Important Notes

Restrictions in Use

IDT's Evaluation Kit, consisting of a Communication Board (SSC CB), an IC-specific evaluation circuit board (SSC EB), and the calibration software, is designed for sensor module evaluation, laboratory setup. and module calibration development only.

IDT's Evaluation Kit hardware and software must not be used for module production and production test setups.

Disclaimer

IDT shall not be liable for any damages arising out of defects resulting from
(i) delivered hardware or software
(ii) non-observance of instructions contained in this manual and in any other documentation provided to user, or
(iii) misuse, abuse, use under abnormal conditions or alteration by anyone other than IDT.

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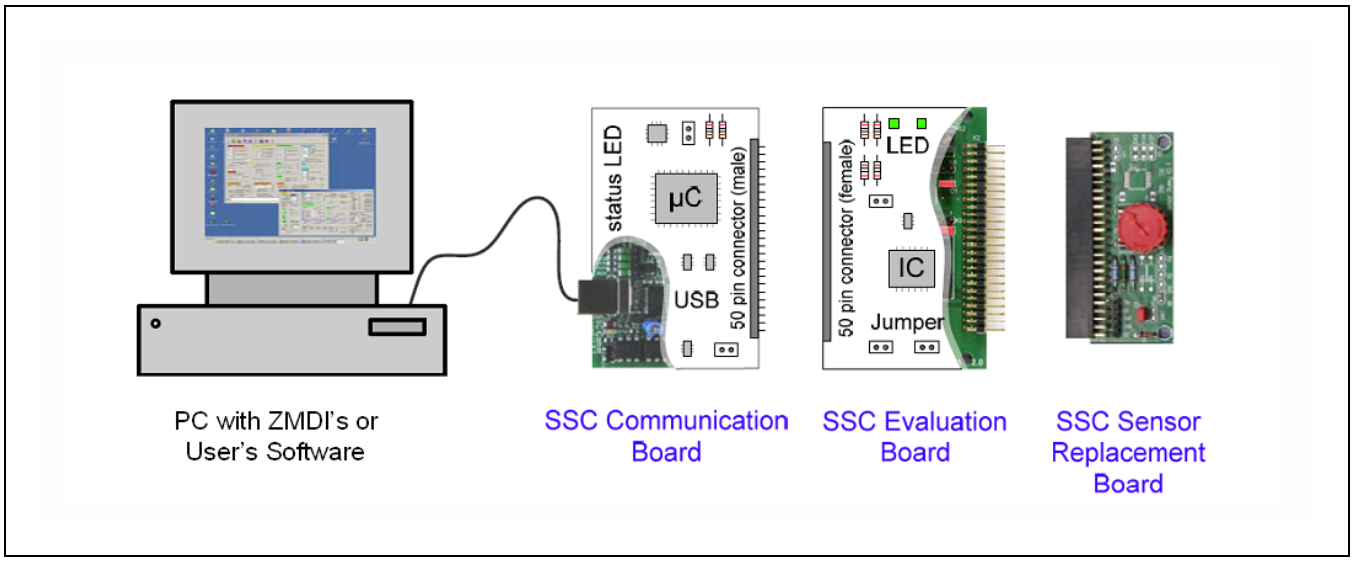
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1 Kit Content

The ZSSC313x Evaluation Kit consists of the following parts:

- SSC Communication Board (SSC CB) V3.3 (including USB cable) *
- ZSSC313x SSC Evaluation Board (SSC EB) V1.0
- SSC Sensor Replacement Board (SRB) V2.0
- SSC DVD, including the ZSSC313x Software for evaluation and calibration
- 12 samples (SSOP14 5.3mm): 3 each of the ZSSC3131, ZSSC3135, ZSSC3136, and ZSSC3138
- SSC Evaluation Kit start-up information

Figure 1.1 ZSSC313x Evaluation Kit



The SSC Evaluation Kit contains the software and hardware needed for communication and calibration of ZSSC313x sensor signal conditioning ICs. A PC can communicate with the IC via the Communication Board (SSC CB) through a USB connection. The Sensor Replacement Board (SRB) provides a replacement for an actual sensor and can be used for the first step of calibration or a dry-run calibration as described in section 4. On the SRB, the sensor replacement signal is controlled by a potentiometer (see Figure 1.1).

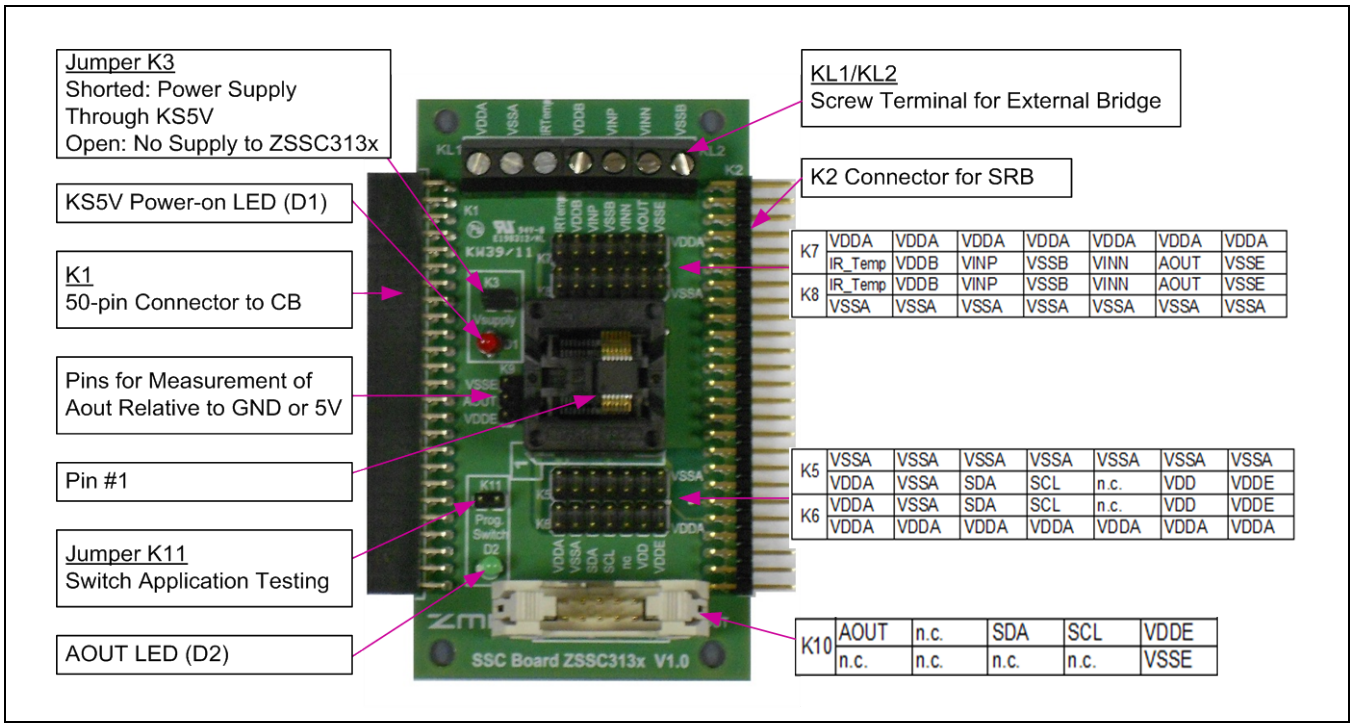
The software will run under Windows® 98/ME/XP/NT/Vista/Windows® 7 operation systems after installation of a USB driver (refer to *SSC_AN_CommunicationBoard_Driver_Installation_rev_X_xy.pdf*).

