

General Description

This EV kit provides a platform for evaluating the capabilities of the MAXQ1061 cryptographic controller with TLS/DLS support that is targeted for strengthening security in embedded systems. This credit card-sized socketed board allows for communication and power through a 10-pin connector to an optional Aardvark I²C/SPI host adapter. Header pins are provided for communication to a generic host processor through SPI or I²C and allows it to be sourced by an external 3.3V power supply. This evaluation kit provides a robust platform for developing and debugging applications targeted for the MAXQ1061.

Ordering Information appears at end of data sheet.

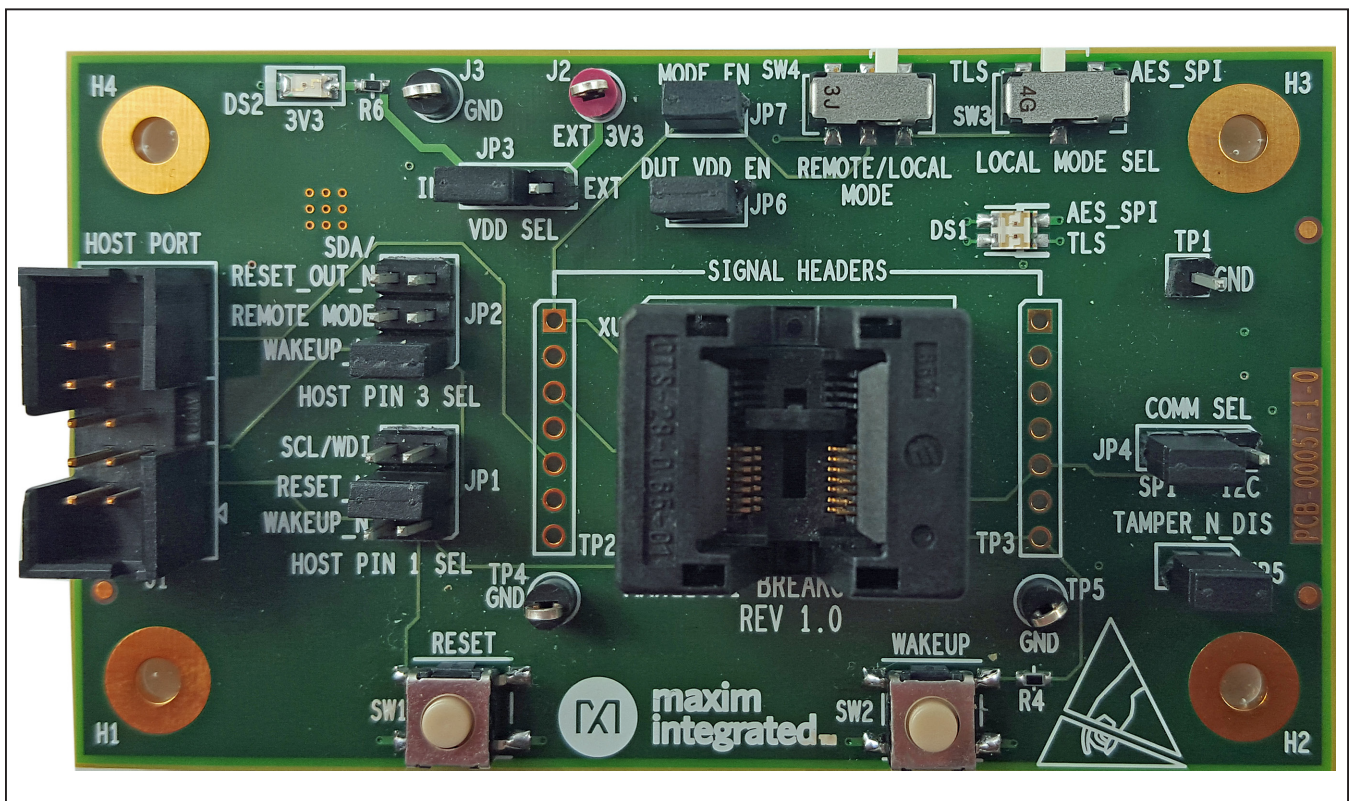
Benefits and Features

- 10-Pin Header to Connect to an Optional Aardvark Host Adapter or Generic Host Processor
- Board Powered by an Aardvark Host Adapter, Host Processor Board or an External Supply to Test Loops
- Toggle Switches for TLS/AES-SPI Mode and Remote/Local Mode Selection
- Multicolor LED Indicating Mode Selection

