

## EVAL-AD7760/AD7762/AD7763EB

### FEATURES

**Full-featured evaluation board for the  
AD7760/AD7762/AD7763**  
**Blackfin® ADSP-BF537 EZ-KIT Lite® compatible**  
**On-board 4.096 V reference**  
**Crystal clock oscillator MCLK source**  
**PC software for control and data analysis for  
use with Blackfin EZ-KIT Lite**

### EVALUATION BOARD DESCRIPTION

This data sheet describes the evaluation board for the AD7760/AD7762/AD7763  $\Sigma$ - $\Delta$  ADCs. The AD7760 is a 24-bit ADC that combines wide input bandwidth and high speed with the benefits of  $\Sigma$ - $\Delta$  conversion with a performance of 100 dB SNR at 2.5 MSPS, making it ideal for high speed data acquisition.

The AD7762 and AD7763 derivatives are parallel and serial interface versions, respectively, of the AD7760, with maximum output data rates of 625 kSPS.

Complete specifications for the AD7760/AD7762/AD7763 devices are available in the AD7760/AD7762/AD7763 data sheets available from Analog Devices, Inc., and should be consulted in conjunction with this data sheet when using the evaluation board.

The EVAL-AD7760/AD7762/AD7763EB includes a 40 MHz crystal oscillator that provides the MCLK for the AD7760/AD7762/AD7763 device. The user can also choose, if required, to drive the AD7760/AD7762/AD7763 with a different clock

oscillator, or to insert the 0  $\Omega$  link so that the MCLK signal is driven using an external clock source via the SMB connector marked MCLK.

The AD7760/AD7762/AD7763 evaluation board comes with an on-board FPGA device that is used to interface with the Blackfin EZ-KIT Lite board. The combination of both the FPGA and the Blackfin board allied with the EVAL-AD7760/AD7762/AD7763EB software allows the user to upload samples taken by the AD7760/AD7762/AD7763 device onto a PC showing the waveform being sampled, as well as allowing the data to be shown in histogram or FFT format. The EVAL-AD7760/AD7762/AD7763EB can also be used on a standalone basis (without the FPGA and EZ-KIT Lite); however, in this case the user must provide the required interface signals.

### CONTENTS OF EVALUATION KIT

- Blackfin board (ADDS-BF537 EZ-KIT Lite) with USB mezzanine board attached underneath
- Power supply for Blackfin board
- Black USB cable (Type A/Mini B)
- AD7760/AD7762/AD7763 evaluation board (EVAL-AD7760/AD7762/AD7763EB)
- EVAL-AD7760/AD7762/AD7763EB evaluation software autoplay CD—software and drivers

### EVALUATION BOARD BLOCK DIAGRAM

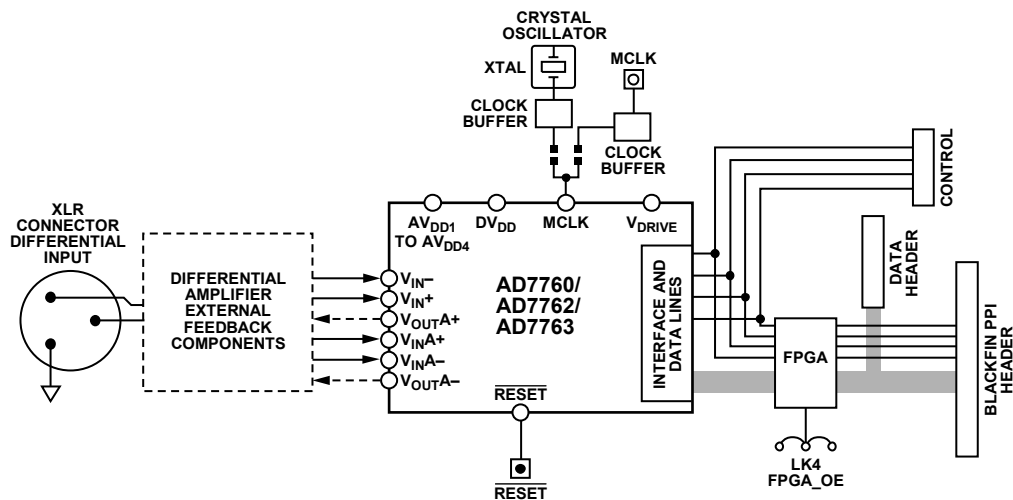


Figure 1.

06084-001

#### Rev. 0

Information furnished by Analog Devices is believed to be accurate and reliable. However, no responsibility is assumed by Analog Devices for its use, nor for any infringements of patents or other rights of third parties that may result from its use. Specifications subject to change without notice. No license is granted by implication or otherwise under any patent or patent rights of Analog Devices. Trademarks and registered trademarks are the property of their respective owners.

## TABLE OF CONTENTS

Features .....	1	Software Instructions for First-Time Use.....	5
Evaluation Board Description.....	1	Hardware Instructions for First-Time Use.....	6
Contents of Evaluation Kit .....	1	Hardware Instructions for Normal Use.....	7
Evaluation Board Block Diagram.....	1	Software Instructions for Normal Use.....	8
Revision History .....	2	EVAL-AD7763EB Pinout .....	9
Hardware Description.....	3	Hardware Configuration for Blackfin Board .....	10
Power Supplies .....	3	Evaluation Board Schematic and Artwork.....	11
Differential Input.....	3	Ordering Information .....	21
Standalone Operation .....	3	Bill of Materials.....	21
Decoupling and Layout Recommendations.....	3	Ordering Guide .....	23
Link Options .....	4	ESD Caution.....	23

## REVISION HISTORY

08/06—Revision 0: Initial Version

## HARDWARE DESCRIPTION

### POWER SUPPLIES

The EVAL-AD776xEB must be powered using a power supply that applies a 7.5 V between the V+ and GND terminals of Connector J2.

This 7.5 V supply is then regulated on board using ADP3334 devices (U9 and U6) to provide the 2.5 V and 5 V signals required by the AD7760/AD7762/AD7763 device. Supplies  $AV_{DD2}$ ,  $AV_{DD3}$ , and  $AV_{DD4}$  are the 5 V supplies to the AD7760/AD7762/AD7763 device. The AD7760/AD7762/AD7763 pins  $AV_{DD1}$ ,  $V_{DRIVE}$ , and  $DV_{DD}$  are supplied by a voltage of 2.5 V.

A separately regulated 2.5 V supply is used to power all digital functionality on the EVAL-AD7760/AD7762/AD7763EB excluding the AD7760/AD7762/AD7763 device. An individually regulated 5 V supply also supplies the crystal oscillator and clock buffer devices on the EVAL-AD7760/AD7762/AD7763EB. Setting LK1 to A means that the MCLK buffer is powered by 5 V, enabling the AD7760/AD7762/AD7763 device to be operated using an MCLK signal with an amplitude of 5 V.

### DIFFERENTIAL INPUT

The differential input to the AD7760/AD7762/AD7763 device is applied through the connector marked J1. This is an XLR audio standard connector. The differential inputs are routed through the AD7760/AD7762/AD7763 on-board differential amplifier using the external circuit components as detailed in the AD7760/AD7762/AD7763 data sheets.

### STANDALONE OPERATION

The EVAL-AD776xEB can be used in a standalone manner (that is, without using the Blackfin EZ-KIT Lite). In this case, however, the user must provide all the required interface communications and be able to provide a means to acquire the output data from the board. In the case where this is desirable, the FPGA can be disabled to allow the data from the AD7760/AD7762/AD7763 device to be taken from Header J9 (marked "DATA").

The FPGA outputs can be set to three-state by putting LK4 in Position A. This means that the output data is routed through Buffers U12 and U13 and is available at Header J9. The enable mechanism for U12 and U13 is set by LK3. See the Link Options section for details.

The output voltage of Buffers U12 and U13 can be set by inputting the desired voltage to Connector J14 (marked "External IO Voltage 2.5 V to 5 V"). The control signals needed for the AD7760/AD7762/AD7763 interface can be attached to Header J10 (marked "Control"). Otherwise, the signals  $\overline{RD}/\overline{WR}$ ,  $\overline{CS}$ , and MCLK can be connected to J5, J4, and J8 (SMB connectors), respectively. Note that in the case of the AD7763, the interface signals required for the part are output on J9 (marked "DATA") and the SMB connectors  $\overline{CS}$  and  $\overline{RD}/\overline{WR}$  become redundant.

### DECOUPLING AND LAYOUT RECOMMENDATIONS

The data sheets of the AD7760, AD7762, and AD7763 devices contain specific information about the decoupling and layout recommendations required to achieve the optimum specifications.

The EVAL-AD7760/AD7762/AD7763EB adhere to these recommendations completely and are designed as the blueprint for users of the AD7760, AD7762, and AD7763 devices.

The EVAL-AD7760/AD7762/AD7763EB are 4-layer boards. One layer is a dedicated ground plane. All supplies to devices on the EVAL-AD7760/AD7762/AD7763EB are decoupled to this ground plane. In addition to the PCB's top and bottom layers, there is also a layer for routing power signals. All layers of the board are detailed in the Evaluation Board Schematic and Artwork section.

