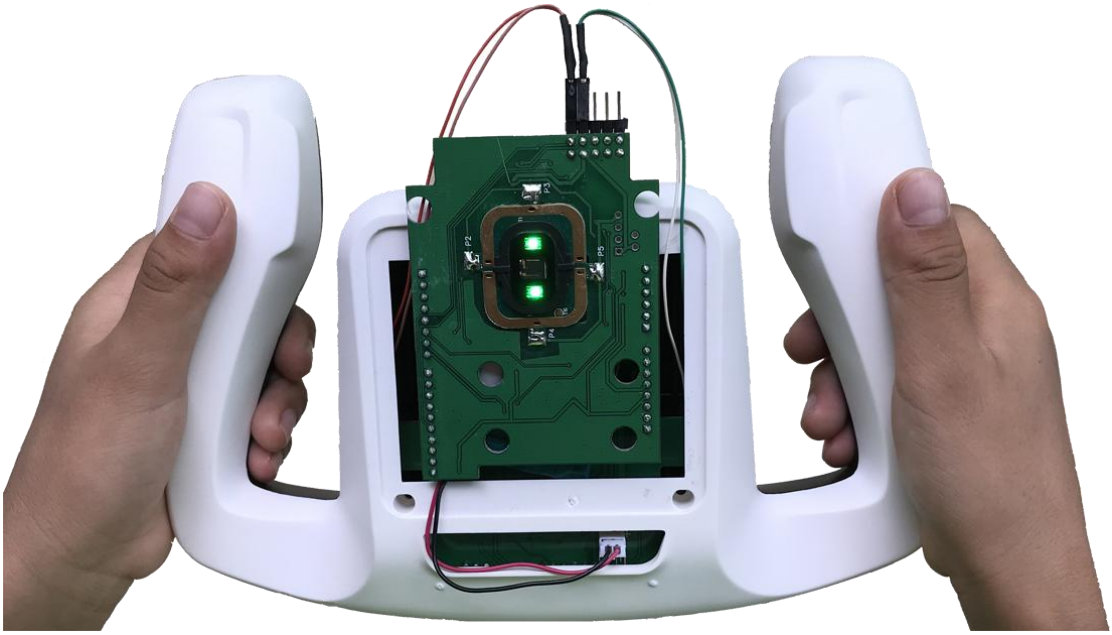
1. Introduce

A completed Bio-sensor project including software and hardware solutions, to make an all-in-one,including ECG, RESP, GSR ,HR, PPG, HCM, SPO2, BIA and Motion etc.

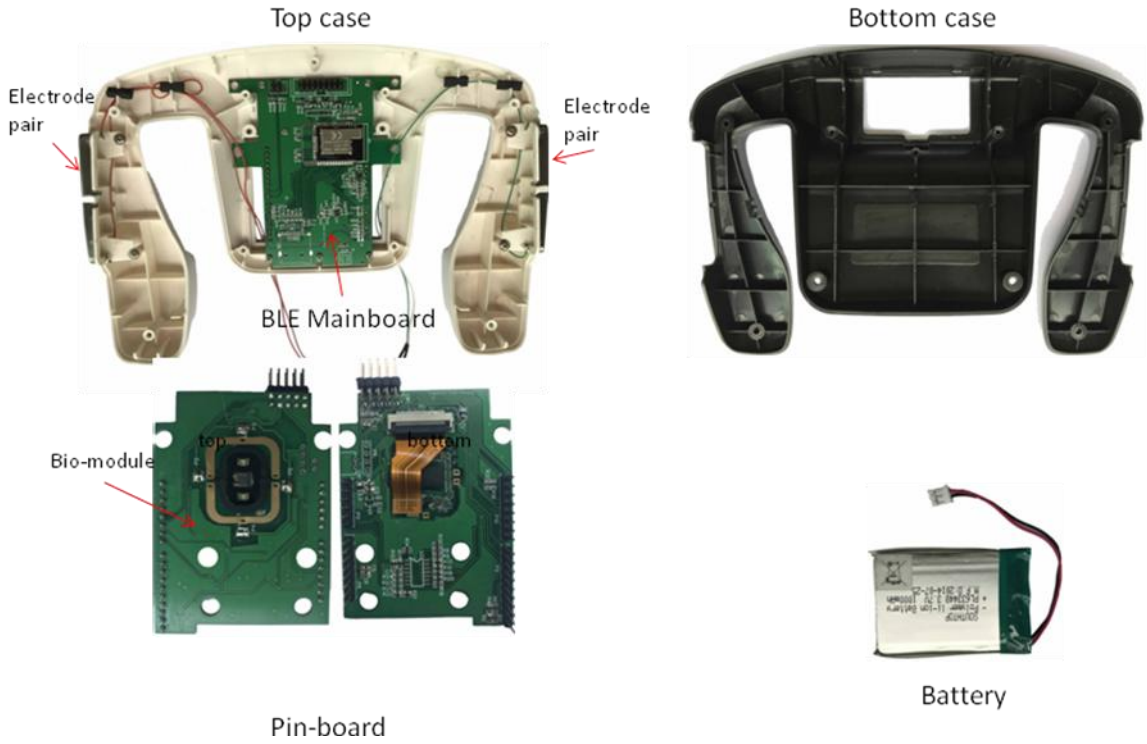
To provide system solutions and Turnkey projects, reducing customer development time and making an ideal option for health-monitoring, wearable devices.

