Click here for production status of specific part numbers.

MAX9276B/MAX9280B Evaluation Kits

Evaluate: MAX9276B/MAX9280B

General Description

The MAX9276B/MAX9280B coax evaluation kits (EV kit) provide a proven design to evaluate the MAX9276B/MAX9280B high-bandwidth gigabit multimedia serial link (GMSL) deserializers with spread spectrum and full-duplex control channel with the use of a standard FAKRA coaxial cable. The EV kit also includes Windows XP®-, Windows Vista®-, and Windows 7-compatible software that provides a simple graphical-user interface (GUI) for exercising the features of the device. The EV kit comes with a MAX9276B or MAX9280B installed.

For complete GMSL evaluation, using a standard FAKRA coaxial cable, order the MAX9276B/MAX9280B coax EV kit and a companion serializer board (MAX9275/MAX9279 coax EV kit referenced in this document). For evaluating with STP cable, also order the MAXCOAX2STP-HSD adapter kit and refer to its data sheet. Only one adapter kit is required per link, connecting the serializer and deserializer (SerDes) boards.

***Ordering Information* appears at end of data sheet.**

Features

- Accepts 24-Bit or 32-Bit Parallel Video
- Windows XP-, Windows Vista-, and Windows 7-Compatible Software
- USB-PC Connection (Cable Included)
- USB Powered
- Proven PCB Layout
- Fully Assembled and Tested

Note: In the following sections, MAX9276B/80B and the term “deserializer” refer to the MAX9276B and MAX9280B ICs and MAX9275/79 and the term “serializer” refer to the MAX9275 and MAX9279 ICs. The term SerDes refers to serializer/deserializer.

Note: This document applies to both coax and STP EV kits. This document covers coax cables, but the information provided applies equally to STP cables.

Items Included in the EV Kit Package

DESCRIPTION	QTY
MAX9276B coax EV kit or MAX9280B coax EV kit board	1
USB cable	1

MAX9276B/MAX9280B EV Kit Files

FILE	DESCRIPTION
MAXSerDesEV-D_Vxxxx_Install.EXE	Installs the EV kit files in your computer
MAXSerDesEV-D.EXE	Graphical user interface (GUI) application
CDM20600.EXE	Installs the USB device driver
USB_Driver_Help_200.PDF	USB driver installation help file

319-100266; Rev 0; 10/18

maxim integrated™

Quick Start

Required Equipment

- MAX9276B/MAX9280B coax EV kit (USB cable included)
- MAX9275/MAX9279 coax EV kit (USB cable included)
- 2m Rosenberger FAKRA cable assembly (included with the deserializer EV kit)
- Parallel data source (such as digital video)
- Optional: Function generator (needed only if parallel data lacks a pixel clock)
- User-supplied Windows XP, Windows Vista, or Windows 7 PC with a spare USB port (direct 500mA connection required; do not use a bus-powered hub)
- 5V DC, 500mA power supply

Note: In the following sections, software-related items are identified by bolding. Text in **bold** refers to items directly from the EV kit software. Text in **bold and underlined** refers to items from the Windows operating system.

Procedure

The EV kit is fully assembled and tested. Follow the steps below to verify board operation:

1) Download and install the latest version of the EV kit software from **www.maximintegrated.com**.
   - Search for MAX9276 Then select MAX9276B | Design Resources | Software | GMSL | SerDes Evalution Kit Software-Dallas uC | MAXSerDesEV-D_Vxxx_Install.zip.
   - Connect the USB cable from the PC to the deserializer board. A Windows message appears when connecting the EV kit board to the PC for the first time. Each version of Windows has a slightly different message stating ready to use, proceed to the next step; otherwise, open the USB driver installation help file PDF to verify that the USB driver was insatalled successully.
2) Install the appropriate USB driver for your PC from the links provided.
3) Verify that all jumpers are in their default positions, as shown in Table 1.
4) With the power supply and function generator off, connect the 5V power supply to the +5VIN terminal pad on the serializer EV kit.
5) Connect the USB cable from the PC to the deserializer EV kit (J10). A Windows message appears when connecting the EV kit board to the PC for the first time. Each version of Windows has a slightly different message. If you see a Windows message stating **ready to use**, then proceed to the next step; otherwise, open the USB_Driver_Help_200.PDF to verify that the USB driver was successfully installed.
6) Connect the FAKRA cable from the serializer EV kit OUT+ connector to the deserializer EV kit IN+ connector.
7) Connect the parallel data source to the serializer EV kit headers (H1_DIN28:0).
8) Connect pixel clock or function generator to the serializer EV kit header (H1_PCLK_IN).
9) Turn on power supply and function generator.
10) Verify that LED_PWR on the serializer EV kit turns on, indicating that the board has power.
11) Verify that LED_D2 on the deserializer EV kit turns on, indicating that the microcontroller is powered and enabled.
12) Verify that LED_LOCK on the deserializer EV kit lights up, indicating that the link has been successfully established. If LED_LOCK is off or LED_ERROR is on, double-check that the PCLK_IN signal is clocking data.
13) Start the EV kit software by selecting **Start | Programs | Maxim Integrated | MAXSerDesEV-D | MAXSerDesEV-D**. The **Configuration Settings** window will appear (Figure 1). Jumper settings in this window are for user reference and guide to properly configure the evaluation board. Jumper settings do not force the serializer or deserializer into a particular mode of operation.
14) UART mode support: To configure for UART mode, on the deserializer board, change jumpers JU_I2CSEL from H to the L position. On the serializer board, change jumpers JU_CONF1 and JU_CONF0 as shown in the **Serializer** group box, JU_TXSCL from SCL to the TX position, and JU_RXSDA from SDA to the RX position.
15) Press the **Identify Devices** button to have the GUI scan the bus for possible listeners. In case no device was identified, the most likely cause is improper jumper settings. Identify the problem before continuing.
16) Press the **Connect** button to launch the **Evaluation Kit** window (Figure 2).
17) Press the **Read All** button to read all registers on the deserializer and serializer.

Detailed Description of Software

To start the MAX9276B/MAX9280B deserializer coax EV kit GUI, select **Start | Programs | Maxim Integrated | MAXSerDesEV-D | MAXSerDesEVGUI-D**.

Configuration Settings

The **Configuration Settings** window is the first window that opens after program launch. It allows the user to specify evaluation board setup and mode of operation.

Controller Group Box

In the **Controller** group box, select **Coax** or **STP** from the **LinkType** drop-down list, **I2C** or **UART** from the **Bus** drop-down list, and whether the **Serializer** or **Deserializer** should connect to the USB controller. Upon changing any of these parameters, any conflicting jumper settings will be highlighted, guiding the user to check and make the corresponding changes to the evaluation boards. Only **LinkType** and **Device Address** selections on the **Configuration Settings** window affect the EV kit operation. Other items, including jumper selection, are for user reference only.

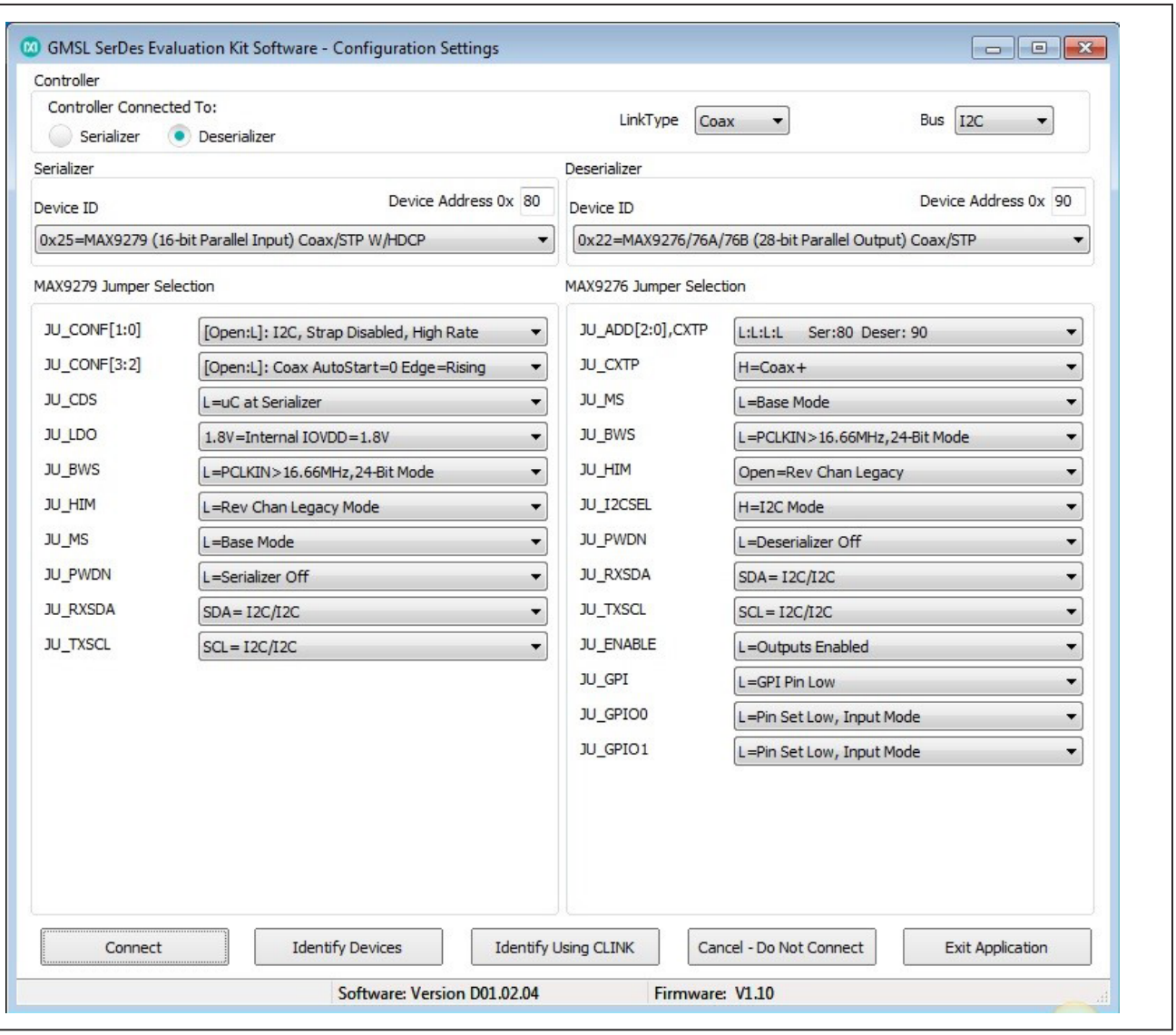


Figure 1. MAXSerDesEV-D Evaluation Kit Software (Configuration Settings Window)

Serializer and Deserializer Jumper Selection Blocks

The **Serializer Jumper Selection** and **Deserializer Jumper Selection** blocks list jumpers for the selected **Device ID**s and displays the correct shunt positions based on the conditions selected in the **Controller** group box.

