

TLI4971 S2Go

Getting Started

25.04.2019

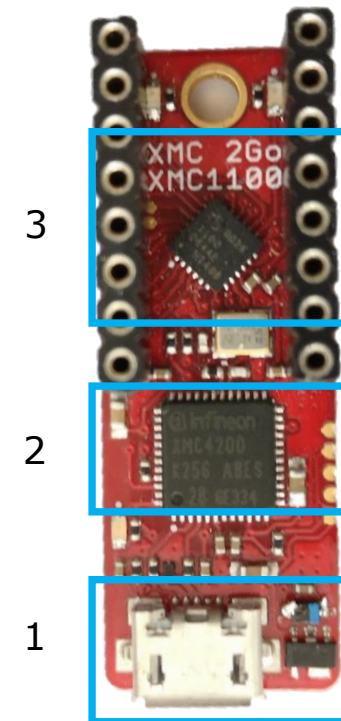


Content

- › The TLI4971 Shield 2Go is a budget-priced evaluation kit enabling the possibility to evaluate the Infineon TLI4971 current sensor.
- › The kit can be interfaced with a standard XMC 2Go board or alternatively with the Arduino adapter board.
- › The Evaluation Kit includes a GUI software application that can be downloaded from the Evaluation Kit product page. The GUI is compatible with XMC2GO platform.

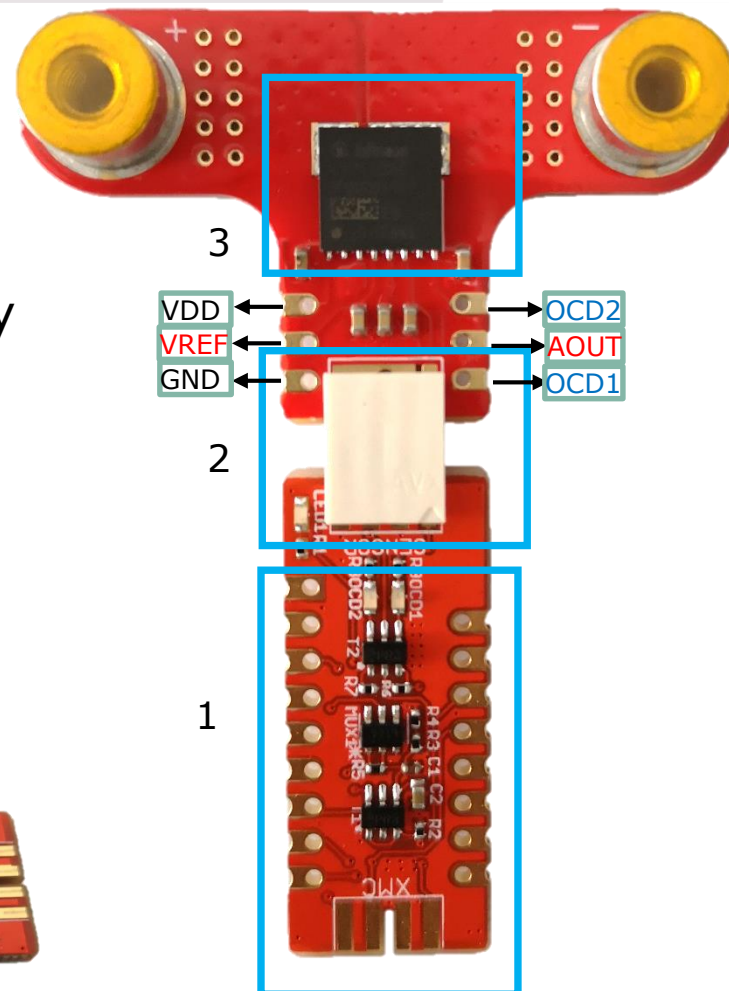
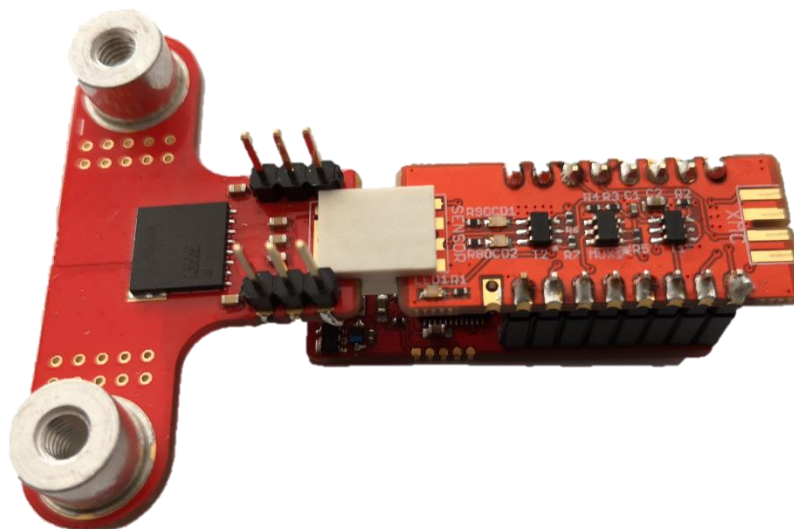
General Description: XMC2go

