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Evaluation Board for the ADM8611/ADM8612/ADM8613/ADM8614/ADM8615, Ultra Low Power Supervisory ICs with Watchdog Timer and Manual Reset

FEATURES

Pretrimmed voltage monitoring threshold
- **2.63 V for ADM8611-EVALZ with ±1.3% accuracy**
- **1.10 V for ADM8612-EVALZ with ±1.4% accuracy**
- **2.32 V for ADM8613-EVALZ with ±1.3% accuracy**
- **2.63 V for ADM8614-EVALZ with ±1.3% accuracy**
- **1.00 V for ADM8615-EVALZ with ±1.6% accuracy**

Manual reset (MR#) pin for input condition override (all boards except ADM8614-EVALZ)
Separate voltage supply (VCC) and input pin (INPUT) for low voltage monitoring (ADM8612-EVALZ/ADM8615-EVALZ)
Watchdog timer input (WDI) pin for monitoring an external microprocessor (ADM8613-EVALZ/ADM8614-EVALZ/ ADM8615-EVALZ)
Watchdog disable input (WD_DIS) pin (ADM8613-EVALZ/ ADM8614-EVALZ)
Watchdog timeout selection input (WDT_SEL) pin for extending the timer period (ADM8614-EVALZ)
Built in tact switch (JP1) for input condition override (all boards except ADM8614-EVALZ)
Built in LED for output monitoring

GENERAL DESCRIPTION

The ADM8611-EVALZ/ADM8612-EVALZ/ADM8613-EVALZ/ ADM8614-EVALZ/ADM8615-EVALZ boards demonstrate the ADM8611/ADM8612/ADM8613/ADM8614/ADM8615 with the features summarized in Table 1. These ultra low power voltage supervisors monitor the input voltage level and compare it against an internal reference.

This user guide describes how to set up and use the boards to demonstrate the product functions. Full details about the ADM8611/ADM8612/ADM8613/ADM8614/ADM8615 are available in the product data sheet, which must be consulted in conjunction with this user guide when using the ADM8611-EVALZ/ ADM8612-EVALZ/ADM8613-EVALZ/ADM8614-EVALZ/ ADM8615-EVALZ.

Table 1. ADM8611-EVALZ/ADM8612-EVALZ/ADM8613-EVALZ/ADM8614-EVALZ/ADM8615-EVALZ Series Selection Table

Device Number	Low Voltage Programming	Manual Reset (MR#)	Watchdog Timer Input (WDI)	Watchdog Disable Input (WD_DIS)	Watchdog Timeout Selection Input (WDT_SEL)	Evaluation Board Photograph[1]
ADM8611-EVALZ	No	Yes	No	No	No	 23303-201
ADM8612-EVALZ	Yes	Yes	No	No	No	 23303-202
ADM8613-EVALZ	No	Yes	Yes	Yes	No	 23303-203
ADM8614-EVALZ	No	No	Yes	Yes	Yes	 23303-204
ADM8615-EVALZ	Yes	Yes	Yes	No	No	 23303-205

[1] See the Evaluation Board Photographs section for full size photographs.

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REVISION HISTORY

7/2020—Revision 0: Initial Version

EVALUATION BOARD PHOTOGRAPHS

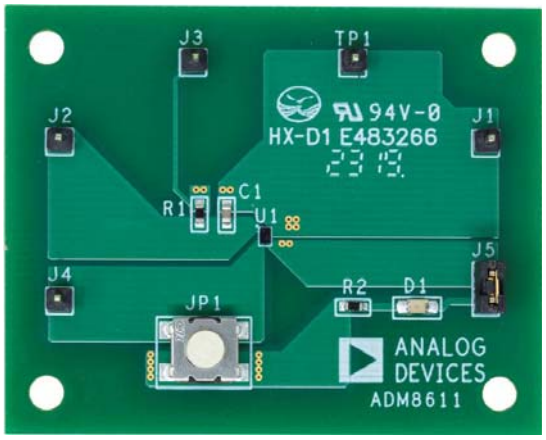

Figure 1. ADM8611-EVALZ

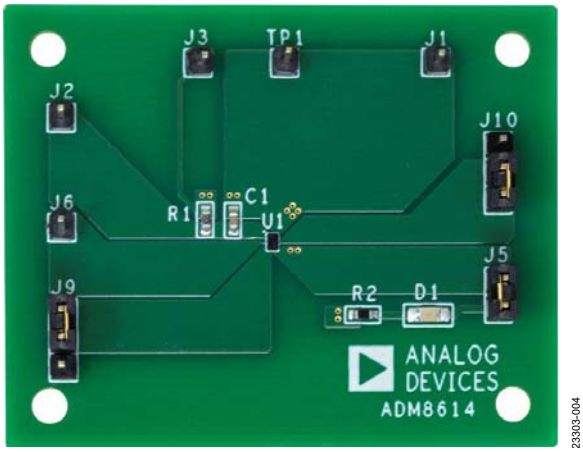

Figure 4. ADM8614-EVALZ

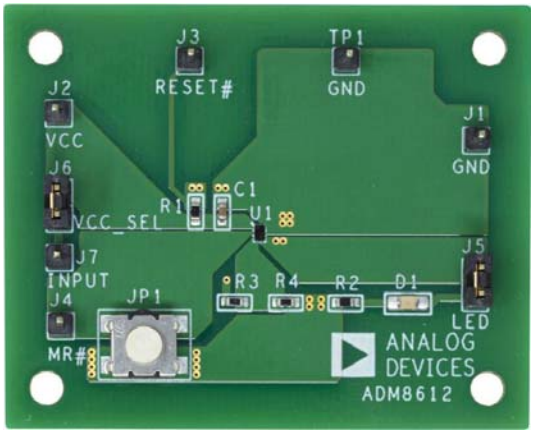

Figure 2. ADM8612-EVALZ

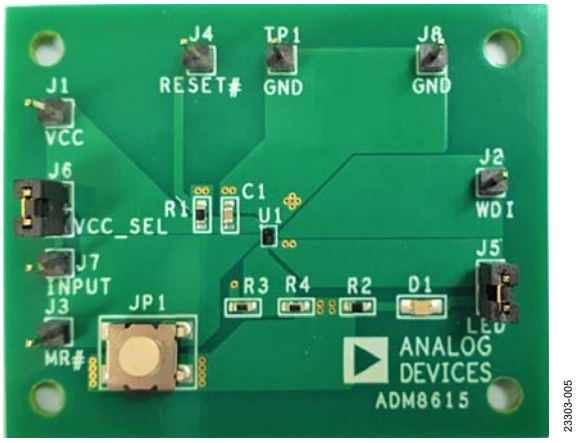

Figure 5. ADM8615-EVALZ

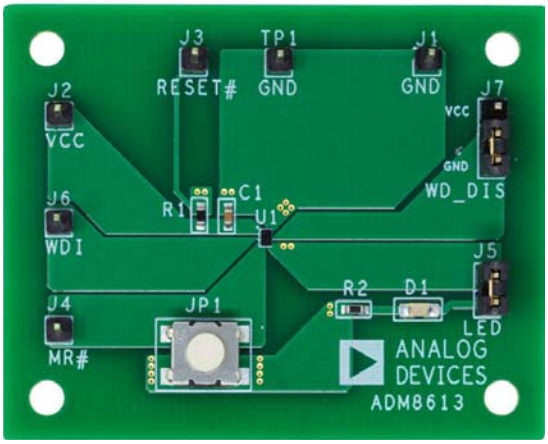

Figure 3. ADM8613-EVALZ

ADM8611-EVALZ/ADM8612-EVALZ/ADM8613-EVALZ/ADM8614-EVALZ/ADM8615-EVALZ SERIES

The ADM8611-EVALZ/ADM8612-EVALZ/ADM8613-EVALZ/ADM8614-EVALZ/ADM8615-EVALZ have a RESET# output pin that goes high or low when the monitored input voltage level is above or below the reference threshold.

