ANALOG DEVICES

MAX77647 Evaluation Kit

General Description

The MAX77647 evaluation kit (EV kit) allows for easy experimentation with various MAX77647 features, including the SIMO buck-boost regulator, a linear regulator, an on/off controller, and an I^2C interface. Windows®-based software provides a user-friendly graphical interface as well as a detailed register-based interface to exercise the features of the MAX77647.

Ordering Information appears at end of data sheet.

Features

- Easy to Use
- GUI-Driven I^2C Interface
- Assembled and Fully Tested
- Evaluates Push-Button, Slide-Switch, and Logic Mode On-Key Options
- On-Board Electronic Loads
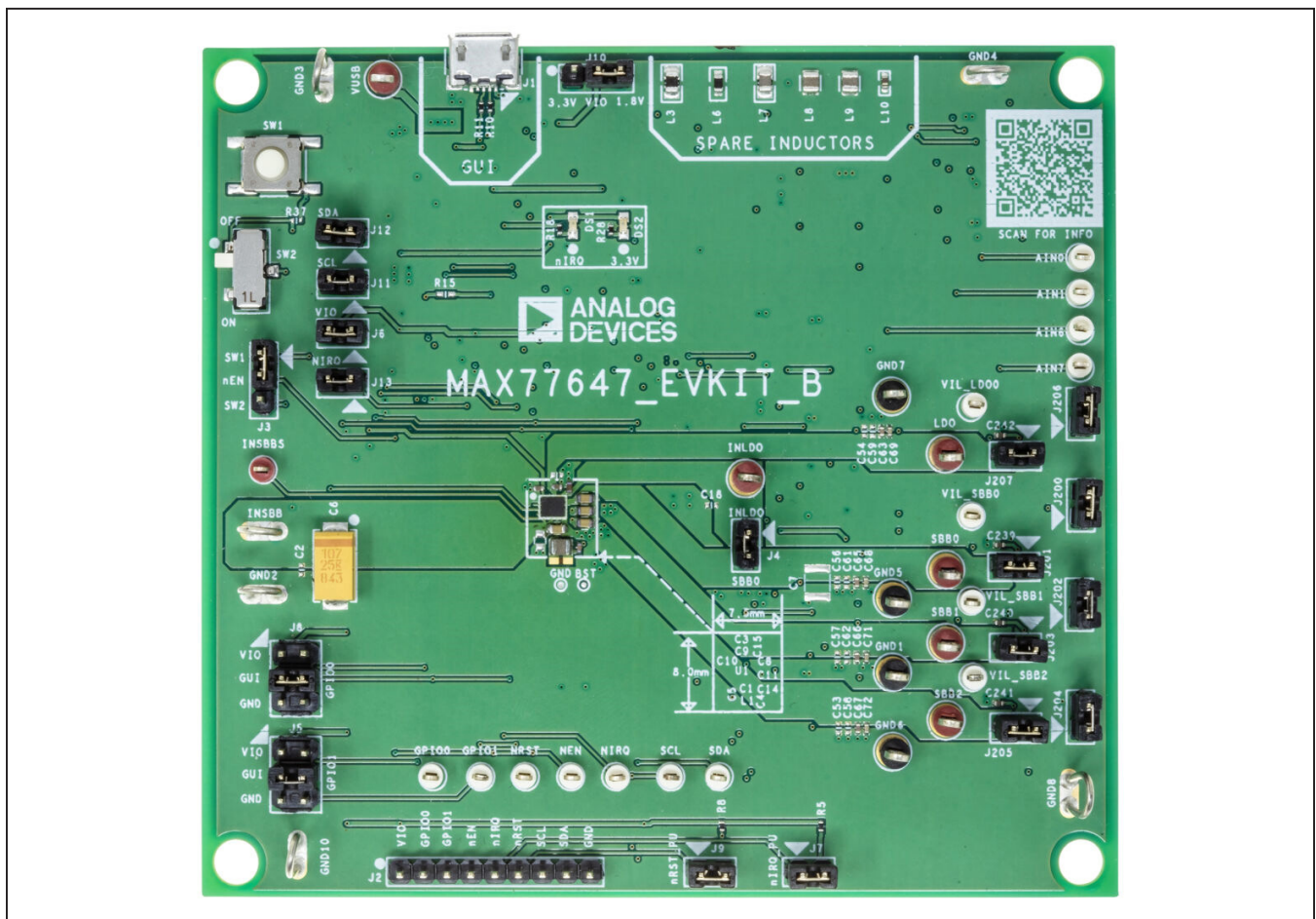 - Steady-State, Transient, and Random Modes

Figure 1. MAX77647 EV Kit Photo

Windows is a registered trademark of Microsoft Corporation.
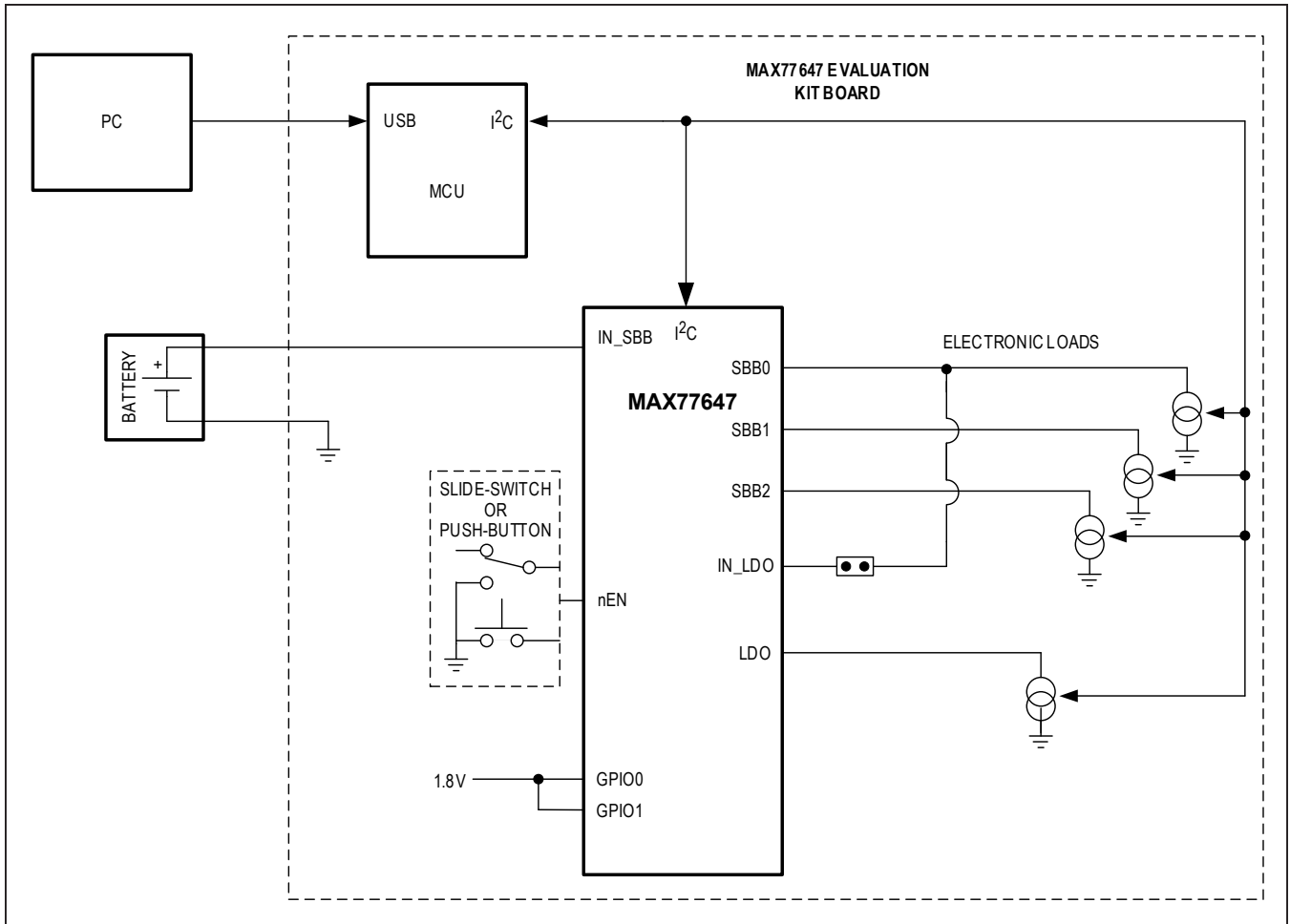
319-101004; Rev 0; 6/23

