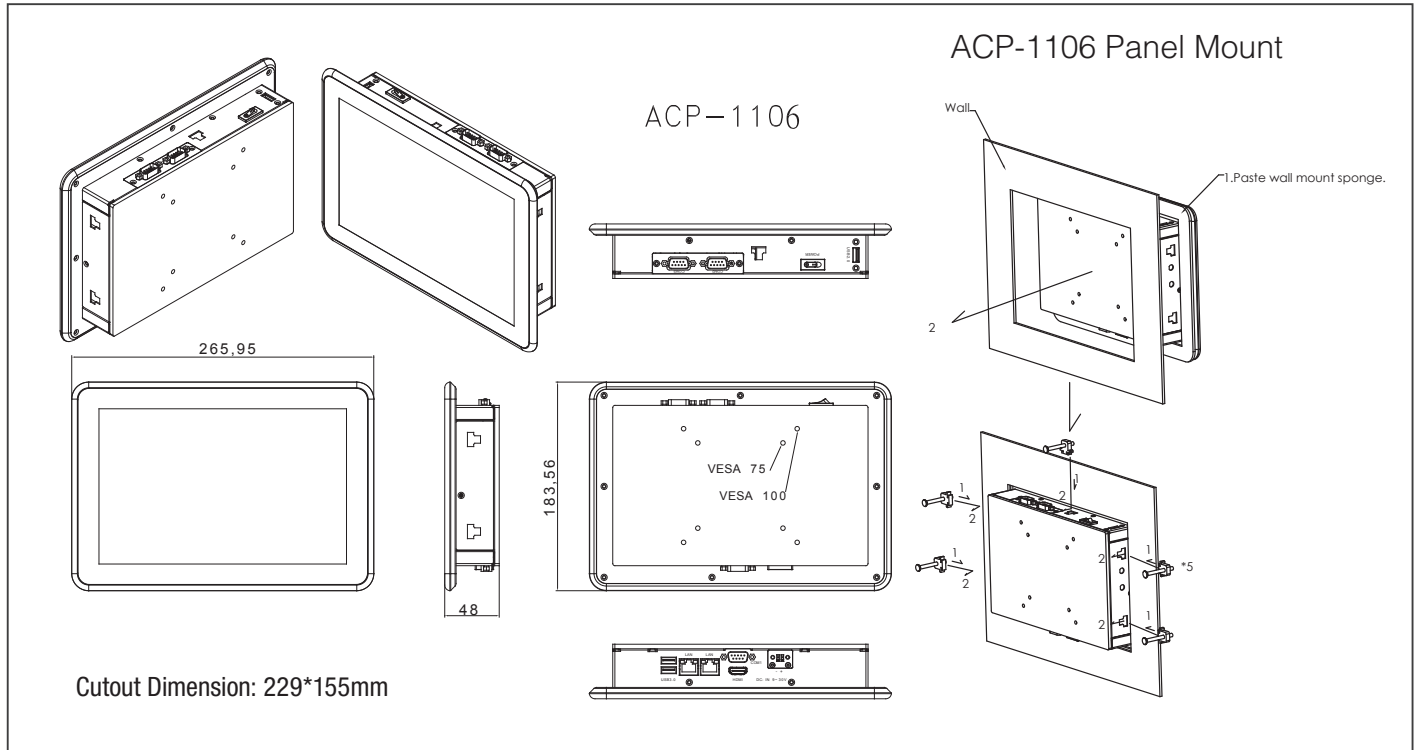


Specifications

System	
Processor	Intel® Pentium® N4200 processor, 1.1 GHz (Quad-Core), Burst frequency 2.5GHz Intel® Celeron® N3350 processor, 1.1 GHz (Dual-Core), Burst frequency 2.4GHz
System Memory	204-pin DDR3L SODIMM x 1, Build-in 4GB, Max. 8GB
LCD/CRT controller	Integrated in processor
Ethernet	10/100/1000 Base-TX, RJ-45 x 2
Bottom I/O Port	DB9 Type RS-232 x 1 USB 3.2 Gen 1 x 2 HDMI x 1 RJ-45 10/100/1000 LAN x 2 2 Pin terminal block for power input
Top I/O Port	Power Button x 1 Type A USB 2.0 x 1 Expansion I/O Slot
Storage Disk Drive	Full Size mSATA x 1
Expansion Slot	Half size mini card x 1 (Internal)
OS support	Windows® 10, Linux Kernel 4.4.0 or higher
Mechanical	
Construction	Aluminum Front Bezel + Metal Chassis
Mounting	VESA 75, Panel Mount
Dimension	10.47" x 7.24 x 1.89" (266 x 184 x 48mm)
Carton Dimension	13.38" x 7.64 x 9.96" (340 x 194 x 253mm)
Gross Weight	6.38 lb (2.9 kg)
Environmental	
Operating Temperature	23°F ~ 122°F (-5°C ~ 50°C) with 0.5 m/s airflow
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	90% @40°C; non-condensing
Vibration	1 Grms/ 5~ 500Hz/ operation – with HDD
Shock	—
EMC	CE/FCC Class A
Power Supply	
DC input	DC 9~30V
LCD	
Display Type	10.1" TFT-LCD, LED
Max Resolution	1280 x 800
Max. Colors	262K colors (6 bit for R,G,B)
Luminance	300 cd/m ²
Viewing Angle	170° (H), 170° (V)
Back Light	LED
Back Light MTBF (Hours)	—
Touch Screen	
Type	P-CAP Touchscreen
Light Transmission	90%

Dimension

Unit: mm



ACP-1106 Panel Mount

Cutout Dimension: 229*155mm

Ordering Information

Part Number	Display Type	Max Resolution	Luminance	View Angle	Backlight MTBF	CPU	LAN	USB 3.2 Gen 1	USB 2.0	RS-232	RS-232 /422/485	Storage	RAM	Display	Expansion	Mounting	Power	Temp.	Touch
ACP-1106HTT-A1-1012	10.1" TFT-LCD	1280 x 800	300 cd/m ²	170°(H)/170°(V)	25,000	Intel® Pentium® N4200	2	2	1	1	0	Full Size mSATA x 1	4GB DDR3L RAM Included	HDMI x 1	- Half size mini card slot x 1 - Expansion I/O window x 1	Stand, Panel, VESA 75	DC 9-30V	23°F ~ 122°F (-5°C ~ 50°C) (w/ airflow)	PCAP T/S
ACP-1106HTT-A3-1012	10.1" TFT-LCD	1280 x 800	300 cd/m ²	170°(H)/170°(V)	25,000	Intel® Celeron® N3350	2	2	1	1	0	Full Size mSATA x 1	4GB DDR3L RAM Included	HDMI x 1	- Half size mini card slot x 1 - Expansion I/O window x 1	Stand, Panel, VESA 75	DC 9-30V	23°F ~ 122°F (-5°C ~ 50°C) (w/ airflow)	PCAP T/S
ACP-1106HTT-B1-1012	10.1" TFT-LCD	1280 x 800	300 cd/m ²	170°(H)/170°(V)	25,000	Intel® Pentium® N4200	2	2	1	1	0	Full Size mSATA x 1	4GB DDR3L RAM Included	HDMI x 1	- Half size mini PCIe slot x 1 with WiFi module installed - Expansion I/O window x 1	Stand, Panel, VESA 75	DC 9-30V	23°F ~ 122°F (-5°C ~ 50°C) (w/ airflow)	PCAP T/S
ACP-1106HTT-B3-1012	10.1" TFT-LCD	1280 x 800	300 cd/m ²	170°(H)/170°(V)	25,000	Intel® Celeron® N3350	2	2	1	1	0	Full Size mSATA x 1	4GB DDR3L RAM Included	HDMI x 1	- Half size mini PCIe slot x 1 with WiFi module installed - Expansion I/O window x 1	Stand, Panel, VESA 75	DC 9-30V	23°F ~ 122°F (-5°C ~ 50°C) (w/ airflow)	PCAP T/S

Packing List

- Panel Mount Kit
- VESA Screws
- ACP-1106

Full Size mSATA Storage Device:

- **AP-SS968C008G1N**
Full-sized, 8GB mSATA, MLC, -40°C ~ 85°C
- **AP-SS968C016G3D**
Full-sized, 16GB mSATA, MLC, -40°C ~ 90°C
- **968C032G35**
Full-sized, 32GB mSATA, MLC, -40°C ~ 90°C
- **968C064G2R**
Full-sized, 64GB mSATA, MLC, -40°C ~ 90°C
- **968C128G16**
Full-sized, 128GB mSATA, MLC, -40°C ~ 90°C
Note: AAEON factory-installed mSATA HDD is strongly recommended.

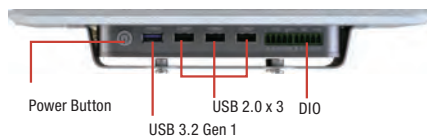
Optional Accessories

- **1702031802**
Power Cord (US Type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **M041073020**
Stand Kit
- **9761107600**
RS-232/422/485 x 2 (Expansion I/O Module)
- **9761107601**
USB 2.0 x 2 (Expansion I/O Module)
- **1255300609**
2 Pin 60W power adapter

10.1" WXGA Ultra-slim Fanless Multi Touch Panel PC w/ Intel® Celeron® J1900/ N2807 Processor, 2GB RAM



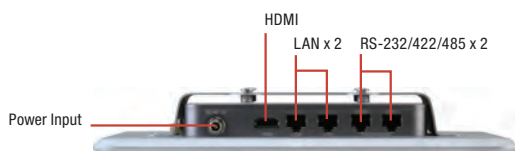
Top I/O Side



Rear Side



Button I/O Side



Features

- 10.1" WXGA (1280 x 800) Color TFT LCD Display
- Intel® Celeron® J1900/ N2807 Processor
- Aluminum Design
- P-CAP Multi-touch
- Fanless Operation
- VESA 75/ Panel Mount/ Stand Support
- IP65 Compliant Front Bezel

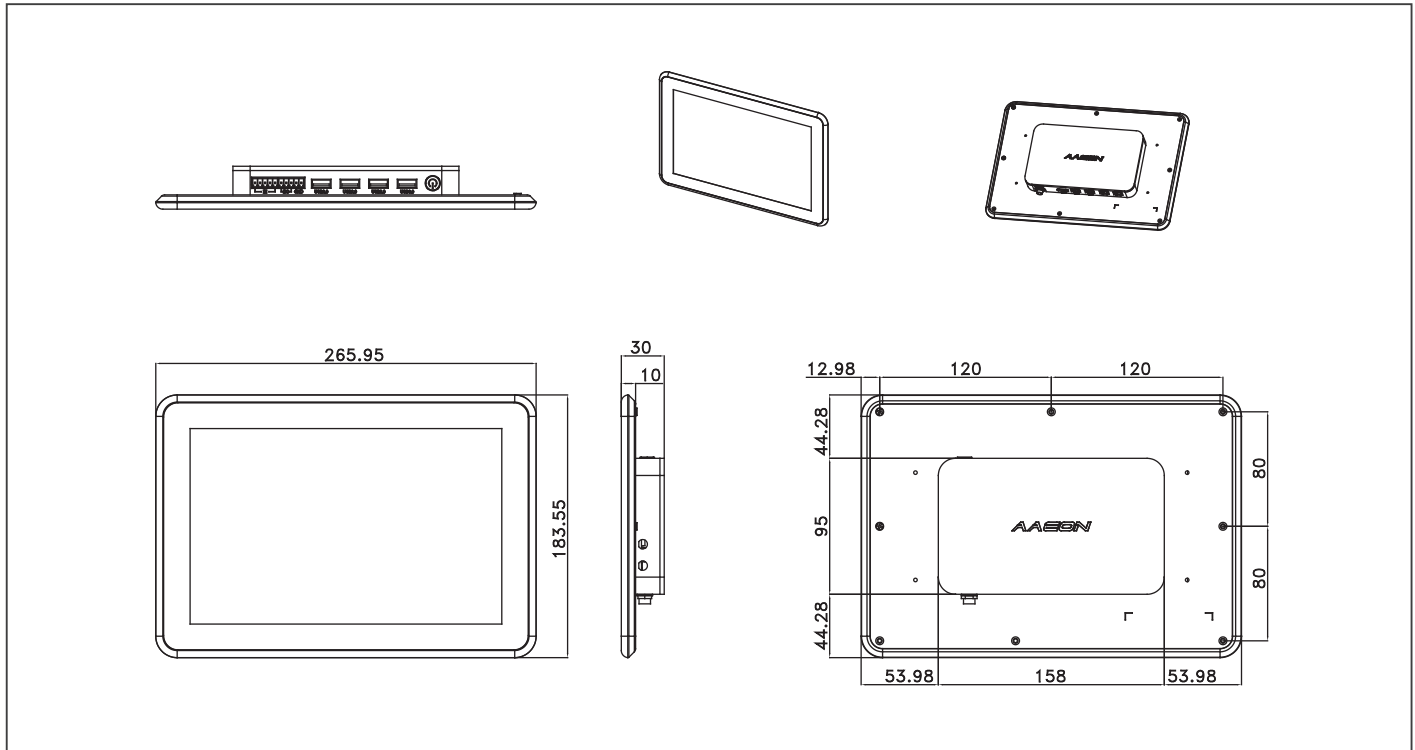


Specifications

System	
Processor	Intel® Celeron® J1900 processor, 2 GHz Intel® N2807 processor, 1.58 GHz
System Memory	204-pin DDR3L 1333MHz SODIMM x 1, default 2 GB, up to 8 GB (J1900) 204-pin DDR3L 1333MHz SODIMM x 1, default 2 GB, up to 4 GB (N2807)
LCD/CRT controller	—
Ethernet	10/100/1000 Base-TX, RJ-45 x 2
I/O Port	RS-232/422/485 x 2 (RJ-45 connector) USB 2.0 type A x 3 USB 3.2 Gen 1 type A x 1 HDMI x 1 DIO (4 DI, 2 DO) BIOS selection Power button x 1 Lockable power connector x 1
Storage Disk Drive	Half size mSATA x 1 (Installation by AAEON recommended)
Expansion Slot	Full size Mini-Card x 1
OS support	Windows® 7, Windows® 8.1, Windows® 10, Linux kernel 2.6.3 or higher, Android 4.4.4
Mechanical	
Front Panel	Aluminum Design
Mounting	VESA 75/ Panel mount/ Stand
Dimension	10.47" x 7.22" x 1.81" (266 x 183.5 x 30mm)
Carton Dimension	13.58" x 7.87" x 9.65" (345 x 200 x 245mm)
Gross Weight	5.5 lb (2.5 kg)
Environmental	
Operating Temperature	32°F ~ 113°F (0°C ~ 45°C) without airflow 32°F ~ 122°F (0°C ~ 50°C) with airflow
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	5%~90% @40°C, non-condensing
Vibration	1 Grms/ 5~ 500Hz/ operation
Shock	15 G peak acceleration (11 msec. duration)
EMC	CE/FCC class A
Power Supply	
DC Input	DC 12V with lockable power adapter
LCD	
Display Type	10.1" TFT-LCD, LED
Max. Resolution	1280 x 800
Max. Colors	262k
Luminance	300 cd/m ²
Viewing Angle	170° (H), 170° (V)
Back Light	LED
Back Light MTBF (Hours)	—
Touchscreen	
Type	Projected capacitive multi-touch
Light Transmission	—

Dimension

Unit: mm



Ordering Information

Part Number	Display Type	Max. Resolution	Luminance	View Angle	Backlight MTBF	CPU	LAN	USB	RS-232	RS-232/422/485	Storage	RAM	Display	Expansion	Mounting	Power	Temp.	Touch
ACP-1104HTT-A1-1014	10.1" TFT-LCD	1280 x 800	300 cd/m ²	170°(H), 170°(V)	25,000	Intel® Celeron® J1900, 2.0 GHz	2	USB 3.2 Gen 1 x 1, USB 2.0 x 3	—	2	Half size mSATA	2GB	HDMI x 1	—	VESA 75/Stand	DC 12V	32°F ~ 113°F (0°C ~ 45°C) (mSATA, w/o airflow) 32°F ~ 122°F (0°C ~ 50°C) (mSATA, w/ airflow)	Projected capacitive touch
ACP-1104HTT-B1-1014	10.1" TFT-LCD	1280 x 800	300 cd/m ²	170°(H), 170°(V)	25,000	Intel® Celeron® J1900, 2.0 GHz	2	USB 3.2 Gen 1 x 1, USB 2.0 x 3	—	2	Half size mSATA	2GB	HDMI x 1	WiFi	VESA 75/Stand	DC 12V	32°F ~ 113°F (0°C ~ 45°C) (mSATA, w/o airflow) 32°F ~ 122°F (0°C ~ 50°C) (mSATA, w/ airflow)	Projected capacitive touch
ACP-1104HTT-A3-1014	10.1" TFT-LCD	1280 x 800	300 cd/m ²	170°(H), 170°(V)	25,000	Intel® Celeron® N2807, 1.58 GHz	2	USB 3.2 Gen 1 x 1, USB 2.0 x 3	—	2	Half size mSATA	2GB	HDMI x 1	—	VESA 75/Stand	DC 12V	32°F ~ 113°F (0°C ~ 45°C) (mSATA, w/o airflow) 32°F ~ 122°F (0°C ~ 50°C) (mSATA, w/ airflow)	Projected capacitive touch
ACP-1104HTT-B3-1014	10.1" TFT-LCD	1280 x 800	300 cd/m ²	170°(H), 170°(V)	25,000	Intel® Celeron® N2807, 1.58 GHz	2	USB 3.2 Gen 1 x 1, USB 2.0 x 3	—	2	Half size mSATA	2GB	HDMI x 1	WiFi	VESA 75/Stand	DC 12V	32°F ~ 113°F (0°C ~ 45°C) (mSATA, w/o airflow) 32°F ~ 122°F (0°C ~ 50°C) (mSATA, w/ airflow)	Projected capacitive touch

Packing List

- **1255300607**
Power Adapter, DC12V, 60W
- **1700090156 x 2**
RJ-45 to COM Cable
- **VESA Mount Kit**
- **9741107300**
Panel Mount Kit
- **VESA Screws**
- **ACP-1104**

Optional Accessories

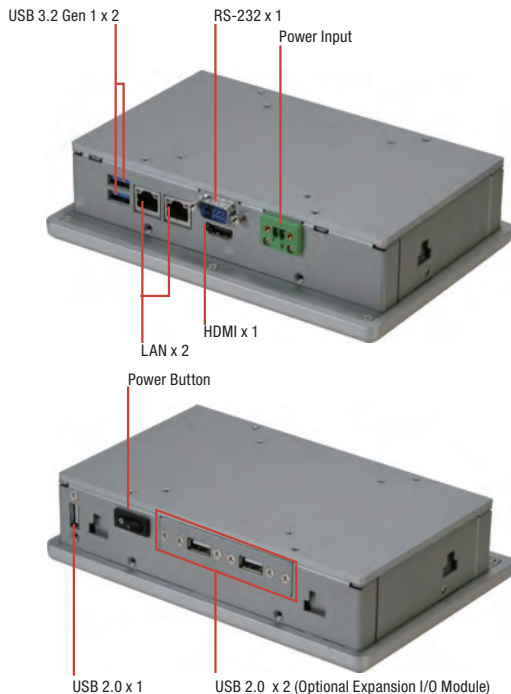
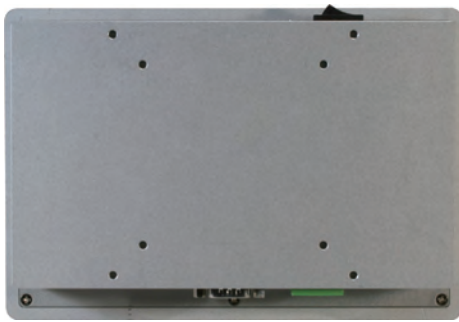
- **1702031802**
Power Cord (US Type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **M041073020**
Stand Kit

Half Size mSATA Storage Device:

- **968C016G4Q**
(TF)Half-sized, 16 GB, mSATA SSD, MLC, -40°C ~ +85°C
 - **968C032G3K**
(TF)Half-sized, 32 GB, mSATA SSD, MLC, -40°C ~ +85°C
 - **968C064G3A**
(TF)Half-sized, 64 GB, mSATA SSD, MLC, -40°C ~ +85°C
 - **968C128G1Q**
(TF)Half-sized, 128 GB, mSATA SSD, MLC, -40°C ~ +85°C
- Note: AAEON factory-installed mSATA HDD is strongly recommended.**

ACP-1076

7" SWXGA Multi-Touch Panel PC with Intel® Pentium® N4200/ Celeron® N3350 Processor, 4 GB RAM



9761107601
USB 2.0 x 2



9761107600
RS-232/422/485 x 2



Features

- 7" WXGA (1024 x 600) Color TFT LCD Display
- Intel® Pentium® N4200/ Celeron® N3350 Processor
- Projected Capacitive Multi Touch (2 Fingers)
- IP65 Compliant Aluminum Front Bezel
- Fanless System
- VESA 75/ Panel Mount Support
- DC 9~30V

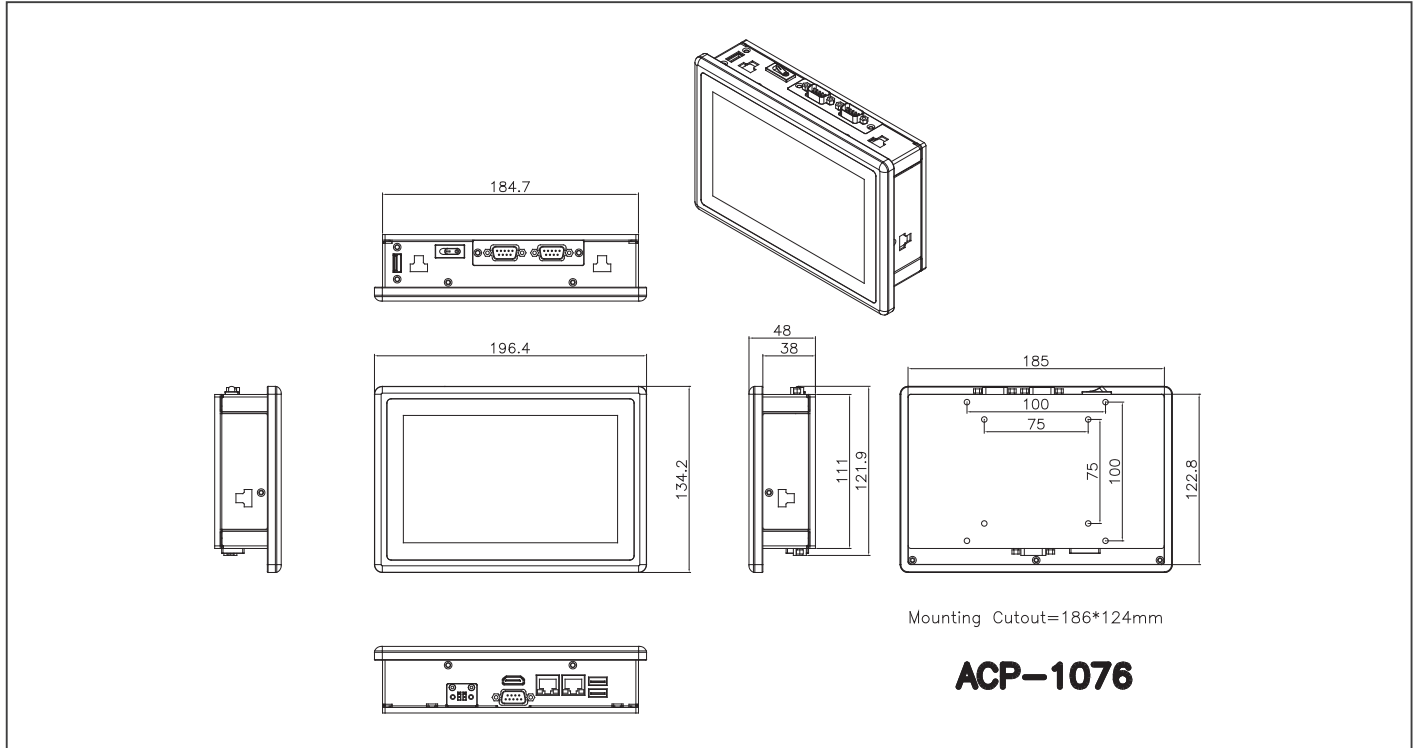


Specifications

System	
Processor	Intel® Pentium®N4200 processor, 1.1 GHz (Quad-Core), Burst frequency 2.5GHz Intel® Celeron® N3350 processor, 1.1 GHz (Dual-Core), Burst frequency 2.4GHz
System Memory	204-pin DDR3L SODIMM x 1, Build-in 4GB, Max. 8GB
LCD/CRT controller	Integrated in processor
Ethernet	10/100/1000 Base-TX, RJ-45 x 2
Bottom I/O Port	DB9 Type RS-232 x 1 USB 3.2 Gen 1 x 2 HDMI x 1 RJ-45 10/100/1000 LAN x 2 2 Pin terminal block for power input
Top I/O Port	Power Button x 1 Type A USB 2.0 x 1 Expansion I/O Slot
Storage Disk Drive	Full Size mSATA x 1
Expansion Slot	Half size mini card x 1 (Internal)
OS support	Windows® 10, Linux Kernel 4.4.0 or higher
Mechanical	
Construction	Aluminum Front Bezel + Metal Chassis
Mounting	VESA 75, Panel Mount
Dimension	7.72" x 5.28" x 1.89" (196 x 134 x 48 mm)
Carton Dimension	10.87" x 9.41" x 6.69" (276 x 239 x 170 mm)
Gross Weight	4.62 lb (2.1 Kg)
Environmental	
Operating Temperature	23°F ~ 122°F (-5°C ~ 50°C) with 0.5 m/s airflow
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	90% @40°C; non-condensing
Vibration	1 Grms/ 5~ 500Hz/ operation – with HDD
Shock	15 G peak acceleration (11 msec. duration) – with HDD
EMC	CE/FCC Class A
Power Supply	
DC input	DC 9~30V
LCD	
Display Type	7" TFT-LCD, LED
Max Resolution	1024 x 600
Max. Colors	16.7M
Luminance	320 cd/m ²
Viewing Angle	150° (H), 145° (V)
Back Light	LED
Back Light MTBF (Hours)	20,000
Touch Screen	
Type	P-CAP Touchscreen
Light Transmission	90%

Dimension

Unit: mm



Ordering Information

Part Number	Display Type	Max Resolution	Luminance	View Angle	Backlight MTBF	CPU	LAN	USB 3.2 Gen 1	USB 2.0	RS-232	RS-232 /422/485	Storage	RAM	Display	Expansion	Mounting	Power	Temp.	Touch
ACP-1076HTT-A1-1012	7" TFT-LCD	1024 x 600	320 cd/m ²	150(H) / 145(V)	20,000	Intel® Pentium N4200	2	2	1	1	0	Full Size mSATA x 1	4GB DDR3L RAM Included	HDMI x 1	- Half size mini PCIe slot x 1 - Expansion I/O window x 1	Stand, Panel, VESA 75	DC 9~30V	23°F ~ 122°F (-5°C ~ 50°C) (w/ airflow)	PCAP T/S
ACP-1076HTT-A3-1012	7" TFT-LCD	1024 x 600	320 cd/m ²	150(H) / 145(V)	20,000	Intel® Celeron N3350	2	2	1	1	0	Full Size mSATA x 1	4GB DDR3L RAM Included	HDMI x 1	- Half size mini PCIe slot x 1 - Expansion I/O window x 1	Stand, Panel, VESA 75	DC 9~30V	23°F ~ 122°F (-5°C ~ 50°C) (w/ airflow)	PCAP T/S
ACP-1076HTT-B1-1012	7" TFT-LCD	1024 x 600	320 cd/m ²	150(H) / 145(V)	20,000	Intel® Pentium N4200	2	2	1	1	0	Full Size mSATA x 1	4GB DDR3L RAM Included	HDMI x 1	- Half size mini PCIe slot x 1 with WiFi module installed - Expansion I/O window x 1	Stand, Panel, VESA 75	DC 9~30V	23°F ~ 122°F (-5°C ~ 50°C) (w/ airflow)	PCAP T/S
ACP-1076HTT-B3-1012	7" TFT-LCD	1024 x 600	320 cd/m ²	150(H) / 145(V)	20,000	Intel® Celeron N3350	2	2	1	1	0	Full Size mSATA x 1	4GB DDR3L RAM Included	HDMI x 1	- Half size mini PCIe slot x 1 with WiFi module installed - Expansion I/O window x 1	Stand, Panel, VESA 75	DC 9~30V	23°F ~ 122°F (-5°C ~ 50°C) (w/ airflow)	PCAP T/S

Packing List

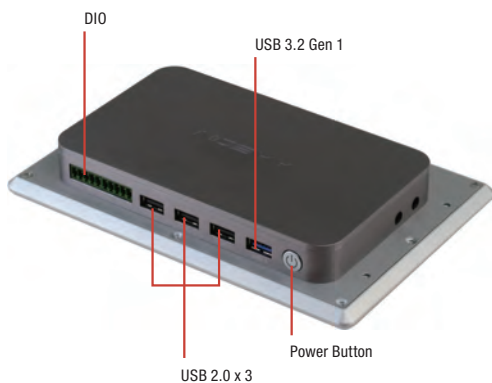
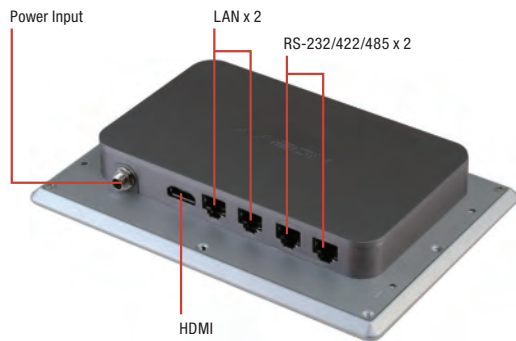
- Panel Mount Kit
- VESA Screws
- ACP-1076

Optional Accessories

- **1702031802**
Power Cord (US Type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **M041073020**
Stand Kit
- **9761107600**
RS-232/422/485 x 2 (Expansion I/O Module)
- **9761107601**
USB 2.0 x 2 (Expansion I/O Module)
- **1255300609**
2 Pin 60W power adapter

Full Size mSATA Storage Device:

- **AP-SS968C008G1N**
Full-sized, 8GB mSATA, MLC, -40°C ~ 85°C
- **AP-SS968C016G3D**
Full-sized, 16GB mSATA, MLC, -40°C ~ 85°C
- **968C032G35**
Full-sized, 32GB mSATA, MLC, -40°C ~ 85°C
- **968C064G2R**
Full-sized, 64GB mSATA, MLC, -40°C ~ 85°C
- **968C128G16**
Full-sized, 128GB mSATA, MLC, -40°C ~ 85°C
Note: AAEON factory-installed mSATA HDD is strongly recommended.



Features

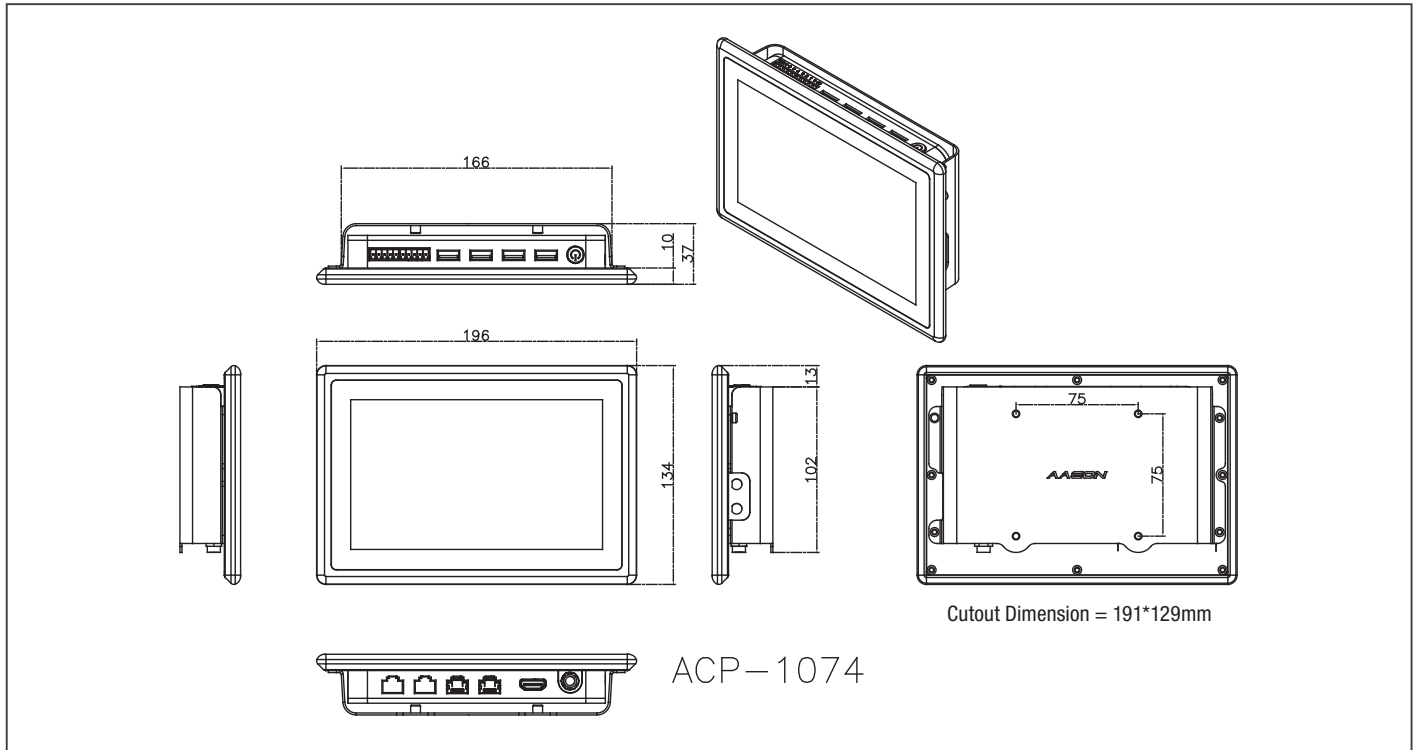
- 7" WSVGA (1024 x 600) Color TFT LCD Display
- Intel® N2807/J1900 Processor
- Wide Flatscreen with P-CAP Multi-Touch (2-point)
- 7H Anti-scratch Surface
- Aluminum Design
- IP65 Compliant
- Fanless Operation
- VESA 75/Panel Mount/ Stand Support



System	
Processor	Intel® N2807 processor, 1.58 GHz Intel® Celeron® J1900 processor, 2 GHz
System Memory	204-Pin DDR3L SODIMM x 1, default 2GB, up to 8 GB (J1900) 204-Pin DDR3L SODIMM x 1, default 2GB, up to 4 GB (N2807)
LCD/CRT controller	Integrated in processor
Ethernet	10/100/1000 Base-TX, RJ-45 x 2
I/O Port	RJ-45 type RS-232/422/485 x 2 USB 2.0 x 3 USB 3.2 Gen 1 x 1 HDMI x 1
Storage Disk Drive	Half size mSATA storage x 1 (Installation by AAEON recommended)
Expansion Slot	Full size Mini-Card x 1
OS support	Windows® 7, Windows® 8.1, Windows® 10, Linux kernel 2.6.3 or higher
Mechanical	
Construction	Aluminum Design
Mounting	VESA 75/ Panel mount/ Stand
Dimension	7.71" x 5.27" x 1.18" (196mm x 134mm x 30mm)
Carton Dimension	13.58" x 7.87" x 9.64" (345mm x 200mm x 245mm)
Gross Weight	5.5 lb (2.5 kg)
Environmental	
Operating Temperature	32°F ~ 122°F (0°C ~ 50°C) without airflow 23°F ~ 131°F (-5°C ~ 55°C) with airflow
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	5%~90% @40°C, non-condensing
Vibration	1 Grms/ 5~ 500Hz/ operation – with HDD
Shock	15G peak acceleration (11 msec. duration) – with HDD
EMC	CE/FCC class A
Power Supply	
DC Input	DC12V, with lockable power adapter
LCD	
Display Type	7" TFT-LCD, LED
Max Resolution	1024 x 600
Max. Colors	16.7M
Luminance	320 cd/m ²
Viewing Angle	150° (H), 145° (V)
Back Light	LED
Back Light MTBF (Hours)	20,000
Touchscreen	
Type	Projected capacitive multi-touch (2-point)
Light Transmission	90%

Dimension

Unit: mm



Cutout Dimension = 191*129mm

ACP-1074

Ordering Information

Part Number	Display Type	Max Resolution	Luminance	View Angle	Backlight MTBF	CPU	LAN	USB 3.2 Gen 1	USB 2.0	RS-232	RS-232 /422/485	Storage	RAM	Display	Expansion	Mounting	Power	Temp.	Touch
ACP-1074HTT-A1-1013	7" TFT-LCD	1024 x 600	320 cd/m ²	150°(H)/145°(V)	20,000	Intel® Celeron® J1900, 2 GHz	2	1	3	—	2	Half Size mSATA x 1	2G DDR3L RAM Include	VGA x 1	—	Panel Mount/ VESA 75/ Stand	DC 12V	0°C ~ 50°C (w/o airflow) -3°F ~ 131°F (-5°C ~ 55°C) (w/ airflow)	Projected Capacitive multi-touch (2-point)
ACP-1074HTT-A3-1013	7" TFT-LCD	1024 x 600	320 cd/m ²	150°(H)/145°(V)	20,000	Intel® N2807, 1.58 GHz	2	1	3	—	2	Half Size mSATA x 1	2G DDR3L RAM Include	VGA x 1	—	Panel Mount/ VESA 75/ Stand	DC 12V	0°C ~ 50°C (w/o airflow) -3°F ~ 131°F (-5°C ~ 55°C) (w/ airflow)	Projected Capacitive multi-touch (2-point)
ACP-1074HTT-B1-1013	7" TFT-LCD	1024 x 600	320 cd/m ²	150°(H)/145°(V)	20,000	Intel® Celeron® J1900, 2 GHz	2	1	3	—	2	Half Size mSATA x 1	2G DDR3L RAM Include	VGA x 1	WiFi	Panel Mount/ VESA 75/ Stand	DC 12V	0°C ~ 50°C (w/o airflow) -3°F ~ 131°F (-5°C ~ 55°C) (w/ airflow)	Projected Capacitive multi-touch (2-point)
ACP-1074HTT-B3-1013	7" TFT-LCD	1024 x 600	320 cd/m ²	150°(H)/145°(V)	20,000	Intel® N2807, 1.58 GHz	2	1	3	—	2	Half Size mSATA x 1	2G DDR3L RAM Include	VGA x 1	WiFi	Panel Mount/ VESA 75/ Stand	DC 12V	0°C ~ 50°C (w/o airflow) -3°F ~ 131°F (-5°C ~ 55°C) (w/ airflow)	Projected Capacitive multi-touch (2-point)

Packing List

- **1255300607**
Lockable Power Adapter
- **1700090156 x 2**
RJ-45 to COM Cable
- **VESA Mount Kit**
- **Panel Mount Kit**
- **VESA Screws**
- **ACP-1074**

Half Size mSATA Storage Device:

- **968C008G1B**
(TF)Half-sized, 8 GB, mSATA SSD, MLC, -40°C ~ +85°C
- **968C016G4Q**
(TF)Half-sized, 16 GB, mSATA SSD, MLC, -40°C ~ +85°C
- **968C032G3K**
(TF)Half-sized, 32 GB, mSATA SSD, MLC, -40°C ~ +85°C
- **968C064G3A**
(TF)Half-sized, 64 GB, mSATA SSD, MLC, -40°C ~ +85°C

- **968C128G1Q**
(TF)Half-sized, 128 GB, mSATA SSD, MLC, -40°C ~ +85°C

Note: AAEON factory-installed mSATA HDD is strongly recommended.

Optional Accessories

- **1702031802**
Power Cord (US Type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **M041073020**
Stand Kit

OMNI Series : Modular Builder

Refer to the product introduction on page 00-17 to learn how to order

22





Features

- 15.6" (1366 x 768) OMNI Modular Touch/ LCD Kit
- Supports Projected Capacitive Multi Touch or Resistive Touch Screen
- IP65 Compliant Aluminum Front Bezel

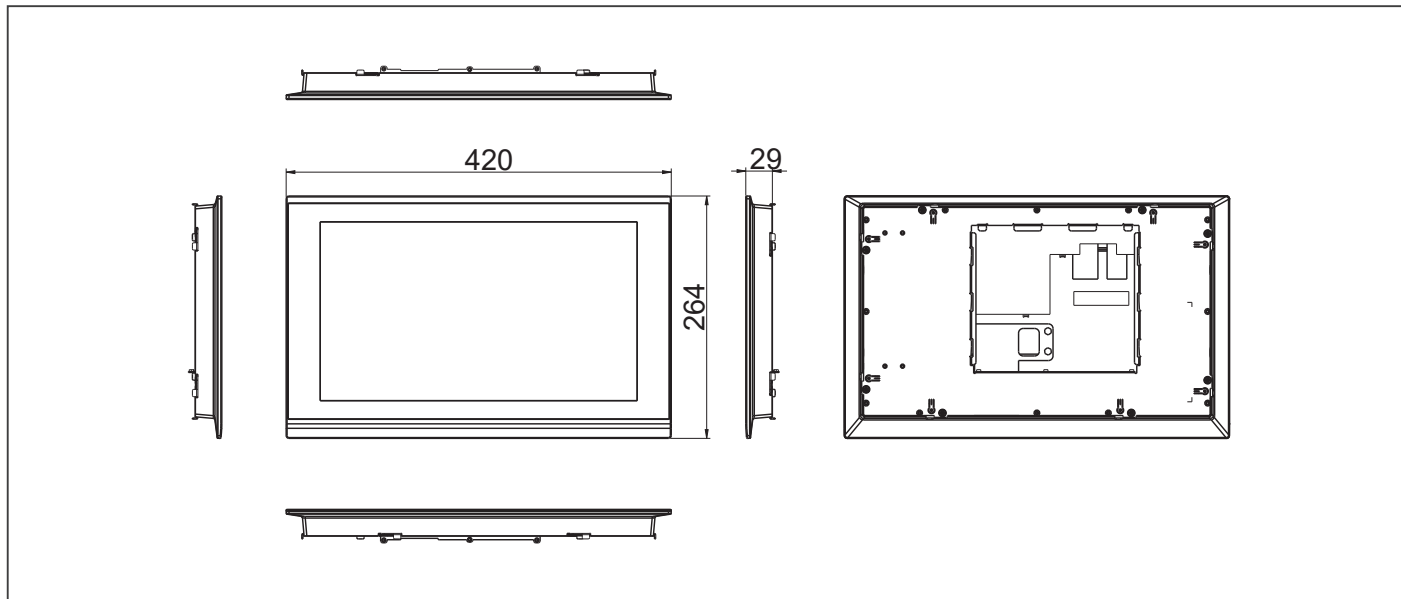


Specifications

Mechanical	
Construction	Aluminum Front Bezel
Mounting	Panel Mount
Dimension	16.54" x 10.39" x 1.14" (420mm x 264mm x 29mm)
Carton Dimension	20.47" x 17.13" x 7.09" (520mm x 435mm x 180mm)
Gross Weight	11 lb (5 kg)
Environmental	
Operating Temperature	14°F ~ 131°F (-10°C ~ 55°C) with 0.5 m/s airflow
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	90% @40°C; non-condensing
Vibration	1 Grms/ 5~ 500Hz/ operation – with HDD
Shock	15G peak acceleration (11 msec. duration) – with HDD
EMC	CE/FCC Class A
Power Supply	
DC input	—
LCD	
Display Type	15.6" TFT-LCD, LED
Max Resolution	1366 x 768
Max. Colors	16.2M colors
Luminance	400 cd/m ²
Viewing Angle	160° (H), 140° (V)
Back Light	LED
Back Light MTBF (hours)	50,000
Touch Screen	
Type	P-CAP/ Full-flap resistive
Light Transmission	90%
Others	1. Connect with OMNI-Box Kit 2. Connect with LVDS/USB Type Touch

Dimension

Unit: mm



Ordering Information

Part Number	Display Type	Max Resolution	Luminance	View Angle	Backlight MTBF (Hours)	Temp.	Touch	Other
OMNI-215DHTT-KIT-A1-1011	15.6" TFT-LCD	1366 x 768	400 cd/m ²	160(H), 140(V)	50,000	-10°C ~ 55°C	Full Flat Resistive Touch Screen	Support OMNI CPU BOX kit
OMNI-215DHTT-KIT-A2-1011	15.6" TFT-LCD	1366 x 768	400 cd/m ²	160(H), 140(V)	50,000	-10°C ~ 55°C	Projectitive Capacitive Touch	Support OMNI CPU BOX kit



Features

- 21.5" (1920 x 1080) OMNI Modular Touch/ LCD Kit
- Supports Projected Capacitive Multi Touch or Resistive Touch Screen
- IP65 Compliant Aluminum Front Bezel

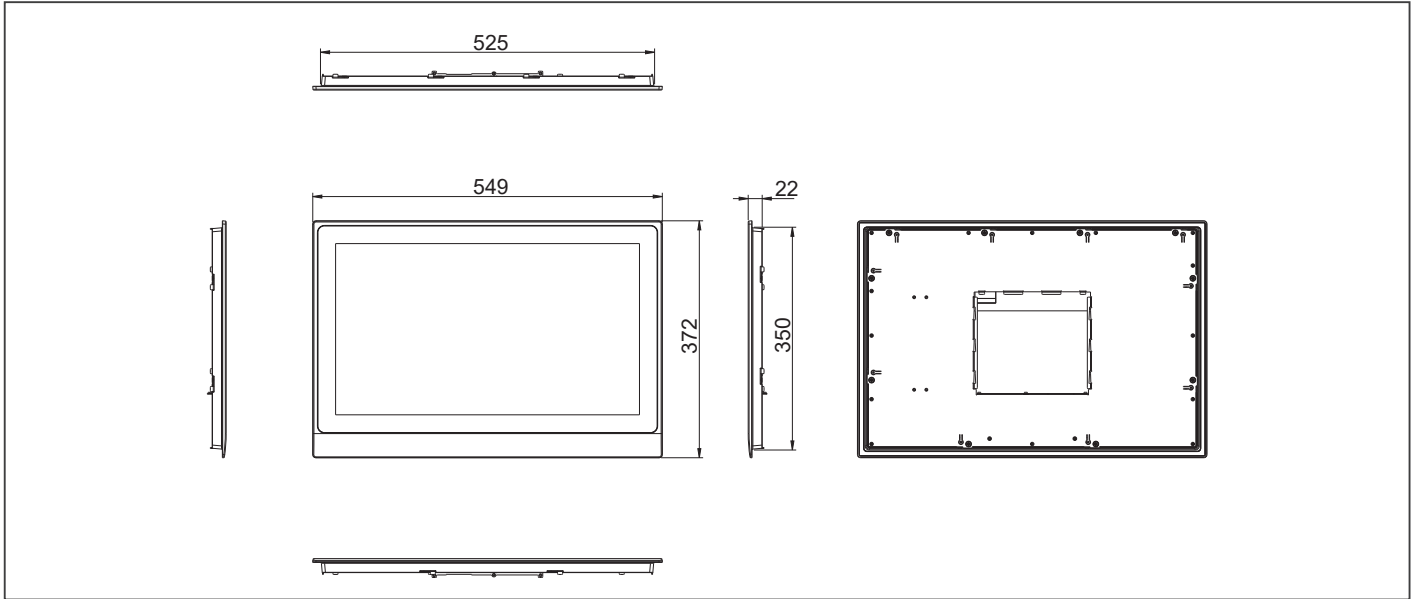


Specifications

Mechanical	
Construction	Aluminum Front Bezel
Mounting	Panel Mount
Dimension	21.61" x 14.65" x 0.87" (549mm x 372mm x 22mm)
Carton Dimension	26.38" x 7.87" x 20.67" (670mm x 200mm x 525mm)
Gross Weight	11 lb (5 kg)
Environmental	
Operating Temperature	14°F ~ 131°F (-10°C ~ 55°C) with 0.5 m/s airflow
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	90% @40°C; non-condensing
Vibration	1 Grms/ 5~ 500Hz/ operation – with HDD
Shock	15G peak acceleration (11 msec. duration) – with HDD
EMC	CE/FCC Class A
Power Supply	
DC input	—
LCD	
Display Type	21.5" TFT-LCD, LED
Max Resolution	1920 x 1080
Max. Colors	16.7M colors
Luminance	250 cd/m ²
Viewing Angle	178° (H), 178° (V)
Back Light	LED
Back Light MTBF (hours)	50,000
Touch Screen	
Type	P-CAP/ Full-flap resistive
Light Transmission	90%
Others	1. Connect with OMNI-Box Kit 2. Connect with LVDS/USB Type Touch

Dimension

Unit: mm



Ordering Information

Part Number	Display Type	Max Resolution	Luminance	View Angle	Backlight MTBF (Hours)	Temp.	Touch	Other
OMNI-221DHTT-KIT-A1-1011	21.5" TFT-LCD	1920 x 1080	250 cd/m ²	178(H), 178(V)	50,000	-10°C ~ 55°C	Full Flat Resistive Touch Screen	Support OMNI CPU BOX kit
OMNI-221DHTT-KIT-A2-1012	21.5" TFT-LCD	1920 x 1080	250 cd/m ²	178(H), 178(V)	50,000	-10°C ~ 55°C	Projective Capacitive Touch	Support OMNI CPU BOX kit



Features

- 10.4" (800 x 600) OMNI Modular Touch/ LCD Kit
- Supports Projected Capacitive Multi Touch or Resistive Touch Screen
- IP65 Compliant Aluminum Front Bezel

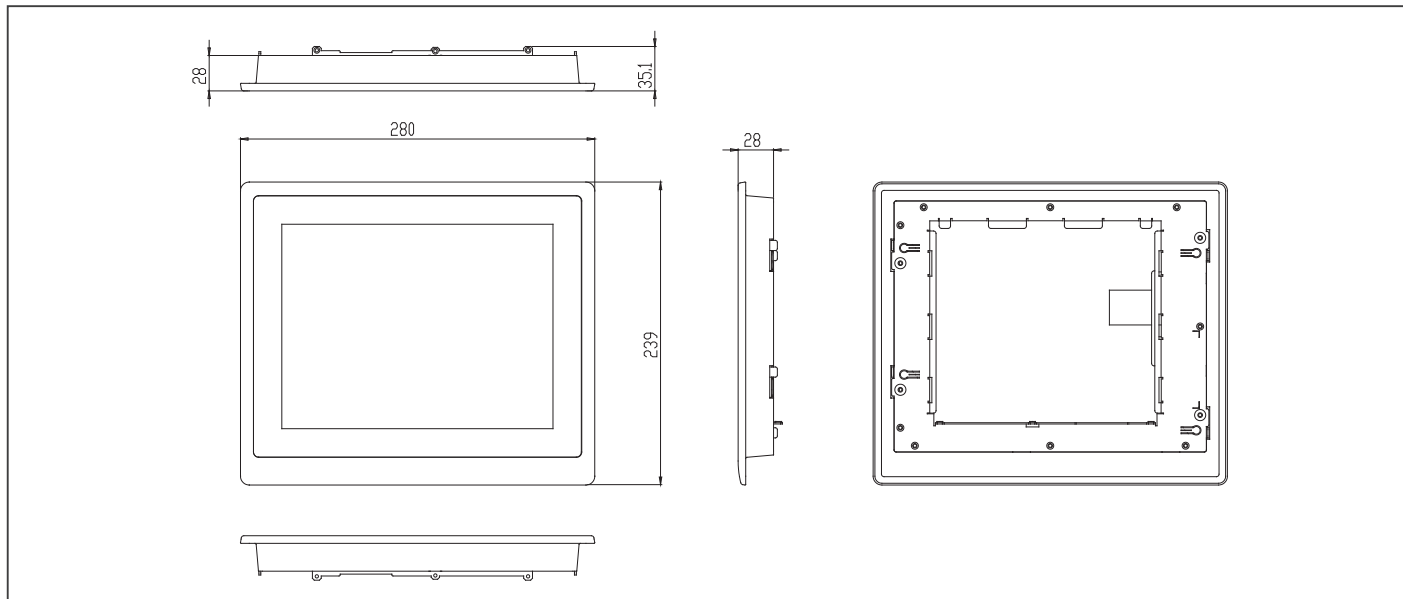


Specifications

Mechanical	
Construction	Aluminum Front Bezel
Mounting	Panel Mount
Dimension	11.02" x 9.41" x 1.1" (280mm x 239mm x 28mm)
Carton Dimension	16.34" x 7.05" x 15.39" (415mm x 179mm x 391mm)
Gross Weight	3.08 lb (1.4 kg)
Environmental	
Operating Temperature	14°F ~ 131°F (-10°C ~ 55°C) with 0.5 m/s airflow
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	90% @40°C; non-condensing
Vibration	1 Grms/ 5~ 500Hz/ operation – with HDD
Shock	15G peak acceleration (11 msec. duration) – with HDD
EMC	CE/FCC Class A
Power Supply	
DC input	—
LCD	
Display Type	10.4" TFT-LCD, LED
Max Resolution	800 x 600
Max. Colors	16.2M colors
Luminance	230 cd/m ²
Viewing Angle	120° (H), 100° (V)
Back Light	LED
Back Light MTBF (hours)	50,000
Touch Screen	
Type	P-CAP/ Full-flap resistive
Light Transmission	90%
Others	1. Connect with OMNI-Box Kit 2. Connect with LVDS/ USB Type Touch

Dimension

Unit: mm



Ordering Information

Part Number	Display Type	Max Resolution	Luminance	View Angle	Backlight MTBF (Hours)	Temp.	Touch	Other
OMNI-310DHTT-KIT-A1-1011	10.4" TFT-LCD	800 x 600	230 cd/m ²	120(H), 100(V)	50,000	-10°C ~ 55°C	Full Flat Resistive Touch Screen	Support OMNI CPU BOX kit
OMNI-310DHTT-KIT-A2-1011	10.4" TFT-LCD	800 x 600	230 cd/m ²	120(H), 100(V)	50,000	-10°C ~ 55°C	Projective Capacitive Touch	Support OMNI CPU BOX kit



Features

- 12.1" (1024 x 768) OMNI Modular Touch/ LCD Kit
- Supports Projected Capacitive Multi Touch or Resistive Touch Screen
- IP65 Compliant Aluminum Front Bezel

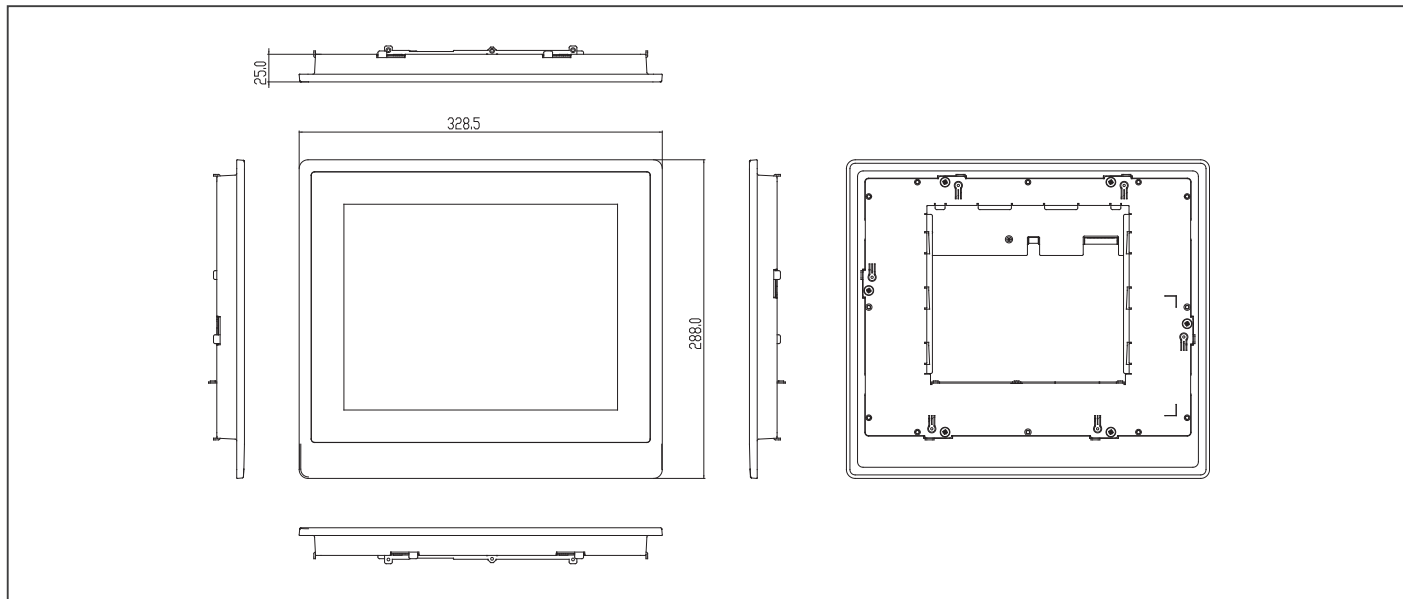


Specifications

Mechanical	
Construction	Aluminum Front Bezel
Mounting	Panel Mount
Dimension	12.95" x 11.34" x 0.98" (329mm x 288mm x 25mm)
Carton Dimension	20.87" x 17.52" x 7.87" (530mm x 445mm x 200mm)
Gross Weight	4.4 lb (2 kg)
Environmental	
Operating Temperature	14°F ~ 131°F (-10°C ~ 55°C) with 0.5 m/s airflow
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	90% @40°C; non-condensing
Vibration	1 Grms/ 5~ 500Hz/ operation – with HDD
Shock	15G peak acceleration (11 msec. duration) – with HDD
EMC	CE/FCC Class A
Power Supply	
DC input	—
LCD	
Display Type	12.1" TFT-LCD, LED
Max Resolution	1024 x 768
Max. Colors	16.2M colors
Luminance	500 cd/m ²
Viewing Angle	160° (H), 160° (V)
Back Light	LED
Back Light MTBF (hours)	50,000
Touch Screen	
Type	P-CAP/ Full-flap resistive
Light Transmission	90%
Others	1. Connect with OMNI-Box Kit 2. Connect with LVDS/USB Type Touch