The ADM8611-EVALZ/ADM8612-EVALZ/ADM8613-EVALZ/ADM8615-EVALZ RESET# output pin can be held low regardless of the status of the monitored input voltage by pressing the built in tact switch, JP1, which shorts the ADM8611-EVALZ/ADM8612-EVALZ/ADM8613-EVALZ/ADM8615-EVALZ MR# pin to ground.

A separate supply for the ADM8612-EVALZ/ADM8615-EVALZ INPUT pin can be used to achieve low voltage monitoring. The user can also place an external jumper on the ADM8612-EVALZ/ADM8615-EVALZ VCC_SEL pin to combine the voltage supply of the VCC pin and the monitoring INPUT pin of ADM8612-EVALZ/ADM8615-EVALZ.

The ADM8613-EVALZ/ADM8614-EVALZ/ADM8615-EVALZ has a WDI pin that can be used to monitor the activity of an external microprocessor. After the timer counts the preset watchdog timeout period, t_{WD}, the evaluation board RESET# output pin is held low regardless of the status of the monitored input voltage and then goes back to high again after the reset timeout period, t_{RP}. The internal timer is cleared every time a logic transition of as short as 85 ns is detected on the ADM8613-EVALZ/ADM8614-EVALZ/ADM8615-EVALZ WDI pin. The watchdog timer can be disabled by driving the ADM8613-EVALZ/ADM8614-EVALZ WD_DIS pin by a logic high. The preset watchdog timeout period, t_{WD}, can be extended to 100 sec (typical) by driving the ADM8614-EVALZ WDT_SEL pin to a logic high.