MAXQ1061 EV Kit Contents

- MAXQ1061 EV kit containing a MAXQ1061

MAXQ1061 EV Kit Photo



Quick Start

Note: Not applicable.

Detailed Description of Hardware (or Software)

This evaluation kit should be used with the following documents:

- MAXQ1061 data sheet
- MAXQ1061 user's guide
- MAXQ1061 EV kit data sheet (this document)
- MAXQ1061 EV kit software user's guide

These documents, or links to them, are included on the MAXQ1061 EV kit package. For the latest versions of the documents listed above, use the following link: www.maximintegrated.com/MAXQ1061.

EV Kit Package

This package contains useful documentation and links that serve as a guide for evaluation and development. The package includes examples and host library written in C. For further information, refer to *MAXQ1061 EV Kit User's Guide*.

Power Supply

The MAXQ1061 EV kit can be powered two ways. The first is by 5V, supplied from an optional Aardvark host adapter or generic host processor board that sources an onboard regulator that regulates it down to 3.3V. The second is from an external 3.3V power supply connected to two test loop connectors J2 (EXT 3V3) and J3 (GND).

Current Monitoring

Jumper JP6 (DUT VDD EN) provides a convenient current monitoring point for VDD.

Communication to Host

A (2x5) 0.1 spaced shrouded header (J1) allows for SPI or I²C communication through an optional Aardvark host adapter. A generic host processor can also utilize this connector or headers TP1 and TP2. Jumper JP4 (COMM SEL) allows the user to select between SPI or I²C communication.

Slide Switches

There are two slide switches. A SPDT (SW3) allows for control of the MODE pin for AES-SPI and TLS modes. The second switch, a DPDT (SW4) allows for local or remote (external host) control of the HOST pin.

Pushbutton Switches

Pushbuttons (normally open) SW1 and SW2 can be used to generate a logic 0 signal on their corresponding pins.

Pushbutton SW1 provides a global POR reset function for the MAXQ1061 by asserting the RST# input.

Pushbutton SW2 brings back the MAX1061 from standby after a SLEEP command has been issued by asserting the WAKEUP# input.

Indicator LEDs

Bicolor LED (DS1) illuminates red for TLS mode and green for AES-SPI mode.