Dimension

Unit: mm



Ordering Information

Part Number	Display Type	Max Resolution	Luminance	View Angle	Backlight MTBF (Hours)	Temp.	Touch	Other
OMNI-312DHTT-KIT-A1-1011	12.1" TFT-LCD	1024 x 768	500 cd/m ²	160(H), 160(V)	50,000	-10°C ~ 55°C	Full Flat Resistive Touch Screen	Support OMNI CPU BOX kit
OMNI-312DHTT-KIT-A2-1011	12.1" TFT-LCD	1024 x 768	500 cd/m ²	160(H), 160(V)	50,000	-10°C ~ 55°C	Projective Capacitive Touch	Support OMNI CPU BOX kit



Features

- 15" (1024 x 768) OMNI Modular Touch/ LCD Kit
- Supports Projected Capacitive Multi Touch or Resistive Touch Screen
- IP65 Compliant Aluminum Front Bezel

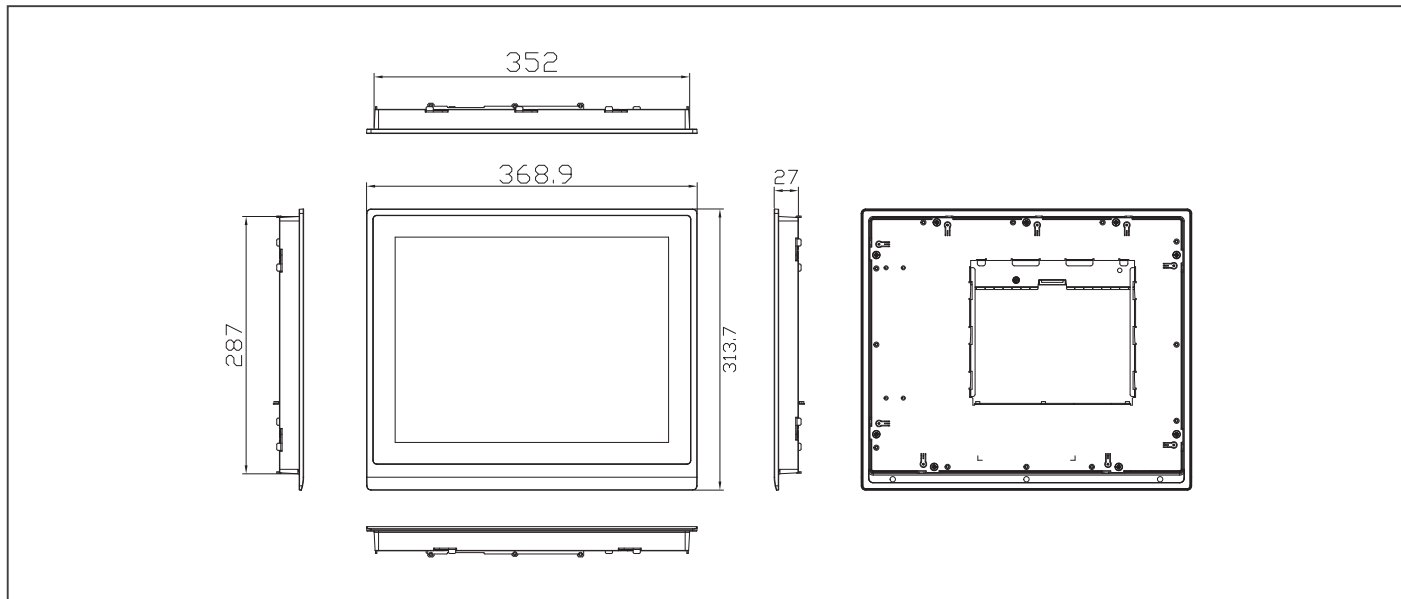


Specifications

Mechanical	
Construction	Aluminum Front Bezel
Mounting	Panel Mount
Dimension	14.53" x 12.36" x 1.06" (369mm x 314mm x 27mm)
Carton Dimension	20.08" x 9.84" x 18.11" (510mm x 250mm x 460mm)
Gross Weight	11.66 lb (5.3 kg)
Environmental	
Operating Temperature	14°F ~ 131°F (-10°C ~ 55°C) with 0.5 m/s airflow
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	90% @40°C; non-condensing
Vibration	1 Grms/ 5~ 500Hz/ operation – with HDD
Shock	15G peak acceleration (11 msec. duration) – with HDD
EMC	CE/FCC Class A
Power Supply	
DC input	—
LCD	
Display Type	15" TFT-LCD, LED
Max Resolution	1024 x 768
Max. Colors	16.2M (8bit/color)
Luminance	300 cd/m ²
Viewing Angle	176° (H), 176° (V)
Back Light	LED
Back Light MTBF (hours)	70,000
Touch Screen	
Type	P-CAP/ Full-flap resistive
Light Transmission	90%
Others	1. Connect with OMNI-Box Kit 2. Connect with LVDS/USB Type Touch

Dimension

Unit: mm



Ordering Information

Part Number	Display Type	Max Resolution	Luminance	View Angle	Backlight MTBF (Hours)	Temp.	Touch	Other
OMNI-315DHTT-KIT-A1-1012	15" TFT-LCD	1024 x 768	300 cd/m ²	176° (H), 176° (V)	70,000	-10°C ~ 55°C	Full Flat Resistive Touch Screen	Support OMNI CPU BOX kit
OMNI-315DHTT-KIT-A2-1012	15" TFT-LCD	1024 x 768	300 cd/m ²	176° (H), 176° (V)	70,000	-10°C ~ 55°C	Projectitive Capacitive Touch	Support OMNI CPU BOX kit



Features

- 17" (1280 x 1024) MNI Modular Touch/ LCD Kit
- Supports Projected Capacitive Multi Touch or Resistive Touch Screen
- IP65 Compliant Aluminum Front Bezel

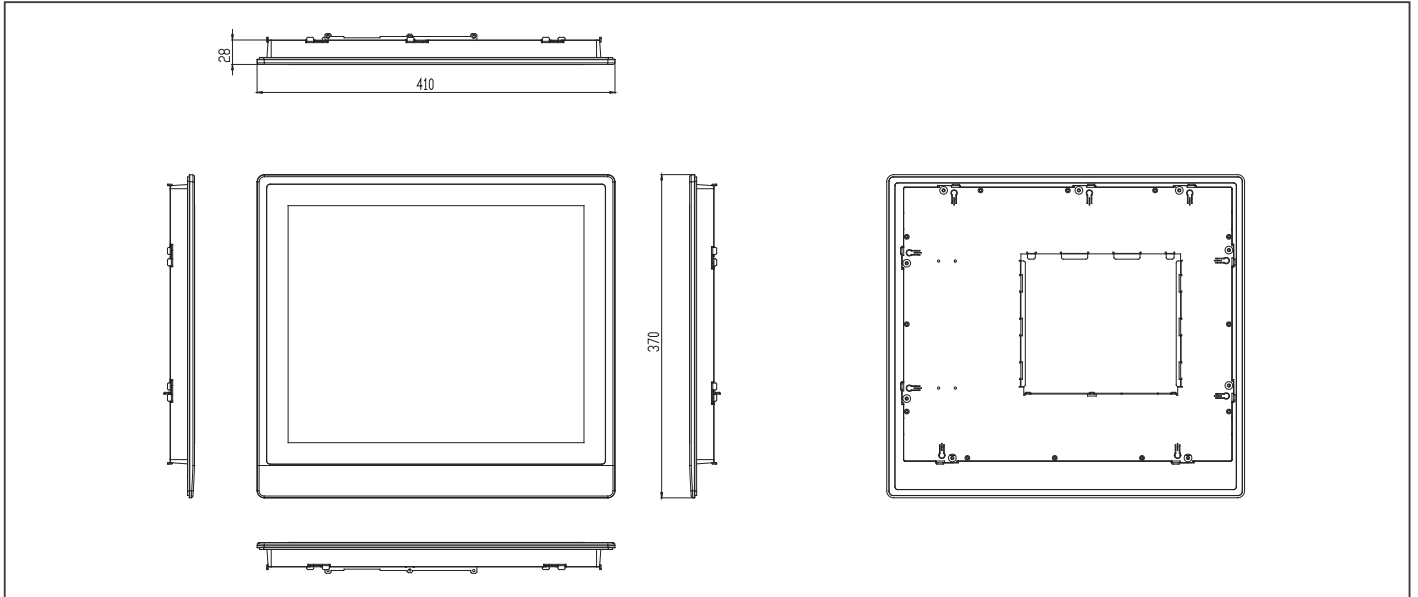


Specifications

Mechanical	
Construction	Aluminum Front Bezel
Mounting	Panel Mount
Dimension	16.14" x 14.57" x 1.1" (410mm x 370mm x 28mm)
Carton Dimension	20.47" x 10.32" x 19.29" (522mm x 262mm x 490mm)
Gross Weight	8.8 lb(4 kg)
Environmental	
Operating Temperature	14°F ~ 131°F (-10°C ~ 55°C) with 0.5 m/s airflow
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	90% @40°C; non-condensing
Vibration	1 Grms/ 5~ 500Hz/ operation – with HDD
Shock	15G peak acceleration (11 msec. duration) – with HDD
EMC	CE/FCC Class A
Power Supply	
DC input	—
LCD	
Display Type	17" TFT-LCD, LED
Max Resolution	1280 x 1024
Max. Colors	16.7M colors
Luminance	350 cd/m ²
Viewing Angle	170° (H), 160° (V)
Back Light	LED
Back Light MTBF (hours)	50,000
Touch Screen	
Type	P-CAP/ Full-flap resistive
Light Transmission	90%
Others	1. Connect with OMNI-Box Kit 2. Connect with LVDS/USB Type Touch

Dimension

Unit: mm



Ordering Information

Part Number	Display Type	Max Resolution	Luminance	View Angle	Backlight MTBF (Hours)	Temp.	Touch	Other
OMNI-317DHTT-KIT-A1-1012	17" TFT-LCD	1280 x 1024	350 cd/m ²	170(H), 160(V)	50,000	-10°C ~ 55°C	Full Flat Resistive Touch Screen	Support OMNI CPU BOX kit
OMNI-317DHTT-KIT-A2-1011	17" TFT-LCD	1280 x 1024	350 cd/m ²	170(H), 160(V)	50,000	-10°C ~ 55°C	Projective Capacitive Touch	Support OMNI CPU BOX kit



Features

- 19" (1280 x 1024) OMNI Modular Touch/ LCD Kit
- Supports Projected Capacitive Multi Touch or Resistive Touch Screen
- IP65 Compliant Aluminum Front Bezel

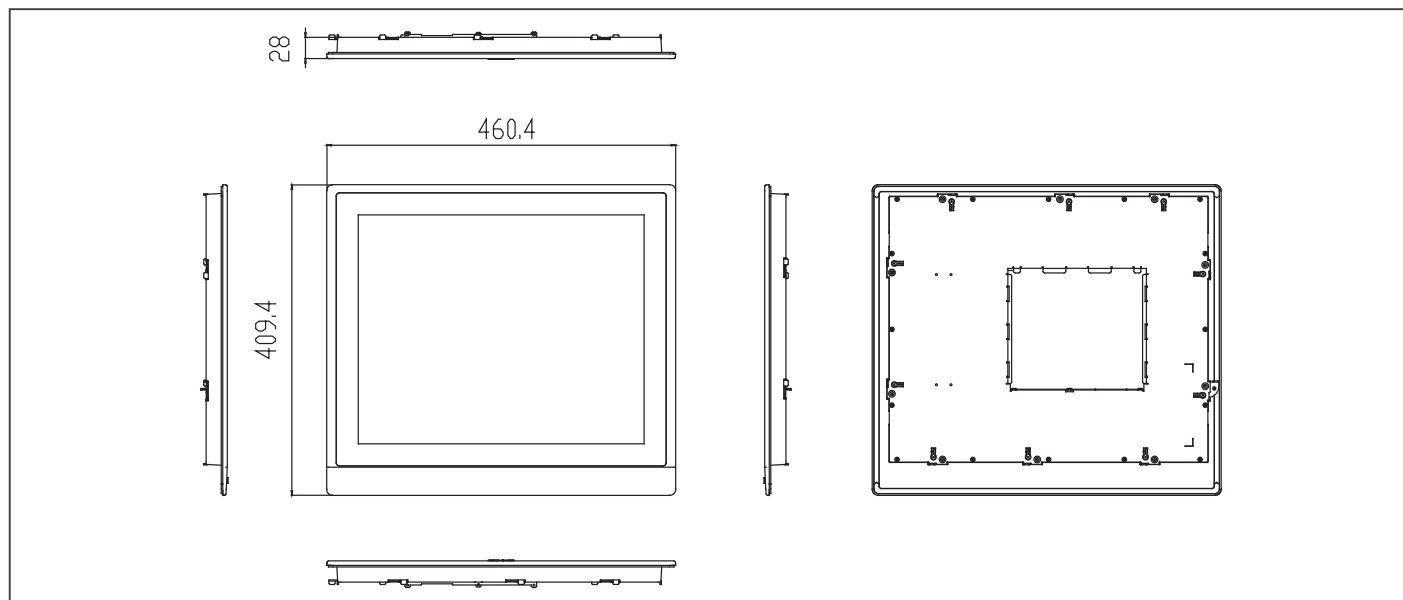


Specifications

Mechanical	
Construction	Aluminum Front Bezel
Mounting	Panel Mount
Dimension	18.13" x 16.12" x 1.1" (460.4mm x 409.4mm x 28mm)
Carton Dimension	26.02" x 8.11" x 19.53" (661mm x 206mm x 496mm)
Gross Weight	11 lb (5 kg)
Environmental	
Operating Temperature	14°F ~ 131°F (-10°C ~ 55°C) with 0.5 m/s airflow
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	90% @40°C; non-condensing
Vibration	1 Grms/ 5~ 500Hz/ operation – with HDD
Shock	15G peak acceleration (11 msec. duration) – with HDD
EMC	CE/FCC Class A
Power Supply	
DC input	—
LCD	
Display Type	19" TFT-LCD, LED
Max Resolution	1280 x 1024
Max. Colors	16.7M colors
Luminance	350 cd/m ²
Viewing Angle	170° (H), 160° (V)
Back Light	LED
Back Light MTBF (hours)	50,000
Touch Screen	
Type	P-CAP/ Full-flap resistive
Light Transmission	90%
Others	1. Connect with OMNI-Box Kit 2. Connect with LVDS/USB Type Touch

Dimension

Unit: mm



Ordering Information

Part Number	Display Type	Max Resolution	Luminance	View Angle	Backlight MTBF (Hours)	Temp.	Touch	Other
OMNI-319DHTT-KIT-A1-1012	19" TFT-LCD	1280 x 1024	350 cd/m ²	170(H), 160(V)	50,000	-10°C ~ 55°C	Full Flat Resistive Touch Screen	Support OMNI CPU BOX kit
OMNI-319DHTT-KIT-A2-1011	19" TFT-LCD	1280 x 1024	350 cd/m ²	170(H), 160(V)	50,000	-10°C ~ 55°C	Projectitive Capacitive Touch	Support OMNI CPU BOX kit

OMNI-3120PD

12.1" OMNI Modular Open Frame Touch/ LCD Panel Kit

OMNI Series : Modular Builder - Panel Kit

OMNI-3120PD-HTT-KIT-A1-1010



OMNI-3120PD-HTT-KIT-A2/A3-1010



Features

- 12.1" (1024 x 768) OMNI Modular Open Frame Touch/ LCD Kit
- Supports Projected Capacitive Multi Touch or Full Flat Resistive Touch Screen or 5-wire Resistive Touch Screen

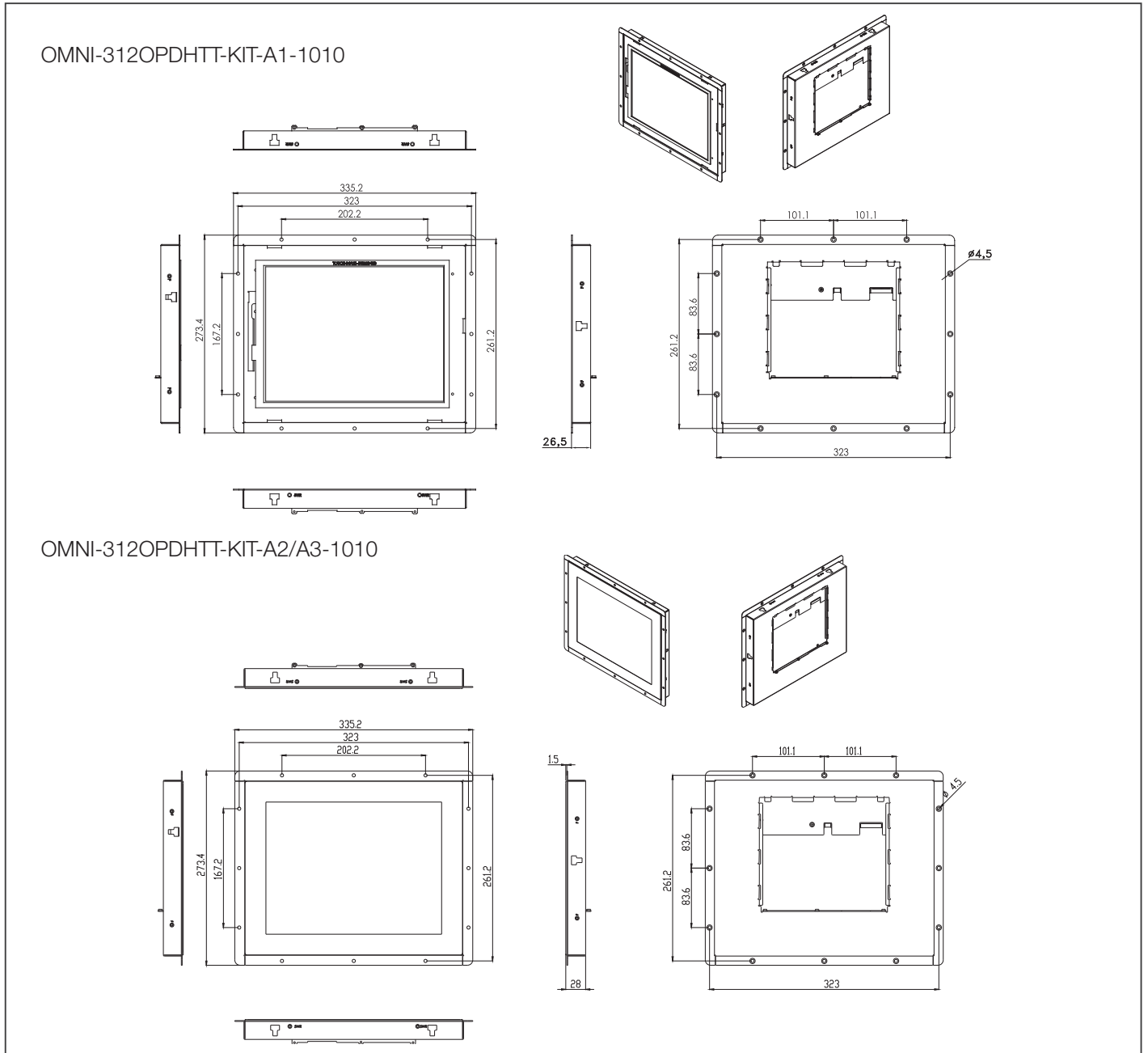


Specifications

Mechanical	
Construction	Open Frame LCD Kit
Mounting	Panel Mount
Dimension	13.2" x 10.8" x 1.04" (335.2mm x 274.2mm x 26.5mm)
Carton Dimension	20.87" x 17.52" x 7.87" (530mm x 445mm x 200mm)
Gross Weight	4.4 lb (2 kg)
Environmental	
Operating Temperature	14°F ~ 131°F (-10°C ~ 55°C) with 0.5 m/s airflow
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	90% @40°C; non-condensing
Vibration	1 Grms/ 5~ 500Hz/ operation – with HDD
Shock	15G peak acceleration (11 msec. duration) – with HDD
EMC	CE/FCC Class A
Power Supply	
DC input	—
LCD	
Display Type	12.1" TFT-LCD, LED
Max Resolution	1024 x 768
Max. Colors	16.2M colors
Luminance	500 cd/m ²
Viewing Angle	160° (H), 160° (V)
Back Light	LED
Back Light MTBF (hours)	50,000
Touch Screen	
Type	Projected Capacitive Multi Touch or Full Flat Resistive Touch Screen or 5-wire Resistive Touch Screen
Light Transmission	90%
Others	1. Connect with OMNI-Box Kit 2. Connect with LVDS/USB Type Touch

Dimension

Unit: mm



Ordering Information

Part Number	Display Type	Max Resolution	Luminance	View Angle	Backlight MTBF (Hours)	Temp.	Touch	Other
OMNI-3120PDHTT-KIT-A1-1010	12.1" TFT-LCD	1024 x 768	500 cd/m ²	160°(H), 160°(V)	50,000	-10°C ~ 55°C	5 wire Resistive Touch	Support OMNI CPU BOX kit
OMNI-3120PDHTT-KIT-A2-1010	12.1" TFT-LCD	1024 x 768	500 cd/m ²	160°(H), 160°(V)	50,000	-10°C ~ 55°C	Full flat Resistive Touch	Support OMNI CPU BOX kit
OMNI-3120PDHTT-KIT-A3-1010	12.1" TFT-LCD	1024 x 768	500 cd/m ²	160°(H), 160°(V)	50,000	-10°C ~ 55°C	Projective Capacitive Touch	Support OMNI CPU BOX kit

OMNI-3150PD-HTT-KIT-A1-1010



OMNI-3150PD-HTT-KIT-A2/A3-1010



Features

- 15" (1024 x 768) OMNI Modular Open Frame Touch/ LCD Kit
- Supports Projected Capacitive Multi Touch or Full Flat Resistive Touch Screen or 5-wire Resistive Touch Screen

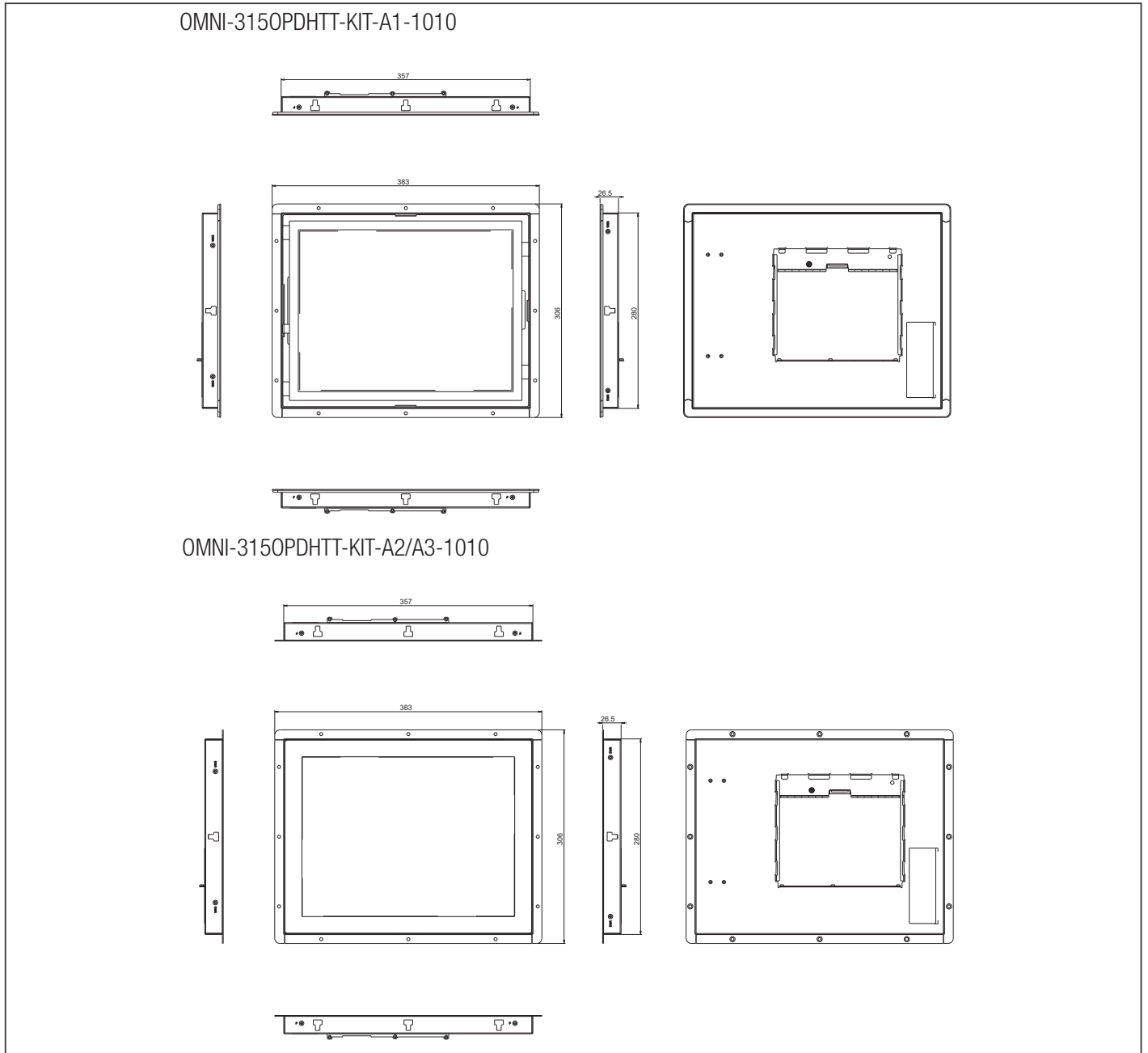


Specifications

Mechanical	
Construction	Open Frame LCD Kit
Mounting	Panel Mount
Dimension	15.08" x 12.05" x 1.04" (383mm x 306mm x 26.5mm)
Carton Dimension	20.08" x 9.84" x 18.11" (510mm x 250mm x 460mm)
Gross Weight	8.8 lb (4 kg)
Environmental	
Operating Temperature	14°F ~ 131°F (-10°C ~ 55°C) with 0.5 m/s airflow
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	90% @40°C; non-condensing
Vibration	1 Grms/ 5~ 500Hz/ operation – with HDD
Shock	15G peak acceleration (11 msec. duration) – with HDD
EMC	CE/FCC Class A
Power Supply	
DC input	—
LCD	
Display Type	15" TFT-LCD, LED
Max Resolution	1024 x 768
Max. Colors	16.2M (8bit/color)
Luminance	300 cd/m ²
Viewing Angle	176° (H), 176° (V)
Back Light	LED
Back Light MTBF (hours)	70,000
Touch Screen	
Type	Projected Capacitive Multi Touch or Full Flat Resistive Touch Screen or 5-wire Resistive Touch Screen
Light Transmission	90%
Others	1. Connect with OMNI-Box Kit 2. Connect with LVDS/USB Type Touch

Dimension

Unit: mm



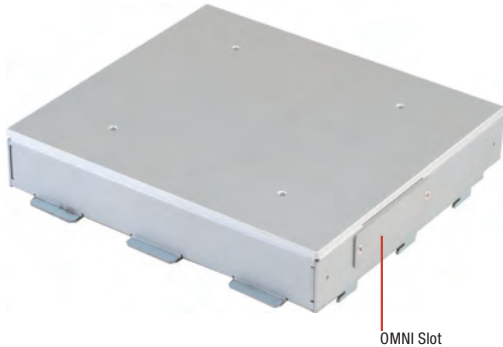
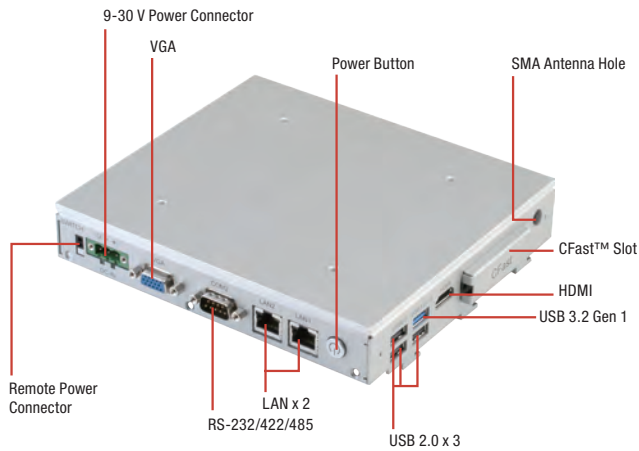
Ordering Information

Part Number	Display Type	Max Resolution	Luminance	View Angle	Backlight MTBF (Hours)	Temp.	Touch	Other
OMNI-3150PDHTT-KIT-A1-1011	15" TFT-LCD	1024 x 768	300 cd/m ²	176° (H), 176° (V)	70,000	-10°C ~ 55°C	5 wire Resistive Touch	Support OMNI CPU BOX kit
OMNI-3150PDHTT-KIT-A2-1011	15" TFT-LCD	1024 x 768	300 cd/m ²	176° (H), 176° (V)	70,000	-10°C ~ 55°C	Full flat Resistive Touch	Support OMNI CPU BOX kit
OMNI-3150PDHTT-KIT-A3-1011	15" TFT-LCD	1024 x 768	300 cd/m ²	176° (H), 176° (V)	70,000	-10°C ~ 55°C	Projective Capacitive Touch	Support OMNI CPU BOX kit

OMNI-BT CPU BOX Kit

OMNI Series Modules- CPU BOX Kit

OMNI Series : Modular Builder - BOX Kit



Cover:Optional Accessory Kit, P/N: M0421550A0

Features

- Intel® N2807/J1900 Processor
- Aluminum Design
- Fanless Operation
- Easily Expandable I/O by AAEON OMNI I/O Modules

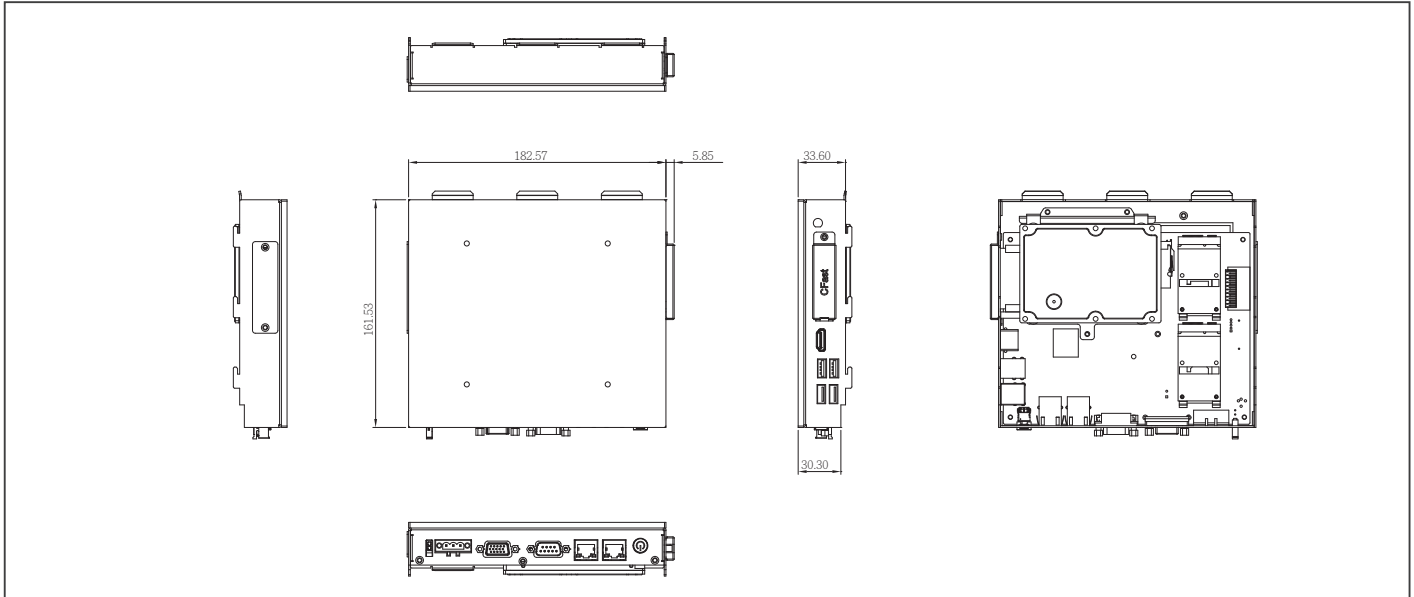


Specifications

System	
Processor	Intel® N2807 processor, 1.58 GHz Intel® Celeron® J1900 processor, 2 GHz
System Memory	204-pin DDR3L 1333MHz SODIMM x 1, up to 8 GB, (J1900) 204-pin DDR3L 1333MHz SODIMM x 1, up to 4 GB, (N2807)
LCD CRT Controller	Integrated in processor
Ethernet	Intel® I211, 10/100/1000 Base-TX x 2
I/O Port	USB 2.0 Type A x 3 USB 3.2 Gen 1 Type A x 1 SMA Antenna hole x 1 HDMI x 1 CFast™ x 1 DB-9 x 1 for RS-232/422/485 RJ-45 x 2 for 10/100/1000 Base-TX DB-15 x 1 for VGA 3-pin terminal block x 1 for 9~30 Vdc power input LED Power on/off switch x 1 (Power on = Orange, Power off =N/A)
Storage Disk Drive	CFast™ x 1, 2.5" SATA HDD bay x 1
Expansion Slot	Mini card x 2 (Full size x 2) SIM card x 1 OMNI I/O connector x 1
OS Support	Windows® 7, Windows® 8, Windows® 10, Linux Kernel 2.6.x or higher
Construction	Aluminum design
Mounting	Wallmount
Dimension	7.2" x 6.38" x 1.1" (183mm x 162mm x 28mm)
Gross Weight	3.96 lb (1.8 kg)
Operating Temperature	14°F ~ 131°F (-10°C ~ 55°C) (J1900) 14°F ~ 140°F (-10°C ~ 60°C) (N2807) with 0.5 m/s airflow (CF & HDD)
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	90% @40°C; non-condensing
Anti Vibration	1 Grms/ 5~ 500Hz/ operation – with HDD
Anti-Shock	15 G peak acceleration (11 msec. duration) – HDD
Certification	CE/FCC class A
DC Input	DC 9 (min.) ~ 30 (max.) V w/3-pin terminal block, ATX Power function
Display Type	HDMI x 1, VGA
Others	Box Bottom Chassis Cover (optional): M0421550A0

Dimension

Unit: mm



Ordering Information

Part Number	CPU	LAN	USB 3.2 Gen 1	USB 2.0	RS-232	RS-232/422/485	Storage	RAM	Display	Expansion	Power	Operating Temp.
OMNI-BT-KIT-A1-1010	Intel® Celeron® J1900, 2 GHz	2	1	3	—	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 8 GB	VGA x 1	Mini-Card x 2 (Full Size) OMNI Module	DC 9-30V	-10°C ~ 55°C with airflow
OMNI-BT-KIT-A2-1010	Intel® N2807, 1.58 GHz	2	1	3	—	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 4 GB	VGA x 1	Mini-Card x 2 (Full Size) OMNI Module	DC 9-30V	-10°C ~ 60°C with airflow

Packing List

- Phoenix Power Connector
- OMNI-BT CPU BOX Kit

Optional Accessories

- **AP-0T9789LA1000**
LCD monitor Stand 230mm, LA-100
- **1702031802**
Power Cord (US Type)
- **1702031803**
Power Cord (European Type)
- **M0421550A0**
OMNI BOX Bottom Cover
- **170203180E**
Power Cord (Japanese Type)
- **1255900849**
(TF)Adapter.AC/DC.Input 90V~264V.
Output 12V/84W.3p phoenix.FSPFSP084-DHAN3(9NA0840718)
- **1700021500**
Remote Switch Cable, 150 cm

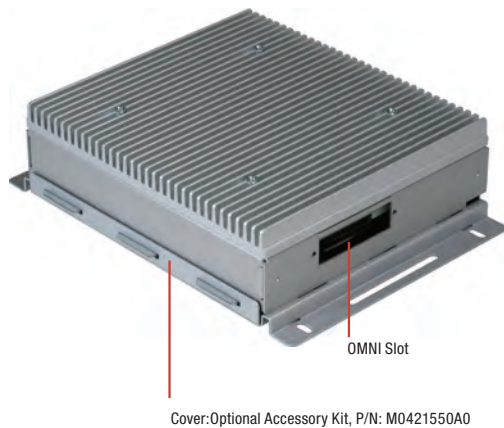
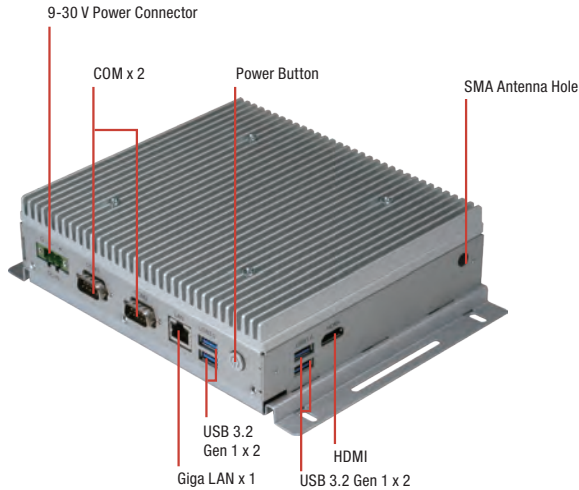
Wide Temperature DRAM

- **9761215500**
2GB Wide Temperature DRAM (-40°C ~ 95°C)
 - **9761215501**
4GB Wide Temperature DRAM (-40°C ~ 95°C)
 - **9761215502**
8GB Wide Temperature DRAM (-40°C ~ 95°C)
- **Users should select the wide temperature DRAM above and use wide temperature storage devices if the OMNI panel pc is to be operated at over 40°C.

OMNI-SKU CPU-BOX Kit

OMNI Series Modules- CPU BOX Kit

OMNI Series : Modular Builder - BOX Kit



Features

- Intel® Core™ i7-6600U, i5-6300U, i3-6100U, Celeron® 3995 Processor
- 10/100/1000 Base-TX RJ-45 Port x 1
- RS-232/422/485 x 2
- USB 3.2 Gen 1 x 4
- Aluminum Design
- Fanless Operation
- DC 9~30V

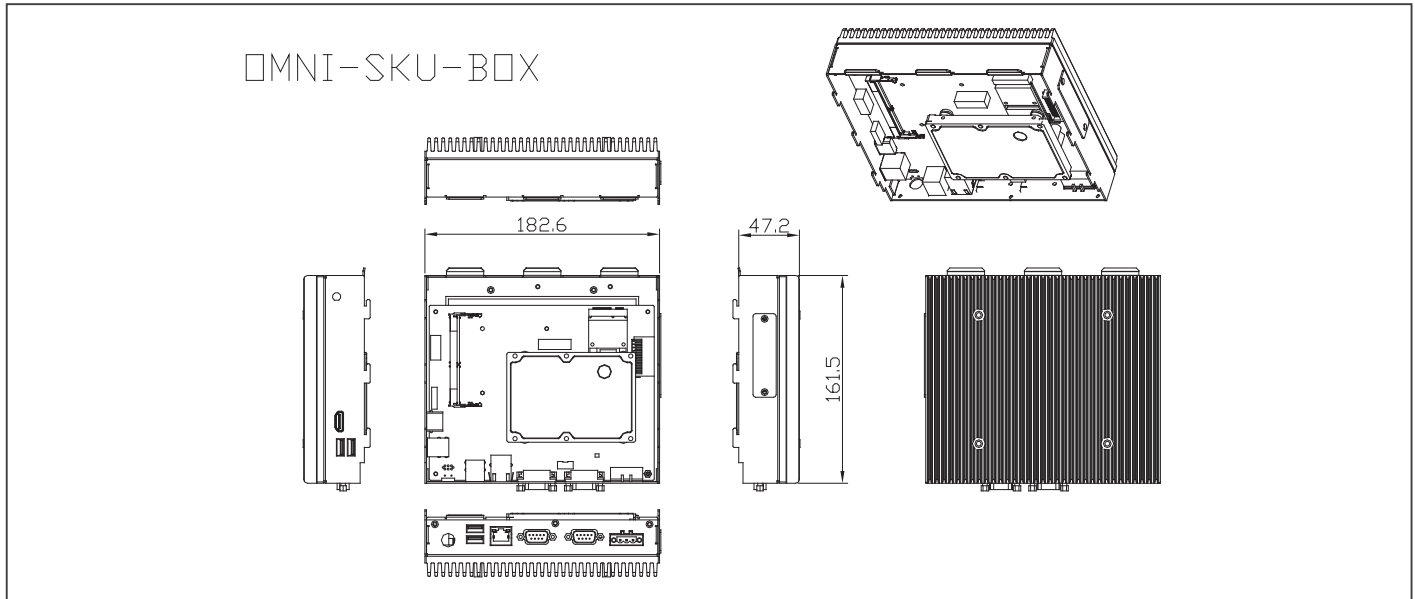


Specifications

System	
Processor	Intel® Core™ i7-6600U, i5-6300U, i3-6100U, Celeron® 3995 Processor
System Memory	260-pin DDR4 SODIMM x 1, Max. 16GB
LCD CRT Controller	Integrated in processor
Ethernet	Gigabit Ethernet, RJ-45 x 1
IO Port	USB Type A x 4 for USB 3.2 Gen 1 RJ-45 x1 for GbE LAN DB-9 x 2 for RS-232, DB-9 x 1 for RS-232/422/485 Power input connector, Power ON/OFF Switch x 1, antenna hole HDMI x 1 3-pin terminal Power input x 1
Storage Disk Drive	2.5" SATA HDD bay x 1
Expansion Slot	Full size mini card x 1 SIM card x 1 OMNI I/O connector x 1
OS Support	Windows® 10 (64-bit), Linux kernel 2.6.3 or above
Construction	Aluminum design
Mounting	Wallmount (with optional Bottom cover: M0421550A0) / with OMNI-Panel Kits
Dimension	7.2" x 6.38" x 1.77" (183mm x 162mm x 45mm)
Gross Weight	3.96 lb (1.8 kg)
Operating Temperature	-4°F ~ 131°F (-20°C ~ 55°C)
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	90% @40°C; non-condensing
Anti Vibration	1 Grms/ 5~ 500Hz/ operation – with HDD
Anti-Shock	15 G peak acceleration (11 msec. duration) – HDD
Certification	CE/FCC class A
DC Input	DC 9 (min.) ~ 30 (max.) V w/ 3-pin terminal block, ATX Power function
Display Type	HDMI x 1
Others	Box Bottom Chassis Cover (optional): M0421550A0

Dimension

Unit: mm



Ordering Information

Part Number	CPU	LAN	USB 3.2 Gen 1	USB 2.0	RS-232	RS-232/422/485	Storage	RAM	Display	Expansion	Mounting	Power	Operating Temp.
OMNI-SKU-KIT-A1-1110	Intel® i5-6300U Processor	1	4	—	—	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size) OMNI Module	Wallmount	DC 9~30V	-20°C ~ 55°C with airflow
OMNI-SKU-KIT-A2-1110	Intel® C-3955U Processor	1	4	—	—	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size) OMNI Module	Wallmount	DC 9~30V	-20°C ~ 55°C with airflow
OMNI-SKU-KIT-A3-1110	Intel® i7-6600U Processor	1	4	—	—	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size) OMNI Module	Wallmount	DC 9~30V	-20°C ~ 55°C with airflow
OMNI-SKU-KIT-A4-1110	Intel® i3-6100U Processor	1	4	—	—	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size) OMNI Module	Wallmount	DC 9~30V	-20°C ~ 55°C with airflow

Packing List

- Phoenix Power Connector
- OMNI-SKU CPU BOX Kit

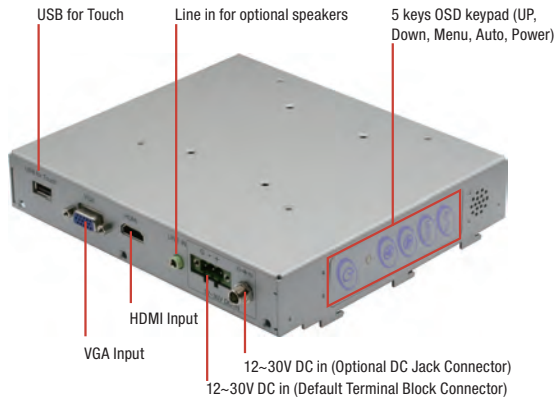
Optional Accessories

- **1702031802**
Power Cord (US Type)
- **1702031803**
Power Cord (European Type)
- **M0421550A0**
OMNI BOX Bottom Cover
- **170203180E**
Power Cord (Japanese Type)

OMNI-ADB-KIT

Display BOX Kit, DC 12~30V

OMNI Series : Modular Builder - BOX Kit



Features

- Compatible with OMNI Series Modules- Panels: to Build Your Own OMNI Display
- No any Firmware Changes Needed to Combine with 7 Sizes OMNI Panel Modules
- DC 12~30V with Over Voltage/Current, Under Voltage Protection
- Optional Built-in Speakers

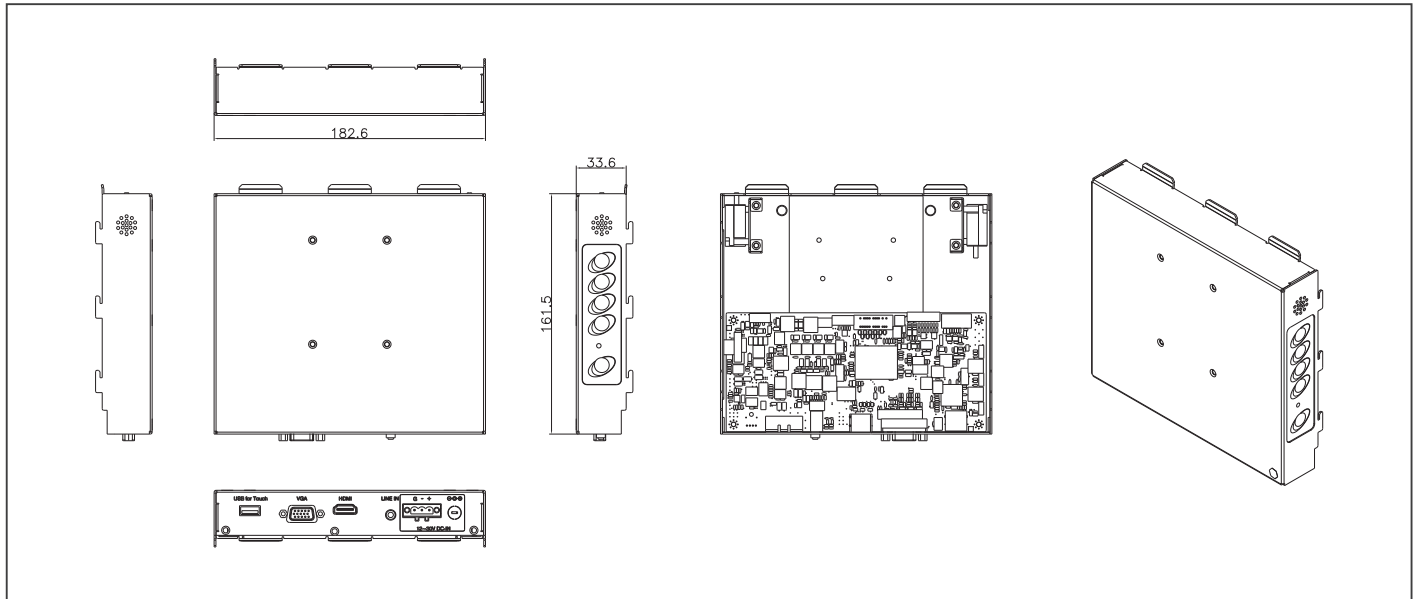


Specifications

System	
Input Signal	VGA / HDMI
On Screen Display Control	5 keys OSD keypad (Up, Down, Menu, Auto, Power)
I/O Port	DB-15 x 1 for VGA HDMI x 1 USB Type A x 1 (For Enable T/S Function) Line in x 1 (For optional internal Speaker) Power Input x 1(Default Terminal Block 3pin)
OS Support	Windows® 7 32/64-bit, Windows® 8 32/64-bit, Windows® 10 64-bit, Linux Ubuntu 16.04
Mechanical	
Construction	Metal chassis
Mounting	Must be assembled with OMNI-Series Modules-Panels
Dimension	5.1" x 6.4" x 1.2" (128.6mm x 161.5mm x 30.7mm)
Carton Dimension	12.3" x 10.1" x 7.6" (312mm x 257mm x 194mm)
Gross Weight	5.5 lb (2.5 kg)
Net Weight	2.6 lb (1.2 kg)
Environmental	
Operating Temperature	14°F ~ 131°F (-10°C ~ 55°C) With 0.5m/s Airflow
Storage Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Storage Humidity	10%~90% @104°F (40°C); non-condensing
Vibration	1 Grms / 5~500Hz/random Operation
Shock	—
EMC	CE/FCC, Class A
Power Supply	
DC Input	DC 12~30V Power Input with 3 Pin Terminal Block
LCD	
Display Type	Depends on your OMNI Panel Modules
Max. Resolution	
Max. Colors	
Luminance	
Viewing Angle	
Back Light	
Back Light MTBF (Hours)	
Touchscreen	
Type	Depends on your OMNI Panel Modules
Light Transmission	
Life Time	

Dimension

Unit: mm



Ordering Information

Part Number	Display Type	Max. Resolution	Luminance	View Angle	Backlight MTBF (Hours)	Display	Mounting	Power	Temp.	Touch	Other
OMNI-ADB-KIT-A1-1010	—	—	—	—	—	VGA x 1 HDMI x 1	Mount with OMNI Panel Modules	DC 12V~30V	14°F ~ 131°F (-10°C ~ 55°C) (with 0.5 m/s airflow)	—	—

Packing List

- VGA Cable x 1
- USB Cable for Touch x 1
- Phoenix Power Connector
- OMNI-ADB-Kit

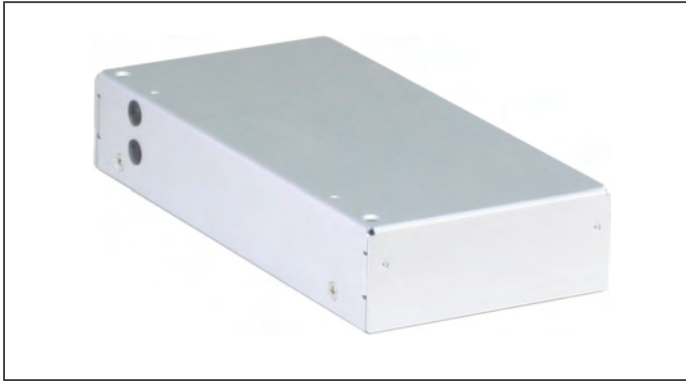
Optional Accessories

- **125530040F**
(TF)AC/DC Adapter:12V.40W.3.33A.FSP:3p phoenix.
FSP040-DHAN3.9NA0406819
- **1702031802**
Power Cord (US Type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)

I/O Modules

9741215501 - Mini Card x 2 & SIM Card x 2 Module

Mini PCIe Slot x 2, for OMNI Panel PC Only



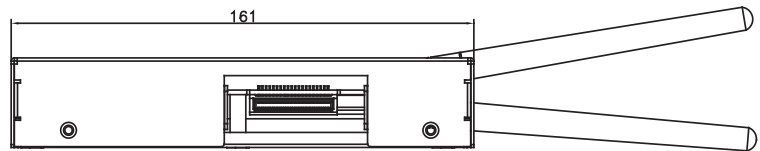
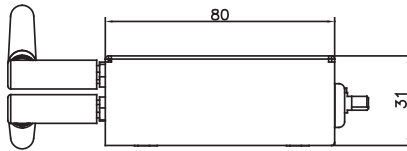
Features

- Full-size Mini-Card Slot x 2
- SIM Card Slot x 2
- OS support: Windows® 7, Windows® 10, Linux Kernel 2.6.x or above

Ordering Information

- 9741215501
Mini Card x 2 & SIM Card x 2 Module (wireless Mini-Card Module Excluded)

Dimension Unit: mm



9741215502 - Dual LAN Module

Gigabit Ethernet x 2, for OMNI Panel PC only



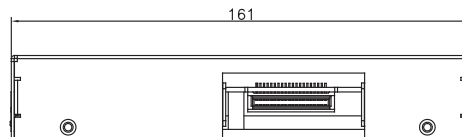
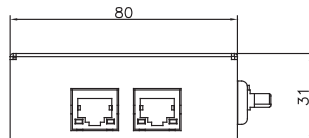
Features

- Gigabit Ethernet x 2
- Intel® i211 Chipset
- OS support: Windows® 7, Windows® 10, Linux Kernel 2.6.x or above

Ordering Information

- 9741215502
Dual LAN Module

Dimension Unit: mm



9741215506 - DIO Module

DIO without Isolation x 8, for OMNI Panel PC only



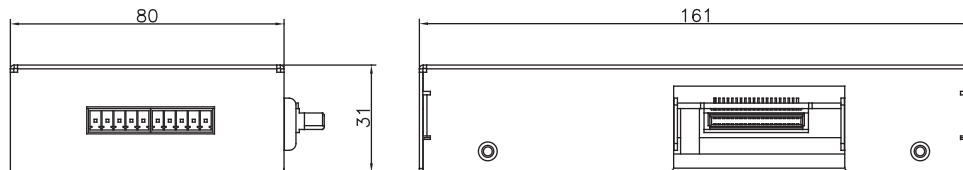
Features

- DIO x 8 (3.3 Vac)
- OS support: Windows® 7, Windows® 10, Linux Kernel 2.6.x or above

Ordering Information

- 9741215506
DIO Module

Dimension Unit: mm



9741215508 - Audio Module

MIC-In x 1, Line-out x 1, for OMNI Panel PC only



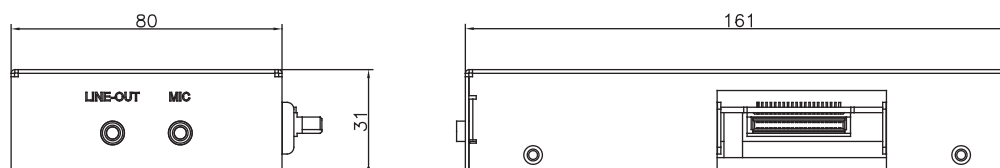
Features

- Mic in x 1
- Line out x 1
- OS support: Windows® 7, Windows® 10, Linux Kernel 2.6.x or above

Ordering Information

- 9741215508
Audio Module

Dimension Unit: mm



I/O Modules

9741215510 - HMS Kit

10/100 Ethernet x 2, for OMNI Panel PC Only



Features

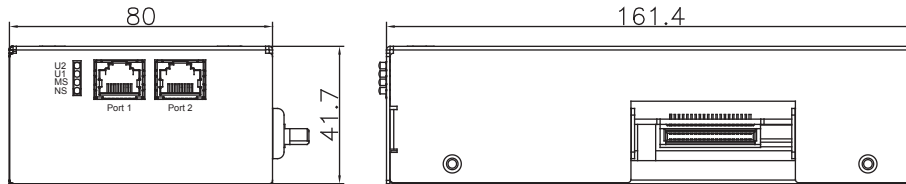
- 10/100 Ethernet x 2, Anybus
- Support All Major Industrial Ethernet and Fieldbus Networks
- OS support: Windows® 7, Windows® 10, Linux Kernal 2.6.x or above