EVALUATION BOARD CONNECTION DIAGRAMS

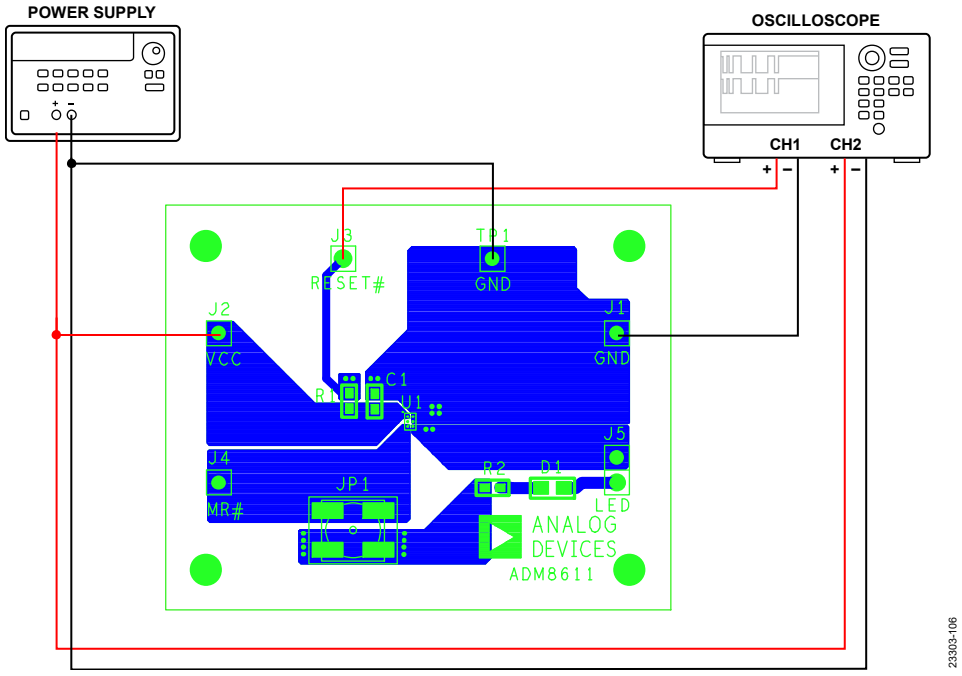

Figure 6. ADM8611-EVALZ Connection Diagram

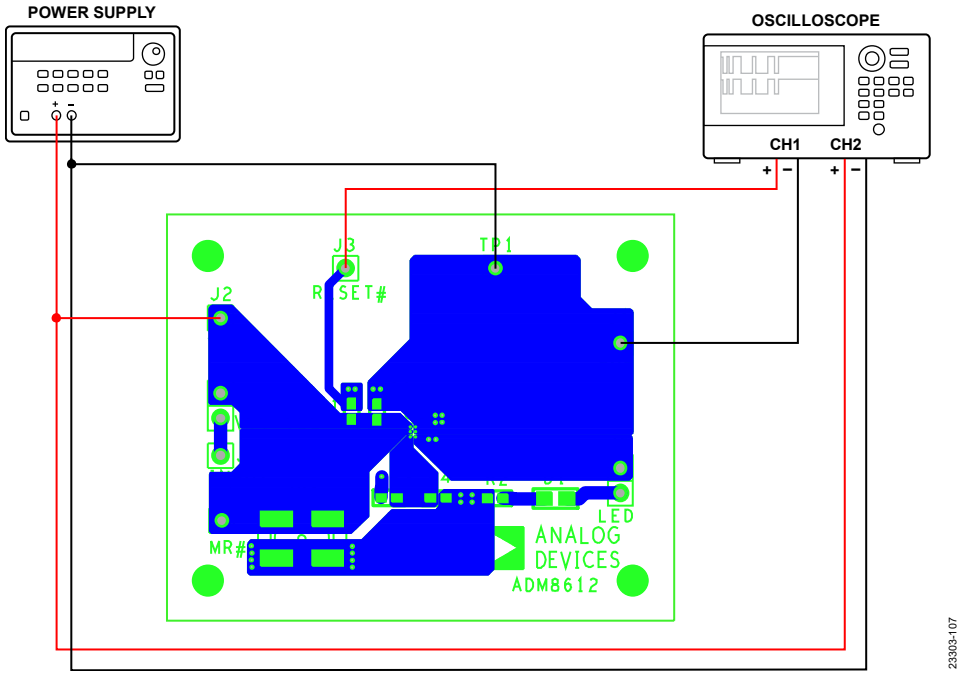

Figure 7. ADM8612-EVALZ Connection Diagram

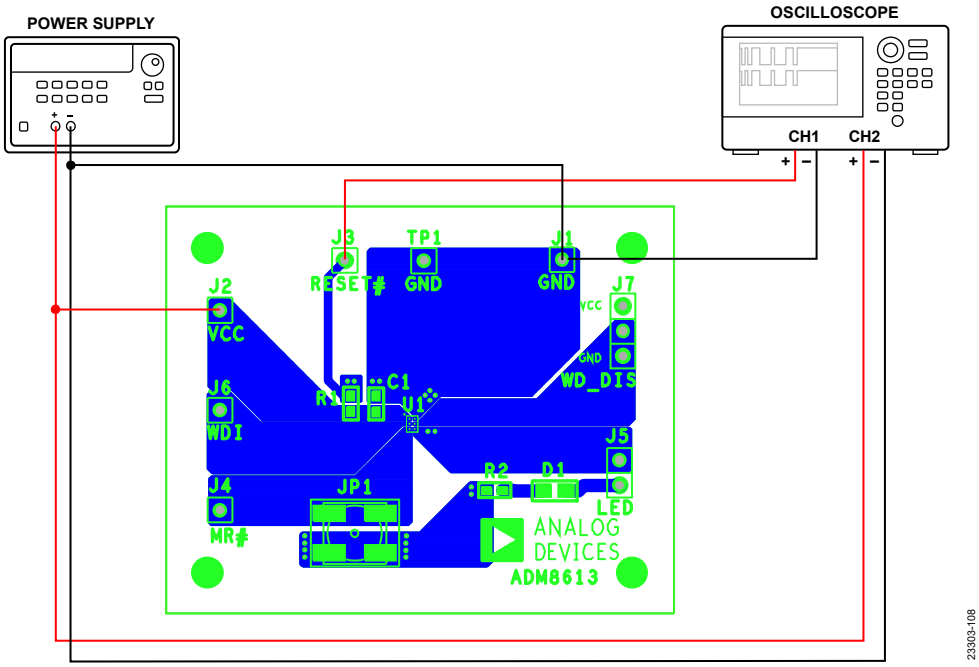

Figure 8. ADM8613-EVALZ Connection Diagram

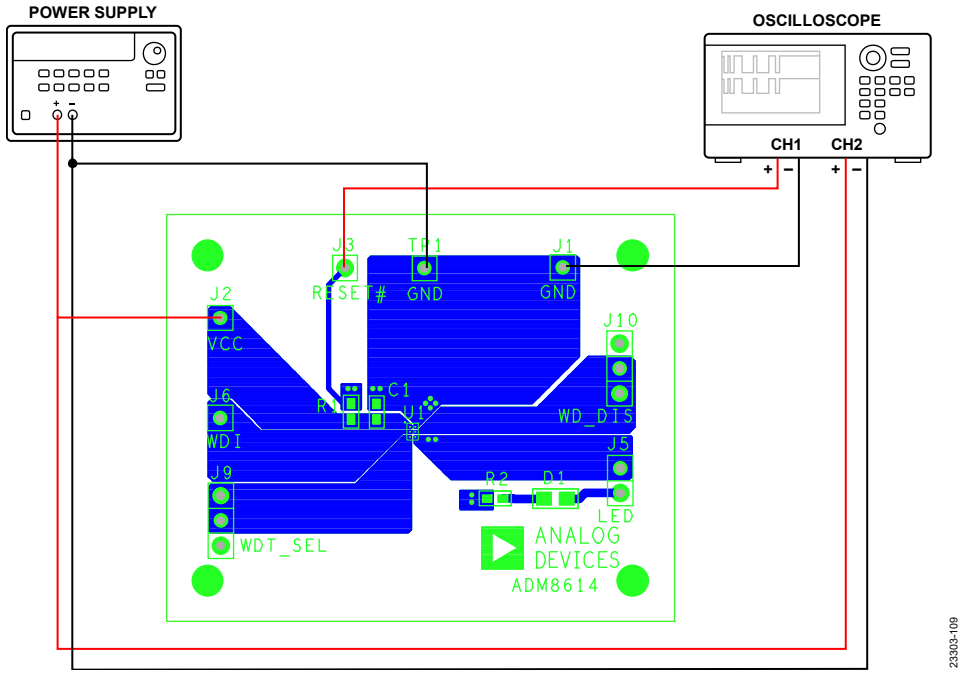

Figure 9. ADM8614-EVALZ Connection Diagram

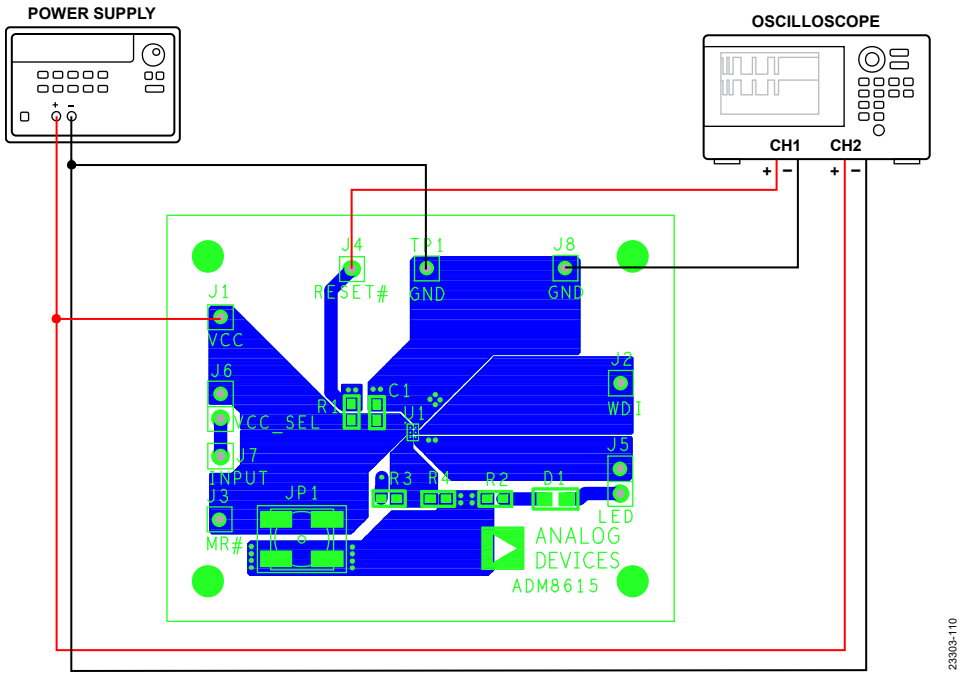

Figure 10. ADM8615-EVALZ Connection Diagram

USING THE EVALUATION BOARD

ADM8611-EVALZ

This section explains how to evaluate the performance of the ADM8611. Refer to Figure 1, Figure 6, Figure 11, Figure 16, and Figure 19 for proper setup, and use the following procedure:

1. Connect the power supply and the oscilloscope to the ADM8611-EVALZ, as shown in the connection diagram (see Figure 6).
2. Use Channel 1 and Channel 2 on the oscilloscope to monitor the ADM8611-EVALZ RESET# pin and VCC pin, respectively.
3. Use an external jumper to short the ADM8611-EVALZ LED pin and to monitor the RESET# pin with the built in LED.
4. Take the following steps to check the manual reset JP1 tact switch and the output:
   a. Set the ADM8611-EVALZ VCC pin to 3 V to turn on the built in LED and cause the ADM8611-EVALZ RESET# pin to go high.
   b. Press and hold the ADM8611-EVALZ JP1 tact switch to short the ADM8611 $\overline{MR}$ pin to ground. The built in LED turns off and the ADM8611-EVALZ RESET# pin goes low.
   c. Release the ADM8611-EVALZ JP1 tact switch. The built in LED turns from off to on and the ADM8611-EVALZ RESET# pin goes from low to high.
5. Take the following steps to check the input:
   a. Vary the supply voltage of the ADM8611-EVALZ VCC pin slowly from 3 V to 2 V while monitoring the ADM8611-EVALZ RESET# pin waveform until the RESET# pin goes low. Record the VCC pin voltage at the point where the RESET# pin goes low. This falling reset threshold voltage of the VCC pin is called $V_{CC\_RESET\_THRESH\_FALL}$.
   b. Vary the supply voltage of the ADM8611-EVALZ VCC pin slowly from 2 V to 3 V while monitoring the ADM8611-EVALZ RESET# pin waveform until the RESET# pin goes high. Record the VCC pin voltage at the point where the RESET# pin goes high. This rising reset threshold voltage of the VCC pin is called $V_{CC\_RESET\_THRESH\_RISE}$.

