

MAXIM

MAX3882 Evaluation Kit

General Description

The MAX3882 evaluation kit (EV kit) simplifies evaluation of the MAX3882 2.488/2.667Gbps CDR with 1:4 demultiplexing. The EV kit enables testing of all the device's functions. SMA connectors with 50Ω controlled impedance connections to the MAX3882 are provided for the NRZ data input and LVDS data outputs, as well as system loopback functions. The 50Ω connectors allow for direct connection with high-speed test equipment.

Component List

DESIGNATION	QTY	DESCRIPTION
C1-C7, C17, C19-C32	23	0.1μF 10% Ceramic Capacitor (0402)
C8-C13, C18	7	1000pF 10% Ceramic Capacitor (0402)
C14	1	33μF Tantalum Capacitor +10%
C15	1	2.2μF Tantalum Capacitor +10%
C16	1	0.068μF 10% Ceramic Capacitor (0402)
D1	1	LED
J15, J19, J21, J22	4	1X2 Pin Header (0.1" centers)
J16-J18, J20, J24-J25	6	1X3 Pin Header (0.1" centers)
J1-J14, J29-J32	18	SMA Connector EDGE MOUNT (TAB CONTACT)
J26-J28	3	Test Point
L1-L3	3	56nH Coilcraft
R1-R5, R10	6	100Ω 1% Resistor (0402)
R6	1	402Ω 5% Resistor (0402)
R8	1	20kΩ Variable Resistor
R9	1	20kΩ 5% Resistor (0402)
UI	1	MAX3882 36QFN
	14	SHUNT
		MAX3882 Datasheet

Features

- ◆ SMA Connectors for All High-Speed Inputs and Outputs
- ◆ Test Point for Monitoring Loss-of-Lock
- ◆ Single +3.3V Power-Supply Operation
- ◆ Fully Assembled and Tested

Component Suppliers

SUPPLIER	PHONE	FAX
Digi-Key	218-681-6674	218-681-3380
Murata	814-237-1431	814-238-0490
Coilcraft	847-639-6400	847-639-1469
AVX	803-946-0690	803-626-3123

Note: Please indicate that you are using the MAX3882 when ordering from these suppliers.

Ordering Information

PART	TEMP. RANGE	IC PACKAGE
MAX3882EVKIT	-40°C to +85°C	36 pin QFN

Quick Start

- 1) Connect a +3.3V power supply to J26 (Vcc). Connect power supply ground to J27.
- 2) Connect the three-lead jumper J20 center pin to VCC, FREFSET (J24) center pin to GND, SIS (J16) center pin to GND, LREF (J18) center pin to Vcc, J17 center pin to LREF (J18) by connecting it to the upper pin.
- 3) For 2.488Gbps use, connect the RATESET (J25) center pin to GND.
- 4) For 2.667Gbps use, connect the RATESET (J25) center pin to Vcc.
- 5) Connect between a 10mV_{P-P} to 1600mV_{P-P} differential input signal on SDI± (J1-J2) by using SMA cables suitable for 2.488Gbps or 2.667Gbps.
- 6) Remove the 100Ω resistor R4 and R5 to avoid double termination.
- 7) Connect the output clock and data signals (J13, J14, J11, and J12 respectively) to a 50Ω high-speed oscilloscope to view the output signals.

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Detailed Description

The MAX3882 EV Kit is fully assembled and factory tested. It enables testing of all MAX3882 functions.

Connections

The MAX3882 EV Kit provides on-board connectors for all data and clock I/O ports. The serial data and system loopback inputs (SDI \pm and SLBI \pm) can be connected directly to a 50 Ω source.

Jumpers

PLL frequency lock condition can be monitored at the high-impedance $\overline{\text{LOL}}$ test point. A TTL high for $\overline{\text{LOL}}$ (LED off) indicates PLL frequency lock. A TTL low for $\overline{\text{LOL}}$ (LED on) indicates loss-of-lock.

