MAX11259PMB Peripheral Module

Evaluates: MAX11259

General Description

The MAX11259PMB peripheral module (Pmod™) provides the necessary hardware to interface to the MAX11259, a 24-bit, 6-channel, 64ksps, integrated PGA delta-sigma ADC to any system that utilizes Pmod-compatible expansion ports configurable for I²C communication. The peripheral module includes a graphical user interface (GUI) that provides communication from the target device to the PC through the USB2PMB2#. The peripheral module can operate in multiple modes:

1) **Using USB2PMB2# Adapter:** In "standalone" mode, the peripheral module is connected to the PC via a USB2PMB2# adapter board and performs a subset of the complete peripheral module functions with limitations for sample rate, sample size, and no support for coherent sampling.
2) **User-Supplied I²C Mode:** The peripheral module provides a 12-pin Pmod-style header for user-supplied I²C interface to connect the signals for SCL, SDA, RSTB, and RDYB.

The peripheral module includes Windows XP®, Windows® 7, and Windows 8.1-compatible software for exercising the features of the IC. The peripheral module GUI allows different sample sizes, adjustable sampling rates, internal or external reference options, and graphing software that includes the FFT and histogram of the sampled signals.

The peripheral module can be powered by a local +3.3V supply and comes installed with a MAX11259AWX+ in a 36-bump WLP package.

Features

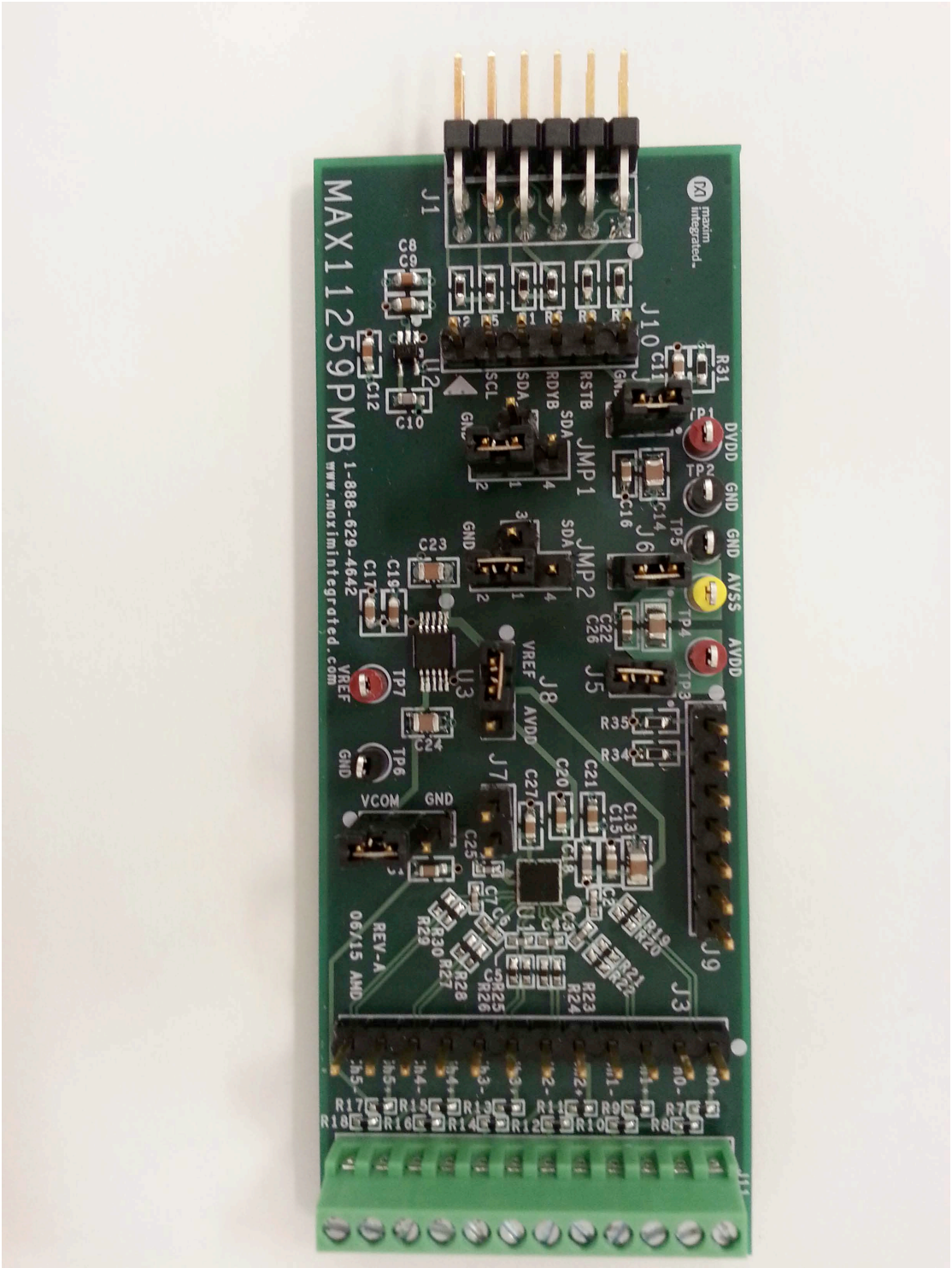
- Various Sample Sizes and Sample Rates
- Time Domain, Frequency Domain, and Histogram Plotting
- On-Board Voltage Reference (MAX6072)
- Proven PCB Layout
- Fully Assembled and Tested
- Windows XP-, Windows 7-, and Windows 8.1-Compatible Software