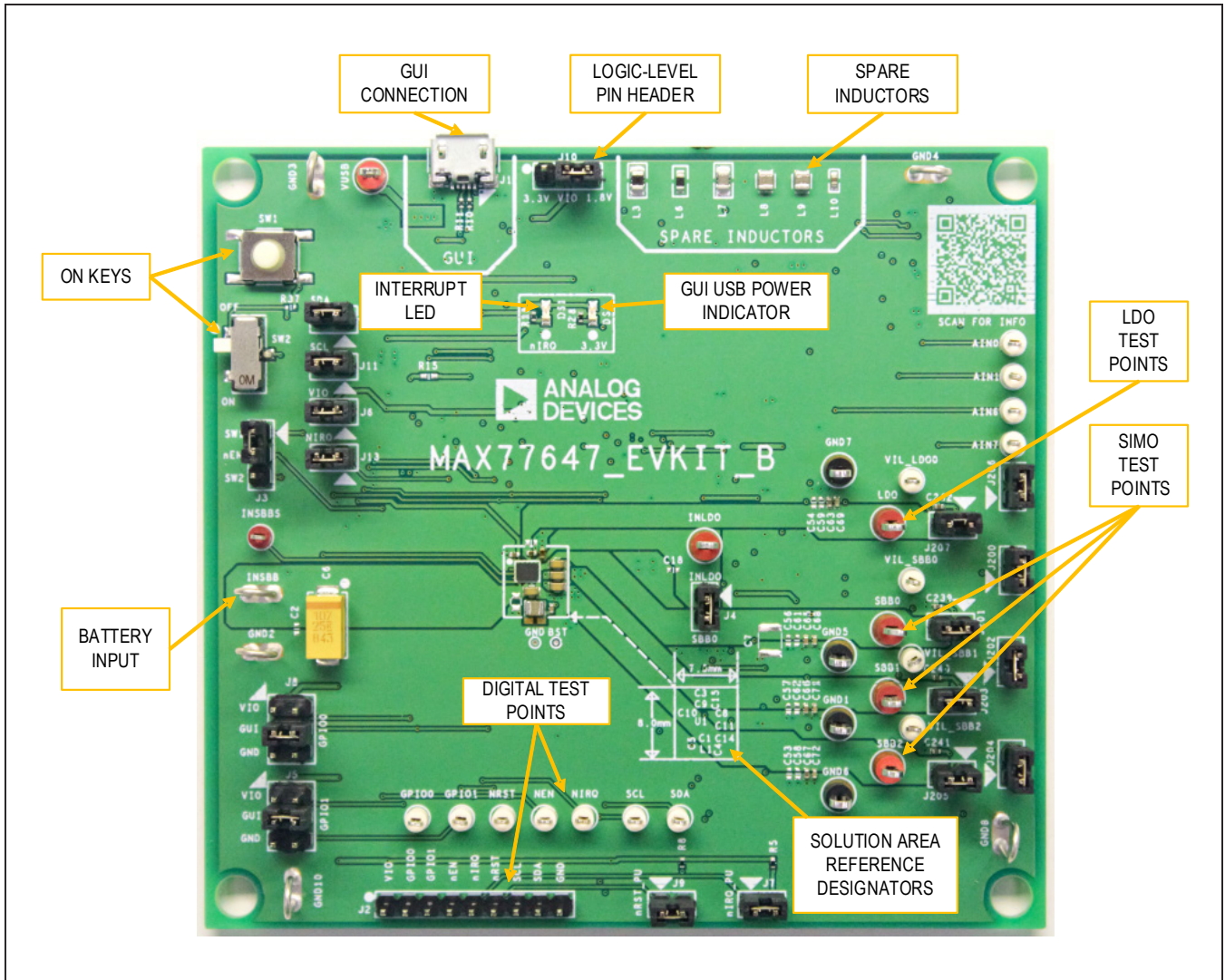Figure 2. EV Kit Simplified Block Diagram
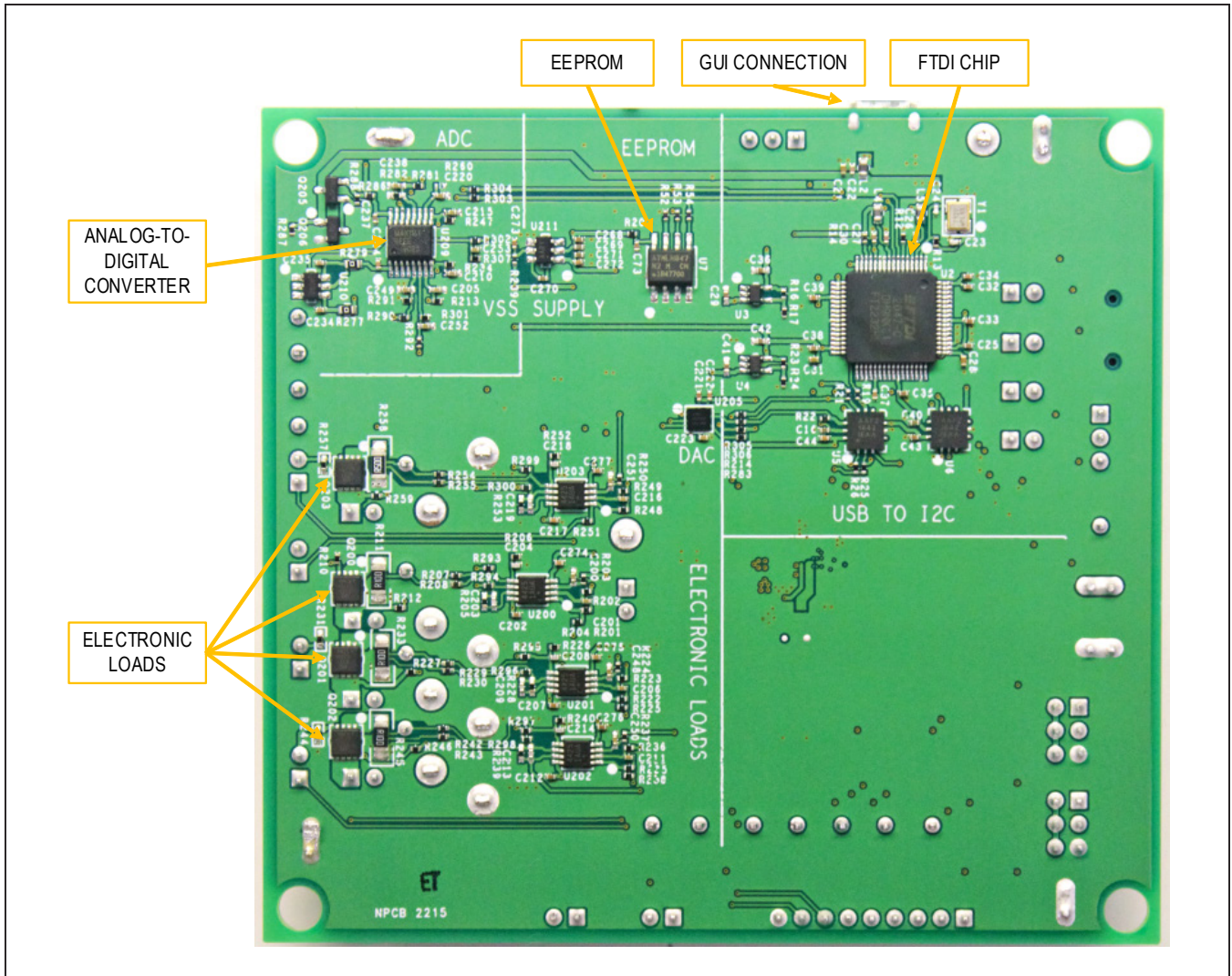
Figure 3. MAX77647 EV Kit Top View
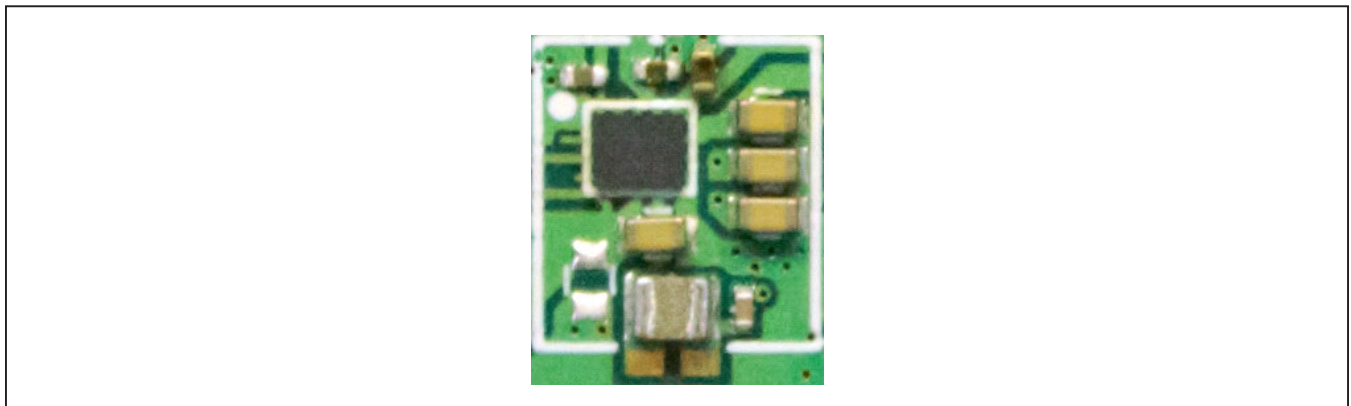
Figure 4. MAX77647 EV Kit Bottom View

Figure 5. MAX77647 EV Kit Solution Area

Quick Start

Required Equipment

Follow this procedure to familiarize yourself with the EV kit.

Note: In the following sections, software-related items are identified by bolding. Text in **bold** refers to items directly from the EV kit software. Text in **bold and underlined** refers to items from the Windows operating system.

Required Equipment

- MAX77647 EV kit
- MAX77647 EV kit GUI
- Windows-based PC
- Power supply
- Ammeter
- DVM
- Micro-USB cable

Procedure

1) Install the GUI software. Visit the product webpage at **www.analog.com/MAX77647evkit** and navigate to *Design Resources* to download the latest version of the EV kit software. Save the EV kit software to a temporary folder and extract the files from the ZIP file.

2) Install EV kit shunts according to Table 1.

3) Connect a Micro-B USB cable between the EV kit USB port labeled "GUI" and your Windows-based PC.