In addition, the exposed paddle of an AD7760, AD7762, or AD7763 device is connected by multiple vias to this ground plane. The exposed paddle is not connected to any of the ground pins on the AD7760, AD7762, or AD7763 device.

# EVAL-AD7760/AD7762/AD7763EB

## LINK OPTIONS

The link options on the evaluation board should be set for the required operating setup before using the board. The functions of these links are described in Table 1.

**Table 1. Link Options**

Link No.	Function	Position Descriptions	Default
LK1	Selects the $V_{DD}$ voltage for Clock Buffers U16 and U2.	Position A selects $V_{DD} = 5\text{ V}$ . Achieves maximum performance. Position B selects $V_{DD} = 2.5\text{ V}$	Position A
LK2	Selects the voltage supply to power the FPGA outputs.	Position A digital drive voltage for the FPGA is taken from the <i>Blackfin</i> PPI connector. Position B digital drive voltage for the FPGA is taken from the EVAL-AD776xEB DVDD supply.	Position B
LK3	Output enable for Data Buffers U13 and U17	Position A selects the DVDD supply: outputs permanently enabled. Position B $\overline{CS}$ controls the data buffer outputs. Position C Selects GND, outputs disabled.	Position A
LK4	FPGA enable.	Position A connects Pin 43 of the FPGA to GND. This sends all the pins of the FPGA device to three-state so that the FPGA can be bypassed. Position B connects Pin 43 of the FPGA to logic high 2.5 V. The FPGA is now fully operational. This link must be in Position B for the evaluation board to function with the EZ-KIT Lite.	Position B
LK5	Selects the input/output voltage for Data Buffers U13 and U17.	Position A selects DVDD supply from the EVAL-AD776xEB. Position B selects External Voltage Connector J14 to provide this voltage.	Position A
R9, R10	A $0\ \Omega$ link must be placed in either R9 or R10 to select the MCLK source for the AD7760/AD7762/AD7763 device.	R9 routes the buffered 40 MHz on-board crystal oscillator to the MCLK pin of the AD7760/AD7762/AD7763 device. R10 allows the user to input an external MCLK signal through the MCLK SMB connector (J8), which is buffered (by U2) and routed to the MCLK pin of the AD7760/AD7762/AD7763 device.	R9

## SOFTWARE INSTRUCTIONS FOR FIRST-TIME USE

These instructions are for the first-time installation of the EVAL-AD7760/AD7762/AD7763EB evaluation software. The figures shown in this section are an example of the install screens for the AD7760 device. The same instruction set should be valid in the case of the AD7762 and AD7763 devices.

1. Insert the CD into the appropriate computer drive.
2. The dialog box shown in Figure 2 appears. Click **Next**.



Figure 2. AD7760 Setup Dialog Box, Initial Software Install Screen

3. The installation wizard allows the user to choose where the installation should be located (see Figure 3). If a different location than the default is preferred, click **Browse** and select the desired location. When ready, click **Next**.

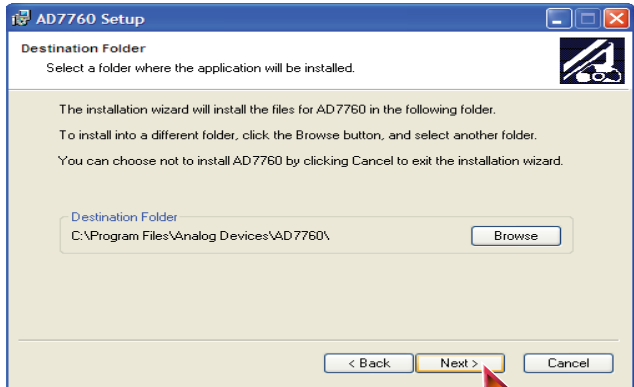


Figure 3. Choose the Destination of the AD7760/AD7762/AD7763 Software

4. Click **Next**, as shown in Figure 4, unless there is a need to go back to the previous dialog box to change the installation location.

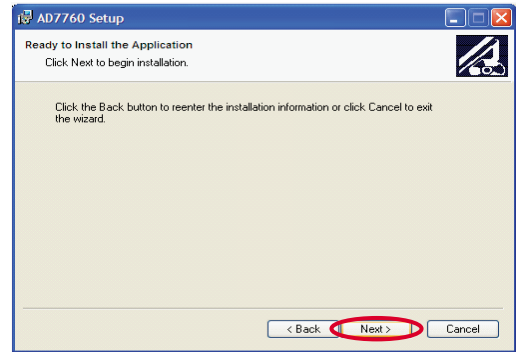


Figure 4. Install the Software

5. The installation begins and when finished, the dialog box shown in Figure 5 appears. Click **Finish** to complete the installation.

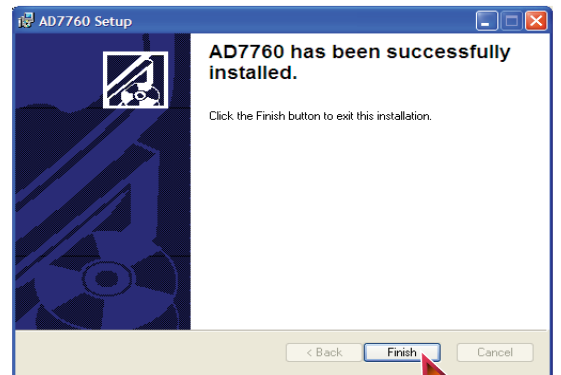


Figure 5. Software Installation Completed

6. The software can now be located by following the path that was chosen during installation. If the default location was chosen, the location of the software in the case of the AD7760 is **Start > All Programs > Analog Devices > AD7760 > AD7760**.



Figure 6. Default Location of AD7760/AD7762/AD7763 Software

Now that the software installation is complete, install the hardware fully before attempting to use the application software.

## HARDWARE INSTRUCTIONS FOR FIRST-TIME USE

These instructions should be followed for first-time installation of the hardware (that is, if the EVAL-AD7760/AD7762/AD7763 evaluation kit has never been used on a particular PC).

1. Power up the *Blackfin* board.
2. Ensure that the EVAL-AD7760/AD7762/AD7763EB evaluation kit CD is in the appropriate computer drive.
3. Connect the black USB cable Type A/Mini B from USB mezzanine board (located underneath the EZ-KIT Lite board) to the USB port of the PC.
4. The **Found New Hardware Wizard** dialog box shown in Figure 7 appears. Select **Install the software automatically** and then click **Next**.



Figure 7. Found New Hardware Wizard Dialog Box

5. The **Files Needed** dialog box in Figure 8 appears. To find the required file, *bulkadi.sys*, click **Browse**.

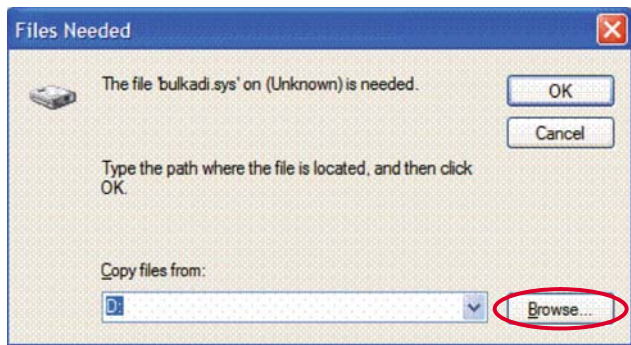


Figure 8. Select Location of *bulkadi.sys* File

6. Locate the CD drive of the computer, select the file *bulkadi.sys* and then click **Open**, as shown in Figure 9.

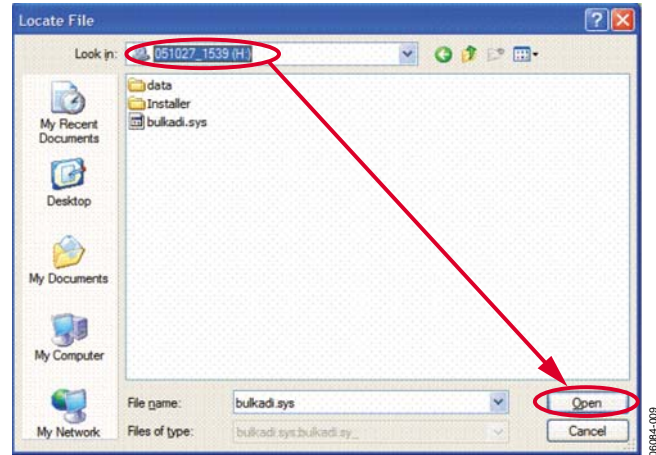


Figure 9. Find the *bulkadi.sys* File on the EVAL-AD7760/AD7762/AD7763EB Software CD

7. When the driver has been found, the dialog box shown in Figure 10 appears. Click **Finish** to complete the hardware wizard.



Figure 10. Install of Hardware Completed

8. After the dialog box closes, power down the *Blackfin* EZ-KIT Lite board. Instructions for normal use can now be followed.



## HARDWARE INSTRUCTIONS FOR NORMAL USE

When the initial hardware installation has been completed, the user should follow these instructions each subsequent time the system is set up.

1. Ensure that all the link positions are as per the link options shown in Table 1.
2. Power up the Blackfin board by inserting the power cable into the receiver as shown in Figure 11.

