Click here to ask an associate for production status of specific part numbers.

Evaluates: MAX9295D

MAX9295D Coax/HSD Evaluation Kit

General Description

The MAX9295D Coax/HSD evaluation kit (EV kit) provides a reliable platform for evaluating Maxim's MAX9295D GMSL2/GMSL1 CSI serializer using a standard FAKRA coax cable or HSD-STQ cable. The serializer device supports high-bandwidth, gigabit multimedia serial links (GMSL2/GMSL1) and offers spread spectrum and full-duplex control channel features. The EV kit includes a simple-to-use Windows 10-compatible graphical user interface (GUI) for exercising device features.

For complete GMSL evaluation using a standard FAKRA coax cable or HSD-STQ cable, order the MAX9295D Coax/HSD EV kit along with a deserializer board.

For a detailed look at all GMSL2 features, including information on how to use the parts, refer to the GMSL2 User's Guide.

Note: Throughout this document, the term serializer refers to the MAX9295D. The term deserializer refers to any compatible GMSL deserializer device. Although coax cable is referenced throughout this document, the information applies equally to both coax and HSD-STQ evaluation kits.

Features

- GMSL Serializer Accepts MIPI CSI v1.3 DPHY v1.2 Input
  - Converts to GMSL1/GMSL2 Serial Data Through Coaxial FAKRA or Differential Twisted Quad HSD Connectors
  - Accepts CSI Input Data (Dual Port, Up to Four Lanes Per Port)
- Windows 10-Compatible Software Support
- Powerful, Simple-to-Use GUI for Comprehensive Device Feature Evaluation
- USB-Control Interface (Cable Included)
- Board Powered by USB, 12V Wall Adapter, External Power Supply, or Power-over-Coax (PoC) Cable
- Proven PCB Layout
- Fully Assembled and Tested

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

MAX9295D EV Kit Files

FILE	DESCRIPTION
MAXSerDesEV-GMSL_VX_X_XX_Install.exe	Installs the EV kit software (GUI) onto a Windows 7/Windows 10 computer. Includes GUI user's guide, microcontroller firmware, documentation
MAXSerDesEV-GMSL.exe	GMSL Graphical User Interface (GUI) program

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319-100675; Rev 1; 2/24

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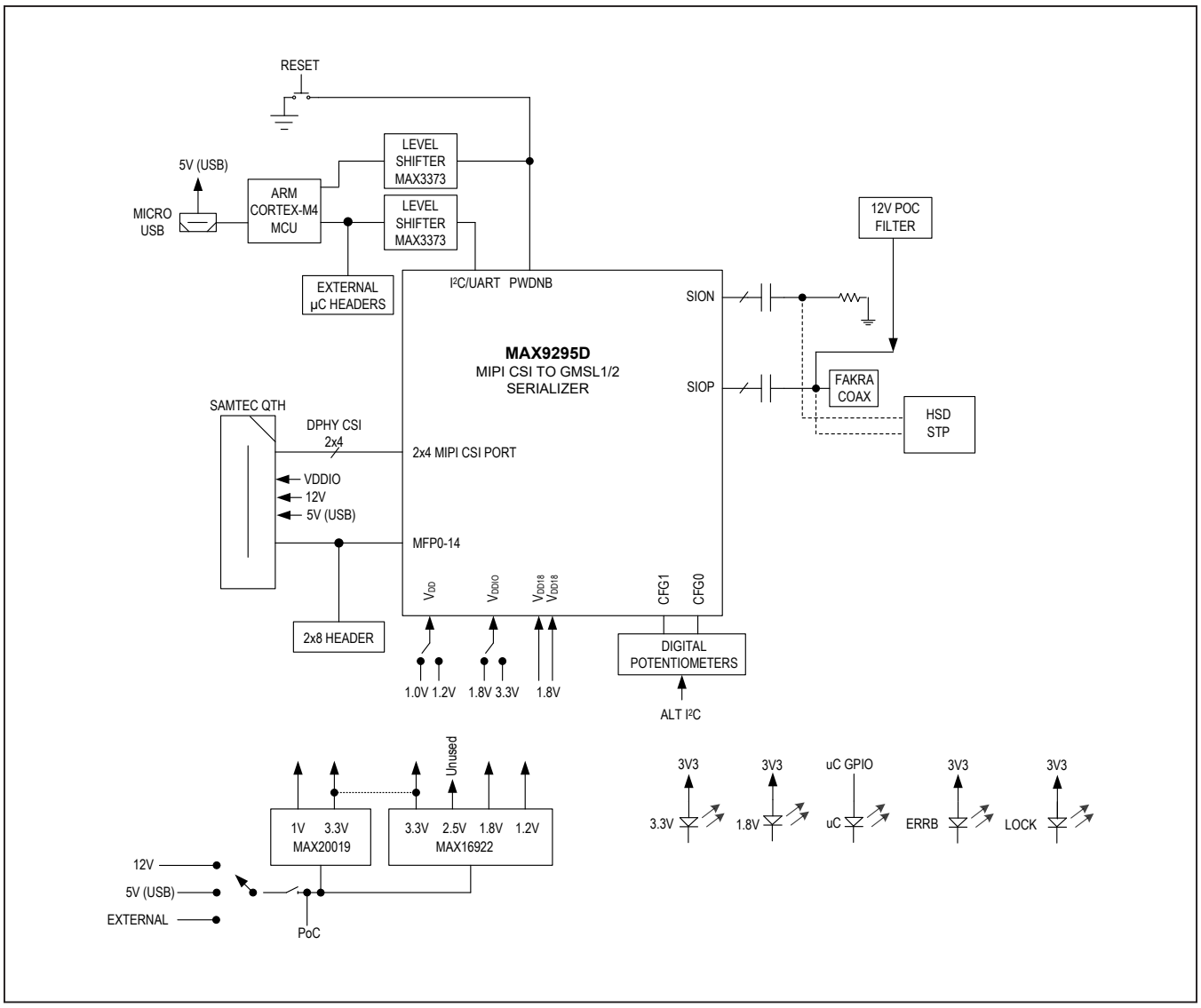

Figure 1. MAX9295D EV Kit Typical Block Diagram

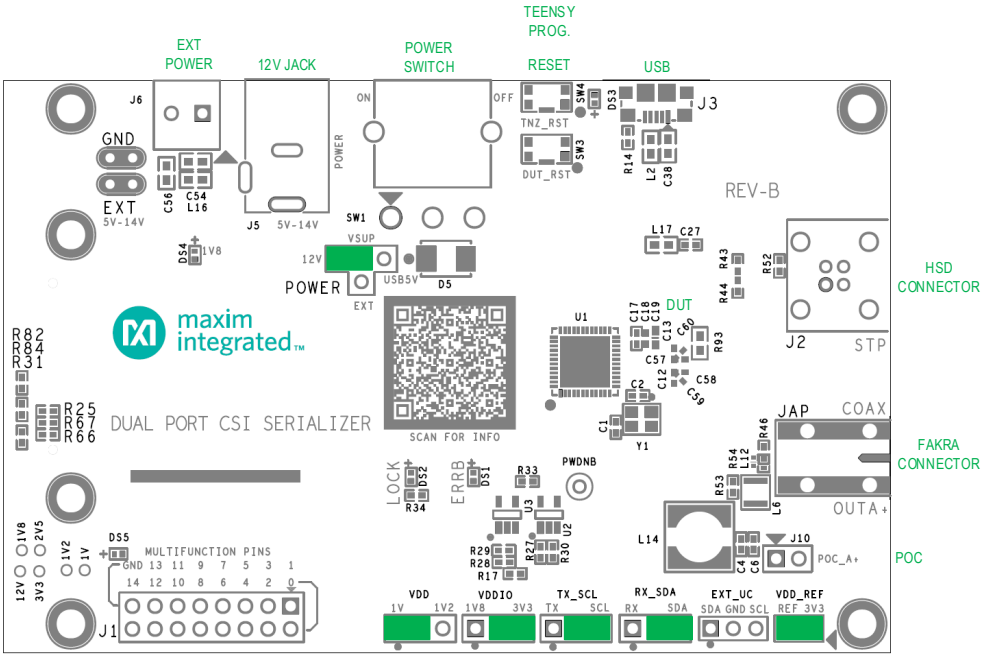

Figure 2. MAX9295D Coax/HSD EV Kit Key Components and Jumper Installation on Front of Board

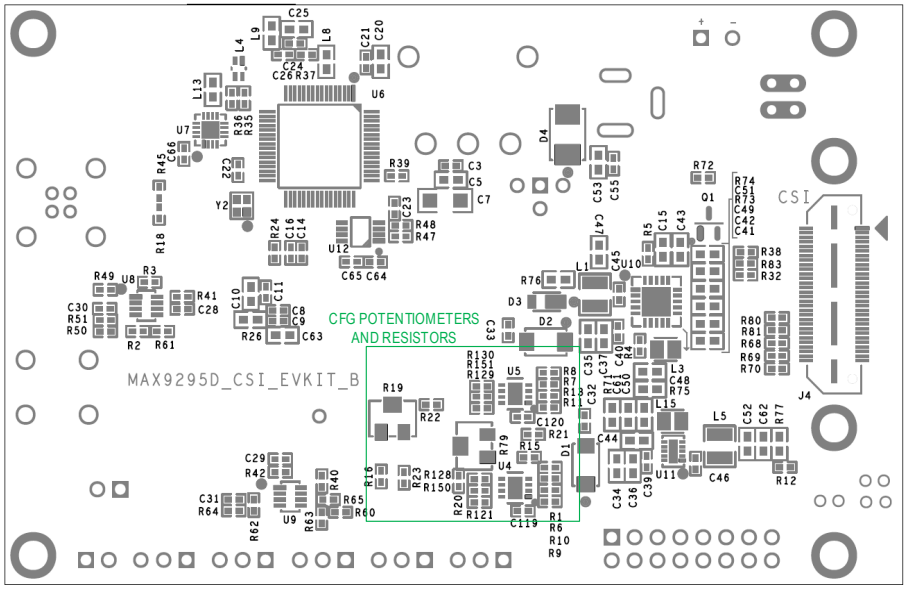

Figure 3. MAX9295D Coax/HSD EV Kit Key Components on Back of Board

Quick Start

This procedure applies to both the coax and HSD evaluation kits. Figure 4 shows a typical application using the MAX9295D CSI serializer.