MAX3882 Evaluation Kit

Evaluates: MAX3882

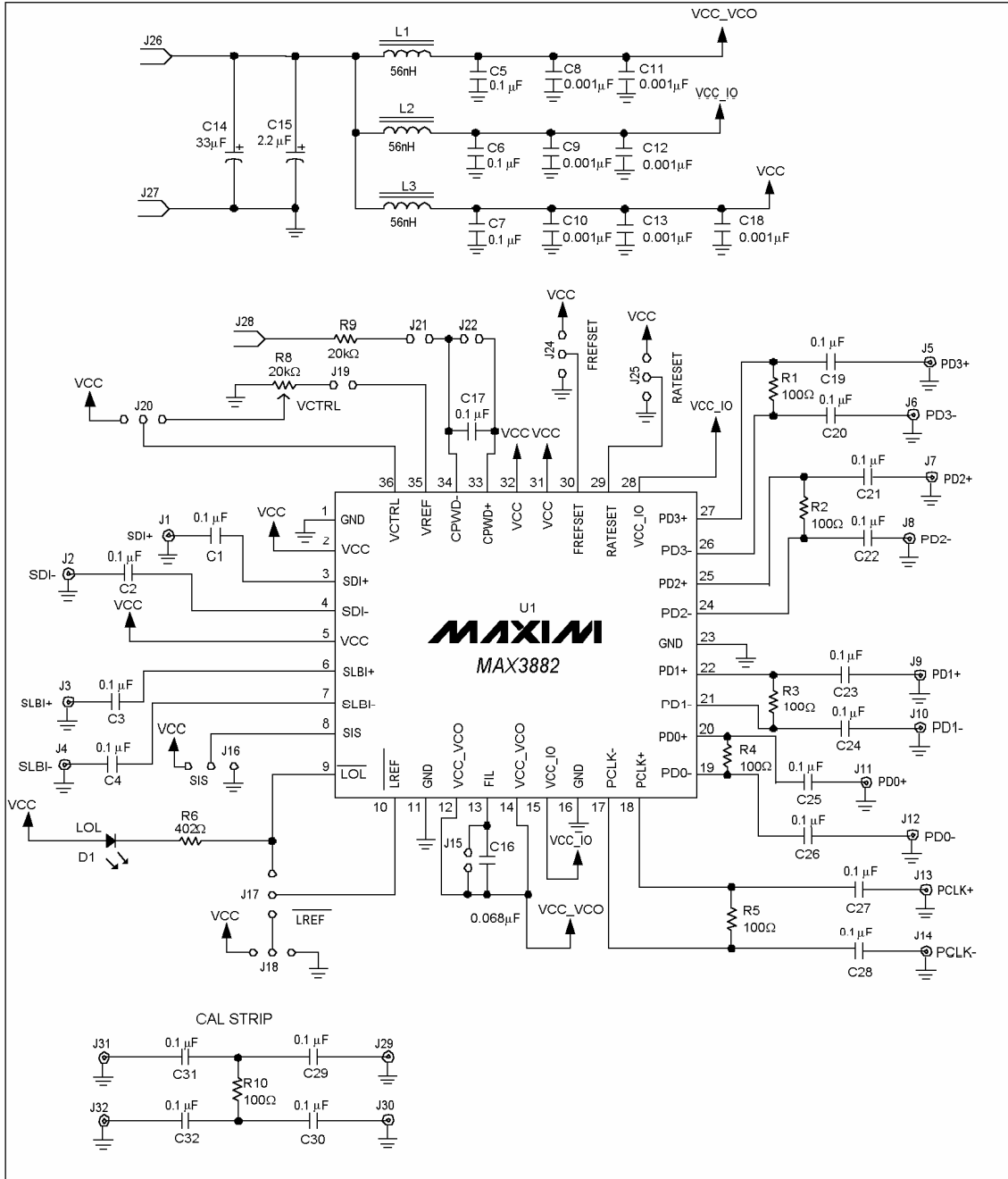


Figure 1. MAX3882 EV Kit Schematic

MAX3882 Evaluation Kit