The value of $V_{CC\_RESET\_THRESH\_FALL}$ and $V_{CC\_RESET\_THRESH\_RISE}$ on the ADM8611-EVALZ is about 2.63 V (2.596 V to 2.664 V).

ADM8612-EVALZ

This section explains how to evaluate the performance of the ADM8612. Refer to Figure 2, Figure 7, Figure 12, Figure 17, and Figure 20 for proper setup, and use the following procedure:

1. Connect the power supply and the oscilloscope to the ADM8612-EVALZ, as shown in the connection diagram (see Figure 7).
2. Use Channel 1 and Channel 2 on the oscilloscope to monitor the ADM8612-EVALZ RESET# pin and VCC pin, respectively.
3. Use an external jumper to short the ADM8612-EVALZ LED pin and to monitor the RESET# pin with the built in LED.
4. Use an external jumper to short the ADM8612-EVALZ VCC_SEL pin and combine the ADM8612-EVALZ VCC pin and INPUT pin. This combination causes the low voltage monitoring level on the ADM8612-EVALZ INPUT pin to equal half of the voltage on the ADM8612-EVALZ VCC pin.
5. Take the following steps to check the output:
   a. Set the ADM8612-EVALZ VCC pin to 2.5 V to turn on the built in LED and cause the ADM8612-EVALZ RESET# pin to go high.
   b. Press and hold the ADM8612-EVALZ JP1 tact switch to short the ADM8612 $\overline{MR}$ pin to ground. The built in LED turns off and the ADM8612-EVALZ RESET# pin goes low.
   c. Release the ADM8612-EVALZ JP1 tact switch. The built in LED turns from off to on and the ADM8612-EVALZ RESET# pin goes from low to high.
6. Take the following steps to check the input:
   a. Vary the supply voltage of the ADM8612-EVALZ VCC pin slowly from 2.5 V to 2 V while monitoring the ADM8612-EVALZ RESET# pin waveform until the RESET# pin goes low. Record the $V_{CC\_RESET\_THRESH\_FALL}$ voltage of the VCC pin at the point where the RESET# pin goes low.
   b. Vary the supply voltage of the ADM8612-EVALZ VCC pin slowly from 2 V to 2.5 V while monitoring the ADM8612-EVALZ RESET# pin waveform until the RESET# pin goes high. Record the $V_{CC\_RESET\_THRESH\_RISE}$ voltage of the VCC pin at the point where the RESET# pin goes high.

The value of $V_{CC\_RESET\_THRESH\_FALL}$ and $V_{CC\_RESET\_THRESH\_RISE}$ on the ADM8612-EVALZ is about 2.2 V (2.168 V to 2.232 V), and the actual threshold on the ADM8612 VIN device pin is about 1.10 V (1.084 V to 1.116 V). The ADM8612-EVALZ INPUT pin can be controlled separately if the jumper at the VCC_SEL pin is not connected. To adjust the monitoring voltage level at the ADM8612-EVALZ INPUT pin, select a divider combination for R3 and R4 in the schematic in Figure 12.

ADM8613-EVALZ

This section explains how to evaluate the performance of the ADM8613. Refer to Figure 3, Figure 8, Figure 13, Figure 18, and Figure 21 for proper setup, and use the following procedure:

1. Connect the power supply and the oscilloscope to the ADM8613-EVALZ, as shown in the connection diagram (see Figure 8).
2. Use Channel 1 and Channel 2 on the oscilloscope to monitor the ADM8613-EVALZ RESET# pin and VCC pin, respectively.
3. Use an external jumper to short the ADM8613-EVALZ LED pin and to monitor the RESET# pin with the built in LED.
4. For the default configuration, set the ADM8613-EVALZ VCC pin voltage to 2.5 V and use an external jumper to short the middle pin of the ADM8613-EVALZ WD_DIS pin to ground.
5. Take the following steps to check the watchdog timer and the output:
   a. During the default configuration, the ADM8613-EVALZ RESET# pin output alternately goes from high to low and from low to high. The built in LED also turns from on to off and from off to on. The duration that the ADM8613-EVALZ RESET# pin is high and the built in LED is on is equivalent to the watchdog timeout period. The duration that the ADM8613-EVALZ RESET# pin is low and the built in LED is off is equivalent to the reset timeout period.
   b. Change the configuration of the external jumper on the ADM8613-EVALZ WD_DIS pin and use it to short the middle pin of the ADM8613-EVALZ WD_DIS pin to VCC. This configuration disables the watchdog timer. The ADM8613-EVALZ RESET# pin maintains its output to high and the built in LED to the on state when the watchdog timer is disabled.
   c. Keep the external jumper on the ADM8613-EVALZ WD_DIS pin to VCC.
6. Take the following steps to check the manual reset JP1 tact switch and the output:
   a. Press and hold the ADM8613-EVALZ JP1 tact switch to short the ADM8613 $\overline{MR}$ pin to ground. The built in LED turns off and the ADM8613-EVALZ RESET# pin goes low.
   b. Release the ADM8613-EVALZ JP1 tact switch. The built in LED turns from off to on and the ADM8613-EVALZ RESET# pin goes from low to high.
7. Take the following steps to check the input:
   a. Vary the supply voltage of the ADM8613-EVALZ VCC pin slowly from 2.5 V to 2 V while monitoring the ADM8613-EVALZ RESET# pin waveform until the RESET# pin goes low. Record the $V_{CC\_RESET\_THRESH\_FALL}$ voltage of the VCC pin at the point where the RESET# pin goes low.
   b. Vary the supply voltage of the ADM8613-EVALZ VCC pin slowly from 2 V to 2.5 V while monitoring the ADM8613-EVALZ RESET# pin waveform until the RESET# pin goes high. Record the $V_{CC\_RESET\_THRESH\_RISE}$ voltage of the VCC pin at the point where the RESET# pin goes high.
   The value of $V_{CC\_RESET\_THRESH\_RISE}$ and $V_{CC\_RESET\_THRESH\_FALL}$ on the ADM8613-EVALZ is about 2.32 V (2.290 V to 2.350 V).
8. Take the following steps to check the watchdog input and the output:
   a. Use the default configuration of the ADM8613-EVALZ in Step 4.
   b. Apply a 1 kHz square wave with a logic high level of 2 V and logic low level of 0 V to the ADM8613-EVALZ WDI pin. The ADM8613-EVALZ RESET# pin maintains its output to high and the built in LED remains in the on state.