Required Equipment

- MAX9295D Coax/HSD EV kit
- GMSL2 deserializer EV kit
- FAKRA coax cable assembly
- PC with Windows 7/Windows 10 and GMSL evaluation software installed
- Power supply source (500mA USB port, 5V/1A DC supply, or 12V barrel jack DC supply)
- Micro-USB cable
- CSI video source (optional)
- CSI Video Capture/Analysis system (optional)

Procedure

The MAX9295D Coax/HSD EV kit is shipped with the PCB fully assembled and tested. Use the following steps to verify board operation:

1) Download and install the latest GMSL GUI software from the Maxim Integrated Sharefile onto a Windows 7/Windows 10 PC. The PC must be connected to the MAX9295D EV kit PCB through the board's micro-USB port (J3). Contact the factory for additional information on accessing the software. Refer to the GMSL GUI User's Guide for detailed instruction on using the software.
2) Ensure that the MAX9295D EV kit PCB's red power switch (SW1) is in the OFF position.
3) Ensure that all jumper positions on the PCB are properly set to meet the requirements of the user's application. Figure 2 and Table 2 show the possible jumper positions for various configurations. The default jumper settings put the device under test (DUT) into I^2C mode, select 3.3V as the V_{DDIO} voltage, select 1V as the V_{DD} voltage, and configure the board to be powered by the 12V DC barrel jack.
4) Connect a power supply to the MAX9295D EV kit PCB. The board provides several power supply options:
   - A 12V DC barrel jack supply connected to connector J5 (default jumper position)
   - A 5V external power supply connected to the external power terminal block (J6)
   - A 5V supply drawn from the micro-USB port (J3) connected to the PC
   - Power-over-Coax (PoC) from the connected deserializer platform. To use PoC, install a jumper at connector J10 and disconnect other power supply sources. Power must be applied to the deserializer board, and the deserializer board's PoC must be connected.
5) Power up the board by moving the red power switch (SW1) to the ON position. The power LEDs DS4 and DS5 illuminate to indicate that power is enabled. The TEENSY® LED (DS3) flashes to indicate that the board firmware is functional. (If the TEENSY LED is not flashing, see the *Troubleshooting* section.)
6) Define the application-specific power-up configuration for the DUT, and use the GMSL GUI to set the device's CFG pins at the required levels. (See the *Configuration (CFG) Pin Settings* section.) The MAX9295D must be configured with the same link configuration (GMSL1/GMSL2, link speed/link configuration, and coax/STP) as the companion deserializer board. Refer to the EV kit data sheet of the deserializer platform for details on how to configure the deserializer. The DUT must be power cycled if any changes are made to the CFG pins. (Use the DUT_RST button (SW3) on the board to power-cycle the DUT.) Power cycle if any changes are made prior to moving to the next step.
7) Connect the serializer-deserializer EV kit system as shown in Figure 4. Connect the FAKRA cable from

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the COAX OUTA+ (JAP) connector on the serializer board to the INA+ (JAP) connector on the deserializer board.

8) Connect a power supply to the deserializer PCB, using either a 12V supply, a 5V external power supply, or the 5V USB port supply. If using PoC, do not use 5V for the primary power supply. Refer to the deserializer EV kit data sheet for further details of the deserializer power supply options.
9) Enable power to the deserializer board.
10) When both boards are connected properly and powered on, the LOCK LED on the deserializer EV kit PCB illuminates (the MAX9295D LOCK output indicator function is not enabled by default), indicating that the link is locked and communication is functional. If the LOCK LED does not illuminate, see the *Troubleshooting* section. To observe the LOCK indicator of the MAX9295D EV kit, the LOCK indicator LED can be enabled using the GMSL GUI.

Basic board initialization is now complete. At this point, the link is established and the system is ready to be used. Use the GMSL GUI to access internal registers locally or remotely. Ensure that both serializer and deserializer devices are identified correctly in the GUI. See the following sections and the available documentation for additional information on using GMSL hardware and software.

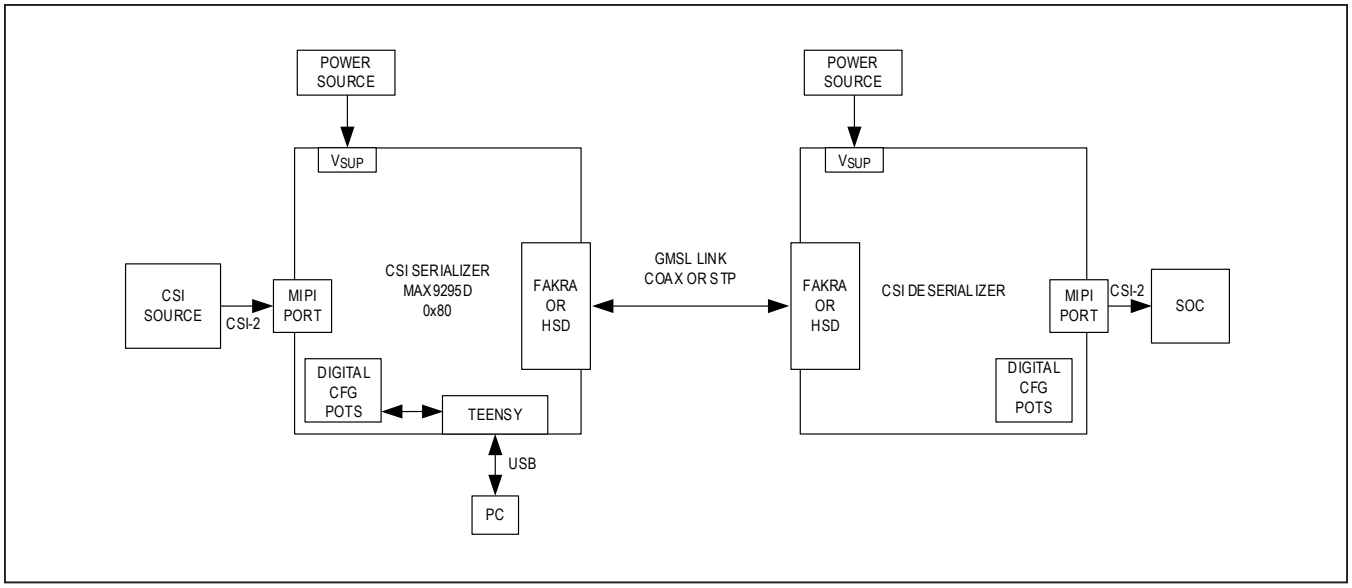


Figure 4. Typical Application Block Diagram Using MAX9295D Coax/HSD EV Kit

Detailed Description

Configuration (CFG) Pin Settings

The serializer's CFG pins use the pin voltage latched at power-up to configure the device. On-board analog potentiometers and I²C-configurable digital potentiometers set the (CFG) pin voltage levels. By default, the board is wired to use the digital potentiometers.

The CFG states can be configured using the GMSL GUI. To do so, access the GUI menu Tools → Set CFG Pin Levels.

To switch between using the analog or digital potentiometer to set CFG states, use 0Ω resistors to connect the CFG0/CFG1 nets. By default, the digital potentiometers are connected through R150 and R151. To use the analog potentiometers, depopulate R150/R151 and populate R20/R22. (See Figure 3 for the location of the analog and digital potentiometer resistors.) The analog potentiometers can be set with a small screwdriver (see Figure 3 for the location of the analog CFG potentiometers), and the voltage of the CFG pins can be monitored on the 2x8 GPIO header (J1).

If the serializer is not identified in the GUI, it is still possible to specify the CFG pin configuration. For more information, see the *Troubleshooting* section.

The voltage levels scale with V_{DDIO}, shown in Table 1, summarizes the CFG pin functionality and indicates the nominal voltage levels as a percentage of V_{DDIO} that are necessary to configure the serializer for different modes of operation.

The configuration-0 (CFG0) pin voltage sets the device address and I²C vs. UART control channel mode. For example, to set device address 0x84 with I²C communication, apply 20.2% of V_{DDIO} (CFG State 1) to pin CFG0.

The configuration-1 (CFG1) pin voltage sets coax vs. twisted pair mode (CXTP), GMSL1 vs. GMSL2, link speed, and high-immunity mode (HIM). For example, to set the DUT into GMSL1 twisted pair output with high-immunity enabled, apply 67.9% of V_{DDIO} (CFG State 5) to pin CFG1.