4) Apply a 2.4V supply (set for 100mA current limit) through an ammeter (set for 10mA range) across the INSBB and GND2 terminals of the EV kit. Turn the supply on.

5) Open the GUI and select **Device → Connect** in the upper-left corner. Wait for a **Connected Device List** window to pop up, and then press the **Connect** button.

6) Press the on-key (SW1).

7) Measure SBB0, SBB1, and SBB2 with a DMM to ensure that the device is on.

8) On the **ADC** tab of the GUI, click the **Read All** button. For MAX77647AANP+, 1.8V should appear for VSBB1 (see Figure 6).

This concludes the *Quick Start* procedure. Users are encouraged to explore the device and its register settings with the GUI. For guidance on configuring the GPIOs, see the *GPIO Quick Start* section. During general device evaluation, set the ammeter range to greater than or equal to 1A to minimize the impact of its series resistance.

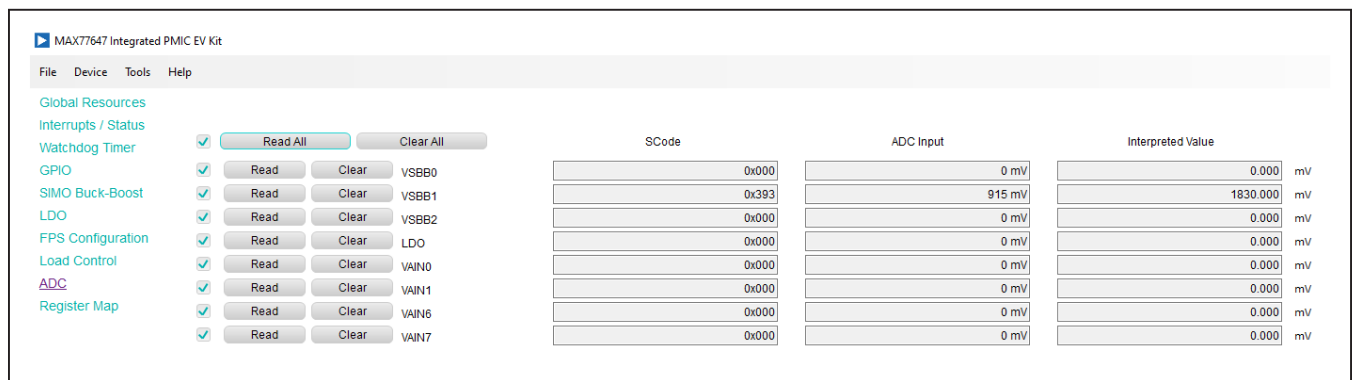For more information on the GUI, see the *Detailed Description of Hardware (or Software)* section.

Figure 6. Regulator Check with ADC

Table 1. Default Shunt Positions and Jumper Descriptions

REFERENCE DESIGNATOR	DEFAULT POSITION	FUNCTION
J3	1-2	1-2: Connects nEN to SW1 (Push-button). 2-3: Connects nEN to SW2 (Slide-switch).
J4	1-2	1-2: Connects INLDO to SBB0.
J5	3-4	1-2: Connects GPIO0 to VIO. 3-4: Connects GPIO0 to GUI GPIO0 (See the *GPIO Quick Start* section for more details.) 5-6: Connects GPIO0 to ground.
J8	3-4	1-2: Connects GPIO1 to VIO. 3-4: Connects GPIO1 to GUI GPIO1 (See the *GPIO Quick Start* section for more details.) 5-6: Connects GPIO1 to ground.
J6	1-2	1-2: Connects VIO pin to VIO.
J7	1-2	1-2: Connects nIRQ's open drain output to VIO through a 100kΩ pullup resistor.
J9	1-2	1-2: Connects nRST's open drain output to VIO through a 10kΩ pullup resistor.
J10	2-3	1-2: Connects VIO to an onboard 3.3V LDO (used for 3.3V logic). 2-3: Connects VIO to an onboard 1.8V LDO (used for 1.8V logic).
J11	1-2	1-2: Connects SCL to the onboard FT2232 UART through the MAX3395 level shifter.
J12	1-2	1-2: Connects SDA to the onboard FT2232 UART through the MAX3395 level shifter.
J13	1-2	1-2: Connects nIRQ to the onboard FT2232 UART through the MAX3395 level shifter.
J201	1-2	1-2: Connects SBB0 to the onboard electronic load.
J203	1-2	1-2: Connects SBB1 to the onboard electronic load.
J205	1-2	1-2: Connects SBB2 to the onboard electronic load.
J207	1-2	1-2: Connects LDO to the onboard electronic load.
J200	1-2	1-2: Connects the gate of the Q200 load FET to the U200 amplifier.
J202	1-2	1-2: Connects the gate of the Q201 load FET to the U201 amplifier.
J204	1-2	1-2: Connects the gate of the Q202 load FET to the U202 amplifier.
J206	1-2	1-2: Connects the gate of the Q203 load FET to the U203 amplifier.

GPIO Quick Start

There are two GPIOs (GPIO0, GPIO1) that can serve either as standard GPIOs or in their alternate functionalities. To get started with the GPIOs, use the following procedure:

1) In the **GPIO** tab of the GUI, set the desired GPIO's alternate mode enable to 0 (standard GPI or GPO). Make sure the power mode is set to 1.

2) Remove jumpers from J5 and J8. Set the direction to 0 (output).

3) Set the driver type to 1 (push-pull). If using 0 (open-drain), make sure there is a pullup resistor on the GPIO pin.

4) Click the **Write** button. Place a DMM on the GPIO0 test point on the EV kit. The DMM should read 0V.

5) Set the data output to 1 (logic-high) and click the **Write** button. The DMM should read approximately 1.8V.

6) Now set the data output to 0 (logic-low) and click the **Write** button. The DMM should read 0V.

7) Install the appropriate shunt on J5 or J8 to connect the desired GPIO to the GUI GPIO (connect the jumper between 3 and 4) as shown in Figure 8.

8) From the GUI, toggle the EV kit GPIO by clicking **Write** after each time. Click **Read** to observe the **GPIO Input Value** update.

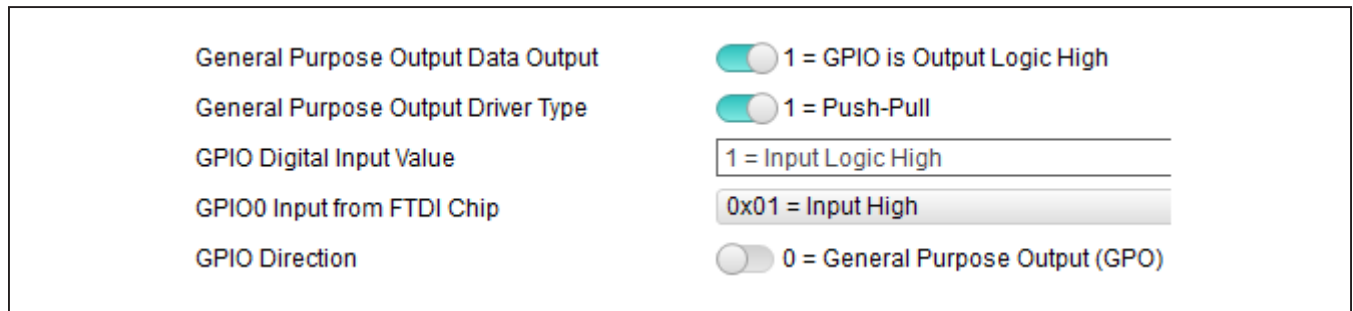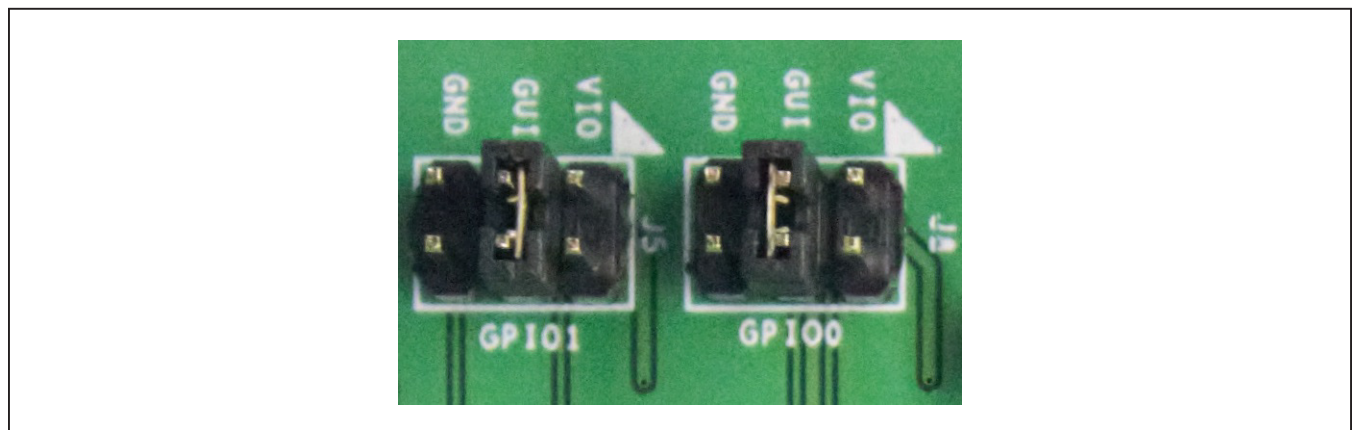*Figure 7. GPIO Output Value Box in the GUI*

Figure 8. GPIO Headers

Detailed Description of Hardware (or Software)

On-Key Options

For applications that require the IC to enable with a user-interactable switch, the EV kit comes with two common types: the push-button (momentary) and the slide-switch (persistent). The active-low enable pin (nEN) has an internal pullup resistor. Select which type of switch to use with jumper J3. Refer to the MAX77647 data sheet for more information on configuring the IC for momentary or persistent switches.

