

MAXIM

MAX3785UTT Evaluation Kit

General Description

The MAX3785UTT evaluation board and kit (EV kit) simplifies evaluation of the MAX3785UTT 6.25 Gbps equalizer. The EV kit enables testing of all the device functions. SMA connectors with 50Ω controlled impedance to the MAX3785UTT are provided for all input and output ports to facilitate connection to high-speed test equipment.

Features

- ◆ Fully Assembled and Tested
- ◆ Connectors for All High-Speed Inputs and Outputs
- ◆ Calibration test strip.

Component List

DESIGNATION	QTY	DESCRIPTION
C2,C3	2	0.1μF, 10V minimum, 10% Ceramic Capacitor (0402)
C1	1	33μF Tantalum Capacitor +/-10% B CASE AVX TAJB336M010R
L1	1	4.7μH Coilcraft 1008CT-040XJBC
J3-8	6	SMA Connector EDGE MOUNT (TAB CONTACT)JOHNSON 142-0701-851
J1-J2	2	Test Point Digi-Key 5000K-ND
U1	1	MAX3785UTT
	1	MAX3785UTT REV A Evaluation Circuit Board
	1	MAX3785UTT DATA SHEET

Ordering Information

PART	TEMP. RANGE	IC PACKAGE
MAX3785UTTEVKIT	-40°C to +85°C	16 TDFN

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

Note: Please indicate that you are using the MAX3785 when ordering from these suppliers.

Evaluates: MAX3785UTT

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Quick Start

1. Connect a +1.8V power supply to J1 (VCC). Connect the power supply ground to J2.
2. Connect DC blocks or bias T's to the inputs IN+ and IN-. Then connect a differential signal between 400 and 1600 mVp-p to the inputs using 50 Ohm cables. If DC blocks are not used, then the high level for each input signal must be VCC.
3. Connect DC blocks or bias T's to the outputs OUT+ and OUT-. Then connect signals from the DC blocks to an oscilloscope with 50 Ohm input terminations.
4. At the signal source, start with a short and simple pattern such as a 2^7-1 PRBS. The data rate can be from 1.0 Gbps to 6.4Gbps.
5. Evaluation: After the EVKit has been initially checked out, evaluation can begin with a FR4 pc board. It is advisable to start with a board length of 20 inches and then progress to longer lengths. For data rates of 3.125Gbps and below, the part will equalize board lengths up to 40 inches. For data rates 6.4 Gbps and below the part will equalize board lengths up to 30 inches. When connecting the equalizer with the board, keep the cables from the board to the equalizer as short as possible.

WARNING! The SMA connectors are directly connected to the chip's inputs and outputs. To avoid damage to laboratory equipment or device, always use DC blocks or Bias T's.

