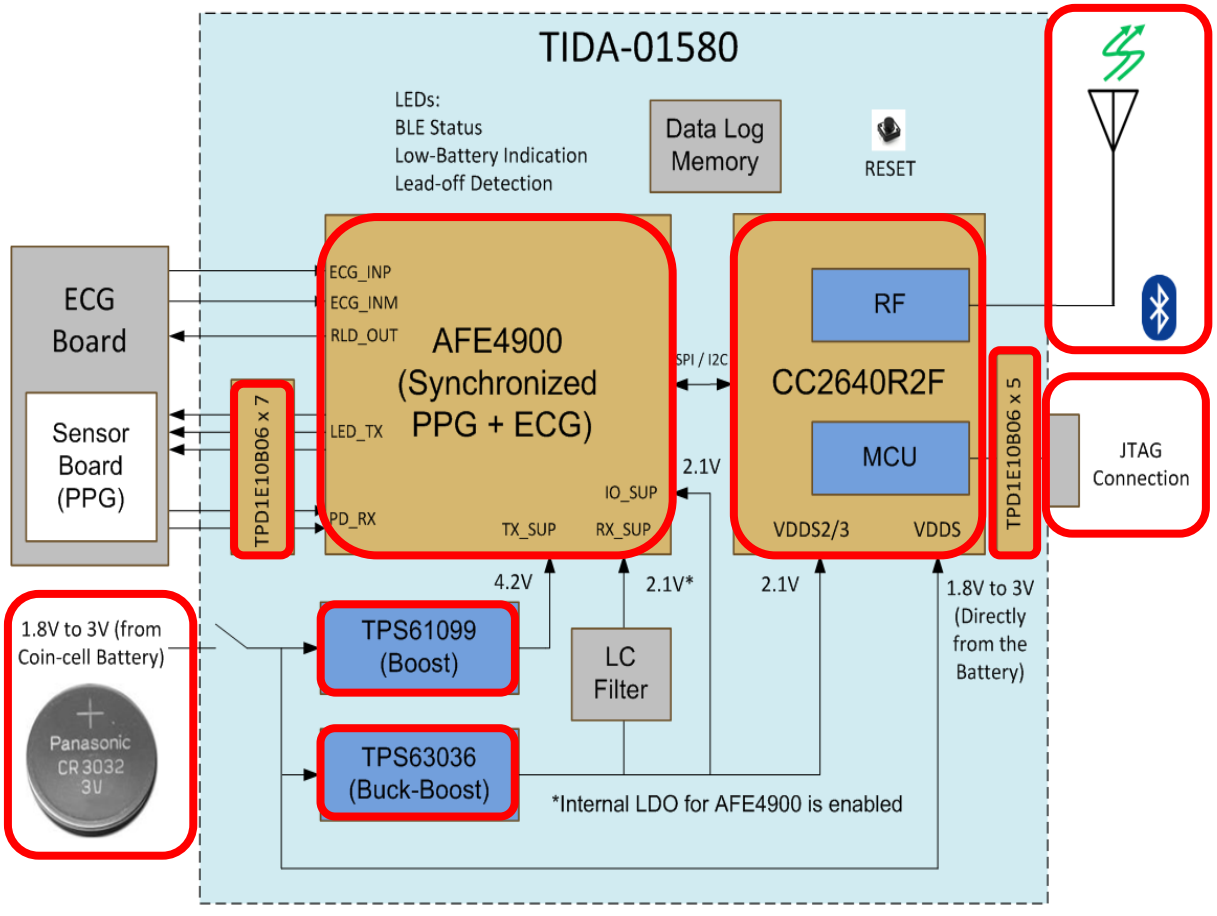
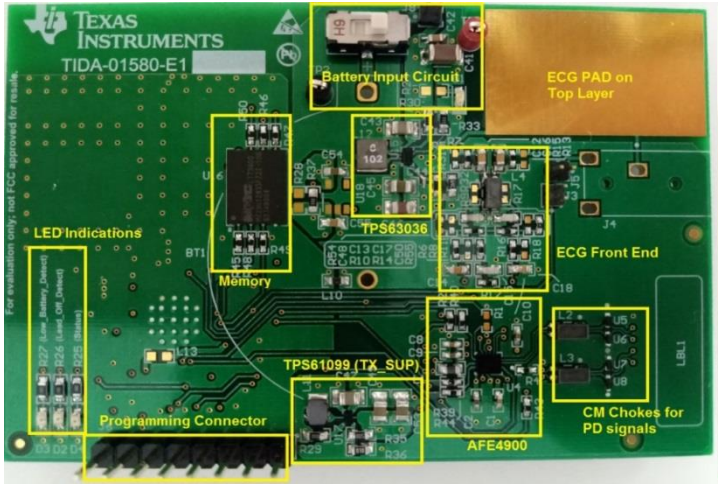
TIDA-01580: Wearable, Wireless, Multi-Parameter Patient Monitor Reference Design