Identify Devices Button

The **Identify Devices** button causes the GUI to scan the system and hunt for slave addresses selectable by the SerDes input address pins. Upon successful communication, the identified **Device ID** and the corresponding jumper lists are displayed on the serializer and deserializer block. It is also possible to manually select a device from the list in the **Device ID** drop-down list and enter the slave address in the **Device Address** edit box. It is a good practice to utilize the **Identify Devices** function and verify communication with the devices under test (DUTs) before attempting to **Connect**.

Figure 9 and Figure 10 show jumper settings on the SerDes PCBs for coax cable and I^2C communication with the USB controller connected to the deserializer board. Refer the respective deserializer IC data sheet for detailed configuration information. See Table 1 for PCB jumper descriptions.

Connect Button

The **Connect** button opens up the **Evaluation Kit** window. The GUI reads the SerDes registers and updates the register maps for both. Successful register map updates are indicated by green LED indicators. In case of a communication problem, the LED indicators turn red.

Cancel - Do not Connect Button

The **Cancel - Do not Connect** button opens the **Evaluation Kit** window without attempting to connect to the on-board microcontroller. Although there will be no communication with the microcontroller, all functions and tabs corresponding to the selected **Device ID**s become active once there.

Evaluation Kit Window

The **Evaluation Kit** window shown in Figure 2 provides access to all internal functions of the DUTs by means of reading and writing registers through different tabs to allow the user to evaluate various functions of the SerDes.

The **Read All** button updates the SerDes' device maps by reading the DUT's internal registers.

The **Serializer** group box provides pushbuttons to access the serializer's registers. The **Read all MAX9279** button reads register contents from the serializer and updates the displayed register values. The **Load** button reads and updates registers from a previously saved register map file or saves the existing register values into a new file for future reference using the **Save** button.

The **Deserializer** group box provides pushbuttons to access the deserializer's registers. The **Read All MAX9280/80A** button reads register contents from the deserializer and updates the displayed register values. The **Load** button reads and updates registers from a previously saved register map file or saves the existing register values into a new file for future reference using the **Save** button.

The **Open Configuration** button opens the **Configuration Settings** window for any configuration change. Use **Open Configuration** and **Connect** buttons to go back and forth between **Configuration Settings** window and **Evaluation Kit** window.

The **Wake Up** button applies the register write sequence described in the IC data sheets to wake the DUTs from sleep mode.

MAX9279 Tab

The **MAX9279** tab (Figure 2) lists the serializer's bitmaps. The **Read** and **Write** buttons in each register group box allow read/write access for each bit or group of bits that specify a function or condition, as defined in the serializer IC data sheet. The color of the small LED indicator next to the **Read/Write** buttons indicates the communication status. Green indicates successful communication and red indicates failed communication.

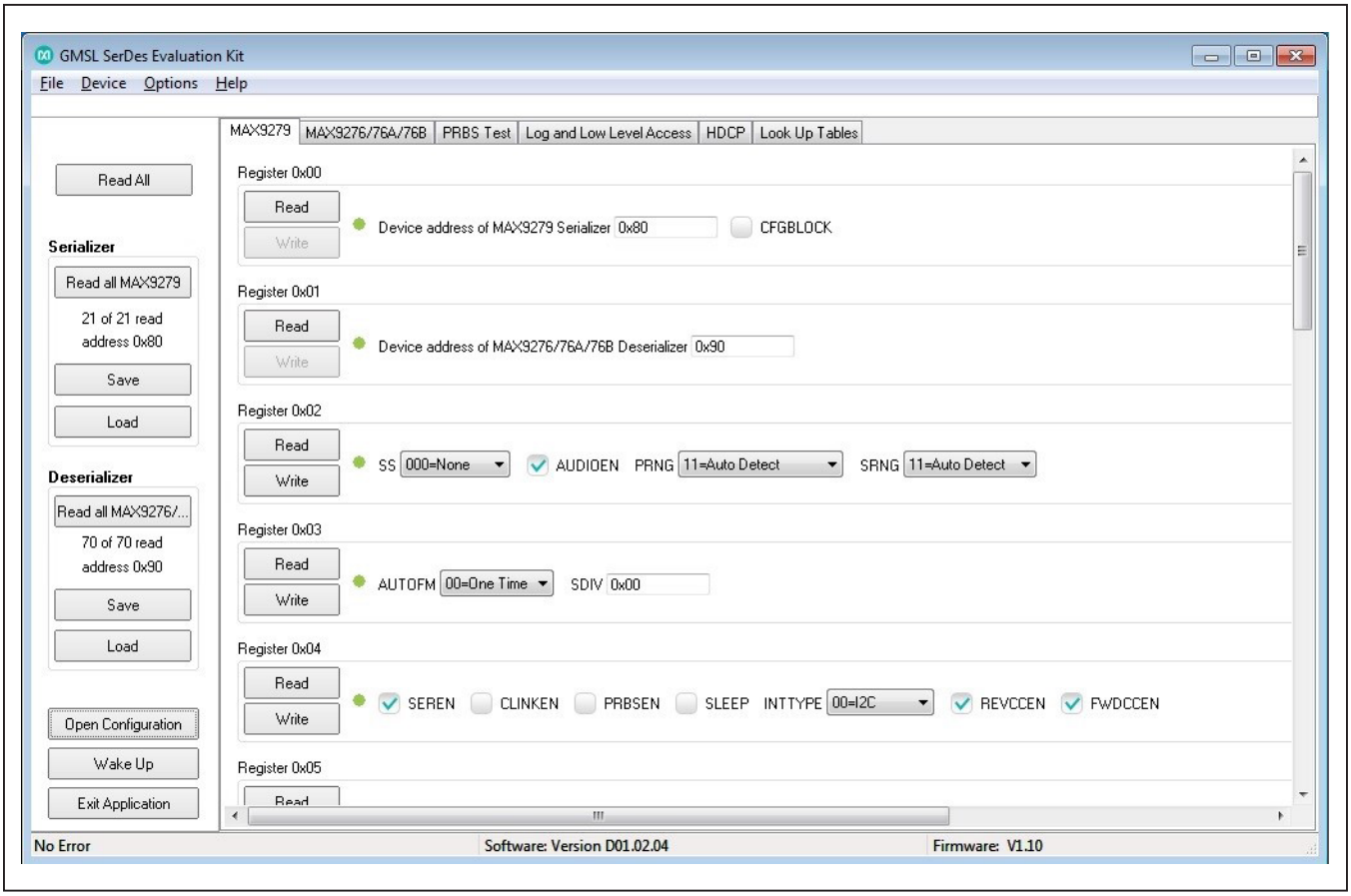


Figure 2. MAXSerDesEV-D Evaluation Kit Software (MAX9279 Tab (Serializer))

MAX9280/MAX9280B Tab

The **MAX9280/MAX9280B** tab (Figure 3) lists the deserializer's registers and bitmaps. The **Read** and **Write** buttons in each register group box allows read/write access for each bit or group of bits that specify a function or condition, as defined in the deserializer IC data sheet. The color of the small LED indicator next to the **Read/Write** buttons indicates the communication status. Green indicates successful communication and red indicates failed communication.

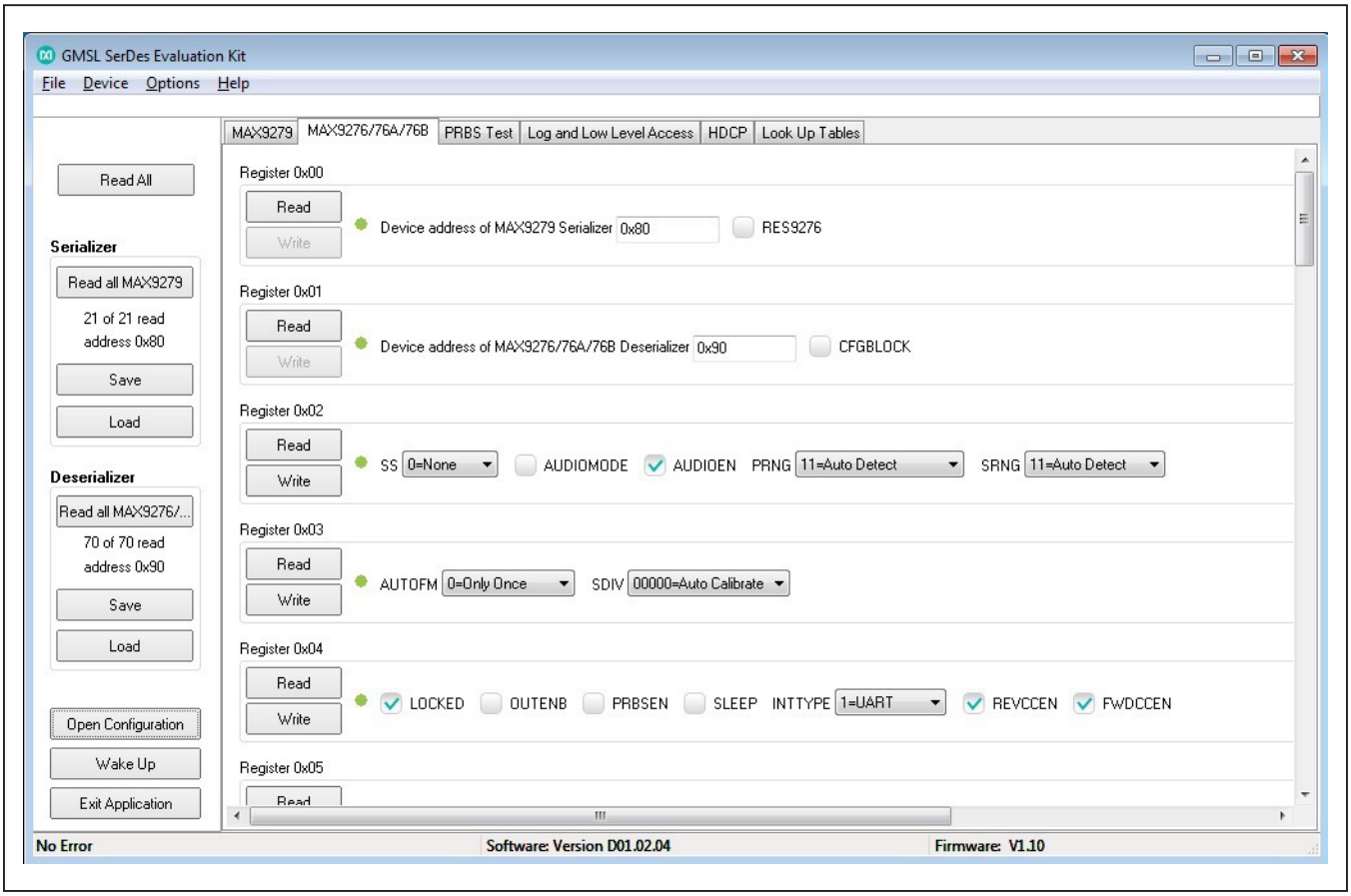


Figure 3. MAXSerDesEV-D Evaluation Kit Software (MAX9280/80A/80B Tab (Deserializer))

PRBS Test Tab

The **PRBS Test** tab (Figure 4) facilitates PRBS testing. Upon pressing the **Start** button, the SerDes registers are programmed, per defined sequence in the IC data sheets, to perform a pseudorandom bit sequence (PRBS) error-rate test. Enter the test duration (maximum 32,767s = 9.1hrs) in the **Duration** edit box and press **Start** to begin the test. At the end of the specified elapse time, the number of bit errors are read from the **PRBSERR** register and displayed in the **PRBS Error Counter** box.