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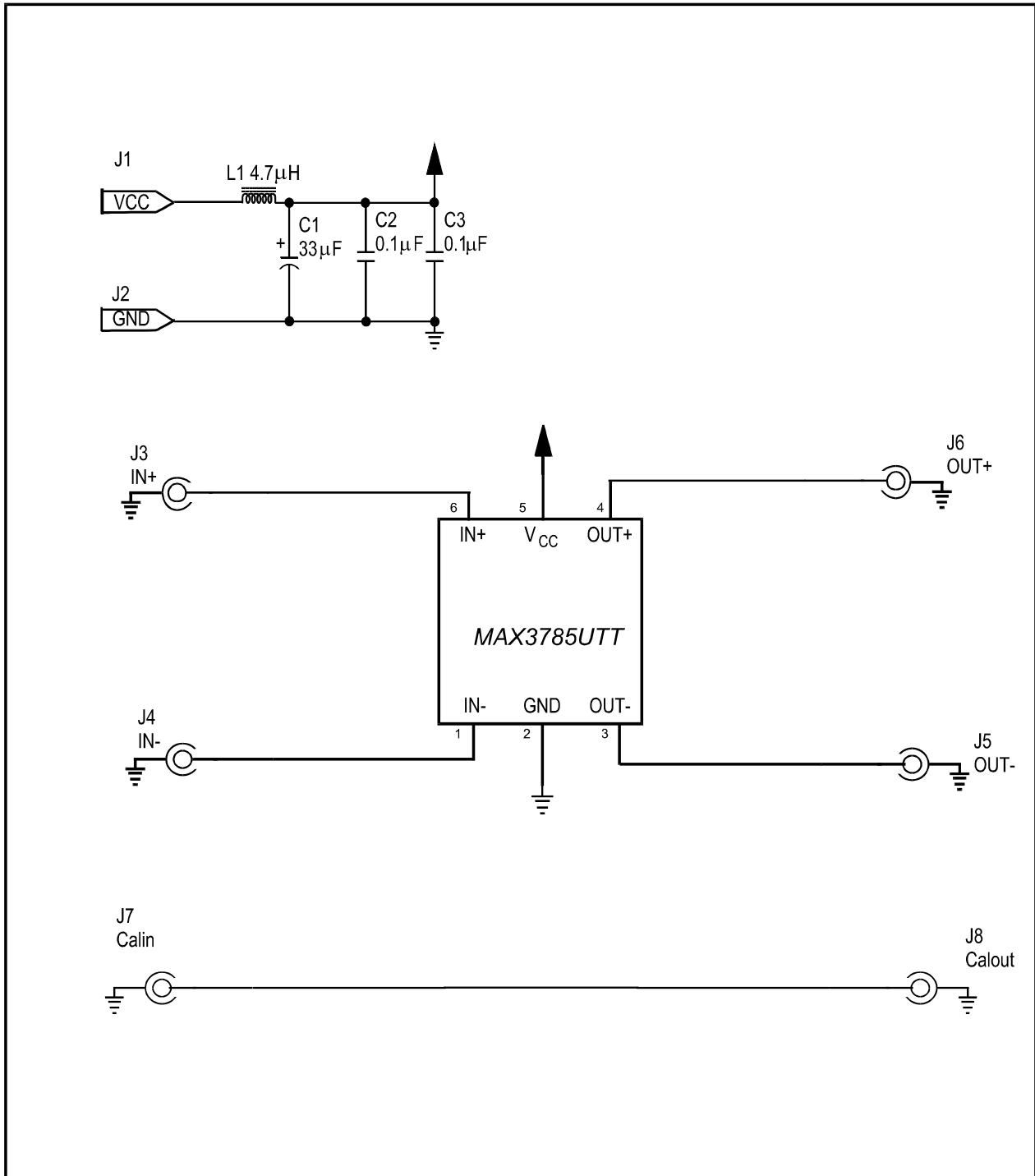


Figure 1. MAX3785UTT EV Kit Schematic.

