MAX32010 Evaluation Kit

Evaluates: MAX32010

General Description

The MAX32010 evaluation kit (EV kit) is a fully assembled and tested printed circuit board (PCB) design that evaluates the functionality of device power supply (DPS) IC MAX32010, which has 25V span output voltage and programmable current ranges up to 1.2A.

The MAX32010 EV kit contains a microcontroller (MCU) that translates between the SPI interface and USB to allow the user to configure internal registers and modes with graphical user interface (GUI) software running on a PC. The EV kit includes Windows® 10-compatible software that provides a simple GUI for configuration of all the MAX32010 registers through SPI. The EV kit is fully assembled and tested at the factory.

This document provides a list of equipment required to evaluate the device, a straightforward test procedure to verify functionality, a description of the EV kit circuit, component list, circuit schematic, and artwork for each layer of the PCB. The MAX32010 EV kit PCB comes with a MAX32010DCCQ+ installed.

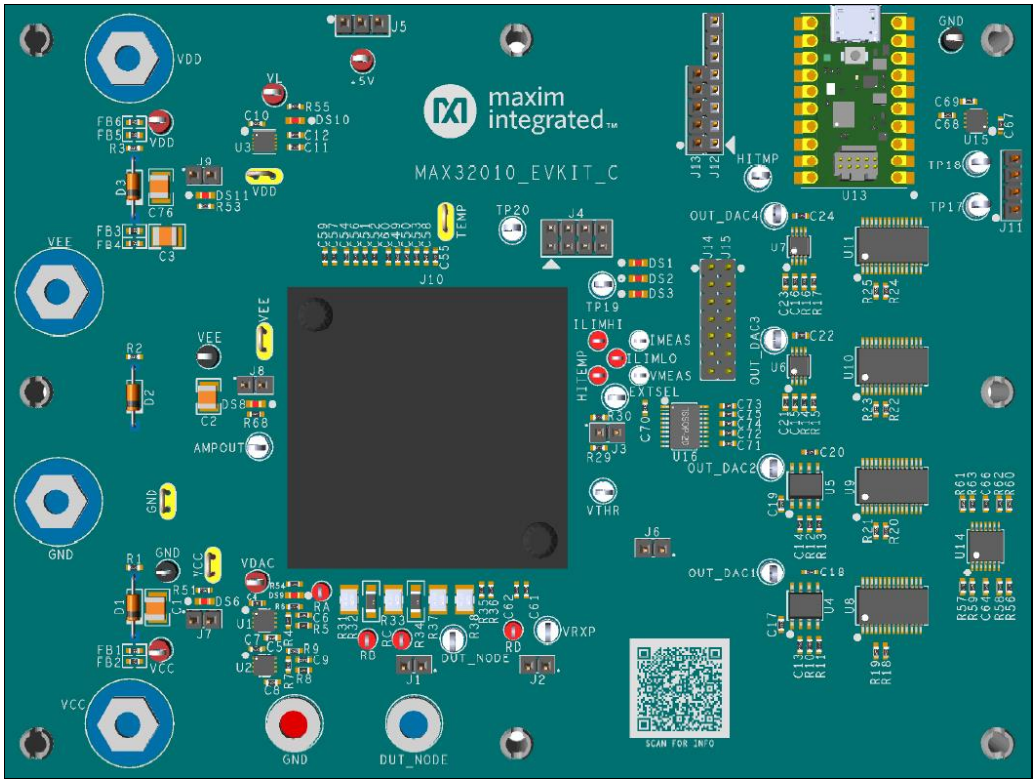
Features

Easy Evaluation of the MAX32010 EV kit

- On-Board Voltage Reference (MAX6126)
- On-Board DACs for Level Setting
- On-Board ADC for Measurements
- On-Board Regulators Generate All the Required Voltages from ±12V
- USB Interface
- Headers for External SPI and DACs
- Proven PCB Layout
- Includes Heatsink and Fan
- Fully Assembled and Tested

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

EV Kit Top View



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Quick Start

Required Equipment

This section lists the recommended test equipment to verify operation of the MAX32010. It is intended as a guide only and substitutions are possible.

- MAX32010 EV kit
- Windows PC (Windows 10) with one USB2.0 port
- Triple Output DC power supply
  - +12V/1.5A
  - -12V/1.5A
  - +5V/500mA
- Digital voltmeter and ammeter

Software and Drivers

The MAX32010 EV kit is used in conjunction with the Arm® Cortex®-M4 processor with FPU MAX32625PICO application platform to control the device through a software application or GUI.

Install the MAX32010 EV Kit GUI Software

Download the MAX32010 EV kit software from the Maxim Integrated website. See the *Appendix* section for detailed instructions to install the EV kit software. The installation process takes less than 10 minutes after downloading the software package.

Procedure

1) Place the MAX32010 EV kit on a nonconductive surface to ensure that nothing on the PCB gets shorted to the workspace.
2) Set all jumpers in their default position as mentioned in Table 1.
3) Connect the USB cable from PC to EV kit.
4) Apply +12V to VCC, -12V to VEE, and +5V to VDD.
5) Start the MAX32010 EV kit software by opening its icon in the **Start | Programs** menu. The EV kit software main window appears, as shown in Figure 1.
6) In the **Max32010 Settings** group box, click on the **FV** radio button in the **Measurement Mode** group box and click **Write** button.
7) In the **DAC Settings** group box, change the voltage for VIN to +1V and click **Write** button.
8) Check that the output voltage at DUT_NODE is close to +1V. Figure 1 shows the MAX32010 EV kit quick start settings.

Detailed Description of Software

The main window of the evaluation kit software is shown in Figure 1.

The MAX32010 GUI is organized into four group boxes for all level setting registers and control signal settings, along with the **File** menu to save and load all these settings.

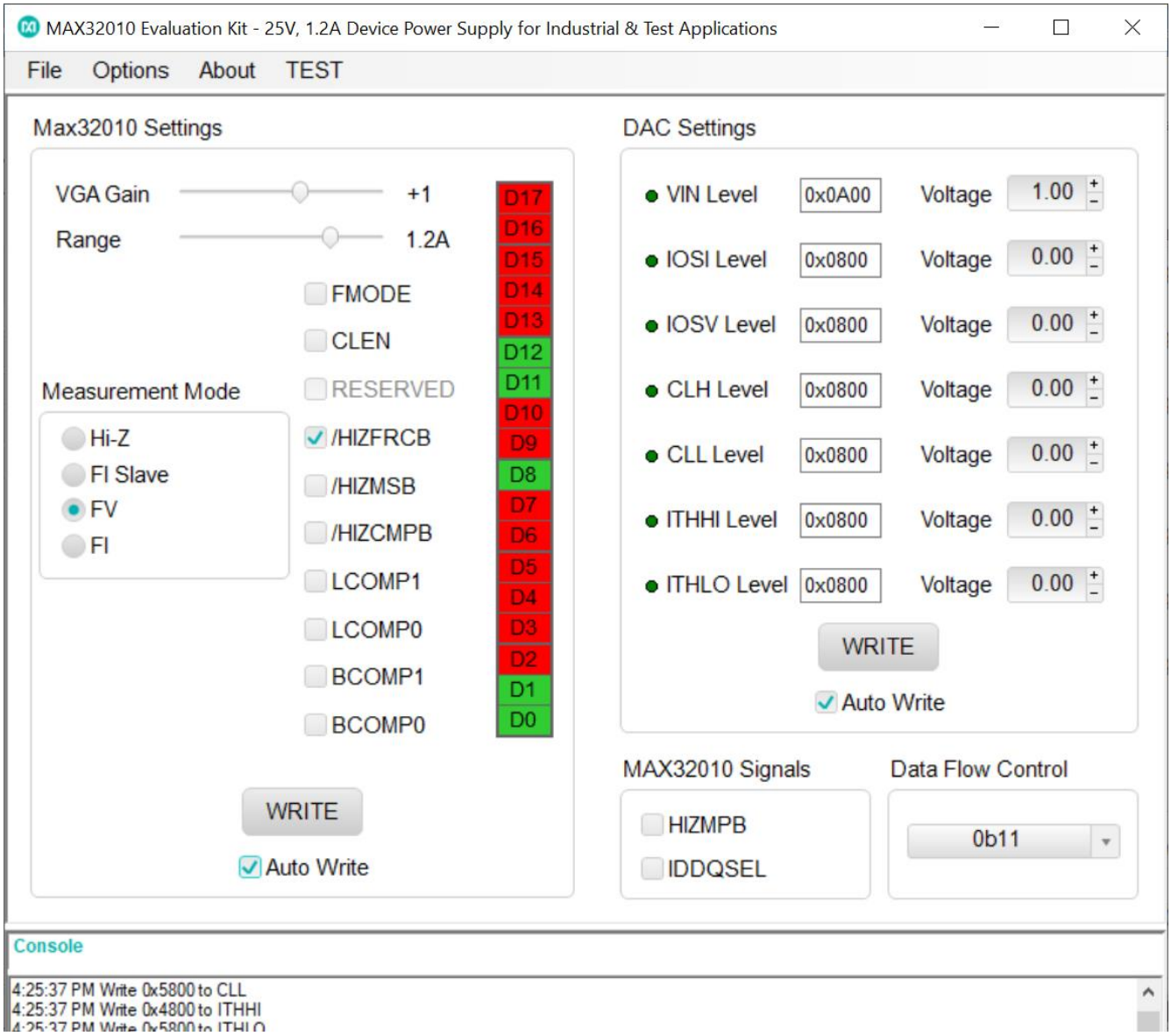


Figure 1. MAX32010 EV Kit Quick Start Settings

1) **MAX32010 Settings:** The MAX32010 can be quickly configured through control register settings. An 18-bit word programs the MAX32010.

