

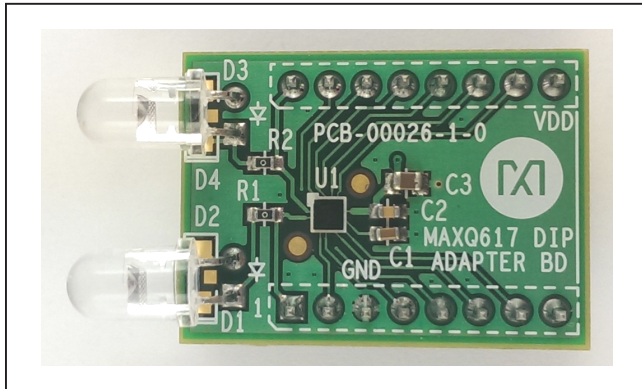
## MAXQ617 Evaluation Kit

### General Description

This evaluation kit provides a platform for evaluating the capabilities of the MAXQ617, 16-bit, RISC micro-controllers targeted for infrared applications. The motherboard includes a USB port for serial communication, JTAG header for programming and debugging, voltage regulators to power over USB or JTAG, receive and transmit IR LEDs, and port pin headers. Packaged with the motherboard is the USB-to-JTAG/1-Wire® Adapter, MAXQ617 daughter card, A-to-Micro-B USB cable, A-to-Mini-B USB cable, and a 10-pin JTAG ribbon cable. This evaluation kit provides a robust platform for developing and debugging applications targeted for the MAXQ617.

### EV Kit Contents

- MAXQ617 Daughter Card
- Blaster Base Evaluation Motherboard
- USB-to-JTAG/1-Wire Adapter
- A-to-Mini-B USB Cable
- A-to-Micro-B USB Cable
- 10-pin JTAG Ribbon Cable



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

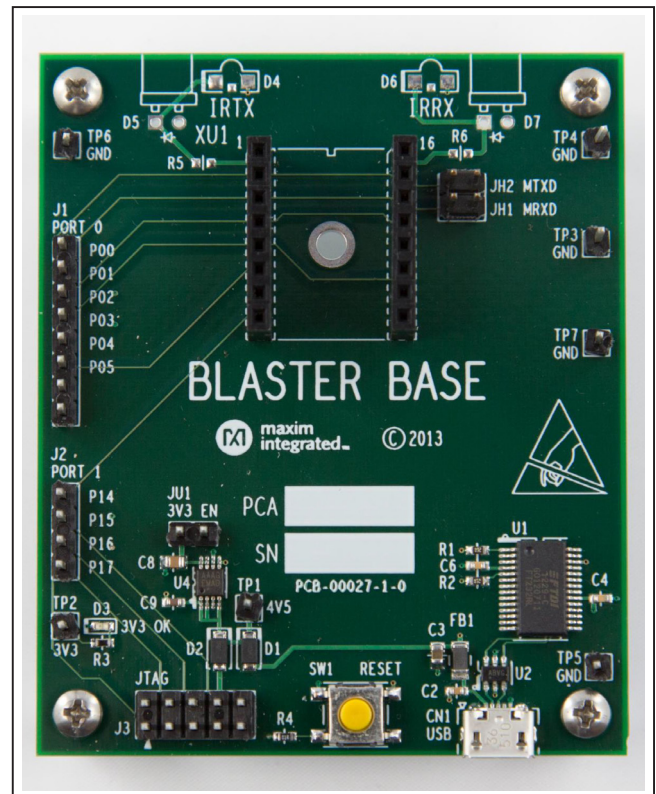
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## Evaluates: MAXQ617 Intended for IR Applications

### Features and Benefits

- Easily Load and Debug Code Using Supplied USB-to-JTAG/1-Wire Adapter
- JTAG Interface Provides In-Application Debugging Features
  - Step-by-Step Execution Tracing
  - Breakpoints by Code Address, Data Memory Address, or Register Access
  - Data Memory or Register Content View and Edit
- Serial-to-USB Interface for RS-232 Communication
- Port Pin Headers
- Mounting Holes and Pads for Receive and Transmit IR LEDs

### Blaster Base on Motherboard Photo



### Detailed Description

In conjunction with this data sheet, the appropriate data sheet and user’s guide for the specific microcontroller provides the necessary information for programming and debugging. Example code can be found on the quick view page for the microcontroller that you are using. Supported IDEs can be found at [www.maximintegrated.com/products/microcontrollers/development\\_tools.cfm](http://www.maximintegrated.com/products/microcontrollers/development_tools.cfm).

### Jumper Functions

The EV kit is equipped with three jumpers that can be installed or removed to alter the functions of the board. See [Table 1](#) for a description of each jumper function.