- › The evaluation kit hardware is built around the XMC1100 Infineon target microcontroller(3), ARM M0 based. In addition, the hardware includes an on-board debugger microcontroller (2) implemented with the Infineon XMC4200 running a SEGGER Jlink debugger.
- › To connect to the PC, a micro-USB (1) to USB cable is required – not provided inside the package.



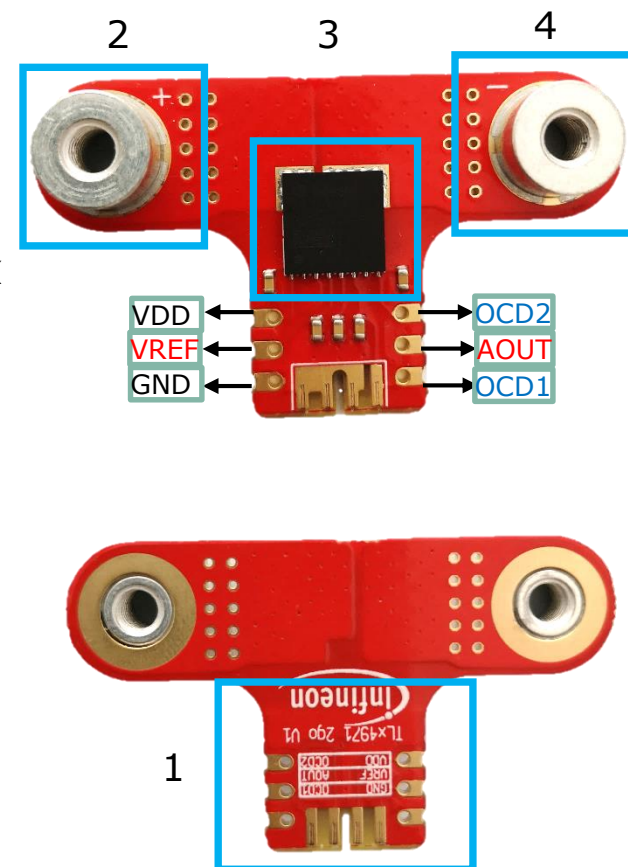
General Description

- › The sensor (3) is placed on a break-apart PCB so it can be removed and placed in a system when needed.
- › The sensor board inputs/outputs are easily accessible (2) and to the sensor shield via a two layer edge connector connector.
- › The sensor shield (1) can be stacked on top of the XMC 2Go kit or can be connected to on the XMC side.



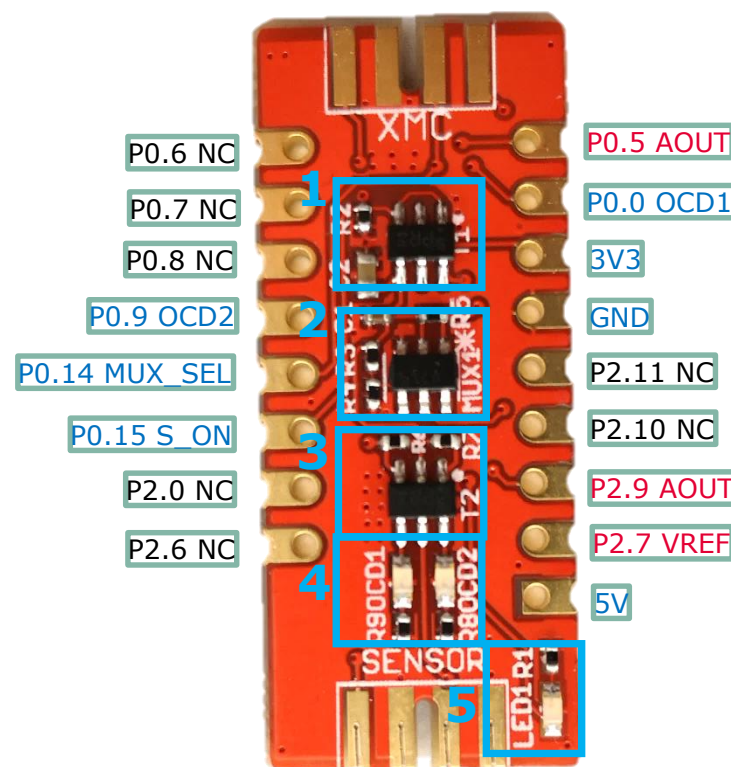
Sensor Board

- › The current sensor (3) is placed on a board with two M4 screw connectors for high current applications (2,4). The PCB is manufactured in 140 um copper technology and the sensor provides functional galvanic isolation.
- › The sensor inputs/outputs are easily accessible via 2 x 3 pole pin headers (2.54mm pitch) (1).