   The **Measurement Mode** group box is a quick way to set the MAX32010 to force voltage (FV), force current (FI), force current as a slave device (FI Slave), or place into high impedance (Hi-Z). Bit settings are automatically changed to match the mode settings as follows:

   - In **Hi-Z** mode, all the bits in control register are unchecked.
   - In **FI Slave** mode, FMODE bit is checked and all other bits are unchecked.
   - In **FV** mode, $\overline{\text{HIZFRCB}}$ bit is set and all other bits are unchecked.
   - In **FI** mode, both $\overline{\text{HIZFRCB}}$ and FMODE bits are set and all other bits are unchecked.

   The **Measurement Mode** group box provides the measured voltages at IMEAS and VMEAS pins of the MAX32010.

   Table 1 shows the settings and functionality of these bits in the GUI:

Table 1. Settings and Functions of the GUI Bits

SETTING	FUNCTION
VGA Gain	This horizontal scrollbar controls the gain and polarity of the variable gain amplifiers (VGA).
Range	This horizontal scrollbar controls the full-scale current range for either FI (force current) or MI (measure current) mode.
FMODE	This checkbox selects DPS mode (FV, FI, FI slave, and high impedance).
CLEN	This checkbox enables or disables the voltage and current clamps.
$\overline{\text{HIZFRCB}}$	This checkbox along with FMODE selects DPS mode (FV, FI, FI slave, and high impedance).
$\overline{\text{HIZMSB}}$	This checkbox controls the measure output's high-impedance state.
$\overline{\text{HIZCMPB}}$	This checkbox controls the comparator output's high-impedance state.
LCOMP1 and LCOMP0	These checkboxes enable or disable compensation capacitors.
BCOMP1 and BCOMP0	These checkboxes enable or disable bypass capacitors.

2) **MAX32010 Signals and Data Flow Control:** HIZMPB and IDDQSEL are signals that can be used to control the functionality of the MAX32010. The HIZMPB signal is shared in functionality with the HIZMSB bit and internally both bits are ANDed. It is used either to enable the measurement output or to put the measurement output in the high-impedance state. While in FV mode asserting digital input, IDDQSEL switches the DPS to the minimum current range (range D) and enabling the IDDQ test mode.

   Data flow control bits specify how data transfers from the shift registers to the input and DPS register of the MAX32010. Refer to *Serial Interface Data Flow Control Bits* section in the MAX32010 data sheet for more details. Table 2 shows the options available for controlling the data flow:

Table 2. Data Flow Control Settings

SETTING	DESCRIPTION
00	Input and DPS registers remain unchanged
01	DPS registers get loaded from input register
10	Input registers get loaded from shift register
11	Both DPS and input registers get loaded from shift register

3) **DAC Settings:** The MAX5322 outputs voltages for the MAX32010 device. The output voltages are set by entering values in the corresponding edit boxes and pressing **Enter** on the keyboard or clicking the **Write** button in this specific group box. The edit boxes accept the value of the voltage. Changes in the **DC Level** edit boxes automatically change the hexadecimal values in the **DAC Setting** edit boxes and vice versa. Analog voltages (VIN, IOSI, IOSV, CLH, CLL, ITHHI, and ITHLO) are set by the MAX5322 and appear as the input levels for the MAX32010.

4) **AutoWrite**: The **AutoWrite** checkboxes can be checked to have the software automatically perform write operations. This feature allows the user to change settings and have them updated without pressing the **WRITE** buttons. There is an **AutoWrite** checkbox for writing to the MAX32010 and DACs. Each device can independently perform autowriting. **AutoWrite** is disabled by default.

5) **Menu Options**: The **Save Configuration** option in the **File** menu saves the current configuration in the MAX32010 EV kit software and the **Load Configuration** option in the **File** menu loads the saved configuration in the MAX32010 EV kit software. The **Save Log** option in the **File** menu saves the data log in the console of the MAX3210 EV kit software.

   The **Select Port** in the **Options** menu enables the user to connect to the desired COM port. The **Reset Settings** in the **Options** menu resets all the current settings in the MAX32010 EV kit software.

Detailed Description of Hardware

The MAX32010 EV kit is a fully assembled and tested circuit board for evaluating the MAX32010 device power supply. The MAX5322 DAC provides the analog voltages to the MAX32010 DPS. The MAX32625PICO microcontroller controls SPI data transfer with both MAX32010 DPS and MAX5322 DACs. The various test points are available for different signals and LEDs to indicate status information. The EV kit uses banana plugs for the outputs and inputs because of their high-current capability. Fan header is provided to power the fan to cool the MAX32010 DPS. Operating without the fan does not damage the MAX32010 DPS even at high current because it has a thermal shutdown feature that turns off the IC when the die temperature exceeds the thermal limit. The thermal limit reaches quickly without airflow from the fan. Below Figure 2 shows the block diagram of the MAX32010 EV kit.

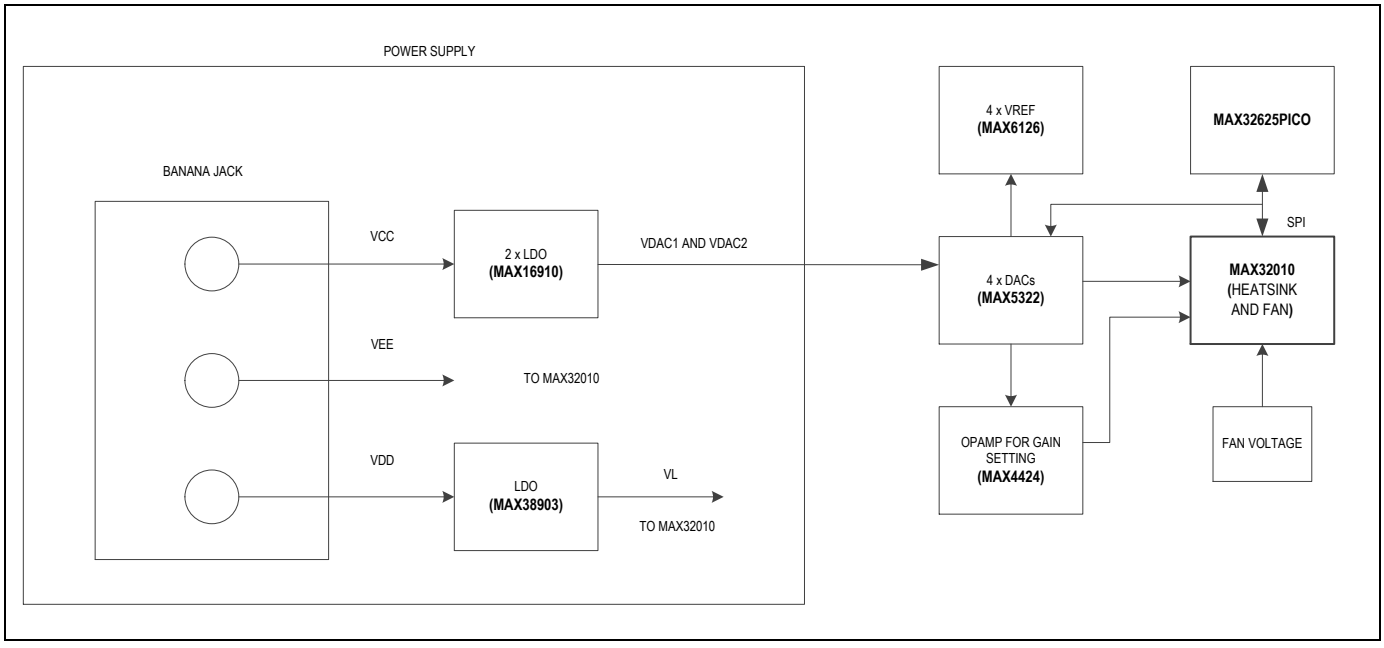


Figure 2. MAX32010 EV Kit Block Diagram

Powering the Board

The MAX32010 EV kit is powered by +12V, -12V, and +5V. On-board regulators generate DAC supply voltage (+11V) and VL (+3V). External power supplies are used by default, but changing the jumper position on J7, J8, and J9 allows the user-supplied power. See Table 3 for jumper configurations. User-supplied power is useful when isolating the supply current to individual devices. The USB-to-SPI circuitry is fully powered by USB connections and can be used without banana jack supplies. Power is always present before the software runs.

On-Board Headers (Interface) and Test Points

Table 3 shows the jumper header, shunt position, and description.

