MAX20360 Evaluation Kit

General Description

The MAX20360 evaluation kit (EV kit) is a fully assembled and tested circuit board that demonstrates the MAX20360 ultra low-power wearable power management integrated circuit (PMIC). The MAX20360 includes voltage regulators such as bucks, boost, buck-boost, and linear regulators, and a complete battery management solution with battery seal, charger, power path, and fuel gauge.

The device is configurable through an I^2C interface that allows for programming various functions and reading device status. The EV kit GUI application sends commands to the Munich 2 USB-to-I^2C adapter board (USB2PMB2#) to configure the device.

Features

- USB Power Option
- Flexible Configuration
- On-Board LED Current Sink and Battery Simulation
- Sense Test Point for Output-Voltage Measurement
- Filter Test Point for Haptic-Waveform Measurement
- Windows® 8/Windows 10-Compatible GUI Software
- Fully Assembled and Tested

EV Kit Contents

- MAX20360 EV kit
- USB2PMB2# board
- Two USB A to USB micro-B cables

EV Kit Files

FILE	DESCRIPTION
MAX20360EVKitSetupVxxx.exe	PC GUI Program

***Ordering Information* appears at end of data sheet.**

Quick Start

Required Equipment

Note: In the following sections, software-related items are identified by **bold** text. Text in bold refers to items directly from the install of EV kit software.

- MAX20360 EV kit
- Windows PC with USB ports
- One USB A to USB micro-B cable and Munich 2 adapter board (USB2PMB2#)
- One USB A to USB micro-B cable or power supply (for battery simulation or battery voltage)
- Optional one USB A to USB micro-B cable or power supply (for charger input CHGIN)
- Voltmeter

Procedure

The EV kit is fully assembled and tested. To verify board operation, follow these steps:

1) Visit **https://www.maximintegrated.com** to download the latest version of the EV kit software, MAX20360EVKitSetupVxxx.zip located on the MAX20360 EV Kit web page. Download the EV kit software to a temporary folder and unzip the zip file.
2) Install the EV kit software on your computer by running the MAX20360EVKitSetupVxxx.exe program inside the temporary folder.
3) Verify that all jumpers are in their default positions, as shown in Table 1.
4) Connect the type-A end of a cable to the PC and micro-USB end of a cable to USB2PMB2# board, and connect the USB2PMB2# to J13 located on lower left of the EV kit board.
5) Connect a USB A to micro-B cable from the computer to J21 on the upper right corner of the EV kit board to use VBUS to power the battery simulation circuits on the board, or power the battery simulation circuits from the VHC test point. (Use a Li-ion battery or power source to evaluate the device if not using the battery simulation circuits. Connect the battery or power source to J2 on the EV kit board. Skip step 6 if not using the battery simulation.)

6) Use a voltmeter to check VHC is approximately 5V; BATSIM test point is approximately 3.7V. To adjust the BATSIM voltage, turn the R58 BATSIM potentiometer. Place shunt on JP9, then confirm that TP1 CSN is the set BATSIM voltage.

7) On the computer, open the MAX20360 GUI. It should look like Figure 1, the status bar on the bottom displays **MAX20360 Not Found**.

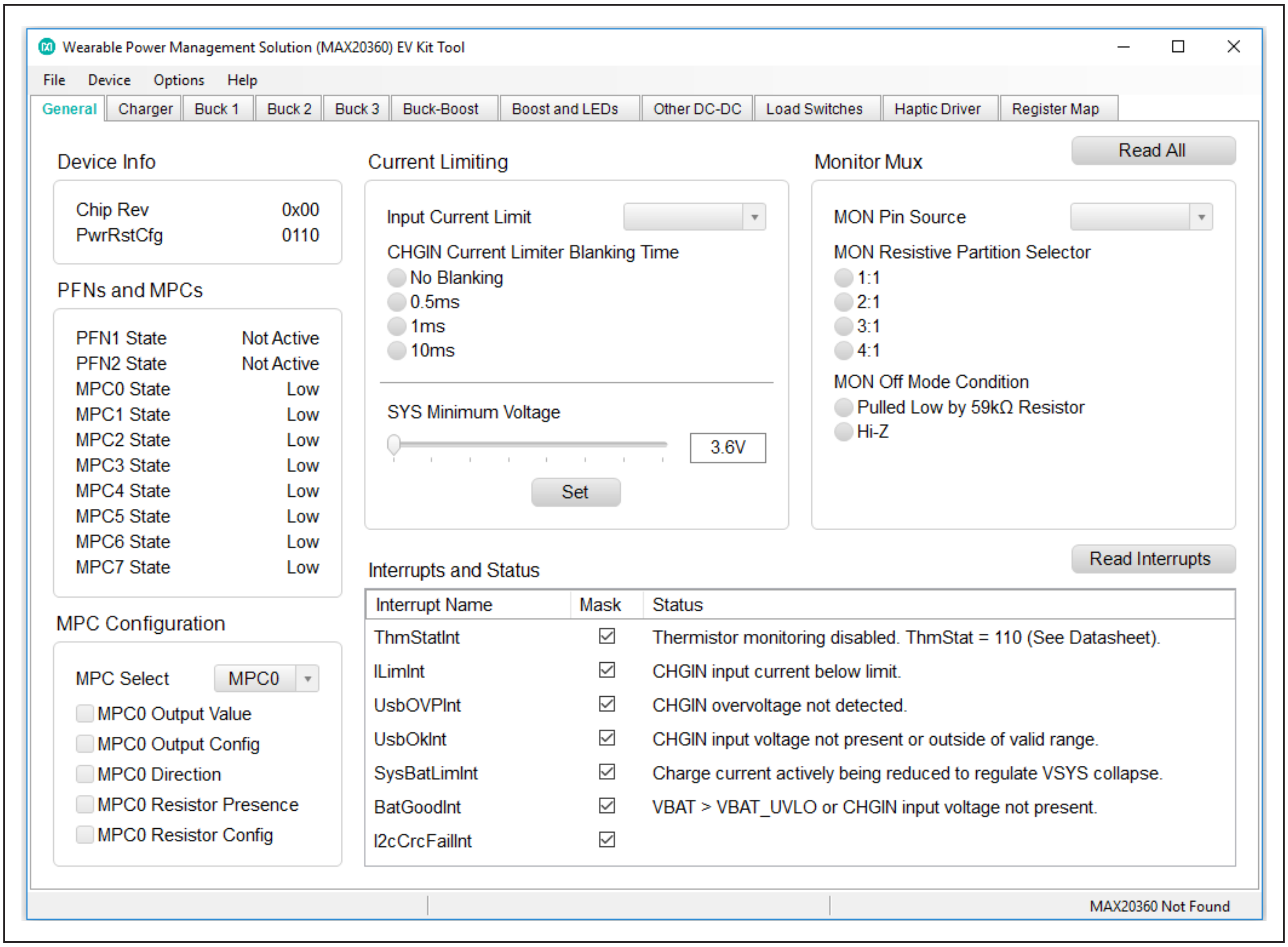


Figure 1. MAX20360 Not Found Status

8) Press the PB1 (/KIN) button until the device enters ON mode. The GUI then shows **Connected** and the registers are read and displayed (Figure 2).
9) The EV kit is now ready for additional evaluation.
10) To evaluate the battery charger, shunt J4 and plug in the USB micro-B cable to J1 of the EV kit to use USB VBUS power, or externally supply the charging power on TP9 CHGIN.

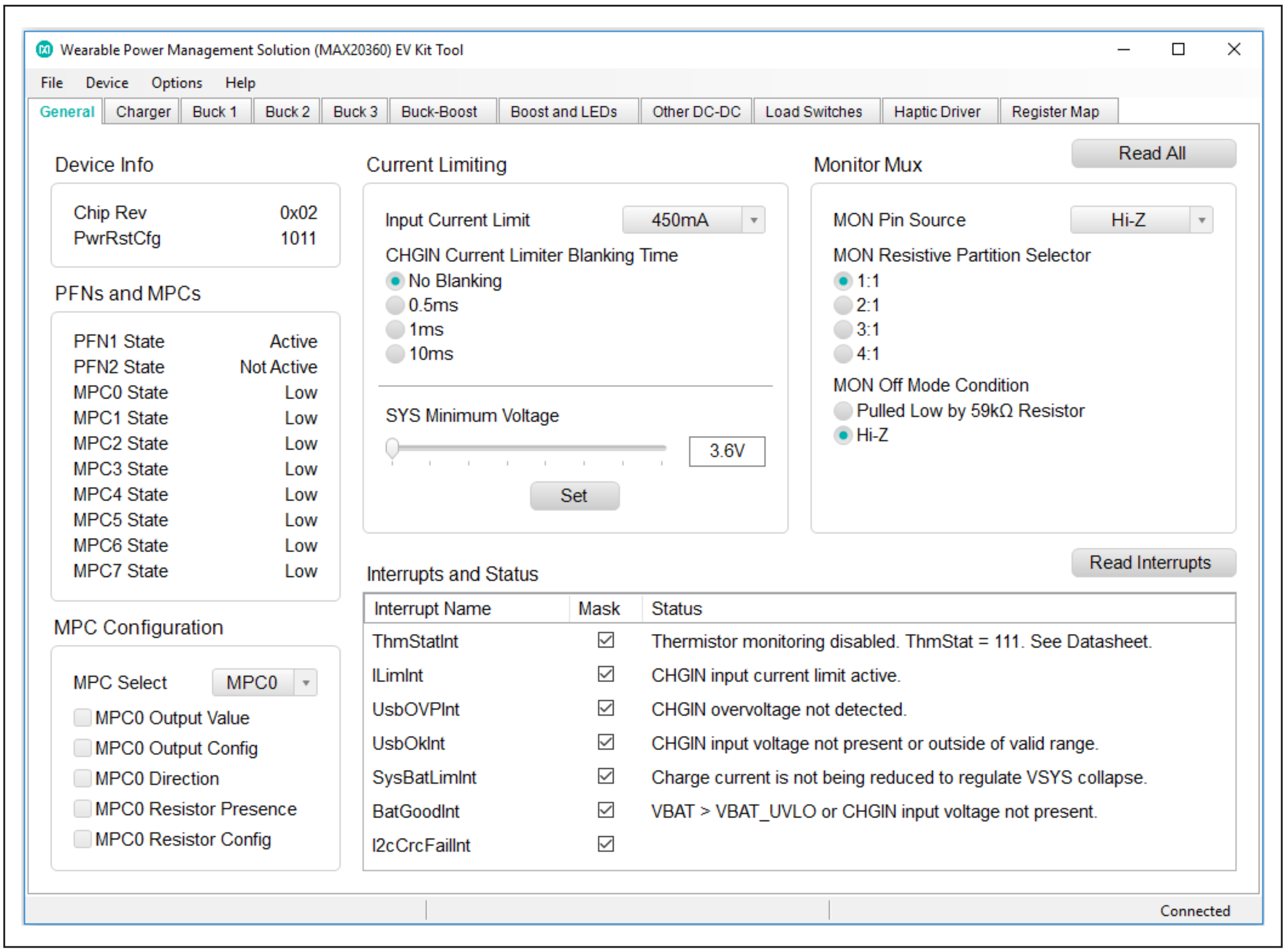


Figure 2. Connected Status

Detailed Description of Software

Software Startup

Upon starting the program, the EV kit software automatically searches for the USB interface circuit and then for the IC device addresses. The EV kit enters the normal operating mode when the connection is established and addresses are found. If the USB connection is not detected, the status bar displays **Not Connected**. If the USB connection is detected, but the MAX20360 is not found, the status bar shows **MAX20360 Not Found**.

ToolStrip Menu Bar

The ToolStrip menu bar (Figure 3) is located at the top of the GUI window. This bar comprises **File**, **Device**, **Options**, and **Help** menus; each function is detailed in the following sections.

File Menu

The **File** menu contains the option to exit out of the GUI program.

Device Menu

The **Device** menu provides the ability to connect or disconnect the EV kit to the GUI. The **Advanced → I^2C Read/Write** menu allows to read from or write to a selected register with a specified slave address.

Options Menu

The **Options** menu provides several settings to access additional features offered by the GUI. The **Disable Polling** option allows registers to be read manually instead of receiving automatic frequent register updates from the IC. The **Lock/Unlock** option allows for the lock or unlock of the charger, bucks, boost, buck-boost, and LDOs through I^2C.

Help Menu

The **Help** menu contains the **About** option, which displays the GUI splash screen indicative of the GUI version being used.

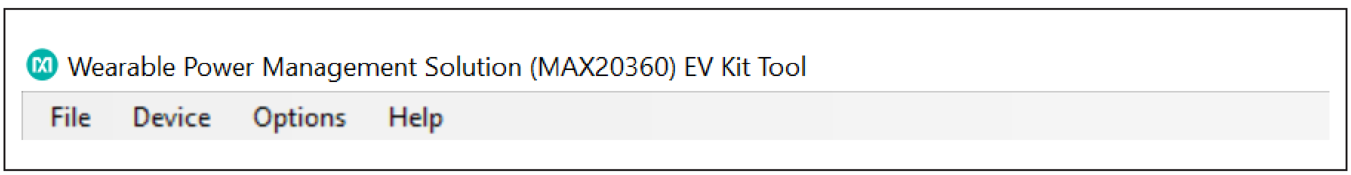


Figure 3. The ToolStrip Menu Items

Tab Controls

The MAX20360 EV kit software GUI provides a convenient way to test the features of the MAX20360. Each tab contains controls relevant to various blocks of the device. Changing these interactive controls triggers a write operation to the MAX20360 to update the register contents. The **Read All** button reads all the configuration registers that are visible on the current tab page. The **Interrupts and Status** section in each tab shows the state of the status registers and their corresponding interrupts. Checking or unchecking the **Mask** option controls which interrupts cause the $\overline{INT}$ output to be pulled low when asserted.

Click the **Read Interrupts** button to read and clear the interrupts visible in the current tab. Asserted interrupts are denoted by bold text in the **Interrupt Name**. All statuses are polled continuously. The polling feature can be disabled in the **Options** section of the menu bar by selecting **Disable Polling**.

General Tab

The **General** tab (Figure 4) provides information on device info, PFNs and MPCs status and configuration. Charger input current and voltage limit setting, IVMON setting, and some general interrupts and status are also found under this tab.