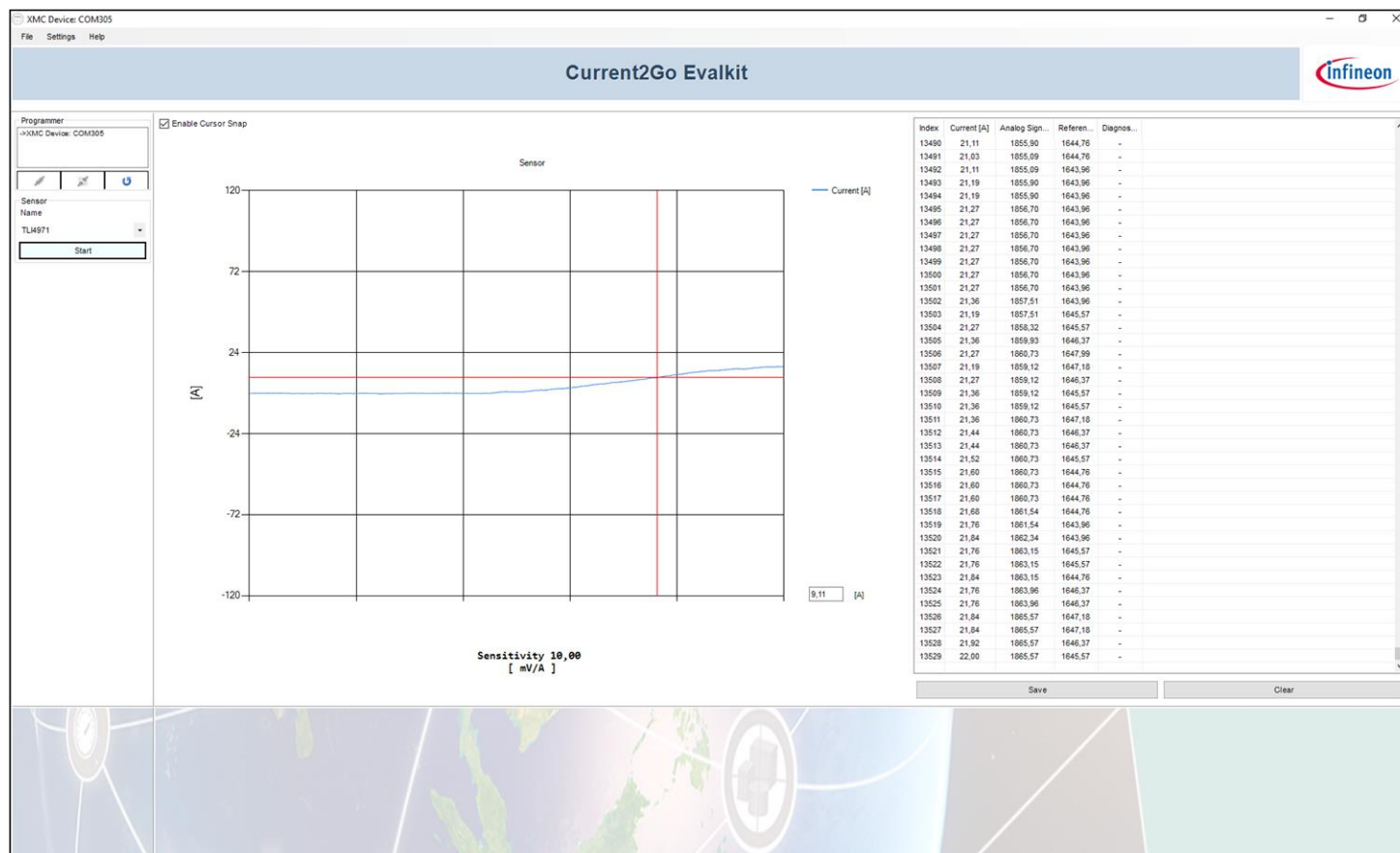


Sensor Shield

- › The sensor shield will connect the sensor board to the XMC 2Go microcontroller board or later on to a dedicated readout board.
- › The shield contains:
 - Two BSL308PE dual package PMOS transistors (1,3) used for:
 - switching ON/OFF the sensor supply,
 - switching ON/OFF the sensor supply LED (LED1) (5)
 - switching ON/OFF the overcurrent indicator LEDs (4).
 - MAX4624EUT / STG719STR Analog MUX (2) is used to select a external or internal sensor voltage reference.
- › The sensor analog signal output / reference signal will be read by the microcontroller 12 bit ADC.