GPIO Headers

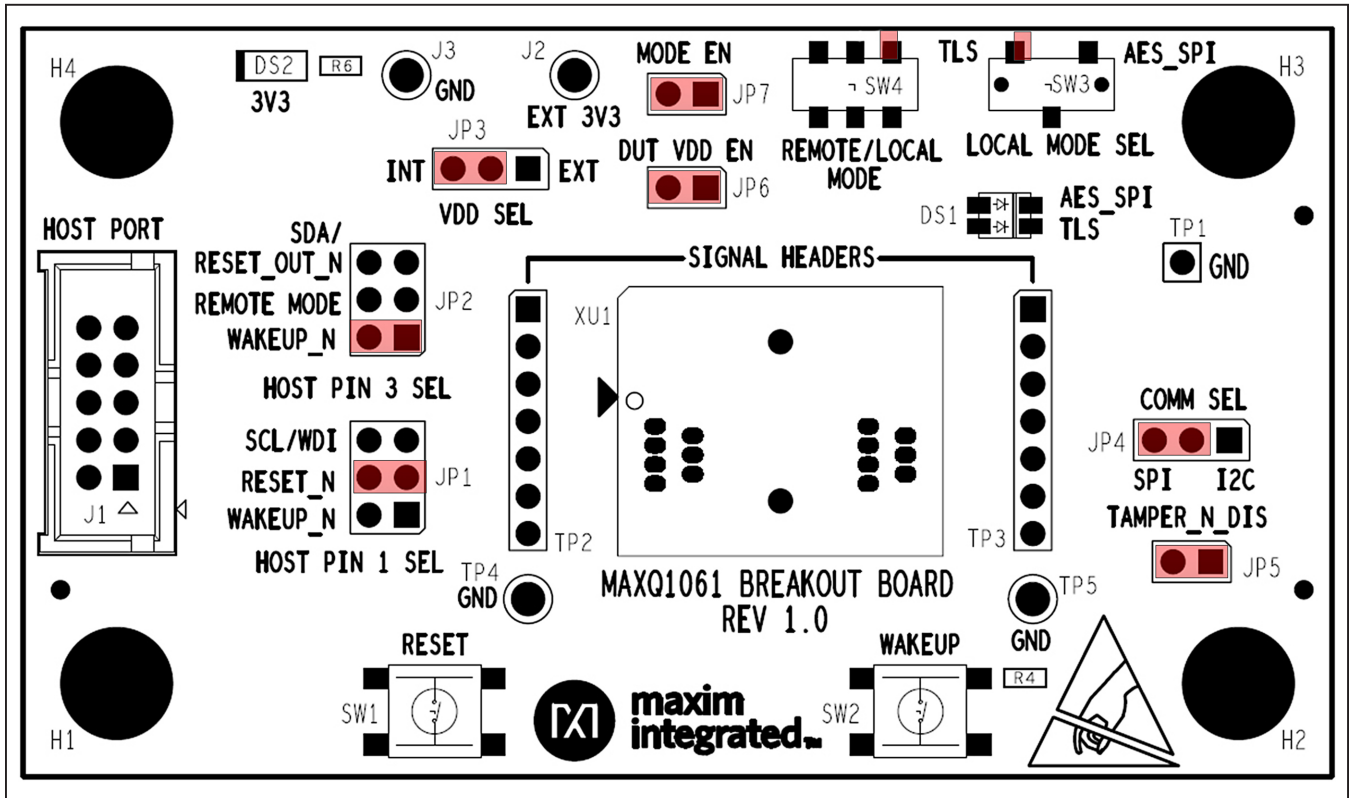
Two (1x7) 0.1 spaced headers (TP1 and TP2) allow access to all of the MAXQ1061 signal pins.

Jumper Function and Default Settings

HEADER	SIGNAL	SETTINGS	DESCRIPTION
JP1	SCL/GPIO_0	1-2	Connects Host Port pin 1 to WAKEUP_N
		*3-4	Connects Host Port pin 1 to RESET_N
		5-6	Connects Host Port pin 1 to SCL/WDI
JP2	SDA/GPIO_1	1-2	Connects Host Port pin 1 to WAKEUP_N
		*3-4	Connects Host Port pin 1 to REMOTE MODE
		5-6	Connects Host Port pin 1 to SDA/RESET_OUT_N
JP3	3V3	2-1	Connects EXT 3V3 to source board power
		*2-3	Connects 3V3 LDO to source board power
JP4	CMS	2-1	Connects I ² C to CMS input of the MAXQ1061
		*2-3	Connects SPI to CMS input of the MAXQ1061
JP5	TAMPER_N	Open	Enables TAMPER_N of the MAXQ1061
		*Close	Disables TAMPER_N of the MAXQ1061
JP6	VDD	Open	Disconnects VDD of the MAXQ1061 from 3V3
		*Close	Connects VDD of the MAXQ1061 to 3V3
JP7	MODE	Open	Disconnects MODE of the MAXQ1061 from SW4 (REMOTE/LOCAL switch)
		*Close	Connects MODE of the MAXQ1061 to SW4 (REMOTE/LOCAL switch)
JP8	SDA	*Open	Disconnects SDA of the MAXQ1061 from a 10K pull up resistor (solder bridge)
		Close	Connects SDA of the MAXQ1061 to a 10K pull up resistor (solder bridge)
JP9	SCL	*Open	Disconnects SCL of the MAXQ1061 from a 10K pull up resistor (solder bridge)
		Close	Connects SCL of the MAXQ1061 to a 10K pull up resistor (solderbridge)

*Default position.