After changing any CFG pin settings, power cycle the GMSL device to latch the new configuration settings.

By default, the EV kit is in CFG0 = 0, CFG1 = 0 mode for coax boards. For STP boards, the default configuration is CFG0 = 0, CFG1 = 3.

Table 1. MAX9295D Coax/HSD CFG Pin Settings

LEVEL	VOLTAGE	CFG0		CFG1		CFG2
#	%VDDIO	I2CSEL	ADDRESS	CXTP	HIM/GMSL2 RATE	GMSL1/GMSL2
0	0	I2C	0x80	COAX	6Gbps	GMSL2
1	20.2	I2C	0x84	COAX	HIM Enabled	GMSL1
2	32.1	I2C	0xC0	COAX	HIM Disabled	GMSL1
3	44	I2C	0xC4	STP	6Gbps	GMSL2
4	56	UART	0xC4	STP	6Gbps	GMSL2
5	67.9	UART	0xC0	STP	HIM Enabled	GMSL1
6	79.8	UART	0x84	STP	HIM Disabled	GMSL1
7	100	UART	0x80	COAX	3Gbps	GMSL2

Serializer Jumper/Connector/Switch/Test Point Descriptions

Table 2 contains details of all connectors, jumpers, and switches on the EV kit board.

MAX9295D Coax/HSD EV Kit Package Contents

Table 3 lists the items contained in the MAX9295D Coax/HSD evaluation kit package.

Table 2. MAX9295D Jumper/Connector/Switch Descriptions

JUMPER	SIGNAL	DEFAULT POSITION	FUNCTION
POWER	VSUP	12V	Select between 12V, external 5V-14V, or USB board power
VDDIO	VDDIO	3V3	Select between 1.8V and 3.3V VDDIO supply
VDD	VDD	1V	Select between 1.0V and 1.2V supply for DUT core voltage
RX_SDA	TNZ_SDA_TX	SDA	Select between I2C or UART communication to serializer
TX_SCL	TNZ_SCL_RX	SCL	Select between I2C or UART communication to serializer
VDD_REF	3V3	Jumper Short	Reference voltage for I2C/UART level translator
EXT_UC	TNZ_SDA_TX, TNZ_SCL_RX, GND	Do not use Jumper	External microcontroller input through I2C/UART level translator
J4	2x4 MIPI, MFP's	N/A	Samtec Connector, MIPI 2x4 input to DUT, connect EV Kit to other boards or video source
J1	2x8 MFP Header	Do not use Jumper	Test Point header access to MFP0 to MFP14
J5	+12V	N/A	+12V DC barrel jack input
J6	EXT	N/A	Terminal block for external voltage for board supply
J3	Micro-USB	N/A	Micro-USB cable input for interfacing µC to PC for GUI usage
J2	STP/HSD: SIOP/SION	N/A	HSD connector for STP drive of GMSL
J10	VSUP	Jumper Open	Connect board power to PoC (remote or local)
JAP	Fakra: SIOP	N/A	FAKRA connector for Coax drive of GMSL
C12/C59/C58	SIOP	C12(FAKRA/COAX)	Route GMSL SIOP to FAKRA or HSD connector
C60/C57/C13	SION	C60(50Ω Term/COAX)	Route GMSL SION to AC termination or HSD connector
SW1	VSUP/POWER	OFF	ON/OFF switch for board power
SW3 DUT_RST	PWDNB	OFF	Push-button for DUT power-off by pulling PWDNB = LOW
SW4 TNZ_RST	(Flash uC)	OFF	Push-button to program the Teensy microcontroller

Table 3. Items Included in the Evaluation Kit Package

ITEM DESCRIPTION	QTY
MAX9295D Coax/HSD Serializer EV Kit	1
Micro-USB Cable	1
+12V DC Wall Supply	1

Troubleshooting

If the MAX9295D Coax/HSD EV kit PCB fails to power-up or does not function properly, try the following appropriate remedial actions.

1) Make sure the board's red power switch (SW1) is set to the ON position.
2) Verify that the device is powered properly. Check that the voltages at all device pins are within their expected operating ranges. The power rail LEDs (DS4 and DS5) are a good indication that the power supply is operational.
3) Check that all jumpers are correctly set. See the default jumper settings in the serializer and deserializer EV kit data sheets. Adjust jumper settings as needed to accommodate desired operating mode. Also, ensure that all jumpers are firmly attached. Replace loose or damaged jumpers if necessary. In some cases, removing and reinstalling the jumpers can fix an intermittent connection.
4) Check that the USB cable is properly seated in the USB port.
5) Check that there is a good coax/STP cable connection between the serializer and deserializer.
6) Check to see if the on-board TEENSY µC has been inadvertently put into programming mode. The board's TNZ_RST button should only be pressed when firmware is being flashed. If the button is pressed during normal operation, the device suspends operation and waits for programming. Power-cycle the board to resume normal operation with the current firmware.
7) Validate that the correct CFG pin voltages are being used to configure the serializer and deserializer. Check the method of biasing the CFG voltage at powerup. Measure the voltages at the CFG pins. For details, see the *Configuration (CFG) Pin Settings* section.
8) If the CFG pin settings are incorrect and the device is not identified in the GUI, proceed to the CFG pin page in the GUI and set the desired CFG state values. Power-cycle the EV kit and check if the GUI automatically identifies the device or if the device can be located using the Identify Devices dropdown from the Options tab. The low-level commands tab can be monitored to confirm that I^2C writes to the CFG pots are successful.
9) Check that the I^2C/UART jumpers match the DUT communication mode (SCL/SDA for I^2C, TX/RX for UART).
10) Check that the AC coupling capacitors are populated correctly, routing the serial link to the correct connector for COAX or STP mode. For coax boards, capacitors C12 and C60 should be populated. For STP boards, capacitors C59 and C57 or C58 and C13 should be populated. (All boards are shipped with the appropriate capacitors installed.)
11) Check that the microcontroller firmware is active by observing the blinking red TEENSY LED (DS3) at power-up. If the LED is not blinking, refer to the available software documentation to reprogram the microcontroller.
12) Check that the PC is detecting the COM port when the micro-USB cable is connected. Use the Windows Device Manager to check COM port status.
13) Power-cycle the board and reopen the GUI.
14) Try a new or different serializer or deserializer board.

Detailed Description of Hardware

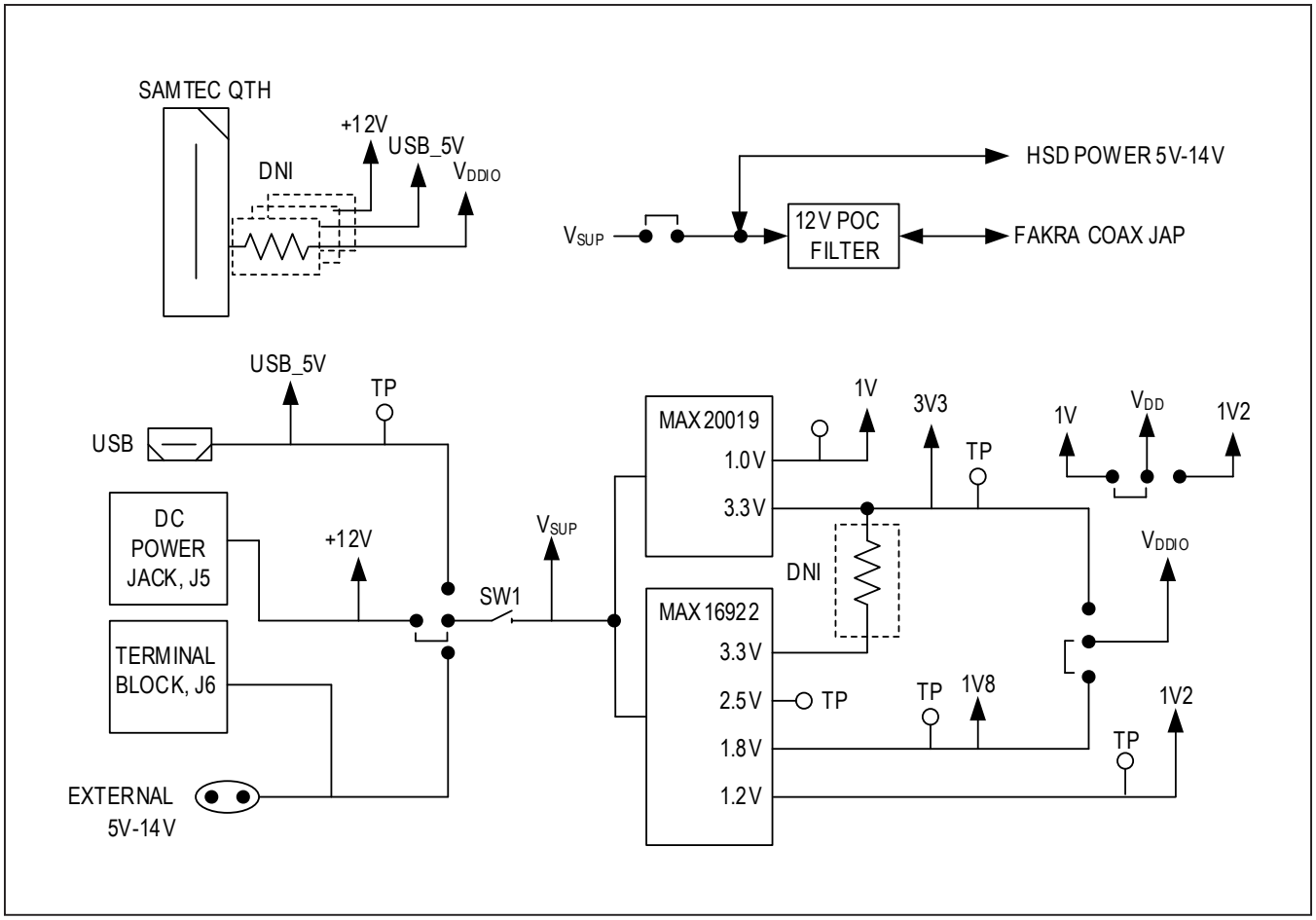


Figure 5. MAX9295D Coax/HSD EV Kit Power Options

Ordering Information

PART	TYPE
MAX9295DCOAXEVKIT#	COAX EV KIT
MAX9295DHSDEVKIT#	STP EV KIT

#Denotes RoHS compliance.