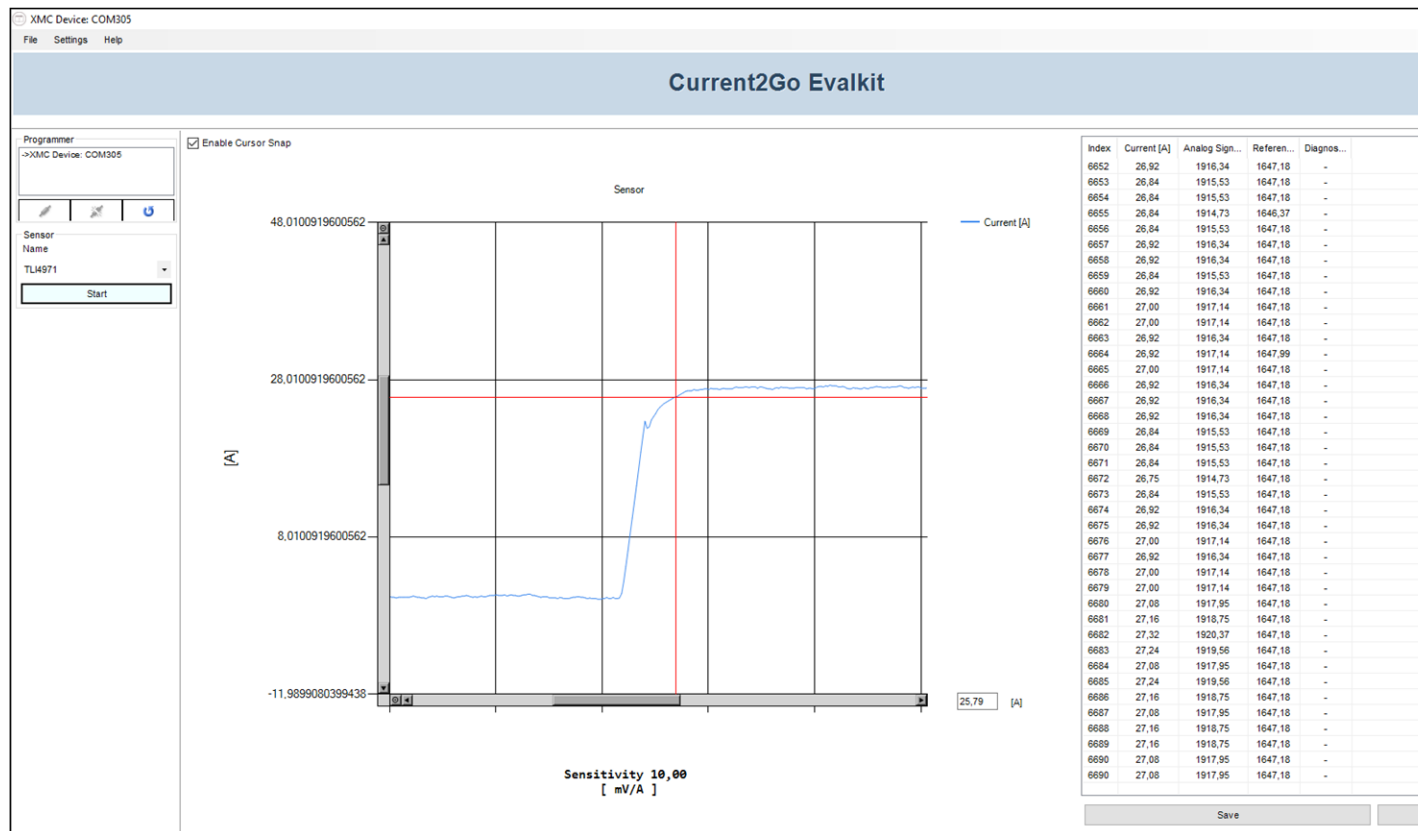
Evaluation Kit Software



The GUI includes the following components:

