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MAX19777 Evaluation System

Evaluates: MAX19777

General Description

The MAX19777 evaluation system (EVSYS) is a fully assembled and tested PCB that evaluates the MAX19777 2-channel, 12-bit, SPI™-compatible 3Msps analog-to-digital converter (ADC). The MAX19777 EVSYS consist of the MAXPRECADCMB1 and the MAX19777 evaluation kit (EV kit). The system also includes Window 7, Windows 8, and Windows 10 software that provides a simple graphical user interface (GUI) for exercising the features of the device. The EV kit comes installed with a MAX19777AZA+ in a package.

Ordering Information appears at end of data sheet.

EV System Component List

| PART | QTY | DESCRIPTION |
|-----------------|-----|-------------------------------|
| MAX119777EVKIT# | 1 | Daughter board |
| MAXPRECADCMB1# | 1 | Serial interface master board |

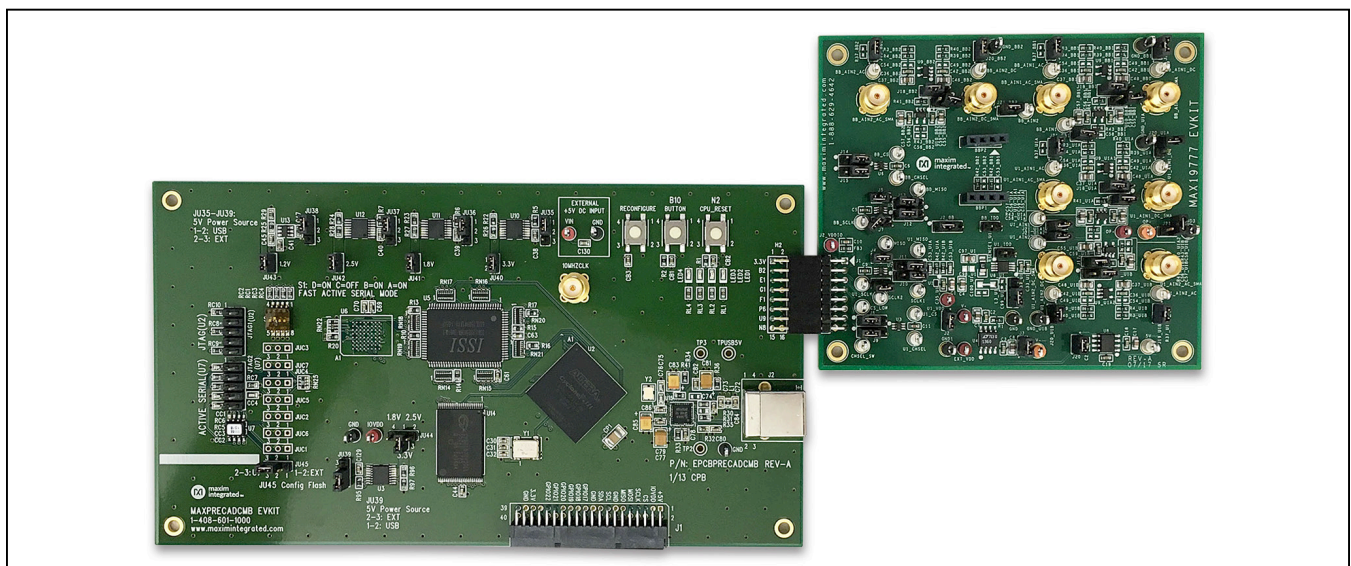
Features

- 48MHz SPI Interface
- Window 7, Windows 8 and Windows 10-Compatible Software
- Time Domain, Frequency Domain, and Histogram Plotting in the EV Kit Software
- Frequency, RMS, Min, Max, and Average DC Calculations in the EV Kit Software
- On-Board Input Buffers
- USB-PC Connection
- Proven PCB Layout
- Fully Assembled and Tested

MAX19777 EV Kit Files

| FILE | DESCRIPTION |
|-----------------------------|---|
| MAX19777EVKit SetupVx.x.exe | Installs the EV system files on your computer |
| MAX19777.EXE | Application program |
| SLSUSB.DLL | Software library file |
| SLSUSB.INF | USB device driver file |
| SLSUSB.SYS | USB device driver file |
| SLS_USB_Driver_Help_100.PDF | USB driver installation file |

MAX19777 EV Kit Photo



SPI is a trademark of Motorola, Inc.

Windows 7, Windows 8, and Windows 10 are registered trademarks of Microsoft Corp.



Quick Start

Required Equipment

- MAX19777 EV System (USB cable included)
- +5.5V, 500mA DC power supply
- PC with a spare USB port
- Function generator
- ±5V, 200mA DC power supply
- +5V, 100mA DC power supply

Note: In the following sections, software-related items are identified by bolding. Text in **bold** refers to items directly from the EV kit software. Text in **bold and underlined** refers to items from the Windows operating system.

Procedure

The EV kit is fully assembled and tested. Follow the steps below to verify board operation. **Caution: Do not turn on the power supply until all connections are completed.**

- 1) Install the MAX19777EVKitSetupVx.x.exe on your computer
- 2) Verify that all jumpers are in their default positions, as shown in [Table 1](#).
- 3) Connect the positive terminal of the +5.5V power supply to the VIN connector on the MAXPRECAD-CMB1. Connect the negative terminal of the same power supply to the GND connector on the board.
- 4) Connect the MAX19777s 2x8 right angle female header (J1) to the MAXPRECADCMB1s 2x8 right angle male header (H2).
- 5) Connect the +5V power supply to the OP+ test points, -5V power supply to the OP- test point, and ground to the nearest GND test point.
- 6) Connect the +5V power supply to the 5V test point and the ground to the nearest GND test point.
- 7) Set the signal source to generate a 10kHz, +2.95V peak-to-peak sinusoidal wave.
- 8) Connect the positive terminal of the signal generator to the U1_AIN1_DC or U1_AIN1_DC_SMA connector. Connect the negative terminal of the signal generator to the GND connector.
- 9) Turn on the power supplies.
- 10) Turn on the function generator.
- 11) Connect the USB cable from the PC to the EV kit board. Follow the instructions on the SLS_USB_Driver_Help_100.PDF file to manually install the USB driver. Administrator privileges are required to install the USB device driver on Windows.
- 12) Start the EV kit software by opening its icon in the Windows **All Programs** menu. The EV kit software main window appears, as shown in [Figure 1](#).
- 13) The main window should display **Hardware Connected** at the bottom-left corner
- 14) Check the **Remove DC** checkbox.
- 15) Press the **Start Conversion** button.
- 16) Verify that the **Frequency** displayed in the **Calculation** group box reads approximately 100000Hz.

Detailed Description of Software

The main window of the evaluation software ([Figure 1](#)) contains a **Device Configuration** group box, a **Datalogging** group box, and four tab sheets to display the sampled data.

Device Configuration

Use the **Channel Select** drop-down list in the **Device Configuration** group box to select the analog input channel for analog-to-digital conversion.

Data Logging

In the **Datalogging** group box, the user can select the desired number of conversions in the **Number of Samples** drop-down list. Enter the desired sampling rate in the **Sample Rate (ksps)** edit box. The actual sampling rate is displayed at the right of the **Sample Rate (ksps)** edit box. Press the **Start Conversion** button to start sampling. After sampling is finished, the user can save the data to a file by pressing the **Save to File** button. The **Save to File** button is not active until the sampling is done.

Time Domain, Frequency Domain, Histogram, and Single Conversion Tabs

After the **Start Conversion** button in the **Datalogging** group box is pressed, the sampled data in the time domain is plotted in the **Time Domain** tab sheet. The sampled data in the frequency domain is plotted in the **Frequency Domain** tab sheet, and the histogram of the sampled signal is plotted in the **Histogram** tab sheet.