The evaluation board includes a handheld cases with 4 electrodes, a motherboard with Bluetooth ble chipset, and a module pin-board; and software includes Bluetooth BLE firmware, desktop evaluation tool and mobile APP.



2. Evaluation board

As shown in the following figure, the evaluation board consists of cases, a Bluetooth motherboard, a pin-board (with bio-module), and a battery.



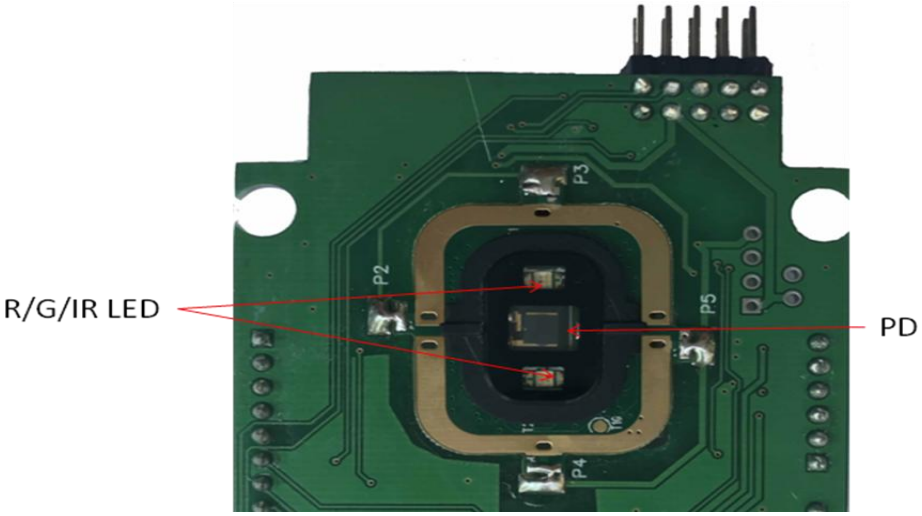
3. Sensors

3. 1 limb electrode

Two pairs of source/drive electrodes are attached to the cases of the evaluation board, which are mounted on two symmetrical left and right handles; As shown in the following side-view figure, they are used to measure body electrical and impedance activities.

3．2 PPG sensor

The Bio-module is on-board, the pulse wave (PPG) sensing section contains a pair of red/green/IR led and multi-wavelength photodiode(PD); As shown in the following figure, used for PPG-related applications.



3．3 Gsensor

Built-in 14 bits 3-axis Gsensor, range + 2G, + 4G, + 8g, + 16g;

4．RESOURCES

4．1 Bio-sensor: M001A

Bio-sensor Specs：

https://github.com/feelkit/BIO_SENSOR/raw/master/DOC/M001A/M001A_SPEC_EN.pdf

Bio-sensor user's manual ：

https://github.com/feelkit/BIO_SENSOR/raw/master/DOC/M001A/M001A_UM_EN.pdf

Bio-sensor--M001A CAD files (scale: 1:1, dxf file type):

Module top layout , **Module bottom layout**

4．2 Bluetooth Ble mainboard: MED_MAIN_DEMO

Mainboard user's manual ：

https://github.com/feelkit/BIO_SENSOR/raw/master/DOC/M001A/MAIN_UM_EN.pdf

Mainboard SCH and PCB open-project ：

https://lceda.cn/seanfan/med_main_nrf

On-board BLE module ：

http://www.freqchina.com/uploads/soft/201801/PTR9618_CN%20V1.4.pdf

Bluetooth BLE Firmware ：

https://github.com/feelkit/bioModule_NRF52_BLE

Bluetooth BLE chipset --NRF52832 ：

https://www.nordicsemi.com/eng/Products/Bluetooth-low-energy/nRF52832

4．3　PinBoard about Bio-module : M001A

PinBoard user's manual ：

https://github.com/feelkit/BIO_SENSOR/raw/master/DOC/ PinBoard_UM_EN .pdf

Pin-board SCH and PCB open-project ：

https://lceda.cn/seanfan/wmmed_ext_openhd

FPC connector [DF37NB-30DS-0.4V]

https://www.hirose.com/product/en/products/DF37/DF37NB-30DS-0.4V%2851%29/

FPC cable SCH：

https://github.com/feelkit/BIO_SENSOR/raw/master/DOC/ fpc_M001A_sch.pdf

4．4 LabWindows CVI desktop evaluation tool

Please refer to this open-source project ：

https://github.com/feelkit/bioDemo_labwindows_cvi