ADM8614-EVALZ

This section explains how to evaluate the performance of the ADM8614. Refer to Figure 4, Figure 9, Figure 14, Figure 22, and Figure 24 for proper setup, and use the following procedure:

1. Connect the power supply and the oscilloscope to the ADM8614-EVALZ, as shown in the connection diagram (see Figure 9).
2. Use Channel 1 and Channel 2 on the oscilloscope to monitor the ADM8614-EVALZ RESET# pin and VCC pin, respectively.
3. Use an external jumper to short the ADM8614-EVALZ LED pin and to monitor the RESET# pin with the built in LED.
4. Take the following steps for the default configuration:
   a. Set the ADM8614-EVALZ VCC pin voltage to 3 V.
   b. Use an external jumper to short the middle pin of the ADM8614-EVALZ WD_DIS pin to ground.
   c. Use another external jumper to short the middle pin of the ADM8614-EVALZ WDT_SEL pin to ground.
5. Take the following steps to check the watchdog timer and the output:
   a. During the default configuration, the ADM8614-EVALZ RESET# pin output alternately goes from high to low and from low to high. The built in LED also turns from on to off and from off to on. The duration that the ADM8614-EVALZ RESET# pin is high and the built in LED is on is equivalent to the watchdog timeout period. The duration that the ADM8614-EVALZ RESET# pin is low and the built in LED is off is equivalent to the reset timeout period.
   b. Change the external jumper connection on the ADM8614-EVALZ WD_DIS pin from ground to VCC. This configuration disables the watchdog timer. The ADM8614-EVALZ RESET# pin maintain its output to high and the built in LED to the on state.

c. Keep the external jumper on the ADM8613-EVALZ WD_DIS pin to VCC.

6. Take the following steps to check the input:
   a. Vary the supply voltage of the ADM8614-EVALZ VCC pin slowly from 3 V to 2.5 V while monitoring the ADM8614-EVALZ RESET# pin waveform until the RESET# pin goes low. Record the $V_{CC\_RESET\_THRESH\_FALL}$ voltage of the VCC pin at the point where the RESET# pin goes low.
   b. Vary the supply voltage of the ADM8614-EVALZ VCC pin slowly from 2.5 V to 3 V while monitoring the ADM8614-EVALZ RESET# pin waveform until the RESET# pin goes high. Record the $V_{CC\_RESET\_THRESH\_RISE}$ voltage of the VCC pin at the point where the RESET# pin goes high.
   The value of $V_{CC\_RESET\_THRESH\_FALL}$ and $V_{CC\_RESET\_THRESH\_RISE}$ on the ADM8614-EVALZ is about 2.63 V (2.596 V to 2.664 V).
7. Take the following steps to check the watchdog timeout selection and the output:
   a. Change the external jumper connection on the ADM8614-EVALZ WDT_SEL pin from ground to VCC.
   b. Change the external jumper connection on the ADM8614-EVALZ WD_DIS pin from VCC to ground.
   c. The ADM8614-EVALZ RESET# pin output alternately goes from high to low and from low to high. The built in LED turns from on to off and from off to on. The duration that the ADM8614-EVALZ RESET# pin is high and the built in LED is on is equivalent to a longer watchdog timeout period of 100 sec (typical).
8. Take the following steps to check the watchdog input and the output:
   a. Change the external jumper connections to the default configuration in Step 4.
   b. Apply a 1 kHz square wave with a logic high level of 2 V and a logic low level of 0 V to the ADM8614-EVALZ WDI pin. The ADM8613-EVALZ RESET# pin maintains its output to high and the built in LED remains in the on state.

ADM8615-EVALZ

This section explains how to evaluate the performance of the ADM8615. Refer to Figure 5, Figure 10, Figure 15, Figure 23, and Figure 25 for proper setup, and use the following procedure:

1. Connect the power supply and the oscilloscope to the ADM8615-EVALZ, as shown in the connection diagram (see Figure 10).
2. Use Channel 1 and Channel 2 on the oscilloscope to monitor the ADM8615-EVALZ RESET# pin and VCC pin, respectively.
3. Use an external jumper to short the ADM8615-EVALZ LED pin and to monitor the RESET# pin with the built in LED.
4. Use an external jumper to short the ADM8615-EVALZ VCC_SEL pin and to combine the ADM8615-EVALZ VCC pin and INPUT pin. This combination causes the low voltage monitoring level on the ADM8615-EVALZ INPUT pin to equal half of the voltage on the ADM8615-EVALZ VCC pin.
5. Check the watchdog timer and the output. During the default configuration, the ADM8615-EVALZ RESET# pin output alternately goes from high to low and from low to high. The built in LED also turns from on to off and from off to on. The duration that the ADM8615-EVALZ RESET# pin is high and the built in LED is on is equivalent to the watchdog timeout period. The duration that the ADM8615-EVALZ RESET# pin is low and the built in LED is off is equivalent to the reset timeout period.
6. Take the following steps to check the manual reset JP1 tact switch and the output:
   a. Press and hold the ADM8615-EVALZ JP1 tact switch to short the ADM8615 $\overline{MR}$ pin to ground. The built in LED turns off and the ADM8615-EVALZ RESET# pin goes low.
   b. Release the ADM8615-EVALZ JP1 tact switch. The built in LED turns from off to on and the ADM8615-EVALZ RESET# pin goes from low to high.
7. Take the following steps to check the input:
   a. Vary the supply voltage of the ADM8615-EVALZ VCC pin slowly from 2.5 V to 1.5 V while monitoring the ADM8615-EVALZ RESET# pin waveform until the RESET# pin goes low. Record the $V_{CC\_RESET\_THRESH\_FALL}$ voltage of the VCC pin at the point where the RESET# pin goes low.
   b. Vary the supply voltage of the ADM8615-EVALZ VCC pin slowly from 1.5 V to 2.5 V while monitoring the ADM8615-EVALZ RESET# pin waveform until the RESET# pin goes high. Record the $V_{CC\_RESET\_THRESH\_RISE}$ voltage of the VCC pin at the point where the RESET# pin goes high.

The value of $V_{CC\_RESET\_THRESH\_FALL}$ and $V_{CC\_RESET\_THRESH\_RISE}$ on the ADM8615-EVALZ is about 2 V (1.968 V to 2.032 V) and the actual threshold on the ADM8615 VIN device pin is about 1.00 V (0.984 V to 1.016 V). The ADM8615-EVALZ INPUT pin can be controlled separately if the jumper at the ADM8615-EVALZ VCC_SEL pin is not connected. To adjust the monitoring voltage level at the ADM8615-EVALZ INPUT pin, select a divider combination for R3 and R4 in the schematic shown in Figure 15.

To check the watchdog input and the output, apply a 1 kHz square wave with a logic high level of 2 V and a logic low level 0 V to the ADM8615-EVALZ WDI pin. The ADM8615-EVALZ RESET# pin maintains its output to high, and the built in LED remains in the on state.