Note: *The MAX9295D EV kit is typically ordered with a companion CSI deserializer EV kit:*

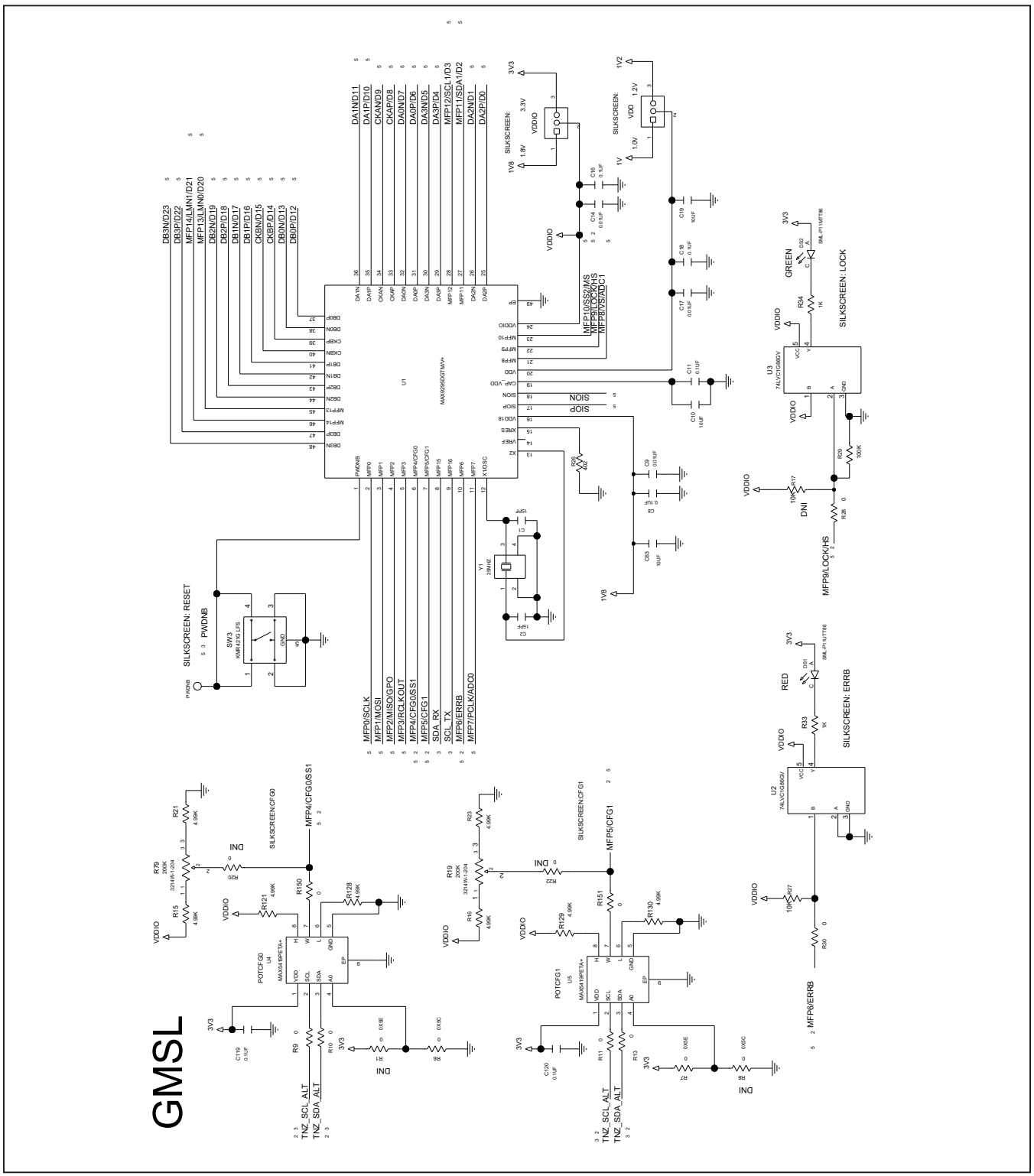
MAX9295D Coax/HSD EV Kit Bill of Materials (Coax)

ITEM	REF_DES	QTY	MFG PART #	MANUFACTURER	VALUE	DESCRIPTION
1	C1, C2	2	C0402C0G500-150JNP; GRM1555C1H150JA01; GCM1555C1H150JA16	VENKEL LTD.;MURATA;MURATA	15PF	CAPACITOR; SMT (0402); CERAMIC CHIP; 15PF; 50V; TOL=5%; TG=-55 DEGC TO +125 DEGC; TC=C0G
2	C3, C4, C32, C33, C39, C40, C55	7	CGA2B3X7R1H104K050BB; C1005X7R1H104K050BB; GRM155R71H104KE14; GCM155R71H104KE02; C1005X7R1H104K050BE; UMK105B7104KV-FR; CGA2B3X7R1H104K050BE	TDK;TDK;MURATA;MURATA;TDK; TAIYO YUDEN;TDK	0.1UF	CAPACITOR; SMT (0402); CERAMIC CHIP; 0.1UF; 50V; TOL=10%; TG=-55 DEGC TO +125 DEGC; TC=X7R
3	C5, C34-C37, C53, C54, C56	8	C1608X5R1E106M080AC; CL10A106MA8NRNC; GRM188R61E106MA73; ZRB18AR61E106ME01; GRT188R61E106ME13	TDK;SAMSUNG ELECTRONICS;MURATA;;MURATA	10UF	CAPACITOR; SMT (0603); CERAMIC CHIP; 10UF; 25V; TOL=20%; TG=-55 DEGC TO +85 DEGC; TC=X5R
4	C6, C9, C14, C17	4	GRM155R71H103JA88	MURATA	0.01UF	CAPACITOR; SMT (0402); CERAMIC CHIP; 0.01UF; 50V; TOL=5%; TG=-55 DEGC TO +125 DEGC; TC=X7R
5	C7	1	C3216X5R1E476M160AC	TDK	47UF	CAPACITOR; SMT (1206); CERAMIC CHIP; 47UF; 25V; TOL=20%; MODEL=C SERIES; TG=-55 DEGC TO +85 DEGC; TC=X5R ;
6	C8, C11, C16, C18, C21-C24, C26-C31, C45, C46, C64-C66, C119, C120	21	C1005X7R1C104K050BC; ATC530L104KT16; 0402YC104KAT2A; CGA2B1X7R1C104K050BC; GCM155R71C104KA55; C0402X7R160-104KNE; CL05B104KO5NNNC; GRM155R71C104KA88; C1005X7R1C104K; CC0402KRX7R7BB104; EMK105B7104KV; CL05B104KO5	TDK;AMERICAN TECHNICAL CERAMICS;AVK;TDK;MURATA;VENKEL LTD.;SAMSUNG ELECTRONICS;MURATA;TDK;YAGEO PHICOMP;TAIYO YUDEN;SAMSUNG ELECTRONICS	0.1UF	CAPACITOR; SMT (0402); CERAMIC CHIP; 0.1UF; 16V; TOL=10%; TG=-55 DEGC TO +125 DEGC; TC=X7R
7	C10, C19, C38, C41-C43, C47-C52, C61-C63	15	GRT188R61C106KE13	MURATA	10UF	CAPACITOR; SMT (0603); CERAMIC CHIP; 10UF; 16V; TOL=10%; TG=-55 DEGC TO +85 DEGC; TC=X5R; AUTO
8	C12, C60	2	UMK105BJ224KV	TAIYO YUDEN	0.22UF	CAPACITOR; SMT (0402); CERAMIC CHIP; 0.22UF; 50V; TOL=10%; TG=-55 DEGC TO +85 DEGC; TC=X5R
9	C15	1	C1608X7R1V105K080AC; CGA3E1X7R1V105K080AC	TDK;TDK	1UF	CAPACITOR; SMT (0603); CERAMIC CHIP; 1UF; 35V; TOL=10%; TG=-55 DEGC TO +125 DEGC; TC=X7R
10	C20, C25, C44	3	GRM188Z71C225KE43	MURATA	2.2UF	CAPACITOR; SMT (0603); CERAMIC CHIP; 2.2UF; 16V; TOL=10%; TG=-55 DEGC TO +125 DEGC; TC=X7R
11	D1, D2	2	SS12	FAIRCHILD SEMICONDUCTOR	SS12	DIODE; SCH; SMT (DO-214AC); V=20V; I=1.0A
12	D3	1	DFLS140L	DIODES INCORPORATED	DFLS140L	DIODE; SCH; SMT (POWERDI-123); PIV=40V; IF=1A
13	D4, D5	2	B360B-13-F	DIODES INCORPORATED	B360B-13-F	DIODE; SCH; SCHOTTKY BARRIER DIODE; SMB; PIV=60V; Io=3A; -55 DEGC TO +125 DEGC
14	DS1, DS3	2	SML-P11UTT86	ROHM	SML-P11UTT86	DIODE; LED; SMT; PIV=1.8V; IF=0.02A
15	DS2, DS4, DS5	3	SML-P11MTT86	ROHM	SML-P11MTT86	DIODE; LED; SMT; PIV=5V; IF=0.02A
16	EXT, GND	2	9020 BUSS	WEICO WIRE	MAXIMPAD	EVK KIT PARTS; MAXIM PAD; WIRE; NATURAL; SOLID; WEICO WIRE; SOFT DRAWN BUS TYPE-S; 20AWG
17	EXT_UC	1	PCC03SAAN	SULLINS	PCC03SAAN	CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT THROUGH; 3PINS; -65 DEGC TO +125 DEGC
18	J1	1	PEC08DAAN	SULLINS ELECTRONICS CORP.	PEC08DAAN	CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT; 16PINS; -65 DEGC TO +125 DEGC
19	J3	1	1981568-1	TE CONNECTIVITY	1981568-1	CONNECTOR; FEMALE; SMT; MICRO USB STANDARD TYPE B ASSY; RIGHT ANGLE; 5PINS
20	J4	1	QTH-030-01-L-D-A	SAMTEC	QTH-030-01-L-D-A	CONNECTOR; FEMALE; SMT; HIGH SPEED GROUND PLANE HEADER; STRAIGHT THROUGH; 60PINS
21	J5	1	PJ-002AH	CUI INC.	PJ-002AH	CONNECTOR; MALE; THROUGH HOLE; DC POWER JACK; RIGHT ANGLE; 3PINS
22	J6	1	393570002	MOLEX	393570002	CONNECTOR; FEMALE; THROUGH HOLE; 0.3MM PITCH BEAU EUROSTYLE FIXED MOUNT PCB TERMINAL BLOCK; RIGHT ANGLE; 2PINS
23	J10, VDD_REF	2	PBC02SAAN	SULLINS ELECTRONICS CORP.	PBC02SAAN	CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT; 2PINS
24	JAP	1	59S2AQ-40MT5-Z_1	ROSENBERGER	59S2AQ-40MT5-Z_1	CONNECTOR; MALE; THROUGH HOLE; FAKRA-HF RIGHT ANGLE PLUG PCB WITH HOUSING; RIGHT ANGLE; 5PINS
25	L1, L5	2	DFE252012P-4R7M=P2	MURATA	4.7UH	INDUCTOR; SMT (2520); FERRITE CORE; 4.7UH; TOL=+/-20%; 1.7A
26	L2, L8, L9, L13, L17	5	BLM18KG601SN1	MURATA	600	INDUCTOR; SMT (0603); FERRITE-BEAD; 600; TOL=+/-25%; 1.3A
27	L3, L15	2	TFM201610ALMA2R2MTAA	TDK	2.2UH	INDUCTOR; SMT (2016); THIN FILM; 2.2UH; TOL=+/-20%; 2.1A
28	L4	1	RFCMF1220100M3	WALSIN TECHNOLOGY CORPORATION	RFCMF1220100M3	INDUCTOR; SMT; CERAMIC CHIP; CHOKE; 0.3A
29	L6	1	1210POC-223MR	COILCRAFT	22UH	EVKIT PART-INDUCTOR; SMT; FERRITE; CHOKE; TOL=+/-20%; 0.4A
30	L12	1	PFL1005-561MR	COILCRAFT	560NH	INDUCTOR; SMT (0402); SHIELDED; 560NH; 20%; 0.53A

