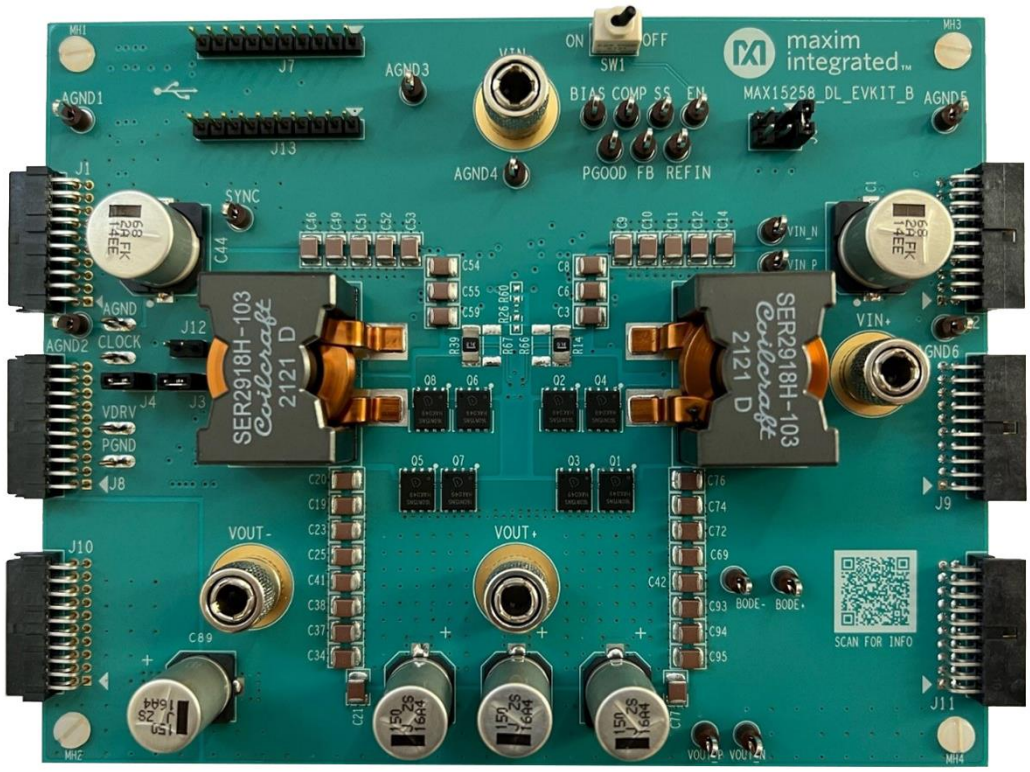
General Description

The MAX15258 evaluation kit (EV kit) provides a proven design to evaluate the MAX15258, a high-voltage multiphase boost controller with I²C digital interface designed to support up to four MOSFET drivers and eight external MOSFETs in a single-phase, dual-phase, triple-phase, or quad-phase inverting-buck-boost configuration using discrete inductors. The EV kit operates from a -36V to -60V input voltage range and supports a 24V to 50V output voltage range. The EV kit uses the MAX15258 on a proven six-layer PCB design. Two MAX15013 ICs are used as the MOSFET driver for the EV kit. The EV kit also features an onboard MAX17760 buck converter to provide a 10V supply voltage to the MAX15258 and the MOSFET drivers. An external MAX32625PICO board is used to communicate between the MAX15258 and MAX15258 GUI. Two MAX15258 EV kits are required for triple-phase or quad-phase operation.

Features

- -36V to -60V Input Voltage Range for Inverting Buck-Boost Configuration
- 24V to 50V Output Voltage Range on Top of Input Voltage
- -40°C to +125°C Temperature Range
- Banana Jacks for Input and Output Voltage
- Configurable Output Voltage and Compensation Parameters
- Adjustable Current Limit
- Flexibility of Adjusting Output Voltage Enabled by REFIN Feature and MAX15258 I²C Digital Interface
- Programmable Internal V_{REF} through I²C Digital Interface
- Fully Assembled and Tested

MAX15258 EV Kit Top View



ANALOG DEVICES

Quick Start

Required Equipment

- MAX15258 EV Kit
- MAX32625PICO Board
- One 80V DC Power Supply (PS1)
- One Optional 6V DC Power Supply (PS2)
- 0 to 16A Load
- Digital Voltmeters
- Oscilloscope and Probes

Procedure

The EV kit is fully assembled and tested. Use the following steps to verify board operation:

Caution: Do not turn on the power supply until all connections are completed.

1. Verify that a shunt is installed across jumpers J3 and J4.
2. Verify that only one shunt is installed on jumper J6 to select one of the three secondary controller addresses provided on the EV kit.
3. Set the power supply (PS1) to 48V, connect the positive terminal of the power supply (PS1) to the VIN+ banana jack on the EV kit and connect the negative terminal of the power supply (PS1) to the VIN- banana jack.
4. If an internal reference voltage is not used (R9 is not installed), set another power supply (PS2) to 2.0V, connect the positive terminal of the power supply (PS2) to the test point REFIN, and connect the negative terminal of the power supply (PS2) to the test point AGND.
5. Connect the positive terminal of the load to the VOUT+ banana jack, and connect the negative terminal of the load to the VOUT- banana jack.
6. Turn on power supply PS2, if it is used.
7. Turn on power supply PS1.
8. Position the SW1 toggle switch to ON to enable the IC.
9. Verify that the voltage between the VOUT_P and VOUT_N test points is 48V.

The EV kit is now ready for additional evaluation.

Detailed Description of Hardware

This evaluation kit should be used with the following documents:

- MAX15258 Data Sheet
- MAX32625PICO Application Platform Data Sheet
- MAX15258 EV Kit Data Sheet (this document)

The MAX15258 EV kit provides a proven design to evaluate the MAX15258 fully integrated, highly efficient, two-phase switching regulator. The EV kit can easily be connected between the power input and the load using the banana jacks and connectors provided for the input and output. Test points and connectors are provided to monitor and control the device signals.

The EV kit operates in the -36V to -60V input voltage range. The EV kit regulates the output voltage between 24V to 50V. The output voltage is set to 48V by default on the EV kit. The output voltage can be adjusted by changing the resistor-divider between the VOUT+ and OUTP pins. Make sure that the correct compensation is selected for stable operation.

The EV kit uses the MAX32625PICO as a I^2C digital interface to provide programmable internal V_{REF}, programmable overcurrent fault limit, readback for V_{IN}, V_{OUT} and phase current reporting, and fault status.

EN/UVLO Input for the MAX15258

The device's enable input (EN/UVLO) is controlled by a resistor-divider ratio between R19 and R20. The divider ratio is chosen so that the VIN UVLO threshold is set at 34.2V by default. If the EN/UVLO pin voltage is above 1V, the MAX15258 will power up. The EN/UVLO pin can be connected to VIN- to disable the regulation. Additionally, a test point (EN) is also provided to drive the EN/UVLO pin. While changing the UVLO threshold, make sure that the UVLO threshold of the MAX15258 is higher than the UVLO threshold of the MAX17760 onboard DRV supply (U4).

DRV Supply Selection

The MAX15258 and MAX15013 require a secondary 8.5V to 12V power supply (DRV) for the LDO and gate drive. The supply for the DRV pin can be selected from the onboard supply by installing shunts across jumpers J3 and J4. Alternatively, an external power supply can be used by applying 8.5V to 12V between test points VDRV and PGND.

Table 1. J3 and J4 Jumper Selection

JUMPER CONNECTIONS	DRV VOLTAGE
J3 installed and J4 installed*	Onboard power supply
J3 not installed and J4 not installed	External power supply

**Default selection*

Bode Plot

A 10Ω resistor is installed between the VOUT_P sense point and OUTP pin to measure the Bode plot. BODE+ and BODE- test points are provided on the board on either side of the 10Ω resistor for small-signal injection and the ability to measure the Bode plot.

Output Regulation

The VOUT_P and VOUT_N test points are provided to measure the V_{OUT} regulation.

Efficiency Measurement

V_{IN_P} and V_{IN_N} are provided to measure V_{IN} during efficiency measurement. Also, V_{OUT_P} and V_{OUT_N} are provided to measure V_{OUT} during efficiency measurement.

FREQ/CLK Pin

Switching frequency is selected by connecting the R16 resistor between the FREQ/CLK pin and VIN-. The switching frequency can also be selected by providing a 480kHz to 4MHz external clock (360kHz to 3MHz for triple phase) at this pin. A test point (CLOCK) is also provided to drive this pin.

REFIN Pin

By default, the REFIN pin is connected to the BIAS supply through R9 (0Ω resistor). R9 can be removed and REFIN can be connected to an external supply (between 1V and 2.2V) to change the VOUT reference and, therefore, change the output regulation voltage. The external supply should be applied between test point REFIN and AGND.

ADDR Pin

The EV kit provides four selectable I²C addresses by installing a shunt on jumper J6. By default, J6 is not installed, and the I²C address is selected as 1010111.

Table 2. I²C Address Selection

JUMPER CONNECTIONS	I²C CONTROLLER ADDRESS
Installed between pin 1 and pin 2 on J6	1010101
Installed between pin 3 and pin 4 on J6	1010010
Installed between pin 5 and pin 6 on J6	1010000
J6 not installed*	1010111

**Default selection*

Connecting Multiple EV Kits Together

The EV kit provides jumpers J1, J2, J8, J9, J10, and J11 to connect two EV kits together for three-phase or four-phase operation. As detailed in the MAX15258 data sheet, the EV kits can be configured for primary controller and secondary controller operation. The two EV kit's I²C addresses must be different.

MAX32625PICO Board

The MAX15258 EV kit uses the MAX32625PICO microcontroller board on headers J7 and J13 as an I²C digital interface to provide programmable internal V_{REF}, programmable overcurrent fault limit, readback for V_{IN} and V_{OUT}, phase current reporting, and fault status with downloaded firmware and the GUI. Note that the MAX32625PICO must be soldered on the J7 and J13 connectors to function with the MAX15258, as shown in *Figure 1*. The MAX32625PICO EV kit can be ordered from the *MAX32625PICO* web page, and the GUI and firmware of the MAX15258 can be downloaded from the *MAX15258* web page. Refer to MAX32625PICO EV kit data sheet for programming the MAX32625PICO board with the downloaded firmware file.

The EV kit software can be installed on the computer by running the **MAX15258Setup_1.0.35.exe** program inside a temporary folder. This copies the program files and creates an icon in the Windows **Start** menu.