Evaluates: MAX3882

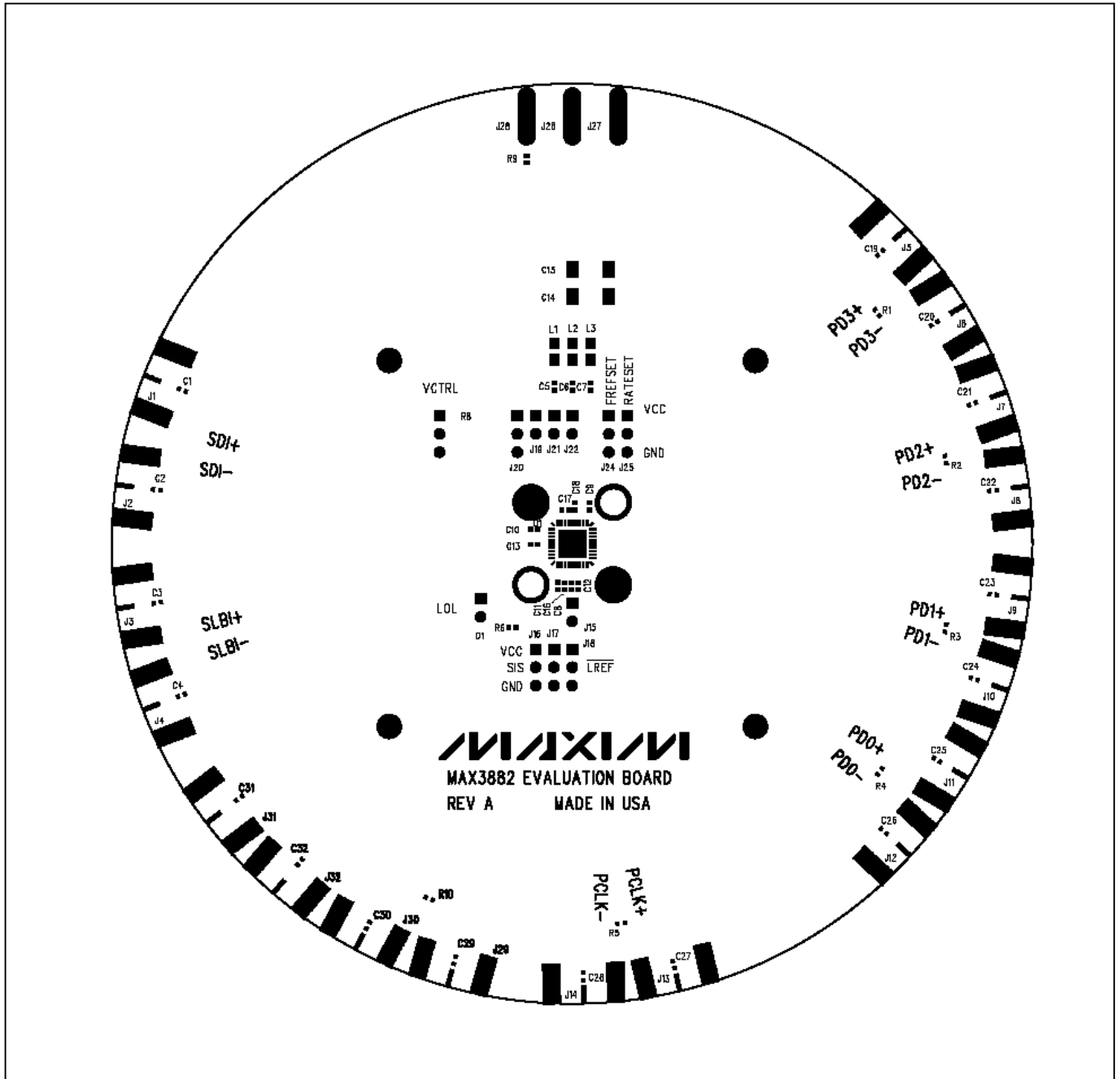


Figure 2. MAX3882 EV Kit Component Placement Guide—Component Side

MAX3882 Evaluation Kit

