

EN 55022:2010
 EN 55024:2010
 EN 61000-3-2: 2006 + A1:2009 + A2:2009
 EN 61000-3-3:2013
TEST REPORT

For

HangZhou Synway Information Engineering Co.,Ltd

No.3756 ,Nanhuan Road, Hangzhou, China

Tested Model: DTP-120C/PCIe+
Series Model: DTP-60C/PCIe+、 DTP-30C/PCIe+

Report Type: Original Report	Product Type: PCIe Digital Trunk Passive Board
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Report Number: RKS160601005-00A	
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GENERAL INFORMATION

Product Description for Equipment Under Test (EUT)

The HangZhou Synway Information Engineering Co.,Ltd. 's product, model number: DTP-120C/PCIe+ , the "EUT" in this report is a PCIe Digital Trunk Passive Board, input voltage: AC 230V, the highest operating frequency is 300MHz.

Note: The product 's series model number: DTP-60C/PCIe+ , DTP-30C/PCIe+ , The difference between them was explained in the attached declaration letter.

**All measurement and test data in this report was gathered from production sample serial number: 20160526001 (Assigned by the BAACL. The EUT supplied by the applicant was received on 2016-05-26).*

Objective

This test report is prepared on behalf of HangZhou Synway Information Engineering Co.,Ltd. in accordance with EN 55022: Information technology equipment-Radio disturbance characteristics-Limits and methods of measurement. EN 55024: Information technology equipment- Immunity characteristics – Limits and methods of measurement. EN 61000-3-2, Limits – Limits for harmonic current emissions (equipment input current up to and including 16 A per phase), and also in accordance with EN 61000-3-3, Limits Section 3; Limitation of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current <16A.

The objective of the manufacturer is to determine compliance with EN 55022, EN 55024, EN 61000-3-2 and EN 61000-3-3.

Related Submittal(s)/Grant(s)

No related submittal(s).

Test Methodology

All measurements contained in this report were conducted with CISPR 16-1-1:2006+A1:2006+A2:2007, specification for radio disturbance and immunity measuring apparatus and methods P1-1: radio disturbance and immunity measuring apparatus measuring apparatus. CISPR 16-1-4:2010, Specification for radio disturbance and immunity measuring apparatus and methods-Part 1-4: Radio disturbance and immunity measuring apparatus -Ancillary equipment -Radiated disturbances. CISPR 16-2-1:2010, specification for radio disturbance and immunity measuring apparatus and methods P2-1: methods of measurement of disturbance and immunity conducted disturbance measurements. CISPR 16-2-3:2003+A1:2005, specification for radio disturbance and immunity measuring apparatus and methods P2-3 methods of measurement of disturbances and immunity radiated disturbance measurements. CISPR 16-4-2:2011, Specification for radio disturbance and immunity measuring apparatus and methods-Part 4-2: Uncertainties, statistics and limit modeling-Uncertainty in EMC measurements

All radiated and conducted emissions measurement was performed at Bay Area Compliance Laboratories Corp. (Kunshan).

Test Facility

The test site used by Bay Area Compliance Laboratories Corp. (Kunshan) to collect test data is located on the Chenghu Road, Kunshan Development Zone No.248, Kunshan, Jiangsu, China

Test site at Bay Area Compliance Laboratories Corp. (Kunshan) has been fully described in reports submitted to the Federal Communication Commission (FCC). The details of these reports have been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on November 06, 2014. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4.

The Federal Communications Commission has the reports on file and is listed under FCC Registration No.:815570. The test site has been approved by the FCC for public use and is listed in the FCC Public Access Link (PAL) database.

SYSTEM TEST CONFIGURATION

Justification

The system was configured for testing in a typical mode.

EUT Exercise Software

No exercise software was used.

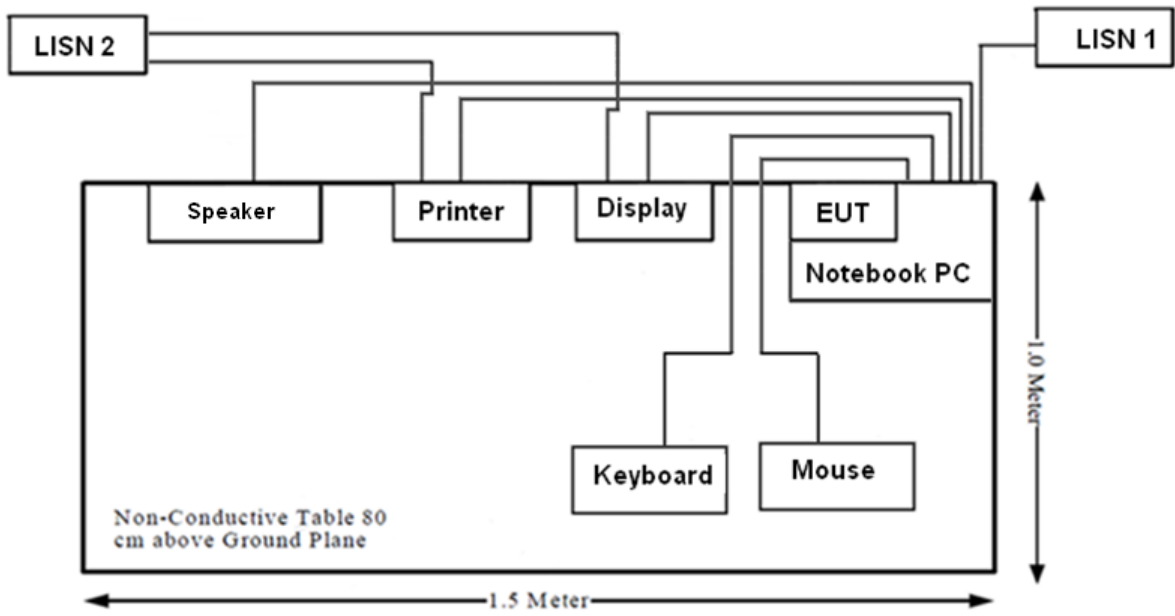
Local Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
DELL	PC	D520	N/A
DELL	LCD Monitor	E2215HVf	N/A
DELL	Keyboard	KB-BL919EB	N/A
DELL	Mouse	MO-1008BU	N/A
Kyocera	Printer	FS-1125MFP	N/A
JBL	Speaker	Micro II	N/A

Support Cable List and Details

Cable Description	Length (m)	From/Port	To
Unshielded Undetachable AC Cable	1.8	PC	Mains
Unshielded Undetachable AC Cable	1.8	LCD Monitor	Mains
Unshielded Undetachable AC Cable	1.8	Printer	Mains
Unshielded Detachable Audio Cable	1.0	Speaker	PC
Unshielded Detachable RJ45 Cable	1.0	Printer	PC

Block Diagram of Test Setup



SUMMARY OF TEST REPORT

EN 55022

RULE	DESCRIPTION	RESULTS
§ 5.1	Conducted Disturbance at Mains Terminal	Compliance
§ 5.2	Conducted Disturbance at Telecommunication Ports	Compliance
§ 6	Radiated Disturbance	Compliance

EN 55024

RULE	DESCRIPTION	RESULTS
§4.2.1	Electrostatic Discharge IEC 61000-4-2	Compliance
§4.2.2	Electrical Fast Transient IEC 61000-4-4	Compliance
§4.2.3.2	Continuous Radiated Disturbances IEC 61000-4-3	Compliance
§4.2.3.3	Continuous Conducted Disturbances IEC 61000-4-6	Compliance
§4.2.4	Power Frequency Magnetic Field IEC 61000-4-8	Compliance
§4.2.5	Surge IEC 61000-4-5	Compliance
§4.2.6	Voltage Dips And Interruptions IEC 61000-4-11	Compliance

EN 61000-3-2

RULE	DESCRIPTION	RESULTS
	Harmonic Current Emissions	Compliance

EN 61000-3-3

RULE	DESCRIPTION	RESULTS
	Voltage Fluctuations and Flicker	Compliance

EN 55022 §5.1 CONDUCTED DISTURBANCE AT MAINS TERMINAL & §5.2 CONDUCTED DISTURBANCE AT TELECOMMUNICATION PORTS

Measurement Uncertainty

Compliance or non-compliance with a disturbance limit shall be determined in the following manner:

If U_{lab} is less than or equal to U_{cispr} of Table 1, then:

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

If U_{lab} is greater than U_{cispr} of Table 1, then:

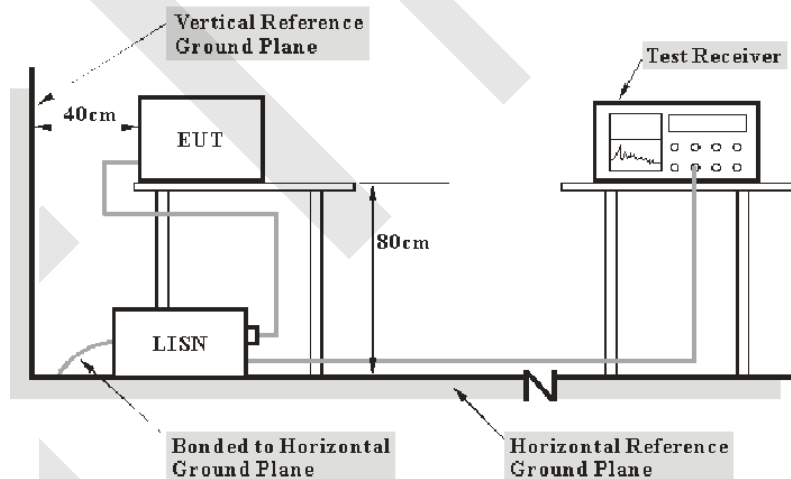
- compliance is deemed to occur if no measured disturbance level, increased by $(U_{lab} - U_{cispr})$, exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level, increased by $(U_{lab} - U_{cispr})$, exceeds the disturbance limit.

Based on CISPR 16-4-2-2011, measurement uncertainty of conducted disturbance at mains port using AMN at Bay Area Compliance Laboratories Corp. (Kunshan) is 3.46 dB (150 kHz to 30 MHz), and conducted disturbance at telecommunication port using AAN is 5.03 dB (150 kHz to 30 MHz).

Table 1 – Values of U_{cispr}

Measurement	U_{cispr}
Conducted disturbance at mains port using AMN (9 kHz to 150 kHz)	3.8 dB
(150 kHz to 30 MHz)	3.4 dB
Conducted disturbance at mains port using voltage probe (9 kHz to 30 MHz)	2.9 dB
Conducted disturbance at telecommunication port using AAN (150 kHz to 30 MHz)	5.0 dB
Conducted disturbance at telecommunication port using CVP (150 kHz to 30 MHz)	3.9 dB
Conducted disturbance at telecommunication port using CP (150 kHz to 30 MHz)	2.9 dB

Test System Setup



- Note: 1. Support units were connected to second LISN.
 2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with CISPR 16-1-1:2006+A1:2006+A2:2007, CISPR 16-2-1:2010 measurement procedure. The specification used was the EN 55022 Class B limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

The EUT was connected to a 230V/50Hz AC line power source.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCS30	934115/007	2015-11-04	2016-11-03
Rohde & Schwarz	LISN	ESH3-Z5	862770/011	2015-11-04	2016-11-03
Rohde & Schwarz	LISN	ESH3-Z5	892239/018	2015-06-23	2016-06-22
Rohde & Schwarz	CE Test software	EMC 32	V 09.10.0	--	--

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Corrected Amplitude & Margin Calculation

The basic equation is as follows:

$$V_C = V_R + A_C + VDF$$

Herein,

V_C : corrected voltage amplitude

V_R : reading voltage amplitude

A_C : attenuation caused by cable loss

VDF : voltage division factor of AMN or ISN

The “**Margin**” column of the following data tables indicates the degree of compliance within the applicable limit. For example, a margin of 7dB means the emission is 7dB below the maximum limit. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Limit} - \text{Corrected Amplitude}$$

Test Procedure

During the conducted emissions test, the EUT was connected to the main outlet of the first LISN and the other support equipments were connected to the outlet of the second LISN.

Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance using all installation combination.

All data was recorded in the Quasi-peak and average detection mode.

Test Results Summary

According to the recorded data in following table, the EUT complied with the EN 55022 Class B, with the worst margin reading of:

14.10 dB at 0.233000 MHz in the Neutral conducted mode

Test Data

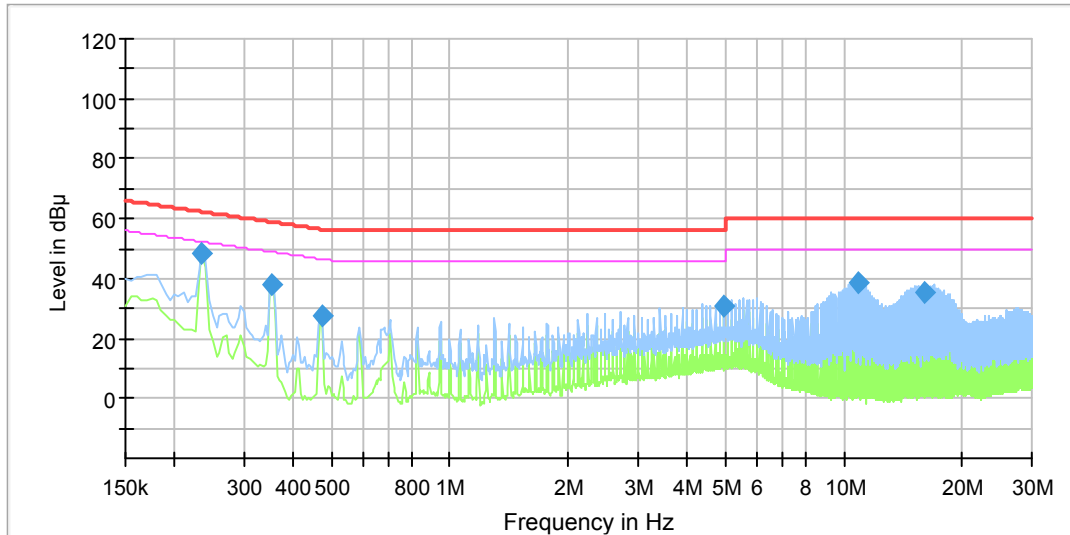
Environmental Conditions

Temperature:	24.5 °C
Relative Humidity:	68 %
ATM Pressure:	100.7kPa

The testing was performed by Allen tian on 2016-06-07

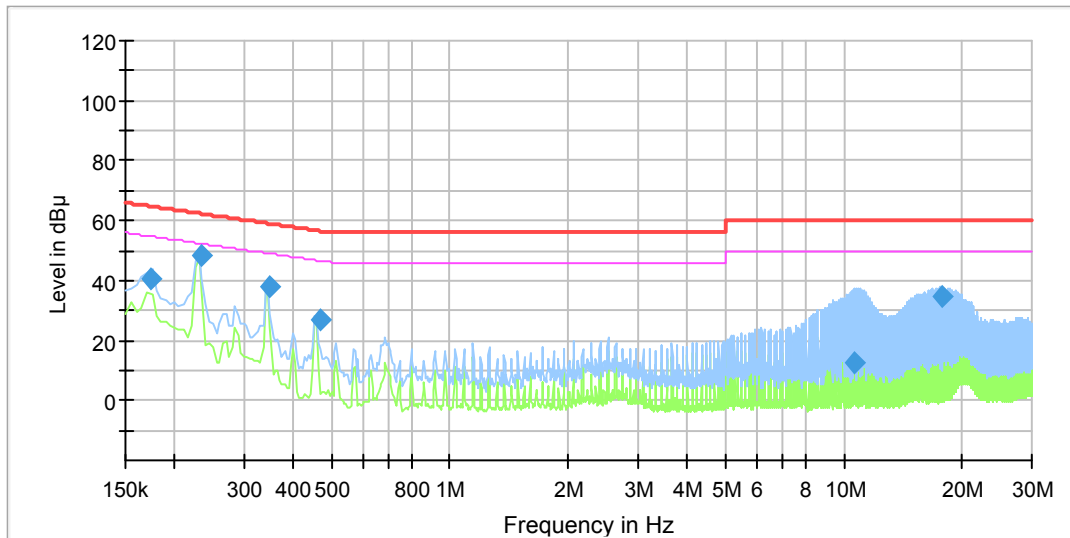
Test mode :Operation

AC 230 V/ 50 Hz, Line:



Frequency (MHz)	Corrected Amplitude		Limit (dB µ V)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
	QuasiPeak (dB µ V)	Average (dB µ V)					
0.234000	48.12	---	62.31	14.19	9.000	L1	11.0
0.354000	37.64	---	58.87	21.23	9.000	L1	11.0
0.473000	27.55	---	56.46	28.91	9.000	L1	11.0
4.953000	30.65	---	56.00	25.35	9.000	L1	11.3
10.848000	38.62	---	60.00	21.38	9.000	L1	11.4
16.037000	35.55	---	60.00	24.45	9.000	L1	11.3

AC 230 V/ 50 Hz, Neutral:



Frequency (MHz)	Corrected Amplitude		Limit (dB µ V)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
	QuasiPeak (dB µ V)	Average (dB µ V)					
0.174000	40.77	---	64.77	24.00	9.000	N	11.0
0.233000	48.24	---	62.34	14.10	9.000	N	11.0
0.348000	37.91	---	59.01	21.10	9.000	N	11.0
0.467000	26.69	---	56.57	29.88	9.000	N	11.0
10.659000	12.82	---	60.00	47.18	9.000	N	11.4
17.840000	34.57	---	60.00	25.43	9.000	N	11.4

EN 55022 §6 RADIATED DISTURBANCE

Measurement Uncertainty

Compliance or non-compliance with a disturbance limit shall be determined in the following manner:

If U_{lab} is less than or equal to U_{cispr} of Table 1, then:

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

If U_{lab} is greater than U_{cispr} of Table 1, then:

- compliance is deemed to occur if no measured disturbance level, increased by $(U_{lab} - U_{cispr})$, exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level, increased by $(U_{lab} - U_{cispr})$, exceeds the disturbance limit.

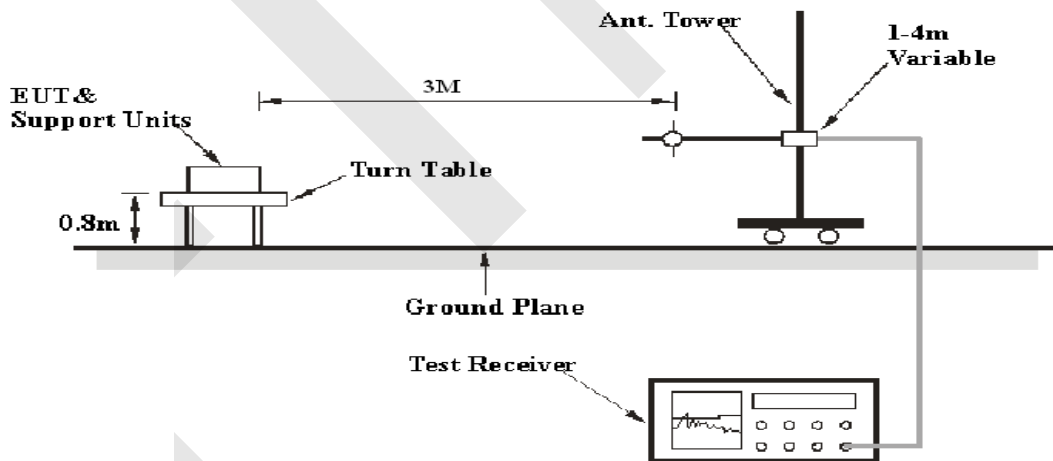
Based on CISPR 16-4-2: 2011, measurement uncertainty of radiated emission at a distance of 10m at Bay Area Compliance Laboratories Corp. (Kunshan) is:30M~200MHz: 4.9 dB; 200M~1GHz: 5.0 dB; measurement uncertainty of radiated emission at a distance of 3m at Bay Area Compliance Laboratories Corp. (Kunshan) is:30M~200MHz: 5.0 dB; 200M~1GHz: 6.2 dB; 1G~6GHz: 4.45 dB, 6G~18GHz: 5.23 dB

Table 1 – Values of U_{cispr}

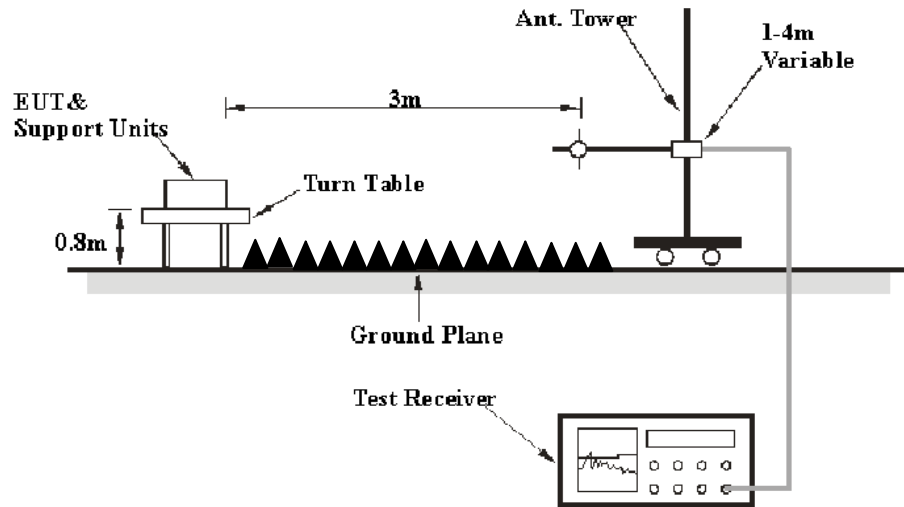
Measurement	U_{cispr}
Radiated disturbance (electric field strength at an OATS or in a SAC) (30 MHz to 1000 MHz)	6.3 dB
Radiated disturbance (electric field strength in a FAR) (1 GHz to 6 GHz)	5.2 dB
Radiated disturbance (electric field strength in a FAR) (6 GHz to 18 GHz)	5.5 dB

Test System Setup

Below 1GHz:



Above 1GHz:



The radiated emission tests below 1GHz was performed in the 10 meters chamber test site, above 1GHz were performed in the 3 meters chamber test site, using the setup accordance with the CISPR 16-1-1:2006+A1:2006+A2:2007, CISPR16-1-4:2010, CISPR 16-2-3:2003+A1:2005. The specification used was EN 55022 Class B limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

The EUT was connected to a 230V/50Hz AC line power source

EMI Test Receiver Setup

The system was investigated from 30 MHz to 1 GHz.