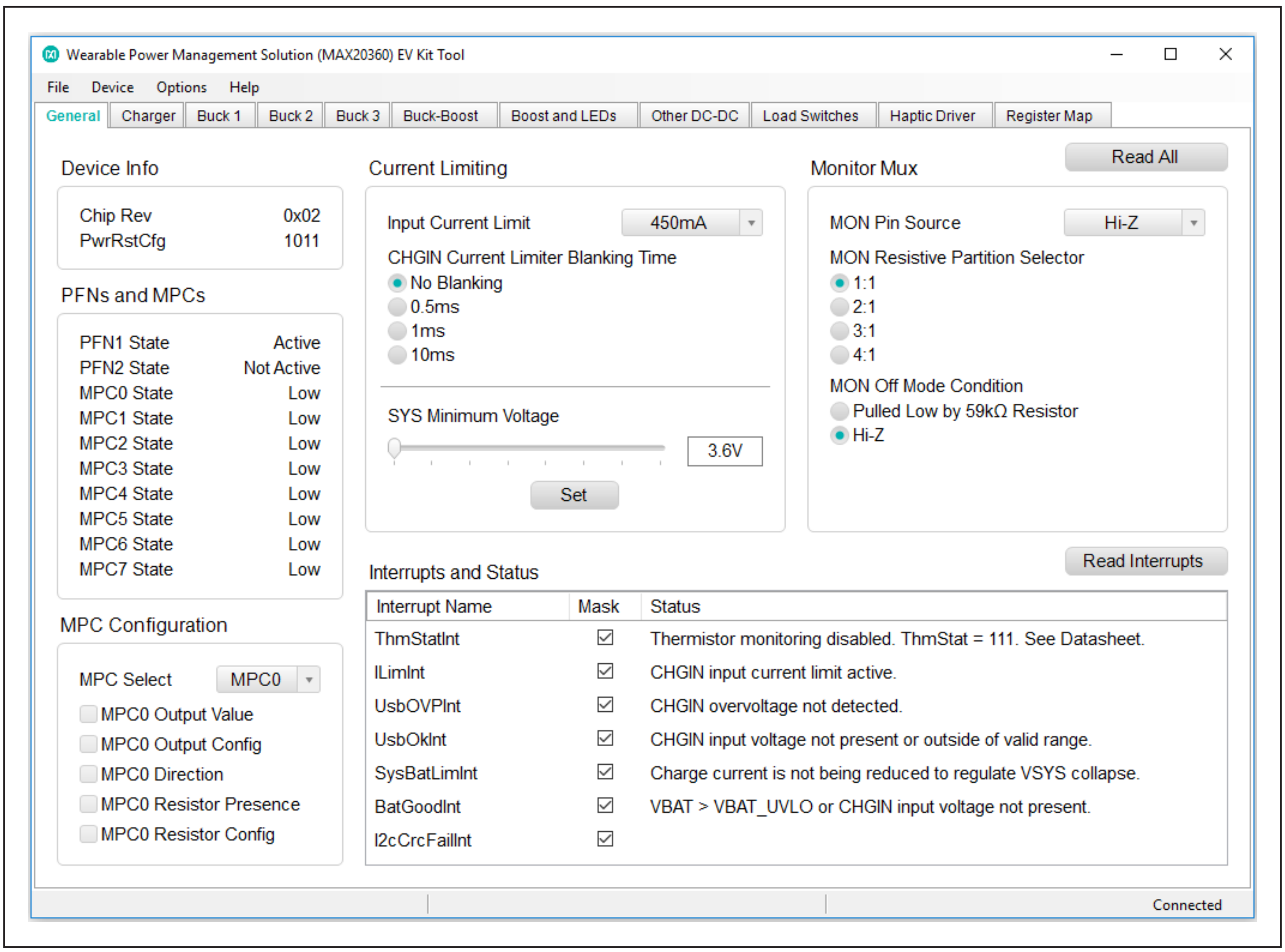


Figure 4. General Tab

Charger Tab

The **Charger** tab (Figure 5) provides options to set charger voltage, current, and timer in different charging states. The thermistor monitor configuration can be accessed by clicking the **Advanced** button.

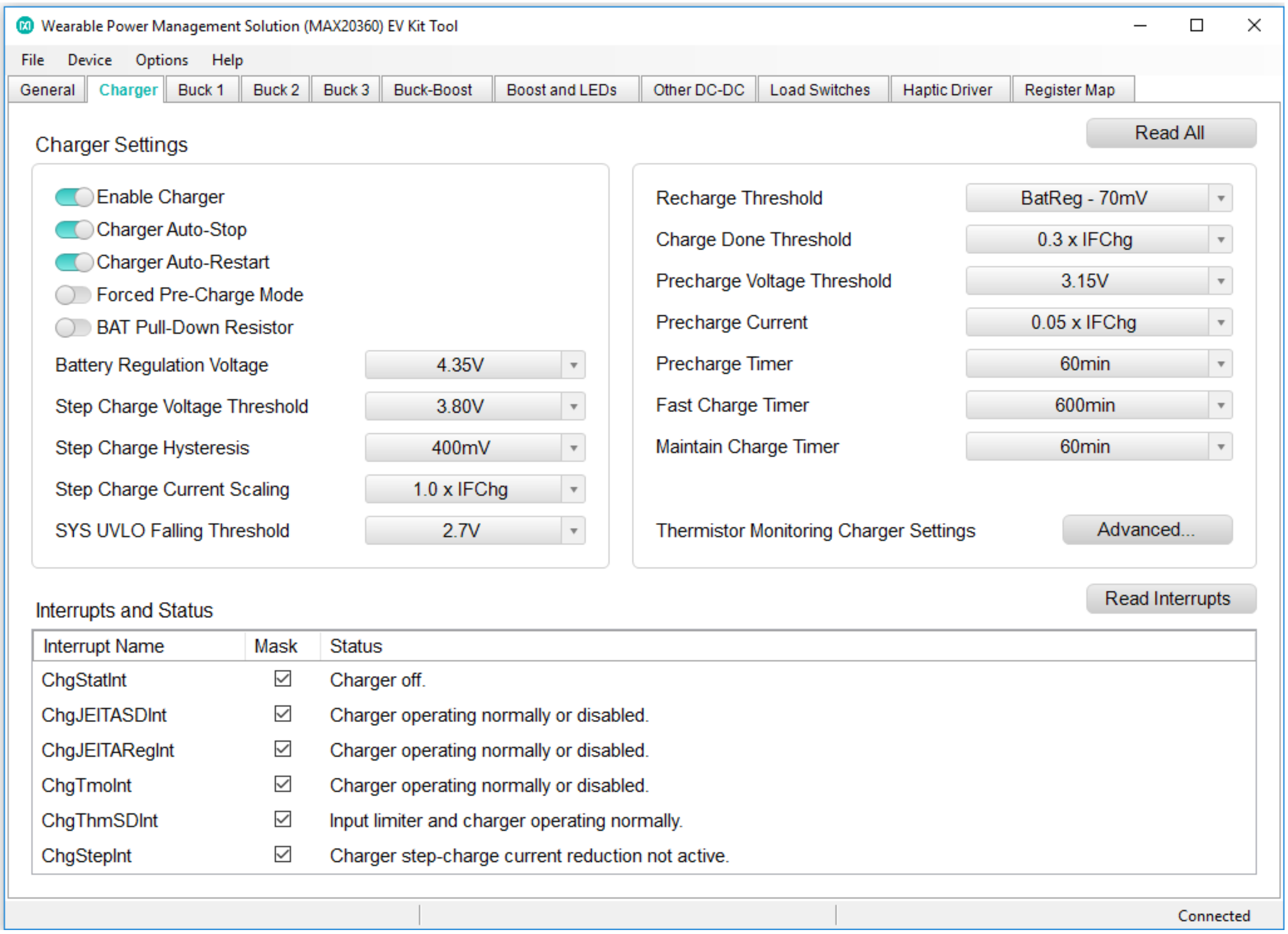


Figure 5. Charger Tab

Buck1/2/3, Buck Boost Tab

The **Buck1**, **Buck2**, **Buck3**, and **Buck Boost** tabs (Figure 6, 7, 8, and 9) provide options to enable buck/buck boost, set buck/buck boost voltages, inductor current settings, DVS mode and voltage setting, and some additional settings.