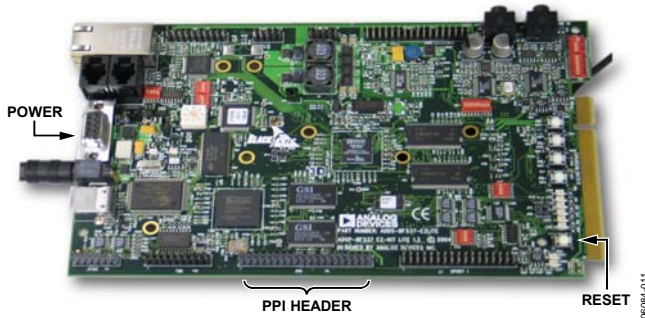


Figure 11. Powering Up the Blackfin EZ-KIT Lite Board

3. Using the black mini USB cable included in the AD7760/AD7762/AD7763 evaluation kit, connect the Blackfin board (via the USB mezzanine board underneath the Blackfin board shown in Figure 12) to one of the PC's USB sockets.

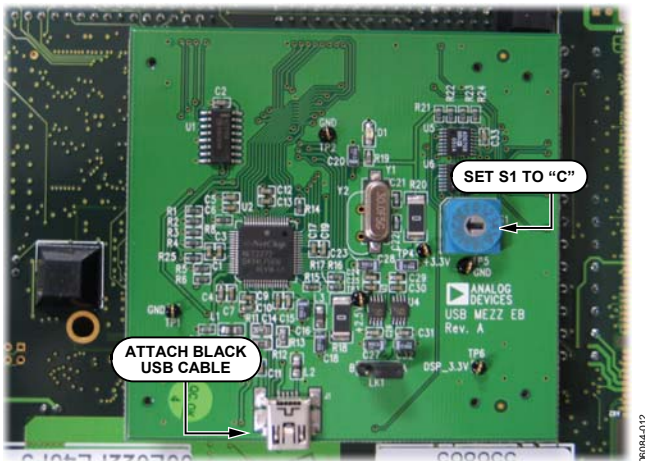


Figure 12. USB Mezzanine Board (Attached Underneath Blackfin EZ-KIT Lit)

4. Also ensure that the hexadecimal switch (S1) is set to C and that Link L1 is set to A on the USB mezzanine board (see Figure 12).
5. Reset the Blackfin board (use the **RESET** push button as indicated in Figure 11).
6. Power up the EVAL-AD7760/AD7762/AD7763EB evaluation board through Connector J2. Connect a wire from the V+ labeled connector to 7.5 V of an external power supply. Also ensure that there is a GND connection between the GND of J2 and the power supply GND connection.
7. The differential input to the AD7760/AD7762/AD7763 device should be connected to the black connector XLR connector (J1) marked "Differential Input." This differential input is routed to the inputs of the AD7760/AD7762/AD7763's on-board differential amplifier.
8. Connect the female connector (J13, marked "Blackfin PPI"), which is on the under side of the EVAL-AD7760/AD7762/AD7763EB evaluation board to the PPI header of the Blackfin board. The PPI port is highlighted in Figure 11.
9. The hardware system is now set up. Figure 13 shows the entire powered-up AD7760/AD7762/AD7763 evaluation kit. The EVAL-AD7760/AD7762/AD7763EB software can now be opened.



Figure 13. Powered Up AD7760/AD7762/AD7763 Evaluation Kit

# EVAL-AD7760/AD7762/AD7763EB

## SOFTWARE INSTRUCTIONS FOR NORMAL USE

Once the initial software installation has been completed, follow these instructions for the general setup of the evaluation software each subsequent time the system is used.

Note that the hardware must be powered up as per the Hardware Instructions for Normal Use section before attempting the following steps.

1. The download default location for the EVAL-AD7760/AD7762/AD7763EB evaluation software can be found by clicking **Start > All Programs > Analog Devices > AD776x > AD776x**. These steps are illustrated for the case of the AD7760 in Figure 14. If a location other than the default was used, follow the path that was entered during setup.

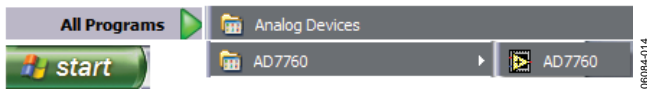


Figure 14. Default EVAL-AD7760/AD7762/AD7763 Evaluation Software Location

2. The evaluation software GUI appears.
3. The user can specify the power mode, decimation rate, and number of samples to be acquired by using the drop-down menus on the software front panel circled in red in Figure 15. The software allows the number of samples specified by the user samples to be viewed as a waveform, histogram, or FFT. These options are also circled in Figure 15.

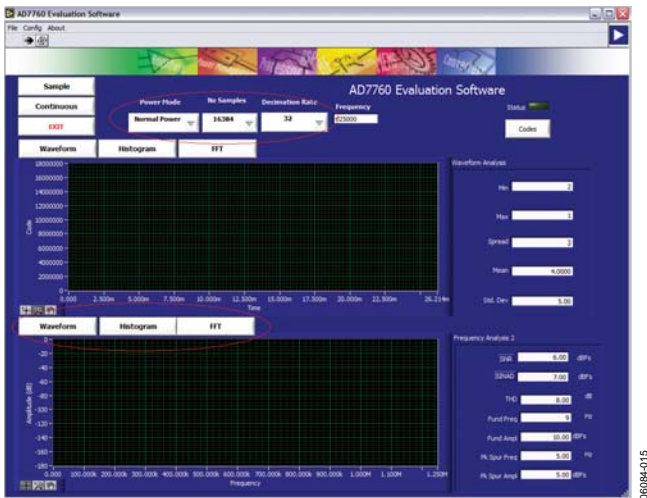


Figure 15. EVAL-AD7760/AD7762/AD7763EB Evaluation Software Front Panel Features

4. For the initial operation of the AD7760 and AD7762 versions of the evaluation board, set the **Decimation Rate** to 64 in the front panel of the **AD776x Evaluation Software** dialog box. This is the default decimation rate of the AD7760/AD7762 parts on reset and power-up of the evaluation board.

5. For the initial operation of the AD7763 evaluation board, set the **Decimation Rate** to 32 in the front panel of the **AD776x Evaluation Software** dialog box. This is the default decimation rate of the part on reset and power-up of the evaluation board.
6. Press the **RESET** push button (S1) on the EVAL-AD7760/AD7762/AD7763EB evaluation board.
7. To show samples output by the EVAL-AD7760/AD7762/AD7763EB evaluation board Click **Sample** or **Continuous**. Clicking **Sample** gives one set of samples, the length of which is determined by the **No. Samples** selection on the software front panel. Clicking **Continuous** shows continuously updated samples of the analog input to the device.

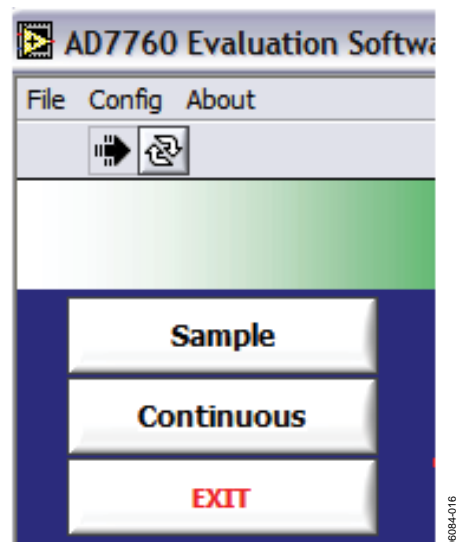


Figure 16. **Sample** and **Continuous** Front Panel Buttons

8. It is important to ensure that the frequency of the **DRDY** pulse on an oscilloscope (at the SMB connector marked J7) is checked so that it matches the frequency shown in the **Frequency** text box on the software front panel.
9. If at any stage these do not match, reset the **AD7760/AD7762/AD7763** evaluation board by pressing the **RESET** push button on the evaluation board. Then set the software front panel decimation rate to the correct default value: 64 for the AD7760/AD7762 and 32 for the AD7763.



### EVAL-AD7763EB PINOUT

The schematic for the EVAL-AD7760/AD7762/AD7763EB that is shown in the Evaluation Board Schematic and Artwork section is drawn with reference to the parallel interfaced AD7760 and AD7762 devices. The AD7763 operates with a serial interface, thus Pins 39, 40, 45 to 52, and 54 to 61, which operate as part of the parallel interface control and data bus on the AD7760 and AD7762, have different functionalities for the AD7763. Figure 17 shows the pinout of the AD7763 device. This pinout can be substituted for the AD7760 pinout in the schematic shown in Figure 19 when the EVAL-AD7763EB is being used. All peripheral circuitry to the AD7763, such as the components on the input stage to the op amp and decoupling circuitry, is as per the schematic shown in Figure 19 through Figure 22.