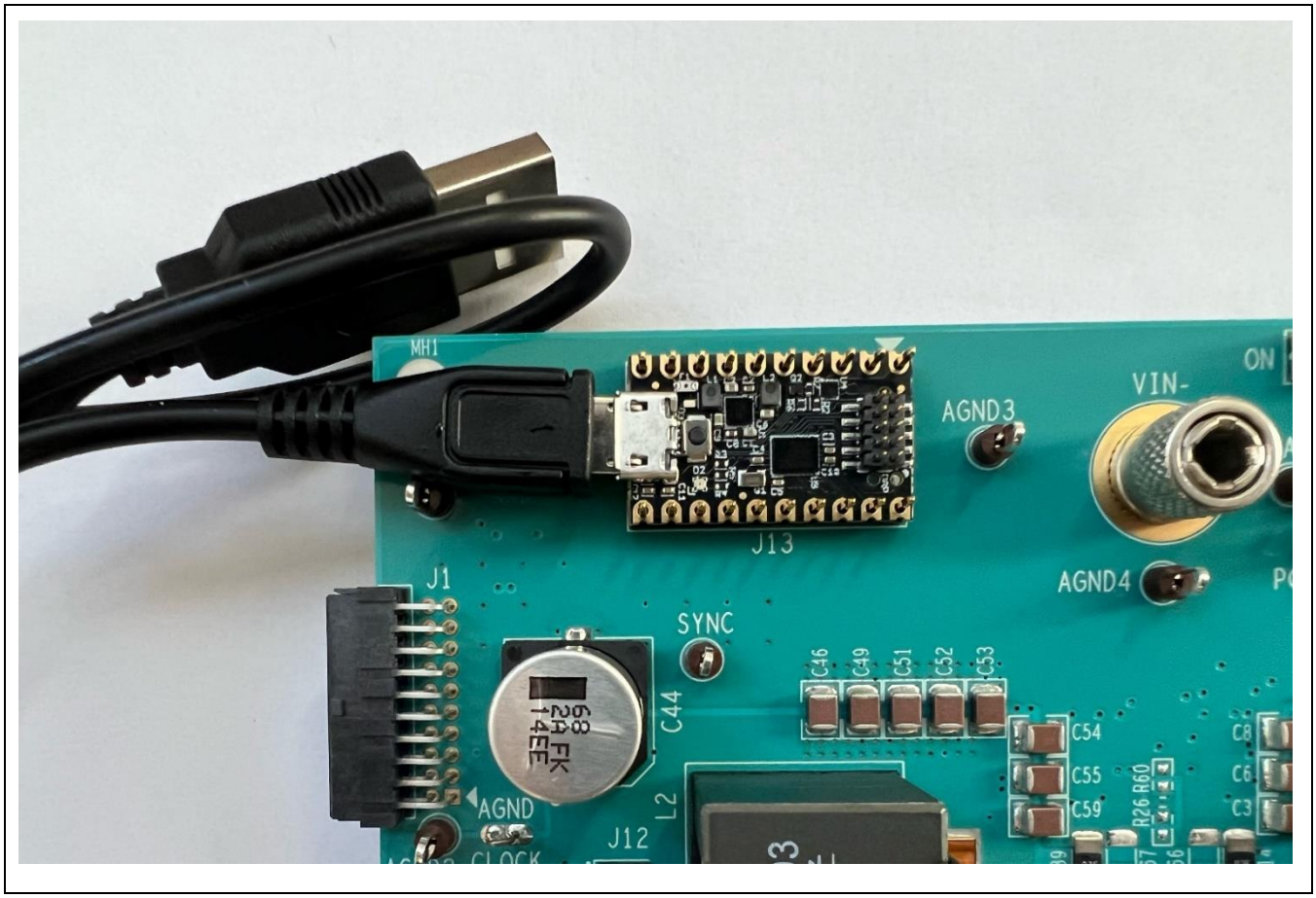


Figure 1. MAX32625PICO Connection on the MAX15258 EV Kit

Detailed Description of Software

In the MAX15258 GUI, make sure the MAX32625PICO board is connected to the PC USB port through a cable. Click on the **Connection** dropdown list and select the **COM port** that has appeared; then click on **Connect** button to connect the MAX32625PICO board. When the board is connected, the **Connect** button in the **Comm Settings** window on the left side of the GUI will be changed to **Disconnect**, and the **I2C Address** window will display the selected address of the MAX15258 IC. In the MAX15258 GUI, the bottom of the window will show the PICO board version, and the bottom right side will show “MAX15258 EV System Ready.” The MAX15258 GUI also gives users the option to display the format in either HEX or numeric.

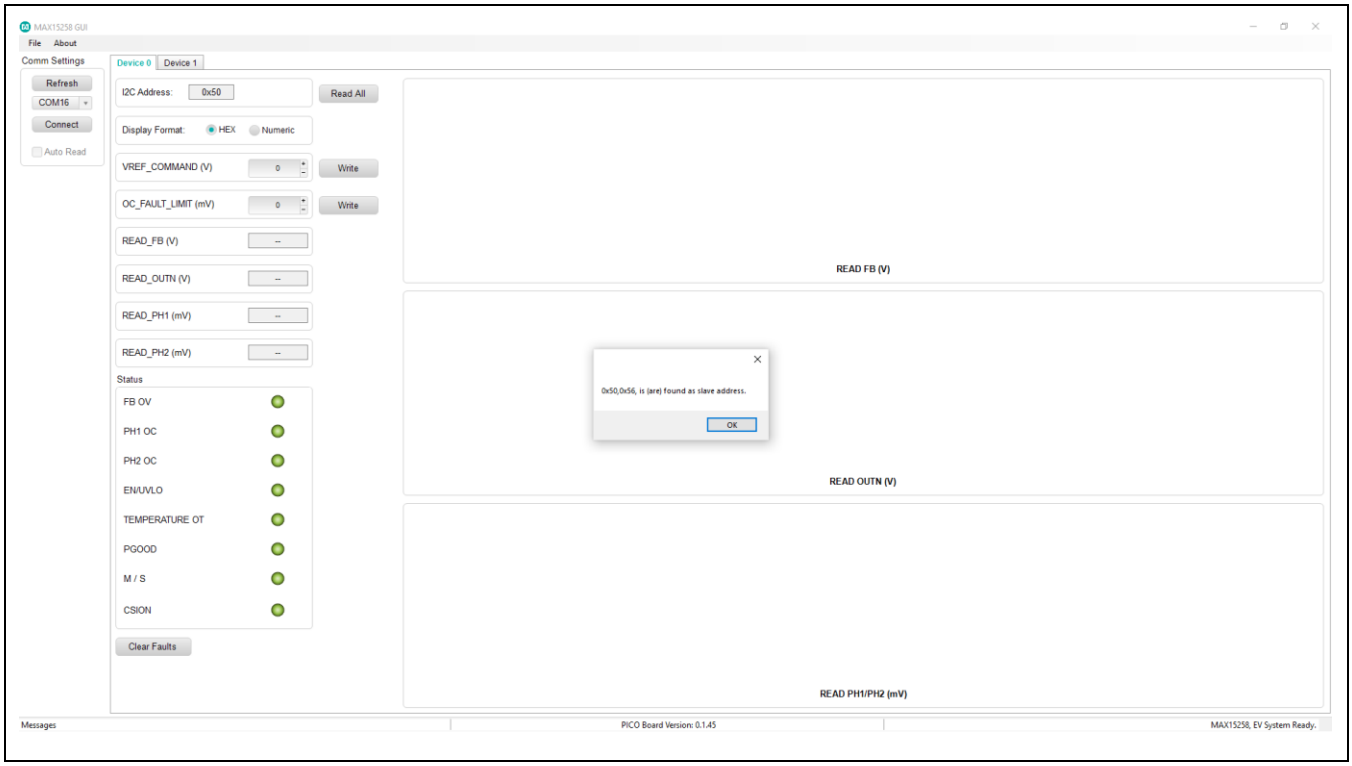


Figure 2. MAX15258 GUI PICO Board Connection and EV Kit Detection

The MAX15258 GUI allows users to configure the internal reference voltage and current-limit threshold through the VREF_COMMAND and OC_FAULT_LIMIT commands, respectively. VREF_COMMAND allows users to program the value of internal reference voltage from 0 to 2.2V. By default, VREF_COMMAND is set to 0V, and the internal reference voltage is set by the REFIN pin. Writing a nonzero value to VREF_COMMAND will activate the command and set the internal reference voltage value to VREF_COMMAND. In multiphase operation, VREF_COMMAND is active for the primary controller IC only and inactive for the secondary controller IC.

OC_FAULT_LIMIT allows users to program the overcurrent threshold (CSPx-CSNx) from 20mV to 100mV. By default, OC_FAULT_LIMIT is set to 0V, and the current-limit threshold is set by R_{ILIM}. Writing a nonzero value to OC_FAULT_LIMIT will activate the command and set the current-limit threshold to OC_FAULT_LIMIT. When OC_FAULT_LIMIT is active, the NOCP threshold will be -83% of the OC_FAULT_LIMIT threshold, and the FPOCP threshold will be 33% higher than the OC_FAULT_LIMIT threshold. The fault response will be the same as R_{ILIM} configuration. In multiphase operation, each IC’s OC_FAULT_LIMIT should be programmed separately.