### Power Supply

The EV kit is powered over the USB or JTAG. MAXQ JTAG and a 5V USB supply to an on-board regulator that regulates it down to 3.3V. Diodes D1 and D2 prevent the sources from back feeding each other.

**Table 1. Jumper Functions**

JUMPER	SETTING	EFFECT
JH1	Closed*	Connects RX to the USB serial adapter
	Open	Disconnects RX from the USB serial adapter
JH2	Closed*	Connects TX to the USB serial adapter
	Open	Disconnects TX from the USB serial adapter
JU1	Closed*	Connects VDD to the 3.3V regulator
	Open	Disconnects VDD

\*Default position.

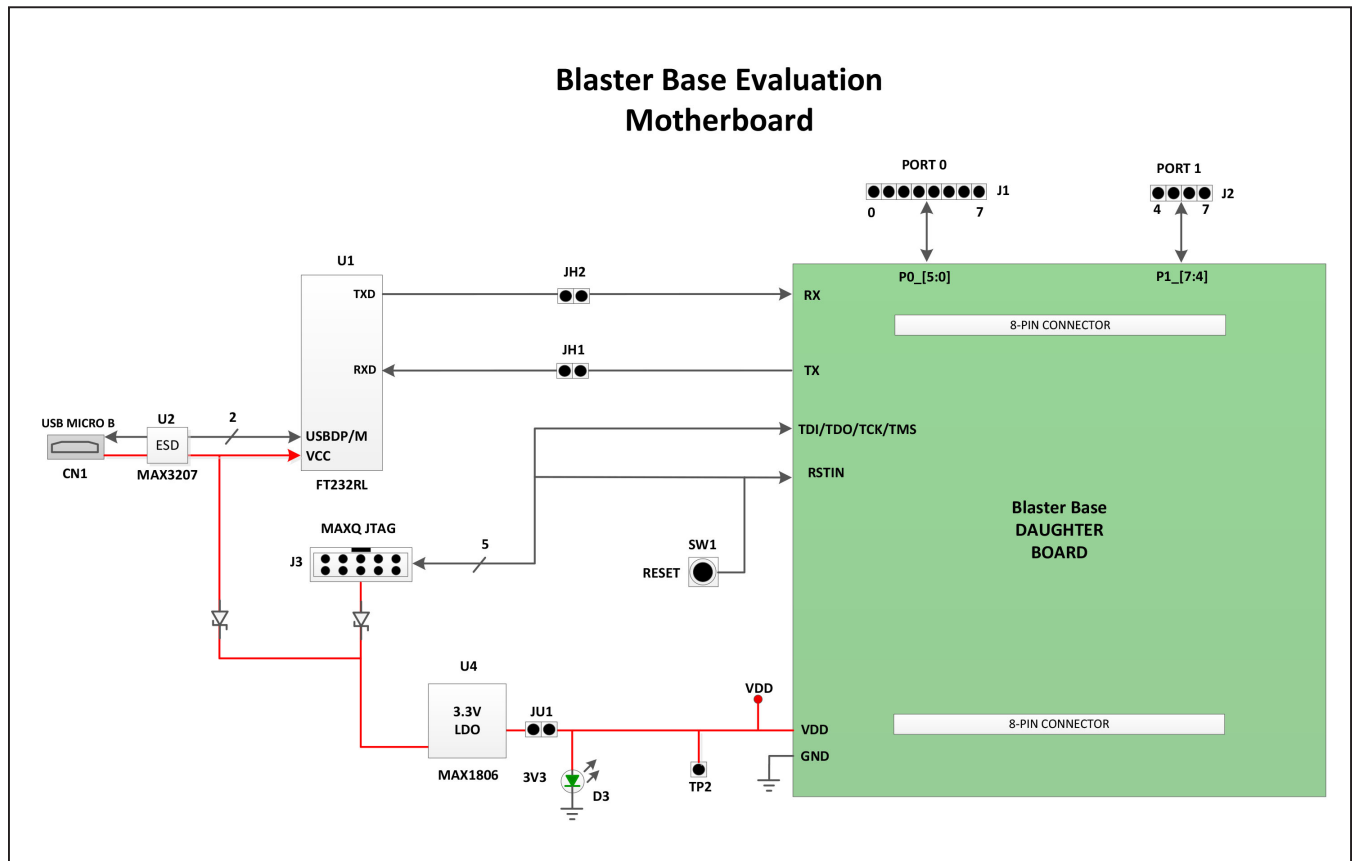


Figure 1. Blaster Base Evaluation Motherboard Block Diagram

**Serial Interface**

A serial-to-USB conversion chip is included on the motherboard. To open the serial communication, plug in the A-to-Micro-B cable and open a serial port on the host computer. Jumpers JH1 and JH2 are used to connect the serial port to the conversion chip.