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

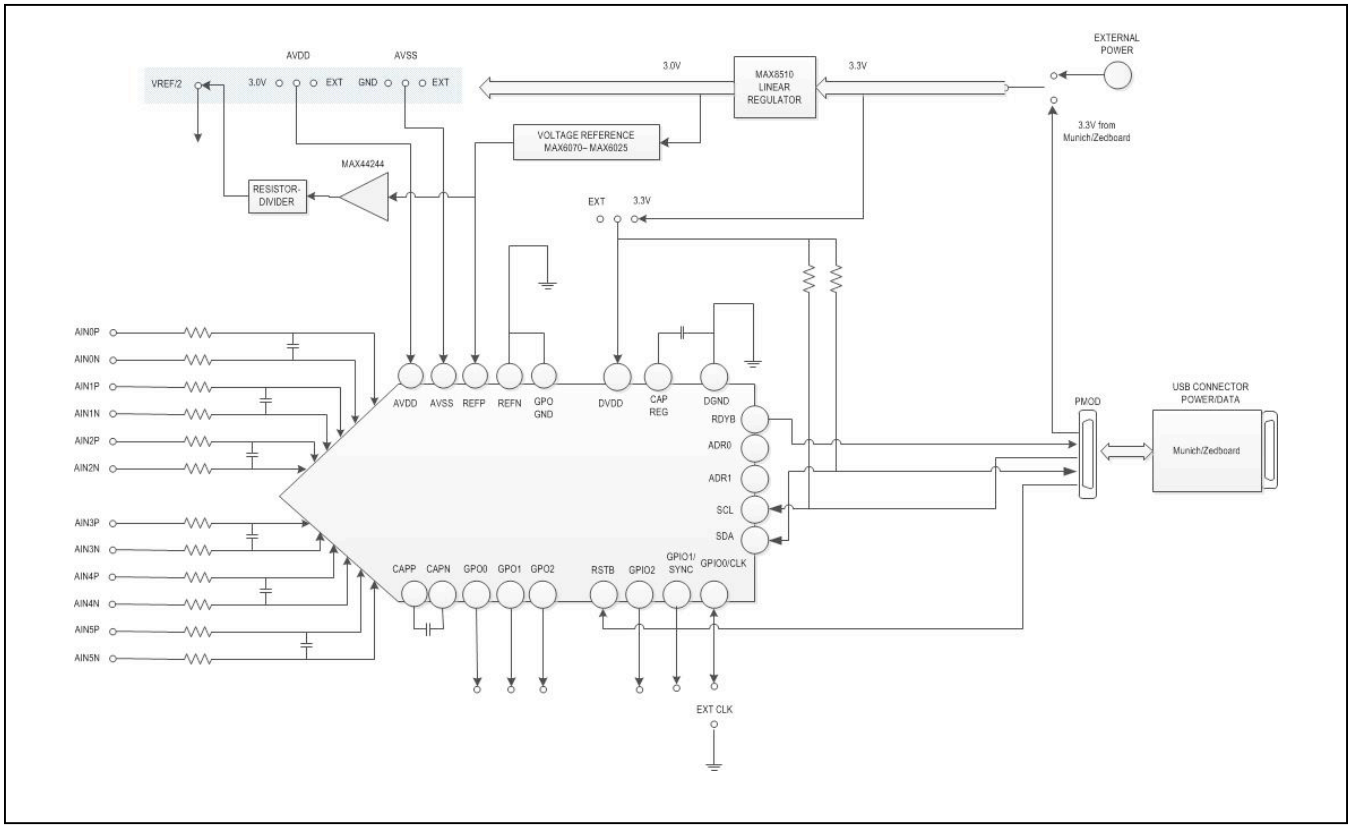
19-7738; Rev 0; 9/15

maxim integrated™

MAX11259PMB Photo



System Block Diagram



MAX11259PMB Peripheral Module Files

FILE	DECRIPTION
MAX11253_54_59EvkitSetupV1.12.exe	Application Program (GUI)

Quick Start

Required Equipment

- MAX11259PMB
- +3.3V (50mA) for the MAX11259PMB
- Micro-USB cable
- USB2PMB2# adapter
- Function generator (optional)
- Windows XP, Windows 7, or Windows 8.1 PC with a spare USB port

Note: In the following section(s), software-related items are identified by bolding. Text in **bold** refers to items directly from the EV system software. Text in **bold and underline** refers to items from the Windows operating system.

Procedure

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

1) Visit www.maximintegrated.com/evkitsoftware to download the latest version of the peripheral module software, MAX11253_54_59EVkitSetupV1.12.zip. Save the peripheral module software to a temporary folder and uncompress the ZIP file.
2) Install the peripheral module software and USB driver on your computer by running the MAX11253_54_59EVkitSetupV1.12.exe program inside the temporary folder. The program files are copied to your PC and icons are created in the Windows **Start | Programs** menu. At the end of the installation process the installer will launch the installer for the FTDIChip CDM drivers.
3) Verify that all jumpers are in their default positions for the peripheral module board (Table 1).

4) Connect the PC to the peripheral module via the USB2PMB2 adapter board using a micro-USB cable.
5) Start the peripheral module software by opening its icon in the **Start | Programs** menu. The peripheral module software appears as shown in Figure 1. From the **Device** menu select **Standalone**. Verify that the lower left status bar indicates the EV kit hardware is **Connected**.
6) Connect the positive terminal of the function generator to the CH0+ (J11-1) test point on the peripheral module. Connect the negative terminal of the function generator to the CH0- (J11-2) test point on the peripheral module.
7) Configure the signal source to generate a 100Hz, $1V_{P-P}$ sinusoidal wave with +1V offset.
8) Turn on the function generator.
9) In the configuration group of the Device menu, select Channel 0 and click **Convert** in the serial interface menu.
10) Click on the Scope tab.
11) Check the **Remove DC Offset** checkbox to remove the DC component of the sampled data.
12) Click the **Capture** button to start the data analysis.
13) The peripheral module software appears as shown in Figure 1.
14) Verify that the frequency, which is displayed on the right, is approximately 100Hz. The scope image has buttons in the upper right corner that allow zooming in to detail.

Table 1. MAX11259PMB Board Jumper Settings

HEADER	JUMPER POSITION	DESCRIPTION
JMP1/JMP2	1-2*/1-2*	Select address 0x30
	1-2/1-3	Select address 0x31
	1-2/1-4	Select address 0x33
	1-3/1-2	Select address 0x34
	1-3/1-3	Select address 0x35
	1-3/1-4	Select address 0x37
	1-4/1-2	Select address 0x3C
	1-4/1-3	Select address 0x3D
	1-4/1-4	Select address 0x3F
J2	1-2	Use MAX6072 V_{REF}/2 as VCOM
	2-3*	Use GND as VCOM
J4	1-2*	Select +3.3V for DVDD
	Open	Select user-provided supply for DVDD at J4-1
J5	1-2*	Select +3.0V for AVDD
	Open	Select user-provided supply for DVDD at J5-1
J6	1-2*	Select GND for AVSS
	Open	Select user-provided supply for AVSS at J6-1
J7	Open*	Use internal 1.8V subregulator if DVDD ≥ 2.0V
	1-2	Use DVDD for internal logic if DVDD ≤ 2.0V
J8	1-2*	Select V_{REF} from the on-board MAX6072 as the voltage reference
	2-3	Select AVDD as the voltage reference

**Default configuration*

General Description of Software

The main window of the peripheral module software contains seven tabs: Configuration, Scope, DMM, Histogram, FFT, Scan Mode, and Registers. The Configuration tab provides control for the ADC configuration including calibration and data capture. The other six tabs are used for evaluating the data captured by the ADC.

Configuration Tab

The **Configuration** tab provides an interface for selecting and configuring the ADC from a functional perspective. Select the desired **Device** in the drop-down menu and the corresponding properties of the device are displayed including **Channel** number, **Sample Rate**, **Number of Samples**, **Reference Voltage**, **Sequencing Mode**, **Calibration**, **GPO/GPIO selection**, **Input Path (Direct or internal PGA)**, **Delta-Sigma Modulator** type selection for different **Data Format** and **Conversion Mode**, **Serial Interface** function (**Convert**, and **Read All**), **Power** setting (**NOP**, **Power Down**, and **Standby**), **Reset Registers**, and **RSTB Reset**, **Clock/SYNC** (**Internal** or **External Clock**, and **Disable** or **Enable SYNC Mode**), and **Other** for **Disable** or **Enable Current Sink/Source** and **CAPREG LDO**.

The sample settings are available on the left of the configuration menu, which allow the user to select the **Channel**, **Sample Rate**, and **Number of Samples**.

The **Read Data** and **Status** information is displayed on the right, which shows the data in both voltage and Hex, the sample rate, and power state for the selected channel. In addition, if there are any errors, the indicator lights will turn red.

Channel Selection

To select the desired channel among the six available channels, click **Channel #** drop-down menu at the top left and select the desired channel from 0 to 5. The default selection is **Channel 0**.

