19-0026; Rev 0, 10/04

MAX3982 Evaluation Kit

Evaluates: MAX3982

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.

Features

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

Component List

	DESIGNATION	QTY	DESCRIPTION
	C1	1	33µF tantalum capacitor
	C2, C3, C8	3	0.1µF ±10% ceramic capacitors (0402)
	C4 - C7	4	0.01µF ±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	4.7µH inductor Coilcraft 1008CS-472XJB
	R1	1	4.7kΩ ±5% resistor (0402)
	U1	1	MAX3982UTE 16-pin QFN
	None		MAX3982 evaluation circuit board, rev A
	None		MAX3982 data sheet

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 4.7kΩ 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).

For pricing, delivery, and ordering information, please contact Maxim/Dallas Direct! at 1-888-629-4642, or visit Maxim’s website at www.maxim-ic.com.

Jumper and Test Point Descriptions

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.

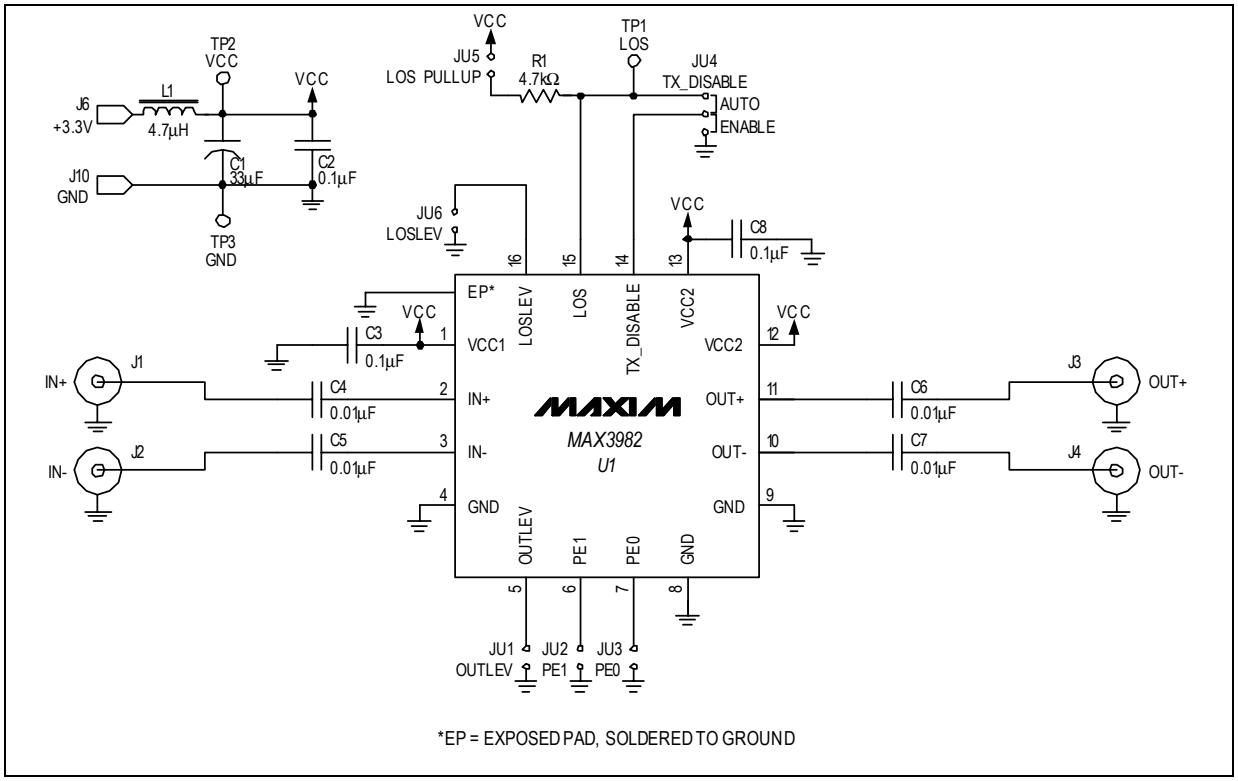


Figure 1. MAX3982 EV Kit Schematic

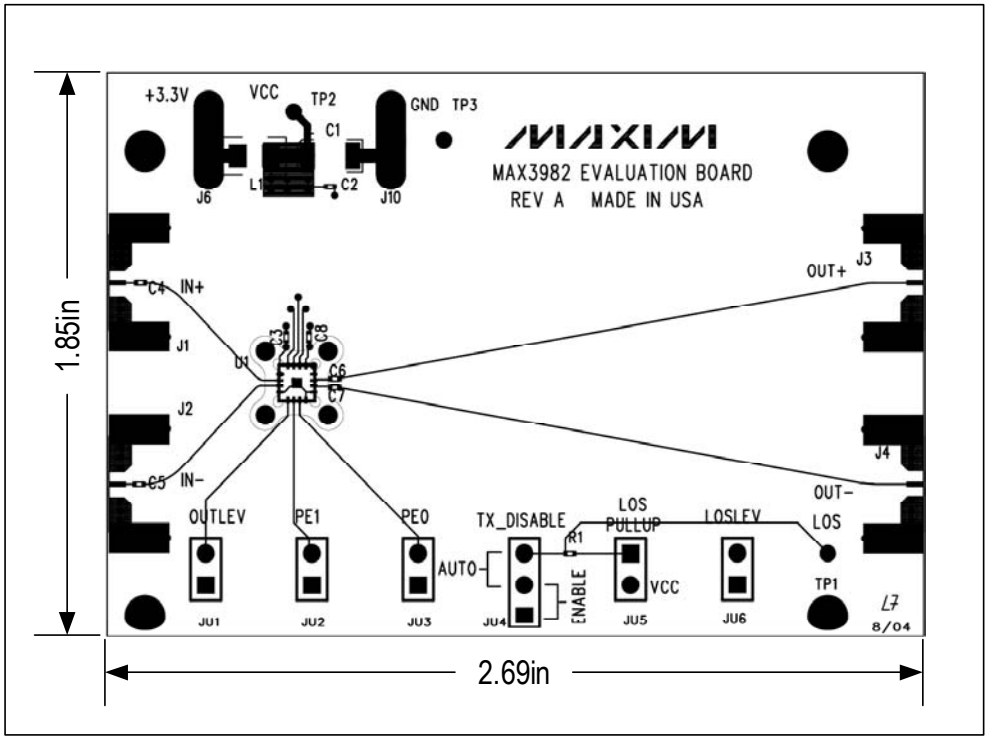


Figure 2. MAX3982 EV Kit Component Placement Guide – Component Side

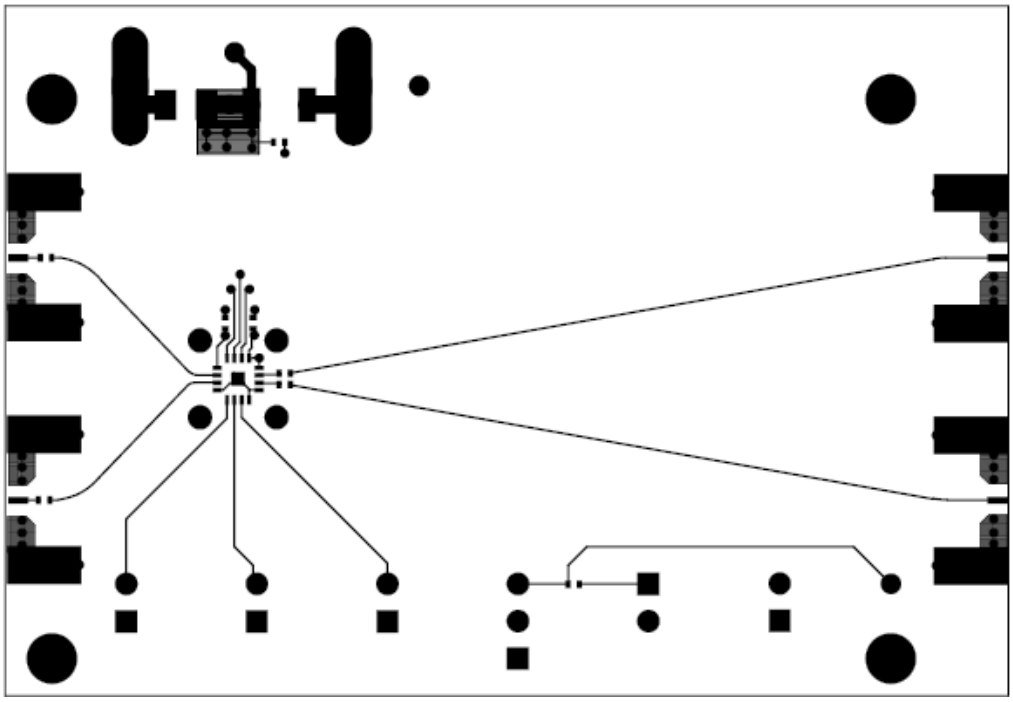


Figure 3. MAX3982 EV Kit PC Board Layout – Component Side, Layer 1