During the radiated emission test, the EMI test receiver was set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Detector
30MHz – 1000 MHz	120 kHz	300 kHz	120kHz	QP
Above 1 GHz	1 MHz	3 MHz	/	Peak
	1 MHz	10 Hz	/	Ave.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sonoma Instrument	Amplifier	330	171377	2015-09-16	2016-09-15
Rohde & Schwarz	EMI Test Receiver	ESCI	100195	2016-05-20	2017-05-18
Sunol Sciences	Broadband Antenna	JB3	A090314-2	2015-11-07	2016-11-05
ETS	Horn Antenna	3115	6229	2015-11-07	2016-11-05
Rohde & Schwarz	Signal Analyzer	FSIQ26	100048	2015-11-04	2016-11-03
Mini	Pre-amplifier	ZVA-183-S+	857001418	2015-09-16	2016-09-15
Sonoma Instrument	Amplifier	330	171377	2015-09-16	2016-09-15
R&S	Auto test Software	EMC32	V 09.10.0	-	-

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Procedure

During the radiated emissions, the EUT was connected to the first AC floor outlet and the other support equipments were connected to the second AC floor outlet.

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

The data was recorded in the Quasi-peak detection mode for below 1 GHz, Peak and average detection mode above 1 GHz.

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

$$\text{Corrected Amplitude} = \text{Meter Reading} + \text{Antenna Factor} + \text{Cable Loss} - \text{Amplifier Gain}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit for Class B. The equation for margin calculation is as follows:

$$\text{Margin} = \text{Limit} - \text{Corrected Amplitude.}$$

Test Results Summary

According to the data in the following table, the EUT complied with the EN 55022 Class B, with the worst margin reading of:

17.19 dB at 122.028750 MHz in the **Vertical** polarization mode

Test Data

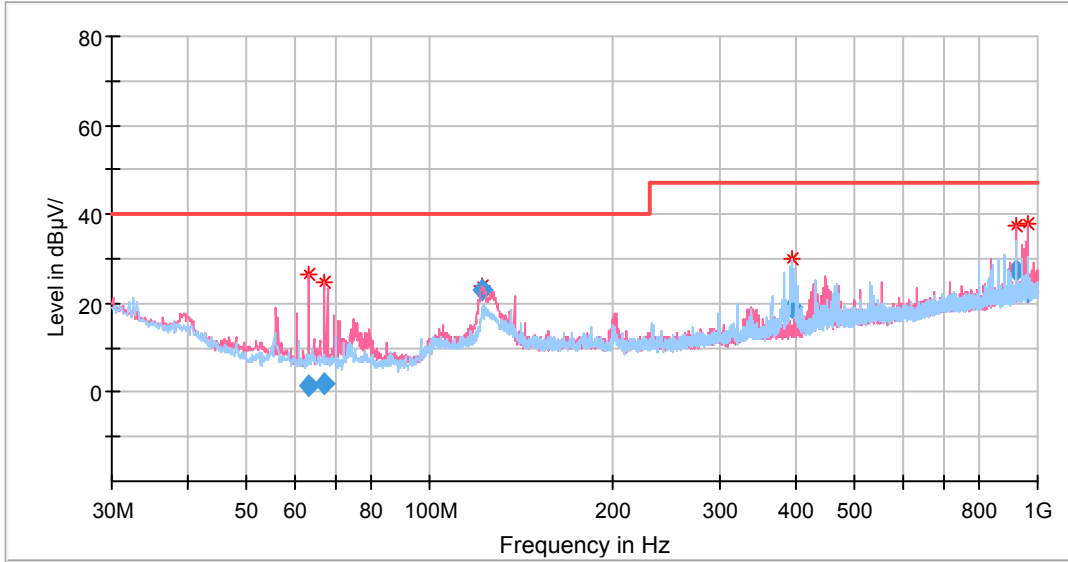
Environmental Conditions

Temperature:	21.6 °C
Relative Humidity:	72 %
ATM Pressure:	100.8 kPa

The testing was performed by Allen tian on 2016-06-08

Test mode: Operation

30 MHz-1 GHz:



Frequency (MHz)	Corrected Amplitude (dB µ V/m)	Detector	Limit (dB µ V/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
63.343750	1.70	QP	40.00	38.30	120.000	100.0	V	94.0	-17.0
66.981250	1.99	QP	40.00	38.01	120.000	199.0	V	353.0	-17.0
122.028750	22.81	QP	40.00	17.19	120.000	100.0	V	260.0	-12.6
393.143750	18.94	QP	47.00	28.06	120.000	200.0	H	99.0	-8.6
921.672500	27.18	QP	47.00	19.82	120.000	100.0	V	0.0	-0.5
962.655000	22.63	QP	47.00	24.37	120.000	100.0	V	184.0	0.0

Above 1 GHz:

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dBV/m)	Limit (dB μ V/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1280.561122	42.59	---	70.00	27.41	1000.000	100.0	V	12.0	1.7
1280.561122	---	25.08	50.00	24.92	1000.000	100.0	V	12.0	1.7
1711.422846	---	23.78	50.00	26.22	1000.000	100.0	H	87.0	3.3
1711.422846	37.20	---	70.00	32.80	1000.000	100.0	H	87.0	3.3
2092.184369	37.71	---	70.00	32.29	1000.000	100.0	H	254.0	4.5
2092.184369	---	24.52	50.00	25.48	1000.000	100.0	H	254.0	4.5
2392.785571	39.56	---	70.00	30.44	1000.000	100.0	H	107.0	4.9
2392.785571	---	26.16	50.00	23.84	1000.000	100.0	H	107.0	4.9
2873.747495	---	27.66	50.00	22.34	1000.000	100.0	H	33.0	6.4
2873.747495	41.12	---	70.00	28.88	1000.000	100.0	H	33.0	6.4
4987.975952	49.75	---	74.00	24.25	1000.000	100.0	H	339.0	14.0
4987.975952	---	33.53	54.00	20.47	1000.000	100.0	H	339.0	14.0

Note:

- 1) Corrected Amplitude = Meter Reading + Correction Factor
- 2) Correction Factor = Antenna Factor + Cable Loss - Amplifier Gain
- 3) Margin = Limit - Corrected Amplitude

EN 55024 §4.2.1 ELECTROSTATIC DISCHARGE (IEC 61000-4-2)**Measurement Uncertainty**

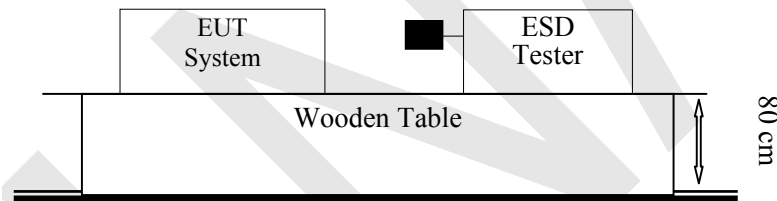
U_{lab} (measurement uncertainty of lab) and U_{EN} (measurement uncertainty of EN 61000-4-2) please refer to the following:

Parameter	U_{EN}	U_{lab}
Rise time t_r	$\leq 15\%$	15%
Peak current I_p	$\leq 7\%$	6.30%
Current at 30 ns	$\leq 7\%$	6.30%
Current at 60 ns	$\leq 7\%$	6.30%

Test Equipment

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
EM Test	ESD Tester	Dito	V0824103870	2015-6-26	2016-6-25

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test System Setup

Remark: ■ is the tip of the electrode

IEC 61000-4-2 specifies that a tabletop EUT shall be placed on a non-conducting table which is 80 centimeters above a ground reference plane and that floor mounted equipment shall be placed on a insulating support approximately 10 centimeters above a ground plane. During the tests, the EUT is positioned over a ground reference plane in conformance with this requirement.

For tabletop equipment, a 1.6 by 0.8-meter metal sheet (HCP) is placed on the table and connected to the ground plane via a metal strap with two 470 k Ohms resistors in series. The EUT and attached cables are isolated from this metal sheet by 0.5-millimeter thick insulating material. A Vertical Coupling Plane (VCP) grounded on the ground plane through the same configuration as in the HCP is used.

Test Standard

EN 55024:2010 (IEC 61000-4-2:2008)
 Test level 3 for Air Discharge at ± 8 kV
 Test level 2 for Contact Discharge at ± 4 kV

Test Level

Level	Test Voltage Contact Discharge (\pm kV)	Test Voltage Air Discharge (\pm kV)
1.	2	2
2.	4	4
3.	6	8
4.	8	15
X.	Special	Special

Performance criteria: B**Test Procedure****Air Discharge:**

This test is done on a non-conductive surface. The round discharge tip of the discharge electrode shall be approached as fast as possible to touch the EUT. After each discharge, the discharge electrode shall be removed from the EUT. The generator is then re-triggered for a new single discharge and repeated 10 times for each pre-selected test point. This procedure shall be repeated until all the air discharge completed.

Contact Discharge:

All the procedure shall be same as Section 8.3.1 of IEC 61000-4-2, except that the tip of the discharge electrode shall touch the EUT before the discharge switch is operated.

Indirect discharge for horizontal coupling plane:

At least 50 single discharges shall be applied to the horizontal coupling plane, at points on each side of the EUT. The discharge electrode positions vertically at a distance of 0.1 m from the EUT and with the discharge electrode touching the coupling plane.

Indirect discharge for vertical coupling plane:

At least 50 single discharges shall be applied to the center of one vertical edge of the coupling plane. The coupling plane, of dimensions 0.5m \times 0.5m, is placed parallel to, and positioned at a distance of 0.1m from the EUT. Discharges shall be applied to the coupling plane, with this plane in sufficient different positions that the four faces of the EUT are completely illuminated.