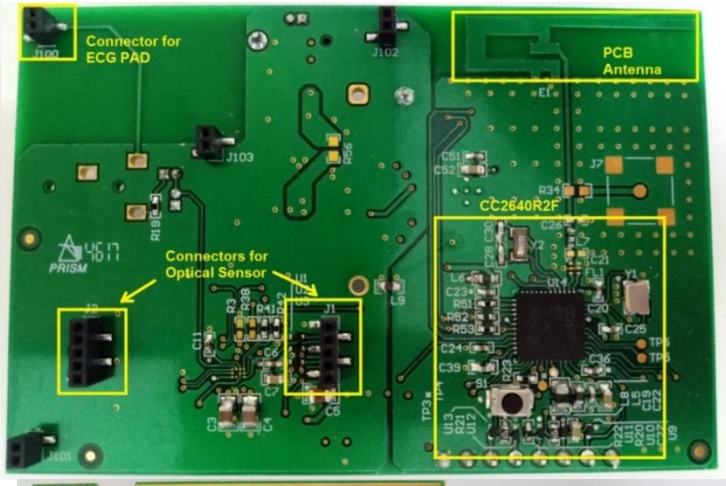
TIDA-01580 High-level Block Diagram



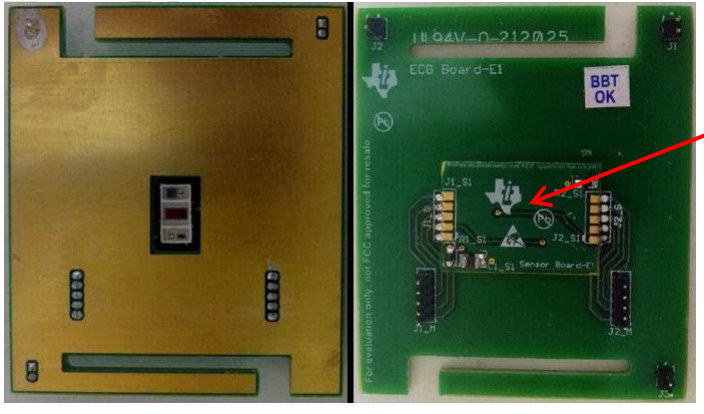
Board Details

Top View (without the battery holder)

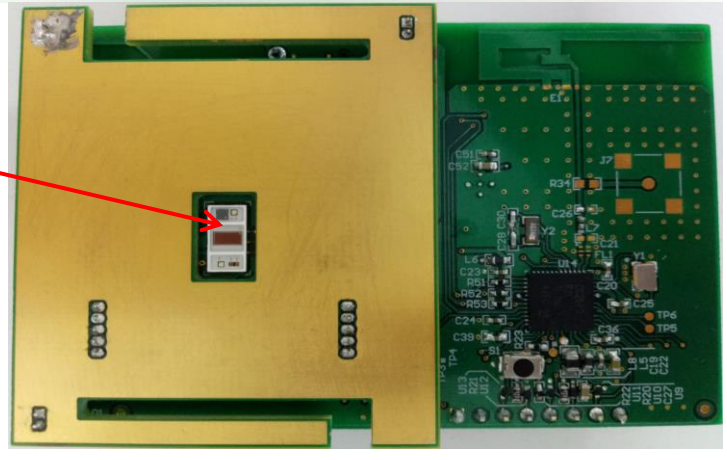




Bottom View (without ECG board connected)



PPG Sensor board



Bottom View (with ECG board connected)

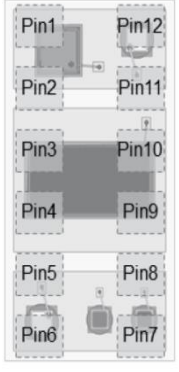
Optical Sensors used in TIDA-01580

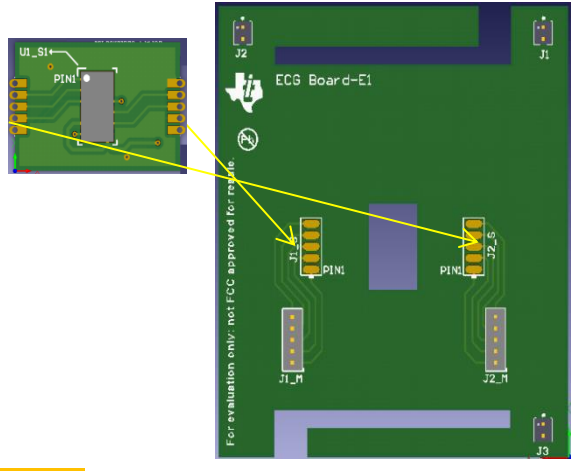
4 LEDs (2 Green, Red, IR) & 2 PDs

OSRAM
Opto Semiconductors

Pin	Name	Function
1	BPC	Broadband photodiode cathode
2	BPA	Broadband photodiode anode
3	IPC	IR-Cut photodiode cathode
4	IA	Infrared LED anode
5	G1A	Green LED 1 anode
6	G1C	Green LED 1 cathode
7	RA	Red LED anode
8	RC	Red LED cathode
9	IC	Infrared LED cathode
10	IPA	IR-Cut photodiode anode
11	G2A	Green LED 2 anode
12	G2C	Green LED 2 cathode