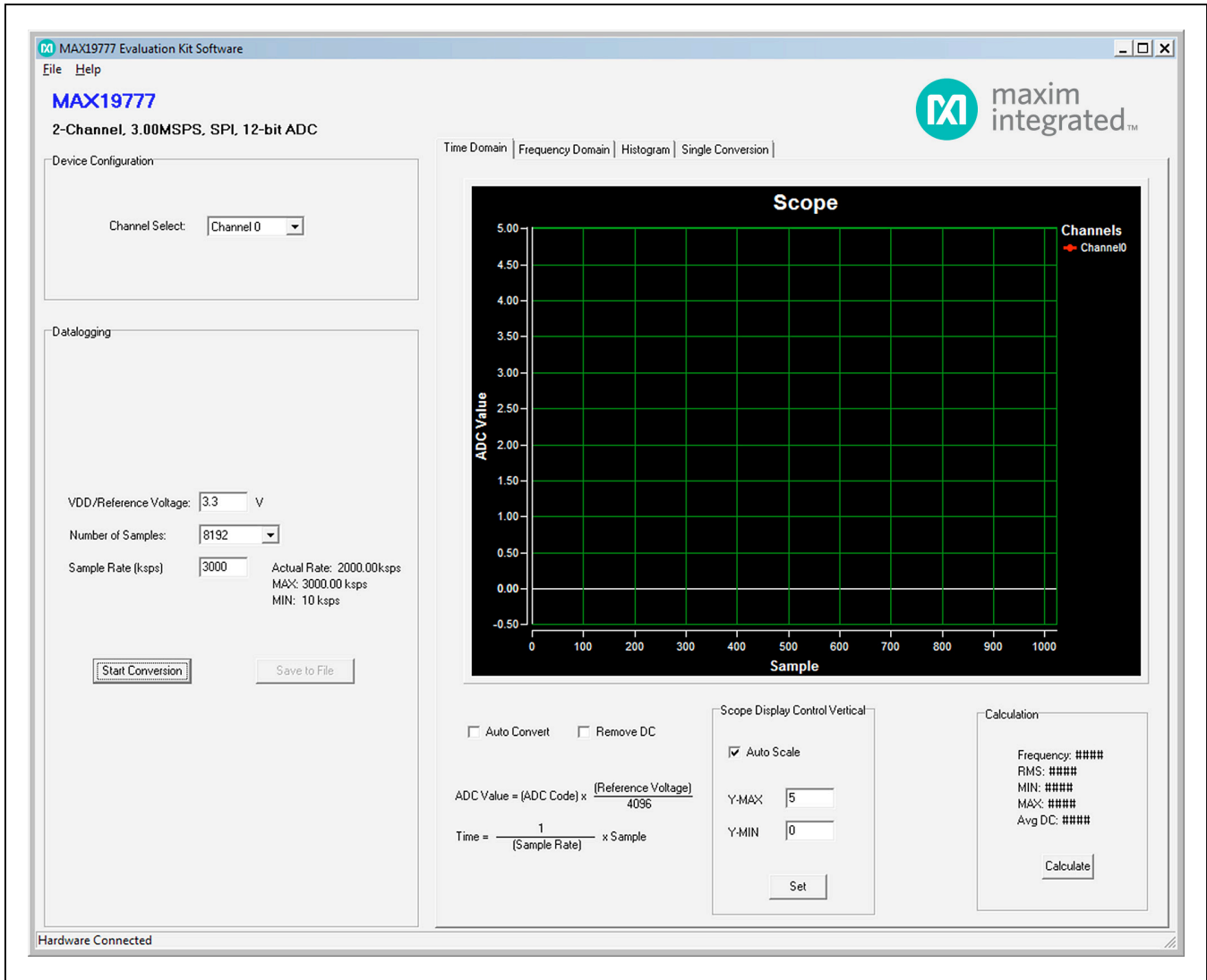


Figure 1. MAX19777 EV Kit Software Main Window

The **Single Conversion** tab sheet displays one sampled data.

Check the **Auto Convert** checkbox to automatically and repeatedly do the ADC conversions and update the active tab sheet.

Time Domain Tab

In the **Time Domain** tab sheet (Figure 2a and 2b), check the **Remove DC** check box to remove the DC component of the sampled signal. In the **Scope Display Control Vertical** group box, when the **Auto Scale** checkbox is checked, the software automatically scales

the vertical axis in the plot. If the **Auto Scale** checkbox is unchecked, enter the appropriate values into the **Y-MAX** and **Y-MIN** edit boxes and press the Set button to set the boundaries for the vertical axis. The software automatically calculates the **Frequency**, **RMS**, **MIN**, **MAX**, and **Avg DC** of the sampled signal and displays the calculated values in the **Calculation** group box.

Frequency Domain Tab

The **Frequency Domain** tab sheet (Figure 3) displays the FFT plot of the signal shown in the **Time Domain** tab sheet.

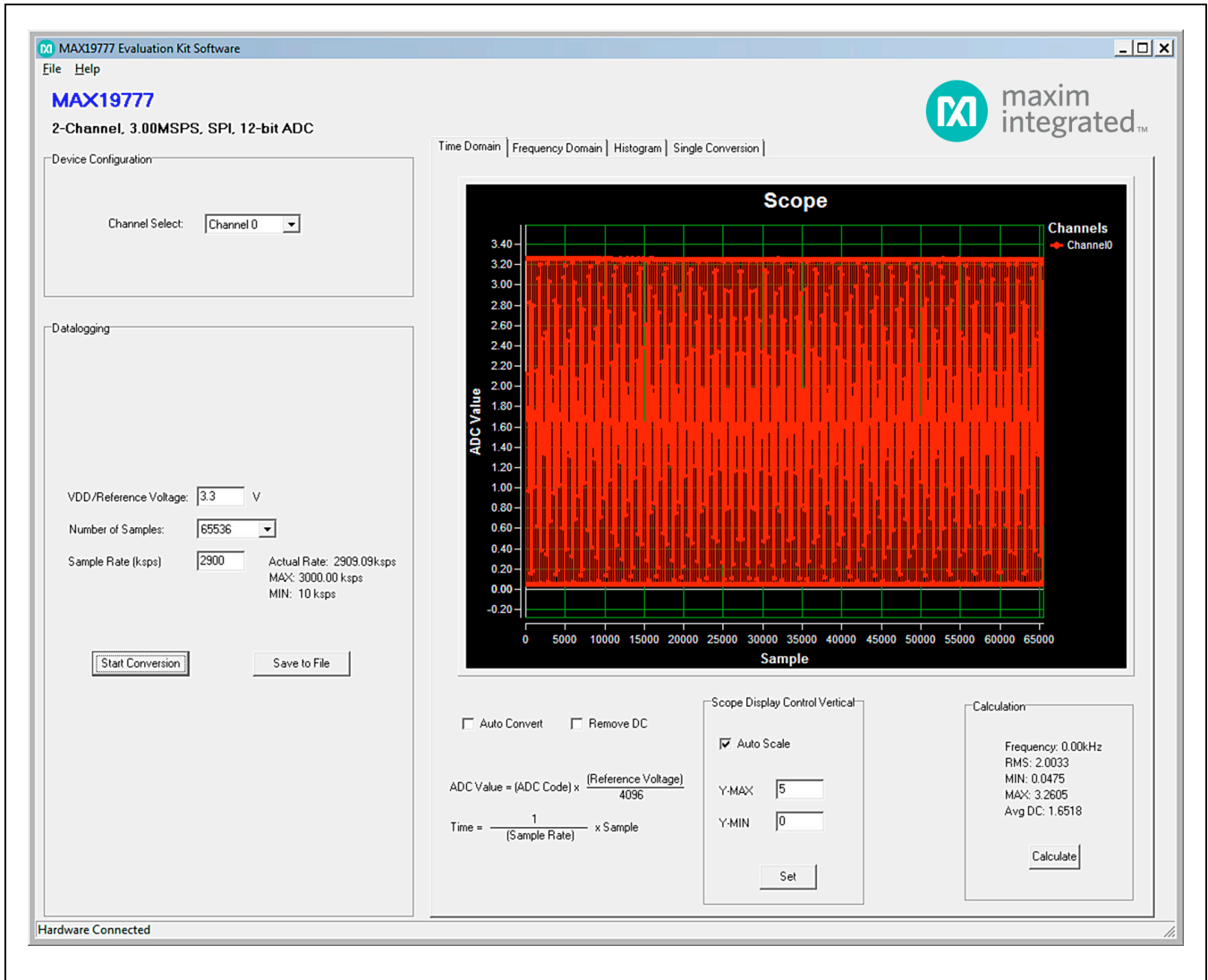


Figure 2a. Time Domain Tab



Figure 2b. Time Domain Tab (Zoomed In)

Histogram Tab

The **Histogram** tab sheet (Figure 4) displays the histogram of the signal shown in the **Time Domain** tab sheet. The software automatically calculates the **Mean** and the **Std Dev** (standard deviation, sigma) and displays the calculated values in the **Calculation** group box.

The **Histogram Display Control** radio group box provides three options to scale the horizontal axis on the histogram:

- 1) **(Mean - 3 sigma) to (Mean + 3 sigma)**
- 2) **(Mean - 6 sigma) to (Mean + 6 sigma)**
- 3) **User Define range**

Single Conversion

The **ADC Value Display** group box in the **Single Conversion** tab sheet (Figure 5) displays the **ADC Code** and calculated **Voltage** values for a single sample. Press the **Start Conversion** button in the **Datalogging** group box to update the status of the **ADC Value Display** group box.