Test Data and Setup Photo**Environmental Conditions**

Temperature:	25.1 °C
Relative Humidity:	55%
ATM Pressure:	100.7 kPa

The testing was performed by Allen tian on 2016-06-08

Test mode: Operation

Table 1: Electrostatic Discharge Immunity (Air Discharge)

EN 61000-4-2 Test Points Location	Test Levels								
	-2 kV	+2 kV	-4 kV	+4 kV	-8 kV	+8 kV	-15 kV	+15 kV	X
Surface (4 points)	A	A	A	A	A	A	/	/	/

Table 2: Electrostatic Discharge Immunity (Direct Contact)

EN 61000-4-2 Test Points Location	Test Levels								
	-2 kV	+2 kV	-4 kV	+4 kV	-6 kV	+6 kV	-8 kV	+8 kV	X
Surface (2 points)	A	A	A	A	/	/	/	/	/

Table 3: Electrostatic Discharge Immunity (Indirect Contact HCP)

EN 61000-4-2 Test Points Location	Test Levels								
	-2 kV	+2 kV	-4 kV	+4 kV	-6 kV	+6 kV	-8 kV	+8 kV	X
Front Side	A	A	A	A	/	/	/	/	/
Back Side	A	A	A	A	/	/	/	/	/
Left Side	A	A	A	A	/	/	/	/	/
Right Side	A	A	A	A	/	/	/	/	/

Table 4: Electrostatic Discharge Immunity (Indirect Contact VCP)

EN 61000-4-2 Test Points Location	Test Levels								
	-2 kV	+2 kV	-4 kV	+4 kV	-6 kV	+6 kV	-8 kV	+8 kV	X
Front Side	A	A	A	A	/	/	/	/	/
Back Side	A	A	A	A	/	/	/	/	/
Left Side	A	A	A	A	/	/	/	/	/
Right Side	A	A	A	A	/	/	/	/	/



Test Setup Photos

EN 55024 §4.2.2 ELECTRICAL FAST TRANSIENT (IEC 61000-4-4)

Measurement Uncertainty

U_{lab} (measurement uncertainty of lab) and U_{EN} (measurement uncertainty of EN 61000-4-4) please refer to the following:

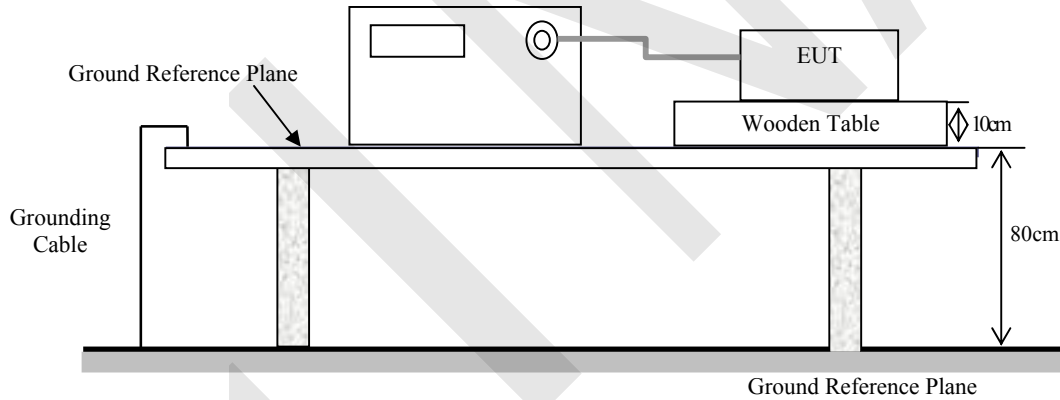
Parameter	U_{EN}	U_{lab}
Rise time t_r	6.20%	6.20%
Peak voltage value V_p	8.60%	8.60%
Voltage pulse width t_w	5.90%	5.90%

Test Equipment

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
EM TEST	Auto Transformer	MV2616	V0939105172	2015-11-12	2016-11-11
EM TEST	Ultra Compact Generator	UCS500-M4	303279	2016-02-19	2017-02-18
EM TEST	EFT Clamp	CDN 125	30088	2016-03-03	2017-03-02

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test System Setup



Test Standard

EN 55024:2010 (IEC 61000-4-4:2004)
 AC mains: Test level 2 at 1 kV
 Signal Port: Test level 2 at 0.5 kV

Test Level

Open Circuit Output Test Voltage $\pm 10\%$		
Level	On Power Supply Lines	On I/O (Input/Output) Signal data and control lines
1	0.5 kV	0.25 kV
2	1 kV	0.5 kV
3	2 kV	1 kV
4	4 kV	2 kV
X	Special	Special

Performance criteria: B

Test Procedure

The EUT was arranged for Power Line Coupling and for I/O Line Coupling through a capacitive clamp, where applicable. (Note: The I/O coupling test using a capacitive clamp is performed on the I/O interface cables that are longer in length than 3 meters.) A metal ground plane 2.4 meter by 2.0 meter was placed between the floor and the table and is connected to the earth by a 2.0 meter ground rod. The ground rod is connected to the test facility’s electrical earth.

Test Data and Setup Photo

Environmental Conditions

Temperature:	23.5 °C
Relative Humidity:	55%
ATM Pressure:	100.8kPa

The testing was performed by Allen tian on 2016-06-08.

Test mode: Operation

EN61000-4-4 Test Points		Test Levels (kV)							
		+0.5	-0.5	+1.0	-1.0	+2.0	-2.0	+4.0	-4.0
AC mains power input ports	L	A	A	A	A	/	/	/	/
	N	A	A	A	A	/	/	/	/
	Earth	A	A	A	A	/	/	/	/
	L+N	A	A	A	A	/	/	/	/
	L + Earth	A	A	A	A	/	/	/	/
	N+ Earth	A	A	A	A	/	/	/	/
	L+N+Earth	A	A	A	A	/	/	/	/
<i>Signal ports</i>		/	/	/	/	/	/	/	/
<i>Signal ports</i>		/	/	/	/	/	/	/	/



Test Setup Photo

EN 55024 §4.2.3.2 CONTINUOUS RADIATED DISTURBANCES (IEC 61000-4-3)

Measurement Uncertainty

U_{lab} (measurement uncertainty of lab) and U_{EN} (measurement uncertainty of EN 61000-4-3) please refer to the following:

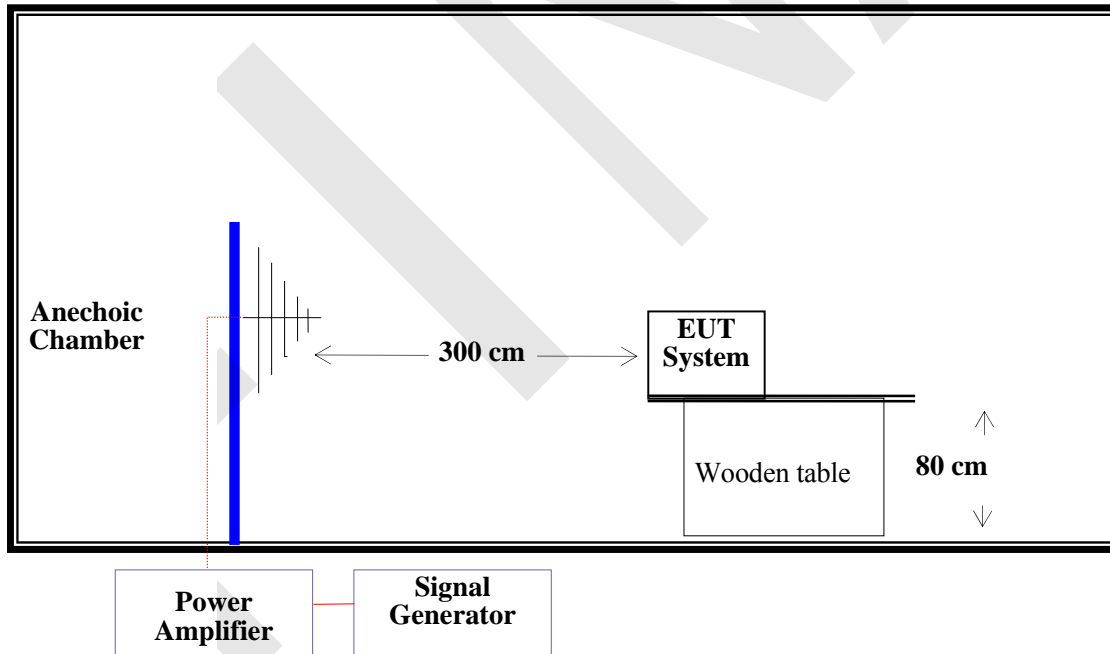
Parameter	U_{EN}	U_{lab}
Calibration process	1.88 dB	1.88 dB
Level setting	2.19 dB	2.19 dB

Test Equipment

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
HP	Signal Generator	E4421B	3426A01336	2015-06-09	2016-06-08
Amplifier Research	Power Amplifier	200W1000/M2	18062	2015-11-12	2016-11-11
Sunol Sciences	Bi-log Antenna	JB3	A040904-1	NCR	NCR
Amplifier Research	Power Amplifier	10S1G4M1	18060	2015-11-12	2016-11-11

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test System Setup



Test Standard

EN 55024:2010 (IEC 61000-4-3:2006 + A1:2007 + A2:2010)
 Test level 2 at 3V / m

Test Level

Level	Field Strength V/m
1.	1
2.	3
3.	10
X.	Special

Performance criteria: A

Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above the ground. The EUT is set 3 meters away from the transmitting antenna which is mounted on an antenna tower. Both horizontal and vertical polarizations of the antenna are set on test. Each of the four sides of EUT must be faced this transmitting antenna and measured individually. In order to judge the EUT performance, a CCD camera was used to monitor the EUT. All the scanning conditions are as follows:

Condition of Test	Remarks
Field Strength	3 V/m (Test level 2)
Radiated Signal	AM 80%, 1 kHz Modulation
Scanning Frequency	80 – 1000 MHz
Scanning Frequency Step	1%
Dwell Time	1Sec.

Test Data and Setup Photo

Environmental Conditions

Temperature:	23 °C
Relative Humidity:	65%
ATM Pressure:	100.5kPa

The testing was performed by Allen tian on 2016-06-08.

Test mode: Operation

Severity Level: 3 V/m Unmodulated, r.m.s

Frequency Range (MHz)	Front Side		Rear Side		Left Side		Right Side	
	VERT	HORI	VERT	HORI	VERT	HORI	VERT	HORI
80-1000	A	A	A	A	A	A	A	A



Test Setup Photo

EN 55024 §4.2.3.3 CONTINUOUS CONDUCTED DISTURBANCES (IEC 61000-4-6)

Measurement Uncertainty

U_{lab} (measurement uncertainty of lab) and U_{EN} (measurement uncertainty of EN 61000-4-6) please refer to the following:

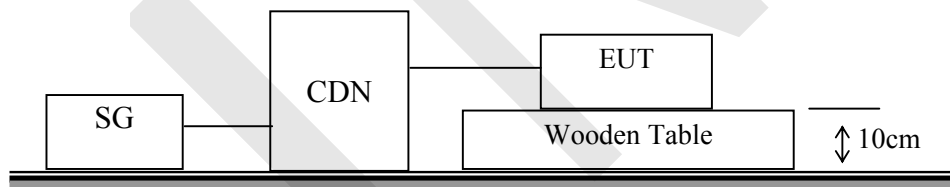
Parameter	U_{EN}	U_{lab}
CDN calibration process	1.27 dB	1.27 dB
CDN test process	1.36 dB	1.36 dB

Test Equipment

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Signal Generator	Agilent	8648C	3537A01810	2015-06-19	2016-06-18
SPANAWAVE	Power Amplifier	PAS-000023-25	AA00566	2015-11-12	2016-11-11
Dressler	Attenuator	ATT 6/75	510020010004	2015-11-12	2016-11-11
EM TEST	CDN	CDN M2/M3	0707-13	2015-11-12	2016-11-11
COM-POWER	CDN	CDN M2-25	511034	2015-11-12	2016-11-11

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Setup



Test Standard

EN 55024:2010 (IEC 61000-4-6:2008)
Test level 2 at 3 V (r.m.s.), 0.15 MHz ~ 80 MHz

Test Level

Level	Voltage Level (r.m.s.) (V)
1	1
2	3
3	10
X	Special

Performance criteria: A

Test Procedure

- 1) Let the EUT work in test mode and test it.
- 2) The EUT are placed on an insulating support 0.1 m high above a ground reference plane. CDN (coupling and decoupling device) is placed on the ground plane about 0.3 m from EUT. Cables between CDN and EUT are as short as possible, and their height above the ground reference plane shall be between 30 and 50 mm (where possible).
- 3) The disturbance signal described below is injected to EUT through CDN.
- 4) The EUT operates within its operational mode(s) under intended climatic conditions after power on.
- 5) The frequency range is swept from 150 kHz to 80 MHz using 3V signal level, and with the disturbance signal 80% amplitude modulated with a 1 kHz sine wave.
- 6) The rate of sweep shall not exceed 1.5×10^{-3} decades/s. Where the frequency is swept incrementally, the step size shall not exceed 1% of the start and thereafter 1% of the preceding frequency value. Recording the EUT operating situation during compliance testing and decide the EUT immunity criterion.