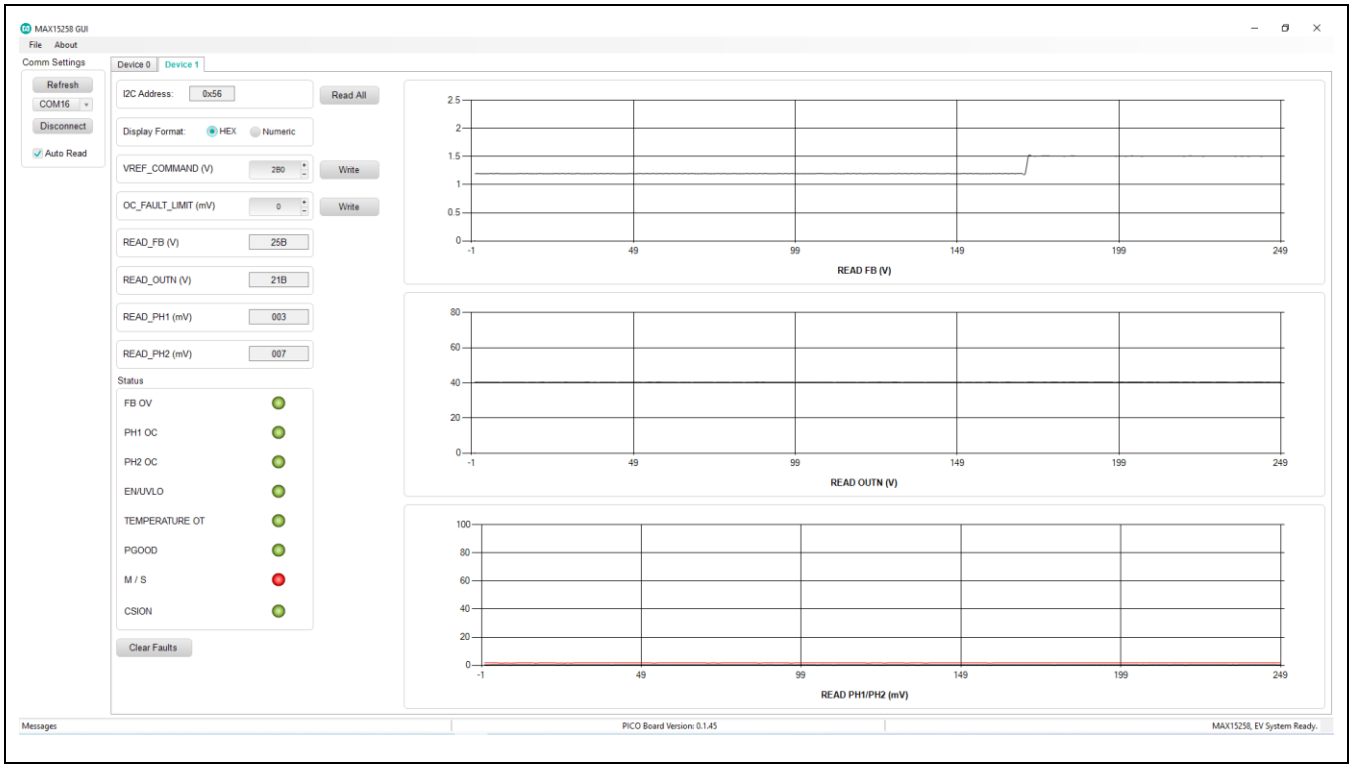


Figure 3. Configure Internal Reference Voltage through VREF_COMMAND

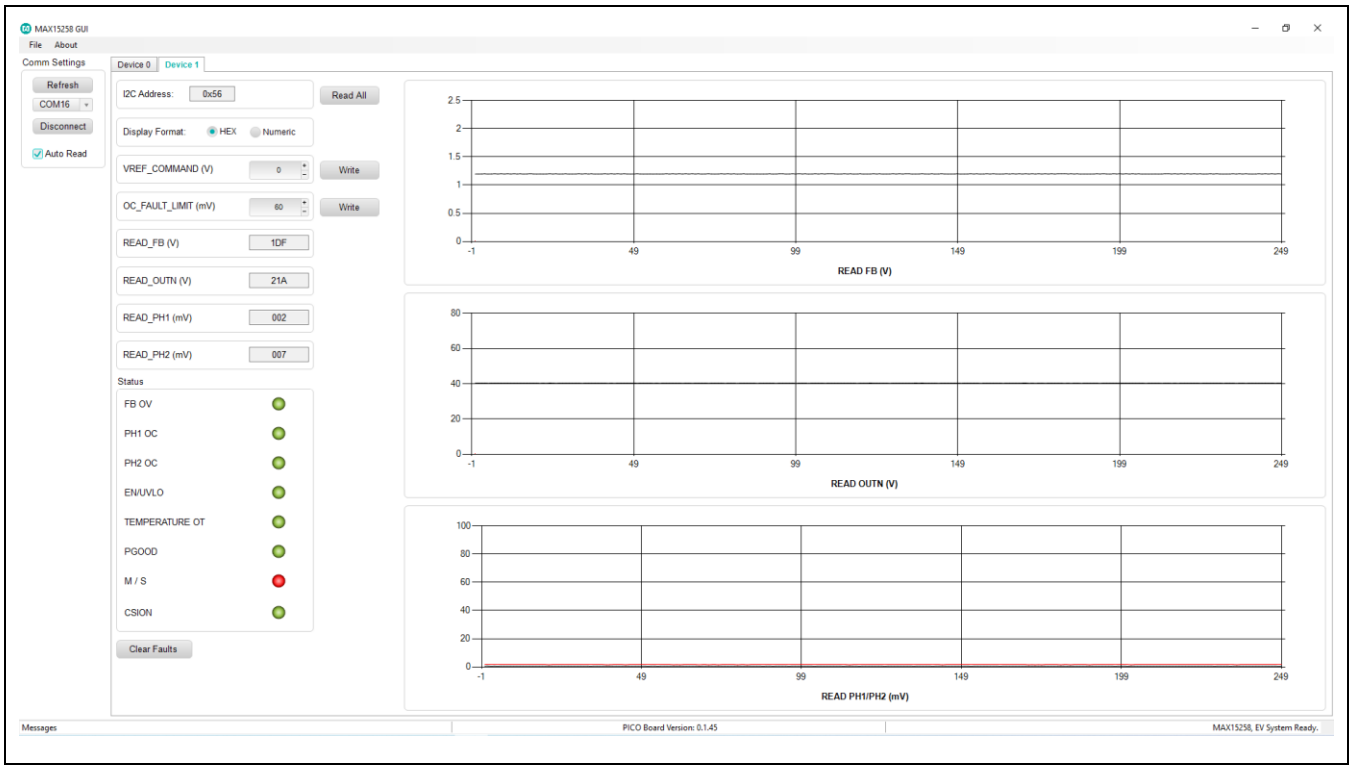


Figure 4. Configure Current-Limit Threshold through OC_FAULT_LIMIT

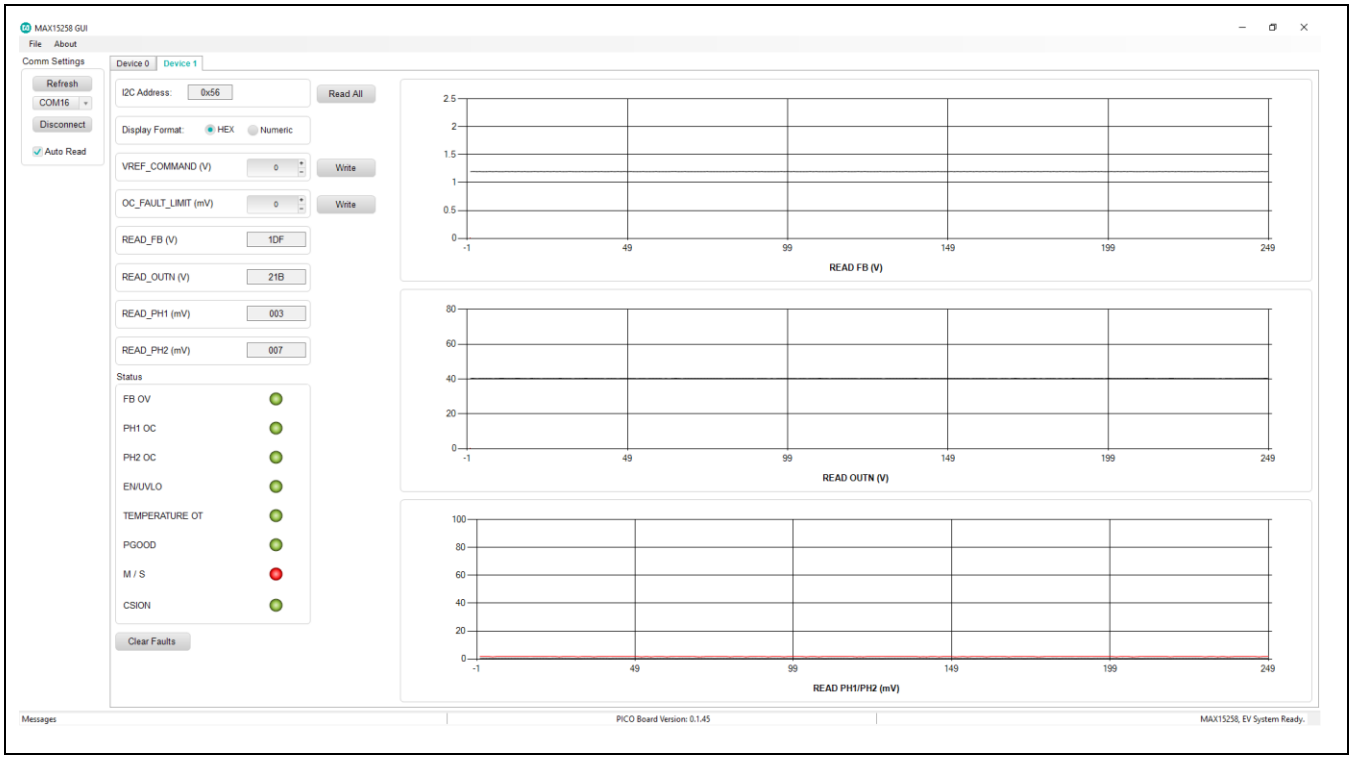


Figure 5. MAX15258 GUI Device Page for the Primary Controller IC

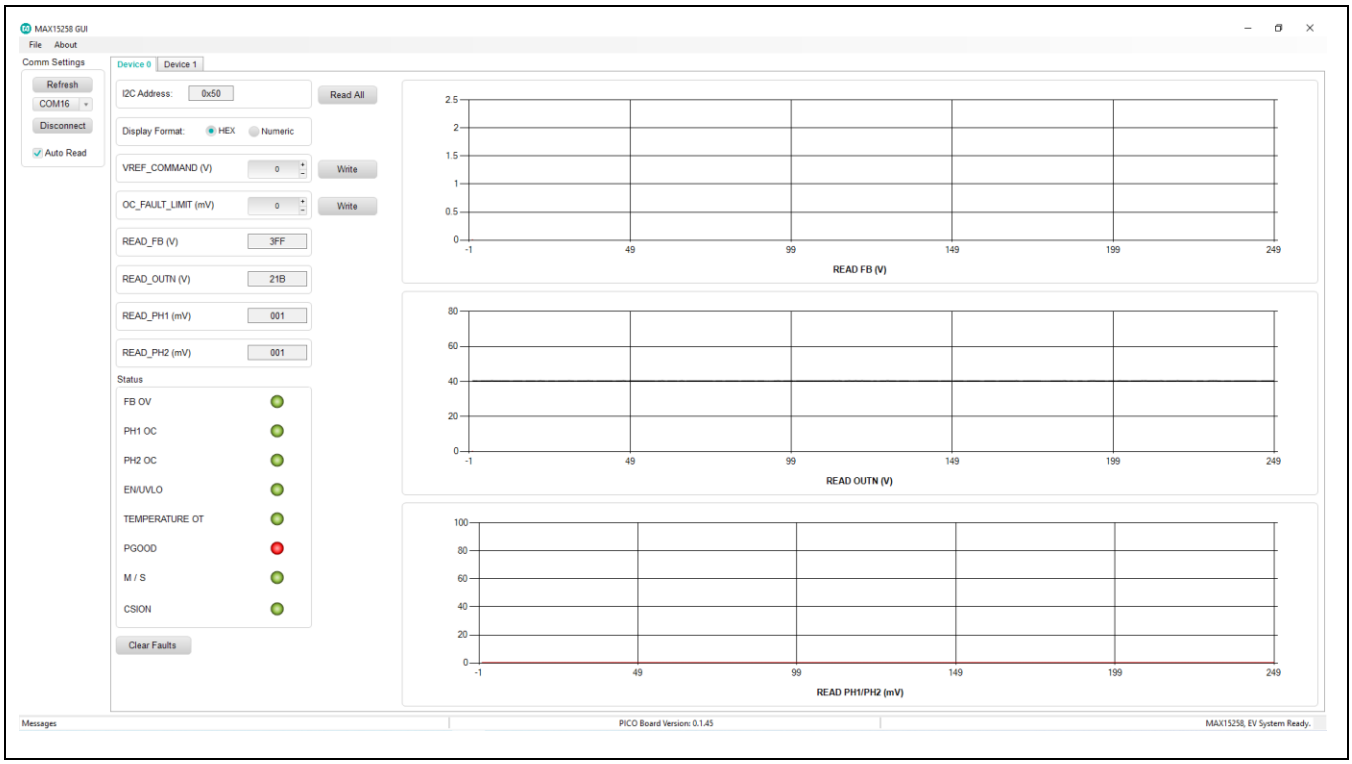


Figure 6. MAX15258 GUI Device Page for the Secondary Controller IC

The MAX15258 GUI is able to read back the feedback voltage, OUTN voltage, phase 1 and phase 2 current (in voltage format), and IC status. When a fault is detected, the corresponding light in the **Status** window will turn red. However, if there is no fault occurring, all of the lights in the **Status** window (except M/S) will be green. For M/S, a red light indicates the IC is the primary controller (M), while the green light indicates the IC is a secondary controller (S). The **Clear Faults** button below the **Status** window allows users to clear any fault indicated in the **Status** window.

The MAX15258 GUI also provides plots for voltage/current telemetry on the right of the GUI. In addition, the MAX15258 GUI allows real-time telemetry reading and plot display by selecting **Auto Read** in the **Comm Settings** window.

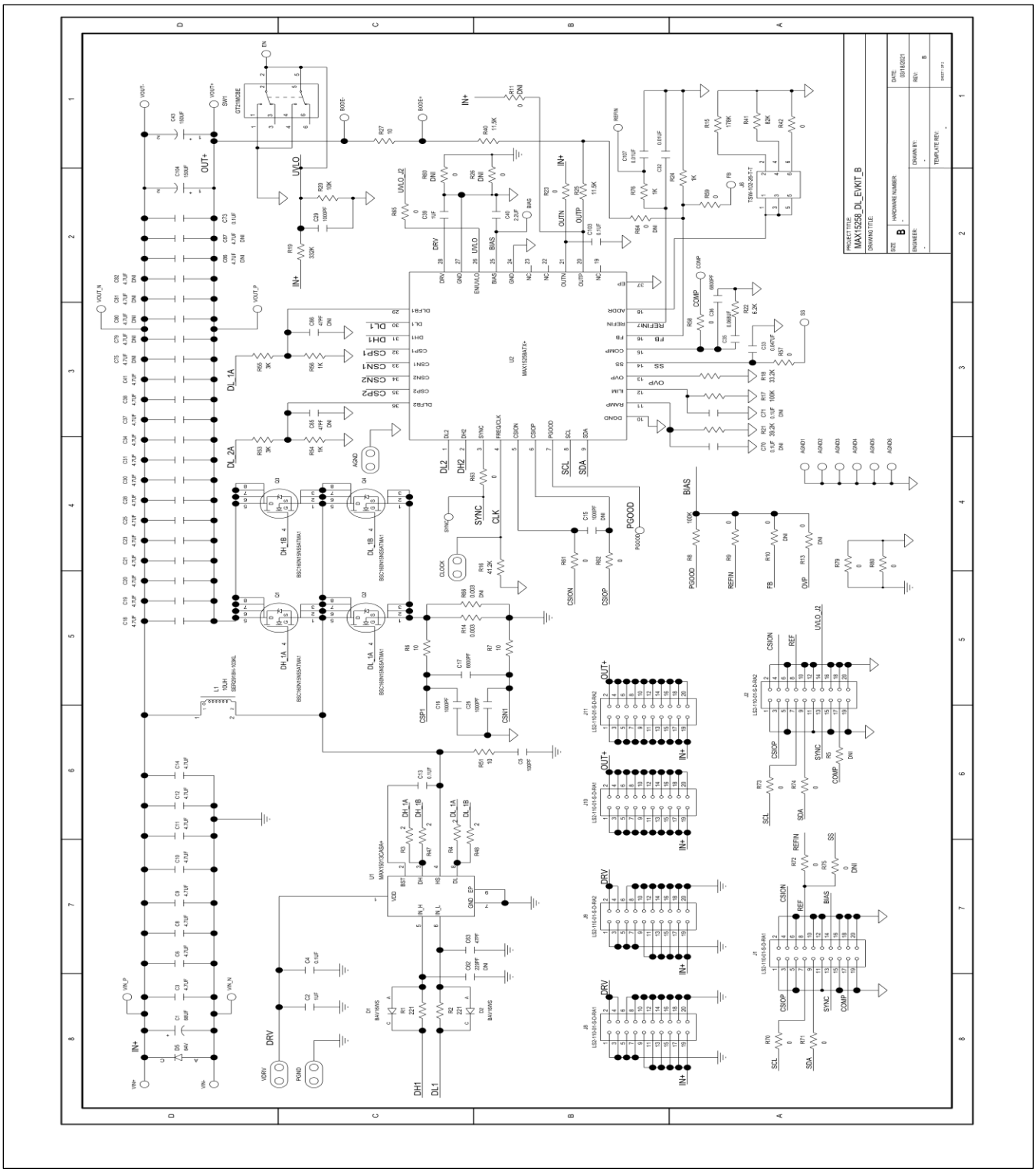
MAX15258 EV Kit Bill of Materials

ITEM	REF_DES	DNI/DNP	QTY	MFR PART#	MANUFACTURER	VALUE	DESCRIPTION
1	AGND, CLOCK, PGND, VDRV	--	4	9020 BUSS	WEICO WIRE	MAXIMPAD	EVK KIT PARTS; MAXIM PAD; WIRE; NATURAL; SOLID; WEICO WIRE; SOFT DRAWN BUS TYPE-S; 20AWG
2	AGND1-AGND6, BIAS, BODE+, BODE-, COMP, EN, FB, PGOOD, REFIN, SS, SYNC, VIN_N, VIN_P, VOUT_N, VOUT_P	--	20	5125	KEYSTONE	N/A	TEST POINT; PIN DIA=0.125IN; TOTAL LENGTH=0.445IN; BOARD HOLE=0.063IN; BROWN; PHOSPHOR BRONZE WIRE SILVER PLATE FINISH; RECOMMENDED FOR BOARD THICKNESS=0.062IN; NOT FOR COLD TEST
3	C1, C44	--	2	EEV-FK2A680Q	PANASONIC	68UF	CAP; SMT (CASE_H13); 68UF; 20%; 100V; ALUMINUM-ELECTROLYTIC
4	C2, C39, C45	--	3	TMK107B7105KA; 06033C105KAT2A; C1608X7R1E105K080AE	MURATA; TAIYO YUDEN; AVX; TAIYO YUDEN	1UF	CAP; SMT (0603); 1UF; 10%; 25V; X7R; CERAMIC
5	C3, C6, C8-C12, C14, C18-C21, C23, C25, C28, C30, C31, C34, C37, C38, C41, C42, C46, C49, C51-C55, C59, C69, C72, C74, C76-C78, C83-C85, C93-C95	--	42	CGA6M3X7S2A475K200AE; CGA6M3X7S2A475K200AB; GCM32DC72A475KE02	TDK; TDK; MURATA	4.7UF	CAP; SMT (1210); 4.7UF; 10%; 100V; X7S; CERAMIC
6	C4, C13, C47, C58, C73, C90, C100, C103	--	8	CC0603KRX7R0BB104; GRM188R72A104KA35; HMK107B7104KA; 06031C104KAT2A; GRM188R72A104K	YAGEO; MURATA; TAIYO YUDEN; AVX; MURATA	0.1UF	CAP; SMT (0603); 0.1UF; 10%; 100V; X7R; CERAMIC
7	C5, C7	--	2	C0603C101J2GAC	KEMET	100PF	CAP; SMT (0603); 100PF; 5%; 200V; C0G; CERAMIC
8	C16, C26, C27, C48	--	4	GRM1555C1E102JA01; C1005C0G1E102J050BA	MURATA; TDK	1000PF	CAP; SMT (0402); 1000PF; 5%; 25V; C0G; CERAMIC