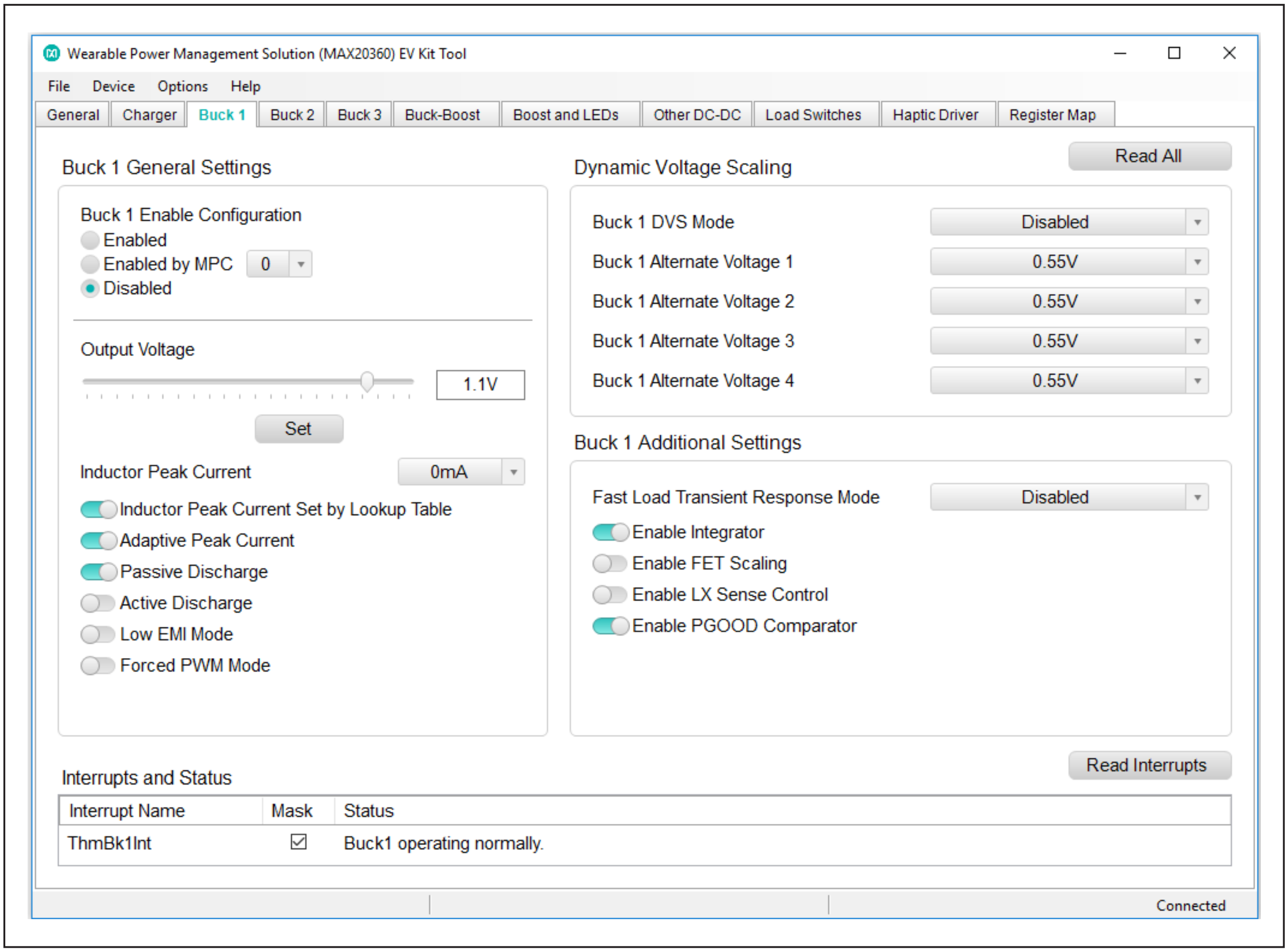


Figure 6. Buck1 Tab

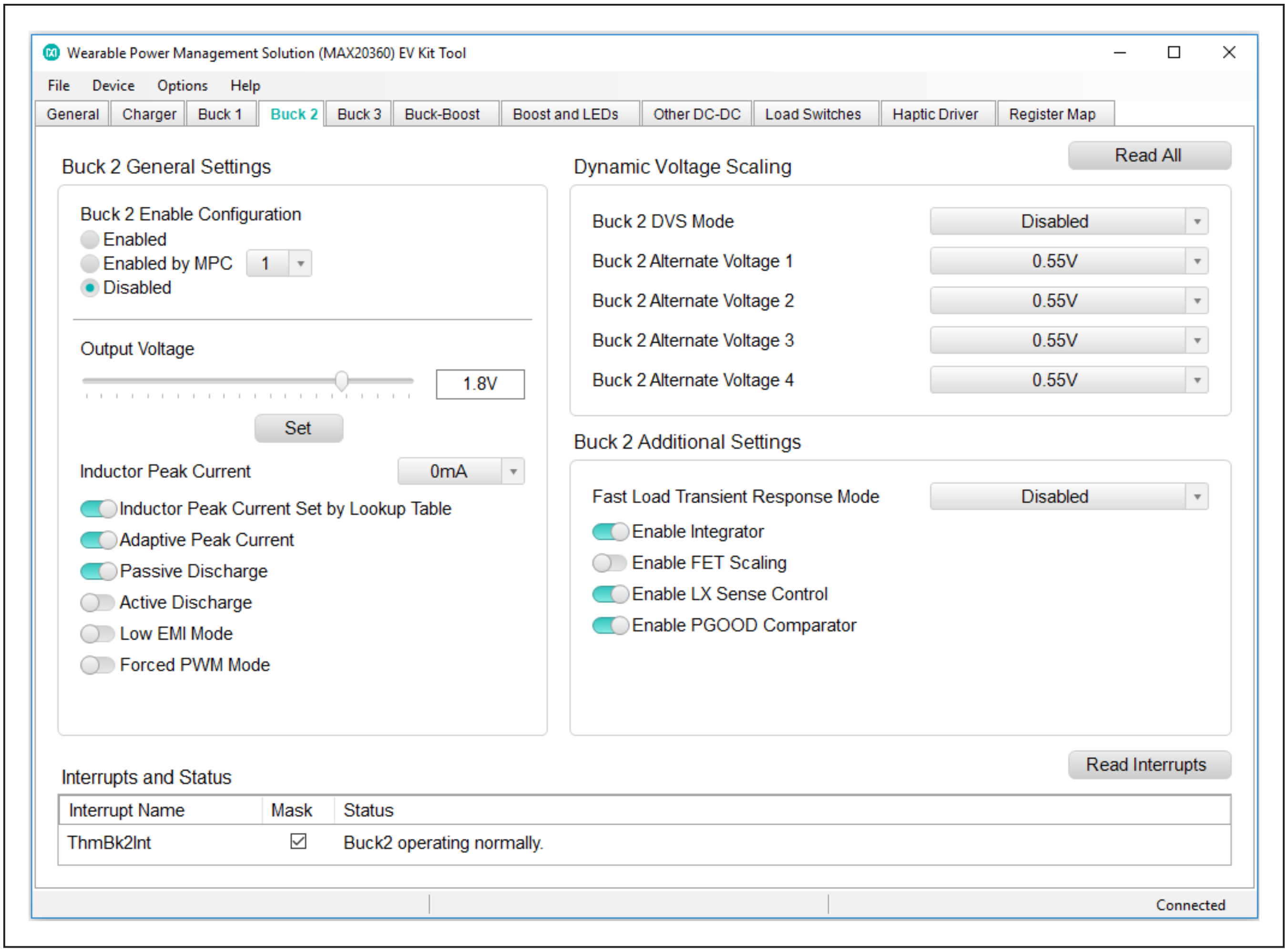


Figure 7. Buck2 Tab

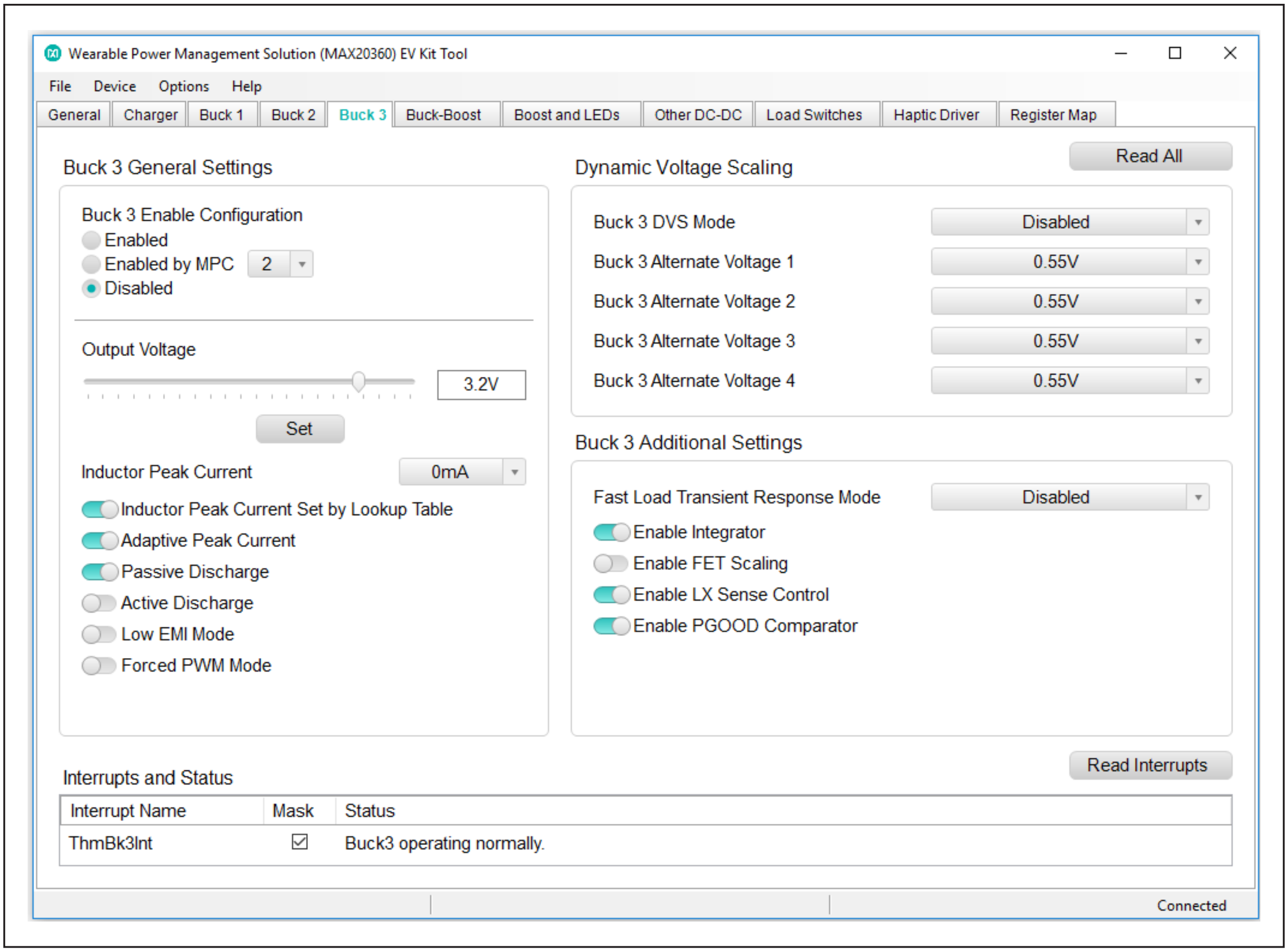


Figure 8. Buck3 Tab

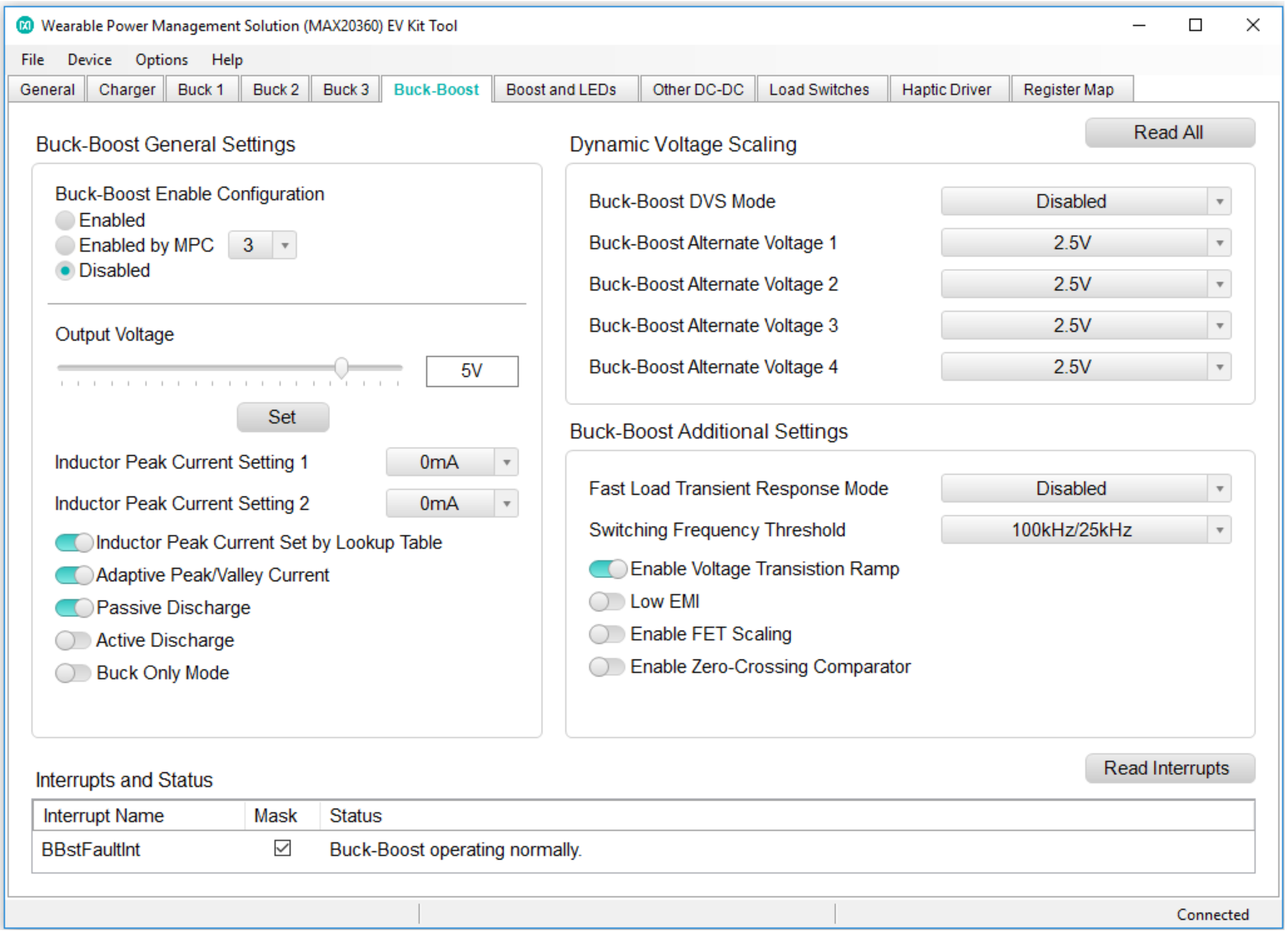


Figure 9. Buck Boost Tab

Boost and LEDs Tab

The **Boost and LEDs** tab (Figure 10) provide options to enable boost, set boost voltage, inductor current settings, enable LEDs, and LED current sink setting.

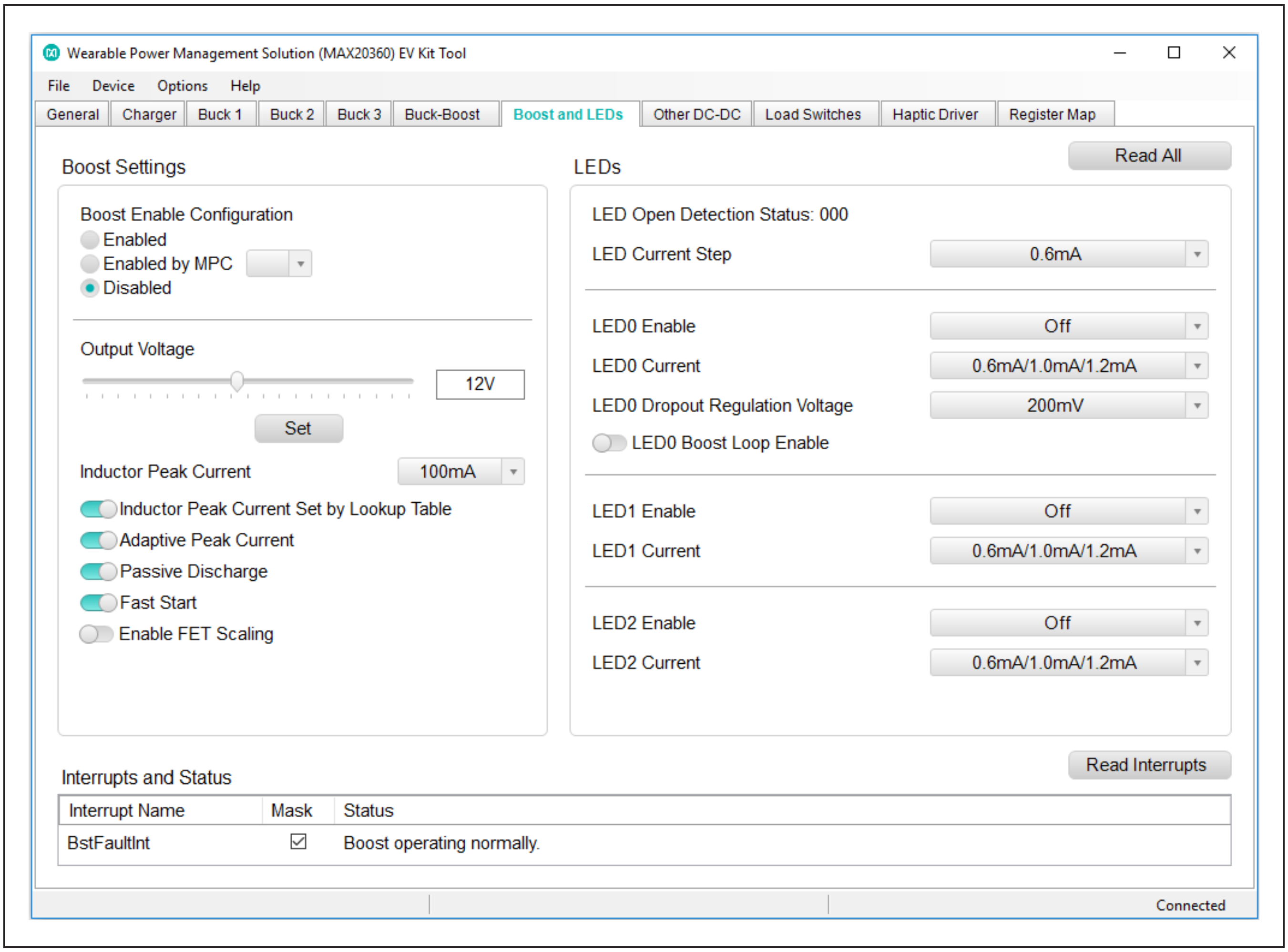


Figure 10. Boost and LEDs Tab

Other DC-DC Tab

The **Other DC-DC** tab (Figure 11) includes SFOUT, Charge Pump, LDO1, and LDO2 settings.