**Infrared LEDs**

The motherboard has pads available for transmit and receive IR LEDs. If additional LEDs are required for the application tested, through-hole or surface-mount LEDs can be installed on the motherboard. The anode is connected to V<sub>DD</sub> and the cathode is connected to the pad for a resistor.

**JTAG Interface**

A USB-to-JTAG/1-Wire adapter (provided with the EV kit) is used to program and debug applications running on the device. Connect the 10-pin ribbon cable from the adapter to connector J3 on the motherboard. Pin 1 of the header is indicated by the small arrow on the motherboard. The red wire in the ribbon cable should line up with pin 1 of the header. The adapter supplies 5V to the motherboard and allows the user to program and debug the microcontroller. Refer to the USB-to-JTAG/1-Wire Adapter User’s Guide for additional instructions.

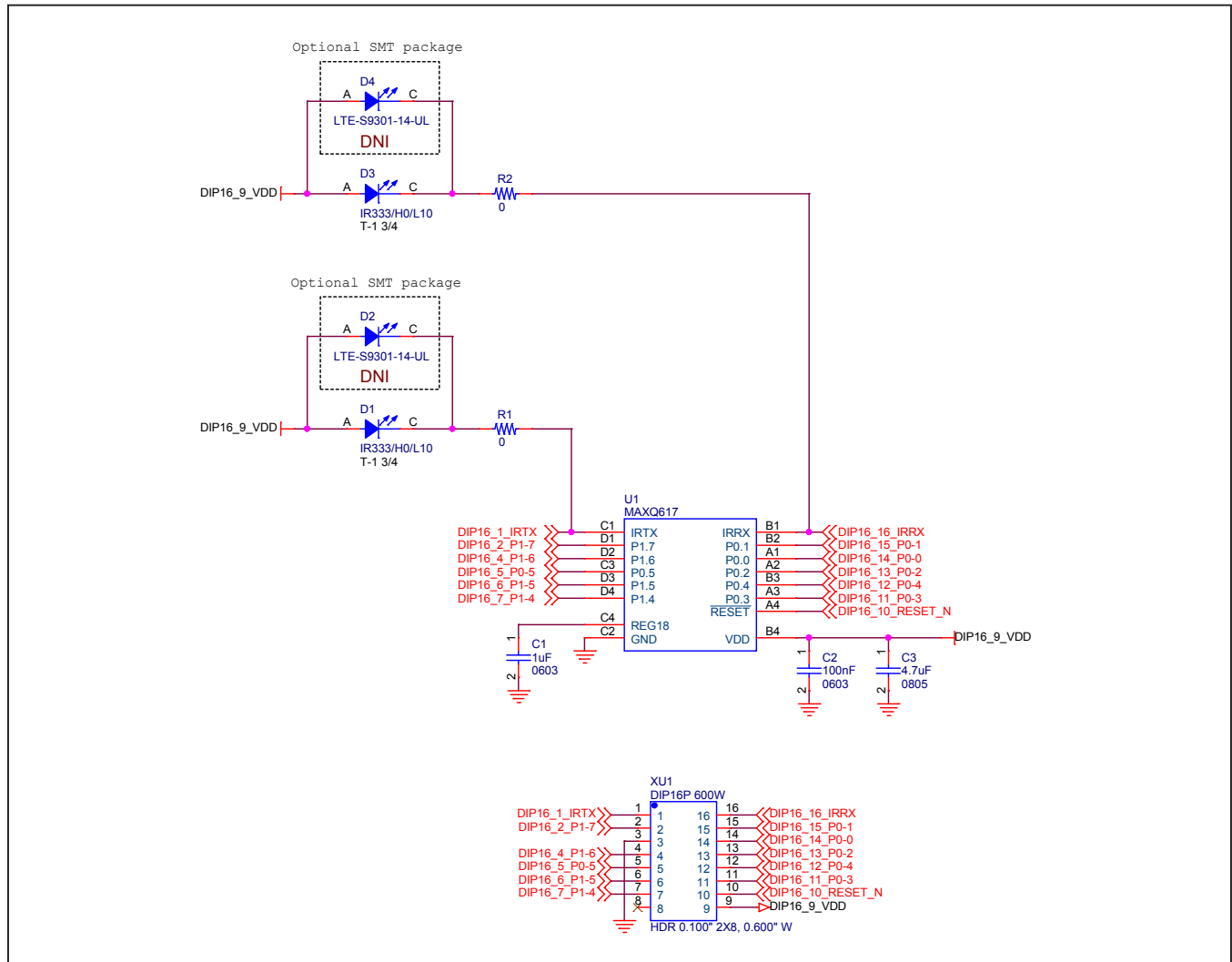


Figure 2. MAXQ617 Daughter Card Schematic

Ordering Information

PART	TYPE
MAXQ617EVKIT#	Evaluation Kit

#Denotes RoHS compliant.