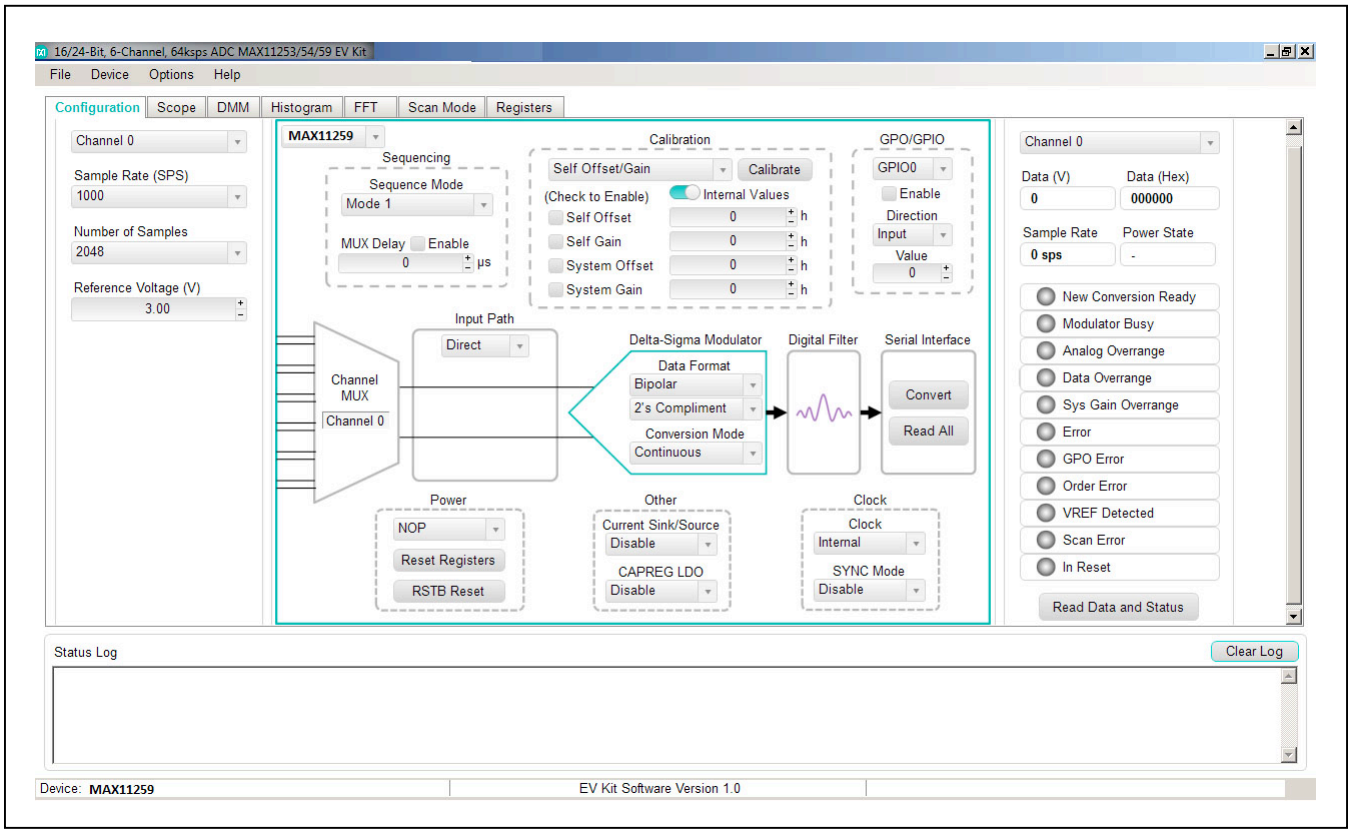


Figure 1. Peripheral Module Software (Configuration Tab)

Sample Rate (SPS)

To select the desired data rate for single-cycle mode from 50sps to 12800sps and for continuous mode data rate from 1.9sps to 64000sps, choose the **Sample Rate (SPS)** from the drop-down menu below the **Channel #** selection.

Reference Voltage

There are two different reference voltages available on board: MAX6072AUT18+ (2.5V), and AVDD (+3.0V). To select 2.5V, connnect J8-1 to J8-2. To select 3.0V, connect J8-2 to J8-3.

Sequencer Mode

To change the sequencer mode, click the **Sequence Mode** selection below the **Sequencing** menu and select Mode 1, 2, or 3 as desired. Check the **GPO Sequencer Mode** box to enable GPO/GPIO function in mode 3. In addition, check the Enable box to enable the **MUX and GPO Delay**. Choose the desired delay in microseconds by clicking on the **+** or – buttons.

ADC Calibration

Two types of software calibration for offset and gain are available: Self calibration and system calibration.

The primary mode for calibration is using the drop-down list to select a calibration mode, followed by clicking the **Calibrate** button. The checkboxes for **Self Offset**, **Self Gain**, **System Offset**, and **System Gain** allow for the user to enable or disable the calibration values. The calibration values can also be changed manually by entering a hex value in the numeric box.

GPO/GPIO

To select GPO or GPIO ports, choose the option under the **GPO/GPIO** drop-down menu and check the **Enable** box.

Input Path

Select **Direct** under the **Input Path** drop-down menu to bypass the internal amplifiers and apply the analog input signals directly to the MAX11259PMB inputs at J11.

Select **PGA** under the **Input Path** drop-down menu to use the internal programmable gain amplifiers.

Delta-Sigma Modulator

To select the desired data format, click the **Data Format** drop-down menu under the **Delta-Sigma Modulator** section and choose either Bipolar or Unipolar with two's complement or offset binary options.

Three conversion modes are provided: **Continuous**, **Single Cycle**, and **Single Continuous**. Click the **Conversion Modes** drop-down menu under the **Delta-Sigma Modulator** section to select the desired conversion mode.

Serial Interface

To starting converting, click the **Convert** button under the Serial interface section. To read all registers, click the **Read All** button.

Power

The MAX11259PMB peripheral module features three power-down states: **Normal Operating Power (NOP)**, **Power down**, **and Standby**. Select the desired power state by clicking the drop-down menu under the **Power** section.

To reset the configuration settings back to default values, press the **Reset Registers** button.

To exercise the power-on reset feature, click the **RSTB** button.

Clock/SYNC

The internal clock mode is set at default condition. To use user-supplied external clock, select External under the **Clock/SYNC** section and connect the external clock signal to J9-1, GPIO0/CLK pin. In addition, the Sync mode can be enabled or disabled by clicking the drop-down menu under this **Clock/SYNC** section and connect the external sync signal to J9-2, GPIO1/SYNC. The Sync signal should be provided externally.

Other

To enable (J7 open) or disable (J7 installed and $V_{DDVD} \leq$ 2.0V) the internal **CAPREG LDO** for digital and I/O supply, select this option from the drop-down menu under the **Other** section. Additionally, **Current Sink/Source** can also be disabled or enabled under this section.

Read Data and Status

The **Read Data and Status** on the far right hand side of this **Configuration** menu depicts the received data and status of the device such as the selected channel, data rate, sample rate, and power state. Click the **Read Data and** Status button to view the updated status.

To save a configuration, select Save ADC Config As… in the File menu. This saves all the ADC register values to a XML file. To load a configuration, select Load ADC Config in the File menu. When the XML file is loaded, all the register values in the file are written to the ADC.

Scope Tab

The Scope tab sheet is used to capture data and display it in the time domain. The desired **Channel #**, **Sample Rate**, **Number of Samples**, **Display Unit**, **Average Samples**, and **Resolution Selection** can also be set in this tab if they were not appropriately adjusted in other tabs. The **Display Unit** drop-down list allows counts in LSB and voltages in V, mV, or µV. Once the desired configuration is set, click on the **Capture** button. The right side of the tab sheet displays details of the waveform, such as average, standard deviation, maximum, minimum, and fundamental frequency as shown in Figure 2.

To save the captured data to a file, select **Options > Save Graph > Scope**. This saves the setting on the left and the data captured to a CSV file.