MAX3785UTT Evaluation Kit

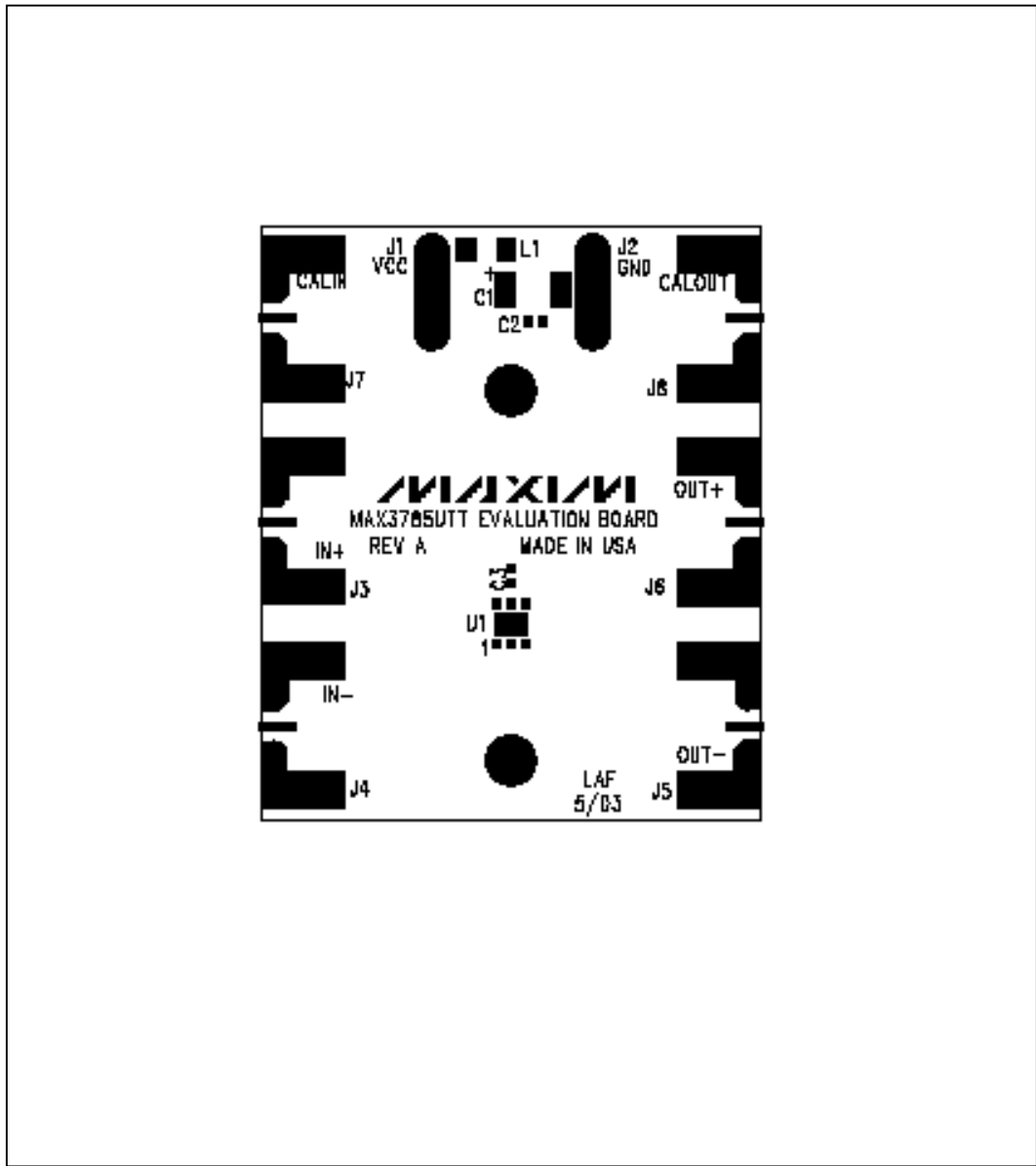


Figure 2. MAX3785UTTA EV Kit Component Placement Guide – Component Side (2X)

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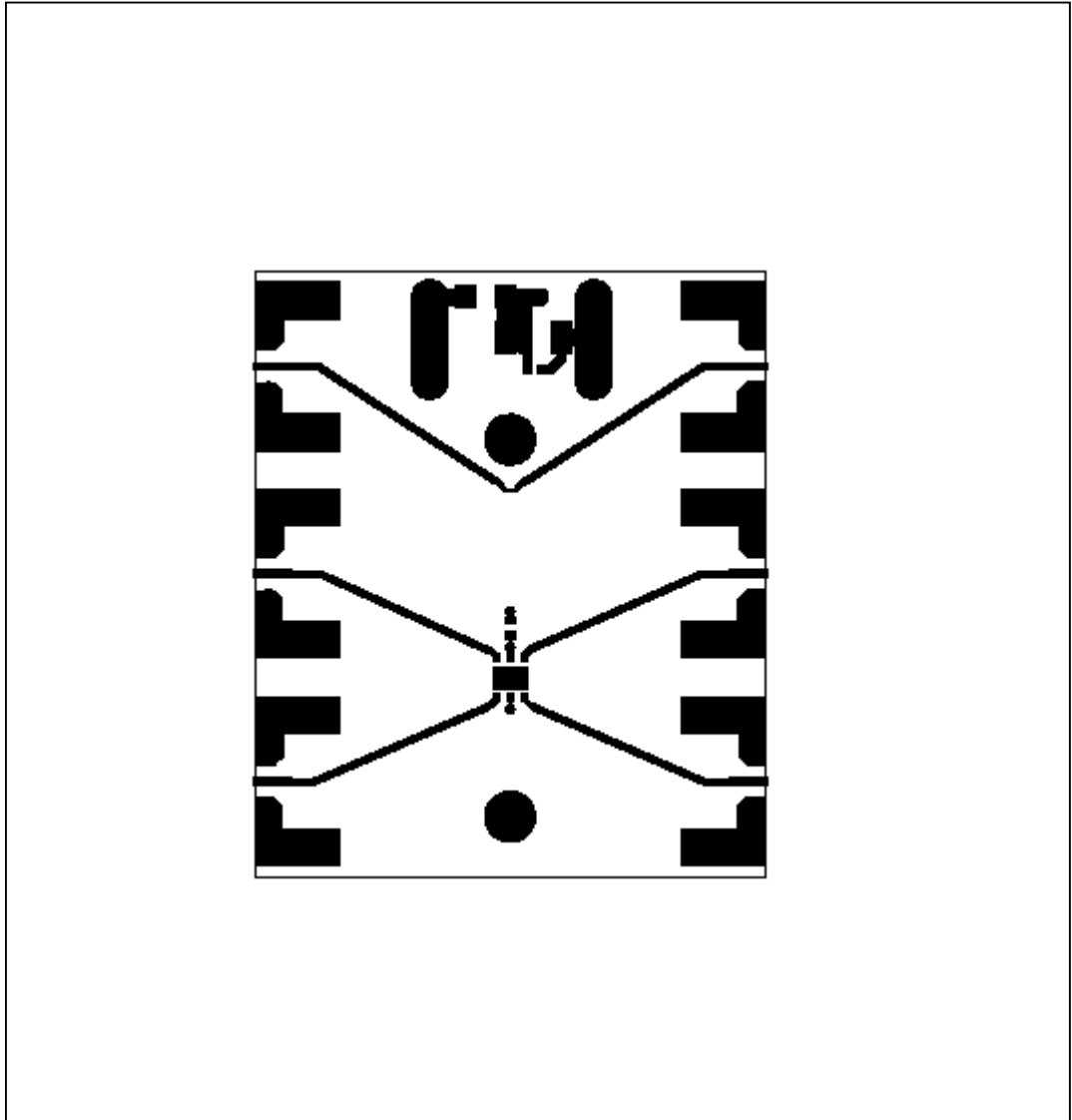