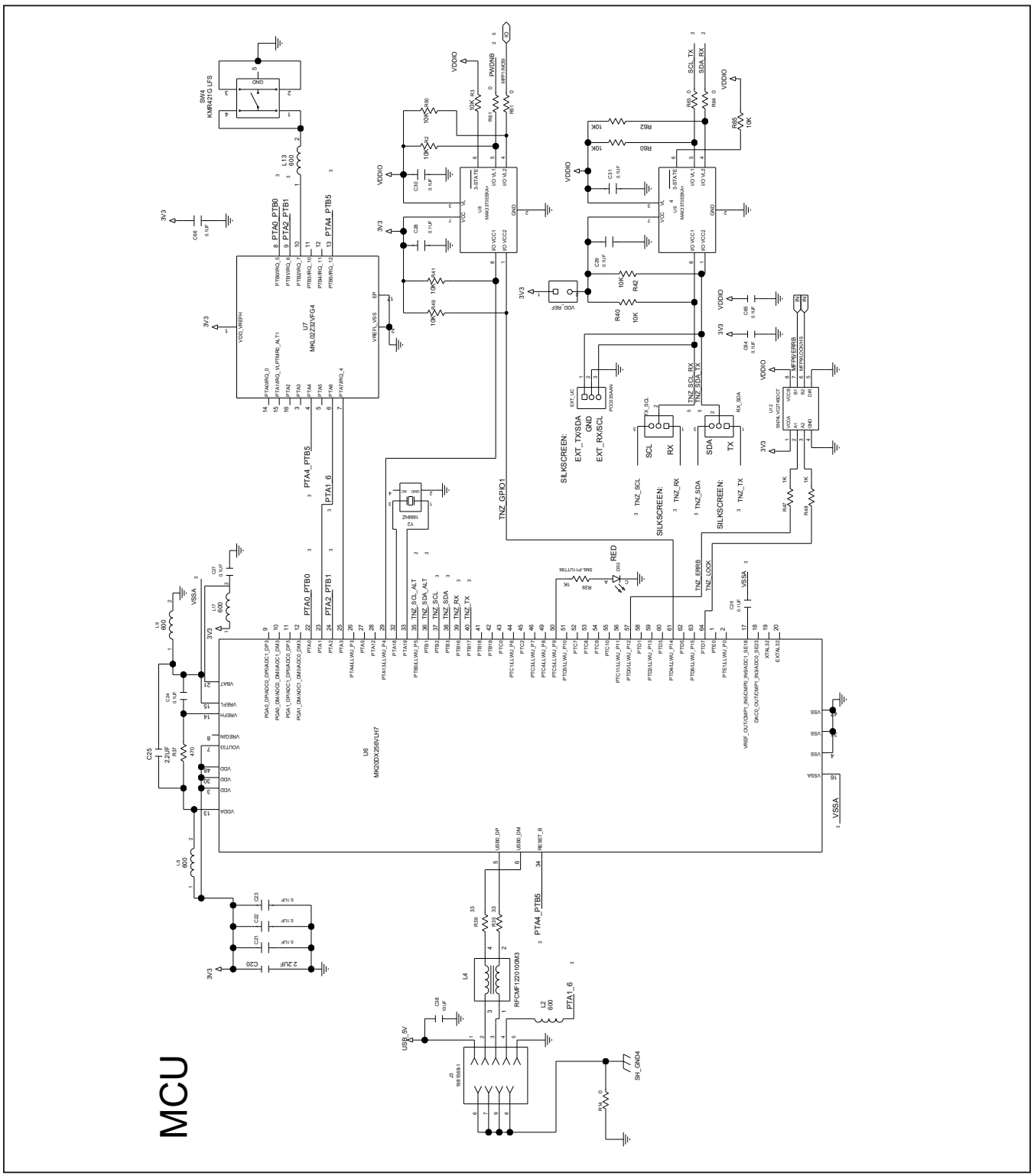
MAX9295D Coax/HSD EV Kit Bill of Materials (Coax) (continued)

