

MAXIM

MAX3982 Evaluation Kit

General Description

The MAX3982 evaluation kit (EV Kit) is an assembled demonstration board that provides electrical evaluation of the MAX3982 SFP Copper-Cable Preemphasis Driver. All control inputs are adjustable by jumpers, and LOS is available through a test point.

Component List

DESIGNATION	QTY	DESCRIPTION
C1	1	33 μ F tantalum capacitor
C2, C3, C8	3	0.1 μ F \pm 10% ceramic capacitors (0402)
C4 - C7	4	0.01 μ F \pm 10% ceramic capacitors (0402)
J1-J4	4	SMA connectors, tab contact, edge mount
J6, J10, TP1 – TP3	5	Test points Digi-Key 5000K-ND
JU1 – JU3, JU5, JU6	5	2-pin headers, 0.1in centers
JU4	1	3-pin header, 0.1in centers
JU1 – JU6	6	Shunts
L1	1	4.7 μ H inductor Coilcraft 1008CS-472XJB
R1	1	4.7k Ω \pm 5% resistor (0402)
U1	1	MAX3982UTE 16-pin QFN
None		MAX3982 evaluation circuit board, rev A
None		MAX3982 data sheet

Features

- ◆ Fully Assembled and Tested
- ◆ Easy Selection of Operating Modes

Ordering Information

PART	TEMP. RANGE	IC PACKAGE
MAX3982EVKIT	0°C to +85°C	16 QFN

Component Suppliers

SUPPLIER	PHONE	FAX
AVX	843-448-9411	843-448-1943
Digi-Key	218-681-6674	218-681-3380
Murata	770-436-1300	770-436-3030

Note: Please indicate that you are using the MAX3982 when ordering from these suppliers.

Quick Start

- 1) Connect a +3.3V supply to the +3.3V terminal and ground to GND.
- 2) Install shunt at jumper JU4 in "ENABLE" position to enable the output.
- 3) Apply 1Gbps to 4.25Gbps data to IN+ and IN- (J1 and J2).
- 4) Connect OUT+ and OUT- to a 50 ohm-terminated oscilloscope.
- 5) Shunt JU5 (LOS PULLUP) to terminate the LOS output with 4.7k Ω to VCC.
- 6) Adjust pre-emphasis with jumpers JU2 and JU3 (PE1 and PE0).
- 7) Select output amplitude with jumper JU1 (OUTLEV).
- 8) Monitor LOS output at TP1 and select LOS sensitivity with JU6 (LOSLEV).

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Jumper and Test Point Descriptions

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NAME	TYPE	SHUNT POSITION	DESCRIPTION
OUTLEV (JU1)	2-pin header	OPEN	Selects maximum output swing
		SHUNT (GND)	Selects reduced output swing
PE1 (JU2)	2-pin header	OPEN	Enables most significant bit of pre-emphasis control
		SHUNT (GND)	Disables most significant bit of pre-emphasis control
PE0 (JU3)	2-pin header	OPEN	Enables least significant bit of pre-emphasis control
		SHUNT (GND)	Disables least significant bit of pre-emphasis control
TX_DISABLE (JU4)	3-pin header	OPEN	Disables data output
		ENABLE	Enables data output
		AUTO	Enables autodetect by connecting LOS to TX_DISABLE. JU5 must be shunted or an external voltage (3.0V to 5.5V) must be present on pin 1 of JU5 for proper operation of autodetect.
LOS PULLUP (JU5)	2-pin header	OPEN	Allows external voltage (3.0V to 5.5V) applied at pin 1 of JU5 as LOS pullup voltage
		SHUNT (VCC)	Sets VCC as the LOS resistor pullup voltage
LOSLEV (JU6)	2-pin header	OPEN	Sets LOS threshold to lower sensitivity (higher threshold)
		SHUNT (GND)	Sets LOS threshold to higher sensitivity (lower threshold)
LOS (TP1)	Test Point	-	Monitors the Loss-of-Signal output. LOS will be low when the input signal level is valid and JU5 is either shunted or an external voltage (3.0V to 5.5V) is present at pin 1 of JU5.

