

MAXIM

MAX3964ETP Evaluation Kit

Evaluates: MAX3964ETP

General Description

The MAX3964ETP evaluation kit (EV kit) is a fully assembled electrical demonstration kit providing easy evaluation of the MAX3964ETP. The EV kit enables testing of all MAX3964ETP functions.

Component List

DESIGNATION	QTY	DESCRIPTION
C1–C4, C8, C10, C20	7	0.1 μ F \pm 5% ceramic capacitors (0402)
C5	1	0.027 μ F \pm 5% ceramic capacitor (0603)
C6, C26	2	33 μ F \pm 10% tantalum capacitors
C7, C27	2	3.3 μ F \pm 5% ceramic capacitors (1206)
J1–J6	6	SMA connectors, edge mount
JU1	1	3-pin + 1-pin header, 0.1in centers
JU2, JU3	2	2-pin headers, 0.1in centers
L1, L2	2	1.2 μ H inductors Coilcraft 1206CS-122XJBC
R1	1	1k Ω \pm 5% resistor (0402)
R2–R5, R9, R10	6	Do not install
R6	1	50k Ω potentiometer
R7	1	500k Ω potentiometer
R8	1	100k Ω \pm 5% resistor (0402)
R11, R12	2	84.5 Ω \pm 1% resistors (0402)
R24, R25	2	49.9 Ω \pm 1% resistors (0402)
R38	1	0 Ω \pm 5% resistor (0402)
TP1–TP11, VCC, GND, VEE	14	Test points Digi-Key 5000K-ND
U1*	1	MAX3964ETP
Z27–Z30	4	0 Ω \pm 5% resistors (0402)
None	1	MAX3964ETP EV kit circuit board, rev A
None	1	MAX3964 data sheet

***Note:** U1 has an exposed pad, which requires it to be solder attached to the circuit board to ensure proper functionality of the part.

Features

- ◆ Easy +3.0V to +5.5V Electrical Evaluation of the MAX3964ETP
- ◆ Fully Assembled and Tested
- ◆ Allows Testing of all Functions
- ◆ EV Kit Designed for 50 Ω Interfaces

Ordering Information

PART	TEMP RANGE	IC PACKAGE
MAX3964ETPEVKIT	-40°C to +85°C	20 QFN

Component Suppliers

SUPPLIER	PHONE	FAX
AVX	843-448-9411	843-448-1943
Coilcraft	847-639-6400	847-639-1469
Digi-Key	218-681-6674	218-681-3380
Murata	770-436-1300	770-436-3030

Note: Please indicate that you are using the MAX3964ETP when ordering from these suppliers.

Quick Start

- 1) Connect OUT+, OUT-, LOS+, and LOS- to a 50 Ω -terminated oscilloscope.
- 2) Connect a +2V power supply to VCC, a -1.0V to -3.5V power supply to VEE, and the power supply ground to GND.
- 3) Apply a differential input (2mV_{P-P} to 1.5V_{P-P}) between IN+ and IN-, at a data rate of 155Mbps.
- 4) Shunt jumper JU1 in its right-most position to enable R6 and R7.
- 5) Adjust the LOS threshold with R6 and R7.

Description of Jumpers

Setting the LOS Threshold Resistor

Jumper JU1 controls the resistor used to set the loss-of-signal threshold. To use supplied potentiometers R6 and R7, shunt the right two pins of JU1. If a set resistor is required, solder a resistor to R9 or R10 and shunt the top two pins of JU1 (for R9), or the left two pins of JU1 (for R10).

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Enabling Squelch Function

Jumper JU2 (SQUELCH) controls the squelch function. To enable squelch, short the jumper. To disable, leave unconnected.