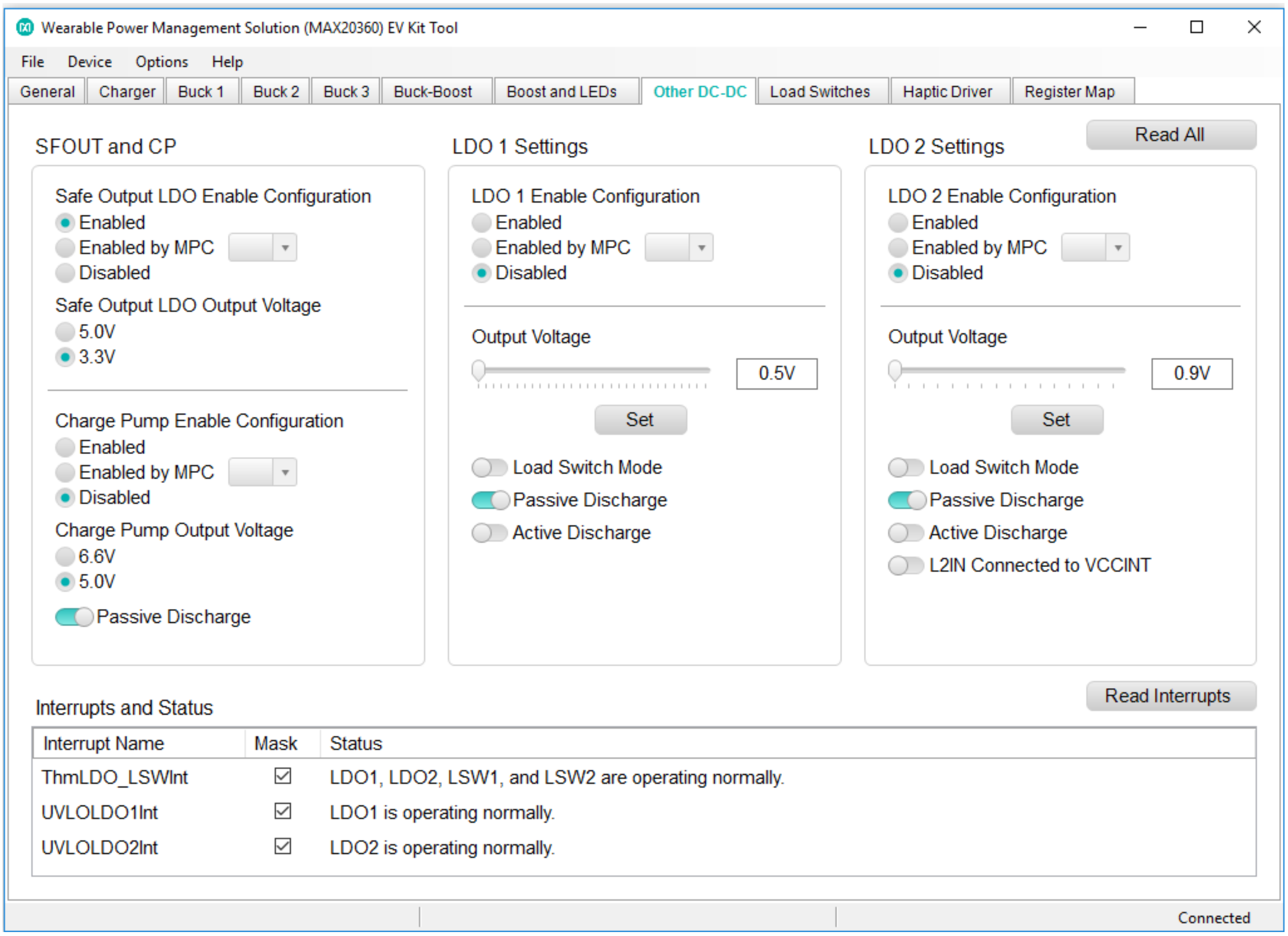


Figure 11. Other DC-DC Tab

Load Switches Tab

The **Load Switches** tab (Figure 12) includes Load Switch 1 and Load Switch 2 settings.

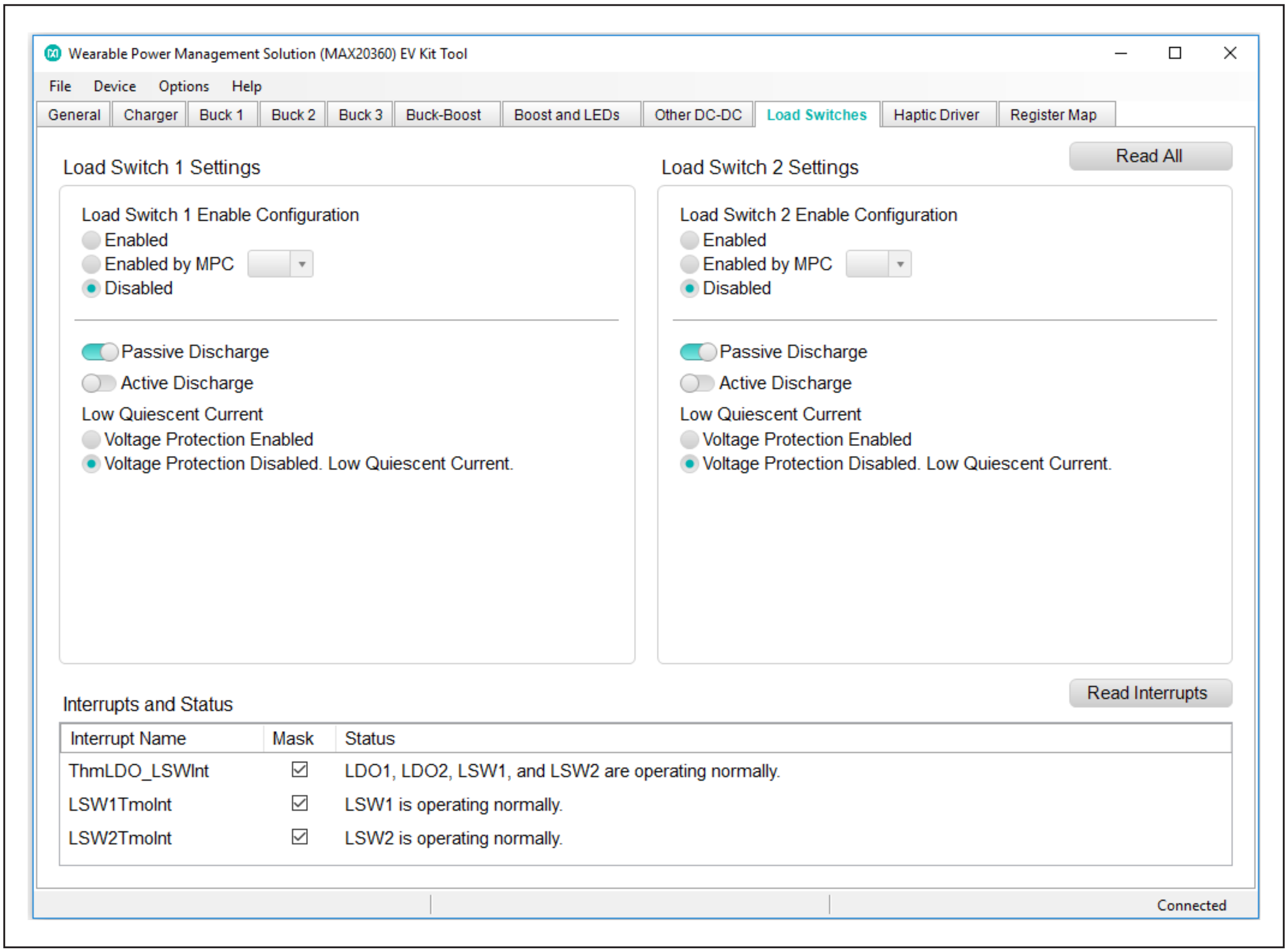


Figure 12. Load Switches Tab

Haptic Driver Tab

The **Haptic Driver** tab (Figure 13) provides options to choose actuator type, haptic driver mode and different settings for each mode. To unmask the haptic interrupts, the HptStatIntM bit in 0x0D IntMask3 register also needs to be unmasked.

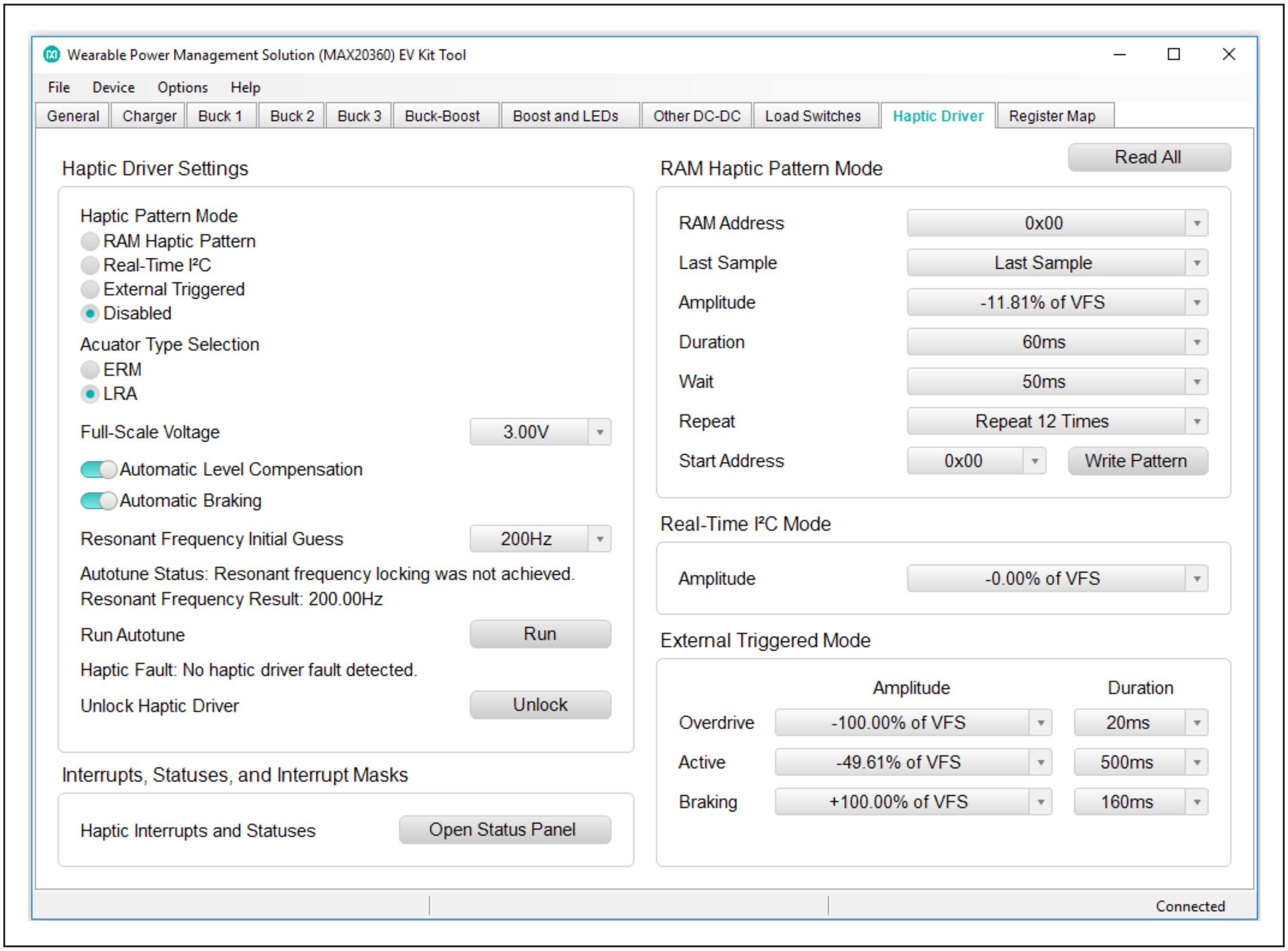


Figure 13. Haptic Driver Tab

Register Map Tab

The **Register Map** tab (Figure 14) provides all names and values of MAX20360 registers. Click **Read All** on the top right corner to perform a burst read of all registers.

The left table shows the register to be read from or written to. The right table contains descriptions for each register field of the selected 8-bit register. All bits, along with their field names, are displayed at the bottom of the page.

To set a bit, click the bit label. **Bold** text represents logic 1 and regular text represents logic 0. To configure the changes to the device, click the **Write** button at the bottom right.