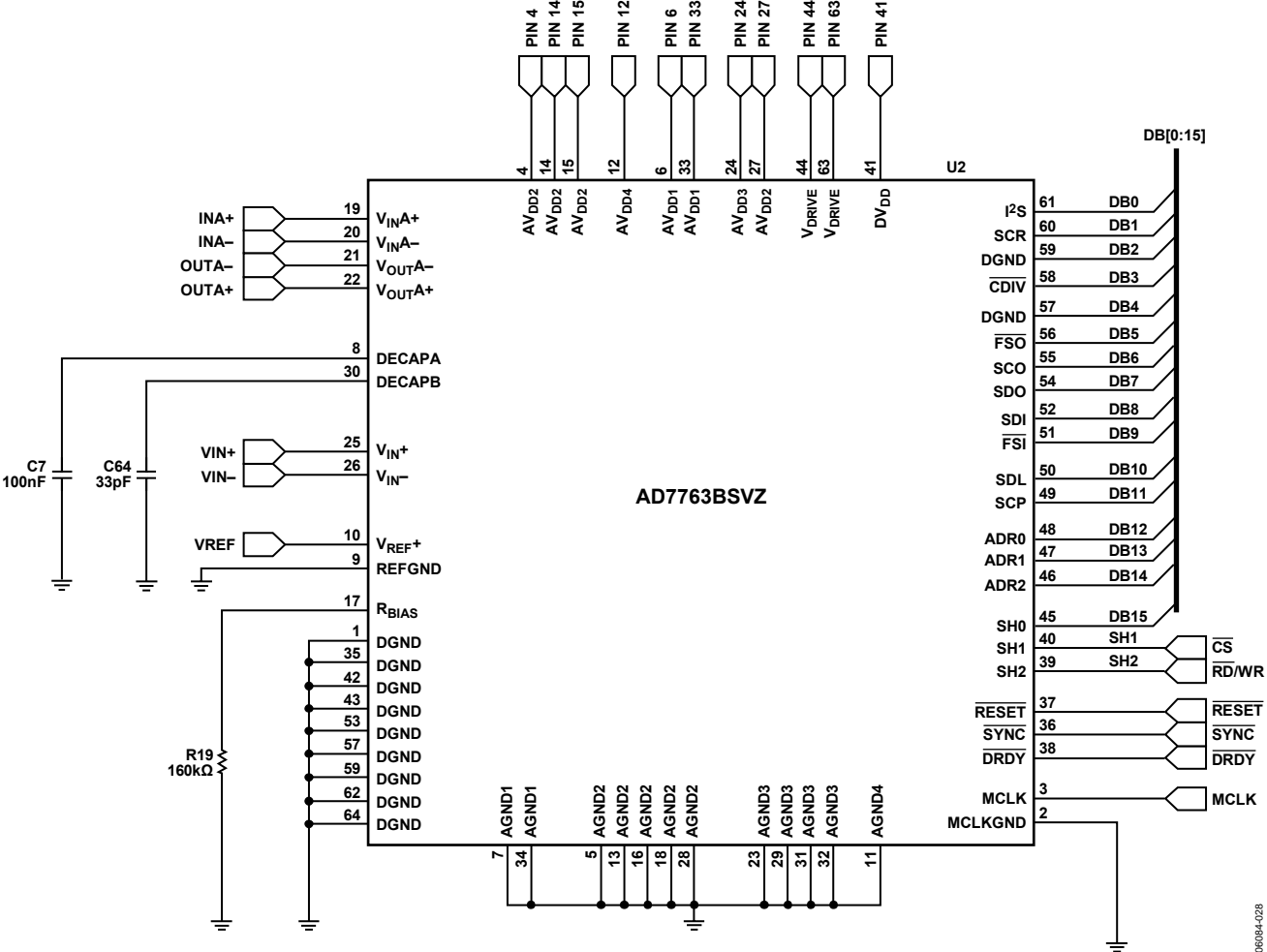


Figure 17. AD7763 Pinout for Use with EVAL-AD7760/AD7762/AD7763EB Schematic

06084-02B

## HARDWARE CONFIGURATION FOR Blackfin BOARD

The jumpers on the shipped Blackfin board are in the correct position for operation in the evaluation setup. Note that these are different than the default positions listed in the [ADSP-BF537 EZ-KIT Lite Evaluation System Manual](#), which should be ignored. Figure 18 shows how each of the switches (SW1 to SW8) should be configured for operation in the