MAX77387 Evaluation System

Evaluates: MAX77387

General Description

The MAX77387 evaluation kit (EV kit) is a fully assembled and tested PCB that demonstrates the highly integrated MAX77387 dual-phase adaptive step-up converter with 2A flash driver. The device's flash driver integrates an adaptive 2A dual-phase PWM step-up DC-DC converter and two 1000mA white LED camera flash/movie high-side current regulators.

The EV system includes the EV kit and a MINIQUSB command module that provides the I²C interface to control individual output on/off, the step-up output voltage, movie/flash current, and flash/torch timer duration settings.

The evaluation software can be downloaded from **www.maximintegrated.com/evkitsoftware**.

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

Component Lists

MAX77387 EV System

PART	TYPE
MAX77387	EV Kit
MINIQUSB	Command Module

MAX77387 EV Kit

DESIGNATION	QTY	DESCRIPTION
MAIN CIRCUIT		
C1	1	100nF ±10%, 25V X7R ceramic capacitor (0402) Samsung CL05A104KA5NNNC
C2–C4	3	10µF ±10%, 10V X5R ceramic capacitors (0402) Samsung CL05A106MP5NUNC
C15, C16	0	Not installed, capacitors
D1, D2	2	White flash LEDs OSRAM LUW CAEP-LFLZ-G3
L1, L2	2	1µH, 0.060Ω, 1.6A chip inductors Samsung CIG22L1R0MNE
RT	0	Not installed, NTC resistor (0402) Optional (10kΩ NTC with B = 3435
U1	1	Dual-phase adaptive DC-DC step-up converter Maxim MAX77387EWP+

Features

- **2.5V to 5.5V Input Supply with Full Functionality**
- **Dual-Phase Interleave Step-Up DC-DC Converter**
  - **True Shutdown™ Output**
  - **2A Guaranteed Output Current for V_{IN} > 2.5V and V_{OUT} ≤ 4.0V**
  - **Adaptive Output-Voltage Regulation Ensuring Highest System Efficiency**
  - **Over 90% Peak Efficiency**
  - **3.125% Minimum Duty Cycle**
  - **On-Chip Power MOSFET and Synchronous Rectifier**
  - **Up to 4MHz PWM Switching Frequency per Phase**
  - **Small 0.47µH Inductor per Phase**
- **High-Side Torch/Flash LED Current Regulator**
  - **I²C-Programmable Flash Output Current (15.625mA to 1000mA in 15.625mA Steps)**
  - **I²C-Programmable Torch Output Current (3.91mA to 250mA in 3.91mA Steps for Non-PWM Dimming) (125mA to 1000mA in 125mA Steps for PWM Dimming with Programmable Duty Cycle from 3.125% to 25% in 3.125% Steps)**
  - **Low-Dropout Voltage (80mV, typ) at 1000mA**
- **I²C-Programmable Flash Safety Timer**
- **I²C-Programmable Torch Safety Timer**
- **Dual Independent TX_MASK Inputs for Limiting Flash Current During Tx Events**
- **Open/Shorted LED Detection**
- **NTC Monitoring for LED Protection**
- **Overvoltage Protection**
- **MAXFLASH 2.0 Preventing System Latchup**
- **Thermal-Shutdown Protection**
- **< 1µA Shutdown Current**
- **RoHS Compliant**
- **Proven PCB Layout**
- **Fully Tested and Assembled**

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19-6674; Rev 0; 4/13

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Component Lists (continued)

MAX77387 EV Kit

DESIGNATION	QTY	DESCRIPTION
MAIN BOARD		
C5, C6, C9–C14	8	1µF ±10%, 6.3V X5R ceramic capacitors (0402) TDK C1005X5R0J105M Taiyo Yuden JMK105BJ105MV
C33	1	100µF ±20%, 10V X5R ceramic capacitor (1812) TDK C4532X5R1A107M
D3	1	Dual Schottky, common cathode (SOT323) Central Semi CMSSH-3CE
JU1–JU5, JU10	6	3-pin headers Sullins PEC36SAAN Digi-Key S1012E-36-ND
JU6, JU7, JU12–JU15	6	2-pin headers, 0.1in centers Sullins PEC36SAAN Digi-Key S1012E-36-ND
JU8	1	16-pin (2 x 8) header, 0.1in centers Sullins PEC36DAAN Digi-Key S2012E-36-ND
JU8_A	1	1 x 8 through-hole, 0.025in SQ post socket Samtec SSW-108-01-T-S

DESIGNATION	QTY	DESCRIPTION
JU11	1	2 x 4-pin header, 0.1in centers Sullins PEC36DAAN Digi-Key S2012E-36-ND
R1, R2	2	1.8kΩ ±1% resistors (0402), lead-free
R3	1	10kΩ ±1% resistor (0402), lead-free
R5	1	63.4kΩ ±1% resistor (0402), lead-free
R6	1	100kΩ ±1% resistor (0402), lead-free
S1–S4	4	Momentary pushbutton switches Panasonic EVQ-Q2K03W or equivalent
U2	1	Low-voltage level translator Maxim MAX3393EEUD+
U4, U5	2	Low-voltage level translator Maxim MAX3373EEKA+ (AAKS)
U6	1	LDO linear regulator Maxim MAX8512EXK+
—	13	Shunts (see the Table 1) Digi-Key S9000-ND or equivalent
—	1	PCB: MAX77387 EVALUATION KIT

Component Suppliers

SUPPLIER	WEBSITE
Central Semiconductor	www.centralsemi.com
Digi-Key Corp.	www.digikey.com
OSRAM Opto Semiconductor	www.osram-os-com
Panasonic Corp.	www.panasonic.com
SEMCO	www.semlcr.com
Taiyo Yuden	www.yuden.co.jp
TDK Corp.	www.component.tdk.com

Note: *Indicate that you are using the MAX77387 when contacting these component suppliers.*

EV Kit Software Files

FILE	DESCRIPTION
INSTALL.EXE	Installs the EV kit files on your computer
MAX77387_R#.EXE	Application program
UNINST.INI	Uninstalls the EV kit software
www.maximintegrated.com/design/tools/applications/evkit-software/USBDriverHelpR200.PDF	USB driver installation help file
www.maxim-ic.com/tools/evkit/index.cfm?EVKit=869	Windows 7 32-bit driver
www.maxim-ic.com/tools/evkit/index.cfm?EVKit=8671	Windows 7 64-bit driver

Quick Start

Required Equipment

- MAX77387 EV kit
- Variable 6V power supply capable of supplying 4A of output current
- Voltmeter
- User-supplied Windows 2000/XP, Windows Vista, or Windows 7 PC with a spare USB port

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.

Procedure

The EV kit is a fully assembled and tested surface-mount board. Follow the steps below to verify board operation. **Caution: Do not turn on the power supply until all connections are completed.**

1) Verify that the jumpers on the EV kit are configured as shown in Table 1.
2) Preset the power supply to 3.6V. Turn off the power supply.
3) Connect the positive lead of the 3.6V power supply to the IN pad. Connect the negative lead of the 3.6V power supply to the PGND pad.
4) Connect the MINIQUSB board to the EV kit
5) Visit **www.maximintegrated.com/evkitsoftware** to download the latest version of the EV kit software, MAX77387Rxx.ZIP. Save the EV kit software to a temporary folder and uncompress the ZIP file.
6) Install the EV kit software on your computer by running the INSTALL.EXE program inside the temporary folder. The program files are copied and icons are created in the Windows **Start | Programs** menu.
7) Connect the USB cable from the PC to the USB receptacle J1 on the MINIQUSB EV kit interface board. A **Building Driver Database** window pops up in addition to a **New Hardware Found** message if this is the first time the EV kit board is connected to the PC. If a window is not seen that is similar to the one described above after 30s, remove the USB cable from the board and reconnect it. Administrator privileges are required to install the USB device driver on Windows. Refer to the USB Driver Help file at www.maximintegrated.com/evkitsoftware if there are any problems during this step.
8) Follow the directions of the **Add New Hardware Wizard** to install the USB device driver. Choose the **Search for the best driver for your device** option. Specify the location of the device driver to be **C:\Program Files\MAX77387** (default installation directory) using the **Browse** button. During device driver installation, Windows may show a warning message indicating that the device driver Maxim uses does not contain a digital signature. This is not an error condition and it is safe to proceed with installation. Refer to the USB Driver Help file at **www.maximintegrated.com/evkitsoftware** if there are any problems during this step.
9) Turn on the power supply.
10) Start the MAX77387 program by opening its icon in the **Start | Programs** menu. The EV kit software Main window appears, as shown in Figure 1.

Windows, Windows XP, and Windows Vista are registered trademarks and registered service marks of Microsoft Corporation.