9	C17, C36, C50	--	3	CC0402KRX7R8BB682; C0402X7R250-682KN	YAGEO; VENKEL LTD	6800PF	CAP; SMT (0402); 6800PF; 10%; 25V; X7R; CERAMIC
10	C29	--	1	GRM155R71H102JA01; GCM155R71H102JA37	MURATA; MURATA	1000PF	CAP; SMT (0402); 1000PF; 5%; 50V; X7R; CERAMIC
11	C32	--	1	C0402C103K5RAC; GRM155R71H103KA88; C1005X7R1H103K050BE; CL05B103KB5NNN; UMK105B7103KV	KEMET; MURATA; TDK; SAMSUNG ELECTRONIC; TAIYO YUDEN	0.01UF	CAP; SMT (0402); 0.01UF; 10%; 50V; X7R; CERAMIC
12	C33	--	1	C1005X7R1E473K050BC; GRM155R71E473K; GCM155R71E473KA55	TDK; MURATA; MURATA	0.047UF	CAP; SMT (0402); 0.047UF; 10%; 25V; X7R; CERAMIC
13	C35	--	1	GRM155R71H683KE14; GCM155R71H683KE02	MURATA; MURATA	0.068UF	CAP; SMT (0402); 0.068UF; 10%; 50V; X7R; CERAMIC
14	C40	--	1	GRM188C71E225KE11	MURATA	2.2UF	CAP; SMT (0603); 2.2UF; 10%; 25V; X7S; CERAMIC
15	C43, C89, C104, C106	--	4	EEH-ZS1J151P	PANASONIC	150UF	CAP; SMT (CASE_G16); 150UF; 20%; 63V; N/A; ALUMINUM-ELECTROLYTIC
16	C56	--	1	EEE-FK2A220P	PANASONIC	22UF	CAP; SMT (CASE_F); 22UF; 20%; 100V; ALUMINUM-ELECTROLYTIC
17	C57	--	1	C3216X7R2A105K160AA; GCH31CR72A105KE01; HMK316B7105KLH	MURATA; TDK; MURATA; TAIYO YUDEN	1UF	CAP; SMT (1206); 1UF; 10%; 100V; X7R; CERAMIC
18	C60	--	1	GRT155R61C105KE01	MURATA	1UF	CAP; SMT (0402); 1UF; 10%; 16V; X5R; CERAMIC
19	C61, C64, C105	--	3	GRM219R6YA475KA73	MURATA	4.7UF	CAP; SMT (0805); 4.7UF; 10%; 35V; X5R; CERAMIC
20	C63, C68	--	2	04025C470KAT2A	AVX	47PF	CAP; SMT (0402); 47PF; 10%; 50V; X7R; CERAMIC
21	C107	--	1	C0402C103J3RAC	KEMET	0.01UF	CAP; SMT (0402); 0.01UF; 5%; 25V; X7R; CERAMIC
22	C108	--	1	C0402C104J4RAC; GCM155R71C104JA55	KEMET; MURATA	0.1UF	CAP; SMT (0402); 0.1UF; 5%; 16V; X7R; CERAMIC
23	C109	--	1	C0402X7R250-562KNE; GRM155R71E562KA01; GMD155R71E562KA01	VENKEL LTD; MURATA; MURATA	5600PF	CAP; SMT (0402); 5600PF; 10%; 25V; X7R; CERAMIC
24	D1-D4	--	4	BAV16WS-7-F	DIODES INCORPORATED	BAV16WS	DIODE; SWT; SMT (SOD-323); PIV=75V; IF=0.3A
25	D5	--	1	SMAJ64A	LITTELFUSE	64V	DIODE; TVS; SMA (DO-214AC); PIV=64V; IF=3.9A
26	J1, J8, J10	--	3	LS2-110-01-S-D-RA1	SAMTEC	LS2-110-01-S-D-RA1	CONNECTOR; THROUGH HOLE; SELF MATING HERMAPHRODITIC STRIP SHROUD DOWN; RIGHT ANGLE; 20PINS
27	J2, J9, J11	--	3	LS2-110-01-S-D-RA2	SAMTEC	LS2-110-01-S-D-RA2	CONNECTOR; THROUGH HOLE; SELF MATING HERMAPHRODITIC STRIP SHROUD UP; RIGHT ANGLE; 20PINS
28	J3, J4, J12	--	3	PEC02SAAN	SULLINS	PEC02SAAN	CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT; 2PINS
29	J6	--	1	TSW-102-26-T-T	SAMTEC	TSW-102-26-T-T	CONNECTOR; THROUGH HOLE; TSW SERIES; TRIPLE ROW; STRAIGHT; 6PINS
30	J7, J13	--	2	TSW-110-09-G-S	SAMTEC	TSW-110-09-G-S	CONNECTOR; MALE; THROUGH HOLE; 0.025 IN SQ POST HEADER; STRAIGHT; 10PINS
31	L1, L2	--	2	SER2918H-103KL	COILCRAFT	10UH	INDUCTOR; SMT; FERRITE; 10UH; 10%; 28A
32	L3	--	1	74408943101	WURTH ELECTRONICS INC.	100UH	INDUCTOR; SMT; MAGNETICALLY SHIELDED FERRITE BOBBIN CORE;

