Click here to ask an associate for production status of specific part numbers.

Evaluates: MAX22204

MAX22204 Evaluation Kit

General Description

The MAX22204 evaluation kit (EV kit) provides a proven design to evaluate the +65V, 3.8A (peak) 2-phase stepper motor driver. The EV kit can drive a single stepper motor and provides an on-board microcontroller (MCU) and GUI to drive the MAX22204's inputs and configure the modes of operation. Microstep modes, decay modes, target speeds, and acceleration can also be configured using the GUI.

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

Benefits

- Easy Evaluation of the MAX22204 Stepper Motor Driver
- On-Board MCU and GUI to Drive and Configure MAX22204
  - Configurable Target Speed
  - Configurable Acceleration Profiles
  - Configurable Microstepping and Decay Modes
  - Motor Coil Current Reporting
  - Configurable Full-Scale Current
- On-Board +3.3V Regulator to Supply I/Os of the MAX22204
- Perforated Board and Headers Allows for Separation of MAX22204 Circuit
- Windows 7®/8®/10®-Compatible Software
- Fully Assembled and Tested
- Proven PCB Layout

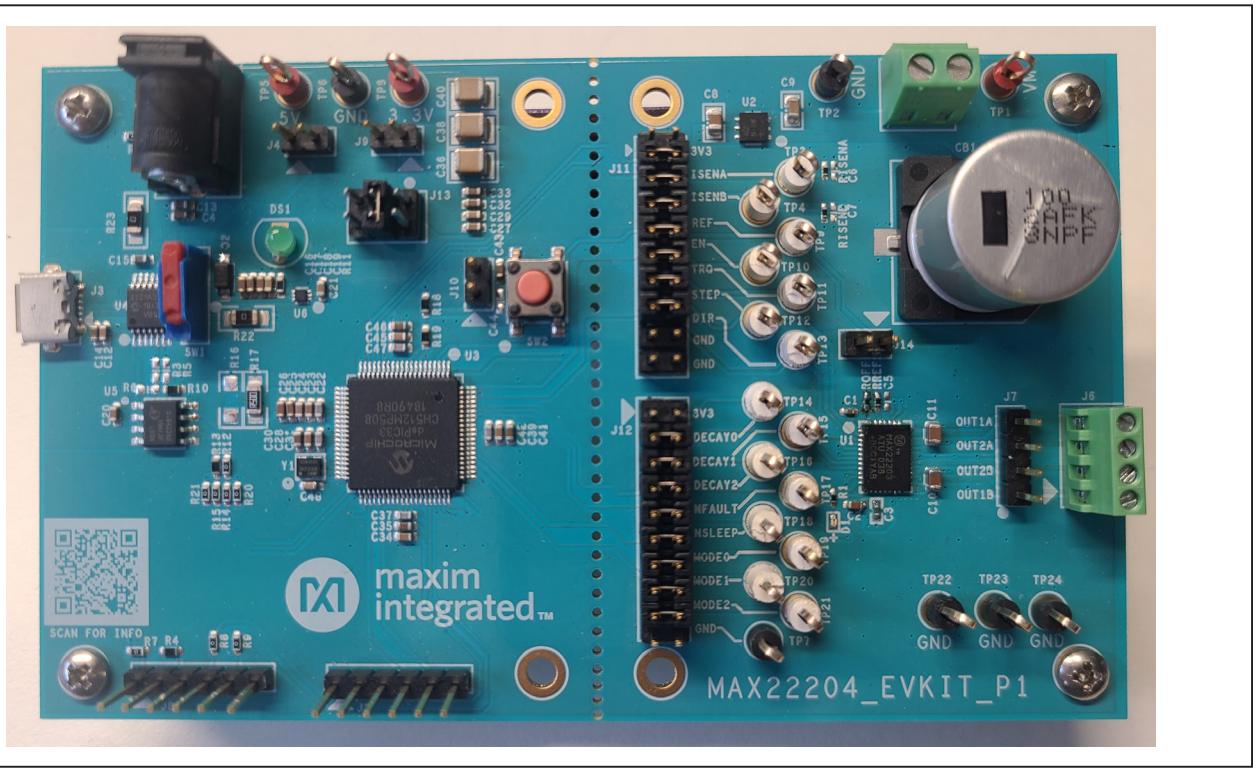

Figure 1. MAX22204 EV Kit Photo

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319-100845; Rev 0; 11/21

MAX22204 EV Kit Files

FILE	DESCRIPTION
MAX22204_GUI_setup_v1.1.1.exe	GUI Install File

Quick Start

Required Equipment

- MAX22204 EV kit
- USB Type A to micro-USB Type B male cable
- Up to +65V DC, 3.8A power supply
- Stepper motor

It is recommended that the user read MAX22204 IC data sheet prior to using the EV kit and GUI.

Software Installation

Follow the steps to install the GUI software:

1) Save the **MAX22204_GUI_setup_v1.1.1.exe** file to the PC and double click to begin the install.
2) Click the **Next** button in the welcome screen to begin the GUI installation.
3) Select the installation directory and folder name.
4) When installation is complete, click the **Finish** button to launch the MAX22200 EV kit GUI.

Procedure

The EV kit is fully assembled and tested. Follow the steps below to verify board operation:

1) As with all motor drive applications, stopping or braking the motor can cause a back EMF (BEMF) current and voltage surge. At high supply voltages, this can cause the supply to rise above the absolute maximum allowable voltage to the supply pins of a motor drive IC. It is highly recommended that the power supply of the MAX22204 be clamped below +70V to avoid damage to the motor driver IC.
2) Verify that the shunts are installed in the default positions (See Table 1).
3) Connect a stepper motor to the J6 terminal block.
4) Connect the MAX22204 EV kit board to the PC with a USB cable.
5) Connect upto +65V supply to VM and adjust the VM voltage to the desired operating voltage.
6) Launch the MAX22204 EV kit GUI.
7) Click on **Device** in the menu bar and select the COM port of the EV kit board.
   a) The GUI displays the **Selected COM Port**, **Firmware Version** and **Connected** in the bottom status bar, if the connection is a success.
8) Turn on the supply.
9) Click on the **WAKE** slider to wake the part from sleep mode.
10) Click on the **ENABLE** slider to enable the part.
11) Select the following settings in the **Motor Control Graph** to begin a first run of the stepper motor.
    a) **Target Speed (PPS)** = 200
    b) **Acceleration Rate (PPSPS)** = 100
    c) **Acceleration Starting/Ending Speed (PPS)** = 100
    d) **Steps to Stop** = 100
    e) **# of Steps** = 600
    f) Select **Full Step Mode**
12) Click on the **Move # of Steps** slider and for a 200 steps/rotation, confirm that the motor shaft rotates 3 and a half times with the appropriate acceleration and deceleration profile.

Detailed Description of Hardware

The MAX22204 EV kit provides a proven layout, evaluation circuit, and software to evaluate the MAX22204 (U1) IC. The EV kit features a DSPIC33CH512MP508T (U3) microcontroller (MCU), a MCP2221A (U4) USB-to-UART/I^2C serial converter, and a MIC5528 (U6) +3.3V LDO that enables serial communication between the GUI and EV kit, provides power to the MCU circuit from the USB port and allows the user to drive and configure the logic inputs of the MAX22204 IC. The EV kit has perforations down the middle of the board to separate the microcontroller from the MAX22204 circuit.