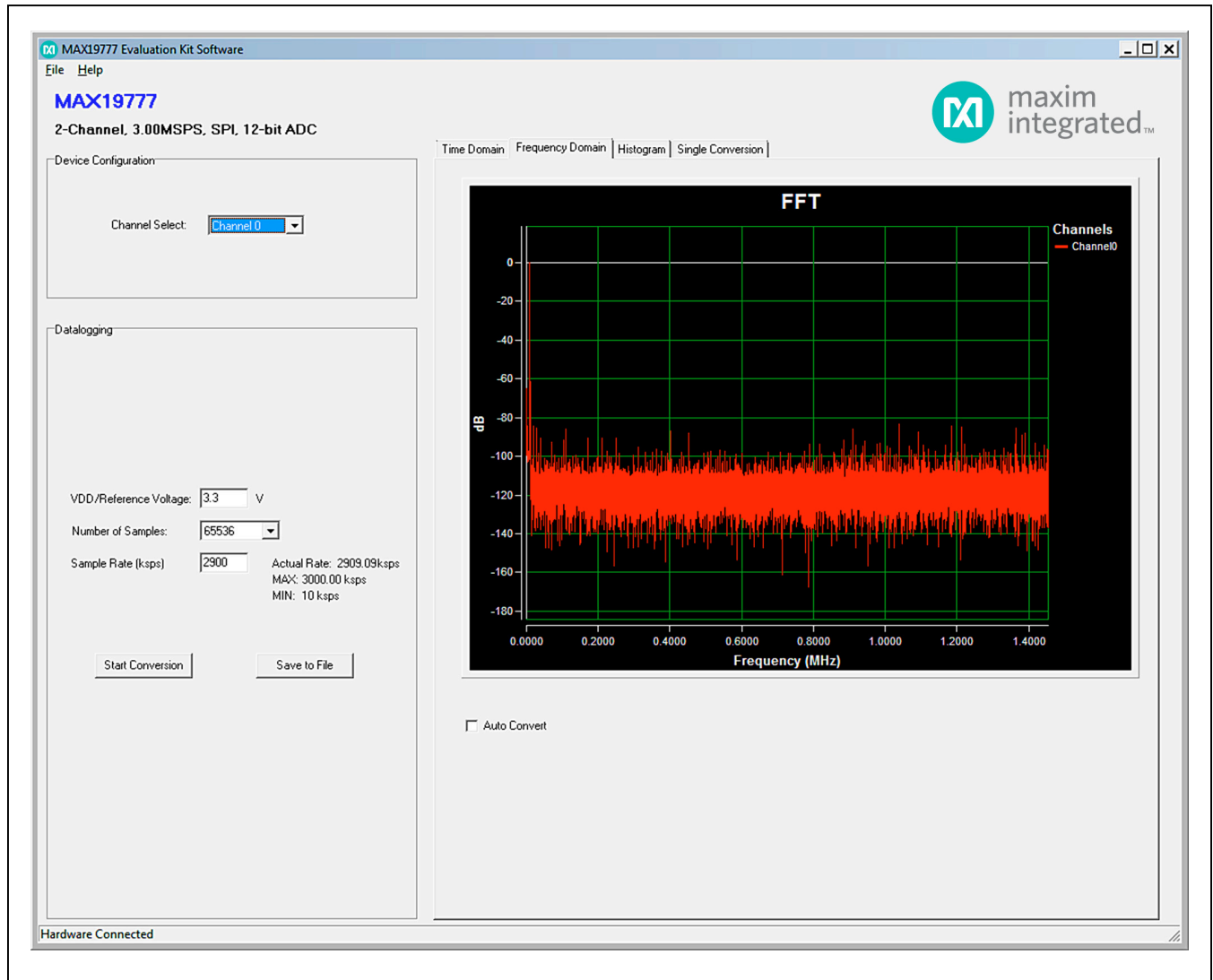


Figure 3. Frequency Domain Tab

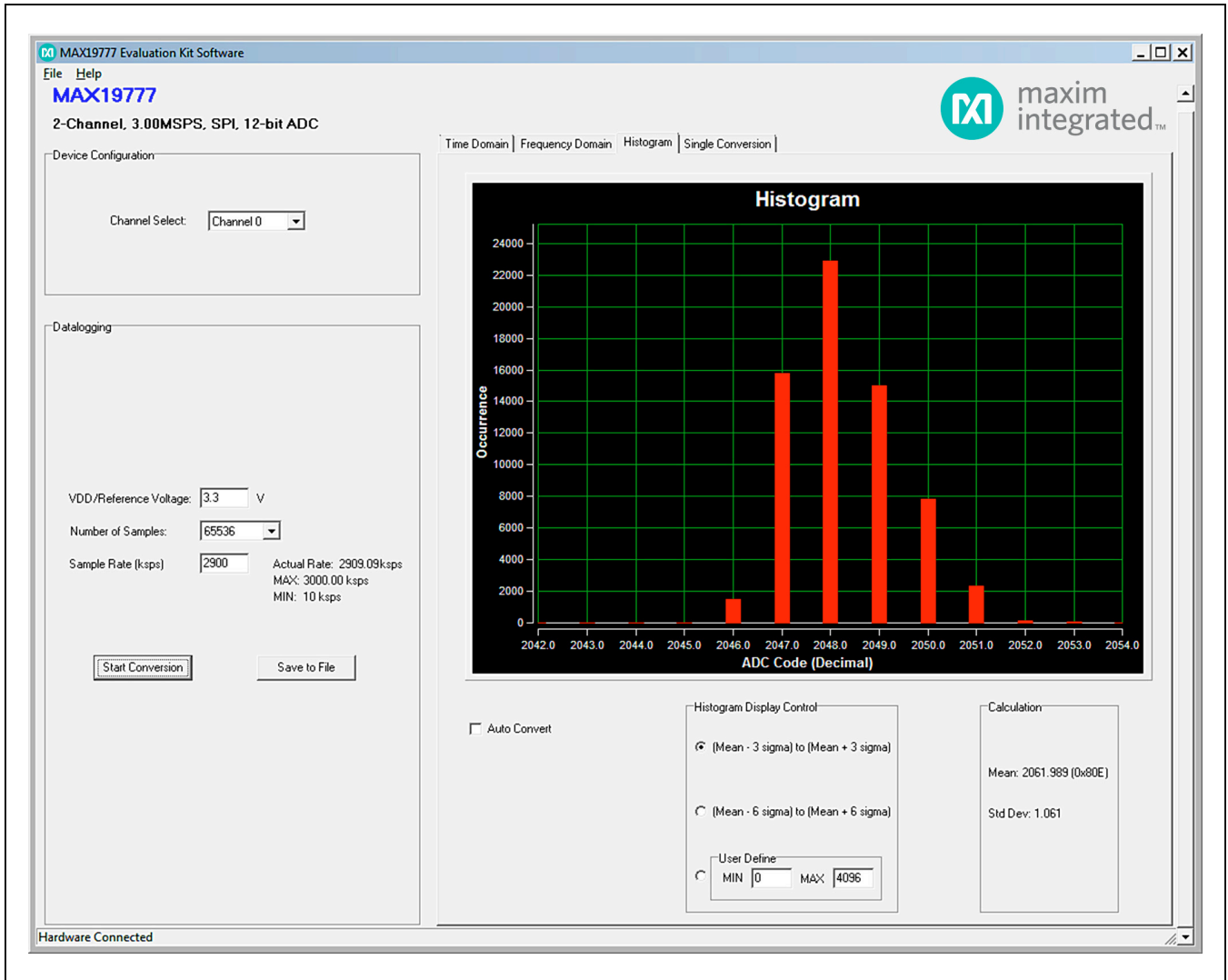


Figure 4. Histogram Tab

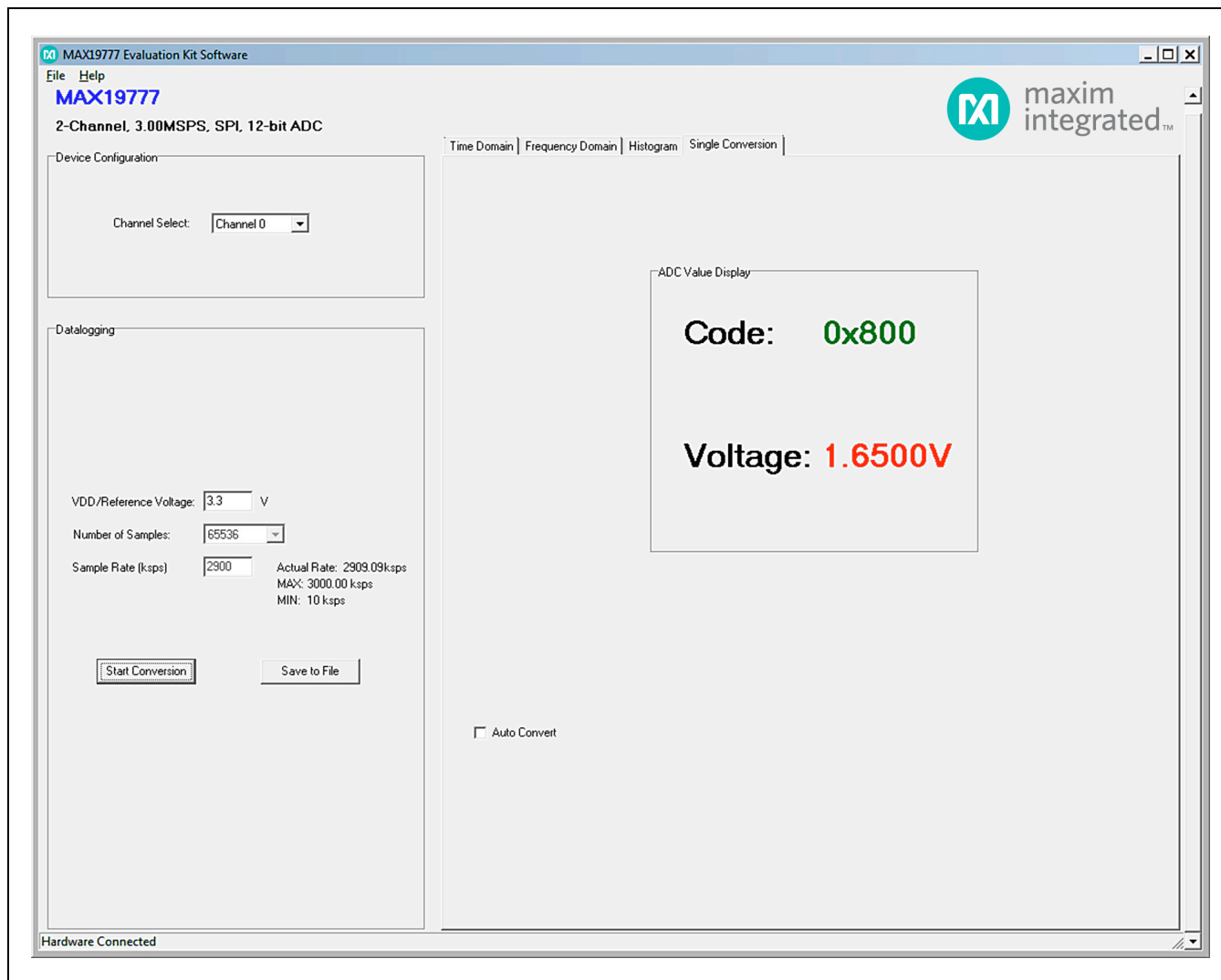


Figure 5. Single Conversion Tab

Detailed Description of Hardware

The MAX19777 EV kit is a fully assembled and tested PCB that evaluates the MAX19777 2-channel, 12-bit, SPI-compatible 3Msps ADC. The EV kit comes installed with a MAX19777AZA+ in a 8-pin WLP package.