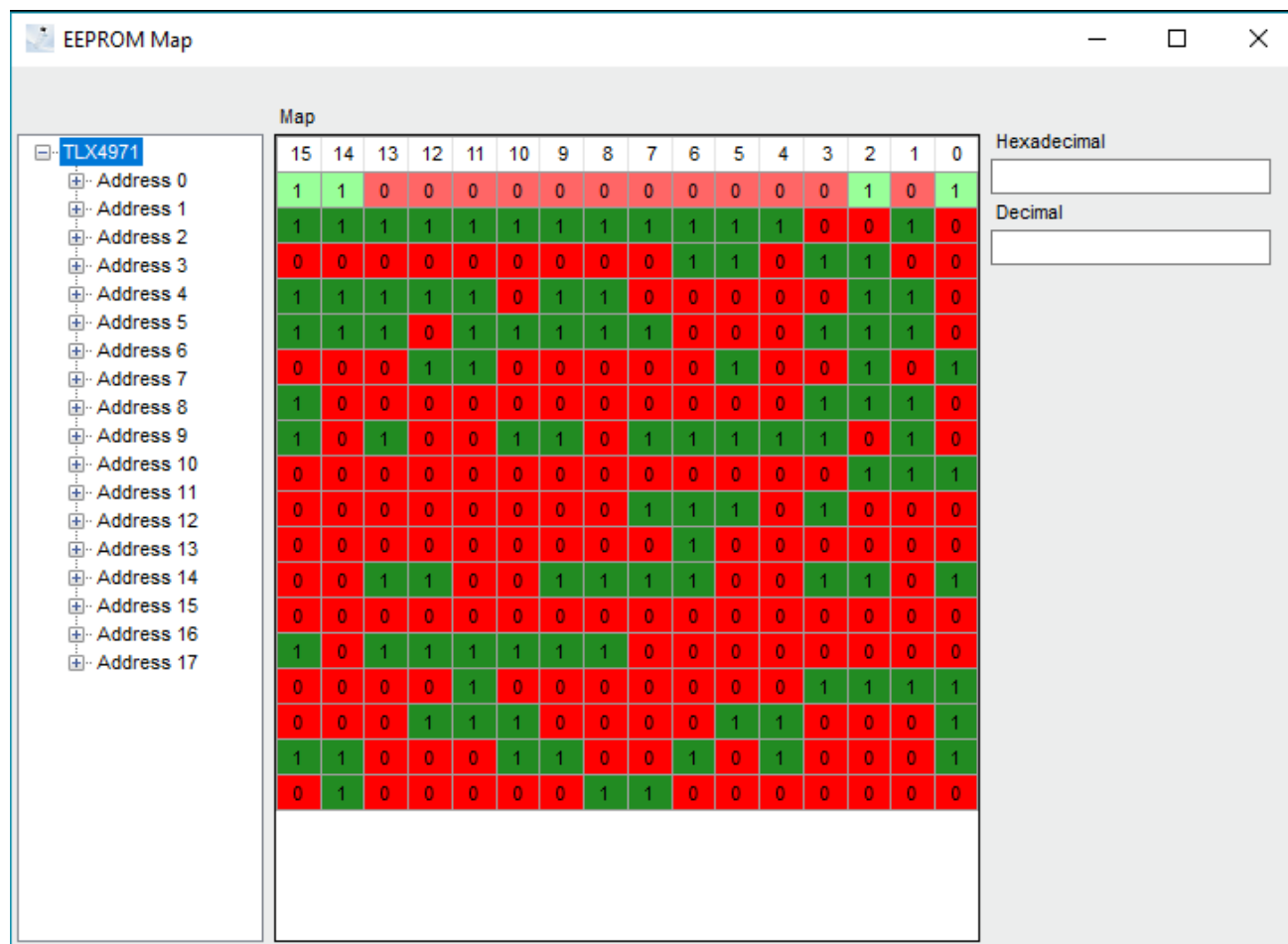
- › Real time graph for plotting the current value (in ampere scale)
- › Acquisition log to display all data received from sensor (LSB and Ampere).
- › Possibility to export the acquired data in CSV format. (save button)
- › Possibility to access internal EEPROM of the sensor for readout (settings menu – see next page)

Evaluation Kit Software



When the data acquisition is stopped, the user can zoom on the chart using mouse scroll.