Table 1. Default Shunt Position

HEADER	SHUNT POSITION	DESCRIPTION
J2	Unpopulated*	MCU debug header 1
J4	Unpopulated*	External +5V probe header
J8	Unpopulated*	MCU debug header 2
J9	Unpopulated*	External +3.3V probe header
J10	Unpopulated*	Debug RC capacitor isolation
J11	3-4*	MAX22204 ISENA current output connected to MCU ADC input
	5-6*	MAX22204 ISENB current output connected to MCU ADC input
	7-8*	GND side of REF pin resistor connected to MUC DAC output. If left unpopulated, install a shunt on header J14 to connect the GND side of the RREF resistor to GND
	9-10*	MAX22204 enable input connected to MCU output
	11-12*	MAX22204 TRQ input connected to MCU output
	13-14*	MAX22204 STEP input connected to MCU output
	15-16*	MAX22204 DIR input connected to MCU output
	Pins 1 and 2	+3.3V sourced from LDO option from J13
	Pins 17, 18, 19, 20	GND
	All unpopulated	Even row of pins allow access to the MAX22204 pins to be driven or monitored without the use of the on-board MCU
J12	3-4*	MAX22204 DECAY0 input connected to MCU output
	5-6*	MAX22204 DECAY1 input connected to MCU output
	7-8*	MAX22204 DECAY2 input connected to MCU output
	9-10*	MAX22204 NFAULT output connected to MCU input
	11-12*	MAX22204 $\overline{\text{SLEEP}}$ input connected to MCU output
	13-14*	MAX22204 MODE0 input connected to MCU output
	15-16*	MAX22204 MODE1 input connected to MCU output
	17-18*	MAX22204 MODE2 input connected to MCU output
	Pins 1 and 2	+3.3V sourced from LDO option from J13
	Pins 19 and 20	GND
	All unpopulated	Even row of pins allow access to the MAX22204 pins to be driven or monitored without the use of the on-board MCU

Table 1. Default Shunt Position (continued)

HEADER	SHUNT POSITION	DESCRIPTION
J13	1-2	+3.3V sourced from external +3.3V test point (TP8)
	3-4*	+3.3V sourced from +5V USB VBUS voltage
	5-6	+3.3V sourced from VM voltage
J14	Unpopulated*	Allows the MCU to adjust the GND side voltage of the MAX22204's REF resistor. Leave this head unpopulated when using the GUI to control the full-scale current
	1-2	Connects the GND side voltage of the MAX22204's REF resistor to GND. Populate this header with a shunt if the GUI is not being used to control the full-scale current.
J7	Unpopulated*	The MAX22204 outputs can be monitored using pins 1 through 4 of header J7.
SW1	1-2 (upwards)*	Uses the USB VBUS voltage for the +5V to +3.3V LDO conversion
	2-3 (downwards)	Uses an external +5V voltage applied to TP5 for the +5V to +3.3V LDO conversion

** Indicates default position*

To operate the MAX22204 circuit without the use of the MCU or GUI, depopulate the shunts on headers J11 and J12 and install a shunt on header J14. This sets the maximum fixed IFS current to 2A. The maximum fixed IFS current can be adjusted by changing the RREF resistor to a value from 12k to 60k as shown in the equation below where KIFS = 36KV and TRQ_VALUE = 1 when the TRQ logic input pin is low or TRQ_VALUE = 0.5 when the TRQ logic input pin is high:

$$IFS\_MAX(A) = \frac{K_{IFS}(KV)}{R_{REF}(K\Omega)} \times TRQ\_VALUE$$

The value of the full-scale current is proportional to the current flowing from the REF pin of the MAX22204 IC to GND via the RREF resistor. When using the MCU and GUI, the maximum fixed IFS current is scaled from 0% to 100% by applying a voltage (VREF) in the range of 0V to 0.9V to the GND side of the REF resistor connected to pin 1 of header J14. The IFS value is determined using the following equation:

$$IFS(A) = IFS\_MAX(A) \times \frac{0.9V - VREF(V)}{0.9V}$$

Where IFS_MAX = the fixed maximum full-scale current (IFS) as configured by the RREF resistor on the EV kit board and VREF is the voltage applied to pin 1 of J14. The EV kit board is shipped with RREF = 18kΩ which sets the fixed maximum full-scale current to 2A or 1A depending on the state of the TRQ pin. Please refer to the IC data sheet for more information regarding the full-scale current settings.

Detailed Description of Software

The MAX22204 EV kit GUI allows the user to control and communicate with the MAX22204 IC using a PC.

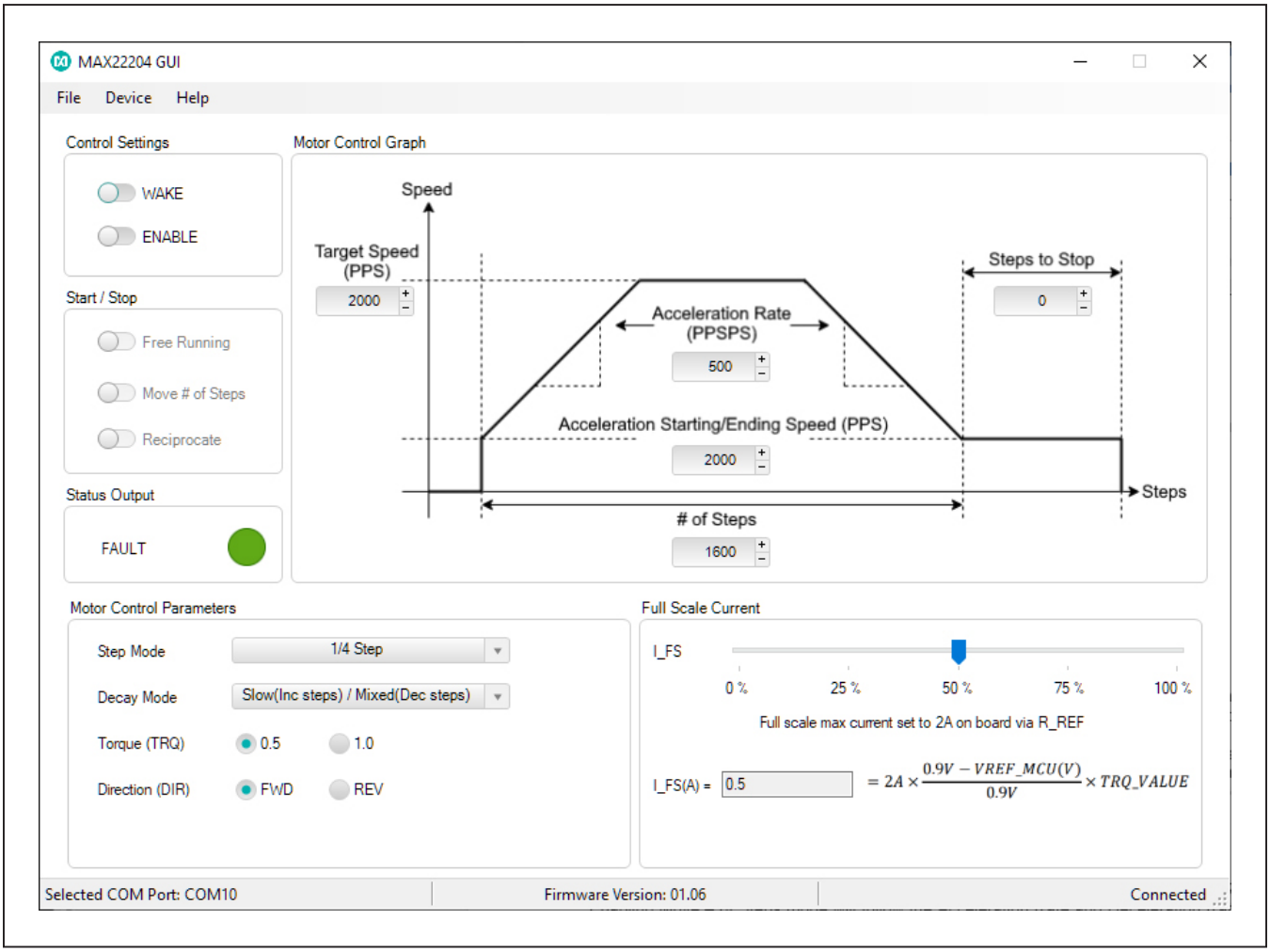


Figure 2. MAX22204 EV kit GUI

Control Settings

The **Control Settings** group box allows the user to enable or disable the MAX22204 or enter and exit sleep mode. See Figure 3.

Motor Control Graph

The **Motor Control Graph** group box allows the user to configure the speed and acceleration of the stepper motor. The user can select the Target Speed, Acceleration and Deceleration profiles, and the number of steps to travel.

The acceleration profiles have a starting speed and an ending speed which is user-defined with an acceleration rate that applies to both the acceleration ramp and deceleration ramp. The user can choose to have the motor stop after the **# of Steps** have been traveled, or an additional number of **Steps to Stop** can be added, which will run after the deceleration profile is completed and the # of Steps have been traveled. Additional steps prior to the motor stop can be added by entering the value in the **Steps to Stop** field.