Power Supplies

A +5.5V power supply is required to power up the MAXPRECADCMB1. Connect the positive terminal of the power supply to the VIN connector and the negative terminal to the GND connector. +5V power supply is required to power up the +3.0V reference to supply the MAX19777.

On-Board Input Buffer

On-board input buffers (U9_XXXX) are provided on the EV kit. To power the on-board buffers, connect the +5V, GND, and -5V terminals of the power supply to the OP+, GND, and OP- connectors, respectively.

Analog Input 1

Move the shunt on jumper J18_U1A to the 2-3 position and remove the shunts on jumpers J19_U1A and J20_U1A. The user can connect the DC signal to the U1_AIN1_DC_SMA or U1_AIN1_AC connector and connect the DC offset to the U1_AIN1_DC_SMA or U1_AIN1_DC connector. If the measuring signal has already been shifted above the ground level, short the AC input to ground by installing a shunt on J19_U1A and connecting the

measuring signal to the U1_AIN1_DC_SMA or U1_AIN1_DC connector. To bypass the buffer and connect the measuring signal directly to the AIN1 input of the ADC, remove the shunt on J21_U1A. Then connect the measuring signal to the U1_AIN1 connector.

Analog Input 2

Move the shunt on jumper J18_U1B to the 2-3 position and remove the shunts on jumpers J19_U1B and J20_U1B. The user can connect the AC signal to the U1_AIN2_AC_SMA or U1_AIN2_AC connector and connect the DC offset to the U1_AIN2_DC_SMA or U1_AIN2_DC connector. If the measuring signal has already been shifted above the ground level, short the AC input to ground by installing a shunt on JU23 and connect the measuring signal to the U1_AIN2_DC_SMA or U1_AIN2_DC connector. To bypass the buffer and connect the measuring signal directly to the AIN2 input of the ADC, remove the shunt on J18_U1B. Finally, connect the measuring signal to the U1_AIN2 connector.

User-Supplied SPI Interface

For user-supplied SPI, the user must remove the shunts on headers J8 to J11. The user can apply the user-supplied SPI signals to pin 2 of header J8 to J11, respectively. Make sure return ground is connected to the MAX19777 EV kit.

Table 1. Jumper Settings

| JUMPER | SHUNT POSITION | DESCRIPTION |
|--------|----------------|---|
| J2 | Installed* | Connects V+ and OP+ together. OP+ is the positive supply of the op-amp on the analog front end of ADC. |
| | Not Installed | Disconnects V+ from OP+. User must apply separate +5V supply at the V+ test point. |
| J2_U1 | 1-2 | Supply voltage from Master's VDDIO applied to VDD of the MAX19777 (U1). |
| | 2-3* | Supply voltage from on-board reference or external supply applied to VDD of the MAX19777 (U1). |
| J2_BB | 1-2 | Supply voltage from Master's VDDIO applied to VDD of the MAX19777 (break out board). |
| | 2-3* | Supply voltage from on-board reference or external supply applied to VDD of the MAX19777 (break out board). |
| J3 | Installed* | Connects V- and OP- which is the negative supply of the op-amp on the analog front end of ADC. |
| | Not Installed | Disconnects V- from OP-. User must apply separate -5V supply at the V- test point. |
| J4 | Installed* | Connects the MAX19777's DOUT signal via buffer (U2) to the master connection at J1-8. |
| | Not Installed | Disconnects the MAX19777's DOUT signal via buffer (U2) from the master's connection at J1-8. |

Table 1. Jumper Settings (continued)

| JUMPER | SHUNT POSITION | DESCRIPTION |
|--------|----------------|---|
| J5 | Installed | For break out board use only. Connects the break out board MAX19777's DOUT signal to the master's connection at connector pin J1-8. |
| | Not Installed* | Disconnects the break out board MAX19777's DOUT signal from the master connection at connector pin J1-8. |
| J6 | Installed* | Connects the copied SCLK signal at the MAX19777 (U1) to the master's connection at connector pin J1-4. |
| | Not Installed | Disconnects the copied SCLK signal at the MAX19777 (U1) from the master's connection at connector pin J1-4. |
| J7 | Installed | For break out board use only. Connects the copied SCLK signal at the break out board MAX19777 to the master's connection at connector pin J1-4. |
| | Not Installed* | Disconnects the copied SCLK signal at the break out board MAX19777 from the master's connection at connector pin J1-4. |
| J8 | 1-2* | Connects the \overline{CS} signal at connector pin J1-5 to the buffer (U3) input A. |
| | 2-3 | Connects the buffer (U3) input A to ground. |
| J9 | 1-2* | Connects the CHSEL signal at connector pin J1-7 to the buffer (U3) input B. |
| | 2-3 | Connects the buffer (U3) input B to ground. |
| J10 | 1-2* | Connects the the SCLK signal at connector pin J1-12 to the buffer (U2) input A. |
| | 2-3 | Connects the buffer (U2) input A to ground. |
| J11 | 1-2* | Connects MAX19777s (U1) DOUT to the buffer (U2) input B. |
| | 2-3 | Connects the buffer (U2) input B to ground. |
| J12 | 1-2 | For break out board use only. Connects the SCLK signal at connector pin J1-12 to the MAX19777 of the break out board. |
| | 2-3* | Connects the buffer (U5) input A to ground. |
| J13 | 1-2 | For break out board use only. Connects the DOUT signal from the MAX19777 (break out board) to the buffer (U5) input B. |
| | 2-3* | Connects the buffer (U5) input B to ground. |
| J14 | 1-2 | For break out board use only. Connects the \overline{CS} signal at connector J1-5 to the buffer (U6) input to A . |
| | 2-3* | Connects the buffer (U6) input to A to ground. |
| J15 | 1-2 | For break out board use only. Connects CHSEL signal at the connector J1-7 to the buffer (U6) input to B . |
| | 2-3* | Connects the buffer (U6) input to B to ground. |

Table 1. Jumper Settings (continued)

| JUMPER | SHUNT POSITION | DESCRIPTION |
|---------|----------------|--|
| J16 | Installed* | +1.5V DC voltage offset on the AIN1 input of the MAX19777 (U1). |
| | Not Installed | Disconnects +1.5V DC voltage offset from the AIN1 input of the MAX19777 (U1). |
| J17 | Installed | +1.5V DC voltage offset on the AIN2 input of the MAX19777 (U1). |
| | Not Installed* | Disconnects +1.5V DC voltage offset from the AIN2 input of the MAX19777 (U1). |
| J18 | Installed | +1.5V DC voltage offset on the AIN1 input of the MAX19777 (breakout board). |
| | Not Installed* | Disconnects +1.5V DC voltage offset from the AIN1 input of the MAX19777 (break out board). |
| J19 | Installed | +1.5V DC voltage offset on the AIN2 input of the MAX19777 (breakout board). |
| | Not Installed* | Disconnects +1.5V DC voltage offset from the AIN2 input of the MAX19777 (breakout board). |
| J18_U1A | 1-2 | Bypass the op-amp (U9_U1A1) and connect directly to the input of the op-amp (U10_U1A1). |
| | 2-3* | Connects the output of the op-amp (U9_U1A1) to the input of the op-amp (U10_U1A1). |
| J18_U1B | 1-2 | Bypass the op-amp (U9_U1B1) and connect directly to the input of the op-amp (U10_U1B1). |
| | 2-3* | Connects the output of the op-amp (U9_U1B1) to the input of the op-amp (U10_U1B1). |
| J18_BB1 | 1-2 | Bypass the op-amp (U9_BB1) and connect directly to the input of the op-amp (U10_BB1). |
| | 2-3* | Connects the output of the op-amp (U9_BB1) to the input of the op-amp (U10_BB1). |
| J18_BB2 | 1-2 | Bypass the op-amp (U9_BB2) and connect directly to the input of the op-amp (U10_BB2). |
| | 2-3* | Connects the output of the op-amp (U9_BB2) to the input of the op-amp (U10_BB2). |
| J19_U1A | Installed* | Connects to ground. |
| | Not Installed | Apply analog signal at U1_AIN1_AC. |
| J19_U1B | Installed* | Connects to ground. |
| | Not Installed | Apply signal at U1_AIN2_AC. |
| J19_BB1 | Installed* | Connects to ground. |
| | Not Installed | Apply signal at BB_AIN1_AC. |
| J19_BB2 | Installed* | Connects to ground. |
| | Not Installed | Apply signal at BB_AIN2_AC. |
| J20 | Installed* | Connects to +3.0V voltage reference (MAX6126) to the input of the buffer (U4). |
| | Not installed | Disconnects +3.0V voltage reference MAX6126) from the input of the buffer (U4). User must apply +3.3V at EXT_VDD test point. |
| J20_U1A | Installed | Connects to ground. |
| | Not Installed* | Apply DC signal at U1_AIN1_DC. |