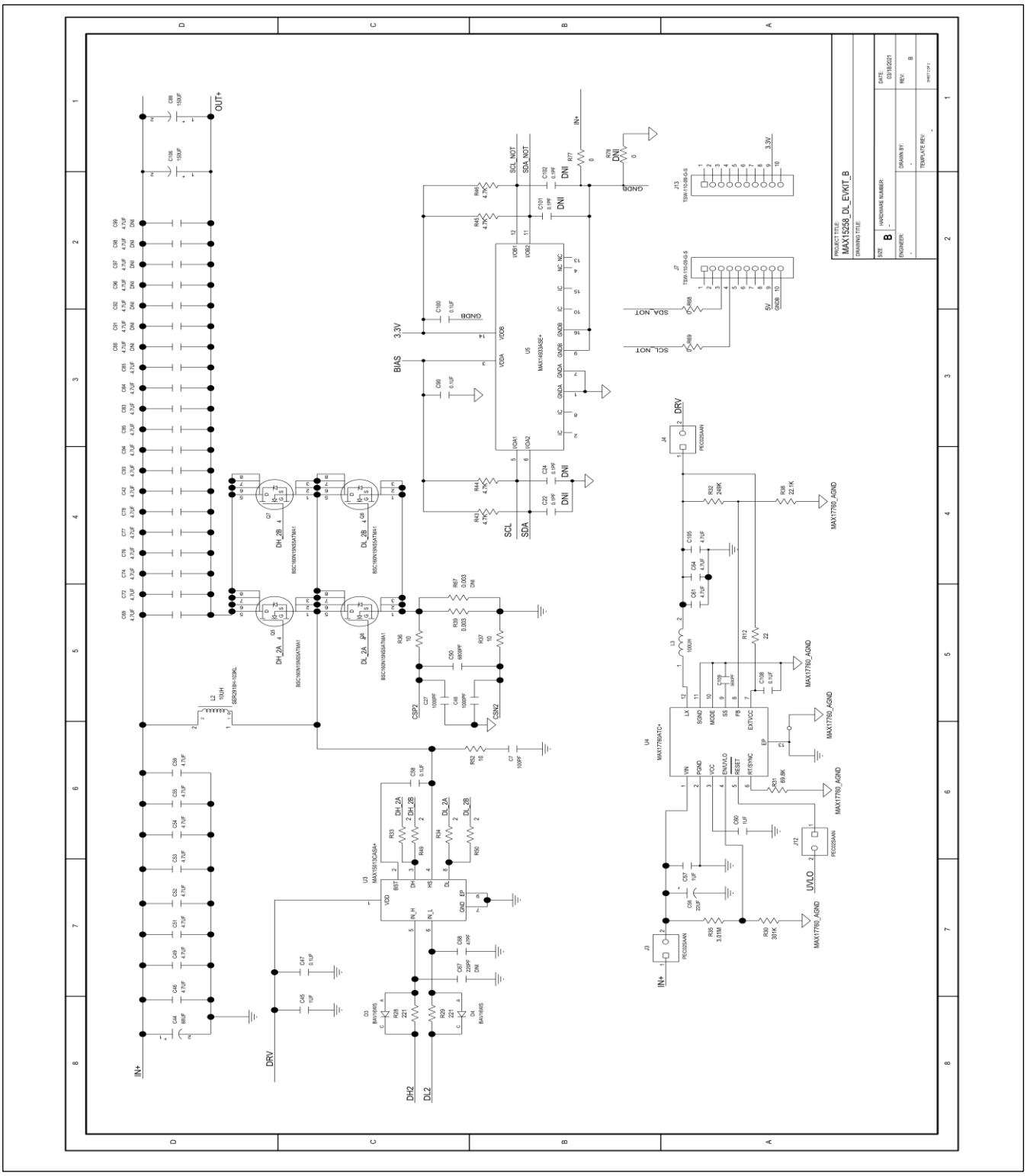
							100UH; TOL=+/-20%; 0.52A; -40 DEGC TO +125 DEGC
33	MH1-MH4	--	4	P440.375	GENERIC PART	N/A	MACHINE SCREW; SLOTTED; PAN; 4-40IN; 3/8IN; NYLON
34	MH1-MH4	--	4	1902B	GENERIC PART	N/A	STANDOFF; FEMALE-THREADED; HEX; 4-40IN; 3/8IN; NYLON
35	Q1-Q8	--	8	BSC160N15NS5ATMA1	INFINEON	BSC160N15NS5ATMA1	TRAN; NCH; PG-TDSON8; PD-(96W); I-(56A); V-(150V) ;NOTE:PURCHASE DIRECT FROM THE MANUFACTURER
36	R1, R2, R28, R29	--	4	CRCW0402221RFK	VISHAY DALE	221	RES; SMT (0402); 221; 1%; +/-100PPM/DEGC; 0.0630W
37	R3, R4, R33, R34, R47-R50	--	8	CRCW04022R0FK; CRCW04022R00FK	VISHAY DALE; VISHAY DALE	2	RES; SMT (0402); 2; 1%; +/-100PPM/DEGC; 0.0630W
38	R6, R7, R36, R37	--	4	9C04021A10R0FL	YAGEO	10	RES; SMT (0402); 10; 1%; +/-100PPM/DEGC; 0.0630W
39	R8, R17	--	2	CRCW0402100KFK; RC0402FR-07100KL	VISHAY; YAGEO	100K	RES; SMT (0402); 100K; 1%; +/-100PPM/DEGC; 0.0630W
40	R9, R23, R42, R57-R59, R61-R63, R65, R68-R74, R77	--	18	ERJ-2GE0R00	PANASONIC	0	RES; SMT (0402); 0; JUMPER; JUMPER; 0.1000W
41	R12	--	1	RC0402FR-0722RL	YAGEO PHYCOMP	22	RES; SMT (0402); 22; 1%; +/-100PPM/DEGC; 0.0630W
42	R14, R39	--	2	WSL20103L000F	VISHAY DALE	0.003	RES; SMT (2010); 0.003; 1%; +/-150PPM/DEGC; 0.5000W
43	R15	--	1	CR0402-FX-1783GLF	BOURNS	178K	RES; SMT (0402); 178K; 1%; +/-100PPM/DEGC; 0.0630W
44	R16	--	1	CRCW040241K2FK	VISHAY DALE	41.2K	RES; SMT (0402); 41.2K; 1%; +/-100PPM/DEGK; 0.0630W
45	R18	--	1	CRCW04023322FK; CRCW040233K2FK; RC0402FR-0733K2L	VISHAY; VISHAY; YAGEO	33.2K	RES; SMT (0402); 33.2K; 1%; +/-100PPM/DEGC; 0.0630W
46	R19	--	1	CRCW0402332KFK	VISHAY DALE	332K	RES; SMT (0402); 332K; 1%; +/-100PPM/DEGK; 0.0630W
47	R20	--	1	ERJ-2RKF1002	PANASONIC	10K	RES; SMT (0402); 10K; 1%; +/-100PPM/DEGC; 0.1000W
48	R21	--	1	ERJ-2RKF3922	PANASONIC	39.2K	RES; SMT (0402); 39.2K; 1%; +/-100PPM/DEGC; 0.1000W
49	R22	--	1	CRCW04026K20FK	VISHAY DALE	6.2K	RES; SMT (0402); 6.2K; 1%; +/-100PPM/DEGC; 0.0630W
50	R24, R76	--	2	ERJ-2RKF1001	PANASONIC	1K	RES; SMT (0402); 1K; 1%; +/-100PPM/DEGC; 0.1000W
51	R25, R40	--	2	ERJ-2RKF1202	PANASONIC	12K	RES; SMT (0402); 12K; 1%; +/-100PPM/DEGC; 0.1000W
52	R27, R51, R52	--	3	CRCW060310R0FK; MCR03EZPFX10R0; ERJ-3EKF10R0	VISHAY DALE; ROHM	10	RES; SMT (0603); 10; 1%; +/-100PPM/DEGC; 0.1000W
53	R30	--	1	CR0402-16W-3013FT;CRCW0402301KFK	VENKEL LTD.; VISHAY DALE	301K	RES; SMT (0402); 301K; 1%; +/-100PPM/DEGC; 0.0630W
54	R31	--	1	ERJ-2RKF6982	PANASONIC	69.8K	RES; SMT (0402); 69.8K; 1%; +/-100PPM/DEGC; 0.1000W
55	R32	--	1	CRCW0402249KFK	VISHAY DALE	249K	RES; SMT (0402); 249K; 1%; +/-100PPM/DEGC; 0.0630W
56	R35	--	1	CRCW04023M01FK	VISHAY DALE	3.01M	RES; SMT (0402); 3.01M; 1%; +/-100PPM/DEGC; 0.0630W
57	R38	--	1	CRCW040222K1FK	VISHAY DALE	22.1K	RES; SMT (0402); 22.1K; 1%; +/-100PPM/DEGC; 0.0630W
58	R41	--	1	CRCW040282K0FK;MCR01MZPF8202	VISHAY DALE; ROHM	82K	RES; SMT (0402); 82K; 1%; +/-100PPM/DEGC; 0.0630W
59	R43-R46	--	4	ERJ-2RKF4701	PANASONIC	4.7K	RES; SMT (0402); 4.7K; 1%; +/-100PPM/DEGC; 0.1000W
60	R53, R55	--	2	CRCW04023K00FK	VISHAY DALE	3K	RES; SMT (0402); 3K; 1%; +/-100PPM/DEGC; 0.0630W
61	R54, R56	--	2	RC0402FR-071KL; MCR01MZPF1001	YAGEO; ROHM SEMICONDUCTOR	1K	RES; SMT (0402); 1K; 1%; +/-100PPM/DEGC; 0.0630W
62	R79, R80	--	1	RC1608J000CS;CR0603-J/-000ELF;RC0603JR-070RL	SAMSUNG ELECTRONICS; BOURNS; YAGEO PH	0	RES; SMT (0603); 0; 5%; JUMPER; 0.1000W
63	SW1	--	1	GT21MCBE	C&K COMPONENTS	GT21MCBE	SWITCH; DPDT; THROUGH HOLE; 20V; 0.4VA; GT SERIES; SEALED ULTRAMINIATURE TOGGLE SWITCH; RCOIL= 0.05 OHM; RINSULATION=10G OHM; C&K COMPONENTS
64	U1, U3	--	2	MAX15013CASA+	ANALOG DEVICES	MAX15013CASA+	IC; DRV; 175V/2A; HIGH-SPEED; HALF-BRIDGE MOSFET DRIVER; NSOIC8-EP
65	U2	--	1	MAX15258ATX+	ANALOG DEVICES	MAX15258ATX+	EVKIT PART - IC; MAX15258; TEMPORARY FOOTPRINT
66	U4	--	1	MAX17760ATC+	ANALOG DEVICES	MAX17760ATC+	IC; VCON; 4.5V TO 76V; 300MILLI-AMP; HIGH-EFFICIENCY; SYNCHRONOUS STEP-DOWN DC-DC CONVERTER; TDFN12-EP
67	U5	--	1	MAX14933ASE+	ANALOG DEVICES	MAX14933ASE+	IC; ISO; TWO-CHANNEL; 2.75KV I2C ISOLATOR; NSOIC16
68	VIN+, VIN-, VOUT+, VOUT-	--	4	111-2223-001	EMERSON NETWORK POWER	111-2223-001	MACHINE SCREW; THUMBSCREW; BANANA; 1/4-32IN; 11/32IN; NICKEL PLATED BRASS
69	PCB	--	1	MAX15258DL	ANALOG DEVICES	PCB	PCB:MAX15258DL
70	C15	DNP	1	C0402C102K5GAC	KEMET	1000PF	CAP; SMT (0402); 1000PF; 10%; 50V; C0G; CERAMIC