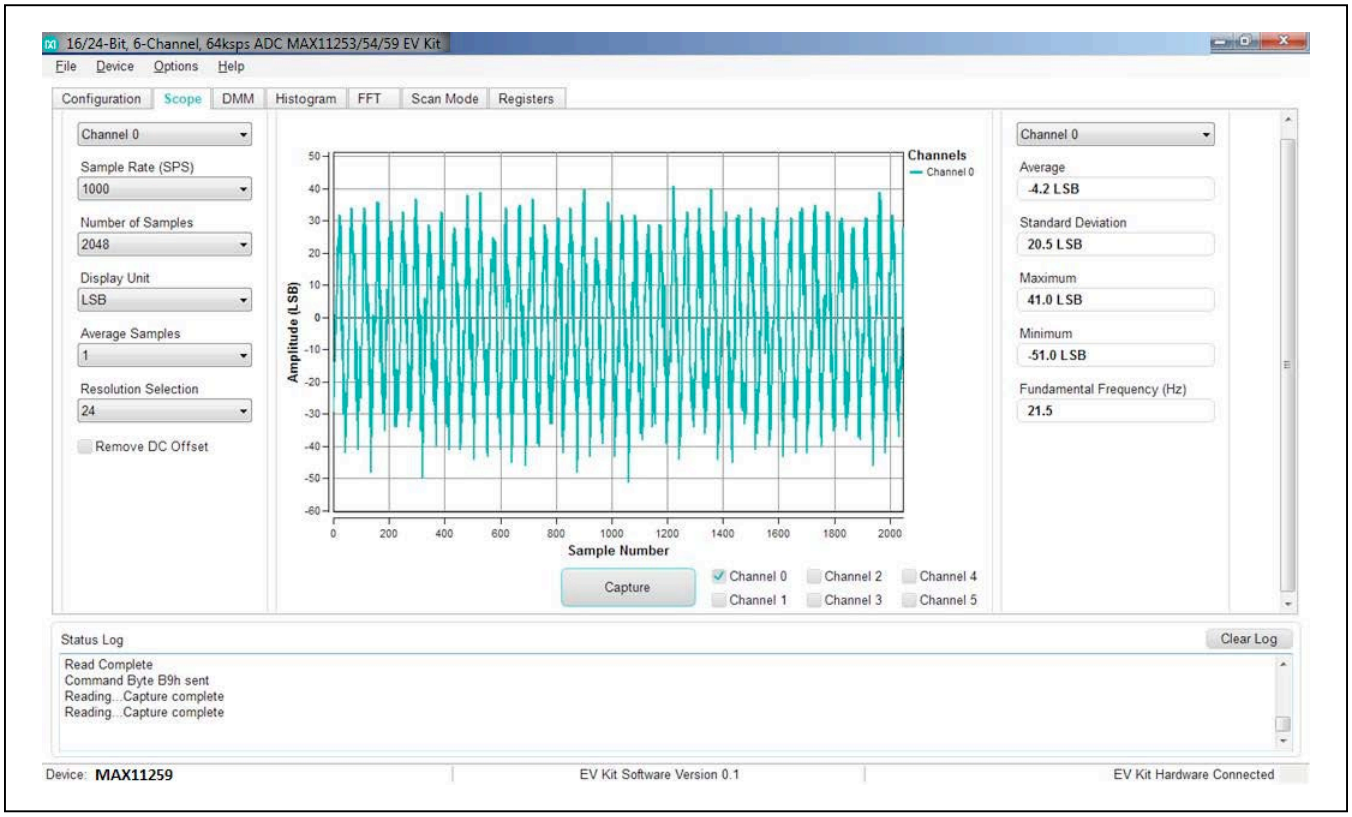


Figure 2. Peripheral Module Software (Scope Tab)

DMM Tab

The **DMM** tab sheet provides the typical information as a digital multimeter. Once the desired configuration is set, click on the **Capture** button. Figure 3 displays the results shown by the **DMM** tab when a 1.5V signal is applied to AIN0+ and 1.0V to AIN0-.

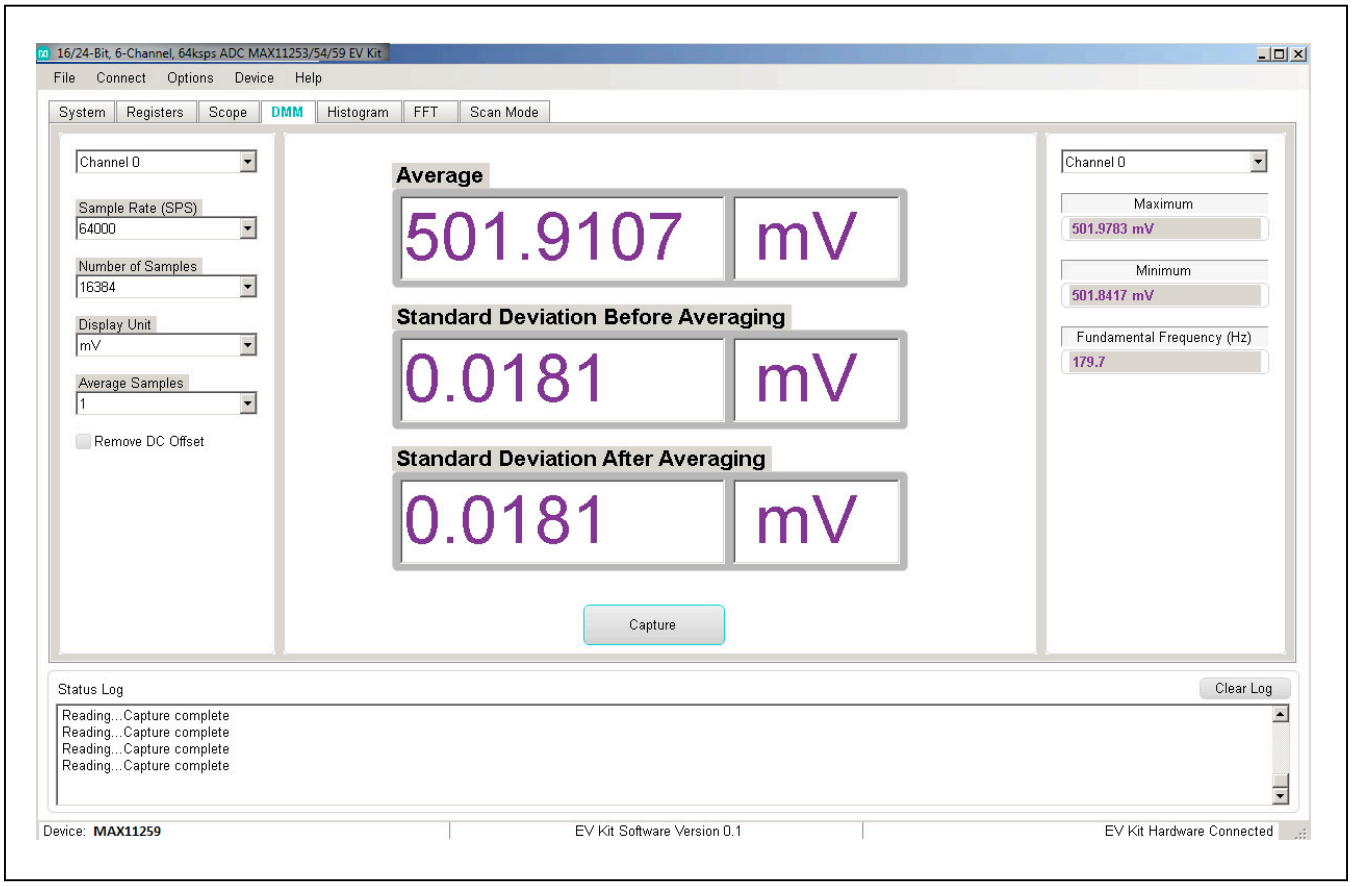


Figure 3. Peripheral Module Software (DMM Tab)

Histogram Tab

The **Histogram** tab sheet is used to show the histogram of the data. Sample rate and number of samples can also be set in this tab if they were not appropriately adjusted in other tabs. Once the desired configuration is set, click on the **Capture** button. The right side of the tab sheet displays details of the histogram such as average, standard deviation, maximum, minimum, peak-to-peak noise, effective resolution, and noise-free resolution as shown in Figure 4.

The histogram tab is enabled at default. Using the histogram will slow down the GUI response. To disable it, check the **Disable Histogram** box.

To save the histogram data to a file, go to **Options > Save Graph > Histogram**. This saves the setting on the left and the histogram data captured to a CSV file.