Figure 3. MAX3785UTTA EV Kit PC Board Layout – Component Side (2X), layer 1.

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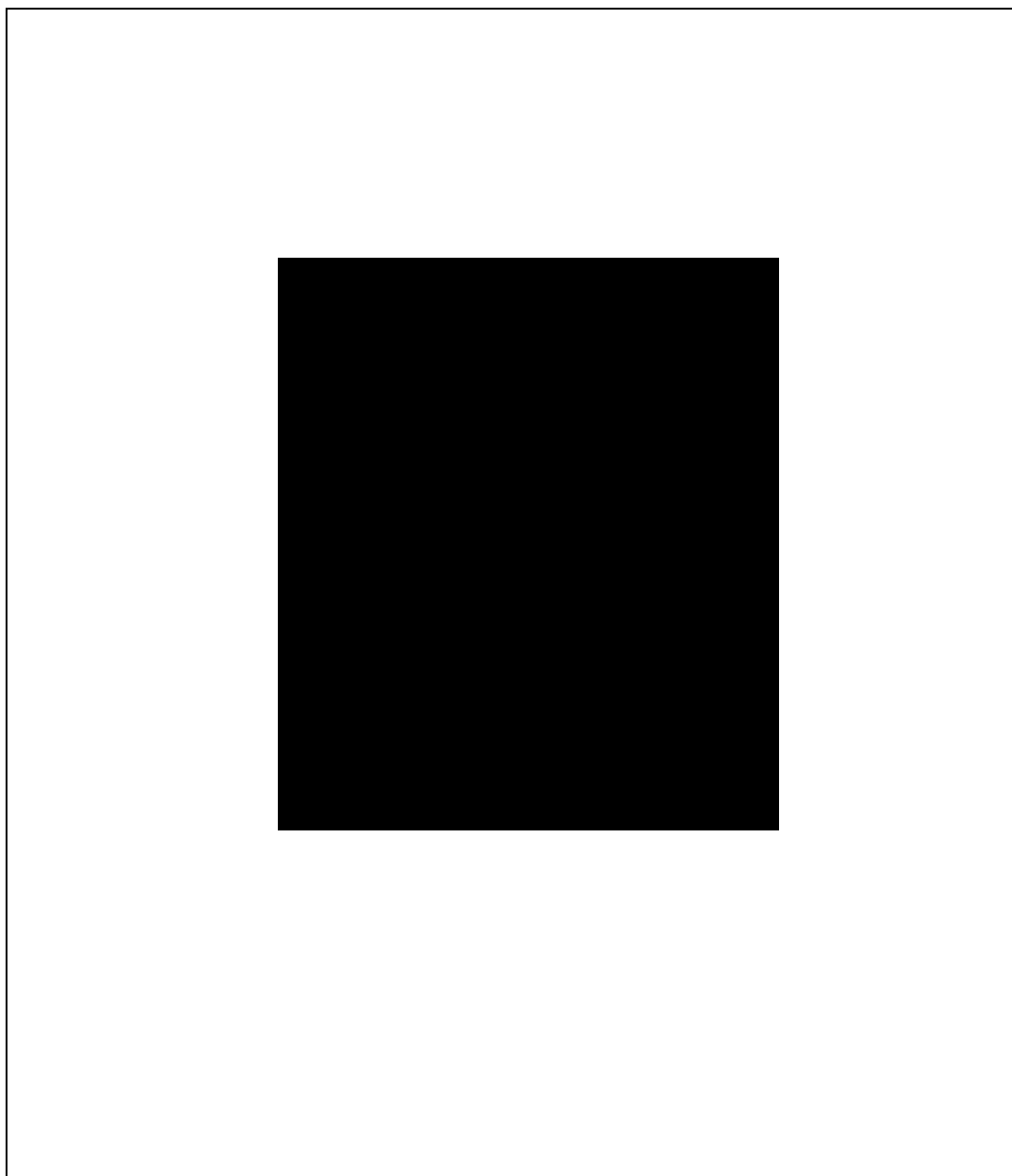