11) Normal device operation is verified when the **Command Module Connected, Device Connected** is displayed at the top-left side of the MAX77387 EV kit main window (Figure 1).
12) Press **Read All**, now **Status1** and **Status2** are updated. Keep pressing **Read All** until all indicators in **Status1** and **Status2** are turned off.
13) In the **DCDC control** tab, **DCDC_ILIM 0x17**: set **Peak input current limit** to **2.00 A** and **DCDC soft-start threshold** to **4.5000 V** and press **Write**.
14) In the **DCDC control** tab, **DCDC_CNTL2 0x16**: set **DCDC operation mode** to **4MHz Forced PWM** and press **Write**.
15) In the **DCDC control** tab, **DCDC_CNTL1 0x15**: set **Over voltage threshold** to **5.4 V**, **DCDC mode** to **Fixed output (DCDC_SS level**) and press **Write**.
16) Verify that the voltage is 4.5V at the OUT test point (located to the left of C3).
17) In the **Flash mode** tab, **IFLASH1 0x04**: click **Enable FLED1** and set **FLED1 Flash current** to **656.25 mA** and press **Write**.
18) In the **Flash mode** tab, **IFLASH2 0x05**: click **Enable FLED2** and set **FLED2 Flash current** to **656.25 mA** and press **Write**.
19) In the **Flash mode** tab**, Flash timer 0x0D**: set **Timer mode** to **One shot mode** and **Flash timer** to **502.78 msec**, then press **Write**.
20) In the **Torch mode** tab, **ITORCH1 0x06**: click **Enable FLED1**, **Dimming topology** to **DAC dimming**, and **DAC mode** to **101.56 mA** and press **Write**.
21) In the **Torch mode** tab, **ITORCH2 0x07**: click **Enable FLED2**, **Dimming topology** to **DAC dimming**, and **DAC mode** to **101.56 mA** and press **Write**.
22) In the **Torch mode** tab, **Torch timer 0x0D**: set **Timer mode** to **One shot mode** and **Torch timer** to **2088.96 msec**, then press **Write**.
23) In the **Control tab**, **MODE_SEL 0x08**: set **Trigger torch mode** to **Using TORCH_EN** and **Trigger Flash mode** to **Using FLASH_STB**, and then press **Write**.
24) In the **DCDC control** tab, **DCDC_CNTL 0x15**: set the **DCDC mode** to **Adaptive not pre-biased**, and press **Write**.
25) On the EV kit press the S2 key TORCH_EN and verify that LED D1 and D2 are turning on for 2.088s.
26) On the EV kit press the S1 key FLASH_STB and verify that the LED D1 and D2 are turning on at high brightness for 0.5s.

Table 1. Jumper Settings

POSITION	1-2	2-3	DESCRIPTION	DEFAULT
JU1	VDD powered by VDD_SW, see Figure 1.	VDD powered from 1.8V regulator on the EV kit	Sets the control of VDD.	2-3
JU2	FLASH_STB generated by FLASH_STB_SW, see Figure 1.	FLASH_STB generated using S1	FLASH_STB selection. Use pin 2 for direct control.	2-3
JU3	TORCH_EN generated by TORCH_EN_SW, see Figure 1.	TORCH_EN generated using S2	TORCH_EN selection. Use pin 2 for direct control.	2-3
JU4	TX1_MASK generated by TX1_MASK_SW, see Figure 1.	TX1_MASK generated using S3	TX1_MASK selection. Use pin 2 for direct control.	2-3
JU5	TX2_MASK generated by TX2_MASK_SW, see Figure 1.	TX2_MASK generated using S4	TX2_MASK selection. Use pin 2 for direct control.	2-3
JU6	SDA pass through	—	Install jumper to allow MINIQUSB to interface with the device. Alternatively connect an external SDA source to the pin next to the SDA silkscreen label.	Installed

Table 1. Jumper Settings (continued)

POSITION	1-2	2-3	DESCRIPTION	DEFAULT
JU7	SCL pass through	—	Install jumper to allow MINIQUSB to interface with the device. Alternatively connect an external SCL source to the pin next to the SCL silkscreen label.	Installed
JU10	Can be used to allow powering of single LED by selecting position 1-2	FLED2 connected to D2	FLED2 connected to D1	2-3
JU11	—	—	Shunt pins 1-2, 3-4, 5-6, and 7-8. This connects the high-side current regulators to the LEDs (D1, D2). Remove only when the optional LED daughter board is in use.	—
JU12	NTC pass through	—	Only install jumper if LED daughter board (optional) is not in use. Installing jumper connects RT NTC resistor to NTC pin.	Installed

Detailed Description

EV Kit Software

User-Interface Panel

The MAX77387 EV kit includes a MINIQUSB microcontroller command module that provides the I²C interface to control the MAX77387 configuration. The main window of the EV kit software (Figure 1) displays seven tabs to set the configuration: **Control**, **Flash mode**, **Torch mode**, **MAXFLASH**, **DCDC control**, **TX_MASK control**, and **NTC control**. After any write or read operation, the related command and data sent are shown in the top-center box of the main window.

In addition to the tabs containing the control of the device, there are four boxes that include the most used controls of the IC. These are **Chip ID**, **GPIO control**, **Status1**, and **Status2**.

The **Chip ID** box is used to identify the device (0x91), and the version Dash and revision of the device.

The **GPIO control** is used to control the GPIOs of the EV kit. For using these controls the appropriate jumpers must be set for position 1-2.

The **Status1** and **Status2** contain all the status feedback of the device and can be used to determine the state of the IC on the EV kit.

In addition to these controls, the EV kit software has two keys that allow the software to read/write all the registers of the IC.

Control Tab

The **Control** tab sheet (Figure 2) contains enable/disable control of the pulldown resistors for TORCH_EN and FLASH_STB.

In addition to this, it also selects the trigger for torch and flash events.