Start/Stop

The **Start/Stop** group box allows the user to move the motor in one of three modes (See Figure 4). Enabling **Free Running** mode follows the acceleration profile used to reach the target speed and runs until **Free Running** mode is disabled. Enabling **Move # of Steps** mode will follow the Acceleration Rate and Deceleration Rate profiles, Target Speed, and Steps to Stop selections until the number of steps and steps to stop have been traveled. Enabling **Reciprocate** mode will follow the Acceleration Rate and Deceleration Rate profiles, Target Speed, and Step to selections until the user defined number of steps have been traveled and then will reverse direction with the same behavior until the **Reciprocate** slider is disabled.

Status Output

The **Status Output** indicator shows the status of the fault pin (See Figure 5). Under normal operation, the on-screen indicator will be green. During fault conditions, the on-screen indicator will be red.

Motor Control Parameters

The **Motor Control Parameters** group box allows the user to select the **Step Mode**, **Decay Mode**, **Torque (TRQ)**, and **Direction (DIR)**. (See Figure 6). These parameters correspond to logic input pins on the MAX22204 IC and the GUI allows the user to drive these pins through the on-board MCU. The **Step Mode** drop-down menu allows the user to select a step mode from full step up to 1/128 step. See Table 2 below for more details about the microstep modes. The **Decay Mode** drop-down menu allows the user to select from various decay modes of the MAX22204. See Table 3 below and the Adaptive Decay Modes section of the IC data sheet for more details about the decay modes. The **Torque (TRQ)** and **Direction (DIR)** selections allow the user to select the torque scaling factor and direction of rotation. The MCU drives the MAX22204 IC's TRQ and DIR pin according to selections made.

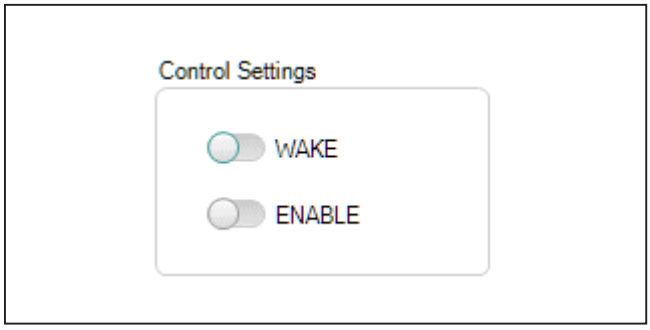


Figure 3. Control Settings Group Box

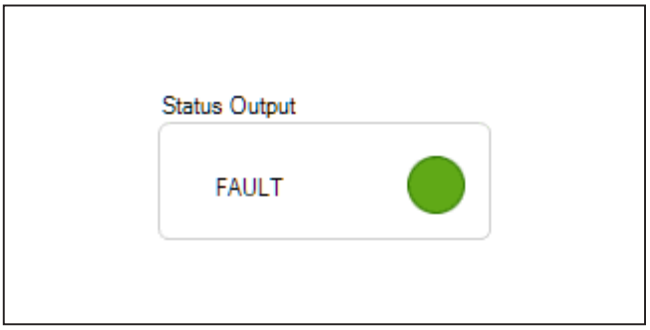


Figure 5. Status Output Group Box

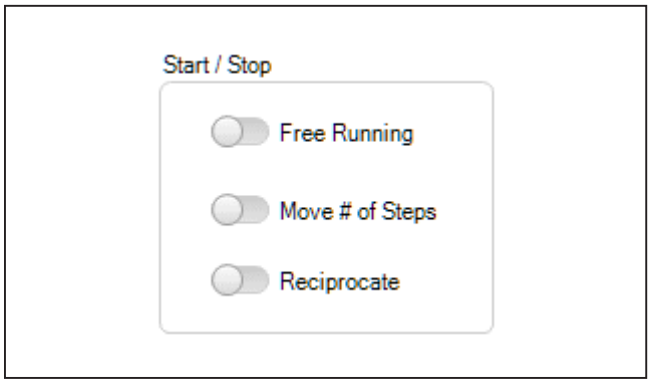


Figure 4. Control Settings Group Box

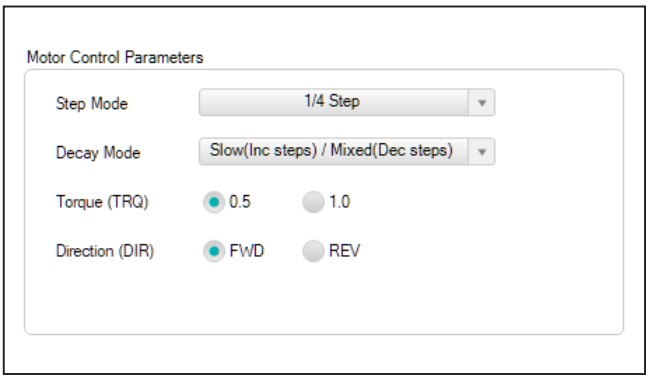


Figure 6. Motor Control Group Box

Full-Scale Current

The **Full-Scale Current** group box allows the user to scale the maximum full-scale current used to drive the stepper motor from 0% to 100% (See Figure 7). The maximum full-scale current is set to 2A by the on-board RREF resistor and can be scaled using the **I_FS** slider.

Table 2. Step Mode Selection

MODE2	MODE1	MODE0	STEP MODE
0	0	0	Full Step (71% current)
0	0	1	1/2 Step
0	1	0	1/4 Step
0	1	1	1/8 Step
1	0	0	1/16 Step
1	0	1	1/32 Step
1	1	0	1/64 Step
1	1	1	1/128 Step

Table 3. Decay Modes

DECAY2	DECAY1	DECAY0	INCREASING STEPS	DECREASING STEPS
0	0	0	Slow	Mixed 30% Fast
0	0	1	Mixed 30% Fast	Mixed 30% Fast
0	1	0	Mixed 60% Fast	Mixed 60% Fast
0	1	1	Slow	Slow
1	0	0	Fast	Fast
1	0	1	Adaptive 1	Adaptive 1
1	1	0	Adaptive 2	Adaptive 2
1	1	1	Adaptive 3	Adaptive 3

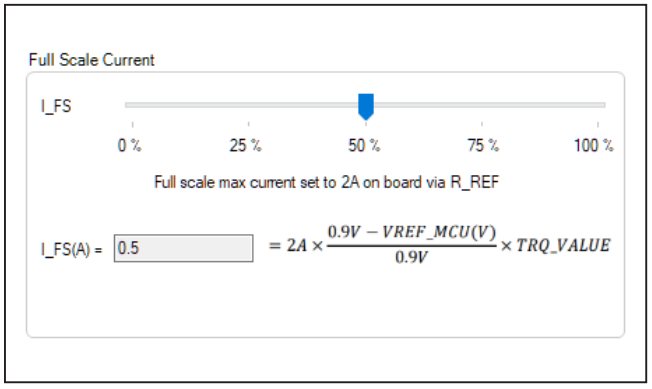


Figure 7. Motor Control Group Box

Ordering Information

PART	TYPE
MAX22204EVKIT#	EV Kit

#Denotes RoHS compliance.