* For detailed information about SSC Communication Board, please refer to the *SSC Communication Board Data Sheet.*

2 ZSSC313x Evaluation Board

2.1 Overview

Figure 2.1 ZSSC313x SSC Evaluation Board – Overview



The main purpose of the SSC Evaluation Kit is communication between the PC and the ZSSC313x. The PC sends commands and data via its USB port (configured as a virtual COM port) to the SSC CB. The microcontroller (µC) on the SSC CB interprets these commands and relays them to the ZSSC313x in the I²C™[†] or OWI (One-Wire Interface) communication mode. The µC will also forward any data bytes from the ZSSC313x back to the PC via the USB connection. These bytes can be sensor and temperature readings to be displayed by the PC software, raw ADC data used during calibration, or EEPROM data. The SSC CB µC controls the power signals required for entering the Command Mode.

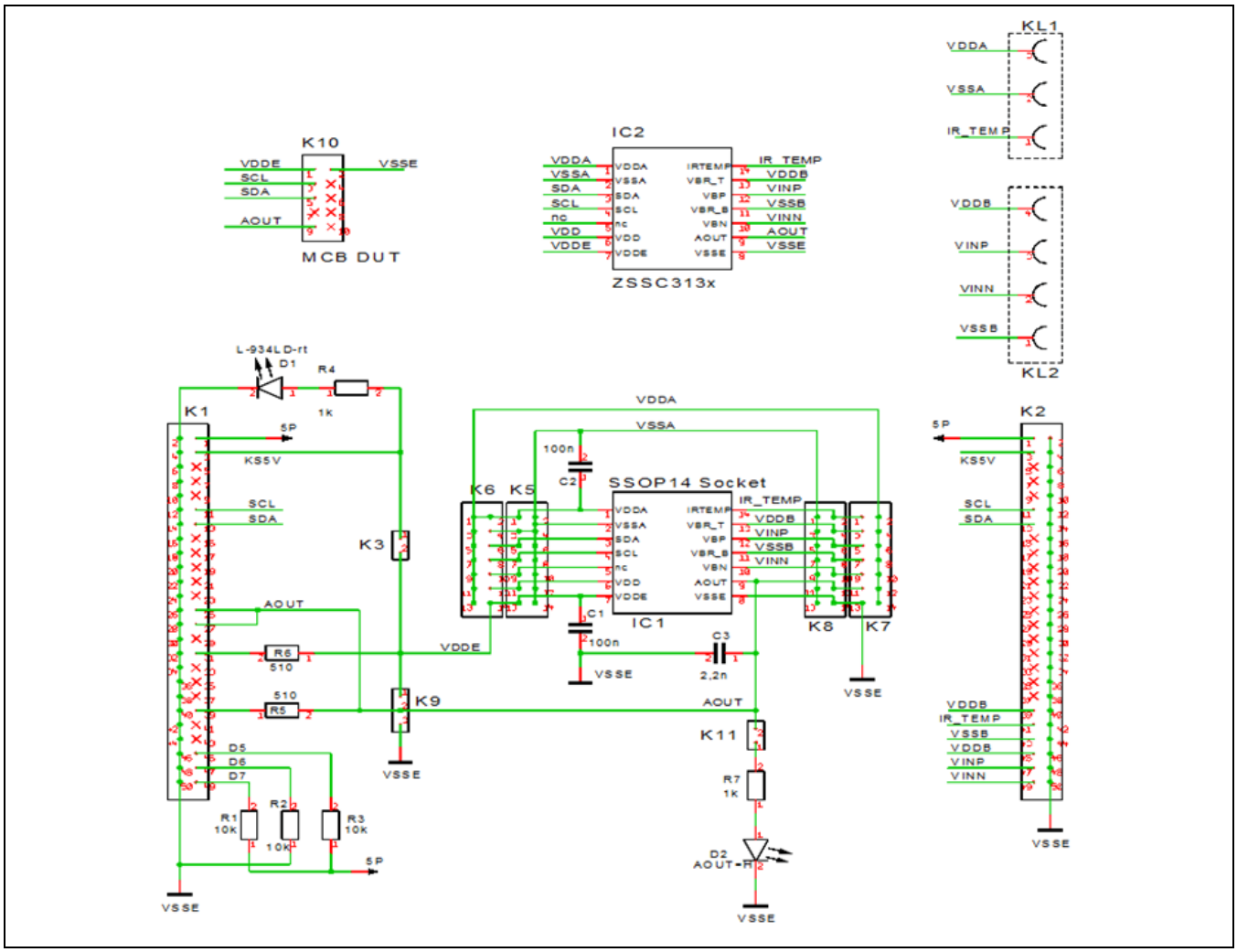
2.2 Schematic

Figure 2.2 shows the schematic of the ZSSC313x SSC Evaluation Board (SSC EB). The SSC EB is powered by the KS5V supply controlled by the µC on the SSC CB. The red LED displays the status of this supply. Its forward current is not included in the measured supply current.

Jumper K3 can be used to manually remove the power supply for the ZSSC313x or for a simple measurement of the supply current.

[†] I²C™ is a trademark of NXP.

Figure 2.2 SSC Evaluation Board Schematic



The SSC EB board type is hard-coded by three resistors on K1 connector pins D7 (high), D6 (low), and D5 (high) on the back of the board. The SSC EB is connected to the SSC CB via a 50-pin female connector. On-board there are several strips for simple access to all IC signals.

The SRB can be connected to the SSC EB via its 50-pin male connector. Alternatively, an external bridge sensor element and an external temperature sensor can be connected using the on-board screw terminal KL1/2.

2.3 Connections to the ZSSC313x

The SSC EB has an SSOP-14 socket for inserting the SSOP-14 ZSSC313x. Note the pin orientation shown in Figure 2.1.

The connectors on the SSC EB can be used to connect directly to the ZSSC313x for in-circuit programming. NOTE: Only one ZSSC313x connection option can be used at a time (e.g. either through the SSC CB or via individual connections).

2.4 Reset Switch

Use the push button on the SSC CB to reset communications if needed.