Table 1. Jumper Settings (continued)

| JUMPER | SHUNT POSITION | DESCRIPTION |
|----------|----------------|--|
| J20_U1B | Installed* | Connects to ground. |
| | Not Installed | Apply DC signal at U1_AIN2_DC. |
| J20_BB1 | Installed* | Connects to ground. |
| | Not Installed | Apply DC signal at BB_AIN1_DC. |
| J20_BB2 | Installed* | Connects to ground. |
| | Not Installed | Apply DC signal at BB_AIN2_DC. |
| J21 | Installed | Do not use. Negative supply (OP-) connects to ground. |
| | Not Installed* | Disconnects negative supply from ground. Apply -5V at OP- test point. |
| J21_U1A1 | Installed* | Connects op-amp (U10_U1A1) to AIN1 input of the MAX19777 (U1). |
| | Not Installed | Disconnects op-amp (U10_U1A1) from AIN1 input of the MAX19777 (U1). |
| J21_U1B1 | Installed* | Connects op-amp (U10_U1A2) to AIN2 input of the MAX19777 (U1). |
| | Not Installed | Disconnects op-amp (U10_U1A2) from AIN2 input of the MAX19777 (U1). |
| J21_BB1 | Installed | Connects op-amp (U10_BB1) to AIN1 input of the MAX19777 (breakout board). |
| | Not Installed* | Disconnects op-amp (U10_BB1) from AIN1 input of the MAX19777 (breakout board). |
| J21_BB2 | Installed | Connects op-amp (U10_BB2) to AIN2 input of the MAX19777 (breakout board). |
| | Not Installed* | Disconnects op-amp (U10_BB2) from AIN2 input of the MAX19777 (breakout board). |
| U1_IDD | Not Installed* | Used only for voltage measurement of the current sense amplifier (U8_U1). |
| BB_IDD | Not Installed* | Used only for voltage measurement of the current sense amplifier (U8_BB). |

*Default position.

Ordering Information

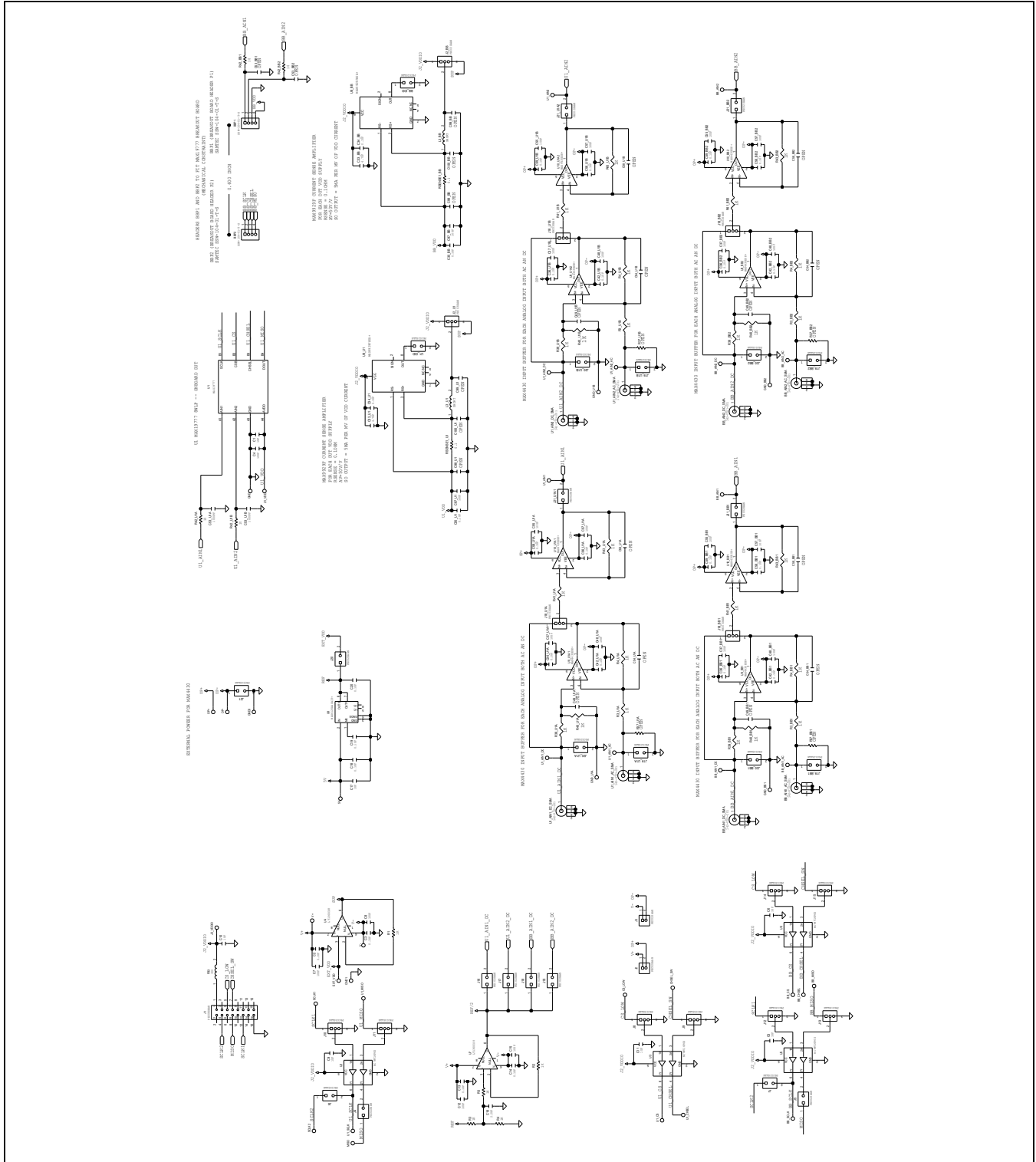
| PART | TYPE |
|----------------|-----------|
| MAX19777EVSYS# | EV System |
| MAX19777EVKIT# | EV Kit |

#Denotes RoHS compliant.