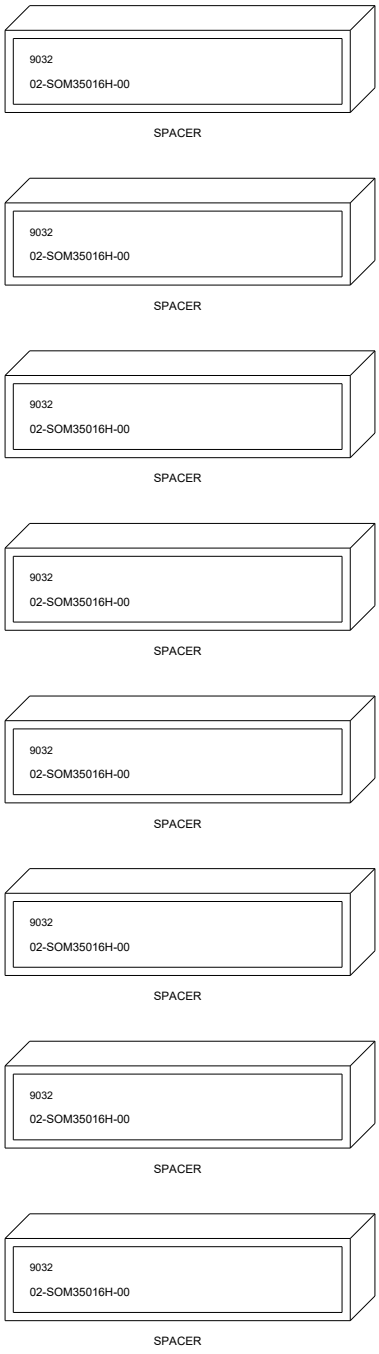
MAX22204 EV Kit Bill of Materials

ITEM	REF_DES	DNI/DNP	QTY	MFG PART #	MANUFACTURER	VALUE	DESCRIPTION	COMMENTS
1	C1	-	1	CL05A105KO5NNN	SAMSUNG	1UF	CAP; SMT (0402); 1UF; 10%; 16V; X5R; CERAMIC	
2	C2	-	1	CGA3E2X7R2A223K080AA	TDK	0.022UF	CAP; SMT (0603); 0.022UF; 10%; 100V; X7R; CERAMIC	
3	C3	-	1	TMK105BJ105MV	TAIYO YUDEN	1UF	CAP; SMT (0402); 1UF; 20%; 25V; X5R; CERAMIC	
4	C4, C16-C18, C25, C26	-	6	GRT188R61C106KE13	MURATA	10UF	CAP; SMT (0603); 10UF; 10%; 16V; X5R; CERAMIC	
5	C6, C7	-	2	CGA2B2X7R1H222K050BA; GCM155R71H222KA37	TDK;MURATA	2200PF	CAP; SMT (0402); 2200PF; 10%; 50V; X7R; CERAMIC	DNI
6	C8	-	1	GRM21BR70J106K; C2012X7R0J106K125AB; CGA4J1X7R0J106K125AC	MURATA;TDK;TDK	10UF	CAP; SMT (0805); 10UF; 10%; 6.3V; X7R; CERAMIC	
7	C9	-	1	C0805C224K1RAC; GRM21AR72A224KAC5	KEMET;MURATA	0.22UF	CAP; SMT (0805); 0.22UF; 10%; 100V; X7R; CERAMIC	
8	C10, C11	-	2	C2012X7S2A105K125AB; GRJ21BC72A105KE11; GRM21BC72A105KE01	TDK;MURATA;MURATA	1UF	CAP; SMT (0805); 1UF; 10%; 100V; X7S; CERAMIC	
9	C12, C20, C23, C24, C27-C29, C34, C39, C45	-	10	885012206071; C1608X7R1E104K080AA; C0603C104K3RAC; GRM188R71E104KA01; C1608X7R1E104K; 06033C104KAT2A	WURTH ELECTRONICS INC; TDK;KEMET;MURATA;TDK;AVX	0.1UF	CAP; SMT (0603); 0.1UF; 10%; 25V; X7R; CERAMIC	
10	C13-C15, C30, C32, C33, C35, C41, C46	-	9	C0603X5R160-105KNP; EMK107BJ105KA; C1608X5R1C105K080AA; GRM188R61C105K; 0603YD105KAT2A; CL10A105KO8NNN	VENKEL LTD.;TAIYO YUDEN; TDK;MURATA;AVX; SAMSUNG ELECTRO-MECHANICS	1UF	CAP; SMT (0603); 1UF; 10%; 16V; X5R; CERAMIC;	
11	C19, C21	-	2	GRM188R71A225KE15; CL10B225KP8NNN; C1608X7R1A225K080AC; C0603C225K8RAC	MURATA;SAMSUNG; TDK;KEMET	2.2UF	CAP; SMT (0603); 2.2UF; 10%; 10V; X7R; CERAMIC	
12	C22, C31, C37, C42, C47	-	5	C1608C0G1E103J080AA	TDK	0.01UF	CAP; SMT (0603); 0.01UF; 5%; 25V; C0G; CERAMIC;	
13	C36, C38, C40	-	3	C1210C476M4PAC; GRM32ER61C476ME15	KEMET;MURATA	47UF	CAP; SMT (1210); 47UF; 20%; 16V; X5R; CERAMIC	
14	C43	-	1	C0603C474K4RAC; GRM188R71C474K; EMK107B7474KA; C1608X7R1C474K080AC	KEMET;MURATA; TAIYO YUDEN;TDK	0.47UF	CAP; SMT (0603); 0.47UF; 10%; 16V; X7R; CERAMIC	
15	C48	-	1	06033C104JAT2A	AVX	0.1UF	CAP; SMT (0603); 0.1UF; 5%; 25V; X7R; CERAMIC	
16	CB1	-	1	EEV-FK2A101	PANASONIC	100UF	CAP; SMT (CASE_J16); 100UF; 20%; 100V; ALUMINUM-ELECTROLYTIC	
17	D1	-	1	SML-P11UTT86R	ROHM SEMICONDUCTOR	SML-P11UTT86R	DIODE; LED; RED CLEAR; PICOLED; SMT; VF=1.8V; IF=0.001A	
18	D2	-	1	SMF5.0A	MICRO COMMERCIAL COMPONENTS	5V	DIODE; TVS; SMT (SOD-123FL); VRM=5V; IF=21.7A	
19	DS1	-	1	SSL-LX3044GD-12V	LUMEX OPTOCOMPONENTS INC	LX3044GD-12V	GREEN LIGHT EMITTING DIODE	
20	J1	-	1	1727010	PHOENIX CONTACT	1727010	CONNECTOR; FEMALE; THROUGH HOLE; GREEN TERMINAL BLOCK; RIGHT ANGLE; 2PINS	
21	J2, J8	-	2	PBC06SFCN	SULLINS ELECTRONICS CORP.	PBC06SFCN	CONNECTOR; MALE; THROUGH HOLE; .1IN CONTACT CENTER; BREAKAWAY HEADER; STRAIGHT; 6PINS	
22	J3	-	1	ZX62RD-AB-5P8(30)	HIROSE ELECTRIC CO LTD.	ZX62RD-AB-5P8(30)	CONNECTOR; MALE; THROUGH HOLE; MICRO-USB CONNECTOR MEETING REQUIREMENTS OF USB 2.0 STANDARD; RIGHT ANGLE; 5PINS	
23	J4, J9, J10, J14	-	4	PBC02SAAN	SULLINS ELECTRONICS CORP.	PBC02SAAN	CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT; 2PINS	
24	J5	-	1	PJ-102B	CUI INC.	PJ-102B	CONNECTOR; MALE; THROUGH HOLE; DC POWER JACK; RIGHT ANGLE; 3PIN	
25	J6	-	1	OSTVN04A150	ON-SHORE TECHNOLOGY INC	OSTVN04A150	CONNECTOR; TERMINAL BLOCK; FEMALE; THROUGH HOLE; STRAIGHT; 4PINS	
26	J7	-	1	PBC04SAAN	SULLINS ELECTRONICS CORP.	PBC04SAAN	CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT; 4PINS; -65 DEGC TO +125 DEGC	
27	J11, J12	-	2	PBC10DAAN	SULLINS ELECTRONICS CORP	PBC10DAAN	CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT; 20PINS	
28	J13	-	1	PEC03DAAN	SULLINS ELECTRONICS CORP	PEC03DAAN	CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT THROUGH; 6PINS; -65 DEGC TO +125 DEGC	
29	R1	-	1	CRCW04021K40FK; RC0402FR-071K4L	VISHAY DALE;YAGEO PHICOMP	1.4K	RES; SMT (0402); 1.4K; 1%; +/-100PPM/DEGC; 0.0630W	
30	R2, R7-R9, R12, R14, R15, R20, R21	-	9	CRCW060300000ZS; MCR03EZPJ000; ERJ-3GEY0R00; CR0603AJ/-000ELF	VISHAY; ROHM SEMICONDUCTOR; PANASONIC;BOURNS	0	RES; SMT (0603); 0; JUMPER; JUMPER; 0.1000W	