AD7760/AD7762/AD7763 evaluation kit setup. The shaded boxes demonstrate where the slider switches should be in relation to the numbers on the switches. Note that the [ADSP-BF537 EZ-KIT Lite Evaluation System Manual](#) is not required for the evaluation of the AD7760/AD7762/AD7763 devices.

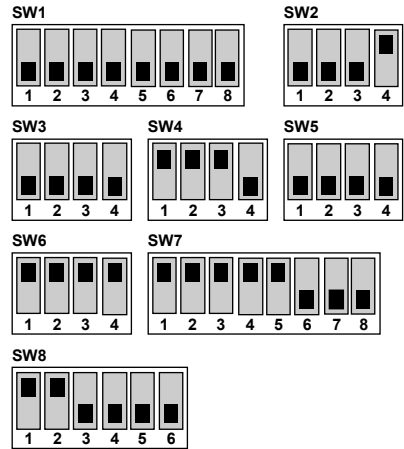


Figure 18. Settings for Switches SW1 to SW8 on the Blackfin EZ-KIT Lite Board

EVALUATION BOARD SCHEMATIC AND ARTWORK

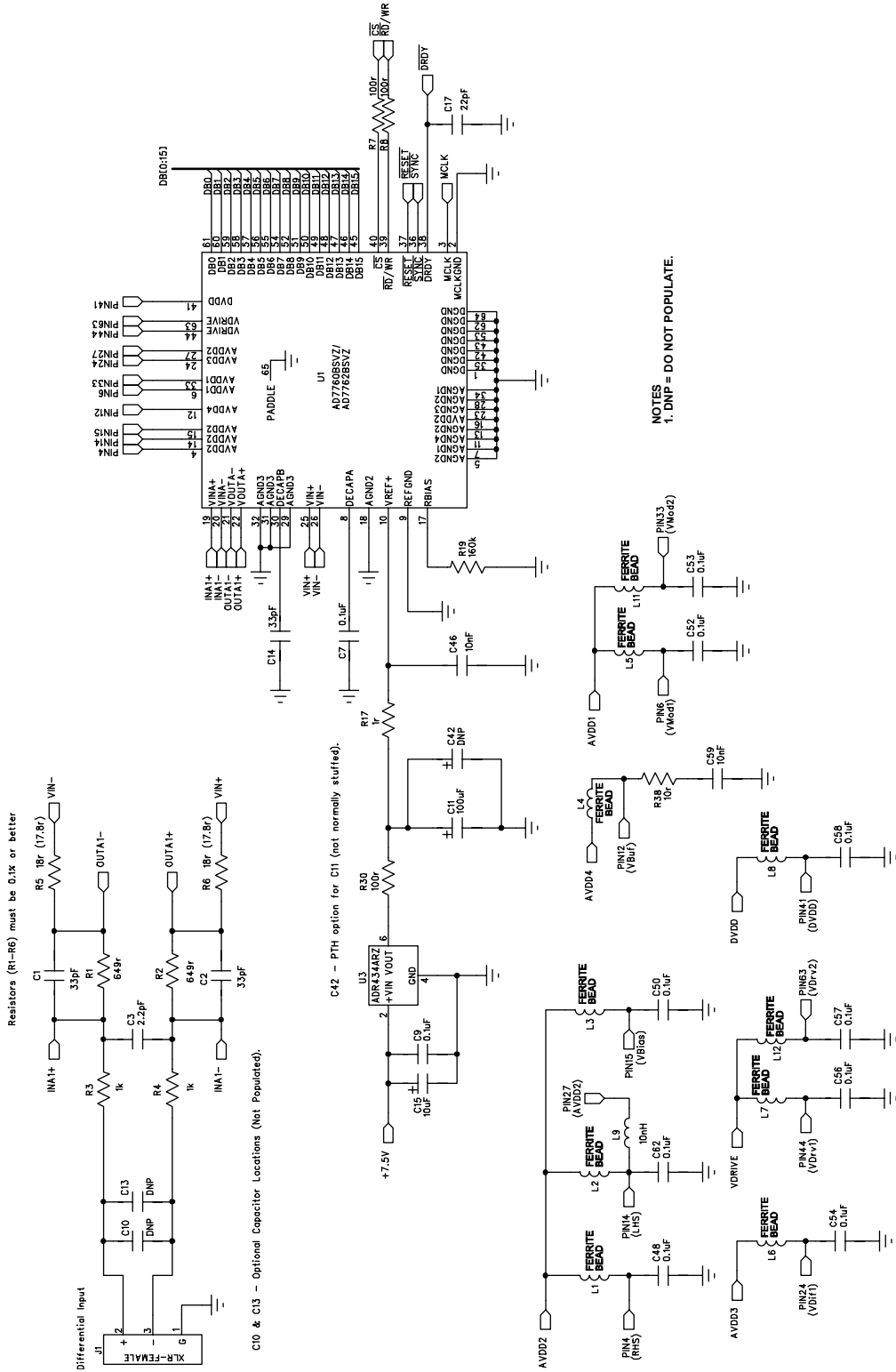
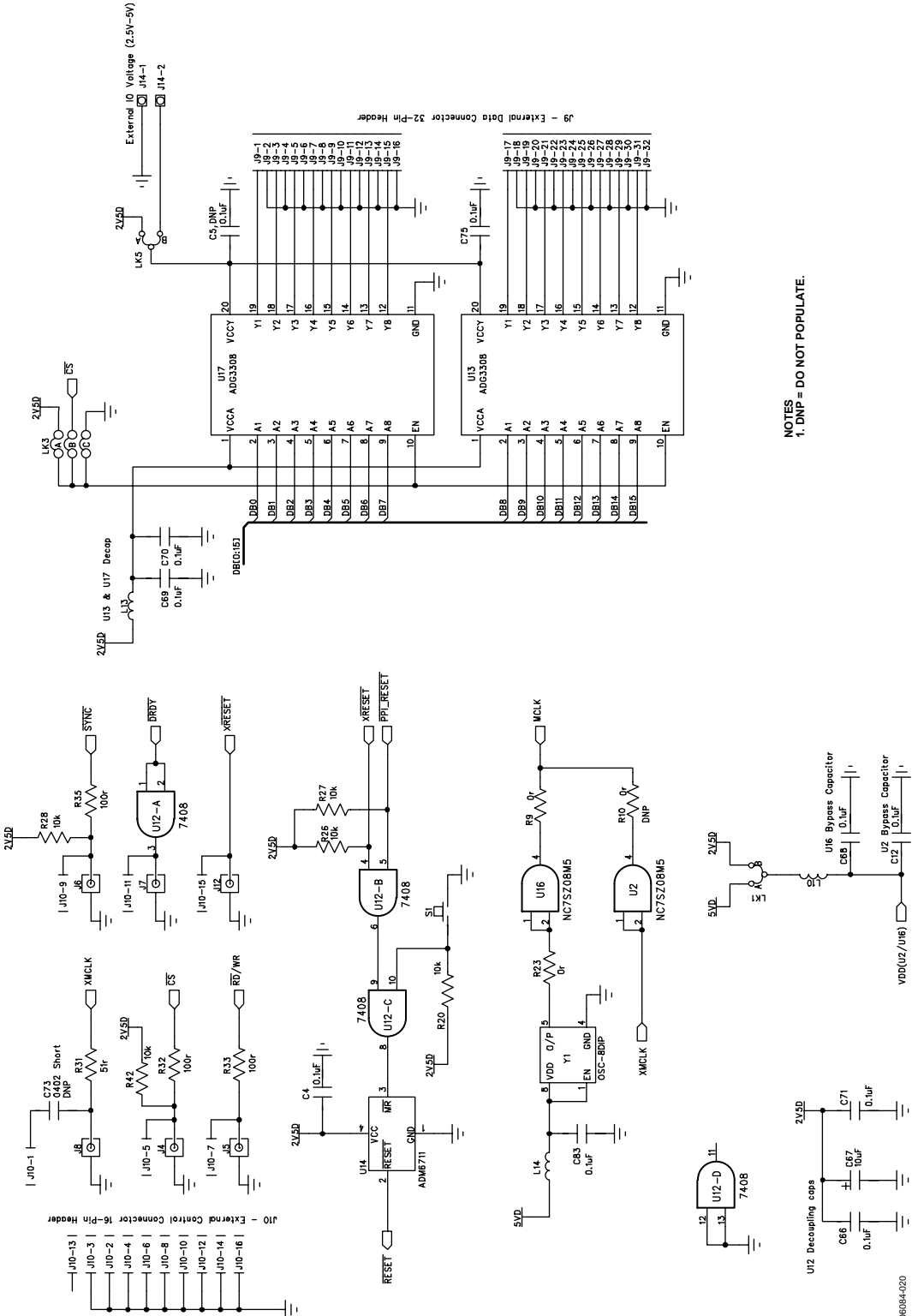