LOS Threshold

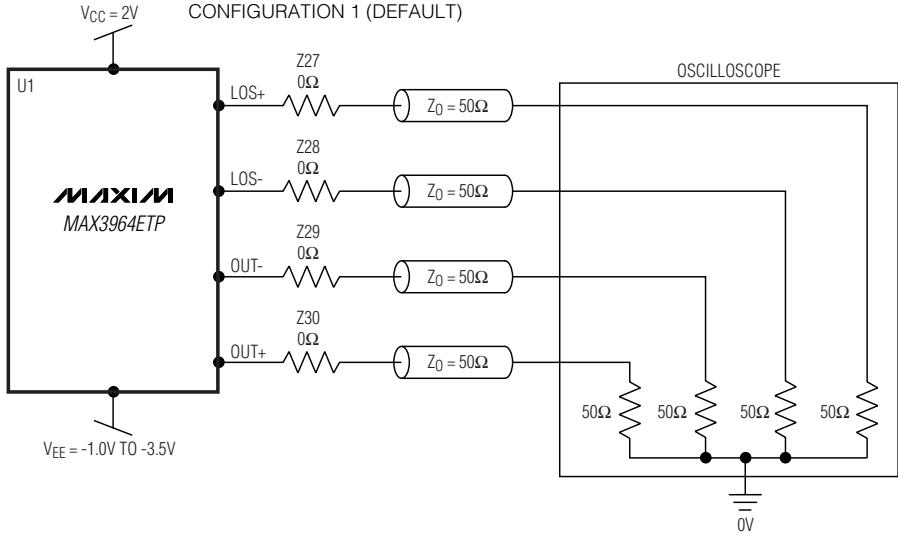
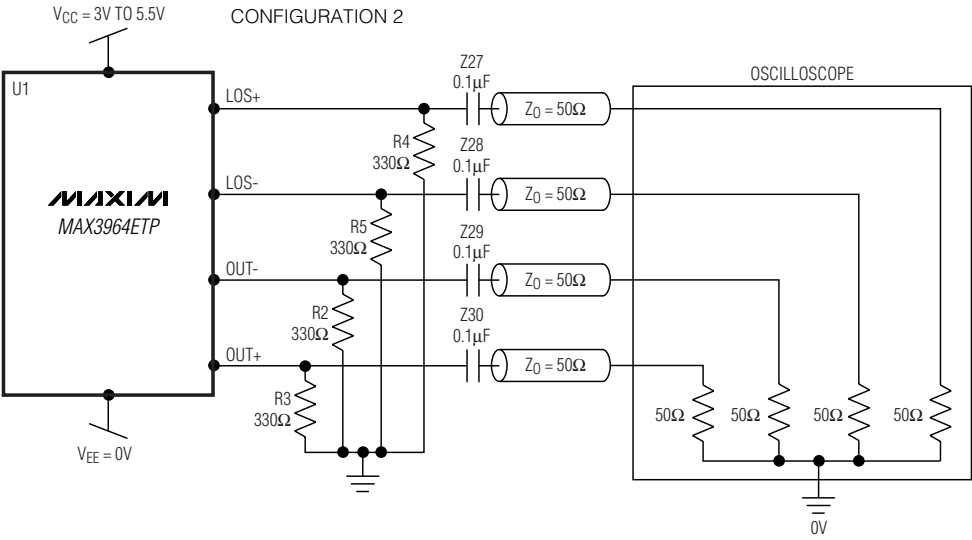
Test point TP3 (VTH) monitors the output of the internal op amp that sets the LOS threshold voltage.

Description of Test Points

Received Signal-Strength Indicator (RSSI)

Test point TP1 (RSSI) monitors the received signal-strength indicator. This pin is an analog voltage proportional to the input signal amplitude.

Table 1. Output Terminations

OUTPUT TERMINATION	CONDITIONS
<p style="text-align: center;">CONFIGURATION 1 (DEFAULT)</p> 	<p>R2–R5 = do not install, Z27–Z30 = 0Ω, V_{CC} = 2V, V_{EE} = -1.0V to -3.5V, GND = 0V, Oscilloscope is referenced to ground</p>
<p style="text-align: center;">CONFIGURATION 2</p> 	<p>R2–R5 = 330Ω, Z27–Z30 = 0.1μF, V_{CC} = 3V to 5.5V, V_{EE} = GND = 0V</p>