Test Data and Setup Photo

Environmental Conditions

Temperature:	24 °C
Relative Humidity:	60 %
ATM Pressure:	100.7kPa

The testing was performed by Allen tian on 2016-06-08

Test mode: Operation

Table 1: AC mains power input port

Frequency range: 150 kHz to 80 MHz
 Modulated: Amplitude 80%, 1kHz sine wave Unmodulated Other:
 Severity Level: 3 V Unmodulated, r.m.s

Level	Voltage Level (e.m.f.) U ₀	Pass	Fail
1	1	/	/
2	3	A	/
3	10	/	/
X	Special	/	/



Test Setup Photo

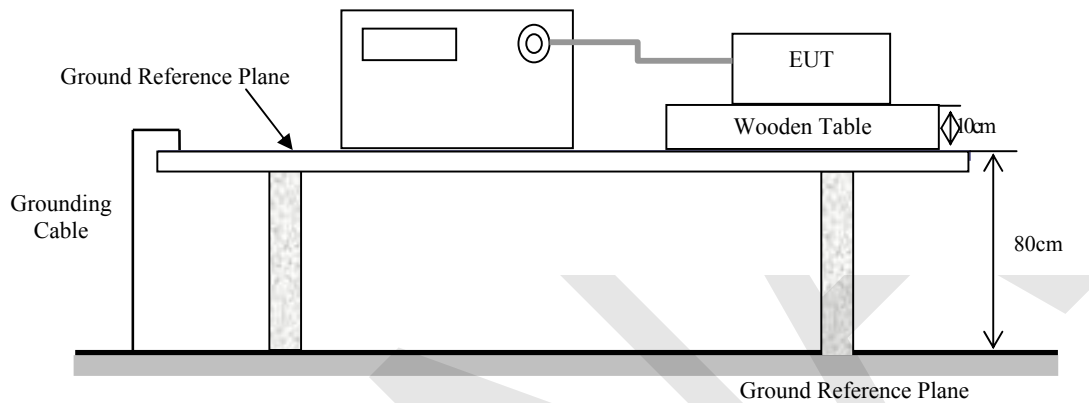
EN 55024 §4.2.5 SURGE (IEC 61000-4-5)

Test Equipment

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
EM TEST	Auto Transformer	MV2616	V0939105172	2015-11-12	2016-11-11
EM TEST	Ultra Compact Generator	UCS500-M4	303279	2016-02-19	2017-02-18

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test System Setup



Test Standard

EN 55024:2010 (IEC 61000-4-5:2005)
 AC Mains: L-N: Test level 2 at 1 kV
 L-PE, N-PE: Test level 3 at 2 kV

Test Level

Level	Open Circuit Output Test Voltage ±10%
1	0.5 kV
2	1 kV
3	2 kV
4	4 kV
X	Special

Performance criteria: B

Test Procedure

- 1) Provide disturbance signal described below is injected to EUT.
- 2) At least 5 positive and 5 negative (polarity) tests with a maximum 1/min repetition rate are conducted during test.
- 3) Different phase angles are done individually.
- 4) Record the EUT operating situation during compliance test and decide the EUT immunity criterion for above each test.

Test Data and Setup Photo

Environmental Conditions

Temperature:	23.5 °C
Relative Humidity:	55 %
ATM Pressure:	100.8kPa

The testing was performed by Allen tian on 2016-06-08.

Test mode: Operation

Table 1: AC mains power input port

Level	Voltage	Poll	Path	Pass	Fail
1	0.5kV	±	L-N,L-PE,N-PE	A	/
2	1kV	±	L-N,L-PE,N-PE	A	/
3	2kV	±	L-PE,N-PE	A	/
4	4kV	±	/	/	/



Test Setup Photo

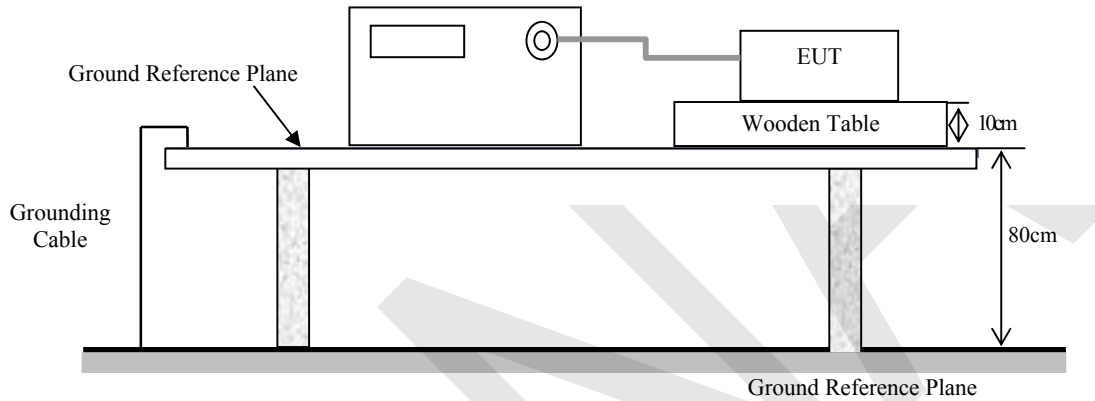
EN 55024 §4.2.6 VOLTAGE DIPS AND INTERRUPTIONS (IEC 61000-4-11)

Test Equipment

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
EM TEST	Auto Transformer	MV2616	V0939105172	2015-11-12	2016-11-11
EM TEST	Ultra Compact Generator	UCS500-M4	303279	2016-02-19	2017-02-18

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Setup



Test Standard

EN 55024:2010 (IEC 61000-4-11:2004)
 Test levels and Performance Criterion

Test Level

Test Level	U2 (% Reduction)	Duration (Periods)	Performance Criteria
1	>95	0.5	B
2	30	25	C
3	>95	250	C

Test Procedure

- 1) The interruption is introduced at selected phase angles with specified duration.
- 2) Record any degradation of performance.

Test Data and Setup Photo

Environmental Conditions

Temperature:	24.2 °C
Relative Humidity:	73 %
ATM Pressure:	100.7 kPa

The testing was performed by Allen tian on 2016-06-08.

Test mode: Operation

Level	U2 (% Reduction)	Td (Periods)	Phase Angle	N	Result
1	100	0.5	0/90/180/270	3	A
2	30	25	0/90/180/270	3	A
3	100	250	0/90/180/270	3	A



Test Setup Photo

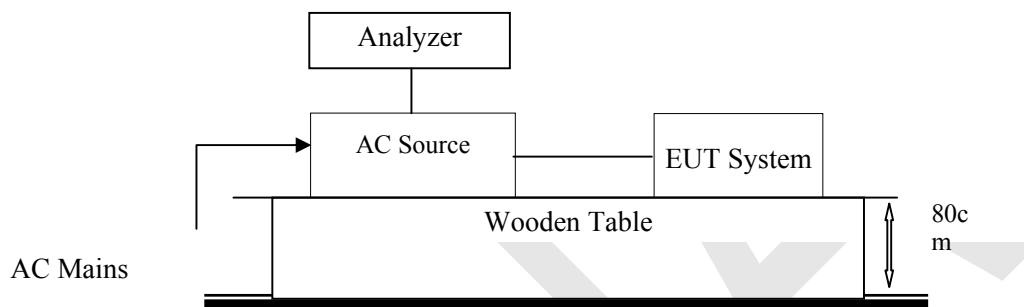
EN 61000-3-2 HARMONIC CURRENT EMISSIONS

Test Equipment

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
EM TEST	Harmonic & Flicker Analyzer	DPA 500N	P1402129120	2015-10-20	2016-10-19
EM TEST	AC Power Source	ACS500N	P1251107475	2015-10-20	2016-10-19

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test System Setup



Test Standard

EN 61000-3-2: 2006 + A2:2009

Test product class:

- Class A: - Balanced three-phase equipment
 - Household appliances excluding equipment identified as class D
 - Tools excluding portable tools
 - Dimmers for incandescent lamps
 - Audio equipment
- Class B: - Portable tools
 - Arc welding equipment, which is not professional equipment
- Class C: - Lighting equipment
- Class D: Equipment having a specified power less than or equal to 600w, of the following type:
 - Personal computer and personal computer monitors
 - Television receivers

Application of limits:

The EUT belongs to Class A equipment; the harmonics of the input current shall not exceed the values given in Table 1. Audio amplifiers shall be tested according to Clause C.3. Dimmers for incandescent lamps shall be tested according to Clause C.6.

Table 1 – Limits for Class A equipment

Harmonic order n	Maximum permissible harmonic current A
Odd harmonics	
3	2,30
5	1,14
7	0,77
9	0,40
11	0,33
13	0,21
15 ≤ n ≤ 39	0,15 $\frac{15}{n}$
Even harmonics	
2	1,08
4	0,43
6	0,30
8 ≤ n ≤ 40	0,23 $\frac{8}{n}$

Table 2 – Limits for Class C equipment

Harmonic order n	Maximum permissible harmonic current expressed as a percentage of the input current at the fundamental frequency %
2	2
3	30 · λ *
5	10
7	7
9	5
11 ≤ n ≤ 39 (odd harmonics only)	3

* λ is the circuit power factor

Table 3 – Limits for Class D equipment

Harmonic order n	Maximum permissible harmonic current per watt mA/W	Maximum permissible harmonic current A
3	3,4	2,30
5	1,9	1,14
7	1,0	0,77
9	0,5	0,40
11	0,35	0,33
13 ≤ n ≤ 39 (odd harmonics only)	$\frac{3,85}{n}$	See Table 1

Test Data and Setup Photo

1) Environmental Conditions

Date of test:	15:29 8.Jun 2016
Tester:	Allen tian
Standard used:	EN/IEC 61000-3-2 Equipment class A
Windows width:	10 periods - (EN/IEC 61000-4-7 Edition 2002)
Customer:	HangZhou Synway Information Engineering Co.,Ltd
E. U. T.:	PCIe Digital Trunk Passive Board
Model:	DTP-120C/PCIe+
Test Mode	Operation



Test Setup Photo

Average harmonic current results

Hn	I _{eff} [A]	% of Limit	Limit [A]	Result
1	321.025E-3			
2	2.393E-3			PASS
3	249.761E-3	64.547	386.946E-3	PASS
4	2.252E-3			PASS
5	135.769E-3	62.788	216.235E-3	PASS
6	1.411E-3			PASS
7	53.091E-3	46.650	113.808E-3	PASS
8	0.999E-3			PASS
9	32.455E-3	57.036	56.904E-3	PASS
10	1.027E-3			PASS
11	22.517E-3	56.530	39.833E-3	PASS
12	1.003E-3			PASS
13	11.184E-3	33.177	33.710E-3	PASS
14	871.147E-6			PASS
15	9.692E-3	33.187	29.203E-3	PASS
16	820.631E-6			PASS
17	7.669E-3	29.750	25.777E-3	PASS
18	823.221E-6			PASS
19	5.405E-3	23.441	23.057E-3	PASS
20	782.621E-6			PASS
21	5.983E-3	19.119	31.291E-3	PASS
22	767.377E-6			PASS
23	4.354E-3			PASS
24	737.570E-6			PASS
25	4.058E-3			PASS
26	827.353E-6			PASS
27	3.439E-3			PASS
28	725.598E-6			PASS
29	2.572E-3			PASS
30	740.048E-6			PASS
31	2.540E-3			PASS
32	684.537E-6			PASS
33	2.386E-3			PASS
34	716.427E-6			PASS
35	2.518E-3			PASS
36	683.299E-6			PASS
37	1.984E-3			PASS
38	685.089E-6			PASS
39	1.682E-3			PASS
40	680.987E-6			PASS

Harmonic currents less than 0.6% of the input current measured under the test conditions, or less than 5 mA, whichever is greater, are disregarded.