EVALUATION BOARD SCHEMATICS AND ARTWORK

SCHEMATICS

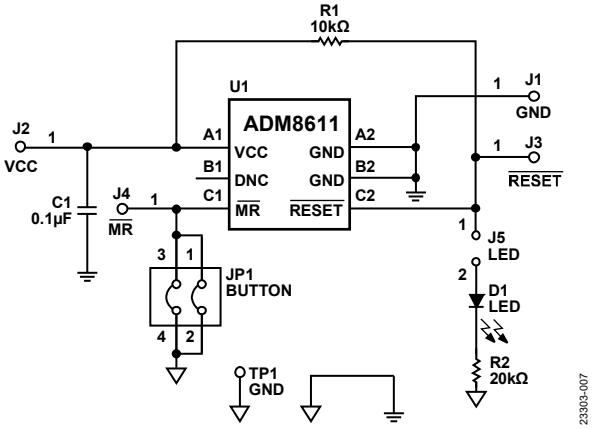

Figure 11. ADM8611-EVALZ Schematic

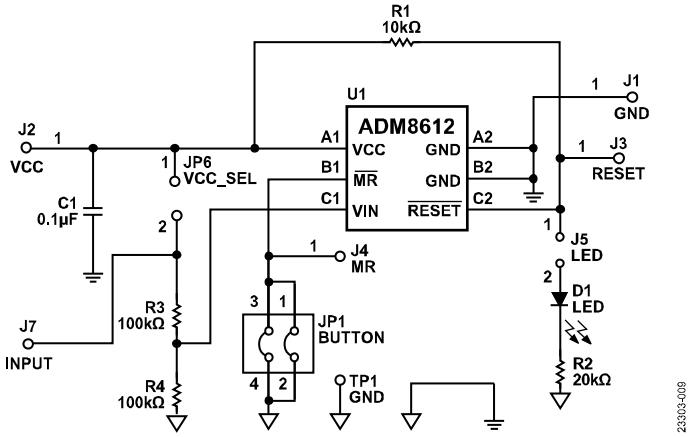

Figure 12. ADM8612-EVALZ Schematic

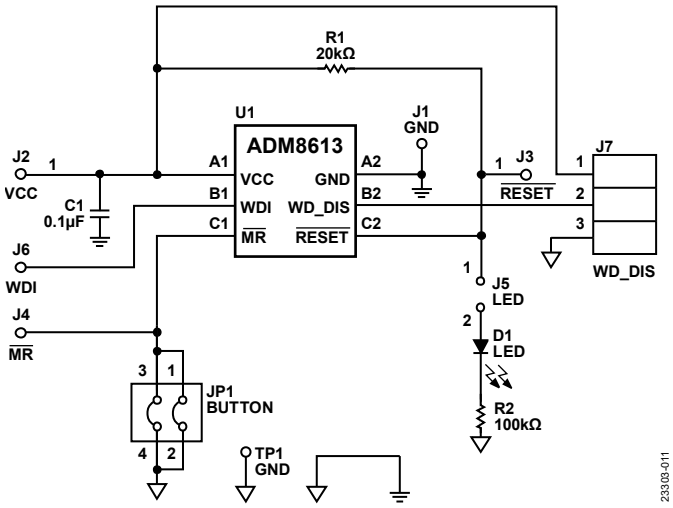

Figure 13. ADM8613-EVALZ Schematic

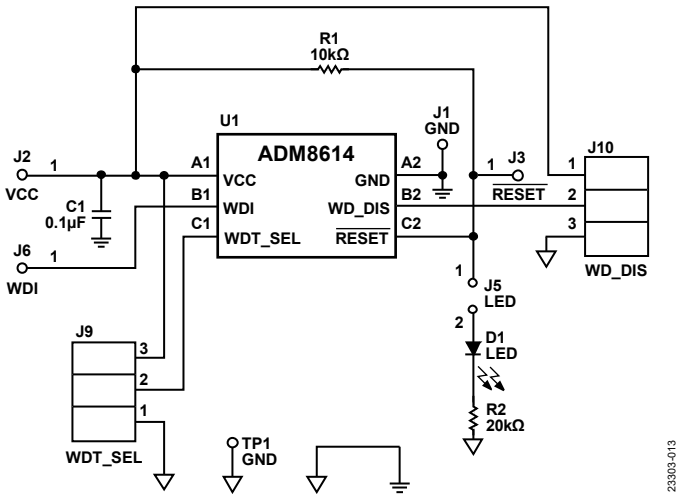

Figure 14. ADM8614-EVALZ Schematic

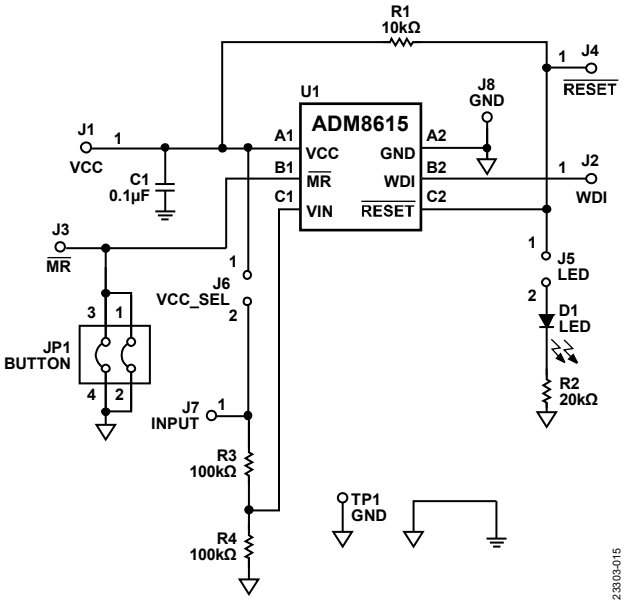

Figure 15. ADM8615-EVALZ Schematic

PCB LAYOUT

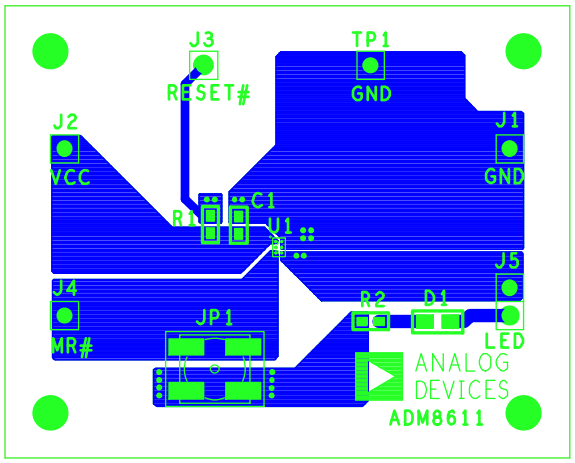

Figure 16. ADM8611-EVALZ Top Assembly

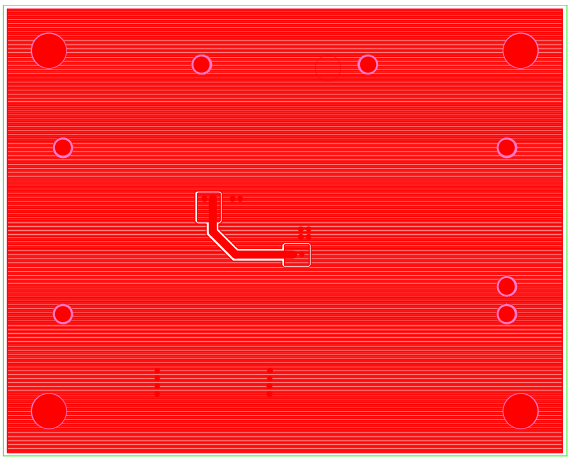

Figure 19. ADM8611-EVALZ Bottom Assembly

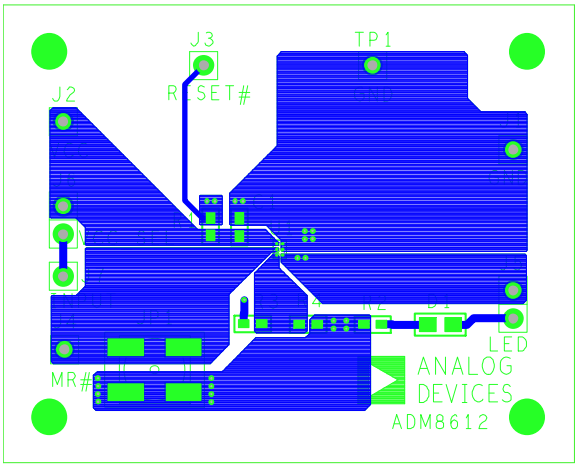

Figure 17. ADM8612-EVALZ Top Assembly

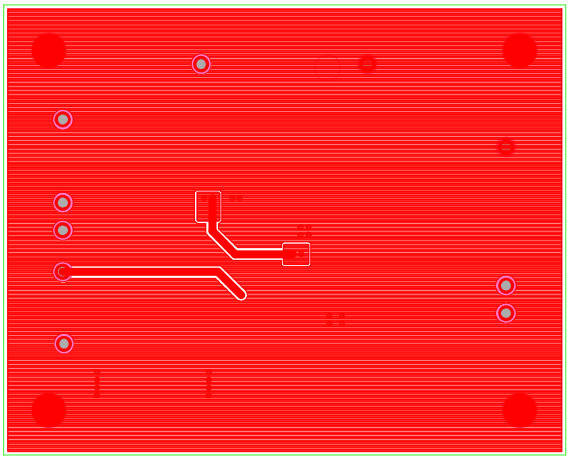

Figure 20. ADM8612-EVALZ Bottom Assembly

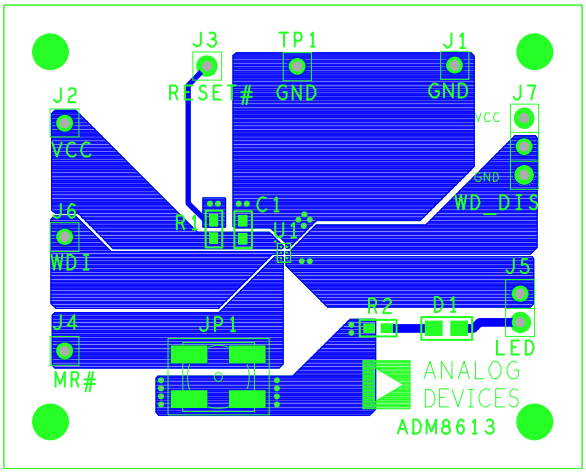

Figure 18. ADM8613-EVALZ Top Assembly

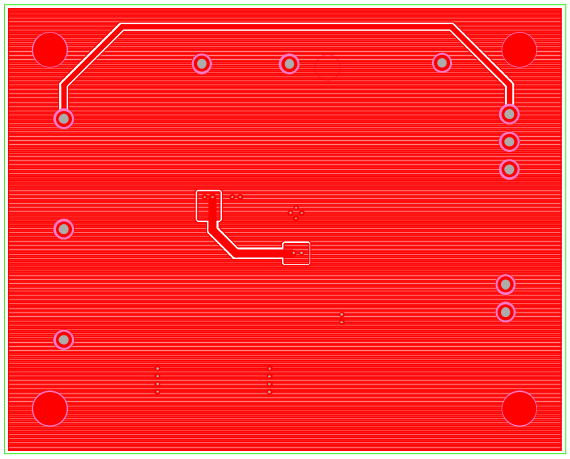

Figure 21. ADM8613-EVALZ Bottom Assembly

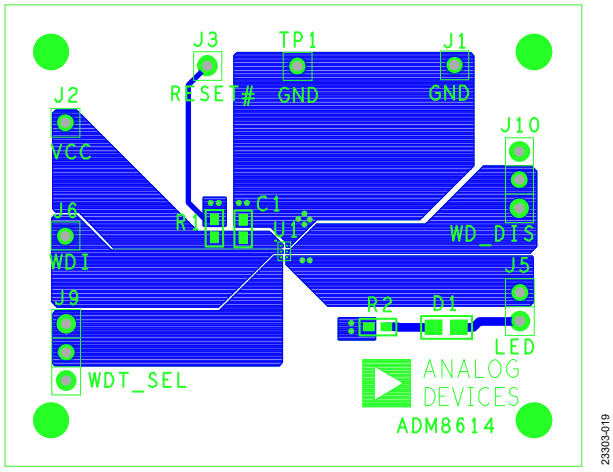

Figure 22. ADM8614-EVALZ Top Assembly

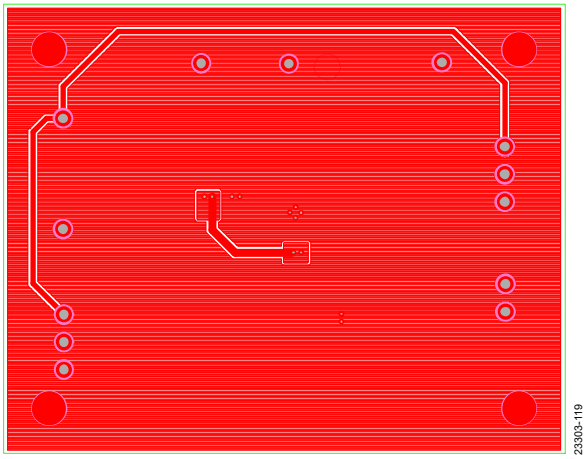

Figure 24. ADM8614-EVALZ Bottom Assembly

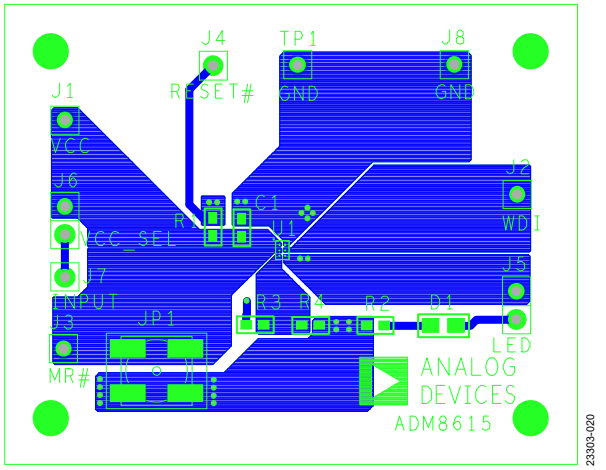

Figure 23. ADM8615-EVALZ Top Assembly

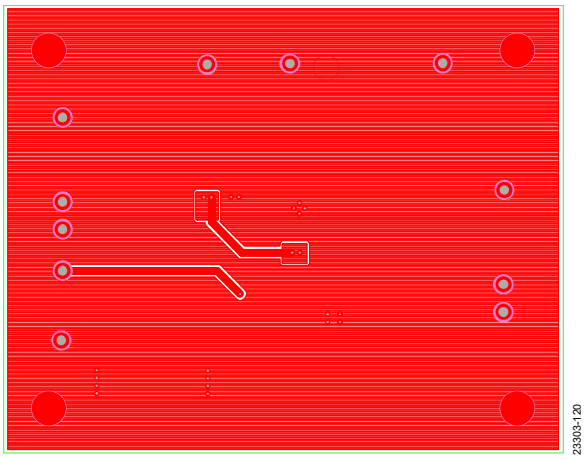

Figure 25. ADM8615-EVALZ Top Bottom Assembly

BILL OF MATERIALS

Table 2. ADM8611 Bill of Materials

Qty	Reference	Description	Part Number	Vendor
1	C1	0.1 µF capacitor, C0603	GRM188R71H104KA93	Murata
1	D1	LED, R0805	SML-LXT0805IW-TR	Lumex
1	J1	GND pin/test point	61304011121	Würth Elektronik
1	J2	VCC pin/test point	61304011121	Würth Elektronik
1	J3	Reset pin/test point	61304011121	Würth Elektronik
1	J4	Manual reset pin/test point	61304011121	Würth Elektronik
1	J5	LED pin/test point	61304011121	Würth Elektronik
1	JP1	Tact switch	KT11P3JM34LFS	C&K
1	R1	10 kΩ, 1% resistor, R0603	CRCW060310K0FKEA	Vishay Dale
1	R2	20 kΩ, 1% resistor, R0603	CRCW060320K0FKEA	Vishay Dale
1	TP1	GND pin/test point	61304011121	Würth Elektronik