Default Jumper Placement



Ordering Information

PART	TYPE
MAXQ1061-KIT#	EV Kit

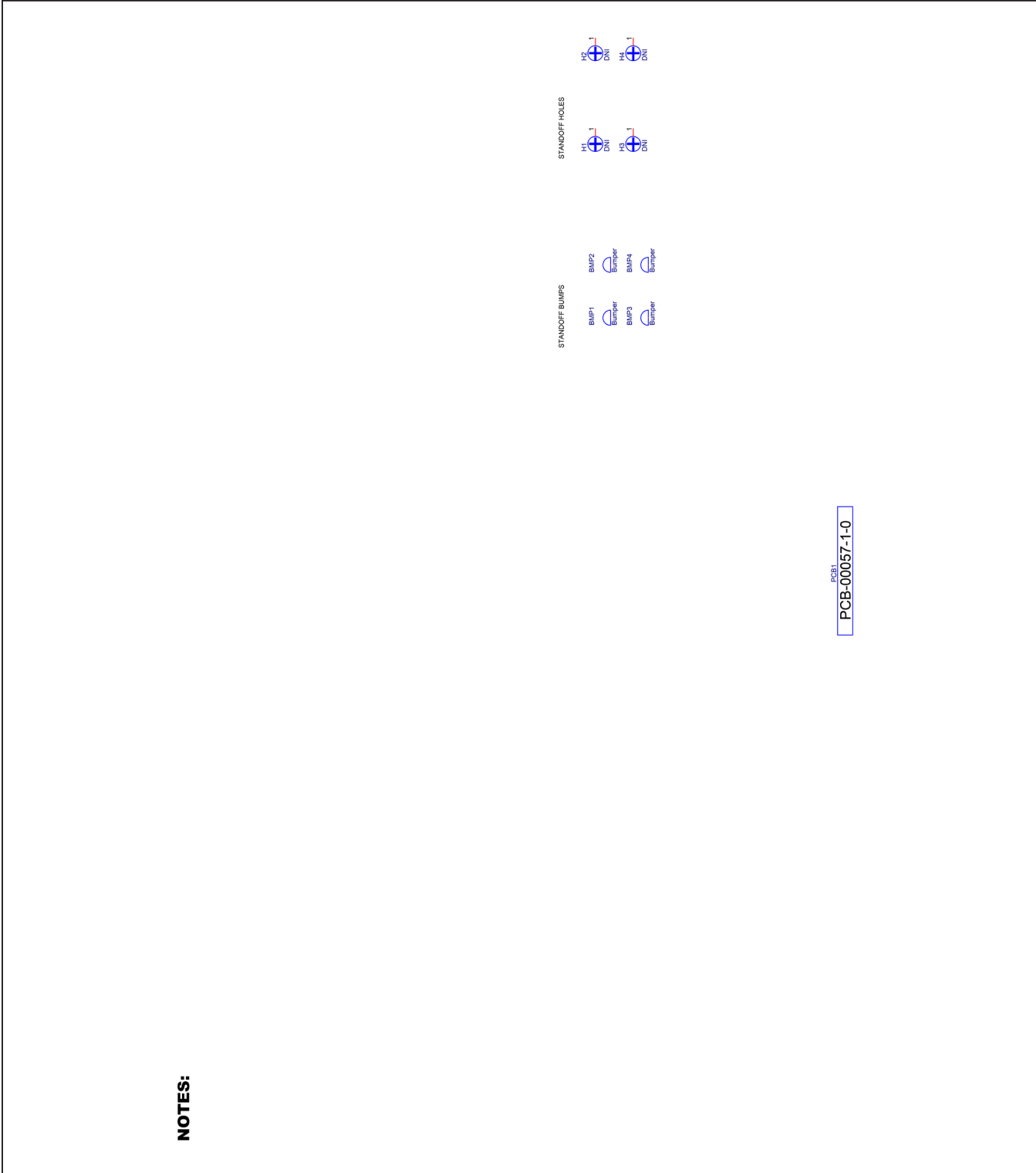
#Denotes RoHS compliant.