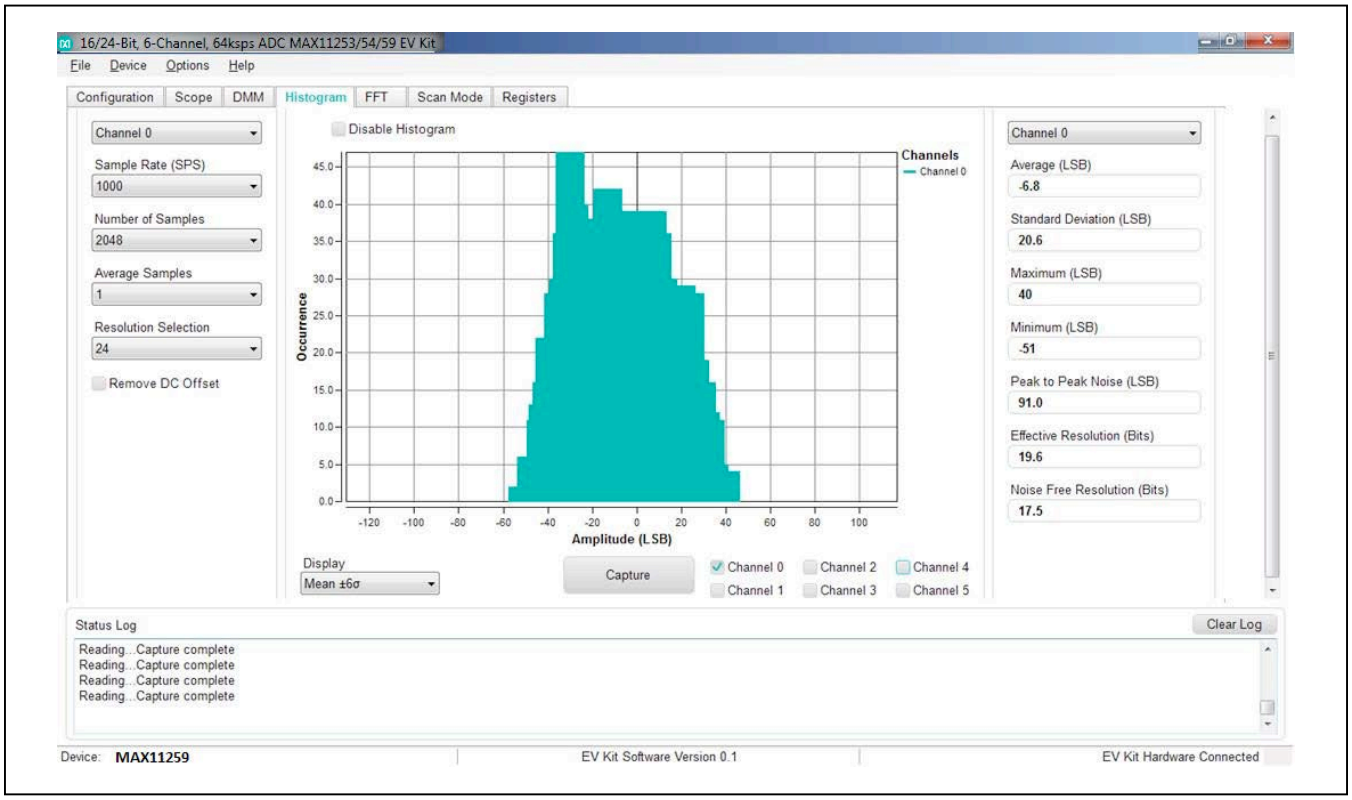


Figure 4. Peripheral Module Software (Histogram Tab)

FFT Tab

The **FFT** tab sheet is used to display the FFT of the data. The **Sample Rate**, **Number of Samples**, **Resolution** and **Window Function** type can be set as desired. To calculate the **Adjusted Input Signal** frequency for **Coherent Sampling**, enter the **Input Signal** frequency in Hertz and push the Calculate button. Once the preferred configuration is set, click on the **Capture** button. The right side of the tab displays the performance based on the FFT, such as fundamental frequency, SNR, SINAD, THD, SFDR, ENOB, and Noise Floor as shown in Figure 5.

To save the FFT data to a file, go to **Options > Save Graph > FFT**. This saves the setting on the left and the FFT data captured to a CSV file.

When coherent sampling is needed, this tab allows the user to calculate the external clock frequency applied to the board. Adjust the input frequency of the low-jitter clock to the value as shown in the **Adjusted Master Clock (Hz)** and apply it to the EV KIT EXT_CLK connector. See the *Sync Input and Sync Output* section before using this feature.

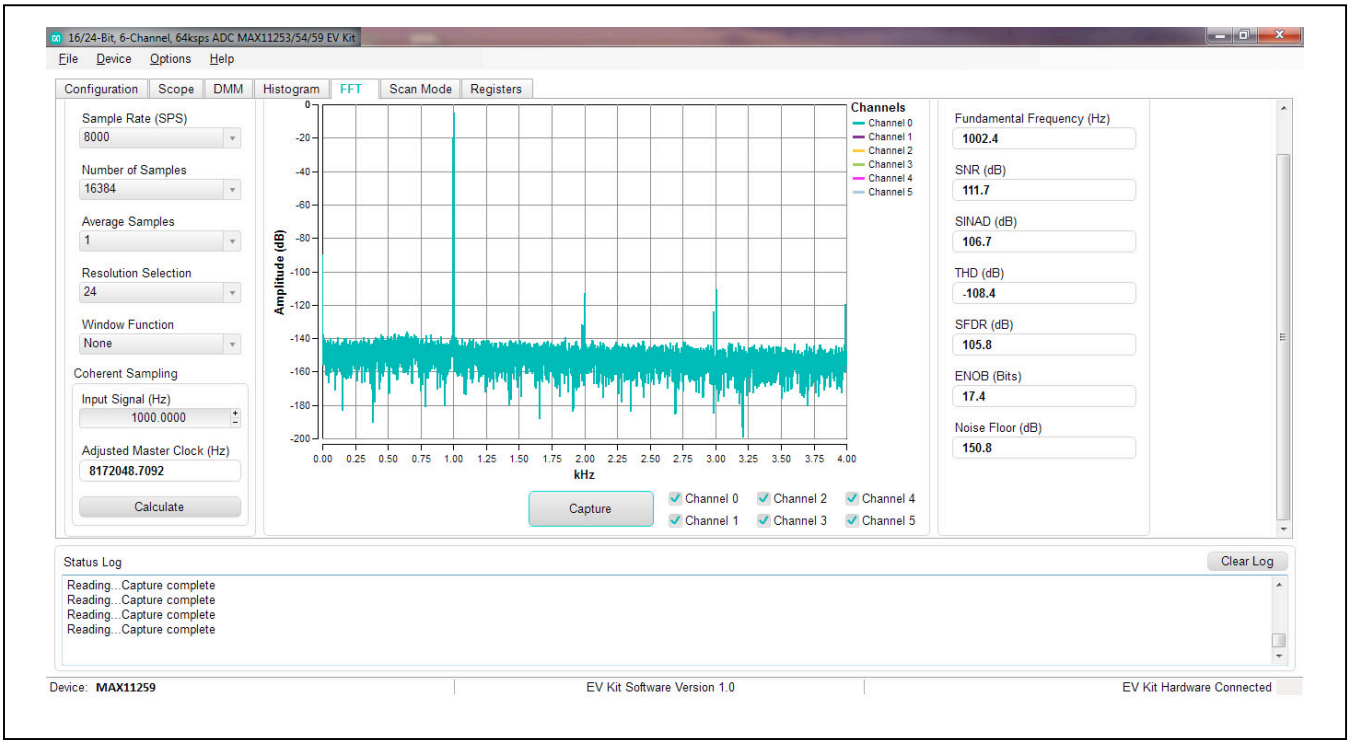


Figure 5. Peripheral Module Software (FFT Tab)

Figure 6 shows the setup Maxim Integrated uses to capture data for coherent sampling.

For coherent FFT evaluation, use the jumper settings from Table 1 for proper configurations. The low-jitter clock is synchronized with the signal generator at 10MHz from the external clock generator. To achieve coherent sampling, click on the **Calculate** button and enter the **Adjusted Master Clock (Hz)** frequency of approximately **8.192MHz** into our low-jitter clock. Timing for all I^2C timing and sampling rate are based off the system clock.

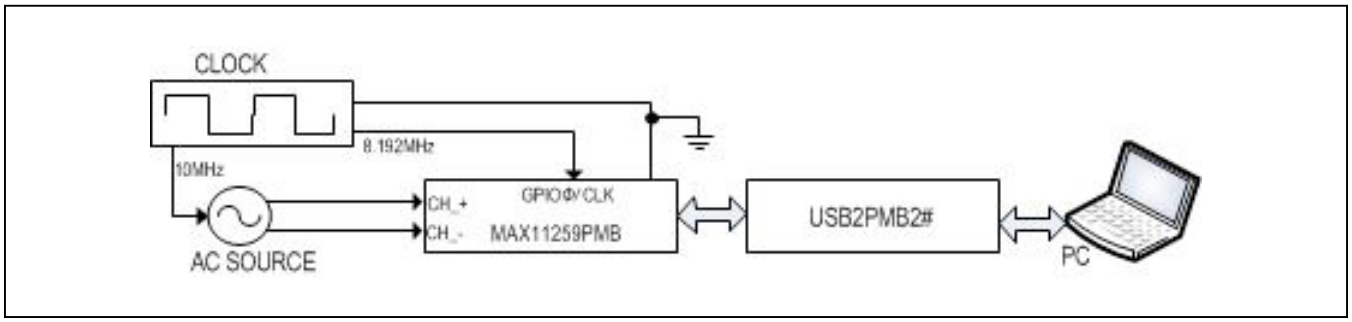


Figure 6. Peripheral Module Coherent Sampling Setup

Scan Mode Tab

The **Scan Mode** tab is used to perform selected data conversions and read the converted data.