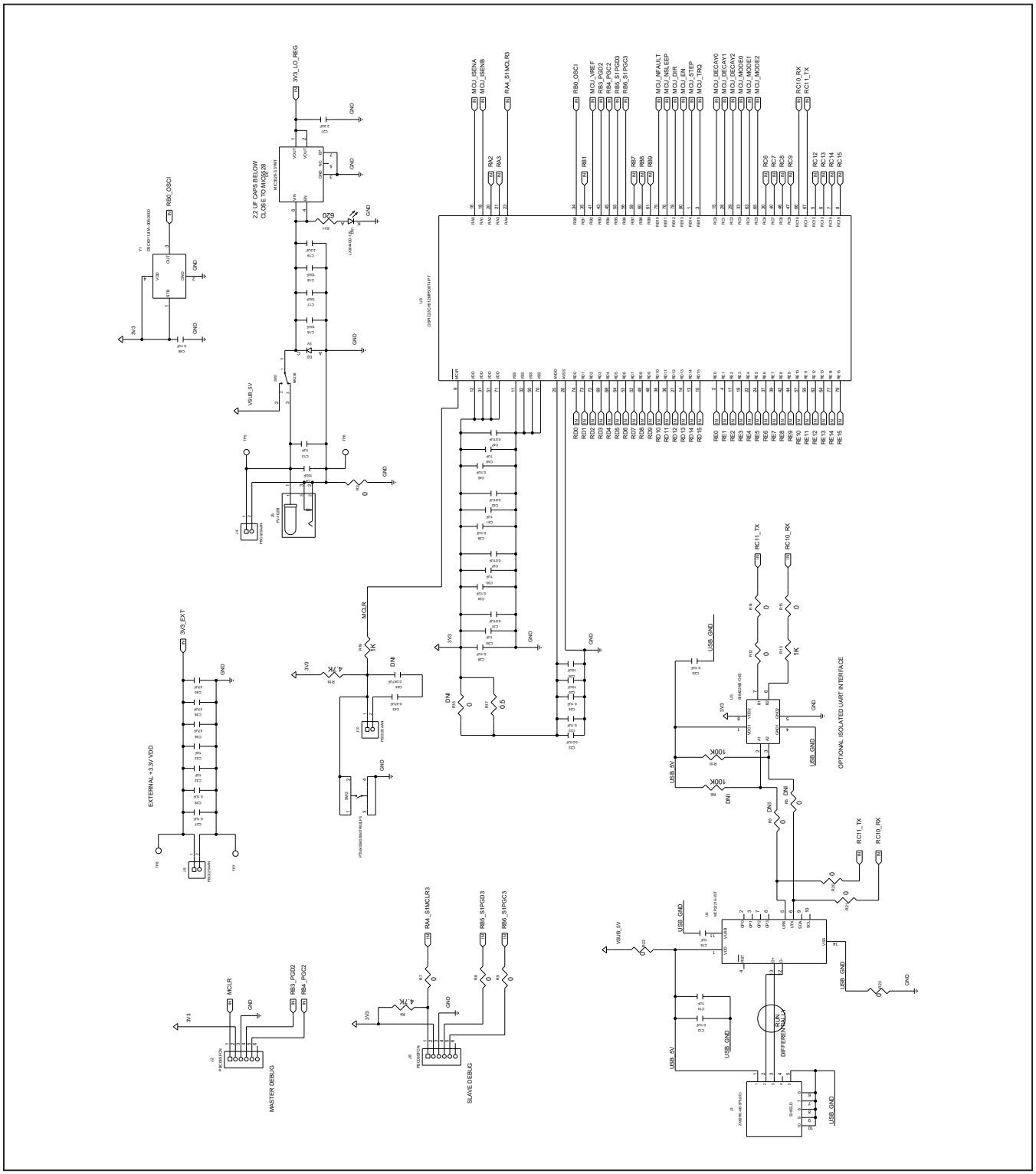
MAX22204 EV Kit Bill of Materials (continued)

ITEM	REF_DES	DNI/DNP	QTY	MFG PART #	MANUFACTURER	VALUE	DESCRIPTION	COMMENTS
31	R4, R18	-	2	CRCW06034K70FK	VISHAY DALE	4.7K	RES; SMT (0603); 4.7K; 1%; +/-100PPM/DEGC; 0.1000W	
32	R10	-	1	CRCW0603100KFK; RC0603FR-07100KL; RC0603FR-13100KL; ERJ-3EKF1003; AC0603FR-07100KL	VISHAY DALE;YAGEO; YAGEO;PANASONIC	100K	RES; SMT (0603); 100K; 1%; +/-100PPM/DEGC; 0.1000W	
33	R11	-	1	ERJ-3EKF6200	PANASONIC	620	RES; SMT (0603); 620; 1%; +/-100PPM/DEGC; 0.1000W	
34	R13, R19	-	2	CRCW06031K00FK; ERJ-3EKF1001; CR0603AFX-1001ELF	VISHAY; PANASONIC;BOURNS	1K	RES; SMT (0603); 1K; 1%; +/-100PPM/DEGC; 0.1000W	
35	R17	-	1	CSR1206FTR500	STACKPOLE ELECTRONICS INC.	0.5	RES; SMT (1206); 0.5; 1%; +/-100PPM/DEGC; 0.5000W	
36	R22, R23	-	2	CRCW12060000ZS	VISHAY DALE	0	RES; SMT (1206); 0; JUMPER; JUMPER; 0.2500W	
37	R24-R69	-	46	RC0402FR-0710KL	YAGEO PHICOMP	10K	RES; SMT (0402); 10K; 1%; +/-100PPM/DEGC; 0.0630W	
38	RISENA, RISENB	-	2	ERA-2AEB3741X	PANASONIC	3.74K	RES; SMT (0402); 3.74K; 0.10%; +/-25PPM/DEGC; 0.0630W	
39	ROFF	-	1	ERJ-2RKF3002	PANASONIC	30K	RES; SMT (0402); 30K; 1%; +/-100PPM/DEGC; 0.1000W	
40	RREF	-	1	ERJ-2RKF1802	PANASONIC	18K	RES; SMT (0402); 18K; 1%; +/-100PPM/DEGC; 0.1000W	
41	SPACER1-SPACER8	-	8	9032	KEYSTONE	9032	MACHINE FABRICATED; ROUND-THRU HOLE SPACER; NO THREAD; M3.5; 5/8IN; NYLON	
42	SW1	-	1	NK236	APEM	NK236	SWITCH; SPDT; THROUGH HOLE; 12V; 0.5A; NK SERIES; RCOIL= OHM; RINSULATION= OHM; APEM	
43	SW2	-	1	PTS645SK50SMTR92LFS	C&K COMPONENTS	PTS645SK50SMTR92LFS	SWITCH; SPST; SMT; STRAIGHT; 12V; 0.05A; TACT SWITCHES; RCOIL=0.1 OHM; RINSULATION=100G OHM	
44	TP1, TP5, TP8	-	3	5010	KEYSTONE	N/A	TEST POINT; PIN DIA=0.125IN; TOTAL LENGTH=0.445IN; BOARD HOLE=0.063IN; RED; PHOSPHOR BRONZE WIRE SIL;	
45	TP2, TP6, TP7, TP22-TP24	-	6	5011	KEYSTONE	N/A	TEST POINT; PIN DIA=0.125IN; TOTAL LENGTH=0.445IN; BOARD HOLE=0.063IN; BLACK; PHOSPHOR BRONZE WIRE SILVER PLATE FINISH;	
46	TP3, TP4, TP9-TP21	-	15	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;	
47	U1	-	1	MAX22204	MAXIM	MAX22204	EVKIT PART - IC; MAX22204; PACKAGE OUTLINE DRAWING: 21-0172; PACKAGE LAND PATTERN: 90-0076; PACKAGE CODE: T3857+1; TQFN38-EP	
48	U2	-	1	MAX6765TTSD2+	MAXIM	MAX6765TTSD2+	IC; VREG; AUTOMOTIVE MICROPOWER LINEAR REGULATOR WITH SUPERVISOR; TDFN6-EP	
49	U3	-	1	DSPIC33CH512MP508T-I/PT	MICROCHIP	DSPIC33CH512MP508T-I/PT	IC; CTRL; 16-BIT DIGITAL SIGNAL CONTROLLERS WITH HIGH-RESOLUTION PWM AND CAN FLEXIBLE DATA-RATE; TQFP80-EP	
50	U4	-	1	MCP2221A-I/ST	MICROCHIP	MCP2221A-I/ST	IC; CONV; USB 2.0 TO I2C/UART PROTOCOL CONVERTER WITH GPIO; TSSOP14	
51	U5	-	1	SI8422AB-D-IS	SILICON LABORATORIES	SI8422AB-D-IS	IC; DISO; LOW-POWER; SINGLE AND DUAL-CHANNEL DIGITAL ISOLATORS; NSOIC8	
52	U6	-	1	MIC5528-3.3YMT	MICROCHIP	MIC5528-3.3YMT	IC; VREG; HIGH PERFORMANCE 500 MA LDO; TDFN6-EP	
53	Y1	-	1	DSC6011JI1A-008.0000	MICROCHIP	DSC6011JI1A-008.0000	OSCILLATOR; SMT 2.5X2.0; 8MHZ; +/-50PPM;	
54	PCB	-	1	MAX22204	MAXIM	PCB	PCB:MAX22204	-
55	C5	DNP	0	GRM155R61C104KA88	MURATA	0.1UF	CAP; SMT (0402); 0.1UF; 10%; 16V; X5R; CERAMIC	DNI
56	C44	DNP	0	C0603C473K3RAC; GRM188R71E473KA01	KEMET;MURATA	0.047UF	CAP; SMT (0603); 0.047UF; 10%; 25V; X7R; CERAMIC;	
57	R3, R5	DNP	0	CRCW060300000ZS; MCR03EZPJ000; ERJ-3GEY0R00; CR0603AJ/-000ELF	VISHAY; ROHM SEMICONDUCTOR; PANASONIC;BOURNS	0	RES; SMT (0603); 0; JUMPER; JUMPER; 0.1000W	DNI
58	R6	DNP	0	CRCW0603100KFK; RC0603FR-07100KL; RC0603FR-13100KL; ERJ-3EKF1003; AC0603FR-07100KL	VISHAY DALE;YAGEO; YAGEO;PANASONIC	100K	RES; SMT (0603); 100K; 1%; +/-100PPM/DEGC; 0.1000W	
59	R16	DNP	0	CRCW12060000ZS	VISHAY DALE	0	RES; SMT (1206); 0; JUMPER; JUMPER; 0.2500W	
TOTAL			175					