MAXQ1061 EV Kit Bill of Materials

PART	QTY	DESCRIPTION	MANUFACTURER PN
BMP1,BMP2,BMP3,BMP4	4	BUMPON HEMISPHERE .44X.20 CLEAR	SJ-5303
C1,C3,C5	3	CAP CER 1uF 16V 10% X7R 0603	GCM188R71C105KA64D
C2	1	CAP CER 0.1uF 16V 10% X7R 0603	C0603C104K4RACTU
C4	1	CAP CER 10uF 10V 10% X7R 0805	GRM21BR71A106KE51L
D1	1	DIODE SCHOTTKY 30V 2A POWERDI123	DFLS230L-7
DS1	1	LED GREEN/RED CLEAR 1210	LTST-C155GEKT
DS2	1	LED 565NM WTR CLR GREEN 1206 SMD	SML-LX1206GC-TR
J1	1	AARDVARK I2C SPI 10P HEADER	5104338-1
J2	1	TEST POINT PC COMPACT .063"D RED	5005
J3,TP4,TP5	3	TEST POINT PC COMPACT .063"D BLK	5006
JP1,JP2	2	CONN HEADER .100 DUAL STR 6POS	PEC03DAAN
JP3,JP4	2	CONN HEADER .100 SINGL STR 3POS	PEC03SAAN
JP5,JP6,JP7	3	CONN HEADER .100 SINGL STR 2POS (2x1)	PEC02SAAN
JP8, JP9	2- DNI*	SOLDER JUMPER – NON PART	
PCB	1	00057-1-0 MAXQ1061 Breakout Board	
R1	1	RES 150 OHM 1/10W 1% 0603 SMD	ERJ-3EKF1500V
R2	1	RES 120 OHM 1/10W 1% 0603 SMD	ERJ-3EKF1200V
R3,R7,R8,R9	4	RES 10K OHM 1/10W 1% 0603 SMD	ERJ-3EKF1002V
R4	1	RES 100 OHM 1/10W 1% 0603 SMD	ERJ-3EKF1000V
R6	1	RES 332 OHM 1/10W 1% 0603 SMD	ERJ-3EKF3320V
SW1,SW2	2	SWITCH TACTILE SPST-NO 0.05A 24V	B3S-1000
SW3	1	SWITCH SLIDE SPDT 0.2A R/A GULL	CL-SB-12B-11
SW4	1	SWITCH SLIDE DPDT 0.2A GULL 12V	CL-SB-22B-12T
TP1	1	CONN HEADER .100 SINGL STR 1POS	PEC01SAAN
TP2, TP3	2 – DNI*	CONN HEADER .100 SINGL STR 7POS	PEC07SAAN
U1	1	REG LDO 3.3V/ADJ 16TSSOP-EP	MAX8869EUE33+
XU1	1	MAXQ1061 14P SKT	OTS-14(28)-0.65-01