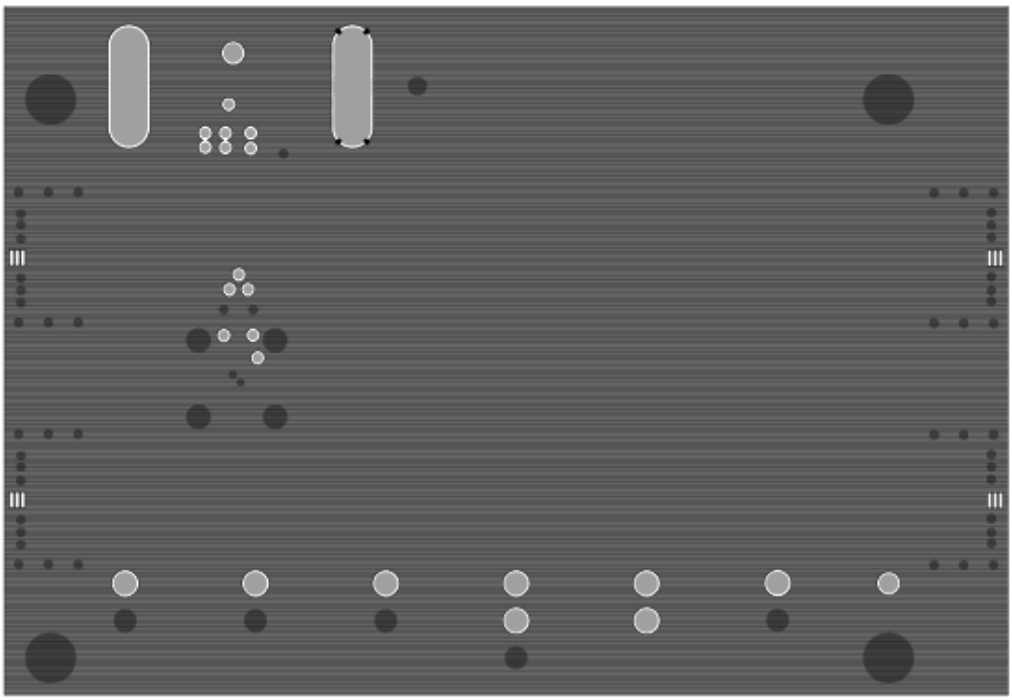


Figure 4. MAX3982 EV Kit PC Board Layout – Ground Plane, Layer 2

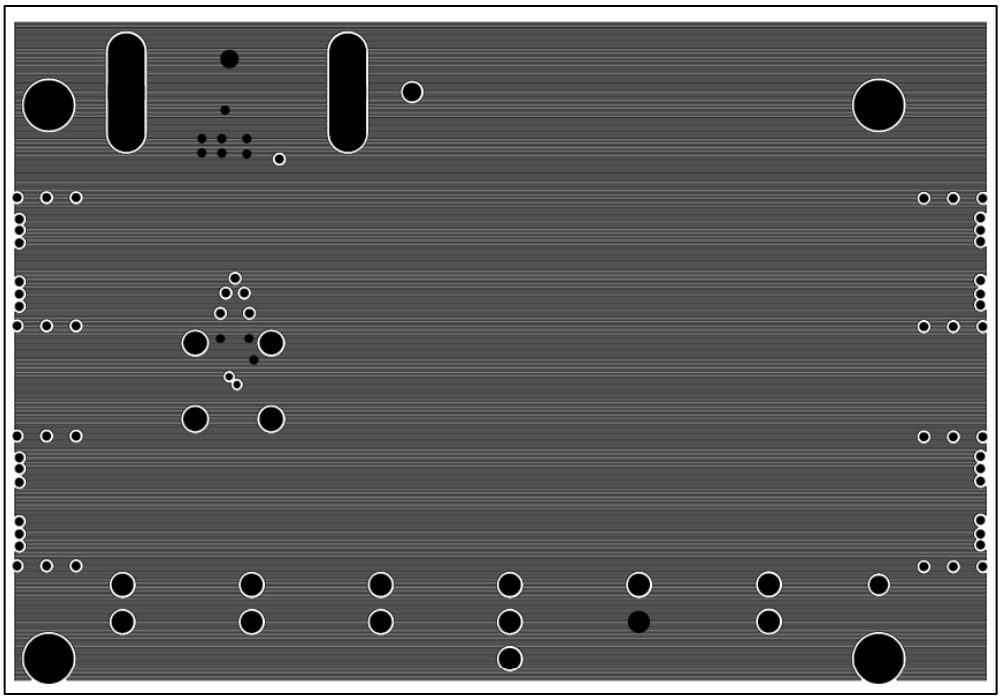


Figure 5. MAX3982 EV Kit PC Board Layout – Power Plane, Layer 3

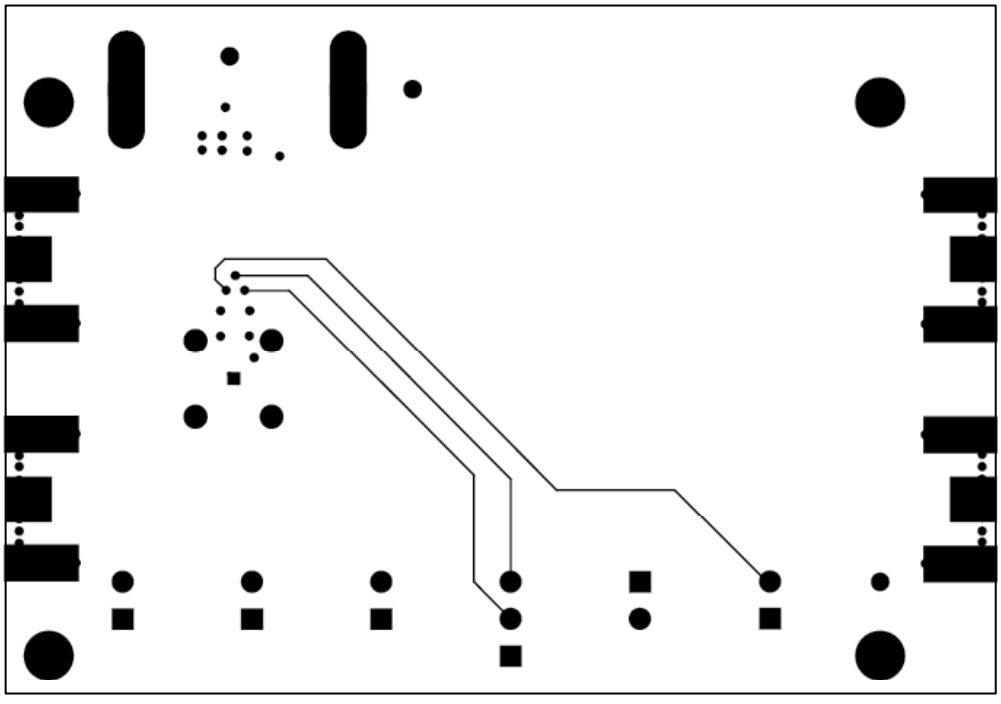


Figure 6. MAX3982 EV Kit PC Board Layout – Bottom, Layer 4

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