Figure 19. EVAL-AD7760/AD7762/AD7763EB Schematic (Analog Section) Page 1 of 4

AD7760 Decoupling

06084-018





NOTES  
1. DNP = DO NOT POPULATE.

Figure 21. EVAL-AD7760/AD7762/AD7763EB Schematic (Digital Section) Page 3 of 4



# EVAL-AD7760/AD7762/AD7763EB

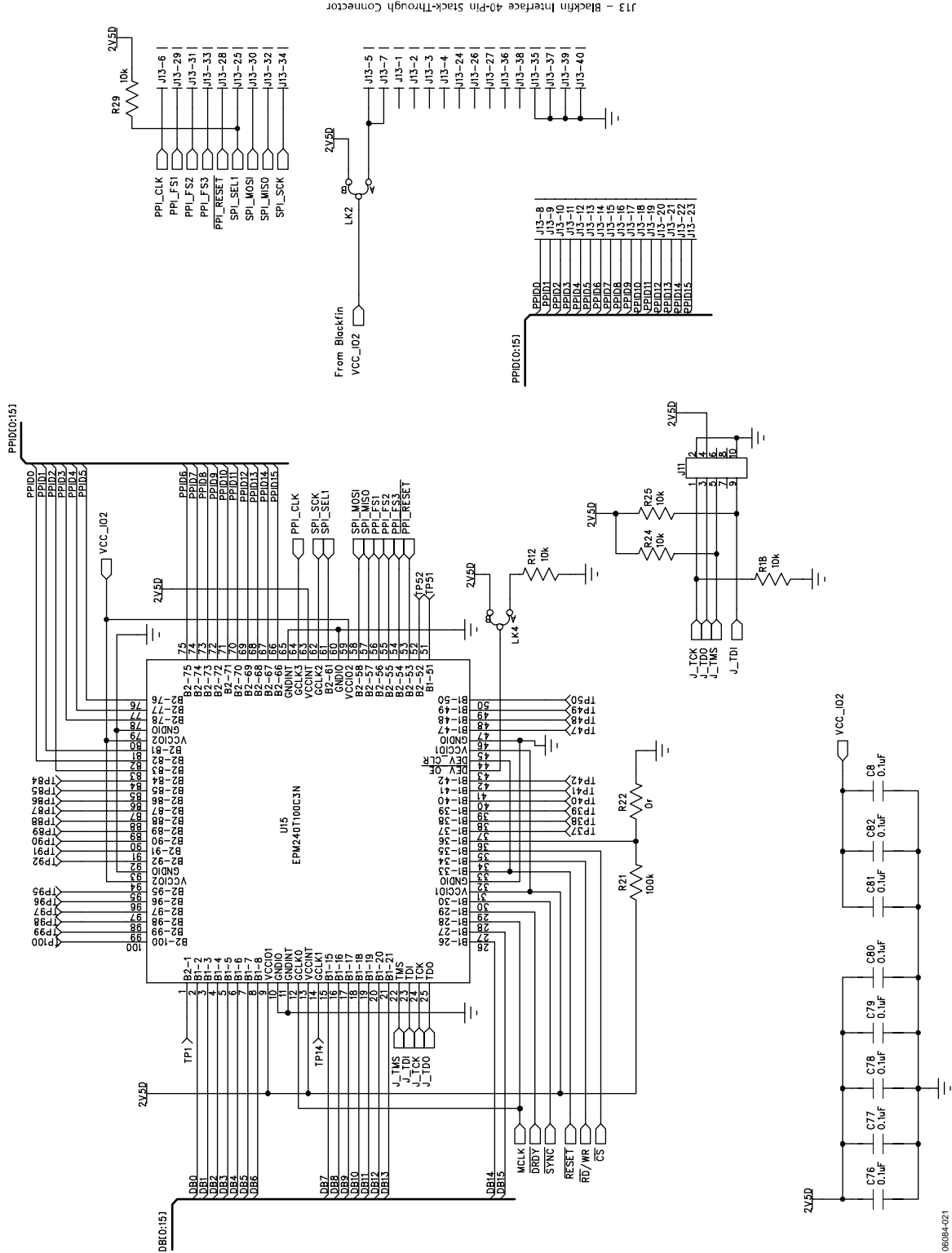


Figure 22. EVAL-AD7760/AD7762/AD7763EB Schematic (FPGA Section) Page 4 of 4

06004-021

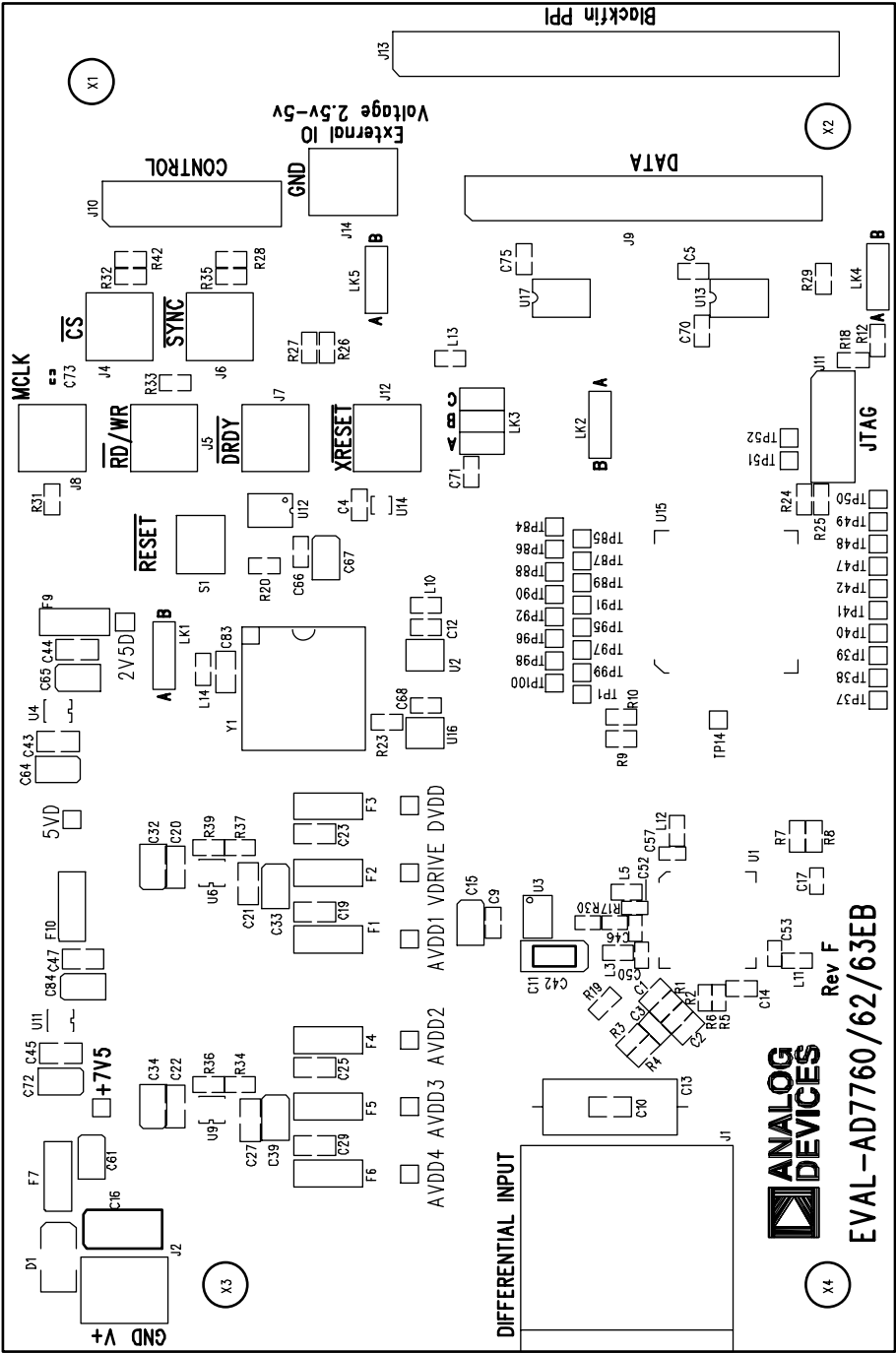
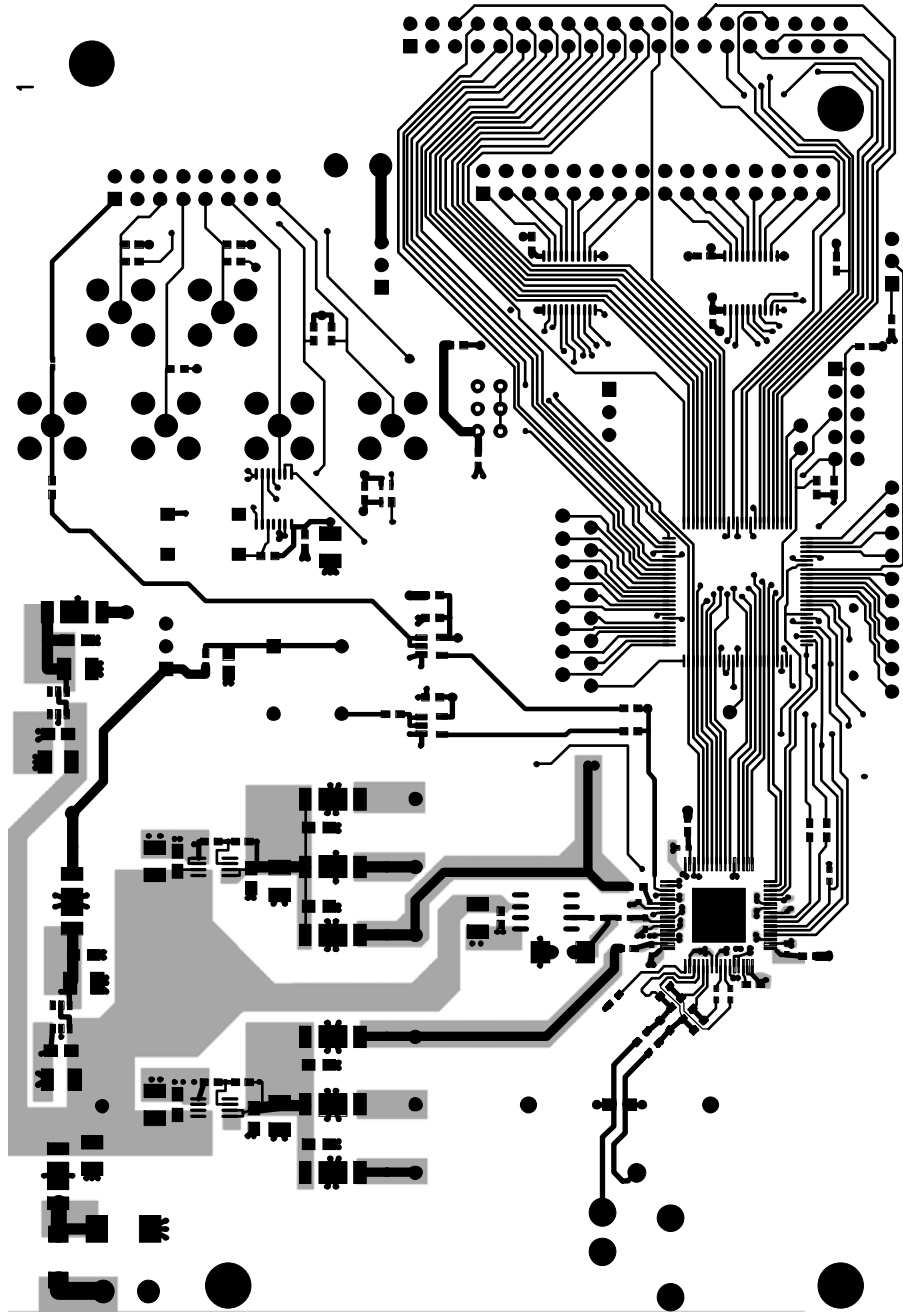