Changing the Output Voltages

The GUI allows the user to change the output voltages of the SIMO and the LDO. Navigate to the **SIMO Buck-Boost** section or the **LDO** section in the GUI. Drag the **Target Output Voltage** slider until the desired output voltage is reached and click **Write**.

Electronic Load

The EV kit comes with an electronic load allowing the user to evaluate the SIMO and LDO load current capabilities. On-board circuits set the load current through the I2C interface. J201, J203, J205, and J207 are used to connect the load to the output of the SBB0, SBB1, SBB2, and LDO respectively. To exercise the load transient response, remove J200 (for SBB0), J202 (for SBB1), J204 (for SBB2), and J206 (for LDO), and connect a signal generator to the gate of the load MOSFET (pin 2 of the respective header). Drive the gate with a signal between 1V (off) and 3V (fully on) to apply transients to the output of the SIMO or LDO. Note that there are 0.1Ω sense resistors with test points (called VIL_SBB0, VIL_SBB1, and VIL_SBB2) and a 0.5Ω sense resistor with a test point (called VIL_LDO) for a 10:1 and 2:1 conversion of load current to voltage.

Figure 9. SIMO Output Voltage Section

Figure 10. LDO Output Voltage Section

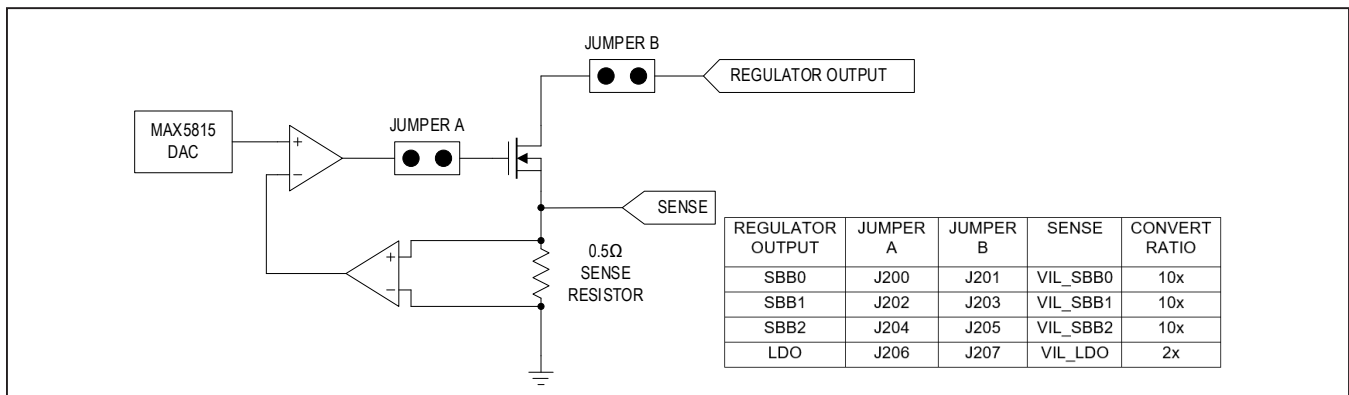| REGULATOR OUTPUT	JUMPER A	JUMPER B	SENSE	CONVERT RATIO
SBB0	J200	J201	VIL_SBB0	10x
SBB1	J202	J203	VIL_SBB1	10x
SBB2	J204	J205	VIL_SBB2	10x
LDO	J206	J207	VIL_LDO	2x

Figure 11. Electronic Load Block Diagram

Installation

Visit the product webpage at **www.analog.com/ MAX77647evkit** and navigate to *Design Resources* to download the latest version of the EV kit software. Save the EV kit software to a temporary folder and decompress the ZIP file.

Windows Drivers

Upon connection of a Micro-USB cable between your PC and the EV kit for the first time, wait a few minutes for Windows to automatically install drivers.

Graphical User Interface (GUI) Details

The GUI drives I^2C-communication with the EV kit. Every control in the GUI (excluding the **Load Control** tab) corresponds directly to a register within the MAX77647.

Hover your cursor over control names for a description of that register. Refer to the IC data sheet for the complete register map.

Load Control Tab

The **Load Control** tab contains controls for load currents on the regulator outputs. The GUI is capable of setting steady-state, transient, and random load currents. To set a load current, use the slider bar or text field to input a value (mA) and check the **Enable** box. Shuffle through the modes to exercise different load conditions.

The offset and gain values are set by Analog Devices and do not need to be altered.

Ordering Information

PART	IC	TYPE
MAX77647EVKIT#	MAX77647AANP+	EV Kit

#Denotes RoHS compliant.