Top View



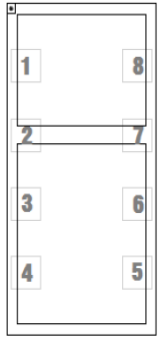


SFH7072

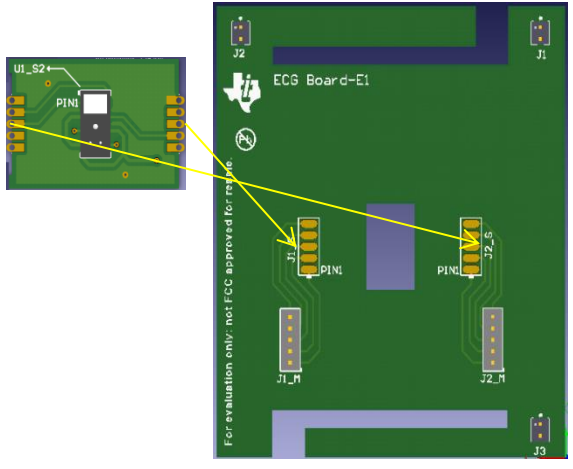
3 LEDs (Green, Red, IR) & 1 PD

tBPC HEALTHCARE

Pin Number	Component	Pole
1	PD	Anode
2	LED3	Anode
3	LED2	Cathode
4	LED2	Anode
5	LED1	Cathode
6	LED1	Anode
7	LED3	Cathode
8	PD	Cathode



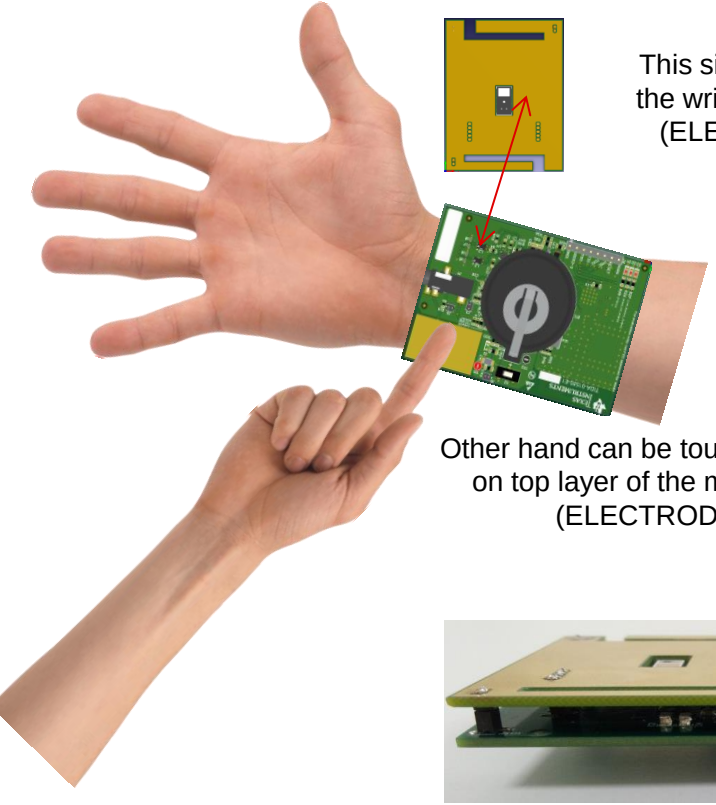
TOP VIEW



OSC112

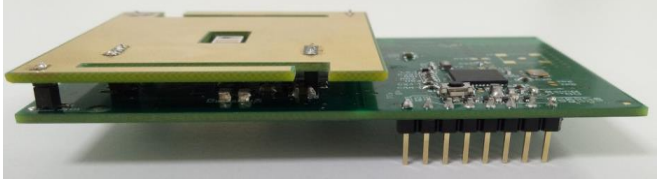
TIDA-01580 Set-up

This board is connected on bottom of the main board

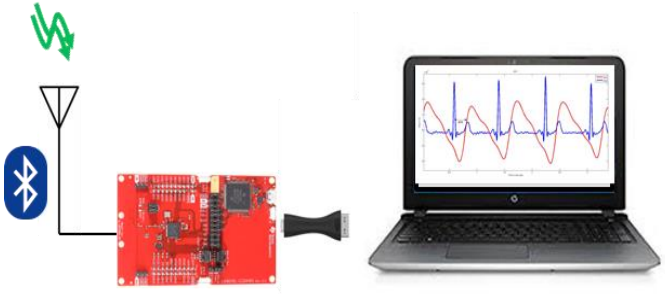


This side is touching the wrist of one hand (ELECTRODE 1)

Other hand can be touched on PAD on top layer of the main board. (ELECTRODE 2)



Side View



LAUNCHXL-CC2640R2

- LAUNCHXL-CC2640R2F receives the signals remotely and displays on LabView GUI
- The design uses BLE 5.0 with an advertising time = 100ms