Evaluation Kit Software

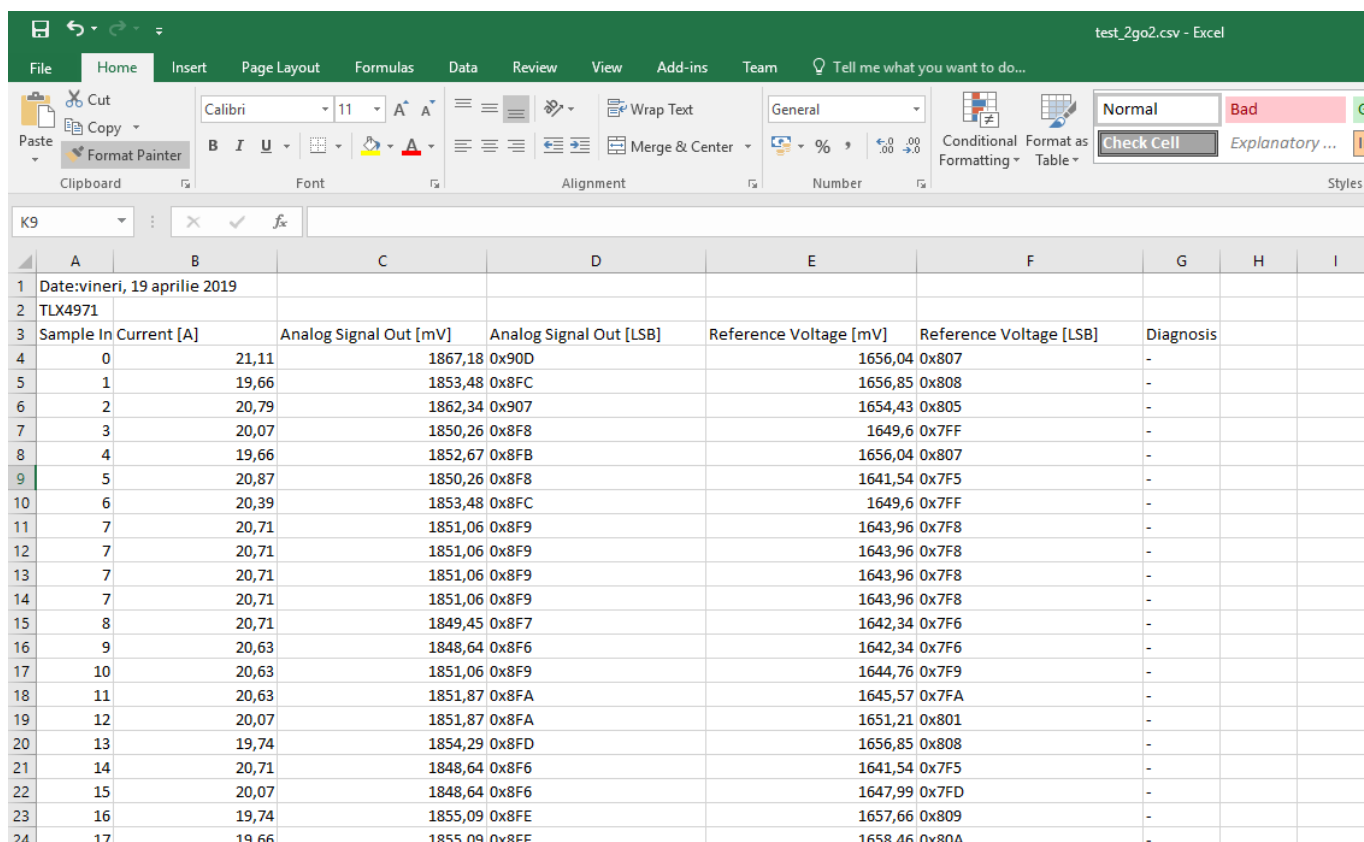


The EEPROM map panel is showing the EEPROM content per word / field.