1	U1	ADM8611, 6-ball WLCSP	ADM8611N263ACBZ-R7	Analog Devices

Table 3. ADM8612 Bill of Materials

Qty	Reference	Description	Part Number	Vendor
1	C1	0.1 µF capacitor, C0603	GRM188R71H104KA93	Murata
1	D1	LED, R0805	SML-LXT0805IW-TR	Lumex
1	JP1	Tact switch	KT11P3JM34LFS	C&K
2	TP1, J1	GND pin/test point	61304011121	Würth Elektronik
1	J2	VCC pin/test point	61304011121	Würth Elektronik
1	J3	Reset pin/test point	61304011121	Würth Elektronik
1	J4	Manual reset pin/test point	61304011121	Würth Elektronik
1	J5	LED pin/test point	61304011121	Würth Elektronik
1	J6	VIN input selector pin/test point	61304011121	Würth Elektronik
1	J7	VIN input pin/test point	61304011121	Würth Elektronik
1	R1	10 kΩ, 1% resistor, R0603	CRCW060310K0FKEA	Vishay Dale
1	R2	20 kΩ, 1% resistor, R0603	CRCW060320K0FKEA	Vishay Dale
2	R3, R4	100 kΩ, 1% resistor, R0603	CRCW0603100KFKEA	Vishay Dale
1	U1	ADM8612, 6-ball WLCSP	ADM8612N110ACBZ-R7	Analog Devices

Table 4. ADM8613 Bill of Materials

Qty	Reference	Description	Part Number	Vendor
1	C1	0.1 µF capacitor, C0603	GRM188R71H104KA93	Murata
1	D1	LED, R0805	SML-LXT0805IW-TR	Lumex
1	JP1	Tact switch	KT11P3JM34LFS	C&K
2	TP1, J1	GND pin/test point	61304011121	Würth Elektronik
1	J2	VCC pin/test point	61304011121	Würth Elektronik
1	J3	Reset pin/test point	61304011121	Würth Elektronik
1	J4	Manual reset pin/test point	61304011121	Würth Elektronik
1	J5	LED pin/test point	61304011121	Würth Elektronik
1	J6	Watchdog timer input pin/test point	61304011121	Würth Elektronik
1	J7	Watchdog disable input selector pin/test point	61304011121	Würth Elektronik
1	R1	20 kΩ, 1% resistor, R0603	CRCW060320K0FKEA	Vishay Dale
1	R2	100 kΩ, 1% resistor, R0603	CRCW0603100KFKEA	Vishay Dale
1	U1	ADM8613, 6-ball WLCSP	ADM8613Y232ACBZ-R7	Analog Devices

Table 5. ADM8614 Bill of Materials.

Qty	Reference	Description	Part Number	Vendor
1	C1	0.1 µF capacitors, C0603	GRM188R71H104KA93	Murata
1	D1	LED, R0805	SML-LXT0805IW-TR	Lumex
2	TP1, J1	GND pin/test point	61304011121	Würth Elektronik