71	C22, C24, C101, C102	DNP	4	GJM1555C1HR10WB01	MURATA	0.1PF	CAP; SMT (0402); 0.1PF; 50V; C0G; CERAMIC
72	C62, C67	DNP	2	GRM155R72A221KA01	MURATA	220PF	CAP; SMT (0402); 220PF; 10%; 100V; X7R; CERAMIC
73	C65, C66	DNP	2	C0402C0G500-470JNE; CC0402JRNPO9BN470; GRM1555C1H470JA01; CL05C470JB5NNN	VENKEL LTD.; YAGEO PHYCOMP; MURATA; SAMSUNG ELECTRONICS	47PF	CAP; SMT (0402); 47PF; 5%; 50V; C0G; CERAMIC
74	C70, C71	DNP	2	C1005X7R1H104K050BB; GRM155R71H104KE14; C1005X7R1H104K050BE; UMK105B7104KV-FR	TDK; MURATA; TDK; TAIYO YUDEN	0.1UF	CAP; SMT (0402); 0.1UF; 10%; 50V; X7R; CERAMIC
75	C75, C79-C82, C86-C88, C91, C92, C96-C99	DNP	14	CGA6M3X7S2A475K200AE; CGA6M3X7S2A475K200AB; GCM32DC72A475KE02	TDK; TDK; MURATA	4.7UF	CAP; SMT (1210); 4.7UF; 10%; 100V; X7S; CERAMIC
76	R5	DNP	1	CRCW0603100KFK; RC0603FR-07100KL; RC0603FR-13100KL; ERJ-3EKF1003; AC0603FR-07100KL	VISHAY DALE; YAGEO; YAGEO; PANASONIC	100K	RES; SMT (0603); 100K; 1%; +/-100PPM/DEGC; 0.1000W
77	R10, R11, R13, R64, R75, R78	DNP	6	ERJ-2GE0R00	PANASONIC	0	RES; SMT (0402); 0; JUMPER; JUMPER; 0.1000W
78	R26, R60	DNP	2	CRCW06030000ZS;MCR03EZPJ000;ERJ-3GEY0R00;CR0603AJ/-000ELF	VISHAY; ROHM SEMICONDUCTOR; PANASONIC; BOURNS	0	RES; SMT (0603); 0; JUMPER; JUMPER; 0.1000W
79	R66, R67	DNP	2	WSL20103L000F	VISHAY DALE	0.003	RES; SMT (2010); 0.003; 1%; +/-150PPM/DEGC; 0.5000W

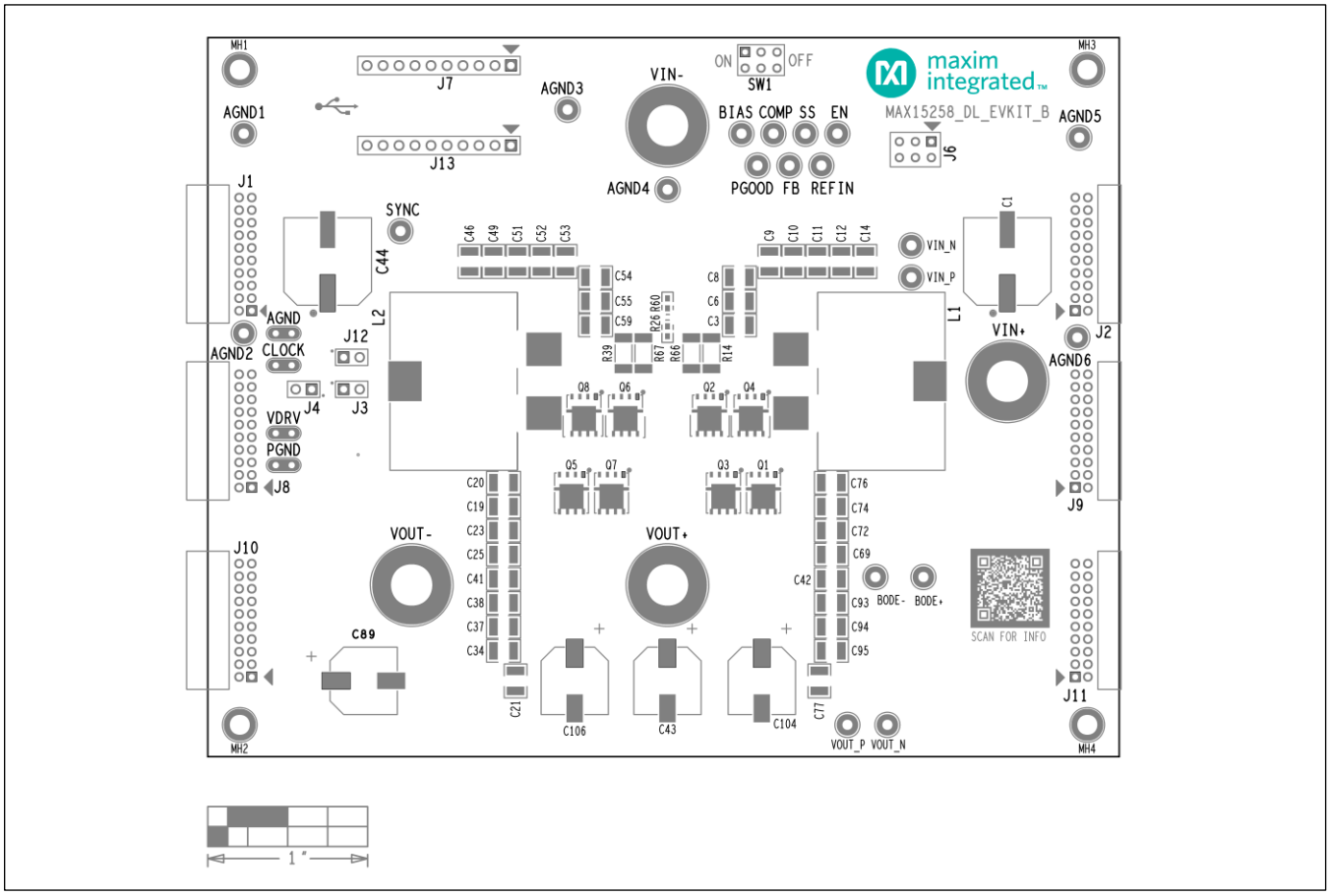
MAX15258 EV Kit Schematics



MAX15258 EV Kit Schematics (continued)