Figure 23. EVAL-AD7760/AD7762/AD7763EB Component Side Top Silkscreen Artwork



06084-023

Figure 24. EVAL-AD7760/AD7762/AD7763EB Component Side Layer 1 Artwork

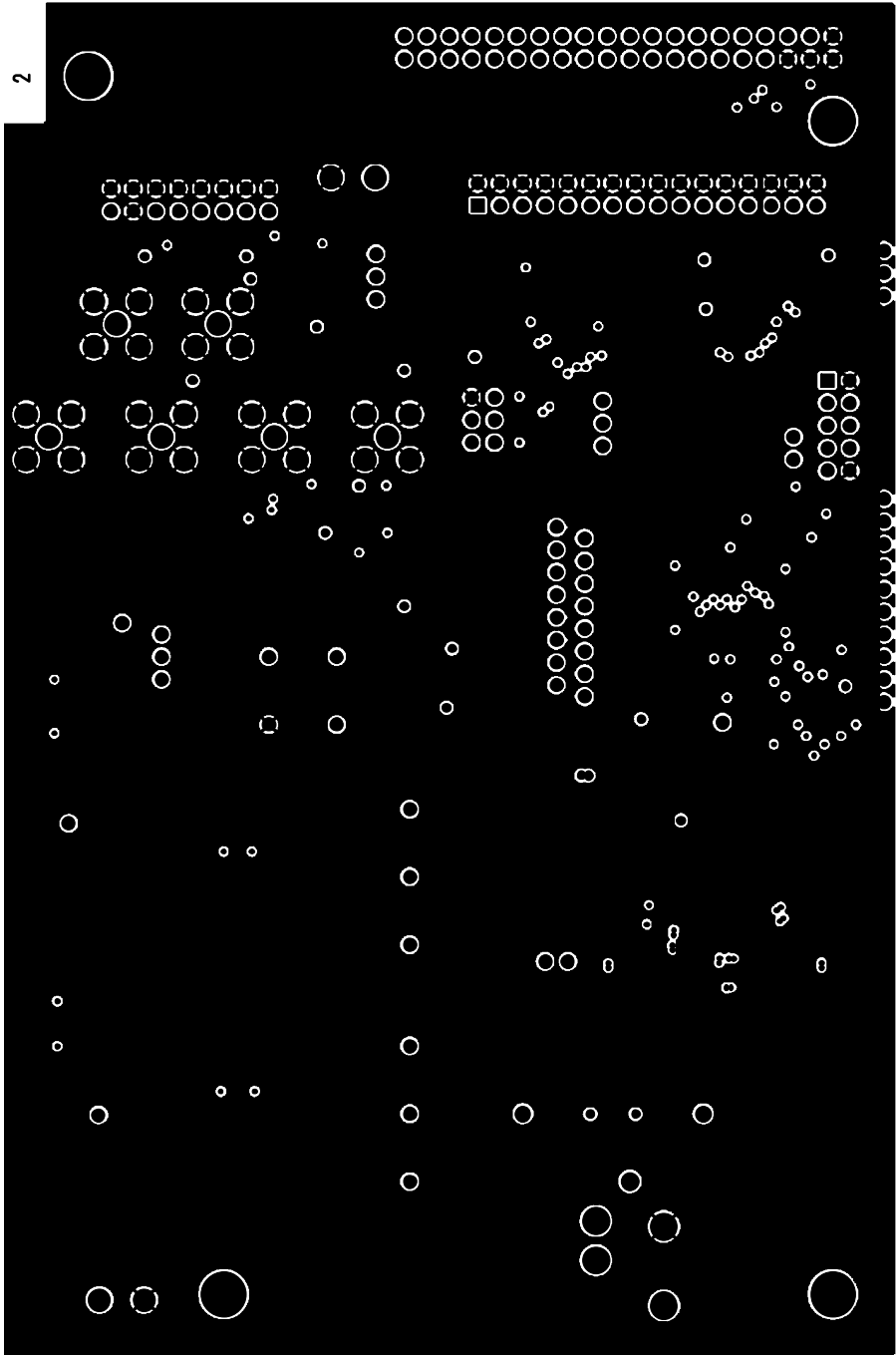


Figure 25. EVAL-AD7760/AD7762/AD7763EB Ground Plane Layer 2 Artwork

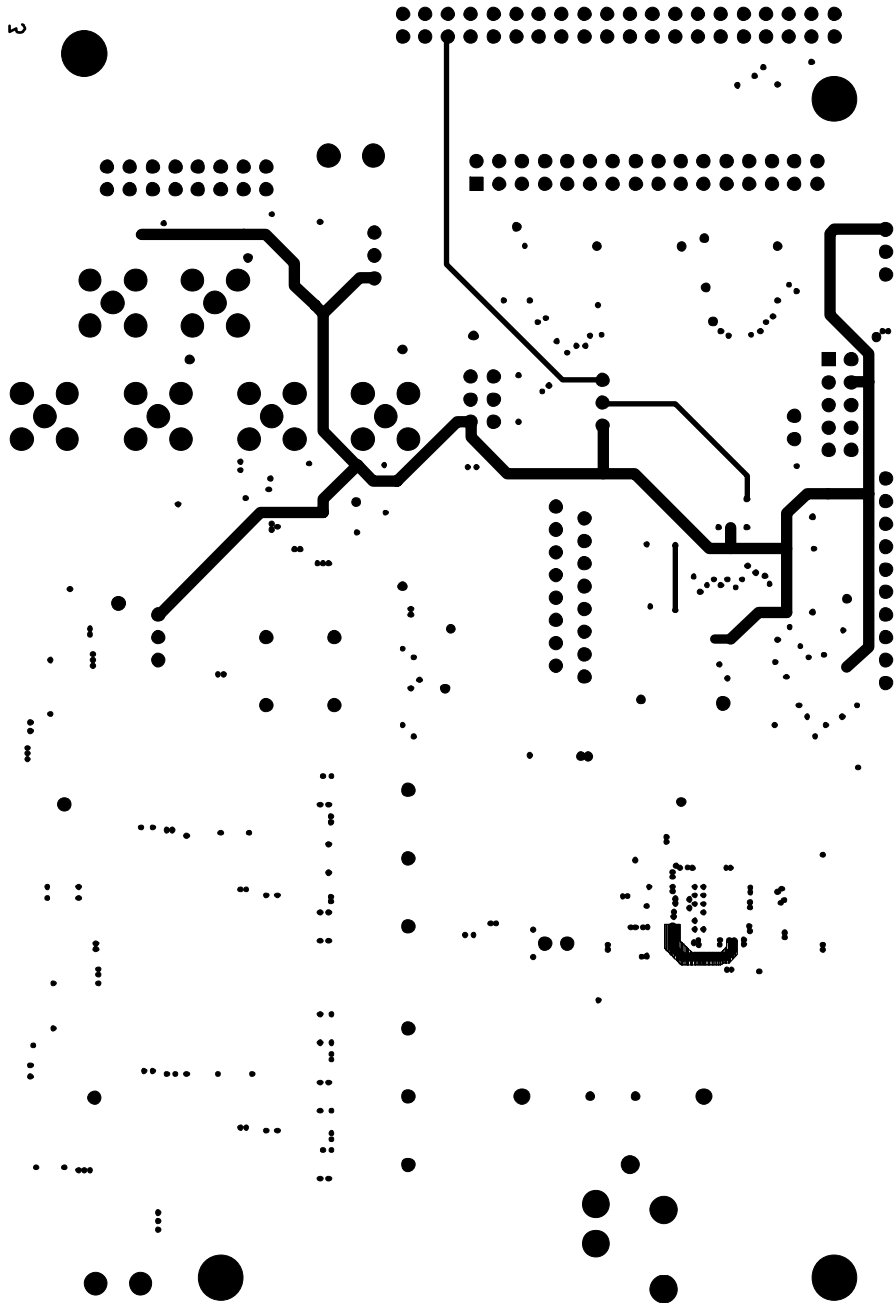


Figure 26. EVAL-AD7760/AD7762/AD7763EB Power Plane Layer 2 Artwork

060184-025



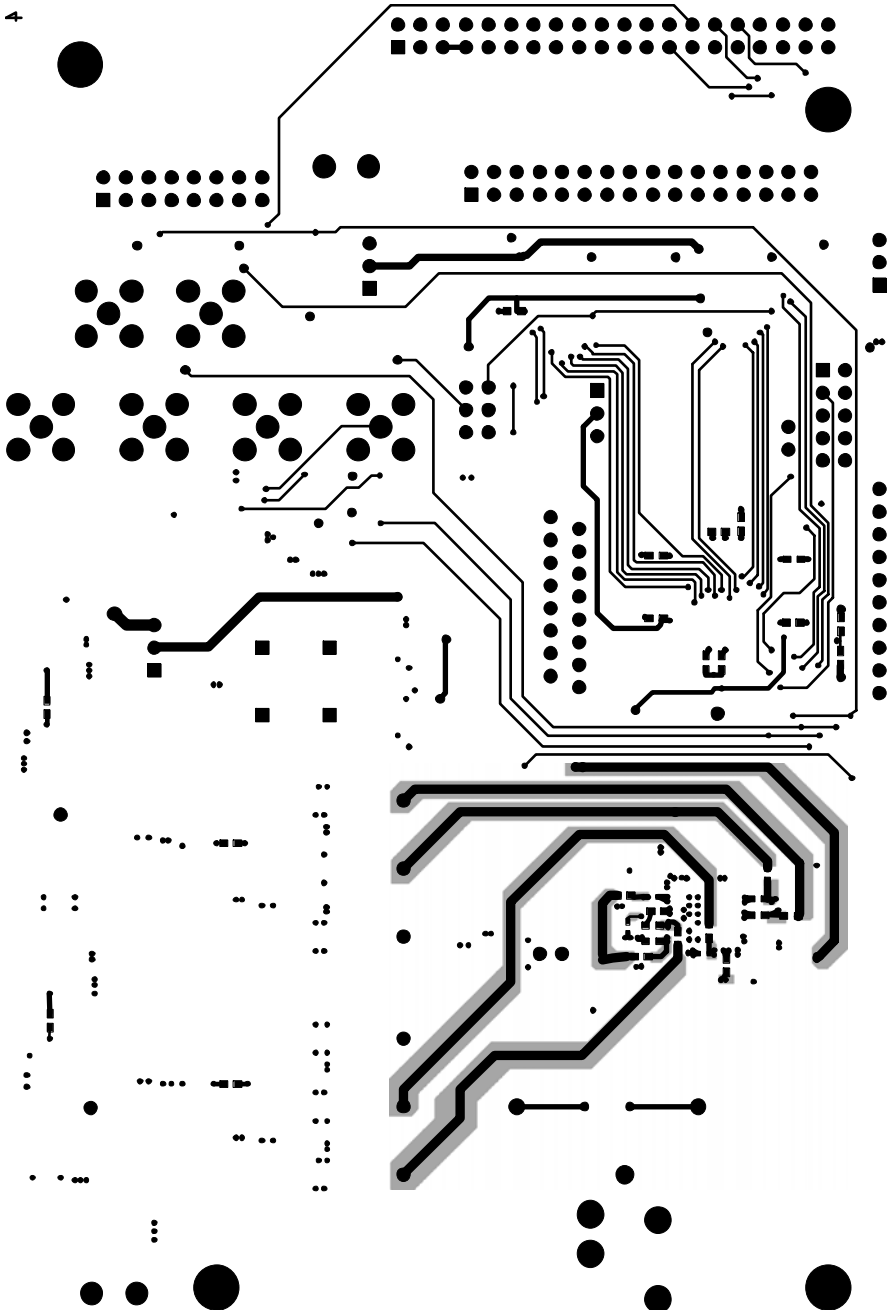


Figure 27. EVAL-AD7760/AD7762/AD7763EB Solder Side Layer 4 Artwork

06084-026



## ORDERING INFORMATION

### BILL OF MATERIALS

Table 2.