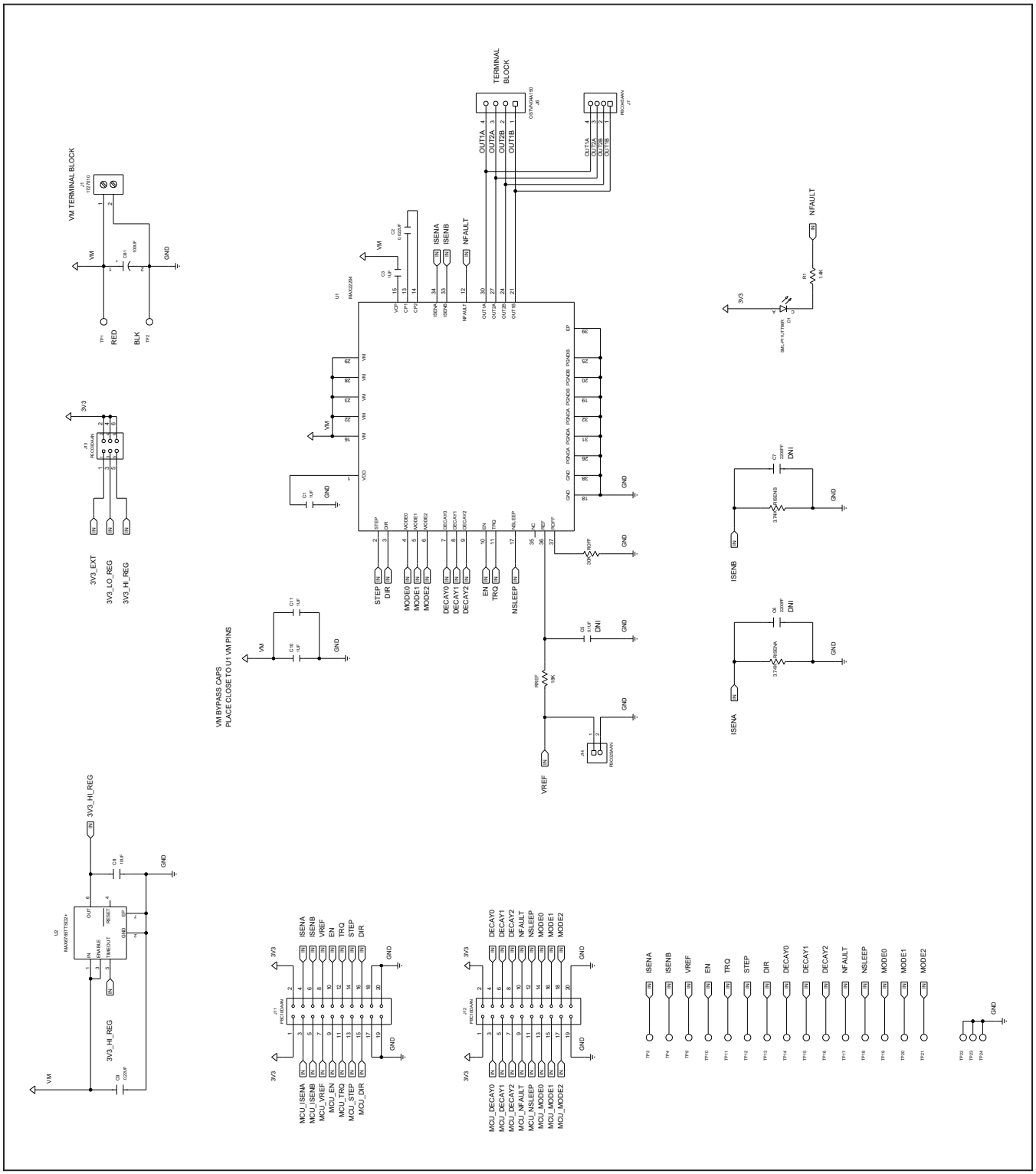
MAX22204 EV Kit Schematics



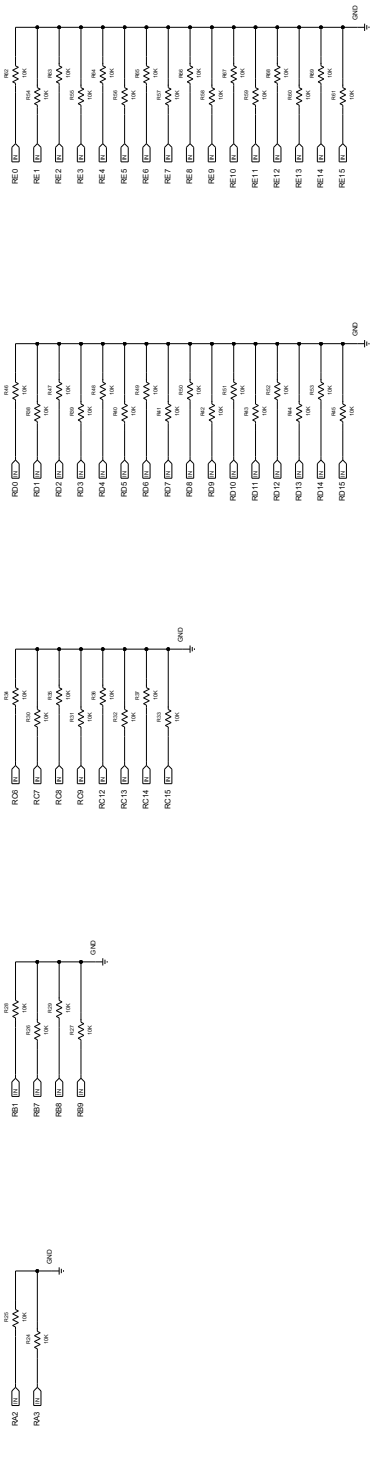
MAX22204 EV Kit Schematics (continued)



