

MAXIM

MAX3800 Evaluation Kit

Evaluates: MAX3800

General Description

The MAX3800 evaluation kit (EV kit) simplifies evaluation of the MAX3800 adaptive equalizer and cable driver. The EV kit enables testing of all the device's functions. SMA connectors with 50Ω controlled-impedance transmission lines to the MAX3800 are provided for all input and output ports.

Component List

DESIGNATION	QTY	DESCRIPTION
C1–C10, C13–C18, C21–25	21	0.1μF ±10% ceramic capacitors (0603) Murata GRM39X7R104K016A
C11, C12	2	10μF ±10% tantalum capacitors 'C' case AVX TAJC106K010
J1–J8	8	SMA edge-mount connectors EFJohnson 142-0701-801 or Digi-Key J502-ND Note: Cut center pin to approximately 1/16in length.
J9–J11, TP1–TP7	10	Test points Digi-Key 5000K-ND
R1, R2, R3	3	100kΩ ±5% resistors (0603)
R4	1	20kΩ variable resistor Bourns, Digi-Key 3296W-203-ND
JU1	1	1×2 header (0.1in centers) Digi-Key S1012-36-ND
JU1	1	Shunt Digi-Key S9000-ND
U1	1	MAX3800UHJ (32-pin TQFP-EP) Note: U1 has an exposed paddle that requires it to be solder attached to the circuit board to ensure proper functionality of part.
—	1	MAX3800 evaluation kit Rev B circuit board
—	1	MAX3800 data sheet
—	1	MAX3800 evaluation kit data sheet

Features

- ◆ SMA Connectors for All High-Speed Inputs and Outputs
- ◆ Fully Assembled and Tested
- ◆ Includes Potentiometer for Adjusting Driver Output Amplitude

Ordering Information

PART	TEMP. RANGE	IC PACKAGE
MAX3800EVKIT	0°C to +85°C	32 TQFP-EP

Component Suppliers

SUPPLIER	PHONE	FAX
AVX	843-444-2863	843-626-3123
Digi-Key	218-681-6674	218-681-3380
EFJohnson	402-474-4800	402-474-4858
Murata	415-964-6321	415-964-8165

Note: Please indicate that you are using the MAX3800 when contacting these component suppliers.

Quick Start

- 1) Connect a +3.3V power supply to J9 (VCCE) and J11 (VCCD). Connect the power-supply ground to J10. (**Note:** Placing a shunt on JU1 will connect VCCE and VCCD.)

Cable Driver

- 2) Connect a differential input signal (700mV differential voltage amplitude) to the cable driver input at SMA edge connectors J5 and J6.
- 3) Connect a 50Ω oscilloscope to SMA output connectors J7 and J8 to observe the output of the cable driver.
- 4) Potentiometer R4 (R_{MOD}) can be adjusted to change the cable driver output amplitude.

Adaptive Cable Equalizer

- 5) Connect a differential input signal (700mV differential voltage amplitude) to a cable. Connect the other end of the cable to the cable equalizer inputs at SMA edge connectors J1 and J2.