ITEM	REF_DES	QTY	MFG PART #	MANUFACTURER	VALUE	DESCRIPTION
31	L14	1	MSS7341T-104ML	COILCRAFT	100UH	INDUCTOR; SMT; FERRITE; 100UH; 20%; 1.15A
32	L16	1	BLM18SG121TN1	MURATA	120	INDUCTOR; SMT (0603); FERRITE-BEAD; 120; TOL=+/-25%; 3A
33	POWER	1	PEC04SAAN	SULLINS ELECTRONICS CORP.	PEC04SAAN	CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT; 4PINS
34	PWDNB	1	5000	KEYSTONE	N/A	TEST POINT; PIN DIA=0.1IN; TOTAL LENGTH=0.3IN; BOARD HOLE=0.04IN; RED; PHOSPHOR BRONZE WIRE SILVER PLATE FINISH;
35	Q1	1	BSN20	NXP	BSN20	TRAN; N-CHANNEL ENHANCEMENT MODE FIELD-EFFECT TRANSISTOR; NCH; SOT-23; PD-(0.83W); I-(0.173A); V-(50V)
36	R2, R3, R27, R40-R42, R49, R50, R60, R62, R65	11	ERJ-2GEJ103	PANASONIC	10K	RESISTOR; 0402; 10K OHM; 5%; 200PPM; 0.10W; THICK FILM
37	R4, R5	2	ERJ-2GEJ203	PANASONIC	20K	RESISTOR; 0402; 20K OHM; 5%; 200PPM; 0.10W; THICK FILM
38	R6, R7, R9-R11, R13, R14, R28, R30, R38, R51, R61, R63, R64, R82-R84, R150, R151	19	ERJ-2GE0R00	PANASONIC	0	RESISTOR; 0402; 0 OHM; 0%; JUMPER; 0.10W; THICK FILM
39	R12, R33, R34, R39, R47, R48, R54, R72	8	ERJ-2RKF1001	PANASONIC	1K	RESISTOR; 0402; 1K OHM; 1%; 100PPM; 0.10W; THICK FILM
40	R15, R16, R21, R23, R53, R121, R128-R130	9	ERJ-2RKF4991	PANASONIC	4.99K	RESISTOR; 0402; 4.99K OHM; 1%; 100PPM; 0.10W; THICK FILM
41	R18, R45, R46	3	CRCW040249K9FK; 9C04021A4992FLHF3	VISHAY DALE;YAGEO	49.9K	RESISTOR; 0402; 49.9K; 1%; 100PPM; 0.0625W; THICK FILM
42	R19, R79	2	3214W-1-204	BOURNS	200K	RESISTOR; SMT-J LEAD; 3214 SERIES; 200K OHM; 10%; 100PPM; 0.25W
43	R26	1	CRCW0603402RFK	VISHAY DALE	402	RESISTOR; 0603; 402 OHM; 1%; 100PPM; 0.10W; THICK FILM
44	R29	1	CRCW0402100KFK; RC0402FR-07100KL	VISHAY;YAGEO	100K	RESISTOR; 0402; 100K; 1%; 100PPM; 0.0625W; THICK FILM
45	R35, R36	2	CRCW040233R0FK	VISHAY DALE	33	RESISTOR, 0402, 33 OHM, 1%, 100PPM, 0.0625W, THICK FILM
46	R37	1	ERJ-2RKF4700	PANASONIC	470	RESISTOR; 0402; 470 OHM; 1%; 100PPM; 0.1W; THICK FILM
47	R71, R73-R75, R77	5	CRCW06030000ZS; MCR03EZPJ000;ERJ-3GEY0R00	VISHAY DALE;ROHM;PANASONIC	0	RESISTOR; 0603; 0 OHM; 0%; JUMPER; 0.10W; THICK FILM
48	R93	1	CRCW060349R9FK	VISHAY DALE	49.9	RESISTOR; 0603; 49.9 OHM; 1%; 100PPM; 0.10W; THICK FILM
49	RX_SDA, TX_SCL, VDD, VDDIO	4	PBC03SABN	SULLINS	PBC03SABN	CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT; 3PINS
50	SW1	1	1101-M2-S3-A-Q-E-2	C&K COMPONENTS	1101-M2-S3-A-Q-E-2	SWITCH; SPDT; THROUGH HOLE; RIGHT ANGLE; 120V; 6A; 1000 SERIES; RCOIL=0.1 OHM; RINSULATION=100G OHM
51	SW3, SW4	2	KMR421G LFS	C&K COMPONENTS	KMR421G LFS	SWITCH; SPST; SMT; STRAIGHT; 32V; 0.05A; MICROMINIATURE SMT TOP ACTUATED; RCOIL=0.1 OHM OHM; RINSULATION=1G OHM OHM
52	U1	1	MAX9295DGTM/V+	MAXIM	MAX9295DGTM/V+	EVKIT PART-IC; MAX9295DGTM/V+; HS78; TQFN44-EP; PACKAGE OUTLINE: 21-0144; PACKAGE CODE: T4877+4; PACKAGE LAND PATTERN: 90-0130
53	U2, U3	2	74LVC1G86GV	NXP	74LVC1G86GV	IC; XOR; 2-INPUT EXCLUSIVE-OR GATE; SOT753
54	U4, U5	2	MAX5419PETA+	MAXIM	MAX5419PETA+	IC; DPOT; 200K OHM; 256-TAP NONVOLATILE I2C-INTERFACE DIGITAL POTENTIOMETER; TDFN8-EP
55	U6	1	MK20DX256VLH7	FREESCALE	MK20DX256VLH7	IC; UCON; KINETIS K2X MCU FAMILY; LQFP64
56	U7	1	MKL02Z32VFG4	FREESCALE	MKL02Z32VFG4	IC; UCON; KINETIS KL02 32 KB FLASH; 48 MHZ CORTEX-M0+ BASED MICROCONTROLLER; QFN16-EP
57	U8, U9	2	MAX3373EEKA+	MAXIM	MAX3373EEKA+	IC; TRANS; +/-15KV ESD-PROTECTED; 16MPBS; DUAL LOW-VOLTAGE LEVEL TRANSLATOR; SOT23-8
58	U10	1	MAX16922ATPH/V+	MAXIM	MAX16922ATPH/V+	IC; CONV; 2.2MHZ; DUAL; STEP-DOWN DC-DC CONVERTER; DUAL LDOS AND RESET; TQFN20-EP
59	U11	1	MAX20019ATBI/V+	MAXIM	MAX20019ATBI/V+	EVKIT PART-IC; VCON; 3.2MHZ; 500MILLIAMPERE DUAL STEP-DOWN CONVERTER FOR AUTOMOTIVE CAMERA; PACKAGE OUTLINE: 21-100125; LAND PATTERN DRAWING NO.: 90-100079; PACKAGE CODE: T1032+2C; TDFN10-EP
60	U12	1	SN74LVC2T45DCT	TEXAS INSTRUMENTS	SN74LVC2T45DCT	IC, DUAL-BIT DUAL-SUPPLY BUS TRANSCEIVER W/ CONFIGURABLE VOLTAGE TRANSLATION AND 3-STATE OUTPUTS
61	Y1	1	ECS-250-18-33Q-DS	ECS INC	25MHZ	CRYSTAL; SMT 3.2X2.5; 18PF; 25MHZ; +/-30PPM; +/-100PPM
62	Y2	1	CX2016DB16000D0PSWC1	KYOCERA	16MHZ	CRYSTAL; SMT 2MMX1.6MM; 8PF; 16MHZ; +/-50PPM; +/-200PPM
63	PCB	1	MAX9295DCSI	MAXIM	PCB	PCB:MAX9295DCSI
64	C13, C57-C59	0	UMK105BJ224KV	TAIYO YUDEN	0.22UF	CAPACITOR; SMT (0402); CERAMIC CHIP; 0.22UF; 50V; TOL=10%; TG=-55 DEGC TO +85 DEGC; TC=X5R
65	J2	0	D4S20L-40MA5-Z	ROSENBERGER	D4S20L-40MA5-Z	EVKIT -CONNECTOR; MALE; THROUGH HOLE; D4S20L-40MA5 SERIES; RIGHT ANGLE; 4PINS;
66	R1, R8, R20, R22, R24, R25, R31, R32, R43, R44, R52, R66-R70, R80, R81	0	ERJ-2GE0R00	PANASONIC	0	RESISTOR; 0402; 0 OHM; 0%; JUMPER; 0.10W; THICK FILM
67	R17	0	ERJ-2GEJ103	PANASONIC	10K	RESISTOR; 0402; 10K OHM; 5%; 200PPM; 0.10W; THICK FILM
68	R76	0	CRCW06030000ZS; MCR03EZPJ000;ERJ-3GEY0R00	VISHAY DALE;ROHM;PANASONIC	0	RESISTOR; 0603; 0 OHM; 0%; JUMPER; 0.10W; THICK FILM

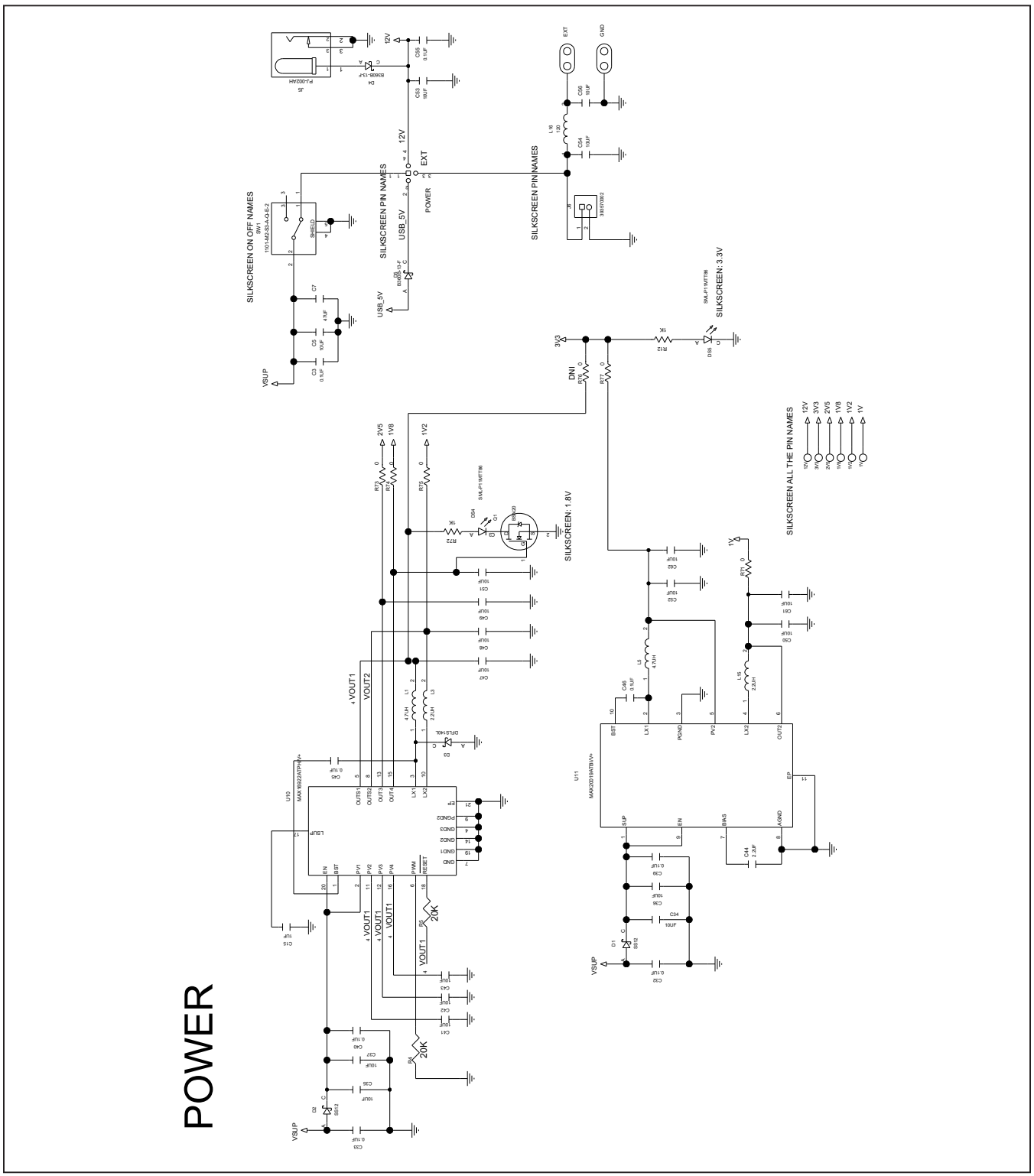
MAX9295D Coax/HSD EV Kit Schematics (Coax)