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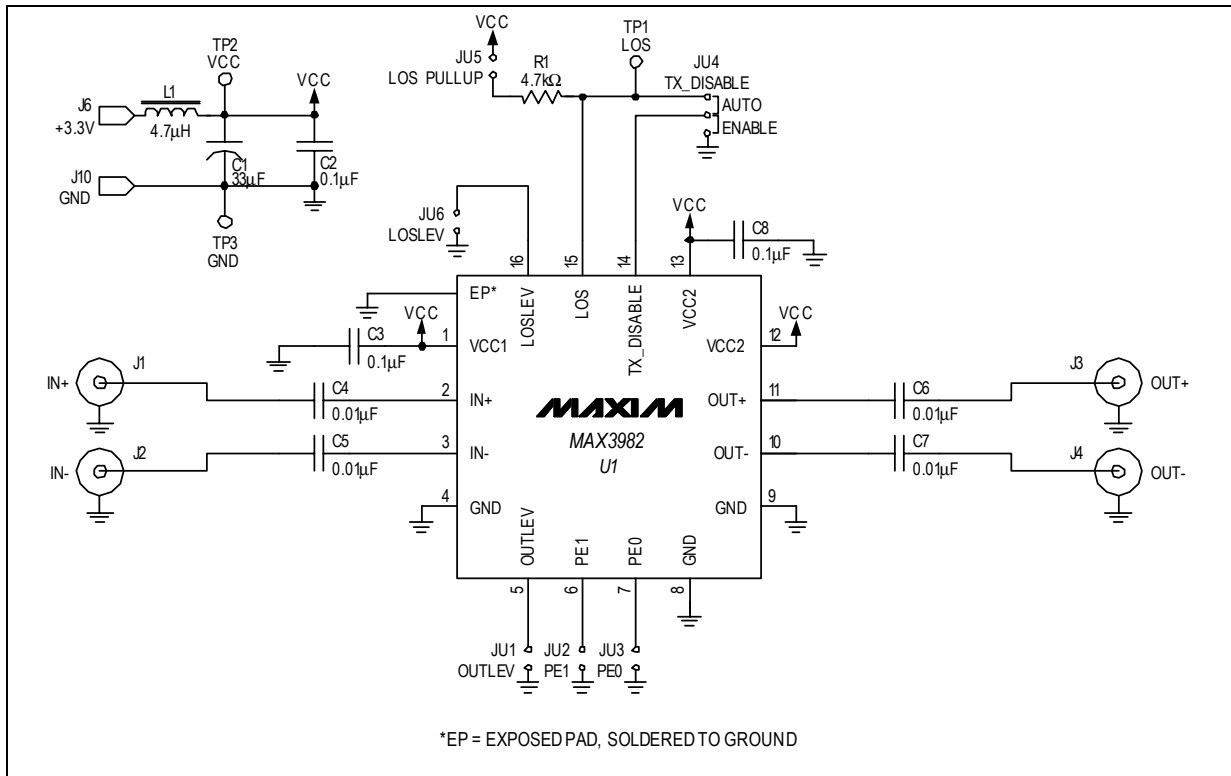