MAX77647 EV Kit Bill of Materials

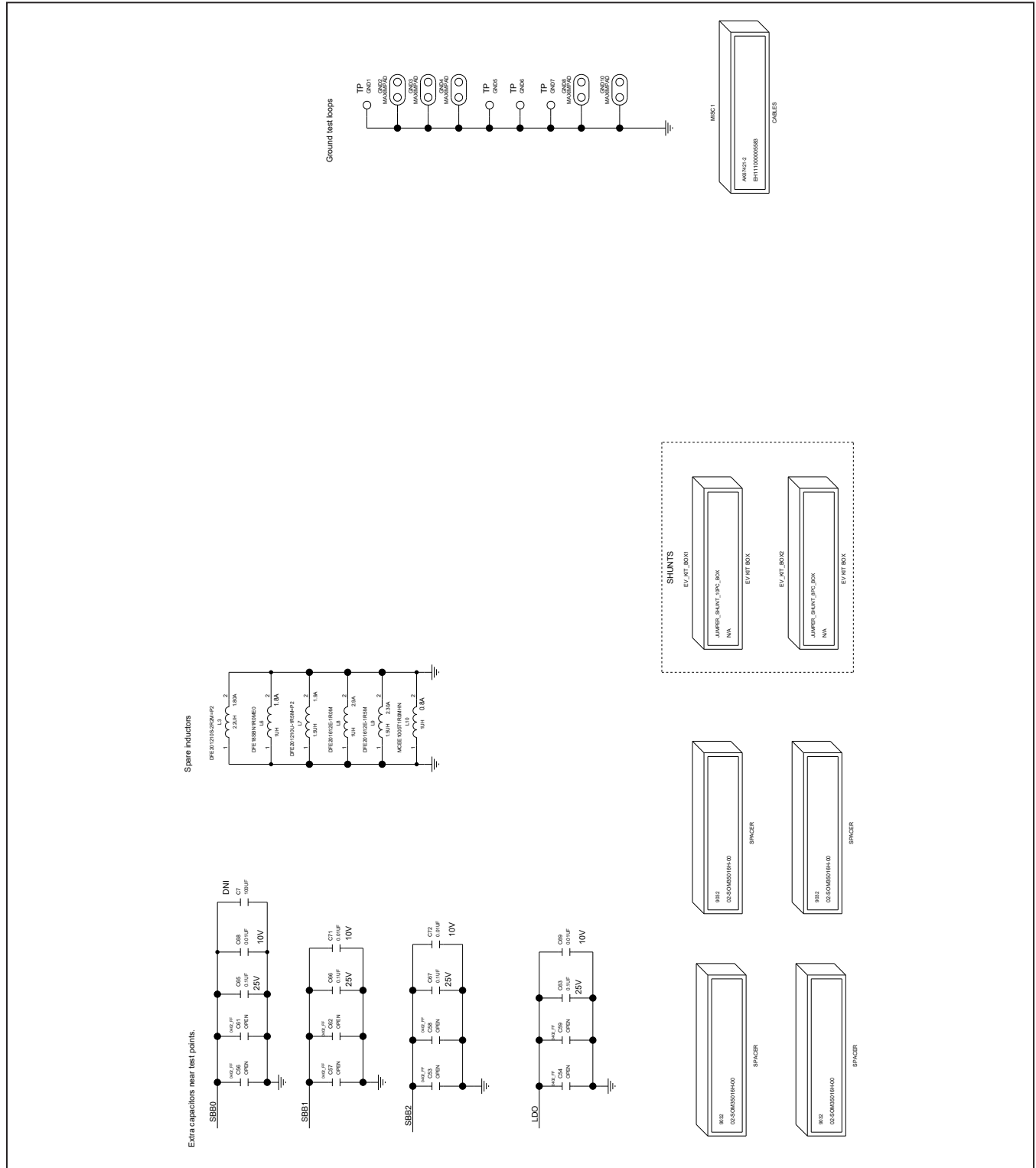| ITEM	REF_DES	DNI/DNP	QTY	MFG PART #	MANUFACTURER	VALUE	DESCRIPTION	COMMENTS
1	AIN0, AIN1, AIN6, AIN7, GPIO0, GPIO1, NEN, NIRQ, NRST, SCL, SDA, VIL_LDO0, VIL_SBB0-VIL_SBB2	-	15	5002	KEYSTONE	N/A	TEST POINT; PIN DIA=0.1IN; TOTAL LENGTH=0.3IN; BOARD HOLE=0.04IN; WHITE; PHOSPHOR BRONZE WIRE SILVER;	
2	C1, C8, C11, C14	-	4	C1608X5R1A226M080AC;GRM188R61A226ME15;CL10A226MPCNUBE;CL10A226MPMNUB	TDK;MURATA;SAMSUNG;SAMSUNG ELECTRO-MECHANICS	22UF	CAP; SMT (0603); 22UF; 20%; 10V; X5R; CERAMIC	
3	C4, C22, C25-C27, C30, C32-C35, C37-C39, C43, C44, C63, C65-C67, C73, C202, C207, C212, C217, C221-C223, C234, C235, C237, C244, C268, C272-C277	-	38	GRM155R71E104KE14;C1005X7R1E104K050BB;TMK105B7104KVH;CGJ2B3X7R1E104K050BB	MURATA;TDK;TAIYO YUDEN;TDK	0.1UF	CAP; SMT (0402); 0.1UF; 10%; 25V; X7R; CERAMIC	
4	C6	-	1	16TQC100MYF	PANASONIC	100UF	CAP; SMT (7343); 100UF; 20%; 16V; TANTALUM	
5	C9, C10, C16, C29, C36, C40-C42, C239-C242, C269-C271	-	15	C0402C105K8PAC;CC0402KRX5R6BB105	KEMET;YAGEO	1UF	CAP; SMT (0402); 1UF; 10%; 10V; X5R; CERAMIC	
6	C15	-	1	GRM155R61C225KE44;GRM155R61C225KE11	MURATA;MURATA	2.2UF	CAP; SMT (0402); 2.2UF; 10%; 16V; X5R; CERAMIC	
7	C21, C28, C31	-	3	C1005X5R1A475K050	TDK	4.7UF	CAP; SMT (0402); 4.7UF; 10%; 10V; X5R; CERAMIC	
8	C23, C24	-	2	GRM0335C1H270JA01	MURATA	27PF	CAP; SMT (0201); 27PF; 5%; 50V; C0G; CERAMIC	
9	C68, C69, C71, C72	-	4	CL05B103KP5NNN	SAMSUNG ELECTRONICS	0.01UF	CAP; SMT (0402); 0.01UF; 10%; 10V; X7R; CERAMIC	
10	C200, C205, C210, C215, C220, C238, C248-C253	-	12	C0402C472K5RAC;GRM155R71H472KA01;C1005X7R1H472K050BA	KEMET;MURATA;TDK	4700PF	CAP; SMT (0402); 4700PF; 10%; 50V; X7R; CERAMIC;	
11	C201, C206, C211, C216	-	4	C0402H102J5GAC	KEMET	1000PF	CAP; SMT (0402); 1000PF; 5%; 50V; C0G; CERAMIC	
12	C203, C204, C208, C209, C213, C214, C218, C219	-	8	C0402C180J5GAC;GRM1555C1H180JA01;C1005C0G1H180J050BA	KEMET;MURATA;TDK	18PF	CAP; SMT (0402); 18PF; 5%; 50V; C0G; CERAMIC	
13	DS1, DS2	-	2	LTST-C190CKT	LITE-ON ELECTRONICS INC.	LTST-C190CKT	DIODE; LED; STANDARD; RED; SMT (0603); PIV=5.0V; IF=0.04A; -55 DEGC TO +85 DEGC	
14	GND1, GND5-GND7	-	4	5011	KEYSTONE	N/A	TEST POINT; PIN DIA=0.125IN; TOTAL LENGTH=0.445IN; BOARD HOLE=0.063IN; BLACK; PHOSPHOR BRONZE WIRE SILVER PLATE FINISH;	
15	GND2-GND4, GND8, GND10, INSBB	-	6	9020 BUSS	WEICO WIRE	MAXIMPAD	EVK KIT PARTS; MAXIM PAD; WIRE; NATURAL; SOLID; WEICO WIRE; SOFT DRAWN BUS TYPE-S; 20AWG	
16	INLDO, LDO, SBB0-SBB2, VUSB	-	6	5010	KEYSTONE	N/A	TEST POINT; PIN DIA=0.125IN; TOTAL LENGTH=0.445IN; BOARD HOLE=0.063IN; RED; PHOSPHOR BRONZE WIRE SIL;	
17	INSBBS	-	1	5000	KEYSTONE	N/A	TEST POINT; PIN DIA=0.1IN; TOTAL LENGTH=0.3IN; BOARD HOLE=0.04IN; RED; PHOSPHOR BRONZE WIRE SILVER PLATE FINISH;	
18	J1	-	1	10118193-0001LF	FCI CONNECT	10118193-0001LF	CONNECTOR; FEMALE; SMT; MICRO USB B TYPE RECEPTACLE; RIGHT ANGLE; 5PINS	
19	J2	-	1	PBC09SAAN	SULLINS ELECTRONICS CORP	PBC09SAAN	CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT; 9PINS; -65 DEGC TO +125 DEGC	
20	J3	-	1	TSW-103-07-T-S	SAMTEC	TSW-103-07-T-S	CONNECTOR; THROUGH HOLE; TSW SERIES; SINGLE ROW; STRAIGHT; 3PINS	
21	J4, J6, J7, J9, J11-J13, J200-J207	-	15	TSW-102-07-T-S	SAMTEC	TSW-102-07-T-S	CONNECTOR; THROUGH HOLE; TSW SERIES; SINGLE ROW; STRAIGHT; 2PINS; -55 DEGC TO +105 DEGC	
22	J5, J8	-	2	TSW-103-07-L-D	SAMTEC	TSW-103-07-L-D	CONNECTOR; MALE; THROUGH HOLE; THROUGH HOLE 0.025 POST HEADER; STRAIGHT; 6PINS	
23	J10	-	1	PBC03SAAN	SULLINS	PBC03SAAN	CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT; 3PINS; -65 DEGC TO +125 DEGC	
24	L1, L9	-	2	DFE201612E-1R5M	MURATA	1.5UH	INDUCTOR; SMT (0806); METAL; 1.5UH; 20%; 2.30A	
25	L2, L4, L5	-	3	BLM18AG601SN1	MURATA	600	INDUCTOR; SMT (0603); FERRITE-BEAD; 600; TOL=+/-; 0.5A	
26	L3	-	1	DFE201210S-2R2M=P2	MURATA	2.2UH	EVKIT PART-INDUCTOR; SMT (0805); MAGNETICALLY SHIELDED; 2.2UH; TOL=+/-20%; 1.8A	
27	L6	-	1	DFE18SBN1R0ME0	MURATA	1UH	INDUCTOR; SMT (0603); METAL ALLOY; 1UH; 20%; 1.8A	
28	L7	-	1	DFE201210U-1R5M=P2	TOKO	1.5UH	INDUCTOR; SMT (0805); METAL ALLOY CHIP; 1.5UH; TOL=+/-20%; 1.9A	
29	L8	-	1	DFE201612E-1R0M	MURATA	1UH	INDUCTOR; SMT (0806); WIREWOUND CHIP; 1UH; TOL=+/-20%; 2.9A	
30	L10	-	1	MCEE1005T1R0MHN	TAIYO YUDEN	1UH	INDUCTOR; SMT (0402); METAL; 1UH; 20%; 0.80A	
31	MISC1	-	1	AK67421-2	ASSMANN	AK67421-2	CABLE; MALE; USB; USB2.0 MICRO CONNECTION CABLE; USB B MICRO MALE TO USB A MALE; 2000 MILLIMETERS; 5PINS-4PINS	
32	Q200-Q203	-	4	IRFHM8337TRPBF	INTERNATIONAL RECTIFIER	IRFHM8337TRPBF	TRAN; HEXFET POWER MOSFET; NCH; PQFN8; PD-(2.8W); I-(18A); V-(30V)	
33	Q205	-	1	FDN360P	ON SEMICONDUCTOR	FDN360P	TRANSISTOR; MOSFET P-CHANNEL; SUPERSOT-3, PD=0.5W, ID=-2.0A, VDSS=-30V,VGSS=+/-20V	
34	Q206	-	1	2N7002;2N7002;2N7002;2N7002	DIODES INCORPORATED;ST MICROELECTRONICS;ON SEMICONDUCTOR;MICRO COMMERCIAL COMPONENTS	2N7002	TRAN; ; NCH; SOT-23; PD-(0.33W); IC-(0.5A); VCEO-(60V); -55 DEGC TO +150 DEGC	
35	R5, R17, R24, R214, R283	-	5	CRCW0402100KFK;RC0402FR-07100KL	VISHAY;YAGEO	100K	RES; SMT (0402); 100K; 1%; +/-100PPM/DEGC; 0.0630W	
36	R8, R281, R282, R287, R288	-	5	RC0402FR-0710KL;CR0402-FX-1002GLF	YAGEO;BOURNS	10K	RES; SMT (0402); 10K; 1%; +/-100PPM/DEGC; 0.0630W	
37	R10, R11	-	2	RC0402FR-0727RL	YAGEO	27	RES; SMT (0402); 27; 1%; +/-100PPM/DEGC; 0.0630W	

MAX77647 EV Kit Bill of Materials (continued)

