

MAXIM

MAX3784 Evaluation Kit

General Description

The MAX3784 evaluation kit (EV kit) simplifies evaluation of the MAX3784 5Gbps equalizer with increased output signal amplitude. The EV kit enables testing of all device functions. SMA connectors with 50Ω controlled impedance to the MAX3784 are provided for all high-speed ports to facilitate connection to test equipment.

Component List

DESIGNATION	QTY	DESCRIPTION
C1	1	33μF tantalum capacitor AVX TAJC336K010
C2–C9	8	0.1μF ±10%, 10V min ceramic capacitors (0402)
L1	1	4.7μH inductor Coilcraft 1008CT040XJBC
J3–J6	4	SMA connectors, edge mount, tab contact EFJohnson 142-0701-851
J9	1	2-pin header, 0.1in center
TP1, TP2, TP7, TP8	4	Test points Digi-Key 5000K-ND
U1	1	MAX3784, 16-pin QFN Note: U1 has an exposed pad, which requires that it be solder-attached to the circuit board to ensure proper functionality of the part.
None	1	MAX3784/MAX3784A EV kit circuit board, rev B

Features

- ◆ Fully Assembled and Tested
- ◆ Fully Matched for Best Return Loss
- ◆ SMA Connectors for All High-Speed Inputs and Outputs
- ◆ Calibration Test Strip

Ordering Information

PART	TEMP RANGE	IC PACKAGE
MAX3784EVKIT	0°C to +85°C	16 QFN

Component Suppliers

SUPPLIER	PHONE	FAX
AVX	843-444-2863	843-626-3123
Coilcraft	847-639-6400	847-639-1469
Murata	415-964-6321	415-964-8165

Evaluates: MAX3784

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Quick Start

- 1) Connect a +3.3V power supply to TP1 (V_{CC}). Connect the power supply ground to TP2.
- 2) Connect a differential signal between 400mV and 1000mV to the inputs IN+ and IN- using 50Ω cables.
- 3) If not already done, disconnect jumper test point J9. This ensures that the part is enabled and not in standby mode.
- 4) Connect signals OUT+ and OUT- to a >10GHz oscilloscope with 50Ω input terminations. Monitor output signals.
- 5) The signal generator should produce a short run length (CID < 20), DC-balanced pattern such as a PRBS 2⁷ - 1 or K28.5. Set the data rate to 5Gbps.
- 6) Evaluation: After the board has been initially checked out, evaluation can begin with a FR4 PC board. It is advisable to start with a board length of 20in and then progress to longer lengths.

