*Click here for production status of specific part numbers.*

# MAX7037 Evaluation Kits

# Evaluate: MAX7037

## General Description

The MAX7037 evaluation kits (EV kits) are fully assembled and tested to evaluate the MAX7037 sub-1GHz, ultra-low-power, RF ISM transceiver. The EV kits are connected to the PC through a Siam Kitty board. The EV kits get power from the Siam Kitty board and run from a minimum supply voltage of only 2.1V.

A particular EV kit will only work at a specific carrier frequency. The frequencies supported are: 315MHz, 434MHz, 868MHz, 902MHz, 915MHz, and 928MHz. EV kits are shipped configured for 315MHz, 434MHz, 868MHz, 902MHz, 915MHz, or 928MHz operation. It is necessary to change the RF matching components to configure an EV kit to work at one of the other frequencies. Further details are provided in the *Changing EV Kit for Operation at Other Frequencies* section.

Note that, if an EV kit is used at a frequency other than that for which it is configured, it will likely either not work at all or display very poor performance. Ensure that both EV kits match the frequency for which they are configured. Furthermore, the MAX7037_915MHz EV kit can be used for 902MHz, 915MHz, or 928MHz operation.

## Features

- Easy Evaluation of the MAX7037
- Proven PCB Layout
- Fully Assembled and Tested

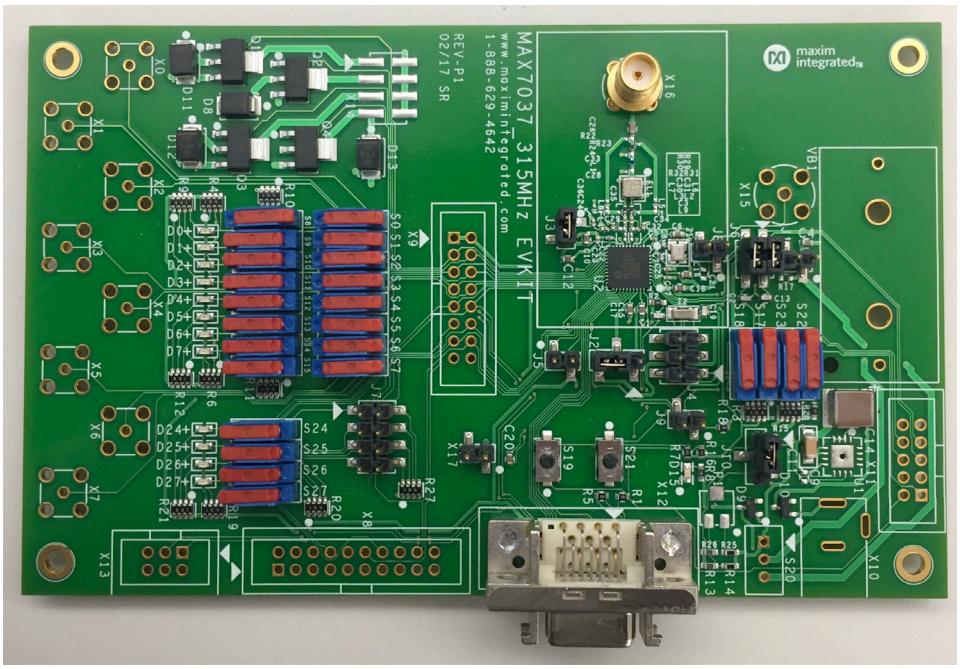
## EV Kit Contents

- Assembled circuit board including MAX7037.
- Assembled Siam Kitty Board.
- 14 POS Mini D Ribbon (MDR) Cable
- A Male-to-Micro B Male USB Cable

***Note:*** *For testing the MAX7037 EV kit, two sets of above-mentioned packages of EV kits are required; one used as a transmitter and one as a receiver.*

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

## MAX7037_315MHz EV Kit Board Photo



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## Quick Start

### Required Equipment and Accessories

- One PC or laptop
- Two A Male-to-Micro-B male USB cables
- Two 14 POS Mini-D Ribbon (MDR) cables
- One SMA cable and several attenuators, total 60dB
- Two MAX7037_315MHz, MAX7037_434MHz, MAX7037_868MHz, or MAX7037_915MHz EV kits
- Two Siam Kitty boards

### Jumper Configurations

Shunt J2, J3, J6, J10. J2 has three pins. The two that are shunted are the left-most two pins. J10 also has three pins. The two that are shunted are the top-most two pins. Any jumpers or headers not mentioned here should be left unshorted. Figure 1 shows the location of these jumpers.

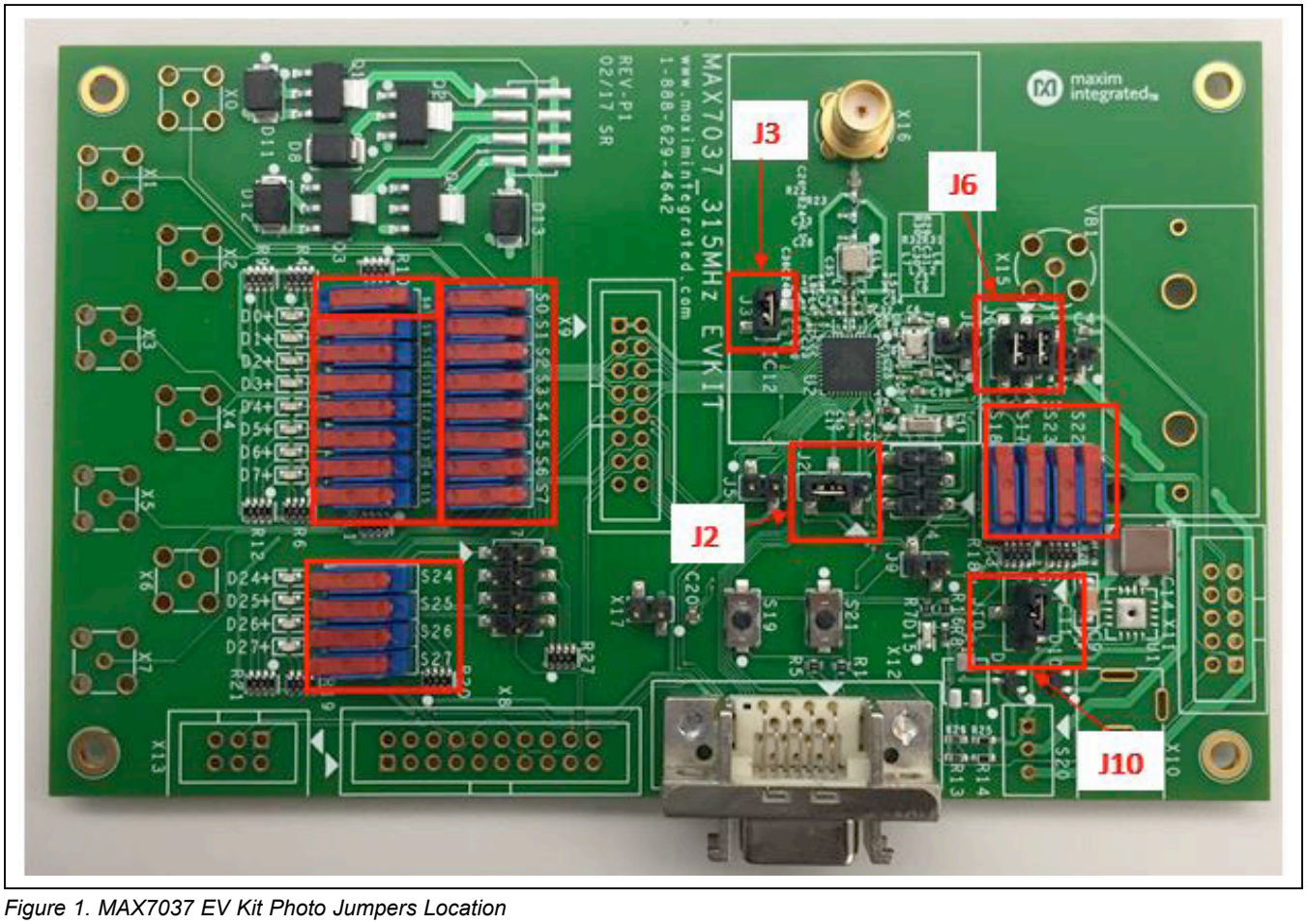



*Figure 1. MAX7037 EV Kit Photo Jumpers Location*

## DIP Switch Settings

Four DIP switches on the EV kit should be configured as described below:

- The four-switch DIP labeled S22, S23, S17, and S18 should all be slid to the upper position, as displayed in Figure 1.
- The four-switch DIP labelled S24–S27 should all be slid to the left position, as shown in Figure 1.
- The 8-switch DIP labelled S0–S7 should all be slid to the right position, as shown in Figure 1.
- The 8-switch DIP labelled S8–S15 should have all but the top-most switch slid to the left, as shown in Figure 1. The top switch of this particular DIP (i.e., the S8 switch) should be slid to the right.

## Installing the Host Software

The host software is used to download the firmware to the MAX7037 IC.

Download the *MAX7037host.exe* file from **Maxim**.

1) Save the file to whatever working folder you wish. Note the location of the folder and make sure that the Siam Kitty Board is unplugged during install.
2) Download the FTDI drivers from **Maxim.**
3) Extract the drivers and install.
4) Connect the first Siam Kitty board to a USB port of the computer and wait at least 30 seconds. If the drivers are installed correctly, the yellow LED in the Siam Kitty board should be illuminated.
5) Open a DOS command window and navigate to the directory where the host software is located. For example, if it is in C:\myfolder\MAX7037, then issue the command "cd C:\myfolder\MAX7037".
6) In the command window, type "*MAX7073host.exe"* and hit enter. You should see all the options of the command line tool and their descriptions. Type "*MAX7037host.exe -scan"* and hit "*Enter"*. If the device is connected, at the bottom of the screen you will see a line containing the serial number of the first Siam Kitty board, for example "**Device 0: SKZ8TKQZA**". Note the serial number obtained with the scan operation (e.g., "**SKZ8TKQZA**"), and designate this Siam Kitty board as the transmitter.
7) Connect the second Siam Kitty board to the same computer and wait at least 30 seconds. Type "MAX7037host.exe -scan" and hit enter. If both Siam Kitty boards are connected, you will see a screen that shows two lines containing the serial number of the first and second Siam Kitty boards, for example "**Device 0: SKZ8TKQZA**" and "**Device 1: SKZ8TN4TA**". Note the serial number of the **Device 1** obtained with scan operation (e.g., "**SKZ8TN4TA**") and designate the second Siam Kitty board as the receiver.

## Connections

1) Connect the first MAX7037 EV kit, X12 connector, to the first Siam Kitty board (i.e., SKZ8TKQZA) through a Mini-D Ribbon (MDR) cable and consider it to be the transmitter. The power for the EV kit is provided by the Siam Kitty board.
2) Connect the second MAX7037 EV kit to the second Siam Kitty Board (i.e., SKZ8TN4TA) and consider it as the receiver.
3) Connect an SMA Cable to the Ant SMA connector (X16) of the EV kit designated as the transmitter. Then connect 60dB of attenuation at the other end of the SMA Cable and connect it to the Ant SMA connector (X16) of the EV kit designated as the receiver.

## Downloading Firmware

1) Download the MAX7037_FW_V1.0.hex firmware binary file from **Maxim** to the same folder the *MAX7037host.exe* file was downloaded.
2) To program *MAX7037_FW_V1.0.hex* to the MAX7037 IC of the transmitter EV kit, type the command "MAX7037host.exe -sn SKZ8TKQZA -wprg MAX7037_FW_V1.0.hex" into the command line interface, then hit "Enter". Note that this is an example. Replace the serial number with the one obtained with the scan operation.
3) To program *MAX7037_FW_V1.0.hex* to MAX7037 IC of the receiver EV kit, type the command "MAX7037host.exe -sn SKZ8TN4TA -wprg MAX7037_FW_V1.0.hex" into the command line interface, then hit "Enter". Note that this is an example. Replace the serial number with the one obtained with the scan operation.

## Downloading TeraTerm Program

This program can be downloaded for free from the **TeraTerm Homepage**. Since it is known that TeraTerm works well with no issues, it is recommended for use with the MAX7037 EV kit.

1) Start TeraTerm. A dialog box will be opened along with a terminal window. Click on the Serial button. Then, click on the pull down menu for Port. At this point, you have to select which COM port to use. Typically, the only way to find this out is by trial-and-error; that is, select each port in turn and see if it works. Once the port is known, it will not change, so it should just be noted. Then, on subsequent startups, you can just directly select the known COM port.

As an example, if COM1 is the first COM port indicated by the TeraTerm New Connection dialog box, select this, and click “OK”. Then, in the terminal window, select Setup -> Serial Port… Click on Baud rate, and select 38400. All other serial port parameters should remain as default. The default settings are Data = 8 bit, Parity = none, Stop = 1 bit, Flow Control = none. Click on “OK”.
***Note:*** *An important point is that the serial link only operates correctly at a baud rate of 38400 bits per second.*

2) Press the RESET button on the transmitter EV kit and see if the following command prompt appears in the terminal window: “***Welcome to 7037 command line interface, type ‘help’ for available commands***”. If no text appears, then the correct COM port is not selected, and you have to repeat the procedure with the next COM port in the list. Select Setup -> Serial Port…, then select the next COM port in the Serial Port Setup window. Click OK, then press the EV kit’s RESET button. Once you have found the correct COM port, the command prompt will appear.
***Note:*** *When starting up the terminal display, it is common to forget to configure the Baud rate (defaults to 9600bps). In this case, when you press the EV kit RESET button, some strange characters will be printed to the display.*

3) Repeat the whole procedure to find and configure the COM port of the receiver EV kit. Open a second TeraTerm display, and find which COM port it is connected to.

4) In the typical usage case, where two EV kits are connected to the same PC, and where one EV kit is designated the transmitter and the other the receiver, it is recommended to put a label on the transmitter and receiver EV kits indicating which is the transmitter and which is the receiver. Make a note of which COM port number corresponds to the transmitter and which to the receiver. Position the two terminal windows on the PC display with transmitter on left and receiver on right just so as to be able to keep track of which is which. It is also possible to change the text at the top of the terminal window to indicate the transmitter or receiver. Select Setup -> Window and type the desired header text into the Title field.

## Procedure

The EV kits are configured and controlled via the serial communication port of the MAX7037. The details of the commands are contained in the MAX7037 data sheet, *Communication* section. Refer to that document for detailed information.

1) Configure the transmitter EV kit to the desired mode, e.g., FSK, 315MHz, 31.25Kbps operation: On the transmitter terminal window, type the command:
**>>config_tx_radio 3, for 315MHz, FSK, 31.25Kbps**,
**>>config_tx_radio 4, for 434MHz, FSK, 31.25Kbps**,
**>>config_tx_radio 6, for 868MHz, FSK, 31.25Kbps**,
**>>config_tx_radio 1, for 902MHz, FSK, 31.25Kbps**,
**>>config_tx_radio 2, for 915MHz, FSK, 125Kbps**,
**>>config_tx_radio 5, for 928MHz, FSK, 125Kbps**,
then press Enter.

2) Configure the receiver EV kit to the same mode as transmitter:
On the receiver terminal window, type the command:
**>>config_rx_radio 3, for 315MHz, FSK, 31.25Kbps**,
**>>config_rx_radio 4, for 434MHz, FSK, 31.25Kbps**,
**>>config_rx_radio 6, for 868MHz, FSK, 31.25Kbps**,
**>>config_rx_radio 1, for 902MHz, FSK, 31.25Kbps**,
**>>config_rx_radio 2, for 915MHz, FSK, 125Kbps**,
**>>config_rx_radio 5, for 928MHz, FSK, 125Kbps**,
then press enter.

3) Load the packet to be used in the test to the transmitter EV kit:
On the transmitter terminal window, type the command: **>>write_tx_pkt 3**, then press Enter.

4) Load the packet to be used in the test to the receiver EV kit:
On the receiver terminal window, type the command: **>>write_rx_pkt 3**, then press Enter.