In the **Sequence Setting** section at the bottom, set the desired sequencer mode (2 or 3) from the **Sequence Mode** drop-down menu and select whether to assert the RDYB pin **after one channel** or **after scan completes** options under the **RDYB** menu. Check the **GPO Sequencer Mode** and **Enable** boxes as desired. Then set the conversion time delay in µs for MUX and GPO by clicking on the **+** or **-** buttons under the **MUX Delay** and **GPO Delay** menu, allowing for high impedance source networks to stabilize after the channels are selected.

Finally press the **Read All button** to view the selected settings.

In the **Read Data** section on top, select the desired unit in either LSB or voltage (V, mV, or µV) under the **Display Unit** drop-down menu. Then choose the desired sample rate by clicking on the **Sample Rate** drop-down menu under. Finally, click the Scan button to start converting and press the **Read Data** button to view the converted data displayed on the right hand side as shown in Figure 7.

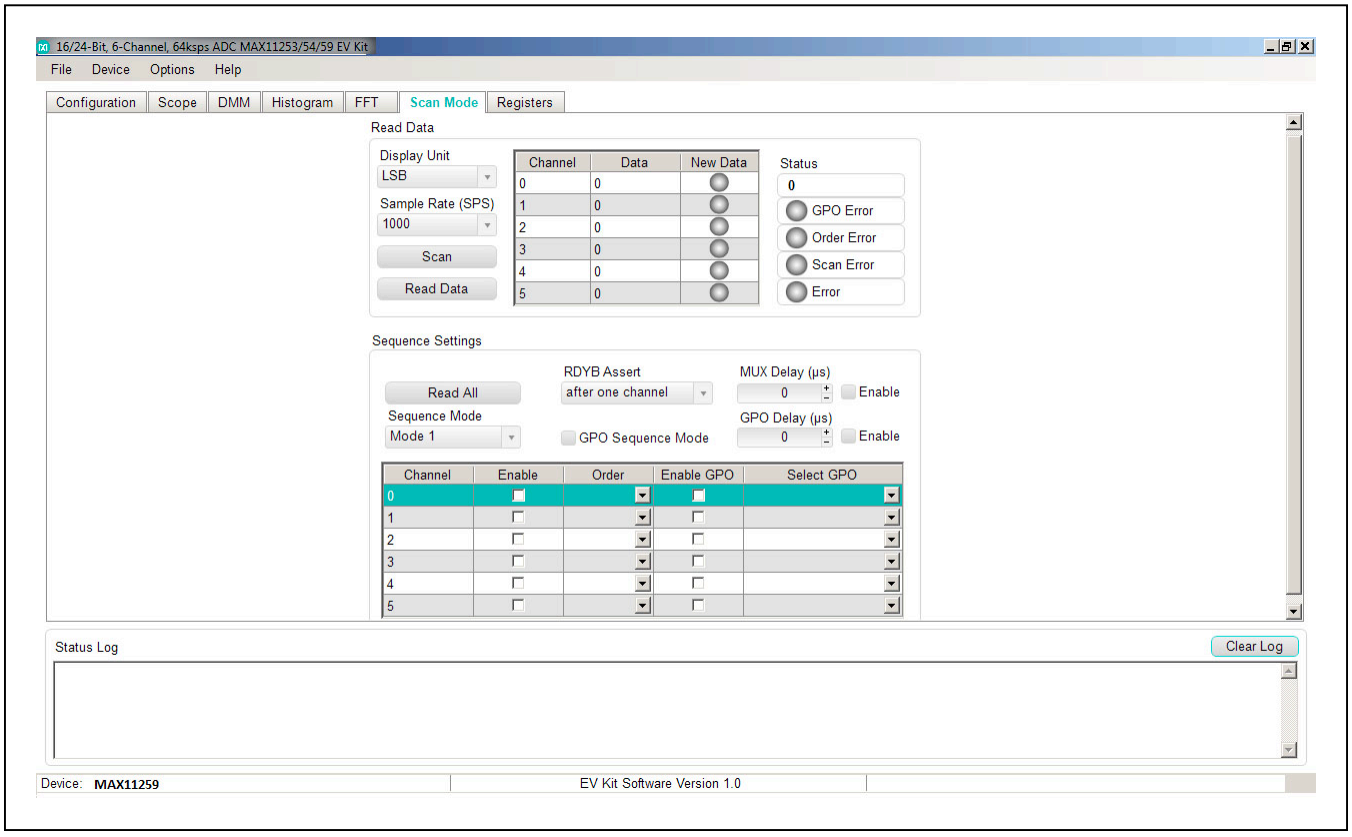


Figure 7. Peripheral Module Software (Scan Mode Tab)

ADC Registers Tab

The **Registers** tab sheet shows the device registers on the left. The middle section shows the descriptions of the selected register. Click **Read All** to read all registers and refresh the window with the register settings. To write a register first select the hex value in the **Value** column, type the desired hex value and press **Enter**.

The command byte is on the right side of the tab sheet. This byte precedes all I²C transactions and is described in the IC data sheet. To send a command byte enter a hex value in the numeric box and click the **Send** button. The command byte has two different formats including **Conversion Command** and **Register Read/Write**. Select the radio button for the desired mode to see the bit description in the table. See Figure 8.

Detailed Description of Hardware

The MAX11259PMB peripheral module provides a proven signal path and board layout to demonstrate the performance of the MAX11259AWX 24-bit, delta-sigma ADC. Included in the peripheral module are digital isolators, ultra-low-noise LDOs to all supply pins of the IC, on-board reference (MAX6072), and sync-in and sync-out signals for coherent sampling.

The USB2PMB2 FTDI controller is provided to allow for evaluation in standalone mode, which has limitations on maximum sample speed and on sample depth. The peripheral module can be used with FPGA to achieve full speed and a larger sample depth.

The peripheral module supports a number of different devices as listed in Table 2.