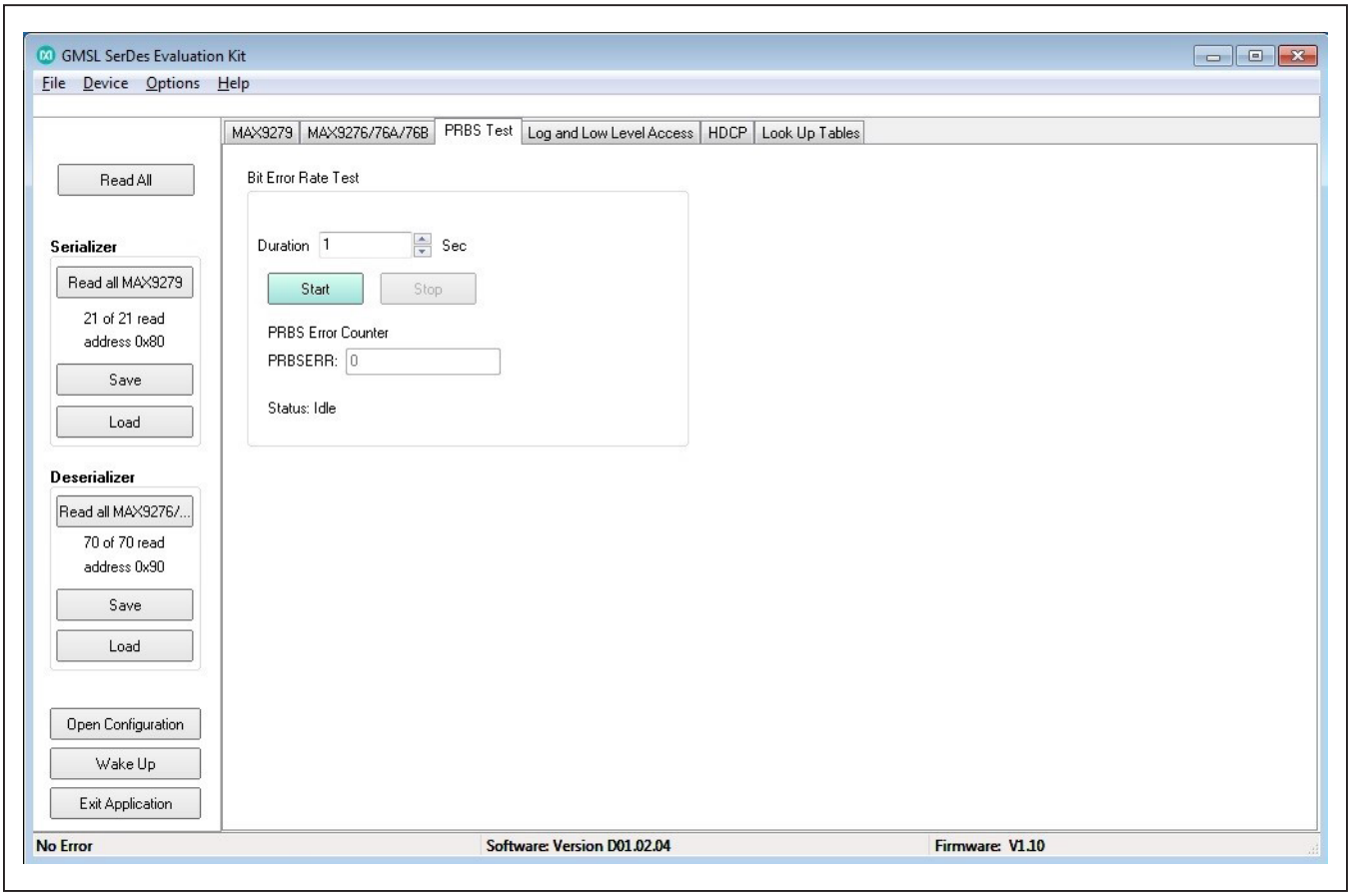


Figure 4. MAXSerDesEV-D Evaluation Kit Software (PRBS Tab)

Log and Low Level Access Tab

The **Log and Low Level Access** tab (Figure 5): logs all activities between the GUI and DUTs.

The **Register Access** group box allows 1-byte read or writes of the specified **Device Address** and **Register Address**. Press the **Send String to EVKIT** button to communicate with devices that are not register-based (such as the MAX7324). User-supplied devices requiring other interface protocols must use the **Raw TX byte codes** to communicate. Note that in bypass mode, raw data is passed to the user-supplied slave device directly without modification.

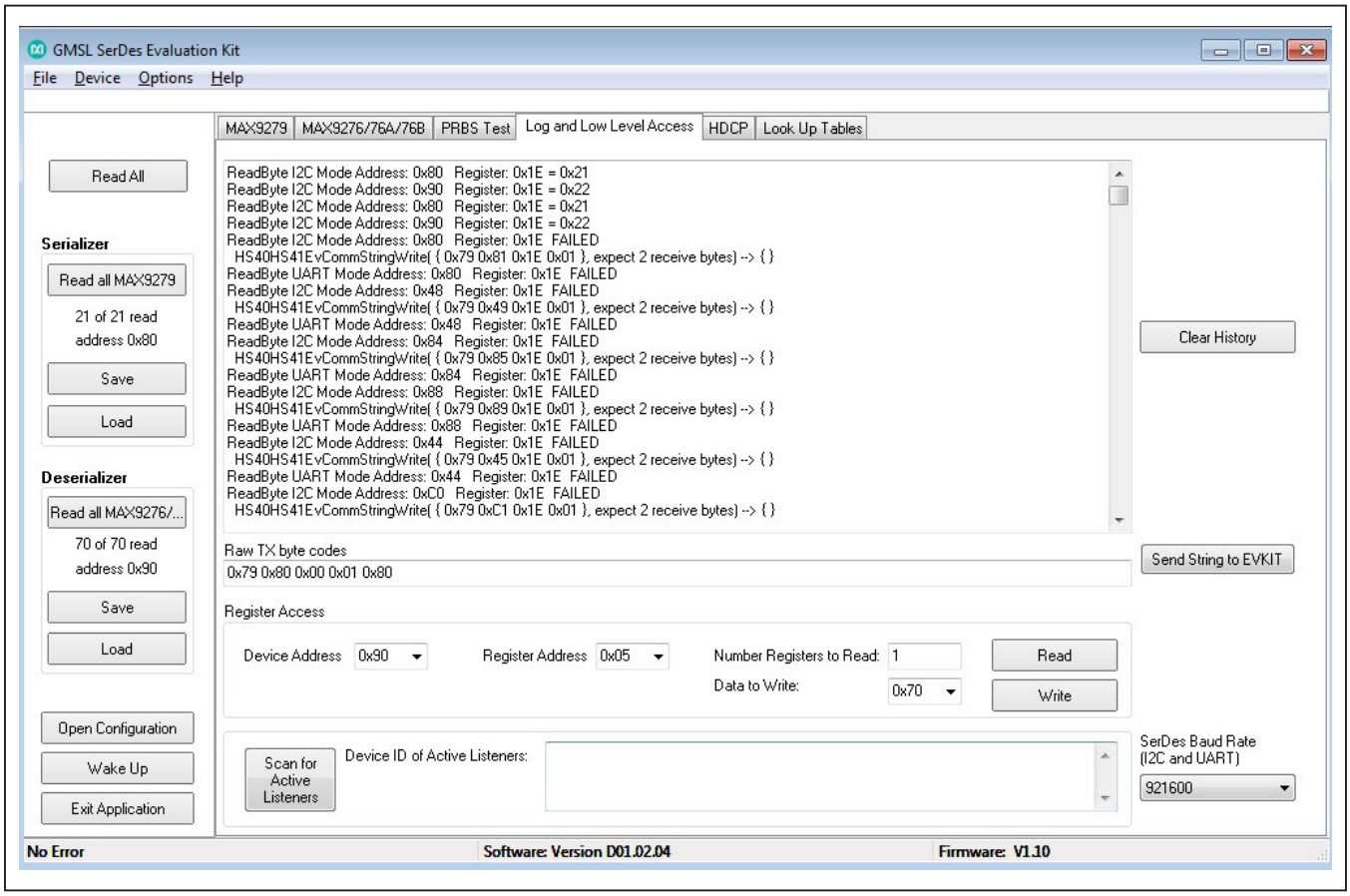


Figure 5. MAXSerDesEV-D Evaluation Kit Software (Log and Low Level Access Tab)

HDCP Tab

The **HDCP** tab (Figure 6) is viewable only for serializers and deserializers that support HDCP function. The HDCP registers of both SerDes are listed side-by-side with **Read** and **Write** buttons for each register. **Authenticate** and **Enable Encryption** pushbuttons initiate the HDCP verification process. At the end of the operation, the color of the LED indicator turns green to indicate success or red to indicate failure of the function. **Note:** This tab is only functional for DUTs that support the HDCP function.