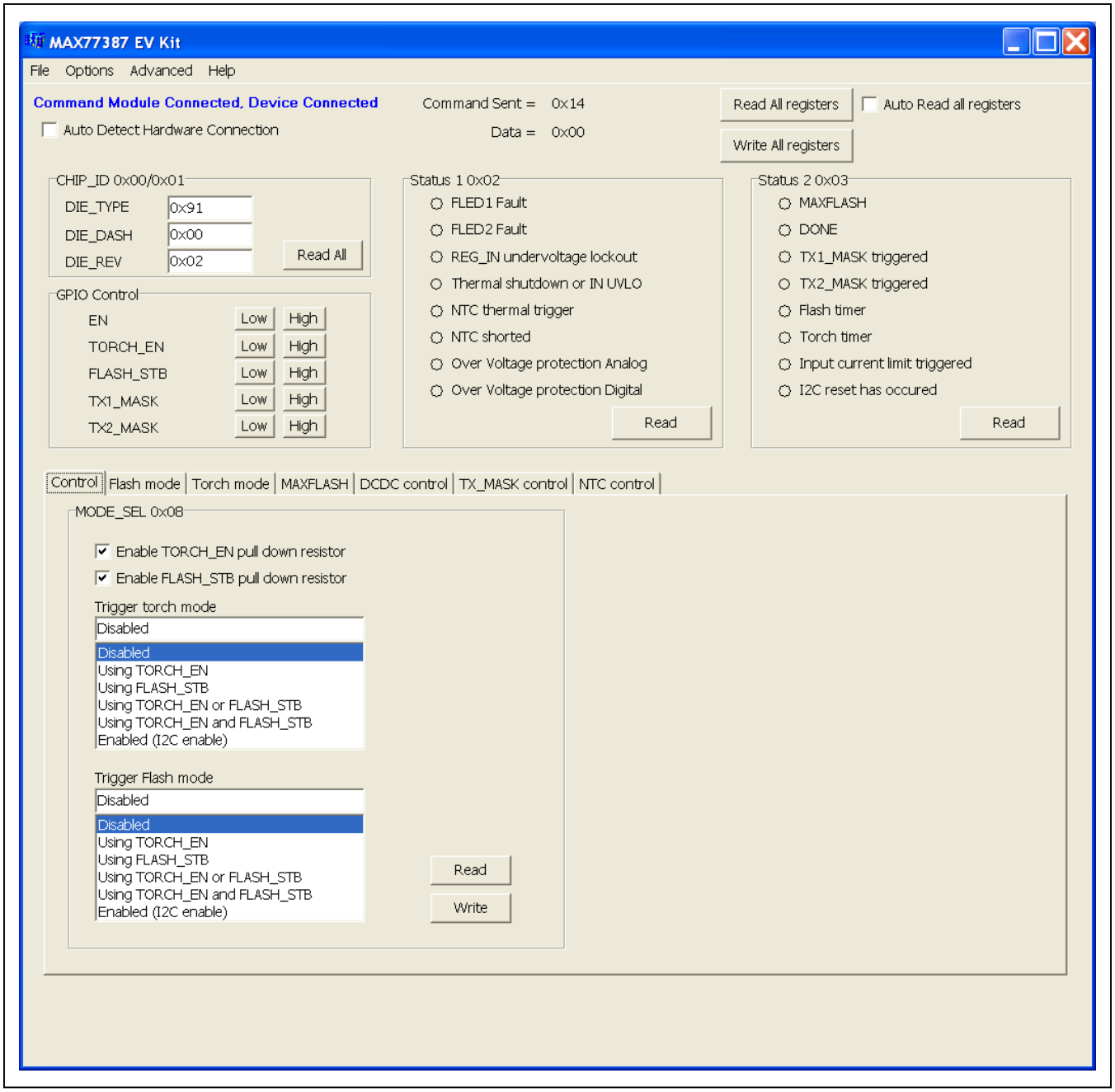

Figure 1. MAX77387 EV Kit Software Main Window

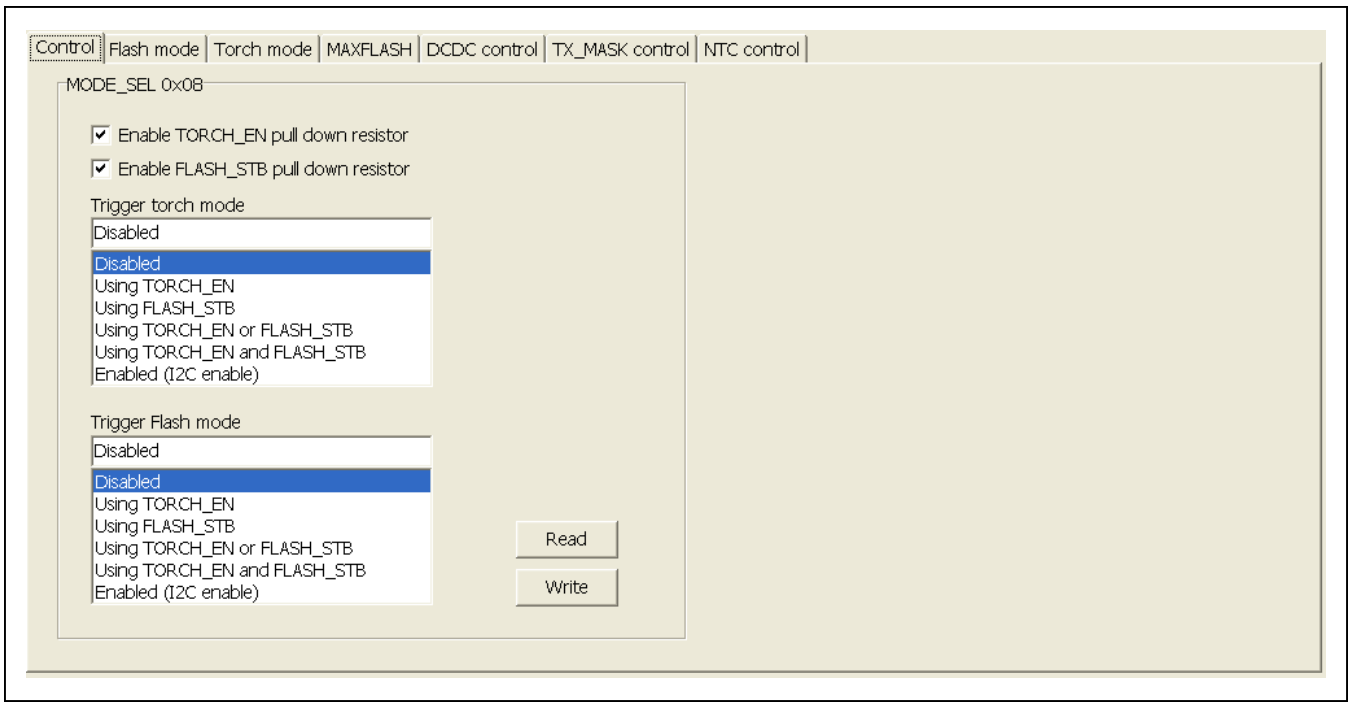

Figure 2. MAX77387 EV Kit Software (Control Tab)

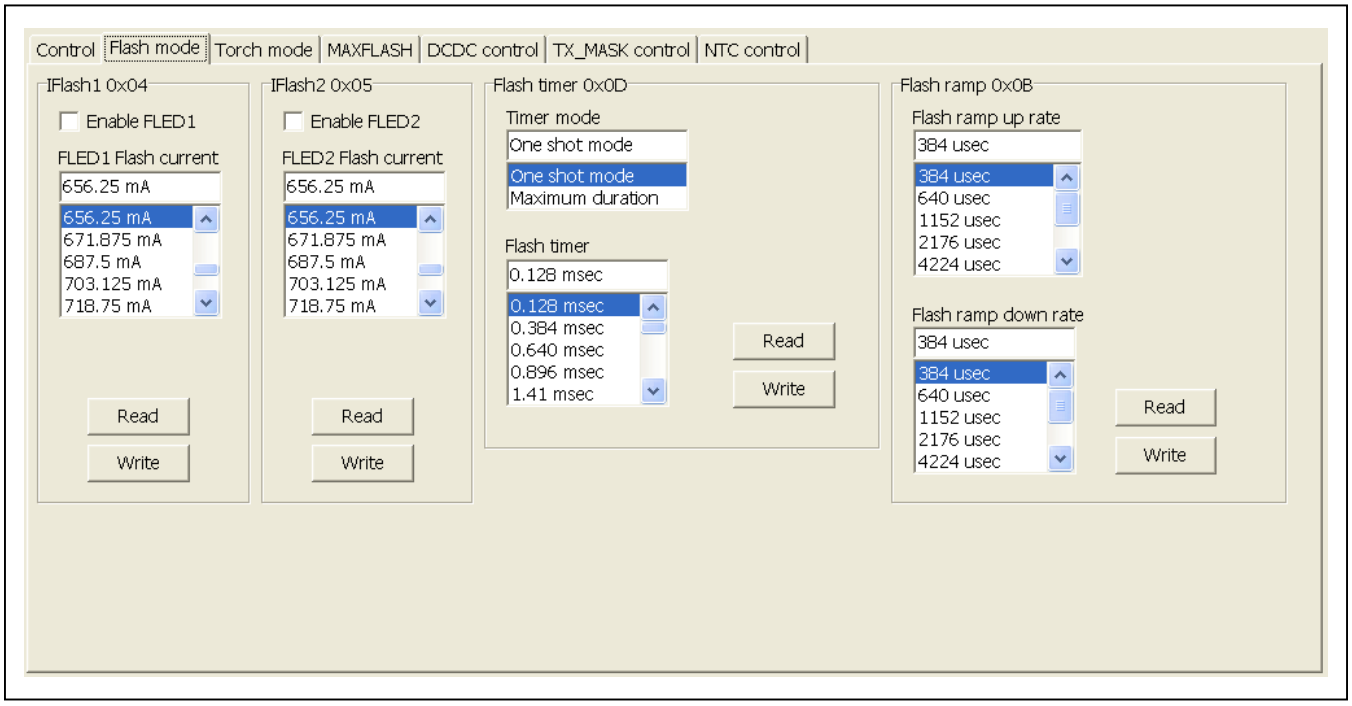

Figure 3. MAX77387 EV Kit Software (Flash Mode Tab)

Flash Mode Tab

The **Flash mode** tab sheet (Figure 3) contains enable/disable control for FLED1 and FLED2 during a flash event. In addition, it selects the output current for FLED1 and FLED2. The timer setting for flash mode and flash ramp rates are also selected in this tab.

Torch Mode Tab

The **Torch mode** tab sheet (Figure 4) contains enable/disable control for FLED1 and FLED2 during a torch event. In addition, it selects the output current for FLED1 and FLED2. The timer setting for torch mode and torch ramp rates are also selected in this tab.

MAXFLASH Tab

The **MAXFLASH** tab sheet (Figure 5) contains selection for MAXFLASH trigger level, hysteresis, as well as control for the timing associated with the ramping up/down during a MAXFLASH event.

In addition, the MAXFLASH has two registers that contain the minimum setting for the current regulators during a MAXFLASH event, making it possible to read back the lowest current setting. This can be used to determine if the event needs to be retaken due to low output light condition or not.

DCDC Control Tab

The **DCDC control** tab sheet (Figure 6) contains controls for the DC-DC converter. This includes the overvoltage for the DC-DC converter, PWM frequency for the current regulator during PWM dimming, and DC-DC mode of operation for selection of adaptive not prebiased, adaptive prebiased, fixed output voltage mode (set by DCDC_SS), and bypass mode. This tab also contains the DC-DC operation mode allowing the selection of fixed frequency, frequency scaling, skip, and FPWM. **DCDC_GAIN** is also selectable in this tab with more details on this feature covered in the IC data sheet.

It also contains control for the adaptive headroom, allowing the user to optimize for performance or efficiency.

In addition, it has two readback registers. The output voltage contains the actual regulation point for the DC-DC converter, not including load regulation, and the second includes the maximum output voltage during a flash or torch event.