* Due to communication protocol limit, only for EU region

Ordering Information

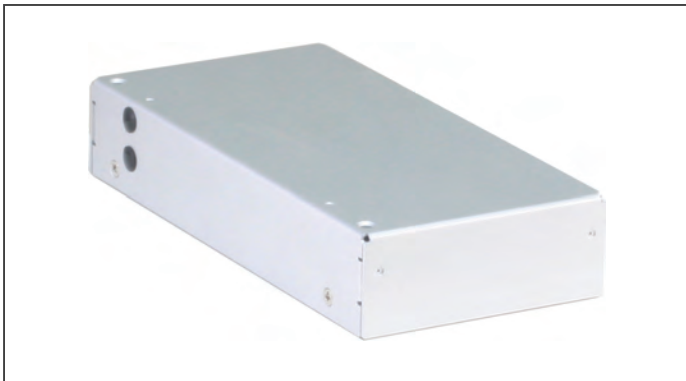
- 9741215510
HMS Kit

Dimension Unit: mm



9741215512

WiFi 802.11 b/g/n Module



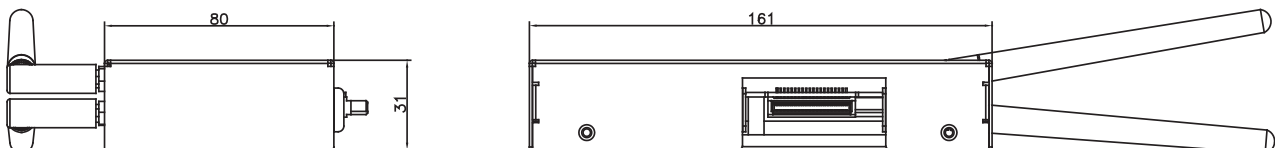
Features

- Supports 802.11b/g/n
- Supports BT 4.0
- OS support: Windows® 7, Windows® 10, Linux Kernal 2.6.x or above

Ordering Information

- 9741215512
WIFI 802.11 b/g/n Module

Dimension Unit: mm



9741215513

RS-485/422/232 Module



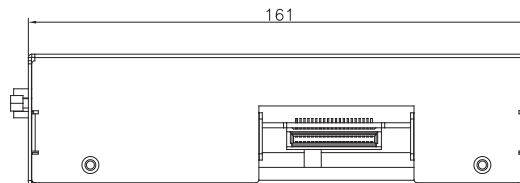
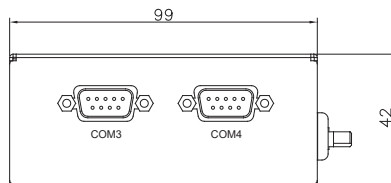
Features

- RS-232/422/485 x 2
- Selection by Jumper
- OS support: Windows® 7, Windows® 10, Linux Kernel 2.6.x or above

Ordering Information

- 9741215513
RS-485/422/232 Module

Dimension Unit: mm



9741215515

OMNI USB/COM/LAN Module



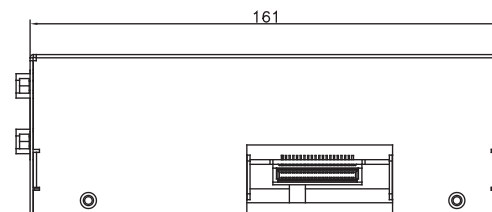
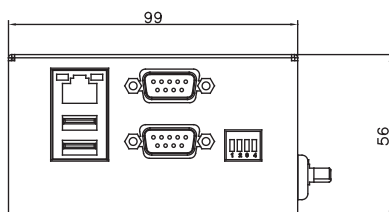
Features

- USB 2.0 x 2
- RS-232/422/485 x 2 (Selection by External Switch)
- Gigabit Ethernet x 1
- OS support: Windows® 7, Windows® 10, Linux Kernel 2.6.x or above

Ordering Information

- 9741215515
USB/COM/LAN Module

Dimension Unit: mm



I/O Modules

9741215516

OMNI COM x 4 Module

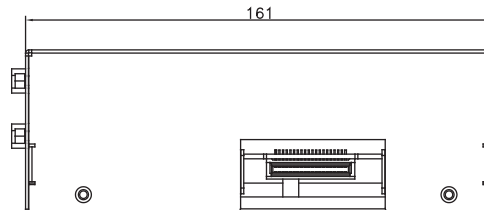
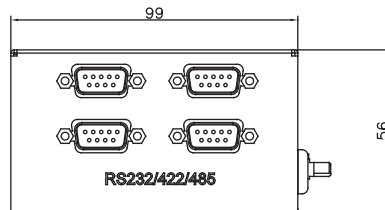


Features

- RS-232/422/485 x 4
- Selection by internal jumper
- OS support: Windows® 7, Windows® 10, Linux Kernel 2.6.x or above

Dimension

Unit: mm



9741215517

OMNI Isolated COM Module

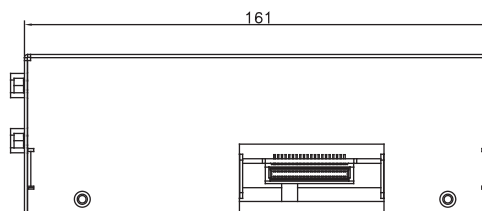
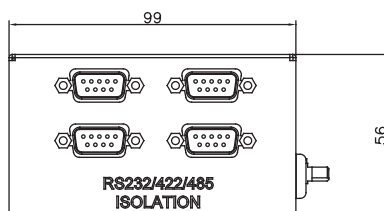


Features

- Isolated RS-232/422/485 x 4
- 2K VDC Isolation
- Selection by internal jumper
- OS support: Windows® 7, Windows® 10, Linux Kernel 2.6.x or above

Dimension

Unit: mm



9741215518

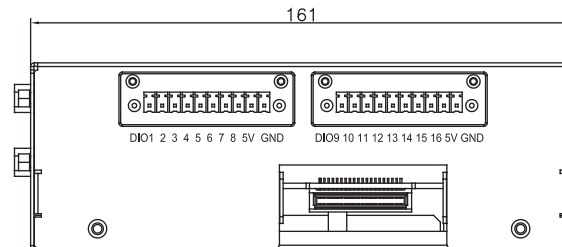
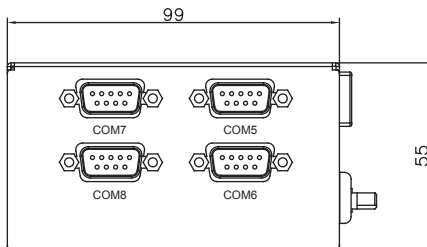
OMNI COM, DIO Module



Features

- DB-9 Isolated RS-232/422/485 x 4
- DIO x 16
- OS support: Windows® 7, Windows® 10, Linux Kernel 2.6.x or above

Dimension Unit: mm



OMNI Series : Modular Touch Panel Solutions

2 3



Launching in Q1**Features**

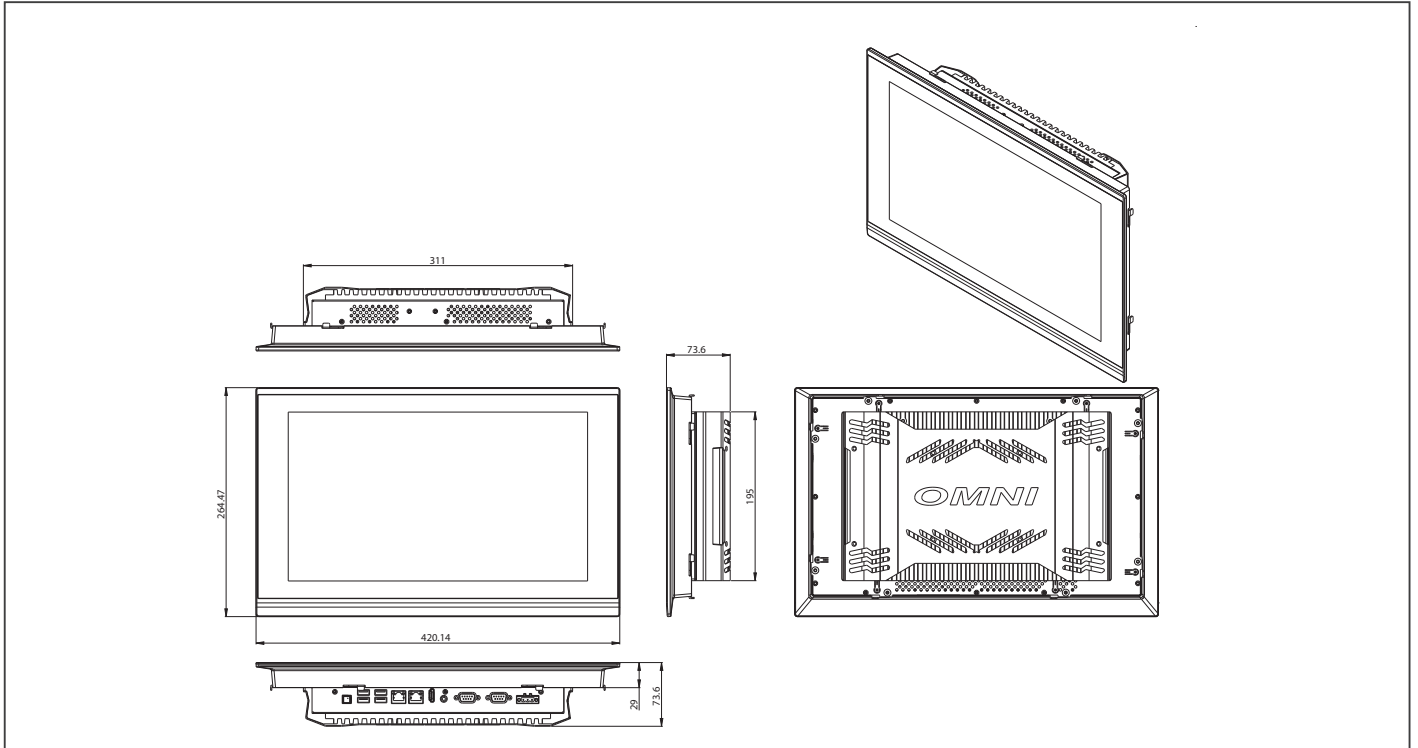
- 15.6" (1366 x 768) TFT LCD Display
- Extreme Computing Power & Graphic Display Capability
- LPDDR4 slot x2, up to 64GB
- Support High Speed NVMe storage (M.2 2280)
- Compatible with Intel® Keem Bay VPU (M.2 2280)
- GbE LAN x 2, RS232/422/485 x 2
- USB 3.2 Gen2 x 4
- Supports Intel® AMT
- Wide Range 10-35V DC input
- Wide Range -20~50°C Operating Temperature

**Specifications**

System	
Processor	Intel® Core™ i7-10700TE Intel® Core™ i5-10500TE Intel® Core™ i3-10100TE Intel® Pentium™ G6400TE Intel® Celeron® G5900TE
System Memory	LPDDR4 S0-DIMM x 2, up to 64GB
LCD/CRT Controller	—
Ethernet	Intel® i211 x 1, i219 x 1
I/O Port	HDMI x 1, RJ-45 x 2 for GbE LAN (i211 x 1, i219 x 1), USB 3.2 Gen 2 x 4, DB-9 x 2 for RS-232/422/485, Line out x 1, 3 pin 10~35V Power Input x 1, Power Button with LED x 1
Storage Disk Drive	M.2 2280 slot x 1 (PCIex4), 2.5" SATA SSD/HDD bay x 1
Expansion Slot	M.2 2230 E Key x 1 M.2 2280 B Key x 1, Compatible with Intel® Keem Bay VPU Full-Size Mini Card x1 (mSATA/PCIe switch by BIOS, default PCIe) SIM x 1
OS Support	Windows® 10 IoT Enterprise 64-bit, Linux Ubuntu 20.04
Mechanical	
Construction	Aluminum Design (IP65 Front Frame)
Mounting	VESA 100 / Panel Mount
Dimension	420.14mm x 264.47mm x 73.6mm
Carton Dimension	—
Gross Weight	—
Environmental	
Operating Temperature	-20°C ~ 50°C (35W CPU), according to IEC68-2-14 with 0.5 m/s AirFlow
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	90% @40°C; non-condensing
Vibration	1 Grms/ 5~500Hz/random operation
Shock	—
EMC	CE/FCC Compliance
Power Supply	
DC input	10-35V DC-in with 3-pin terminal block
LCD	
Display Type	15.6" TFT-LCD, LED
Max Resolution	1366 (H) x 768 (V)
Max. Colors	16.7M (8 bit/color)
Luminance	400 cd/m²
Viewing Angle	160° (H), 140° (V)
Back Light	LED
Back Light MTBF (Hours)	50,000
Touchscreen	
Type	Flat 5-wire Resistive / P-CAP Multi Touch
Light Transmission	80% ± 3% / 88% ± 2%

Dimension

Unit: mm



Ordering Information

- TBD

Packing List

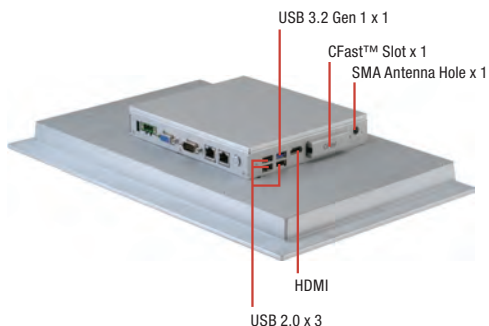
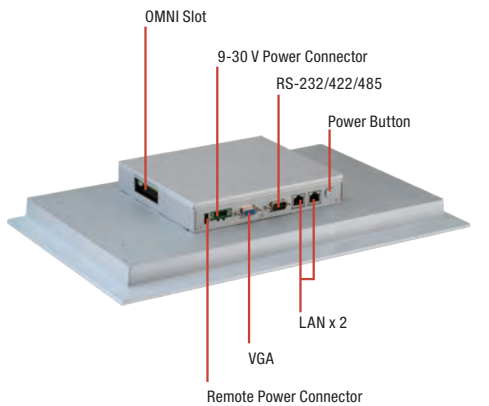
- OMNI-2155HTT-CML

Optional Accessories

- TBD

OMNI-2155-BT

15.6" Modular HMI Panel PC with Intel® Celeron® J1900/ N2807 Processor



Features

- Intel® Celeron® J1900/ N2807 Processor
- 15.6" (1366 x 768) TFT LCD Display
- Flat Screen with P-CAP or Resistive Touch Screen
- Easily Expandable I/O by AAEON OMNI I/O Modules
- Multiple Touchscreen
- Aluminum Design
- IP65 Compliant Front Bezel
- Fanless Operation
- Support Remote Power On/Off Connector
- Power Input Protection: Over-Voltage Protection, Low-Voltage Protection, Reverse-Voltage Protection

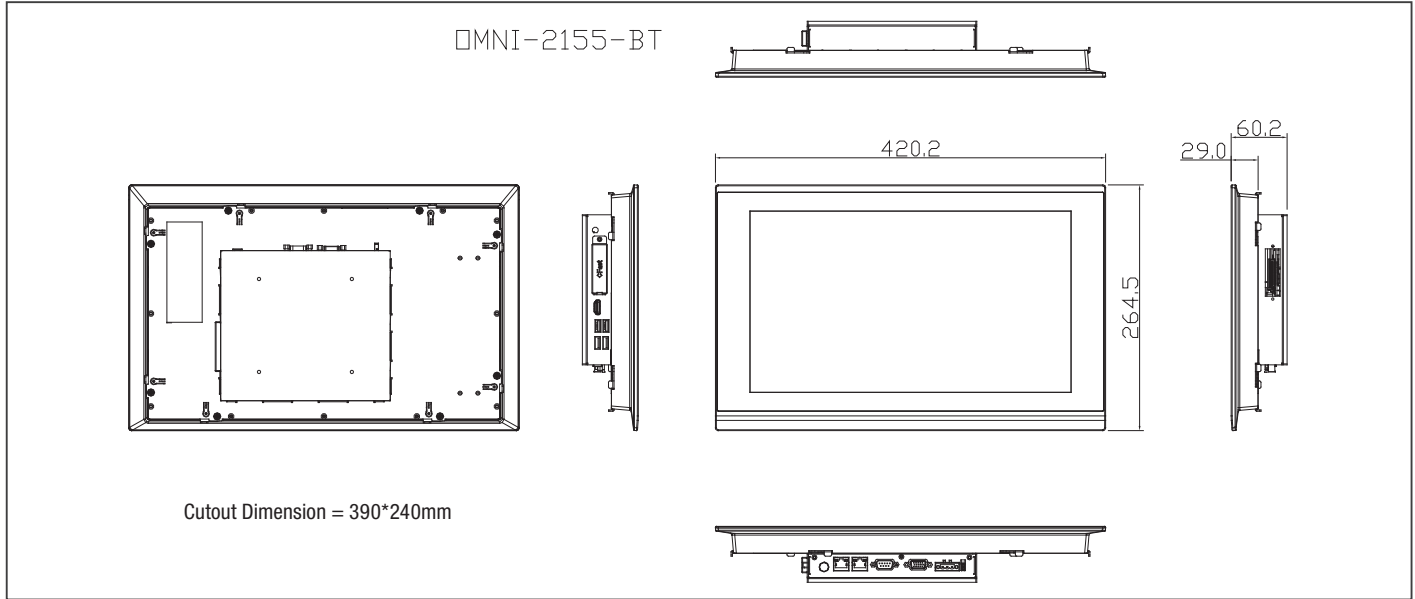


Specifications

System	
Processor	Intel® Celeron® J1900, 2.0 GHz/ N2807, 1.58 GHz
System Memory	204-pin DDR3L 1333MHz SODIMM x 1, up to 8 GB (J1900), 4 GB (N2807)
LCD/CRT Controller	Integrated in Processor
Ethernet	10/100/1000Base-TX, RJ-45 x 2
I/O Port	USB Type A x 1 for USB 3.2 Gen 1, USB Type A x 3 for USB 2.0 SMA antenna hole x 1, HDMI x 1 CFast™ x 1, DB-9 for RS-232/422/485 x 1 RJ-45 x 2 for 10/100/1000Base-TX DB-15 x 1 for VGA 3-pin terminal block x 1 for 9~30 V DC power input LED Power On/Off Switch x 1 (Power on = orange, Power off =N/A)
Storage Disk Drive	CFast™ socket x 1, SATA 2.5" HDD bay x 1
Expansion Slot	Mini-Card x 2 (Full Size), OMNI I/O Connector x 1, SIM x 2
OS support	Windows® 7, Windows® 8, Windows® 10, Linux kernel 2.6.x or higher
Mechanical	
Construction	Aluminum front bezel + metal chassis
Mounting	VESA 100/ Panel mount
Dimension	16.54" x 10.43" x 2.36" (420mm x 265mm x 60mm)
Carton Dimension	20.87" x 17.52" x 7.87" (530mm x 445mm x 200mm)
Gross Weight	14.1 lb (6.4kg)
Environmental	
Operating Temperature	-4°F ~ 140°F (-20°C ~ 60°C) with industrial grade device (with 0.5 m/s air flow, according to IEC68-2-14, CPU: N2807) -4°F ~ 131°F (-20°C ~ 55°C) with industrial grade device (with 0.5 m/s air flow, according to IEC68-2-14, CPU: J1900)
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	90% @40°C, non-condensing
Vibration	1 Grms/ 5 ~ 500 Hz/ Operation (HDD)
Shock	15 G peak acceleration (11 msec. duration)
EMC	CE/FCC class A
Power Supply	
DC input	DC 9 (min.) ~ 30 (max.) V w/ 3-pin terminal block, ATX Power function
LCD	
Display Type	15.6" TFT-LCD, LED backlight
Max Resolution	1366 x 768
Max. Colors	16.7M colors (8-bit for R,G,B)
Luminance	400 cd/m ²
Viewing Angle	160° (H), 140° (V)
Back Light	LED
Back Light MTBF (Hours)	50,000
Touchscreen	
Type	P-CAP/ 5-wire resistive
Light Transmission	P-CAP (90% ± 3%), 5-wire Resistive (80% ± 3%)

Dimension

Unit: mm



Ordering Information

	Part Number	Display Type	Max Resolution	Luminance	View Angle	CPU	LAN	USB 3.2 Gen 1	USB 2.0	RS-232/422/485	Storage	RAM	Display	Internal Expansion	Mounting	Power	Operating Temp.	Touch	OMNI I/O Module Support
Panel PC	OMNI-2155HTT-BT-A1-1011	15.6" TFT LCD	1366 x 768	400 cd/m ²	160°(H) 140°(V)	Intel® Celeron® J1900, 2 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 8 GB	VGA x 1 HDMI x 1	Mini-Card x 2 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-10°C-55°C with airflow	5-wire Resistive	Yes
	OMNI-2155HTT-BT-A2-1011	15.6" TFT LCD	1366 x 768	400 cd/m ²	160°(H) 140°(V)	Intel® N2807, 1.58 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 4 GB	VGA x 1 HDMI x 1		VESA 100/ Panel mount	DC 9-30V	-10°C-60°C with airflow	5-wire Resistive	Yes
	OMNI-2155HTT-BT-A3-1012	15.6" TFT LCD	1366 x 768	400 cd/m ²	160°(H) 140°(V)	Intel® Celeron® J1900, 2 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 8 GB	VGA x 1 HDMI x 1		VESA 100/ Panel mount	DC 9-30V	-10°C-55°C with airflow	Projected capacitive	Yes
	OMNI-2155HTT-BT-A4-1012	15.6" TFT LCD	1366 x 768	400 cd/m ²	160°(H) 140°(V)	Intel® N2807, 1.58 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 4 GB	VGA x 1 HDMI x 1		VESA 100/ Panel mount	DC 9-30V	-10°C-60°C with airflow	Projected capacitive	Yes
Panel Kit	OMNI-215DHTT-KIT-A1-1011	15.6" TFT LCD	1366 x 768	400 cd/m ²	160°(H) 140°(V)	—	—	—	—	—	—	—	—	—	—	—	-10°C-60°C with airflow	5-wire Resistive	No
	OMNI-215DHTT-KIT-A2-1012	15.6" TFT LCD	1366 x 768	400 cd/m ²	160°(H) 140°(V)	—	—	—	—	—	—	—	—	—	—	—	-10°C-60°C with airflow	Projected capacitive	No
CPU Box Kit	OMNI-BT-KIT-A1-1010	—	—	—	—	Intel® Celeron® J1900, 2 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 8 GB	VGA x 1 HDMI x 1	Mini-Card x 2 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-10°C-55°C with airflow	—	Yes
	OMNI-BT-KIT-A2-1010	—	—	—	—	Intel® N2807, 1.58 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 4 GB	VGA x 1 HDMI x 1	Mini-Card x 2 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-10°C-60°C with airflow	—	Yes

Note: * RAM not included

Packing List

- Phoenix Power Connector
- OMNI-2155

Optional Accessories

- **AP-0T9789LA1000**
LCD Monitor Stand 230mm, LA-100
- **1702031802**
Power Cord (US Type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **1255900849**
12V 84W Power Adapter w/ 3pin Terminal Block
- **1700021500**
Remote Switch Cable, 150 cm

OMNI Module (With AAEON Interface)

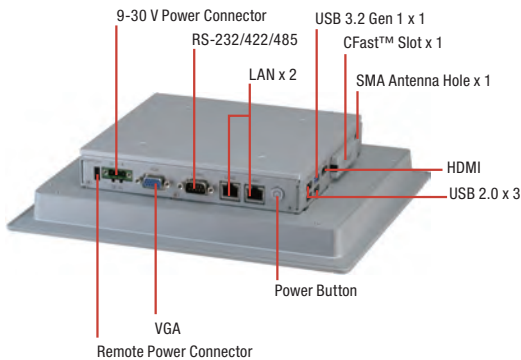
- **9741215501**
Mini Card x 2, SIM x 2 Module
- **9741215502**
Dual LAN Module
- **9741215506**
DIO Module
- **9741215508**
Audio Module
- **9741215510**
HMS Kit (Europe Limitation)
- **9741215512**
Wifi 802.11/b/g/n Module
- **9741215513**
RS-485/422/232 x 2 Module
- **9741215515**
USB/ COM/ LAN Module
- **9741215516**
RS-485/422/232 x 4 Module
- **9741215517**
Isolation RS-485/422/232 x 4 Module
- **9741215518**
RS-485/422/232 x 2, DIO x 16 Module

Wide Temperature DRAM

- **9761215500**
2GB Wide Temperature DRAM (-40°C ~ 95°C)
 - **9761215501**
4GB Wide Temperature DRAM (-40°C ~ 95°C)
 - **9761215502**
8GB Wide Temperature DRAM (-40°C ~ 95°C)
- **Users should select the wide temperature DRAM above and use wide temperature storage devices if the OMNI panel pc is to be operated at over 40°C.

OMNI-3105-BT

10.4" Modular HMI Panel PC with Intel® Celeron® J1900/ N2807 Processor



Features

- 10.4" (800 x 600) TFT LCD Display
- Intel® N2807/J1900 Processor
- P-CAP or Resistive Touch Screen Support
- Aluminum Design
- IP65 Compliant Front Bezel
- Fanless Operation

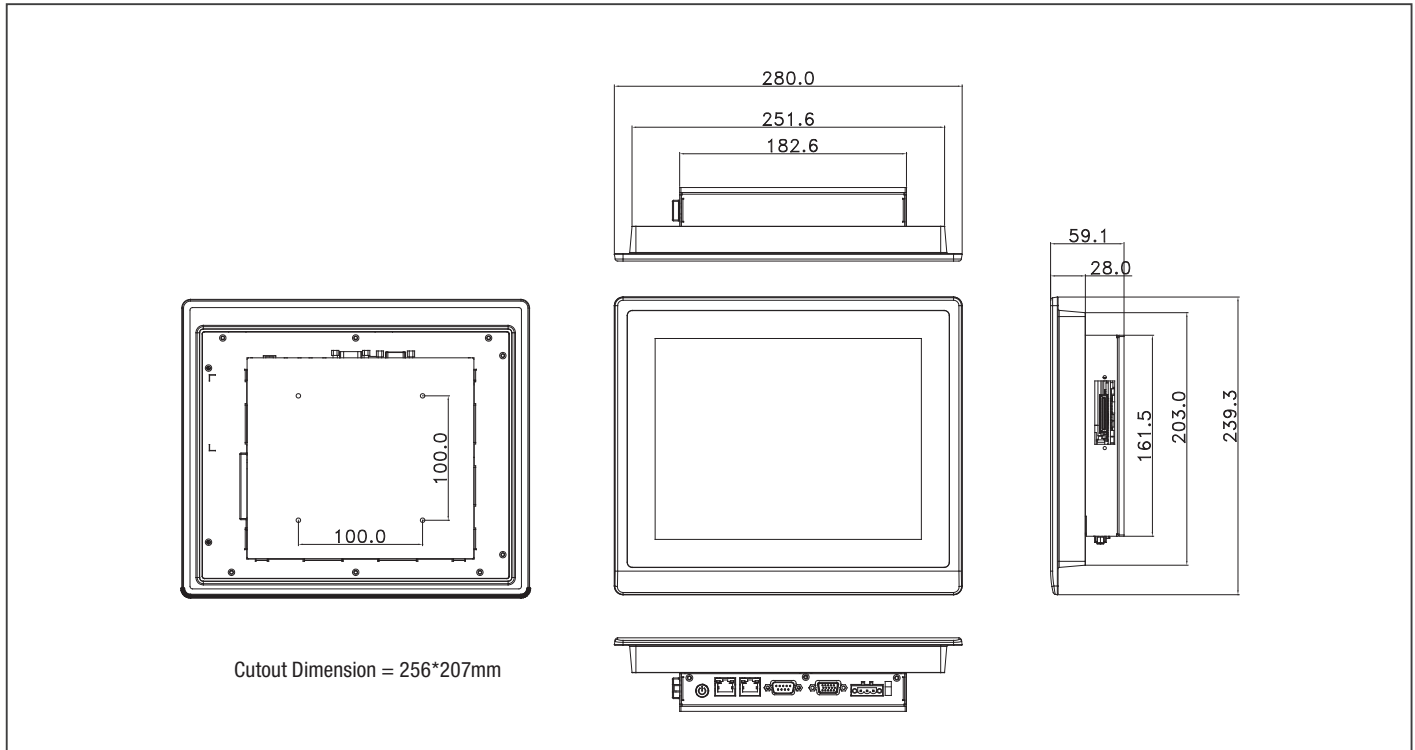


Specifications

System	
Processor	Intel® N2807 processor, 1.58 GHz, Intel® Celeron® J1900 processor, 2 GHz
System Memory	204-pin DDR3L 1333MHz SODIMM x 1, up to 8 GB, (J1900) 204-pin DDR3L 1333MHz SODIMM x 1, up to 4 GB, (N2807)
LCD/CRT Controller	Integrated in processor
Ethernet	Intel® I211, 10/100/1000 Base-TX x 2
I/O Port	USB 2.0 Type A x 3 USB 3.2 Gen 1 Type A x 1 SMA Antenna hole x 1 HDMI x 1 CFast™ x 1 DB-9 x 1 for RS-232/422/485 RJ-45 x 2 for GbE LAN DB-15 x 1 for VGA 3-pin terminal block x1 for 9~30 Vdc power input LED Power on/off switch x 1 (Power on = Orange, Power off =N/A)
Storage Disk Drive	CFast™ x 1, 2.5" SATA HDD bay x 1
Expansion Slot	Full Size Mini card x 2, SIM card x 1, OMNI I/O connector x 1
OS support	Windows® 7, Windows® 8, Windows® 10, Linux Kernel 2.6.x or higher
Mechanical	
Construction	Aluminum design (IP65 Front Frame)
Mounting	VESA 100 / Panel Mount
Dimension	11.02" x 9.41" x 2.32" (280 mm x 239 mm x 59 mm)
Carton Dimension	16.34" x 7.05" x 15.39" (415mm x 179mm x 391mm)
Gross Weight	7.92 lb (3.6 kg)
Environmental	
Operating Temperature	14°F ~ 131°F (-10°C ~ 55°C) (J1900), 14°F ~ 140°F (-10°C ~ 60°C) (N2807) with 0.5 m/s airflow (CF & HDD)
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	90% @40°C; non-condensing
Vibration	1 Grms/ 5~ 500Hz/ operation – with HDD
Shock	15 G peak acceleration (11 msec. duration) – with HDD
EMC	CE/FCC class A
Power Supply	
DC input	DC 9 (min.) ~ 30 (max.) V w/ 3-pin terminal block, ATX Power function
LCD	
Display Type	10.4" TFT-LCD, LED
Max Resolution	800 (H) x 600 (V)
Max. Colors	16.2M colors
Luminance	230 cd/m ²
Viewing Angle	120° (H), 100° (V)
Back Light	LED
Back Light MTBF (Hours)	50,000
Touchscreen	
Type	P-CAP/ 5-wire resistive
Light Transmission	P-CAP (90% ± 3%), 5-wire Resistive (80% ± 3%)

Dimension

Unit: mm



Ordering Information

	Part Number	Display Type	Max Resolution	Luminance	View Angle	CPU	LAN	USB 3.2 Gen 1	USB 2.0	RS-232/422/485	Storage	RAM	Display	Internal Expansion	Mounting	Power	Operating Temp.	Touch	OMNI I/O Module Support
Panel PC	OMNI-3105HTT-BT-A1-1011	10.4" TFT LCD	800 x 600	230 cd/m ²	120°(H) 100°(V)	Intel® Celeron® J1900, 2 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 8 GB	VGA x 1 HDMI x 1	Mini-Card x 2 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-10°C-55°C with airflow	5-wire Resistive	No
	OMNI-3105HTT-BT-A2-1011	10.4" TFT LCD	800 x 600	230 cd/m ²	120°(H) 100°(V)	Intel® N2807, 1.58 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 4 GB	VGA x 1 HDMI x 1		VESA 100/ Panel mount	DC 9-30V	-10°C-60°C with airflow	5-wire Resistive	No
	OMNI-3105HTT-BT-A3-1011	10.4" TFT LCD	800 x 600	230 cd/m ²	120°(H) 100°(V)	Intel® Celeron® J1900, 2 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 8 GB	VGA x 1 HDMI x 1		VESA 100/ Panel mount	DC 9-30V	-10°C-55°C with airflow	Projected capacitive	No
	OMNI-3105HTT-BT-A4-1011	10.4" TFT LCD	800 x 600	230 cd/m ²	120°(H) 100°(V)	Intel® N2807, 1.58 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 4 GB	VGA x 1 HDMI x 1		VESA 100/ Panel mount	DC 9-30V	-10°C-60°C with airflow	Projected capacitive	No
Panel Kit	OMNI-310DHTT-KIT-A1-1011	10.4" TFT LCD	800 x 600	230 cd/m ²	120°(H) 100°(V)	—	—	—	—	—	—	—	—	—	—	—	-10°C-60°C with airflow	5-wire Resistive	No
	OMNI-310DHTT-KIT-A2-1011	10.4" TFT LCD	800 x 600	230 cd/m ²	120°(H) 100°(V)	—	—	—	—	—	—	—	—	—	—	—	-10°C-60°C with airflow	Projected capacitive	No
CPU Box Kit	OMNI-BT-KIT-A1-1010	—	—	—	—	Intel® Celeron® J1900, 2 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 8 GB	VGA x 1 HDMI x 1	Mini-Card x 2 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-10°C-55°C with airflow	—	Yes
	OMNI-BT-KIT-A2-1010	—	—	—	—	Intel® N2807, 1.58 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 4 GB	VGA x 1 HDMI x 1	Mini-Card x 2 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-10°C-60°C with airflow	—	Yes

Note: * RAM not included

* Due to size limitation, OMNI Expansion Modules only support the panel size starting from 15" (excluding 10.4", 12.1") by OMNI slot interface.

Packing List

- Phoenix Power Connector
- OMNI-3105-BT

Wide Temperature DRAM

- **9761215500**
2GB Wide Temperature DRAM (-40°C ~ 95°C)
- **9761215501**
4GB Wide Temperature DRAM (-40°C ~ 95°C)

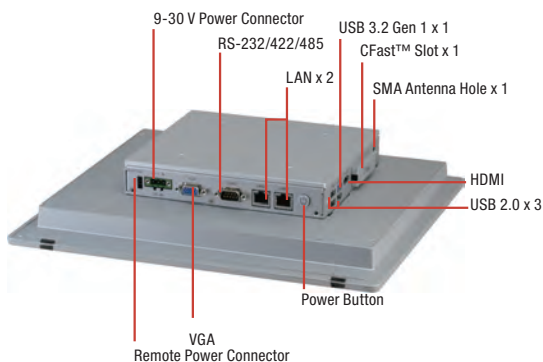
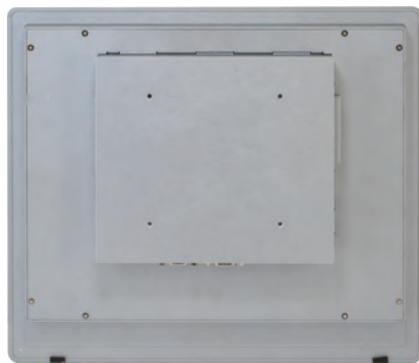
- **9761215502**
8GB Wide Temperature DRAM (-40°C ~ 95°C)
- **Users should select the wide temperature DRAM above and use wide temperature storage devices if the OMNI panel pc is to be operated at over 40°C

Optional Accessories

- **AP-0T9789LA1000**
LCD Monitor Stand 230mm, LA-100
- **1702031802**
Power Cord (US Type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **1255900849**
12V 84W Power Adapter w/ 3pin Terminal Block
- **1700021500**
Remote Switch Cable, 150cm

OMNI-3125-BT

12.1" Modular HMI Panel PC with Intel® Celeron® J1900/ N2807 Processor



Features

- 12.1" (1024 x 768) TFT LCD Display
- Intel® N2807/J1900 Processor
- P-CAP or Resistive Touch Screen Support
- Aluminum Design
- IP65 Compliant Front Bezel
- Fanless Operation

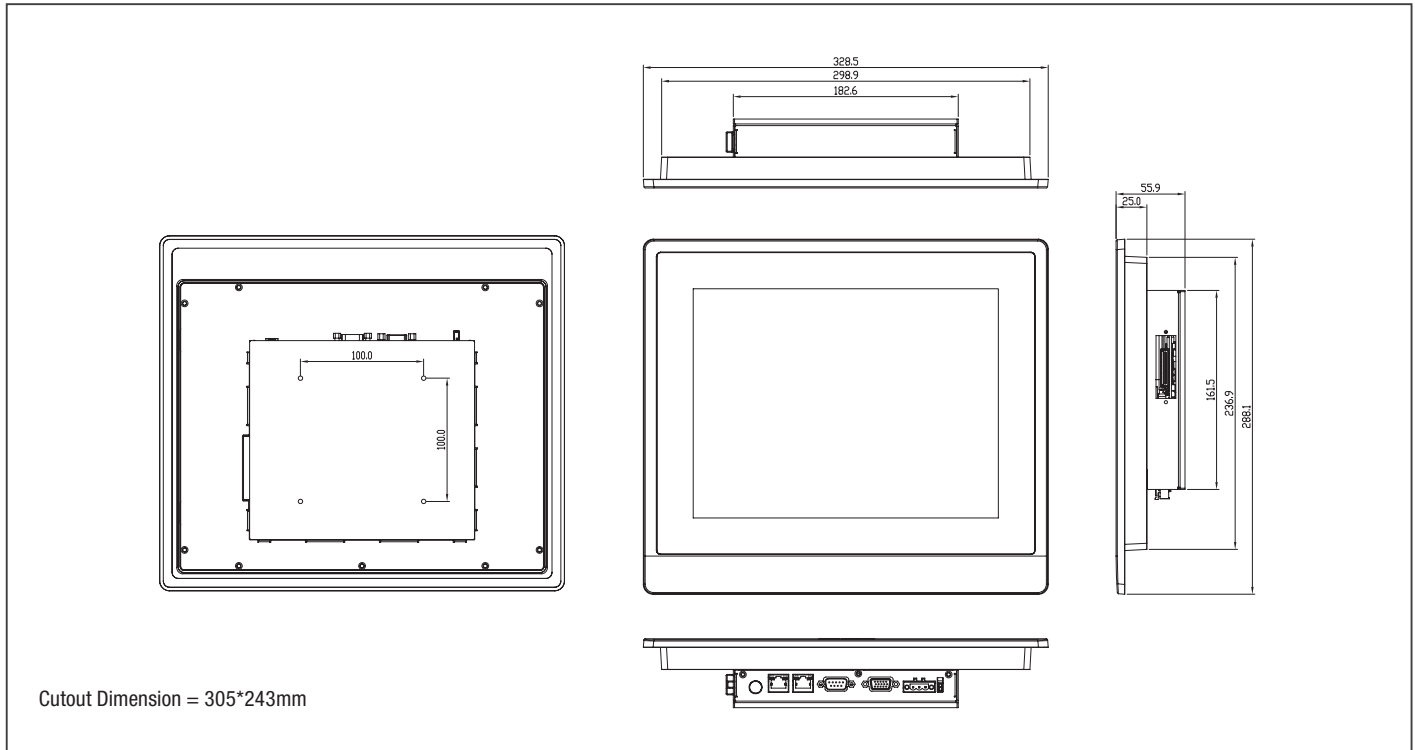


Specifications

System	
Processor	Intel® N2807 processor, 1.58 GHz Intel® Celeron® J1900 processor, 2 GHz
System Memory	204-pin DDR3L 1333MHz SODIMM x 1, up to 8 GB, (J1900) 204-pin DDR3L 1333MHz SODIMM x 1, up to 4 GB, (N2807)
LCD/CRT Controller	Integrated in processor
Ethernet	Intel® I211, 10/100/1000 Base-TX x 2
I/O Port	USB 2.0 Type A x 3 USB 3.2 Gen 1 Type A x 1 SMA Antenna hole x 1 HDMI x 1, CFast™ x 1 DB-9 Type RS-232/422/485 x 1 RJ-45 Type for 10/100/1000Base-TX x 2 DB-15 x 1 for VGA 3-pin terminal block x1 for 9~30 Vdc power input LED Power on/off switch x1 (Power on = Orange, Power off =N/A)
Storage Disk Drive	CFast™ x 1, 2.5" SATA HDD bay x 1
Expansion Slot	Full Size Mini card x 2, SIM card x 1, OMNI I/O connector x 1
OS support	Windows® 7, Windows® 8, Windows® 10, Linux kernel 2.6.x or higher
Mechanical	
Construction	Aluminum design (IP65 Front Frame)
Mounting	VESA 100/ Panel Mount
Dimension	12.95" x 11.34" x 2.2" (329 mm x 288 mm x 56 mm)
Carton Dimension	20.87" x 17.52" x 7.87" (530mm x 445mm x 200mm)
Gross Weight	11 lb (5.0 kg)
Environmental	
Operating Temperature	14°F ~ 131°F (-10°C ~ 55°C) (J1900), 14°F ~ 140°F (-10°C ~ 60°C) (N2807) with 0.5 m/s airflow (CF & HDD)
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	90% @40°C; non-condensing
Vibration	1 Grms/ 5~ 500Hz/ operation – with HDD
Shock	15 G peak acceleration (11 msec. duration) – with HDD
EMC	CE/FCC class A
Power Supply	
DC input	DC 9 (min.) ~ 30 (max.) V w/3-pin terminal block, ATX Power function
LCD	
Display Type	12.1" TFT-LCD, LED
Max Resolution	1024 (H) x 768 (V)
Max. Colors	16.2M colors
Luminance	500 cd/m ²
Viewing Angle	160° (H), 160° (V)
Back Light	LED
Back Light MTBF (Hours)	50,000
Touchscreen	
Type	P-CAP/ 5-wire resistive
Light Transmission	P-CAP (90% ± 3%), 5-wire Resistive (80% ± 3%)

Dimension

Unit: mm



Cutout Dimension = 305*243mm

Ordering Information

	Part Number	Display Type	Max Resolution	Luminance	View Angle	CPU	LAN	USB 3.2 Gen 1	USB 2.0	RS-232/422/485	Storage	RAM	Display	Internal Expansion	Mounting	Power	Operating Temp.	Touch	OMNI I/O Module Support
Panel PC	OMNI-3125HTT-BT-A1-1011	12.1" TFT LCD	1024 X 768	500 cd/m ²	160°(H) 160°(V)	Intel® Celeron® J1900, 2 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 8 GB	VGA x 1 HDMI x 1	Mini-Card x 2 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-10°C-55°C with airflow	5-wire Resistive	No
	OMNI-3125HTT-BT-A2-1011	12.1" TFT LCD	1024 X 768	500 cd/m ²	160°(H) 160°(V)	Intel® N2807, 1.58 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 4 GB	VGA x 1 HDMI x 1		VESA 100/ Panel mount	DC 9-30V	-10°C-60°C with airflow	5-wire Resistive	No
	OMNI-3125HTT-BT-A3-1011	12.1" TFT LCD	1024 X 768	500 cd/m ²	160°(H) 160°(V)	Intel® Celeron® J1900, 2 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 8 GB	VGA x 1 HDMI x 1		VESA 100/ Panel mount	DC 9-30V	-10°C-55°C with airflow	Projected capacitive	No
	OMNI-3125HTT-BT-A4-1011	12.1" TFT LCD	1024 X 768	500 cd/m ²	160°(H) 160°(V)	Intel® N2807, 1.58 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 4 GB	VGA x 1 HDMI x 1		VESA 100/ Panel mount	DC 9-30V	-10°C-60°C with airflow	Projected capacitive	No
Panel Kit	OMNI-312DHTT-KIT-A1-1011	12.1" TFT LCD	1024 X 768	500 cd/m ²	160°(H) 160°(V)	—	—	—	—	—	—	—	—	—	—	—	-10°C-60°C with airflow	5-wire Resistive	No
	OMNI-312DHTT-KIT-A2-1011	12.1" TFT LCD	1024 X 768	500 cd/m ²	160°(H) 160°(V)	—	—	—	—	—	—	—	—	—	—	—	-10°C-60°C with airflow	Projected capacitive	No
CPU Box Kit	OMNI-BT-KIT-A1-1010	—	—	—	—	Intel® Celeron® J1900, 2 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 8 GB	VGA x 1 HDMI x 1	Mini-Card x 2 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-10°C-55°C with airflow	—	Yes
	OMNI-BT-KIT-A2-1010	—	—	—	—	Intel® N2807, 1.58 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 4 GB	VGA x 1 HDMI x 1	Mini-Card x 2 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-10°C-60°C with airflow	—	Yes

Note: * RAM not included

* Due to size limitation, OMNI Expansion Modules only support the panel size starting from 15" (excluding 10.4", 12.1") by OMNI slot interface.

Packing List

- Phoenix Power Connector
- OMNI-3125-BT

Optional Accessories

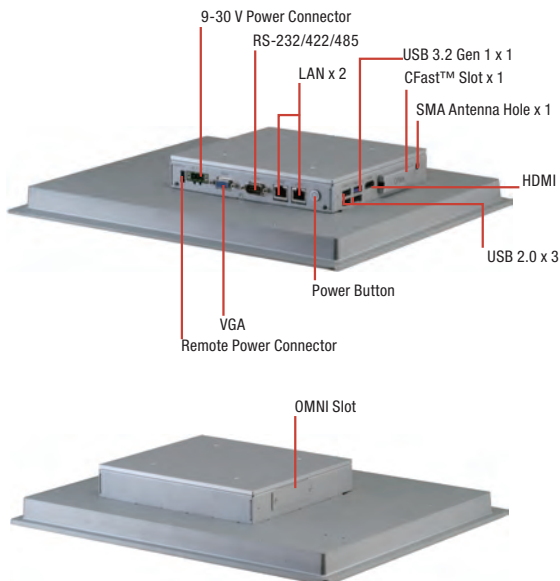
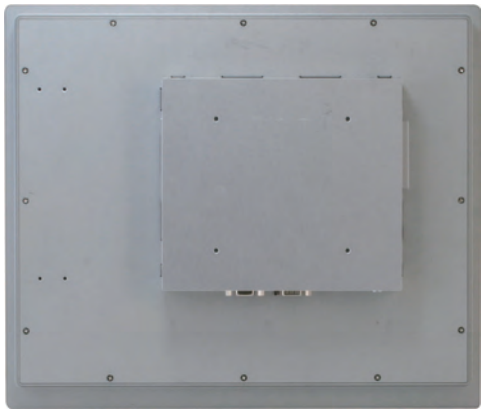
- **AP-OT9789LA1000**
LCD Monitor Stand 230mm, LA-100
- **1702031802**
Power Cord (US Type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **1255900849**
12V 84W Power Adapter w/ 3pin Terminal Block
- **9741312500**
Panel Mount Kit for OMNI-3125-BT

Wide Temperature DRAM

- **9761215500**
2GB Wide Temperature DRAM (-40°C ~ 95°C)
 - **9761215501**
4GB Wide Temperature DRAM (-40°C ~ 95°C)
 - **9761215502**
8GB Wide Temperature DRAM (-40°C ~ 95°C)
- **Users should select the wide temperature DRAM above and use wide temperature storage devices if the OMNI panel pc is to be operated at over 40°C.

OMNI-3155-BT

15" Modular HMI Panel PC with Intel® Celeron® J1900/ N2807 Processor



Features

- 15" (1024 x 768) TFT LCD Display
- Intel® N2807/J1900 Processor
- P-CAP or Resistive Touch Screen Support
- Aluminum Design
- IP65 Compliant Front Bezel
- Fanless Operation
- Easily Expandable I/O by AAEON OMNI I/O Modules

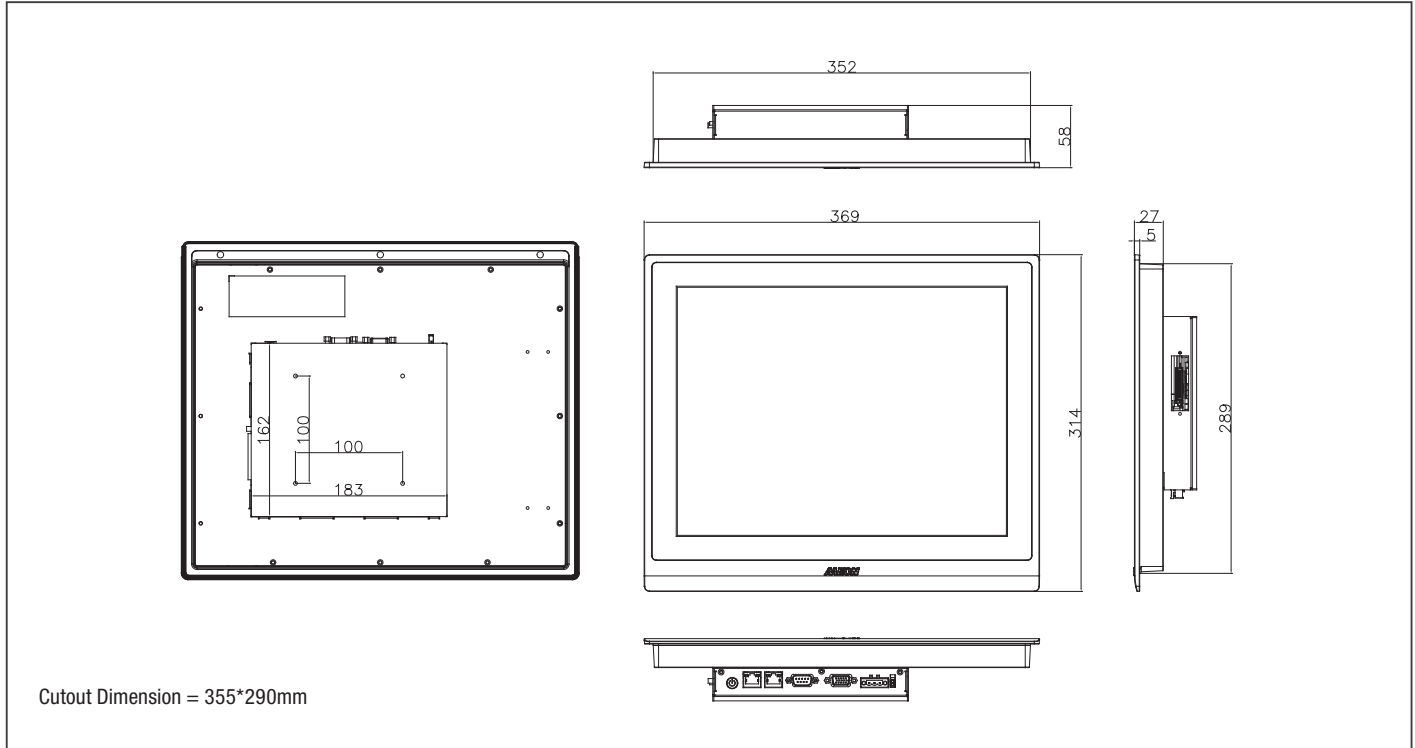


Specifications

System	
Processor	Intel® N2807 processor, 1.58 GHz Intel® Celeron® J1900 processor, 2 GHz
System Memory	204-pin DDR3L 1333MHz SODIMM x 1, up to 8 GB, (J1900) 204-pin DDR3L 1333MHz SODIMM x 1, up to 4 GB, (N2807)
LCD/CRT Controller	Integrated in processor
Ethernet	Intel® I211, 10/100/1000 Base-TX x 2
I/O Port	USB 2.0 Type A x 3 USB 3.2 Gen 1 Type A x 1 SMA Antenna hole x 1 HDMI x 1, CFast™ x 1 DB-9 Type RS-232/422/485 x 1 RJ-45 Type for 10/100/1000Base-TX x 2 DB-15 x 1 for VGA 3-pin terminal block x1 for 9~30 Vdc power input LED Power on/off switch x1 (Power on = Orange, Power off =N/A)
Storage Disk Drive	CFast™ x 1, 2.5" SATA HDD bay x 1
Expansion Slot	Full Size Mini card x 2, SIM card x 1, OMNI I/O connector x 1
OS support	Windows® 7, Windows® 8, Windows® 10, Linux kernel 2.6.x or higher
Mechanical	
Construction	Aluminum design (IP65 Front Frame)
Mounting	VESA 100 / Panel Mount
Dimension	14.53" x 12.36" x 2.28" (369 mm x 314 mm x 58 mm)
Carton Dimension	20.08" x 9.84" x 18.11" (510mm x 250mm x 460mm)
Gross Weight	13.97 lb (6.35 kg)
Environmental	
Operating Temperature	14°F ~ 131°F (-10°C ~ 55°C) (J1900), 14°F ~ 140°F (-10°C ~ 60°C) (N2807) with 0.5 m/s airflow (CF & HDD)
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	90% @40°C; non-condensing
Vibration	1 Grms/ 5~ 500Hz/ operation – with HDD
Shock	15 G peak acceleration (11 msec. duration) – with HDD
EMC	CE/FCC class A
Power Supply	
DC input	DC 9 (min.) ~ 30 (max.) V w/3-pin terminal block, ATX Power function
LCD	
Display Type	15" TFT-LCD, LED
Max Resolution	1024 (H) x 768 (V)
Max. Colors	16.2M (8bit/color)
Luminance	300 cd/m ²
Viewing Angle	176° (H), 176° (V)
Back Light	LED
Back Light MTBF (Hours)	70,000
Touchscreen	
Type	P-CAP/ 5-wire resistive
Light Transmission	P-CAP (90%± 2%), 5-wire Resistive (80% ± 2%)

Dimension

Unit: mm



Ordering Information

	Part Number	Display Type	Max Resolution	Luminance	View Angle	CPU	LAN	USB 3.2 Gen 1	USB 2.0	RS-232/422/485	Storage	RAM	Display	Internal Expansion	Mounting	Power	Operating Temp.	Touch	OMNI I/O Module Support
Panel PC	OMNI-3155HTT-BT-A1-1012	15" TFT LCD	1024 x 768	300 cd/m ²	176° (H), 176° (V)	Intel® Celeron® J1900, 2 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 8 GB	VGA x 1 HDMI x 1	Mini-Card x 2 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-10°C-55°C with airflow	5-wire Resistive	Yes
	OMNI-3155HTT-BT-A2-1012	15" TFT LCD	1024 x 768	300 cd/m ²	176° (H), 176° (V)	Intel® N2807, 1.58 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 4 GB	VGA x 1 HDMI x 1		VESA 100/ Panel mount	DC 9-30V	-10°C-60°C with airflow	5-wire Resistive	Yes
	OMNI-3155HTT-BT-A3-1012	15" TFT LCD	1024 x 768	300 cd/m ²	176° (H), 176° (V)	Intel® Celeron® J1900, 2 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 8 GB	VGA x 1 HDMI x 1		VESA 100/ Panel mount	DC 9-30V	-10°C-55°C with airflow	Projected capacitive	Yes
	OMNI-3155HTT-BT-A4-1012	15" TFT LCD	1024 x 768	300 cd/m ²	176° (H), 176° (V)	Intel® N2807, 1.58 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 4 GB	VGA x 1 HDMI x 1		VESA 100/ Panel mount	DC 9-30V	-10°C-60°C with airflow	Projected capacitive	Yes
Panel Kit	OMNI-315DHTT-KIT-A1-1012	15" TFT LCD	1024 x 768	300 cd/m ²	176° (H), 176° (V)	—	—	—	—	—	—	—	—	—	—	—	-10°C-60°C with airflow	5-wire Resistive	No
	OMNI-315DHTT-KIT-A2-1012	15" TFT LCD	1024 x 768	300 cd/m ²	176° (H), 176° (V)	—	—	—	—	—	—	—	—	—	—	—	-10°C-60°C with airflow	Projected capacitive	No
CPU Box Kit	OMNI-BT-KIT-A1-1010	—	—	—	—	Intel® Celeron® J1900, 2 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 8 GB	VGA x 1 HDMI x 1	Mini-Card x 2 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-10°C-55°C with airflow	—	Yes
	OMNI-BT-KIT-A2-1010	—	—	—	—	Intel® N2807, 1.58 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 4 GB	VGA x 1 HDMI x 1	Mini-Card x 2 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-10°C-60°C with airflow	—	Yes

Note: * RAM not included

Packing List

- Phoenix Power Connector
- OMNI-3155-BT

Optional Accessories

- **AP-0T9789LA1000**
LCD Monitor Stand 230mm, LA-100
- **1702031802**
Power Cord (US Type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **1255900849**
12V 84W Power Adapter w/ 3pin Terminal Block
- **1700021500**
Remote Switch Cable, 150 cm

OMNI Module (with AAEON Interface)

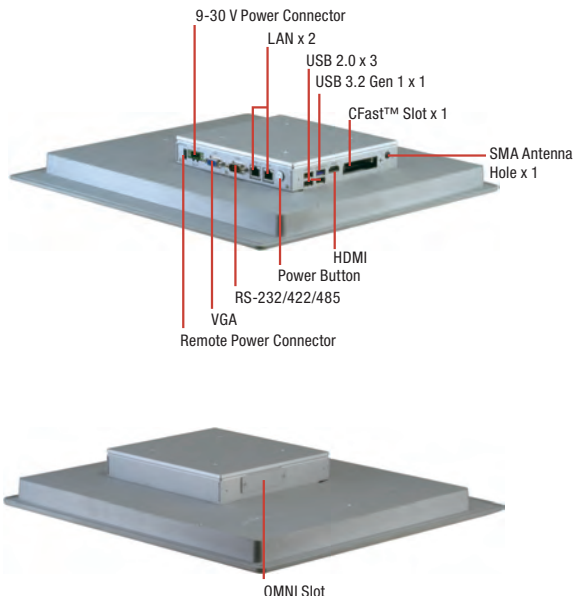
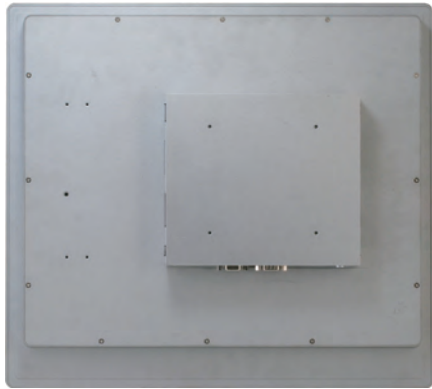
- **9741215501**
Mini Card x 2, SIM x 2 Module
- **9741215502**
Dual LAN Module
- **9741215506**
DIO Module
- **9741215508**
Audio Module
- **9741215510**
HMS Kit (Europe Limitation)
- **9741215512**
Wifi 802.11b/g/n Module
- **9741215513**
RS-485/422/232 x 2 Module
- **9741215515**
USB / COM / LAN Module
- **9741215516**
RS-485/422/232 x 4 Module
- **9741215517**
Isolation RS-485/422/232 x 4 Module
- **9741215518**
RS-485/422/232 x 2, DIO x 16 Module

Wide Temperature DRAM

- **9761215500**
2GB Wide Temperature DRAM (-40°C ~ 95°C)
 - **9761215501**
4GB Wide Temperature DRAM (-40°C ~ 95°C)
 - **9761215502**
8GB Wide Temperature DRAM (-40°C ~ 95°C)
- **Users should select the wide temperature DRAM above and use wide temperature storage devices if the OMNI panel pc is to be operated at over 40°C.