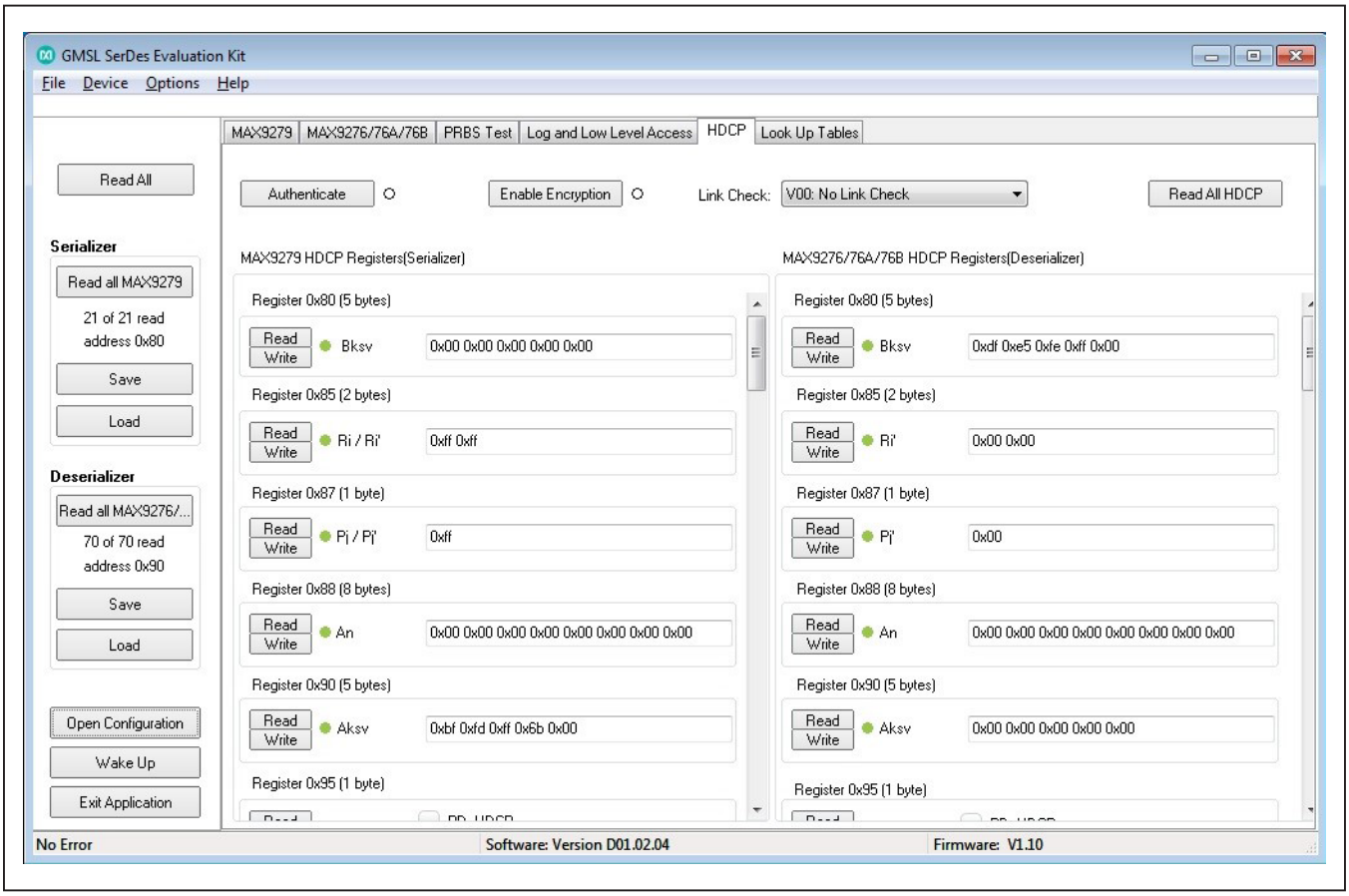


Figure 6. MAXSerDesEV-D Evaluation Kit Software (HDCP Tab)

Look Up Tables Tab

The **Look Up Tables** tab (Figure 7) provides access to the lookup tables (LUTs) of the deserializer. Use this tab to program/view/edit the LUT settings of the red, green, and blue colors for color translation. LUT content edits can be performed on the entire 256 bytes of all three colors, of an individual color, or individual pixel of any color table. The LUT contents can be saved in a .csv file to be used as a template or it can be uploaded from an existing file. Sample LUT content is provided in the evaluation kit GUI.

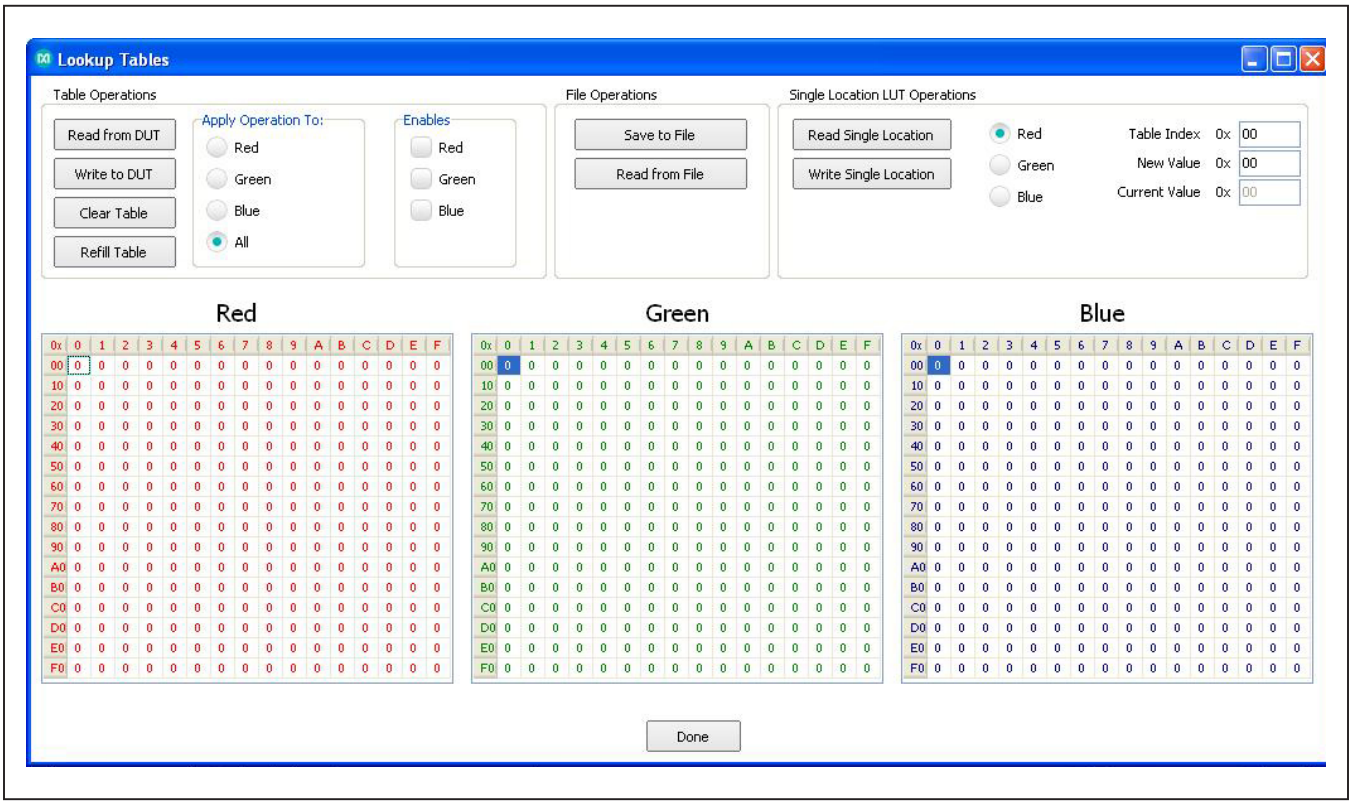


Figure 7. MAXSerDesEV-D Evaluation Kit software (Deserializer Look Up Tables tab)

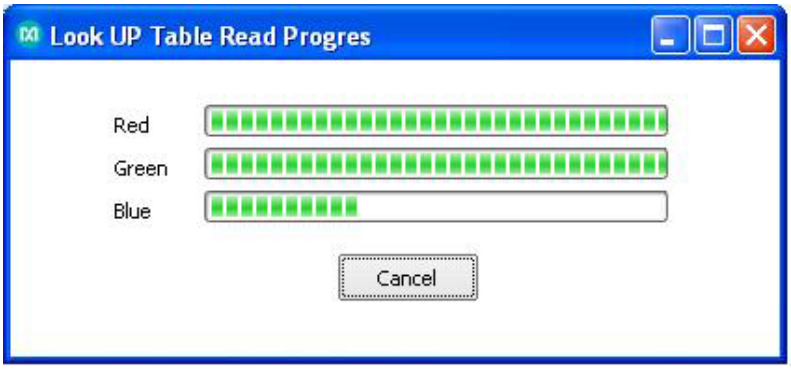


Figure 8. MAXSerDesEV-D Evaluation Kit Software (Look Up Table Read/Write Progress Window—relevant only to deserializers with image-enhancing capability)

Detailed Description of Hardware

The MAX9276B/MAX9280B deserializer coax EV kit provides a proven layout for the GMSL deserializers with the use of a standard FAKRA coax cable. On-board level translators and an easy-to-use USB-PC connection are included on the EV kit.

The deserializer EV kit board layout is divided into three principal sections:

1) Power-supply circuitry (on-board LDO regulators U2 and U3 power the AVDD, DVDD, and IOVDD supplies from +5VIN)
2) MAX9276B or MAX9280B and support components.
3) Microcontrollers (U10, U12) and support components

On-Board-Supplied Interface

The EV kit board provides a UART and I²C interface (through U10 and U12) that is intended to operate while both SerDes boards are powered on and locked. To use the on-board-supplied I²C interface, either use an IOVDD of 2.2V or greater with the I²C interface, or use a 100kbps I²C data rate.

User-Supplied Interface

To use the deserializer EV kit with a user-supplied interface, remove shunts from the JU_TXSCL header and apply a TX/SCL signal to the middle pin of the JU_TXSCL header. Also remove shunts from the JU_RXSDA header and apply an RX/SDA signal to the middle pin of the JU_RX_SDA header.

Refer to the respective SerDes IC data sheets for details about UART protocol for base mode, write data format, read data format, selecting base mode or bypass mode, and selecting a UART or I²C slave device.

User-Supplied Power Supply

The deserializer EV kit can be powered completely from the USB port by default. Jumper JU_VIN selects between the 5V USB supply or the +5VIN user-supplied power supply to power up U1 and supporting circuitry.

To provide different power supplies to AVDD, DVDD, and IOVDD, move the shunts on the JU_AVDD, JU_DVDD, and JU_IOVDD headers from the INT to the EXT positions and apply external user-supplied power at the AVDD_EXT, DVDD_EXT, and IOVDD_EXT terminals, respectively.

Detailed Description of Firmware

The DS89C450 microcontroller (U12) runs custom firmware that ensures no breaks occur within register read/write commands. The firmware records 9-bit even-parity data received from the USB interface while RTS is set, and plays back the 9-bit data with 1.5 stop bits timing when RTS is cleared. Data received by the deserializer is immediately relayed to the USB port.

The serializer coax EV kit provides a proven layout for the MAX9275/MAX9279 GMSL serializer with the use of a standard FAKRA coax cable. On-board level translators and an easy-to-use USB-PC connection are included on the EV kit.