5) Reset the BER value of the receiver EV kit:
On the receiver terminal window, type the command: **>>reset_ber**, then press Enter.

6) Enable BER measurement at the receiver EV kit:
On the receiver terminal window, type the command: **>>ber_enable**, then press Enter.

7) Set the interval of the transmitter EV kit:
On the transmitter terminal window, type the command: **>>tx_interval 20**, then press Enter.

8) Configure transmitter EV kit to transmit the packet continuously:
On the transmitter terminal window, type the command: **>>send_pkt 0**, then hit enter. Once you press **Enter**, the **D0 LED** (located beside the S8 switch of the 8-switch DIP labelled S8–S15) on the transmitter EV kit will start blinking.

9) Configure receiver EV kit to receive packets:
On the receiver terminal window, type the command: **>>rx_pkt_start**, then hit enter. Once you press Enter, the **D0 LED** on the receiver EV kit also will start blinking.

10) Run the test until at least 100,000 bits have been received. For this purpose, the test should be run for at least 42 seconds. You can monitor the current Bit Error Rate (BER) value, and how many bits have been transmitted, by issuing command **>>read_ber**, on the receiver terminal window. When you type the command, you may not see the command on the terminal window. In such a case, type the command and press Enter. If you mistype, you will receive the "**not a valid cmd**", then, retype the command and press Enter.

11) After 100,000 bits have been received, stop transmission at transmitter EV kit:
On the transmitter terminal window, type the command: **>>q**, then press Enter. Once you press Enter, the **D0 LEDs** on the transmitter and receiver EV kits will stop blinking.

12) Stop reception at receiver EV kit:
On the receiver terminal window, type the command: **>>rx_pkt_stop**, then press Enter. The numerator of the BER value should be 0.

13) Reset both EV kits by pressing the RESET button on the EV kit.

14) Swap the role of transmit and receive EV kits by designating the transmitter terminal window as receiver and vice versa. Then repeat the above procedure from step 1.

Note that this procedure is testing two EV kits at a time. In the first pass, the transmit functionality of one EV kit and the receive functionality of the other EV kit is being tested. In the second pass, the roles of transmitter and receiver are reversed. This two-pass procedure provides test coverage of both transmit and receive functionality of both EV kits.

## Changing EV Kit for Operation at Other Frequencies

In order to change the operating frequency of an EV kit, it is necessary to install the correct RF matching components between the IC and the antenna SMA connector. EV kits are shipped from Maxim with the components corresponding to the 315MHz, 434MHz, 868MHz, or 915MHz frequencies. Refer to Table 1 to determine how to modify the RF front-end circuitry to allow operation at other frequencies.

## Table 1. RF Matching Components

| RF MATCHING COMPONENTS TO CONFIGURE AN EV KIT TO WORK AT ONE OF THE BELOW FREQUENCIES | | | | |
|---|---|---|---|---|
| **COMPONENT** | | | | |
| **FREQUENCY (MHz)** | **315** | **434** | **868** | **902/915/928** |
| **SAW Filter/Balun Option** | SAW Filter | SAW Filter | SAW Filter | Balun |
| R24/R29/R30 | 0Ω | 0Ω | 0Ω | OPEN |
| R22/R23/R31/R32 | OPEN | OPEN | OPEN | 0Ω |
| C30/C31 | 220pF | 220pF | 8.2pF | OPEN |
| L2/L3 | 33nH | 27nH | 8.2nH | OPEN |
| FL1 | B3741 | B3743 | B3744 | OPEN |
| L1 | 68nH | 47nH | 22nH | OPEN |
| L4 | 120nH | 100nH | 100nH | 100nH |
| C33 | OPEN | OPEN | 2.7pF | OPEN |
| C34/C35 | OPEN | OPEN | OPEN | 1.8pF |
| L5/L6/L7/L8/L9 | OPEN | OPEN | OPEN | 18nH |
| C3 | OPEN | OPEN | OPEN | 1.5pF |
| C36 | OPEN | OPEN | OPEN | 220pF |

## Component Suppliers

| SUPPLIER | WEBSITE |
|---|---|
| Murata | http://www.murata.com/ |
| TDK | http://www.tdk.com/ |
| Taiyo Yuden | http://www.t-yuden.com/ |
| Vishay | http://www.vishay.com/ |
| Lite-On Inc. | http://www.us.liteon.com/ |
| Diodes Incorporated | http://www.diodes.com/ |
| Broadcom Limited (Avago) | http://www.avagotech.com/ |
| EPCOS (TDK) | http://en.tdk.eu/ |
| Samtec Inc. | https://www.samtec.com/ |
| Apem Inc. | http://www.apem.com/ |
| C&K Component | http://www.ck-components.com/ |
| 3M | http://www.3m.com/ |
| Johnson | http://www.cinch.com/ |
| NDK (Nihon Dempa Kogyo Co) | http://www.ndk.com/ |
| TXC Corporation | http://www.txccrystal.com/ |
| KEMET | http://www.kemet.com/ |
| Panasonic Electronic Components | https://na.industrial.panasonic.com/ |
| Sullins Connector Solutions | http://www.sullinscorp.com/ |

## MAX7037_315MHz EV Kit Bill of Materials

| Item | Reference | Qty | Value | Tolerance | Description | Part Number | Manufacturer |
|---|---|---|---|---|---|---|---|
| 1 | C1, C19 | 2 | 10pF | ±10% | 0603 CERAMIC CAPACITOR, SMT | C0603C100K1GAC | KEMET |
| 2 | C2, C13 | 2 | 100pF | ±5% | 0603 CERAMIC CAPACITOR, SMT | C0603C101J5GAC/ GRM1885C1H101JA01 | KEMET/ MURATA |
| 3 | C3, C9, C21, C28, C33-C35, C36 | 8 | Do not install | | | | |
| 4 | C4, C6, C10, C12, C15-C18, C20 | 9 | 0.1µF | ±10% | 0603 CERAMIC CAPACITOR, SMT | GRM188R72A104KA35/CC0603KRX7R0BB104 | MURATA/TDK |
| 9 | C5, C22-C25, C27, C29, C30, C31, C32 | 10 | 220pF | ±10% | 0402 CERAMIC CAPACITOR, SMT | GRM155R71H221KA01 | MURATA |
| 5 | C7, C8 | 2 | 10pF | ±5% | 0402 CERAMIC CAPACITOR, SMT | C0402C100J5GAC; GRM1555C1H100JA01 | KEMET/ MURATA |
| 6 | C11 | 1 | 22µF | ±10% | 1206 CERAMIC CAPACITOR, SMT | GRM31CR70J226K | MURATA |
| 7 | C14 | 1 | 47µF | ±20% | 2220 CERAMIC CAPACITOR, SMT | C5750X7R1C476M230KB | TDK |
| 8 | C26 | 1 | 820pF | ±10% | 0603 CERAMIC CAPACITOR, SMT | GRM188R71H821KA01 | MURATA |
| 10 | D0-D7, D24-D27 | 12 | LTST-C190KRKT | | DIODE; LED; ULTRA BRIGHT AlInCaP CHIP LED; RED; SMT; VF=2V; IF=0.025A | LTST-C190KRKT | LITE-ON ELECTRONICS; INC. |
| 11 | D8, D11-D13 | 4 | 36V | | DIODE; TVS; SMB (DO-214AA); VRM=36V; IPP=10.3A | SMBJ36A-E3 | VISHAY GENERAL SEMICONDUCTOR |
| 12 | D9, D10 | 2 | BAS16-7-F | | DIODE; SWT; SMT (SOT-23); PIV=75V; IF=0.3A | BAS16-7-F | DIODES INCORPORATED |
| 13 | D15 | 1 | HSMG-C190 | | DIODE; LED; SURFACE MOUNT CHIP LED; GREEN; SMT (0603); PIV=2.2V; IF=0.02A | HSMG-C190 | AVAGO TECHNOLOGIES |
| 14 | FL1 | 1 | 315.0MHZ | | FILTER; SAW; B3741 SERIES; SMT; 315.0MHZ | B39321B3741H110 | TDK |
| 15 | J1, J3, J5, J8, J9, X17 | 6 | TSM-102-01-L-SV | | CONNECTOR; MALE; SMT; SINGLE ROW; STRAIGHT THROUGH; 2PINS | TSM-102-01-L-SV | SAMTEC |
| 16 | J2, J10 | 2 | TSM-103-01-T-SV | | CONNECTOR; MALE; SMT; TSM SERIES; STRAIGHT; 3PINS | TSM-103-01-T-SV | SAMTEC |
| 17 | J4 | 1 | TSM-103-01-T-DV | | CONNECTOR; MALE; SMT; SMT .025IN SQ POST HEADER; STRAIGHT; 6PINS | TSM-103-01-T-DV | SAMTEC |
| 18 | J6 | 1 | TSM-102-01-T-DV | | CONNECTOR; MALE; SMT; .025IN SQ POST HEADER; STRAIGHT; 4PINS | TSM-102-01-T-DV | SAMTEC |
| 19 | J7 | 1 | TSM-104-01-L-DV | | CONNECTOR; MALE; SMT; SMT .025IN SQ POST HEADER; STRAIGHT; 8PINS | TSM-104-01-L-DV | SAMTEC |
| 20 | L1 | 1 | 68nH | ±2% | 0402 WIREWOUND INDUCTOR, SMT | LQW15AN68NG00 | MURATA |
| 21 | L2, L3 | 2 | 33nH | ±5% | 0402 CERAMIC INDUCTOR, SMT | HK100533NJ | TAIYO YUDEN |
| 22 | L4 | 1 | 120nH | ±5% | 0402 CERAMIC INDUCTOR, SMT | HK1005R12J | TAIYO YUDEN |
| 23 | L5-L9 | 5 | Do not install | | | | |
| 24 | Q1-Q4 | 4 | ZXMS6006DGTA | | TRAN; 60V N-CHANNEL SELF PROTECTED ENHANCEMENT MODE INTELLIFET MOSFET; NCH; SOT223-4; PD-(3W); I-(2.8A); V-(60V)) | ZXMS6006DGTA | DIODES INCORPORATED |
| 25 | R1, R7, R18 | 3 | 10K OHM | ±1% | 0603 THICK FILM RESISTOR, 0.10W | CRCW060310K0FK/ERJ-3EKF1002 | VISHAY DALE/PANASONIC |
| 26 | R2 | 1 | 1M OHM | ±1% | 0603 THICK FILM RESISTOR, 0.10W | CRCW06031M00FK,MCR03EZPFX1004 | VISHAY DALE/ROHM |
| 27 | R3 | 1 | 10K OHM | ±5% | 1206 ARRAY RESISTOR, SMT, 0.063W | CRA06P083103K0J | VISHAY DALE |
| 28 | R4, R6, R10, R11, R15, R19, R20, R27 | 8 | 100K OHM | ±5% | 1206 ARRAY RESISTOR, SMT, 0.063W | CRA06P083100KJ | VISHAY DALE |
| 29 | R5 | 1 | 100 OHM | ±1% | 0603 THICK FILM RESISTOR, 0.10W | CRCW0603100RFK/ERJ-3EKF1000 | VISHAY DALE/PANASONIC |
| 30 | R8 | 1 | 270 OHM | ±1% | 0603 THICK FILM RESISTOR, 0.10W | CRCW0603270RFK | VISHAY DALE |
| 31 | R9, R12, R21 | 3 | 330 OHM | ±5% | 1206 ARRAY RESISTOR, SMT, 0.063W | CRA06P083330RJ | VISHAY DALE |
| 32 | R13, R26 | 2 | 33K OHM | ±1% | 0603 THICK FILM RESISTOR, 0.10W | CRCW0603333K0FK | VISHAY DALE |
| 33 | R14, R25 | 2 | 56K OHM | ±1% | 0603 THICK FILM RESISTOR, 0.10W | CRCW0603356K0FK | VISHAY DALE |
| 34 | R16 | 1 | 0 OHM | 0%; JUMPER | 0603 THICK FILM RESISTOR, 0.25W | CRCW06030000Z0EAHP | VISHAY DRALORIC |
| 35 | R17, R22-R23, R31-R32 | 5 | Do not install | | | | |
| 36 | R24, R29, R30 | 3 | 0 OHM | 0%; JUMPER | 0402 THICK FILM RESISTOR, 0.10W | ERJ-2GE0R00X | PANASONIC |
| 37 | R28 | 1 | 1.8M OHM | ±1% | 0603 THICK FILM RESISTOR, 0.10W | CRCW06031M80FK | VISHAY DALE |
| 38 | P1 | 1 | Do not install | | | | |
| 39 | S0-S15, S17, S18, S22-S27 | 24 | NK236 | | SWITCH; SPDT; THROUGH HOLE; 12V; 0.5A; NK SERIES; RCOIL= OHM; RINSULATION= OHM; APEM | NK236 | APEM |
| 40 | S19, S21 | 2 | KSR211GLFS | | SWITCH, SPST, 32V, 0.05A, SUBMINIATURE TACT SWITCH, RCOIL=10G OHM | KSR211GLFS | C&K COMPONENTS |
| 41 | S20 | 1 | Do not install | | | | |
| 42 | SH1-SH6 | 6 | STC02SYAN | | TEST POINT; JUMPER; STR; TOTAL LENGTH=0.256IN; BLACK; INSULATION=PBT CONTACT=PHOSPHOR BRONZE; COPPER PLATED TIN OVERALL | STC02SYAN | SULLINS ELECTRONICS CORP. |
| 43 | U1 | 1 | Do not install | | | | |

## MAX7037_315MHz EV Kit Bill of Materials (continued)

| Item | Reference | Qty | Value | Tolerance | Description | Part Number | Manufacturer |
|---|---|---|---|---|---|---|---|
| 44 | U2 | 1 | MAX7037EGL+ | | EVKIT PART-IC; TXRX; SUB-1GHZ; ULTRA LOW POWER; RF ISM TRANSCEIVER FOR CUSTOMER/INDUSTRIAL APPLICATION; TQFN40-EP 6X6 | MAX7037EGL+ | MAXIM |
| 45 | VB1 | 1 | Do not install | | | | |
| 46 | X0-X11, X13-X15 | 15 | Do not install | | | | |
| 47 | X12 | 1 | N10214-5212PC | | CONNECTOR; FEMALE; THROUGH HOLE; MINI D RIBBON; RIGHT ANGLE; 14PINS | N10214-5212PC | 3M ELECTRONIC SOLUTIONS DIVISION |
| 48 | X16 | 1 | 142-0701-201 | | CONNECTOR; FEMALE THREADED; THROUGH HOLE; SMA; STRAIGHT THROUGH; 5PINS | 142-0701-201 | JOHNSON COMPONENTS |
| 49 | Z1 | 1 | 16MHZ | | CRYSTAL; SMT 2.5MMX2MM; 8PF; 16MHZ; +/-10PPM; +/-10PPM | NX2520SA-16MHZ-STD-CSX-1 | NIHON DEMPA KOGYO CO |
| 50 | Z2 | 1 | 32.768KHZ | | CRYSTAL; SMT 3.2MMX1.5MM; 12.5PF; 32.768KHZ; +/-20PPM | 9HT10-32.768KEZF-T | TXC CORPORATION |
| 51 | PCB | 1 | PCB | | PCB:MAX7037315MHZ | MAX7037315MHZ | MAXIM |
| TOTAL | | 169 | | | | | |