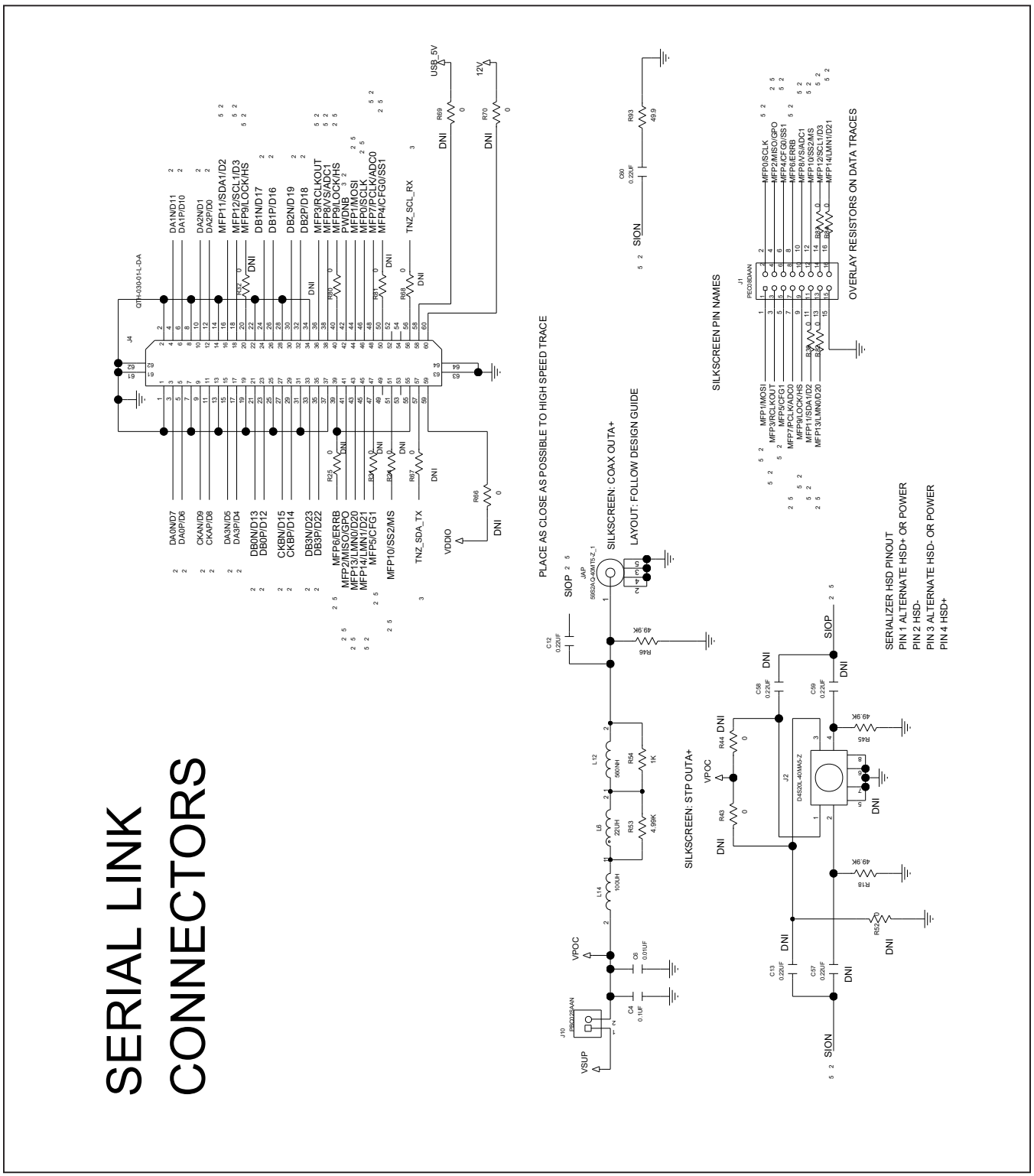
MAX9295D Coax/HSD EV Kit Schematics (Coax) (continued)



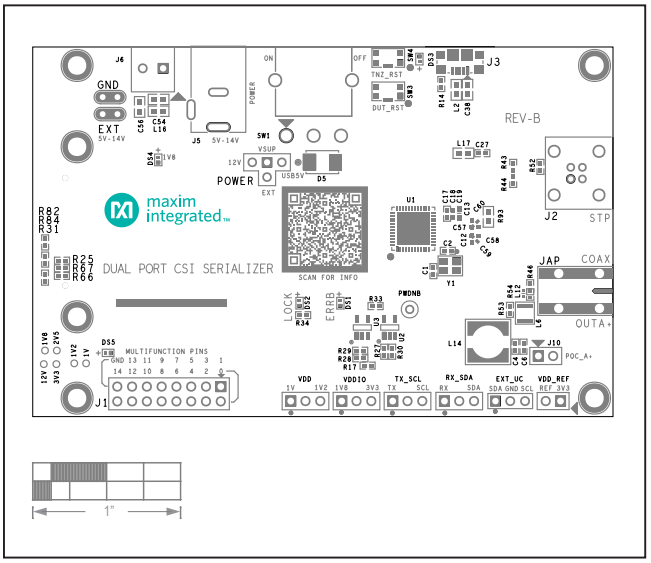
MAX9295D Coax/HSD EV Kit Schematics (Coax) (continued)



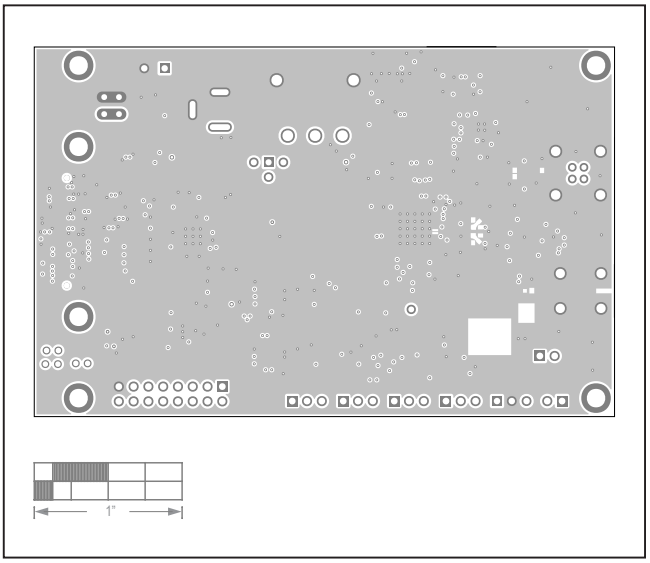
MAX9295D Coax/HSD EV Kit Schematics (Coax) (continued)



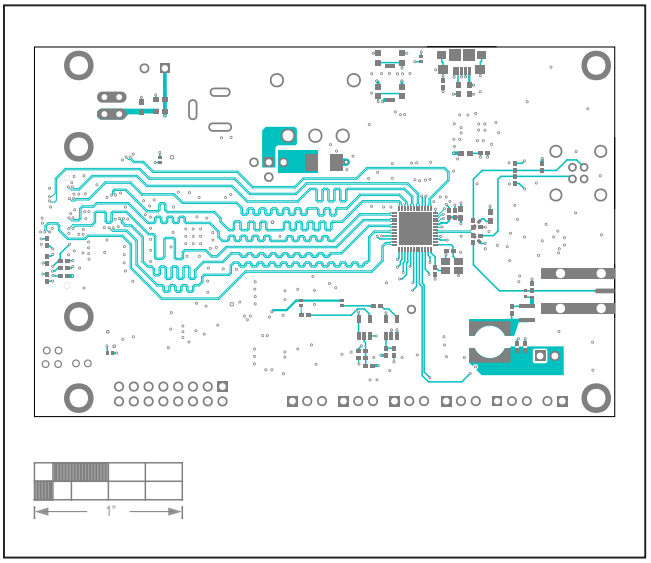
MAX9295D Coax/HSD EV Kit PCB Layout Diagrams