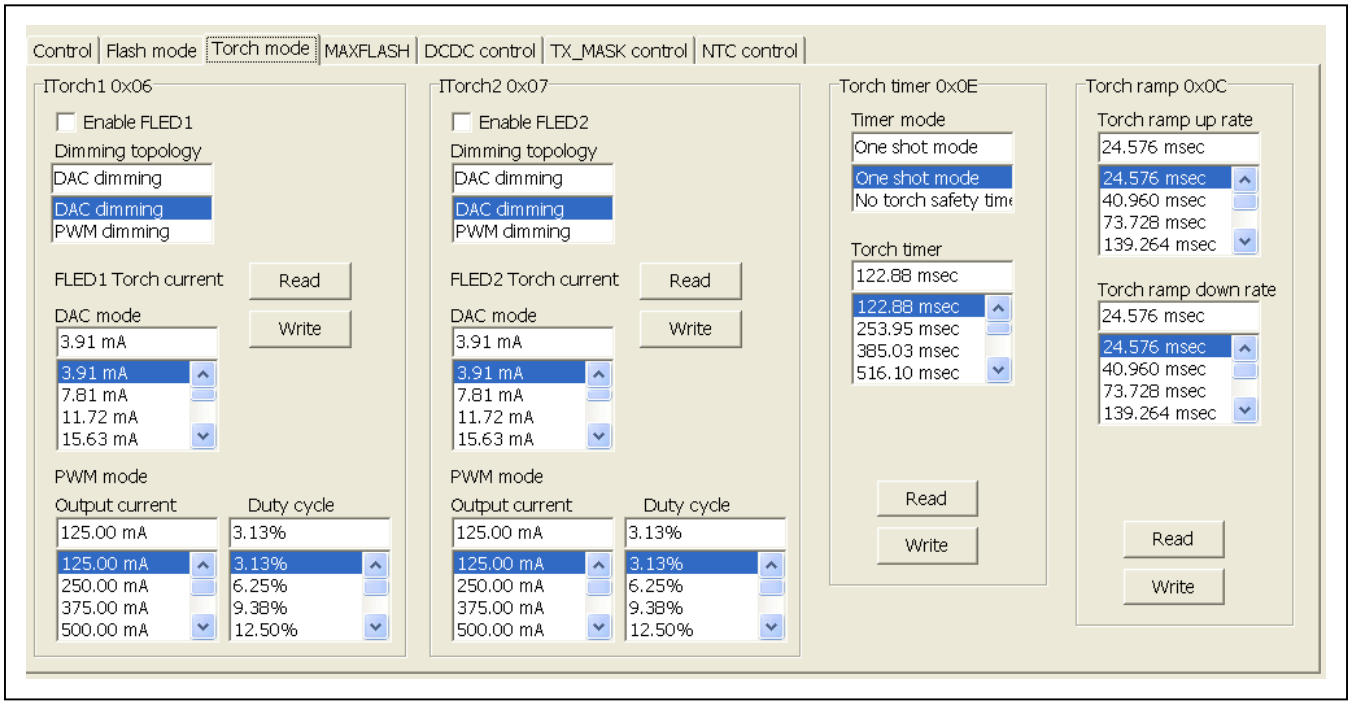

Figure 4. MAX77387 EV Kit Software (Torch Mode Tab)

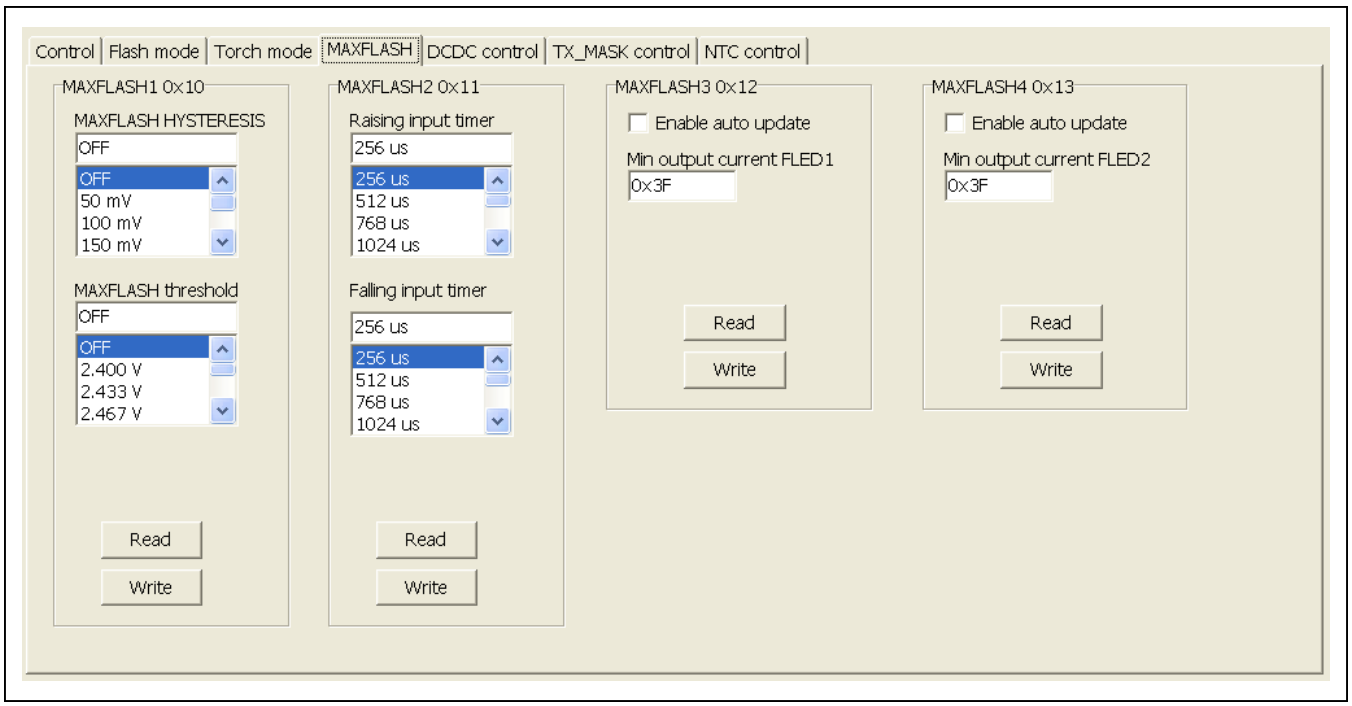

Figure 5. MAX77387 EV Kit Software (MAXFLASH Mode Tab)

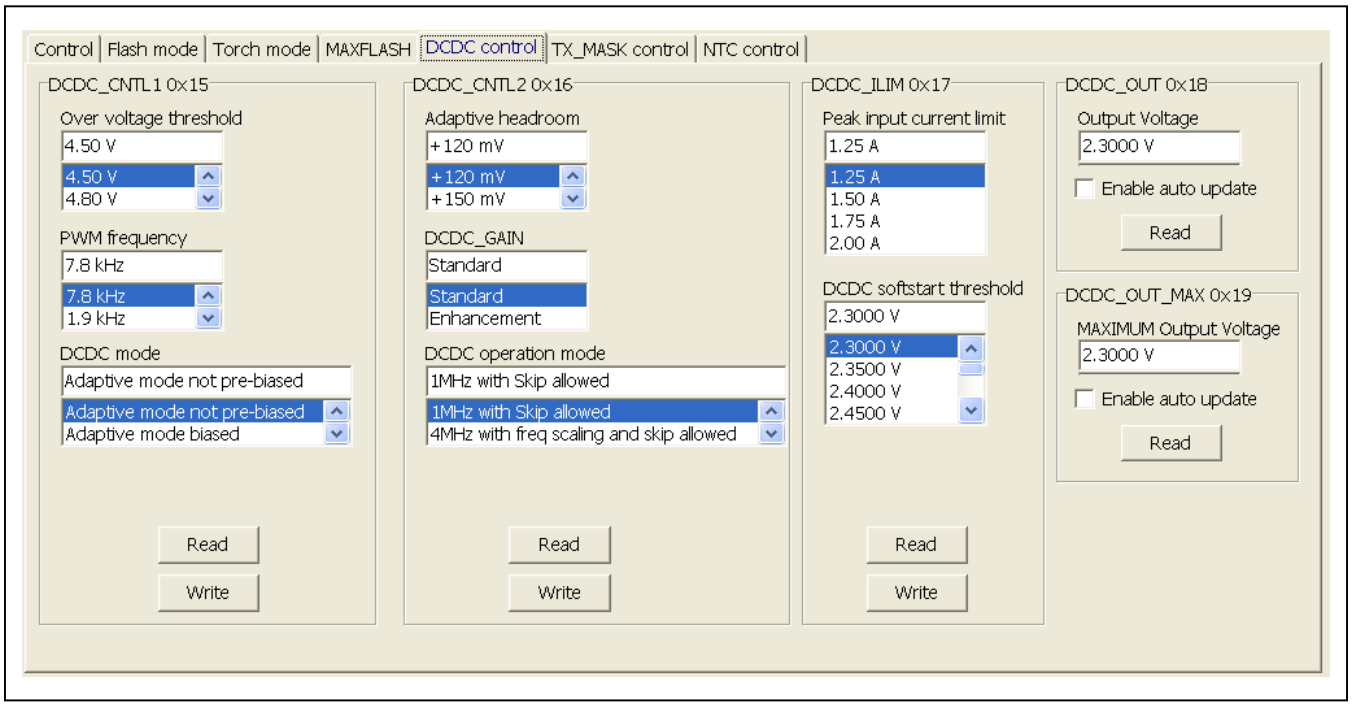

Figure 6. MAX77387 EV Kit Software (DCDC Control Tab)

TX_MASK Control Tab

The **TX_MASK control** tab sheet (Figure 7) contains all control for TX_MASK events. The control is split into TX1_MASK and TX2_MASK settings, and are identical, where one is when TX_MASK is triggered by TX1_MASK and the other is for trigger with TX2_MASK.