## MAX7037_434MHz EV Kit Bill of Materials

| Item | Reference | Qty | Value | Tolerance | Description | Part Number | Manufacturer |
|---|---|---|---|---|---|---|---|
| 1 | C1, C19 | 2 | 10pF | ±10% | 0603 CERAMIC CAPACITOR, SMT | C0603C100K1GAC | KEMET |
| 2 | C2, C13 | 2 | 100pF | ±5% | 0603 CERAMIC CAPACITOR, SMT | C0603C101J5GAC/ GRM1885C1H101JA01 | KEMET/ MURATA |
| 3 | C3, C9, C21, C28, C33-C35, C36 | 8 | Do not install | | | | |
| 4 | C4, C6, C10, C12, C15-C18, C20 | 9 | 0.1µF | ±10% | 0603 CERAMIC CAPACITOR, SMT | GRM188R72A104KA35/ CC0603KRX7R0BB104 | MURATA/ TDK |
| 9 | C5, C22-C25, C27, C29, C30, C31, C32 | 10 | 220pF | ±10% | 0402 CERAMIC CAPACITOR, SMT | GRM155R71H221KA01 | MURATA |
| 5 | C7, C8 | 2 | 10pF | ±5% | 0402 CERAMIC CAPACITOR, SMT | C0402C100J5GAC; GRM1555C1H100JA01 | KEMET/ MURATA |
| 6 | C11 | 1 | 22µF | ±10% | 1206 CERAMIC CAPACITOR, SMT | GRM31CR70J226K | MURATA |
| 7 | C14 | 1 | 47µF | ±20% | 2220 CERAMIC CAPACITOR, SMT | C5750X7R1C476M230KB | TDK |
| 8 | C26 | 1 | 820pF | ±10% | 0603 CERAMIC CAPACITOR, SMT | GRM188R71H821KA01 | MURATA |
| 10 | D0-D7, D24-D27 | 12 | LTST-C190KRKT | | DIODE; LED; ULTRA BRIGHT AlInCaP CHIP LED; RED; SMT; VF=2V; IF=0.025A | LTST-C190KRKT | LITE-ON ELECTRONICS; INC. |
| 11 | D8, D11-D13 | 4 | 36V | | DIODE; TVS; SMB (DO-214AA); VRM=36V; IPP=10.3A | SMBJ36A-E3 | VISHAY GENERAL SEMICONDUCTOR |
| 12 | D9, D10 | 2 | BAS16-7-F | | DIODE; SWT; SMT (SOT-23); PIV=75V; IF=0.3A | BAS16-7-F | DIODES INCORPORATED |
| 13 | D15 | 1 | HSMG-C190 | | DIODE; LED; SURFACE MOUNT CHIP LED; GREEN; SMT (0603); PIV=2.2V; IF=0.02A | HSMG-C190 | AVAGO TECHNOLOGIES |
| 14 | FL1 | 1 | 433.92MHZ | | FILTER; SAW; B3743 SERIES; SMT; 433.92MHZ | B39431B3743H110 | TDK |
| 15 | J1, J3, J5, J8, J9, X17 | 6 | TSM-102-01-L-SV | | CONNECTOR; MALE; SMT; SINGLE ROW; STRAIGHT THROUGH; 2PINS | TSM-102-01-L-SV | SAMTEC |
| 16 | J2, J10 | 2 | TSM-103-01-T-SV | | CONNECTOR; MALE; SMT; TSM SERIES; STRAIGHT; 3PINS | TSM-103-01-T-SV | SAMTEC |
| 17 | J4 | 1 | TSM-103-01-T-DV | | CONNECTOR; MALE; SMT; SMT .025IN SQ POST HEADER; STRAIGHT; 6PINS | TSM-103-01-T-DV | SAMTEC |
| 18 | J6 | 1 | TSM-102-01-T-DV | | CONNECTOR; MALE; SMT; .025IN SQ POST HEADER; STRAIGHT; 4PINS | TSM-102-01-T-DV | SAMTEC |
| 19 | J7 | 1 | TSM-104-01-L-DV | | CONNECTOR; MALE; SMT; SMT .025IN SQ POST HEADER; STRAIGHT; 8PINS | TSM-104-01-L-DV | SAMTEC |
| 20 | L1 | 1 | 47nH | ±2% | 0402 WIREWOUND INDUCTOR, SMT | LQW15AN47NG00 | MURATA |
| 21 | L2, L3 | 2 | 27nH | ±5% | 0402 CERAMIC INDUCTOR, SMT | HK100527NJ | TAIYO YUDEN |
| 22 | L4 | 1 | 100nH | ±5% | 0402 CERAMIC INDUCTOR, SMT | HK1005R10J | TAIYO YUDEN |
| 23 | L5-L9 | 5 | Do not install | | | | |
| 24 | Q1-Q4 | 4 | ZXMS6006DGTA | | TRAN; 60V N-CHANNEL SELF PROTECTED ENHANCEMENT MODE INTELLIFET MOSFET; NCH; SOT223-4; PD-(3W); I-(2.8A); V-(60V)) | ZXMS6006DGTA | DIODES INCORPORATED |
| 25 | R1, R7, R18 | 3 | 10K OHM | ±1% | 0603 THICK FILM RESISTOR, 0.10W | CRCW060310K0FK/ ERJ-3EKF1002 | VISHAY DALE/ PANASONIC |
| 26 | R2 | 1 | 1M OHM | ±1% | 0603 THICK FILM RESISTOR, 0.10W | CRCW06031M00FK; MCR03EZPFX1004 | VISHAY DALE/ ROHM |
| 27 | R3 | 1 | 10K OHM | ±5% | 1206 ARRAY RESISTOR, SMT, 0.063W | CRA06P08310K0J | VISHAY DALE |
| 28 | R4, R6, R10, R11, R15, R19, R20, R27 | 8 | 100K OHM | ±5% | 1206 ARRAY RESISTOR, SMT, 0.063W | CRA06P083100K0J | VISHAY DALE |
| 29 | R5 | 1 | 100 OHM | ±1% | 0603 THICK FILM RESISTOR, 0.10W | CRCW0603100RFK/ ERJ-3EKF1000 | VISHAY DALE/ PANASONIC |

## MAX7037_434MHz EV Kit Bill of Materials (continued)

| Item | Reference | Qty | Value | Tolerance | Description | Part Number | Manufacturer |
|---|---|---|---|---|---|---|---|
| 30 | R8 | 1 | 270 OHM | ±1% | 0603 THICK FILM RESISTOR, 0.10W | CRCW0603270RFK | VISHAY DALE |
| 31 | R9, R12, R21 | 3 | 330 OHM | ±5% | 1206 ARRAY RESISTOR, SMT, 0.063W | CRA06P083330RJ | VISHAY DALE |
| 32 | R13, R26 | 2 | 33K OHM | ±1% | 0603 THICK FILM RESISTOR, 0.10W | CRCW060333K0FK | VISHAY DALE |
| 33 | R14, R25 | 2 | 56K OHM | ±1% | 0603 THICK FILM RESISTOR, 0.10W | CRCW060356K0FK | VISHAY DALE |
| 34 | R16 | 1 | 0 OHM | 0%, JUMPER | 0603 THICK FILM RESISTOR, 0.25W | CRCW06030000Z0EAHP | VISHAY DRALORIC |
| 35 | R17, R22-R23, R31-R32 | 5 | Do not install | | | | |
| 36 | R24, R29, R30 | 3 | 0 OHM | 0%, JUMPER | 0402 THICK FILM RESISTOR, 0.10W | ERJ-2GE0R00X | PANASONIC |
| 37 | R28 | 1 | 1.8M OHM | ±1% | 0603 THICK FILM RESISTOR, 0.10W | CRCW06031M80FK | VISHAY DALE |
| 38 | P1 | 1 | Do not install | | | | |
| 39 | S0-S15, S17, S18, S22-S27 | 24 | NK236 | | SWITCH; SPDT; THROUGH HOLE; 12V; 0.5A; NK SERIES; RCOIL= OHM; RINSULATION= OHM; APEM | NK236 | APEM |
| 40 | S19, S21 | 2 | KSR211GLFS | | SWITCH, SPST, 32V, 0.05A, SUBMINIATURE TACT SWITCH, RCOIL=10G OHM | KSR211GLFS | C&K COMPONENTS |
| 41 | S20 | 1 | Do not install | | | | |
| 42 | SH1-SH6 | 6 | STC02SYAN | | TEST POINT; JUMPER; STR; TOTAL LENGTH=0.256IN; BLACK; INSULATION=PBT CONTACT=PHOSPHOR BRONZE; COPPER PLATED TIN OVERALL | STC02SYAN | SULLINS ELECTRONICS CORP. |
| 43 | U1 | 1 | Do not install | | | | |
| 44 | U2 | 1 | MAX7037EGL+ | | EVKIT PART-IC; TXRX; SUB-1GHZ; ULTRA LOW POWER; RF ISM TRANSCEIVER FOR CUSTOMER/INDUSTRIAL APPLICATION; TQFN40-EP 6X6 | MAX7037EGL+ | MAXIM |
| 45 | VB1 | 1 | Do not install | | | | |
| 46 | X0-X11, X13-X15 | 15 | Do not install | | | | |
| 47 | X12 | 1 | N10214-5212PC | | CONNECTOR; FEMALE; THROUGH HOLE; MINI D RIBBON; RIGHT ANGLE; 14PINS | N10214-5212PC | 3M ELECTRONIC SOLUTIONS DIVISION |
| 48 | X16 | 1 | 142-0701-201 | | CONNECTOR; FEMALE THREADED; THROUGH HOLE; SMA; STRAIGHT THROUGH; 5PINS | 142-0701-201 | JOHNSON COMPONENTS |
| 49 | Z1 | 1 | 16MHZ | | CRYSTAL; SMT 2.5MMX2MM; 8PF; 16MHZ; +/-10PPM; +/-10PPM | NX2520SA-16MHZ-STD-CSX-1 | NIHON DEMPA KOGYO CO |
| 50 | Z2 | 1 | 32.768KHZ | | CRYSTAL; SMT 3.2MMX1.5MM; 12.5PF; 32.768KHZ; +/-20PPM | 9HT10-32.768KEZF-T | TXC CORPORATION |
| 51 | PCB | 1 | PCB | | PCB:MAX7037434MHZ | MAX7037434MHZ | MAXIM |
| TOTAL | | 169 | | | | | |

## MAX7037_868MHz EV Kit Bill of Materials

| Item | Reference | Qty | Value | Tolerance | Description | Part Number | Manufacturer |
|---|---|---|---|---|---|---|---|
| 1 | C1, C19 | 2 | 10pF | ±10% | 0603 CERAMIC CAPACITOR, SMT | C0603C100K1GAC | KEMET |
| 2 | C2, C13 | 2 | 100pF | ±5% | 0603 CERAMIC CAPACITOR, SMT | C0603C101J5GAC/ GRM1885C1H101JA01 | KEMET/ MURATA |
| 3 | C3, C9, C21, C28, C34-C35, C36 | 7 | Do not install | | | | |
| 4 | C4, C6, C10, C12, C15-C18, C20 | 9 | 0.1µF | ±10% | 0603 CERAMIC CAPACITOR, SMT | GRM188R72A104KA35/ CC0603KRX7R0BB104 | MURATA/ TDK |
| 5 | C5, C22-C25, C27, C29, C32 | 8 | 220pF | ±10% | 0402 CERAMIC CAPACITOR, SMT | GRM155R71H221KA01 | MURATA |
| 6 | C7, C8 | 2 | 10pF | ±5% | 0402 CERAMIC CAPACITOR, SMT | C0402C100J5GAC; GRM1555C1H100JA01 | KEMET/ MURATA |
| 7 | C11 | 1 | 22µF | ±10% | 1206 CERAMIC CAPACITOR, SMT | GRM31CR70J226K | MURATA |
| 8 | C14 | 1 | 47µF | ±20% | 2220 CERAMIC CAPACITOR, SMT | C5750X7R1C476M230KB | TDK |
| 9 | C26 | 1 | 820pF | ±10% | 0603 CERAMIC CAPACITOR, SMT | GRM188R71H821KA01 | MURATA |
| 10 | C30, C31 | 2 | 8.2pF | ±0.25pF | 0402 CERAMIC CAPACITOR, SMT | GRM1555C1H8R2CA01 | MURATA |
| 11 | C33 | 1 | 2.7pF | ±0.25pF | 0402 CERAMIC CAPACITOR, SMT | GRM1555C1H2R7CA01 | MURATA |
| 12 | D0-D7, D24-D27 | 12 | LTST-C190KRKT | | DIODE; LED; ULTRA BRIGHT AlInCaP CHIP LED; RED; SMT; VF=2V; IF=0.025A | LTST-C190KRKT | LITE-ON ELECTRONICS; INC. |
| 13 | D8, D11-D13 | 4 | 36V | | DIODE; TVS; SMB (DO-214AA); VRM=36V; IPP=10.3A | SMBJ36A-E3 | VISHAY GENERAL SEMICONDUCTOR |
| 14 | D9, D10 | 2 | BAS16-7-F | | DIODE; SWT; SMT (SOT-23); PIV=75V; IF=0.3A | BAS16-7-F | DIODES INCORPORATED |
| 15 | D15 | 1 | HSMG-C190 | | DIODE; LED; SURFACE MOUNT CHIP LED; GREEN; SMT (0603); PIV=2.2V; IF=0.02A | HSMG-C190 | AVAGO TECHNOLOGIES |
| 16 | FL1 | 1 | 868.30MHZ | | FILTER; SAW; B3744 SERIES; SMT; 868.30MHZ | B39871B3744H110 | TDK |
| 17 | J1, J3, J5, J8, J9, X17 | 6 | TSM-102-01-L-SV | | CONNECTOR; MALE; SMT; SINGLE ROW; STRAIGHT THROUGH; 2PINS | TSM-102-01-L-SV | SAMTEC |
| 18 | J2, J10 | 2 | TSM-103-01-T-SV | | CONNECTOR; MALE; SMT; TSM SERIES; STRAIGHT; 3PINS | TSM-103-01-T-SV | SAMTEC |
| 19 | J4 | 1 | TSM-103-01-T-DV | | CONNECTOR; MALE; SMT; SMT .025IN SQ POST HEADER; STRAIGHT; 6PINS | TSM-103-01-T-DV | SAMTEC |
| 20 | J6 | 1 | TSM-102-01-T-DV | | CONNECTOR; MALE; SMT; .025IN SQ POST HEADER; STRAIGHT; 4PINS | TSM-102-01-T-DV | SAMTEC |
| 21 | J7 | 1 | TSM-104-01-L-DV | | CONNECTOR; MALE; SMT; SMT .025IN SQ POST HEADER; STRAIGHT; 8PINS | TSM-104-01-L-DV | SAMTEC |
| 22 | L1 | 1 | 22nH | ±2% | 0402 WIREWOUND INDUCTOR, SMT | LQW15AN22NG00 | MURATA |
| 23 | L2, L3 | 2 | 8.2nH | ±2% | 0402 WIREWOUND INDUCTOR, SMT | LQW15AN8N2G00 | MURATA |
| 24 | L4 | 1 | 100nH | ±5% | 0402 CERAMIC INDUCTOR, SMT | HK1005R10J | TAIYO YUDEN |
| 25 | L5-L9 | 5 | Do not install | | | | |
| 26 | Q1-Q4 | 4 | ZXMS6006DGTA | | TRAN; 60V N-CHANNEL SELF PROTECTED ENHANCEMENT MODE INTELLIFET MOSFET; NCH; SOT223-4; PD-(3W); I-(2.8A); V-(60V)) | ZXMS6006DGTA | DIODES INCORPORATED |
| 27 | R1, R7, R18 | 3 | 10K OHM | ±1% | 0603 THICK FILM RESISTOR, 0.10W | CRCW0603310K0FK/ ERJ-3EKF1002 | VISHAY DALE/ PANASONIC |
| 28 | R2 | 1 | 1M OHM | ±1% | 0603 THICK FILM RESISTOR, 0.10W | CRCW06031M00FK; MCR03EZPFX1004 | VISHAY DALE/ ROHM |
| 29 | R3 | 1 | 10K OHM | ±5% | 1206 ARRAY RESISTOR, SMT, 0.063W | CRA06P08310K0J | VISHAY DALE |
| 30 | R4, R6, R10, R11, R15, R19, R20, R27 | 8 | 100K OHM | ±5% | 1206 ARRAY RESISTOR, SMT, 0.063W | CRA06P083100KJ | VISHAY DALE |
| 31 | R5 | 1 | 100 OHM | ±1% | 0603 THICK FILM RESISTOR, 0.10W | CRCW0603100RFK/ ERJ-3EKF1000 | VISHAY DALE/ PANASONIC |
| 32 | R8 | 1 | 270 OHM | ±1% | 0603 THICK FILM RESISTOR, 0.10W | CRCW0603270RFK | VISHAY DALE |