Maximum harmonic current results

Hn	I _{eff} [A]	% of Limit	Limit [A]	Result
1	500.105E-3			
2	8.145E-3			PASS
3	370.392E-3	63.815	580.420E-3	PASS
4	8.334E-3			PASS
5	185.689E-3	57.249	324.352E-3	PASS
6	4.675E-3			PASS
7	73.811E-3	43.237	170.712E-3	PASS
8	2.269E-3			PASS
9	46.063E-3	53.966	85.356E-3	PASS
10	1.564E-3			PASS
11	23.037E-3	38.557	59.749E-3	PASS
12	1.905E-3			PASS
13	12.563E-3	24.844	50.565E-3	PASS
14	1.491E-3			PASS
15	10.871E-3	24.817	43.805E-3	PASS
16	1.268E-3			PASS
17	9.197E-3	23.785	38.666E-3	PASS
18	1.454E-3			PASS
19	8.816E-3	25.490	34.586E-3	PASS
20	1.531E-3			PASS
21	6.650E-3	21.252	31.291E-3	PASS
22	1.184E-3			PASS
23	5.927E-3	20.740	28.577E-3	PASS
24	1.095E-3			PASS
25	5.116E-3	19.460	26.290E-3	PASS
26	1.122E-3			PASS
27	4.558E-3			PASS
28	1.149E-3			PASS
29	3.979E-3			PASS
30	985.385E-6			PASS
31	3.508E-3			PASS
32	848.778E-6			PASS
33	2.578E-3			PASS
34	995.511E-6			PASS
35	3.037E-3			PASS
36	931.978E-6			PASS
37	2.185E-3			PASS
38	857.992E-6			PASS
39	2.392E-3			PASS
40	817.450E-6			PASS

Harmonic currents less than 0.6% of the input current measured under the test conditions, or less than 5 mA, whichever is greater, are disregarded.

Maximum harmonic voltage results

Hn	Ueff [V]	Ueff [%]	Limit [%]	Result
1	231.14	100.496		
2	177.35E-3	0.077	0.2	PASS
3	98.18E-3	0.043	0.9	PASS
4	50.44E-3	0.022	0.2	PASS
5	91.30E-3	0.040	0.4	PASS
6	33.51E-3	0.015	0.2	PASS
7	65.06E-3	0.028	0.3	PASS
8	26.89E-3	0.012	0.2	PASS
9	71.85E-3	0.031	0.2	PASS
10	8.83E-3	0.004	0.2	PASS
11	80.25E-3	0.035	0.1	PASS
12	16.56E-3	0.007	0.1	PASS
13	45.70E-3	0.020	0.1	PASS
14	32.06E-3	0.014	0.1	PASS
15	65.06E-3	0.028	0.1	PASS
16	30.27E-3	0.013	0.1	PASS
17	41.94E-3	0.018	0.1	PASS
18	12.89E-3	0.006	0.1	PASS
19	23.09E-3	0.010	0.1	PASS
20	25.76E-3	0.011	0.1	PASS
21	64.34E-3	0.028	0.1	PASS
22	16.02E-3	0.007	0.1	PASS
23	64.42E-3	0.028	0.1	PASS
24	11.44E-3	0.005	0.1	PASS
25	23.92E-3	0.010	0.1	PASS
26	16.38E-3	0.007	0.1	PASS
27	50.28E-3	0.022	0.1	PASS
28	11.79E-3	0.005	0.1	PASS
29	52.75E-3	0.023	0.1	PASS
30	11.15E-3	0.005	0.1	PASS
31	43.30E-3	0.019	0.1	PASS
32	10.84E-3	0.005	0.1	PASS
33	32.94E-3	0.014	0.1	PASS
34	10.46E-3	0.005	0.1	PASS
35	31.39E-3	0.014	0.1	PASS
36	9.63E-3	0.004	0.1	PASS
37	40.12E-3	0.017	0.1	PASS
38	10.28E-3	0.004	0.1	PASS
39	34.56E-3	0.015	0.1	PASS
40	9.93E-3	0.004	0.1	PASS

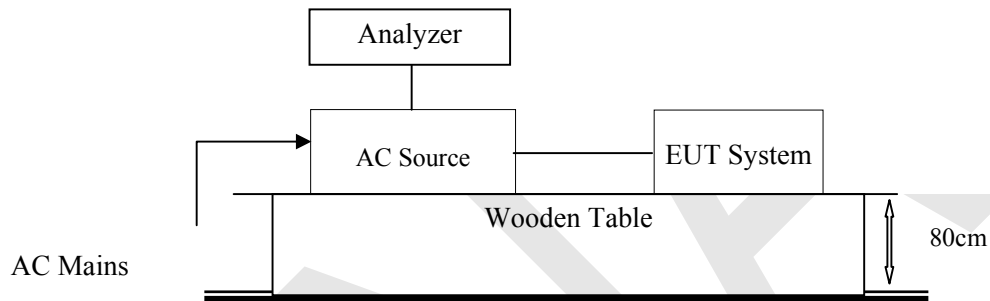
EN 61000-3-3 VOLTAGE FLUCTUATIONS AND FLICKER

Test Equipment

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
EM TEST	Harmonic & Flicker Analyzer	DPA 500N	P1402129120	2015-10-20	2016-10-19
EM TEST	AC Power Source	ACS500N	P1251107475	2015-10-20	2016-10-19

* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test System Setup



Test Standard

EN 61000-3-3:2013

Flicker Test Limits :

The limits shall be applicable to voltage fluctuations and flicker at the supply terminals of the equipment under test, measured or calculated according to clause 4 under test conditions described in clause 6 and annex A. Tests made to prove compliance with the limits are considered to be type tests.

The following limits apply:

- the value of Pst shall not be greater than 1,0;
- the value of Plt shall not be greater than 0,65;
- the value of d(t) during a voltage change shall not exceed 3,3 % for more than 500 ms;
- the relative steady-state voltage change, dc, shall not exceed 3,3 %;
- the maximum relative voltage change dmax, shall not exceed
 - a) 4 % without additional conditions;
 - b) 6 % for equipment which is:
 - switched manually, or
 - switched automatically more frequently than twice per day, and also has either a delayed restart (the delay being not less than a few tens of seconds), or manual restart, after a power supply interruption.

Note: The cycling frequency will be further limited by the Pst and Plt limit. For example: a dmax of 6 % producing a rectangular voltage change characteristic twice per hour will give a Plt of about 0,65.

c) 7 % for equipment which is

- attended whilst in use (for example: hair dryers, vacuum cleaners, kitchen equipment such as mixers, garden equipment such as lawn mowers, portable tools such as electric drills), or
- switched on automatically, or is intended to be switched on manually, no more than twice per day, and also has either a delayed restart (the delay being not less than a few tens of seconds) or manual restart, after a power supply interruption.

In the case of equipment having several separately controlled circuits in accordance with 6.6, limits b) and c) shall apply only if there is delayed or manual restart after a power supply interruption; for all equipment with automatic switching which is energized immediately on restoration of supply after a power supply interruption, limits a) shall apply; for all equipment with manual switching, limits b) or c) shall apply depending on the rate of switching. Pst and Plt requirements shall not be applied to voltage changes caused by manual switching. The limits shall not be applied to voltage changes associated with emergency switching or emergency interruptions.

Test Data and Setup Photo

Environmental Conditions

Temperature:	24.2 °C
Relative Humidity:	73 %
ATM Pressure:	100.7kPa

Date of test:	16:23 8.Jun 2016
Tester:	Allen tian
Standard used:	EN/IEC 61000-3-3 Flicker
Short time (Pst):	10 min
Observation time:	10 min (1 Flicker measurement)
Flicker meter:	230V / 50Hz
Customer:	HangZhou Synway Information Engineering Co.,Ltd
E. U. T.:	PCle Digital Trunk Passive Board
Model:	DTP-120C/PCIe+
Test Mode:	Operation

Maximum Flicker results

	EUT values	Limit	Result
Pst	0.033	1.00	PASS
Plt	0.033	0.65	PASS
dc [%]	0.031	3.30	PASS
dmax [%]	0.100	4.00	PASS
dt [s]	0.000	0.50	PASS



Test Setup Photo

EXHIBIT A - PRODUCT LABELING

Label Specification



Specifications: The marking set out above must be affixed to the apparatus or to its data plate and have a minimum height of 5 mm. The elements should be easily readable and indelible. They may be placed anywhere on the apparatus case or in its battery compartment. No tool should be needed to view the marking.