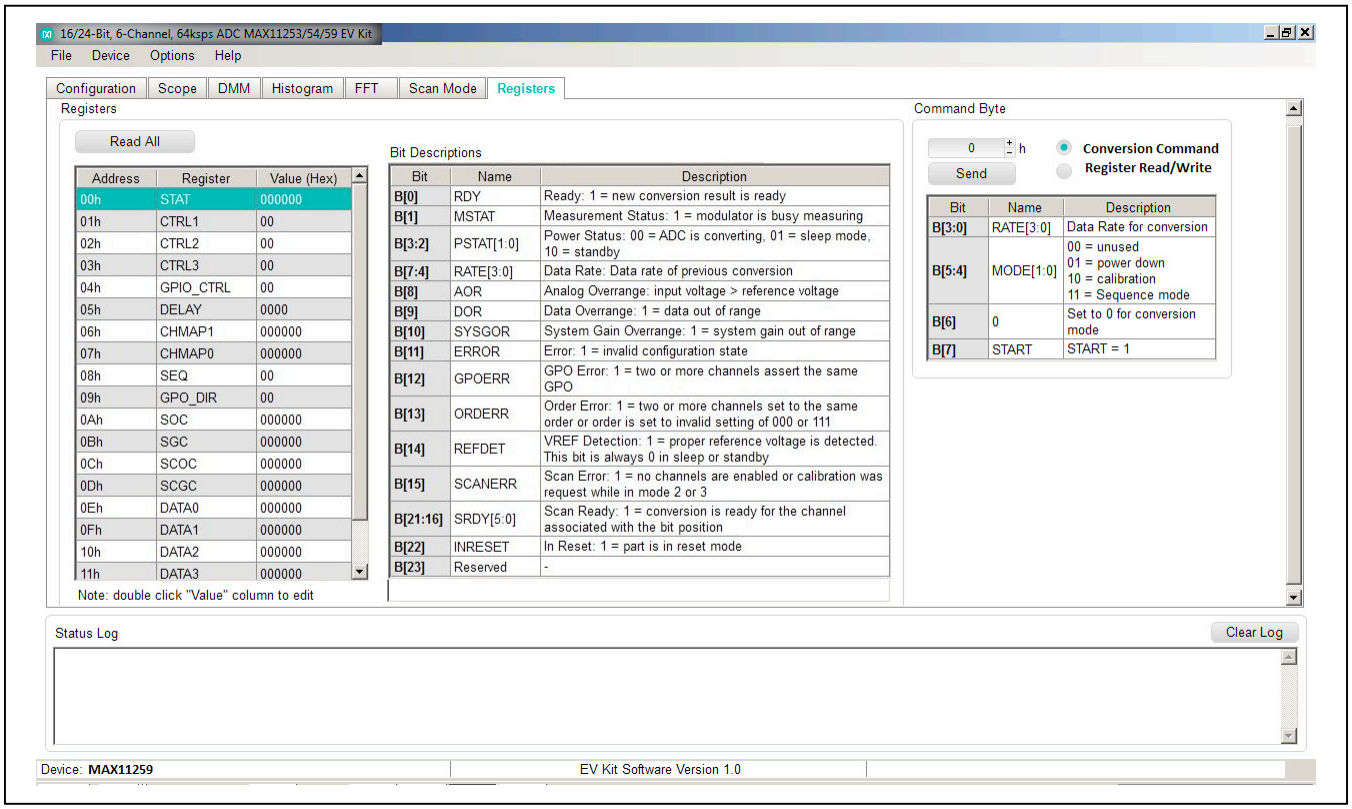


Figure 8. Peripheral Module Software (ADC Registers Tab)

User-Supplied I²C

To evaluate the peripheral module with a user-supplied I²C bus, apply the user-supplied I²C signals to J1. Make sure the return ground is connected to MAX11259PMB ground.

Voltage References

There are two different reference voltages available on board: MAX6072 (2.5V), AVDD (3.0V). To select 2.5V, connect J8-1 to J8-2. To select 3.0V, connect J8-2 to J8-3.

For user-supplied external references, remove jumper J8 and connect a reference voltage to J8-2. Measure and enter the value of the external reference voltage into the **Reference Voltage** edit box on the **Configuration** tab of the GUI. Table 2 depicts the reference source options.

External DVDD Power Supply

The internal 1.8V regulator can be replaced by an external supply in the range of 1.7V to 2.0V. To use external DVDD, **disable** the internal regulator by selecting the Disable in the **CAPREG LDO** drop-down menu in the Other section and install J7.

User-Supplied Power Supply

The peripheral module receives power from a single DC source of +3.3V (50mA) through the standard Pmod connector, J1, to provide supply to DVDD. The power is then regulated to +3.0V supply for AVDD and MAX6072 voltage reference. See the peripheral module schematic pdf for details. Specific voltages can be connected to the board, see Table 2 for corresponding jumper positions.

Table 2. Reference Source Options

REF SOURCE	JUMPER	CONNECTION	FUNCTION
MAX6072 (2.5V)	J8	1-2	Select U3 MAX6072
AVDD	J8	2-3	Select AVDD
User-Supplied	J8	Open. Connect user-supplied reference to J8-2	Select User-Supplied Reference

Table 3. Power Supply to the Board

POWER	JUMPERS
An external +3.3V	J1-6

External Clock For Coherent Sampling

Set the external low jitter clock generator with the value calculated by the GUI in the FFT tab. Connect the output of the clock generator to GPIO0/CLK pin (J9-1). The relationship between f_{IN}, f_S, N_{CYCLES}, and $M_{SAMPLES}$ is given as follows:

$$\frac{f_{IN}}{f_S} = \frac{N_{CYCLES}}{M_{SAMPLES}}$$

where:

f_{IN} = Input frequency

f_S = Sampling frequency

N_{CYCLES} = Prime number of cycles in the sampled set

$M_{SAMPLES}$ = Total number of samples

Component List, Schematics, and PCB Layout Diagrams

See the following links for component information, schematic diagrams, and PCB layout diagrams:

- **MAX11259PMB BOM**
- **MAX11259PMB Schematics**
- **MAX11259PMB PCB Layout**

Ordering Information

PART	TYPE
MAX11259PMB#	Peripheral Module
USB2PMB2#	Munich Adapter Board
MAX11259SYS1#	Peripheral Module and Munich Adapter Board

#Denotes RoHS compliant.

The MAX11259PMB# comes with a MAX11259AWX+ in a 36-bump WLP package.

Revision History

REVISION NUMBER	REVISION DATE	DESCRIPTION	PAGES CHANGED
0	9/15	Initial release	—

TITLE: Bill of Materials
DATE: 06/15/2015
DESIGN: MAX11259PMB rev A

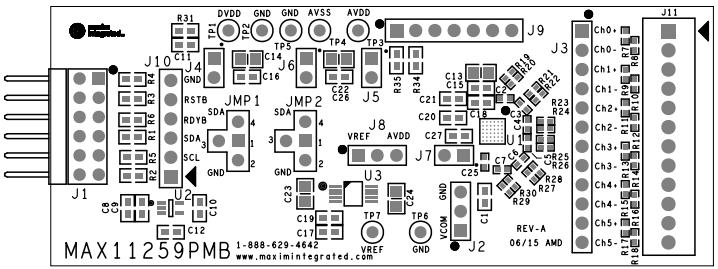
ITEM	QTY	REF DES	MFG PART #	MANUFACTURER	VALUE	DESCRIPTION
1	7	C1, C8, C12, C19-C21, C27	C1608X7R1V105K080AC	TDK	1UF	CAPACITOR; SMT (0603); CERAMIC CHIP; 1UF; 35V; TOL=10%; TG=-55 DEGC TO +125 DEGC; TC=X7R
2	7	C2-C7, C25	GRM1555C1H102JA01; C1005C0G1H102J050	MURATA; TDK	1000PF	CAPACITOR; SMT (0402); CERAMIC CHIP; 1000PF; 50V; TOL=5%; TG=-55 DEGC TO +125 DEGC
3	6	C9, C11, C15-C17, C26	C0603C104K5RAC; C1608X7R1H104K	KEMET; TDK	0.1UF	CAPACITOR; SMT (0603); CERAMIC CHIP; 0.1UF; 50V; TOL=10%; TG=-55 DEGC TO +125 DEGC; TC=X7R;NOTE: NOT RECOMMENDED FOR NEW DESIGN USE 20-000u1-01
4	2	C10, C18	C1608C0G1E103J	TDK	0.01UF	CAPACITOR; SMT (0603); CERAMIC CHIP; 0.01UF; 25V; TOL=5%; MODEL=; TG=-55 DEGC TO +125 DEGC; TC=C0G
5	5	C13, C14, C22-C24	C2012X7R1E475K125AB	TDK	4.7UF	CAPACITOR; SMT (0805); CERAMIC CHIP; 4.7UF; 25V; TOL=10%; MODEL=; TG=-55 DEGC TO +125 DEGC; TC=X7R
6	1	J1	TSW-106-08-S-D-RA	SAMTEC	TSW-106-08-S-D-RA	CONNECTOR; THROUGH HOLE; DOUBLE ROW; RIGHT ANGLE; 12PINS; THIS PART IS DEDICATED FOR PMOD PERIPHERAL BOARD
7	2	J2, J8	PCC03SAAN	SULLINS	PCC03SAAN	CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT THROUGH; 3PINS; -65 DEGC TO +125 DEGC
8	1	J3	PBC12SAAN	SULLINS ELECTRONICS CO	PBC12SAAN	CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT; 12PINS; -65 DEGC TO +125 DEGC
9	4	J4-J7	PCC02SAAN	SULLINS	PCC02SAAN	CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT THROUGH; 2PINS; -65 DEGC TO +125 DEGC
10	1	J9	PBC07SAAN	SULLINS ELECTRONICS CO	PBC07SAAN	CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT; 7PINS; -65 DEGC TO +125 DEGC
11	1	J10	PBC06SAAN	SULLINS ELECTRONICS CO	PBC06SAAN	CONNECTOR; MALE; THROUGH HOLE; BREAKAWAY; STRAIGHT; 6PINS; -65 DEGC TO +125 DEGC
12	1	J11	OSTVN12A150	ON-SHORE TECHNOLOGY	OSTVN12A150	CONNECTOR; FEMALE; THROUGH HOLE; SCREW TYPE; GREEN TERMINAL BLOCK; RIGHT ANGLE; 12PINS
13	2	JMP1, JMP2	22-28-4043	MOLEX	22-28-4043	CONNECTOR; MALE; THROUGH HOLE; FLAT VERTICAL BREAKAWAY; STRAIGHT; 4PINS
14	6	R1-R6	ERJ-3EKF28R0V	PANASONIC	28	RESISTOR; 0603; 28 OHM; 1%; 100PPM; 0.10W; THICK FILM
15	12	R7-R18	CRCW04021M00FK	VISHAY DALE	1M	RESISTOR; 0402; 1M; 1%; 100PPM; 0.0625W; THICK FILM
16	12	R19-R30	CRCW040210R0FK; 9C04021A10R0FL	VISHAY DALE	10	RESISTOR; 0402; 10 OHM; 1%; 100PPM; 0.0625W; THICK FILM
17	3	R31, R34, R35	CRCW060310K0FK; 9C06031A1002FK; ERJ-3EKF1002	VISHAY DALE/YAGEO PHI	10K	RESISTOR; 0603; 10K; 1%; 100PPM; 0.10W; THICK FILM
18	7	SU1-SU7	SX1100-B	KYCON	SX1100-B	TEST POINT; JUMPER; STR; TOTAL LENGTH=0.24IN; BLACK; INSULATION=PBT;PHOSPHOR BRONZE CONTACT=GOLD PLATED
19	3	TP1, TP3, TP7	5000	KEYSTONE	N/A	TEST POINT; PIN DIA=0.1IN; TOTAL LENGTH=0.3IN; BOARD HOLE=0.04IN; RED; PHOSPHOR BRONZE WIRE SILVER PLATE FINISH; RECOMMENDED FOR BOARD THICKNESS=0.062IN; NOT FOR COLD TEST
20	3	TP2, TP5, TP6	5001	KEYSTONE	N/A	TEST POINT; PIN DIA=0.1IN; TOTAL LENGTH=0.3IN; BOARD HOLE=0.04IN; BLACK; PHOSPHOR BRONZE WIRE SILVER PLATE FINISH; RECOMMENDED FOR BOARD THICKNESS=0.062IN; NOT FOR COLD TEST
21	1	TP4	5004	KEYSTONE	N/A	TEST POINT; PIN DIA=0.1IN; TOTAL LENGTH=0.3IN; BOARD HOLE=0.04IN; YELLOW; PHOSPHOR BRONZE WIRE SILVER PLATE FINISH; RECOMMENDED FOR BOARD THICKNESS=0.062IN; NOT FOR COLD TEST
22	1	U1	MAX11259EWX+	MAXIM	MAX11259EWX+	EVKIT PART - IC; MAX11259; WLP36; OUTLINE DWG 21-0898; PKG CODE W362C2+1
23	1	U2	MAX8510EXK29+	MAXIM	MAX8510EXK29+	IC; VREG; ULTRA-LOW-NOISE; HIGH PSRR; LOW-DROPOUT; 0.12A LINEAR REGULATOR; SC70-5
24	1	U3	MAX6072AAUB25+	MAXIM	MAX6072AAUB25+	IC; VREF; HIG-PRECISION; DUAL-OUTPUT SERIES VOLTAGE REFERENCE; UMAX10
TOTAL	90					