Table 3. Jumper Settings

JUMPER	SHUNT POSITION	DESCRIPTION
J1	Open*	Connects SENSE to DUT_NODE
J2	Open*	Connects DUTGSNS to GND
J3	Open*	Connects VTHR to GND
J4	Open*	Provides various signals (AMPOUT, IPAR, VINS, EXTSEL, and VTHR) on the header for external connection
J5 JU12	1-2*	Turns on the fan on heatsink
	2-3	Turns off the fan on heatsink
J6	Open*	Connects to 5V supply of fan
J7	1-2*	Connects VCC from power jack to VCC of the MAX32010
J8	1-2*	Connects VEE from power jack to VEE of the MAX32010
J9	1-2*	Connects VDD from power jack to VDD of the MAX32010
J11	Open*	MAX32625PICO signals (TEMP, ILIMLO, ILIMHI, and HITEMP)
J12	Closed*	MAX32625PICO SPI signals (LOADB, SCLK, DIN, DOUT, SS_MAX9959, SS_ADC, SS_DAC3, and SS_DAC1)
J13	Closed*	MAX32010 SPI signals (LOADB, SCLK, DIN, DOUT, SS_MAX9959)
J14	Closed*	MAX32010 DAC signals
J15	Closed*	MAX5322 DAC signals

**Indicates default jumper state.*

Table 4. Test Points

JUMPER	DESCRIPTION
VCC	Power Input: Apply positive voltage from DC power supply in range of +12V to +18V
VEE	Power Input: Apply negative voltage from DC power supply in range of -12V to -15V
VDD	Power Input: Apply positive voltage from DC power supply +5V
VDAC1, VDAC2	LDO output voltage for DACs
VL	LDO output voltage for VL power domain of the MAX32010
OUT_DAC1, OUT_DAC2, OUT_DAC3, OUT_DAC4	DAC output voltage
RA, RB, RC, RD	Test point to measure the voltage across sense resistors, connected to the MAX32010 for different current ranges
DUT_NODE	Range A/B/C/D output, to which load resistor gets connected
VTHR	Threshold voltage input. Sets the input logic threshold level of all digital inputs
EXTSEL	External Select Output. Selects the external range

HITEMP	Temperature Monitor Output. Temp outputs a voltage proportional to die temperature 10mV/K
ILIMHI, ILIMLO	Low-Current and High-Current Limit Output. This output is triggered if the load current is above ILIMHI or below ILIMLO
AMPOUT	Main Amplifier Output. Drives the external buffer when in external range mode

**Indicates default jumper state.*

Ordering Information

PART	TYPE
MAX32010EVKIT#	EV Kit

#Denotes RoHS compliance.

MAX32010 EV Kit Bill of Materials

ITEM	REF_DES	DNI/DNP	QTY	MFG PART #	MANUFACTURER	VALUE	DESCRIPTION	COMMENTS
1	AMPOUT, EXTSEL, HITMP, TP9-TP13, TP17-TP20, VRXP, VTHR	-	14	5012	KEYSTONE	N/A	TEST POINT; PIN DIA=0.125IN; TOTAL LENGTH=0.445IN; BOARD HOLE=0.063IN; WHITE; PHOSPHOR BRONZE WIRE SILVER PLATE FINISH;	
2	C1-C3, C76	-	4	C1210C106K3RAC;GRM32DR71E106K;GCM32ER71E106KA57;CGA6P1X7R1E106K250AC;GCJ32ER71E106KA18	KEMET;MURATA;MURATA;TDK;MURATA	10UF	CAPACITOR; SMT (1210); CERAMIC CHIP; 10UF; 25V; TOL=10%; MODEL=; TG=-55 DEGC TO +125 DEGC; TC=X7R	
3	C4, C7, C69, C74, C75	-	5	GRM188R71E105KA12;CGA3E1X7R1E105K;TMK107B7105KA;06033C105KAT2A;GCM188R71E105KA64;C1608X7R1E105K080AE;CGA3E1X7R1E105K080AC	MURATA;TDK;TAIYO YUDEN;AVX;MURATA;TAIYO YUDEN;TDK	1UF	CAPACITOR; SMT (0603); CERAMIC CHIP; 1UF; 25V; TOL=10%; TG=-55 DEGC TO +125 DEGC; TC=X7R	
4	C5, C8	-	2	C0603C102K1GAC;C16	KEMET;TDK	1000PF	CAPACITOR; SMT (0603); CERAMIC	

ITEM	REF_DES	DNI/DNP	QTY	MFG PART #	MANUFACTURER	VALUE	DESCRIPTION	COMMENTS
				08C0G2A102K080AA			CHIP; 1000PF; 100V; TOL=10%; MODEL=C0G; TG=-55 DEGC TO +125 DEGC; TC=	
5	C6, C9, C63, C65	-	4	C1608X5R1E475K080AC; GRM188R61E475KE11	TDK;MURATA	4.7UF	CAPACITOR; SMT (0603); CERAMIC CHIP; 4.7UF; 25V; TOL=10%; TG=-55 DEGC TO +85 DEGC; TC=X5R	
6	C10, C12-C16, C25-C36	-	18	C1608X5R1E106M080AC;CL10A106MA8NRNC; GRM188R61E106MA73;ZRB18AR61E106ME01;GRT188R61E106ME13	TDK;SAMSUNG ELECTRONICS;MURATA;;MURATA	10UF	CAPACITOR; SMT (0603); CERAMIC CHIP; 10UF; 25V; TOL=20%; TG=-55 DEGC TO +85 DEGC; TC=X5R	
7	C11	-	1	C0603C473K5RAC;GRM188R71H473KA61;GCM188R71H473KA55;CGA3E2X7R1H473K080AA	KEMET;MURATA; MURATA;TDK	0.047UF	CAPACITOR; SMT (0603); CERAMIC CHIP; 0.047UF; 50V; TOL=10%; MODEL=X7R; TG=-55 DEGC TO +125 DEGC; TC=X7R	
8	C17-C24, C37-C48, C64, C66-C68, C70-C73	-	28	06033C104JAT2A	AVX	0.1UF	CAPACITOR; SMT (0603); CERAMIC CHIP; 0.1UF; 25V; TOL=5%; TG=-55 DEGC TO +125 DEGC; TC=X7R	
9	C49	-	1	GCM188R71H332KA37	MURATA	3300PF	CAPACITOR; SMT (0603); CERAMIC CHIP; 3300PF; 50V; TOL=10%; TG=-55 DEGC TO +125 DEGC; TC=X7R	
10	C50	-	1	C0603C223K5RAC;GRM188R71H223K;C1608X7R1H223K080AA;GCJ188R71H223KA01	KEMET;MURATA;TDK;MURATA	0.022UF	CAPACITOR; SMT (0603); CERAMIC CHIP; 0.022UF; 50V; TOL=10%; TG=-55 DEGC TO +125 DEGC; TC=X7R	
11	C51, C54, C60	-	3	CC0603KRX7R9BB331	YAGEO	330PF	CAPACITOR; SMT (0603); CERAMIC CHIP; 330PF; 50V; TOL=10%; TG=-55	

ITEM	REF_DES	DNI/DNP	QTY	MFG PART #	MANUFACTURER	VALUE	DESCRIPTION	COMMENTS
							DEGC TO +125 DEGC; TC=X7R	
12	C52, C56	-	2	C0603X7R500-472KNE; GRM188R71H472KA01	VENKEL LTD.;MURATA	4700PF	CAPACITOR; SMT (0603); CERAMIC CHIP; 4700PF; 50V; TOL=10%; MODEL=; TG=-55 DEGC TO +125 DEGC; TC=X7R	
13	C53	-	1	C0603X7R500103JNP;C0603C103J5RAC	VENKEL LTD;KEMET	0.01UF	CAPACITOR; SMT (0603); CERAMIC CHIP; 0.01UF; 50V; TOL=5%; MODEL=X7R; TG=-55 DEGC TO +125 DEGC; TC=+/	
14	C55, C58	-	2	C0603C152K5RAC; C0603X7R500-15	KEMET;VENKEL LTD	1500PF	CAPACITOR; SMT (0603); CERAMIC CHIP; 1500PF; 50V; TOL=10%; MODEL=; TG=-55 DEGC TO +125 DEGC; TC=X7R	
15	C57, C59	-	2	06035C101JAT	AVX	100PF	CAPACITOR; SMT (0603); CERAMIC CHIP; 100PF; 50V; TOL=5%; TG=-55 DEGC TO +125 DEGC; TC=X7R	
16	C61, C62	-	2	C0603C0G500-271JNE; GRM1885C1H271JA01	VENKEL LTD.;MURATA	270PF	CAPACITOR; SMT (0603); CERAMIC CHIP; 270PF; 50V; TOL=5%; MODEL=; TG=-55 DEGC TO +125 DEGC; TC=C0G	
17	DS1-DS3	-	3	LTST-C190CKT	LITE-ON ELECTRONICS INC.	LTST-C190CKT	DIODE; LED; STANDARD; RED; SMT (0603); PIV=5.0V; IF=0.04A; -55 DEGC TO +85 DEGC	RED
18	DS4, DS5, DS6, DS8-DS11	-	7	LTST-C193KGKT-5A	LITE-ON ELECTRONICS INC.	LTST-C193KGKT-5A	DIODE; LED; STANDARD; YELLOW-GREEN; SMT (0603); PIV=1.9V; IF=0.005A; -55 DEGC TO +85 DEGC	(DS4,DS5:GREEN)
19	DUT_NODE, TP14	-	2	575-4	KEYSTONE	575-4	RECEPTACLE; JACK; BANANA; 0.203IN [5.2MM] DIA X 0.218IN	

ITEM	REF_DES	DNI/DNP	QTY	MFG PART #	MANUFACTURER	VALUE	DESCRIPTION	COMMENTS
							[5.5MM] L; 0.203D/0.218L; NICKEL PLATED BRASS	
20	FB1-FB6	-	6	MPZ1608S221ATA00	TDK	220	INDUCTOR; SMT (0603); FERRITE-BEAD; 220; TOL=+/-25%; 2.2A	
21	GND, TEMP, VCC, VDD, VEE	-	5	9020 BUSS	WEICO WIRE	MAXIM PAD	EVK KIT PARTS; MAXIM PAD; WIRE; NATURAL; SOLID; WEICO WIRE; SOFT DRAWN BUS TYPE-S; 20AWG	
22	HITEMP, ILIMHI, ILIMLO, RA, RB, RC, RD	-	7	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;	
23	J1-J3, J6-J9	-	7	PCC02SAAN	SULLINS	PCC02SAAN	CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT THROUGH; 2PINS; -65 DEGC TO +125 DEGC	
24	J4	-	1	PBC04DAAN	SULLINS ELECTRONICS CORP.	PBC04DAAN	CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT; 8PINS; -65 DEGC TO +125 DEGC	
25	J5	-	1	PEC03SAAN	SULLINS	PEC03SAAN	CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT; 3PINS	
26	J10	-	1	4-151502UA77139	COOL INNOVATIONS	4-151502UA77139	MACHINE FABRICATED; HSINK; FAN SINK; 38.1MMX38.1MMX15.6MM ;	
27	MH1-MH8	-	8	9032	KEYSTONE	9032	MACHINE FABRICATED; ROUND-THRU HOLE SPACER; NO THREAD; M3.5; 5/8IN; NYLON	