## MAX7037_868MHz EV Kit Bill of Materials (continued)

| Item | Reference | Qty | Value | Tolerance | Description | Part Number | Manufacturer |
|---|---|---|---|---|---|---|---|
| 33 | R9, R12, R21 | 3 | 330 OHM | ±5% | 1206 ARRAY RESISTOR, SMT, 0.063W | CRA06P083330RJ | VISHAY DALE |
| 34 | R13, R26 | 2 | 33K OHM | ±1% | 0603 THICK FILM RESISTOR, 0.10W | CRCW060333K0FK | VISHAY DALE |
| 35 | R14, R25 | 2 | 56K OHM | ±1% | 0603 THICK FILM RESISTOR, 0.10W | CRCW060356K0FK | VISHAY DALE |
| 36 | R16 | 1 | 0 OHM | 0%, JUMPER | 0603 THICK FILM RESISTOR, 0.25W | CRCW06030000Z0EAHP | VISHAY DRALORIC |
| 37 | R17, R22-R23, R31-R32 | 5 | Do not install | | | | |
| 38 | R24, R29, R30 | 3 | 0 OHM | 0%, JUMPER | 0402 THICK FILM RESISTOR, 0.10W | ERJ-2GE0R00X | PANASONIC |
| 39 | R28 | 1 | 1.8M OHM | ±1% | 0603 THICK FILM RESISTOR, 0.10W | CRCW06031M80FK | VISHAY DALE |
| 40 | P1 | 1 | Do not install | | | | |
| 41 | S0-S15, S17, S18, S22-S27 | 24 | NK236 | | SWITCH; SPDT; THROUGH HOLE; 12V; 0.5A; NK SERIES; RCOIL= OHM; RINSULATION= OHM; APEM | NK236 | APEM |
| 42 | S19, S21 | 2 | KSR211GLFS | | SWITCH, SPST, 32V, 0.05A, SUBMINIATURE TACT SWITCH; RCOIL=10G OHM | KSR211GLFS | C&K COMPONENTS |
| 43 | S20 | 1 | Do not install | | | | |
| 44 | SH1-SH6 | 6 | STC02SYAN | | TEST POINT; JUMPER; STR; TOTAL LENGTH=0.256IN; BLACK; INSULATION=PBT CONTACT=PHOSPHOR BRONZE; COPPER PLATED TIN OVERALL | STC02SYAN | SULLINS ELECTRONICS CORP. |
| 45 | U1 | 1 | Do not install | | | | |
| 46 | U2 | 1 | MAX7037EGL+ | | EVKIT PART-IC; TXRX; SUB-1GHZ; ULTRA LOW POWER; RF ISM TRANSCEIVER FOR CUSTOMER/INDUSTRIAL APPLICATION; TQFN40-EP 6X6 | MAX7037EGL+ | MAXIM |
| 47 | VB1 | 1 | Do not install | | | | |
| 48 | X0-X11, X13-X15 | 15 | Do not install | | | | |
| 49 | X12 | 1 | N10214-5212PC | | CONNECTOR; FEMALE; THROUGH HOLE; MINI D RIBBON; RIGHT ANGLE; 14PINS | N10214-5212PC | 3M ELECTRONIC SOLUTIONS DIVISION |
| 50 | X16 | 1 | 142-0701-201 | | CONNECTOR; FEMALE THREADED; THROUGH HOLE; SMA; STRAIGHT THROUGH; 5PINS | 142-0701-201 | JOHNSON COMPONENTS |
| 51 | Z1 | 1 | 16MHZ | | CRYSTAL; SMT 2.5MMX2MM; 8PF; 16MHZ; +/-10PPM | NX2520SA-16MHZ-STD-CSX-1 | NIHON DEMPA KOGYO CO |
| 52 | Z2 | 1 | 32.768KHZ | | CRYSTAL; SMT 3.2MMX1.5MM; 12.5PF; 32.768KHZ; +/-20PPM | 9HT10-32.768KEZF-T | TXC CORPORATION |
| 53 | PCB | 1 | PCB | | PCB:MAX7037868MHZ | MAX7037868MHZ | MAXIM |
| TOTAL | | 169 | | | | | |

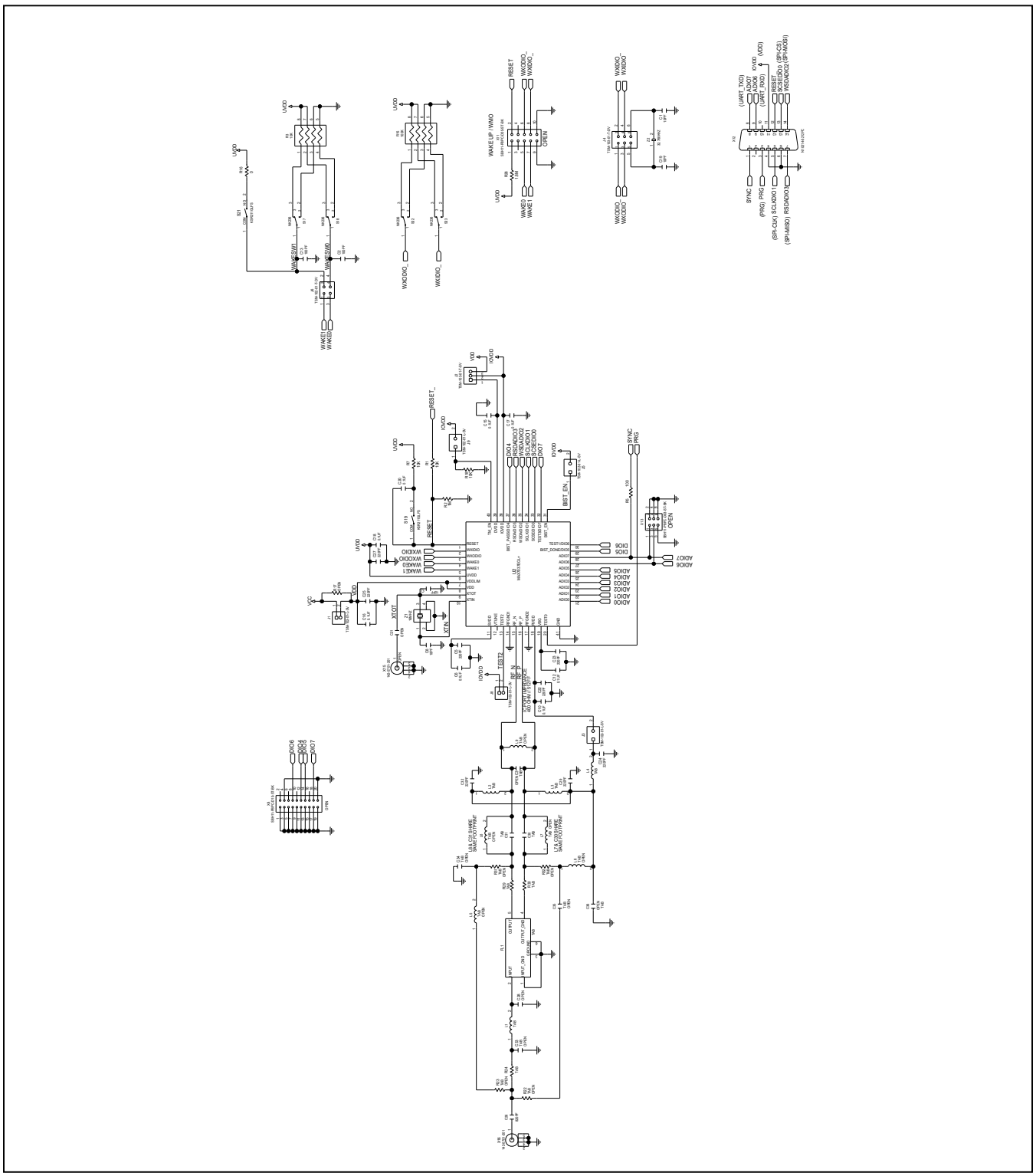
## MAX7037_915MHz EV Kit Bill of Materials

| Item | Reference | Qty | Value | Tolerance | Description | Part Number | Manufacturer |
|---|---|---|---|---|---|---|---|
| 1 | C1, C19 | 2 | 10pF | ±10% | 0603 CERAMIC CAPACITOR, SMT | C0603C100K1GAC | KEMET |
| 2 | C2, C13 | 2 | 100pF | ±5% | 0603 CERAMIC CAPACITOR, SMT | C0603C101J5GAC/ GRM1885C1H101JA01 | KEMET/ MURATA |
| 3 | C3 | 1 | 1.5pF | ±0.1pF | 0402 CERAMIC CAPACITOR, SMT | GRM1555C1H1R5BA01 | MURATA |
| 4 | C4, C6, C10, C12, C15-C18, C20 | 9 | 0.1µF | ±10% | 0603 CERAMIC CAPACITOR, SMT | GRM188R72A104KA35/ CC0603KRX7R0BB104 | MURATA/ TDK |
| 5 | C5, C22-C25, C27, C29, C32, C36 | 9 | 220pF | ±10% | 0402 CERAMIC CAPACITOR, SMT | GRM155R71H221KA01 | MURATA |
| 6 | C7, C8 | 2 | 10pF | ±5% | 0402 CERAMIC CAPACITOR, SMT | C0402C100J5GAC; GRM1555C1H100JA01 | KEMET/ MURATA |
| 7 | C9, C21, C28, C30-C31 C33 | 6 | Do not install | | | | |
| 8 | C11 | 1 | 22µF | ±10% | 1206 CERAMIC CAPACITOR, SMT | GRM31CR70J226K | MURATA |
| 9 | C14 | 1 | 47µF | ±20% | 2220 CERAMIC CAPACITOR, SMT | C5750X7R1C476M230KB | TDK |
| 10 | C26 | 1 | 820pF | ±10% | 0603 CERAMIC CAPACITOR, SMT | GRM188R71H821KA01 | MURATA |
| 11 | C34, C35 | 2 | 1.8pF | ±0.1pF | 0402 CERAMIC CAPACITOR, SMT | GRM1555C1H1R8BA01 | MURATA |
| 12 | D0-D7, D24-D27 | 12 | LTST-C190KRKT | | DIODE; LED; ULTRA BRIGHT AlInCaP CHIP LED; RED; SMT; VF=2V; IF=0.025A | LTST-C190KRKT | LITE-ON ELECTRONICS; INC. |
| 13 | D8, D11-D13 | 4 | 36V | | DIODE; TVS; SMB (DO-214AA); VRM=36V; IPP=10.3A | SMBJ36A-E3 | VISHAY GENERAL SEMICONDUCTOR |
| 14 | D9, D10 | 2 | BAS16-7-F | | DIODE; SWT; SMT (SOT-23); PIV=75V; IF=0.3A | BAS16-7-F | DIODES INCORPORATED |
| 15 | D15 | 1 | HSMG-C190 | | DIODE; LED; SURFACE MOUNT CHIP LED; GREEN; SMT (0603); PIV=2.2V; IF=0.02A | HSMG-C190 | AVAGO TECHNOLOGIES |
| 16 | J1, J3, J5, J8, J9, X17 | 6 | TSM-102-01-L-SV | | CONNECTOR; MALE; SMT; SINGLE ROW; STRAIGHT THROUGH; 2PINS | TSM-102-01-L-SV | SAMTEC |
| 17 | J2, J10 | 2 | TSM-103-01-T-SV | | CONNECTOR; MALE; SMT; TSM SERIES; STRAIGHT; 3PINS | TSM-103-01-T-SV | SAMTEC |
| 18 | J4 | 1 | TSM-103-01-T-DV | | CONNECTOR; MALE; SMT; SMT .025IN SQ POST HEADER; STRAIGHT; 6PINS | TSM-103-01-T-DV | SAMTEC |
| 19 | J6 | 1 | TSM-102-01-T-DV | | CONNECTOR; MALE; SMT; .025IN SQ POST HEADER; STRAIGHT; 4PINS | TSM-102-01-T-DV | SAMTEC |
| 20 | J7 | 1 | TSM-104-01-L-DV | | CONNECTOR; MALE; SMT; SMT .025IN SQ POST HEADER; STRAIGHT; 8PINS | TSM-104-01-L-DV | SAMTEC |
| 21 | L1, L2-L3 | 3 | Do not install | | | | |
| 22 | L4 | 1 | 100nH | ±5% | 0402 CERAMIC INDUCTOR, SMT | HK1005R10J | TAIYO YUDEN |
| 23 | L5-L9 | 5 | 18nH | ±5% | 0402 CERAMIC INDUCTOR, SMT | HK100518NJ | TAIYO YUDEN |
| 24 | Q1-Q4 | 4 | ZXMS6006DGTA | | TRAN; 60V N-CHANNEL SELF PROTECTED ENHANCEMENT MODE INTELLIFET MOSFET; NCH; SOT223-4; PD-(3W); I-(2.8A); V-(60V)) | ZXMS6006DGTA | DIODES INCORPORATED |
| 25 | R1, R7, R18 | 3 | 10K OHM | ±1% | 0603 THICK FILM RESISTOR, 0.10W | CRCW060310K0FK/ ERJ-3EKF1002 | VISHAY DALE/ PANASONIC |
| 26 | R2 | 1 | 1M OHM | ±1% | 0603 THICK FILM RESISTOR, 0.10W | CRCW06031M00FK; MCR03EZPFX1004 | VISHAY DALE/ ROHM |
| 27 | R3 | 1 | 10K OHM | ±5% | 1206 ARRAY RESISTOR, SMT, 0.063W | CRA06P08310K0J | VISHAY DALE |
| 28 | R4, R6, R10, R11, R15, R19, R20, R27 | 8 | 100K OHM | ±5% | 1206 ARRAY RESISTOR, SMT, 0.063W | CRA06P083100KJ | VISHAY DALE |
| 29 | R5 | 1 | 100 OHM | ±1% | 0603 THICK FILM RESISTOR, 0.10W | CRCW0603100RFK/ ERJ-3EKF1000 | VISHAY DALE/ PANASONIC |
| 30 | R8 | 1 | 270 OHM | ±1% | 0603 THICK FILM RESISTOR, 0.10W | CRCW0603270RFK | VISHAY DALE |
| 31 | R9, R12, R21 | 3 | 330 OHM | ±5% | 1206 ARRAY RESISTOR, SMT, 0.063W | CRA06P083330RJ | VISHAY DALE |