OMNI-3175-BT

17" Modular HMI Panel PC with Intel® Celeron® J1900/ N2807 Processor



Features

- 17" (1280 x 1024) TFT LCD Display
- Intel® N2807/J1900 Processor
- P-CAP or Resistive Touch Screen Support
- Aluminum Design
- IP65 Compliant Front Bezel
- Fanless Operation
- Easily Expandable I/O by AAEON OMNI I/O Modules

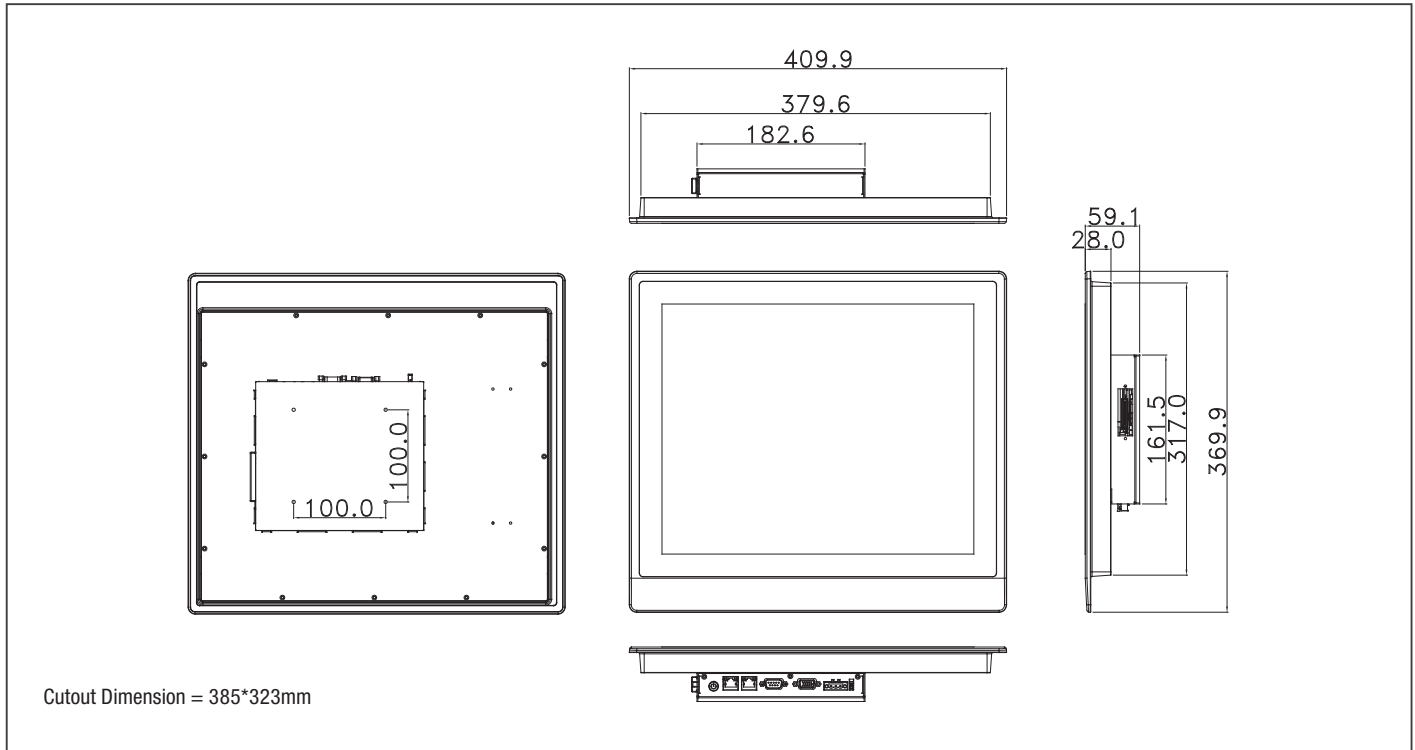


Specifications

System	
Processor	Intel® N2807 processor, 1.58 GHz Intel® Celeron® J1900 processor, 2 GHz
System Memory	204-pin DDR3L 1333MHz SODIMM x 1, up to 8 GB, (J1900) 204-pin DDR3L 1333MHz SODIMM x 1, up to 4 GB, (N2807)
LCD/CRT Controller	Integrated in processor
Ethernet	Intel® I211, 10/100/1000 Base-TX x 2
I/O Port	USB 2.0 Type A x 3, USB 3.2 Gen 1 Type A x 1 SMA Antenna hole x 1 HDMI x 1 CFast™ x 1 DB-9 Type RS-232/422/485 x 1 RJ-45 Type for 10/100/1000Base-TX x 2 DB-15 x 1 for VGA 3-pin terminal block x1 for 9~30 Vdc power input LED Power on/off switch x1 (Power on = Orange, Power off =N/A)
Storage Disk Drive	CFast™ x 1, 2.5" SATA HDD bay x 1
Expansion Slot	Mini card x 2, SIM card x 1, OMNI I/O connector x 1
OS support	Windows® 7, Windows® 8, Windows® 10, Linux kernel 2.6.x or higher
Mechanical	
Construction	Aluminum design (IP65 Front Frame)
Mounting	VESA 100/Panel Mount
Dimension	16.14" x 14.57" x 2.32" (410mm x 370mm x 59mm)
Carton Dimension	20.55" x 10.31" x 19.29" (522mm x 262mm x 490mm)
Gross Weight	15.84 lb (7.2 kg)
Environmental	
Operating Temperature	14°F ~ 131°F (-10°C ~ 55°C) (J1900), 14°F ~ 140°F (-10°C ~ 60°C) (N2807) with 0.5 m/s airflow (CF & HDD)
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	90% @40°C; non-condensing
Vibration	1 Grms/ 5~ 500Hz/ operation – with HDD
Shock	15 G peak acceleration (11 msec. duration) – with HDD
EMC	CE/FCC class A
Power Supply	
DC input	DC 9 (min.) ~ 30 (max.) V w/3-pin terminal block, ATX Power function
LCD	
Display Type	17" TFT-LCD, LED
Max Resolution	1280 (H) x 1024 (V)
Max. Colors	16.7M colors (RGB 6-bits + Hi-FRC data)
Luminance	350 cd/m ²
Viewing Angle	170° (H), 160° (V)
Back Light	LED
Back Light MTBF (Hours)	50,000
Touchscreen	
Type	P-CAP/ 5-wire resistive
Light Transmission	P-CAP (≥85%), 5-wire Resistive (80% ± 5%)

Dimension

Unit: mm



Ordering Information

	Part Number	Display Type	Max Resolution	Luminance	View Angle	CPU	LAN	USB 3.2 Gen 1	USB 2.0	RS-232/422/485	Storage	RAM	Display	Internal Expansion	Mounting	Power	Operating Temp.	Touch	OMNI I/O Module Support
Panel PC	OMNI-3175HTT-BT-A1-1012	17" TFT LCD	1280 x 1024	350 cd/m ²	170°(H) 160°(V)	Intel® Celeron® J1900, 2 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 8 GB	VGA x 1 HDMI x 1	Mini-Card x 2 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-10°C-55°C with airflow	5-wire Resistive	Yes
	OMNI-3175HTT-BT-A2-1012	17" TFT LCD	1280 x 1024	350 cd/m ²	170°(H) 160°(V)	Intel® N2807, 1.58 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 4 GB	VGA x 1 HDMI x 1		VESA 100/ Panel mount	DC 9-30V	-10°C-60°C with airflow	5-wire Resistive	Yes
	OMNI-3175HTT-BT-A3-1011	17" TFT LCD	1280 x 1024	350 cd/m ²	170°(H) 160°(V)	Intel® Celeron® J1900, 2 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 8 GB	VGA x 1 HDMI x 1		VESA 100/ Panel mount	DC 9-30V	-10°C-55°C with airflow	Projected capacitive	Yes
	OMNI-3175HTT-BT-A4-1011	17" TFT LCD	1280 x 1024	350 cd/m ²	170°(H) 160°(V)	Intel® N2807, 1.58 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 4 GB	VGA x 1 HDMI x 1		VESA 100/ Panel mount	DC 9-30V	-10°C-60°C with airflow	Projected capacitive	Yes
Panel Kit	OMNI-317DHTT-KIT-A1-1012	17" TFT LCD	1280 x 1024	350 cd/m ²	170°(H) 160°(V)	—	—	—	—	—	—	—	—	—	—	—	-10°C-60°C with airflow	5-wire Resistive	No
	OMNI-317DHTT-KIT-A2-1011	17" TFT LCD	1280 x 1024	350 cd/m ²	170°(H) 160°(V)	—	—	—	—	—	—	—	—	—	—	—	-10°C-60°C with airflow	Projected capacitive	No
CPU Box Kit	OMNI-BT-KIT-A1-1010	—	—	—	—	Intel® Celeron® J1900, 2 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 8 GB	VGA x 1 HDMI x 1	Mini-Card x 2 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-10°C-55°C with airflow	—	Yes
	OMNI-BT-KIT-A2-1010	—	—	—	—	Intel® N2807, 1.58 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 4 GB	VGA x 1 HDMI x 1	Mini-Card x 2 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-10°C-60°C with airflow	—	Yes

Note: * RAM not included

Packing List

- Phoenix Power Connector
- OMNI-3175-BT

Optional Accessories

- **AP-0T9789LA1000**
LCD Monitor Stand 230mm, LA-100
- **1702031802**
Power Cord (US Type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **1255900849**
12V 84W Power Adapter w/ 3pin Terminal Block
- **1700021500**
Remote Switch Cable, 150 cm

OMNI Module (With AAEON Interface)

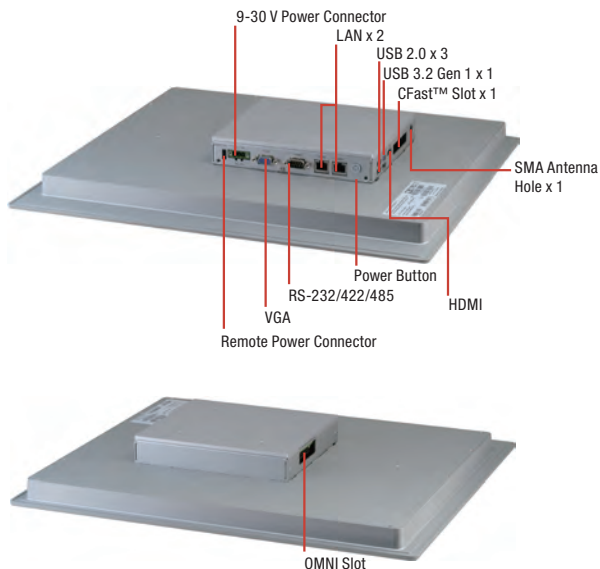
- **9741215501**
Mini Card x 2, SIM x 2 Module
- **9741215502**
Dual LAN Module
- **9741215506**
DIO Module
- **9741215508**
Audio Module
- **9741215510**
HMS Kit (Europe Limitation)
- **9741215512**
Wifi 802.11/b/g/n Module
- **9741215513**
RS-485/422/232 x 2 Module
- **9741215515**
USB / COM / LAN Module
- **9741215516**
RS-485/422/232 x 4 Module
- **9741215517**
Isolation RS-485/422/232 x 4 Module
- **9741215518**
RS-485/422/232 x 2, DIO x 16 Module

Wide Temperature DRAM

- **9761215500**
2GB Wide Temperature DRAM (-40°C ~ 95°C)
 - **9761215501**
4GB Wide Temperature DRAM (-40°C ~ 95°C)
 - **9761215502**
8GB Wide Temperature DRAM (-40°C ~ 95°C)
- **Users should select the wide temperature DRAM above and use wide temperature storage devices if the OMNI panel pc is to be operated at over 40°C.

OMNI-3195-BT

19" Modular HMI Panel PC with Intel® Celeron® J1900/ N2807 Processor



Features

- 19" (1280 x 1024) TFT LCD Display
- Intel® N2807/J1900 Processor
- P-CAP or Resistive Touch Screen Support
- Aluminum Design
- IP65 Compliant Front Bezel
- Fanless Operation
- Easily Expandable I/O by AAEON OMNI I/O Modules

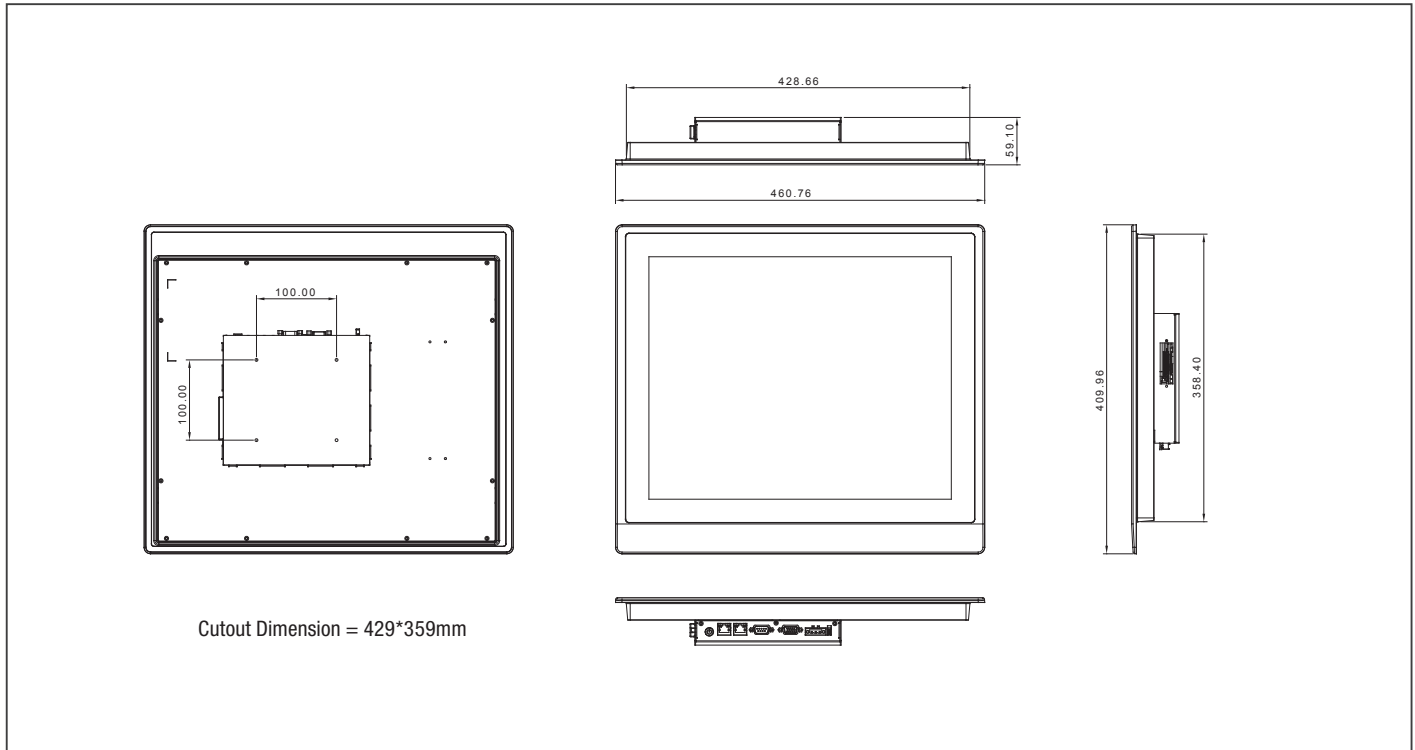


Specifications

System	
Processor	Intel® N2807 processor, 1.58 GHz Intel® Celeron® J1900 processor, 2 GHz
System Memory	204-pin DDR3L 1333MHz SODIMM x 1, up to 8 GB, (J1900) 204-pin DDR3L 1333MHz SODIMM x 1, up to 4 GB, (N2807)
LCD/CRT Controller	Integrated in processor
Ethernet	Intel® I211, 10/100/1000 Base-TX x 2
I/O Port	USB 2.0 Type A x 3, USB 3.2 Gen 1 Type A x 1 SMA Antenna hole x 1 HDMI x 1 CFast™ x 1 DB-9 Type RS-232/422/485 x 1 RJ-45 Type for 10/100/1000 Base-TX x 2 DB-15 x 1 for VGA 3-pin terminal block x1 for 9~30 Vdc power input LED Power on/off switch x1 (Power on = Orange, Power off =N/A)
Storage Disk Drive	CFast™ x 1, 2.5" SATA HDD bay x 1
Expansion Slot	Full Size Mini card x 2, SIM card x 2, OMNI I/O connector x 1
OS support	Windows® 7, Windows® 8, Windows® 10, Linux kernel 2.6.x or higher
Mechanical	
Construction	Aluminum design (IP65 Front Frame)
Mounting	VESA 100/Panel mount
Dimension	18.15" x 16.14" x 2.32" (461 mm x 410 mm x 59 mm)
Carton Dimension	26.02" x 8.11" x 19.53" (661mm x 206mm x 496mm)
Gross Weight	19.36 lb (8.8 kg)
Environmental	
Operating Temperature	14°F ~ 131°F (-10°C ~ 55°C) (J1900), 14°F ~ 140°F (-10°C ~ 60°C) (N2807) with 0.5 m/s airflow (CF & HDD)
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	90% @40°C; non-condensing
Vibration	1 Grms/ 5~ 500Hz/ operation – with HDD
Shock	15 G peak acceleration (11 msec. duration) – with HDD
EMC	CE/FCC class A
Power Supply	
DC input	DC 9 (min.) ~ 30 (max.) V w/3-pin terminal block, ATX Power function
LCD	
Display Type	19" TFT-LCD, LED
Max Resolution	1280 (H) x 1024 (V)
Max. Colors	16.7M colors
Luminance	350 cd/m ²
Viewing Angle	170° (H), 160° (V)
Back Light	LED
Back Light MTBF (Hours)	50,000
Touchscreen	
Type	P-CAP/ 5-wire resistive
Light Transmission	P-CAP (≥85%), 5-wire Resistive (80% ± 5%)

Dimension

Unit: mm



Ordering Information

	Part Number	Display Type	Max Resolution	Luminance	View Angle	CPU	LAN	USB 3.2 Gen 1	USB 2.0	RS-232/422/485	Storage	RAM	Display	Internal Expansion	Mounting	Power	Operating Temp.	Touch	OMNI I/O Module Support
Panel PC	OMNI-3195HTT-BT-A1-1012	19" TFT LCD	1280 x 1024	350 cd/m ²	170°(H) 160°(V)	Intel® Celeron® J1900, 2 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 8 GB	VGA x 1 HDMI x 1	Mini-Card x 2 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-10°C-55°C with airflow	5-wire Resistive	Yes
	OMNI-3195HTT-BT-A2-1012	19" TFT LCD	1280 x 1024	350 cd/m ²	170°(H) 160°(V)	Intel® N2807, 1.58 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 4 GB	VGA x 1 HDMI x 1		VESA 100/ Panel mount	DC 9-30V	-10°C-60°C with airflow	5-wire Resistive	Yes
	OMNI-3195HTT-BT-A3-1011	19" TFT LCD	1280 x 1024	350 cd/m ²	170°(H) 160°(V)	Intel® Celeron® J1900, 2 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 8 GB	VGA x 1 HDMI x 1		VESA 100/ Panel mount	DC 9-30V	-10°C-55°C with airflow	Projected capacitive	Yes
	OMNI-3195HTT-BT-A4-1011	19" TFT LCD	1280 x 1024	350 cd/m ²	170°(H) 160°(V)	Intel® N2807, 1.58 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 4 GB	VGA x 1 HDMI x 1		VESA 100/ Panel mount	DC 9-30V	-10°C-60°C with airflow	Projected capacitive	Yes
Panel Kit	OMNI-319DHTT-KIT-A1-1012	19" TFT LCD	1280 x 1024	350 cd/m ²	170°(H) 160°(V)	—	—	—	—	—	—	—	—	—	—	—	-10°C-60°C with airflow	5-wire Resistive	No
	OMNI-319DHTT-KIT-A2-1011	19" TFT LCD	1280 x 1024	350 cd/m ²	170°(H) 160°(V)	—	—	—	—	—	—	—	—	—	—	—	-10°C-60°C with airflow	Projected capacitive	No
CPU Box Kit	OMNI-BT-KIT-A1-1010	—	—	—	—	Intel® Celeron® J1900, 2 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 8 GB	VGA x 1 HDMI x 1	Mini-Card x 2 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-10°C-55°C with airflow	—	Yes
	OMNI-BT-KIT-A2-1010	—	—	—	—	Intel® N2807, 1.58 GHz	2	1	3	1	CFast™ x 1 2.5" SATA HDD x 1	DDR3L, up to 4 GB	VGA x 1 HDMI x 1	Mini-Card x 2 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-10°C-60°C with airflow	—	Yes

Note: * RAM not included

Packing List

- Phoenix Power Connector
- OMNI-3195-BT

Optional Accessories

- AP-0T9789LA1000
LCD Monitor Stand 230mm, LA-100
- 1702031802
Power Cord (US Type)
- 1702031803
Power Cord (European Type)
- 170203180E
Power Cord (Japanese Type)
- 1255900849
12V 84W Power Adapter w/ 3pin Terminal Block
- 1700021500
Remote Switch Cable, 150 cm

OMNI Module (With AAEON Interface)

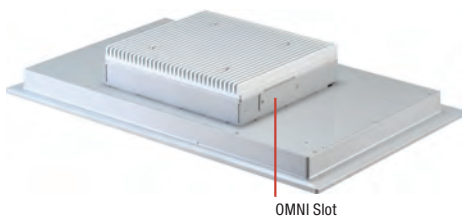
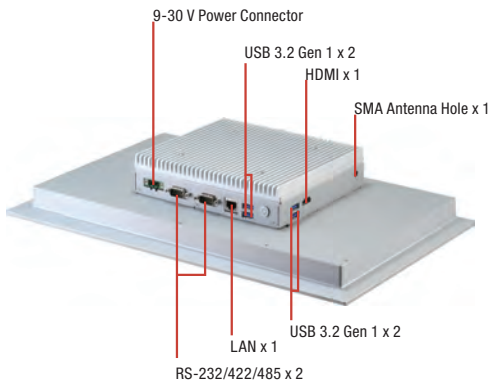
- 9741215501
Mini Card x 2, SIM x 2 Module
- 9741215502
Dual LAN Module
- 9741215506
DIO Module
- 9741215508
Audio Module
- 9741215510
HMS Kit (Europe Limitation)
- 9741215512
Wifi 802.11/b/g/n Module
- 9741215513
RS-485/422/232 x 2 Module
- 9741215515
USB / COM / LAN Module
- 9741215516
RS-485/422/232 x 4 Module
- Module
- 9741215517
Isolation RS-485/422/232 x 4 Module
- 9741215518
RS-485/422/232 x 2, DIO x 16 Module

Wide Temperature DRAM

- 9761215500
2GB Wide Temperature DRAM (-40°C ~ 95°C)
 - 9761215501
4GB Wide Temperature DRAM (-40°C ~ 95°C)
 - 9761215502
8GB Wide Temperature DRAM (-40°C ~ 95°C)
- **Users should select the wide temperature DRAM above and use wide temperature storage devices if the OMNI panel pc is to be operated at over 40°C.

OMNI-2155-SKU

15.6" Modular HMI Panel PC with 6th Generation Intel® Core™ i5-6300U/ Celeron® 3955U Processor



Features

- 15.6" (1366 x 768) TFT LCD Display
- Intel® 6th Generation i5-6300U/C-3955U Processor
- P-CAP or Resistive Touch Screen Support
- Aluminum Design
- IP65 Compliant Front Bezel
- Fanless Operation
- Power Input Protection: Over-Voltage Protection, Low-Voltage Protection, Reverse-Voltage Protection
- Easily Expandable I/O by AAEON OMNI I/O Modules

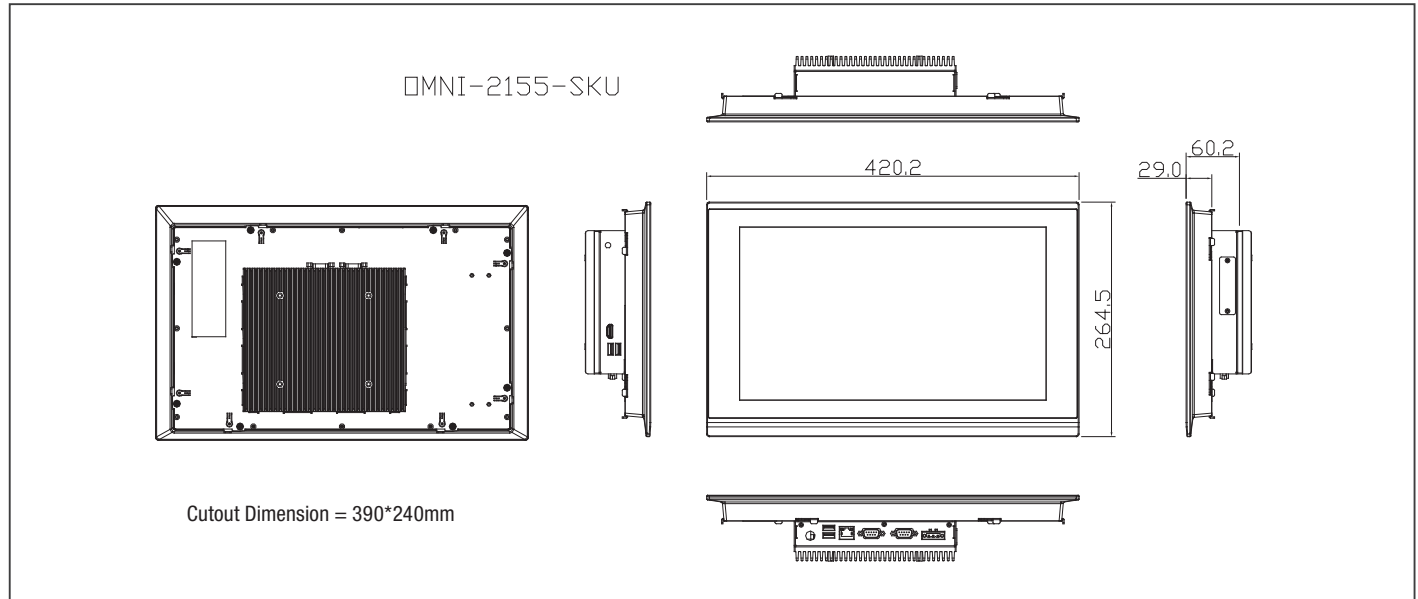


Specifications

System	
Processor	Intel® i5-6300U processor, 2.4 GHz Intel® Celeron® 3955U processor, 2.0 GHz
System Memory	260-pin DDR4 SODIMM x 1, up to 16 GB
LCD/CRT Controller	Integrated in processor
Ethernet	Intel® I211, 10/100/1000 Base-TX x 1
I/O Port	USB 3.2 Gen 1 Type A x 4 SMA Antenna hole x 1 HDMI x 1 DB-9 Type RS-232/422/485 x 2 RJ-45 Type 10/100/1000 Base-TX x 1 3-pin terminal block x1 for 9-30 Vdc power input LED Power on/off switch x1 (Power on = Orange, Power off =N/A)
Storage Disk Drive	2.5" SATA HDD bay x 1
Expansion Slot	Full Size Mini card x 1 SIM card x 1 OMNI I/O connector x 1
OS support	Windows® 8.1 Windows® 10 (64 bit) Linux Kernel 2.6.x or higher
Mechanical	
Construction	Aluminum design (IP65 Front Frame)
Mounting	VESA 100 / Panel Mount
Dimension	16.54" x 10.43" x 2.87" (420 mm x 265 mm x 73 mm)
Carton Dimension	20.87" x 17.52" x 7.87" (530mm x 445mm x 200mm)
Gross Weight	14.96 lb (6.8 kg)
Environmental	
Operating Temperature	-4°F ~ 131°F (-20°C ~ 55°C) with 0.5 m/s airflow (Industrial Grade HDD)
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	90% @40°C; non-condensing
Vibration	1 Grms/ 5~ 500Hz/ operation – with HDD
Shock	15 G peak acceleration (11 msec. duration) – with HDD
EMC	CE/FCC class A
Power Supply	
DC input	DC 9 (min.) ~ 30 (max.) V w/3-pin terminal block, ATX Power function
LCD	
Display Type	15.6" TFT-LCD, LED
Max Resolution	1366 (H) x 768 (V)
Max. Colors	16.7M (8 bit/color)
Luminance	400 cd/m ²
Viewing Angle	160 (H), 140 (V)
Back Light	LED
Back Light MTBF (Hours)	50,000
Touchscreen	
Type	P-CAP/ 5-wire resistive
Light Transmission	P-CAP (90% ± 3%), 5-wire Resistive (80% ± 2%)

Dimension

Unit: mm



Ordering Information

	Part Number	Display Type	Max Resolution	Luminance	View Angle	CPU	LAN	USB 3.2 Gen 1	RS-232/422/485	Storage	RAM	Display	Internal Expansion	Mounting	Power	Operating Temp.	Touch	OMNI I/O Module Support
Panel PC	OMNI-2155HTT-SKU-A1-1012	15.6" TFT LCD	1366 x 768	400 cd/m ²	160°(H) 140°(V)	Intel® i5-6300U, 2.4 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-20°C-55°C with airflow	5-wire Resistive	Yes
	OMNI-2155HTT-SKU-A2-1012	15.6" TFT LCD	1366 x 768	400 cd/m ²	160°(H) 140°(V)	Intel® Celeron® 3955U, 2 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-20°C-55°C with airflow	5-wire Resistive	Yes
	OMNI-2155HTT-SKU-A3-1013	15.6" TFT LCD	1366 x 768	400 cd/m ²	160°(H) 140°(V)	Intel® i5-6300U, 2.4 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-20°C-55°C with airflow	Projected capacitive	Yes
	OMNI-2155HTT-SKU-A4-1013	15.6" TFT LCD	1366 x 768	400 cd/m ²	160°(H) 140°(V)	Intel® Celeron® 3955U, 2 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-20°C-55°C with airflow	Projected capacitive	Yes
Panel Kit	OMNI-215DHTT-KIT-A1-1011	15.6" TFT LCD	1366 x 768	400 cd/m ²	160°(H) 140°(V)	—	—	—	—	—	—	—	—	—	—	-20°C-55°C with airflow	5-wire Resistive	No
	OMNI-215DHTT-KIT-A2-1012	15.6" TFT LCD	1366 x 768	400 cd/m ²	160°(H) 140°(V)	—	—	—	—	—	—	—	—	—	—	-20°C-55°C with airflow	Projected capacitive	No
CPU BOX Kit	OMNI-SKU-KIT-A1-1110	—	—	—	—	Intel® i5-6300U, 2.4 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-20°C-55°C with airflow	—	Yes
	OMNI-SKU-KIT-A2-1110	—	—	—	—	Intel® Celeron® 3955U, 2 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-20°C-55°C with airflow	—	Yes
	OMNI-SKU-KIT-A3-1110	—	—	—	—	Intel® i7-6600U Processor	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	Wall mount	DC 9-30V	-20°C-55°C with airflow	—	Yes
	OMNI-SKU-KIT-A4-1110	—	—	—	—	Intel® i3-6100U Processor	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	Wall mount	DC 9-30V	-20°C-55°C with airflow	—	Yes

Note: 1. AAEON OMNI Modular display kit only workable for OMNI-BOX Kit 2. RAM not included *

Packing List

- Phoenix Power Connector
- OMNI-2155-SKU

Optional Accessories

- AP-0T9789LA1000
LCD Monitor Stand 230mm, LA-100
- 1702031802
Power Cord (US Type)
- 1702031803
Power Cord (European Type)
- 170203180E
Power Cord (Japanese Type)
- 1255900849
12V 84W Power Adapter w/ 3pin Terminal Block

OMNI Module (with AAEON Interface)

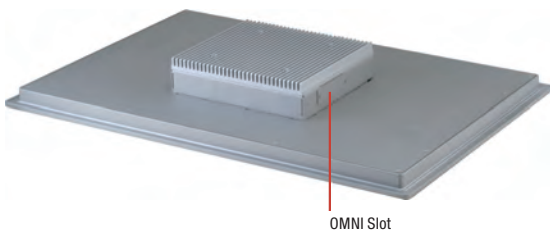
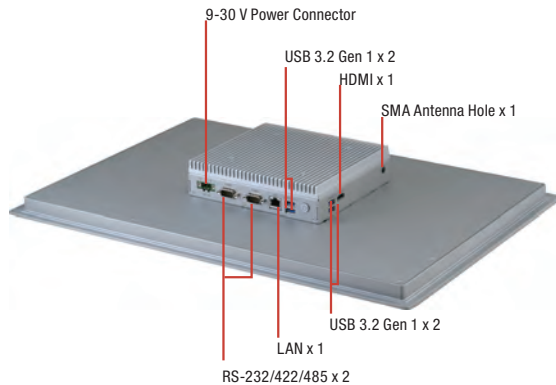
- 9741215501
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DIO Module
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Audio Module
- 9741215510
HMS Kit (Europe Limitation)
- 9741215512
Wifi 802.11/b/g/n Module
- 9741215513
RS-485/422/232 x 2 Module
- 9741215515
USB/COM/LAN Module
- 9741215516
RS-485/422/232 x 4 Module
- 9741215517
Isolation RS-485/422/232 x 4 Module
- 9741215518
RS-485/422/232 x 2, DIO x 16 Module

Wide Temperature DRAM

- AP-DR968D4004G9
4GB Wide Temperature DRAM (-40°C ~ 85°C)
 - AP-DR968D4008GA
8GB Wide Temperature DRAM (-40°C ~ 85°C)
 - AP-DR968D4016G7
16GB Wide Temperature DRAM (-40°C ~ 85°C)
- **Users should select the wide temperature DRAM above and use wide temperature storage devices if the OMNI panel pc is to be operated at over 40°C.

OMNI-2215-SKU

21.5" Modular HMI Panel PC with 6th Generation Intel® Core™ i5-6300U/C-3955U Processor



Features

- 21.5" (1920 x 1080) TFT LCD Display
- Intel® 6th Generation Core™ i5-6300U/C-3955U Processor
- P-CAP or Resistive Touch Screen Support
- Aluminum Design
- IP65 Compliant Front Bezel
- Fanless Operation
- Easily Expandable I/O by AAEON OMNI I/O Modules

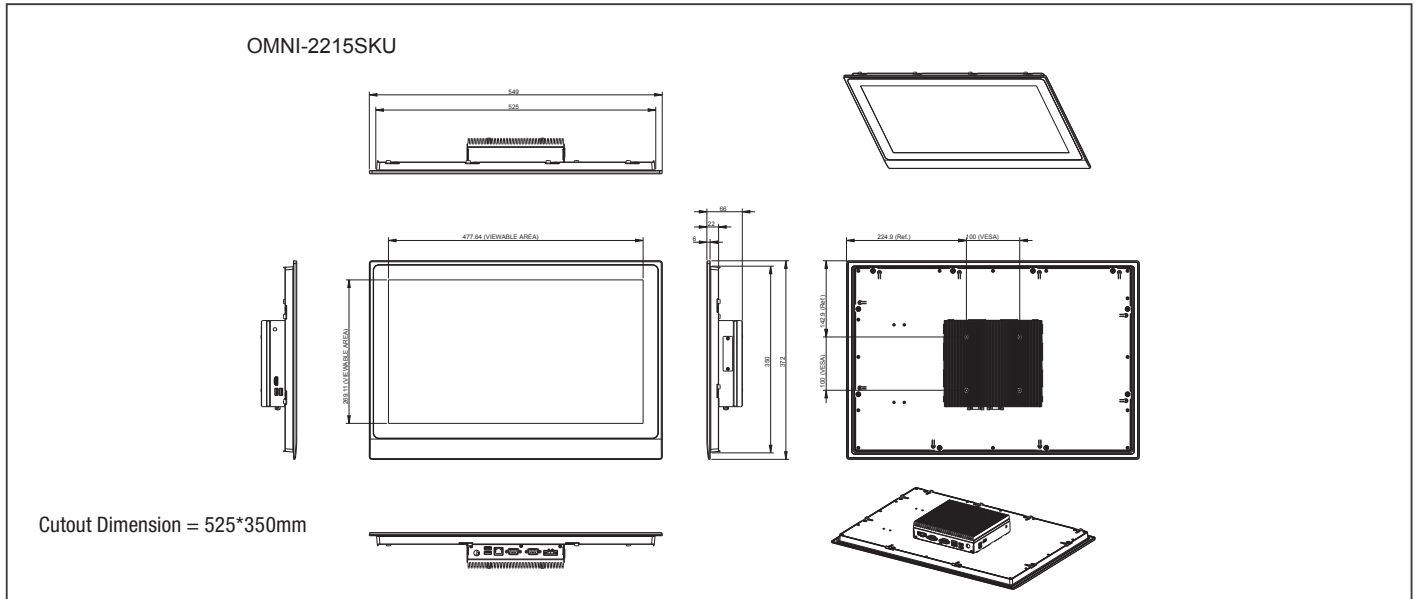


Specifications

System	
Processor	Intel® Core™ i5-6300U processor, 2.4 GHz Intel® Celeron® 3955U processor, 2.0 GHz
System Memory	260-pin DDR4 SODIMM x 1, up to 16 GB
LCD/CRT Controller	Integrated in processor
Ethernet	Intel® I211, 10/100/1000 Base-TX x 1
I/O Port	USB 3.2 Gen 1 Type A x 4 SMA Antenna hole x 1 HDMI x 1 DB-9 Type RS-232/422/485 x 2 RJ-45 Type 10/100/1000 Base-TX x 1 3-pin terminal block x1 for 9~30 Vdc power input LED Power on/off switch x1 (Power on = Orange, Power off =N/A)
Storage Disk Drive	2.5" SATA HDD bay x 1
Expansion Slot	Full Size Mini card x 1 SIM card x 1 OMNI I/O connector x 1
OS support	Windows® 8.1 Windows® 10 (64 bit) Linux Kernel 2.6.x or higher
Mechanical	
Construction	Aluminum design (IP65 Front Frame)
Mounting	VESA 100/ Panel Mount
Dimension	21.7" x 14.7" x 2.6" (550mm x 373mm x 66mm)
Carton Dimension	26.38" x 7.87" x 20.67" (670mm x 200mm x 525mm)
Gross Weight	20.02 lb (9.1 Kg)
Environmental	
Operating Temperature	-4°F ~ 131°F (-20°C ~ 55°C) with 0.5 m/s airflow (Industrial Grade HDD)
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	90% @40°C; non-condensing
Vibration	1 Grms/ 5~ 500Hz/ operation – with HDD
Shock	15 G peak acceleration (11 msec. duration) – with HDD
EMC	CE/FCC class A
Power Supply	
DC input	DC 9 (min.) ~ 30 (max.) V w/3-pin terminal block, ATX Power function
LCD	
Display Type	21.5" TFT-LCD, LED
Max Resolution	1920 (H) x 1080 (V)
Max. Colors	16.7M colors
Luminance	250 cd/m²
Viewing Angle	178 (H), 178 (V)
Back Light	LED
Back Light MTBF (Hours)	50,000
Touchscreen	
Type	P-CAP/ 5-wire resistive
Light Transmission	P-CAP (≥85%), 5-wire Resistive (80% ± 5%)

Dimension

Unit: mm



Ordering Information

	Part Number	Display Type	Max Resolution	Luminance	View Angle	CPU	LAN	USB 3.2 Gen 1	RS-232/422/485	Storage	RAM	Display	Internal Expansion	Mounting	Power	Operating Temp.	Touch	OMNI I/O Module Support
Panel PC	OMNI-2215HTT-SKU-A1-1011	21.5" TFT LCD	1920 x 1080	250 cd/m²	178°(H) 178°(V)	Intel® i5-6300U, 2.4 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9~30V	-20°C~55°C with airflow	5-wire Resistive	Yes
	OMNI-2215HTT-SKU-A2-1011	21.5" TFT LCD	1920 x 1080	250 cd/m²	178°(H) 178°(V)	Intel® Celeron® 3955U, 2 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9~30V	-20°C~55°C with airflow	5-wire Resistive	Yes
	OMNI-2215HTT-SKU-A3-1012	21.5" TFT LCD	1920 x 1080	250 cd/m²	178°(H) 178°(V)	Intel® i5-6300U, 2.4 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9~30V	-20°C~55°C with airflow	Projected capacitive	Yes
	OMNI-2215HTT-SKU-A4-1012	21.5" TFT LCD	1920 x 1080	250 cd/m²	178°(H) 178°(V)	Intel® Celeron® 3955U, 2 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9~30V	-20°C~55°C with airflow	Projected capacitive	Yes
Panel Kit	OMNI-221DHTT-KIT-A1-1012	21.5" TFT LCD	1920 x 1080	250 cd/m²	178°(H) 178°(V)	—	—	—	—	—	—	—	—	—	—	-20°C~55°C with airflow	5-wire Resistive	No
	OMNI-221DHTT-KIT-A2-1013	21.5" TFT LCD	1920 x 1080	250 cd/m²	178°(H) 178°(V)	—	—	—	—	—	—	—	—	—	—	-20°C~55°C with airflow	Projected capacitive	No
CPU BOX Kit	OMNI-SKU-KIT-A1-1010	—	—	—	—	Intel® i5-6300U, 2.4 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9~30V	-20°C~55°C with airflow	—	Yes
	OMNI-SKU-KIT-A2-1010	—	—	—	—	Intel® Celeron® 3955U, 2 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9~30V	-20°C~55°C with airflow	—	Yes
	OMNI-SKU-KIT-A3-1010	—	—	—	—	Intel® i7-6600U Processor	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	Wall mount	DC 9~30V	-20°C~55°C with airflow	—	Yes
	OMNI-SKU-KIT-A4-1010	—	—	—	—	Intel® i3-6100U Processor	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	Wall mount	DC 9~30V	-20°C~55°C with airflow	—	Yes

Note: 1. AAEON OMNI Modular display kit only workable for OMNI-BOX Kit 2. RAM not included

Packing List

- Phoenix Power Connector
- OMNI-2215-SKU

OMNI Module (with AAEON Interface)

- **9741215501**
Mini Card x 2, SIM x 2 Module
- **9741215502**
Dual LAN Module
- **9741215506**
DIO Module
- **9741215508**
Audio Module
- **9741215510**
HMS Kit (Europe Limitation)
- **9741215512**
Wifi 802.11/b/g/n Module
- **9741215513**
RS-485/422/232 x 2 Module
- **9741215515**
USB/COM/LAN Module
- **9741215516**
RS-485/422/232 x 4 Module
- **9741215517**
Isolation RS-485/422/232 x 4 Module
- **9741215518**
RS-485/422/232 x 2, DIO x 16 Module

Optional Accessories

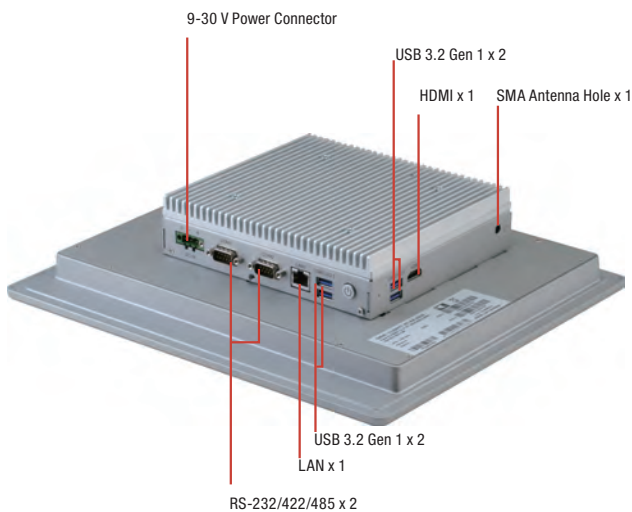
- **AP-OT9789LA1000**
LCD Monitor Stand 230mm, LA-100
- **1702031802**
Power Cord (US Type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **1255900849**
12V 84W Power Adapter w/ 3pin Terminal Block

Wide Temperature DRAM

- **AP-DR968D4004G9**
4GB Wide Temperature DRAM (-40°C ~ 85°C)
 - **AP-DR968D4008GA**
8GB Wide Temperature DRAM (-40°C ~ 85°C)
 - **AP-DR968D4016G7**
16GB Wide Temperature DRAM (-40°C ~ 85°C)
- **Users should select the wide temperature DRAM above and use wide temperature storage devices if the OMNI panel pc is to be operated at over 40°C.

OMNI-3125-SKU

12.1" Modular HMI Panel PC with 6th Generation Intel® Core™ i5-6300U/C-3955U Processor



Features

- 12.1" (1024 x 768) TFT LCD Display
- Intel® 6th Generation i5-6300U/C-3955U Processor
- P-CAP or Resistive Touch Screen Support
- Aluminum Design
- IP65 Compliant Front Bezel
- Fanless Operation

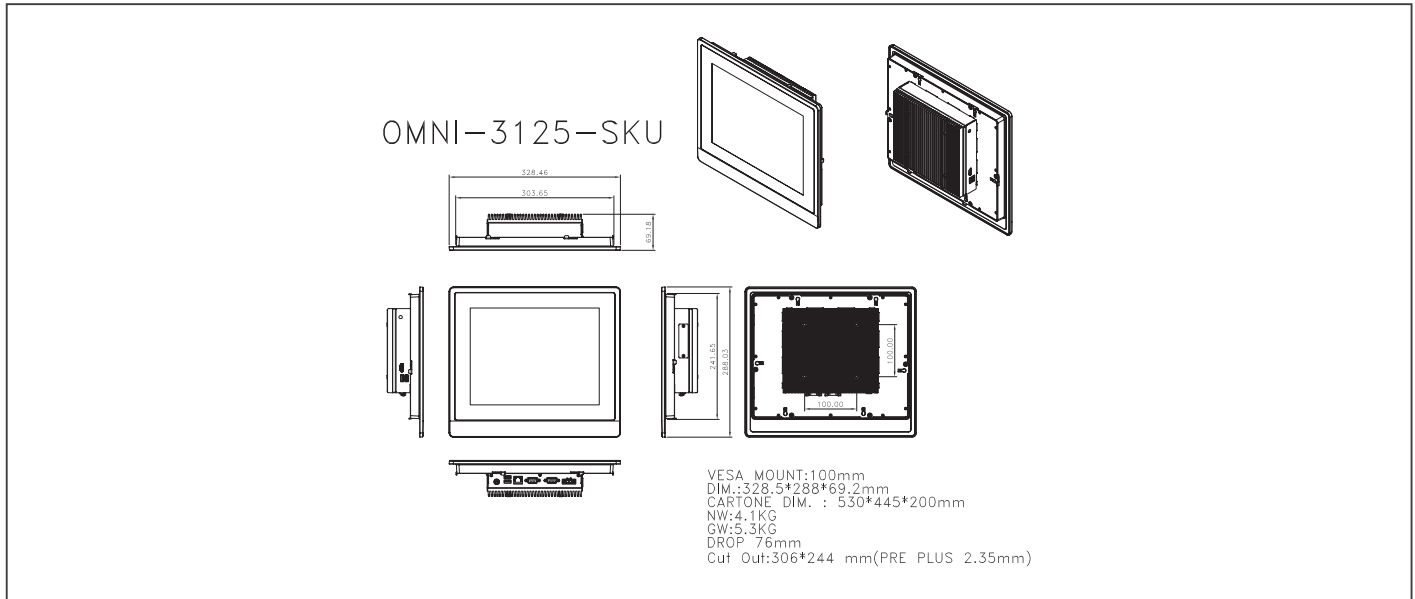


Specifications

System	
Processor	Intel® i5-6300U processor, 2.4 GHz Intel® Celeron® 3955U processor, 2.0 GHz
System Memory	260-pin DDR4 SODIMM x 1, up to 16 GB
LCD/CRT Controller	Integrated in processor
Ethernet	Intel® I211, 10/100/1000 Base-TX x 1
I/O Port	USB 3.2 Gen 1 Type A x 4 SMA Antenna hole x 1 HDMI x 1 DB-9 Type RS-232/422/485 x 2 RJ-45 Type 10/100/1000 Base-TX x 1 3-pin terminal block x1 for 9~30 Vdc power input LED Power on/off switch x1 (Power on = Orange, Power off =N/A)
Storage Disk Drive	2.5" SATA HDD bay x 1
Expansion Slot	Full Size Mini card x 1 SIM card x 1 OMNI I/O connector x 1
OS support	Windows® 8.1 Windows® 10 (64 bit) Linux Kernel 2.6.x or higher
Mechanical	
Construction	Aluminum design (IP65 Front Frame)
Mounting	VESA 100 / Panel Mount
Dimension	12.95" x 11.34" x 2.72" (329mm x 28mm x 69 mm)
Carton Dimension	20.87" x 17.52" x 7.87" (530mm x 445mm x 200mm)
Gross Weight	12.34 lb (5.6 kg)
Environmental	
Operating Temperature	-4°F ~ 131°F (-20°C ~ 55°C) with 0.5 m/s airflow (Industrial Grade HDD)
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	90% @40°C; non-condensing
Vibration	1 Grms/ 5~ 500Hz/ operation – with HDD
Shock	15 G peak acceleration (11 msec. duration) – with HDD
EMC	CE/FCC class A
Power Supply	
DC input	DC 9 (min.) ~ 30 (max.) V w/3-pin terminal block, ATX Power function
LCD	
Display Type	12.1" TFT-LCD, LED
Max Resolution	1024 (H) x 768 (V)
Max. Colors	16.2M colors
Luminance	500 cd/m ²
Viewing Angle	160° (H), 160° (V)
Back Light	LED
Back Light MTBF (Hours)	50,000
Touchscreen	
Type	P-CAP/ 5-wire resistive
Light Transmission	P-CAP (90% ± 3%), 5-wire Resistive (80% ± 3%)

Dimension

Unit: mm



Ordering Information

	Part Number	Display Type	Max Resolution	Luminance	View Angle	CPU	LAN	USB 3.2 Gen 1	RS-232/422/485	Storage	RAM	Display	Internal Expansion	Mounting	Power	Operating Temp.	Touch	OMNI I/O Module Support
Panel PC	OMNI-3125HTT-SKU-A1-1110	12.1" TFT LCD	1024 x 768	500 cd/m ²	160°(H) 160°(V)	Intel® i5-6300U, 2.4 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-20°C-55°C with airflow	5-wire Resistive	No
	OMNI-3125HTT-SKU-A2-1110	12.1" TFT LCD	1024 x 768	500 cd/m ²	160°(H) 160°(V)	Intel® Celeron® 3955U, 2 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-20°C-55°C with airflow	5-wire Resistive	No
	OMNI-3125HTT-SKU-A3-1110	12.1" TFT LCD	1024 x 768	500 cd/m ²	160°(H) 160°(V)	Intel® i5-6300U, 2.4 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-20°C-55°C with airflow	Projected capacitive	No
	OMNI-3125HTT-SKU-A4-1110	12.1" TFT LCD	1024 x 768	500 cd/m ²	160°(H) 160°(V)	Intel® Celeron® 3955U, 2 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-20°C-55°C with airflow	Projected capacitive	No
Panel Kit	OMNI-312DHTT-KIT-A1-1011	12.1" TFT LCD	1024 x 768	500 cd/m ²	160°(H) 160°(V)	—	—	—	—	—	—	—	—	—	—	-20°C-55°C with airflow	5-wire Resistive	No
	OMNI-312DHTT-KIT-A2-1011	12.1" TFT LCD	1024 x 768	500 cd/m ²	160°(H) 160°(V)	—	—	—	—	—	—	—	—	—	—	-20°C-55°C with airflow	Projected capacitive	No
CPU BOX Kit	OMNI-SKU-KIT-A1-1110	—	—	—	—	Intel® i5-6300U, 2.4 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-20°C-55°C with airflow	—	Yes
	OMNI-SKU-KIT-A2-1110	—	—	—	—	Intel® Celeron® 3955U, 2 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-20°C-55°C with airflow	—	Yes
	OMNI-SKU-KIT-A3-1110	—	—	—	—	Intel® i7-6600U Processor	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	Wall mount	DC 9-30V	-20°C-55°C with airflow	—	Yes
	OMNI-SKU-KIT-A4-1110	—	—	—	—	Intel® i3-6100U Processor	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	Wall mount	DC 9-30V	-20°C-55°C with airflow	—	Yes

Note: 1. AAEON OMNI Modular display kit only workable for OMNI-BOX Kit 2. RAM not included

Packing List

- Phoenix Power Connector
- OMNI-3125-SKU

OMNI Module (with AAEON Interface)

- NA

Optional Accessories

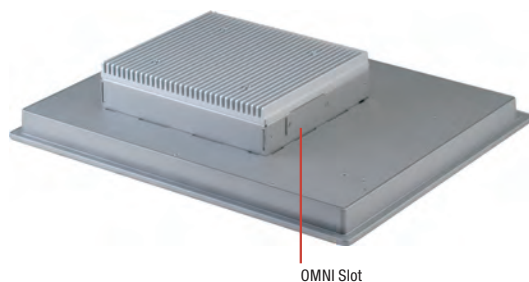
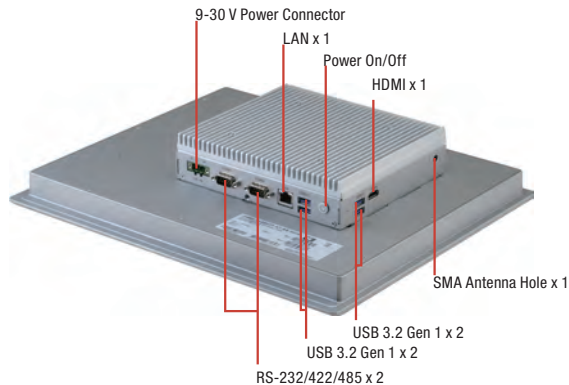
- AP-0T9789LA1000
LCD Monitor Stand 230mm, LA-100
- 1702031802
Power Cord (US Type)
- 1702031803
Power Cord (European Type)
- 170203180E
Power Cord (Japanese Type)
- 1255900849
12V 84W Power Adapter w/ 3pin Terminal Block

Wide Temperature DRAM

- AP-DR968D4004G9
4GB Wide Temperature DRAM (-40°C ~ 85°C)
 - AP-DR968D4008GA
8GB Wide Temperature DRAM (-40°C ~ 85°C)
 - AP-DR968D4016G7
16GB Wide Temperature DRAM (-40°C ~ 85°C)
- **Users should select the wide temperature DRAM above and use wide temperature storage devices if the OMNI panel pc is to be operated at over 40°C.