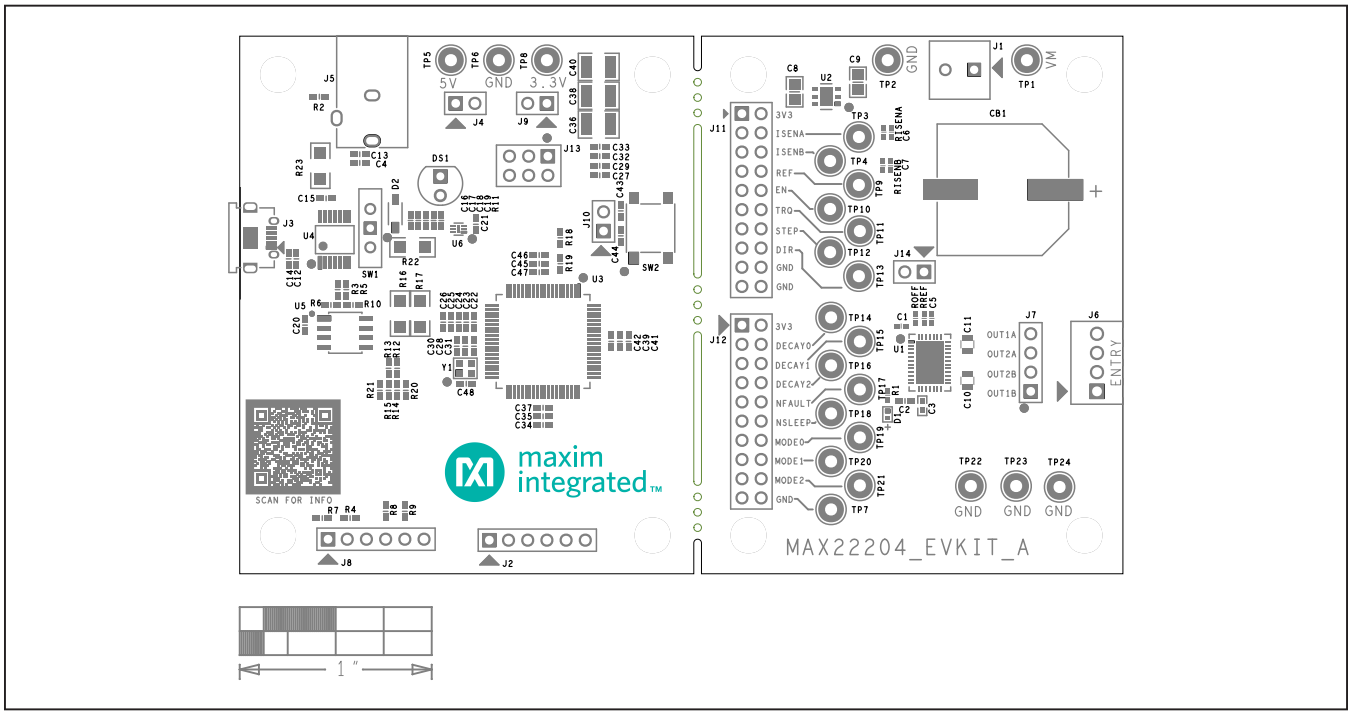
MAX22204 EV Kit Schematics (continued)



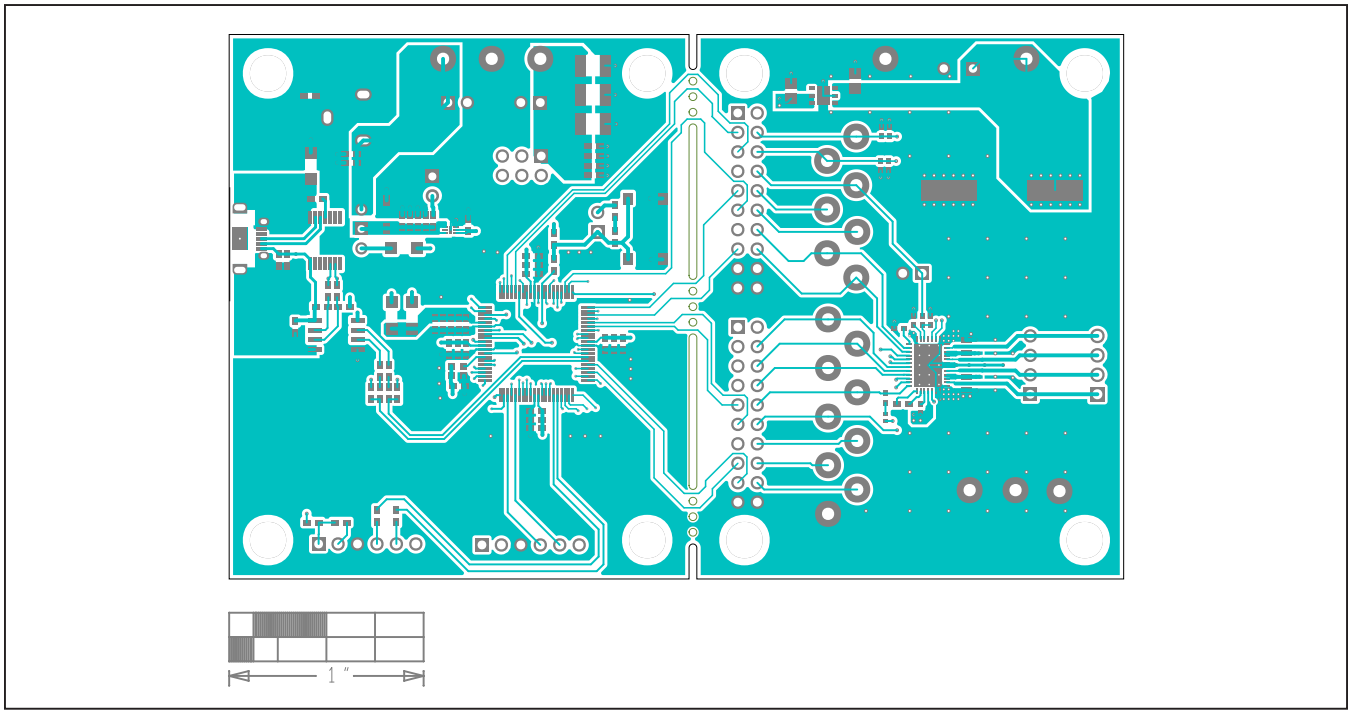
MAX22204 EV Kit Schematics (continued)