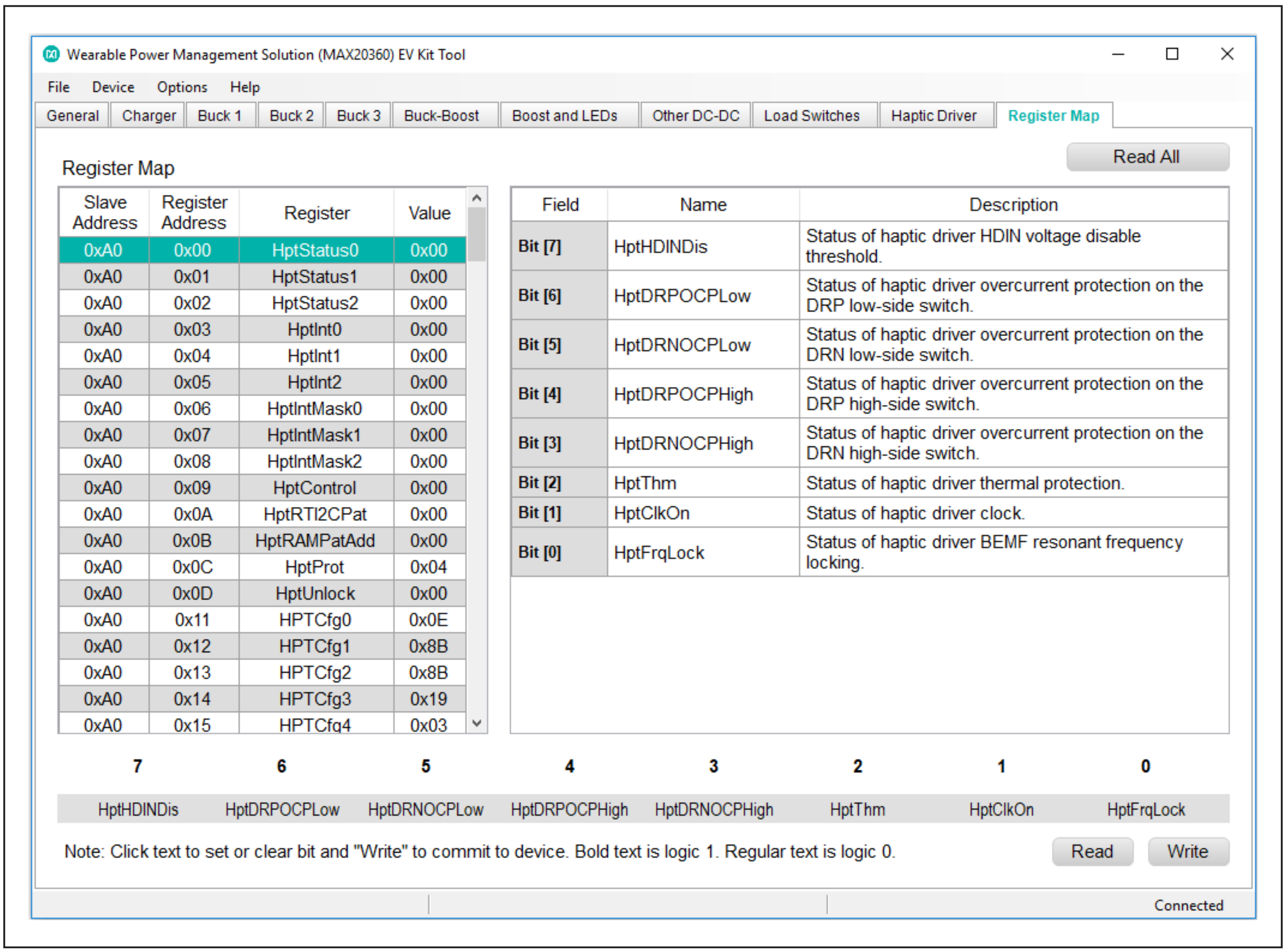


Figure 14. Register Map Tab

Detailed Description of Hardware

The MAX20360 EV kit evaluates the MAX20360 ultra low-power wearable PMIC, which communicates over the I2C interface. The EV kit demonstrates the IC features such as bucks, buck-boost, boost, LED current sink, linear regulators, battery charger, and haptic driver. The EV kit uses the IC in a 72-bump wafer-level package on a proven, six-layer PCB design. The EV kit can use USB VBUS 5V DC for battery and charger input power source. Alternatively, the EV kit can be powered from an external power supply. Figure 15 and Figure 16 show the EV kit and block annotated pictures.

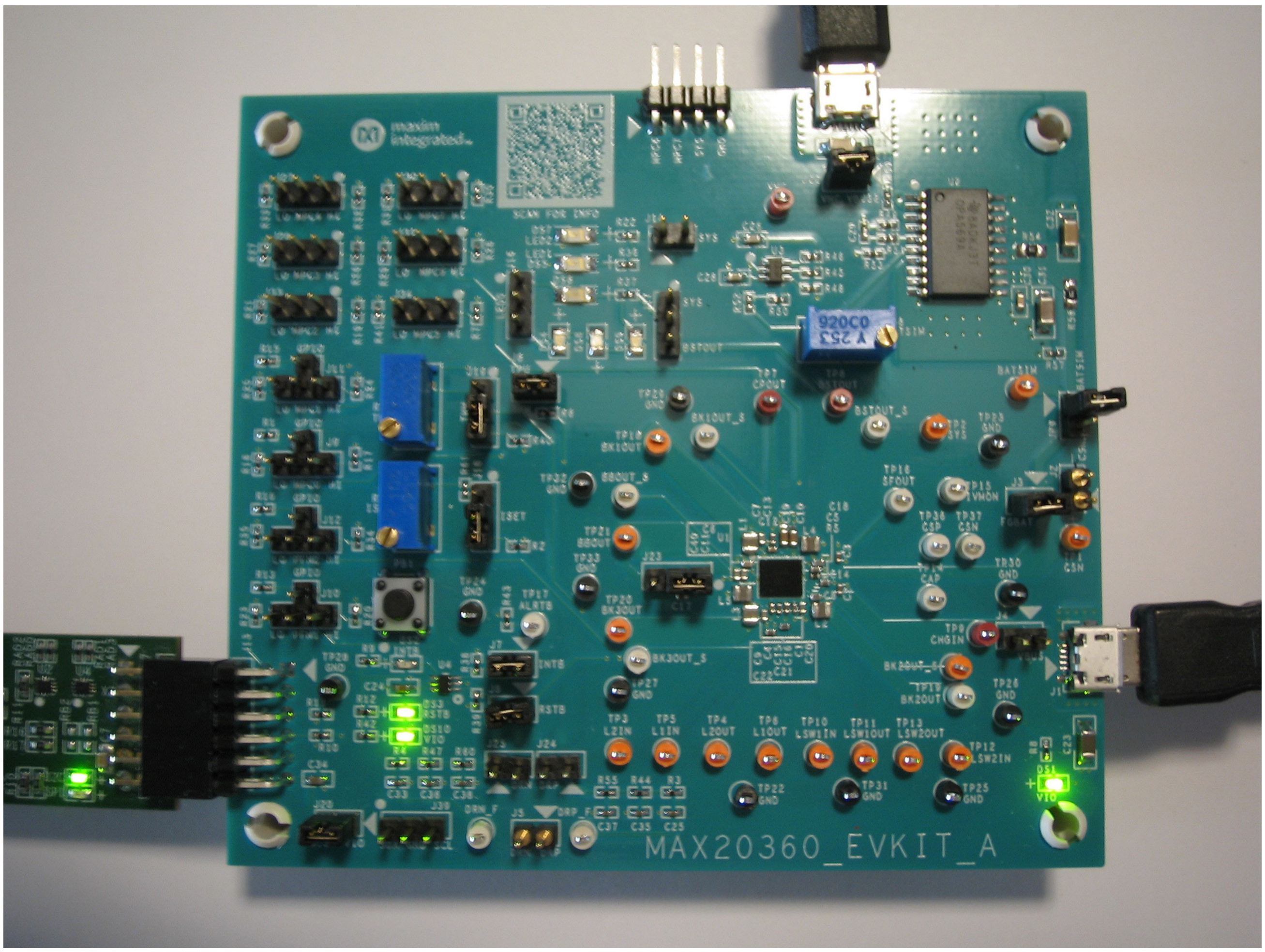


Figure 15. MAX20360 EV Kit Board Picture

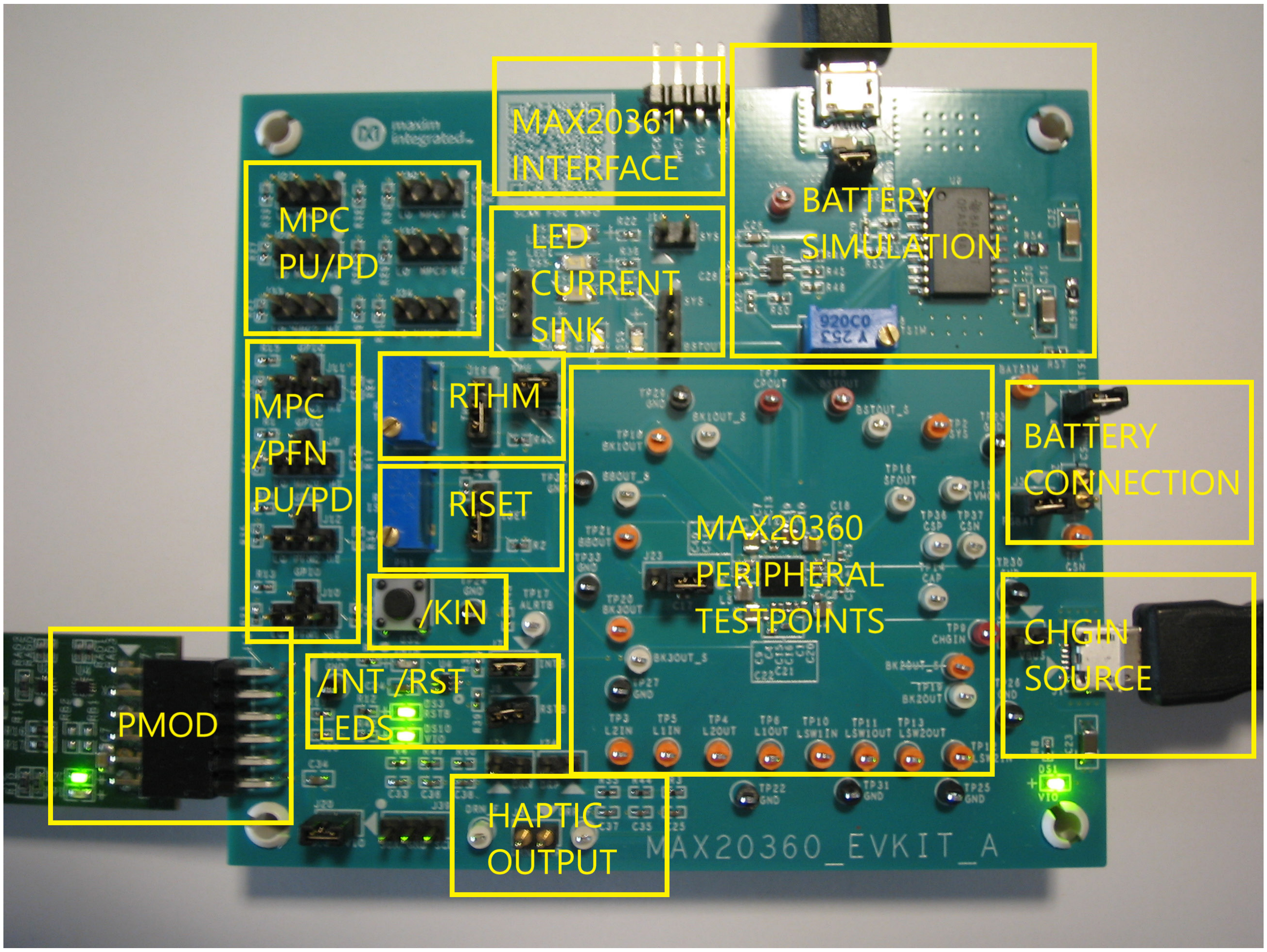


Figure 16. MAX20360 EV Kit Block Annotated Picture

Hardware Setup

To use the EV kit with the GUI, connect the USB2PMB2# to the PMOD connector in the bottom left corner of the board. The USB2PMB2# also provides 3.3V to the logic voltage VIO of the EV kit when shunting J20. Use the J21 USB VBUS to power the battery simulation circuits on the EV kit to supply BAT of the IC. Turning the R58 potentiometer can change the BATSIM voltage. Connect BATSIM to BAT of the IC with shunt on JP9. Alternatively, instead of using battery simulation circuits on the board, connect a Li-ion battery on J2 connector. Use the J1 USB VBUS as CHGIN source and place shunt on J4.

PFNs and MPCs States

The PFNs and MPCs can be pulled up to VIO through a 100kΩ resistor, or connected to ground through 100kΩ resistor.

Regulators and Peripherals

All regulator outputs are made available on test points. The inputs to the LDO1, LDO2, Load Switch 1, and Load Switch 2 must be supplied externally through test points. The LDO2 input can be supplied from VCCINT of IC if set through the I^2C. Bucks, buck-boost, and boost output have sense test points which provide easy voltage measuring.

Thermistor and SET Adjustment

When the J6 shunt is installed, THM is pulled up to TPU through a 10kΩ resistor. Header J19 is used to select the pull-down resistor for THM. When pin 1 and 2 is shunted, potentiometer R14 is used to simulate a thermistor at THM. When pin 2 and 3 is shunted, a fixed 10kΩ resistor is connected between THM and ground.

Header J18 is used to select the resistor for R_{ISET} which sets the fast-charge current I_{FCHG}. Shunting pin 1 and 2 selects potentiometer R63. Change R_{ISET} to change I_{FCHG}. Shunting selects a fixed 10kΩ resistor, which sets fast-charge current to 0.2A.

$\overline{INT}$ and $\overline{RST}$ LED Indicators

Shunts can be installed on J7 and J8 to show the status of $\overline{INT}$ and $\overline{RST}$ as LED indicators, DS2 and DS3. When the corresponding LED illuminates, it verifies the active-low output is pulled low.

Haptic Driver

Select haptic driver supply using J23. When pin 1 and 2 is shunted, HDIN is powered from SYS. When pin 2 and 3 is shunted, HDIN is sourced from BBOUT. The haptic driver output is available on J5 where an LRA or ERM vibration motor can be connected. By shunting J24 and J25, haptic waveform can be measured with the on board low-pass filters which convert pulse-width-modulation (PWM) to sinewave.

LED Current Sink

The EV kit includes multiple LEDs to test the LED0, LED1, and LED2 current sinks. The current source for LED1 and LED2 can be connected to SYS by shunting J14. The current source for LED0 can be selected between SYS and BSTOUT by J17. Using J16, select between sinking the current from one LED or three LEDs for LED0.

Jumper Setting

Table 1 shows the detailed jumper setting, and Table 2 shows the connector description.