Figure 1. MAX3982 EV Kit Schematic

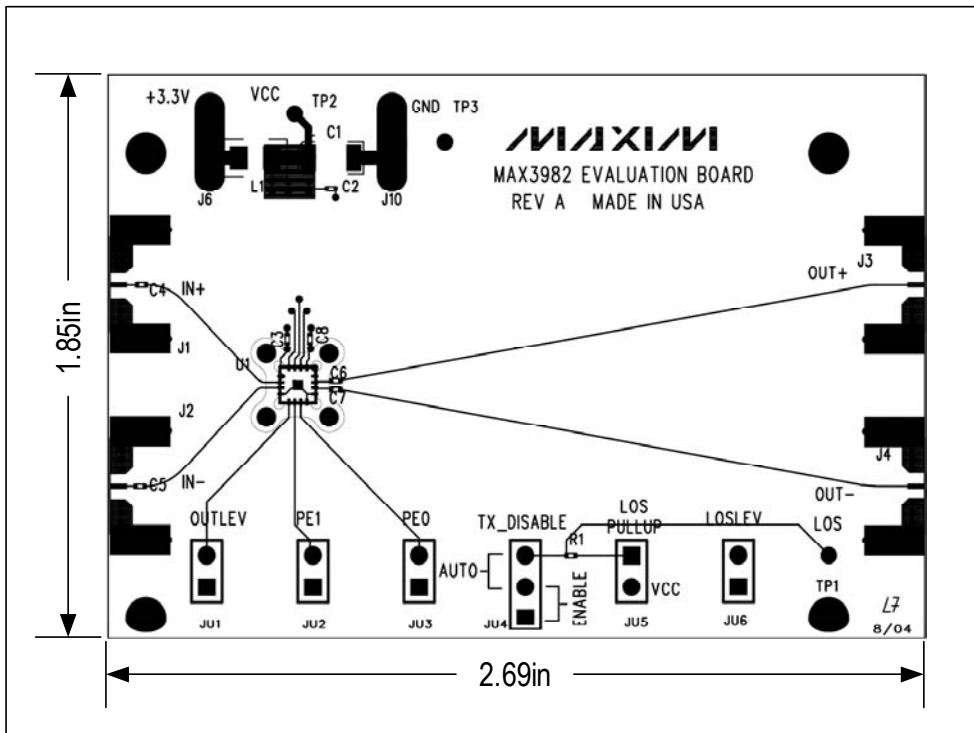


Figure 2. MAX3982 EV Kit Component Placement Guide – Component Side

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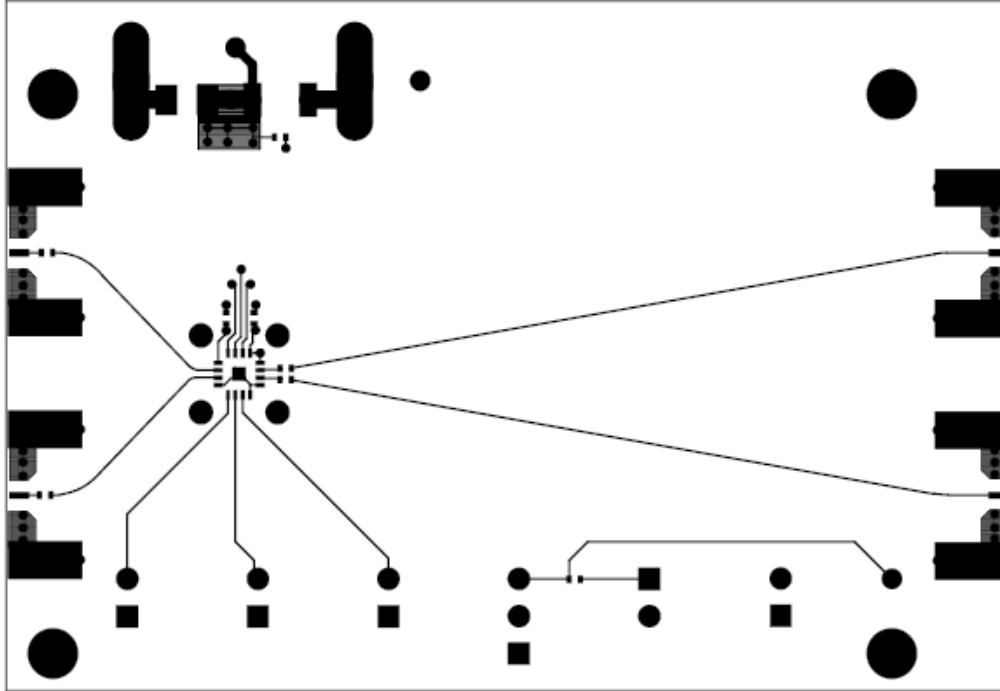