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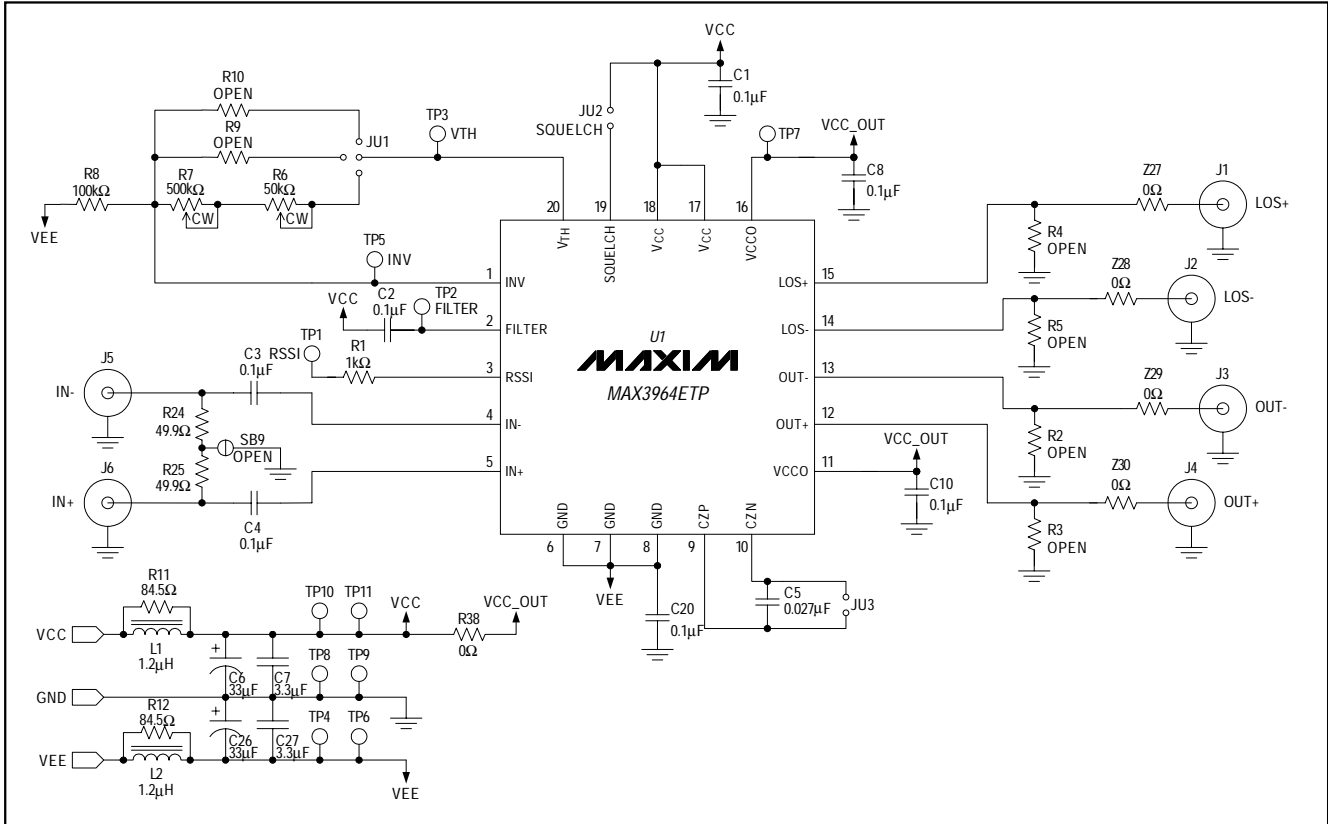


Figure 1. MAX3964ETP EV Kit Schematic

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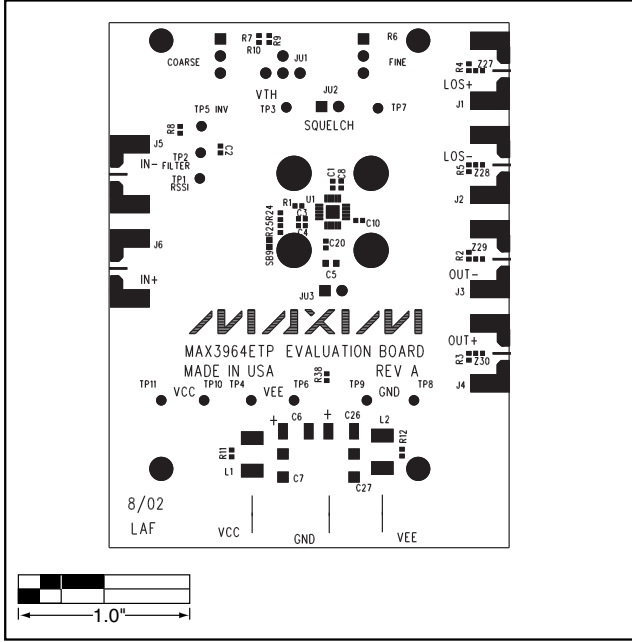