The TX_MASK tab includes control for enable/disable of the TX_MASK function, enable/disable of the pulldown on the TX#_MASK input as well as maximum FLED# output current during a TX_MASK event.

NTC Control Tab

The **NTC control** tab sheet (Figure 8) contains all control for NTC function. This includes the enable/disable of the NTC function as well as the threshold for hot events during torch and flash events.

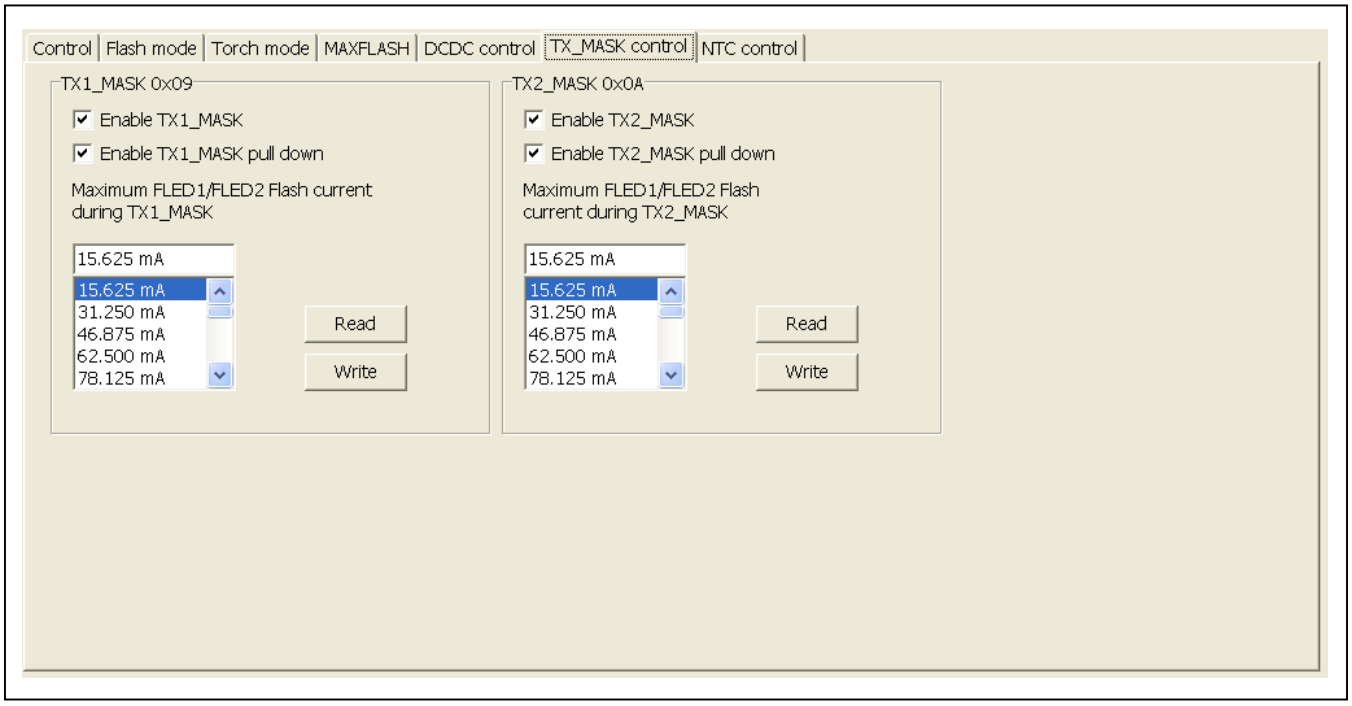

Figure 7. MAX77387 EV Kit Software (TX_MASK Control Tab)

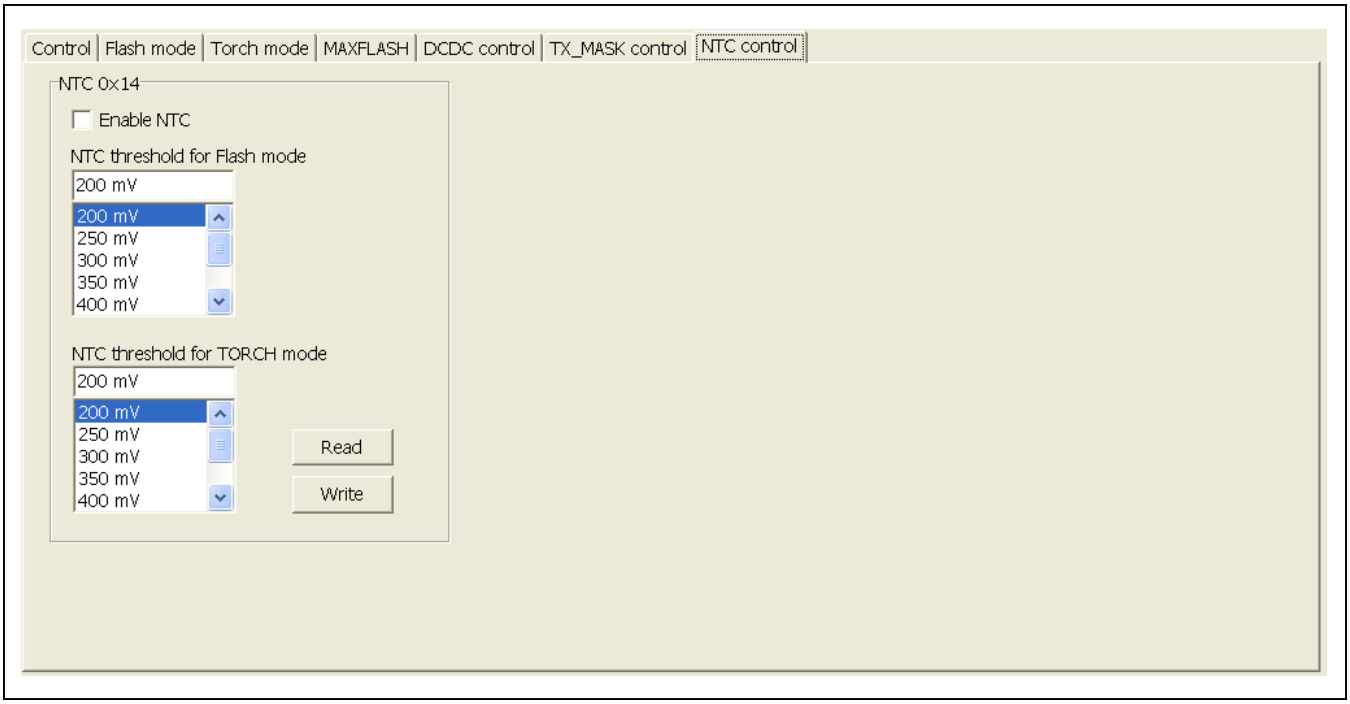

Figure 8. MAX77387 EV Kit Software (NTC Control Tab)

Sequencing Programming of I²C Register

It is critical to program the IC in the correct sequence to ensure proper operation.

Changing any register values other than the DCDC_ MODE bits in the DCDC_CNTL1 register during a flash or torch event is not advised. Poll the STATUS2 register to wait for the DONE bit to be asserted before changing values.

Sequencing can be divided into three groups: flash and torch modes, and DC-DC output voltage.

For flash mode, the following sequence is recommended:

1) Clear any pending fault status by reading the STATUS1 register. Failing to do this can result in incorrect values written in some of the registers. For example, failing to clear a FLED1 or FLED2 fault clears the FLED1_EN or FLED2_EN, respectively, disabling the current regulators remain disabled until the FLED_ fault is cleared in the STATUS1 register.
2) Ensure that flash mode is not enabled, by setting the FLASH_MODE bits to 000 in the MODE_SEL register. Ensure the DCDC_MODE bits are 00 in the DCDC_CNTL1 register.
3) If the TX_MASK function is required for flash operation, write the appropriate values into the TX1_MASK and TX2_MASK registers. These registers do not need to be updated if current values are already set.
4) Select the ramp rate in the FLASH_RAMP_SEL register for ramping up/down the FLED current. These registers do not need to be updated if current values are already set.
5) Select the flash timer and mode of operation by writing to the FLASH_TMR_CNTL register. This register does not need to be updated if current values are already set.
6) If the MAXFLASH function is required for flash operation, write the appropriate values into the MAXFLASH1 and MAXFLASH2 registers. These registers do not need to be updated if current values are already set.
7) If the NTC function is required for flash operation, write the appropriate values into the NTC register. This register does not have to be updated if current values are already set.
8) Select the settings for the DC-DC converter by writing to the DCDC_CNTL2 and DCDC_ILIM registers. These registers do not need to be updated if current values are already set.