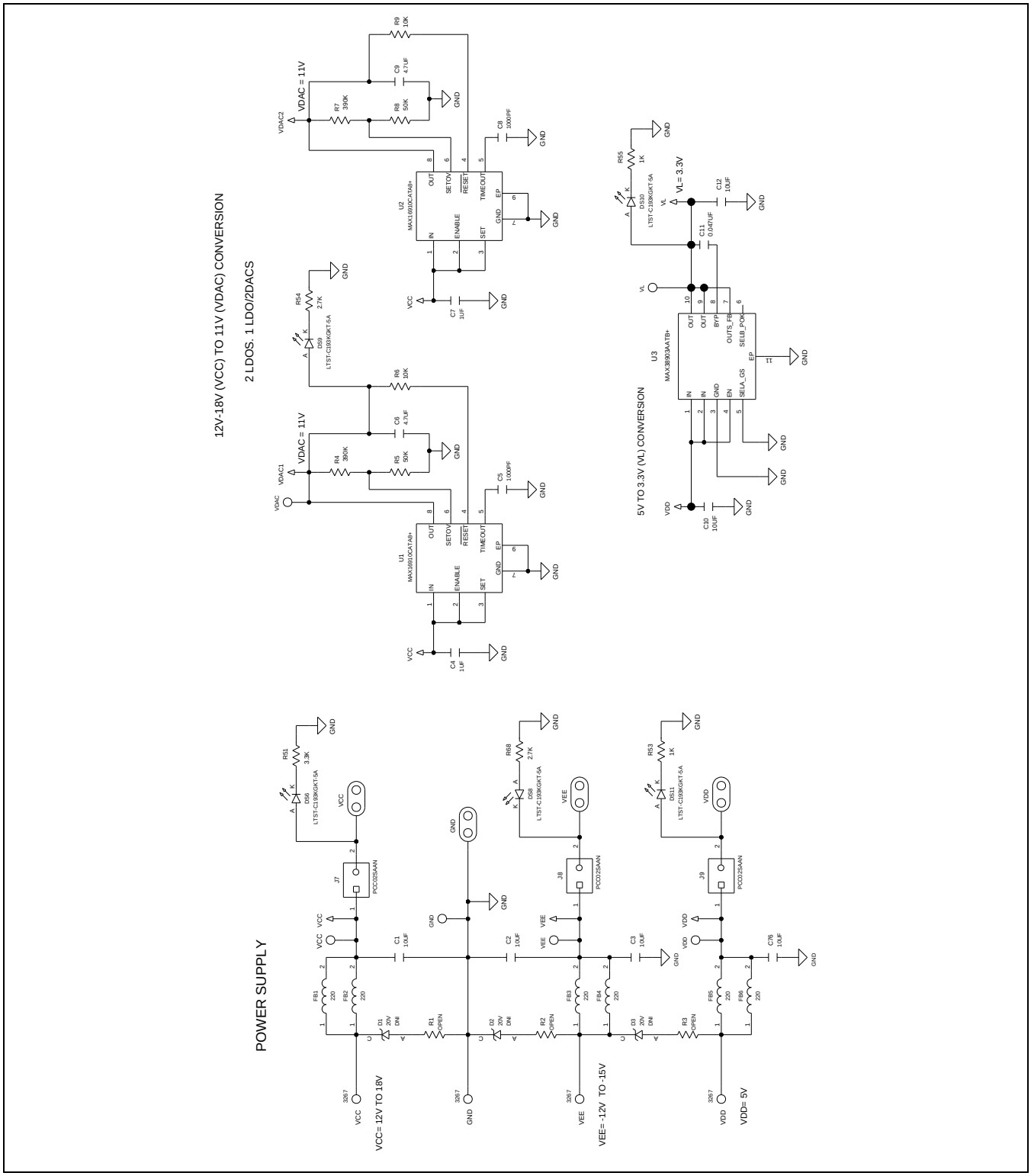
ITEM	REF_DES	DNI/DNP	QTY	MFG PART #	MANUFACTURER	VALUE	DESCRIPTION	COMMENTS
28	R4, R7	-	2	ERJ-3GEYJ394	PANASONIC	390K	RESISTOR; 0603; 390K OHM; 5%; 200PPM; 0.10W; THICK FILM	
29	R5, R8	-	2	PNM0603E5002BS	VISHAY DALE	50K	RESISTOR; 0603; 50K OHM; 0.1%; 25PPM; 0.15W; THIN FILM	
30	R6, R9, R36, R40	-	4	CRCW060310K0FK;ERJ-3EKF1002	VISHAY DALE;PANASONIC	10K	RESISTOR; 0603; 10K; 1%; 100PPM; 0.10W; THICK FILM	
31	R10-R13, R15, R17	-	6	CRCW06030000Z0	VISHAY DALE	0	RESISTOR; 0603; 0 OHM; 0%; JUMPER; 0.1W; THICK FILM	
32	R14, R16, R35, R39, R42, R44, R47, R48, R50	-	9	CRCW06031K00FK;ERJ-3EKF1001	VISHAY DALE;PANASONIC	1K	RESISTOR; 0603; 1K; 1%; 100PPM; 0.10W; THICK FILM	
33	R18-R25	-	8	CRCW060322K0FK	VISHAY DALE	22K	RESISTOR, 0603, 22K OHM, 1%, 100PPM, 0.10W, THICK FILM	
34	R31, R33	-	2	CRCW121010R0FKEAHP;CRGP1210F10R	VISHAY DRALORIC;TE CONNECTIVITY	10	RESISTOR; 1210; 10 OHM; 1%; 100PPM; 0.75W; THICK FILM	
35	R32, R34	-	2	CRCW12061R54FKEAHP	VISHAY	1.54	RES; SMT (1206); 1.54; 1%; +/-100PPM/DEGC; 0.75W	
36	R37, R38	-	2	CRCW1210100RFK	VISHAY DALE	100	RESISTOR; 1210; 100 OHM; 1%; 100PPM; 0.5W; THICK FILM	
37	R41, R43, R45, R46, R49	-	5	TNPW060310K0BE;RN731JTTD1002B	VISHAY DALE;KOA SPEER ELECTRONICS	10K	RESISTOR; 0603; 10K OHM; 0.1%; 25PPM; 0.1W; THICK FILM	
38	R51	-	1	RCW06033K30FK;RC0603FR-073K3L;RK73H1J3301F	VISHAY;YAGEO;VISHAY	3.3K	RESISTOR, 0603, 3.3K OHM, 1%, 100PPM, 0.10W, THICK FILM	
39	R53, R55	-	2	ERJ-3GEYJ102	PANASONIC	1K	RESISTOR; 0603; 1K OHM; 5%; 200PPM; 0.10W; THICK FILM	
40	R54, R68	-	2	CRCW06032K70FK;ERJ-3EKF2701	VISHAY DALE;PANASONIC	2.7K	RESISTOR, 0603, 2.7K OHM, 1%, 100PPM, 0.10W, THICK FILM	

ITEM	REF_DES	DNI/DNP	QTY	MFG PART #	MANUFACTURER	VALUE	DESCRIPTION	COMMENTS
41	R56, R57, R60, R61	-	4	ERJ-3EKF3481	PANASONIC	3.48K	RESISTOR; 0603; 3.48K OHM; 1%; 100PPM; 0.1W; THICK FILM	
42	R58, R59, R62, R63	-	4	RNCP0603FTD2K00	STACKPOLE ELECTRONICS INC.	2K	RESISTOR; 0603; 2K OHM; 1%; 100PPM; 0.125W; THICK FILM	
43	SU1-SU9	-	9	NPC02SXON-RC	SULLINS ELECTRONICS CORP.	NPC02SXON-RC	CONNECTOR; FEMALE; MINI SHUNT; 0.100IN CC; OPEN TOP; JUMPER; STRAIGHT; 2PINS	
44	TP1-TP4	-	4	3267	POMONA ELECTRONICS	3267	CONNECTOR; MALE; PANELMOUNT; STANDARD UNINSULATED BANANA JACK; STRAIGHT; 1PIN	
45	TP5, TP8, TP22, VDAC, VL	-	5	5005	KEYSTONE	N/A	TEST POINT; PIN DIA=0.125IN; TOTAL LENGTH=0.35IN; BOARD HOLE=0.063IN; RED; PHOSPHOR BRONZE WIRE SILVER PLATE FINISH;	
46	TP6, TP7, TP21	-	3	5006	KEYSTONE	N/A	TEST POINT; PIN DIA=0.125IN; TOTAL LENGTH=0.35IN; BOARD HOLE=0.063IN; BLACK; PHOSPHOR BRONZE WIRE SILVER PLATE FINISH;	
47	U1, U2	-	2	MAX16910CATA8+	MAXIM	MAX16910CATA8+	IC; VREG; 0.2A; ULTRA-LOW QUIESCENT CURRENT; LINEAR REGULATOR; TDFN8-EP 3X3	
48	U3	-	1	MAX38903AATB+	MAXIM	MAX38903AATB+	EVKIT PART-IC; PKG. CODE: T1033+1C; PKG. OUTLINE NO.: 21-0137; PACKAGE	