3 ZSSC313x Software

3.1 Overview

The ZSSC313x Software provided with the ZSSC313x SSC Evaluation Kit is intended for demonstration purposes and calibration of single units. This section gives a short overview of the variety of ways to use this evaluation software. For calibration examples using the complete SSC Evaluation Kit, refer to section 4.

The default software installation folder is *C:\\program files\ZMDI\ZSSC313x*. IDT can provide users with algorithms and assistance in developing their full production calibration software. The software logs various data and commands into log files.

The software contains 5 menus that are intended for the following functions:

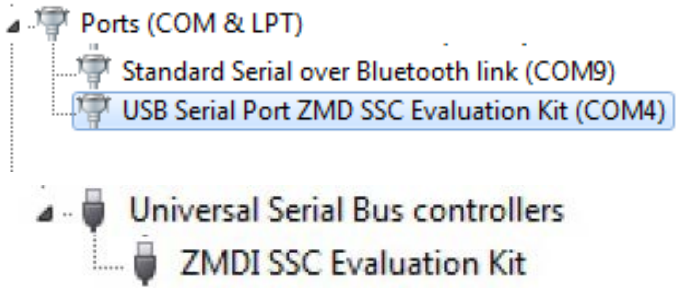
- Main Window: IC setup, configuration, and communication via check boxes, entry fields, and pull-down menus
- RAM/EEPROM Dialog: direct access to RAM/EEPROM registers (consecutively numbered)
- Calibration Register Dialog: direct access to RAM/EEPROM registers (sorted by category)
- Calibration Dialog: acquisition of raw values from sensor and calculation of coefficients
- Get Raw Values Dialog: special Dx commands for the ZSSC313x[‡]
- Send Command Dialog: low-level write/read communication with SSC CB[§]

3.2 USB Driver Installation

The SSC Evaluation Kit requires installation of two USB drivers. To install the drivers, the user's system must meet these requirements and provide administrative rights if necessary:

- x86-compatible PC
- 64 MB RAM
- Hard drive with 20MB free space
- USB port
- Windows® 2000/XP/Vista/Windows® 7

The two required driver files are in the *USB_Driver* folder on the Evaluation Kit DVD. These drivers will make the PC's USB port appear as a virtual COM port (typically COM3 or COM4 on most computers, as shown in the pictures below). The SSC Evaluation Kit software accesses the SSC Evaluation Board through the CB as if it were a COM (RS232) port. These drivers will not affect the operation of any other USB peripherals.



Refer to *SSC_AN_CommunicationBoard_Driver_Installation_rev_X_xy.pdf* for instructions on installing these two drivers and for determining the virtual COM port for the SSC Evaluation Kit, which is needed for setting up the kit.

‡ For details of the Dx commands, refer to the *ZSSC313x Functional Description*.
§ For details about SSC CB command structure, refer to the *SSC Communication Board Data Sheet* and *SSC Command Syntax.*

3.3 User Files

User files are saved in *[My Documents]\ZMDI\ZSSC313x* and consist of log files and EEPROM files.

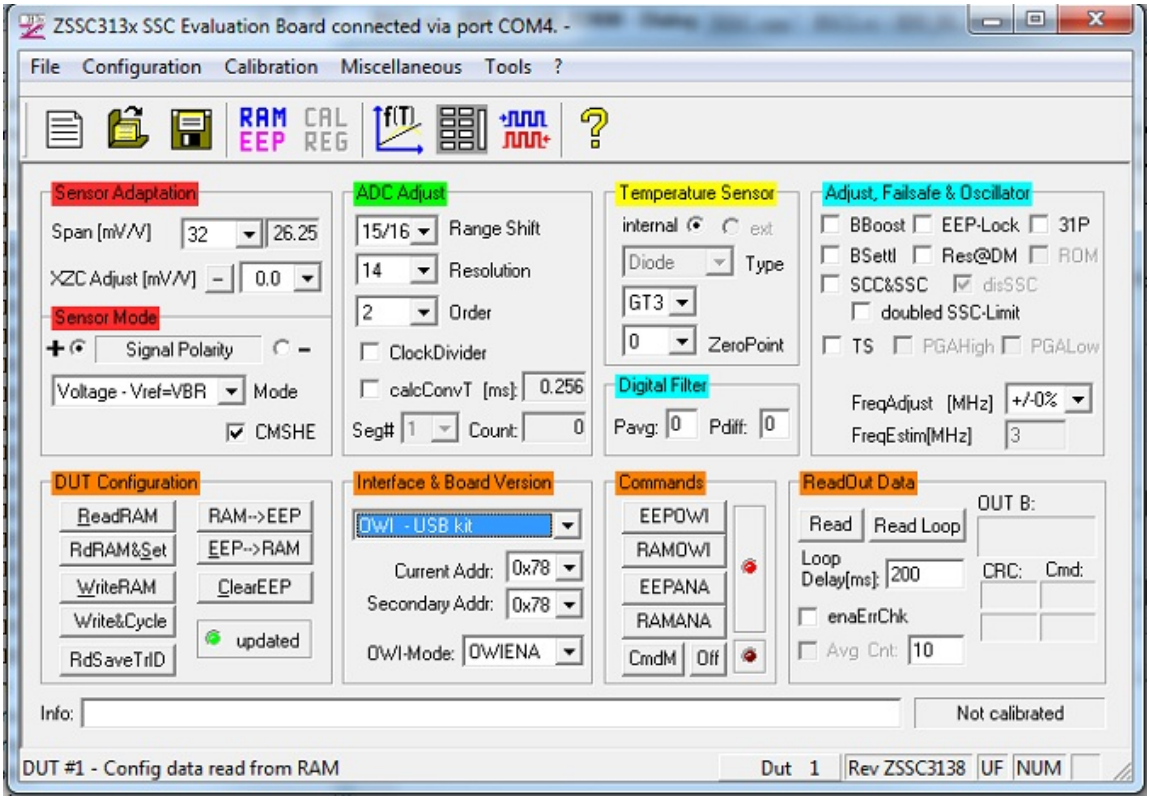
- *ZSSC313x_COMx.log* A communication log file created when connection with the SSC CB and the ZSSC313x is established (via OWI or I²C™ interface). This file is a log of the communication to the ZSSC313x during the software session and can be saved after closing the software by renaming the file. Otherwise, it is overwritten the next time the software is opened.
- *save_[date]_[time].313x* A log file containing IC settings and acquired RAW data. This file can be used to load/save EEPROM contents.
- *save_[date]_[time].313x_txt* A log file in text format containing IC settings and acquired RAW data. This file can be used to view the EEPROM contents.

3.4 General Setup of the Software

To install the ZSSC313x software on the PC hard drive, locate the *setup.exe* file in the *\ZSSC313x\software* directory of the DVD-ROM and double click on it. The software completes the installation.