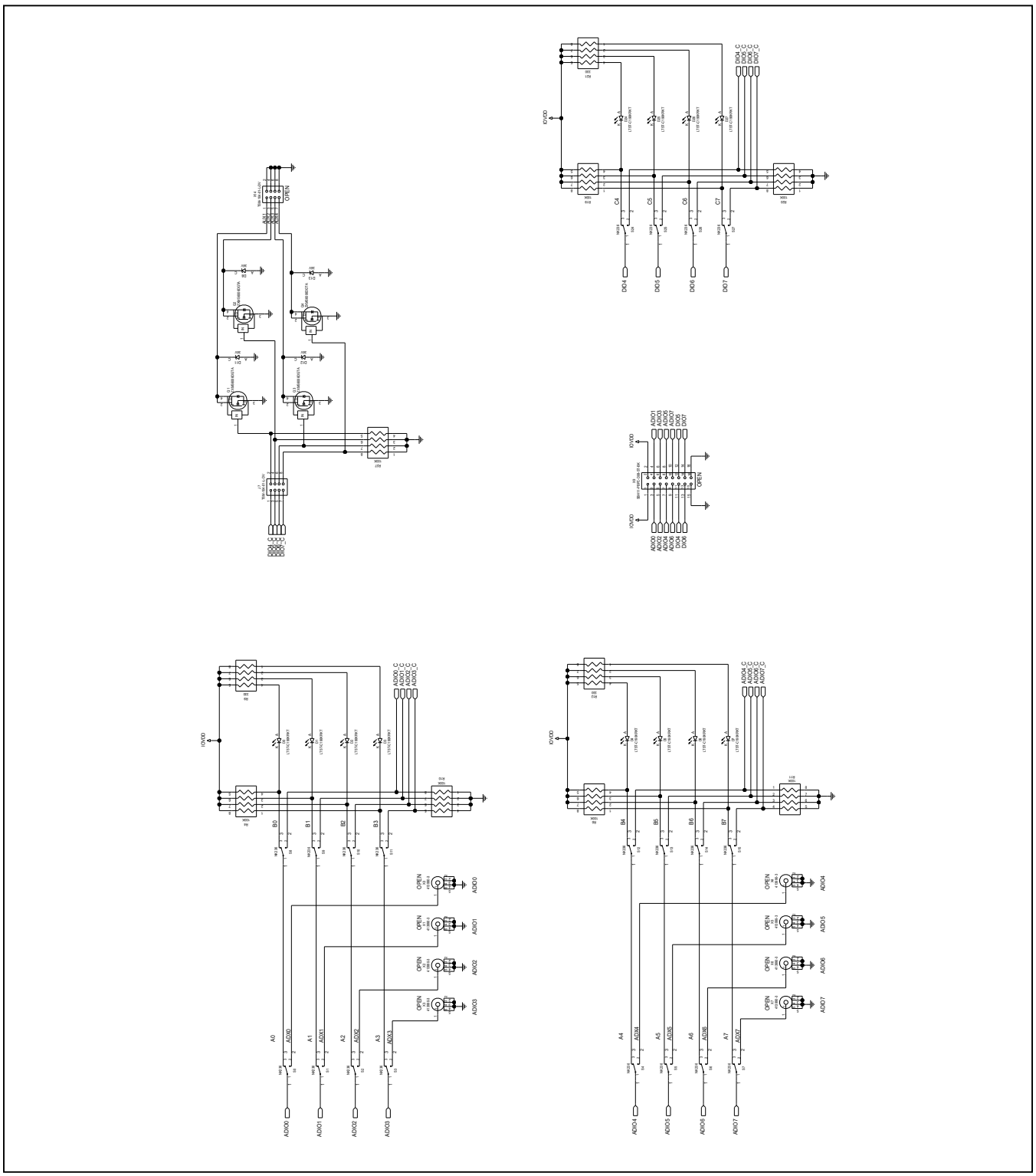
## MAX7037_915MHz EV Kit Bill of Materials (continued)

| Item | Reference | Qty | Value | Tolerance | Description | Part Number | Manufacturer |
|---|---|---|---|---|---|---|---|
| 32 | R13, R26 | 2 | 33K OHM | ±1% | 0603 THICK FILM RESISTOR, 0.10W | CRCW060333K0FK | VISHAY DALE |
| 33 | R14, R25 | 2 | 56K OHM | ±1% | 0603 THICK FILM RESISTOR, 0.10W | CRCW060356K0FK | VISHAY DALE |
| 34 | R16 | 1 | 0 OHM | 0%, JUMPER | 0603 THICK FILM RESISTOR, 0.25W | CRCW06030000Z0EAHP | VISHAY DRALORIC |
| 35 | R17, R24, R29-R30 | 4 | Do not install | | | | |
| 36 | R22, R23, R31-R32 | 4 | 0 OHM | 0%, JUMPER | 0402 THICK FILM RESISTOR, 0.10W | ERJ-2GE0R00X | PANASONIC |
| 37 | R28 | 1 | 1.8M OHM | ±1% | 0603 THICK FILM RESISTOR, 0.10W | CRCW06031M80FK | VISHAY DALE |
| 38 | P1 | 1 | Do not install | | | | |
| 39 | S0-S15, S17, S18, S22-S27 | 24 | NK236 | | SWITCH, SPDT; THROUGH HOLE; 12V; 0.5A; NK SERIES; RCOIL= OHM; RINSULATION= OHM; APEM | NK236 | APEM |
| 40 | S19, S21 | 2 | KSR211GLFS | | SWITCH, SPST, 32V, 0.05A, SUBMINIATURE TACT SWITCH, RCOIL=10G OHM | KSR211GLFS | C&K COMPONENTS |
| 41 | S20 | 1 | Do not install | | | | |
| 42 | SH1-SH6 | 6 | STC02SYAN | | TEST POINT; JUMPER; STR; TOTAL LENGTH=0.256IN; BLACK; INSULATION=PBT CONTACT=PHOSPHOR BRONZE; COPPER PLATED TIN OVERALL | STC02SYAN | SULLINS ELECTRONICS CORP. |
| 43 | U1 | 1 | Do not install | | | | |
| 44 | U2 | 1 | MAX7037EGL+ | | EVKIT PART-IC; TXRX; SUB-1GHZ; ULTRA LOW POWER; RF ISM TRANSCEIVER FOR CUSTOMER/INDUSTRIAL APPLICATION; TQFN40-EP 6X6 | MAX7037EGL+ | MAXIM |
| 45 | VB1 | 1 | Do not install | | | | |
| 46 | X0-X11, X13-X15 | 15 | Do not install | | | | |
| 47 | X12 | 1 | N10214-5212PC | | CONNECTOR; FEMALE; THROUGH HOLE; MINI D RIBBON; RIGHT ANGLE; 14PINS | N10214-5212PC | 3M ELECTRONIC SOLUTIONS DIVISION |
| 48 | X16 | 1 | 142-0701-201 | | CONNECTOR; FEMALE THREADED; THROUGH HOLE; SMA; STRAIGHT THROUGH; 5PINS | 142-0701-201 | JOHNSON COMPONENTS |
| 49 | Z1 | 1 | 16MHZ | | CRYSTAL; SMT 2.5MMX2MM; 8PF; 16MHZ; +/-10PPM | NX2520SA-16MHZ-STD-CSX-1 | NIHON DEMPA KOGYO CO |
| 50 | Z2 | 1 | 32.768KHZ | | CRYSTAL; SMT 3.2MMX1.5MM; 12.5PF; 32.768KHZ; +/-20PPM | 9HT10-32.768KEZF-T | TXC CORPORATION |
| 51 | PCB | 1 | PCB | | PCB:MAX7037915MHZ | MAX7037915MHZ | MAXIM |
| TOTAL | | 168 | | | | | |

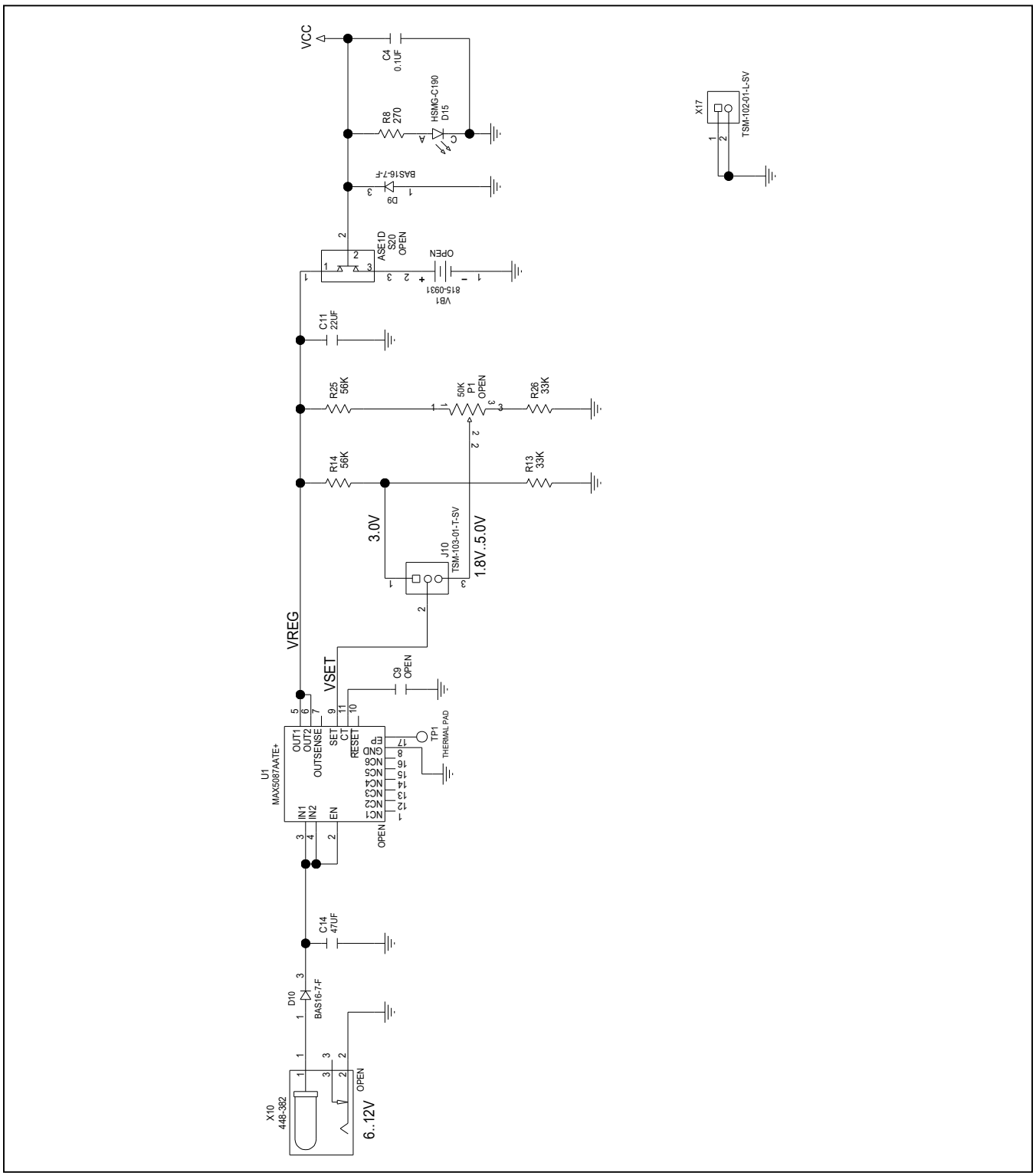
## MAX7037_315MHz EV Kit Schematics (1)



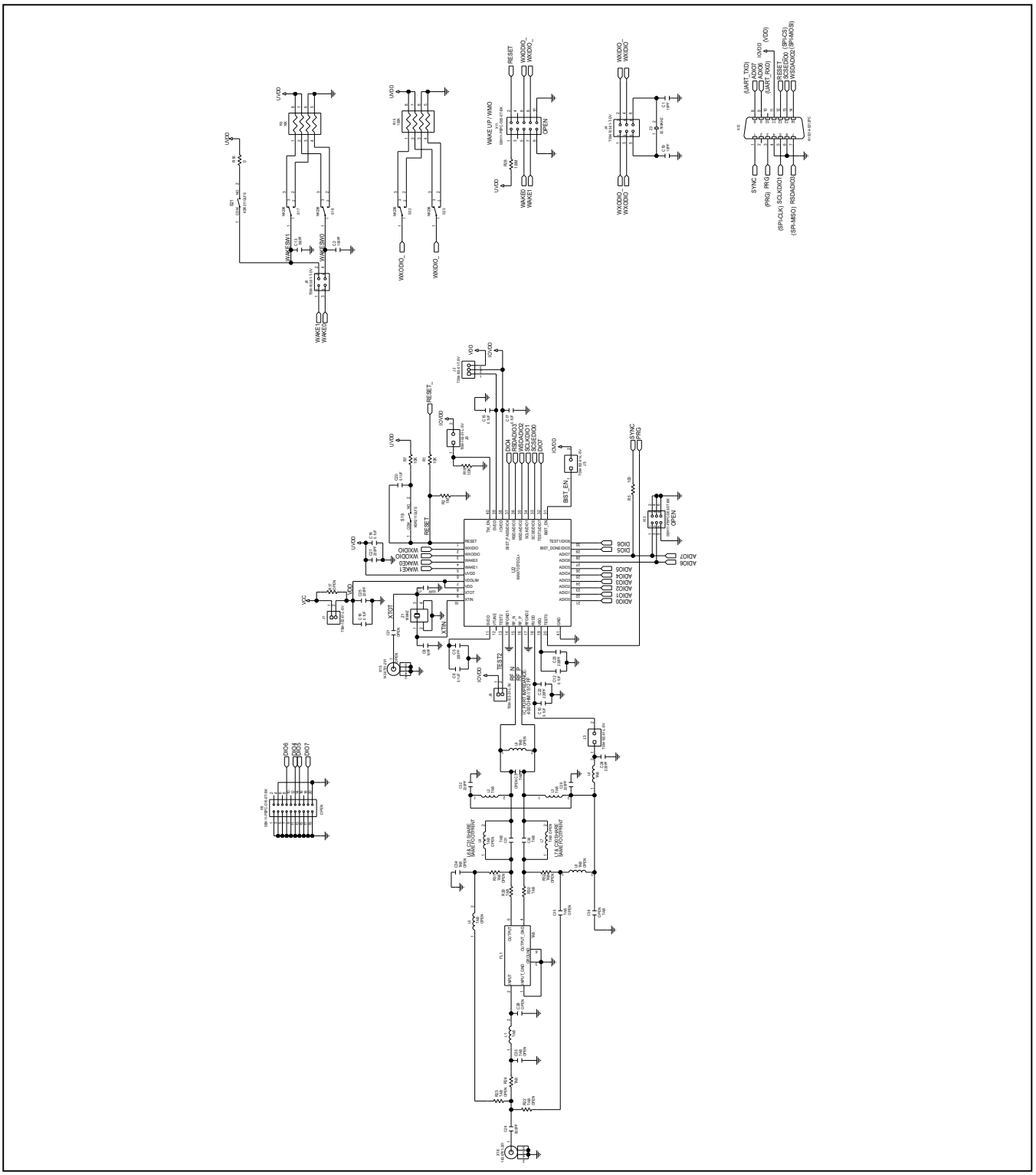
## MAX7037_315MHz EV Kit Schematics (2)



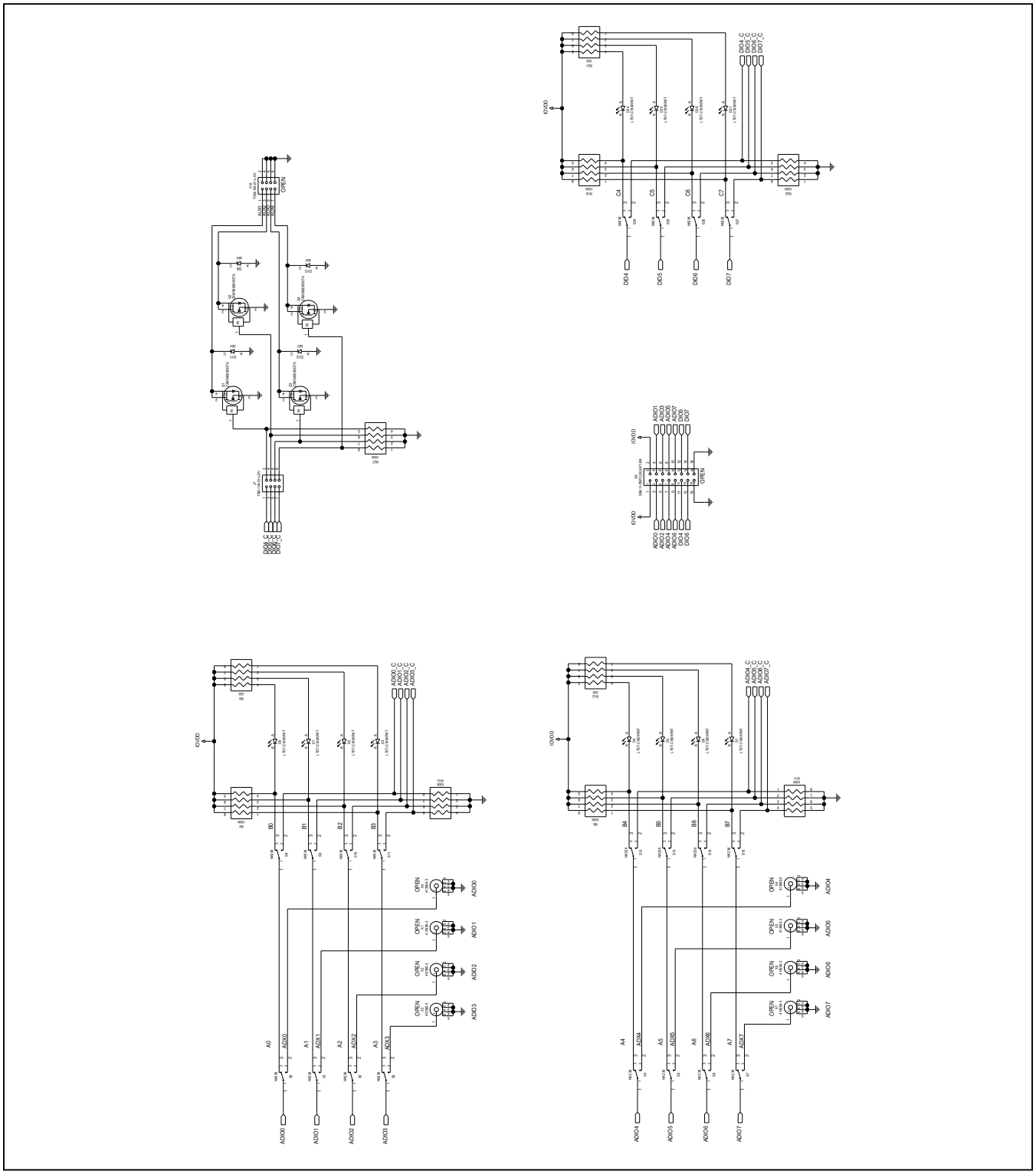
## MAX7037_315MHz EV Kit Schematics (3)