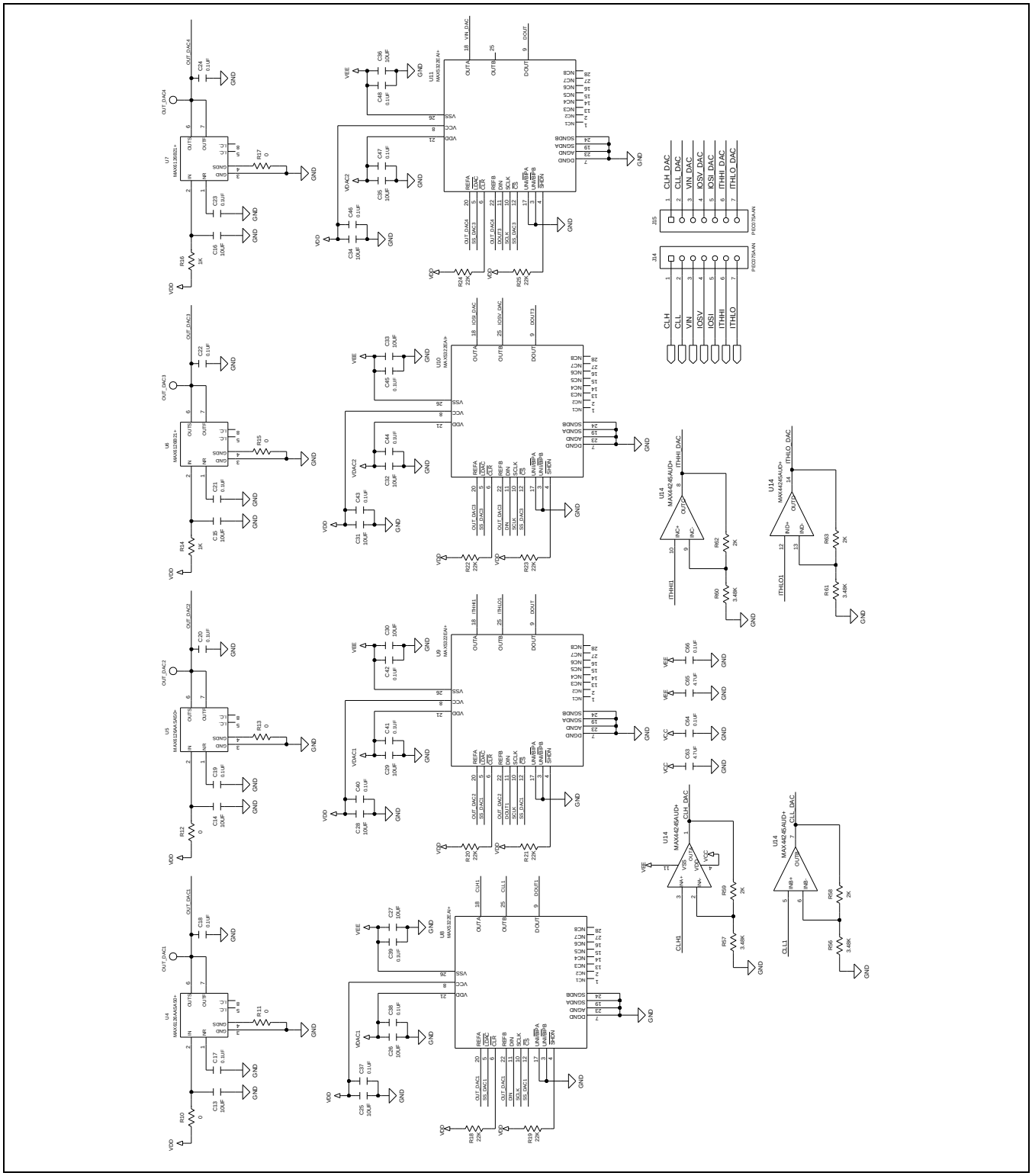
ITEM	REF_DES	DNI/DNP	QTY	MFG PART #	MANUFACTURER	VALUE	DESCRIPTION	COMMENTS
							LAND PATTERN: 90-0003	
49	U4, U5	-	2	MAX6126AASA50+	MAXIM	MAX6126AASA50+	IC; VREF; ULTRA-HIGH PRECISION; ULTRA-LOW NOISE; SERIES VOLTAGE REFERENCE; NSOIC8 150MIL	
50	U6, U7	-	2	MAX6126B21+	MAXIM	MAX6126B21+	IC; VREF; ULTRA-HIGH PRECISION; ULTRA-LOW NOISE; SERIES VOLTAGE REFERENCE; UMAX8	
51	U8-U11	-	4	MAX5322EAI+	MAXIM	MAX5322EAI+	IC; DAC; +/-10V, DUAL, 12-BIT, SERIAL, VOLTAGE-OUTPUT DAC; SSOP28	
52	U13	-	1	MAX32625PICO	MAXIM	MAX32625PICO	MODULE; BOARD; MAX32625PICO BOARD DESIGN FOR MAX32625 ARM CORTEX-M4F; BOARD; LAMINATED PLASTIC WITH COPPER CLAD;	
53	U14	-	1	MAX44245AUD+	MAXIM	MAX44245AUD+	IC; OPAMP; 36V; PRECISION; LOW-POWER; 90MICRO-AMPERE; QUAD OP AMPS; TSSOP14	
54	U15	-	1	MAX14759ETA+	MAXIM	MAX14759ETA+	IC; ASW; ABOVE-AND BELOW-THE-RAILS LOW ON-RESISTANCE ANALOG SWITCH; TDFN8-EP	
55	U16	-	1	MAX1033BEUP+	MAXIM	MAX1033BEUP+	IC; ADC; 4-CHANNEL; +/-3 X VREF MULTIRANGE INPUTS; SERIAL 14-BIT ANALOG-TO-DIGITAL CONVERTER; TSSOP20	
56	PCB	-	1	MAX32010	MAXIM	PCB	PCB:MAX32010	-

ITEM	REF_DES	DNI/DNP	QTY	MFG PART #	MANUFACTURER	VALUE	DESCRIPTION	COMMENTS
57	MISC1	DNI	1	3025010-03	QUALTEK ELECTRONICS CORP	3025010-03	CONNECTOR; MALE; USB-A_MINI-B; USB 4P(A)/M - USB MINI 5P(B)/M; STRAIGHT; 36IN	
58	D1-D3	DNP	0	1N5250B	FAIRCHILD SEMICONDUCTOR	20V	DIODE, ZENER, DO-35, Pd=0.5W, Vz=20V@Iz=6.2mA	
59	U12	-	0	MAX32010DCCQ+	MAXIM	MAX32010DCCQ+	IC; PWRMOD; 25V SPAN; 800 MILLIAMPERE DEVICE POWER SUPPLY (DPS); TQFP100-IDP	
60	R1-R3, R26-R30	DNP	0	N/A	N/A	OPEN	PACKAGE OUTLINE 0603 RESISTOR	
61	J13	-	1	01-PBC05SAAN5P-21	SULLINS ELECTRONICS CORP	PBC05SAAN	EVKIT-NOT FOR TEST	
62	J11	-	1	01-PBC04SAAN4P-21	SULLINS ELECTRONICS CORP.	PBC04SAAN	EVKIT-NOT FOR TEST	
63	J14,J15	-	1	01-PEC07SAAN7P-21	SULLINS ELECTRONICS CORP.	PEC07SAAN	ACTIVE	
TOTAL			231					