Table 1. Jumper Description

JUMPER	SIGNAL	DEFAULT POSITION	FUNCTION
JU121	T2EX	L	U12-41 to GND (factory use only)
		H	U12-41 to USB+5V (factory use only)
		Open*	U12-41 open (factory use only)
JU_ADD0	CNTL0/ADD0	L*	(see Table 2)
		H	
JU_ADD1	CNTL3/ADD1	L*	(see Table 2)
		H	
JU_ADD2	INTOUT/ADD2	L*	(see Table 2)
		H	
JU_AVDD	AVDD	INT*	AVDD supplied internally
		EXT	AVDD supplied through the AVDD_EXT terminal
JU_BWS	BWS	L*	PCLKIN > 12.5MHz, 32-bit mode
		H	PCLKIN > 12.5MHz, 32-bit mode
		Open	PCLKIN > 33.33MHz 27-bit high bandwidth
JU_CXTP	CX/TP	L	STP link
		H*	Coax+ link
		Open	Coax- link
JU_DVDD	DVDD	INT*	DVDD supplied internally
		EXT	DVDD supplied through the AVDD_EXT terminal
JU_ENABLE	$\overline{\text{ENABLE}}$	L*	Outputs enabled
		H	Outputs disabled
JU_GPI	GPI	L*	GPI pin pulled low
		H	GPI pin pulled high
JU_GPIO0	GPIO0	L*	GPIO pin
		H	GPIO pin
JU_GPIO1	GPIO1	L*	GPIO pin
		H	GPIO pin
JU_HIM	SD/HIM	Open*	Reverse channel in legacy mode
		Short	Reverse channel in high-immunity mode
JU_I2CSEL	I2CSEL	L	UART-to-UART or UART-to-I^2C mode
		H*	I^2C-to-I^2C mode
JU_IOVDD	IOVDD	INT*	IOVDD supplied internally
		EXT	IOVDD supplied through the AVDD_EXT terminal
JU_LINK0	LINK0	X	Reserved for factory diagnostic test
JU_LINK1	LINK1	X	Reserved for factory diagnostic test
JU_MS	MS	L*	Base mode
		H	Bypass mode
JU_PWDN	$\overline{\text{PWDN}}$	L	Serializer is powered on
		H*	Serializer is powered off
JU_RXSDA	RX/SDA	RX	UART-to-UART or UART-to-I^2C mode
		SDA*	I^2C-to-I^2C mode

Table 1. Jumper Description (continued)

JUMPER	SIGNAL	DEFAULT POSITION	FUNCTION
JU_RXSDAPU	RX/SDA	Short*	RX/SDA pulled up to IOVDD
		Open	RX/SDA pulled up to IOVDD externally
JU_T1	USB_RI	L	U12-11 to GND (factory use only)
		H	U12-11 to USB+5V (factory use only)
		Open*	U12-11 open (factory use only)
JU_TXSCL	TX/SCL	TX	UART-to-UART or UART-to-I2C mode
		SCL*	I2C-to-I2C mode
JU_TXSCLPU	TX/SCL	Short*	TX/SCL pulled up to IOVDD
		Open	TX/SCL pulled up to IOVDD externally
JU_VL2	I/OVL2	Open*	U19-3 open (factory use only)
JU_VL3	I/OVL3	Open*	U19-4 open (factory use only)
JU_VL4	I/OVL4	Open*	U19-5 open (factory use only)
JU_VDDIO	VDDIO	Short*	VDDIO applied to U1
		Open	Connect amp meter to measure I-VDDIO
JU_VIN	VIN	USB*	5V supplied from the USB port
		+5V	5V supplied from the external supply applied on the +5V terminal
JU_VS	I/OVL1	1-2*	U19-2 VS/DOUT19 (reserved for factory diagnostic test)
		Open	

**Default position (selected for coax link and I2C communication).*

Table 2. Device Address Selection (register 0x00, 0x01)

PIN				DEVICE ADDRESS (bin)								SERIALIZER DEVICE ADDRESS (hex)	DESERIALIZER DEVICE ADDRESS (hex)
CX/TP*	ADD2	ADD1	ADD0	D7	D6	D5	D4**	D3	D2	D1	D0		
High/Low	Low***	Low***	Low***	1	0	0	X	0	0	0	R/$\overline{W}$	80	90
High/Low	Low	Low	High	1	0	0	X	0	1	0	R/$\overline{W}$	84	94
High/Low	Low	High	Low	1	0	0	X	1	0	0	R/$\overline{W}$	88	98
High/Low	Low	High	High	0	1	0	X	0	1	0	R/$\overline{W}$	44	54
High/Low	High	Low	Low	1	1	0	X	0	0	0	R/$\overline{W}$	C0	D0
High/Low	High	Low	High	1	1	0	X	0	1	0	R/$\overline{W}$	C4	D4
High/Low	High	High	Low	1	1	0	X	1	0	0	R/$\overline{W}$	C8	D8
High/Low	High	High	High	0	1	0	X	1	0	0	R/$\overline{W}$	48	58
Open	Low	Low	Low	1	0	0	X	0	0	X	R/$\overline{W}$	80	92
Open	Low	Low	High	1	0	0	X	0	1	X	R/$\overline{W}$	84	96
Open	Low	High	Low	1	0	0	X	1	0	X	R/$\overline{W}$	88	9A
Open	Low	High	High	0	1	0	X	0	1	X	R/$\overline{W}$	44	56
Open	High	Low	Low	1	1	0	X	0	0	X	R/$\overline{W}$	C0	D2
Open	High	Low	High	1	1	0	X	0	1	X	R/$\overline{W}$	C4	D6
Open	High	High	Low	1	1	0	X	1	0	X	R/$\overline{W}$	C8	DA
Open	High	High	High	0	1	0	X	1	0	X	R/$\overline{W}$	48	5A

**CX/TP determines the serial cable type (CX/TP = open; addresses only for coax mode).*

***X = 0 for the serializer address; X = 1 for the deserializer address.*

****Default position.*

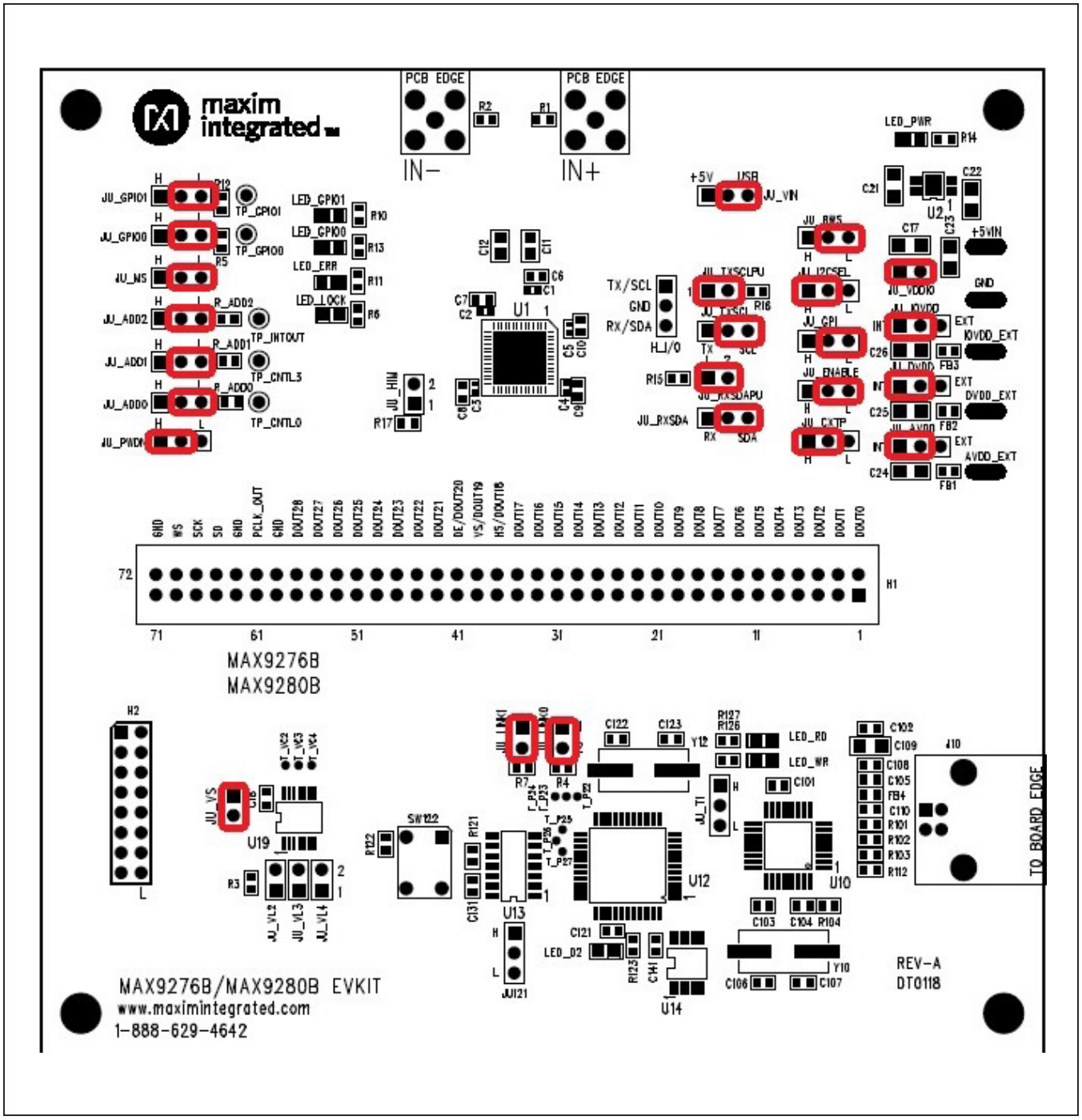


Figure 9. MAX9276B/MAX9280B Deserializers (Initial Jumper Settings for Coax Link and I²C Communication)

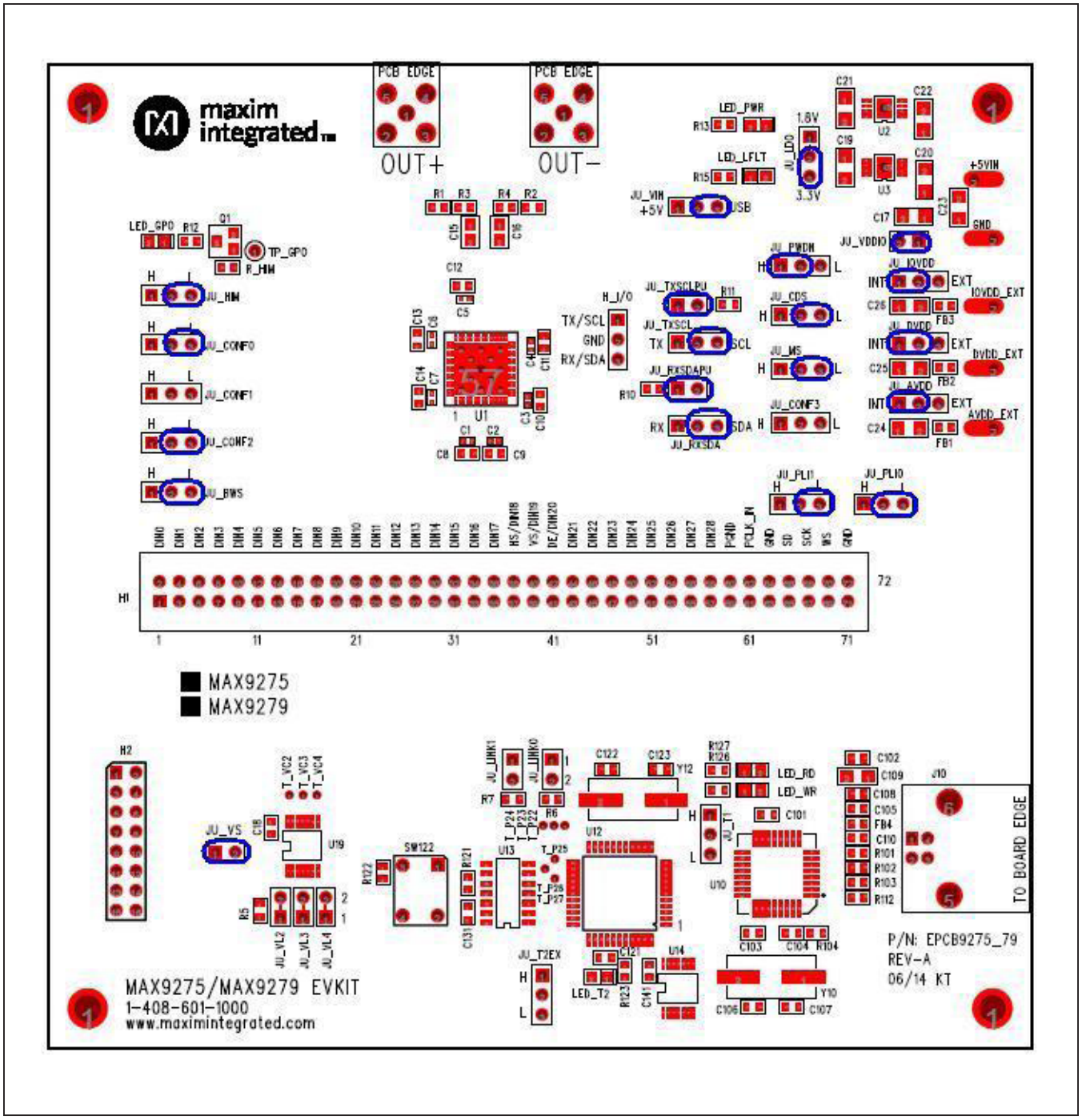


Figure 10. MAX9275/MAX9279 Serializers (Initial Jumper Settings for Coax Link and I²C Communication)