MAX22204 EV Kit PCB Layouts

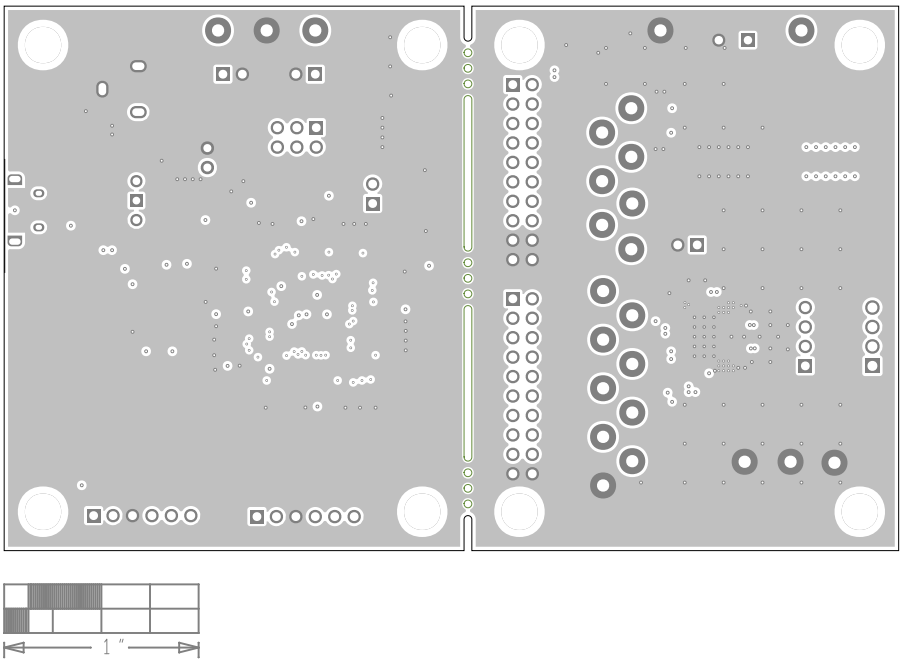


MAX22204 EV Kit Component Placement Guide—Top Silkscreen

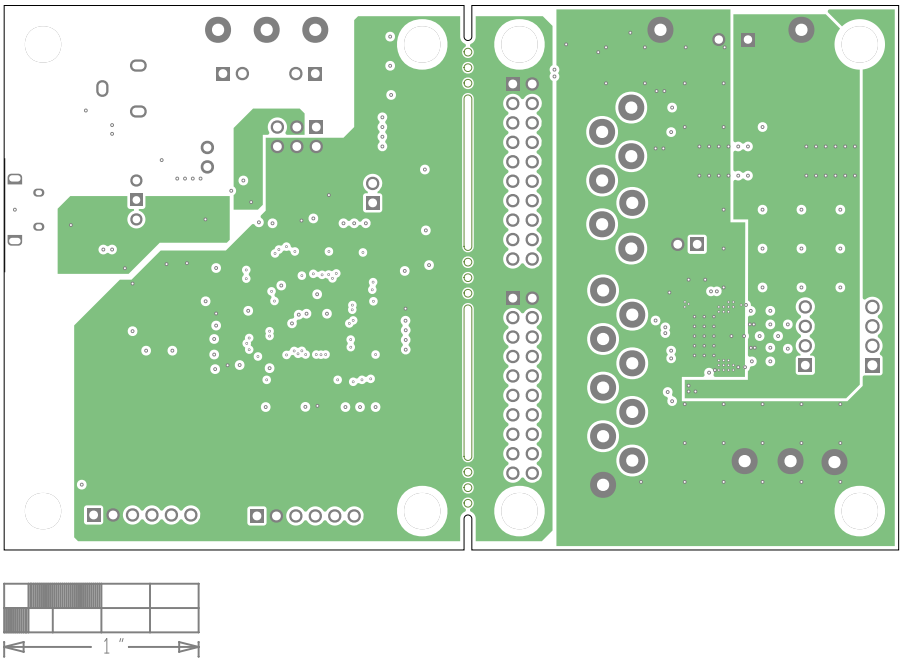


MAX22204 EV Kit PCB Layout—Top

MAX22204 EV Kit PCB Layouts (continued)

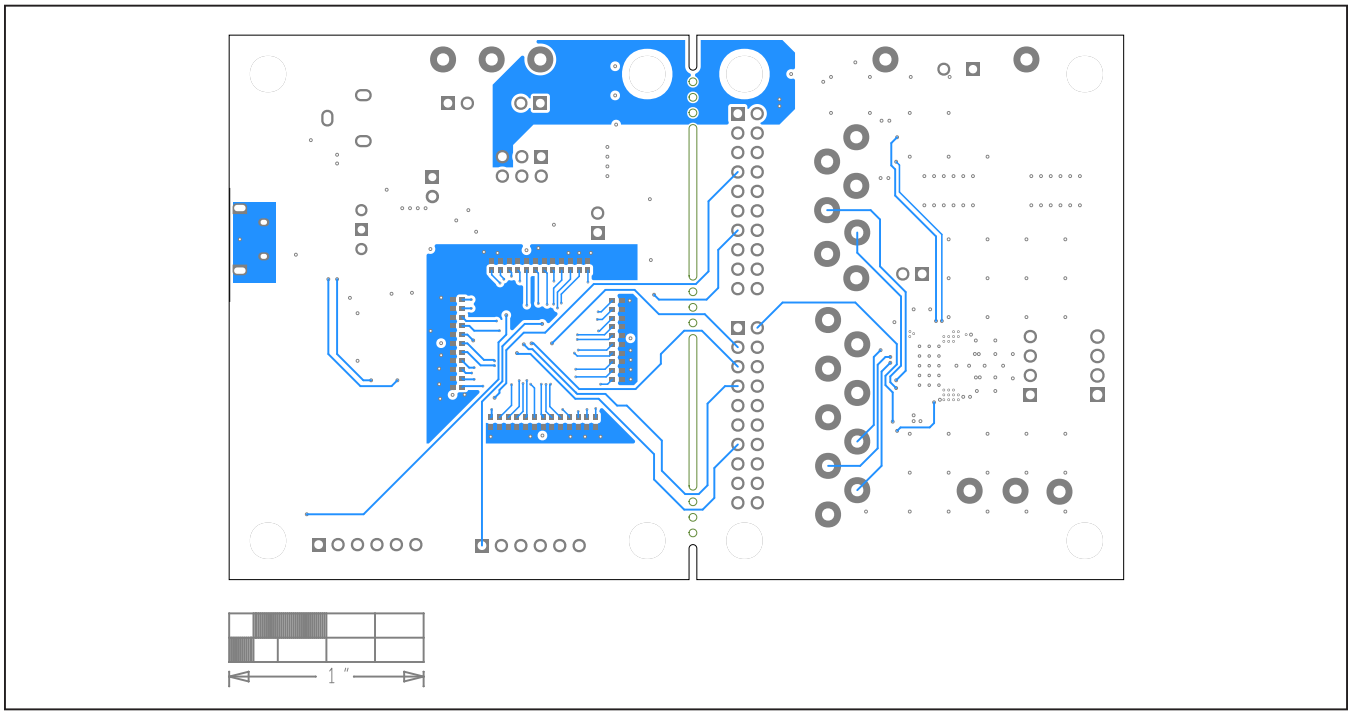


MAX22204 EV Kit PCB Layout—Internal2

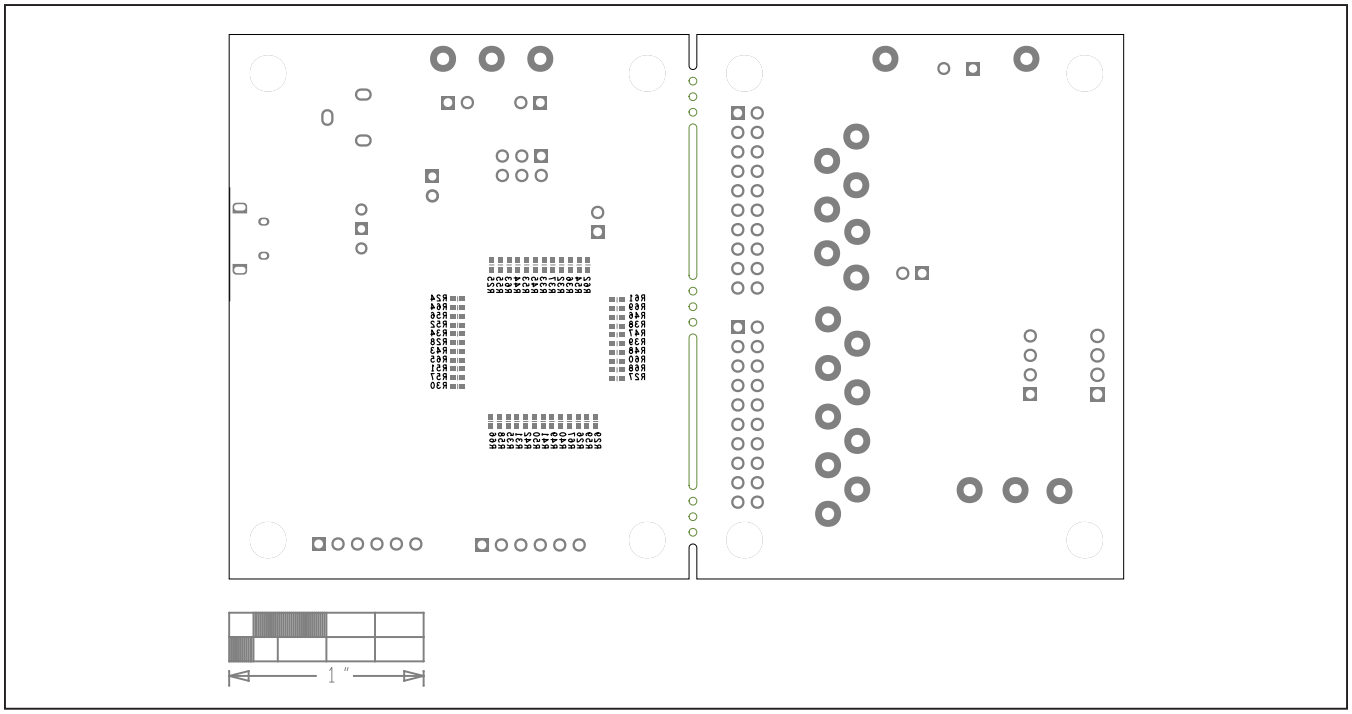


MAX22204 EV Kit PCB Layout—Internal3

MAX22204 EV Kit PCB Layouts (continued)



MAX22204 EV Kit PCB Layout—Bottom Layer



MAX22204 EV Kit Component Placement Guide—Bottom Silkscreen

Revision History

REVISION NUMBER	REVISION DATE	DESCRIPTION	PAGES CHANGED
0	11/21	Initial release	—