Because of the large number of different functionalities of the ZSSC313x, the user interface is divided into different segments. Within these segments, a number of associated functionalities are implemented. Several submenus allow access to sub-functionalities. After the ZSSC313x Software is started, the main window is displayed (Figure 3.1). When communication with an inserted IC is established, the software is adapted to the IC's functionality by changing the analog front end (AFE) functionality and disabling certain fields.

Figure 3.1 Main Window of the Evaluation Software



The main window includes all the settings for configuration of the ZSSC313x in a clear structure, which hides the corresponding HEX commands behind buttons and pull down menus. For a detailed description of the commands, refer to the *ZSSC313x Functional Description*. An information box that explains functionality appears when the cursor is placed over most buttons, drop down menus, and check boxes.

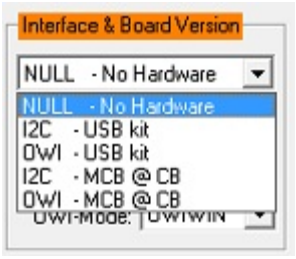
3.4.1 Interface Selection

The ZSSC313x supports two interfaces: OWI and I²C™. After starting the software, select the interface for the application in the "Interface & Board Version" section.

Below the drop down menu for the interface is a menu for selecting the I²C™ addresses to be used.

The one-wire digital interface (also called OWI) combines a simple and easy protocol adaptation with a cost-saving pin sharing (AOUT). The communication principle is derived from the I²C protocol. An advantage of OWI output signal capability is that it enables "end of line" calibration. It is designed mainly for calibration, but it may also be used to digitally read the calibrated sensor signal continuously.

Figure 3.2 Interface & Board Version

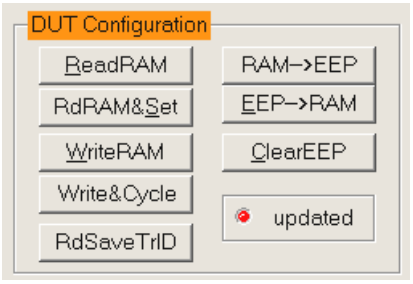


3.4.2 ZSSC313x Configuration

The "DUT Configuration" section includes the following buttons:

- ReadRAM : reads the complete RAM contents and updates only the "RAM_Register" menu.
- RdRAM&Set : reads the complete RAM contents and updates all of the ZSSC313x software.
- Write RAM : copies the current software settings into the RAM of the ZSSC313x.
- RAM-->EEP : copies the RAM contents into EEPROM. Also the free-user-memory registers (10_{HEX}, 11_{HEX} and 12_{HEX}) will be copied using the contents of the IDT software registers**.
- EEP-->RAM : copies the EEPROM contents into RAM using the $C0_{HEX}$ command.
- Write&Cycle : copies the current software settings into the RAM of the ZSSC313x and starts the measurement cycle using the current RAM settings (command: 02_{HEX}††).
- RdSaveTrID : Read and save traceability information (the contents of three free-user-memory registers 10_{HEX}, 11_{HEX} and 12_{HEX}).

Figure 3.3 DUT Configuration



The "updated" LED displays the software configuration status compared with the attached ICs register content. If the content is identical, the LED is green (On).

** The contents of the "RAM-Register" dialog will be used for free-user-memory registers.
†† For details about ZSSC313x commands, refer to the *ZSSC313x Functional Description.*

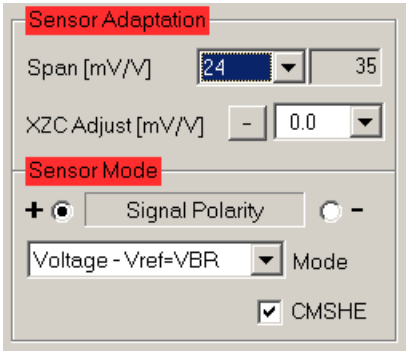
3.4.3 Analog Front End (AFE) Adjustment

The ZSSC313x has different options to adapt the analog front end (AFE) to the specific sensing element. The “Sensor Adaptation” and “Sensor Mode” sections (see Figure 3.4) influence the programmable gain amplifier (PGA) and the extended zero compensation (XZC, applicable only for the ZSSC3138).

Refer to the *ZSSC313x Data Sheet* for details about PGA and XZC settings.

Polarity of the sensor signal can be selected by the radio button and can be changed if the PCB layout requires swapped input pins.

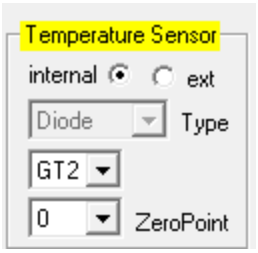
Figure 3.4 Sensor Adaptation and Mode



3.4.4 Temperature Sensor Selection

The next stage in the AFE is the multiplexer that selects the input signal for measuring temperature. The ZSSC313x can use two different temperature channels: one for the temperature that is used for the ZSSC313x’s internal calibration calculation and one that is used as an optional additional output signal during NOM.

Figure 3.5 Temperature Sensor



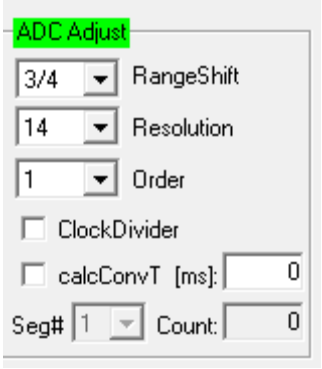
3.4.5 ADC Settings

The last stage of the AFE is the ADC. The signal path within the AFE is fully differential, so it is necessary to provide an input signal within the common mode range. Otherwise, the ADC will provide a signal that is equal to 0000_{HEX} (underflow) or $2^{ADC_Resolution}$ (overflow) in the “Sensor – Calibration” menu during calibration.

Refer to the *ZSSC313x Data Sheet* for details about ADC settings.

If the analog input voltage does not fit the ADC range and an underflow or overflow occurs, the “Range Shift” option can be used for fine-tuning. A lower “Span” setting in the “Sensor Adaptation” section can also be useful for fitting the ADC range.

Figure 3.6 ADC Adjust

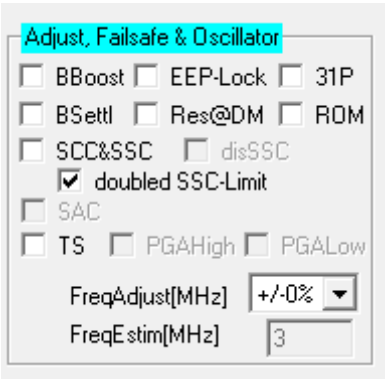


3.4.6 Application Settings

The internal microcontroller of the ZSSC313x can detect various errors and perform different types of measurement cycles. It controls multiple protection options that can be configured by the ZSSC313x evaluation software.

Figure 3.7 illustrates all the application options for the ZSSC313x, which can be enabled/disabled via check-boxes. Figure 3.7 shows ZSSC313x settings with no options enabled. For more details about the related options, refer to the *ZSSC313x Functional Description*.