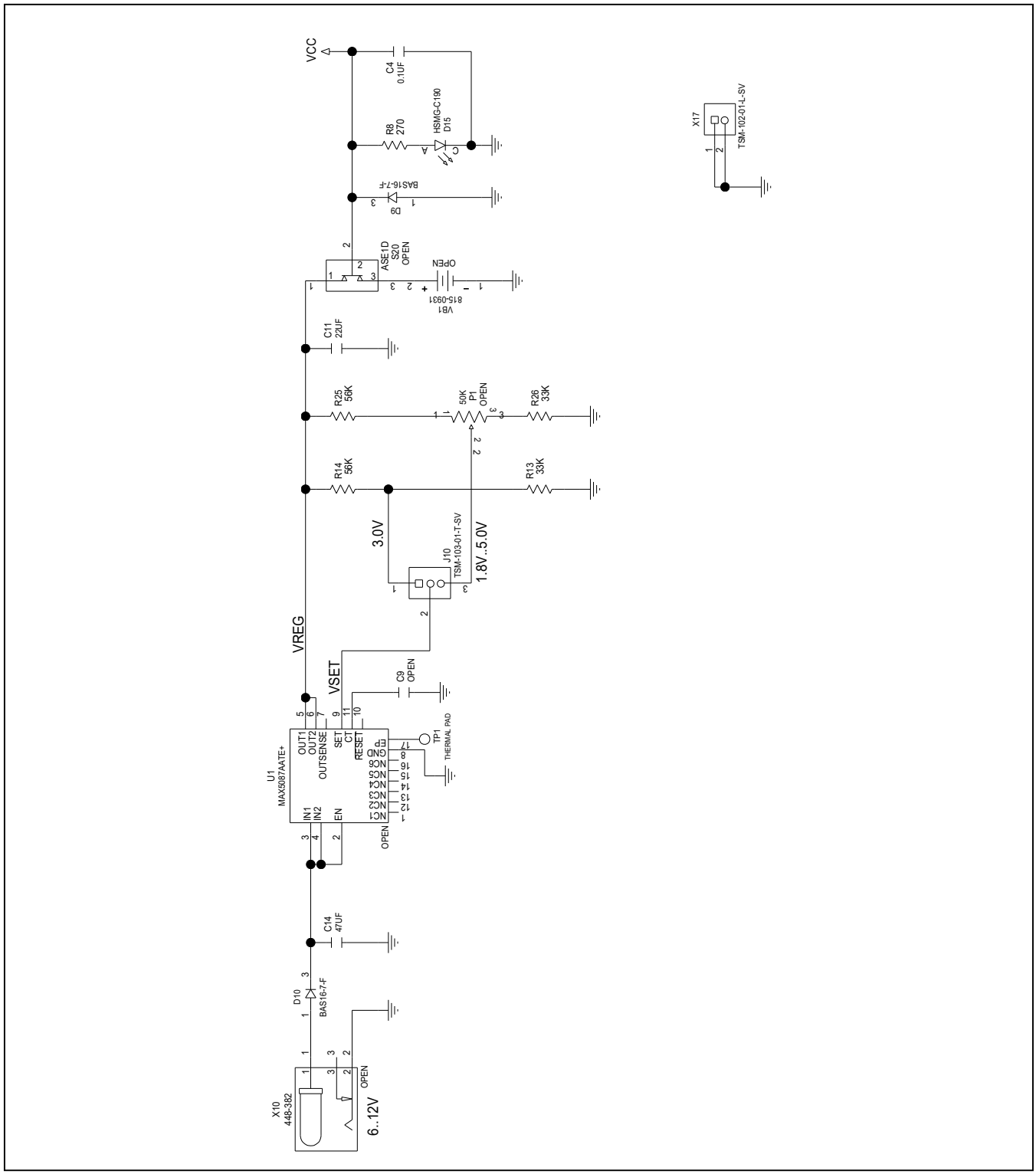
## MAX7037_434MHz EV Kit Schematics (1)



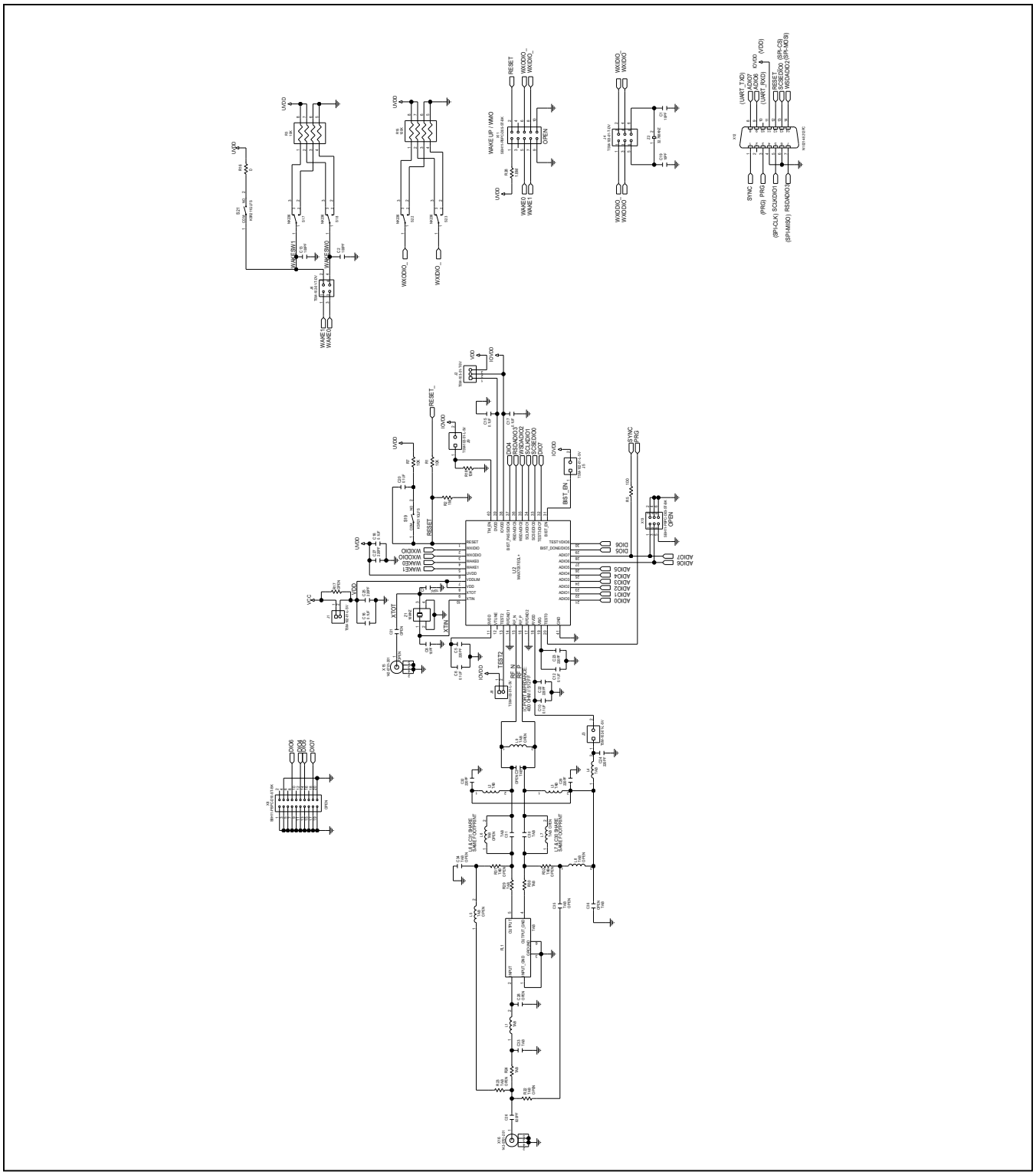
## MAX7037_434MHz EV Kit Schematics (2)



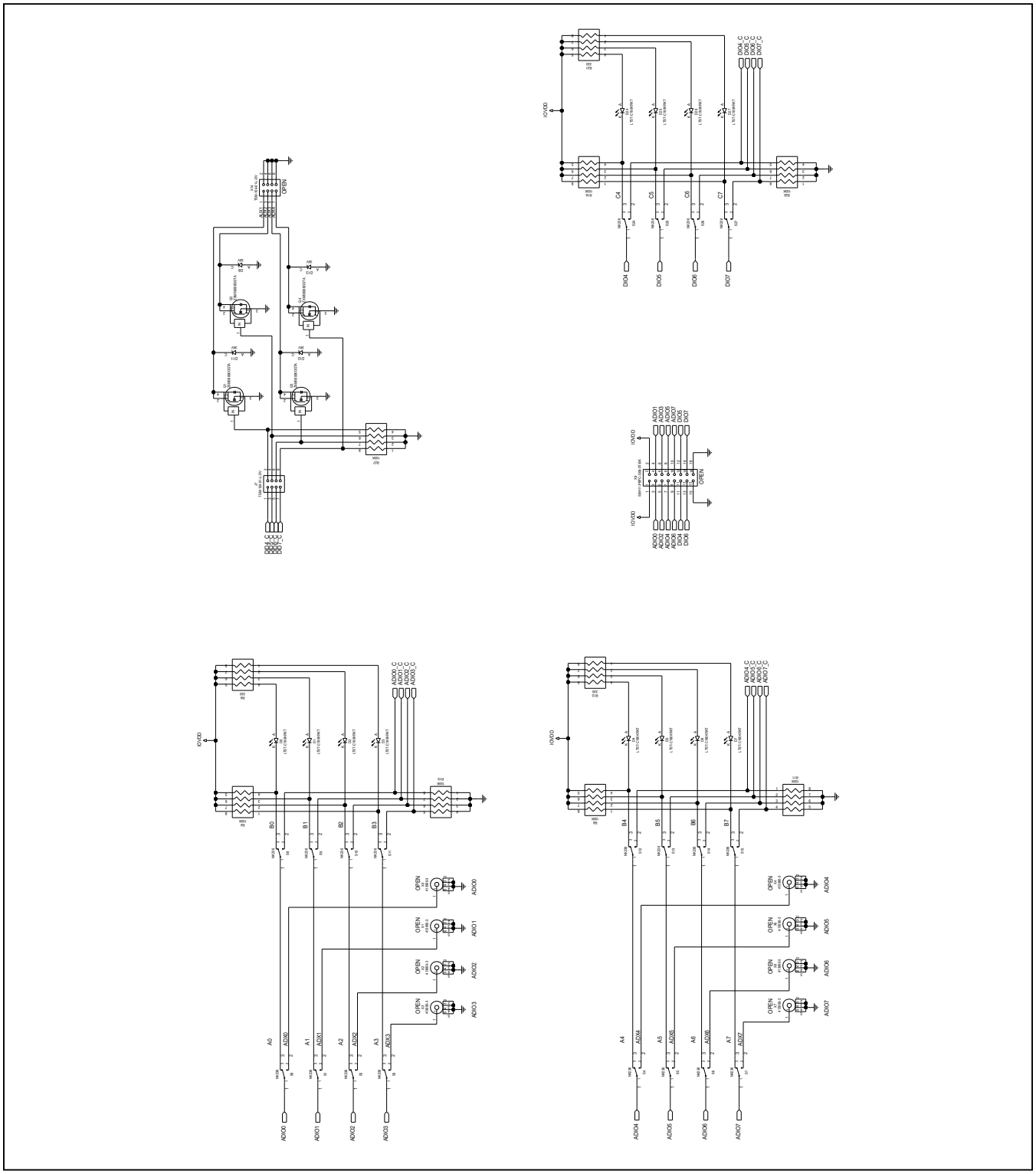
## MAX7037_434MHz EV Kit Schematics (3)



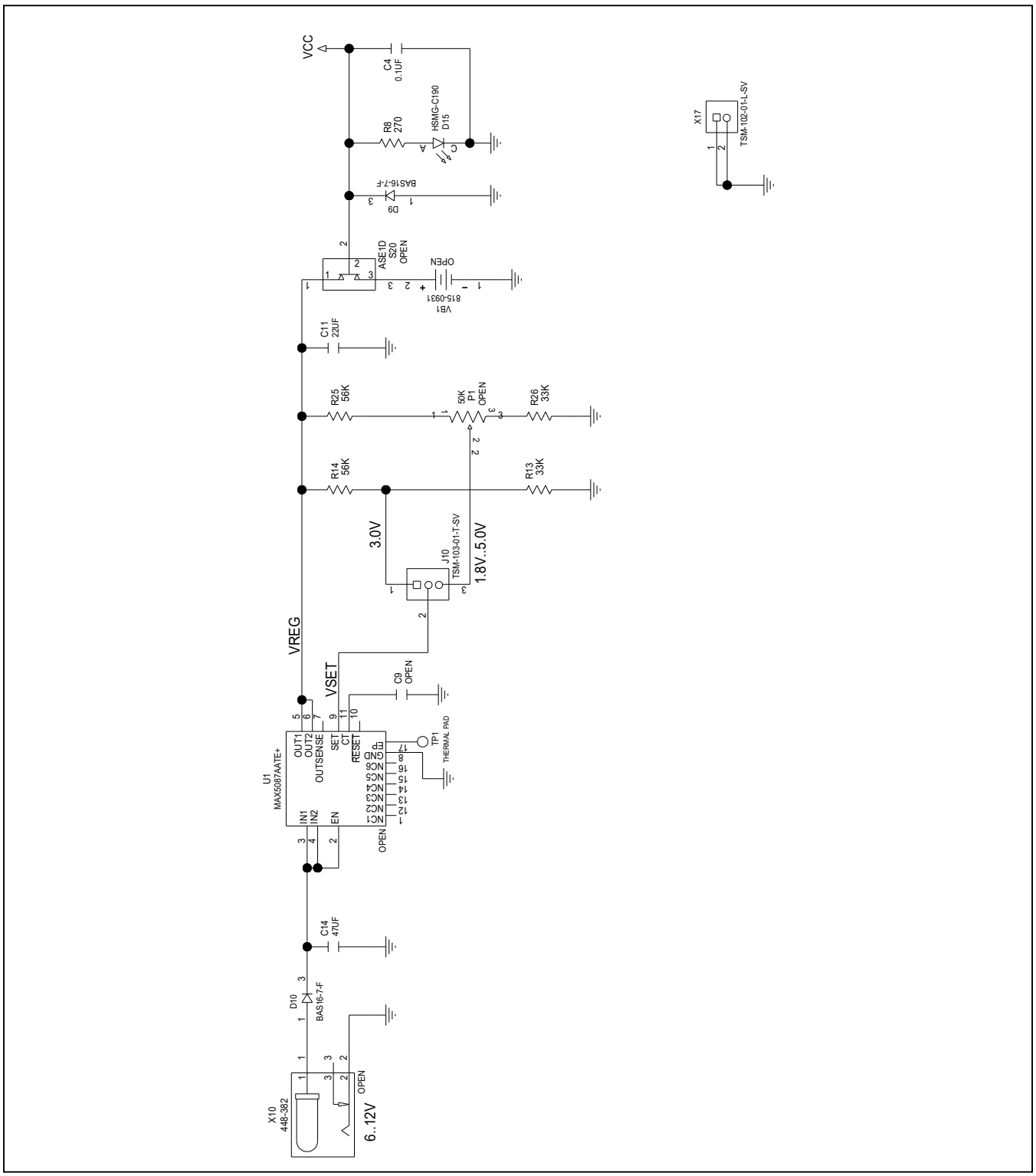
## MAX7037_868MHz EV Kit Schematics (1)