Proposed Label Location on EUT

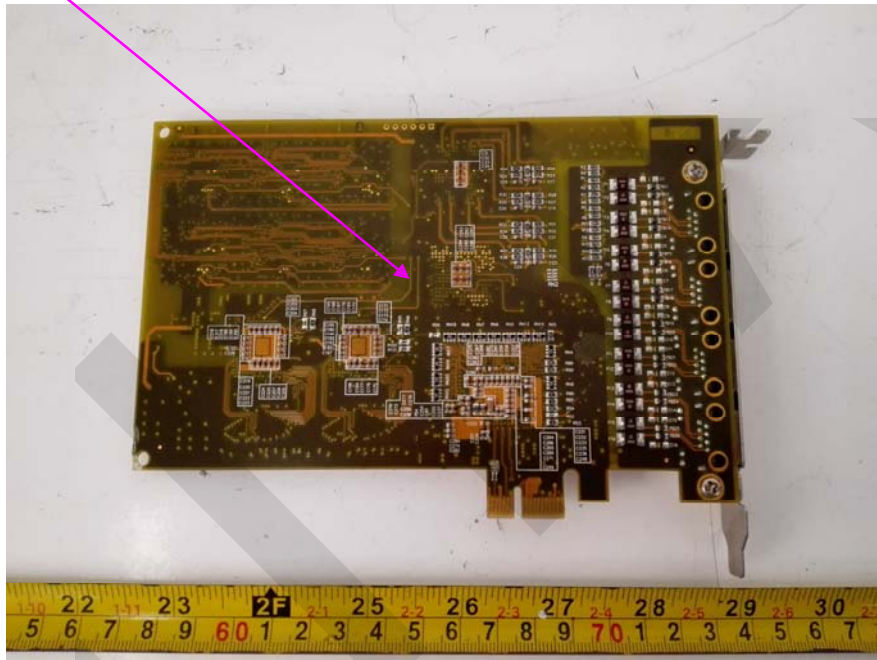
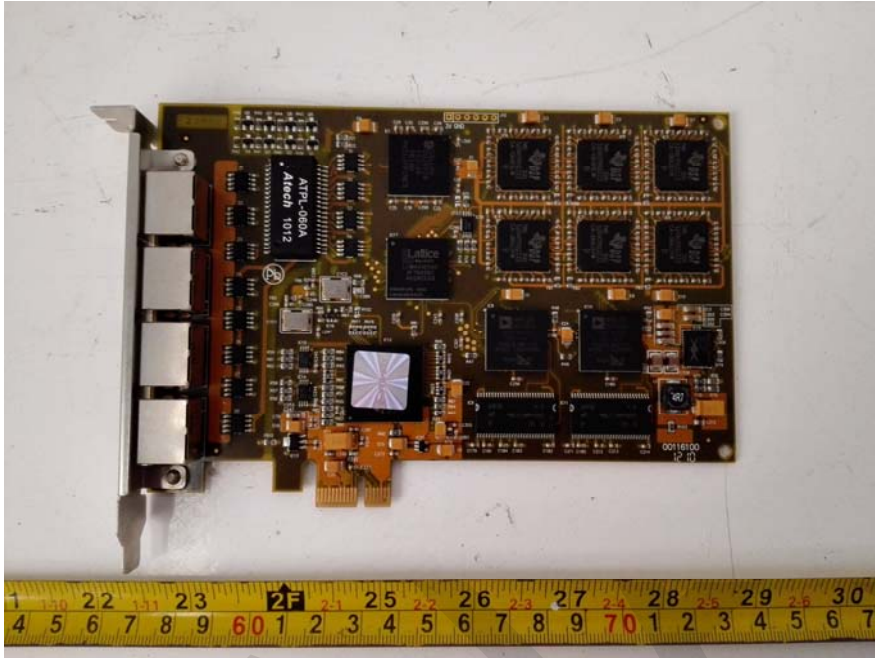