Troubleshooting

Possible causes of board test failure:

- Coax cable not properly connected between OUT+ of the serializer to IN+ of the deserializer.
- PCLKIN is not applied (e.g., FG output is disabled): Verify signal at the pins on the board.
- PCLKIN function generator output is not correct: Verify signal at the pins on the board.
- Incorrect jumper setting on the deserializer board: Reverify.
- Incorrect jumper setting on the serializer board: Reverify.
- Bus selection on the GUI is not consistent with jumpers' position on the boards
- Check and verify that the USB cable has been properly connected.
- USB port has locked: Exit application/GUI; remove the USB cable from the board and reinsert and relaunch the GUI.
- Nuvoton µC is not communicating: Exit the application/GUI and remove the USB cable from the board and reinsert, then relaunch the GUI.
- Deserializer board is faulty: Try a different board (if available).
- Serializer board is faulty: Try a different board (if available).

Component Suppliers

SUPPLIER	PHONE	WEBSITE
Amphenol RF	800-627-7100	www.amphenolrf.com
Hong Kong X'tals Ltd.	852-35112388	www.hongkongcrystal.com
Murata Electronics North America, Inc.	770-436-1300	www.murata-northamerica.com
ON Semiconductor	602-244-6600	www.onsemi.com
Rosenberger Hochfrequenztechnik GmbH	011-49-86 84-18-0	www.rosenberger.de
TDK Corp.	847-803-6100	www.component.tdk.com

Note: *Indicate that you are using the MAX9276B or MAX9280B when contacting these component suppliers.*

Ordering Information

PART	TYPE
MAX9276BCOAXEVKIT#	EV Kit
MAX9280BCOAXEVKIT#	EV Kit
MAXCOAX2STP-HSD#	Adapter Kit

#Denotes RoHS compliant.

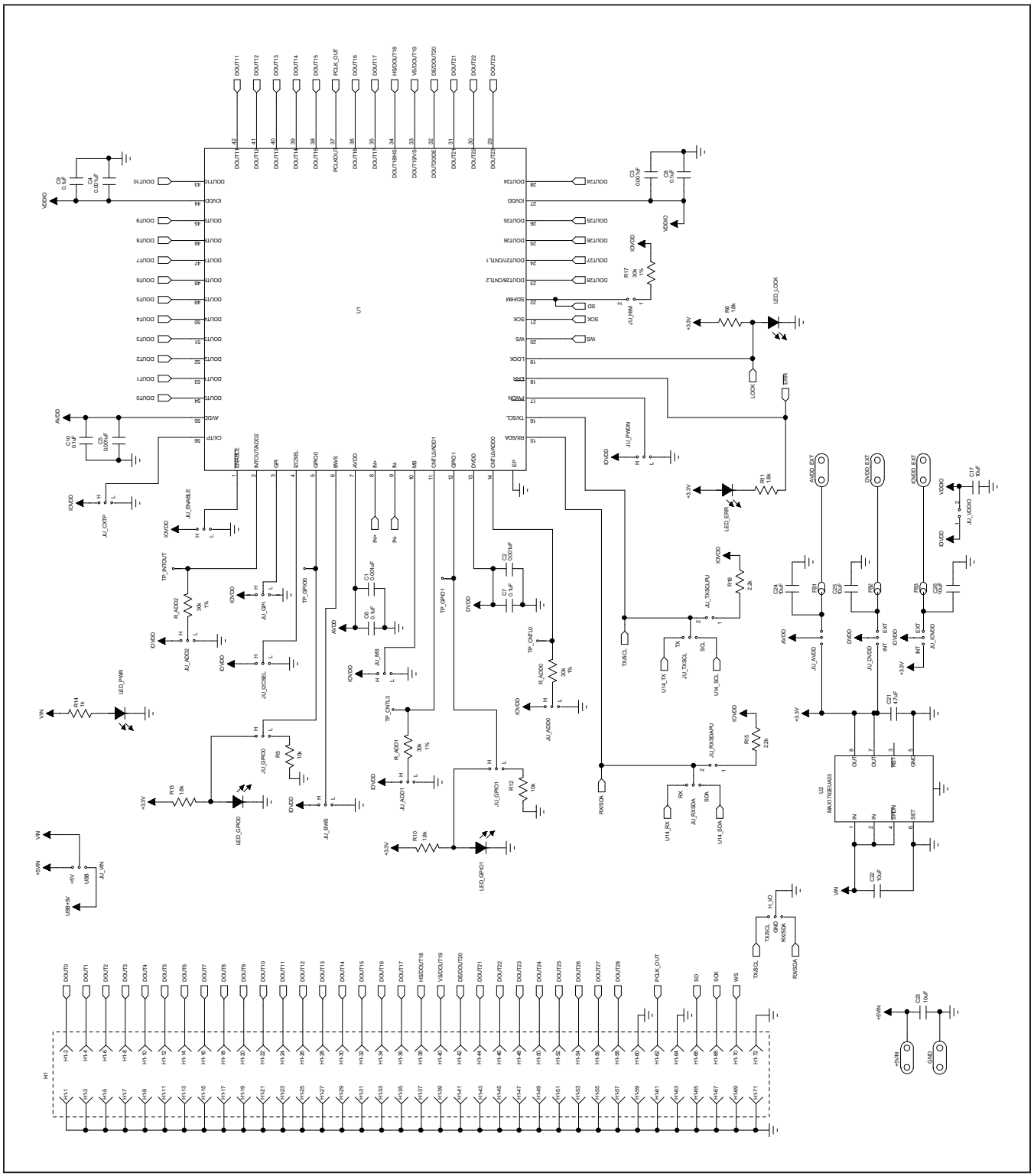
Note: *The MAX9276B and MAX9280B deserializer coax EV kits are normally ordered with a companion board:*