No modifications can be done via this menu

Evaluation Kit Software

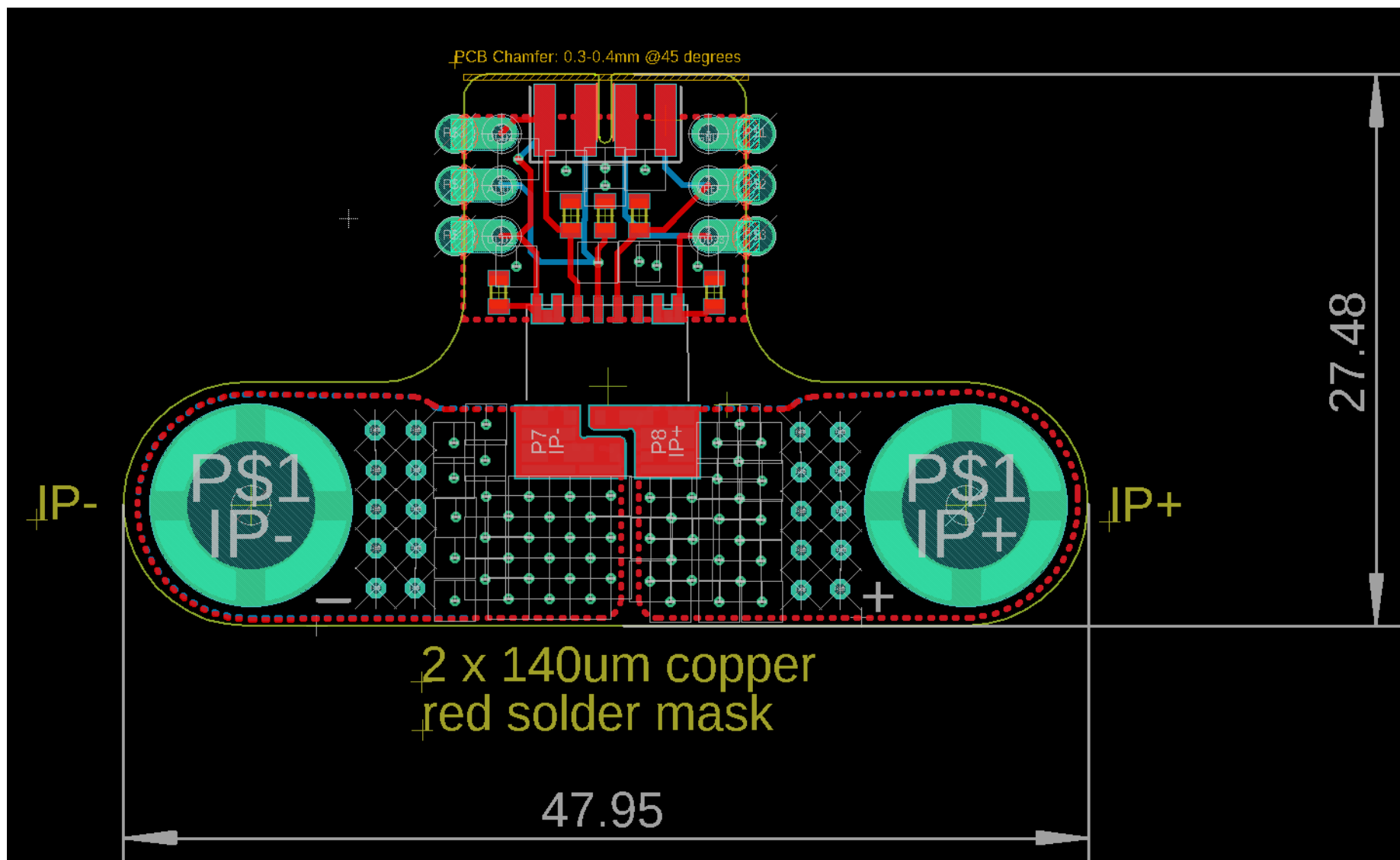
- › The user has the option to save the acquired data by clicking the Save button in the sensor panel. A save menu will pop-up: enter the path & file name as .CSV and save your data. The .CSV file may be open in Microsoft Excel and post processing of data can be done.



	A	B	C	D	E	F	G	H	I
1	Date:	vineri, 19 aprilie 2019							
2	TLX4971								
3	Sample In	Current [A]	Analog Signal Out [mV]	Analog Signal Out [LSB]	Reference Voltage [mV]	Reference Voltage [LSB]	Diagnosis		
4	0	21,11	1867,18	0x90D	1656,04	0x807	-		
5	1	19,66	1853,48	0x8FC	1656,85	0x808	-		
6	2	20,79	1862,34	0x907	1654,43	0x805	-		
7	3	20,07	1850,26	0x8F8	1649,6	0x7FF	-		
8	4	19,66	1852,67	0x8FB	1656,04	0x807	-		
9	5	20,87	1850,26	0x8F8	1641,54	0x7F5	-		
10	6	20,39	1853,48	0x8FC	1649,6	0x7FF	-		
11	7	20,71	1851,06	0x8F9	1643,96	0x7F8	-		
12	7	20,71	1851,06	0x8F9	1643,96	0x7F8	-		
13	7	20,71	1851,06	0x8F9	1643,96	0x7F8	-		
14	7	20,71	1851,06	0x8F9	1643,96	0x7F8	-		
15	8	20,71	1849,45	0x8F7	1642,34	0x7F6	-		
16	9	20,63	1848,64	0x8F6	1642,34	0x7F6	-		
17	10	20,63	1851,06	0x8F9	1644,76	0x7F9	-		
18	11	20,63	1851,87	0x8FA	1645,57	0x7FA	-		
19	12	20,07	1851,87	0x8FA	1651,21	0x801	-		
20	13	19,74	1854,29	0x8FD	1656,85	0x808	-		
21	14	20,71	1848,64	0x8F6	1641,54	0x7F5	-		
22	15	20,07	1848,64	0x8F6	1647,99	0x7FD	-		
23	16	19,74	1855,09	0x8FE	1657,66	0x809	-		
24	17	19,66	1855,09	0x8FE	1658,46	0x80A	-		