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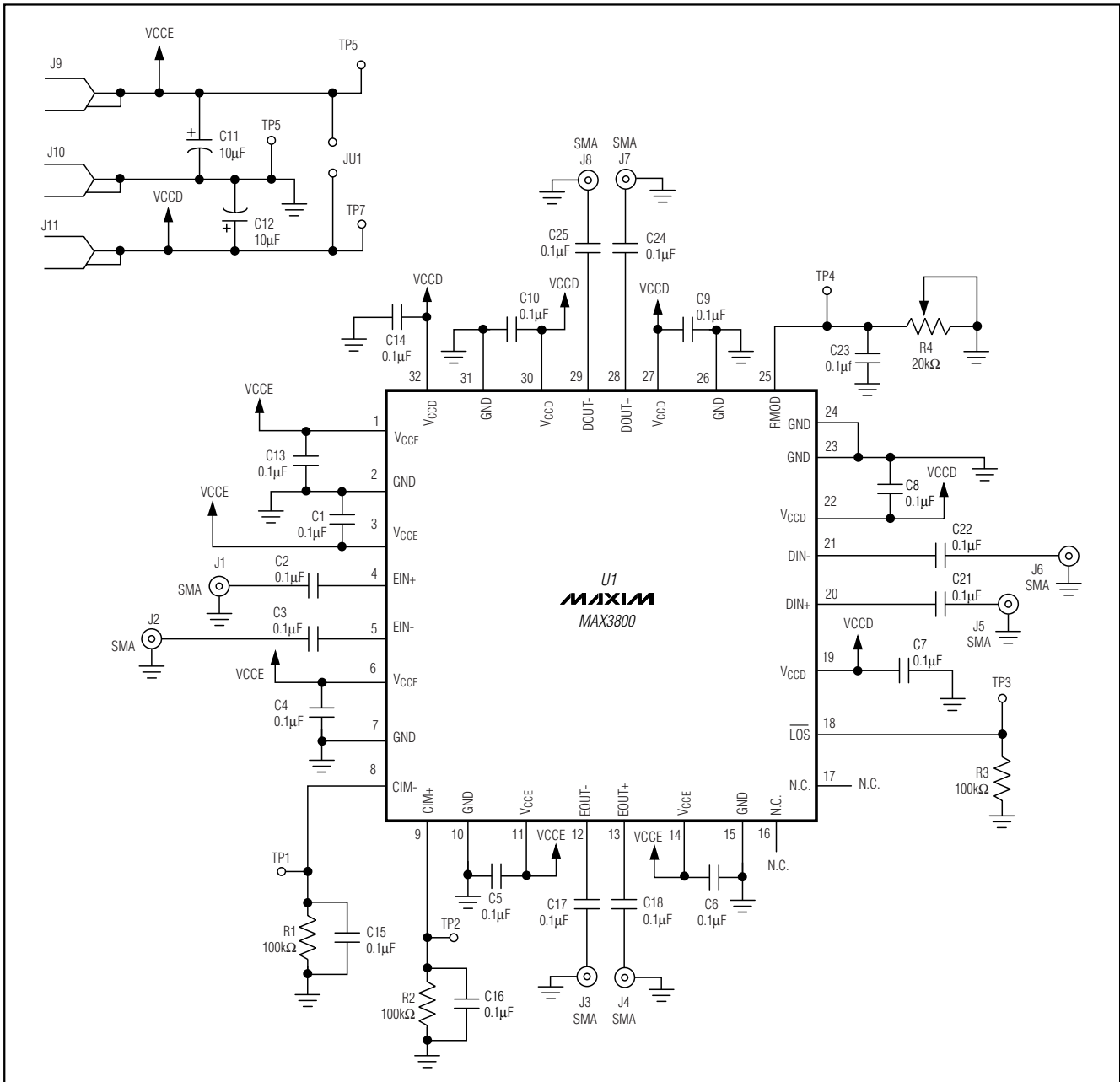


Figure 1. MAX3800 Schematic Diagram

- 6) Connect a 50Ω oscilloscope to SMA edge connectors J3 and J4 to observe the output of the cable equalizer.
- 7) The cable integrity monitor (CIM) outputs can be monitored at TP1 (CIM-) and TP2 (CIM+).
- 8) The loss-of-signal ($\overline{\text{LOS}}$) output can be monitored at TP3.

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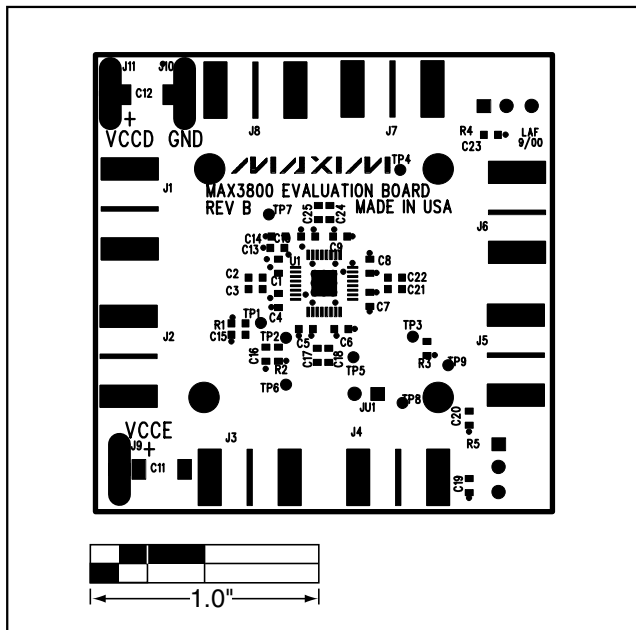