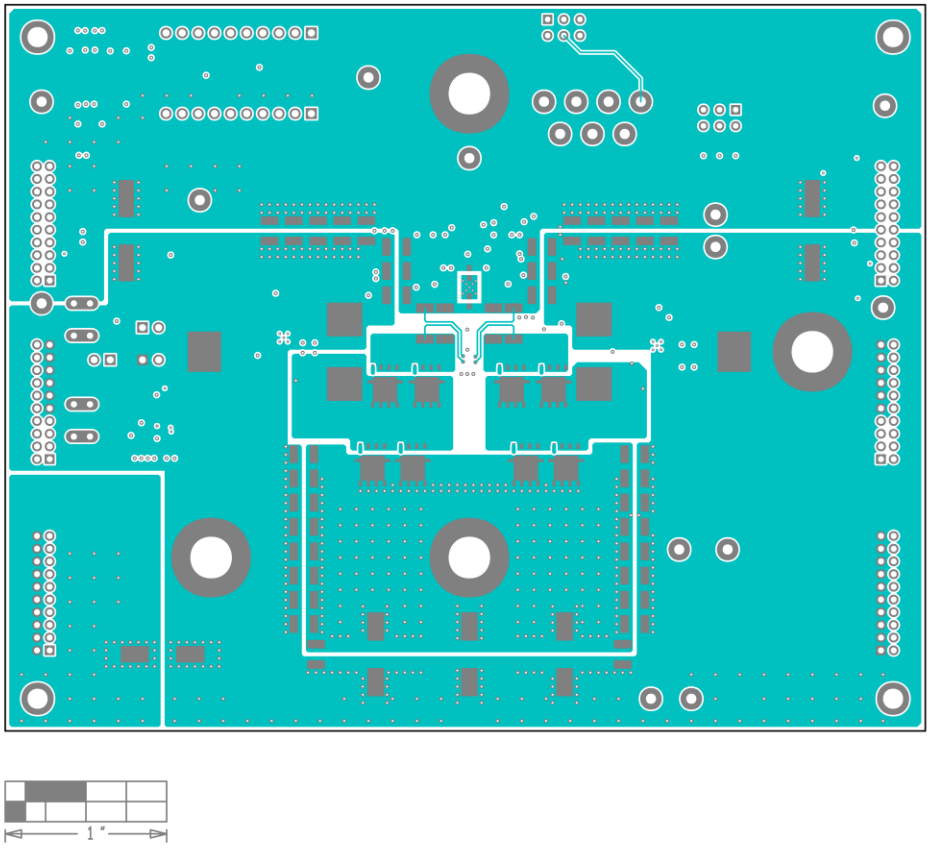


MAX15258 EV Kit PCB Layout Diagrams



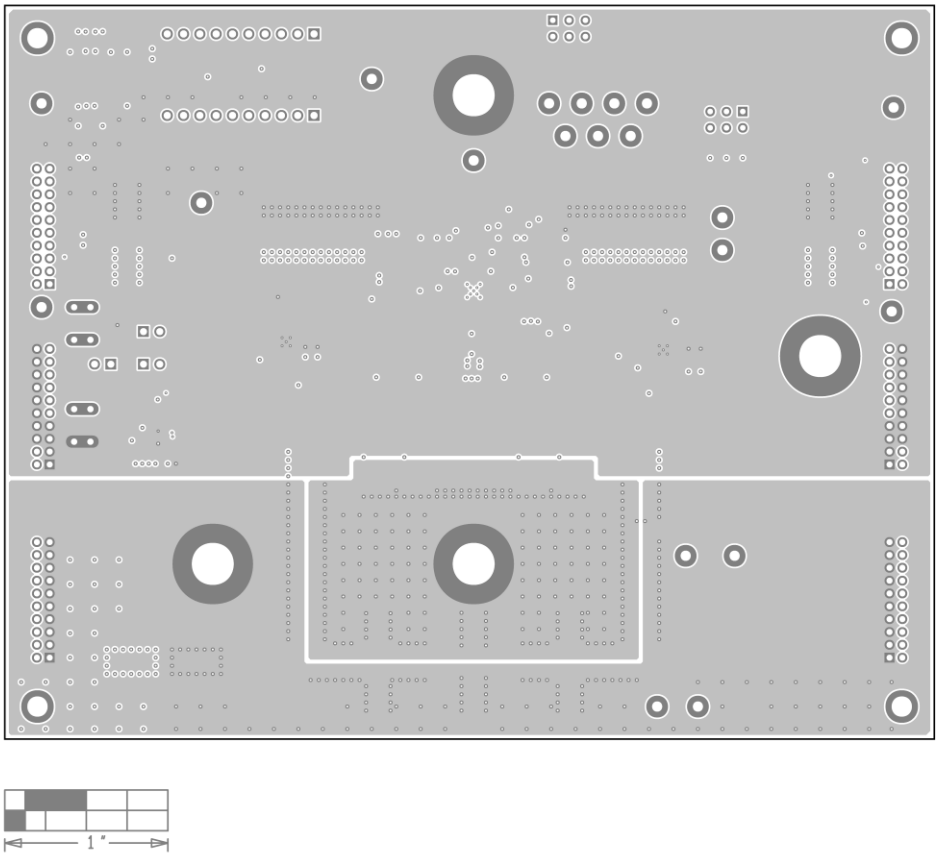
MAX15258 EV Kit Component Placement Guide—Top Silkscreen

MAX15258 EV Kit PCB Layout Diagrams (continued)



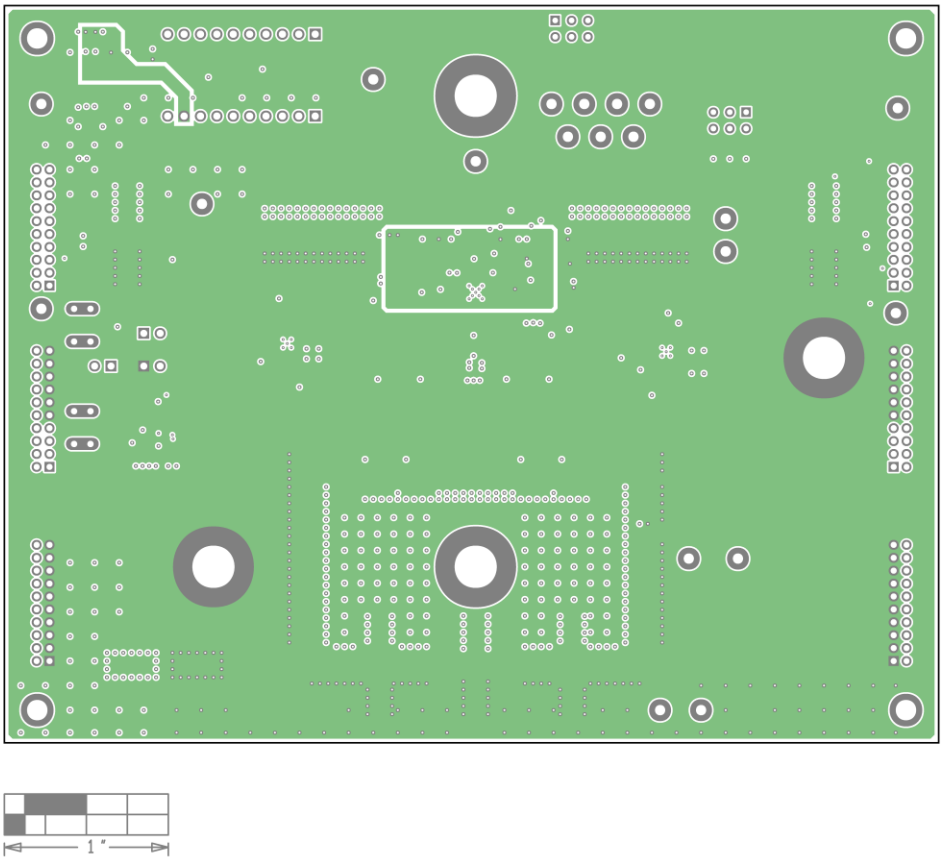
MAX15258 EV Kit PCB Layout—Top Layer

MAX15258 EV Kit PCB Layout Diagrams (continued)



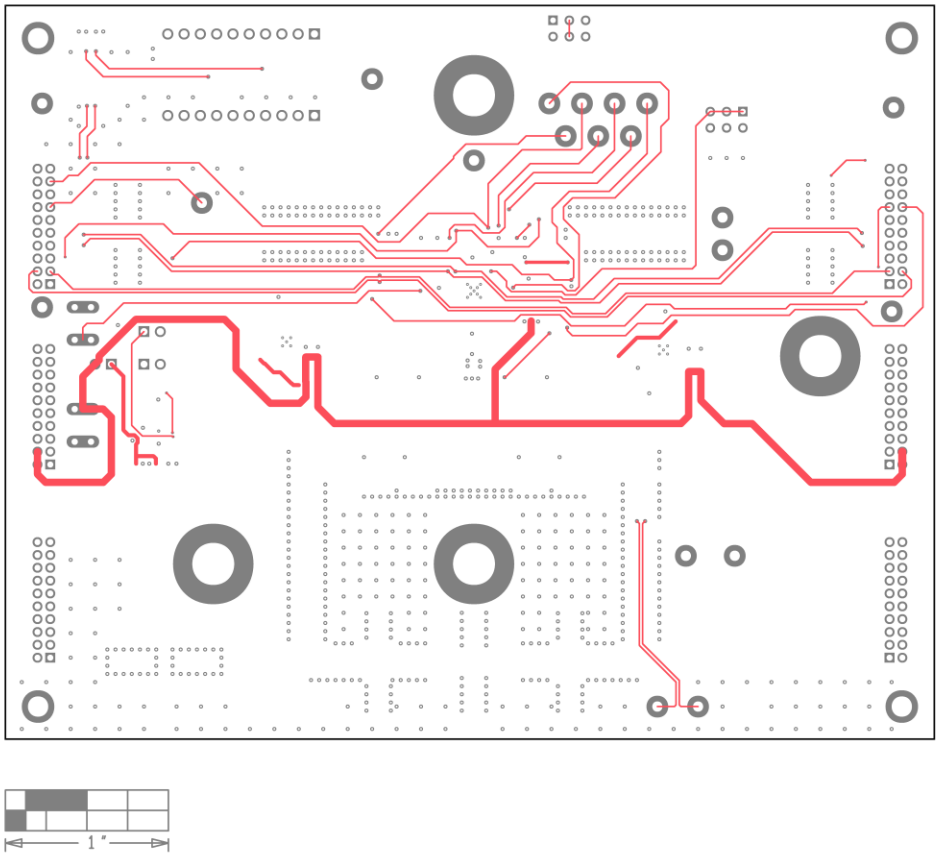
MAX15258 EV Kit PCB Layout—Internal Layer 2