- *MAX9275 serializer coax EV kit, or*
- *MAX9279 serializer coax EV kit*

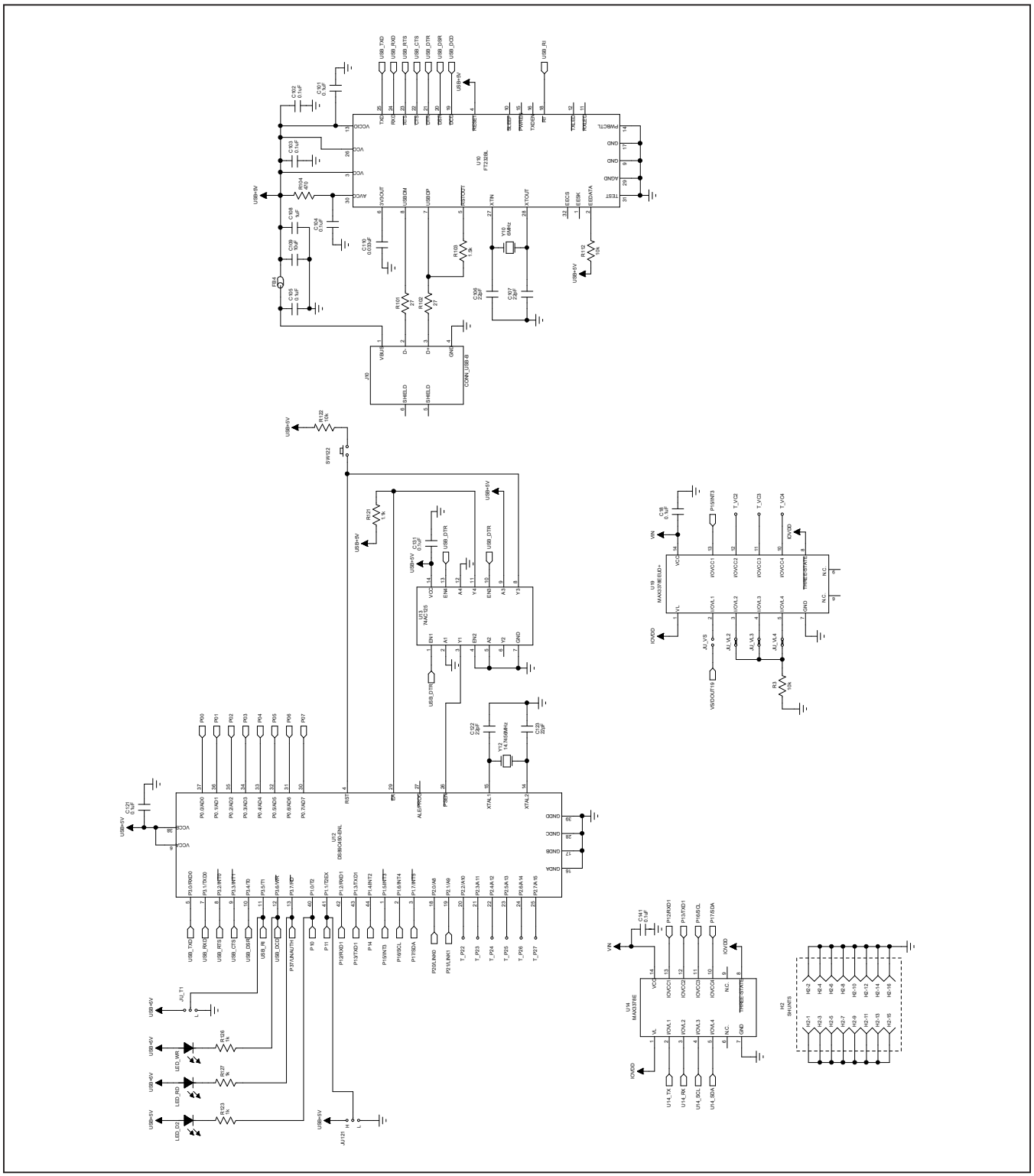
MAX9276B/MAX9280B EV Bill of Materials

Item #	Component Description	QTY Per	Remarks Reference Designators	Manufacturer Part Number
1	20G tinned copper Bus wire formed into "U" shaped loops	5	+5VIN, AVDD_EXT, DVDD_EXT, GND, IOVDD_EXT	9020 Buss
2	22pF ±5%, 50V C0G Cer Cap (0603)	4	C106-107, C122-123	MURATA GRM1885C1H220J
3	1uF ±20%, 10V X5R Cer Cap (0603)	1	C108	MURATA GRM188R61A105M
4	33000pF ±10%, 25V X7R Cer Cap (0603)	1	C110	MURATA GRM188R71E333K
5	0.22uF ±10%, 50V X7R Cer Cap (0805)	2	C11-12	MURATA GRM21BR71H224K
6	1000pF ±10%, 50V X7R Cer Cap (0402)	5	C1-5	MURATA GRM155R71H102K
7	10uF ±20%, 16V X5R Cer Cap (1206)	7	C17, C22-26, C109	TDK: C3216X5R1C106M
8	4.7uF 16volts Y5V 20% Cer Cap 1206	1	C21	Vishay: VJ1206V475MXJTW1BC
9	0.1uF 50volts X7R 10% Cer Cap 0603	14	C6-10, C18, C101-105, C121, C131, C141	Murata: GRM188R71H104KA93D
10	CONN HEADER .100" SNGL TIN, 2 Pin Header	7	JU_LINK0-1, JU_RXSDAPU, JU_HIM, JU_TXSCLPU, JU_VDDIO, JU_VS	SULLINS PEC36SAAN
11	FERRITE CHIP 300 OHM 500MA 0603	4	FB1-4	TDK, MMZ1608R301A
12	CONN HEADER .100" SNGL TIN, 3 Pin Header	20	JU121, JU_ADD0-2, JU_AVDD, JU_BWS, JU_CXTP, JU_DVDD, JU_ENABLE, JU_GPI, JU_GPIO0-1, JU_I2CSEL, JU_IOVDD, JU_MS, JU_PWDN, JU_RXSDA, JU_T1, JU_TXSCL, JU_VIN	SULLINS PEC36SAAN
13	Not Installed	0	JU_VL2-4	SULLINS PEC36SAAN
14	CONN HEADER 72POS .100" DL TIN, 2X36 Pin Header	1	H1	Sullins PEC36DAAN
15	CONN HEADER 16POS .100" DBL, 2X8 Pin Header	1	H2	Sullins PEC36DAAN
16	CONN HEADER .100" SNGL TIN, 3 Pin Header	1	H_I/O	SULLINS PEC36SAAN
17	CONN USB RTANG FEMALE TYPE B PCB	1	J10	Assmann, AU-Y1007-R
18	FAKRA - HF Conn., Right Angle Plug For PCB	2	IN+, IN-	Rosenberger, 59S2AX-400A5-Y
19	LED GREEN 0805 SMD	1	LED_LOCK	Stanley, PG1112H-TR
20	LED RED 0805 SMD	3	LED_ERR, LED_PWR, LED_D2	Stanley, BR1112H-TR
21	LED YELLOW 0805 SMD	3	LED_GPIO0-1, LED_RD, LED_WR	Stanley, AY1112H-TR
22	30K ohm Resistors 1% 0603	4	R17, R_ADD0-2	Any
23	27 ohm Resistor 5% 0603	2	R101-102	Any
24	1.5Kohms Resistor 5% 0603	1	R103	Any
25	470ohms Resistor 5% 0603	1	R104	Any
26	49.9K ohms Resistors 1% 0603	2	R1-2	Any
27	1.1Kohms Resistor 5% 0603	1	R121	Any
28	1K ohms Resistor 5% 0603	4	R14, R123, R126-127	Any
29	2.2Kohms Resistor 5% 0603	2	R15-16	Any
30	10Kohms Resistor 5% 0603	7	R3-5, R7, R12, R112, R122	Any
31	1.8K Ohm 5% Resistor 0603	4	R6, R10-11, R13	Any
32	SWITCH TACTILE SPST-NO 0.05A 24V	1	SW122	Omeron Electronics, B3F-1000
33	TEST POINT PC MINI .040"D RED	5	TP_CNTL0, TP_CNTL3, TP_GPIO0-1, TP_INTOUT	Keystone, 5000
34	Not Installed	0	T_P22-27, T_VC2-4	
35	3.12Gbps GMSL Deserializer for Coax or STP Cable with LVCMOS Output QFN8X8-56L	1	U1	max9276BGTN+
36	3.12Gbps GMSL Deserializer for Coax or STP Cable with LVCMOS Output QFN8X8-56L	1	U1	max9276BGTN/V+
36	FT232BL USB UART (USB - Serial) I.C. TQFP_7X7X.8_32L	1	U10	FTDI, FT232BL
37	DS89C430/DS89C450 Ultra-High-Speed Flash Microcontrollers TQFP-44L	1	U12	DS89C450-ENL+
38	QUAD BUS BUFFERS (3-STATE)SOIC-14L	1	U13	On Semi: MC74AC125DR2G
39	±15kV ESD-Protected, 1A, 16Mbps, Dual/Quad TSSOP-14L	2	U14, U19	MAX3378EEUD+
40	500mA Low Dropout Linear Regulator MICROMAX\8L\EP	1	U2	MAX1792EUA33+
41	6MHz crystal	1	Y10	Hong Kong X'tals SSL60000N1HK188F0-0
42	14.7456MHz crystal	1	Y12	Hong Kong X'tals SSM14745N1HK188F0-0
43	CABLE, USB-A MALE to USB-B MALE 6' BEIGE	1		JAMECO 229730
44	Cable, Coax, FAKRA Cable (2m)	1		Rosenberger North America 02E-59K1-59K1-02000

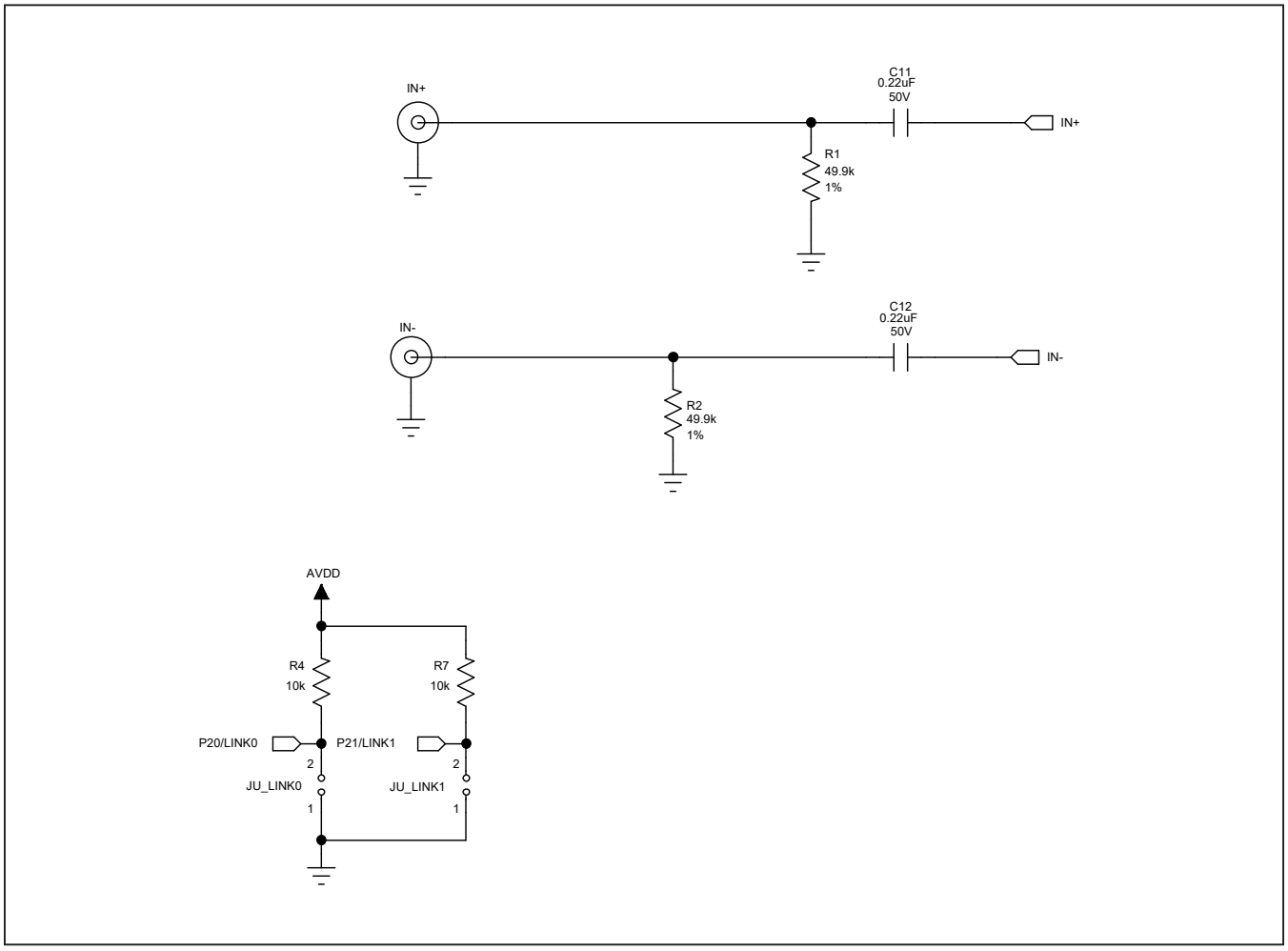
MAX9276B/MAX9280B EV Schematics



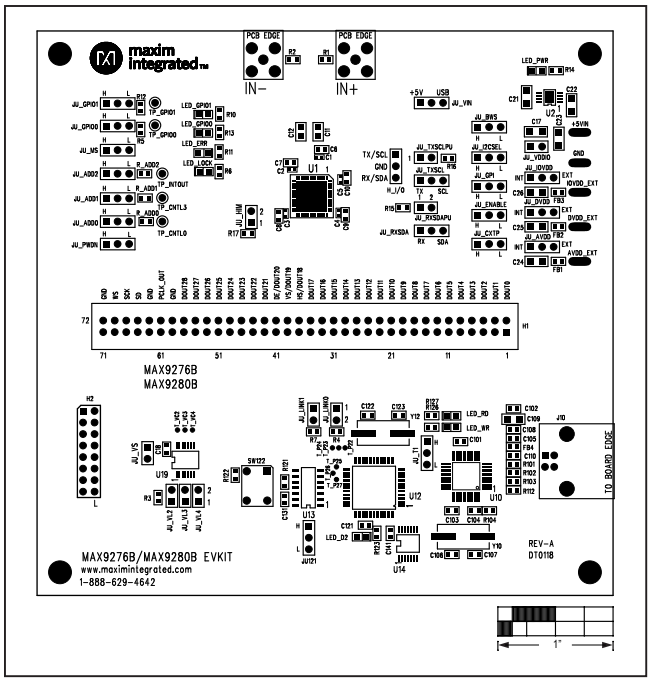
MAX9276B/MAX9280B EV Schematics (continued)