9) Select the settings for the flash mode by writing to the FLASH1 and FLASH2 registers. These registers do not need to be updated if current values are already set.
10) Select the settings for the DCDC_CNTL1 register.
11) Select the trigger mode for flash event by writing to the FLASH_MODE bits in the MODE_SEL register. This register does not need to be updated if current values are already set.

Now the flash event is ready to be triggered based on the value set for the FLASH_MODE setting.

For hardware triggering, set FLASH_MODE = 001, 010, 011, or 100. Flash event is retriggered based on logic input. No update to I2C registers is required.

For software triggering, set FLASH_MODE = 101, 110, or 111. Flash event is triggered once FLASH_MODE changes from an external trigger to a software trigger. If an additional flash event is required through a software trigger, the FLASH_MODE needs to be set to 000 first before writing to the software value (101, 110, or 111) to retrigger a new flash event.

For torch mode, the following sequence is recommended:

1) Clear any pending fault status by reading the STATUS1 register. Failing to do this can result in incorrect values written to some of the registers. For example, failing to clear a FLED1 or FLED2 fault clears the FLED1_EN or FLED2_EN, respectively, disabling the current regulators that remain disabled until the FLED_ fault is cleared in the STATUS1 register. When the FLED_ fault is cleared, the TORCH_EN can be set.
2) Ensure that torch mode is not enabled by setting the TORCH_MODE to 000 in the MODE_SEL register. Ensure the DCDC_MODE bits are 00 in the DCDC_ CNTL1 register.
3) Select the ramp rate in the TORCH_RAMP_SEL register for ramping up/down the torch FLED current. This register does not need to be updated if current values are already set.
4) Select the torch timer and mode of operation by writing to the TORCH_TMR_CNTL register. This register does not need to be updated if current values are already set.
5) If the MAXFLASH function is required for torch operation, write the appropriate values into the MAXFLASH1 and MAXFLASH2 registers. These registers do not need to be updated if current values are already set.
6) If the NTC function is required for torch operation, write the appropriate values into the NTC register. This register does not need to be updated if current values are already set.
7) Select the settings for the DC-DC converter by writing to the DCDC_CNTL2 and DCDC_ILIM registers. These registers do not need to be updated if current values are already set.
8) Select the settings for the torch mode by writing to the TORCH1 and TORCH2 registers. These registers do not need to be updated if current values are already set.
9) Select the settings for the DCDC_CNTL1 register.
10) Select the trigger mode for the torch event by writing to the TORCH_MODE bits in the MODE_SEL register. This register does not need to be updated if current values are already set.

Now the torch event is ready to be triggered based on the value set for the TORCH_MODE setting.

For hardware triggering set TORCH_MODE = 001, 010, 011, or 100. A torch event is retriggered based on logic input. No update to I2C registers is required.

For software triggering, set TORCH_MODE = 101, 110, or 111. A torch event is triggered once TORCH_MODE changes from an external trigger to a software trigger. If an additional torch event is required through a software trigger, the TORCH_MODE needs to be set to 000 first before writing to the software value (101, 110, or 111) to retrigger a new torch event.

For DC-DC fixed voltage mode and dropout output voltage, the following sequence is recommended:

1) Clear any pending fault status by reading the STATUS1 register. Failing to do this can result in incorrect values written in some of the registers.
2) Ensure the DCDC_MODE bits are 00 in the DCDC_ CNTL1 register.
3) For fixed output voltage mode, select the settings for the DC-DC converter by writing to the DCDC_CNTL2 and DCDC_ILIM registers. These registers do not have to be updated if current values are already set.
4) Select the settings for DCDC_CNTL1 register including the DCDC_MODE bits. Writing anything other than 00 to the DCDC_MODE bits enables the DC-DC converter.

During a torch or flash event, the following optional registers can be read:

The DCDC_OUT register contains current information regarding the output voltage settings. The actual output voltage is slightly lower due to the load regulation of the DC-DC converter. It is not required to read this register during a torch or flash event.

STATUS1 register contains current information if any fault condition occurs during the torch or flash event. It is optional to read this register during torch or flash event.

The STATUS2 register contains information regarding any events that may have happened during a torch or flash event.

After a torch or flash event, the following optional register can be read:

The DCDC_OUT_MAX register contains the last adaptive output voltage to which the converter has regulated the output. This information can be used to adjust the DCDC_SS setting.

The STATUS1 register contains information regarding any fault condition that may have occurred during a torch or flash event.

The STATUS2 register contains information regarding any events that may have happened during a torch or flash event.

If the MAXFLASH is enabled, the MAXFLASH3 and MAXFLASH4 registers contain the minimum current setting that the current regulators where regulating to during the MAXFLASH event. The STATUS2 register contains a MAXFLASH bit indicating if the MAXFLASH was active during the torch or flash event.

It should be noted that during fixed output voltage mode, the output is regulated to the DCDC_SS value that was set during the enabling of the converter. The DCDC_SS value can be updated when the converter is enabled, but this does not impact the output voltage.

To change the output voltage, first power down the DC-DC converter (DCD_MODE = 00), then update the DCDC_SS value, and then power it up again (DCDC_MODE = 10).

Simple I²C/SMBus Commands

There are two methods for communicating with the MAX77387: through the normal user-interface panel (Figure 1) or through the SMBus commands available by pressing the **Debug** button in the main window. The **Maxim Command Module Interface** window (Figure 9) pops up and includes a **2-wire interface** tab that allows for execution of the **SMBusSendByte()** command. Refer to the MAX77387 IC data sheet for command-byte format. The **SMBus dialog** boxes accept numeric data in binary, decimal, or hexadecimal. Hexadecimal numbers should be prefixed by $ or 0x. Binary numbers must be exactly eight digits. See Figure 9 for an illustration of this tool.