Table 1. Jumper Setting

JUMPER	SHUNT POSITION	DESCRIPTION
J3	1-2*	CSN connect to FGBAT
J4	1-2	CHGIN connect to USB VBUS from J1
J6	1-2*	THM connect to TPU for thermistor monitoring
J7	1-2*	$\overline{INT}$ connect to pull up VIO and DS2.
J8	1-2*	$\overline{RST}$ connect to pull up VIO and DS3.
J9	1-2	MPC0 pull down to ground
	1-3	MPC0 connect to GPIO3
	1-4	MPC0 pull up to VIO
J10	1-2	PFN1 pull down to ground
	1-3	PFN1 connect to GPIO1
	1-4	PFN1 pull up to VIO

Table 1. Jumper Setting (continued)

JUMPER	SHUNT POSITION	DESCRIPTION
J11	1-2	MPC1 pull down to ground
	1-3	MPC1 connect to GPIO4
	1-4	MPC1 pull up to VIO
J12	1-2	PFN2 pull down to ground
	1-3	PFN2 connect to GPIO2
	1-4	PFN2 pull up to VIO
J14	1-2	LED1/LED2 supply from SYS voltage
J16	1-2	LED0 connect to one LED
	2-3	LED0 connect to three LEDs
J17	1-2	LED0 supply from SYS
	2-3	LED0 supply from BSTOUT
J18	1-2	ISET connect to potentiometer
	2-3*	ISET connect to 10kΩ (fast-charge current 0.2A)
J19	1-2	THM connect to potentiometer
	2-3*	THM connect to 10kΩ (50%/room zone)
J20	1-2*	VIO connect to 3.3V from PMOD
J22	1-2*	VHC connect to USB VBUS from J21
J23	1-2*	HDIN connect to SYS
	2-3	HDIN connect to BBOUT
J24	1-2	DRP connect to low-pass filter which convert PWM to sinewave, measure filtered waveform at DRP_F
J25	1-2	DRN connect to low-pass filter which convert PWM to sinewave, measure filtered waveform at DRN_F
J27	1-2	MPC4 pull up to VIO
	2-3	MPC4 pull down to ground
J28	1-2	MPC3 pull up to VIO
	2-3	MPC3 pull down to ground
J30	1-2	MPC7 pull up to VIO
	2-3	MPC7 pull down to ground
J31	1-2	MPC6 pull up to VIO
	2-3	MPC6 pull down to ground
J33	1-2	MPC2 pull up to VIO
	2-3	MPC2 pull down to ground
J34	1-2	MPC5 pull up to VIO
	2-3	MPC5 pull down to ground
J39	1-2	SDA connect to ground
	2-3	SCL connect to ground
JP9	1-2	BATSIM connect to CSN

**Default position.*

Table 2. Connectors Description

CONNECTOR	DESCRIPTION
J1	Connect to USB cable for CHGIN voltage
J2	Connect to battery
J5	Connect to LRA/ERM haptic actuator
J13	Connect to USB2PMB2#
J15	Connect to MAX20361 EV kit

Ordering Information

PART	TYPE
MAX20360EVKIT#	EVKIT

#Denotes RoHS compliant.

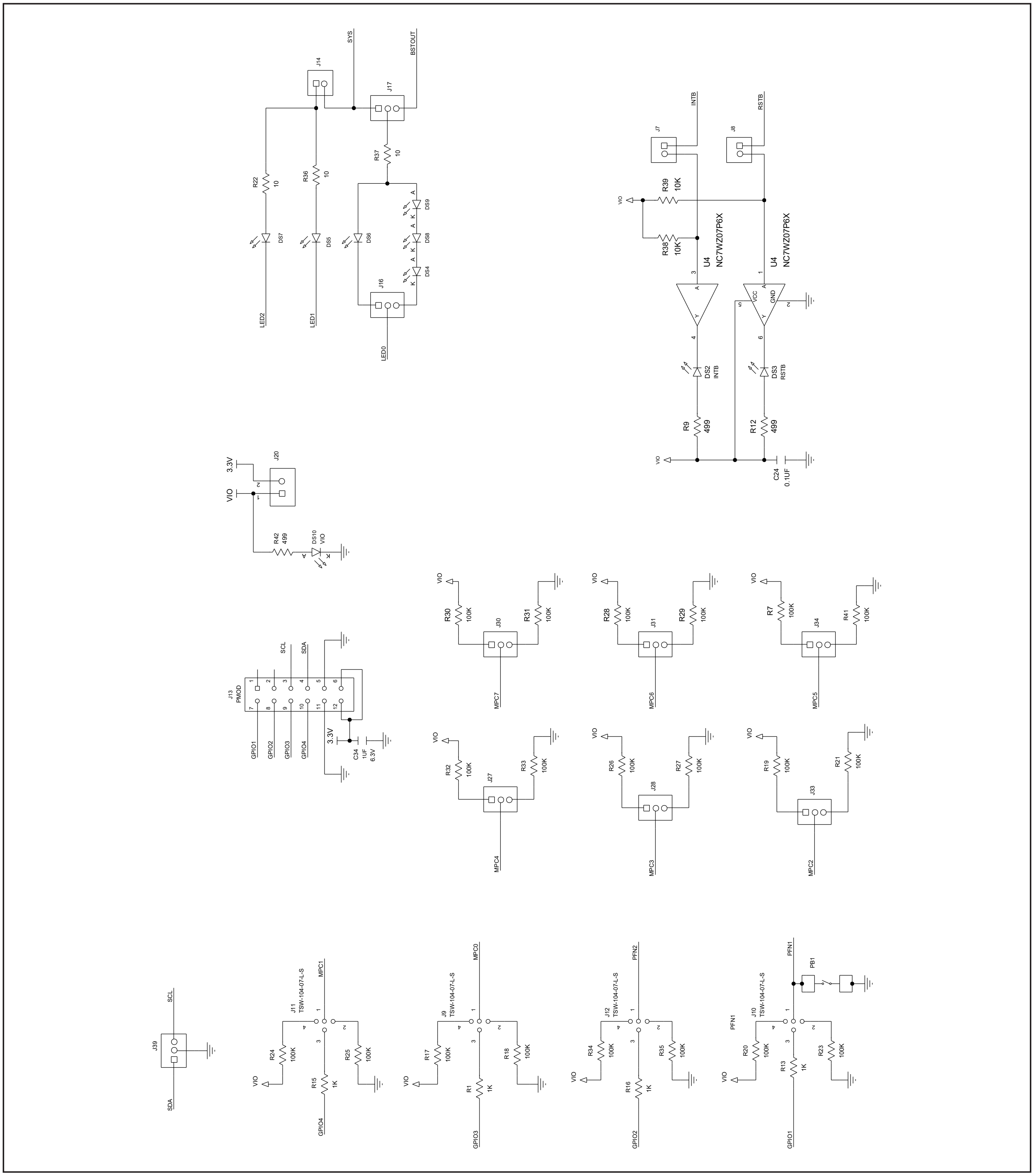
MAX20360 EV Kit Bill of Materials

ITEM	REF_DES	DNI/DNP	QTY	MFG PART #	MANUFACTURER	VALUE	DESCRIPTION	COMMENTS
1	BATSIM, TP1-TP6, TP10-TP13, TP18-TP21	-	15	5003	KEYSTONE	N/A	TEST POINT; PIN DIA=0.1IN; TOTAL LENGTH=0.3IN; BOARD HOLE=0.04IN; ORANGE; PHOSPHOR BRONZE WIRE SILVER PLATE FINISH;	
2	BBOUT_S, BK1OUT_S-BK3OUT_S, BSTOUT_S, DRN_F, DRP_F, TP14-TP17, TP36, TP37	-	13	5002	KEYSTONE	N/A	TEST POINT; PIN DIA=0.1IN; TOTAL LENGTH=0.3IN; BOARD HOLE=0.04IN; WHITE; PHOSPHOR BRONZE WIRE SILVER;	
3	C1	-	1	CGA2B3X7R1H104K050BB; C1005X7R1H104K050BB; GRM155R71H104KE14; GCM155R71H104KE02; C1005X7R1H104K050BE; UMK105B7104KV-FR; CGA2B3X7R1H104K050BE	TDK;TDK;MURATA;MURATA; TDK;TAIYO YUDEN;TDK	0.1UF	CAPACITOR; SMT (0402); CERAMIC CHIP; 0.1UF; 50V; TOL=10%; TG=-55 DEGC TO +125 DEGC; TC=X7R	
4	C2	-	1	C1005X5R1V225K050BC	TDK	2.2UF	CAP; SMT (0402); 2.2UF; 10%; 35V; X5R; CERAMIC CHIP	
5	C3, C5, C13-C17, C21, C22	-	9	C1005X5R0J475K050BC	TDK	4.7UF	CAPACITOR; SMT (0402); CERAMIC CHIP; 4.7UF; 6.3V; TOL=10%; TG=-55 DEGC TO +85 DEGC; TC=X5R	
6	C4	-	1	C1005X5R0J225K050BC; CL05A225KQ5NSN	TDK;SAMSUNG	2.2UF	CAPACITOR; SMT (0402); CERAMIC; 2.2UF; 6.3V; TOL=[10%]; MODEL=C SERIES; TG=-55 DEGC TO +85 DEGC; TC=X5R	
7	C6-C9, C11, C18, C20, C40	-	8	GRM155R60J226ME11	MURATA	22UF	CAPACITOR; SMT (0402); CERAMIC CHIP; 22UF; 6.3V; TOL=20%; TC=X5R ;	
8	C10, C19	-	2	GRM188R6YA106MA73	MURATA	10UF	CAPACITOR; SMT (0603); CERAMIC CHIP; 10UF; 35V; TOL=20%; TG=-55 DEGC TO +85 DEGC; TC=X5R	
9	C12	-	1	GRM155R71A273KA01; 0402ZC273KAT2A; CC0402KRX7R6BB273	MURATA;AVX;YAGEO	0.027UF	CAPACITOR; SMT (0402); CERAMIC CHIP; 0.027UF; 10V; TOL=10%; TG=-55 DEGC TO +125 DEGC; TC=X7R	
10	C23, C27	-	2	GRM31CR71H475KA12; GRJ31CR71H475KE11; GXM31CR71H475KA10	MURATA;MURATA;MURATA	4.7UF	CAPACITOR; SMT (1206); CERAMIC CHIP; 4.7UF; 50V; TOL=10%; MODEL=; TG=-55 DEGC TO +125 DEGC; TC=X7R	
11	C24	-	1	C1608X5R1H104K080AA	TDK	0.1UF	CAPACITOR; SMT (0603); CERAMIC CHIP; 0.1UF; 50V; TOL=10%; MODEL=C SERIES; TG=-55 DEGC TO +85 DEGC; TC=X5R	
12	C25, C33, C35-C38	-	6	C1005X7R1C104K050BC; ATC530L104KT16; 0402YC104KAT2A; CGA2B1X7R1C104K050BC; GCM155R71C104KA55; C0402X7R160-104KNE; CL05B104KO5NNNC; GRM155R71C104KA88; C1005X7R1C104K; CC0402KRX7R7BB104; EMK105B7104KV; CL05B104KO5	TDK;AMERICAN TECHNICAL CERAMICS;AVK;TDK;MURATA;VENKEL LTD.;SAMSUNG ELECTRONICS;MURATA;TDK;YAGEO PHICOMP;TAIYO YUDEN;SAMSUNG ELECTRONICS	0.1UF	CAPACITOR; SMT (0402); CERAMIC CHIP; 0.1UF; 16V; TOL=10%; TG=-55 DEGC TO +125 DEGC; TC=X7R	
13	C26	-	1	C0603C225K9PAC; GRM188R60J225KE01; C1608X5R0J225K080AB	KEMET;MURATA;TDK	2.2UF	CAPACITOR; SMT (0603); CERAMIC CHIP; 2.2UF; 6.3V; TOL=10%; MODEL=; TG=-55 DEGC TO +85 DEGC; TC=X5R;	
14	C28	-	1	C0603C475K9PAC	KEMET	4.7UF	CAPACITOR; SMT (0603); CERAMIC CHIP; 4.7UF; 6.3V; TOL=10%; MODEL=; TG=-55 DEGC TO +85 DEGC; TC=X5R;	
15	C29	-	1	C0402X7R500-222KNE; GRM155R71H222KA01	VENKEL LTD.;MURATA	2200PF	CAPACITOR; SMT (0402); CERAMIC CHIP; 2200PF; 50V; TOL=10%; TG=-55 DEGC TO +125 DEGC; TC=X7R	
16	C30	-	1	C0603C104K8RAC	KEMET	0.1UF	CAPACITOR; SMT (0603); CERAMIC CHIP; 0.1UF; 10V; TOL=10%; MODEL=C0603 SERIES; TG=-55 DEGC TO +125 DEGC; TC=X7R	
17	C31	-	1	C3216X5R1C476M160AB; GRM31CR61C476ME44	TDK;MURATA	47UF	CAPACITOR; SMT (1206); CERAMIC CHIP; 47UF; 16V; TOL=20%; TG=-55 DEGC TO +85 DEGC; TC=X5R	
18	C32	-	1	C3216X5R1H106K160AB; GRM31CR61H106KA12	TDK;MURATA	10UF	CAPACITOR; SMT (1206); CERAMIC CHIP; 10UF; 50V; TOL=10%; TG=-55 DEGC TO +85 DEGC; TC=X5R	
19	C34	-	1	GRM188R60J105KA01	MURATA	1UF	CAPACITOR; SMT (0603); CERAMIC CHIP; 1UF; 6.3V; TOL=10%; MODEL=GRM SERIES; TG=-55 DEGC TO +85 DEGC; TC=X5R;	
20	DS1-DS3, DS10	-	4	LG L29K-G2J1-24	OSRAM	LG L29K-G2J1-24	DIODE; LED; SMT (0603); Vf=1.7V; If(test)=0.002A; -40 DEGC TO +100 DEGC	
21	DS4, DS8, DS9	-	3	LTST-C171TBKT	LITE-ON ELECTRONICS INC.	LTST-C171TBKT	DIODE; LED; SMD LED; BLUE; SMT (0805); PIV=5V; IF=0.020A	
22	DS5-DS7	-	3	LTST-C150KRKT	LITE-ON ELECTRONICS INC.	LTST-C150KRKT	DIODE; LED; STANDARD; RED; SMT (1206); PIV=2V; IF=0.02A; -30 DEGC TO +85 DEGC	
23	J1, J21	-	2	ZX62D-B-5P8	HIROSE ELECTRIC CO LTD.	ZX62D-B-5P8	CONNECTOR; MALE; SMT; MICRO UNIVERSAL SERIES BUS B-TYPE CONNECTOR; RIGHT ANGLE; 5PINS	
24	J2, J5	-	2	800-10-002-10-001000	MILLMAX	800-10-002-10-001000	CONNECTOR; MALE; TH; SINGLE ROW; STRAIGHT; 2PINS	
25	J3, J4, J6-J8, J14, J20, J22, J24, J25, JP9	-	11	PBC02SAAN	SULLINS ELECTRONICS CORP.	PBC02SAAN	CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT; 2PINS	