Figure 3.7 Application Settings

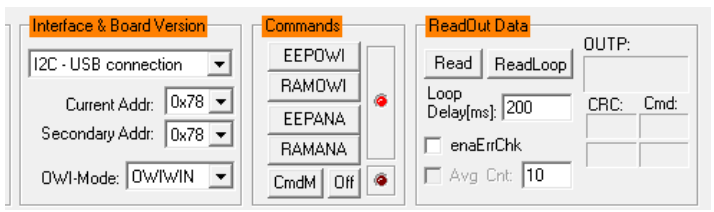


- BBoost : Activates bias boost functionality. If enabled, bias current is increased. This is recommended for clock frequencies greater than 3MHz.
- EEP-Lock : Enables the EEPROM lock for OWI communication. If enabled, the EEPROM cannot be changed via the OWI interface. It can only be reset via the I²C™ interface.
- 31P : If enabled, 30 sensor signal measurements instead of 1 measurement will be processed in a loop.
- BSettl : If enabled, an A/D conversion time is added for output voltage settling in NOM.
- Res@DM : If enabled, the ZSSC313x is reset if the ZSSC313x enters the Steady Diagnostic Mode.
- ROM : Enables the ROM check after power on. If enabled, the start-up time will be increased by approximately 10ms. If a ROM error occurs, the ZSSC313x will change to the Diagnostic Mode.
- SCC&SSC : Sensor connection check monitors the connection of the sensor.
- disSSC : If enabled, no SSC failsafe checks are processed.
- Doubled SSC-limit: Activates enhanced sensor short check limit. Lower limit for short detection is 1750 counts; enhanced limit is 2240 counts.
- TS : If enabled, temperature sensor ADC result (equivalent cmd:\"D1\") is checked for being inside of range $(0;2^{resolution})$.
- PGAHigh : If enabled, the upper limit main channel conversion check is processed (MCH). PGAHigh checks if the main channel A/D conversion is larger than 98.5% of the maximum.
- PGALow : If enabled, the lower limit main channel conversion check is processed (MCL). PGALow checks if the main channel A/D conversion is smaller than 1.5% of the minimum.
- FreqAdjust[MHz] : Clock frequency adjust.
- FreqEstim [MHz] : Estimated oscillator frequency.

3.5 Operation Section

The operation section controls the collection of data and configuration of the ZSSC313x.

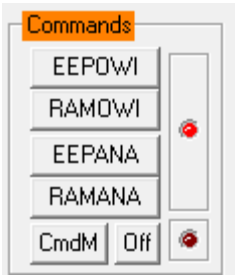
Figure 3.8 Operation Section



3.5.1 Normal Operation Mode (NOM)

- EEPOWI : Starts NOM using EEPROM configuration with digital output only; i.e., OWI Interface Mode.
- RAMOWI : Starts NOM using current RAM configuration with digital output only; i.e., OWI Interface Mode.
- EEPANA : Starts NOM using EEPROM configuration with analog output; i.e., Analog Output Mode.
- RAMANA: Starts NOM using current RAM configuration with analog output; i.e., Analog Output Mode.

Figure 3.9 Output Selection



3.5.2 Command Mode (CM)

CmdM: Button starts the Command Mode of ZSSC313x again by powering off the ZSSC313x and then sending the Start_CM command (7274_{HEX}) again.

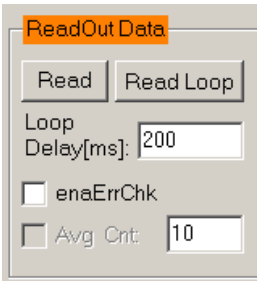
3.5.3 Power ZSSC313x OFF

Off: Button switches off all power supplies to SSC EB. Also all communication interfaces are disabled, so no further communication is possible until the CmdM button has been pressed or the next interface is selected

3.5.4 Data Read-Out

Read & ReadLoop: To start a readout of sensor data, click on one of these buttons. If a loop is started, the button text changes to “Stop.” Click again to stop the loop.

Figure 3.10 Data Read-Out



3.5.5 Enable Error Check

enaErrChk: Enables error checking according to the application settings described in section 3.4.6. An error message will be displayed if any of the errors selected occur.

3.5.6 Average Count and Statistics

Avg Cnt: This checkbox enables averaging and statistics calculation. It is active if the measurement is in loop mode only. Resulting data will be displayed after the specified cycles in the field are passed.

3.6 Output Configuration

The ZSSC313x provides two output options at the AOUT pin. Depending on the setting selected, this output is either analog output or digital (OWI) interface:

- Ratiometric analog voltage output (5 - 95% at maximum)
- ZACwire™ (digital One-Wire Interface)

The sequence in which this pin (AOUT) is configured is set by the “OWI Mode” drop-down menu in the “Interface and Board Version” section (see Figure 3.2):

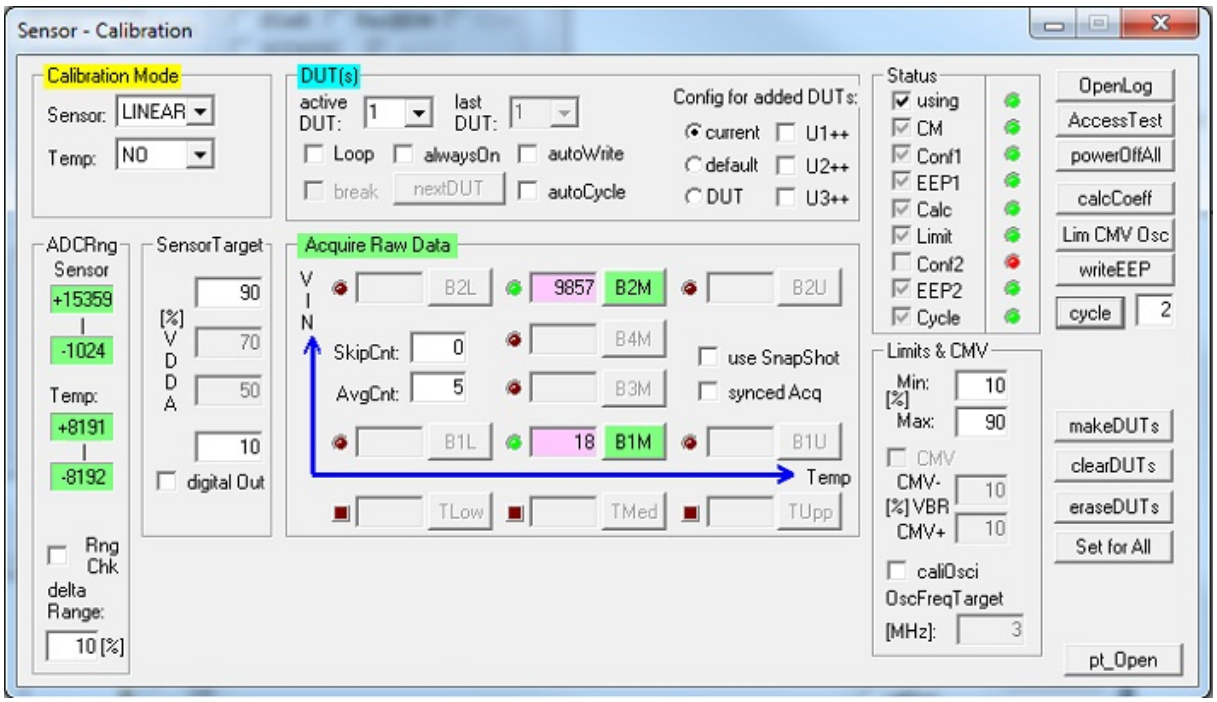
- OWIWIN: OWI interface is enabled only for a certain time window (approximately 100ms).
- OWIANA: OWI is enabled, but analog output is activated without a delay.
- OWIENA: OWI is enabled without analog output.
- OWIDIS: OWI interface is disabled with immediate analog output enabled.