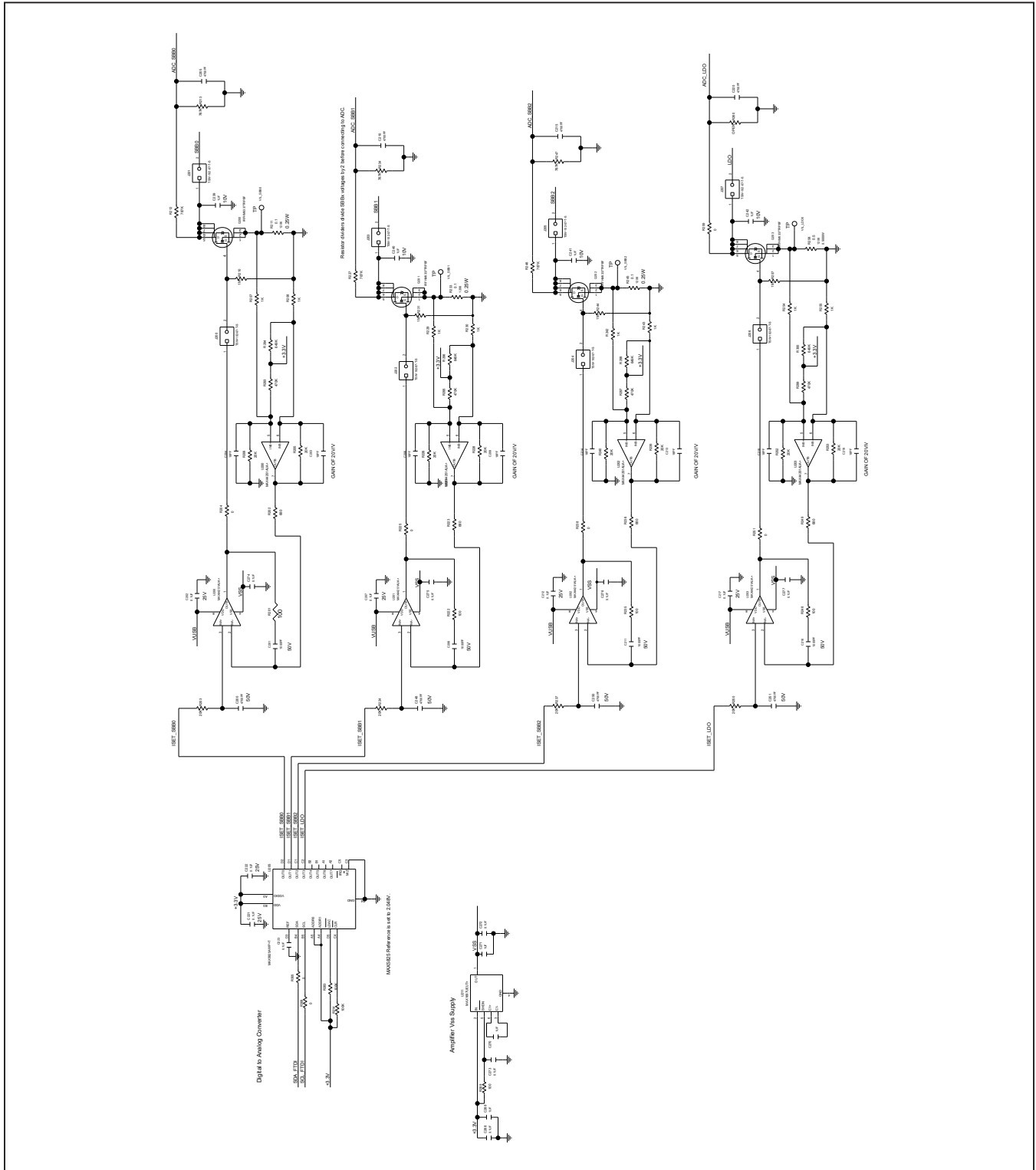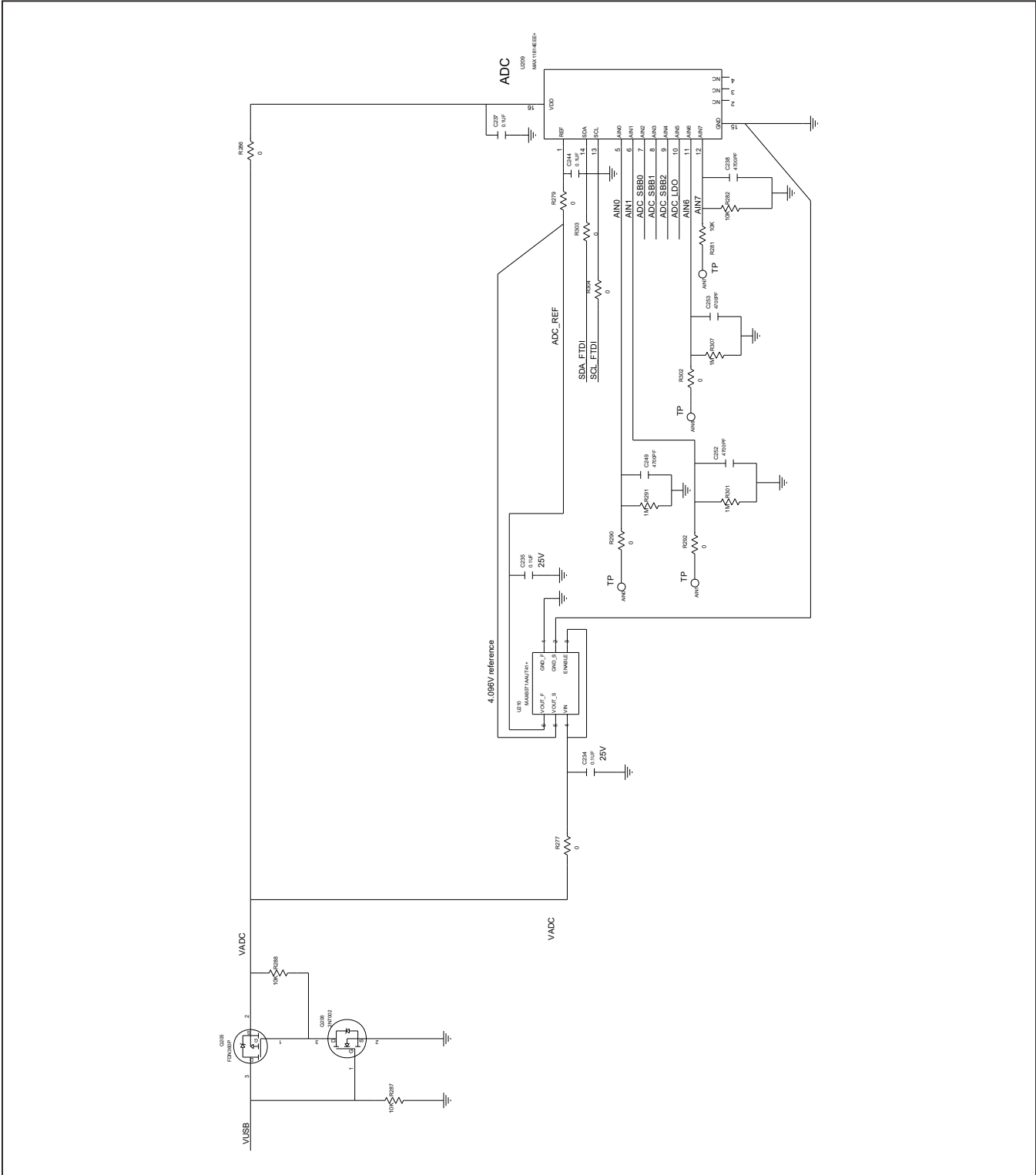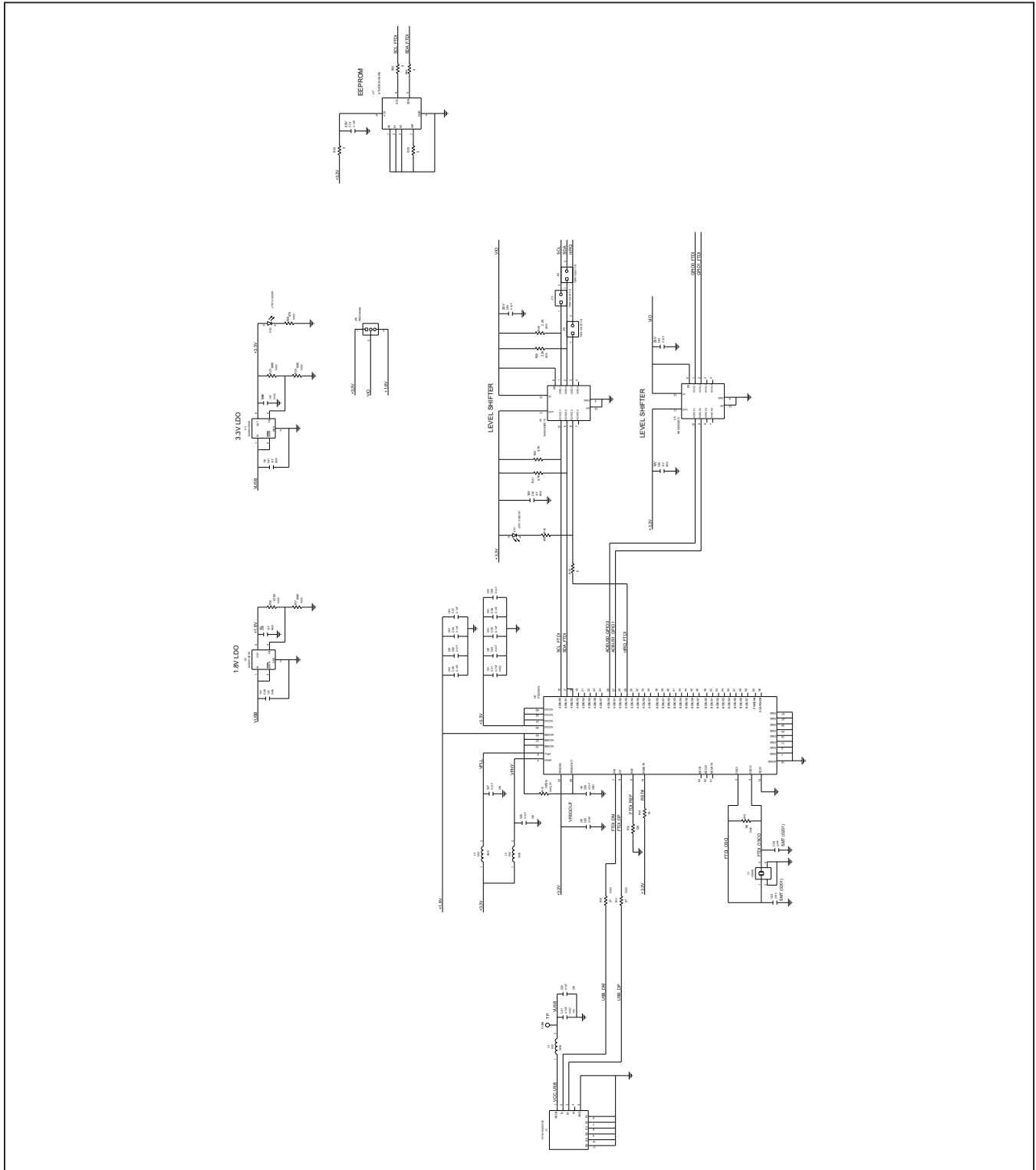| ITEM	REF_DES	DNI/DNP	QTY	MFG PART #	MANUFACTURER	VALUE	DESCRIPTION	COMMENTS
38	R12	-	1	ERJ-2RKF1202	PANASONIC	12K	RES; SMT (0402); 12K; 1%; +/-100PPM/DEGC; 0.1000W	
39	R13, R210, R231, R244, R257, R291, R301, R307	-	8	CRCW04021M00FK	VISHAY DALE	1M	RES; SMT (0402); 1M; 1%; +/-100PPM/DEGC; 0.0630W	
40	R14, R207, R208, R229, R230, R242, R243, R254, R255	-	9	ERJ-2RKF1001	PANASONIC	1K	RES; SMT (0402); 1K; 1%; +/-100PPM/DEGC; 0.1000W	
41	R16	-	1	CRCW04024752FK; 9C04021A4752FLHF3; CRCW040247K5FK	VISHAY DALE;YAGEO;VISHAY DALE	47.5K	RES; SMT (0402); 47.5K; 1%; +/-100PPM/DEGC; 0.0630W	
42	R18	-	1	RCC-0402PW4500F	INTERNATIONAL MANUFACTURING SERVICE	450	RES; SMT (0402); 450; 1%; +/-100PPM/DEGK; 0.0800W	
43	R19, R20, R52-R54, R204, R225, R238, R251, R259, R286, R290, R292, R302-R306	-	18	ERJ-2GE0R00	PANASONIC	0	RES; SMT (0402); 0; JUMPER; JUMPER; 0.1000W	
44	R21, R22	-	2	ERJ-2GEJ472	PANASONIC	4.7K	RES; SMT (0402); 4.7K; 5%; +/-200PPM/DEGC; 0.1000W	
45	R23	-	1	CRCW0402169KFK	VISHAY DALE	169K	RES; SMT (0402); 169K; 1%; +/-100PPM/DEGK; 0.0630W	
46	R25, R26	-	2	RC0402FR-072K2L	YAGEO	2.2K	RES; SMT (0402); 2.2K; 1%; +/-100PPM/DEGC; 0.0630W	
47	R28	-	1	CRCW0402470RFK	VISHAY DALE	470	RES; SMT (0402); 470; 1%; +/-100PPM/DEGC; 0.0630W	
48	R201, R222, R235, R248, R289	-	5	9C04021A1000FL; RC0402FR-07100RL	PANASONIC;YAGEO PHYCOMP	100	RES; SMT (0402); 100; 1%; +/-100PPM/DEGC; 0.0630W	
49	R202, R223, R236, R249	-	4	RC0402FR-07680RL	YAGEO	680	RES; SMT (0402); 680; 1%; +/-100PPM/DEGC; 0.0630W	
50	R203, R205, R206, R224, R226, R228, R237, R239, R240, R250, R252, R253	-	12	ERJ-2RKF2002	PANASONIC	20K	RES; SMT (0402); 20K; 1%; +/-100PPM/DEGC; 0.1000W	
51	R211, R233, R245	-	3	CRL1206-JW-R100ELF	BOURNS	0.1	RES; SMT (1206); 0.1; 1%; +/-200PPM/DEGC; 0.2500W	
52	R212, R213, R227, R234, R246, R247	-	6	CRCW0402787KFK	VISHAY DALE	787K	RES; SMT (0402); 787K; 1%; +/-100PPM/DEGC; 0.0630W	
53	R258	-	1	CSR1206FTR500	STACKPOLE ELECTRONICS INC.	0.5	RES; SMT (1206); 0.5; 1%; +/-100PPM/DEGC; 0.5000W	
54	R277, R279	-	2	CRCW06030000Z0	VISHAY DALE	0	RES; SMT (0603); 0; JUMPER; JUMPER; 0.1000W	
55	R293, R295, R297, R299	-	4	ERJ-2RKF4703	PANASONIC	470K	RES; SMT (0402); 470K; 1%; +/-100PPM/DEGC; 0.0630W	
56	R294, R296, R298, R300	-	4	CRCW0402649KFK	VISHAY DALE	649K	RES; SMT (0402); 649K; 1%; +/-100PPM/DEGC; 0.0630W	