OMNI-3155-SKU

15" Modular HMI Panel PC with 6th Generation Intel® Core™ i5-6300U/C-3955U Processor



Features

- 15" (1024 x 768) TFT LCD Display
- Intel® 6th Generation i5-6300U/C-3955U Processor
- P-CAP or Resistive Touch Screen Support
- Aluminum Design
- IP65 Compliant Front Bezel
- Fanless Operation
- Easily Expandable I/O by AAEON OMNI I/O Modules

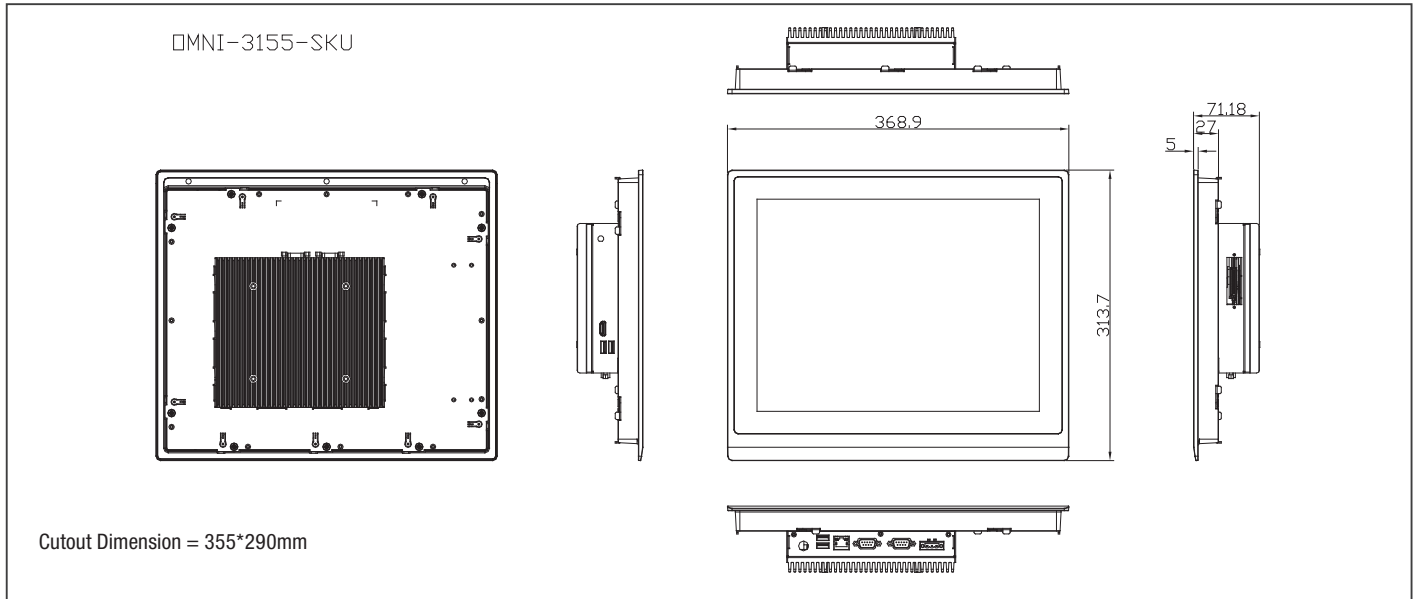


Specifications

System	
Processor	Intel® i5-6300U processor, 2.4 GHz Intel® Celeron® 3955U processor, 2.0 GHz
System Memory	260-pin DDR4 SODIMM x 1, up to 16 GB
LCD/CRT Controller	Integrated in processor
Ethernet	Intel® I211, 10/100/1000 Base-TX x 1
I/O Port	USB 3.2 Gen 1 Type A x 4 SMA Antenna hole x 1 HDMI x 1 DB-9 Type RS-232/422/485 x 2 RJ-45 Type 10/100/1000 Base-TX x 1 3-pin terminal block x1 for 9-30 Vdc power input LED Power on/off switch x1 (Power on = Orange, Power off =N/A)
Storage Disk Drive	2.5" SATA HDD bay x 1
Expansion Slot	Full Size Mini card x 1, SIM card x 1, OMNI I/O connector x 1
OS support	Windows® 8.1, Windows® 10 (64 bit), Linux kernel 2.6.x or higher
Mechanical	
Construction	Aluminum design (IP65 Front Frame)
Mounting	VESA 100/ Panel Mount
Dimension	14.53" x 12.36" x 2.79" (369mm x 314mm x 71 mm)
Carton Dimension	20.08" x 9.84" x 18.11" (510mm x 250mm x 460mm)
Gross Weight	14.3 lb (6.5 kg)
Environmental	
Operating Temperature	-4°F ~ 131°F (-20°C ~ 55°C) with 0.5 m/s airflow (Industrial Grade HDD)
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	90% @40°C; non-condensing
Vibration	1 Grms/ 5~ 500Hz/ operation – with HDD
Shock	15 G peak acceleration (11 msec. duration) – with HDD
EMC	CE/FCC class A
Power Supply	
DC input	DC 9 (min.) ~ 30 (max.) V w/3-pin terminal block, ATX Power function
LCD	
Display Type	15" TFT-LCD, LED
Max Resolution	1024 (H) x 768 (V)
Max. Colors	16.2M (8bit/color)
Luminance	300 cd/m ²
Viewing Angle	176° (H), 176° (V)
Back Light	LED
Back Light MTBF (Hours)	70,000
Touchscreen	
Type	P-CAP/ 5-wire resistive
Light Transmission	P-CAP (90%± 2%), 5-wire Resistive (80% ± 2%)

Dimension

Unit: mm



Cutout Dimension = 355*290mm

Ordering Information

	Part Number	Display Type	Max Resolution	Luminance	View Angle	CPU	LAN	USB 3.2 Gen 1	RS-232/422/485	Storage	RAM	Display	Internal Expansion	Mounting	Power	Operating Temp.	Touch	OMNI I/O Module Support
Panel PC	OMNI-3155HTT-SKU-A1-1011	15" TFT LCD	1024 x 768	300 cd/m ²	176° (H), 176° (V)	Intel® i5-6300U, 2.4 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9~30V	-20°C~55°C with airflow	5-wire Resistive	Yes
	OMNI-3155HTT-SKU-A2-1011	15" TFT LCD	1024 x 768	300 cd/m ²	176° (H), 176° (V)	Intel® Celeron® 3955U, 2 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9~30V	-20°C~55°C with airflow	5-wire Resistive	Yes
	OMNI-3155HTT-SKU-A3-1011	15" TFT LCD	1024 x 768	300 cd/m ²	176° (H), 176° (V)	Intel® i5-6300U, 2.4 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9~30V	-20°C~55°C with airflow	Projected capacitive	Yes
	OMNI-3155HTT-SKU-A4-1011	15" TFT LCD	1024 x 768	300 cd/m ²	176° (H), 176° (V)	Intel® Celeron® 3955U, 2 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9~30V	-20°C~55°C with airflow	Projected capacitive	Yes
Panel Kit	OMNI-315DHTT-KIT-A1-1012	15" TFT LCD	1024 x 768	300 cd/m ²	176° (H), 176° (V)	—	—	—	—	—	—	—	—	—	—	-20°C~55°C with airflow	5-wire Resistive	No
	OMNI-315DHTT-KIT-A2-1012	15" TFT LCD	1024 x 768	300 cd/m ²	176° (H), 176° (V)	—	—	—	—	—	—	—	—	—	—	-20°C~55°C with airflow	Projected capacitive	No
CPU BOX Kit	OMNI-SKU-KIT-A1-1010	—	—	—	—	Intel® i5-6300U, 2.4 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9~30V	-20°C~55°C with airflow	—	Yes
	OMNI-SKU-KIT-A2-1010	—	—	—	—	Intel® Celeron® 3955U, 2 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9~30V	-20°C~55°C with airflow	—	Yes
	OMNI-SKU-KIT-A3-1010	—	—	—	—	Intel® i7-6600U Processor	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	Wall mount	DC 9~30V	-20°C~55°C with airflow	—	Yes
	OMNI-SKU-KIT-A4-1010	—	—	—	—	Intel® i3-6100U Processor	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	Wall mount	DC 9~30V	-20°C~55°C with airflow	—	Yes

Note: 1. AAEON OMNI Modular display kit only workable for OMNI-BOX Kit 2. RAM not included

Packing List

- Phoenix Power Connector
- OMNI-3155-SKU

Optional Accessories

- AP-0T9789LA1000
LCD Monitor Stand 230mm, LA-100
- 1702031802
Power Cord (US Type)
- 1702031803
Power Cord (European Type)
- 170203180E
Power Cord (Japanese Type)
- 1255900849
12V 84W Power Adapter w/ 3pin Terminal Block

OMNI Module (with AAEON Interface)

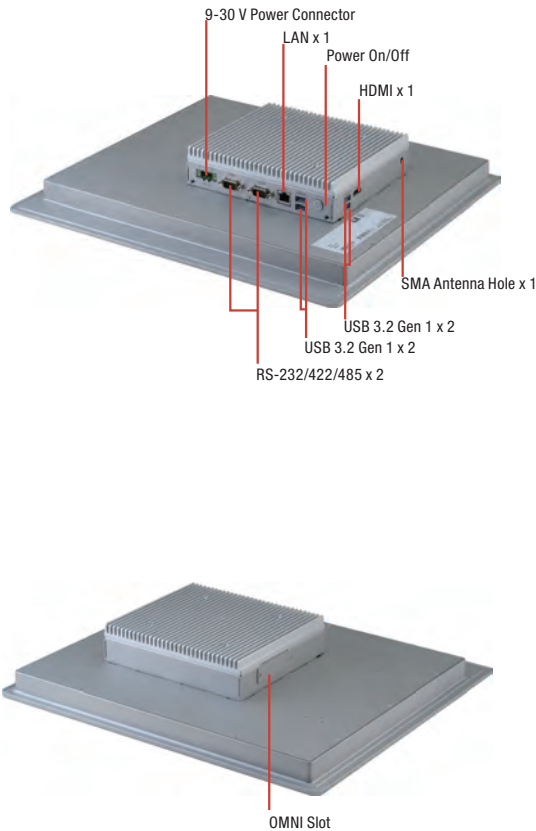
- 9741215501
Mini Card x 2, SIM x 2 Module
- 9741215502
Dual LAN Module
- 9741215506
DIO Module
- 9741215508
Audio Module
- 9741215510
HMS Kit (Europe Limitation)
- 9741215512
Wifi 802.11/b/g/n Module
- 9741215513
RS-485/422/232 x 2 Module
- 9741215515
USB / COM / LAN Module
- 9741215516
RS-485/422/232 x 4 Module
- 9741215517
Isolation RS-485/422/232 x 4 Module
- 9741215518
RS-485/422/232 x 2, DIO x 16 Module

Wide Temperature DRAM

- AP-DR968D4004G9
4GB Wide Temperature DRAM (-40°C ~ 85°C)
 - AP-DR968D4008GA
8GB Wide Temperature DRAM (-40°C ~ 85°C)
 - AP-DR968D4016G7
16GB Wide Temperature DRAM (-40°C ~ 85°C)
- **Users should select the wide temperature DRAM above and use wide temperature storage devices if the OMNI panel pc is to be operated at over 40°C.

OMNI-3175-SKU

17" Modular HMI Panel PC with 6th Generation Intel® Core™ i5-6300U/C-3955U Processor



Features

- 17" (1280 x 1024) TFT LCD Display
- Intel® 6th Generation i5-6300U/C-3955U Processor
- P-CAP or Resistive Touch Screen Support
- Aluminum Design
- IP65 Compliant Front Bezel
- Fanless Operation
- Easily Expandable I/O by AAEON OMNI I/O Modules

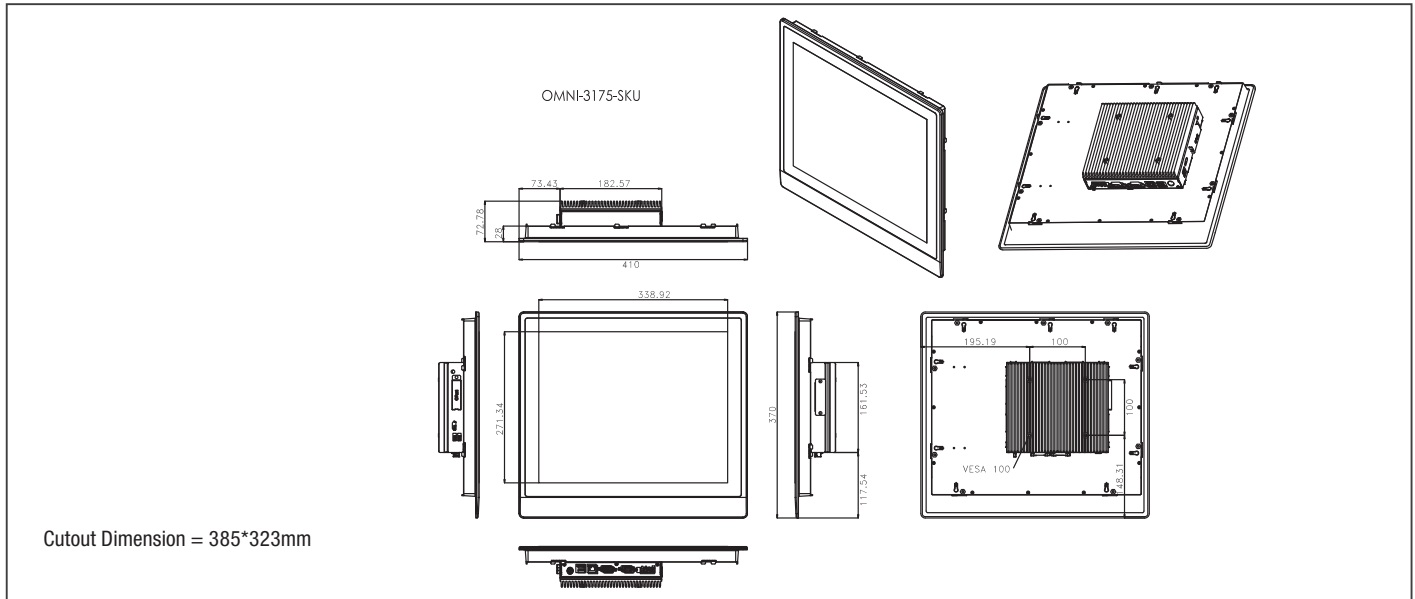


Specifications

System	
Processor	Intel® i5-6300U processor, 2.4 GHz Intel® Celeron® 3955U processor, 2.0 GHz
System Memory	260-pin DDR4 SODIMM x 1, up to 16 GB
LCD/CRT Controller	Integrated in processor
Ethernet	Intel® I211, 10/100/1000 Base-TX x 1
I/O Port	USB 3.2 Gen 1 Type A x 4 SMA Antenna hole x 1 HDMI x 1 DB-9 Type RS-232/422/485 x 2 RJ-45 Type 10/100/1000 Base-TX x 1 3-pin terminal block x1 for 9~30 Vdc power input LED Power on/off switch x1 (Power on = Orange, Power off =N/A)
Storage Disk Drive	2.5" SATA HDD bay x 1
Expansion Slot	Full Size Mini card x 1 SIM card x 1 OMNI I/O connector x 1
OS support	Windows® 8.1, Windows® 10 (64 bit), Linux kernel 2.6.x or higher
Mechanical	
Construction	Aluminum design (IP65 Front Frame)
Mounting	VESA 100 / Panel Mount
Dimension	16.14" x 14.57" x 2.32" (410mm x 370mm x 59mm)
Carton Dimension	20.55" x 10.31" x 19.29"(522mm x 262mm x 490mm)
Gross Weight	16.28 lb (7.4 kg)
Environmental	
Operating Temperature	-4°F ~ 131°F (-20°C ~ 55°C) with 0.5 m/s airflow (Industrial Grade HDD)
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	90% @40°C; non-condensing
Vibration	1 Grms/ 5~ 500Hz/ operation – with HDD
Shock	15 G peak acceleration (11 msec. duration) – with HDD
EMC	CE/FCC class A
Power Supply	
DC input	DC 9 (min.) ~ 30 (max.) V w/3-pin terminal block, ATX Power function
LCD	
Display Type	17" TFT-LCD, LED
Max Resolution	1280 (H) x 1024 (V)
Max. Colors	16.7M colors (RGB 6-bits + Hi-FRC data)
Luminance	350 cd/m ²
Viewing Angle	170 (H), 160 (V)
Back Light	LED
Back Light MTBF (Hours)	50,000
Touchscreen	
Type	P-CAP/ 5-wire resistive
Light Transmission	P-CAP (90% ± 3%), 5-wire Resistive (80% ± 3%)

Dimension

Unit: mm



Ordering Information

	Part Number	Display Type	Max Resolution	Luminance	View Angle	CPU	LAN	USB 3.2 Gen 1	RS-232/422/485	Storage	RAM	Display	Internal Expansion	Mounting	Power	Operating Temp.	Touch	OMNI I/O Module Support
Panel PC	OMNI-3175HTT-SKU-A1-1111	17" TFT LCD	1280 x 1024	350 cd/m ²	170°(H) 160°(V)	Intel® i5-6300U, 2.4 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-20°C-55°C with airflow	5-wire Resistive	Yes
	OMNI-3175HTT-SKU-A2-1111	17" TFT LCD	1280 x 1024	350 cd/m ²	170°(H) 160°(V)	Intel® Celeron® 3955U, 2 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-20°C-55°C with airflow	5-wire Resistive	Yes
	OMNI-3175HTT-SKU-A3-1110	17" TFT LCD	1280 x 1024	350 cd/m ²	170°(H) 160°(V)	Intel® i5-6300U, 2.4 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-20°C-55°C with airflow	Projected capacitive	Yes
	OMNI-3175HTT-SKU-A4-1110	17" TFT LCD	1280 x 1024	350 cd/m ²	170°(H) 160°(V)	Intel® Celeron® 3955U, 2 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-20°C-55°C with airflow	Projected capacitive	Yes
Panel Kit	OMNI-317DHTT-KIT-A1-1012	17" TFT LCD	1280 x 1024	350 cd/m ²	170°(H) 160°(V)	—	—	—	—	—	—	—	—	—	—	-20°C-55°C with airflow	5-wire Resistive	No
	OMNI-317DHTT-KIT-A2-1011	17" TFT LCD	1280 x 1024	350 cd/m ²	170°(H) 160°(V)	—	—	—	—	—	—	—	—	—	—	-20°C-55°C with airflow	Projected capacitive	No
CPU BOX Kit	OMNI-SKU-KIT-A1-1110	—	—	—	—	Intel® i5-6300U, 2.4 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-20°C-55°C with airflow	—	Yes
	OMNI-SKU-KIT-A2-1110	—	—	—	—	Intel® Celeron® 3955U, 2 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9-30V	-20°C-55°C with airflow	—	Yes
	OMNI-SKU-KIT-A3-1110	—	—	—	—	Intel® i7-6600U Processor	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	Wall mount	DC 9-30V	-20°C-55°C with airflow	—	Yes
	OMNI-SKU-KIT-A4-1110	—	—	—	—	Intel® i3-6100U Processor	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	Wall mount	DC 9-30V	-20°C-55°C with airflow	—	Yes

Note: 1. AAEON OMNI Modular display kit only workable for OMNI-BOX Kit 2. RAM not included

Packing List

- Phoenix Power Connector
- OMNI-3175-SKU

Optional Accessories

- AP-0T9789LA1000
LCD Monitor Stand 230mm, LA-100
- 1702031802
Power Cord (US Type)
- 1702031803
Power Cord (European Type)
- 170203180E
Power Cord (Japanese Type)
- 1255900849
12V 84W Power Adapter w/ 3pin Terminal Block

OMNI Module (with AAEON Interface)

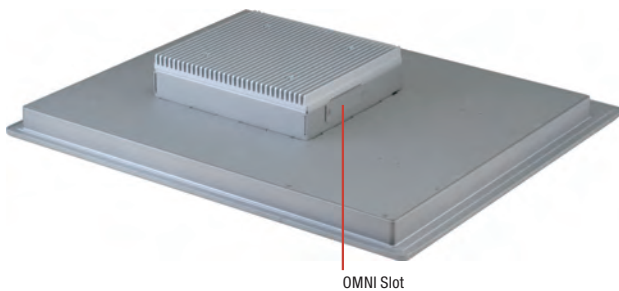
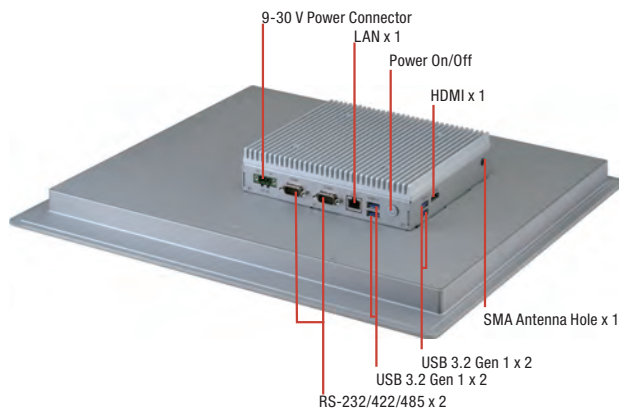
- 9741215501
Mini Card x 2, SIM x 2 Module
- 9741215502
Dual LAN Module
- 9741215506
DIO Module
- 9741215508
Audio Module
- 9741215510
HMS Kit (Europe Limitation)
- 9741215512
Wifi 802.11/b/g/n Module
- 9741215513
RS-485/422/232 x 2 Module
- 9741215515
USB / COM / LAN Module
- 9741215516
RS-485/422/232 x 4 Module
- 9741215517
Isolation RS-485/422/232 x 4 Module
- 9741215518
RS-485/422/232 x 2, DIO x 16 Module

Wide Temperature DRAM

- AP-DR968D4004G9
4GB Wide Temperature DRAM (-40°C ~ 85°C)
 - AP-DR968D4008GA
8GB Wide Temperature DRAM (-40°C ~ 85°C)
 - AP-DR968D4016G7
16GB Wide Temperature DRAM (-40°C ~ 85°C)
- ***Users should select the wide temperature DRAM above and use wide temperature storage devices if the OMNI panel pc is to be operated at over 40°C.

OMNI-3195-SKU

19" Modular HMI Panel PC with 6th Generation Intel® Core™ i5-6300U/C-3955U Processor



Features

- 19" (1280 x 1024) TFT LCD Display
- Intel® 6th Generation i5-6300U/C-3955U Processor
- P-CAP or Resistive Touch Screen Support
- Aluminum Design
- IP65 Compliant Front Bezel
- Fanless Operation
- Easily Expandable I/O by AAEON OMNI I/O Modules

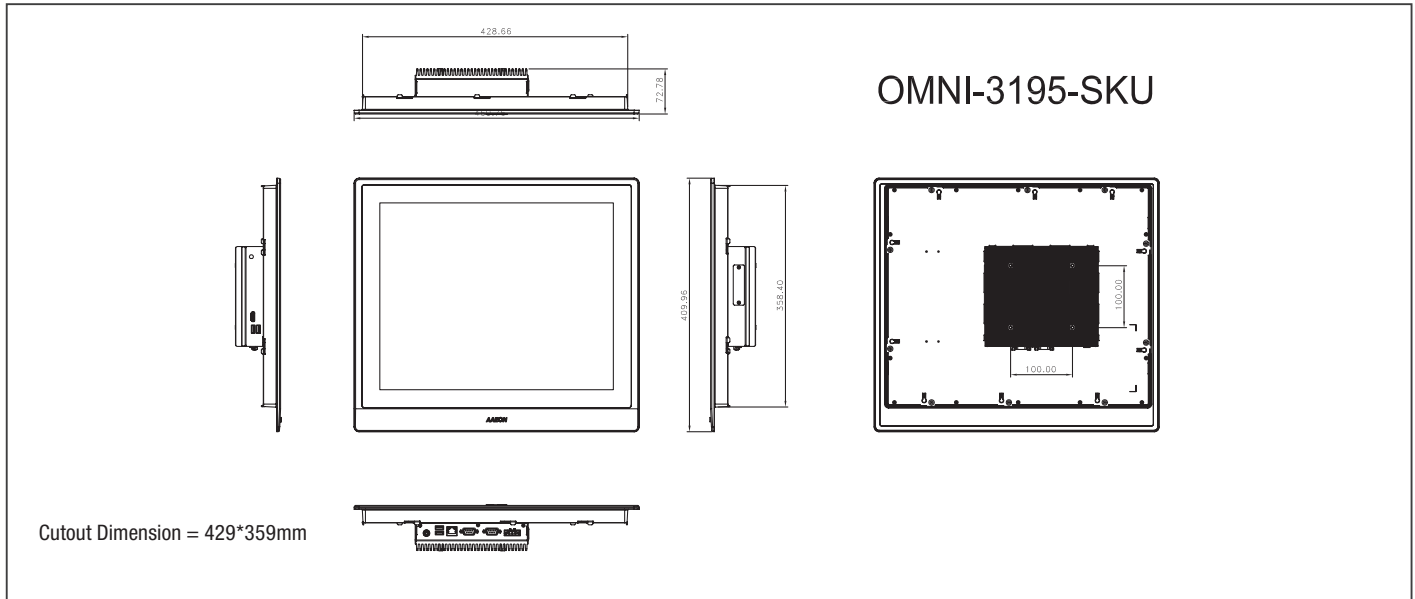


Specifications

System	
Processor	Intel® i5-6300U processor, 2.4 GHz Intel® Celeron® 3955U processor, 2.0 GHz
System Memory	260-pin DDR4 SODIMM x 1, up to 16 GB
LCD/CRT Controller	Integrated in processor
Ethernet	Intel® I211, 10/100/1000 Base-TX x 1
I/O Port	USB 3.2 Gen 1 Type A x 4 SMA Antenna hole x 1 HDMI x 1 DB-9 Type RS-232/422/485 x 2 RJ-45 Type 10/100/1000Base-TX x 1 3-pin terminal block x1 for 9~30 Vdc power input LED Power on/off switch x1 (Power on = Orange, Power off =N/A)
Storage Disk Drive	2.5" SATA HDD bay x 1
Expansion Slot	Full Size Mini card x 1 SIM card x 1 OMNI I/O connector x 1
OS support	Windows® 8.1, Windows® 10 (64 bit), Linux kernel 2.6.x or higher
Mechanical	
Construction	Aluminum design (IP65 Front Frame)
Mounting	VESA 100 / Panel Mount
Dimension	18.14" x 16.14" x 2.83" (460.8mm x 410mm x 72 mm)
Carton Dimension	26.02" x 8.11" x 19.53" (661mm x 206mm x 496mm)
Gross Weight	20.06 lb (9.1 kg)
Environmental	
Operating Temperature	-4°F ~ 131°F (-20°C ~ 55°C) with 0.5 m/s airflow (Industrial Grade HDD)
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	90% @40°C; non-condensing
Vibration	1 Grms/ 5~ 500Hz/ operation – with HDD
Shock	15 G peak acceleration (11 msec. duration) – with HDD
EMC	CE/FCC class A
Power Supply	
DC input	DC 9 (min.) ~ 30 (max.) V w/3-pin terminal block, ATX Power function
LCD	
Display Type	17" TFT-LCD, LED
Max Resolution	1280 (H) x 1024 (V)
Max. Colors	16.7M colors (RGB 6-bits + Hi-FRC data)
Luminance	350 cd/m ²
Viewing Angle	170 (H), 160 (V)
Back Light	LED
Back Light MTBF (Hours)	50,000
Touchscreen	
Type	P-CAP/ 5-wire resistive
Light Transmission	P-CAP (90% ± 3%), 5-wire Resistive (80% ± 3%)

Dimension

Unit: mm



Ordering Information

	Part Number	Display Type	Max Resolution	Luminance	View Angle	CPU	LAN	USB 3.2 Gen 1	RS-232/422/485	Storage	RAM	Display	Internal Expansion	Mounting	Power	Operating Temp.	Touch	OMNI I/O Module Support
Panel PC	OMNI-3195HTT-SKU-A1-1111	19" TFT LCD	1280 x 1024	350 cd/m ²	170°(H) 160°(V)	Intel® i5-6300U, 2.4 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9~30V	-20°C~55°C with airflow	5-wire Resistive	Yes
	OMNI-3195HTT-SKU-A2-1111	19" TFT LCD	1280 x 1024	350 cd/m ²	170°(H) 160°(V)	Intel® Celeron® 3955U, 2 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9~30V	-20°C~55°C with airflow	5-wire Resistive	Yes
	OMNI-3195HTT-SKU-A3-1110	19" TFT LCD	1280 x 1024	350 cd/m ²	170°(H) 160°(V)	Intel® i5-6300U, 2.4 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9~30V	-20°C~55°C with airflow	Projected capacitive	Yes
	OMNI-3195HTT-SKU-A4-1110	19" TFT LCD	1280 x 1024	350 cd/m ²	170°(H) 160°(V)	Intel® Celeron® 3955U, 2 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9~30V	-20°C~55°C with airflow	Projected capacitive	Yes
Panel Kit	OMNI-319DHTT-KIT-A1-1012	19" TFT LCD	1280 x 1024	350 cd/m ²	170°(H) 160°(V)	—	—	—	—	—	—	—	—	—	—	-20°C~55°C with airflow	5-wire Resistive	No
	OMNI-319DHTT-KIT-A2-1011	19" TFT LCD	1280 x 1024	350 cd/m ²	170°(H) 160°(V)	—	—	—	—	—	—	—	—	—	—	-20°C~55°C with airflow	Projected capacitive	No
CPU BOX Kit	OMNI-SKU-KIT-A1-1110	—	—	—	—	Intel® i5-6300U, 2.4 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9~30V	-20°C~55°C with airflow	—	Yes
	OMNI-SKU-KIT-A2-1110	—	—	—	—	Intel® Celeron® 3955U, 2 GHz	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	VESA 100/ Panel mount	DC 9~30V	-20°C~55°C with airflow	—	Yes
	OMNI-SKU-KIT-A3-1110	—	—	—	—	Intel® i7-6600U Processor	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	Wall mount	DC 9~30V	-20°C~55°C with airflow	—	Yes
	OMNI-SKU-KIT-A4-1110	—	—	—	—	Intel® i3-6100U Processor	1	4	2	2.5" SATA HDD x 1	DDR4, up to 16GB	HDMI x 1	Mini-Card x 1 (Full Size)	Wall mount	DC 9~30V	-20°C~55°C with airflow	—	Yes

Note: 1. AAEON OMNI Modular display kit only workable for OMNI-BOX Kit 2. RAM not included

Packing List

- Phoenix Power Connector
- OMNI-3195-SKU

Optional Accessories

- AP-OT9789LA1000
LCD Monitor Stand 230mm, LA-100
- 1702031802
Power Cord (US Type)
- 1702031803
Power Cord (European Type)
- 170203180E
Power Cord (Japanese Type)
- 1255900849
12V 84W Power Adapter w/ 3pin Terminal Block

OMNI Module (with AAEON Interface)

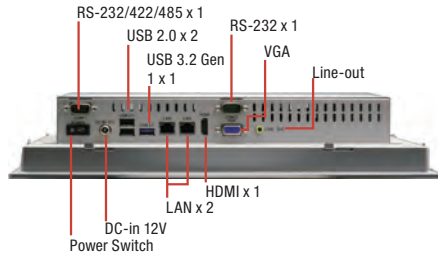
- 9741215501
Mini Card x 2, SIM x 2 Module
- 9741215502
Dual LAN Module
- 9741215506
DIO Module
- 9741215508
Audio Module
- 9741215510
HMS Kit (Europe Limitation)
- 9741215512
Wifi 802.11/b/g/n Module
- 9741215513
RS-485/422/232 x 2 Module
- 9741215515
USB / COM / LAN Module
- 9741215516
RS-485/422/232 x 4 Module
- 9741215517
Isolation RS-485/422/232 x 4 Module
- 9741215518
RS-485/422/232 x 2, DIO x 16 Module

Wide Temperature DRAM

- AP-DR968D4004G9
4GB Wide Temperature DRAM (-40°C ~ 85°C)
 - AP-DR968D4008GA
8GB Wide Temperature DRAM (-40°C ~ 85°C)
 - AP-DR968D4016G7
16GB Wide Temperature DRAM (-40°C ~ 85°C)
- **Users should select the wide temperature DRAM above and use wide temperature storage devices if the OMNI panel pc is to be operated at over 40°C.

OMNI-5155L

15" All-In-One Fanless Touch Panel PC with Intel® Celeron® J1900 Processor



Features

- 15" (1024 x 768) TFT LCD Display
- Intel® Celeron® Processor J1900 2.00 GHz
- Flat 5-Wire Resistive Touch Screen
- IP65 Compliant Aluminum Front Bezel
- Fanless Operation
- Internal Full-size Mini-Card x 1/ Half-size Mini-Card x 1 for Expansion

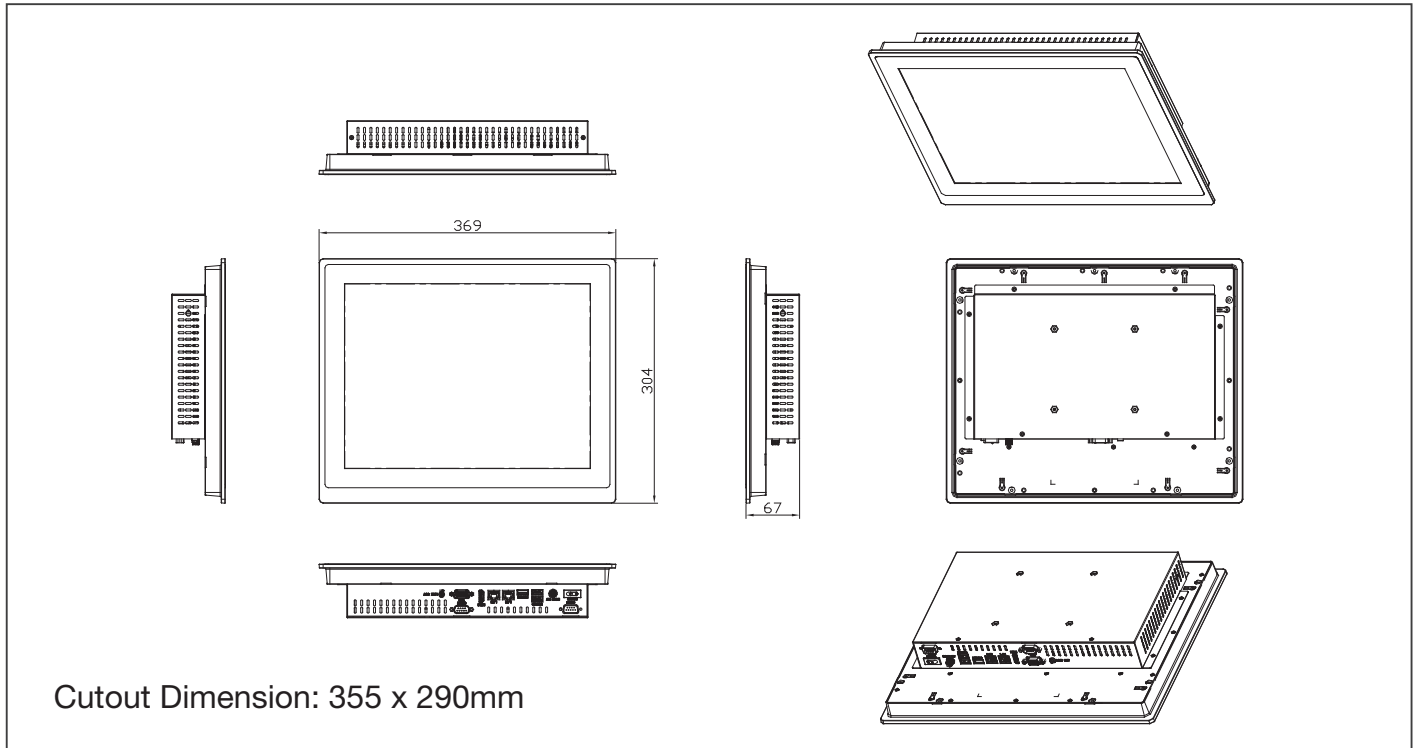


Specifications

System	
Processor	Intel® Celeron® J1900 Processor 2.00 GHz
System Memory	DDR3L 1333 MHz SODIMM x 2 up to 8 GB
LCD/CRT Controller	—
Ethernet	Realtek PCIe Gb LAN 8111G x 2
I/O Port	USB 2.0 Type A x 2 USB 3.2 Gen 1 Type A x 1 DB-9 Type RS-232/422/485 x 1 DB-9 Type RS-232 x 1 RJ-45 Type for 10/100/1000 Base-TX x 2 DB-15 x 1 for VGA HDMI x 1 Audio Jack x 1 for Line out DC Jack x1 for 12 Vdc power input
Storage Disk Drive	2.5" SATA HDD bay x 1
Expansion Slot	Internal Full-size Mini-Card x 1 / Half-size Mini-Card x 1
OS Support	Windows® 7, Windows® 8, Windows® 10, Linux kernel 2.6.x or higher
Mechanical	
Construction	Aluminum design (IP65 Front Frame)
Mounting	VESA 100x100 / Panel Mount
Dimension	14.53" x 12" x 2.63" (369mm x 304mm x 67mm)
Carton Dimension	20.08" x 9.84" x 18.11" (510mm x 250mm x 460mm)
Gross Weight	12.12 lb (5.5 kg)
Environmental	
Operating Temperature	14°F ~ 131°F (-10°C ~ 55°C) with 0.5 m/s airflow
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	90% @40°C; non-condensing
Vibration	1 Grms/ 5~500Hz/random operation
Shock	—
EMC	CE/FCC Class A
Power Supply	
DC input	12V DC in
LCD	
Display Type	15" TFT-LCD, LED
Max Resolution	1024 (H) x 768 (V)
Max. Colors	16.2M color
Luminance	300 cd/m ²
Viewing Angle	176° (H), 176° (V)
Back Light	LED
Back Light MTBF (Hours)	70,000
Touchscreen	
Type	5-wire resistive
Light Transmission	80% ± 2%

Dimension

Unit: mm



Ordering Information

Part Number	Item	Display Type	Max Resolution	Luminance	View Angle	Backlight MTBF (Hours)	CPU	LAN	USB 2.0	USB 3.2 Gen 1	RS-232	RS-485/422/232	Storage	RAM	Display	Expansion	Mounting	Power	Temp.	Touch	OMNI I/O Module Support
OMNI-5155LHTT-BT-A1-1011	Panel PC	15" TFT-LCD	1024 x 768	300 cd/m ²	176°(H) 176°(V)	50,000	Intel® Celeron® J1900, 2 GHz	2	2	1	1	1	2.5" SATA-HDD x 1	DDR3L, up to 8 GB	VGA x 1 HDMI x 1	Mini-Card x 2 (Full Size / Half Size)	VESA 100/ Panel mount	DC 12V	-10°C~55°C with airflow	5-wire resistive	NO

Note: *RAM not included.

*This All-In-One Panel PC not support OMNI I/O modules.

Packing List

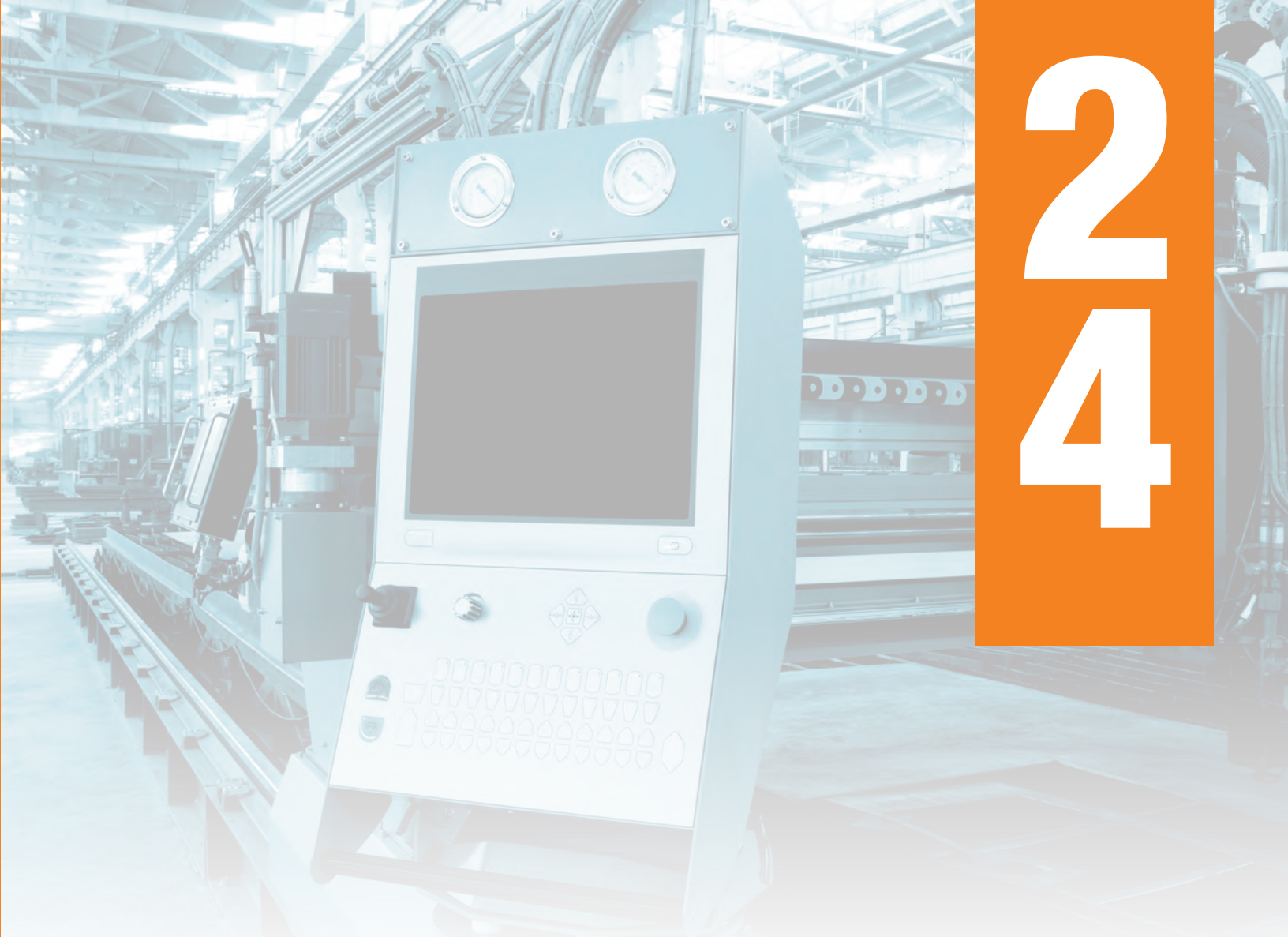
- VESA Screws
- Panel Mount Screws
- OMNI-5155L

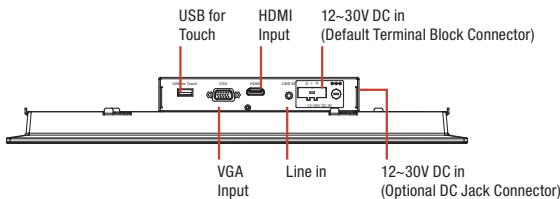
Optional Accessories

- **AP-0T9789LA1000**
LCD Monitor Stand 230mm, LA-100
- **1702031802**
Power Cord (US Type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **125530060Y**
12V 60W Lockable Power Adapter

OMNI Series : Modular Display Solutions

24





Features

- 15.6" WXGA (1366 x 768) TFT LCD Display
- Provide Projective Capacitive Touch or Resistive Touch Screen
- IP65 Aluminum Front Bezel
- DC 12~30V with Over Voltage/Current, Under Voltage Protection
- Optional Built-in Speakers

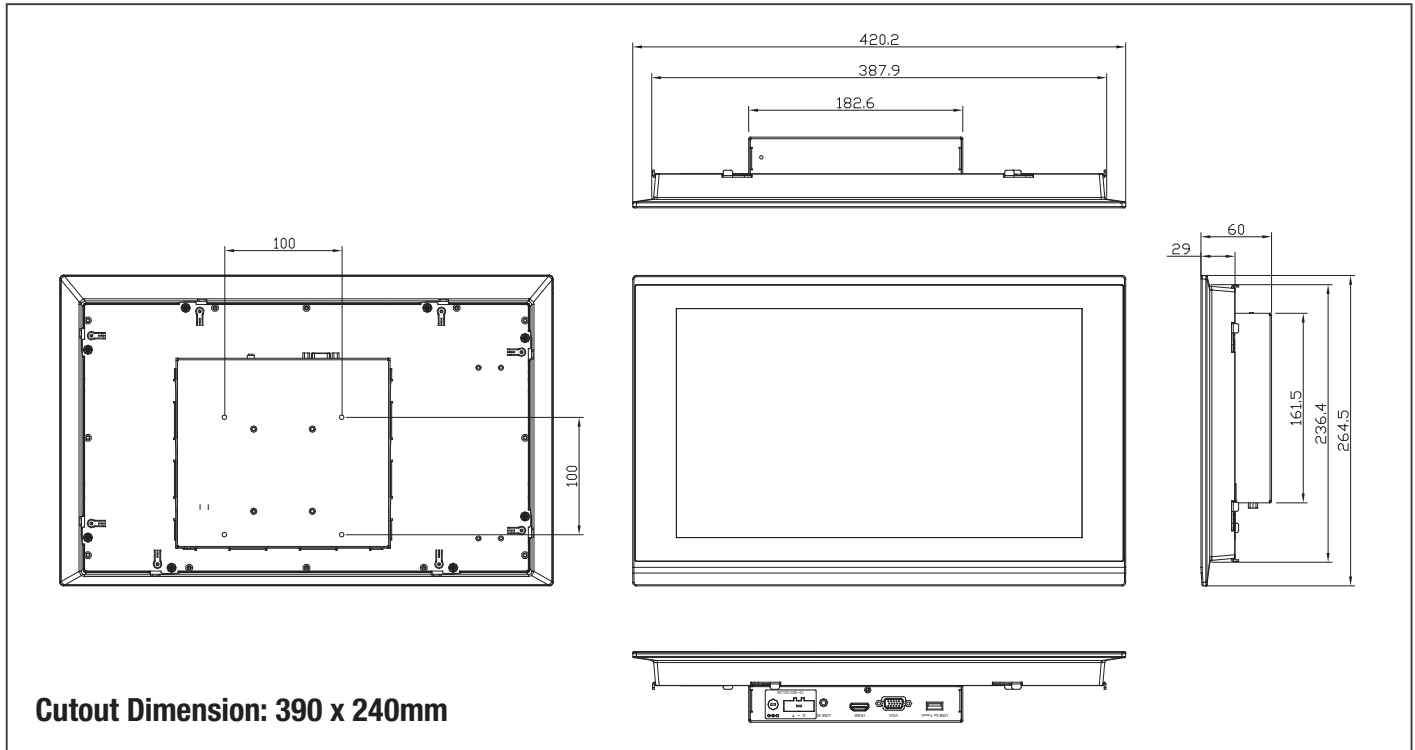


Specifications

System	
Input Signal	VGA/HDMI
On Screen Display Control	5 keys OSD keypad (Up, Down, Menu, Auto, Power)
I/O Port	DB-15 VGA x 1 HDMI x 1 USB x 1 (For Enable T/S Function) Line in x 1 (For optional internal Speaker) Power Input x 1 (Terminal Block 3pin)
Os Support	Windows® 7 32/64-bit, Windows® 8 32/64-bit, Windows® 10 64-bit, Linux Ubuntu 16.04
Mechanical	
Construction	IP65 aluminum front bezel & SGCC chassis
Mounting	Panel Mount / VESA 100x100 / Stand
Dimension	16.5" x 10.4" x 2.4" (420.2mm x 264.5mm x 60.2mm)
Carton Dimension	20.9" x 17.5" x 7.9" (530mm x 445mm x 200mm)
Gross Weight	14.1 lbs (6.4 kg)
Net Weight	11.2 lbs (5.1 kg)
Environmental	
Operating Temperature	14°F ~ 131°F (-10°C ~ 55°C) With 0.5m/s Airflow
Storage Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Storage Humidity	10%~90% @104°F (40°C); non-condensing
Vibration	1 Grms / 5~500Hz/random Operation
Shock	—
EMC	CE/FCC, Class A
Power Supply	
Dc Input	DC 12~30V Power Input with 3 Pin Terminal Block
LCD	
Display Type	15.6" TFT-LCD
Max. Resolution	1366 x 768
Max. Colors	16.7M
Luminance	400 cd/m ²
Viewing Angle	170° (H), 160° (V)
Back Light	LED
Back Light MTBF (Hours)	50,000
Touchscreen	
Type	Projective Capacitive Multi Touch or 5 Wire Resistive Touch Screen (By Model)
Light Transmission	P-CAP (90% ± 3%), 5-wire Resistive (80% ± 3%)
Life Time	—

Dimension

Unit: mm



Ordering Information

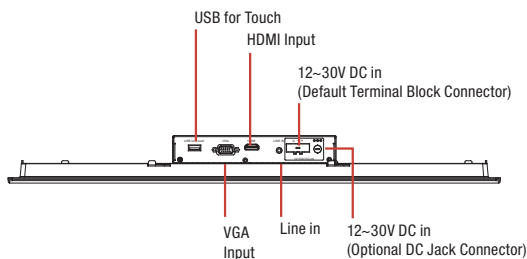
Part Number	Display Type	Max. Resolution	Luminance	View Angle	Backlight MTBF (Hours)	Display	Mounting	Power	Temp.	Touch	Others
OMNI-215MHTT-A1-1010	15.6" TFT-LCD	1366 x 768	400 cd/m ²	160(H), 140(V)	50,000	VGA x 1 HDMI x 1	Panel mount VESA 100	DC 12V-30V	14°F ~ 131°F (-10°C ~ 55°C) (with 0.5 m/s airflow)	Flat 5 Wire Resistive	—
OMNI-215MHTT-A2-1011	15.6" TFT-LCD	1366 x 768	400 cd/m ²	160(H), 140(V)	50,000	VGA x 1 HDMI x 1	Panel mount VESA 100	DC 12V-30V	14°F ~ 131°F (-10°C ~ 55°C) (with 0.5 m/s airflow)	Projected Capacitive	—

Packing List

- VGA Cable x 1
- USB Cable for Touch x 1
- Phoenix Power Connector
- OMNI-215M

Optional Accessories

- **125530040F**
12V 40W FSP040-DHAN3
- **1702031802**
Power Cord (US Type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **AP-0T9789LA1000**
LCD Monitor Stand 230mm, LA-100



Features

- 21.5" FHD (1920 x 1080) TFT LCD Display
- Provide Projective Capacitive Touch or Resistive Touch Screen
- IP65 Aluminum Front Bezel
- DC 12~30V with Over Voltage/Current, Under Voltage Protection
- Optional Built-in Speakers

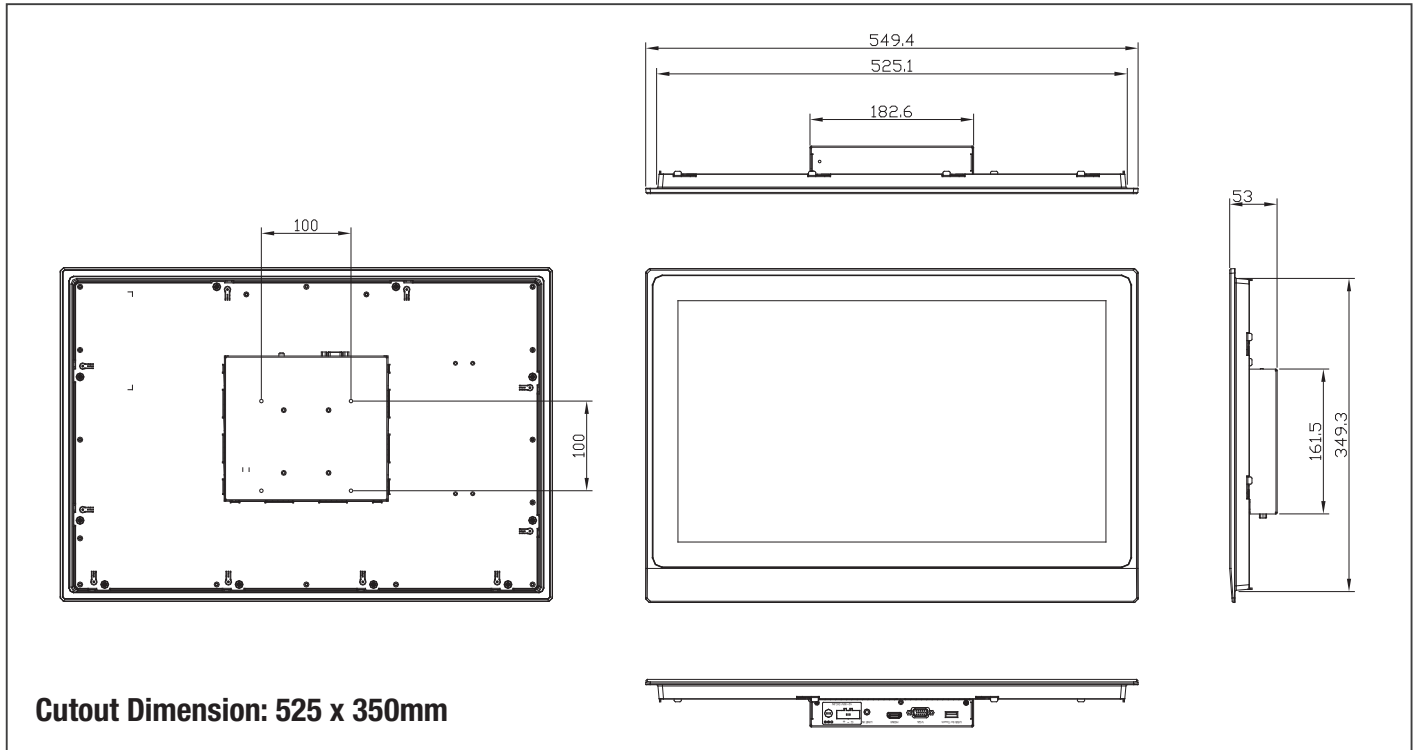


Specifications

System	
Input Signal	VGA/HDMI
On Screen Display Control	5 keys OSD keypad (Up, Down, Menu, Auto, Power)
I/O Port	DB-15 VGA x 1 HDMI x 1 USB x 1 (For Enable T/S Function) Line in x 1 (For optional internal Speaker) Power Input x 1(Terminal Block 3pin)
Os Support	Windows® 7 32/64-bit, Windows® 8 32/64-bit, Windows® 10 64-bit, Linux Ubuntu 16.04
Mechanical	
Construction	IP65 aluminum front bezel & SGCC chassis
Mounting	Panel Mount / VESA 100 x 100 / Stand
Dimension	21.6" x 14.6" x 2.1" (549mm x 372mm x 53mm)
Carton Dimension	26.4" x 20.7" x 7.9" (670mm x 525mm x 200mm)
Gross Weight	18.5 lbs (8.4 kg)
Net Weight	15.4 lbs (7.0 kg)
Environmental	
Operating Temperature	14°F ~ 131°F (-10°C ~ 55°C) With 0.5m/s Airflow
Storage Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Storage Humidity	10%~90% @104°F (40°C); non-condensing
Vibration	1 Grms / 5~500Hz/random Operation
Shock	—
EMC	CE/FCC, Class A
Power Supply	
Dc Input	DC 12~30V Power Input with 3 Pin Terminal Block
LCD	
Display Type	21.5" TFT-LCD
Max. Resolution	1920 x 1080
Max. Colors	16.7M
Luminance	250 cd/m ²
Viewing Angle	178° (H), 178° (V)
Back Light	LED
Back Light MTBF (Hours)	50,000
Touchscreen	
Type	Projective Capacitive Multi Touch or 5 Wire Resistive Touch Screen (By Model)
Light Transmission	P-CAP (90% ± 3%), 5-wire Resistive (80% ± 3%)
Life Time	—