MAX15258 EV Kit PCB Layout Diagrams (continued)



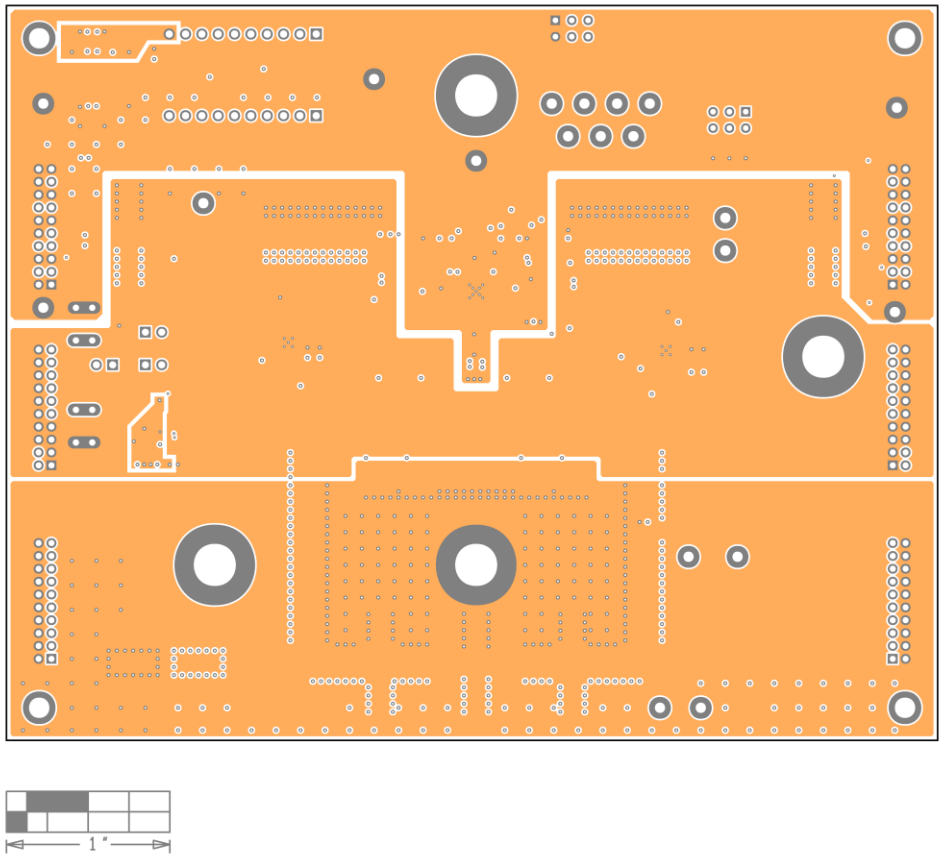
MAX15258 EV Kit PCB Layout—Internal Layer 3

MAX15258 EV Kit PCB Layout Diagrams (continued)



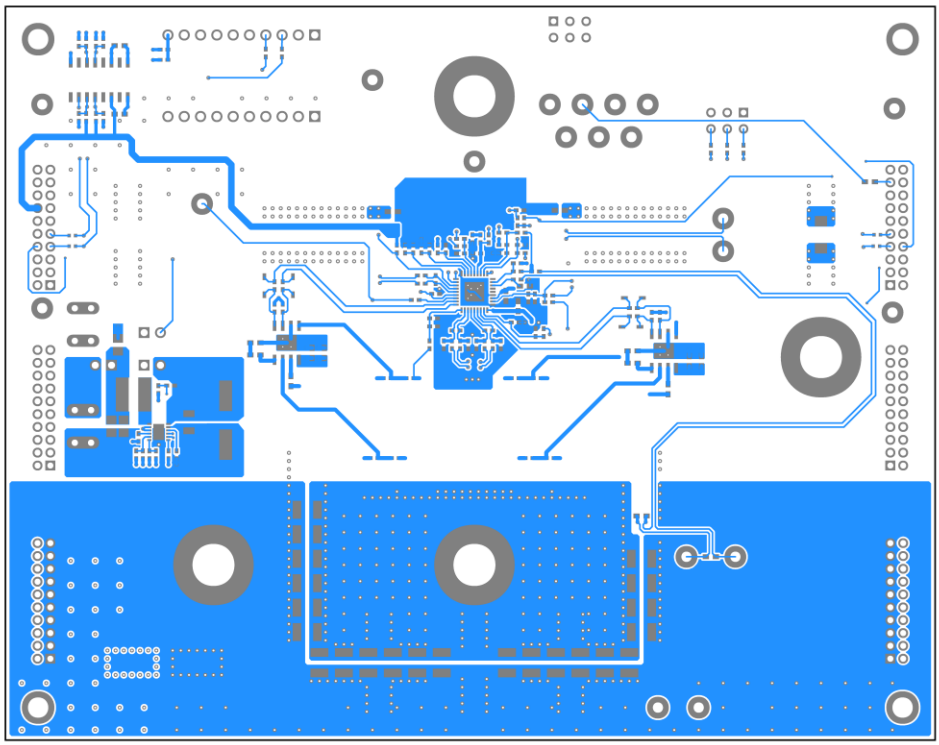
MAX15258 EV Kit PCB Layout—Internal Layer 4

MAX15258 EV Kit PCB Layout Diagrams (continued)



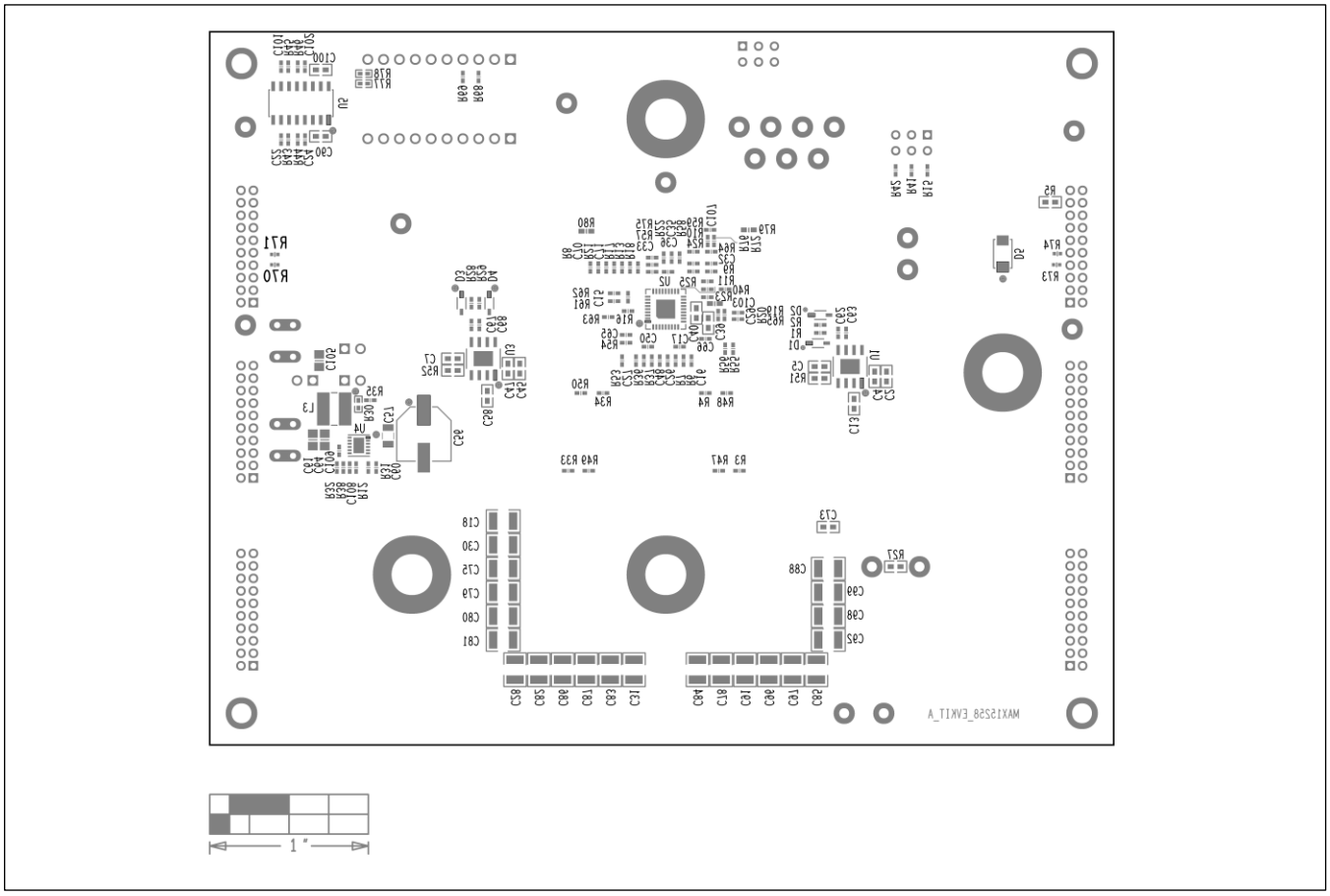
MAX15258 EV Kit PCB Layout—Internal Layer 5

MAX15258 EV Kit PCB Layout Diagrams (continued)



MAX15258 EV Kit PCB Layout—Bottom Layer

MAX15258 EV Kit PCB Layout Diagrams (continued)



MAX15258 EV Kit Component Placement Guide—Bottom Silkscreen

Ordering Information

PART NUMBER	TYPE
MAX15258DL2EVKIT#	EV Kit

 # Denotes RoHS-compliant.

Revision History

REVISION NUMBER	REVISION DATE	DESCRIPTION	PAGES CHANGED
0	3/22	Initial release	—