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3.7 Calibration Window

The “Sensor – Calibration” dialog is used to perform a calibration of the ZSSC313x with either the SRB or the user’s sensor module. Section 4 gives an example calibration using the commands on this screen.

Figure 3.11 “Sensor – Calibration” Dialog



3.8 RAM Register Dialog Window

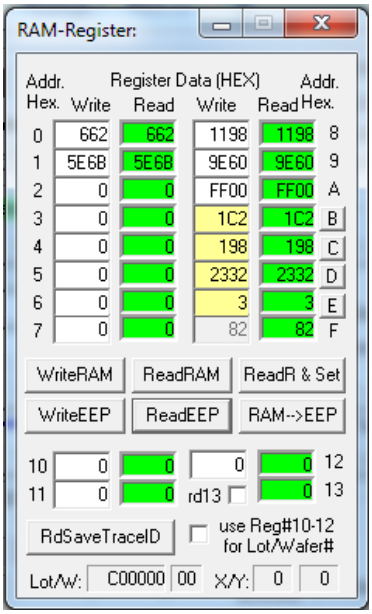
This dialog is used to read and write register contents into the ZSSC313x memories and has the same functionality as the “DUT Configuration” section in the main window.

There is also a WriteEEP button to store all register contents into the EEPROM of the ZSSC313x. Register indexing corresponds to the ZSSC313x memory addresses.

The configuration of the ZSSC313x is stored in 20 EEPROM 16-bit words.

- Calibration coefficients for conditioning the sensor signal via conditioning calculations and output limits are stored in 8 registers (registers 0_{HEX} to 7_{HEX}).
- There are four words for setting the configuration of the ZSSC313x for the application (registers B_{HEX} to E_{HEX}, with yellow background).
- Three registers are used to configure the output limits (registers 8_{HEX} and 9_{HEX}) and CMV measurement limits (register A_{HEX}; can be configured only with the ZSSC3136).

Figure 3.12 *Displaying* RAM-EEP Register Contents



- One register is used for storing the EEPROM signature, which is used in NOM to check the validity of the EEPROM contents after power-on, (register F_{HEX}).
- Four additional 16-bit registers are available for optional user data.

For more information regarding the registers, refer to the *ZSSC313x Functional Description*.

If current settings differ from the memory contents, registers that do not correspond to memory will have a red background after the “Read” operation.

3.9 Get Raw Values Dialog

The “Get Raw Values” dialog is used to acquire the RAW values of the measurements for the following values.

BR: Sensor Signal Raw Data (main channel).

T: Temperature Signal Raw Data.

BR_AZ: Sensor Signal Auto-Zero Raw Data.

T_AZ: Temperture Signal Auto-Zero Raw Data.

SSCP: Positive-Biased Sensor Short and Connection Check Raw Data.

SSCN: Negative-Biased Sensor Short and Connection Check Data.

SSC(P-N): Differential Input Raw Data.

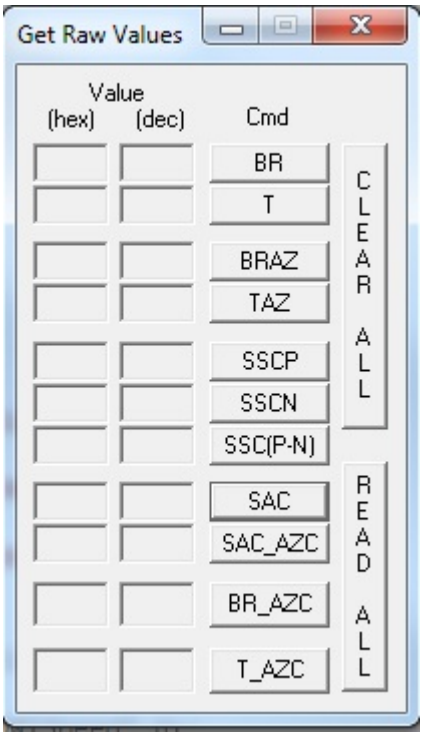
SAC: Sensor aging test (Common Mode Voltage) Raw Data.

SAC_AZC: Sensor Aging test Raw Data including Auto-Zero Compensation.

BR_AZC: Sensor Signal Main Channel Raw Data including Auto-Zero Compensation.

T_AZC: Temperature Signal Raw Data including Auto-Zero Compensation

Figure 3.13 “Get Raw Values” Dialog



3.10 Send Command



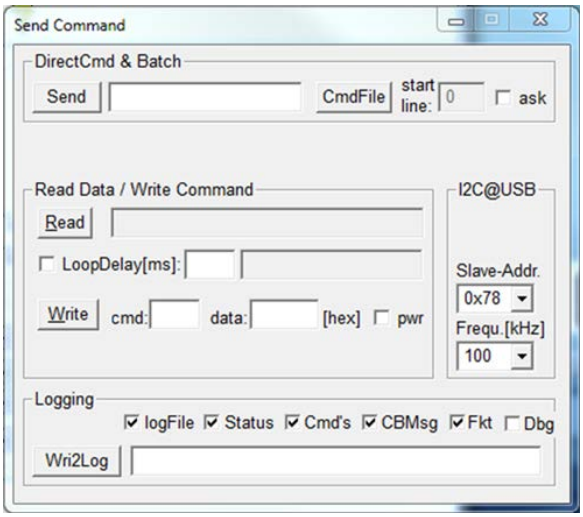
This dialog is used for transferring commands from the PC to the microcontroller on the SSC CB and reading the result of the commands.

A full summary and detailed command description of the applicable controller commands are given in the *ZSSC313x Functional Description.*

For more functionality, the *IDT SSC Terminal software* can be used. This is the lowest level of communication for transferring commands from the PC to the microcontroller on the SSC CB. A full summary and detailed command description of the applicable controller commands are given in *SSC Command Syntax.*

SSC TermV202.exe can be installed from the SSC DVD, which will create a *IDT SSC Terminal* icon on the PC desktop. Click on this icon to activate the terminal program. For the ZSSC313x communication mode, use the setting explained for I^2C.