HARDWARE NAME:MAX11259PMB_EVKIT_A

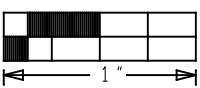
HARDWARE NUMBER:

ENGINEER: DESIGNER:

DATE: 06/02/2015 ODB++/GERBER: SILK_TOP



DO NOT MODIFY TOP SOLDERMASK ON U1



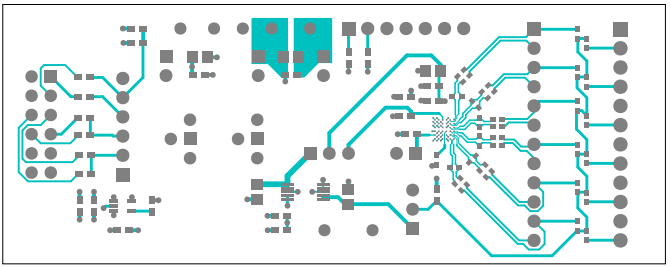
maxim integrated™

HARDWARE NAME:MAX11259PMB_EVKIT_A

HARDWARE NUMBER:

ENGINEER: DESIGNER:

DATE: 06/02/2015 ODB++/GERBER: TOP



DO NOT MODIFY TOP SOLDERMASK ON U1

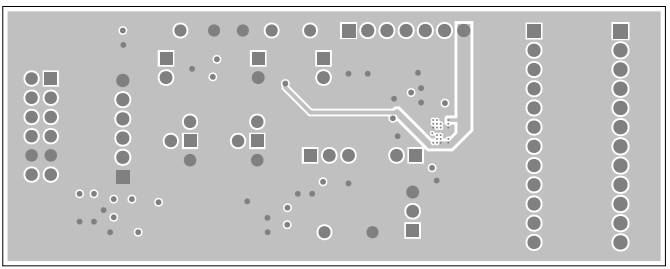
maxim integrated

HARDWARE NAME:MAX11259PMB_EVKIT_A

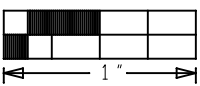
HARDWARE NUMBER:

ENGINEER: DESIGNER:

DATE: 06/02/2015 ODB++/GERBER: LAYER2



DO NOT MODIFY TOP SOLDERMASK ON U1

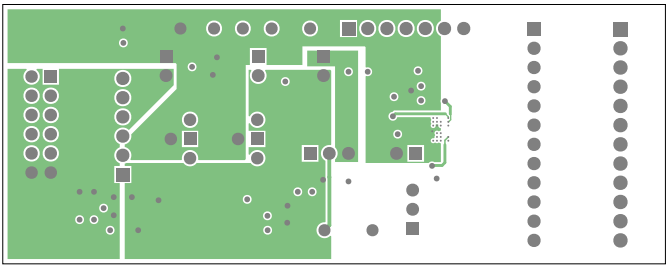


HARDWARE NAME:MAX11259PMB_EVKIT_A

HARDWARE NUMBER:

ENGINEER: DESIGNER:

DATE: 06/02/2015 ODB++/GERBER: LAYER3



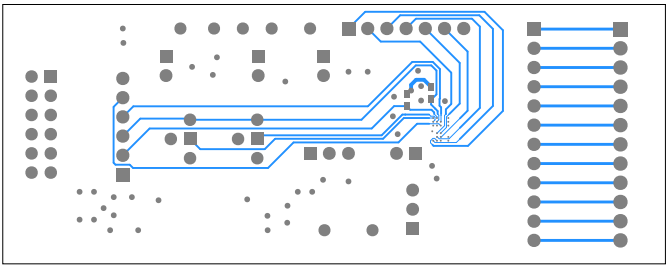
DO NOT MODIFY TOP SOLDERMASK ON U1

HARDWARE NAME:MAX11259PMB_EVKIT_A

HARDWARE NUMBER:

ENGINEER: DESIGNER:

DATE: 06/02/2015 ODB++/GERBER: BOTTOM



DO NOT MODIFY TOP SOLDERMASK ON U1

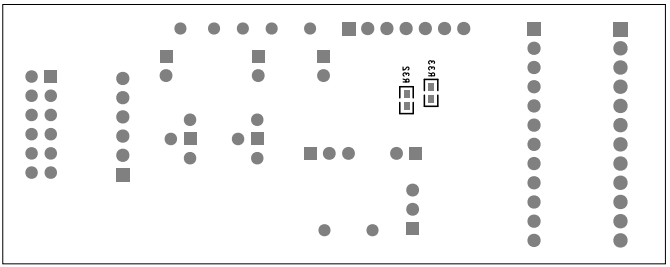
maxim integrated

HARDWARE NAME:MAX11259PMB_EVKIT_A

HARDWARE NUMBER:

ENGINEER: DESIGNER:

DATE: 06/02/2015 ODB++/GERBER: SILK_BOT



DO NOT MODIFY TOP SOLDERMASK ON U1