57	SPACER1-SPACER4	-	4	9032	KEYSTONE	9032	MACHINE FABRICATED; ROUND-THRU HOLE SPACER; NO THREAD; M3.5; 5/8IN; NYLON	
58	SW1	-	1	EVQ-Q2K03W	PANASONIC	EVQ-Q2K03W	SWITCH; SPST; SMT; 15V; 0.02A; LIGHT TOUCH SWITCH; RCOIL= OHM; RINSULATION= OHM; PANASONIC	
59	SW2	-	1	CL-SB-12B-11	NIDEC COPAL ELECTRONICS CORP	CL-SB-12B-11	SWITCH; SPDT; SMT; 12V; 0.2A; CL-SB SERIES; SLIDE SWITCH; RCOIL=0.05 OHM; RINSULATION=100M OHM	
60	U1	-	1	MAX77647AANP+	MAXIM	MAX77647	EVKIT PART - IC; MAX77647; ULTRA CONFIGURABLE SIMO PMIC FEATURING 3-OUTPUT BUCK-BOOST; 1-LDO FOR LONG BATTERY LIFE PRIMARY CELL APPLICATIONS; PACKAGE OUTLINE DRAWING: 21-100601; PACKAGE CODE: N201C2+1; WLP20	
61	U2	-	1	FT2232HL	FUTURE TECHNOLOGY DEVICES INTL LTD.	FT2232HL	IC; MMRY; DUAL HIGH SPEED USB TO MULTIPURPOSE UART/FIFO; LQFP64	
62	U3, U4	-	2	MAX8512EXK+	MAXIM	MAX8512EXK	IC, VREG, Ultra-Low-Noise, High PSRR, Adjustable Vout, SC70-5	
63	U5, U6	-	2	MAX3395EETC+	MAXIM	MAX3395EETC	IC; TRANS; 15KV ESD-PROTECTED HIGH-DRIVE CURRENT QUAD-LEVEL TRANSLATOR WITH SPEED-UP CIRCUITRY; TQFN12 4X4	
64	U7	-	1	AT24CS02-SSHM	MICROCHIP	AT24CS02-SSHM	IC; EPROM; I2C-COMPATIBLE TWO-WIRE SERIAL EEPROM; 150MIL; NSOIC8	
65	U200-U203	-	4	MAX44251AUA+	MAXIM	MAX44251AUA+	IC; OPAMP; ULTRA-PRECISION; LOW-NOISE OP AMP; UMAX8	
66	U205	-	1	MAX5825AWP+	MAXIM	MAX5825AWP+T	IC; DAC; ULTRA-SMALL; OCTAL CHANNEL; 12-BIT BUFFERED OUTPUT DAC WITH INTERNAL REFERENCE AND I2C INTERFACE; WLP20	
67	U209	-	1	MAX11614EEE+	MAXIM	MAX11614EEE+	IC; ADC; LOW-POWER; 8-CHANNEL; I2C; 12-BIT ADC IN ULTRA-SMALL PACKAGE; QSOP16	
68	U210	-	1	MAX6071AAUT41+	MAXIM	MAX6071AAUT41+	IC; VREF; LOW NOISE; HIGH-PRECISION SERIES VOLTAGE REFERENCE; SOT23-6	
69	U211	-	1	MAX1697UEUT+	MAXIM	MAX1697UEUT+	IC; INV; INVERTING CHARGE PUMP WITH SHUTDOWN; SOT23-6	
70	Y1	-	1	7M-12.000MAAJ	TXC CORPORATION	12MHZ	CRYSTAL; SMT; 12MHZ; 18PF; TOL = +/-30PPM; STABILITY = +/-30PPM	
71	PCB	-	1	MAX77647	MAXIM	PCB	PCB:MAX77647	-
72	EV_KIT_BOX1, EV_KIT_BOX2	-	18	NPC02SXON-RC	SULLINS ELECTRONICS CORP.		CONNECTOR; FEMALE; MINI SHUNT; 0.100IN CC; OPEN TOP; JUMPER; STRAIGHT; 2PINS	
73	C7	DNP	0	CL32A107MPVNNN;C1210C107M8PAC;LMK325BJ107MM	SAMSUNG ELECTRONICS;KEMET;TAIYO YUDEN	100UF	CAP; SMT (1210); 100UF; 20%; 10V; X5R; CERAMIC	
74	C2, C3, C18, C53, C54, C56-C59, C61, C62	DNP	0	N/A	N/A	OPEN	CAPACITOR; SMT (0402); OPEN; FORMFACTOR	
75	C5	DNP	0	N/A	N/A	OPEN	CAPACITOR; SMT (0603); OPEN; FORMFACTOR	
76	R15, R37, R260	DNP	0	N/A	N/A	OPEN	RESISTOR; 0402; OPEN; FORMFACTOR	
TOTAL			302					