1	J2	VCC pin/test point	61304011121	Würth Elektronik
1	J3	Reset pin/test point	61304011121	Würth Elektronik
1	J5	LED pin/test point	61304011121	Würth Elektronik
1	J6	Watchdog timer input pin/test point	61304011121	Würth Elektronik
1	J9	Watchdog timeout selector pin/test point	61304011121	Würth Elektronik
1	J10	Watchdog disable input selector pin/test point	61304011121	Würth Elektronik
1	R1	10 kΩ, 1% resistor, R0603	CRCW060310K0FKEA	Vishay Dale
1	R2	20 kΩ, 1% resistor, R0603	CRCW060320K0FKEA	Vishay Dale
1	U1	ADM8614, 6-ball WLCSP	ADM8614Y263ACBZ-R7	Analog Devices

Table 6. ADM8615 Bill of Materials.

Qty	Reference	Description	Part Number	Vendor
1	C1	0.1 µF capacitor, C0603	GRM188R71H104KA93	Murata
1	D1	LED, R0805	SML-LXT0805IW-TR	Lumex
1	JP1	Tact switch	KT11P3JM34LFS	C&K
1	J1	VCC pin/test point	61304011121	Würth Elektronik
1	J2	Watchdog timer input pin/test point	61304011121	Würth Elektronik
1	J3	Manual reset pin/test point	61304011121	Würth Elektronik
1	J4	Reset pin/test point	61304011121	Würth Elektronik
1	J5	LED pin/test point	61304011121	Würth Elektronik
1	J6	VIN input selector pin/test point	61304011121	Würth Elektronik
1	J7	VIN input pin/test point	61304011121	Würth Elektronik
2	TP1, J8	GND pin/test point	61304011121	Würth Elektronik
1	R1	10 kΩ, 1% resistor, R0603	CRCW060310K0FKEA	Vishay Dale
1	R2	20 kΩ, 1% resistor, R0603	CRCW060320K0FKEA	Vishay Dale
2	R3, R4	100 kΩ, 1% resistor, R0603	CRCW0603100KFKEA	Vishay Dale
1	U1	ADM8615, 6-ball WLCSP	ADM8615Y100ACBZ-R7	Analog Devices

NOTES

ESD Caution
ESD (electrostatic discharge) sensitive device. Charged devices and circuit boards can discharge without detection. Although this product features patented or proprietary protection circuitry, damage may occur on devices subjected to high energy ESD. Therefore, proper ESD precautions should be taken to avoid performance degradation or loss of functionality.

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