Evaluates: MAX3882

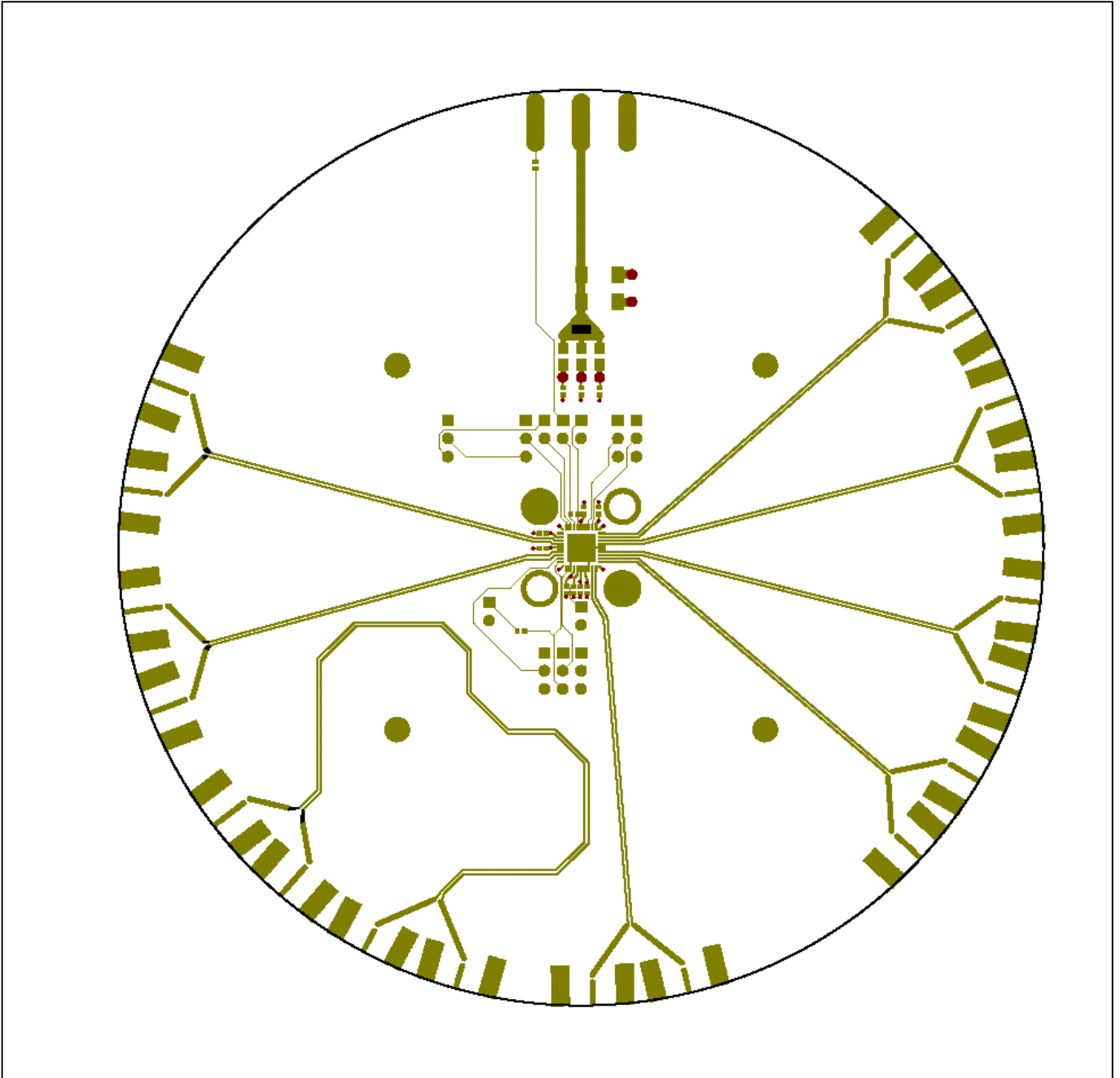


Figure 3. MAX3882 EV Kit PC Board Layout-Component Side

MAX3882 Evaluation Kit