Figure 2. MAX3800 Component Placement Guide

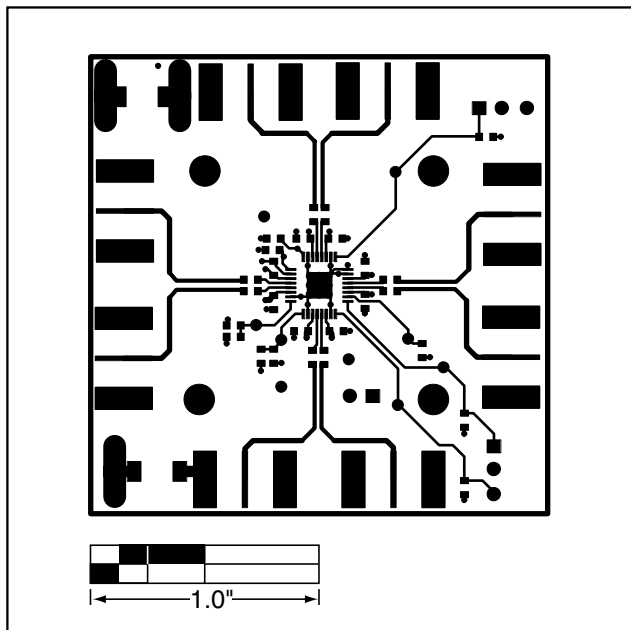


Figure 3. MAX3800 PC Board Layout—Component Side

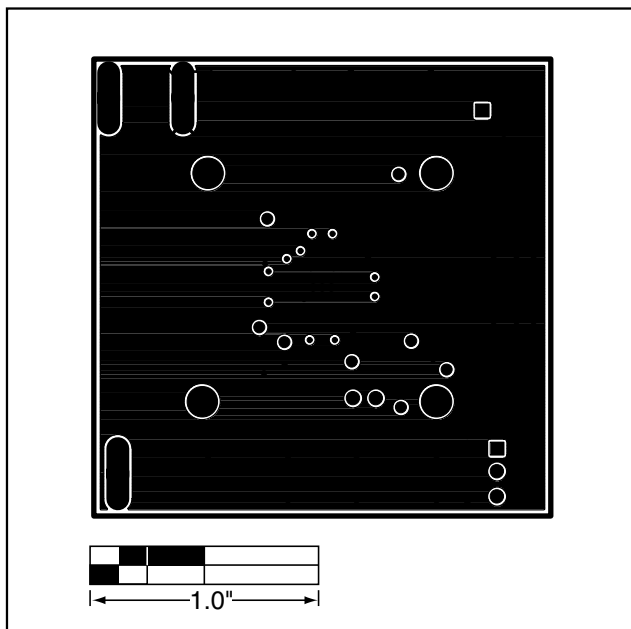


Figure 4. MAX3800 PC Board Layout—Ground Plane

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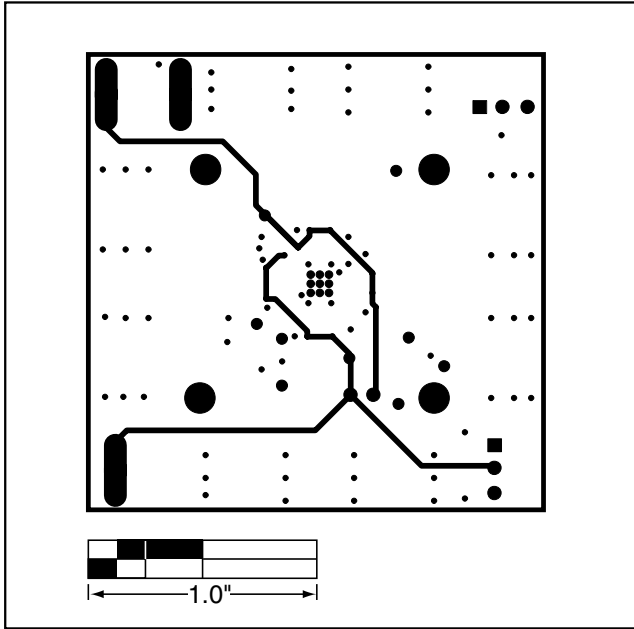


Figure 5. MAX3800 PC Board Layout—Power Plane

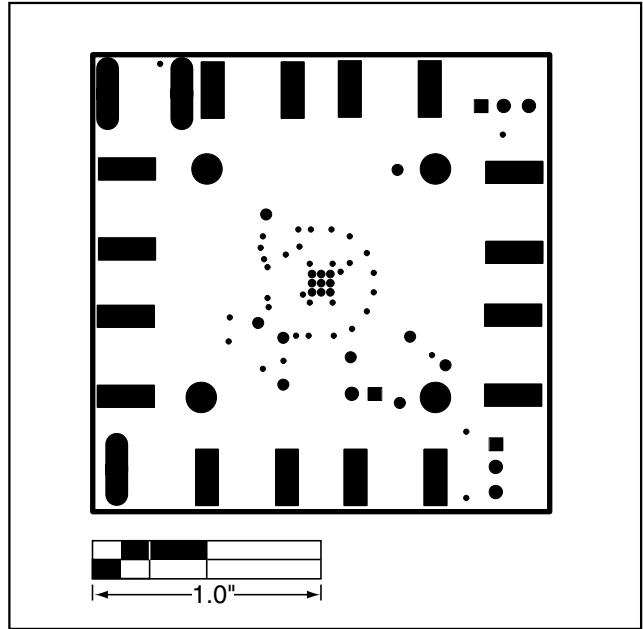


Figure 6. MAX3800 PC Board Layout—Solder Side

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