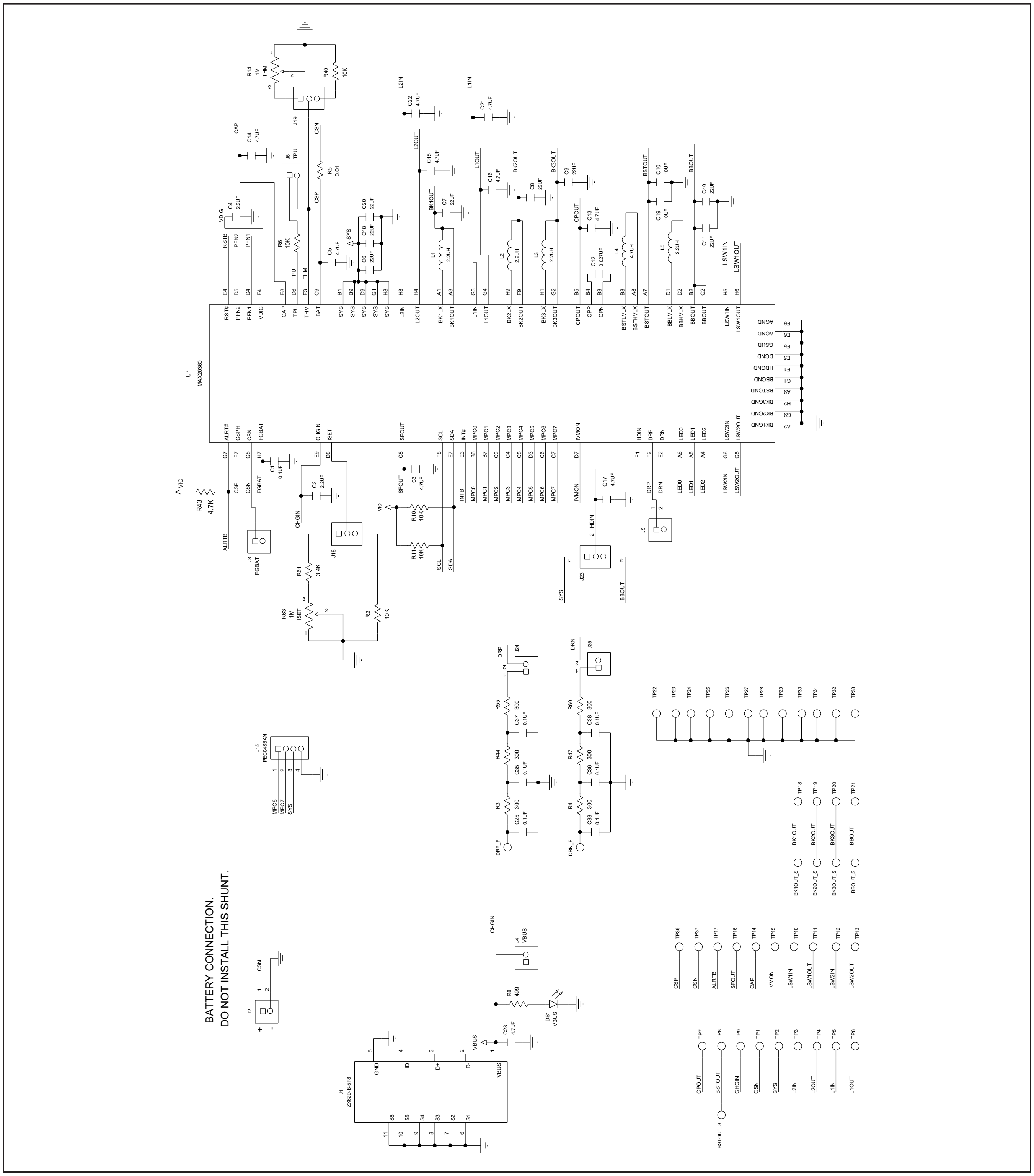
MAX20360 EV Kit Bill of Materials (continued)

ITEM	REF_DES	DNI/DNP	QTY	MFG PART #	MANUFACTURER	VALUE	DESCRIPTION	COMMENTS
26	J9-J12	-	4	TSW-104-07-L-S	SAMTEC	TSW-104-07-L-S	EVKIT PART-CONNECTOR; MALE; THROUGH HOLE; TSW SERIES; SINGLE ROW; STRAIGHT; 4PINS	
27	J13	-	1	PBC06DBAN	SULLINS ELECTRONICS CORP.	PBC06DBAN	CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT; 12PINS - ALTERNATE PIN NUMBERING	
28	J15	-	1	PEC04SBAN	SULLINS ELECTRONICS CORP.	PEC04SBAN	CONNECTOR; MALE; THROUGH HOLE; 0.100INCH CONTACT CENTERS; MALE BREAKAWAY HEADERS; RIGHT ANGLE; NO MOUNTING; 4PINS	
29	J16-J19, J23, J27, J28, J30, J31, J33, J34, J39	-	12	PBC03SAAN	SULLINS	PBC03SAAN	CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT; 3PINS; -65 DEGC TO +125 DEGC	
30	L1-L3, L5	-	4	DFE201612E-2R2M	MURATA	2.2UH	INDUCTOR; SMT (0806); WIREWOUND CHIP; 2.2UH; TOL=+/-20%; 1.8A	
31	L4	-	1	DFE201612E-4R7M	MURATA	4.7UH	INDUCTOR; SMT (0806); METAL; 4.7UH; 20%; 1.20A	
32	PB1	-	1	1825910-6	TE CONNECTIVITY	1825910-6	SWITCH; SPST; THROUGH HOLE; 24V; 0.05A; TACTILE SWITCH; RCOIL=0 OHM; RINSULATION=100M OHM; TE CONNECTIVITY	
33	R1, R13, R15, R16	-	4	ERJ-2RKF1001	PANASONIC	1K	RESISTOR; 0402; 1K OHM; 1%; 100PPM; 0.10W; THICK FILM	
34	R2, R10, R11, R38-R40, R49, R53	-	8	CRCW040210K0FK; RC0402FR-0710KL	VISHAY DALE;YAGEO PHICOMP	10K	RESISTOR; 0402; 10K; 1%; 100PPM; 0.0625W; THICK FILM	
35	R3, R4, R44, R47, R55, R60	-	6	ERJ-2RKF3000	PANASONIC	300	RESISTOR; 0402; 300 OHM; 1%; 100PPM; 0.1W; THICK FILM	
36	R5	-	1	ERJ-2LWFR010	PANASONIC	0.01	RES; SMT (0402); 0.01; 1%; 0 TO +500PPM/DEGC; 0.2W	
37	R6	-	1	ERJ-2GEJ103	PANASONIC	10K	RESISTOR; 0402; 10K OHM; 5%; 200PPM; 0.10W; THICK FILM	
38	R7, R17-R21, R23-R35, R41, R45, R46, R48, R50, R57	-	25	ERJ-2GEJ104	PANASONIC	100K	RESISTOR; 0402; 100K OHM; 5%; 200PPM; 0.10W; THICK FILM	
39	R8, R9, R12, R42	-	4	CRCW0402499RFK	VISHAY DALE	499	RESISTOR; 0402; 499 OHM; 1%; 100PPM; 0.0625W; THICK FILM	
40	R14, R63	-	2	PV36Y105C01B00	MURATA	1M	RESISTOR; THROUGH-HOLE-RADIAL LEAD; PV36 SERIES; 1M OHM; 10%; 100PPM; 0.5W; TRIMMER POTENTIOMETER; 25 TURNS; MOLDER CERAMIC OVER METAL FILM	
41	R22, R36, R37	-	3	CRCW040210R0JNEDHP	VISHAY DRALORIC	10	RESISTOR; 0402; 10 OHM; 5%; 200PPM; 0.2W; THICK FILM	
42	R43	-	1	CRCW04024K70FK; MCR01MZPF4701	VISHAY DALE;ROHM SEMICONDUCTOR	4.7K	RESISTOR, 0402, 4.7K OHM, 1%, 100PPM, 0.0625W, THICK FILM	
43	R51	-	1	ERJ-2GE0R00	PANASONIC	0	RESISTOR; 0402; 0 OHM; 0%; JUMPER; 0.10W; THICK FILM	
44	R52	-	1	ERJ-2RKF5100	PANASONIC	510	RESISTOR; 0402; 510 OHM; 1%; 100PPM; 0.10W; THICK FILM	
45	R54, R56	-	2	WSL0805R1000FEA18	VISHAY DALE	0.1	RESISTOR; 0805; 0.1 OHM; 1%; 75PPM; 0.125W; THICK FILM	
46	R58	-	1	3296Y-1-253LF	BOURNS	25K	RESISTOR; THROUGH-HOLE-RADIAL LEAD; 3296 SERIES; 25K OHM; 10%; 100PPM; 0.5W; SQUARE TRIMMING POTENTIOMETER; 25 TURNS; MOLDER CERAMIC OVER METAL FILM	
47	R59	-	1	ERJ-2RKF1152	PANASONIC	11.5K	RESISTOR; 0402; 11.5K OHM; 1%; 100PPM; 0.10W; THICK FILM	
48	R61	-	1	CRCW04023K40FK	VISHAY DALE	3.4K	RESISTOR; 0402; 3.4K OHM; 1%; 100PPM; 0.063W; THICK FILM	
49	SPACER1-SPACER4	-	4	9032	KEYSTONE	9032	MACHINE FABRICATED; ROUND-THRU HOLE SPACER; NO THREAD; M3.5; 5/8IN; NYLON	
50	SU3, SU4, SU6-SU12, SU14, SU16-SU20, SU23-SU25, SU27, SU28, SU30, SU31, SU33, SU34	-	24	S1100-B;SX1100-B; STC02SYAN	KYCON;KYCON;SULLINS ELECTRONICS CORP.	SX1100-B	TEST POINT; JUMPER; STR; TOTAL LENGTH=0.24IN; BLACK; INSULATION=PBT;PHOSPHOR BRONZE CONTACT=GOLD PLATED	
51	TP7-TP9, VHC	-	4	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;	
52	TP22-TP33	-	12	5001	KEYSTONE	N/A	TEST POINT; PIN DIA=0.1IN; TOTAL LENGTH=0.3IN; BOARD HOLE=0.04IN; BLACK; PHOSPHOR BRONZE WIRE SILVER PLATE FINISH;	
53	U1	-	1	MAX20360EEWZ+	MAXIM	MAX20360EEWZ+	EVKIT PART - IC; WEARABLE POWER NAMAGEMENT SOLUTION; PACKAGE OUTLINE DRAWING: 21-100373; WLP 72 PINS; 0.5MM PITCH; PACKAGE CODE: W724A4+1	
54	U2	-	1	OPA569AIDWPR	TEXAS INSTRUMENTS	OPA569AIDWPR	IC; AMP; RAIL-TO-RAIL I/O; POWER AMPLIFIER; WSOIC20-EP 300MIL	
55	U3	-	1	MAX8880EUT+	MAXIM	MAX8880EUT+	IC; VREG; ULTRA-LOW-IQ LOW-DROPOUT LINEAR REGULATOR WITH POK; SOT23-6	
56	U4	-	1	NC7WZ07P6X	FAIRCHILD SEMICONDUCTOR	NC7WZ07P6X	IC; BUF; TINY LOGIC ULTRA-HIGH SPEED DUAL BUFFER; SC70-6	
57	PCB	-	1	MAX20360	MAXIM	PCB	PCB:MAX20360	-
TOTAL			227					