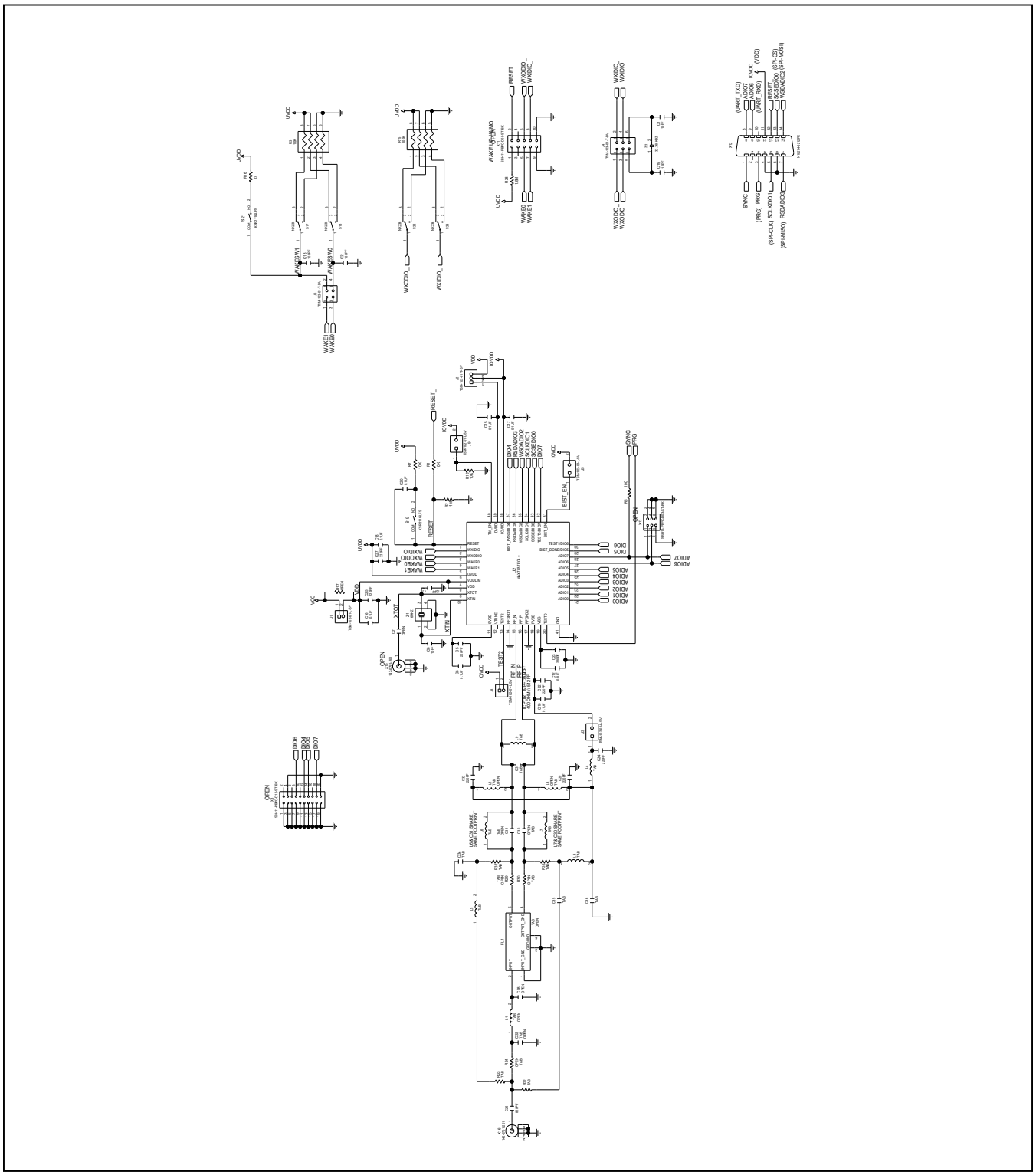
## MAX7037_868MHz EV Kit Schematics (2)



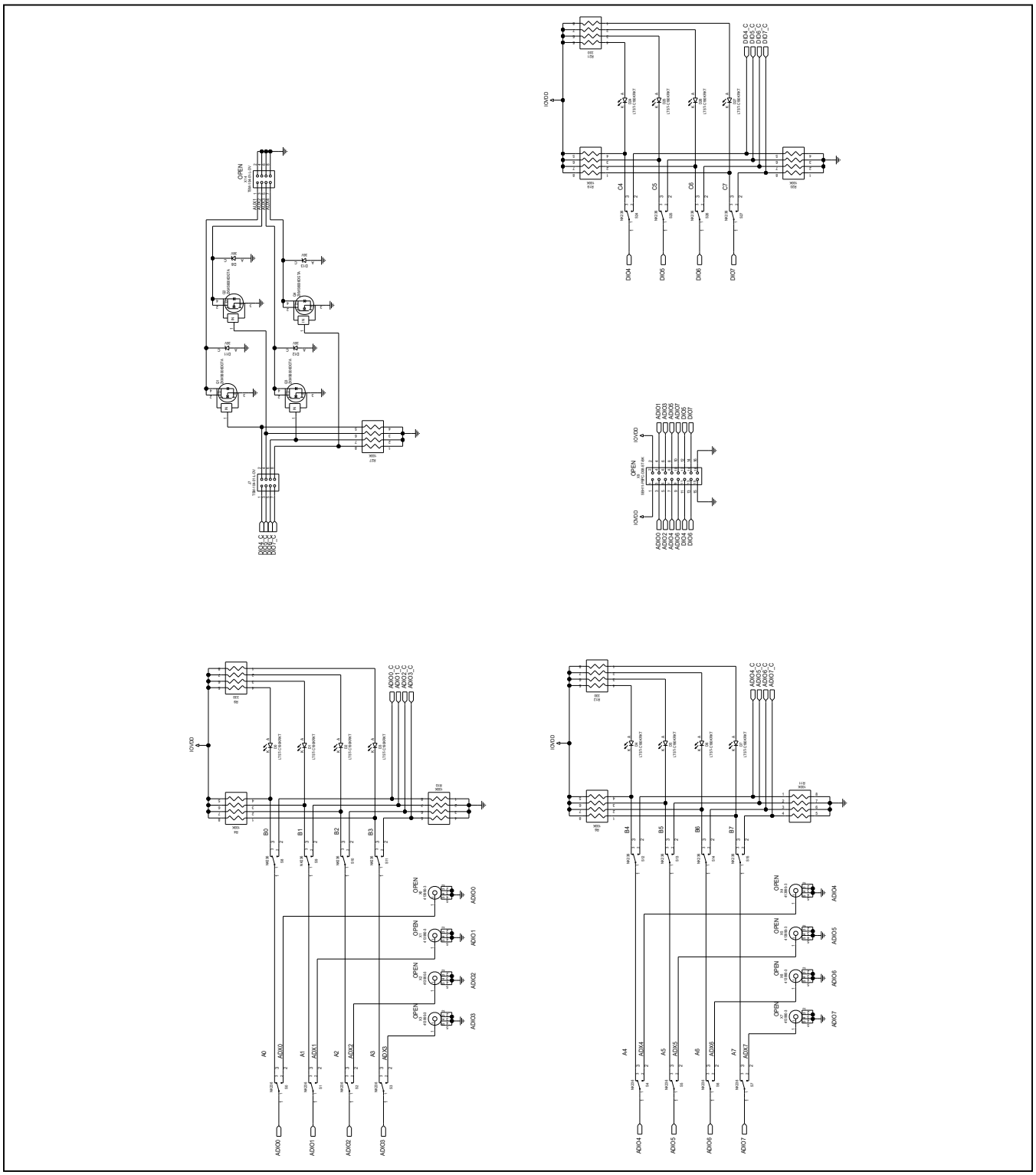
## MAX7037_868MHz EV Kit Schematics (3)



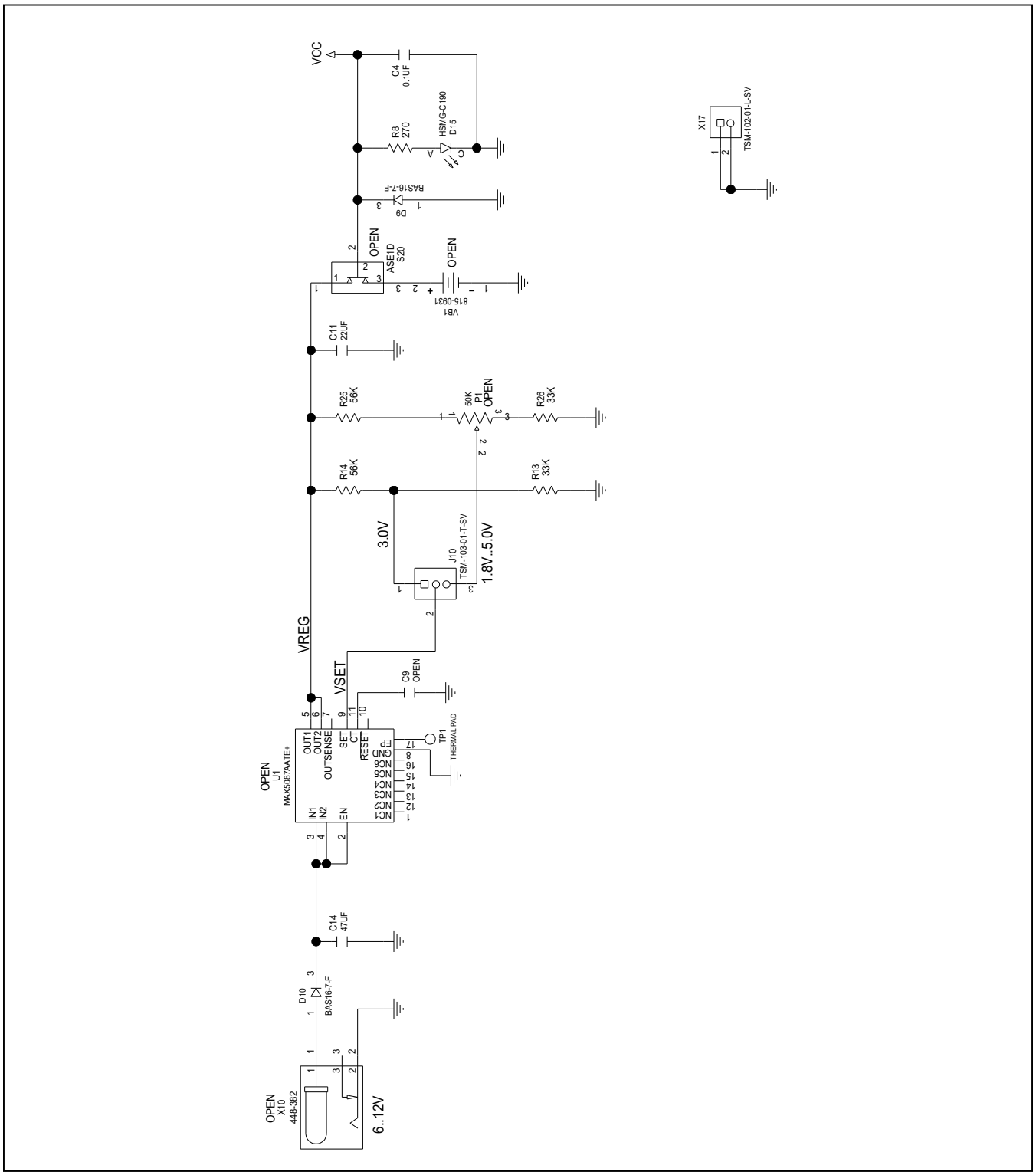
## MAX7037_915MHz EV Kit Schematics (1)



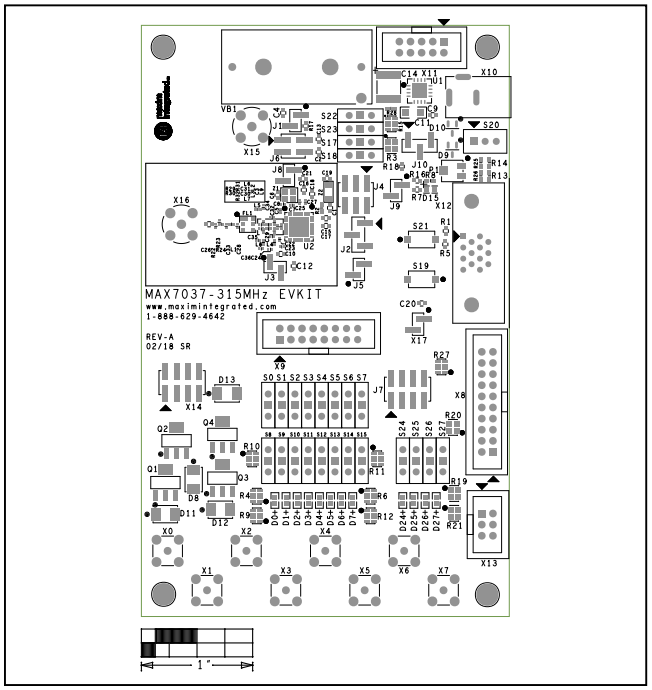
## MAX7037_915MHz EV Kit Schematics (2)



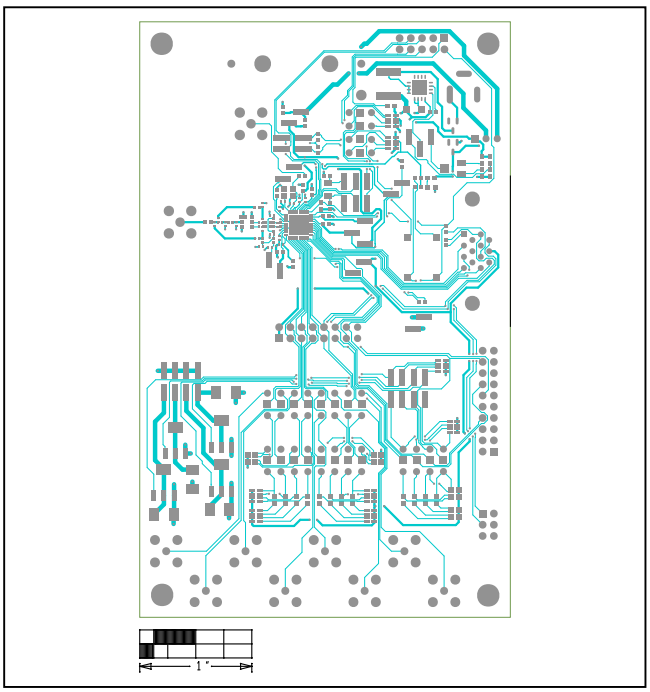
## MAX7037_915MHz EV Kit Schematics (3)