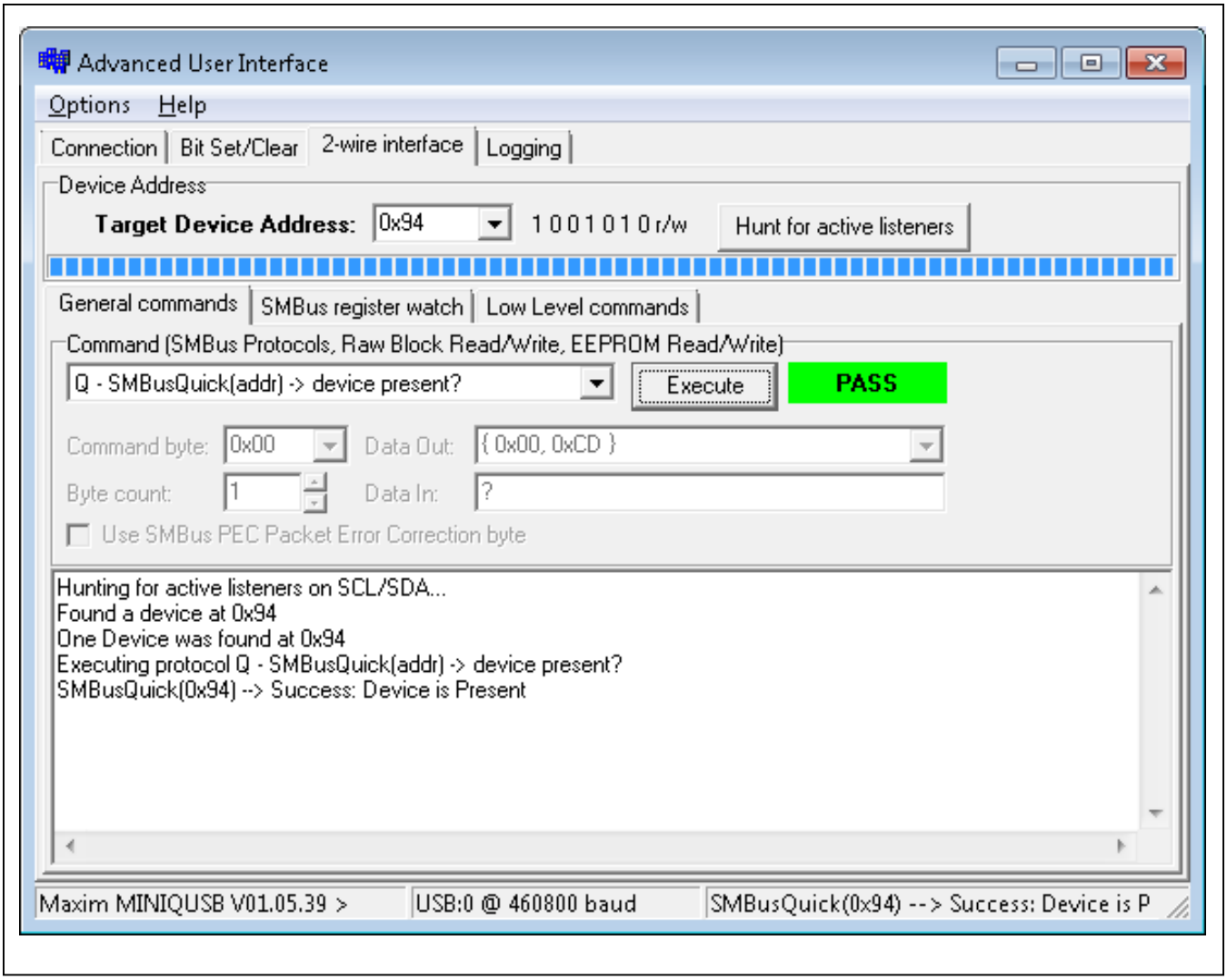

Figure 9. Maxim Command Interface Window

Schematics and PCB Layout

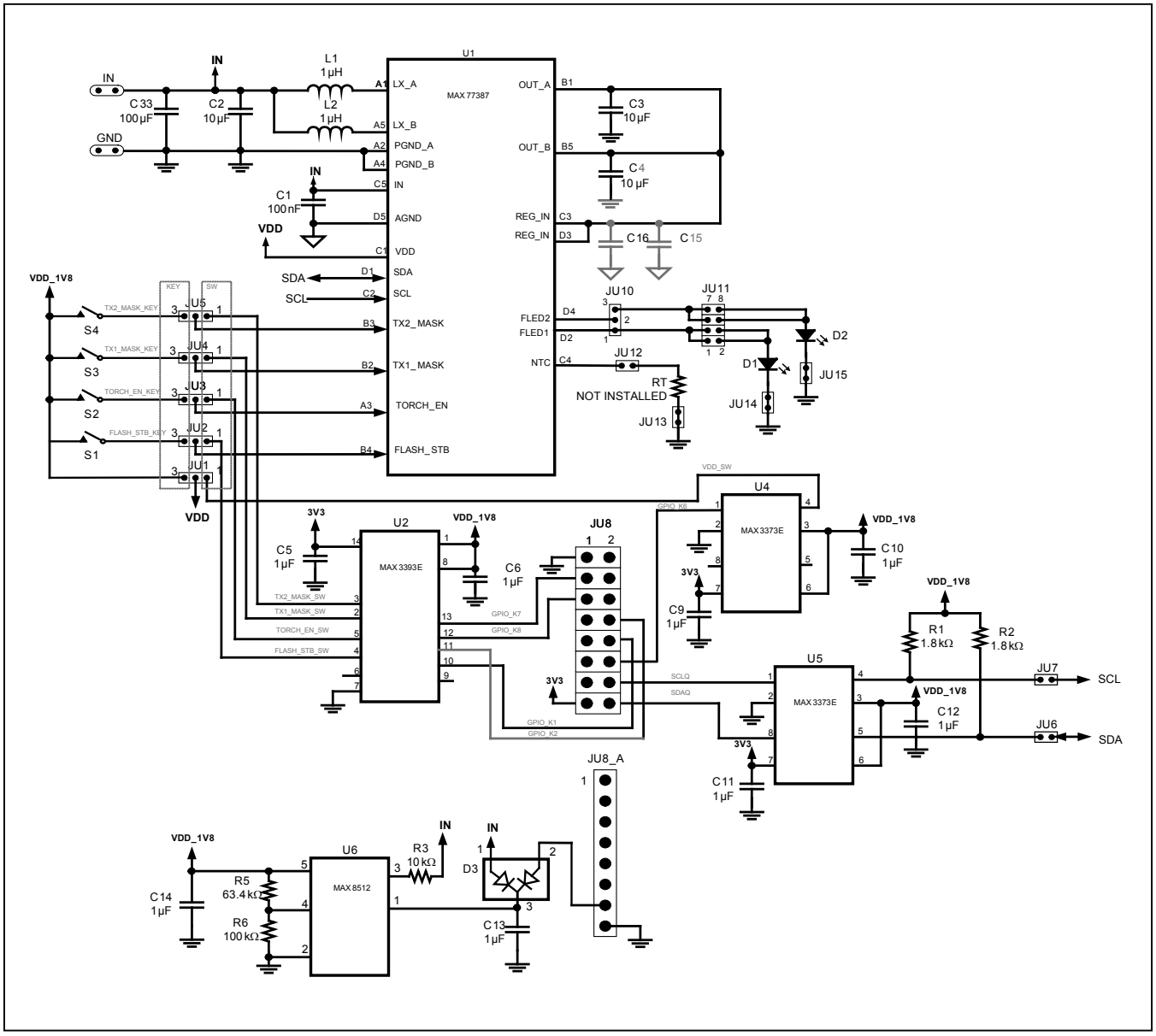

Figure 10. MAX77387 EV Kit Schematic

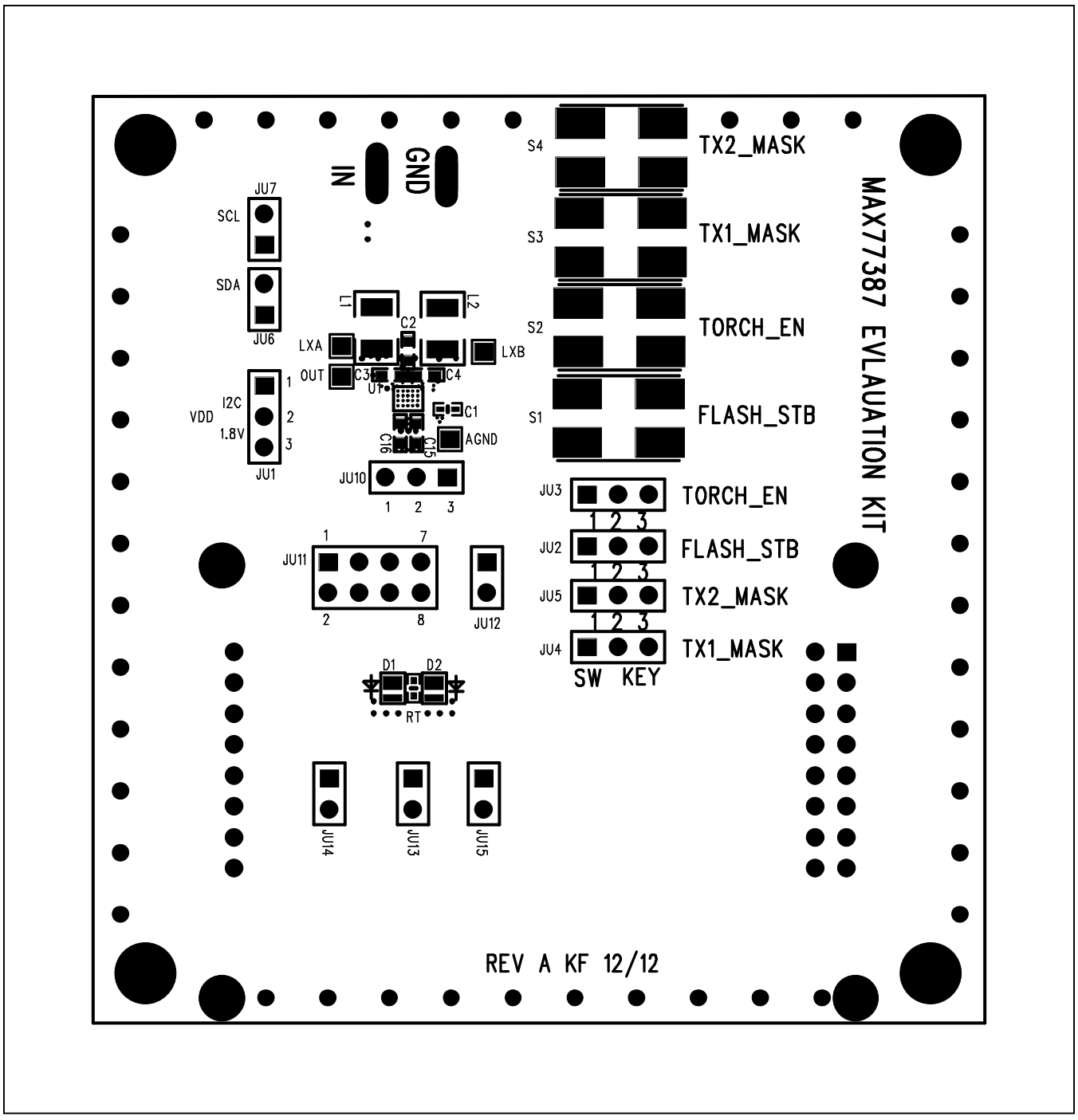

Figure 11. MAX77387 EV Kit Component Placement Guide—Top Layer

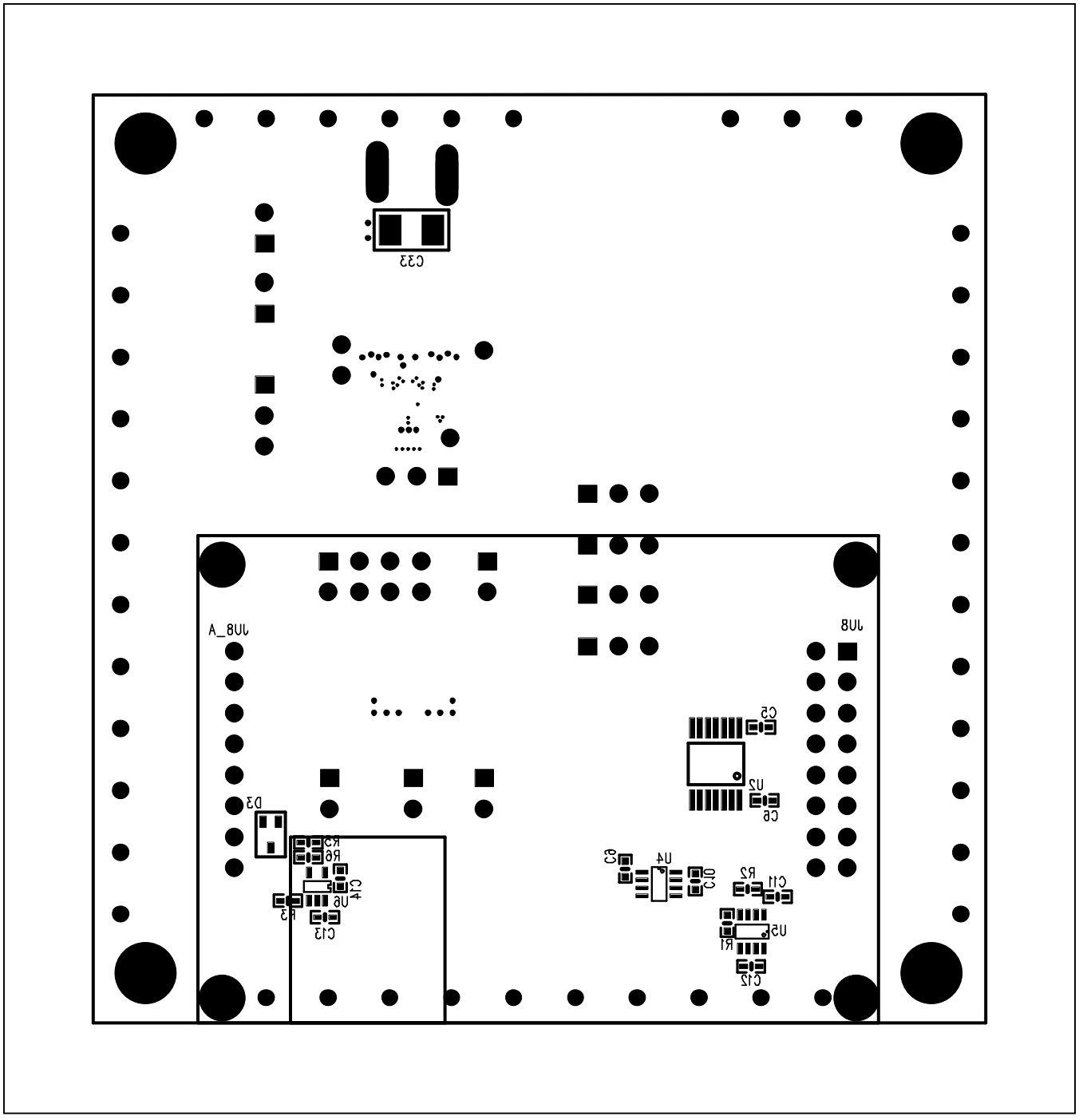

Figure 12. MAX77387 EV Kit Component Placement Guide—Bottom Layer

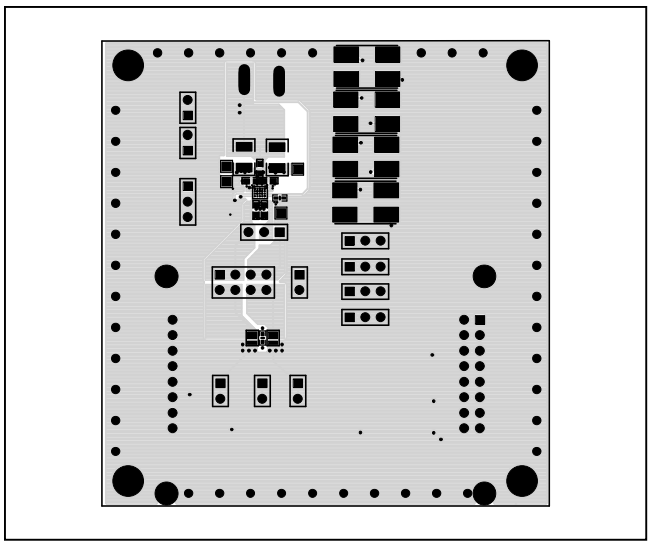

Figure 13. MAX77387 EV Kit PCB Layout—Top Layer