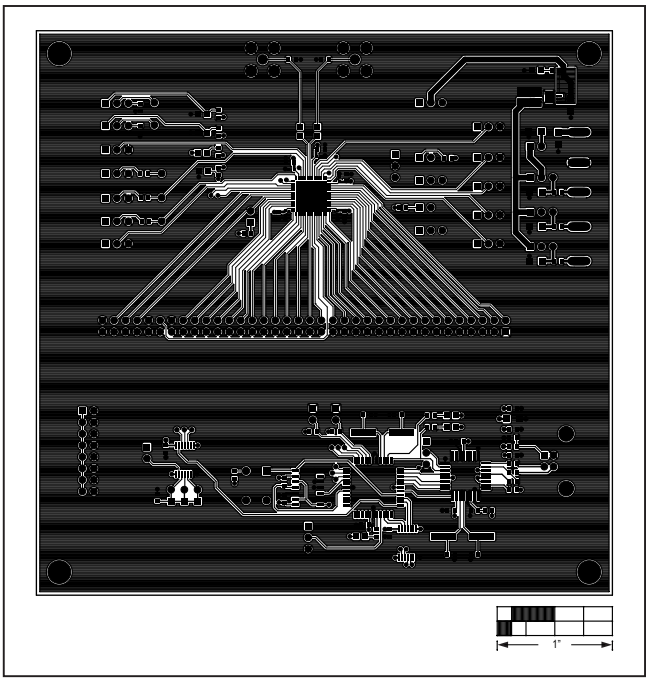
MAX9276B/MAX9280B EV Schematics (continued)



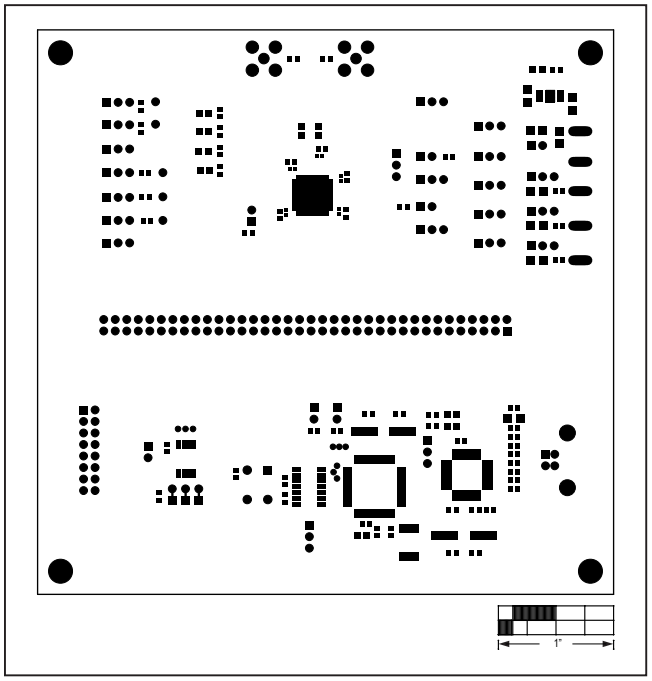
MAX9276B/MAX9280B EV PCB Layouts



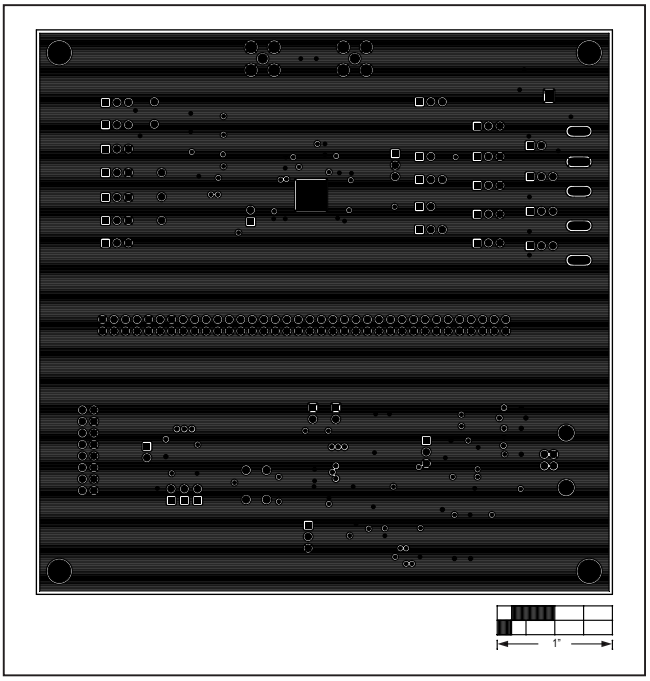
Top Silkscreen



Component Side

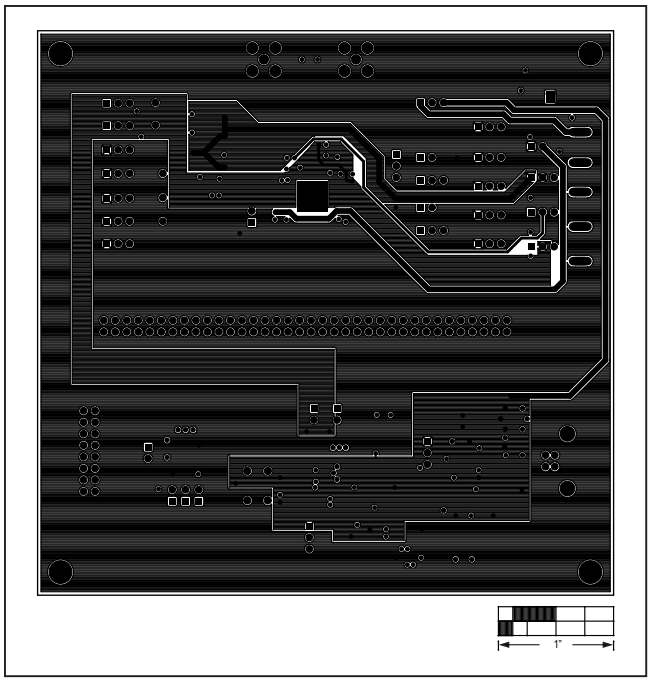


Top SolderMask

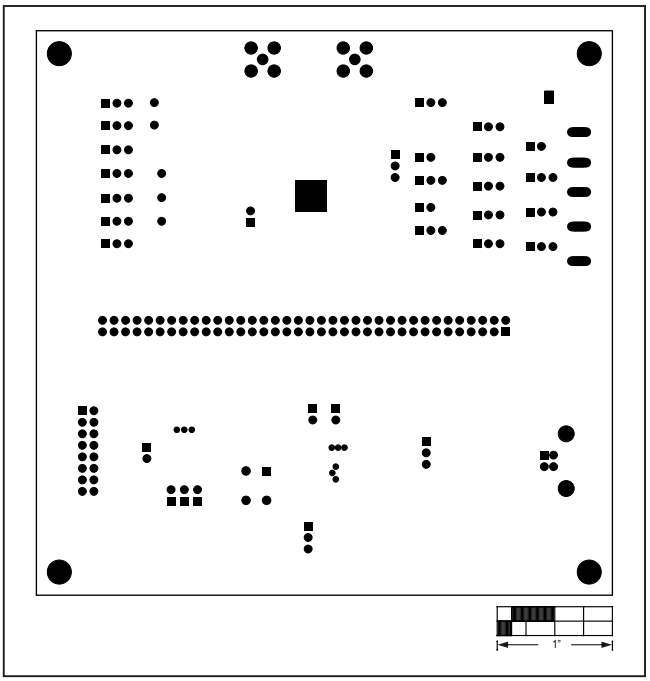


Layer 2 GND

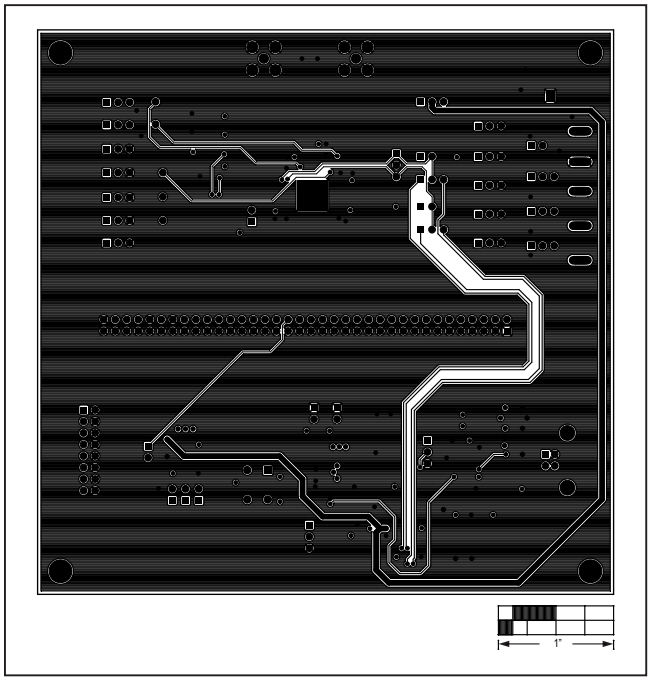
MAX9276B/MAX9280B EV PCB Layouts (continued)



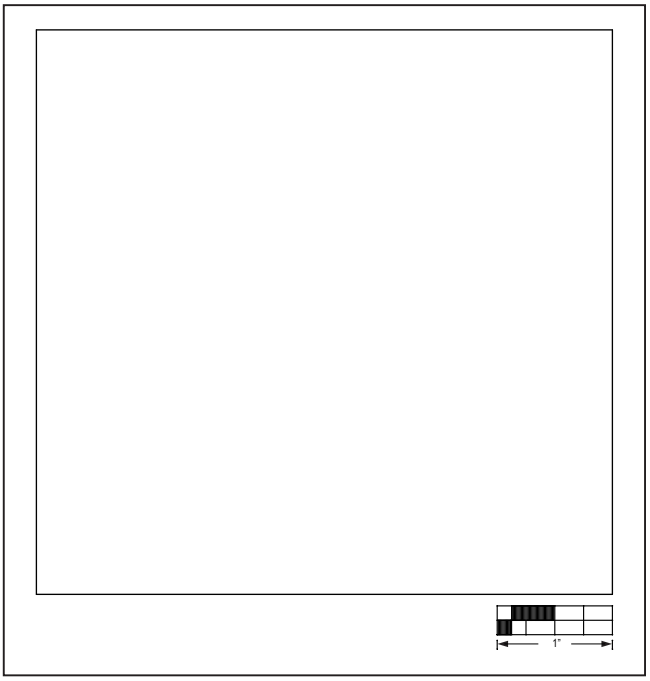
Layer 3 PWR



Bottom SolderMask



Solder side



Bottom Silkscreen

Revision History

REVISION NUMBER	REVISION DATE	DESCRIPTION	PAGES CHANGED
0	10/18	Initial release	—

For pricing, delivery, and ordering information, please visit Maxim Integrated's online storefront at https://www.maximintegrated.com/en/storefront/storefront.html.

Maxim Integrated cannot assume responsibility for use of any circuitry other than circuitry entirely embodied in a Maxim Integrated product. No circuit patent licenses are implied. Maxim Integrated reserves the right to change the circuitry and specifications without notice at any time.