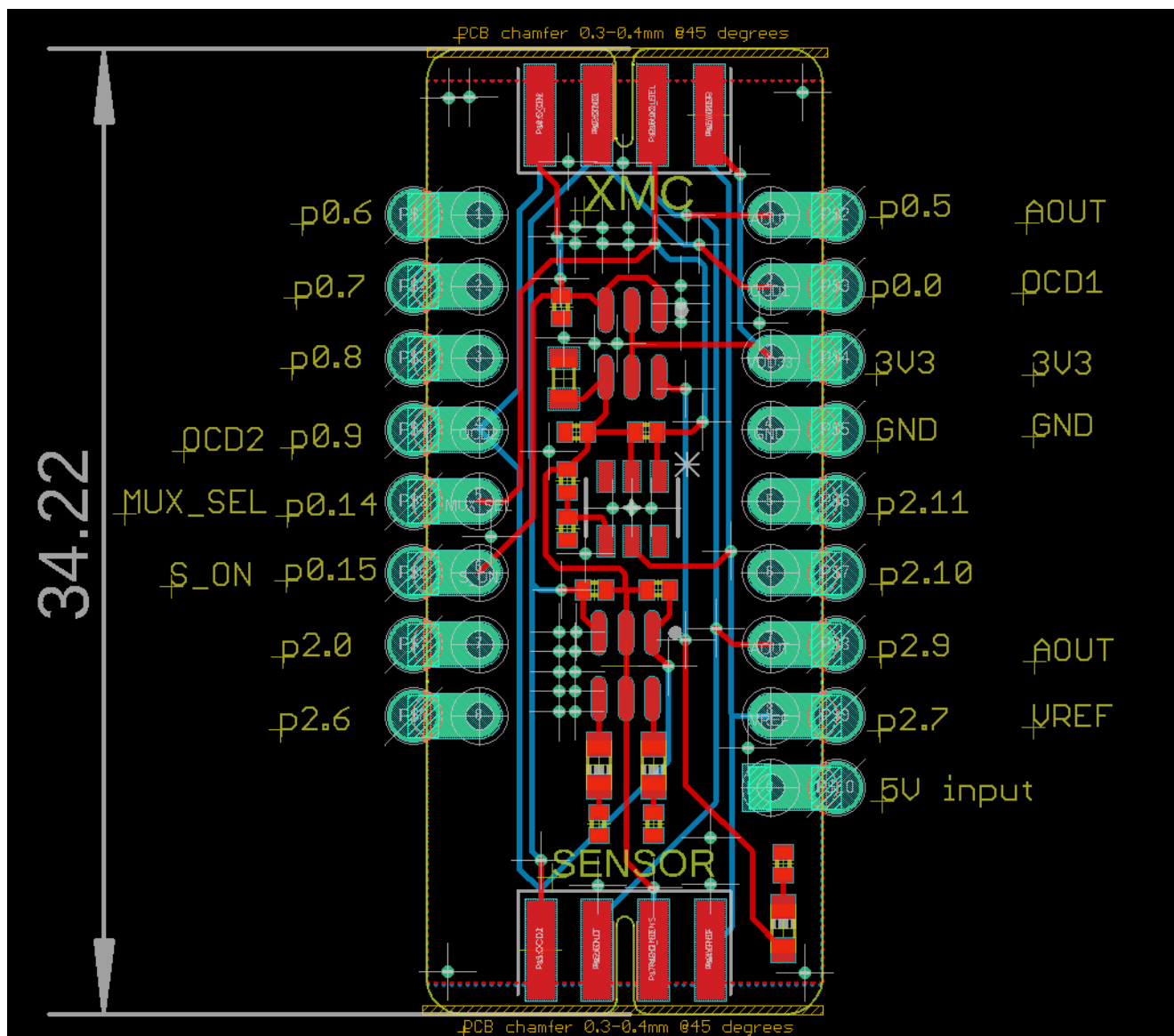


Sensor Board – Hardware Layout





Sensor Shield – Hardware Layout





Part of your life. Part of tomorrow.