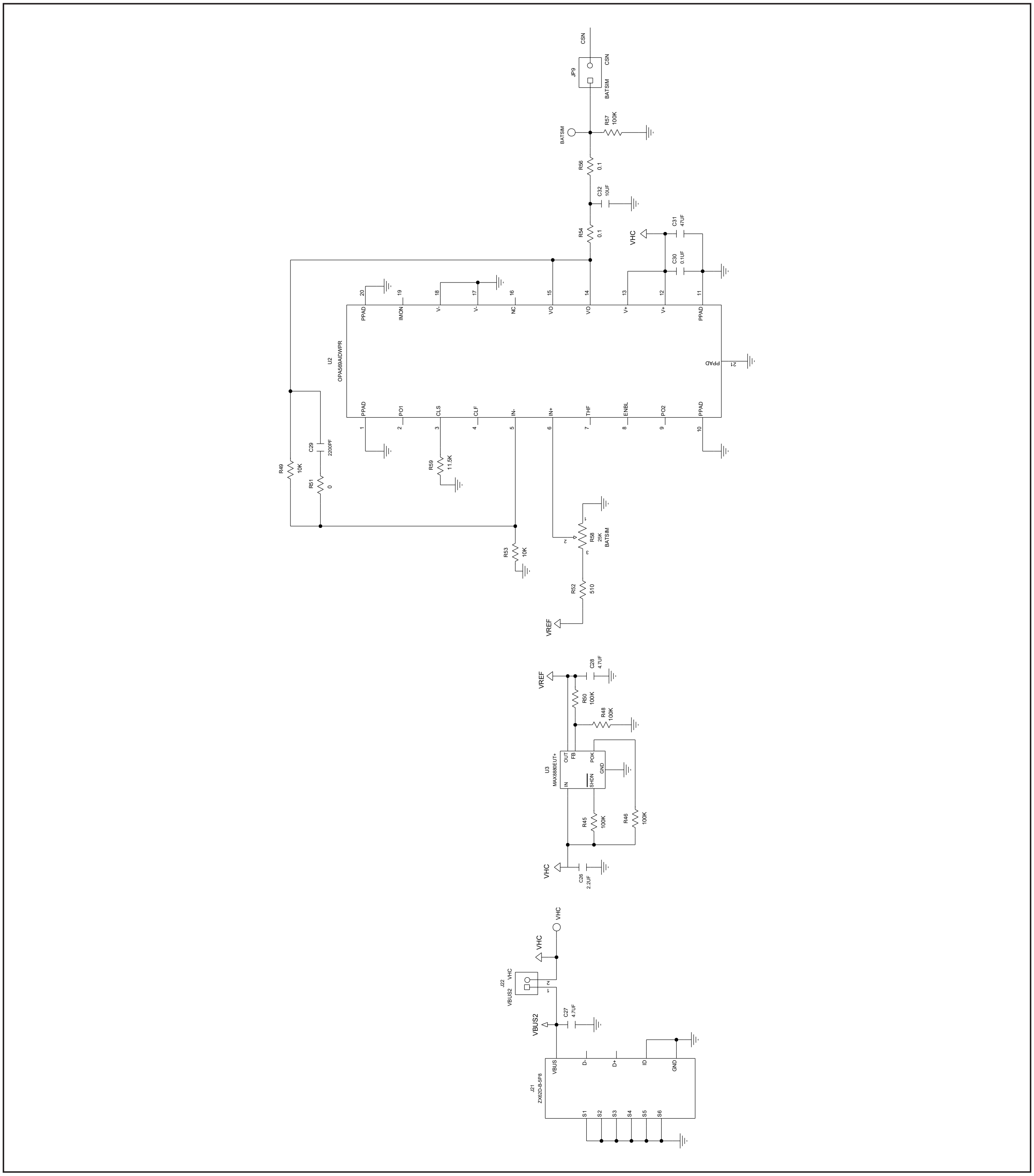
MAX20360 EV Kit Schematics



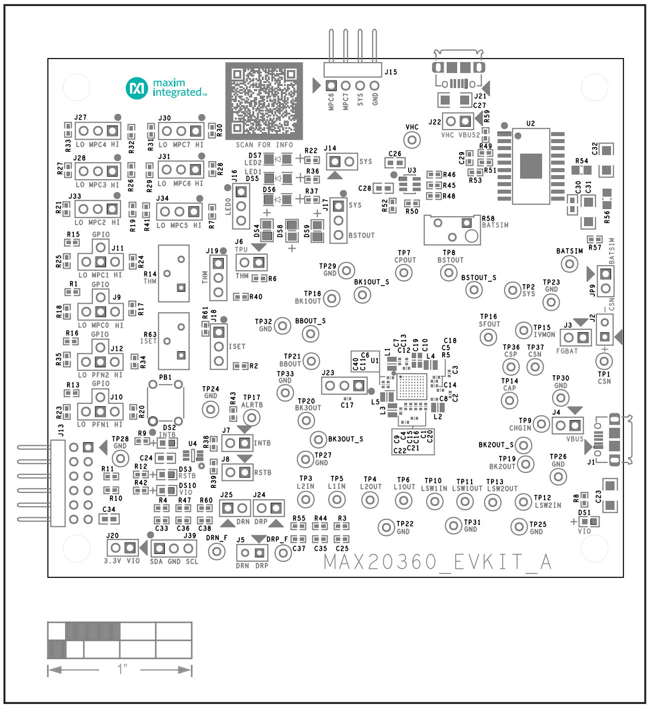
MAX20360 EV Kit Schematics (continued)



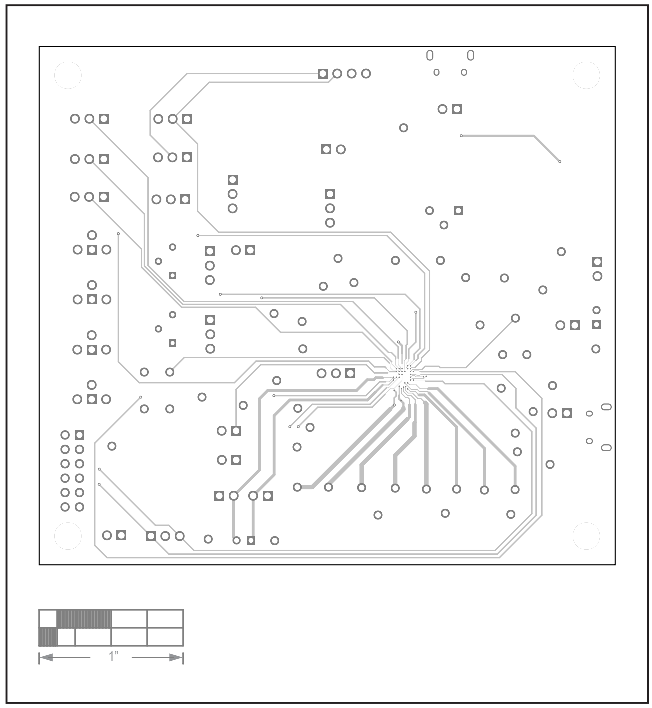
MAX20360 EV Kit Schematics (continued)



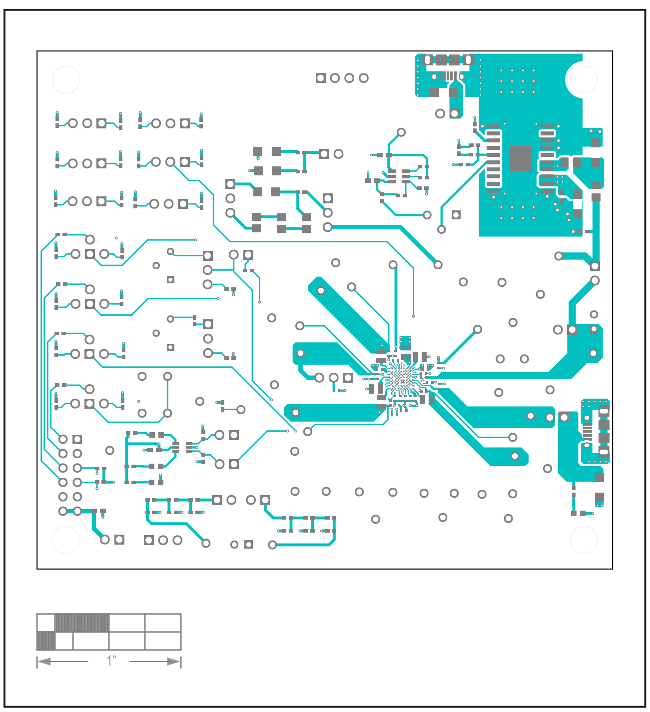
MAX20360 EV Kit PCB Layouts



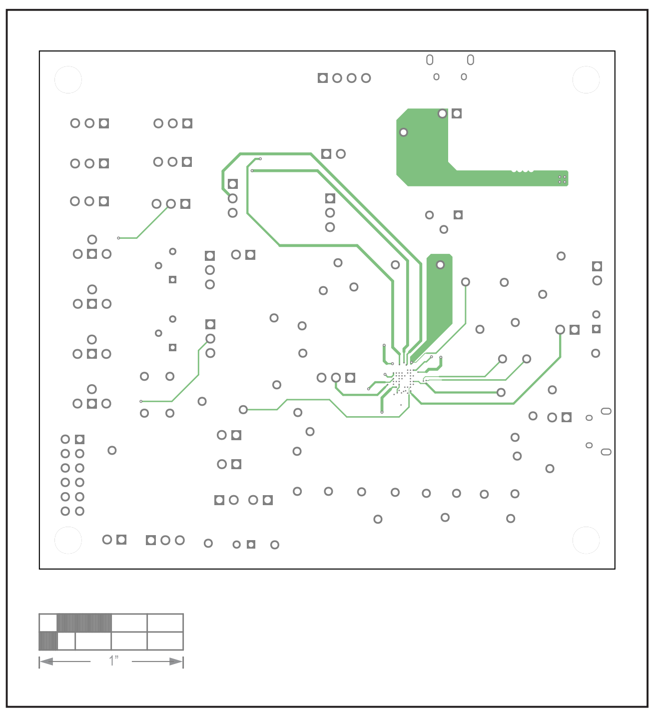
MAX20360 EV Kit PCB Layout—Silk Top



MAX20360 EV Kit PCB Layout—Layer2

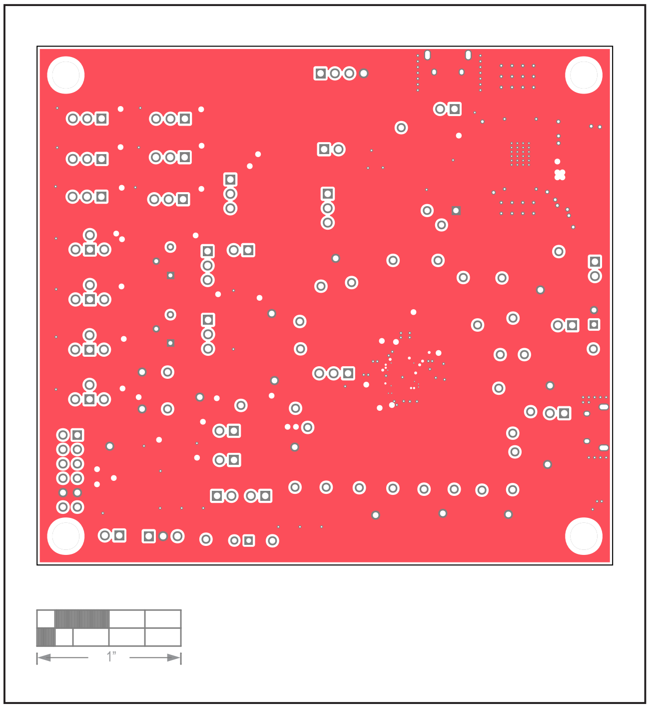


MAX20360 EV Kit PCB Layout—Top

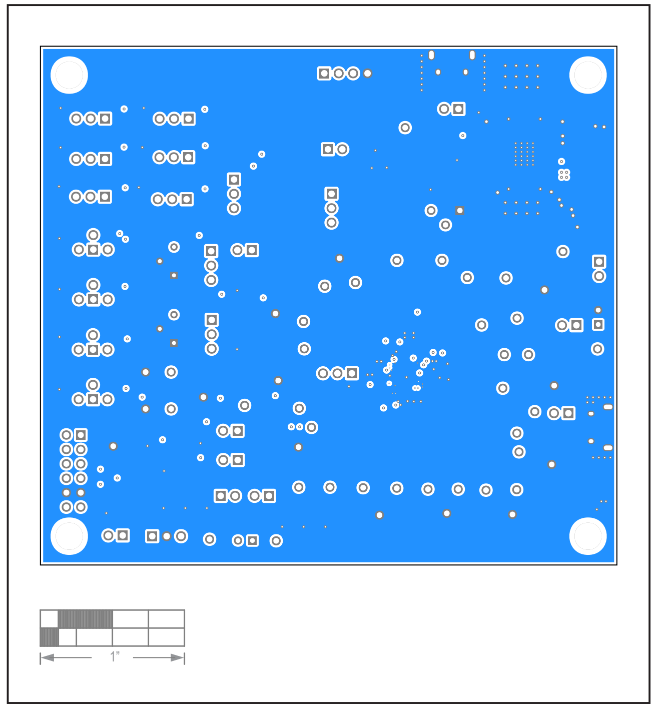


MAX20360 EV Kit PCB Layout—Layer3

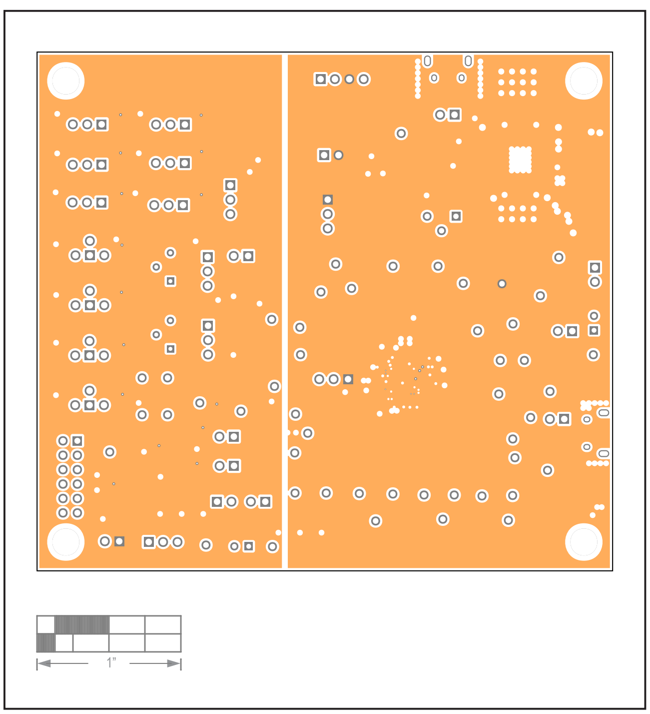
MAX20360 EV Kit PCB Layouts (continued)



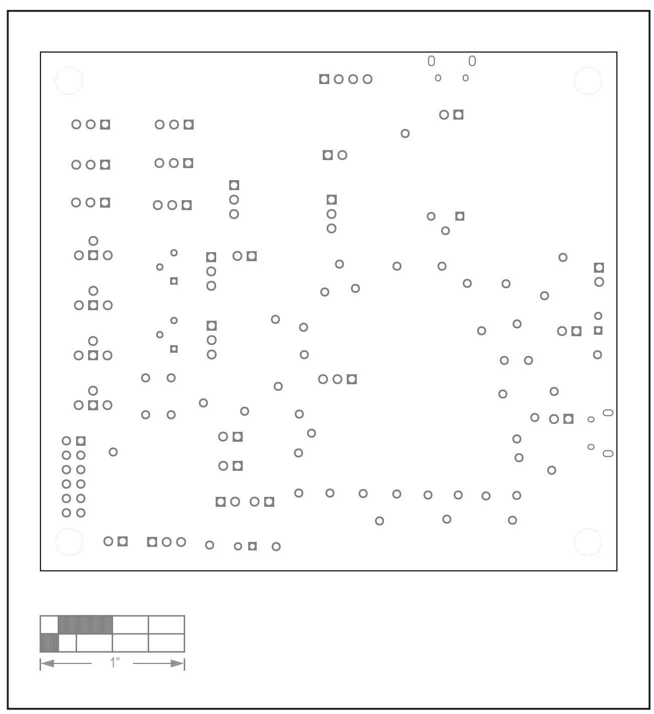
MAX20360 EV Kit PCB Layout—Layer4



MAX20360 EV Kit PCB Layout—Bottom



MAX20360 EV Kit PCB Layout—Layer5



MAX20360 EV Kit PCB Layout—Silk Bottom

Revision History

REVISION NUMBER	REVISION DATE	DESCRIPTION	PAGES CHANGED
0	8/20	Release for Market Intro	—

For pricing, delivery, and ordering information, please visit Maxim Integrated's online storefront at https://www.maximintegrated.com/en/storefront/storefront.html.