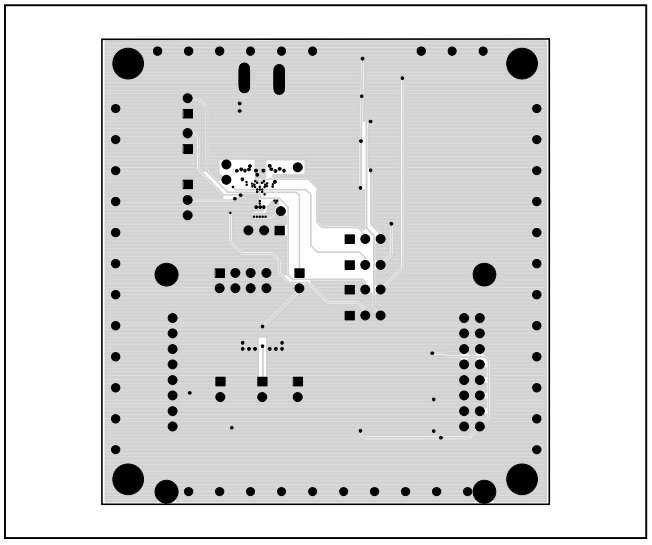

Figure 14. MAX77387 EV Kit PCB Layout—Inner Layer 2

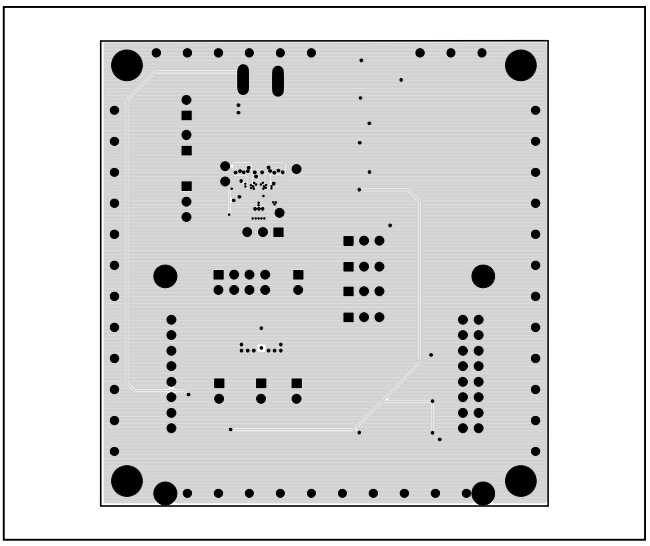

Figure 15. MAX77387 EV Kit PCB Layout—Inner Layer 3

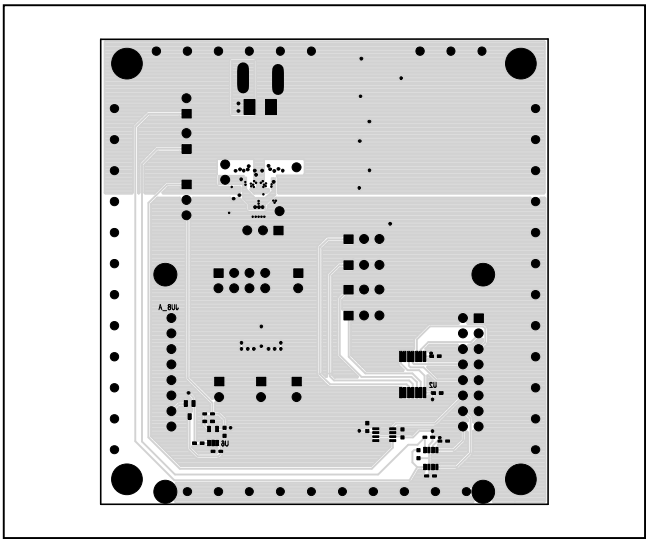

Figure 16. MAX77387 EV Kit PCB Layout—Bottom Layer

Ordering Information

PART	TYPE
MAX77387EVSYS#	EV System

#Denotes RoHS compliant.

Revision History

REVISION NUMBER	REVISION DATE	DESCRIPTION	PAGES CHANGED
0	4/13	Initial release	—