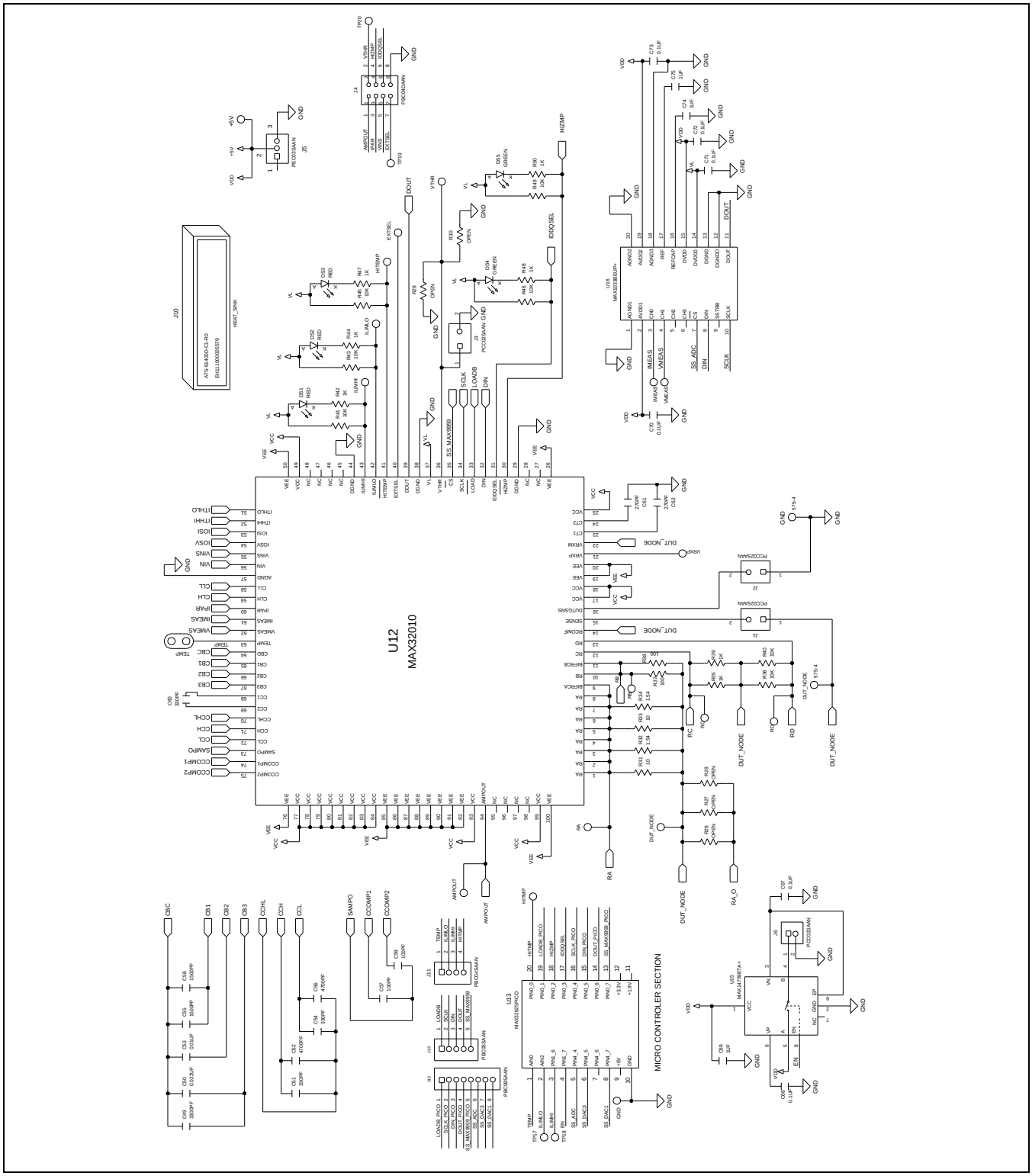
MAX32010 EV Kit Schematics



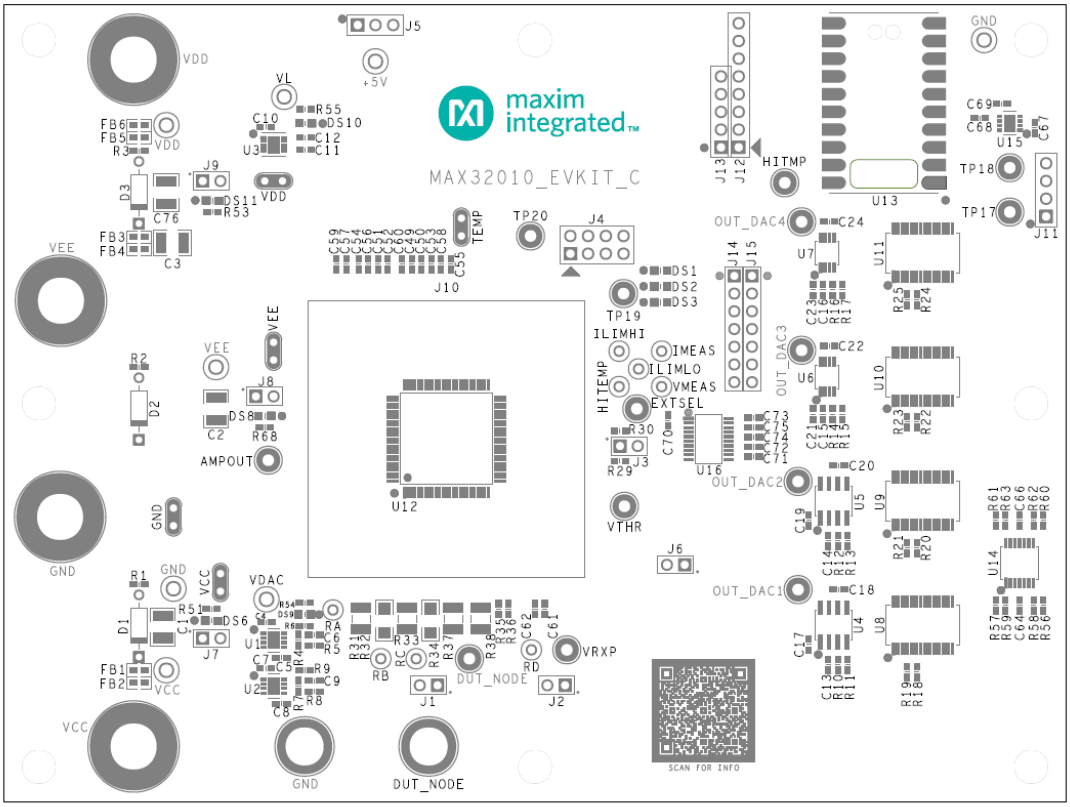
MAX32010 EV Kit Schematics (continued)



MAX32010 EV Kit Schematics (continued)

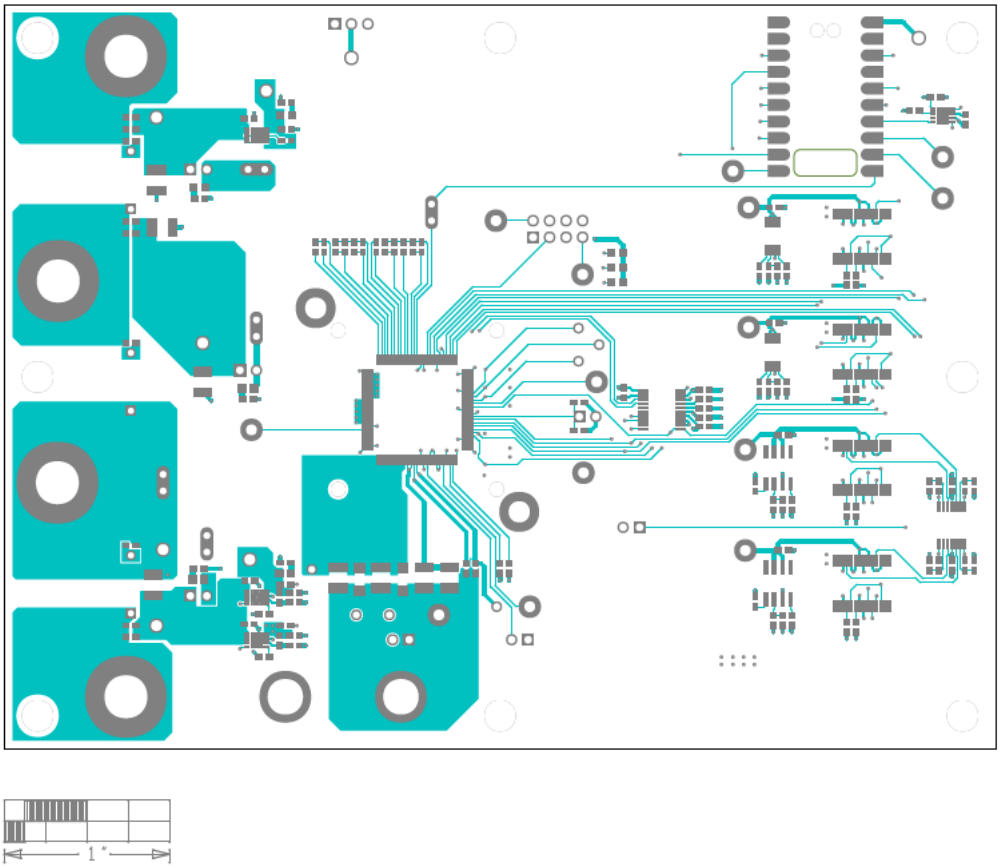


MAX32010 EV Kit PCB Layouts



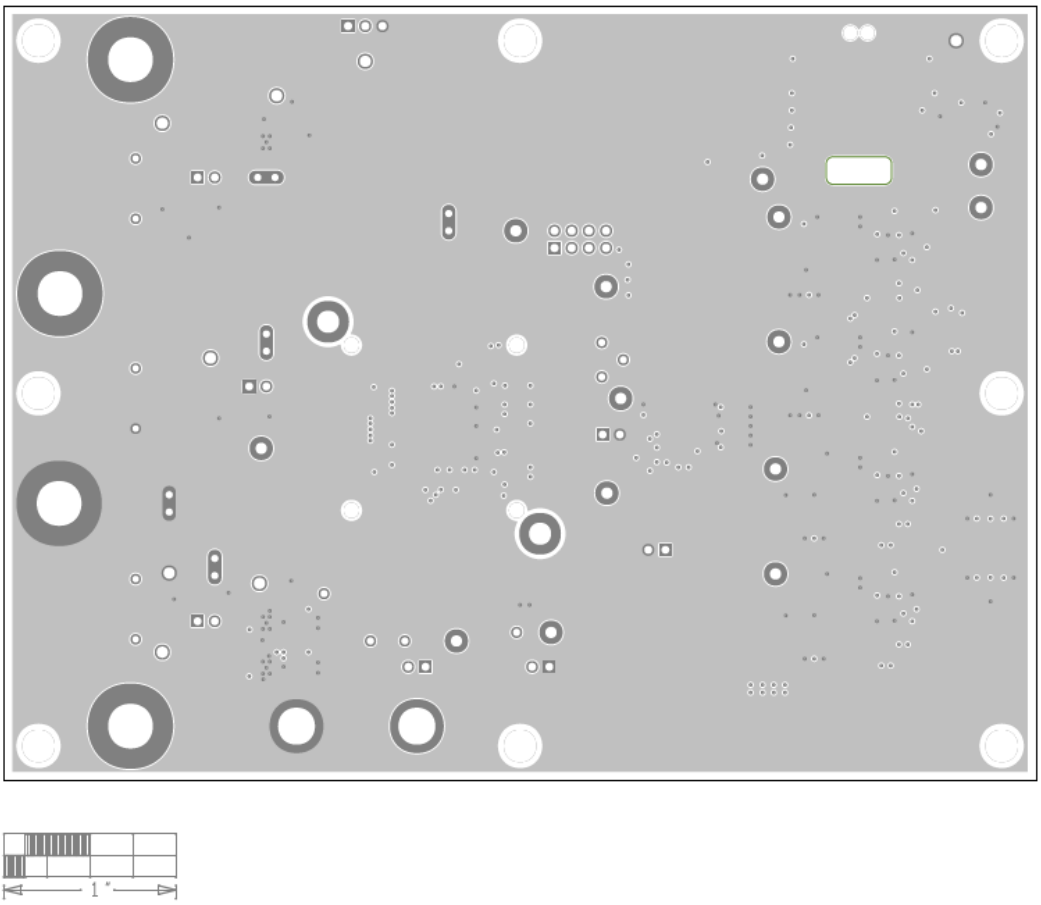
MAX32010 EV Kit Component Placement Guide—Top Silkscreen