Evaluates: MAX3882

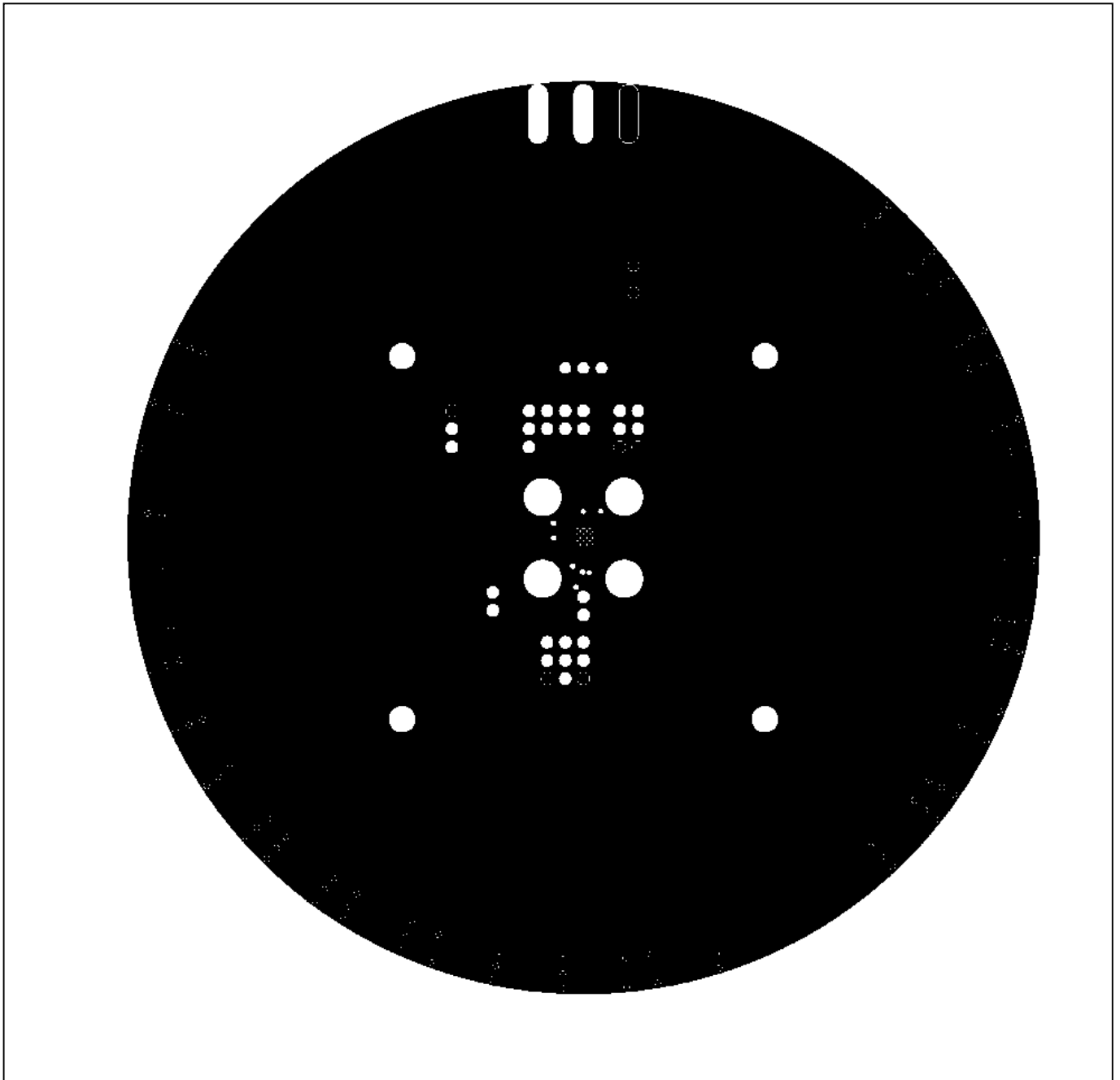


Figure 4. MAX3882 EV Kit PC Board Layout—Ground Plane

MAX3882 Evaluation Kit

Evaluates: MAX3882