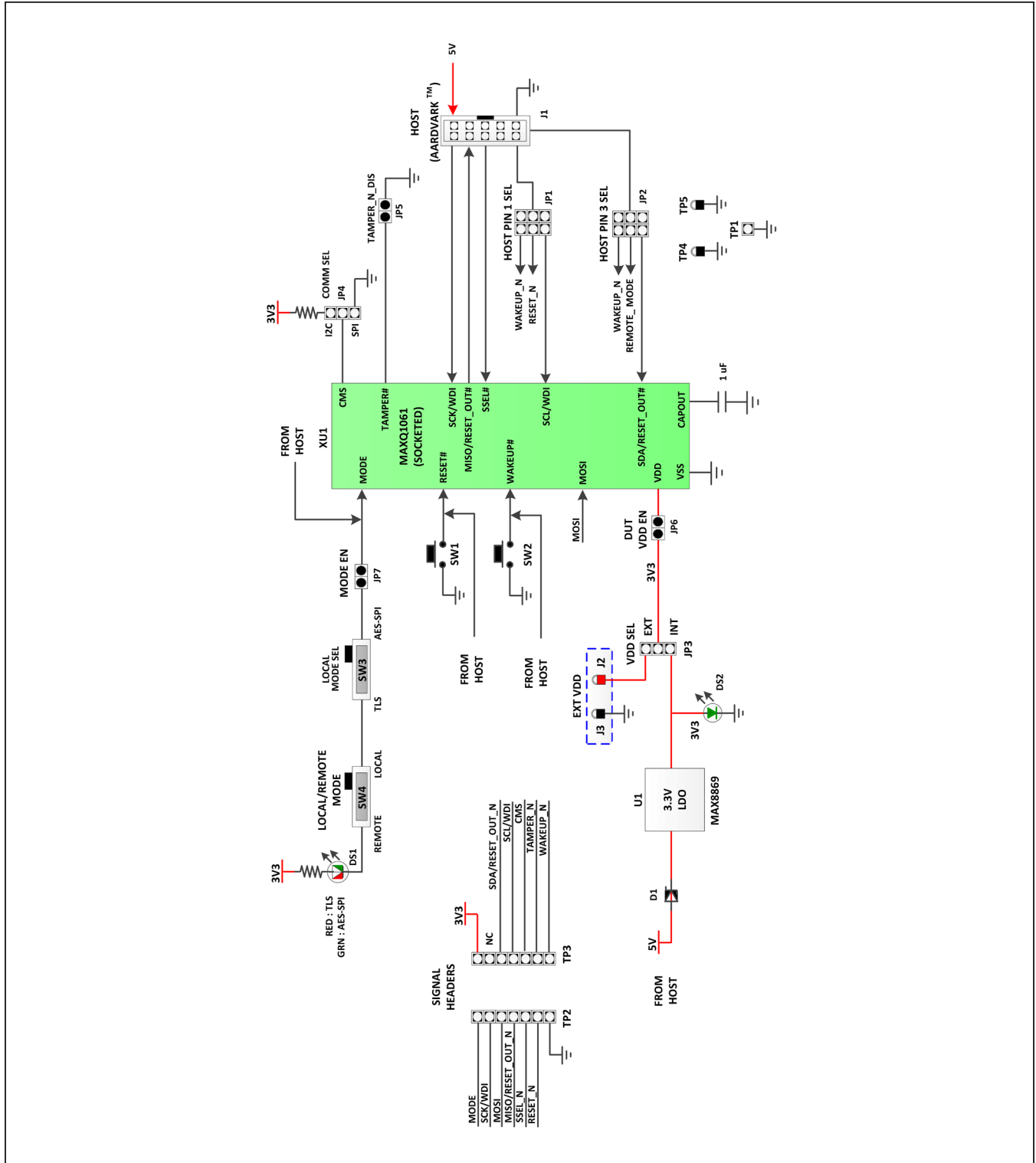
*Do Not Install

MAXQ1061 EV Kit Schematics



NOTES:

MAXQ1061 EV Kit Schematics (continued)



Revision History

REVISION NUMBER	REVISION DATE	DESCRIPTION	PAGES CHANGED
0	11/16	Initial release	—

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.

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