Dimension

Unit: mm



Ordering Information

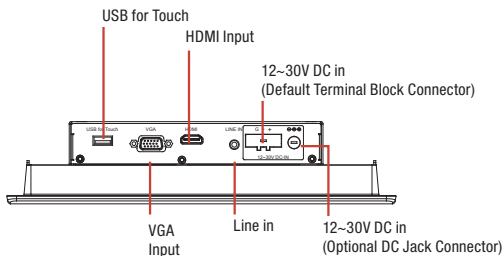
Part Number	Display Type	Max. Resolution	Luminance	View Angle	Backlight MTBF (Hours)	Display	Mounting	Power	Temp.	Touch	Others
OMNI-221MHTT-A1-1011	21.5" TFT-LCD	1920 x 1080	250 cd/m ²	178(H), 178(V)	50,000	VGA x 1 HDMI x 1	Panel mount VESA 100	DC 12V-30V	14°F ~ 131°F (-10°C ~ 55°C) (with 0.5 m/s airflow)	Flat 5 Wire Resistive	—
OMNI-221MHTT-A2-1011	21.5" TFT-LCD	1920 x 1080	250 cd/m ²	178(H), 178(V)	50,000	VGA x 1 HDMI x 1	Panel mount VESA 100	DC 12V-30V	14°F ~ 131°F (-10°C ~ 55°C) (with 0.5 m/s airflow)	Projected Capacitive	—

Packing List

- VGA Cable x 1
- USB Cable for Touch x 1
- Phoenix Power Connector
- OMNI-221M

Optional Accessories

- **125530040F**
12V 40W FSP040-DHAN3
- **1702031802**
Power Cord (US Type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **AP-OT9789LA1000**
LCD Monitor Stand 230mm, LA-100



Features

- 10.4" SVGA (800 x 600) TFT LCD Display
- Provide Projective Capacitive Touch or Resistive Touch Screen
- IP65 Aluminum Front Bezel
- DC 12~30V with Over Voltage/Current, Under Voltage Protection
- Optional Built-in Speakers

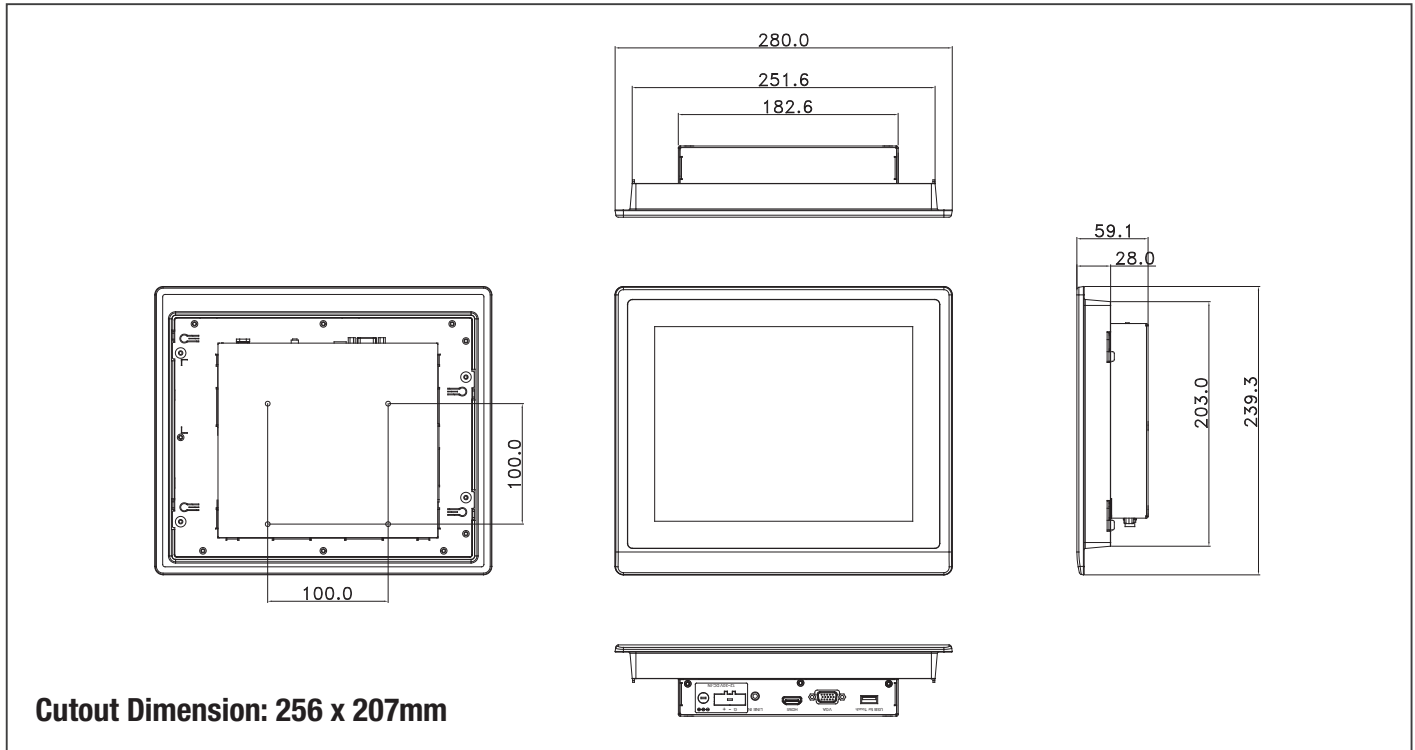


Specifications

System	
Input Signal	VGA / HDMI
On Screen Display Control	5 keys OSD keypad (Up, Down, Menu, Auto, Power)
I/O Port	DB-15 VGA x 1 HDMI x 1 USB x 1 (For Enable T/S Function) Line in x 1 (For optional internal Speaker) Power Input x 1(Terminal Block 3pin)
Os Support	Windows® 7 32/64-bit, Windows® 8 32/64-bit, Windows® 10 64-bit, Linux Ubuntu 16.04
Mechanical	
Construction	IP65 aluminum front bezel & SGCC chassis
Mounting	Panel Mount / VESA 100 x 100 / Stand
Dimension	11.0" x 9.4" x 2.33" (280mm x 239.3mm x 59.1mm)
Carton Dimension	16.3" x 15.4" x 7.04" (415mm x 391mm x 179mm)
Gross Weight	7.9 lbs (3.6 kg)
Net Weight	1.1 lbs (2.4 kg)
Environmental	
Operating Temperature	14°F ~ 131°F (-10°C ~ 55°C) With 0.5m/s Airflow
Storage Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Storage Humidity	10%~90% @104°F (40°C); non-condensing
Vibration	1 Grms / 5~500Hz/random Operation
Shock	—
EMC	CE/FCC, Class A
Power Supply	
Dc Input	DC 12~30V Power Input with 3 Pin Terminal Block
LCD	
Display Type	10.4" TFT-LCD
Max. Resolution	800 x 600
Max. Colors	16.2M
Luminance	230 cd/m ²
Viewing Angle	160° (H), 130° (V)
Back Light	LED
Back Light MTBF (Hours)	30,000
Touchscreen	
Type	Projective Capacitive Multi Touch or 5 Wire Resistive Touch Screen (By Model)
Light Transmission	P-CAP (90% ± 3%), 5-wire Resistive (80% ± 3%)
Life Time	—

Dimension

Unit: mm



Ordering Information

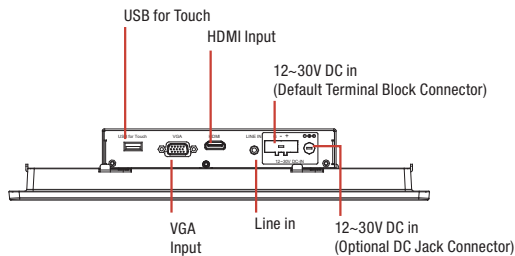
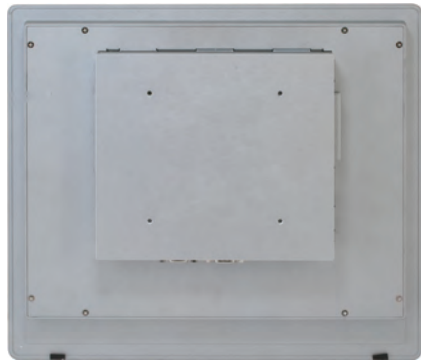
Part Number	Display Type	Max. Resolution	Luminance	View Angle	Backlight MTBF (Hours)	Display	Mounting	Power	Temp.	Touch	Others
OMNI-310MHTT-A1-1010	10.4" TFT-LCD	800 x 600	230 cd/m ²	120(H), 100(V)	50,000	VGA x 1 HDMI x 1	Panel mount VESA 100	DC 12V~30V	14°F ~ 131°F (-10°C ~ 55°C) (with 0.5 m/s airflow)	Flat 5 Wire Resistive	—
OMNI-310MHTT-A2-1010	10.4" TFT-LCD	800 x 600	230 cd/m ²	120(H), 100(V)	50,000	VGA x 1 HDMI x 1	Panel mount VESA 100	DC 12V~30V	14°F ~ 131°F (-10°C ~ 55°C) (with 0.5 m/s airflow)	Projected Capacitive	—

Packing List

- VGA Cable x 1
- USB Cable for Touch x 1
- Phoenix Power Connector
- OMNI-310M

Optional Accessories

- **125530040F**
12V 40W FSP040-DHAN3
- **1702031802**
Power Cord (US Type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **AP-0T9789LA1000**
LCD Monitor Stand 230mm, LA-100



Features

- 12.1" XGA (1024 x 768) TFT LCD Display
- Provide Projective Capacitive Touch or Resistive Touch Screen
- IP65 Aluminum Front Bezel
- DC 12~30V with Over Voltage/Current, Under Voltage Protection
- Optional Built-in Speakers

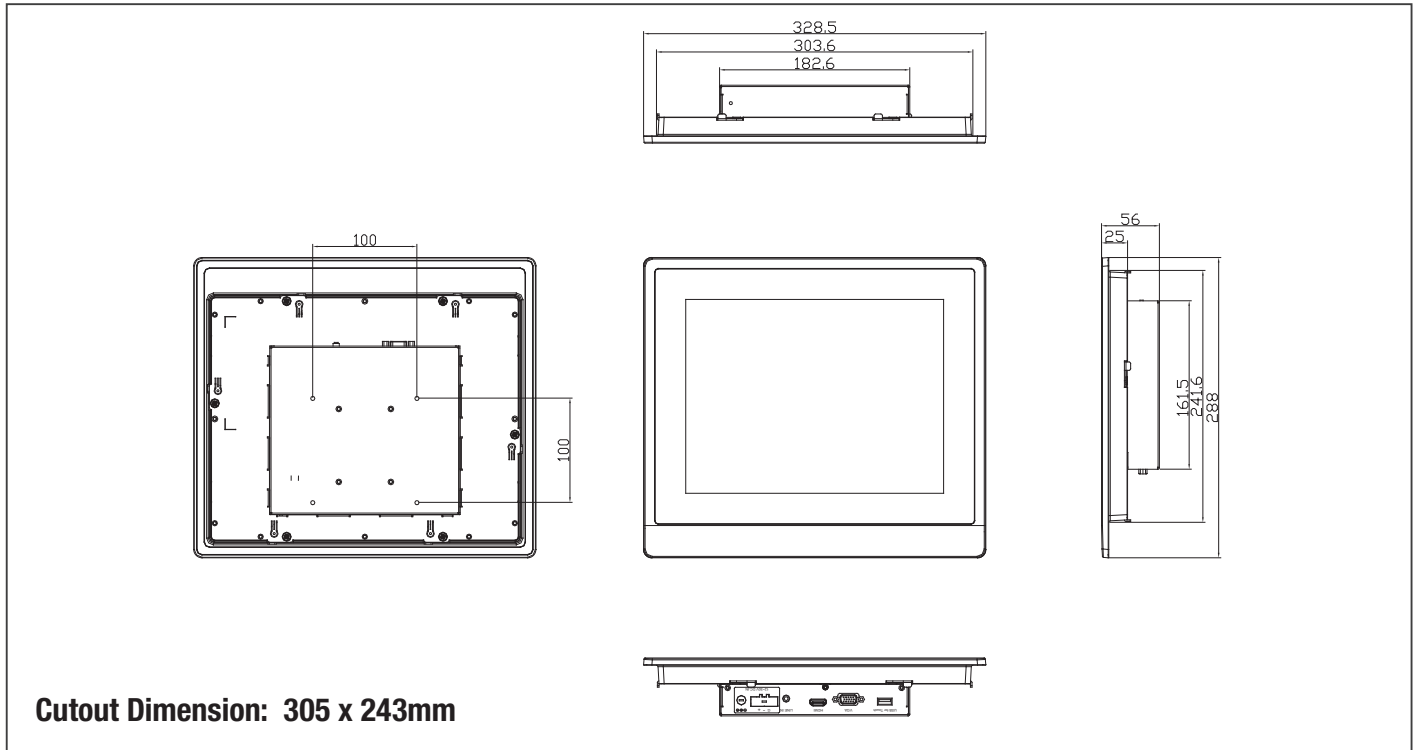


Specifications

System	
Input Signal	VGA / HDMI
On Screen Display Control	5 keys OSD keypad (Up, Down, Menu, Auto, Power)
I/O Port	DB-15 VGA x 1 HDMI x 1 USB x 1 (For Enable T/S Function) Line in x 1 (For optional internal Speaker) Power Input x 1(Terminal Block 3pin)
Os Support	Windows® 7 32/64-bit, Windows® 8 32/64-bit, Windows® 10 64-bit, Linux Ubuntu 16.04
Mechanical	
Construction	IP65 aluminum front bezel & SGCC chassis
Mounting	Panel Mount / VESA 100 x 100 / Stand
Dimension	12.9" x 11.3" x 2.2" (328.5mm x 288.1mm x 55.9mm)
Carton Dimension	20.9" x 17.5" x 7.9" (530mm x 445mm x 200mm)
Gross Weight	10.4 lbs (4.7 kg)
Net Weight	7.7 lbs (3.5 kg)
Environmental	
Operating Temperature	14°F ~ 131°F (-10°C ~ 55°C) With 0.5m/s Airflow
Storage Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Storage Humidity	10%~90% @104°F (40°C); non-condensing
Vibration	1 Grms / 5~500Hz/random Operation
Shock	—
EMC	CE/FCC, Class A
Power Supply	
Dc Input	DC 12~30V Power Input with 3 Pin Terminal Block
LCD	
Display Type	12.1" TFT-LCD
Max. Resolution	1024 x 768
Max. Colors	16.2M
Luminance	500 cd/m ²
Viewing Angle	160° (H), 160° (V)
Back Light	LED
Back Light MTBF (Hours)	50,000
Touchscreen	
Type	Projective Capacitive Multi Touch or 5 Wire Resistive Touch Screen (By Model)
Light Transmission	P-CAP (90% ± 3%), 5-wire Resistive (80% ± 3%)
Life Time	—

Dimension

Unit: mm



Ordering Information

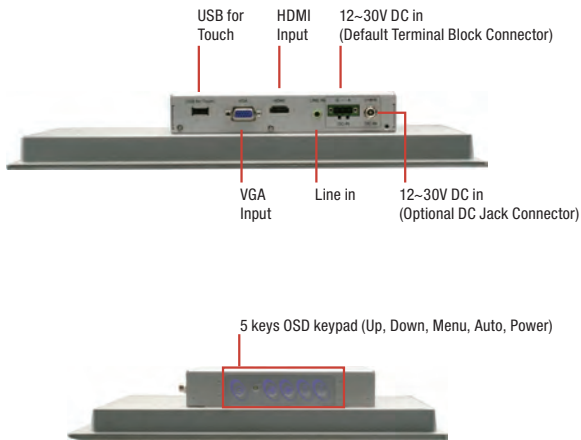
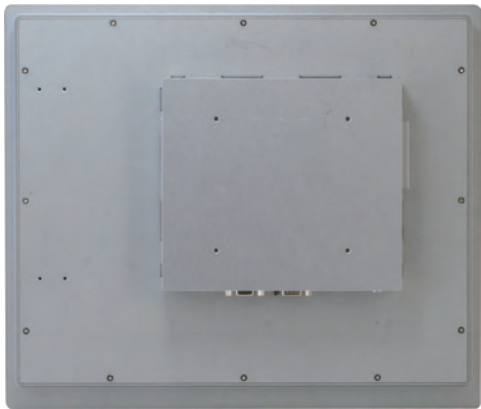
Part Number	Display Type	Max. Resolution	Luminance	View Angle	Backlight MTBF (Hours)	Display	Mounting	Power	Temp.	Touch	Others
OMNI-312MHTT-A1-1010	12.1" TFT-LCD	1024 x 768	500 cd/m ²	160(H), 160(V)	50,000	VGA x 1 HDMI x 1	Panel mount VESA 100	DC 12V-30V	14°F ~ 131°F (-10°C ~ 55°C) (with 0.5 m/s airflow)	Flat 5 Wire Resistive	—
OMNI-312MHTT-A2-1010	12.1" TFT-LCD	1024 x 768	500 cd/m ²	160(H), 160(V)	50,000	VGA x 1 HDMI x 1	Panel mount VESA 100	DC 12V-30V	14°F ~ 131°F (-10°C ~ 55°C) (with 0.5 m/s airflow)	Projected Capacitive	—

Packing List

- VGA Cable x 1
- USB Cable for Touch x 1
- Phoenix Power Connector
- OMNI-312M

Optional Accessories

- **125530040F**
12V 40W FSP040-DHAN3
- **1702031802**
Power Cord (US Type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **AP-0T9789LA1000**
LCD Monitor Stand 230mm, LA-100



Features

- 15" XGA (1024 x 768) TFT LCD Display
- Provide Projective Capacitive Touch or Resistive Touch Screen
- IP65 Aluminum Front Bezel
- DC 12~30V with Over Voltage/Current, Under Voltage Protection
- Optional Built-in Speakers

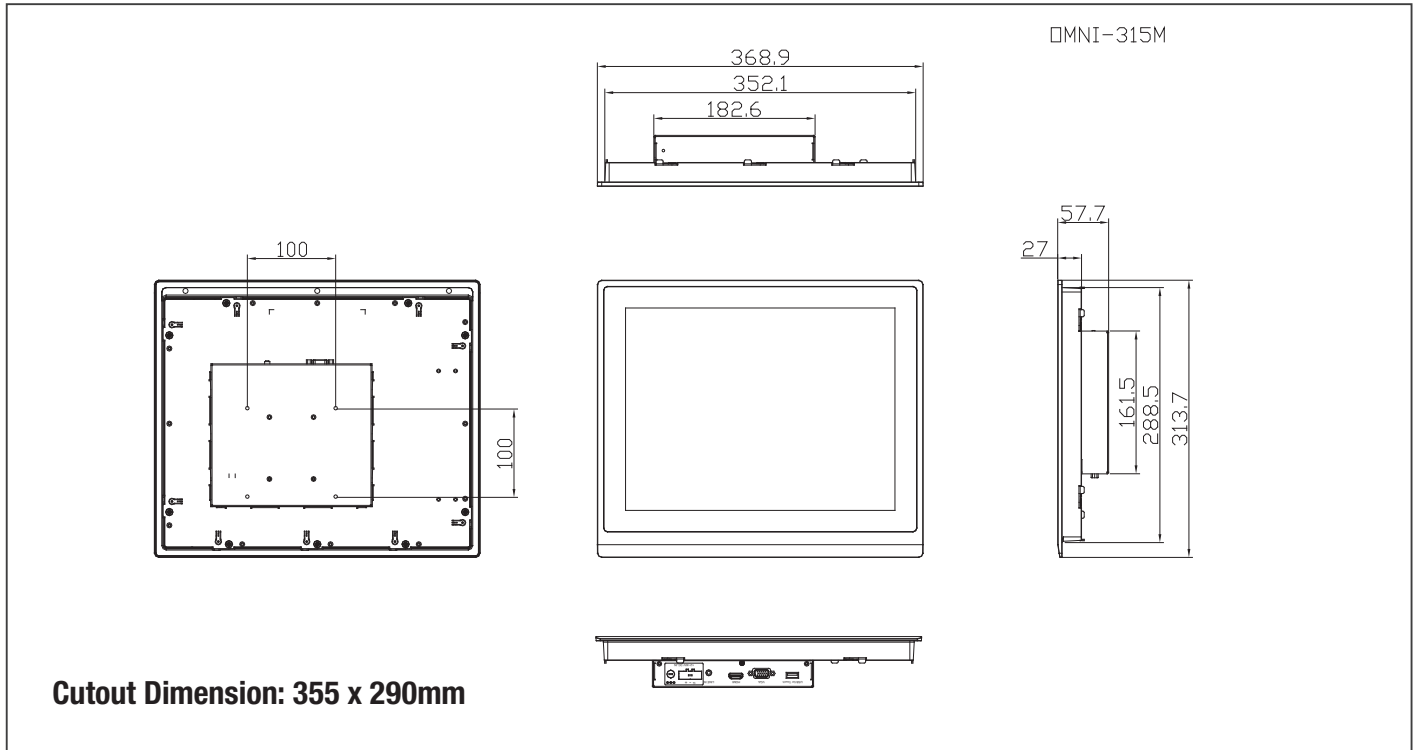


Specifications

System	
Input Signal	VGA / HDMI
On Screen Display Control	5 keys OSD keypad (Up, Down, Menu, Auto, Power)
I/O Port	DB-15 VGA x 1 HDMI x 1 USB x 1 (For Enable T/S Function) Line in x 1 (For optional internal Speaker) Power Input x 1(Terminal Block 3pin)
Os Support	Windows® 7 32/64-bit, Windows® 8 32/64-bit, Windows® 10 64-bit, Linux Ubuntu 16.04
Mechanical	
Construction	IP65 aluminum front bezel & SGCC chassis
Mounting	Panel Mount / VESA 100 x 100 / Stand
Dimension	14.5" x 12.4" x 2.3" (369mm x 314mm x 58mm)
Carton Dimension	20.1" x 18.1" x 9.8" (510mm x 460mm x 250mm)
Gross Weight	14 lbs (6.35 kg)
Net Weight	11.2 lbs (5.1 kg)
Environmental	
Operating Temperature	14°F ~ 131°F (-10°C ~ 55°C) With 0.5m/s Airflow
Storage Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Storage Humidity	10%~90% @104°F (40°C); non-condensing
Vibration	1 Grms / 5~500Hz/random Operation
Shock	—
EMC	CE/FCC, Class A
Power Supply	
Dc Input	DC 12~30V Power Input with 3 Pin Terminal Block
LCD	
Display Type	15" TFT-LCD
Max. Resolution	1024 x 768
Max. Colors	16.2M (8bit/color)
Luminance	300 cd/m ²
Viewing Angle	176° (H), 176° (V)
Back Light	LED
Back Light MTBF (Hours)	70,000
Touchscreen	
Type	Projective Capacitive Multi Touch or 5 Wire Resistive Touch Screen (By Model)
Light Transmission	P-CAP (90% ± 3%), 5-wire Resistive (80% ± 3%)
Life Time	—

Dimension

Unit: mm



Ordering Information

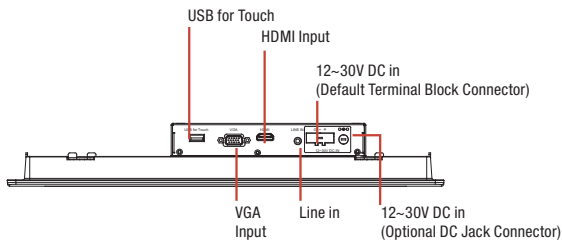
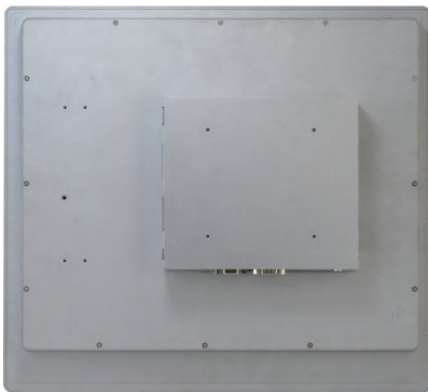
Part Number	Display Type	Max. Resolution	Luminance	View Angle	Backlight MTBF (Hours)	Display	Mounting	Power	Temp.	Touch	Others
OMNI-315MHTT-A1-1011	15" TFT-LCD	1024 x 768	300 cd/m ²	176° (H), 176° (V)	70,000	VGA x 1 HDMI x 1	Panel mount VESA 100	DC 12V~30V	14°F ~ 131°F (-10°C ~ 55°C) (with 0.5 m/s airflow)	Flat 5 Wire Resistive	—
OMNI-315MHTT-A2-1011	15" TFT-LCD	1024 x 768	300 cd/m ²	176° (H), 176° (V)	70,000	VGA x 1 HDMI x 1	Panel mount VESA 100	DC 12V~30V	14°F ~ 131°F (-10°C ~ 55°C) (with 0.5 m/s airflow)	Projected Capacitive	—

Packing List

- VGA Cable x 1
- USB Cable for Touch x 1
- Phoenix Power Connector
- OMNI-315M

Optional Accessories

- **125530040F**
12V 40W FSP040-DHAN3
- **1702031802**
Power Cord (US Type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **AP-OT9789LA1000**
LCD Monitor Stand 230mm, LA-100



Features

- 17" SXGA (1280 x 1024) TFT LCD Display
- Provide Projective Capacitive Touch or Resistive Touch Screen
- IP65 Aluminum Front Bezel
- DC 12~30V with Over Voltage/Current, Under Voltage Protection
- Optional Built-in Speakers

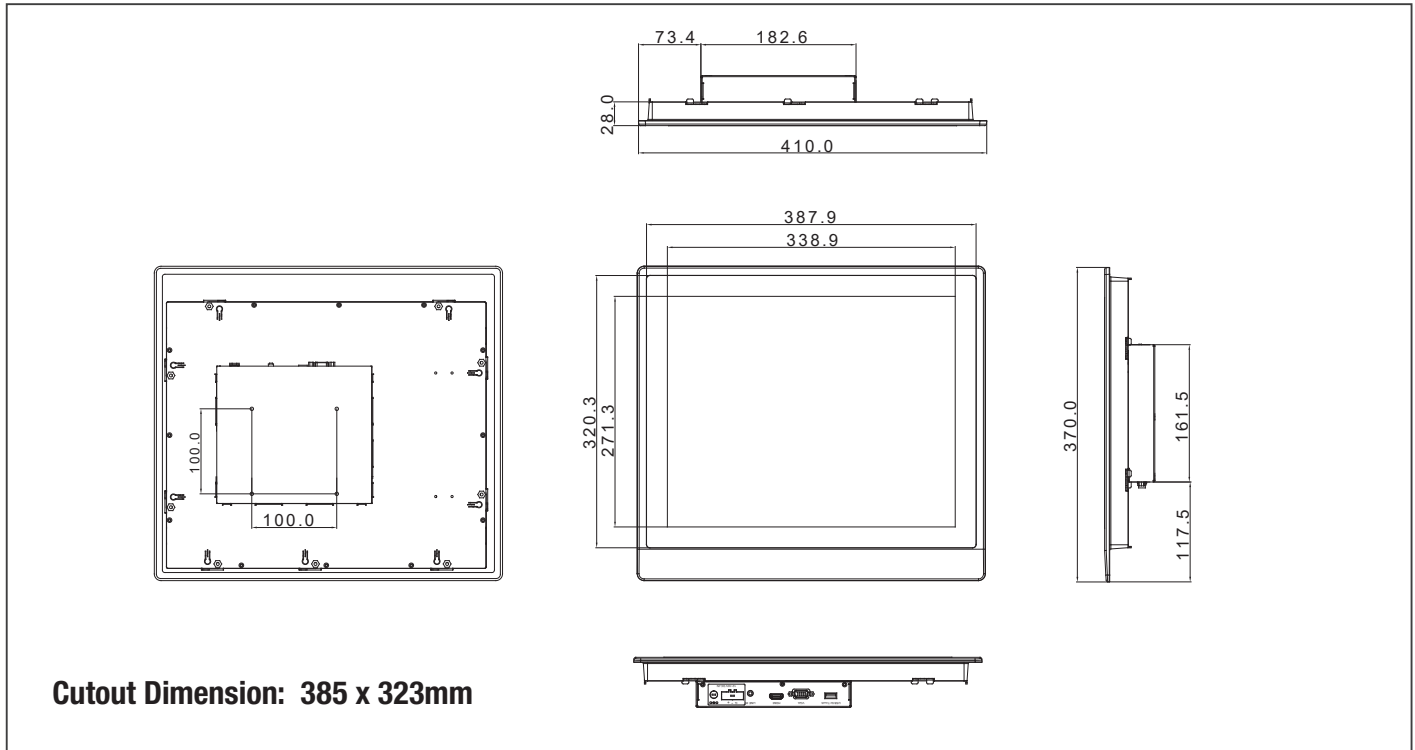


Specifications

System	
Input Signal	VGA / HDMI
On Screen Display Control	5 keys OSD keypad (Up, Down, Menu, Auto, Power)
I/O Port	DB-15 VGA x 1 HDMI x 1 USB x 1 (For Enable T/S Function) Line in x 1 (For optional internal Speaker) Power Input x 1(Terminal Block 3pin)
Os Support	Windows® 7 32/64-bit, Windows® 8 32/64-bit, Windows® 10 64-bit, Linux Ubuntu 16.04
Mechanical	
Construction	IP65 aluminum front bezel & SGCC chassis
Mounting	Panel Mount / VESA 100 x 100 / Stand
Dimension	16.1" x 14.6" x 2.3" (410mm x 370mm x 59.1mm)
Carton Dimension	20.6" x 19.3" x 10.3" (522mm x 490mm x 262mm)
Gross Weight	14.8 lbs (6.7 kg)
Net Weight	11.7 lbs (5.3 kg)
Environmental	
Operating Temperature	14°F ~ 131°F (-10°C ~ 55°C) With 0.5m/s Airflow
Storage Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Storage Humidity	10%~90% @104°F (40°C); non-condensing
Vibration	1 Grms / 5~500Hz/random Operation
Shock	—
EMC	CE/FCC, Class A
Power Supply	
Dc Input	DC 12~30V Power Input with 3 Pin Terminal Block
LCD	
Display Type	17" TFT-LCD
Max. Resolution	1280 x 1024
Max. Colors	16.7M
Luminance	350 cd/m ²
Viewing Angle	160° (H), 140° (V)
Back Light	LED
Back Light MTBF (Hours)	50,000
Touchscreen	
Type	Projective Capacitive Multi Touch or 5 Wire Resistive Touch Screen (By Model)
Light Transmission	P-CAP (90% ± 3%), 5-wire Resistive (80% ± 3%)
Life Time	—

Dimension

Unit: mm



Ordering Information

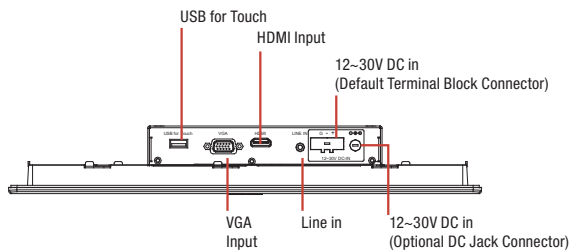
Part Number	Display Type	Max. Resolution	Luminance	View Angle	Backlight MTBF (Hours)	Display	Mounting	Power	Temp.	Touch	Others
OMNI-317MHTT-A1-1011	17" TFT-LCD	1280 x 1024	350 cd/m ²	160°(H), 140°(V)	50,000	VGA x 1 HDMI x 1	Panel mount VESA 100	DC 12V~30V	14°F ~ 131°F (-10°C ~ 55°C) (with 0.5 m/s airflow)	Flat 5 Wire Resistive	—
OMNI-317MHTT-A2-1010	17" TFT-LCD	1280 x 1024	350 cd/m ²	160°(H), 140°(V)	50,000	VGA x 1 HDMI x 1	Panel mount VESA 100	DC 12V~30V	14°F ~ 131°F (-10°C ~ 55°C) (with 0.5 m/s airflow)	Projected Capacitive	—

Packing List

- VGA Cable x 1
- USB Cable for Touch x 1
- Phoenix Power Connector
- OMNI-317M

Optional Accessories

- **125530040F**
12V 40W FSP040-DHAN3
- **1702031802**
Power Cord (US Type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **AP-OT9789LA1000**
LCD Monitor Stand 230mm, LA-100



Features

- 19" SXGA (1280 x 1024) TFT LCD Display
- Provide Projective Capacitive Touch or Resistive Touch Screen
- IP65 Aluminum Front Bezel
- DC 12~30V with Over Voltage/Current, Under Voltage Protection
- Optional Built-in Speakers

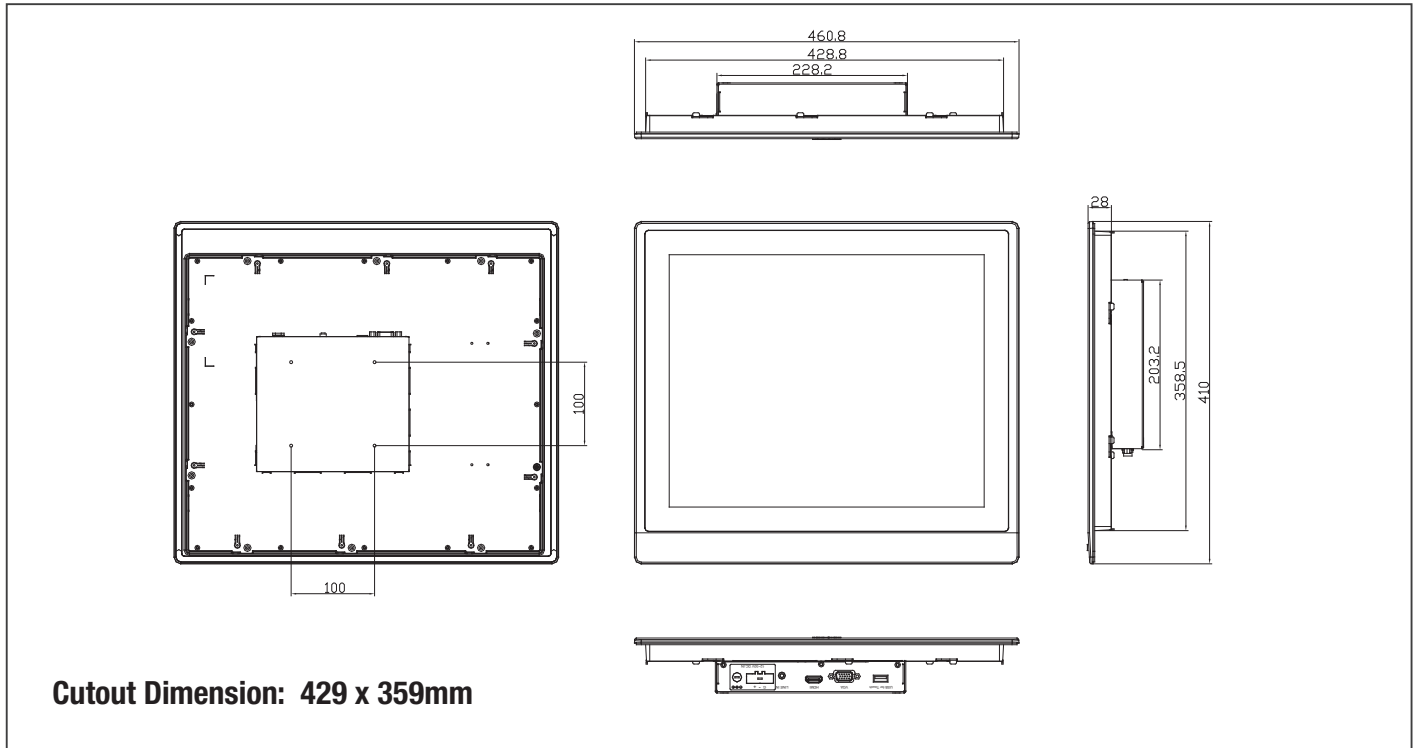


Specifications

System	
Input Signal	VGA / HDMI
On Screen Display Control	5 keys OSD keypad (Up, Down, Menu, Auto, Power)
I/O Port	DB-15 VGA x 1 HDMI x 1 USB x 1 (For Enable T/S Function) Line in x 1 (For optional internal Speaker) Power Input x 1(Terminal Block 3pin)
Os Support	Windows® 7 32/64-bit, Windows® 8 32/64-bit, Windows® 10 64-bit, Linux Ubuntu 16.04
Mechanical	
Construction	IP65 aluminum front bezel & SGCC chassis
Mounting	Panel Mount / VESA 100 x 100 / Stand
Dimension	18.1" x 16.1" x 2.3" (460.8mm x 410mm x 59.1mm)
Carton Dimension	26.0" x 19.5" x 8.1 (661mm x 496mm x 206mm)
Gross Weight	18.1 lbs (8.2 kg)
Net Weight	15.2 lbs (6.9 kg)
Environmental	
Operating Temperature	14°F ~ 131°F (-10°C ~ 55°C) With 0.5m/s Airflow
Storage Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Storage Humidity	10%~90% @104°F (40°C); non-condensing
Vibration	1 Grms / 5~500Hz/random Operation
Shock	—
EMC	CE/FCC, Class A
Power Supply	
Dc Input	DC 12~30V Power Input with 3 Pin Terminal Block
LCD	
Display Type	19" TFT-LCD
Max. Resolution	1280 x 1024
Max. Colors	16.7M
Luminance	350 cd/m ²
Viewing Angle	170° (H), 160° (V)
Back Light	LED
Back Light MTBF (Hours)	50,000
Touchscreen	
Type	Projective Capacitive Multi Touch or 5 Wire Resistive Touch Screen (By Model)
Light Transmission	P-CAP (90% ± 3%), 5-wire Resistive (80% ± 3%)
Life Time	—

Dimension

Unit: mm



Ordering Information

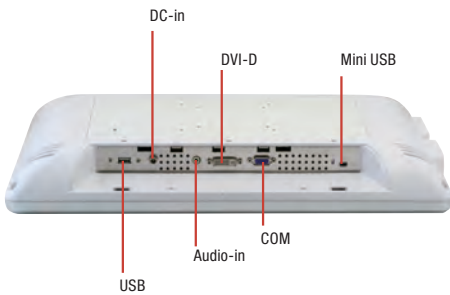
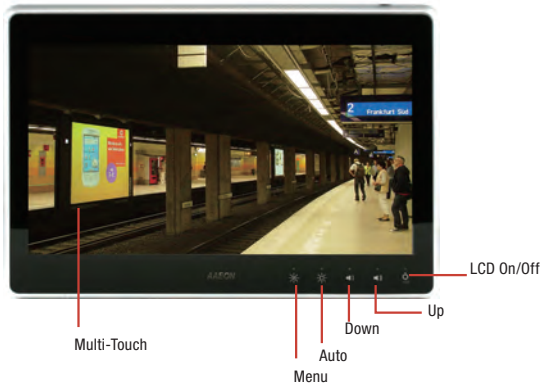
Part Number	Display Type	Max. Resolution	Luminance	View Angle	Backlight MTBF (Hours)	Display	Mounting	Power	Temp.	Touch	Others
OMNI-319MHTT-A1-1011	19" TFT-LCD	1280 x 1024	350 cd/m ²	170(H), 160(V)	50,000	VGA x 1 HDMI x 1	Panel mount VESA 100	DC 12V~30V	14°F ~ 131°F (-10°C ~ 55°C) (with 0.5 m/s airflow)	Flat 5 Wire Resistive	—
OMNI-319MHTT-A2-1010	19" TFT-LCD	1280 x 1024	350 cd/m ²	170(H), 160(V)	50,000	VGA x 1 HDMI x 1	Panel mount VESA 100	DC 12V~30V	14°F ~ 131°F (-10°C ~ 55°C) (with 0.5 m/s airflow)	Projected Capacitive	—

Packing List

- VGA Cable x 1
- USB Cable for Touch x 1
- Phoenix Power Connector
- OMNI-319M

Optional Accessories

- **125530040F**
12V 40W FSP040-DHAN3
- **1702031802**
Power Cord (US Type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **AP-OT9789LA1000**
LCD Monitor Stand 230mm, LA-100



Features

- 15.6" WXGA (1366 x 768) TFT LED type LCD
- Multi-Touch Window Design (2-Point)
- IP65 Front Bezel & IPX1 Back Chassis
- 7H Anti-Scratch Surface
- Fanless Operation
- Easy To Clean

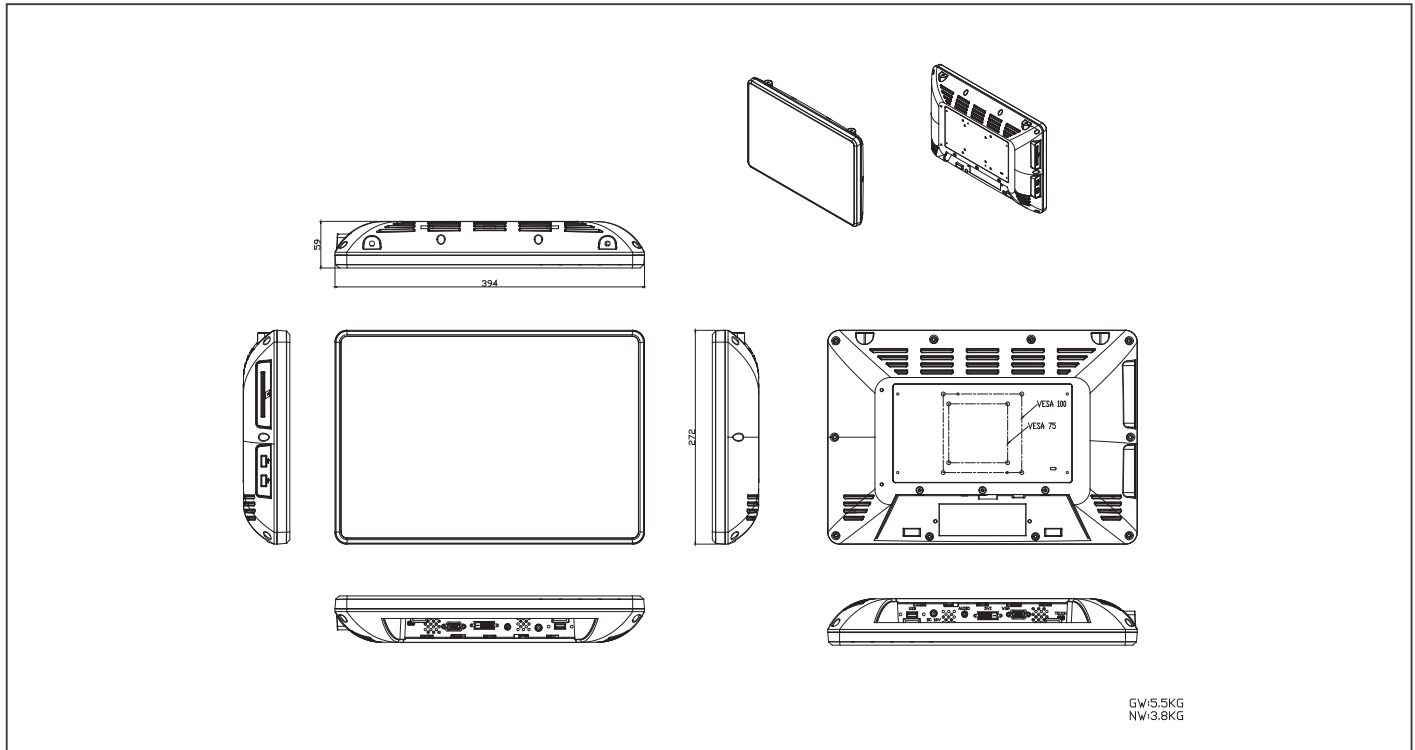


Specifications

System	
Input Signal	VGA/ DVI-D
On Screen Display Control	Auto, Menu, Up, Down, LCD On/Off
I/O Connector	USB x 3 (2 on side; 1 on rear), VGA/DVI x 1, Mini-USB x 1 (for T/S), Line-out x 1, 2W speaker x 2
OS Support	Windows® XP (T/S: single point), Linux Fedora (T/S: single point), Windows® 7 (T/S: multi-point)
Mechanical	
Construction	IP65/ NEMA4 for plastic front bezel, IPX1 for plastic chassis
Mounting	VESA 75/100
Dimension	15.51" x 10.71" x 2.32" (394mm x 272mm x 59mm)
Carton Dimension	20.47" x 18.5" x 9.06" (520mm x 470mm x 230mm)
Gross Weight	11.02 lb (5 kg)
Net Weight	6.6 lb (3 kg)
Environmental	
Operating Temperature	32°F ~ 104°F (0°C ~ 40°C)
Storage Temperature	-4°F ~ 140°F (-20°C ~ 60°C)
Storage Humidity	10~95% @ 40°C, non-condensing
Vibration	1 Grms/ 5~500Hz/ random operation
Shock	15 G peak acceleration (11 msec. duration)
EMC	CE/FCC class A
Power Supply	
DC Input	DC 12V, with lockable power adapter
LCD	
Display Type	15.6" TFT-LCD, LED type
Max. Resolution	1366 x 768
Max. Colors	16.7M colors (6/8-bit for R,G,B)
Luminance	400 cd/m ²
Viewing Angle	160° (H)/140° (V)
Back Light	LED
Back Light MTBF (Hours)	50,000
Touchscreen	
Type	Projected capacitive multi-touch (2-point)
Light Transmission	90%

Dimension

Unit: mm



Ordering Information

Part Number	Display Type	Max. Resolution	Luminance	View Angle	Backlight MTBF (Hours)	Display	Mounting	Power	Temp.	Touch	Other
TF-ACD-515DHTT-A2-1013	15.6" TFT-LCD	1366 x 768	400 cd/m ²	160°(H), 140°(V)	50,000	VGA x 1 DVI x 1	VESA 75/100/Wall	DC 12V	0°C ~ 40°C (w/o air)	Projected Capacitive multi-touch (2-point)	—

Packing List

- VGA Cable
- USB Cable
- Audio Plug Cable
- AC/DC 12V Power Adapter with Lock
- ACD-515D

Optional Accessories

- **1700151806**
VGA Cable, 180cm
- **1709051000**
Mini-USB to USB type A for Touch Screen
- **1700091800**
DB-9, 180cm, RS-232 For Touch Screen
- **1702031802**
Power Cord (US Type)
- **1702031803**
Power Cord (European Type)
- **170203180E**
Power Cord (Japanese Type)
- **ARM-WK075-0**
Wallmount kit

UP Systems

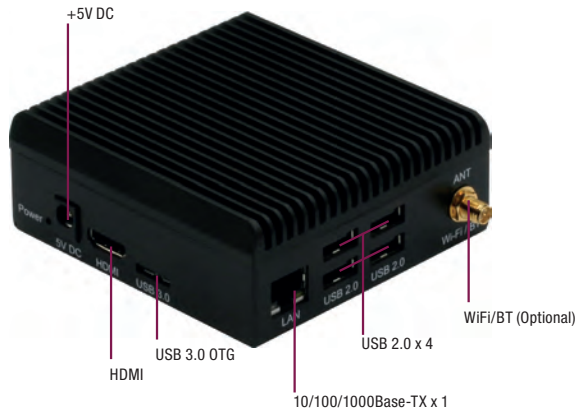
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UP
bridge
the gap



Front View



Rear View



Features

- Intel® Atom™ x5-Z8350 SoC
- Onboard DDR3L Memory
- Onboard eMMC Storage
- Gigabit LAN x 1, USB 2.0 x 4, USB 3.0 x 1, HDMI x 1
- Optimized Fanless Cooling Design
- Wi-Fi (Optional)
- BT 4.0 (Optional)

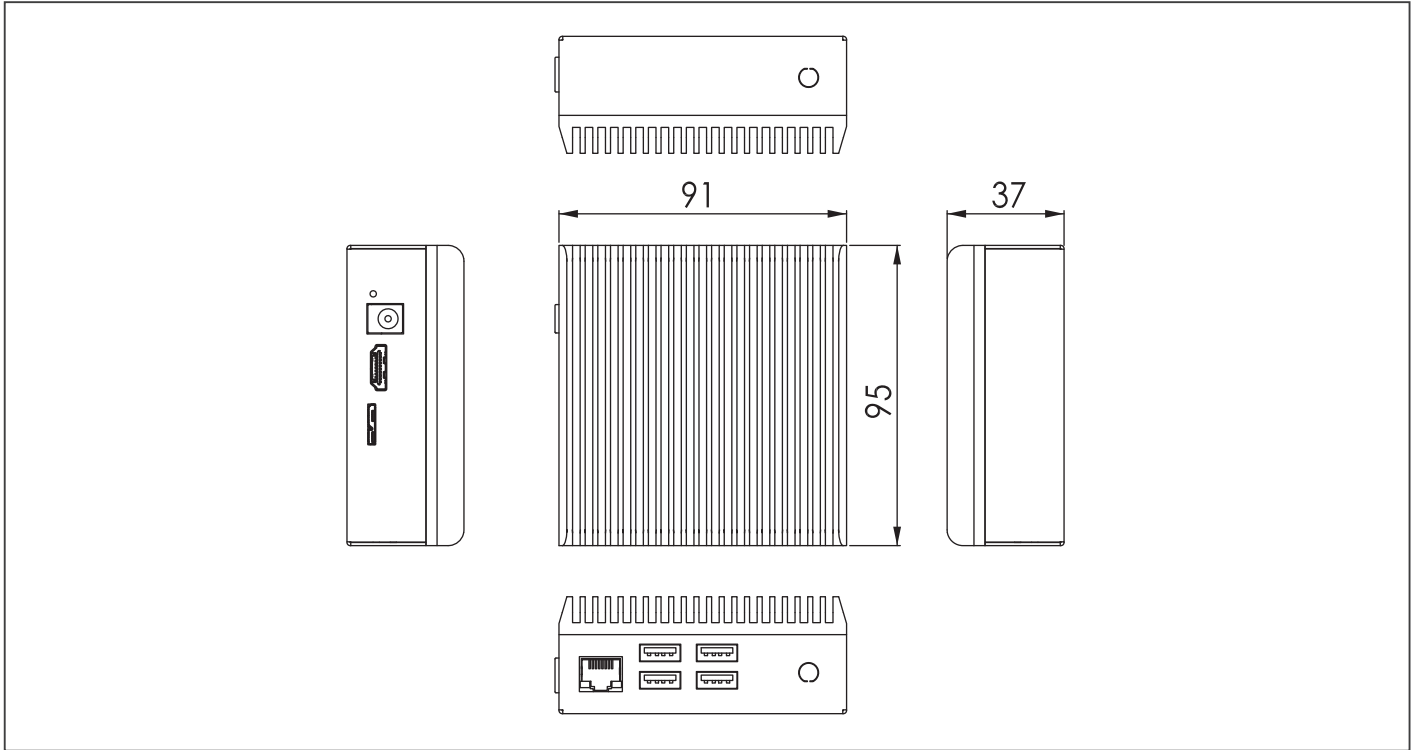


Specifications

System	
CPU	Intel® Atom™ x5-Z8350 Processor (2M Cache, 1.44 GHz up to 1.92 GHz) CPU with 64 bit architecture; Quad Core
Memory	Onboard DDR3L memory
Graphics	Intel® HD 400 Graphics ,12 EU GEN 8, up to 500MHz Support DX*11.1/12, Open GL*4.2, Open CL*1.2 OGL ES3.0, H.264, HEVC (decode), VP8
Storage	Onboard eMMC
Ethernet	Gb LAN x 1
WiFi/BT	Optional
Audio	HDMI x 1
USB	USB2.0 x 4, USB3.0 OTG x 1
Expansion Slot	—
I/O Placements	
Power	DC-in Jack x 1
USB	USB2.0 x 4, USB3.0 OTG x 1
Display Port	HDMI x 1
Ethernet	Gb LAN x 1
COM	—
Environment	
Power	5V/4A DC Only
Form Factor	3.74" x 3.58" x 1.46" (95mm x 91mm x 37mm)
Gross Weight	—
Operating Temperature	32°F ~ 104°F (0°C ~ 40°C)
Operating Humidity	0% ~ 90% relative humidity non-condensing
Certification	CE/FCC Class A
OS Support	Windows® 10, Linux, Android 6.0, Windows® 10 IoT core

Dimension

Unit: mm



Ordering Information

Product SKU	Description
UP-GWS01-A20-0232	UP-GWS01, w/2G memory, 32G eMMC board w/o VESA plate
UP-GWS01-A20-1232	UP-GWS01, w/2G memory, 32G eMMC board w/ VESA plate
UP-GWS01-A20-0432	UP-GWS01, w/4G memory, 32G eMMC board w/o VESA plate
UP-GWS01-A20-1432	UP-GWS01, w/4G memory, 32G eMMC board w/ VESA plate

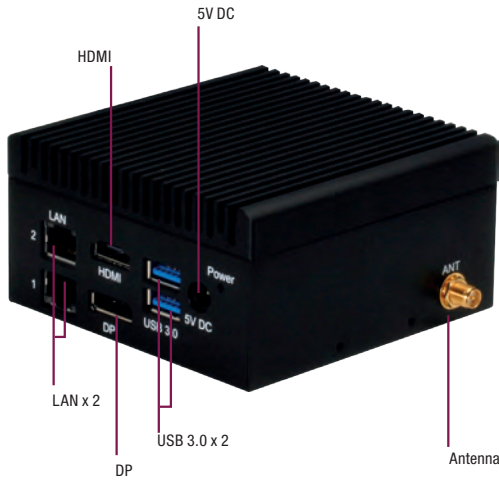
Packing List

- UP-GWS01

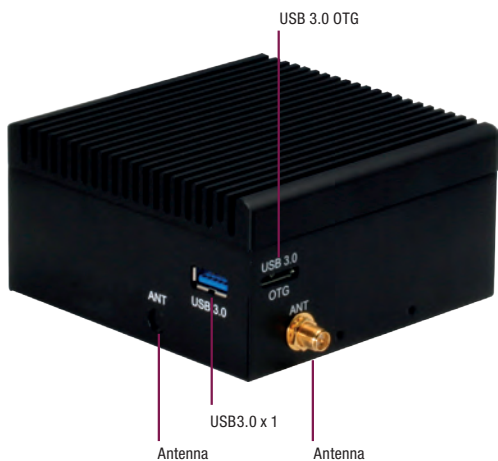
Optional Accessories

- **UP-WIFIKIT-A20-4001**
WiFi module KIT, IEEE 802.11 a/b/g/n, 2.4GHz and 5GHz, w/ Cable and Antenna
- **UP-WIFIKIT-A20-7001**
WiFi module KIT, IEEE 802.11 b/g/n, 2.4GHz, w/ Cable and Antenna
- **UP-BTKIT-A20-0001**
Bluetooth module, 2.4GHz, w/ Cable and Antenna
- **1255300203**
5V/4A Power Adapter
- **1709100802**
USB 3.0 OTG cable, Micro B to Micro B

Front View



Rear View



Features

- Intel® Pentium® N4200/ Celeron® N3350 Processor SoC/Atom® E3950
- Onboard LPDDR4 Memory, eMMC Storage
- Gigabit LAN x 2
- HDMI x 1, DP x 1
- USB 3.0 x 3, USB 3.0 OTG x 1
- 3G/ WiFi/ BT(Optional)