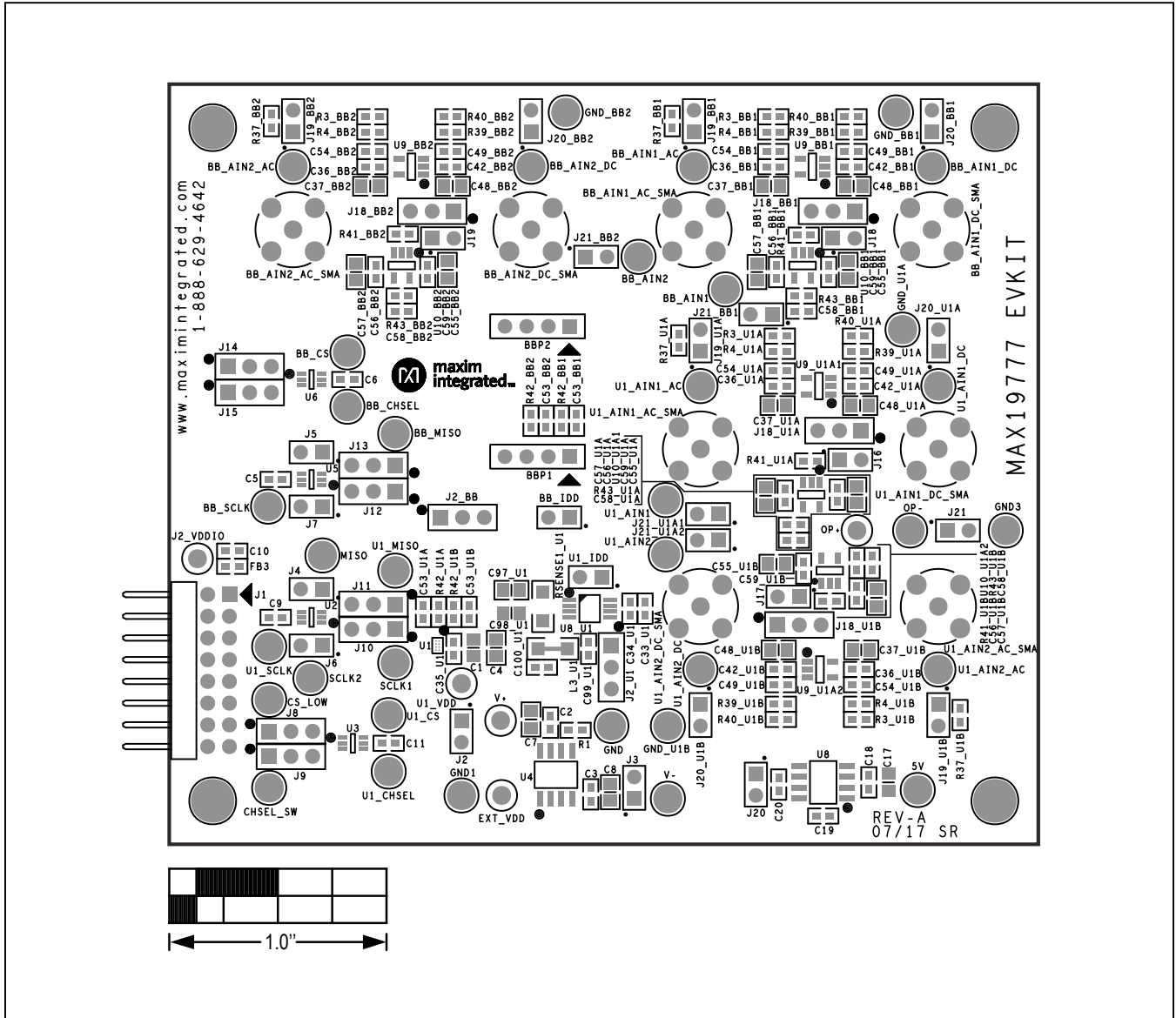
MAX19777 EV Kit Bill of Materials

| ITEM | REF_DES | DND/MP | QTY | MFG PART # | MANUFACTURER | VALUE | DESCRIPTION |
|-------|--|--------|-----|---|---|----------------|---|
| 1 | SV, MISO, BB_CS, SCLK1, SCLK2, U1_CS, CS_LOW, BB_AIN1, BB_AIN2, BB_MISO, BB_SCLK, U1_AIN1, U1_AIN2, U1_MISO, U1_SCLK, BB_CHSEL, CHSEL_SW, U1_CHSEL, BB_AIN1_AC, BB_AIN1_DC, BB_AIN2_AC, BB_AIN2_DC, U1_AIN1_AC, U1_AIN1_DC, U1_AIN2_AC, U1_AIN2_DC | — | 26 | 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 | BBP1, BBP2 | — | 2 | SSW-104-01-T-S | SAMTEC | SSW-104-01-T-S | CONNECTOR, MALE, THROUGH HOLE; .025INCH SQ POST SOCKET; STRAIGHT; 4PINS |
| 3 | BB_AIN1_AC_SMA, BB_AIN1_DC_SMA, BB_AIN2_AC_SMA, BB_AIN2_DC_SMA, U1_AIN1_AC_SMA, U1_AIN1_DC_SMA, U1_AIN2_AC_SMA, U1_AIN2_DC_SMA | — | 8 | 142-0701-201 | JOHNSON COMPONENTS | 142-0701-201 | CONNECTOR, FEMALE THREADED; THROUGH HOLE; SMA; STRAIGHT THROUGH; 5PINS |
| 4 | J2-J7, J16-J21, BB_IDD, U1_IDD, J19, BB1, J19_BB2, J19_U1A, J19_U1B, J20, BB1, J20_BB2, J20_U1A, J20_U1B, J21_BB1, J21_BB2, J21_U1A1, J21_U1A2 | — | 26 | PEC02SAAN | SULLINS | PEC02SAAN | CONNECTOR, MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT; 2PINS |
| 5 | C1, C17 | — | 2 | GRM21BR71H105KA12; CL21B105KBFNNE; C2012X7R1H105K085AC; UMK212B7105KG | MURATA; SAMSUNG ELECTRONICS; TDK; TAIYO YUDEN | 1UF | CAPACITOR, SMT (0603); CERAMIC CHIP; 1µF; 50V; TOL = 10%; TG = -55°C TO +125°C; TC = X7R |
| 6 | C2, C3, C13, C14, C18-C20, C34, BB, C34_U1, C35, BB, C35_U1, C36, BB1, C36_BB2, C36_U1A, C36_U1B, C42, BB1, C42_BB2, C42_U1A, C42_U1B, C56, BB1, C56_BB2, C56_U1A, C56_U1B, C59, BB1, C59_BB2, C59_U1A, C59_U1B | — | 27 | GRM188R72104KA35; CC0603KRX7R08B104 | MURATA; TDK | 0.1UF | CAPACITOR, SMT (0603); CERAMIC CHIP; 0.1µF; 100V; TOL = 10%; TG = -55°C TO +125°C; TC = X7R |
| 7 | C4, C7, C8, C12, C15, C97, BB, C97_U1, C37, BB1, C37_BB2, C37_U1A, C37_U1B, C48, BB1, C48_BB2, C48_U1A, C48_U1B, C55, BB1, C55_BB2, C55_U1A, C55_U1B, C57, BB1, C57_BB2, C57_U1A, C57_U1B | — | 23 | C2012X5R1V106K085 | TDK | 10UF | CAPACITOR, SMT (0805); CERAMIC CHIP; 10µF; 35V; TOL = 10%; TG = -55°C TO +85°C; TC = X5R |
| 8 | C5, C6, C9-C11 | — | 5 | C0603C105K4RAC; GRM188R71C105KA12; C1608X7R1C105K; EMK107B7105KA | KEMET/MURATA/TK/TAIYO YUDEN | 1UF | CAPACITOR, SMT (0603); CERAMIC CHIP; 1µF; 16V; TOL = 10%; MODEL=; TG = -55°C TO +125°C; TC = X7R |
| 9 | C16 | — | 1 | C1608X5R1V225K080AC; GRM188R6YA225KA12 | TDK/MURATA | 2.2UF | CAPACITOR, SMT (0603); CERAMIC CHIP; 2.2µF; 35V; TOL = 10%; TG = -55°C TO +85°C; TC = X5R |
| 10 | C33, BB, C33_U1 | — | 2 | C0603C475K8PAC; LMK107B475KA-T; C0603B1X5R1A475K; C1608X5R1A475K080; CL10A475KP6N1N | KEMET; TAIYO YUDEN; TDK; SAMSUNG ELECTRONICS | 4.7UF | CAPACITOR, SMT (0603); CERAMIC CHIP; 4.7µF; 10V; TOL = 10%; TG = -55°C TO +85°C; TC = X5R |
| 11 | C53, U1A, C53_U1B | - | 2 | GRM188C1H102JA01; C1608C0G1H102J080 | MURATA; TDK | 1000PF | CAPACITOR, SMT (0603); CERAMIC CHIP; 1000PF; 50V; TOL = 5%; TG = -55°C TO +125°C |
| 12 | V+, OP+, U1_VDD, EXT_VDD, J2_VDDIO | — | 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; |
| 13 | FB3 | — | 1 | MMZ1608R301AT | TDK | 300 | INDUCTOR; SMT (0603); FERRITE-BEAD; 300; TOL=±25%; 0.5A; -55°C TO +125°C |
| 14 | GND, GND1, GND3, GND_BB1, GND_BB2, GND_U1A, GND_U1B | — | 7 | 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; |
| 15 | J1 | — | 1 | PEC08DBAN | SULLINS ELECTRONICS CORP | PEC08DBAN | CONNECTOR, MALE; THROUGH HOLE; MALE BREAKAWAY HEADER; RIGHT ANGLE; 16PINS; |
| 16 | J8-J15, J2, BB, J2_U1, J18, BB1, J18_BB2, J18_U1A, J18_U1B | — | 14 | PBC03SAAN | SULLINS | PBC03SAAN | CONNECTOR, MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT; SPINS; -65°C TO +125°C |
| 17 | V-, OP- | — | 2 | 5125 | KEYSTONE | N/A | TEST POINT; PIN DIA=0.125IN; TOTAL LENGTH = 0.445IN; BOARD HOLE = 0.063IN; BROWN; PHOSPHOR BRONZE WIRE SILVER PLATE FINISH; |
| 18 | R1-R5, R3, BB1, R3_BB2, R3_U1A, R3_U1B, R4, BB1, R4_BB2, R4_U1A, R4_U1B, R39, BB1, R39_BB2, R39_U1A, R39_U1B, R40, BB1, R40_BB2, R40_U1A, R40_U1B, R41, BB1, R41_BB2, R41_U1A, R41_U1B, R43, BB1, R43_BB2, R43_U1A, R43_U1B | — | 29 | CRCW06031001FK; ERJ-3EKF1001V | VISHAY DALE; PANASONIC | 1K | RESISTOR; 0603; 1K; 1%; 100PPM; 0.10W; THICK FILM |
| 19 | RA2, BB1, RA2_BB2, RA2_U1A, RA2_U1B | — | 4 | CRCW060310R0FK; MCR03EZPFX10R0 | VISHAY DALE/ROHM | 10 | RESISTOR; 0603; 10Ω; 1%; 100PPM; 0.10W; THICK FILM |
| 20 | RSENSE1_BB, RSENSE1_U1 | — | 2 | WSL1206R1000F | VISHAY DALE | 0.1 | RESISTOR; 1206; 0.1Ω; 1%; 75PPM; 0.25W; METAL STRIP |
| 21 | U1 | — | 1 | MAX19777 | MAXIM | MAX19777 | VKIT PART-IC; MAX19777; PACKAGE OUTLINE: 21-100166A; WLP8 |
| 22 | U2, U3, U5, U6 | — | 4 | NCT7WV16P6X | FAIRCHILD SEMICONDUCTOR | NCT7WV16P6X | IC; BUF; TINYLOGIC ULP-A DUAL BUFFER; SC70-6 |
| 23 | U4, U7 | — | 2 | LT1360CS8 | LINEAR TECHNOLOGY | LT1360CS8 | HIGH SPEED OPERATIONAL AMPLIFIER |
| 24 | U8 | — | 1 | MAX6126AASA33+ | MAXIM | MAX6126AASA33+ | IC; VREF; ULTRA-HIGH-PRECISION ULTRA-LOW-NOISE SERIES VOLTAGE REFERENCE; NSOIC8 |
| 25 | U8_BB, U8_U1 | — | 2 | MAX9929FAUA+ | MAXIM | MAX9929FAUA+ | IC; AMP; -0.1V TO +28V INPUT RANGE; MICROPOWER; BIDIRECTIONAL; CURRENT-SENSE AMPLIFIER; UMAX8 |
| 26 | U9_BB1, U9_BB2, U10, BB1, U10_BB2, U9_U1A1, U9_U1A2, U10_U1A1, U10_U1A2 | - | 8 | MAX4430EUK+ | MAXIM | MAX4430EUK+ | IC; OPAMP; DUAL SUPPLY; ULTRA-LOW DISTORTION OP AMP; SOT23-5 |
| 27 | PCB | - | 1 | MAX19777 | MAXIM | PCB | PCB; MAX19777 |
| 28 | C99, BB, C99_U1, C100, BB, C100_U1, C49, BB1, C49_BB2, C49_U1A, C49_U1B, C53, BB1, C53_BB2, C54, BB1, C54_BB2, C54_U1A, C54_U1B, C58, BB1, C58_BB2, C58_U1A, C58_U1B | DNP | 0 | N/A | N/A | OPEN | PACKAGE OUTLINE 0603 NON-POLAR CAPACITOR |
| 29 | C98, BB, C98_U1 | DNP | 0 | N/A | N/A | OPEN | PACKAGE OUTLINE 0805 NON-POLAR CAPACITOR |
| 30 | L3, BB, L3_U1 | DNP | 0 | N/A | N/A | SHORT | INDUCTOR; 1206 PACKAGE; SHORT; GENERIC |
| 31 | R37, BB1, R37_BB2, R37_U1A, R37_U1B | DNP | 0 | N/A | N/A | OPEN | PACKAGE OUTLINE 0603 RESISTOR |
| TOTAL | | | 208 | | | | |