MAXQ617 Bill of Materials

Blaster Base Motherboard

ITEM	QTY	PART, REFERENCE	VALUE	DESCRIPTION
1	2	C1, C7	100nF	CAP CER 0.1UF 16V 10% X7R 0603
2	1	C2	10nF	CAP CER 10000PF 16V 10% X7R 0603
3	1	C3	4.7uF	CAP CER 4.7UF 16V 10% X7R 0805
4	3	C4, C5, C6	100nF	CAP CER 0.1UF 16V 10% X7R 0603
5	1	C8	10uF	CAP CER 10UF 10V 10% X7R 0805
6	1	C9	1uF	CAP CER 1UF 16V 10% X7R 0603
7	1	CN1	USB MICRO-B RECEPTACLE	CONN RCPT MICRO USB R/A SMD
8	2	D1, D2	DFLS230L-7	DIODE SCHOTTKY 2A 30V PWRDI 123
9	1	D3	LED, GREEN	LED SMARTLED GREEN 570NM 0603
10	2	D4, D6	LTE-S9301-14-UL	Infrared Emitters INFRARED LED 940nm
11	2	D5, D7	IR333/H0/L10	Infrared Emitters INFRARED LED 940nm
12	1	FB1	HZ1206C202R-00	FERRITE CHIP SIGNAL 2000 OHM SMD
13	5	H1, H2, H3, H4, H5	DNI	DNI MTG 125DRL 250PAD
14	1	J1	HEADER 8	CONN HEADER .100 SINGL STR 8POS
15	1	J2	HEADER 4	CONN HEADER .100 SINGL STR 4POS
16	1	J3	JTAG	CONN HEADER .100 DUAL STR 10POS
17	3	JH1, JH2, JU1	2x1	CONN HEADER .100 SINGL STR 2POS
18	5	M1, M2, M5, M6, M9	SCREW MACH PHIL 4-40X1/4	SCREW MACH PHIL 4-40X1/4 Stain
19	5	M3, M4, M7, M8, M10	0.625" 5/8 4-40 STANDOFF	STANDOFF HEX .625"L 4-40THR Alu 5/8"
20	1	PCB1	PCB	Blaster Base Board
21	2	R1, R2	182	RES 182 OHM 1/10W 1% 0603
22	1	R3	1K	RES 1.00K OHM 1/10W 1% 0603 SMD
23	1	R4	100	RES 100 OHM 1/10W 1% 0603
24	2	R5, R6	0	RES 0.0 OHM 1/10W 0603 SMD
25	1	SJ1	SHUNT	CONN JUMPER SHORTING TIN
26	1	SW1	B3S-1002	SWITCH TACT 6MM SMD MOM 230GF
27	7	TP1, TP2, TP3, TP4, TP5, TP6, TP7	1P	CONN HEADER .100 SINGL STR 1POS
28	1	U1	FT232RL	IC FTDI FT232RL USB-SRL 28-SSOP
29	1	U2	MAX3207EAUT+T	IC ESD PROT DIFF SOT23-6
30	1	U3	MAX13206EALA+	2-/4-/6-/8-Channel ±30kV ESD Protectors in µDFN
31	1	U4	MAX1806EUA33+	500mA, Low-Voltage Linear Regulator
32	1	U5	MAX13204EALT+	2-/4-/6-/8-Channel ±30kV ESD Protectors in µDFN
33	2	XU1	SIP8P	CONN HEADER FEMALE 8POS .1" TIN

**MAXQ617 Bill of Materials (continued)****Daughter Card**

ITEM	QTY	PART, REFERENCE	VALUE	DESCRIPTION
1	1	C1	1uF	CAP CER 1UF 16V 10% X7R 0603
2	1	C2	100nF	CAP CER 0.1UF 16V 10% X7R 0603
3	1	C3	4.7uF	CAP CER 4.7UF 16V 10% X5R 0805
4	2	D1 D3	IR333/H0/L10	
5	2	D2 D4	LTE-S9301-14-UL	
6	1	PCB1	PCB	
7	2	R1 R2	0	
8	1	U1	MAXQ617	MAXQ617
9	1	XU1	DIP16P 600W	CONN HEADER .100 SINGL STR 8POS

## Revision History

REVISION NUMBER	REVISION DATE	DESCRIPTION	PAGES CHANGED
0	7/15	Initial release	—
1	9/16	Changed <i>EV Kit Contents</i> heading, updated Figure 2 caption	1, 3
2	10/16	Added RoHS compliance notation	4

For pricing, delivery, and ordering information, please contact Maxim Direct at 1-888-629-4642, or visit Maxim Integrated's website at [www.maximintegrated.com](http://www.maximintegrated.com).

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