Figure 4. MAX3785UTTA EV Kit PC Board Layout – Ground Plane (2X), layer 2.

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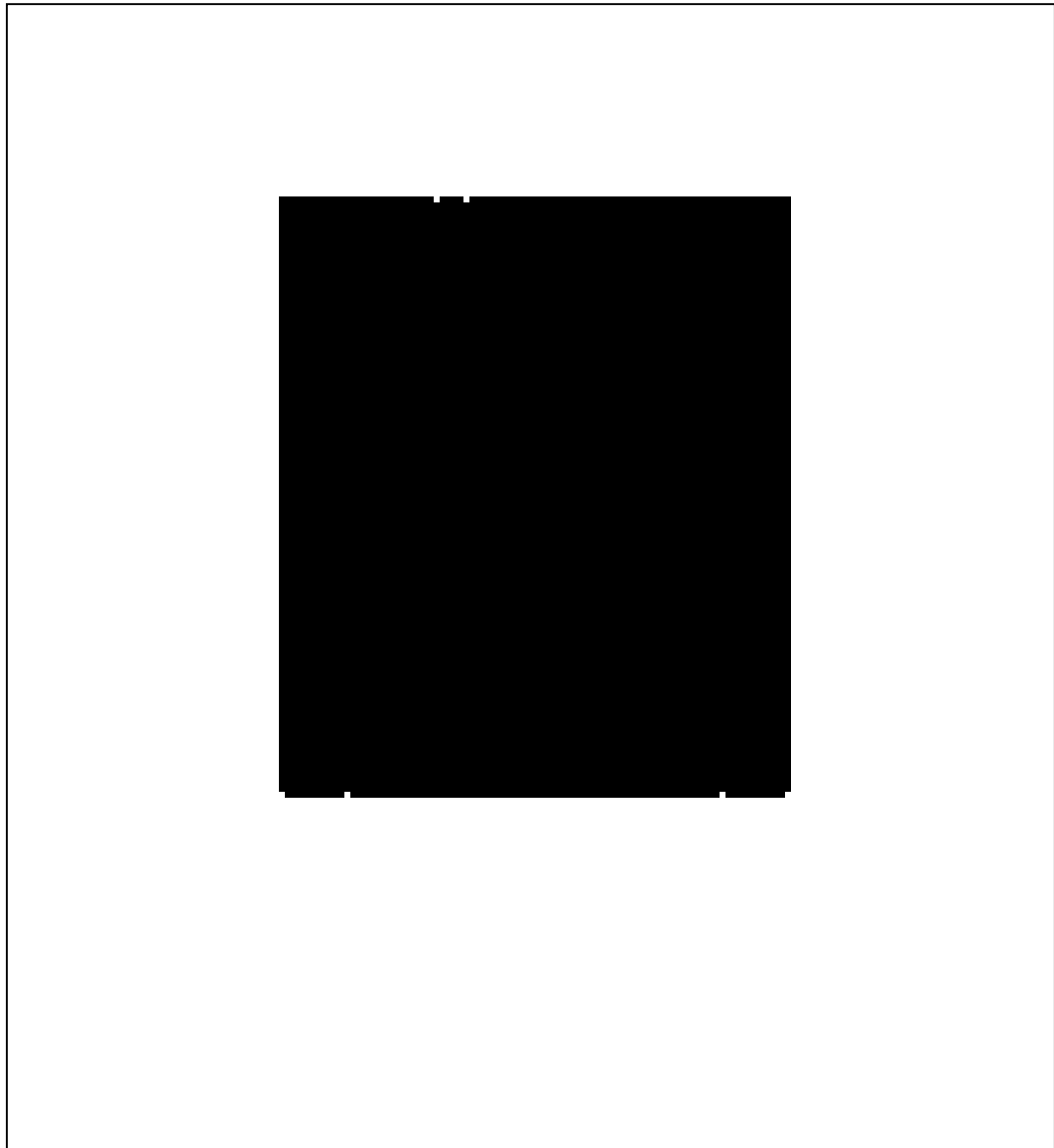


Figure 5. MAX3785UTT8A EV Kit PC Board Layout – Power Plane (2X), layer 3.