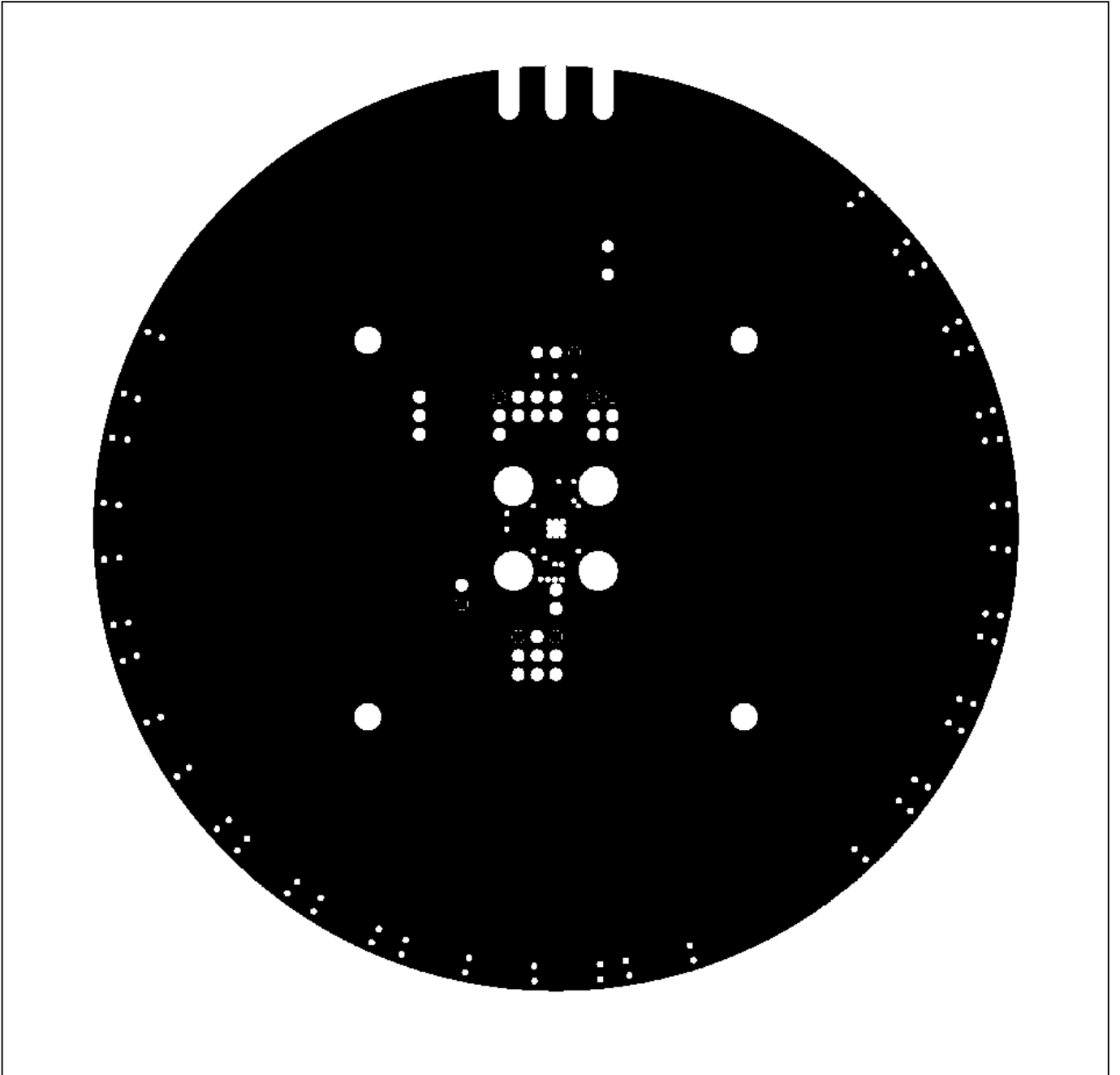


Figure 5. MAX3882 EV Kit PC Board Layout–Power Plane

MAX3882 Evaluation Kit

Evaluates: MAX3882