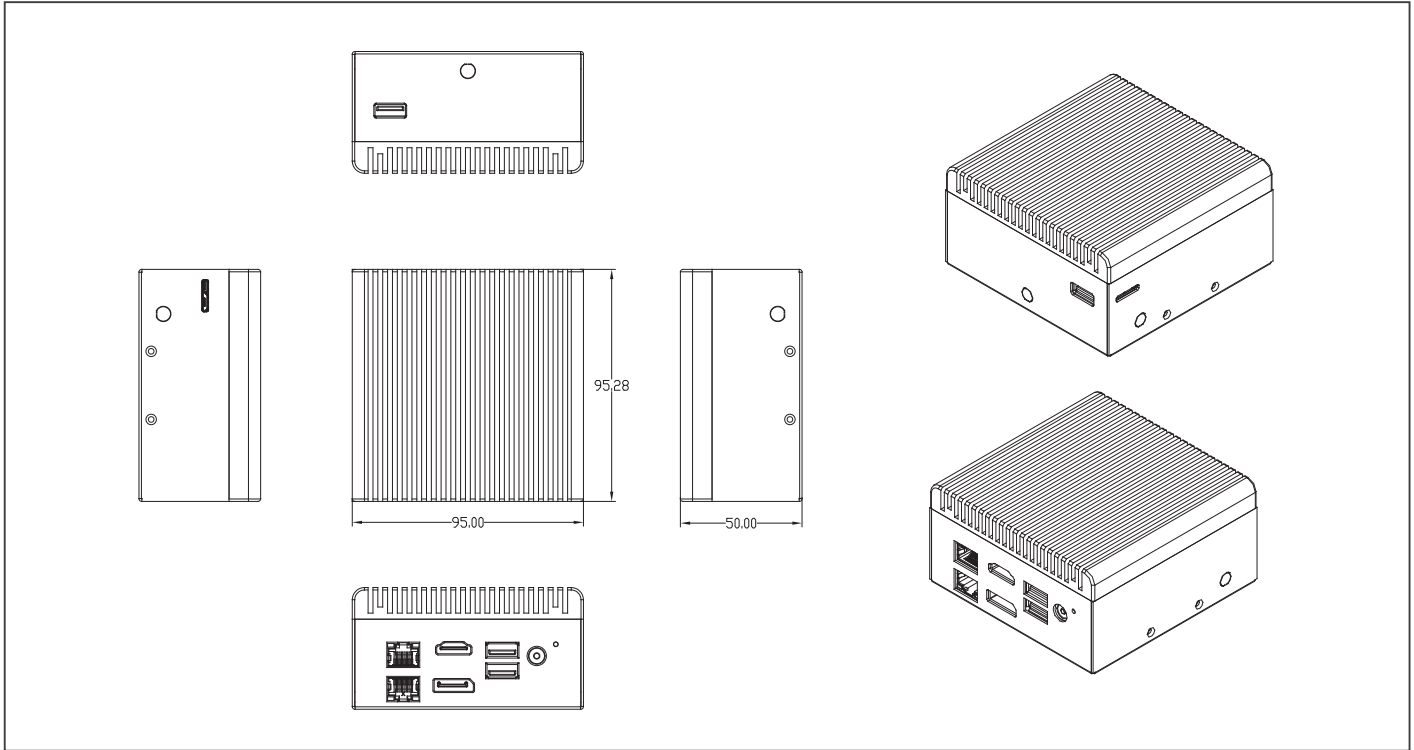


Specifications

System	
CPU	Intel® Pentium® N4200/ Celeron® N3350 Processor SoC/Atom® E3950
Memory	Onboard Single/ Dual Channel LPDDR4 memory, Max. 8GB
Graphics	Intel® Graphics, GEN 9
Storage	eMMC ver 5.0 x 1, Max. 128G
Ethernet	Realtek® 8111G x 2
WiFi/BT	—
Audio	HDMI x 1, DP x 1
USB	USB3.0 x 3
Expansion Slot	Minicard (MINI card with SIM) socket x 1
I/O Placements	
Power	DC-in Jack x 1, Power Button x 1
USB	USB3.0 x 2, USB3.0 OTG x 1/ USB3.0 x 1
Display Port	HDMI x 1, DP x 1
Ethernet	Realtek® 8111G x 2
COM	—
Environment	
Power	5V DC Only
Form Factor	3.74" x 3.74" x 1.97" (95mm x 95mm x 50mm)
Gross Weight	—
Operating Temperature	32°F ~ 113°F (0°C ~ 45°C)
Operating Humidity	0% ~ 90% relative humidity non-condensing
Certification	CE, FCC Class A, UL
OS Support	Windows® 10, Linux, Android 7.0, Windows® 10 IoT core

Dimension

Unit: mm



Ordering Information

Product SKU	Description
UPS-GWS01C2-A20-0232	UPS-GWS01, CPU N3350, w/2G memory, 32G eMMC board w/o VESA plate
UPS-GWS01C2-A20-1232	UPS-GWS01, CPU N3350, w/2G memory, 32G eMMC board w/ VESA plate
UPS-GWS01C2-A20-0432	UPS-GWS01, CPU N3350, w/4G memory, 32G eMMC board w/o VESA plate
UPS-GWS01C2-A20-1432	UPS-GWS01, CPU N3350, w/4G memory, 32G eMMC board w/ VESA plate
UPS-GWS01P4-A20-0432	UPS-GWS01, CPU N4200, w/4G memory, 32G eMMC board w/o VESA plate
UPS-GWS01P4-A20-1432	UPS-GWS01, CPU N4200, w/4G memory, 32G eMMC board w/ VESA plate
UPS-GWS01P4-A20-0864	UPS-GWS01, CPU N4200, w/8G memory, 64G eMMC board w/o VESA plate
UPS-GWS01P4-A20-1864	UPS-GWS01, CPU N4200, w/8G memory, 64G eMMC board w/ VESA plate
UPS-GWS01X7-A20-0432	UPS-GWS01, CPU E3950, w/4G memory, 32G eMMC board w/o VESA plate
UPS-GWS01X7-A20-0864	UPS-GWS01, CPU E3950, w/8G memory, 64G eMMC board w/o VESA plate

Packing List

- UPS-GWS01

Optional Accessories

- **1702020910**
Power cord for EU
- **1702020911**
Power cord for US
- **9741UC20G0**
Mini PCIe 3G Module Kit
- **9741UC20G1**
Mini PCIe 3G Module Kit with SIM Slot
- **1255300362**
30W.5VDC/6A power adapter
- **1709100802**
USB 3.0 OTG cable, Micro B to Micro B
- **PER-TAICX-A10-003**
AI Core X mPCIe card with single Myriad X .w/o heat sink

Front View



Features

- Intel® Atom™ Processor
- Onboard DDR3L Memory, eMMC Storage
- Onboard WiFi, Bluetooth
- HDMI x 1
- USB 3.0 x 1
- COM x 1
- Gigabit LAN x 1



Rear View

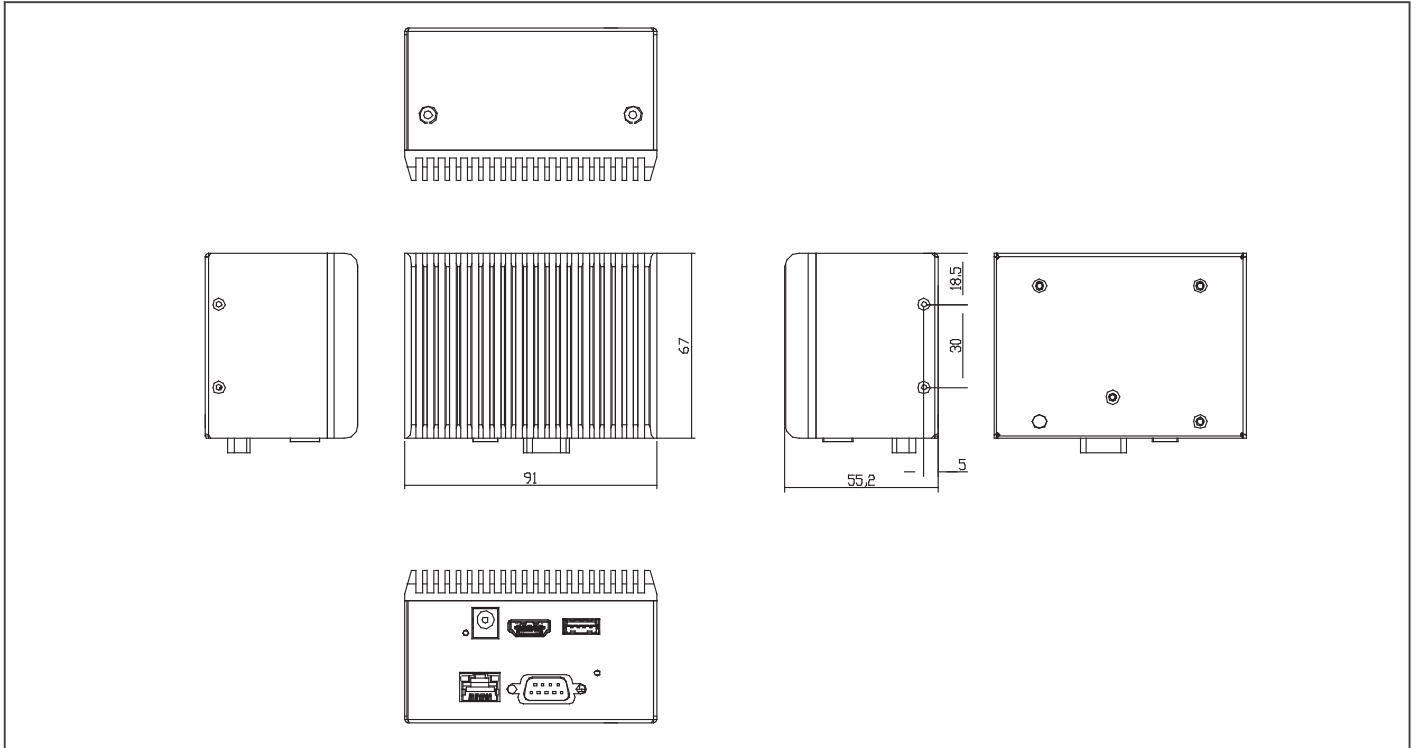


Specifications

System	
CPU/Chipset	Intel® Atom™ x5-Z8350 Processor
Memory	1GB/ 2GB/ 4GB onboard DDR3L-1600
Graphics	Intel® HD 400 Graphics
Storage	16GB/32GB/64GB eMMC
Ethernet	Realtek® 8111G x 1
WiFi/BT	WiFi802.11 b/g/n @2.4 GHz, Bluetooth 4.0
Audio	HDMI x 1
USB	USB 3.0 Host x 1
Expansion Slot	Minicard (MINI card with SIM) socket x 1
I/O Placements	
Power	5V DC x 1
USB	USB3.0 x 1
Display Port	HDMI x 1
Ethernet	RJ-45 x 1
COM	RS-232/422/485 x 1
Environment	
Power	5V/4A DC Only
Form Factor	3.58" x 2.63" x 2.17" (91mm x 67mm x 55.2mm)
Gross Weight	0.77 lb (0.35 kg)
Operating Temperature	32°F ~ 104°F (0°C ~ 40°C)
Operating Humidity	10% ~ 80% relative humidity, non-condensing
Certification	CE, FCC Class A
OS Support	Windows® 10, Linux (UbiLinux, Ubuntu, Yocto), Android 6.0, Windows® 10 IoT core

Dimension

Unit: mm



Ordering Information

Product SKU	Description
UPC-GWS01-A20-0216	UPC-GWS01, w/2G memory, 16G eMMC board w/o VESA plate
UPC-GWS01-A20-0232	UPC-GWS01, w/2G memory, 32G eMMC board w/o VESA plate
UPC-GWS01-A20-0432	UPC-GWS01, w/4G memory, 32G eMMC board w/o VESA plate
UPC-GWS01-A20-0464	UPC-GWS01 w/4G memory, 64G eMMC board w/o VESA plate

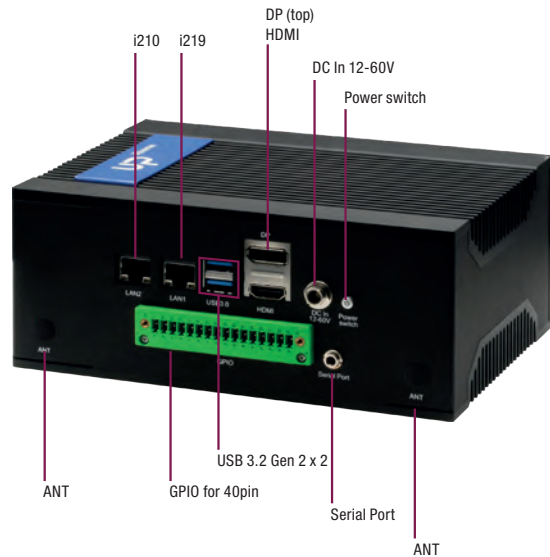
Packing List

- Antenna x 1
- UPC-GWS01

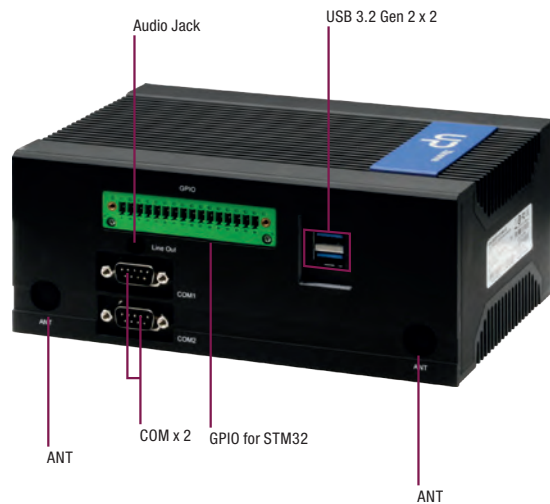
Optional Accessories

- 1255300203
5V/4A Power Adapter

Front View



Rear View



Features

- Intel® WHL-U Core™ i7/i5/i3/Celeron Processor SoC
- Onboard DDR4 memory, Max 16GB
- eMMC 64GB
- HDMI 2.0 x 1 (Support 4K at 60 Hz)
- COM ports (RS-232/422/485) x 2
- 16pin GPIO connectors (1 x GPIO for STM32, 1 x GPIO for 40pin HAT)
- Audio Jack x 1 (line out + Mic)
- 12-60V DC-in
- Fanless Chassis design

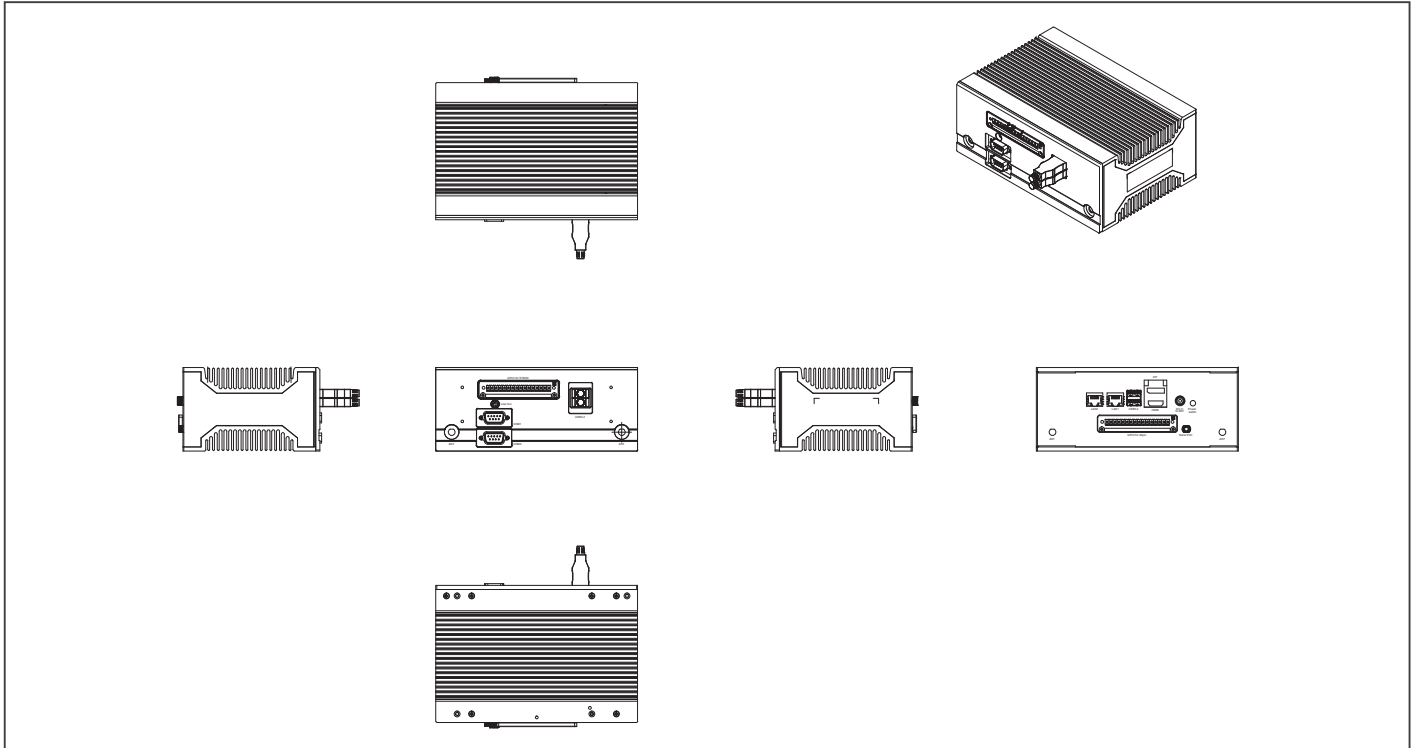


Specifications

System	
CPU	8th generation Intel® Core™ i7/i5/i3/Celeron Processor SoC
Memory	Onboard DDR4 memory, Max 16GB Single Channel: 4GB Dual Channel: 8GB, 16GB
Graphics	Intel® Graphics, GEN 9
Storage	eMMC 64GB
Ethernet	i7/i5 SKU LAN (i210 AT) x 1, LAN (i219 LM) x 1 i3/Celeron® LAN (i210 AT) x 1, LAN (i219 V) x 1
WiFi/BT	Optional
Audio	Line out + MIC x 1
USB	USB 3.2 Gen 2 x 4
Expansion Slot	M.2 2230 E Key x 1 M.2 2280 M Key x 1 mPCIe slot x 1 100pin connector x 1 40 pin HAT x 1 SATA3 connector x 1 (support 2.5" HDD/SSD expansion)
I/O Placements	
Power	DC-in Jack x 1, Power Button x 1
USB	USB 3.2 Gen 2 STACK Connector for 2 ports (Front) x 1 USB 3.2 Gen 2 STACK Connector for 2 ports (Rear) x 1
Display Port	HDMI 2.0 x 1 (Support 4K at 60 Hz), DP 1.2 x 1, 16pin GPIO connectors (1 x GPIO for SMT32, 1 x GPIO for 40pin HAT)
Ethernet	RJ45 connector x 2
COM	RS-232/422/485 x 2
Environment	
Power	12V - 60VDC
Form Factor	7.48" x 5.12" x 3.1" (190mm x 130mm x 78.6mm)
Gross Weight	6.61lbs (3kg)
Operating Temperature	eMMC: 32°F ~ 140°F (0°C ~ 60°C) SATA: -4°F ~ 158°F (-20°C ~ 70°C) With AI module: 32°F ~ 140°F (0°C ~ 60°C)
Operating Humidity	0% ~ 90% relative humidity non-condensing
Certification	CE/FCC Class A, RoHS Compliant, REACH
OS Support	Win 10, Linux Ubuntu 18.04 with Kernel 5.0, Linux Yocto 2.7 with Kernel 4.19

Dimension

Unit: mm



Ordering Information

Part number	CPU	RAM	Storage	LAN	USB	RS-232/422/485	Power	Operation Temp.	Others
UPX-EDGEI7-A10-1664-F01	Core™ i7-8665UE	16GB	64GB	GbE x 2	USB 3.2 Gen 2 x 4	2	12-60V	-4°F ~ 158°F (-20°C ~ 70°C)	—
UPX-EDGEI5-A10-0864-F01	Core™ i5-8365UE	8GB	64GB	GbE x 2	USB 3.2 Gen 2 x 4	2	12-60V	-4°F ~ 158°F (-20°C ~ 70°C)	—
UPX-EDGEI3-A10-0864-F01	Core™ i3-8145UE	8GB	64GB	GbE x 2	USB 3.2 Gen 2 x 4	2	12-60V	-4°F ~ 158°F (-20°C ~ 70°C)	—
UPX-EDGEICR-A10-0464-F01	Celeron® 4305UE	4GB	64GB	GbE x 2	USB 3.2 Gen 2 x 4	2	12-60V	-4°F ~ 158°F (-20°C ~ 70°C)	—
UPX-EDGEI7C-A10-1664-F01	Core™ i7-8565U	16GB	64GB	GbE x 2	USB 3.2 Gen 2 x 4	2	12-60V	-4°F ~ 158°F (-20°C ~ 70°C)	—
UPX-EDGEI7-A10-1664-FX1	Core™ i7-8665UE	16GB	64GB	GbE x 2	USB 3.2 Gen 2 x 4	2	12-60V	-4°F ~ 158°F (-20°C ~ 70°C)	With foundation kit image preload, AI Core X 2280
UPX-EDGEI5-A10-0864-FX1	Core™ i5-8365UE	8GB	64GB	GbE x 2	USB 3.2 Gen 2 x 4	2	12-60V	-4°F ~ 158°F (-20°C ~ 70°C)	With foundation kit image preload, AI Core X 2280
UPX-EDGEI3-A10-0864-FX1	Core™ i3-8145UE	8GB	64GB	GbE x 2	USB 3.2 Gen 2 x 4	2	12-60V	-4°F ~ 158°F (-20°C ~ 70°C)	With foundation kit image preload, AI Core X 2280
UPX-EDGEICR-A10-0464-FX1	Celeron® 4305UE	4GB	64GB	GbE x 2	USB 3.2 Gen 2 x 4	2	12-60V	-4°F ~ 158°F (-20°C ~ 70°C)	With foundation kit image preload, AI Core X 2280

Packing List

- VESA Kit
- DIN-RAIL Kit
- SATA cable
- Screw packs
- UPX-EDGE

Optional Accessories

- **125530065A**
19Vdc/3.42A.65W power adapter
- **1702031830**
Power cord for USA
- **9741364A00**
Wireless LAN Kit M.2 2230 802.11ac/a/b/g/n + BT4.0,2T2R, with 2 sets of cable & antenna (Enli,QCNFA364A)
- **PER-TAIX2-A20-2280**
AI Core XM 2280.N/A.M.2 2280 B+M key card. with Dual Myriad X
- **9741159H00**
(TF)Wireless LAN kit.IEEE 802.11.b/g/n.w/ BT 4.0/3.0.(AzureWave.AW-NB159H).w/ cable.&antenna (mini card)
- **9741EC25E0**
(TF)PCIe mimi card.4G LTE.module kit .for Europe.W/Cable & antenna.Quectel EC25-E

Front View

Launching in Q1

Rear View

Features

- Intel® WHL-U Core i7/i5/i3/Celeron® Processor SoC
- DDR4 SO-DIMM Slot x 1 (up to 16GB)
- 40-pin HAT Connector
- SATA 3 x 1
- M.2 3042/3052 B Key x 1
- M.2 2280 M Key x 1 (PCIe [x2])
- M.2 2230 E Key x 1
- Audio Jack x 1 (line out + Mic)
- Lockable DC Connector

Specifications

System	
CPU	8th generation Intel® Core i7/i5/i3/Celeron Processor SoC
Memory	DDR4 SO DIMM slot x 1 , Max 16GB
Graphics	Intel® Graphics , GEN 9
Storage	SATA3 (6Gb/s) x 3: a. SATA connector x 1 b. M.2 2280 SATA option (auto detect) x 1
Ethernet	Intel i211 GbE port x2
WiFi/BT	Optional
Audio	Line out + MIC x 1
USB	USB 3.2 Gen 2 x 4
Expansion Slot	M.2 2230 E Key x 1 M.2 2280 B+M Key x 1 M.2 3042/3052 B Key x 1 40pin HAT
I/O Placements	
Power	DC-in Jack x 1, Power Button x 1
USB	USB 3.2 Gen 2 STACK Connector for 2 ports (Front) x 1 USB 3.2 Gen 2 STACK Connector for 2 ports (Rear) x 1
Display Port	HDMI 1.4 x 1 DP 1.2 x 1 eDP x 1
Ethernet	RJ45 connector x 2
COM	RS-232/422/485 x 2
Environment	
Power	12V - 24VDC
Form Factor	5.59" x 4.89" x 1.8" (142mm x 124mm x 45.7mm)
Gross Weight	—
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
Certification	CE/FCC Class A, RoHS Compliant, REACH
OS Support	Win 10, Linux Ubuntu 18.04 with Kernel 5.0, Linux Yocto 2.7 with Kernel 4.19

UP Xtreme EDGE i11 Computing System with Intel® WHL-U Core™ i7/i5/i3/Celeron® Processor SoC

Front View



Rear View



Features

- Intel® WHL-U Core i7/i5/i3/Celeron® Processor SoC
- DDR4 SO-DIMM Slot x 1 (up to 64GB)
- 40-pin HAT Connector
- SATA 3 x 1
- M.2 3052 B Key x 1
- M.2 2280 M Key x 1
- M.2 2230 E Key x 1
- PCIe x 4 slot
- Audio Jack x 1 (line out + Mic)
- Lockable DC Connector

Specifications

System	
CPU	Intel® 11st GEN Core™ i7/i5/i3/Celeron Processor SoC
Memory	DDR4 2 channel SO-DIMM VERTICAL MAX 64GB @ 3200MT/s---> horizontal one
Graphics	Intel® Graphics , GEN 12
Storage	SATA CONN x 1 with POWER CONN M.2 2280 KEY M-key x 1 (combo PCIE X 2) NVME
Ethernet	Intel® i211 GbE port x 2, Intel i2251T (TSN/TCC) x 2, Intel i219 (vPRO) x 1
WIFI/BT	Optional
Audio	Soundwire Codec for Audio Out/Mic In/SPDIF*, I2S
USB	USB3.2 x 2 USB4.0 x 1/Thunderbolt Type-C
Expansion Slot	M.2 2230 E-Key x 1 M.2 2280 M-Key x 1 M.2 3052 B-Key x 1 with SIM 40pin HAT x 1 PCIE4.0 CONNECTOR DIP x 1 SATA3.0 with power connector x 1
I/O Placements	
Power	12V-24V DC-in (Lockable plug)/ Phoenix connector (optional)
USB	USB 3.2 Gen 2 Type-A x 2 USB4.0 x 1/Thunderbolt Type-C (optional)
Display Port	HDM 2.0 x 1 /DP 1.4 x 1 eDP x 1 , 4K60 internal panel
Ethernet	RJ45 connector x 2
COM	Fintech F81214E, 2 x RS232/422/485 WAFER
Environment	
Power	12V (AT & ATX)
Form Factor	—
Gross Weight	—
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
Certification	CE,FCC Class A
OS Support	Windows 10 /IOT,Yocto project 3.0 Kernel 5.4, Ubuntu 20.04 Kernel 5.4

Front View



Rear View



Features

- Intel® Pentium® N4200/ Celeron® N3350/ Atom™ E3950 Processor SoC
- Onboard LPDDR4 Memory up to 8GB
- Onboard eMMC Storage up to 64GB
- Gigabit LAN x 2, USB 2.0 x 2, USB 3.2 Gen 1 (Type A) x 3
- 12-24 VDC-in, 5A
- 40 pin GPIO x 1
- DP/eDP/HDMI x 1
- M.2 2230 E-key x 1
- M.2 2280 M-key x 1
- SATA3 x 1
- M.2 3042/3052 B-key x 1

Specifications

System	
CPU	Intel® Apollo Lake N4200/N3350/E3950 Processor SoC
Memory	onboard DDR4, Max 8GB Single Channel:2GB Dual Channel:4GB,8GB
Graphics	Intel® Graphic ,Gen 9
Storage	Emmc 32G/64G
Ethernet	Intel i210 x2
WIFI/BT	Optional
Audio	Line out+MIC x1
USB	USB 2.0 x 2 USB 3.2 Gen 1 OTG x 1 USB 3.2 Gen 1 (Type A) x 3
Expansion Slot	40 pin GPIO x 1 M.2 2230 E-key x 1 M.2 2280 M-key x 1 SATA3 x 1 5G 3052/3042 B-key x 1 (support with SIM)
I/O Placements	
Power	12V-24V DC-in (Lockable plug)/ Phoenix connector (optional)
USB	USB2.0 x2, USB3.2 Gen1 OTG x 1 USB3.2 Gen1 (Type A) x 3
Display Port	eDP
Ethernet	Gb Ethernet (full speed) RJ-45 x 2 (Intel i210)
COM	RS422/RS232/RS485 x 2
Environment	
Power	12-24VDC
Form Factor	—
Gross Weight	—
Operating Temperature	—
Operating Humidity	0% ~ 90% relative humidity, non-condensing
Certification	CE/FCC Class A, RoHS Compliant , REACH
OS Support	Microsoft Windows 10 (full), Windows IOT Core Linux: Ubuntu 18.04.5 & Ubuntu 20.04.1 Yocto 2.5(Sumo)

UPN-EDGE Pro2 Intel® Atom™ X6000E Series and Intel Pentium® and Celeron® N and J Series Processor
(formerly Elkhart Lake)

Front View



Rear View



Features

- Intel® Atom™ X6000E Series and Intel Pentium® and Celeron® N and J Series Processor(formerly Elkhart Lake)
- Gigabit LAN x 2, USB 3.2 Gen 1 (Type A) x 2
- 12 VDC-in, 5A
- 40 pin GPIO x 1
- DP/eDP/HDMI x 1
- M.2 2230 E-key x 1
- M.2 2280 M-key x 1
- SATA3 x 1
- M.2 3042/3052 B-key x 1

Specifications

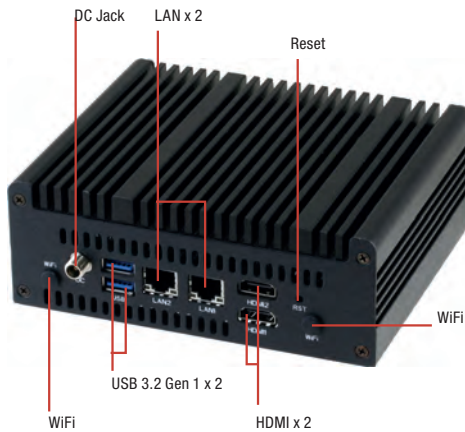
System	
CPU	Intel® Atom™ X6000E Series and Intel Pentium® and Celeron® N and J Series Processor(formerly Elkhart Lake)
Memory	4x IC LPDDR4
Graphics	Intel® Graphics, GEN 11
Storage	emmc 64G
Ethernet	Gbe x 2 via (1 x Intel.WGI210IT ,1 x Intel.I225-LM)
WIFI/BT	Optional
Audio	HDMI Audio x 1, DP Audio x 1
USB	On mainboard: USB3.1 Connector x 2 USB 3.1 TYPE C Connector x 1 for 1 ports (OTG support)
Expansion Slot	M.2 (2230 E Key) (1x PCIe1, 1x USB2.0) bottom x 1 M.2 2242/2280 B/M Key (1 x PCIe) bottom x 1 M.2 3042/3052 B/M Key (1xUSB3.0) top x 1
I/O Placements	
Power	12V-24V DC-in (Lockable plug)/ Phoenix connector (optional)
USB	USB3.1 Connector x 2 USB 3.1 TYPE C Connector x 1 for 1 ports (OTG support)
Display Port	HDMI x 1 DP x 1
Ethernet	Gb Ethernet (full speed) RJ-45 x 2
COM	RS422/RS232/RS485 x 1
Environment	
Power	12V (with +/- 5% tolerance)
Form Factor	—
Gross Weight	—
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
Certification	CE, FCC
OS Support	Win 10/ 10 IoT Core, Linux: Ubuntu 18.04 and 20.04 Yocto 3.1

Turn-Key Chassis Solutions

26



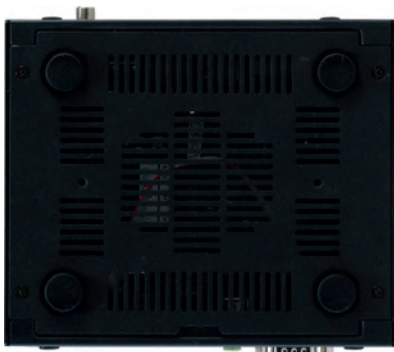
Front View



Rear View



Bottom View



Features

- 6th Generation Intel® 14nm ULT Core™ i7/i5/i3/Celeron® 15W BGA Processor
- Dual Gigabit Ethernet
- Dual HDMI Ports
- USB 3.2 Gen 1 Port x 4
- Fanless Solution

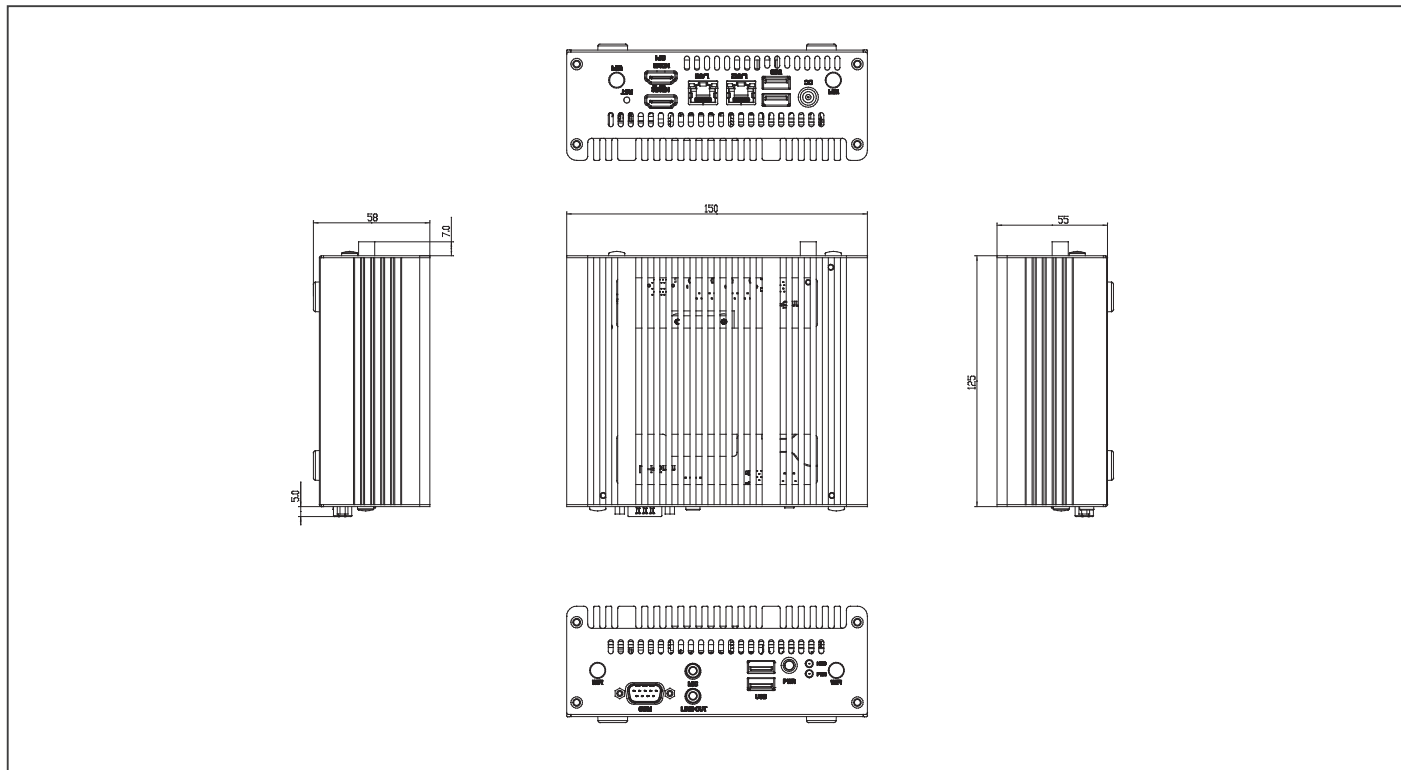


Specifications

System	
CPU	6th gen. Intel® 14nm ULT Core™, BGA CPU, 15W TDP. i7-6600U 2C/4T GT2 2.6/3.4 GHz 4M/ i5-6300U 2C/4T GT2 2.4/3.0 GHz 3M/ i3-6100U 2C/4T GT2 2.3 GHz 3M/ Celeron® 3955U 2C/2T GT1 (f) 2.0 GHz 2M
Chipset	Integrated into SoC
System Memory	SODIMM x 2, max. 32 GB, DDR4 2133/1867 MHz non-ECC, un-buffered memory
I/O Chipset	NCT5538D
Storage Devices	M.2 2280 M-Key slot (PCIe[x4]+SATA) x 1
Ethernet	Realtek® 8111G10/100/1000Mb LAN x 2, RJ-45 x 2
Audio	Realtek® ALC887
TPM	—
Expansion Slots	M.2 2230 E-Key slot (PCIe+USB) x 1
BIOS	128Mbit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	Chassis Fan
Wake On LAN / PXE	Yes (WOL / PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Integrated Graphics
Resolution	HDMI 1.4 up to 4096 x 2160@24Hz
Brightness Control	—
Graphics Multi Display	HDMI+HDMI
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	DC Power x 1 (DC: 12V~19V, wide range:12V-5%~ 19V+10%)
Operating Temperature	FANLESS : 0°C~40°C
Operating Humidity	20%~90%RH, non-condensing
Certificate	CE & FCC class A
Form Factor	NANO ITX: 4.72" x 4.72" (120mm x 120mm)
Weight	—
Front I/O	
USB	USB 3.2 Gen 1 port x 2
Audio	Audio Jack x 2: Line-out (green), Mic-in (pink)
Serial port	COM port RS-232
Power	On/Off Button x 1
Others	Power LED + HD LED x 1
Rear I/O	
USB	USB 3.2 Gen 1 port x 2
Display I/O	HDMI Connector x 2
LAN I/O	RJ-45 Connector x 2
Others	Reset Button x 1, DC Power Jack x 1
Internal I/O	
Storage	M.2 2280 M-Key slot x 1
FAN	Chassis Fan connector x 1 (3-pin, p=2.00mm)
Others	Reset Switch 2-pin header x 1, power button 2-pin header x 1, M.2 2230 E-Key slot x 1
Operating System	
OS	Windows® 7 32 bit, Windows® 7 64 bit, Windows® 8.1 64 bit, Windows® 10 64 bit, Linux Fedora® 22 (64b)

Dimension

Unit: mm



Ordering Information

Part Number	CPU	RAM Module	Display	Cooler	Storage	LAN	USB	Serial Port	Expansion Slot	Power	Mounting
NANO-002N-3955-01	Celeron® 3955U 2.0G/2M	—	HDMI x 2	Fanless	—	GbE x 2	USB 3.2 Gen 1 Port x 4	RS-232 Port x 1	M.2 2280 x 1	DC12-19V	VESA mount
NANO-002N-6100-01	i3-6100U 2.3G/3M	—	HDMI x 2	Fanless	—	GbE x 2	USB 3.2 Gen 1 Port x 4	RS-232 Port x 1	M.2 2280 x 1	DC12-19V	VESA mount
NANO-002N-6300-01	i5-6300U 2.4G/3M	—	HDMI x 2	Fanless	—	GbE x 2	USB 3.2 Gen 1 Port x 4	RS-232 Port x 1	M.2 2280 x 1	DC12-19V	VESA mount
NANO-002N-6600-01	i7-6600U 2.6G/4M	—	HDMI x 2	Fanless	—	GbE x 2	USB 3.2 Gen 1 Port x 4	RS-232 Port x 1	M.2 2280 x 1	DC12-19V	VESA mount

Packing List

- VESA Mount Kit
- NANO-002N

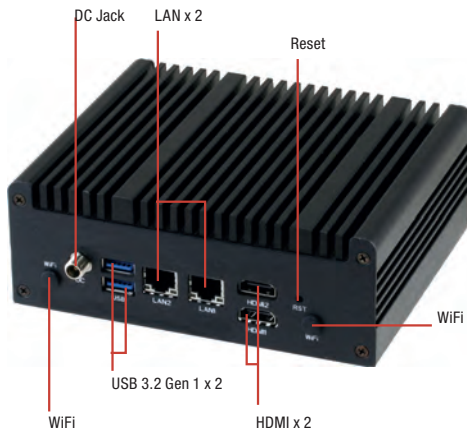
Optional Accessories

- **1702031802**
Power Cord (US & Taiwan Type)
- **1702031803**
Power Cord (European Type)
- **170203180B**
Power Cord (China Type)
- **170203180E**
Power Cord (Japanese Type)
- **125530060Y**
60W Power Adapter
- **968C064G2X**
M.2 2280 64GB SSD
- **968C128G1G**
M.2 2280 128GB SSD

NANO-002F

Mini PC with 6th Generation Intel® Core™ i7/i5/i3/Celeron 15W Processor, 2 HDMI, 2 LAN Ports, COM Port and 4 USB Ports

Front View



Rear View



Bottom View



Features

- 6th Generation Intel® 14nm ULT Core™ i7/i5/i3/Celeron® 15W BGA Processor
- Dual Gigabit Ethernet
- Dual HDMI Ports
- USB 3.2 Gen 1 Port x 4

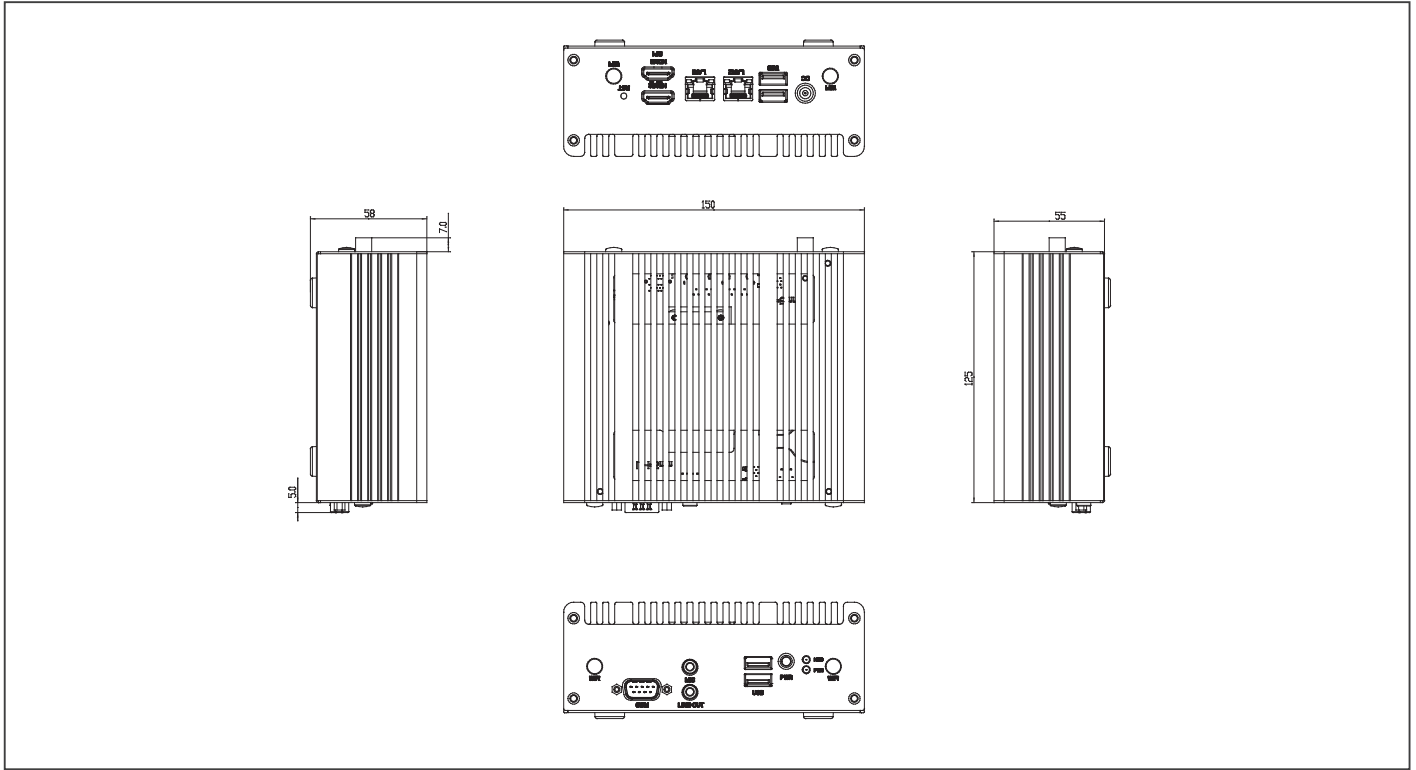


Specifications

System	
CPU	6th gen. Intel® 14nm ULT Core™, BGA CPU, 15W TDP. i7-6600U 2C/4T GT2 2.6/3.4 GHz 4M/ i5-6300U 2C/4T GT2 2.4/3.0 GHz 3M/ i3-6100U 2C/4T GT2 2.3 GHz 3M/ Celeron® 3955U 2C/2T GT1 (f) 2.0 GHz 2M
Chipset	Integrated into SoC
System Memory	SODIMM x 2, max. 32 GB, DDR4 2133/1867 MHz non-ECC, un-buffered memory
I/O Chipset	NCT5538D
Storage Devices	M.2 2280 M-Key slot (PCIe[x4] + SATA) x 1
Ethernet	Realtek® 8111G 10/100/1000Mb LAN x 2, RJ-45 x 2
Audio	Realtek® ALC887
TPM	—
Expansion Slots	M.2 2230 E-Key slot (PCIe+USB) x 1
BIOS	128M bit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	Chassis Fan
Wake On LAN / PXE	Yes (WOL / PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Integrated Graphics
Resolution	HDMI 1.4 up to 4096 x 2160@24Hz
Brightness Control	—
Graphics Multi Display	HDMI + HDMI
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	DC Power x 1 (DC: 12V~19V, wide rage:12V-5%~ 19V+10%)
Operating Temperature	FAN: 0°C ~ 50°C
Operating Humidity	20%~90%RH, non-condensing
Certificate	CE & FCC class A
Form Factor	NANO ITX: 4.72" x 4.72" (120mm x 120mm)
Weight	—
Front I/O	
USB	USB 3.2 Gen 1 port x 2
Audio	Audio Jack x 2 : Line-out (green), Mic-in (pink)
Serial port	COM port RS-232
Power	On/Off Button x 1
Others	Power LED x 1 + HD LED
Rear I/O	
USB	USB 3.2 Gen 1 port x 2
Display I/O	HDMI Connector x 2
LAN I/O	RJ-45 Connector x 2
Others	Reset Button x 1, DC Power Jack x 1
Internal I/O	
Storage	M.2 2280 M-Key slot x 1
FAN	Chassis Fan connector x 1 (3-pin, p=2.00mm)
Others	Reset Switch 2-pin header x 1, power button 2-pin header x 1, M.2 2230 E-Key slot x 1
Operating System	
OS	Windows® 7 32 bit, Windows® 7 64 bit, Windows® 8.1 64 bit, Windows® 10 64 bit, Linux Fedora* 22 (64b)

Dimension

Unit: mm



Ordering Information

Part Number	CPU	RAM Module	Display	Cooler	Storage	LAN	USB	Serial Port	Expansion Slot	Power	Mounting
NANO-002F-3955-01	Celeron® 3955U 2.0G/2M	—	HDMI x 2	Fan	—	GbE x 2	USB 3.2 Gen 1 Port x 4	RS-232 Port x 1	M.2 2280 x 1	DC12-19V	VESA mount
NANO-002F-6100-01	I3-6100U 2.3G/3M	—	HDMI x 2	Fan	—	GbE x 2	USB 3.2 Gen 1 Port x 4	RS-232 Port x 1	M.2 2280 x 1	DC12-19V	VESA mount
NANO-002F-6300-01	I5-6300U 2.4G/3M	—	HDMI x 2	Fan	—	GbE x 2	USB 3.2 Gen 1 Port x 4	RS-232 Port x 1	M.2 2280 x 1	DC12-19V	VESA mount
NANO-002F-6600-01	I7-6600U 2.6G/4M	—	HDMI x 2	Fan	—	GbE x 2	USB 3.2 Gen 1 Port x 4	RS-232 Port x 1	M.2 2280 x 1	DC12-19V	VESA mount

Packing List

- VESA Mount Kit
- NANO-002F

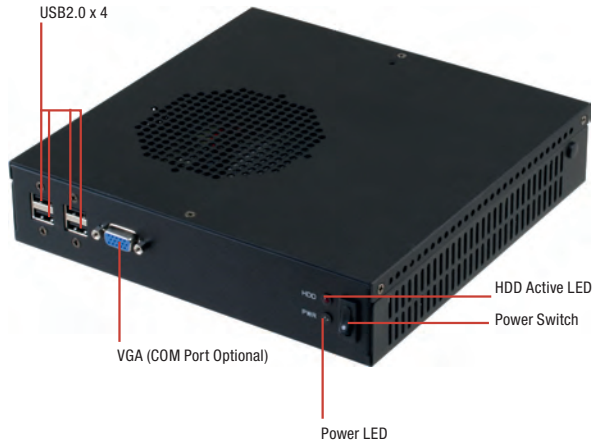
Optional Accessories

- **1702031802**
Power Cord (US & Taiwan Type)
- **1702031803**
Power Cord (European Type)
- **170203180B**
Power Cord (China Type)
- **170203180E**
Power Cord (Japanese Type)
- **125530060Y**
60W Power Adapter
- **968C064G2X**
M.2 2280 64GB SSD
- **968C128G1G**
M.2 2280 128GB SSD

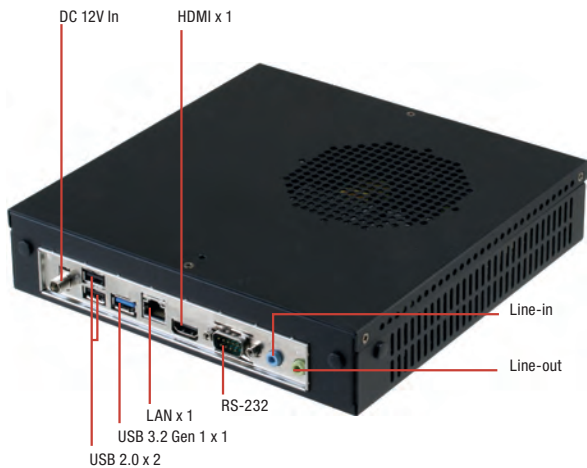
ACS-1U01-BT4

Fanless Solution with Intel® Atom™ J1900/ N2807 Processor

Front View



Rear View



Features

- Intel® Atom™ J1900/ N2807 Processor
- DDR3L 1333 SODIMM x 2, Up to 16GB (J1900), DDR3L 1333 SODIMM x 1, Up to 4GB (N2807)
- Dual Independent Display: VGA + HDMI
- Rich IO Supported: USB 3.2 Gen 1 x 1, USB 2.0 x 4~7
- Compact Size, Low Power & Fanless Solution

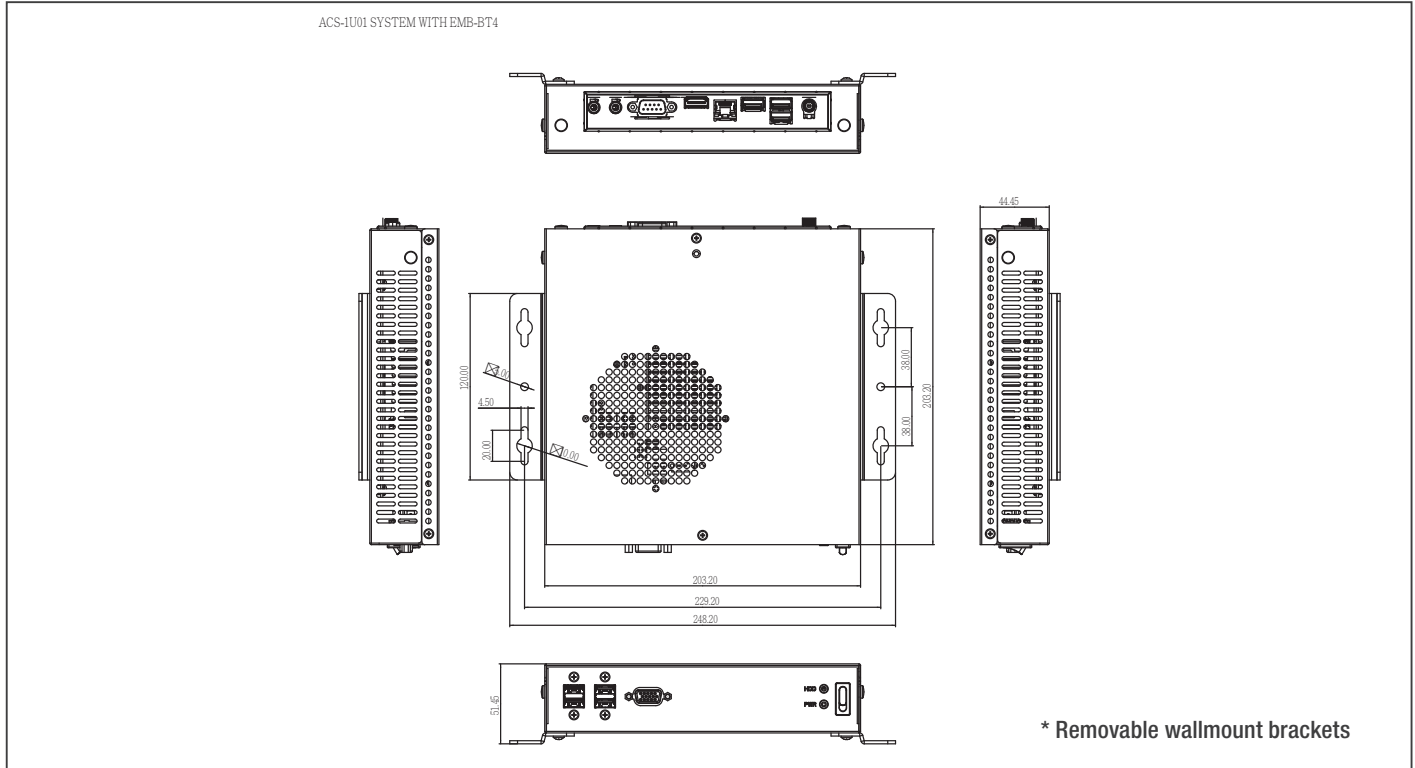


Specifications

System		
CPU	Intel® Atom™ J1900 Processor (4C @ 2.00 GHz CPU, 688/854 MHz GFX, 10W TDP), Intel® Atom™ N2807 Processor (2C @ 1.58 GHz CPU, 313/750 MHz GFX, 4.3W TDP)	
Chipset	—	
System Memory	204-pin SODIMM x 2 up to 8 GB (for J1900) 204-pin SODIMM x 1 up to 4 GB (for N2807) DDR3L 1333 MHz, Non-ECC, un-buffered memory, Dual-channel memory architecture	
I/O Chipset	Fintech 81866D	
Display Interface	Chipset	Intel® Graphics Media Accelerator
	DP	VGA x 1, Up to 1920 x 1200 @60 Hz ; HDMI x 1, Up to 1920 x 1200 @60 Hz
Storage Devices	2.5" HDD, Full-Size Mini-Card (optional)	
Network	LAN	Realtek® PCIe Gb LAN 8111G x 1
I/O		
Front I/O	USB	USB 2.0 port x 4
	Audio	—
	Display	VGA x 1
	Others	On/Off Button x 1, Power LED + HD LED x 1, (COM port optional if not use VGA port)
Rear I/O	USB	USB 3.2 Gen 1/2.0 port x 1, USB 2.0 port x 2
	Audio	Line-out (green) x 1, Line-in (blue) x 1
	Display	HDMI x 1
	LAN	RJ-45 connector x 1
	Power	DC Power x 1
Others	RS-232 connector x 1	
Expansion	Mini PCIe	Full-size Mini-Card (PCIe +USB or mSATA) + SIM Card (mSATA default) x 1, Half-size Mini-Card (PCIe +USB) x 1
	Storage	Full-size Mini-Card slot (mSATA default) x 1, SATA3 (6.0Gb/s) x 1, SATA2 (3.0Gb/s) x 1, SATA power connector x 1
	Others	RS-232 9-pin int. box header x 1, RS-232/422/485 9-pin box header x 1, 5-pin USB 2.0 header (p=2.00mm) x 2
Indicator	Front	Power LED x 1, HDD Active LED x 1
	Rear	—
Power		
Battery	Lithium battery	
Power Requirement	DC: 12V	
Mechanical		
Dimension (WxHxD)	8" x 8" x 1.75" (203.20mm x 203.20mm x 44.45mm)	
VESA Mounting	Wallmount	
Anti-Vibration	0.5 Grms/ 5~ 500Hz/ operation – HDD	
Anti-Shock	10 G peak acceleration (11 msec. duration)	
Environmental		
Operating temperature	32°F ~ 122°F (0°C ~ 50°C)	
Certificate	CE & FCC Class A	
Operating System		
MS Windows	Windows® 7 32/64-bit, Windows® 8.1 32/64-bit	
Linux	Fedora	

Dimension

Unit: mm



Ordering Information

Part Number	CPU	RAM Module	Display	Cooler	Storage	LAN	USB	Serial Port	Expansion Slot	Power	Mounting
ACS-1U01-BT4-1900-V10	J1900 2.42G/2M	—	VGA x 1 HDMI x 1	Fanless w/ CPU heatsink	2.5" HDD shelf, Full-Size Mini-Card (mSATA) x 1	GbE x 1	USB 3.2 Gen 1 x 1 USB 2.0 x 7	RS-232 x 1, RS-232/422/485 x 1 (W/O VGA)	Half-size Mini-Card x 1 w/o SIM Slot	DC12V	wallmount

Packing List

- Wallmount Kit
- 2.5" HDD tray
- ACS-1U01-BT4 (1U Chassis w/ EMB-BT4)