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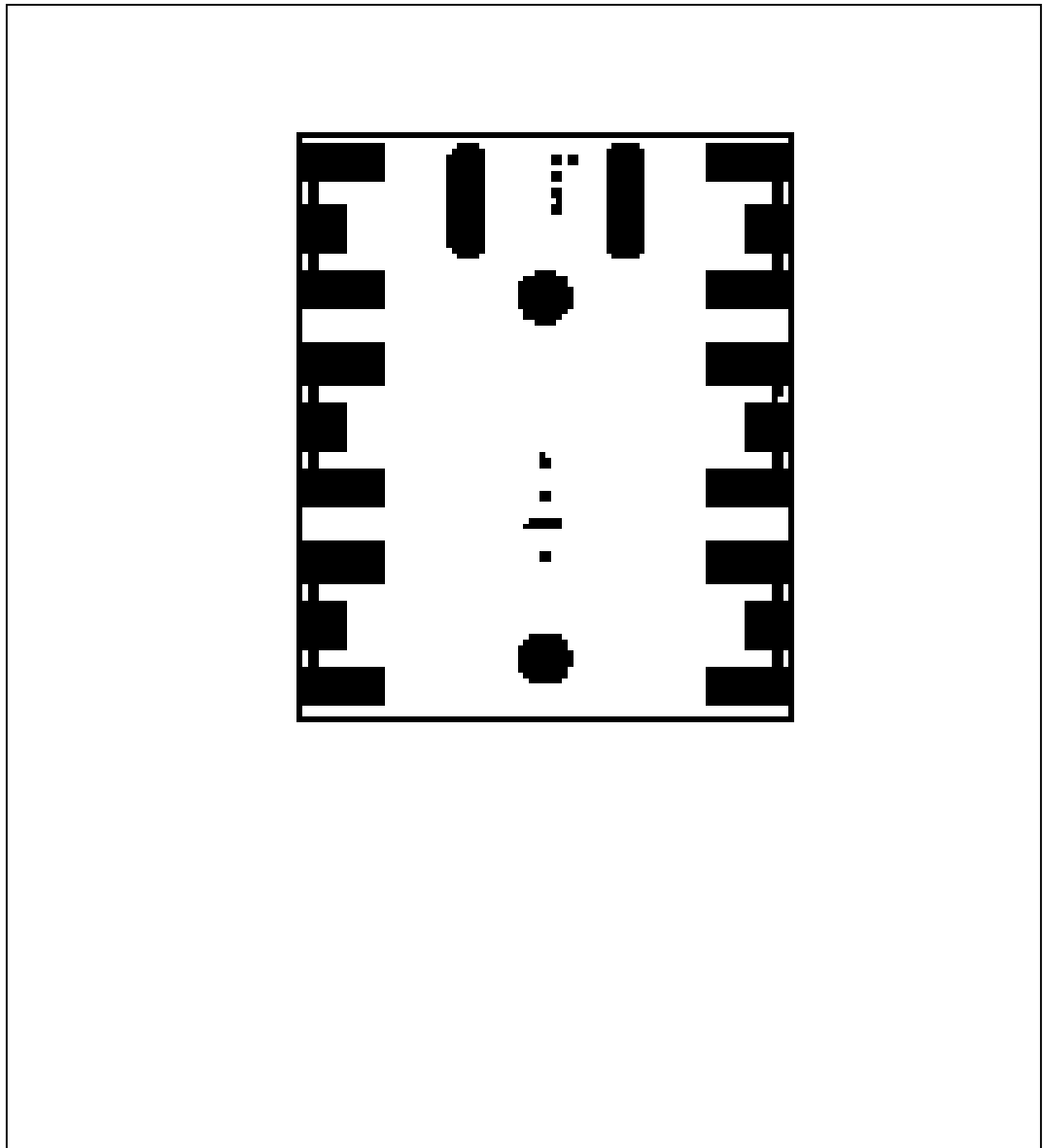


Figure 6. MAX3785UTTA EV Kit PC Board Layout – Bottom Side (2X), layer 4.

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