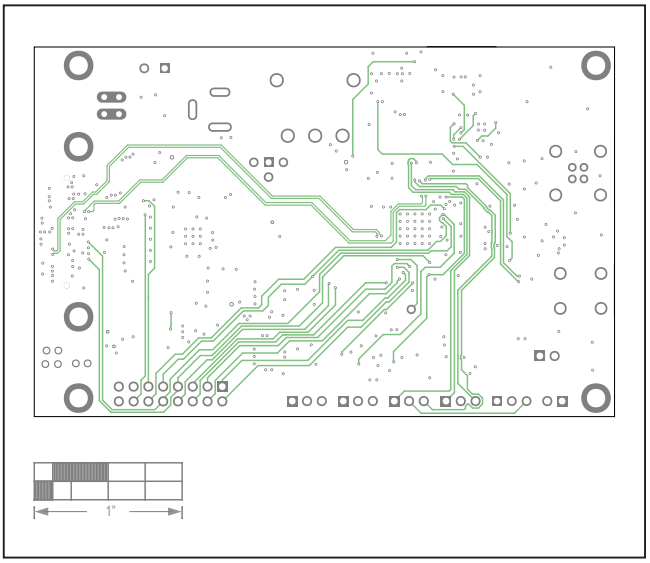
MAX9295D Coax/HSD EV Kit PCB Layout—Top Silkscreen



MAX9295D Coax/HSD EV Kit PCB Layout—L2 Ground

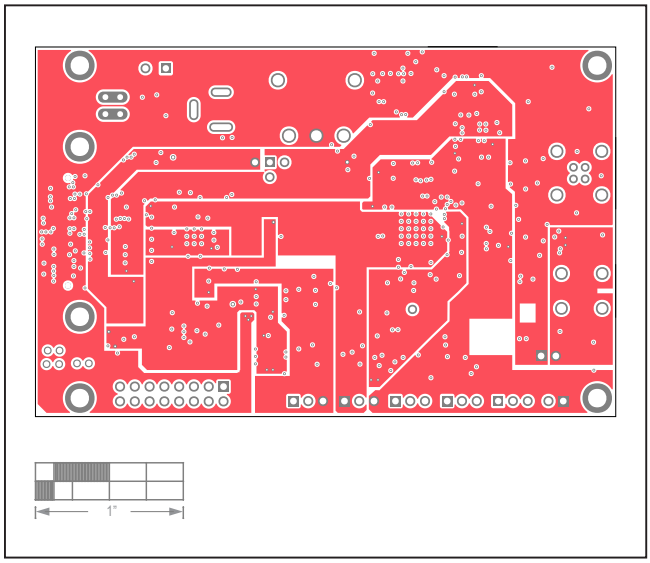


MAX9295D Coax/HSD EV Kit PCB Layout—Top View

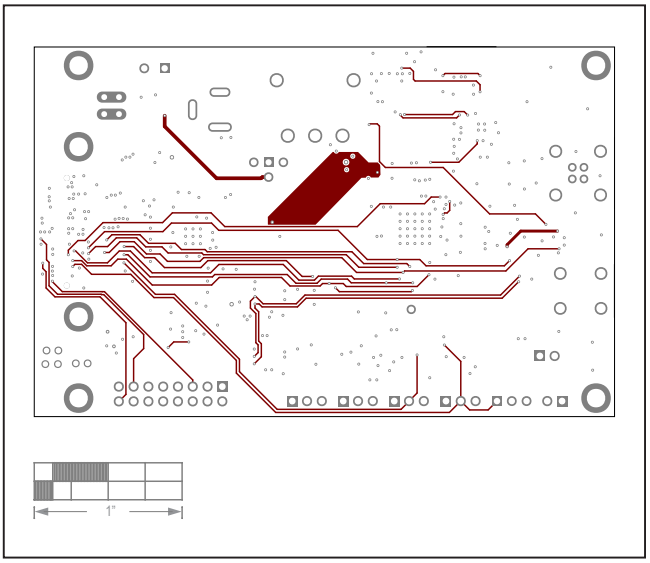


MAX9295D Coax/HSD EV Kit PCB Layout—L3 Signals

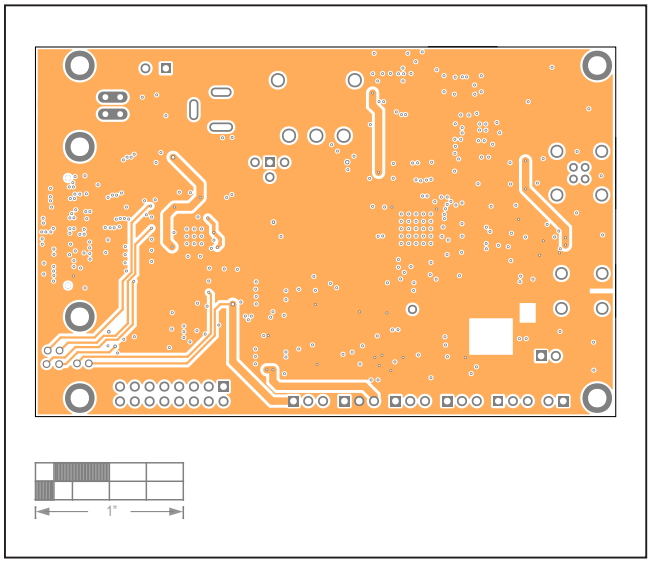
MAX9295D Coax/HSD EV Kit PCB Layout Diagrams (continued)



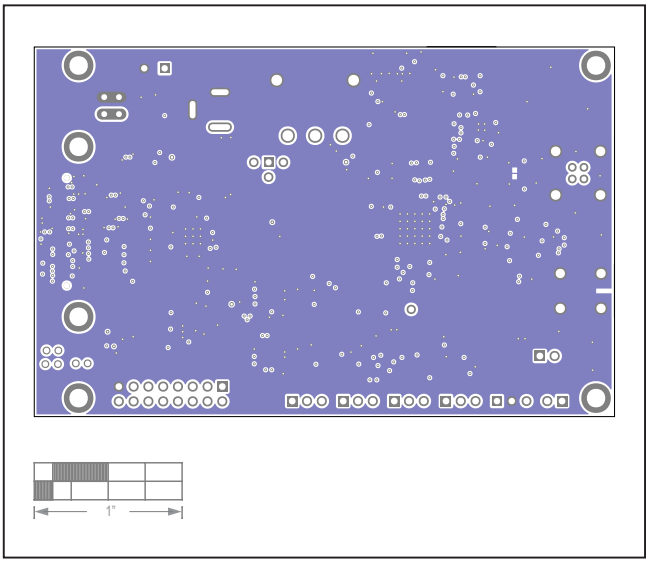
MAX9295D Coax/HSD EV Kit PCB Layout—L4 Power



MAX9295D Coax/HSD EV Kit PCB Layout—L6 Signals

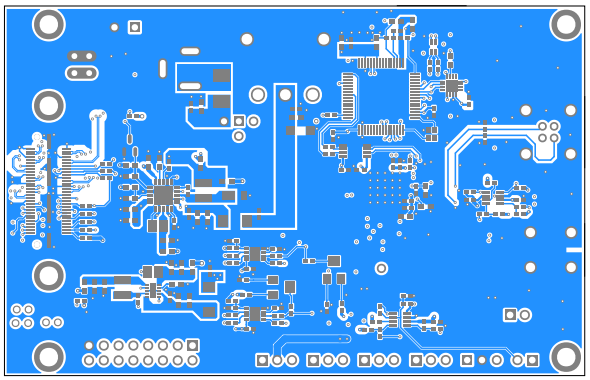


MAX9295D Coax/HSD EV Kit PCB Layout—L5 Power

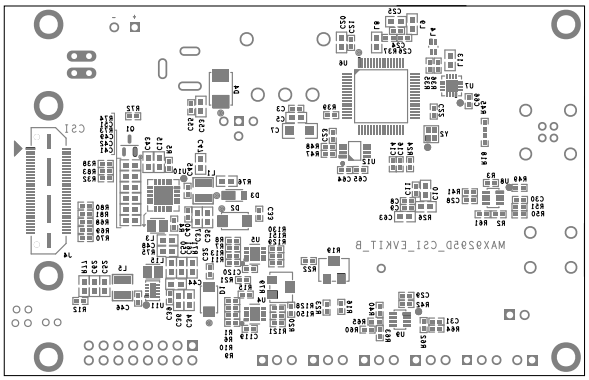


MAX9295D Coax/HSD EV Kit PCB Layout—L7 Ground

MAX9295D Coax/HSD EV Kit PCB Layout Diagrams (continued)



MAX9295D Coax/HSD EV Kit PCB Layout—Bottom View



MAX9295D Coax/HSD EV Kit PCB Layout—Bottom Silkscreen

Revision History

REVISION NUMBER	REVISION DATE	DESCRIPTION	PAGES CHANGED
0	1/21	Initial release	—
1	2/24	ADI template update. Removed deserializer part number and Windows 7 support.	All