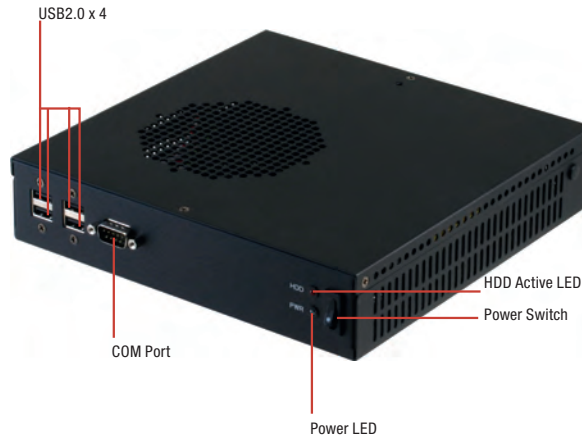
Optional Accessories

- 1702031802
Power Cord (US & Taiwan Type)
- 1702031803
Power Cord (European Type)
- 170203180B
Power Cord (China Type)
- 170203180E
Power Cord (Japanese Type)
- 1255300607
60W Power Adapter

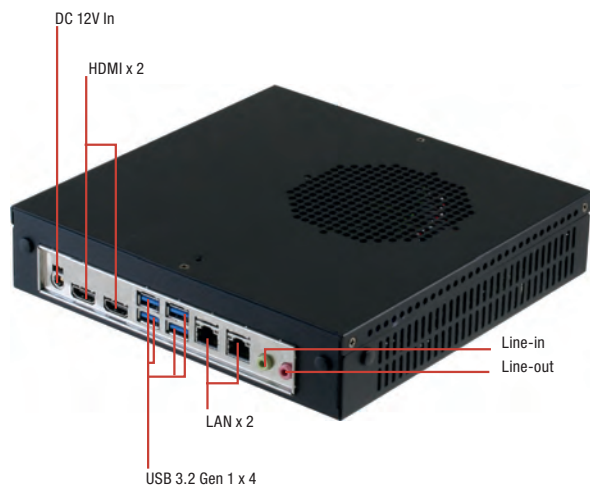
ACS-1U01-H110B

Mini-ITX 1U Chassis with 6th Generation Intel® Processor

Front View



Rear View



Features

- LGA 1151 Socket For 6th Generation Intel® 14 nm Processor
- Intel® H110
- DDR4 2133/1867 MHz SODIMM x 2, Up to 32GB
- Dual Independent Display: HDMI x 2, BOM Changeable to DP
- Rich IO Supported: USB 3.2 Gen 1 x 4, USB 2.0 x 4
- Compact Size, Low Profile

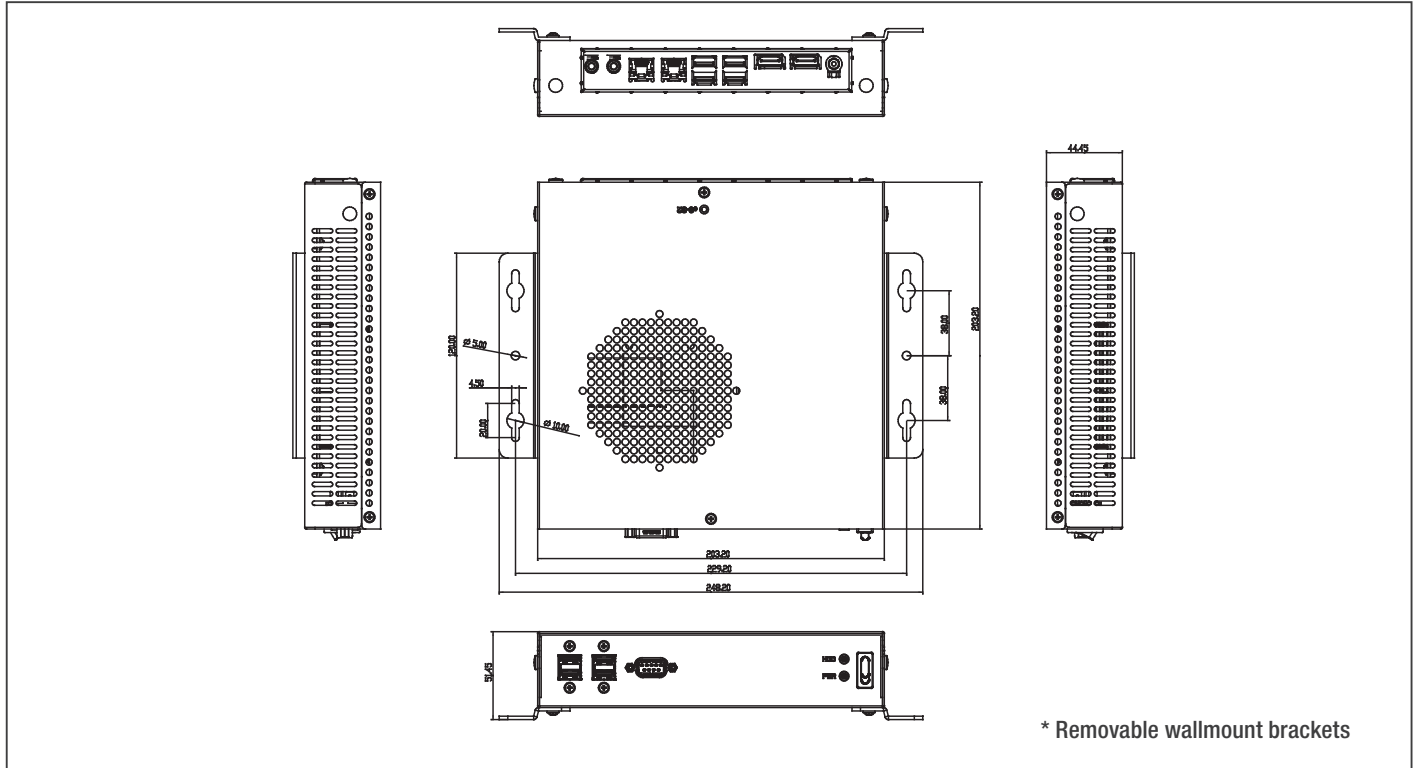


Specifications

System		
CPU Board	EMB-H110B-A10-HH	
CPU	Intel® Skylake 14nm LGA 1151 socket Processor, Max. 65W TDPs (follow thin mini-ITX)	
Chipset	Intel® H110	
System Memory	2 x SODIMM, Max. 32GB, DDR4 2133/1867 MHz, Non-ECC, Un-buffered	
I/O Chipset	NCT6791D	
Display Interface	Intel® HD Graphics DP(BOM Change, default HDMI): Up to 1920 x 1200 @60Hz, with Digital Audio HDMI: Up to 4096 x 2304 @24Hz / 2560 x 1600 @60Hz, with Digital Audio LVDS: Up to 1920 x 1200 @60Hz, Dual Channel 18/24-bit coloy eDP: Up to 4096 x 2304 @60Hz	
Storage Devices	2.5" HDD x 1, Full-Size Mini-Card(mSATA default, PCIe + USB optional) x 1	
LAN	Realtek® PCIe Gb LAN 8111G x 2	
I/O		
Front I/O Ports	USB 2.0 port x 4 Power S/W x 1 COM port x 1 HDD LED x 1 POWER LED x 1	
Rear I/O Ports	USB 3.2 Gen 1 port x 4 Mic-In (pink) x 1 Line-Out (green) x 1 HDMI x 2 (BOM Changeable to DP) RJ-45 Connector x 2 DC Power jack x 1	
Expansion	Mini PCIe	Half-Size Mini-Card slot (PCIe + USB) x 1, Full-Size Mini-Card (Default mSATA, PCIe + USB optional) x 1
	Storage	Full-size Mini-Card slot (mSATA default) x 1, SATA3(6.0Gb/s) x 1, SATA power connector x 1
	Others	RS-232 9-pin int. box header x 1, RS/232/422/485 9-pin box header x 1, 5-pin USB 2.0 header(p=2.00mm) x 2
Power		
Battery	Lithium battery	
Power Requirement	DC: 12V	
Mechanical		
Dimension (WxHxD)	8" x 8" x 1.75" (203.20mm x 203.20mm x 44.45mm)	
VESA Mounting	Wallmount	
Anti-Vibration	0.5 Grms/ 5~ 500Hz/ operation - HDD	
Anti-Shock	10 G peak acceleration (11 msec. duration)	
Environmental		
Operating temperature	32°F ~ 122°F (0°C ~ 50°C)	
Certificate	CE & FCC Class A	
Operating System		
MS Windows	Windows® 7 32 / 64-bit, Windows® 8.1 32 / 64-bit, Windows® 10 32 / 64-bit	
Linux	Ubuntu 16.04.02/Kernal 4.8.0	

Dimension

Unit: mm



Ordering Information

Part Number	CPU	RAM Module	Display	Cooler	Storage	LAN	USB	Serial Port	Expansion Slot	Power	Mounting
ACS-1U01-H110B-C10	LGA 1151 Socket Type	—	HDMI x 2 / HDMI x 1, DP x 1	1U aluminium cooler x 1	2.5" HDD shelf, Full-Size Mini-Card	GbE x 2	USB 3.2 Gen 1/2.0 x 4 USB 2.0 x 4	RS-232 x 1, RS-232/422/485 x 1	Half size Mini-Card x 1	DC 12V – 24V	Wallmount

Packing List

- Wallmount Kit
- 2.5" HDD Tray
- ACS-1U01-H110B (1U Chassis w/ EMB-H110B)

Optional Accessories

- **1702031802**
Power Cord (US & Taiwan Type)
- **1702031803**
Power Cord (European Type)
- **170203180B**
Power Cord (China Type)
- **170203180E**
Power Cord (Japanese Type)
- **1255201200**
120W Power Adapter



Features

- Supports Low-profile Mini-ITX Motherboard
- Supports 1 x 2.5" Internal HDD Bays
- Supports Wallmount Bracket

Specifications

System	
M/B	Mini-ITX
Dimension (W x D x H)	8" x 8" x 1.75" (203.20mm x 203.20mm x 44.45mm)
Color	Black
Processor Support	TDP < 65W
Drive Bay	2.5" internal HDD bracket x 1
Front I/O	USB 2.0 Port x 4 COM/VGA Port
Button	Power Switch x 1
LED	Power LED x 1 HDD LED x 1
Other	Antenna Hole x 4
Environmental	
Operating temperature	32°F~122°F (0°C~50°C)

Packing List

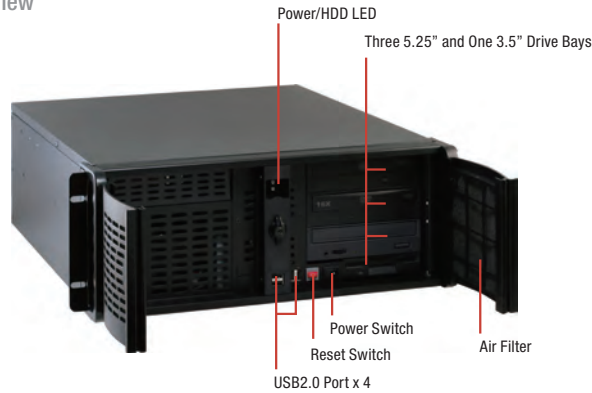
- Screw Bag
- Wallmount Kit
- SATA 7P Cable
- SATA Power Cable
- USB 2.0 Cable 2.0MM
- USB 2.0 Cable 2.54MM
- COM Cable
- ACS-1U01

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Industrial Chassis - Rackmount



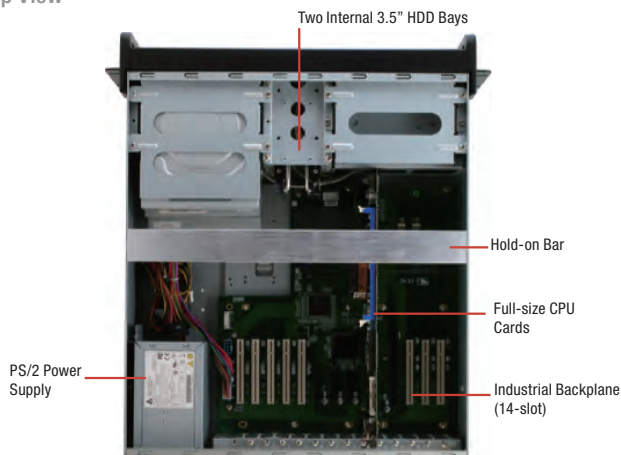
Front View



Front View



Top View



Rear View



Features

- 4U Height 19" Rackmount Chassis
- 14-Slot ISA/ PICMG Bus Passive Backplanes
- Standard PS2 AT/ATX
- 5.25" x 4 and 3.5" x 1 Front Access Drive Bays
- 3.5" x 2 Internal Drive Bays
- Dual Lockable Front Doors For Added Protection
- USB2.0 x 4 On Front Panel

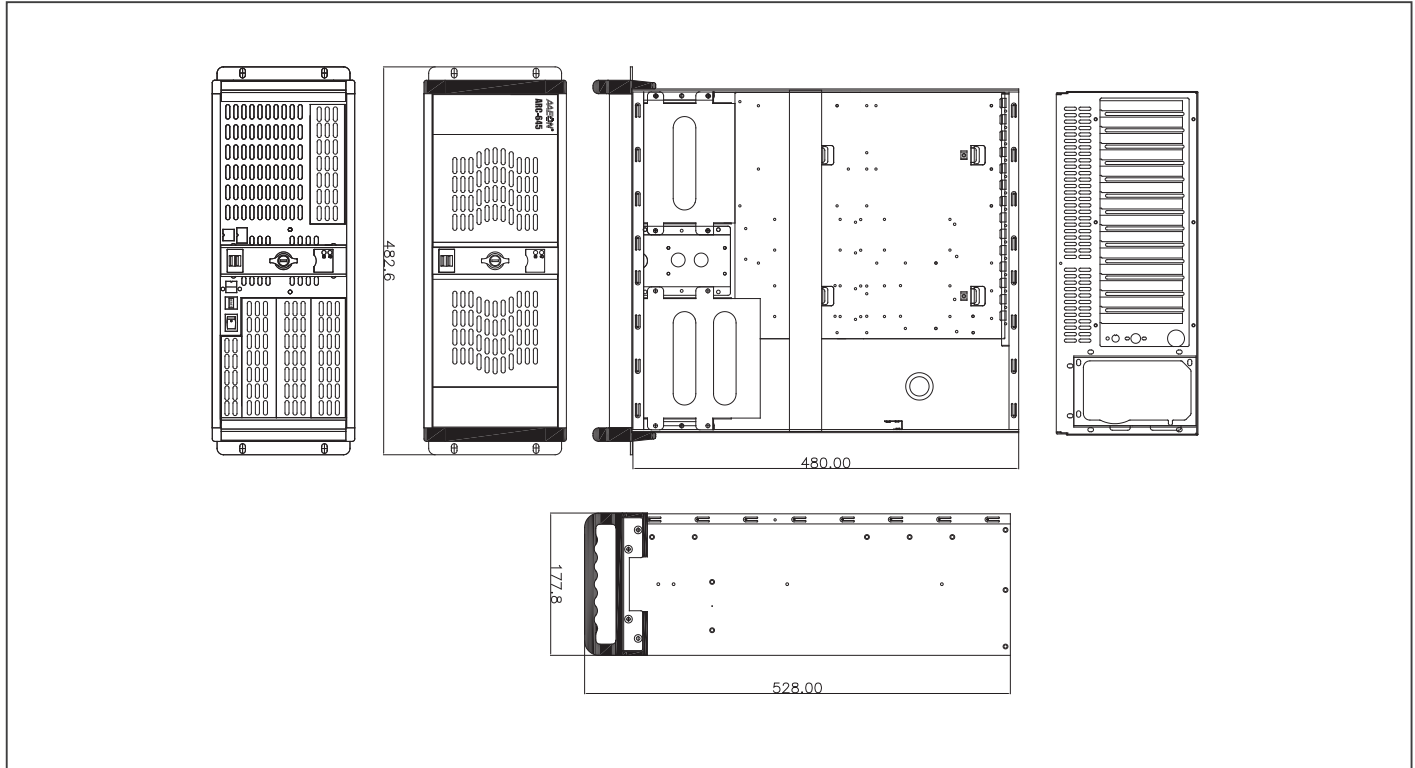


Specifications

System	
Construction	1.2 mm SECC Zinc-coated Steel
Storage	External: 3.5" Drive Bay x 1 5.25" Drive Bay x 4 Internal: 3.5" Drive Bay x 2
System Fan	12 cm Ball Bearing Fan with Removable Filter x 1
Front Panel	Power ON/OFF Switch x 1 Reset Button x 1 Power ON LED x 1 Hard Disk Drive Active LED x 1 USB Port x 4
Rear Panel	AT Keyboard Cut-out x 1 14 Slots (including system slot), supports max. 339 mm (length) for expansion card
Color	Black
Dimensions	19" (W) x 20.8" (D) x 7" (H) (482mm x 528mm x 177mm)
Carton Size	21.6" (W) x 27" (D) x 12.4" (H) (548mm x 685mm x 315mm)
Net Weight	26.4 lb (12 kg)
Gross Weight	30.8 lb (14 kg)
Environmental	
Operating Temperature	32°F ~ 122°F (0°C ~ 50°C)
Storage Temperature	-4°F ~ 176°F (-20°C ~ 80°C)
Storage Humidity	10 ~ 90% @ 40°C, non-condensing
Vibration	0.5 Grms/ 5 ~ 500Hz/ operation (2.5" Hard Disk Drive) 1.5 Grms/ 5 ~ 500Hz/ non operation
Shock	15 G peak acceleration (11 m sec. duration), operation 30 G peak acceleration (11 m sec. duration), non operation
EMC	CE/FCC Class A

Dimension

Unit: mm



Power Supply Options

P/N	TYPE	PFC Support	Input Voltage	Watt	Size
1255304003	ATX	Active PFC	Auto 90 ~ 264V	400W	PS2
AP-PS1255305000	ATX	Active PFC	Auto 90 ~ 264V	500W	PS2

Passive Backplane Options

P/N	Description	Master Interface	Slots	Power Connector, ATX Extend Function
BP-214SH-P3E216	Rackmount, PICMG 1.3, 14-Slot Backplane, 3 PCI, 2 PCI-E, 6 ISA, Single Segment, ATX	PICMG 1.3	3/2/6/2 (PCI/PCI-E/ISA/PICMG 1.3)	ATX
BP-214SH-P8E4	Rackmount, PICMG 1.3, 14-Slot Backplane, 8 PCI, 4 PCI-E, Single Segment, ATX	PICMG 1.3	8/4/2 (PCI/PCI-E/PICMG1.3)	ATX
BP-214SG-P4	Rackmount, PICMG 14-Slot Backplane, 4 PCI/ 8 ISA, Single Segment, AT/ATX, Bulk Pack	PICMG 1.0	4/9/2 (PCI/ ISA/ PICMG)	AT, ATX, 3-pin ATX extend
BP-214SG-P7	Rackmount, PICMG 14-Slot Backplane, 7 PCI/ 5 ISA, Single Segment, AT/ATX, Bulk Pack	PICMG 1.0	7/6/2 (PCI/ ISA/ PICMG)	ATX
BP-214SG-P12	Rackmount, PICMG 14-Slot Backplane, 12 PCI/ 1 ISA, Single Segment, AT/ATX, Bulk Pack	PICMG 1.0	12/1/2 (PCI/ ISA/ PICMG)	AT, ATX, 3-pin ATX extend

CPU Card Options

Model/Name	CPU Level	Master Interface
FSB-B75G	Socket LGA 1155, Intel® 3rd Generation Core™ i3/i5/i7	PICMG 1.0

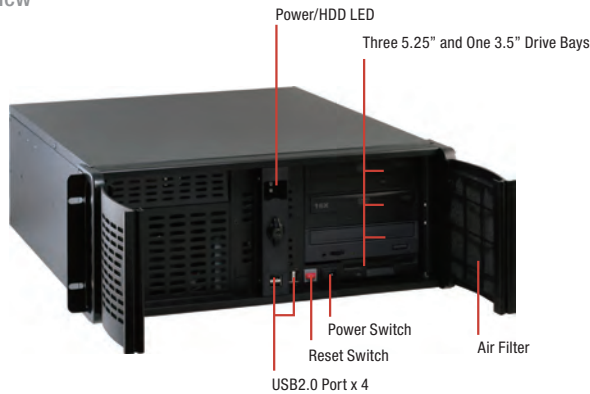
Ordering Information

Model/Name	Description
TF-ARC-645-B02	Rackmount 4U Chassis, Bare for 14-Slot Backplane, PS2 Power, PS_SW (ATX), Black

CPU Cooler Options

Model/Name	Description
175920000D	LGA1155/1150 CPU Cooler (2U)
1759218000	LGA1155/1150 CPU Cooler (1.5U)
175920000G	LGA775 CPU Cooler
1759200335	LGA775 CPU Cooler

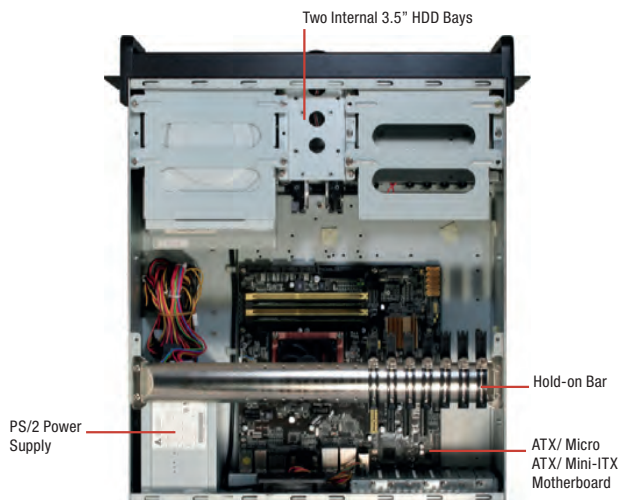
Front View



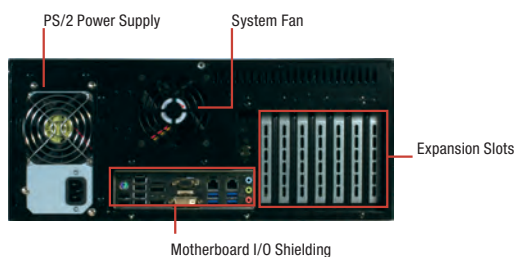
Front View



Top View



Rear View



Features

- 4U Height 19" Rackmount Chassis
- System Fan x 2, Support Cool Down CPU And Key Component Temperature
- Standard Motherboard ATX/ Micro ATX/ Mini-ITX
- Standard PS2 AT/ATX
- 5.25" x 4 and 3.5" x 1 Front Access Drive Bays
- 3.5" x 2 Internal Drive Bays
- Dual Lockable Front Doors For Added Protection
- USB2.0 x 4 On Front Panel

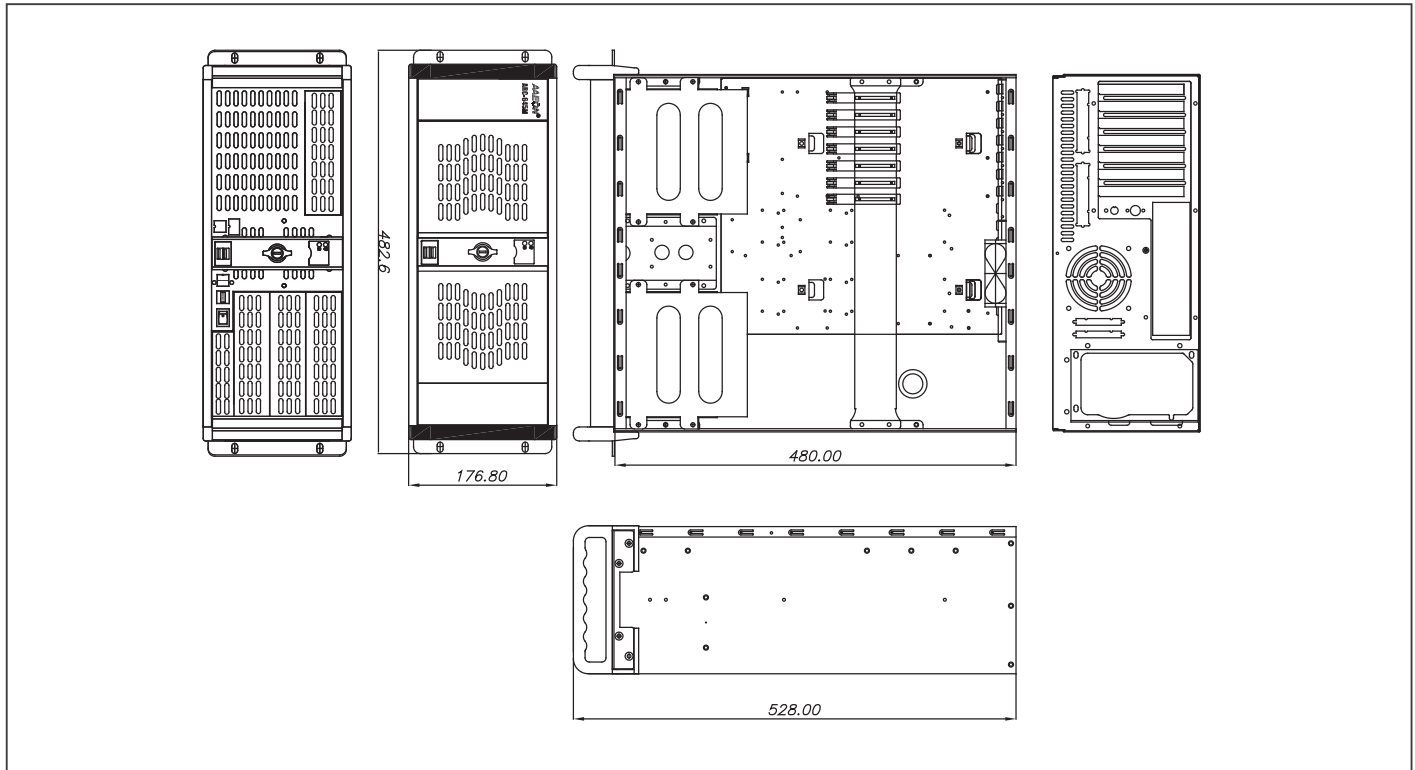


Specifications

System	
Construction	1.2mm SECC Zinc-coated Steel (Japanese Manufactured)
Storage	External: 3.5" Drive Bay x 1 5.25" Drive Bay x 4 Internal: 3.5" Drive Bay x 2
System Fan	12 cm Fan on Front Panel x 1, 8 cm Fan On Rear Side x 1
Front Panel	Power ON/OFF Switch x 1 Reset Button x 1 Power ON LED x 1 Hard Disk Drive Active LED x 1 USB Port x 4
Rear Panel	AT Keyboard Cut-out x 1 Reserved Cut-out for DB Connector x 4 7 Slots, supports max. 312 mm (length) for expansion card
Color	Black
Dimensions	19" (W) x 7" (H) x 20.8" (D) (482mm x 177mm x 528mm)
Carton Size	21.6" (W) x 12.4" (H) x 27" (D) (548mm x 315mm x 685mm)
Net Weight	26.4 lb (12 kg)
Gross Weight	30.8 lb (14 kg)
Environmental	
Operating Temperature	32°F ~ 122°F (0°C ~ 50°C)
Storage Temperature	-4°F ~ 176°F (-20°C ~ 80°C)
Storage Humidity	10 ~ 90% @ 40°C, non-condensing
Vibration	0.5 Grms/ 5 ~ 500Hz/ operation (2.5" Hard Disk Drive) 1.5 Grms/ 5 ~ 500Hz/ non operation
Shock	15 G peak acceleration (11 m sec. duration), operation 30 G peak acceleration (11 m sec. duration), non operation
EMC	CE/FCC Class A

Dimension

Unit: mm



Power Supply Options

P/N	TYPE	PFC Support	Input Voltage	Watt	Size
1255304003	ATX	Active PFC	Auto 90 ~ 264V	400W	PS2
AP-PS1255305000	ATX	Active PFC	Auto 90 ~ 264V	500W	PS2

Industrial Motherboard Options

CPU Card	CPU Level	Remark
IMBA-H61A	Socket LGA1155, Intel® 2nd/3rd Generation Core™ i3/i5/i7 CPU, TDP 95W	Recommend with Min. 300W Power supply
IMBA-Q87A	Socket LGA1150, Intel® 4th Generation Core™ i3/i5/i7 CPU, TDP 95W	Recommend with Min. 400W Power supply
IMBM-B75A	Socket LGA1155, Intel® 2nd/3rd Generation Core™ i3/i5/i7 CPU, TDP 95W	Recommend with Min. 400W Power supply
IMBM-H61A	Socket LGA1155, Intel® 2nd/3rd Generation Core™ i3/i5/i7 CPU, TDP 95W	Recommend with Min. 300W Power supply
IMBM-Q87A	Socket LGA1150, Intel® 4th Generation Core™ i3/i5/i7 CPU, TDP 95W	Recommend with Min. 400W Power supply
IMBA-Q77	Socket LGA1155, Intel® 3rd Generation Core™ i3/i5/i7 CPU, TDP95W	Recommend with Min. 400W Power supply
IMBA-967	Socket LGA1155, Intel® Core™ i3/i5/i7 CPU, TDP 95W	Recommend with Min. 400W Power Supply

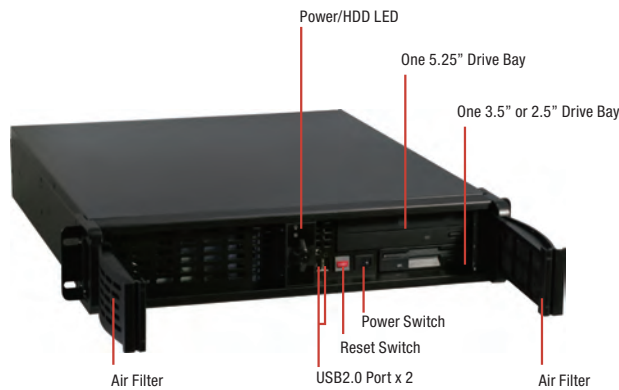
Ordering Information

P/N	Description
TF-ARC-645M-B	Rackmount 4U Chassis, Bare for Motherboard & PS2 Power, PS_SW (ATX), Black

CPU Cooler Options

Model/Name	Description
175920000D	LGA1155/1150 CPU Cooler (2U)
1759218000	LGA1155/1150 CPU Cooler (1.5U)
175920000G	LGA775 CPU Cooler
1759200335	LGA775 CPU Cooler

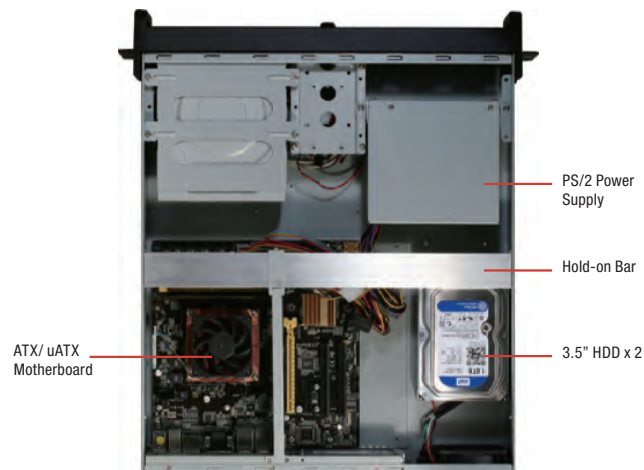
Front View



Front View



Top View



Rear View



Features

- 2U Height 19" Rackmount Chassis
- Industrial ATX/uATX/Mini-ITX Motherboard
- Standard PS2 AT/ATX Power
- 5.25" x 1 and 3.5" x 1 Front Access Drive Bays
- 3.5" x 2 Internal Drive Bays
- Dual Lockable Front Doors Added Protection
- USB2.0 x 2 On Front Panel

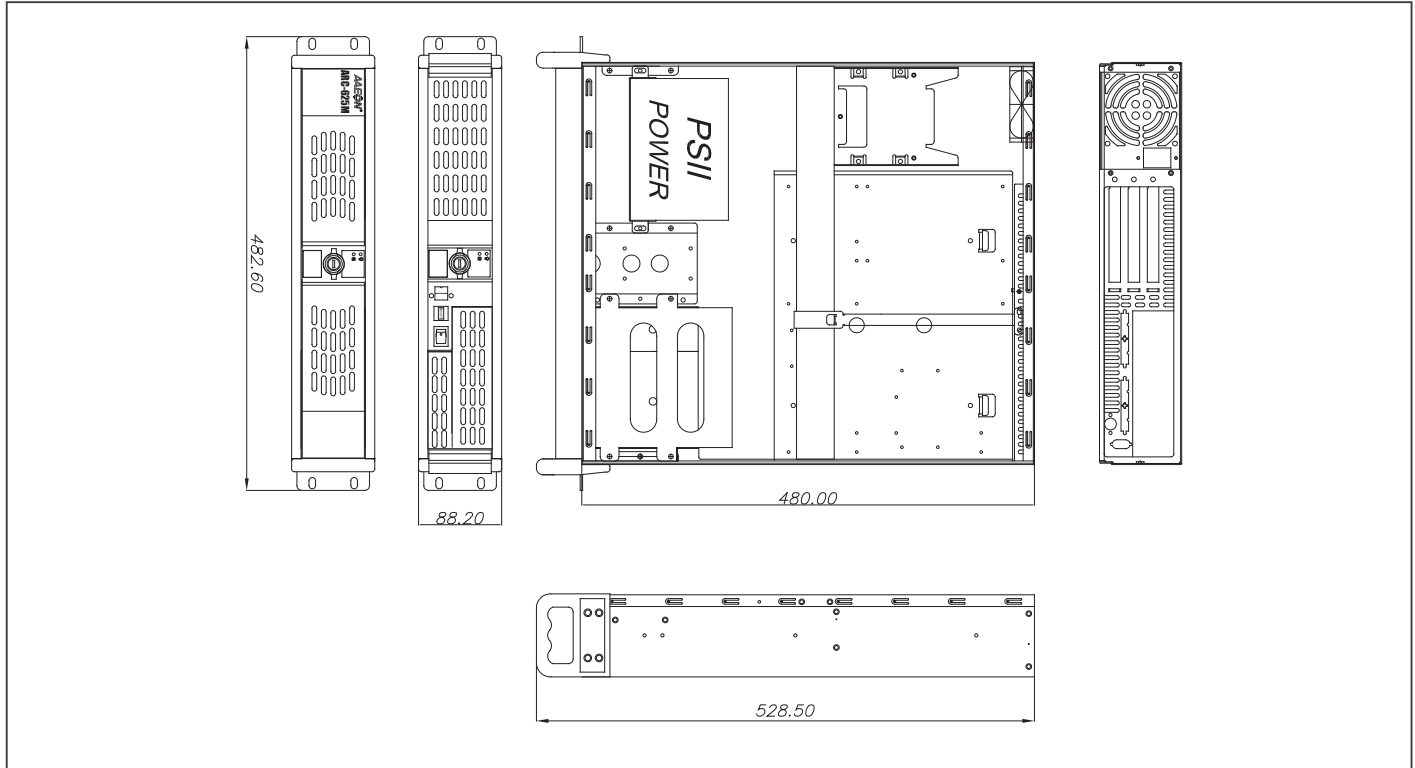


Specifications

System	
Construction	1.2mm SECC Zinc-Coated Steel
Storage	External: 3.5" Disk Drive x 1 5.25" CD-ROM or Removable Hard Disk Drive x 1 Internal: 3.5" Hard Disk Drive Bay x 2
System Fan	8cm Ball Bearing Fan with Removable Filter x 1
Front Panel	Power ON/OFF Switch x 1 Reset Button x 1 Power ON LED x 1 Hard Disk Drive Active LED x 1 USB x 2
Expansion	PCI via riser card x 3, supports max. 167 mm (length) for expansion card
Color	Black
Dimensions	19" (W) x 20.8" (D) x 3.5" (H) (482mm x 528mm x 88.2mm)
Carton Size	21.6" (W) x 27" (D) x 8.8" (H) (548mm x 685mm x 224mm)
Net Weight	22 lb (10 kg)
Gross Weight	26.4 lb (12 kg)
Environmental	
Operating Temperature	32°F ~ 122°F (0°C ~ 50°C)
Storage Temperature	-4°F ~ 176°F (-20°C ~ 80°C)
Storage Humidity	10 ~ 90% @ 40°C, non-condensing
Vibration	0.5 Grms/ 5 ~ 500Hz/ operation (2.5" Hard Disk Drive) 1.5 Grms/ 5 ~ 500Hz/ non operation
Shock	15 G peak acceleration (11 m sec. duration), operation 30 G peak acceleration (11 m sec. duration), non operation
EMC	CE/FCC Class A

Dimension

Unit: mm



Power Supply Options

P/N	TYPE	PFC Support	Input Voltage	Watt	Size
1255304003	ATX	Active PFC	Auto 90 ~ 264V	400W	PS2

Industrial Motherboard Options

CPU Card	CPU Level	Remark
IMBA-H61A	Socket LGA1155, Intel® 2nd/3rd Generation Core™ i3/i5/i7 CPU, TDP 95W	Recommend with Min. 300W Power supply
IMBA-Q87A	Socket LGA1150, Intel® 4th Generation Core™ i3/i5/i7 CPU, TDP 95W	Recommend with Min. 400W Power supply
IMBM-B75A	Socket LGA1155, Intel® 2nd/3rd Generation Core™ i3/i5/i7 CPU, TDP 95W	Recommend with Min. 400W Power supply
IMBM-H61A	Socket LGA1155, Intel® 2nd/3rd Generation Core™ i3/i5/i7 CPU, TDP 95W	Recommend with Min. 300W Power supply
IMBM-Q87A	Socket LGA1150, Intel® 4th Generation Core™ i3/i5/i7 CPU, TDP 95W	Recommend with Min. 400W Power supply
IMBA-Q77	Socket LGA1155, Intel® 3rd Generation Core™ i3/i5/i7 CPU, TDP95W	Recommend with Min. 400W Power Supply
IMBA-967	Socket LGA1155, Intel® Core™ i3/i5/i7 CPU, TDP 95W	Recommend with Min. 400W Power Supply

Ordering Information

P/N	Description
TF-ARC-625M-B	Rackmount 2U Chassis, Bare for Motherboard & PS2 Power, PS_SW (ATX), Black

CPU Cooler Options

Model/Name	Description
175920000D	LGA1155/1150 CPU Cooler (2U)
1759218000	LGA1155/1150 CPU Cooler (1.5U)
175920000G	LGA775 CPU Cooler (1U)
1759200335	LGA775 CPU Cooler (1U)

Riser Card Options

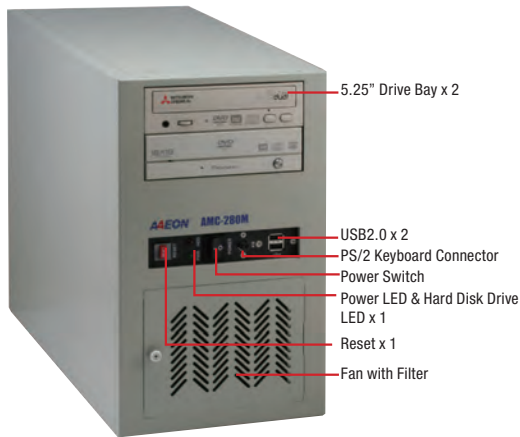
Model/Name	Description
96866660W	PCIe[x4] to PCIe[x4] x 1 Riser Card, 10 cm

Industrial Chassis - Wallmount

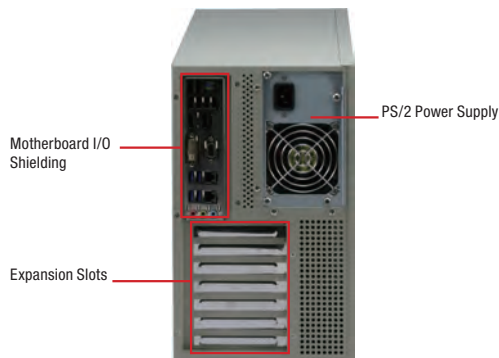
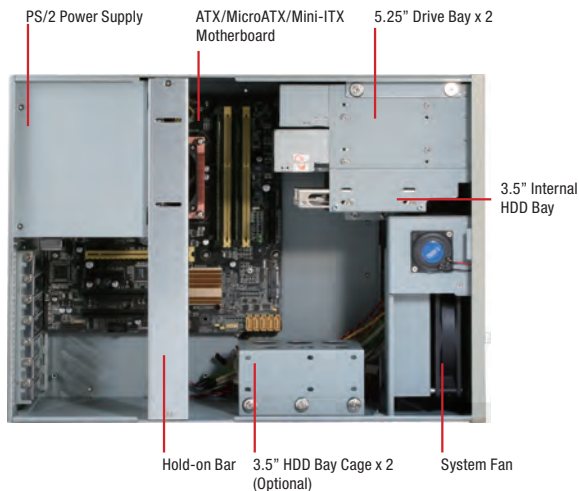
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Front View



Rear View



Features

- 7-Slot Wallmount Chassis
- ATX, Micro ATX, Mini-ITX Factor Motherboard
- Standard PS2 AT/ATX Power
- External 5.25" Drive Bay x 2
- Internal 3.5" Disk Drive Bay x 1 (+2 Optional)
- USB2.0 x 2 and Keyboard Connector x 1 On Front Panel

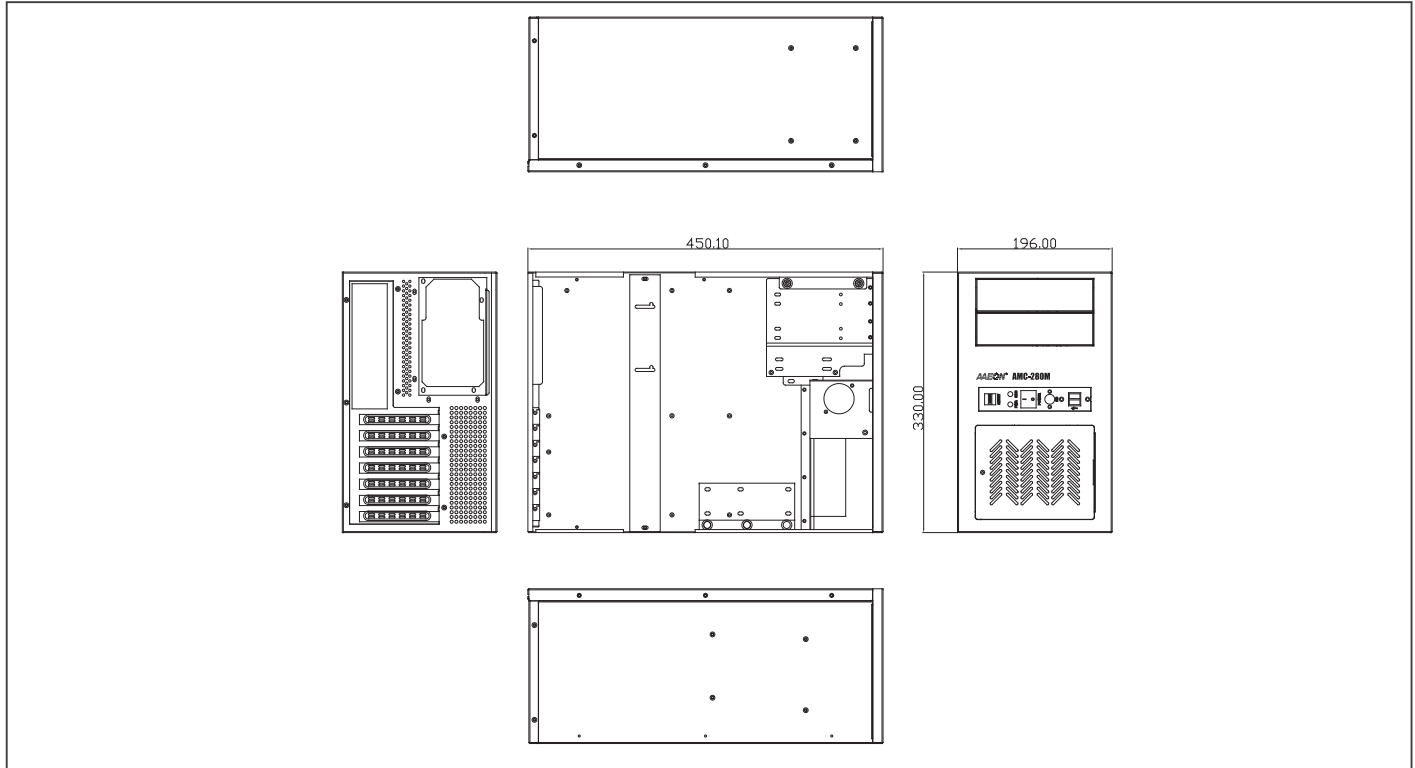


Specifications

System	
Construction	Heavy-duty Steel
Storage	External: 5.25" External Drive Bay x 2 Internal: Up to 3.5" Drive Bay x 1 Optional: Two 3.5 HDD Bay Cage
System Fan	12cm Ball Bearing Fan with Removable Filter x 1
Front Panel	Power ON/OFF Switch x 1 Reset Button x 1 Power ON LED x 1 Hard Disk Drive Active LED x 1 PS/2 Keyboard Connector x 1 USB x 2
Rear Panel	I/O Bracket provided by motherboard mfg 7 slots, supports max. 312 mm (length) for expansion card
Color	White
Dimensions	7.7" (W) x 17.7" (D) x 13" (H) (196mm x 450mm x 330mm)
Carton Size	11.1" (W) x 20.3" (D) x 18" (H) (281mm x 515mm x 457mm)
Net Weight	19.8 lb (9 kg)
Gross Weight	22 lb (10 kg)
Environmental	
Operating Temperature	32°F ~ 122°F (0°C ~ 50°C)
Storage Temperature	-4°F ~ 176°F (-20°C ~ 80°C)
Storage Humidity	10 ~ 90% @ 40°C, non-condensing
Vibration	0.5 Grms/ 5 ~ 500Hz/ operation
Shock	15 G peak acceleration (11 m sec. duration), operation
EMC	CE/ FCC Class A

Dimension

Unit: mm



Power Supply Options

P/N	TYPE	PFC Support	Input Voltage	Watt	Size
1255304003	ATX	Active PFC	Auto 90 ~ 264V	400W	PS2
AP-PS1255305000	ATX	Active PFC	Auto 90 ~ 264V	500W	PS2

Industrial Motherboard Options

CPU Card	CPU Level	Remark
IMBA-H61A	Socket LGA1155, Intel® 2nd/3rd Generation Core™ i3/i5/i7 CPU, TDP 95W	Recommend with Min. 300W Power Supply
IMBA-Q87A	Socket LGA1150, Intel® 4th Generation Core™ i3/i5/i7 CPU, TDP 95W	Recommend with Min. 400W Power Supply
IMBM-B75A	Socket LGA1155, Intel® 2nd/3rd Generation Core™ i3/i5/i7 CPU, TDP 95W	Recommend with Min. 400W Power Supply
IMBM-H61A	Socket LGA1155, Intel® 2nd/3rd Generation Core™ i3/i5/i7 CPU, TDP 95W	Recommend with Min. 300W Power Supply
IMBM-Q87A	Socket LGA1150, Intel® 4th Generation Core™ i3/i5/i7 CPU, TDP 95W	Recommend with Min. 400W Power Supply
IMBA-967	Socket LGA1155, Intel® Core™ i7/i3/i5 4C/2C 32nm Core, TDP 95W	Recommend with Min. 400W Power Supply
IMBA-Q77	Socket LGA1155, Intel® 3rd Generation Core™ i3/i5/i7 CPU, TDP95W	Recommend with Min. 400W Power Supply

Ordering Information

Model/Name	Description
TF-AMC-280M-W-01	ATX/Micro ATX, Wallmount, Bare Chassis, for PS2 Power, PS_SW (ATX), Color: 413-01, w/o HDD Cage

CPU Cooler Options

Model/Name	Description
175920000D	LGA1155/1150 CPU Cooler (2U)
1759218000	LGA1155/1150 CPU Cooler (1.5U)
175920000G	LGA775 CPU Cooler
1759200335	LGA775 CPU Cooler

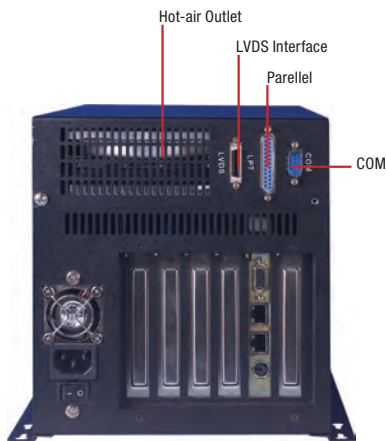
Optional Accessory

Model/Name	Description
M00280M000	Internal Two 3.5" Drive Bay Cage

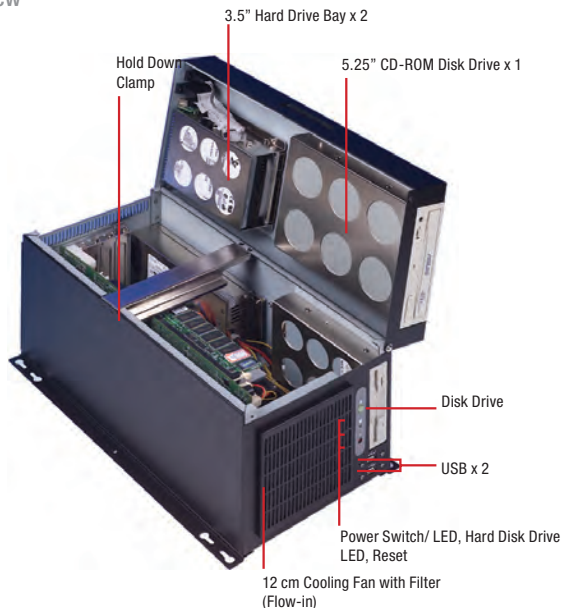
Front View



Rear View



Top View



Features

- High Performance Full-Size CPU Cards And 6-Slot PICMG Bus Passive Backplanes
- Wallmount Or Desktop Applications
- External 3.5" Drive Bay x 1
- External 5.25" Drive Bay x 1
- Internal 3.5" Drive Bay x 2
- Easy-To-Replace Ball Bearing Cooling Fan with Filter x 1 For Card Area
- Card Hold-Down Bar x 1

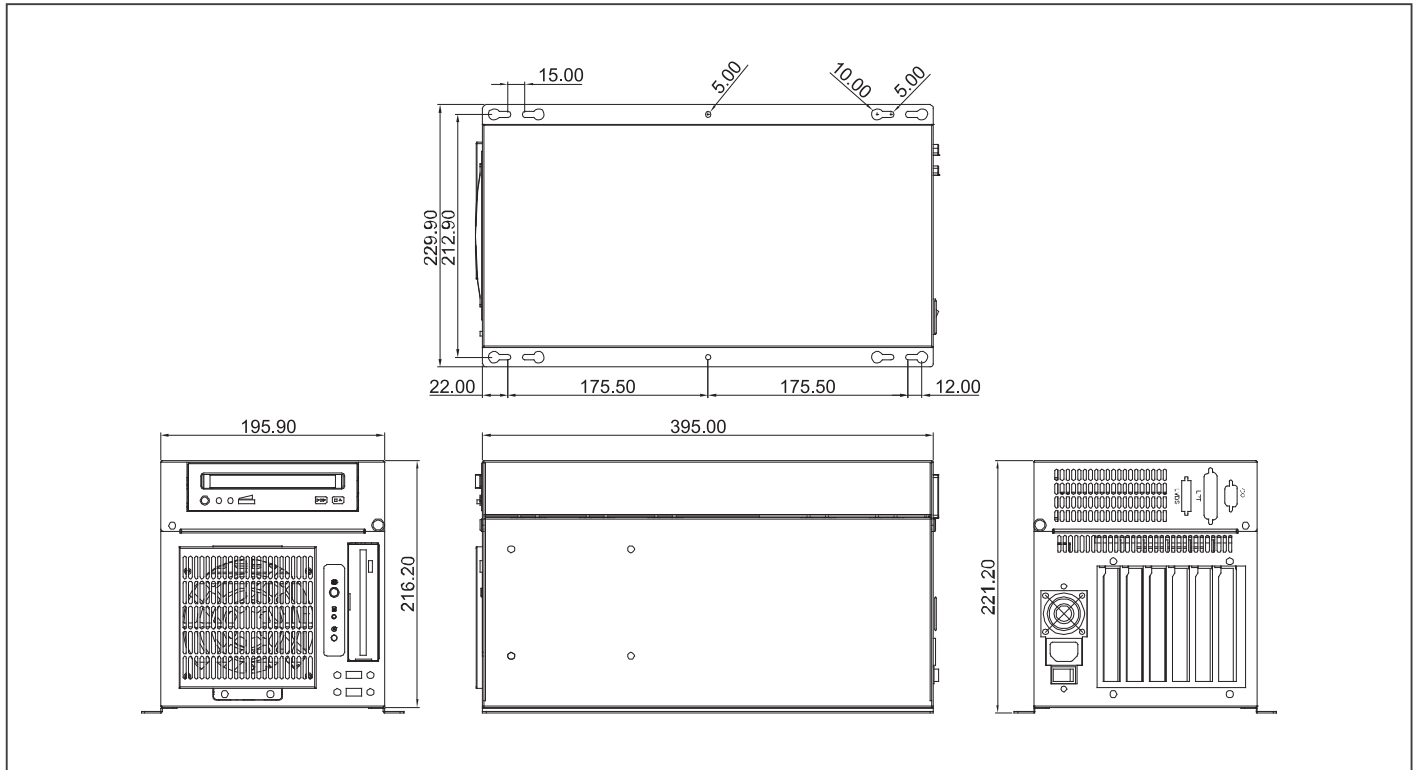


Specifications

System	
Construction	Heavy-duty Steel
Storage	External: 5.25" Drive Bay x 1 (Front Accessible) 3.5" Drive Bay x 1 (Front Accessible) Internal: 3.5" Drive Bay x 2
System Fan	12cm Ball Bearing Fan with Removable Filter (Flow-in) x 1
Front Panel	Power On/ Off Switch with LED x 1 Reset Button x 1 Hard Disk Drive Active LED x 1 USB x 2
Rear Panel	COM x 1 Parallel x 1 Reserved Cut-out for LVDS Connector x 1 6 slots (including system slot), supports max. 339 mm (length) for expansion card
Color	Black
Dimension	7.7" (W) x 15.55" (D) x 8.5" (H) (196mm x 395mm x 216mm)
Carton Size	12.2" (W) x 13.2" (D) x 20" (H) (310mm x 335mm x 510mm)
Net Weight	17 lb (7.8 kg)
Gross Weight	20 lb (9.2 kg)
Environmental	
Operating Temperature	32°F ~ 122°F (0°C ~ 50°C)
Storage Temperature	32°F ~ 167°F (0°C ~ 75°C)
Storage Humidity	5 ~ 95%@40°C, non-condensing
Vibration	1 Grms/ 5 ~ 500Hz/ random operation
Shock	15 G peak acceleration (11 msec. duration)
EMC	CE/FCC class A

Dimension

Unit: mm



Power Supply Options

P/N	TYPE	PFC Support	Input Voltage	Watt	Size
1757930015	ATX	Active PFC	Auto 115-230V	300W	1U (40.5cm)
1757215005	ATX	Active PFC	Auto 115-230V	150W	1U (40.5cm)

Passive Backplane Options

P/N	Description	Master Interface	Slots	Power Connector, ATX Extend Function
BP-206SG-P2	Wallmount, PICMG, 6-Slot Backplane, 2 PCI, 3 ISA, Single Segment, ATX	PICMG 1.0	2/3/1 (PCI/ ISA/ PICMG)	ATX, 3-pin ATX extend
BP-206SG-P4	Wallmount, PICMG, 6-Slot Backplane, 4 PCI, 2 ISA, Single Segment, ATX	PICMG 1.0	4/2/2 (PCI/ ISA/ PICMG)	AT, ATX, 3-pin ATX extend
BP-206SI	Wallmount, ISA 6-Slot Backplane, 6 ISA, Single segment, AT/ATX	ISA	0/6/0 (PCI/ ISA/ PICMG)	AT/ATX

CPU Cards Options

Model/Name	Description	Master Interface
FSB-G41H	Socket LGA 775, Intel® Core™ 2 Duo/ Core™ 2 Quad (800/1066/1333)	PICMG 1.3
FSB-B75G	Socket LGA 1155, Intel® 3rd Generation i3/i5/i7	PICMG 1.0
HSB-800I	Onboard AMD LX 800 Processor	ISA

Ordering Information

Model/Name	Description
TF-AEC-206-B-00	Wallmount, 6-Slot Chassis Bare for 1U Power, PS_SW (AT/ATX), Black

CPU Cooler Options

Model/Name	Description
1759218000	LGA1155/1150 CPU Cooler (1.5U)
175920000G	LGA775 CPU Cooler (1U)
1759200335	LGA775 CPU Cooler (1U)