MAX32010 EV Kit PCB Layouts (continued)



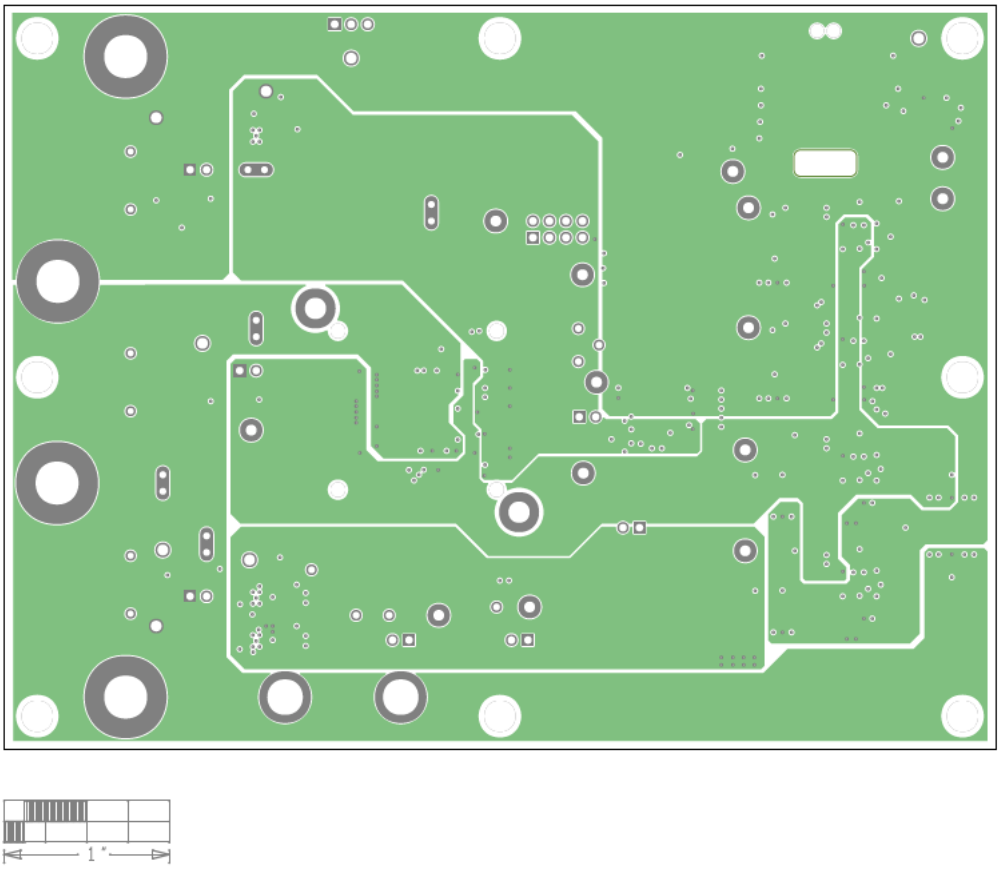
MAX32010 EV Kit PCB Layout—Top

MAX32010 EV Kit PCB Layouts (continued)



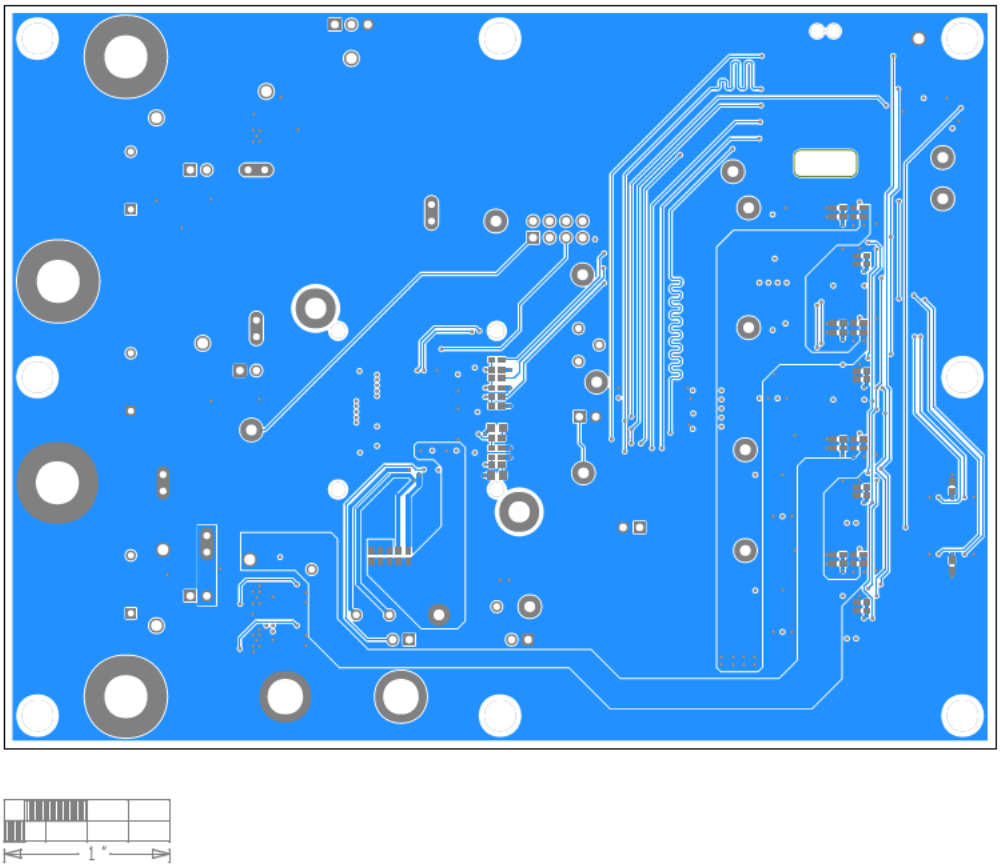
MAX32010 EV Kit PCB Layout—Internal 2

MAX32010 EV Kit PCB Layouts (continued)



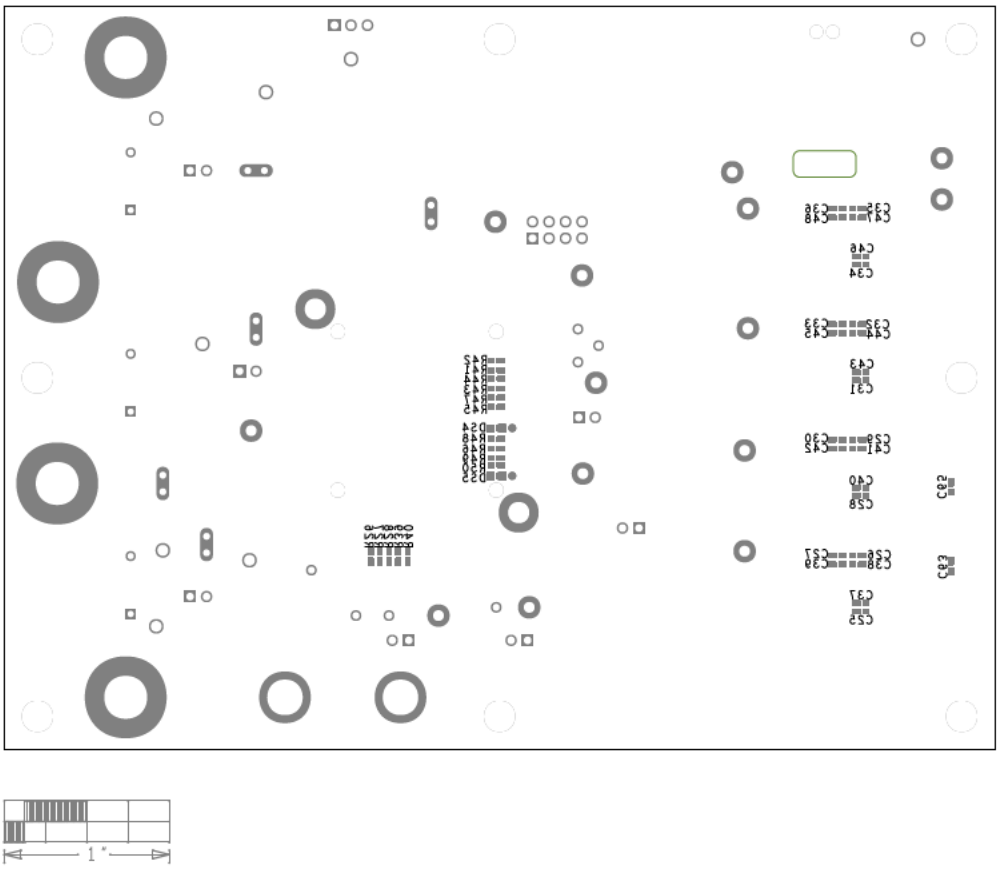
MAX32010 EV Kit PCB Layout—Internal 3

MAX32010 EV Kit PCB Layouts (continued)



