



EVALUATION BOARD V1.0

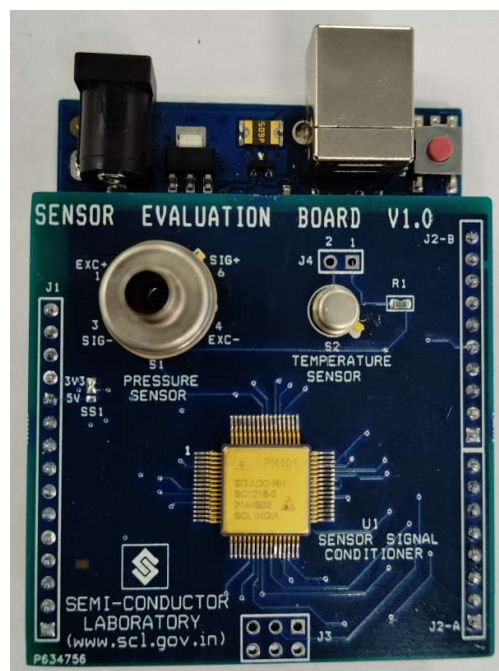
For

Pressure Sensor

Temperature Sensor

& Readout IC SC1218

Quick Start Guide



MEMS Test & Application Development Division

Electronics Fabrication & Test Group

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Introduction

1. EV Board is aimed to evaluate following components:
 - SCL Temperature Sensor (PRT)
 - SCL Pressure Sensor (1.5 Bar)
 - SCL Readout ASIC SC1218
2. EV Board provides corrected Pressure (mBar) & Temperature (°C) readings. Sensor calibration coefficients and ASIC (SC128) configuration registers are programmed for SCL sensors mounted on the board.
3. Sensors & readout ASIC (SC1218) are soldered for contact reliability. User may de-solder Pressure & Temperature sensors from EV board to replace their own sensors to evaluation by using SC1218.
4. After removing SCL Sensors, user needs to calibrate/compensate their Pressure & Temperature Sensors and re program readout ASIC (SC1218) for their sensor values.
5. EV Board comes with pre programmed calibration coefficient for SCL sensors. A paper sheet also provided with listing of calibration coefficients pre programmed. User may any time restore factory settings by placing SCL sensors & entering default calibration coefficients into EV Board.
6. EV Board is developed compatible with Arduino UNO R3 boards. Arduino boards are very popular among students, low in cost & readily available in local market. Arduino programming IDE is free to download & provides user friendly programming platform.
7. Students can download Arduino IDE software from website:
8. Students can download Arduino compatible firmware of EV Board from SCL website. Students may edit firmware & write their own calibration algorithms for their sensor development.
9. Student will connect EV Board to PC through compatible USB cable, open EV board firmware into Arduino IDE platform.
10. EV board is programmed with sensor coefficients also mentioned in calibration sheet provided with EV Board KIT. Before reprogramming the EV board, student has to enter calibration coefficients comes with EV Board KIT into firmware.
11. Student can download Reference User Manual from SCL website. Manual contains quick start guidelines, details of EV Board Hardware & Software and Component datasheet for ready reference.



Quick Start Note for Installation and Operation Of Evaluation Board

S.No.	Hardware Description	
1	Sensor Evaluation Board V1.0 Assembled Board with following parts designed & developed by SCL	
	1a	Pressure Sensor (S1)
	1b	Temperature Sensor (S2)
	1c	Sensor Signal Conditioner (U1)
	1d	Mounting Connectors compatible with Arduino UNO board J1 & J2 (J2-A & J2-B)
2	Arduino UNO R3 Board (Optional)	
3	USB interface data Cable (Optional)	

S.No.	Download Links	
1	Arduino UNO Support Files Install latest version of Arduino IDE (Arduino IDE 2.2.1) on your PC.	https://www.arduino.cc/en/software
2	Sensor Readout Code Download Sensor Readout Software code. Open & Run in Arduino IDE 2.2.1	https://www.scl.gov.in
3	Evaluation Board User Manual Download Operational User's Manual which contains: <ul style="list-style-type: none"> • installation guidelines • Interface & Operation details • Sensor & IC datasheets • Schematics & PCB layout 	https://www.scl.gov.in