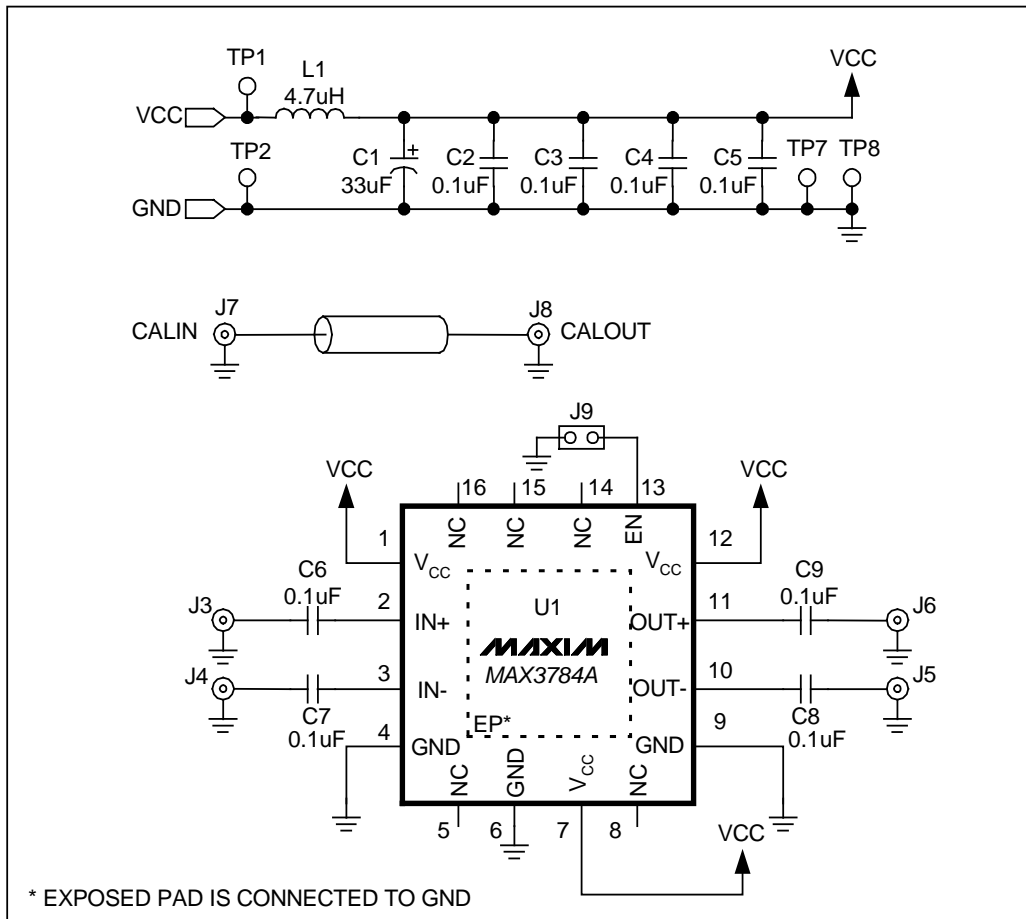


Figure 1. MAX3784A EV Kit Schematic

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Evaluates: MAX3784

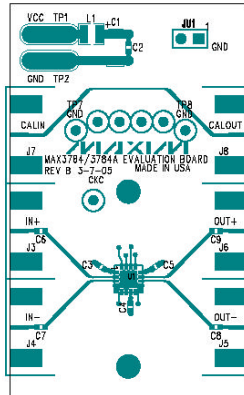


Figure 2. MAX3784 EV Kit PC Component Placement Guide—Component Side

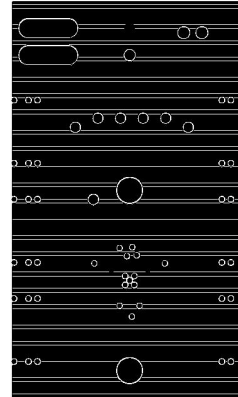


Figure 5. MAX3784 EV Kit PC Board Layout—Power Plane

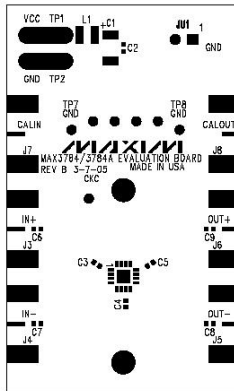


Figure 3. MAX3784 EV Kit PC Board Layout—Component Side

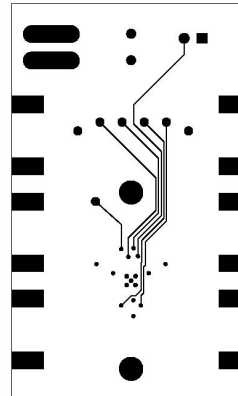


Figure 6. MAX3784 EV Kit PC Board Layout—Solder Side

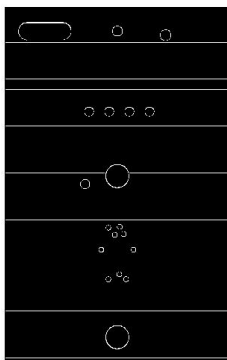


Figure 4. MAX3784 EV Kit PC Board Layout—Ground Plane

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