Qty	Part Type	Reference Designator	Manufacturer	Supplier/No.
1	24-bit $\Sigma$ - $\Delta$ ADC parallel interface (64-lead TQFP_EP)	U1	Analog Devices, Inc.	AD7760BSVZ
	24-bit $\Sigma$ - $\Delta$ ADC parallel interface (64-lead TQFP_EP)			AD7762BSVZ
	24-bit $\Sigma$ - $\Delta$ ADC serial interface (64-lead TQFP_EP)			AD7763BSVZ
2	UHS 2-input AND gate (5-pin SOT-23-5) (NC7SZ08M5)	U2, U16	Fairchild Semiconductor	FEC 1013807
1	XFET <sup>®</sup> voltage reference (8-lead SOIC)	U3	Analog Devices, Inc.	ADR434ARZ
1	anyCAP <sup>®</sup> low dropout regulator (6-lead SOT-23-6)	U4	Analog Devices, Inc.	ADP3330ARTZ-2.5
2	anyCAP low dropout regulator (8-lead MSOP)	U6, U9	Analog Devices, Inc.	ADP3334ARMZ
1	anyCAP low dropout regulator (6-lead SOT-23-6)	U11	Analog Devices, Inc.	ADP3330ARTZ-5
1	Quad two-input AND gate (SN74LVC08APWR)	U12	Texas Instruments Incorporated	FEC 1102978
2	Bidirectional logic level translator (20-lead TSSOP)	U13, U17	Analog Devices, Inc.	ADG3308BRUZ
1	Microprocessor supervisory circuit (4-lead SC70)	U14	Analog Devices, Inc.	ADM6711ZAKSZ
1	MAX II CPLDs	U15	Altera Corporation	EPM240T100C3N
1	40 MHz crystal oscillator (MXO45HS-40.0000)	Y1	CTS Corporation	Digi-Key CTX175-ND
3	33 pF 50 V NPO multilayer ceramic Capacitor 0603	C1, C2, C14	AVX Corporation	FEC 498555
1	2.2 pF 50 V NPO multilayer ceramic Capacitor 0603	C3	Phycomp	FEC 721888
20	0.1 $\mu$ F 16 V X7R multilayer ceramic Capacitor 0603	C4, C8, C9, C12, C56, C58, C62, C66, C68, C69, C70, C71, C75, C76, C77, C78, C79, C80, C81, C82	Multicomp	FEC 9406140
7	0.1 $\mu$ F 16 V Y5 V multilayer ceramic Capacitor 0402	C7, C48, C50, C52, C53, C54, C57	Phycomp	FEC 3019482
1	100 $\mu$ F 10 V tantalum Capacitor CAP\TAJ_C	C11	AVX Corporation	FEC 197180
1	33 pF 50 V NPO multilayer ceramic Capacitor 0402	C14	AVX Corporation	FEC 498555
7	10 $\mu$ F 20 V tantalum Capacitor TAJ_B	C15, C61, C64, C65, C67, C72, C84	AVX Corporation	FEC 197427
1	47 $\mu$ F 20 V tantalum Capacitor TAJ_D	C16	AVX Corporation	FEC 197464
1	22 pF 50 V C0G multilayer ceramic Capacitor 0402	C17	Murata Manufacturing Co., Ltd.	FEC 8819629
10	0.1 $\mu$ F 50 V X7R multilayer ceramic Capacitor 0805	C19, C21, C23, C25, C27, C29, C43, C44, C45, C47	Multicomp	FEC 9406387
2	1 $\mu$ F 16 V X7R multilayer ceramic Capacitor 0805	C20, C22	Murata Manufacturing Co., Ltd.	FEC 9527710
4	10 $\mu$ F 20 V tantalum Capacitor CAP\TAJ_B	C32, C33, C34, C39	AVX Corporation	FEC 197427
5	0.1 $\mu$ F 50 V X7R multilayer ceramic Capacitor 0805	C43, C44, C45, C47, C83	Multicomp	FEC 9406387
1	10 nF 16 V X7R multilayer ceramic Capacitor 0402	C46	AVX Corporation	FEC 578149
6	0.1 $\mu$ F 16 V Y5V multilayer ceramic Capacitor 0402	C48, C50, C52, C53, C54, C57	Phycomp	FEC 3019482


# EVAL-AD7760/AD7762/AD7763EB

Qty	Part Type	Reference Designator	Manufacturer	Supplier/No.
16	0.1 $\mu$ F 16V X7R multilayer ceramic Capacitor 0603	C56, C58, C62, C66, C68, C69, C70, C71, C75, C76, C77, C78, C79, C80, C81, C82	Multicomp	FEC 9406140
1	10 nF 25 V X7R multilayer ceramic Capacitor 0603	C59	AVX Corporation	FEC 499146
4	100 pF 50 V NPO multilayer ceramic Capacitor 0603	C88, C90, C93, C94	Multicomp	FEC 9406115
1	Diode-S2M 2 A rectifier Diode DO-214AA	D1	Vishay Semiconductors	FEC 9843876
9	EMC Filter 1 nF 3-terminal capacitor	F1, F2, F3, F4, F5, F6, F7, F9, F10	Murata Manufacturing Co., Ltd.	FEC 9528202
1	Female XLR. audio connector (NC3FAH1-1)	J1	Neutrik AG	FEC 724518
1	CON/POWER—two-way terminal block (CTB5000/2)	J2, J14	Camden Electronics, Ltd.	FEC 151789
6	50 $\Omega$ SMB jack	J4, J5, J6, J7, J8, J12	Radiall	FEC 4194512
1	32-pin (2 $\times$ 16) header (0.1" pitch)	J9	Harwin, Plc.	FEC 1022244
1	16-pin (2 $\times$ 8) header (0.1" pitch)	J10	Harwin, Plc.	FEC 1022240
1	10-pin (2 $\times$ 5) header (0.1" pitch)	J11	Harwin, Plc.	FEC 1022235
1	40-pin (2 $\times$ 20) PC104 stackthrough header	J13	Harwin, Plc.	FEC 359907
13	Ferrite bead inductor (0603)	L1, L2, L3, L4, L5, L6, L7, L8, L10, L11, L12, L13, L14	Würth Electronics, Inc.	74279266LF
1	10 nH inductor (0603) (B82496-C)	L9	EPCOS AG	FEC 3877024
4	3-pin SIL header (with shorting block)	LK1, LK2, LK4, LK5	Harwin, Plc.	FEC 1022248, FEC 148029
1	6-pin (3 $\times$ 2) 0.1" header (with shorting block)	LK3	Harwin, Plc.	FEC 1022230, FEC 148029
2	649 $\Omega$ precision SMD resistor (0.1%) 0603	R1, R2	Tyco Electronics	RN73C1J649RBTG
2	1 k $\Omega$ precision SMD resistor (0.1%) 0603	R3, R4	Tyco Electronics	RN73C1J1K0BTG
2	18 $\Omega$ (17.8 $\Omega$ ) precision SMD resistor (0.1%) 0603	R5, R6	Tyco Electronics	RN73C1J17R8BTG
5	100 $\Omega$ SMD resistor (1%) 0603	R7, R8, R32, R33, R35	Multicomp	FEC 9330364
3	0 $\Omega$ SMD resistor	R9, R22, R23	Multicomp	FEC 9331662
10	10 k $\Omega$ SMD resistor (1%) 0603	R12, R18, R20, R24, R25, R26, R27, R28, R29, R42	Multicomp	FEC 9330399
1	1 $\Omega$ SMD resistor (1%) 0603	R17	Phycomp	FEC 9238123
1	160 k $\Omega$ SMD resistor (1%) 0603	R19	Multicomp	FEC 9330682
2	100 k $\Omega$ SMD resistor (1%) 0603	R21, R39	Multicomp	FEC 9330402
1	100 $\Omega$ SMD resistor (1%) 0402	R30	Phycomp	FEC 9239111
1	51 $\Omega$ SMD resistor (1%) 0603	R31	Multicomp	FEC 9331336
1	220 k $\Omega$ SMD resistor (1%) 0603	R34	Multicomp	FEC 9330836
1	68 k $\Omega$ SMD resistor (1%) 0603	R36	Multicomp	FEC 9331468
1	110 k $\Omega$ SMD resistor (1%) 0603	R37	Multicomp	FEC 9330461
1	10 $\Omega$ SMD resistor (1%) 0603	R38	Multicomp	FEC 9330429
1	SMD push button switch (B3S-1000)	S1	OMRON Corporation	FEC 177807

**ORDERING GUIDE**

Model	Description
EVAL-AD7760EB	Evaluation Kit
EVAL-AD7762EB	Evaluation Kit
EVAL-AD7763EB	Evaluation Kit

**ESD CAUTION**

	<p><b>ESD (electrostatic discharge) sensitive device.</b> Charged devices and circuit boards can discharge without detection. Although this product features patented or proprietary protection circuitry, damage may occur on devices subjected to high energy ESD. Therefore, proper ESD precautions should be taken to avoid performance degradation or loss of functionality.</p>
---	---



**NOTES**