MAX19777 EV Kit Schematic

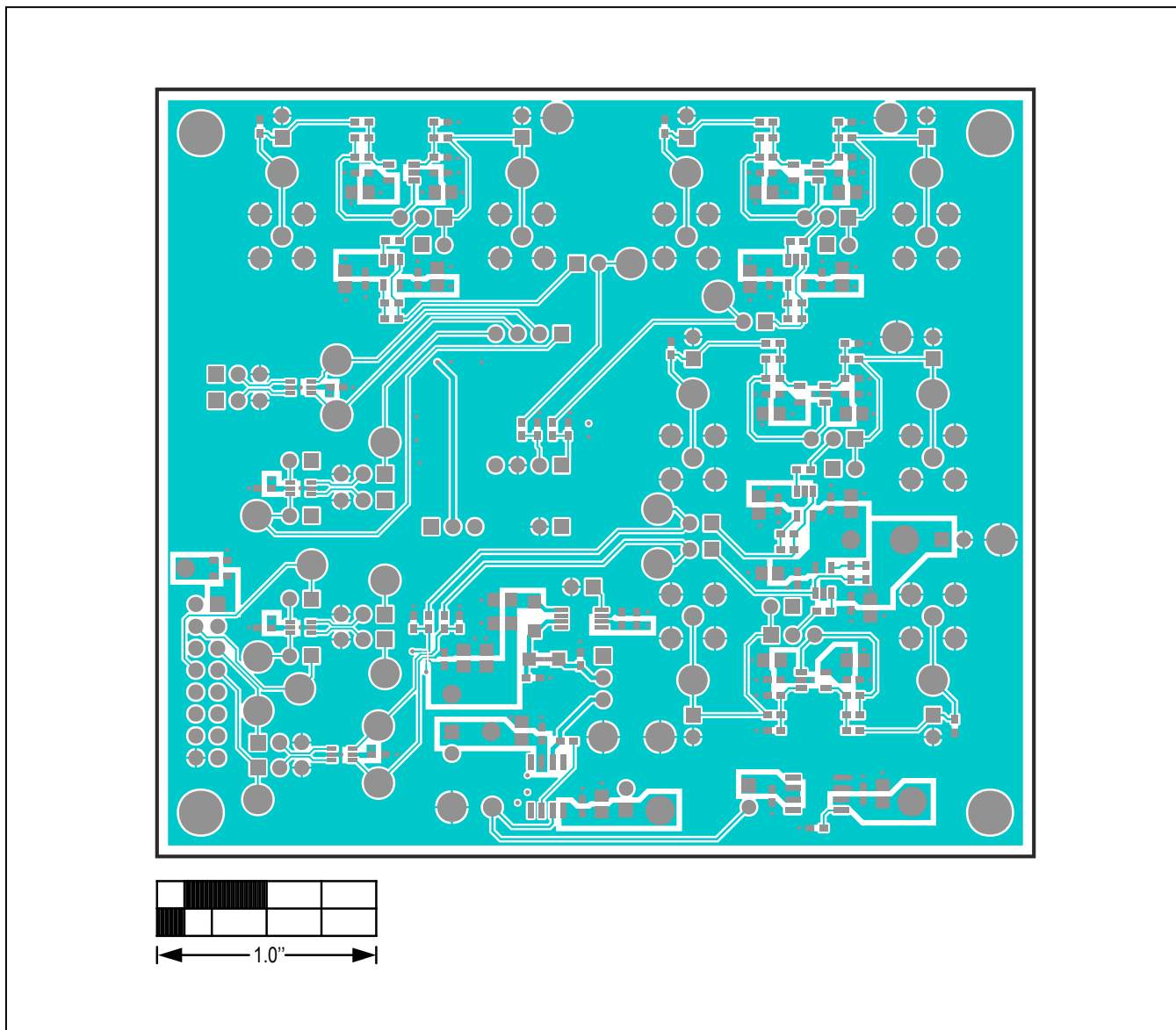


MAX19777 EV Kit PCB Layout Diagrams



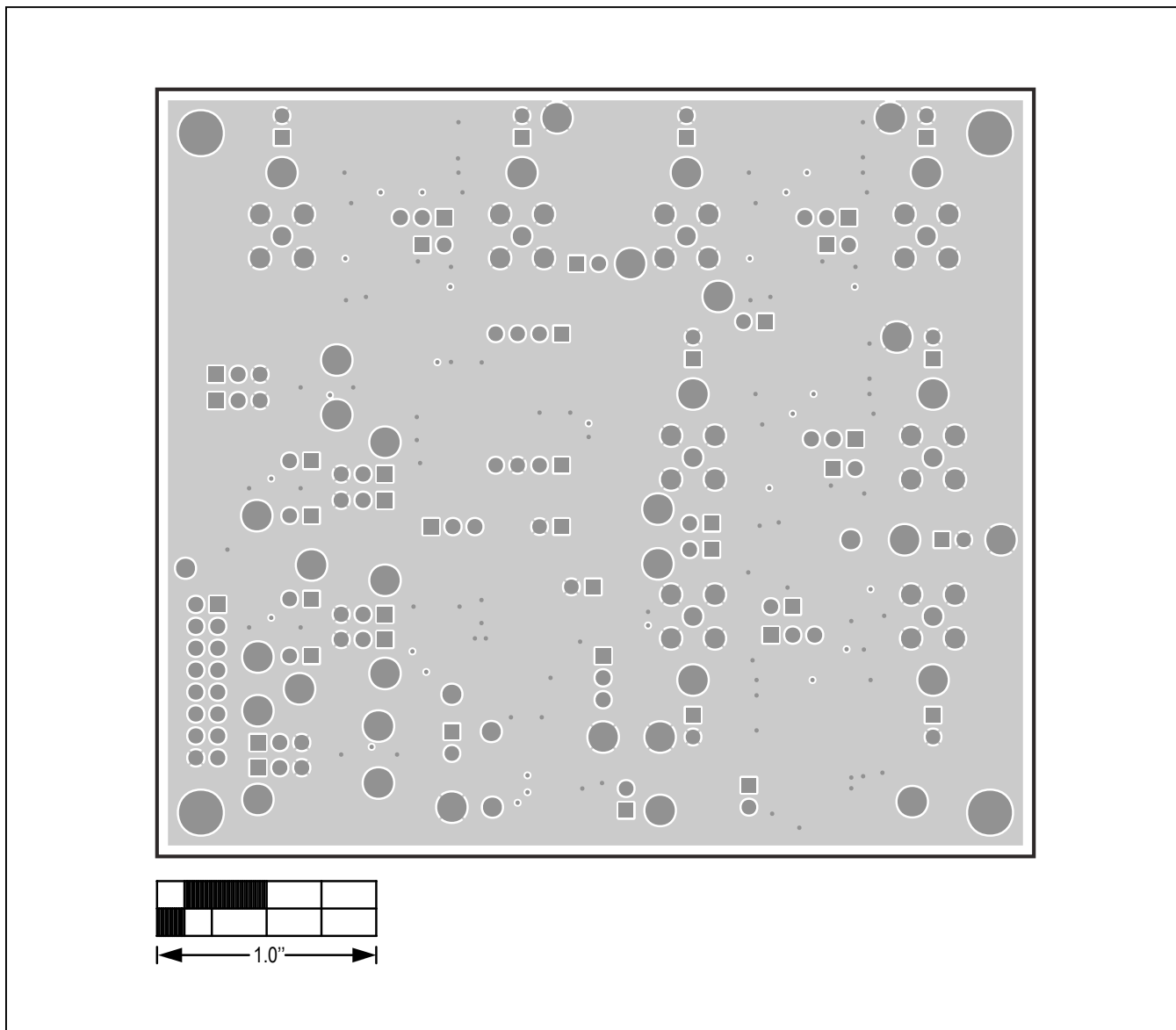
MAX19777 EV Kit—PCB Silkscreen Top Side

MAX19777 EV Kit PCB Layout Diagrams (continued)