MAX32010 EV Kit PCB Layout—Bottom

MAX32010 EV Kit PCB Layouts (continued)

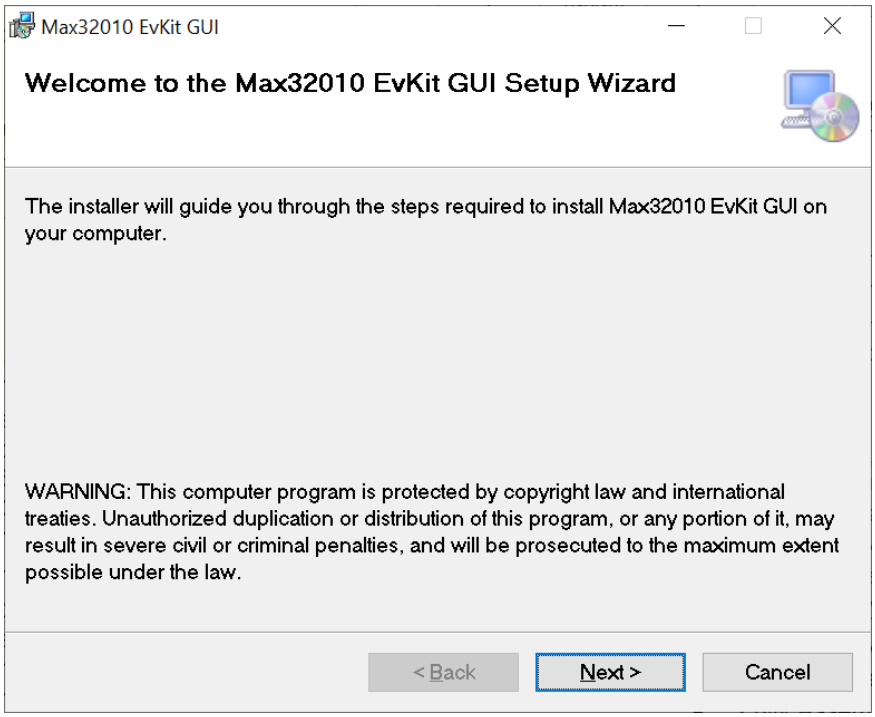


MAX32010 EV Kit PCB Layout—Bottom Silkscreen

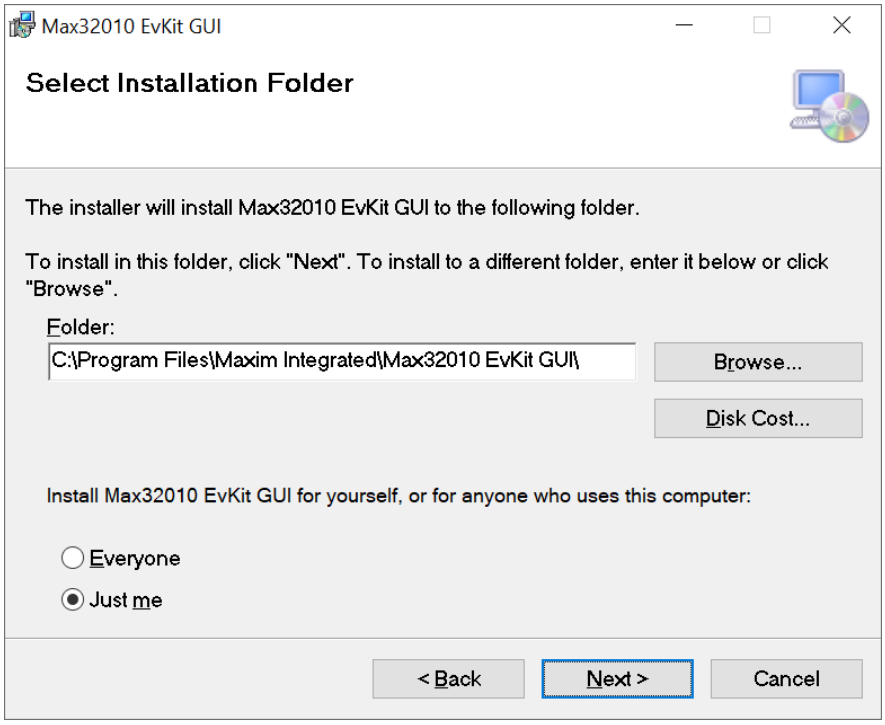
Appendix

MAX32010 EV kit installer installs the MAX32010EvaluationKitGUI.exe (210KB size). Steps to install are as follows:

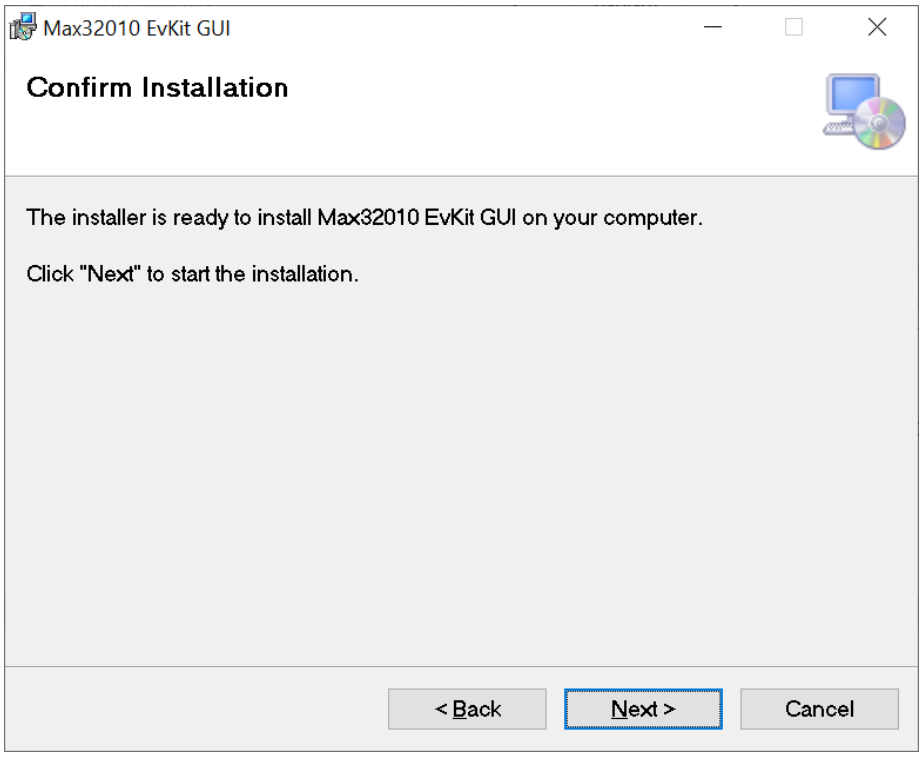
1. Click **Next** on the MAX32010 EV Kit GUI setup window**.**



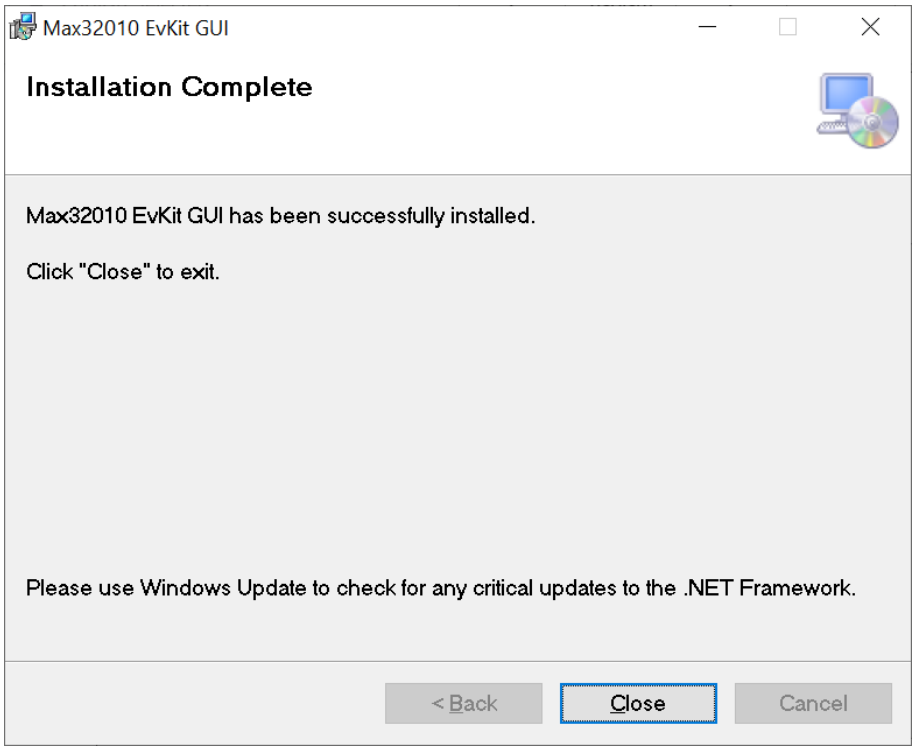
2. Select the Installation folder.



3. Click **Next** to confirm the installation.



4. Installation process starts. Click **Close** after the installation**.**



Revision History

REVISION NUMBER	REVISION DATE	DESCRIPTION	PAGES CHANGED
0	11/20	Release for Market Intro	—

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