Figure 3.14 Displaying Send-Command Dialog



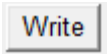
The "Send Command" dialog includes the following buttons:



Sends a command to the CB. Alternatively, a **.313x_cmd* command file can be loaded.



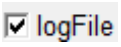
Reads the output data buffer of the ZSSC313x. A loop delay can also be added between the readings.



Performs the same function as the "Send" command except that the command field and the data field are separated. The ZSSC313x software generates the actual instruction to be sent to the SSC CB. The "pwr" check box, if enabled, makes it possible to power the IC on/off by sending the 72_{HEX} command.



Writes text entered in adjacent field to the log file. The checkboxes can be used to write various data into the log file, such as status, commands, messages, etc.

The  enables and disables the logging.

For the communication between the SSC CB and the ZSSC313x, the ZSSC313x's slave address and the communication frequency can be selected from the drop-down menus on the right.

4 Application and Calibration Example

The following directions perform an example of a simple calibration using the sensor replacement board (SRB). The calibrated output will be displayed as a calibration result.

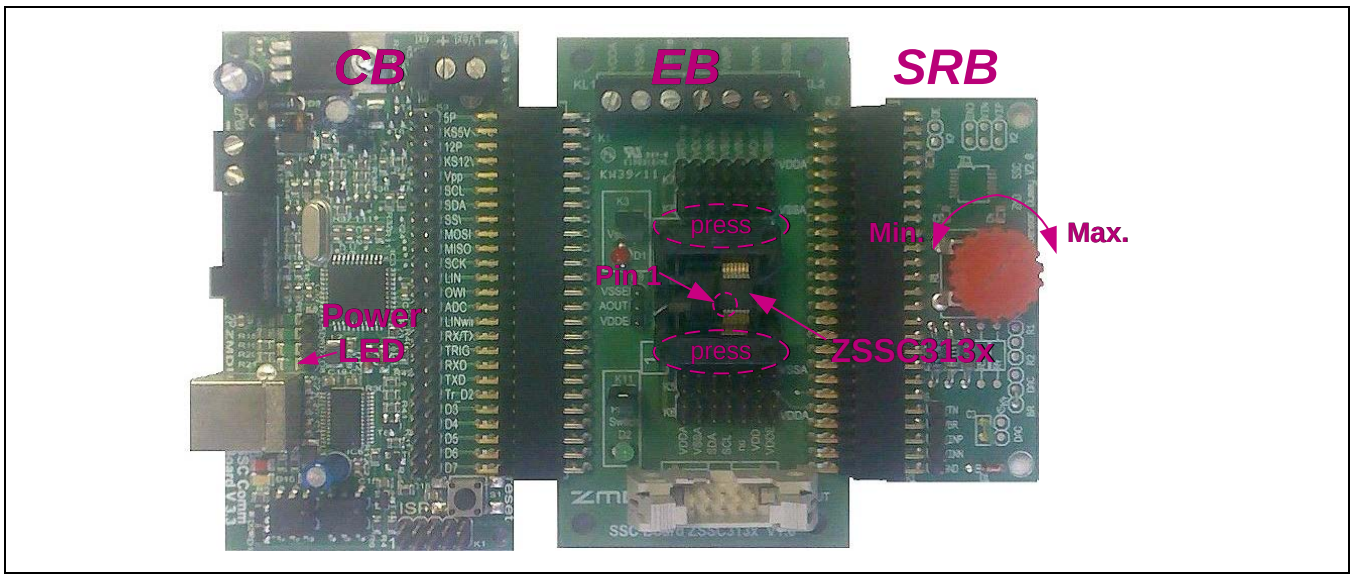
4.1 Hardware Setup

a) Connect the SSC CB, SSC EB, and SRB as shown in Figure 4.1.

b) Press down on top of the socket on the SSC EB to open it and insert a ZSSC313x (see Figure 4.1; note pin 1 orientation).

c) Connect a USB cable from the USB connector on the SSC CB to an available USB port on the PC. Verify that the green PWR LED is lit on the SSC CB.

Figure 4.1 Hardware Setup for Calibration Example

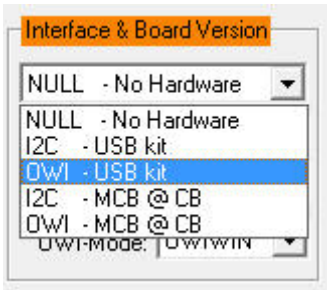


4.2 Software Startup

a) Start the ZSSC313x Software by clicking on the desktop icon or activate it from the Windows Start Menu folder: #Start_Menu#\ZMDI\ZSSC313x\ZSSC313x.

b) Select “I2C USB kit” or “OWI USB kit” interface from the drop down menu in the “Interface & Board Version” section of the main window as shown in Figure 4.2.

Figure 4.2 Select Interface

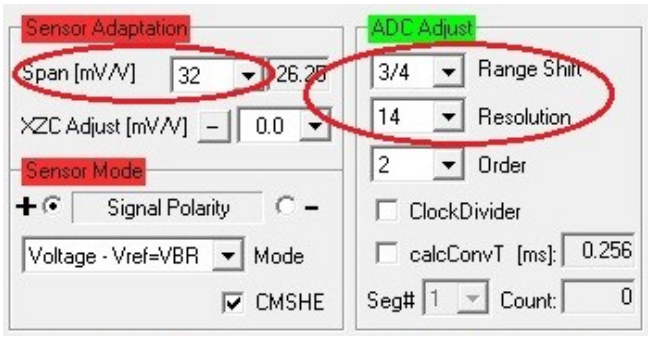


c) Select the following settings as shown in Figure 4.3:

- In the “Sensor Adaptation” section, set the “Span [mV/V]” (sensor sensitivity) menu to **32mV/V**, which is the typical span when using the SRB. With the 5V supply, this equals a total span of 160mV.
- In the “ADC Adjust” section, set the “Resolution” menu to **14 bits** (equivalent to 16384 steps of the ADC).
- In the “ADC Adjust” section, set the “Range Shift” menu to **¾,** which fits the input signal range to the ADC output value (“analog zero”). For example for a range shift of ¾ and 14 bits resolution, the read-out values would be between -4096 and +12287.

Note: Write the configuration into the RAM by pressing on the WriteRAM button in the “DUT Configuration” section.

Figure 4.3 Select Span and Sensor Mode



4.3 Calibration Data Acquisition

a) Click on the  icon or select “Calibration” on the top menu and then “Calibration” from the drop-down menu. The “Sensor – Calibration” window appears as shown in Figure 4.4. Select the calibration mode from the drop down menu.