Figure 2. MAX3964ETP EV Kit Component Placement Guide—Component Side

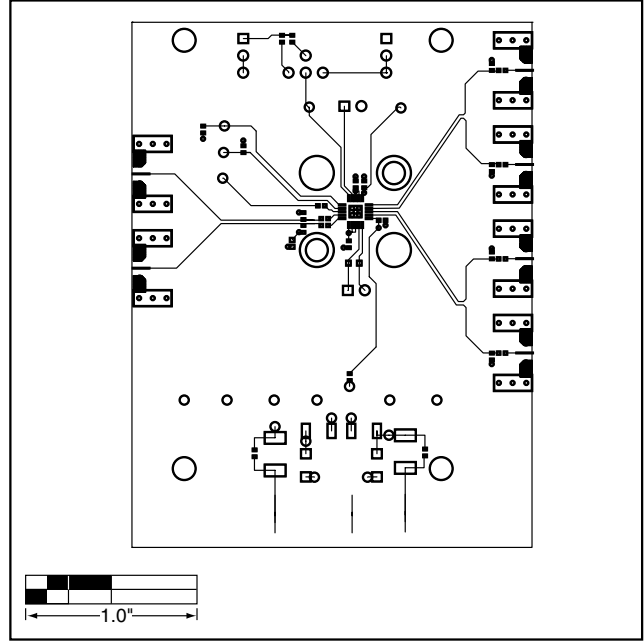


Figure 3. MAX3964ETP EV Kit PC Board Layout—Component Side

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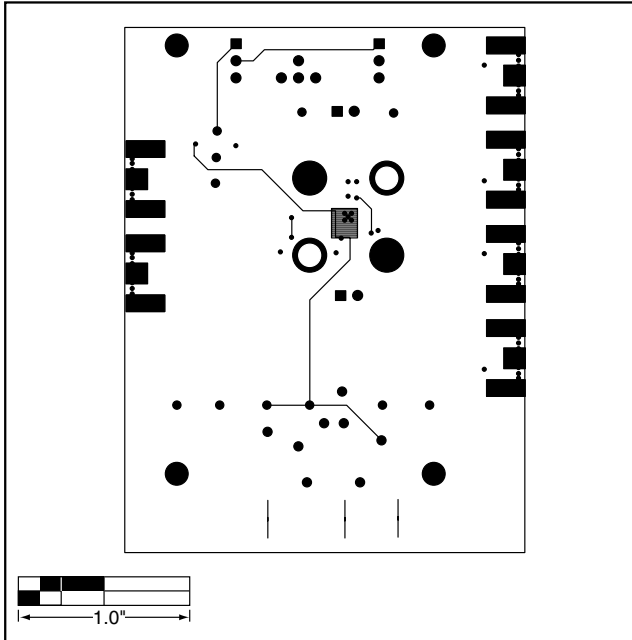


Figure 4. MAX3964ETP EV Kit PC Board Layout—Solder Side

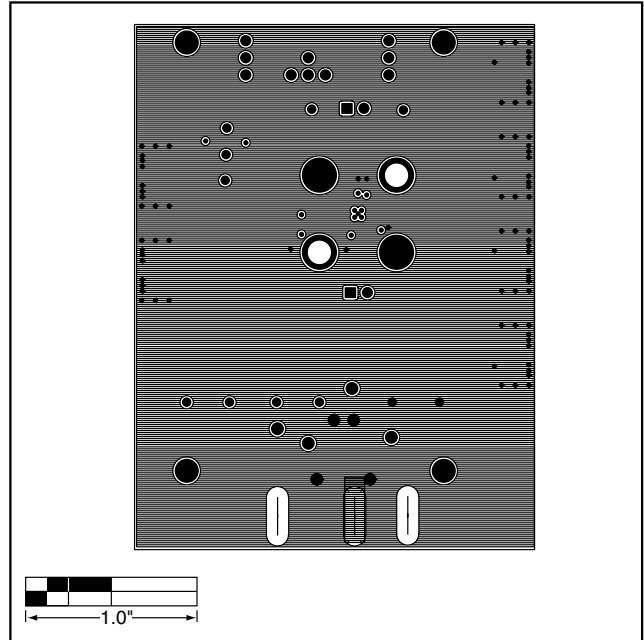


Figure 5. MAX3964ETP EV Kit PC Board Layout—Ground Plane

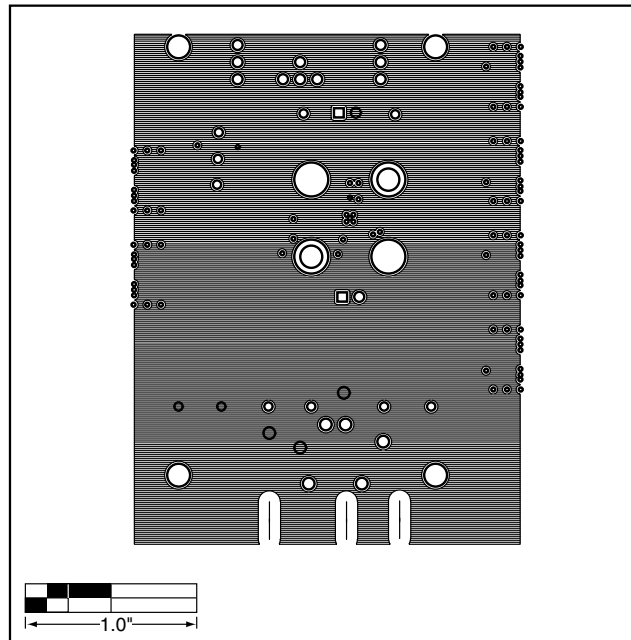


Figure 6. MAX3964ETP EV Kit PC Board Layout—Power Plane

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