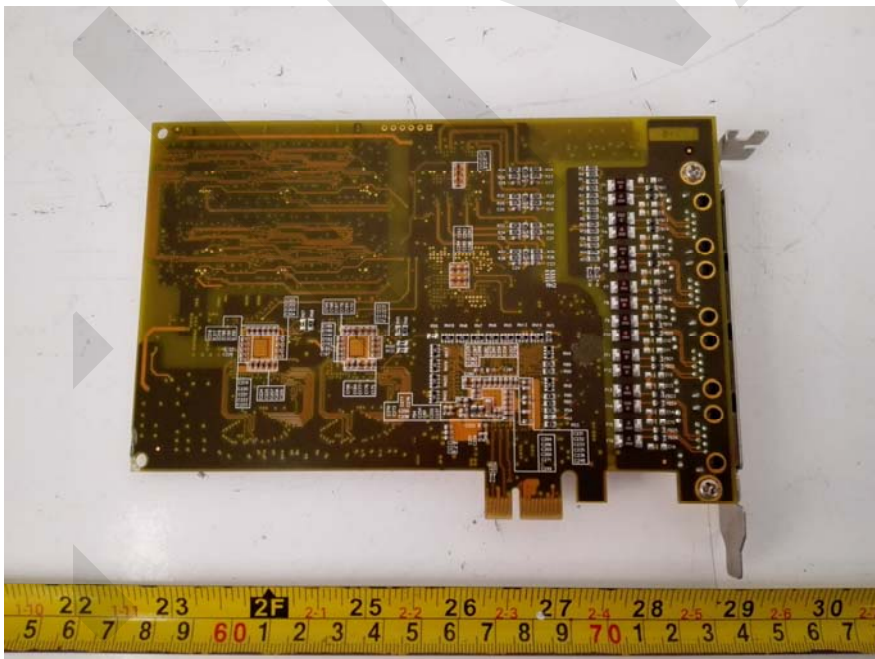
EXHIBIT B - EUT PHOTOGRAPHS

Model: DTP-120C/PCIe+

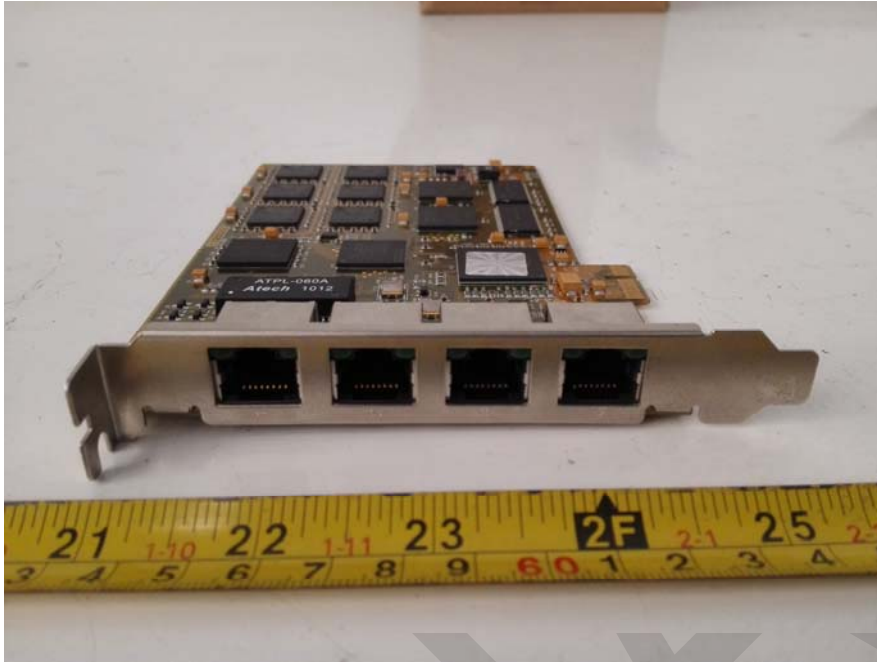
EUT – Top View



EUT –Bottom View



EUT – Side View

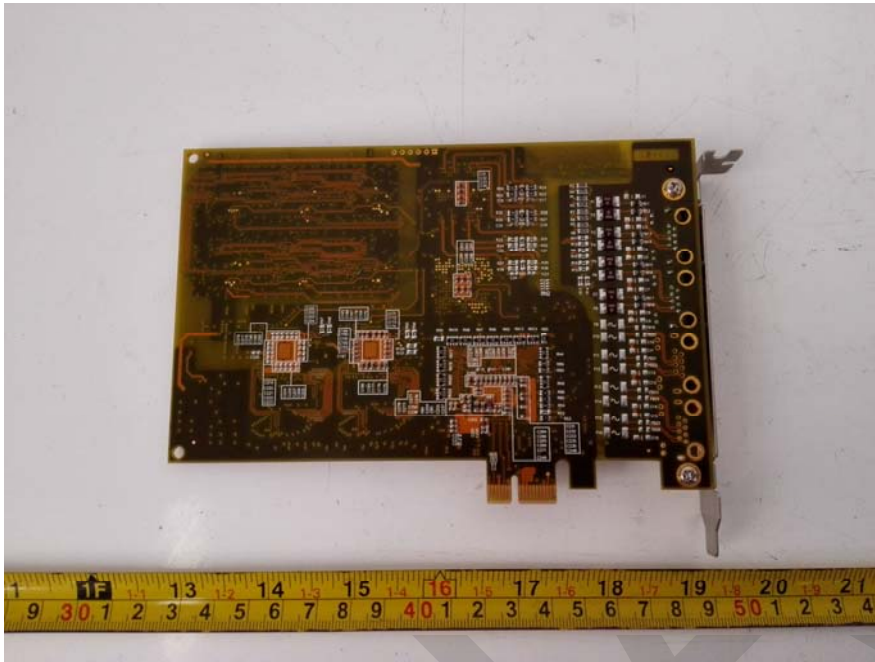


Model: DTP-60C/PCIe+

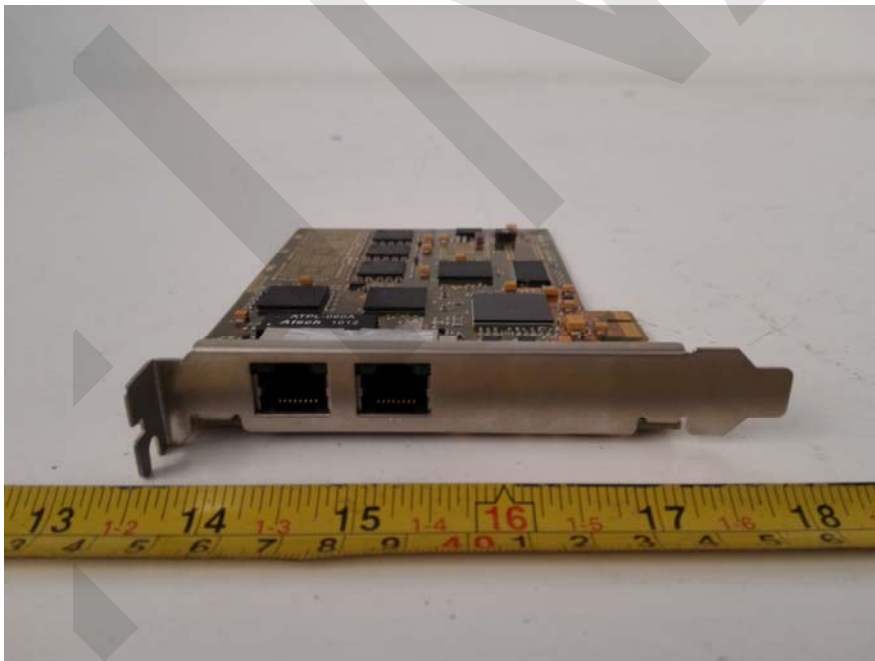
EUT – Top View



EUT –Bottom View



EUT – Side View



Model: DTP-30C/PCIe+

EUT – Top View



EUT –Bottom View



EUT – Side View

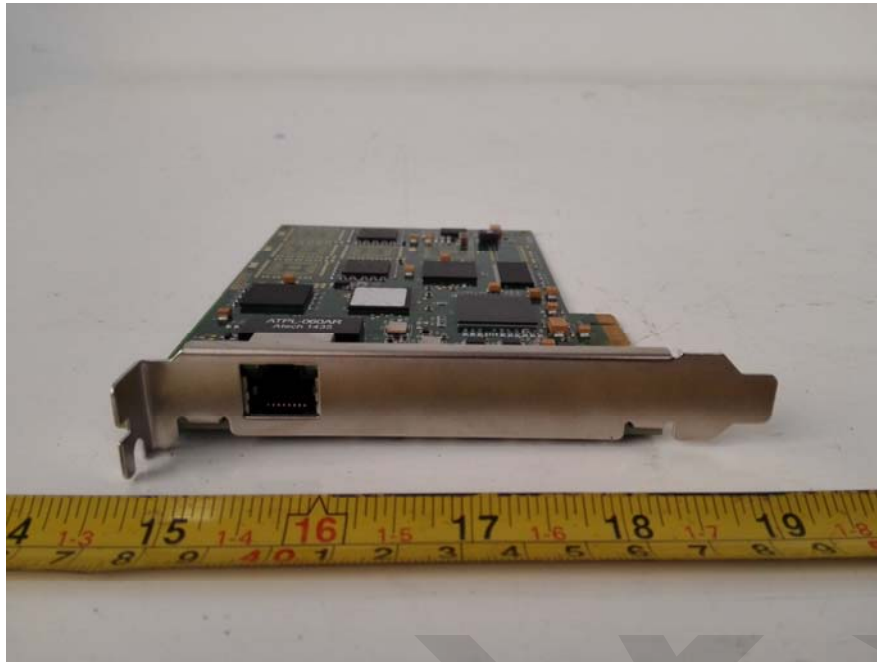


EXHIBIT C - TEST SETUP PHOTOGRAPHS

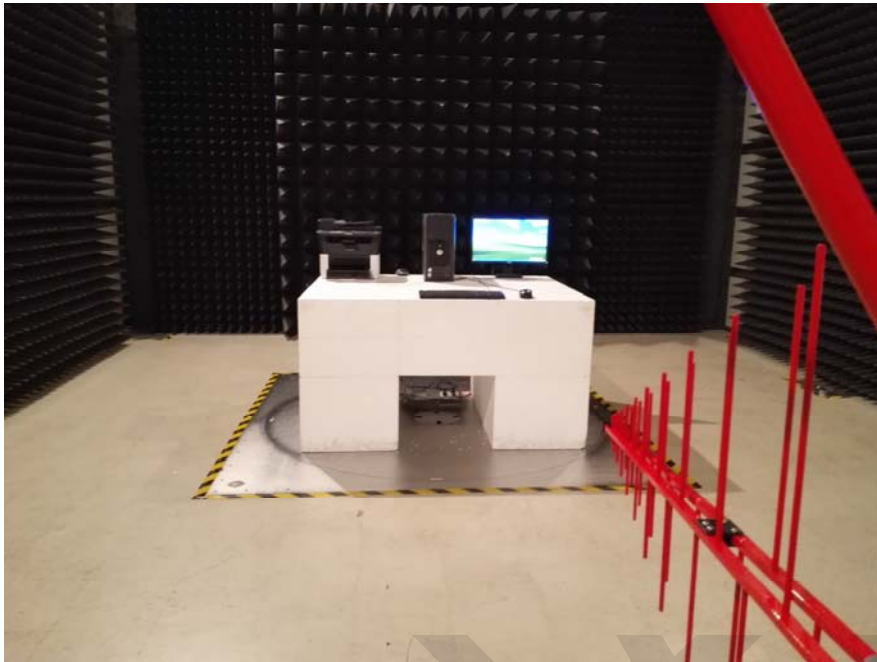
Conducted Emissions - Front View



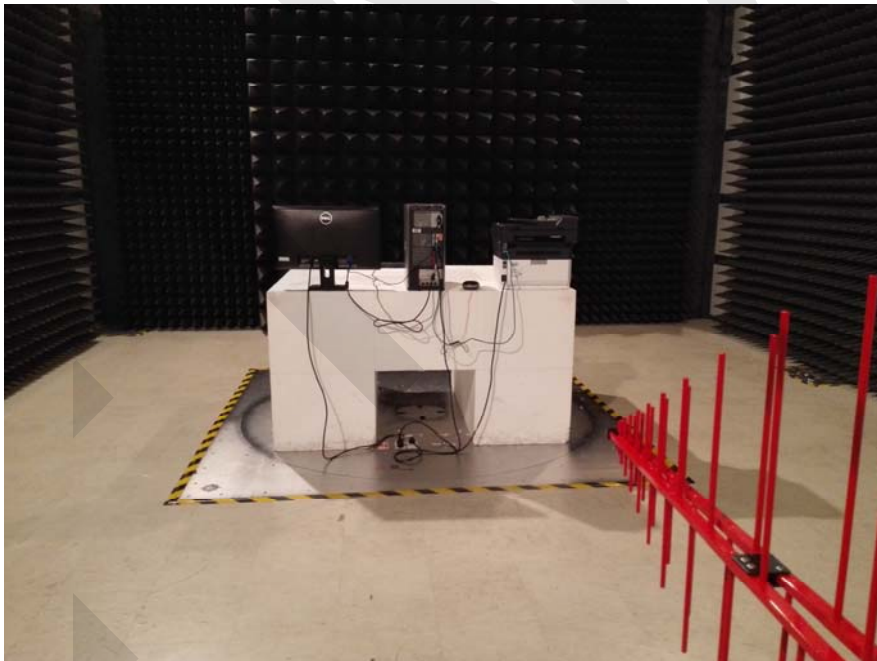
Conducted Emissions - Side View



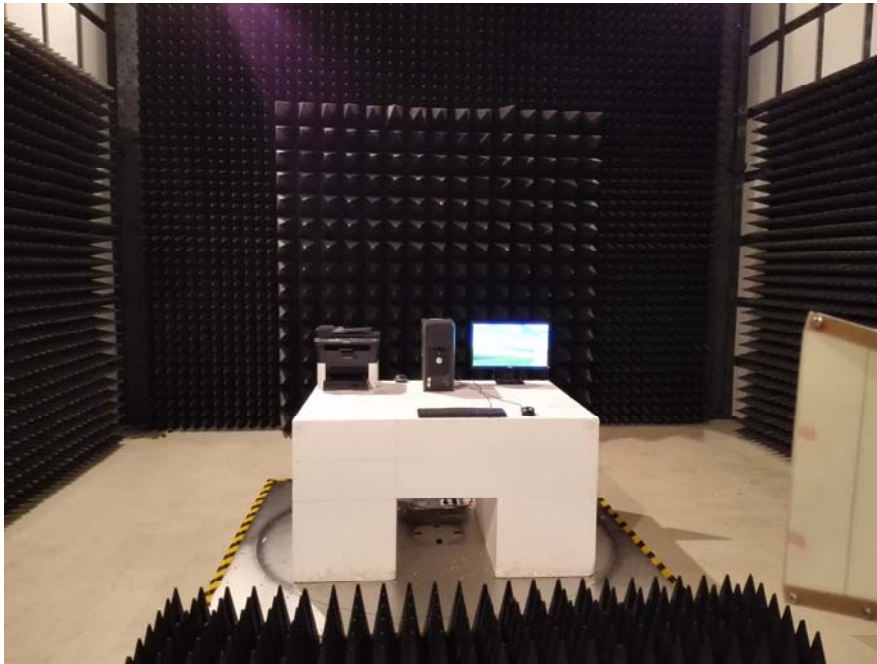
Radiated Emissions- Front View (Below 1 GHz)



Radiated Emissions - Rear View (Below 1 GHz)



Radiated Emissions- Front View (Above 1 GHz)



Radiated Emissions - Rear View (Above 1 GHz)



PRODUCT SIMILARITY DECLARATION LETTER

HangZhou Synway Information Engineering Co.,Ltd
 No.3756 ,Nanhuan Road, Hangzhou, China
 TEL: +86-571-88861158-2023 FAX: +86-571-88850923

DECLARATION

Date:2016-5-31
 To:
 Bay Area Compliance Laboratories Corp. (Kunshan)
 No.248 Chenghu Road Kunshan, Jiangsu, China
<http://www.baclcorp.com>

Dear Sir or Madam:

We, (HangZhou Synway Information Engineering Co.,Ltd) hereby declare that product series of (DTP-120C/PCIe+, DTP-60C/PCIe+ and DTP-30C/PCIe+), They are based on the same of PCB, for different Numbers of components, The differences of them are as follows:

Model	EI Number (RJ48C)	Transceiver chip	TI DSP	ADI DSP
DTP-120C/PCIe+	4	DS26528*1	5502*6	BF527*2
DTP-60C/PCIe+	2	DS26524*1	5502*3	BF527*1
DTP-30C/PCIe+	1	DS26524*1	5502*2	BF527*1

Description: DS26528 and DS26524 package is identical, only the internal functions of the latter half.

The Difference Between DTP-60C/PCIe+ and DTP-120C/PCIe+

In terms of functions, DTP-120C/PCIe+ can monitor double more PCM circuit with DTP-60C/PCIe+.

The Difference Between DTP-60C/PCIe+ and DTP-30C/PCIe+

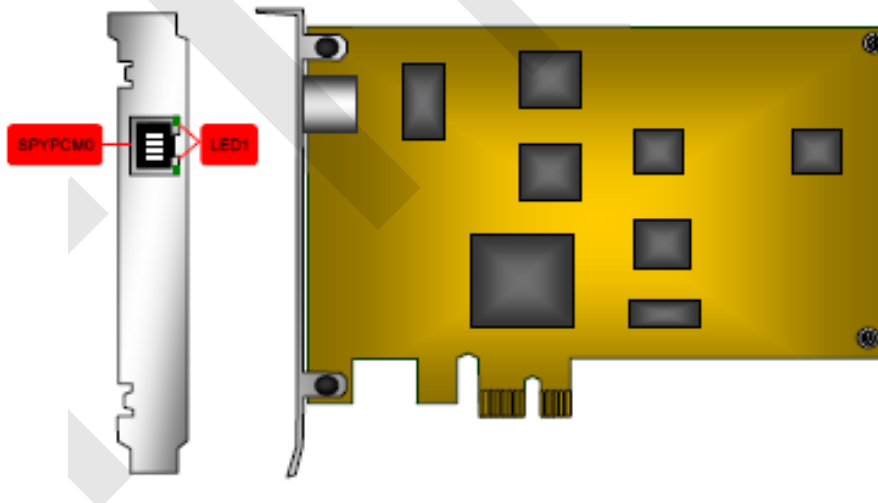


Figure 1 DTP-30C/PCIe+(left and Front Views)

① DTP-60C/PCIe+

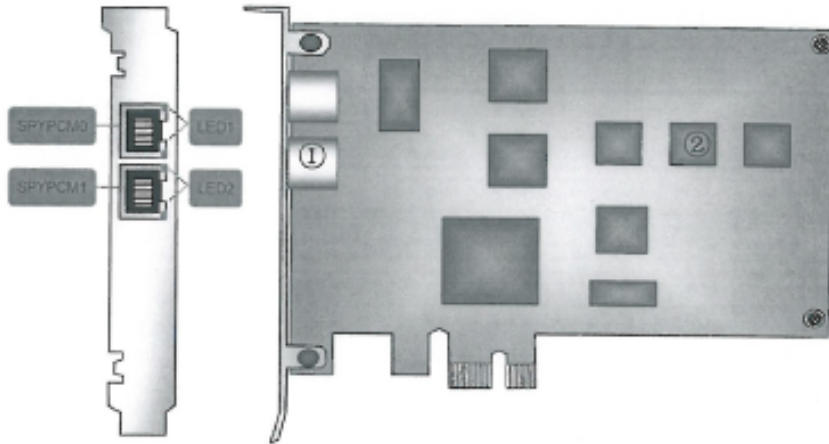


Figure 2 DTP-60C/PCIe+ (left and Front Views)

Compared to DTP-30C/PCIe+, in terms of appearance, DTP-60C/PCIe+ provides one more PCM interface circuit and one more DSP chip, as shown in mark 1 and 2 in figure 2 respectively. Both use same other components.

In terms of functions, DTP-60C/PCIe+ can monitor one more PCM circuit.

Please contact me if there is need for any additional clarification or information.

Best Regards,

Signature:

Wei Bo Zheng



Printed name: Wei Bo Zheng

Title: Manager assistant

2016.6.12

***** END OF REPORT *****