For this example, the recommended mode is

- ✓ **LINEAR** (two points only) for the sensor
- ✓ **NO** calibration for the temperature (temperature calibration requires a chamber with a controlled environment)

b) Type the desired sensor target corresponding in percent to the VDD supply. It is recommended that the output targets for the sensor points be in between 10% and 90%.

c) Next start data collection. Normally this would be done with a real sensor attached on a remote board in a controlled chamber. Instead, this calibration example run uses the SRB as the input as follows:

- ✓ **Minimum** [10%] Sensor Signal: turn the SRB counter-clockwise (CCW) to the end and press the B1M button.
- ✓ **Maximum** [90%] Sensor Signal: turn the SRB clockwise (CW) to the end and press the B2M button.

Acquired data will be displayed in the text boxes next to the buttons.

Note: only active buttons corresponding to the calibration mode are green.

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4.4 Calculation of the Coefficients and Limits

a) The calcCoeff button at the right of the “Sensor – Calibration” screen calculates the calibration coefficients. The result of the calculation (if successful) is displayed on the screen (see Figure 4.4). The CMC removes the offset and temperature dependency so that the measuring output result is within the target values (%VDDA or in this case in between 10% and 90%).

   Note: The number of calibration points is equal to the number of coefficients to be calculated.

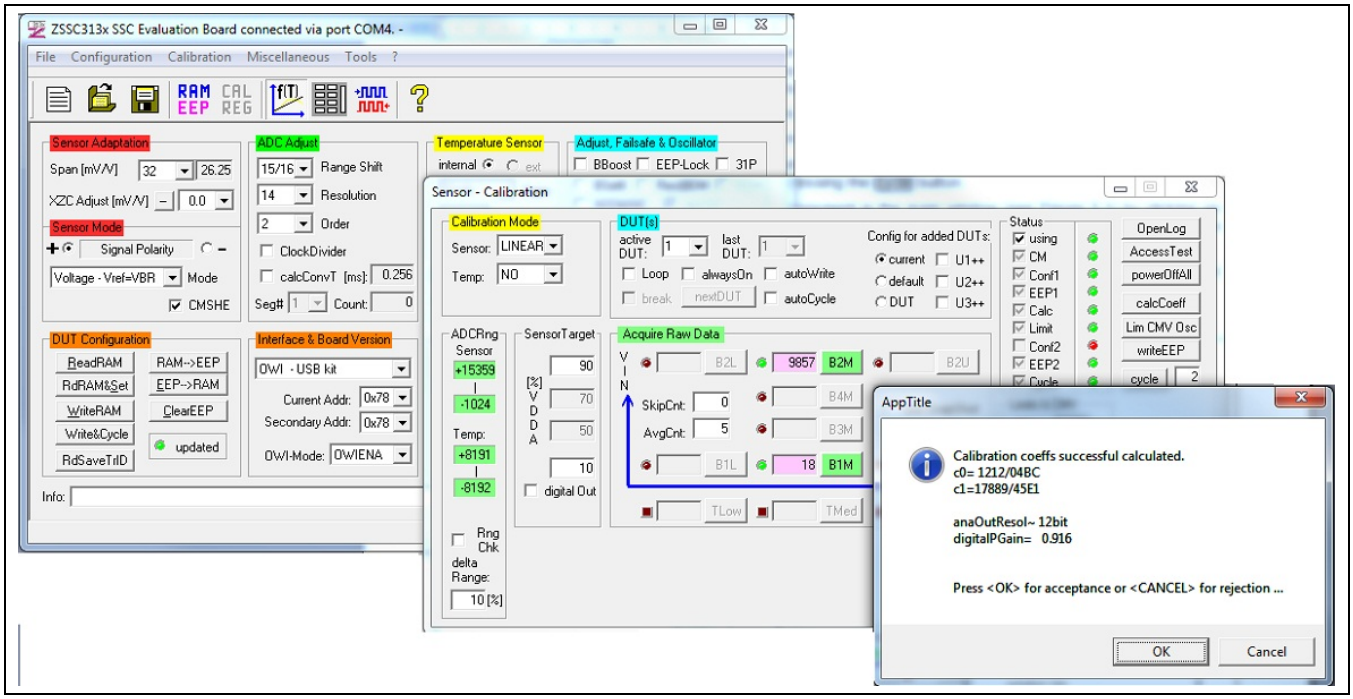
b) The Lim CMV Osc button calculates sensor aging (CMV) and oscillator limits.

c) Click on writeEEP to make these calculations effective and written in the EEPROM. Option: starting a measuring cycle can be triggered by pressing the cycle button.

Close the calibration window and trigger a measurement in the main window (see Figure 3.1) by clicking on either the Read or ReadLoop button in the “ReadOut Data” section. The ZSSC313x is already running in Normal Operation Mode (NOM) because the cycle button was pressed in the calibration window.

Measurement results can also be displayed in % by opening the “Tools -> Measure Output” window and selecting the output format in the checkbox.

Figure 4.4 Displaying the Result of the Coefficient Calculation



Note: all active buttons corresponding to the calibration method selected are green.

5 Ordering Information

Product Sales Code	Description
ZSSC313xKITV2.0	ZSSC313x Evaluation Kit, version 2.0
SSC Comm. Board V3.3	SSC Communication Board (SSC CB) V3.3 (including USB cable) *
SSC Board ZSC313x V1.0	ZSSC313x SSC Evaluation Board (SSC EB) V1.0 *
SSC Sensor Replacement Board V2.0	SSC Sensor Replacement Board (SRB) V2.0 *
SSC-C SSC DVD V2.10	SSC DVD, including the ZSSC313x Software for evaluation and calibration *
SSC Test Board V1.0	SSC Test Board V1.0

* Can be ordered separately after ordering the ZSSC313x Evaluation Kit.

6 Related Documents

Document
ZSSC313x Data Sheet
ZSSC313x Functional Description
SSC Communication Board Data Sheet
SSC Sensor Replacement Board Data Sheet
SSC Communication Board Driver Installation Application Note
SSC Command Syntax
SSC Mass Calibration Board Data Sheet
SSC Application Note – Change CB's Product ID

Visit www.IDT.com/ZSSC313x and www.IDT.com/ZSSC313xKIT or contact your nearest sales office for the latest version of these documents.

7 Glossary

Term	Description
ADC	Analog-to-Digital Converter
AFE	Analog Front End
CB	Communication Board
CMC	Calibration Microcontroller
OWI	One-Wire Interface
PCB	Printed Circuit Board
PGA	Programmable Gain Amplifier
SRB	Sensor Replacement Board
SSC	Sensor Signal Conditioner *or* Sensor Short Check *depending on context*
µC	Microcontroller

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8 Document Revision History

Revision	Date	Description
1.00	December 1, 2011	First release
1.01	February 6, 2012	Update to Figure 3.2 and Figure 4.2. Update to number of samples.
	March 30, 2016	Changed to IDT branding.

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