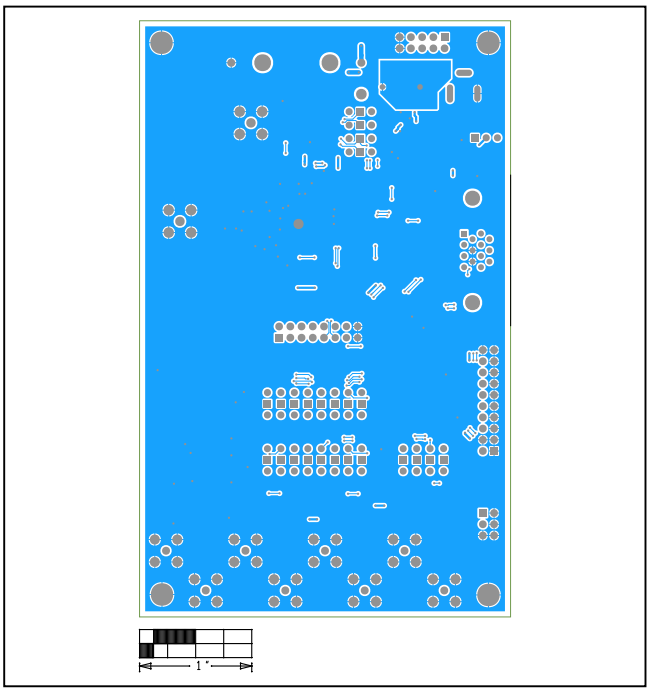
## MAX7037_315MHz EV Kit PCB Layout Diagrams




*MAX7037 EV Kit—Top Silkscreen*

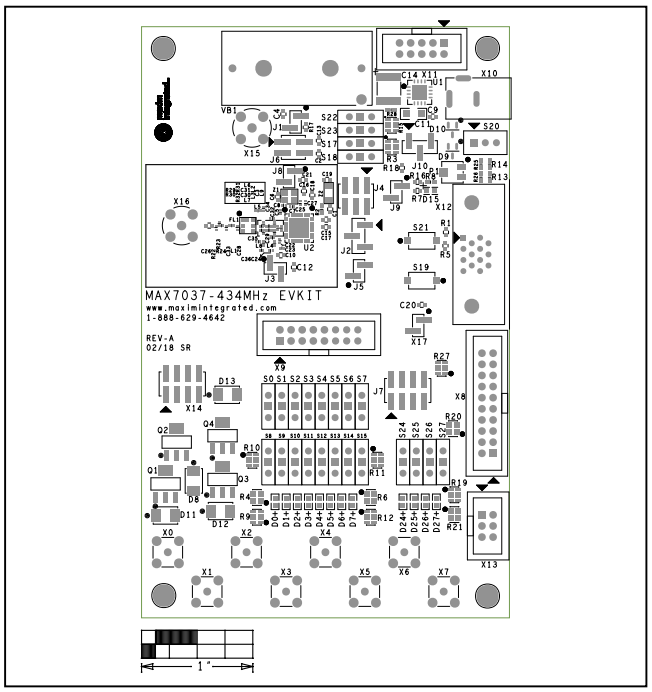



*MAX7037 EV Kit—Top*

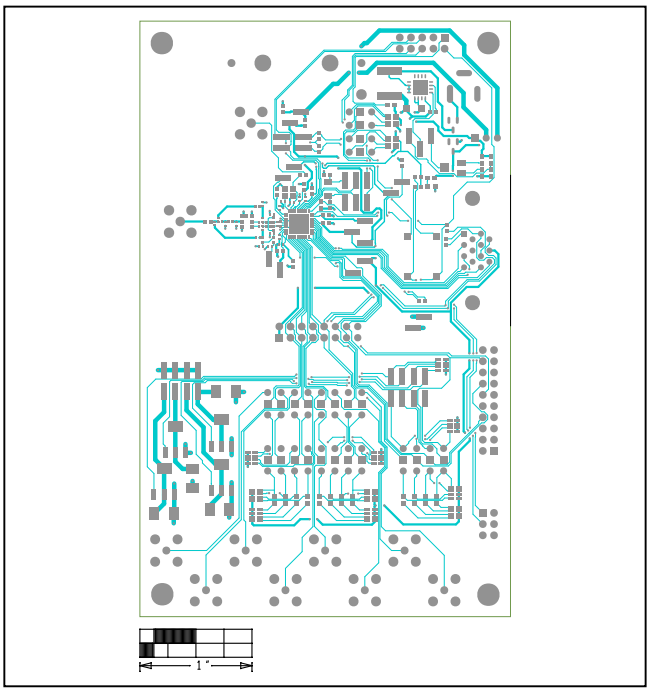



*MAX7037 EV Kit—Bottom*

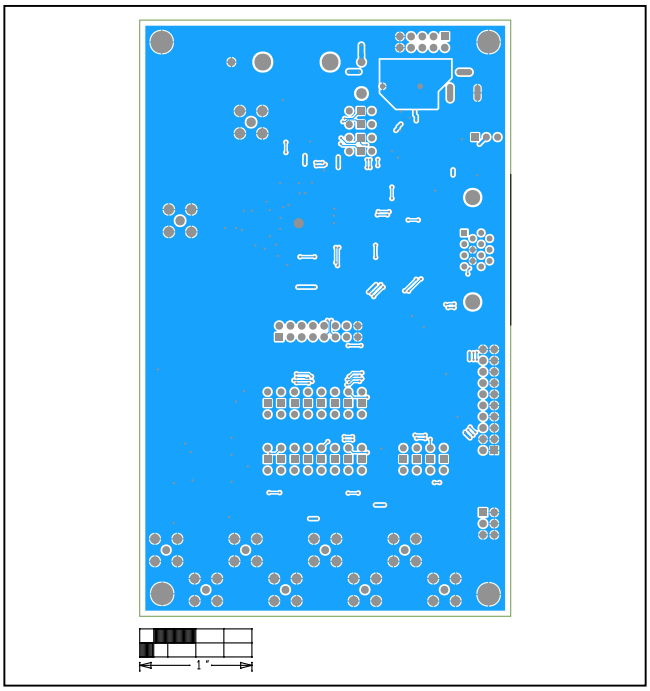
## MAX7037_434MHz EV Kit PCB Layout Diagrams




*MAX7037 EV Kit—Top Silkscreen*

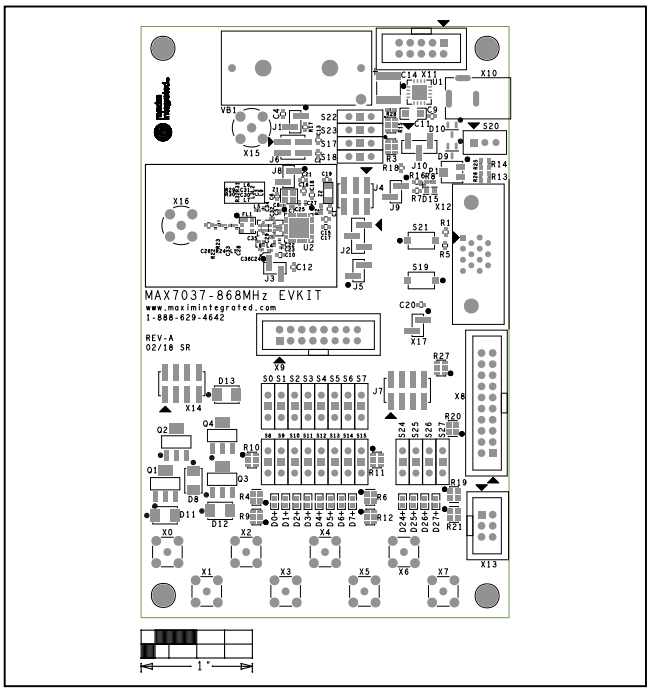



*MAX7037 EV Kit—Top*

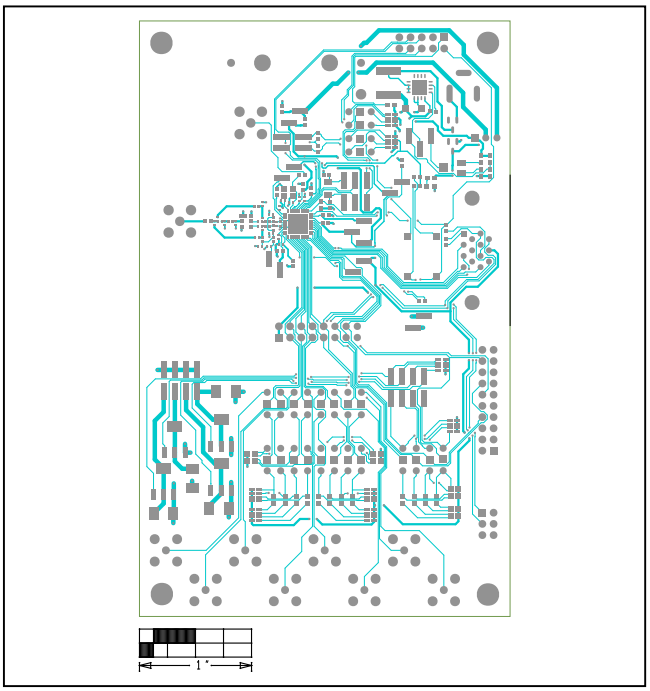



*MAX7037 EV Kit—Bottom*

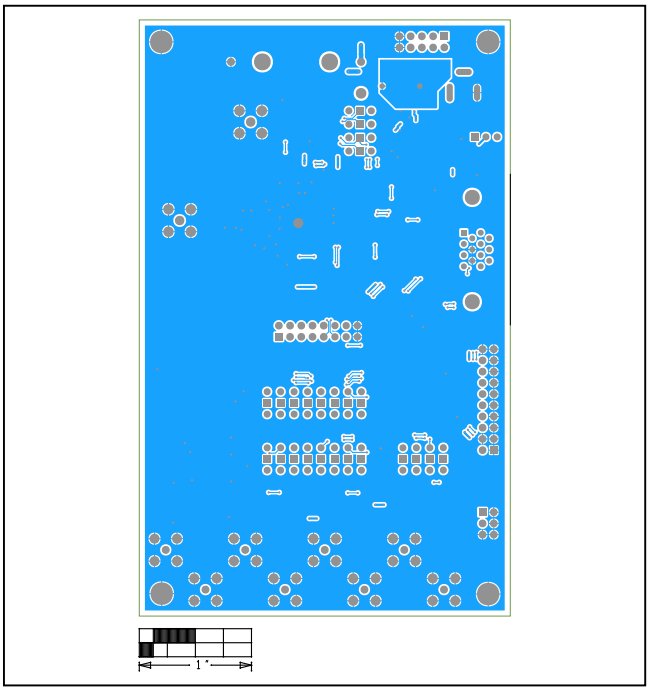
## MAX7037_868MHz EV Kit PCB Layout Diagrams




*MAX7037 EV Kit—Top Silkscreen*

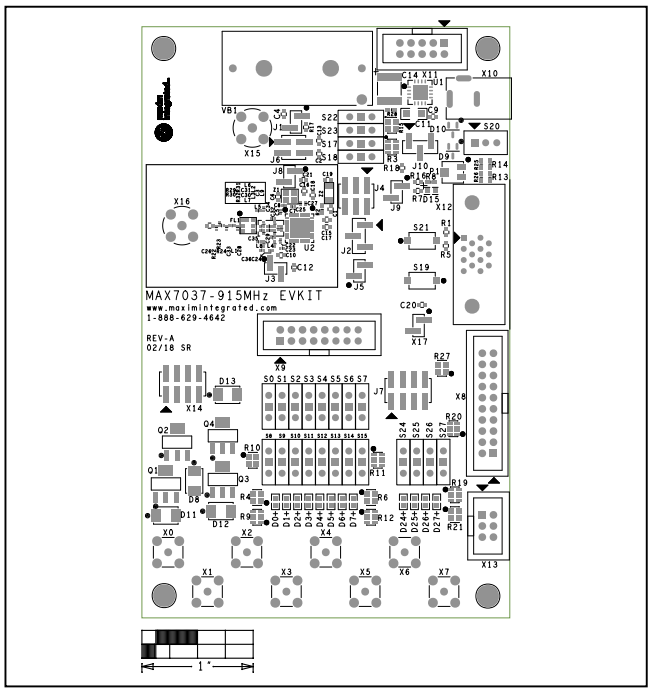


*MAX7037 EV Kit—Top*

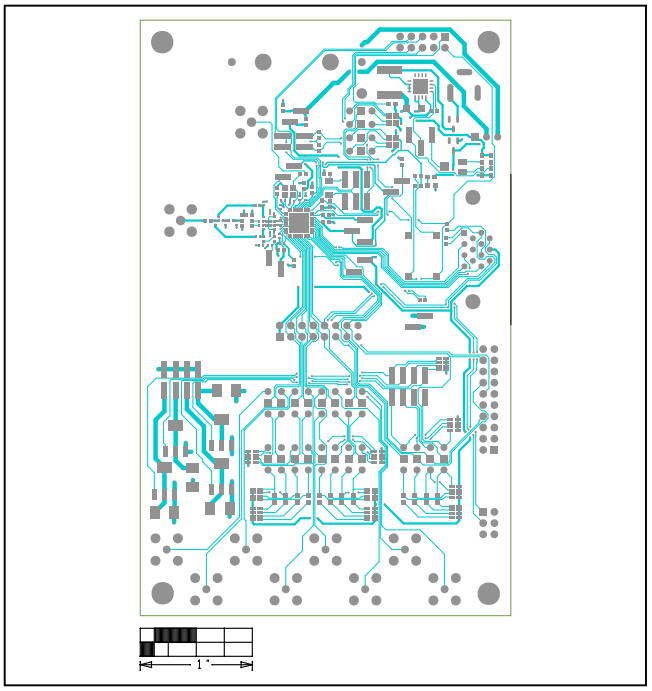


*MAX7037 EV Kit—Bottom*

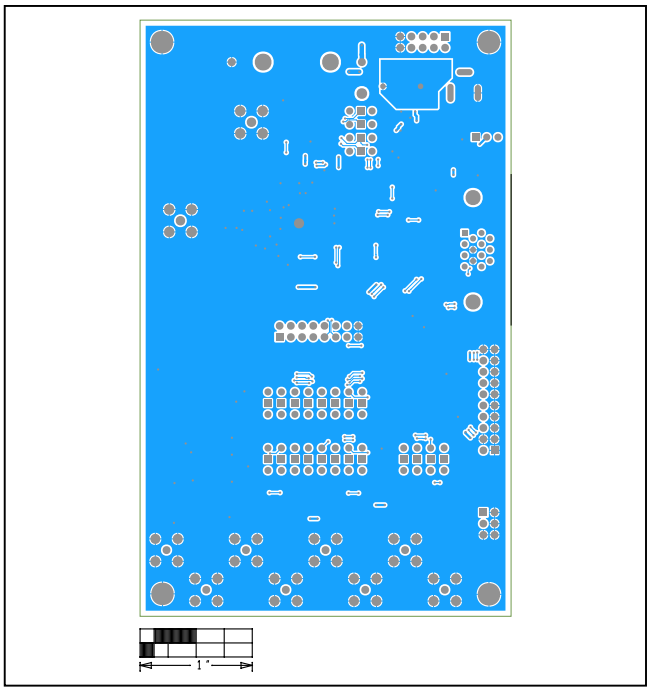
## MAX7037_915MHz EV Kit PCB Layout Diagrams




*MAX7037 EV Kit—Top Silkscreen*



*MAX7037 EV Kit—Top*



*MAX7037 EV Kit—Bottom*

## Ordering Information

| PART | TYPE |
|---|---|
| MAX7037EVKIT315# | EV Kit |
| MAX7037EVKIT434# | EV Kit |
| MAX7037EVKIT868# | EV Kit |
| MAX7037EVKIT915# | EV Kit |
| Siam Kitty Board | Interface |

*#Denotes RoHS compliant.*

## Revision History

| REVISION NUMBER | REVISION DATE | DESCRIPTION | PAGES CHANGED |
|---|---|---|---|
| 0 | 11/16 | Initial release | — |
| 1 | 2/17 | Updated Table 1 | 5 |
| 2 | 4/18 | Added MAX7037_315MHz, MAX7037_434MHz, MAX7037_868MHz, MAX7037_915MHz to data sheet | 1–31 |
| 3 | 7/18 | Updated *Ordering Information* table | 30 |

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