Figure 3. MAX3982 EV Kit PC Board Layout – Component Side, Layer 1

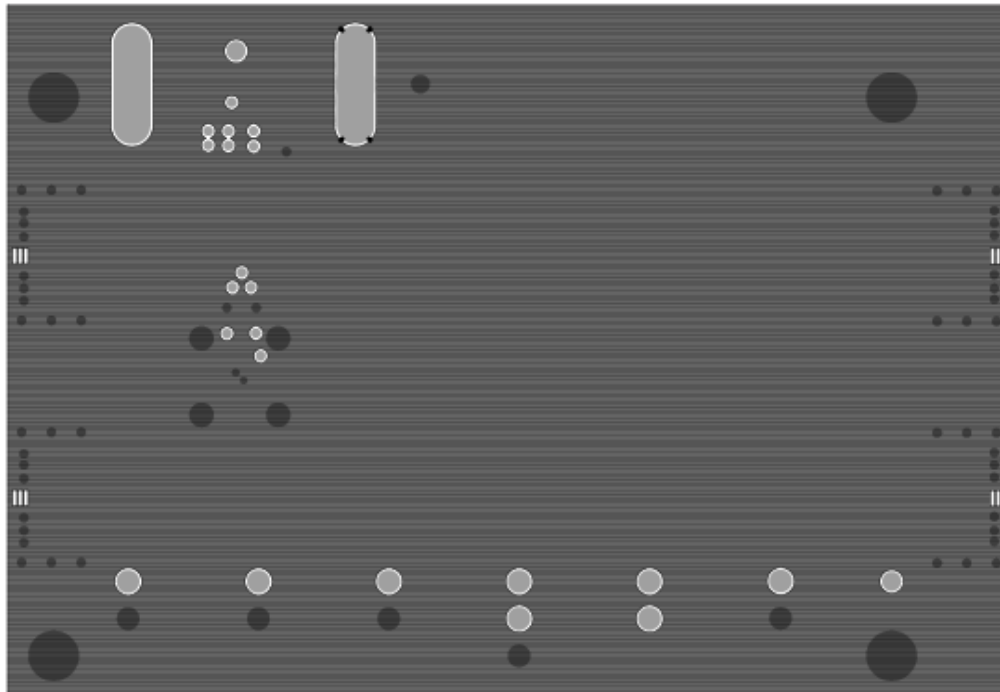


Figure 4. MAX3982 EV Kit PC Board Layout – Ground Plane, Layer 2

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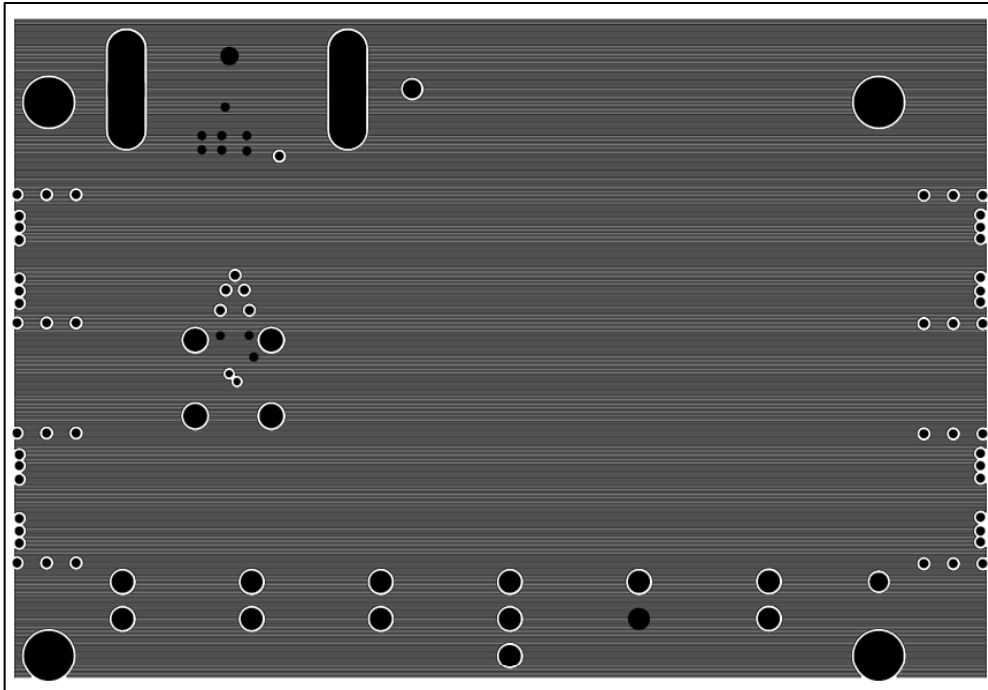


Figure 5. MAX3982 EV Kit PC Board Layout – Power Plane, Layer 3

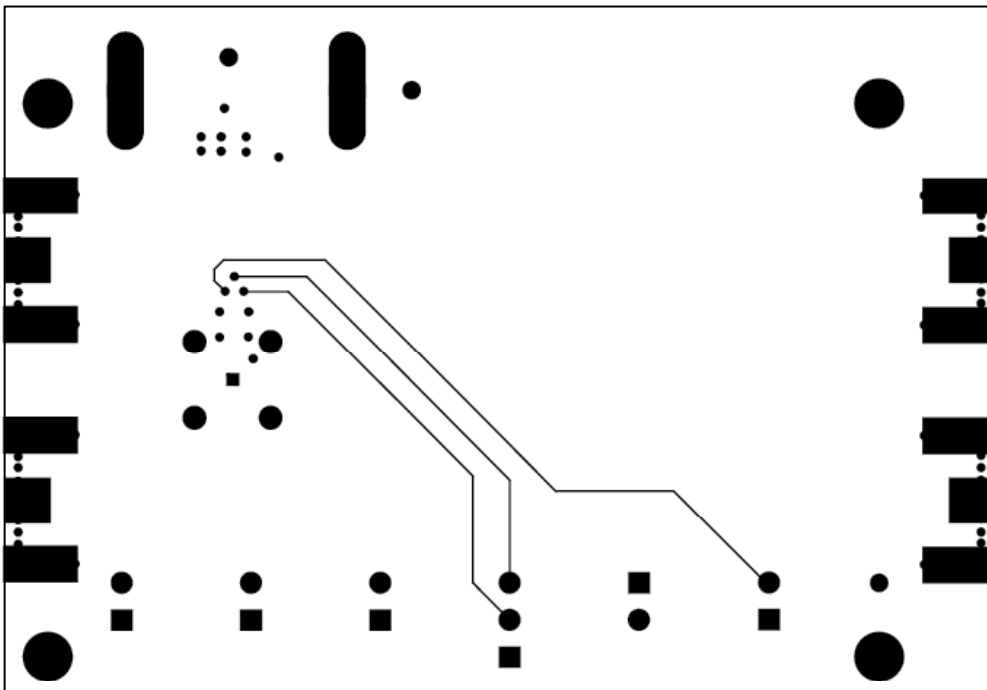


Figure 6. MAX3982 EV Kit PC Board Layout – Bottom, Layer 4

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