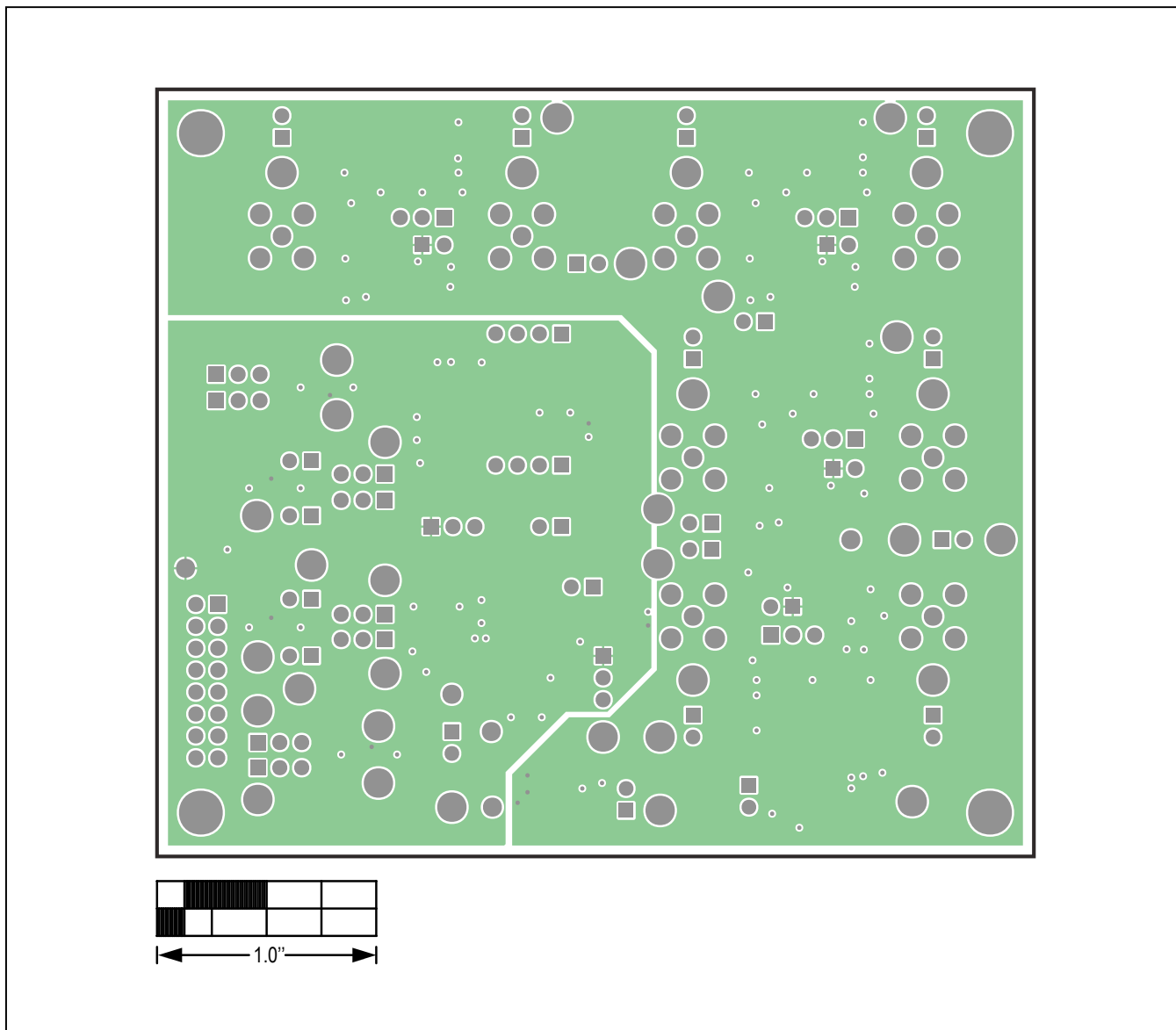
MAX19777 EV Kit—PCB Top View

MAX19777 EV Kit PCB Layout Diagrams (continued)



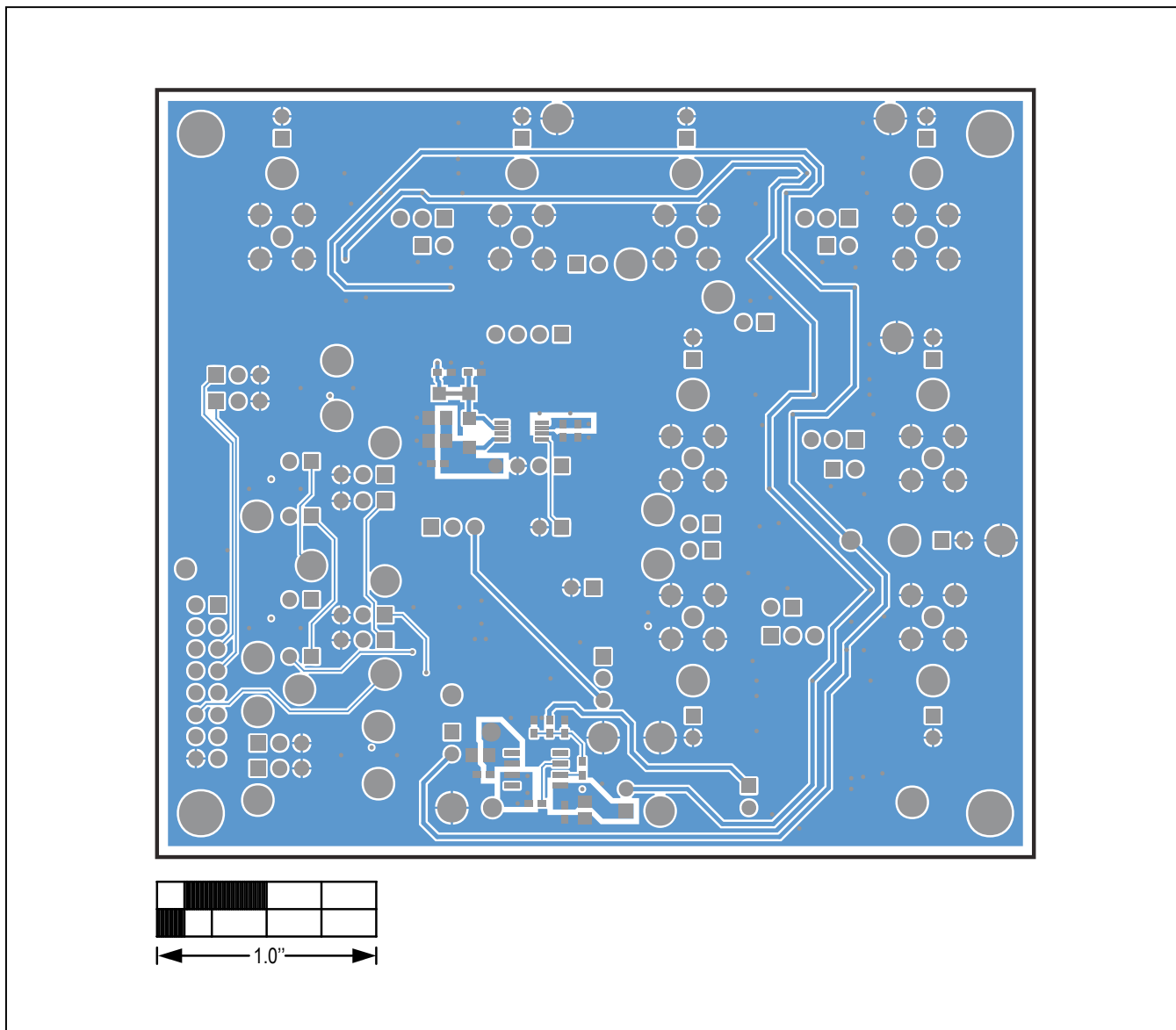
MAX19777 EV Kit—PCB GND

MAX19777 EV Kit PCB Layout Diagrams (continued)



MAX19777 EV Kit—PCB Power

MAX19777 EV Kit PCB Layout Diagrams (continued)



MAX19777 EV Kit—PCB Silkscreen Bottom Side