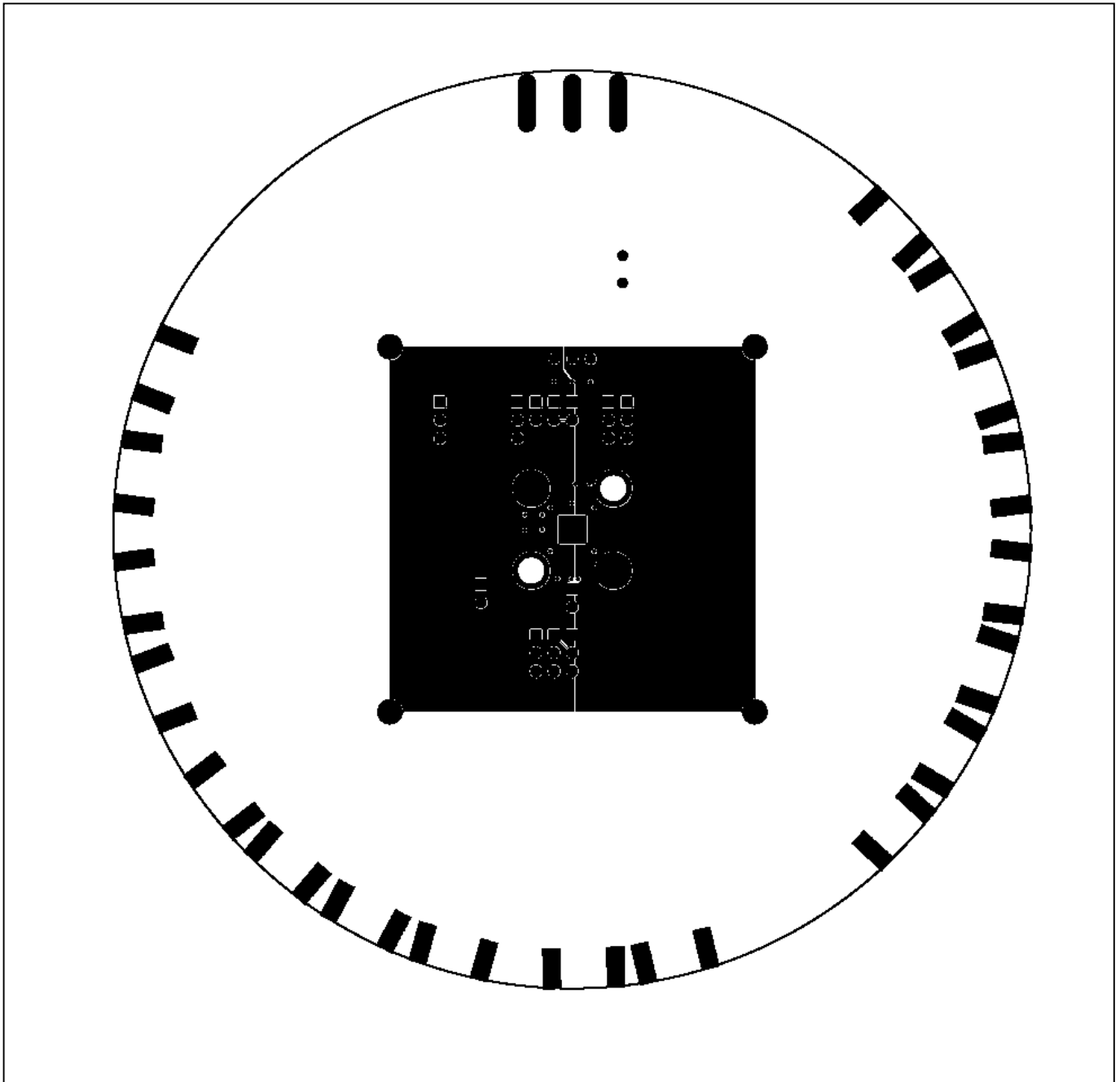


Figure 6. MAX3882 EV Kit PC Board Layout—Solder Side

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