MAX77647 EV Kit Schematic

MAX77647 EV Kit Schematic (continued)

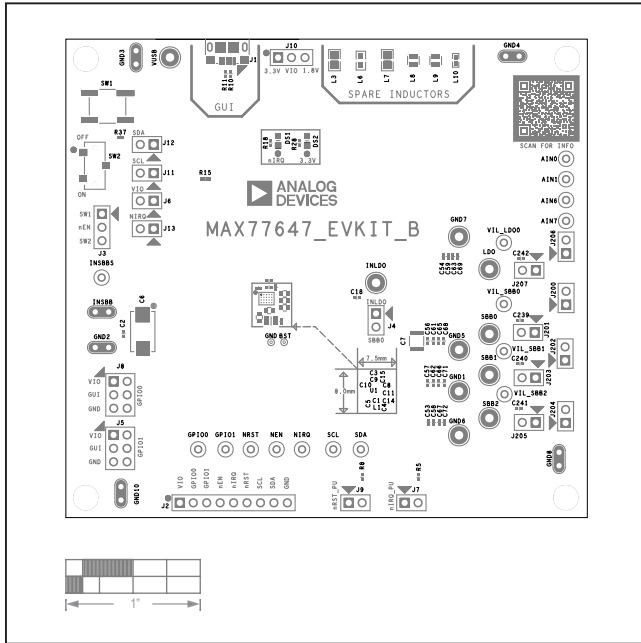## MAX77647 EV Kit Schematic (continued)
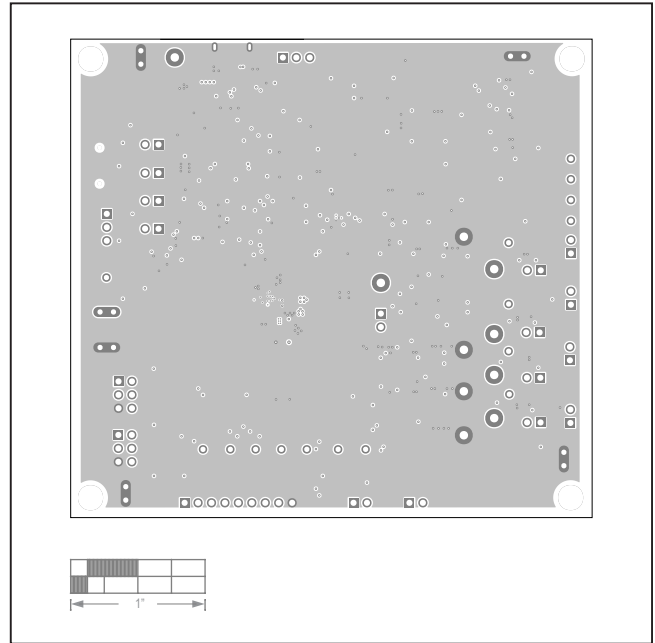
MAX77647 EV Kit Schematic (continued)

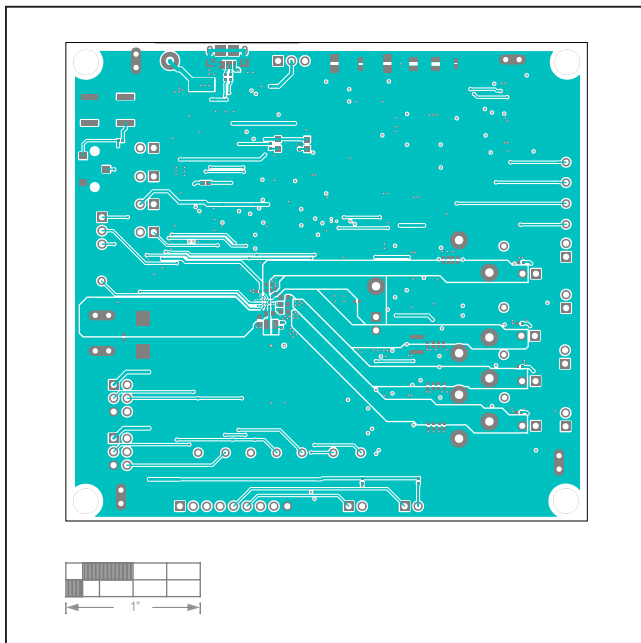## MAX77647 EV Kit Schematic (continued)

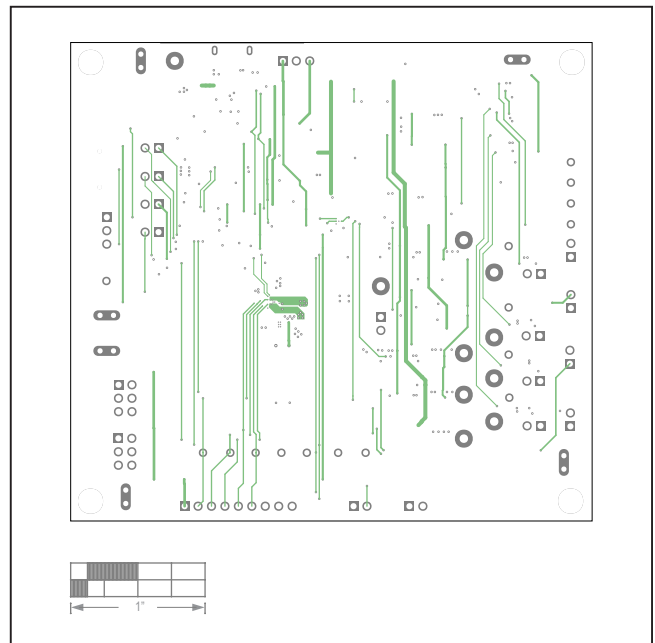## MAX77647 EV Kit PCB Layouts

MAX77647 EV Kit Component Placement Guide—Top Silkscreen

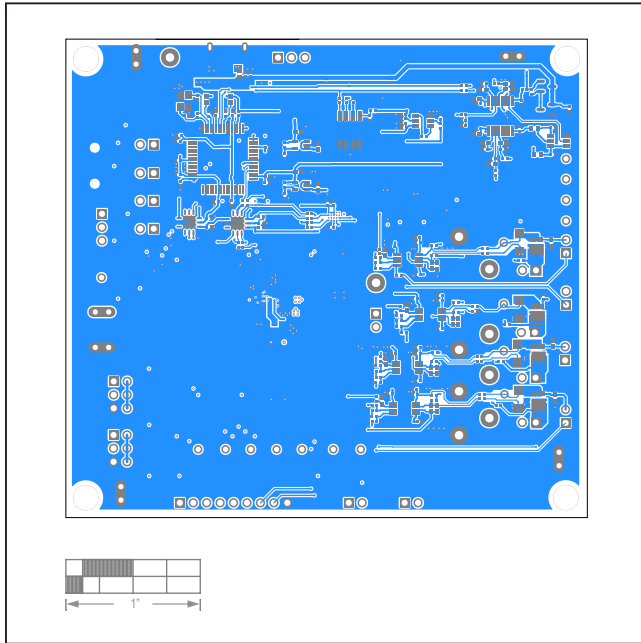
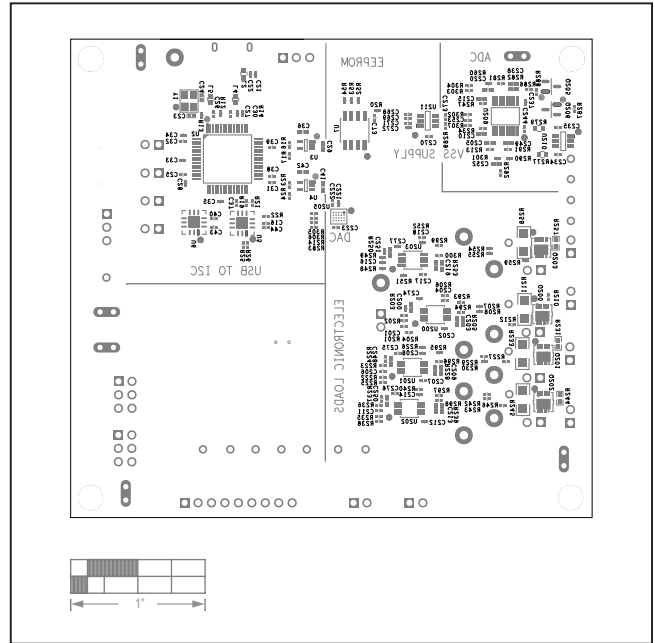MAX77647 EV Kit PCB Layout—Internal 2

MAX77647 EV Kit PCB Layout—Top View

MAX77647 EV Kit PCB Layout—Internal 3

MAX77647 EV Kit PCB Layouts (continued)

MAX77647 EV Kit PCB Layout—Bottom View

MAX77647 EV Kit Component Placement Guide—Bottom Silkscreen

Revision History

REVISION NUMBER	REVISION DATE	DESCRIPTION	PAGES CHANGED
0	6/23	Initial release	—