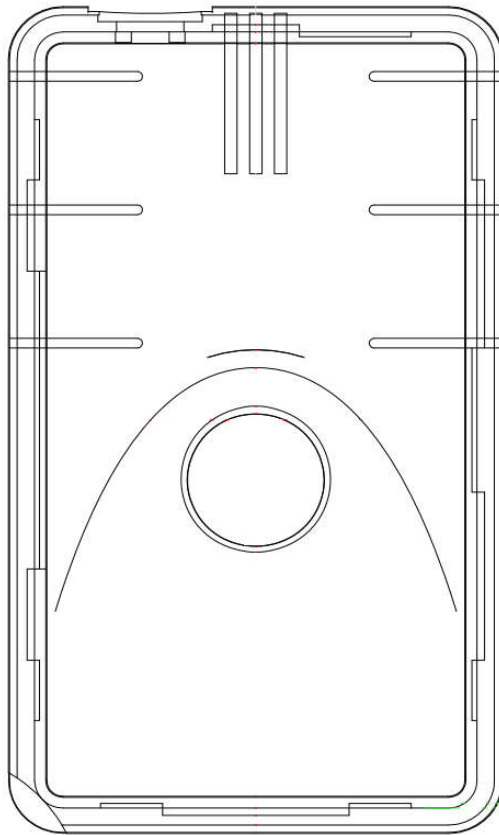


# GO Bluetooth Logger

User Manual  
V4.0

**Model: GO BT Logger 1.0**



## **FCC Regulations:**

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

## **RF Exposure Information**

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20cm (8 inches) during normal operation.

## **ISED Notice**

This device complies with Innovation, Science and Economic Development Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

IC: 10124A-101008

## **ISED RF Exposure Statement**

This device complies with ISED RSS-102 RF exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the ISED RSS-102 RF exposure limits, human proximity to the antenna shall not be less than 20cm (8 inches) during normal operation.

Cet appareil est conforme aux limites d'exposition aux rayonnements de la CNR-102 définies pour un environnement non contrôlé. Afin d'éviter la possibilité de dépasser les limites d'exposition aux fréquences radio de la CNR-102, la proximité humaine à l'antenne ne doit pas être inférieure à 20 cm (8 pouces) pendant le fonctionnement normal.

## **CE Regulations:**

### Caution

Please make sure the temperature for device will be from xx°C to xx°C .

The minimum distance between the user and/or any bystander and the radiating structure of the transmitter is 20cm.

Complies with the essential requirements of Article 3 of the RED 2014/53/EU Directive, if used for its intended use and that the following standards have been applied:

**1. Health (Article 3.1(a) of the RED Directive)**

■ EN 62311: 2008

**2. Safety (Article 3.1(a) of the RED Directive)**

Applied Standard(s):

■ EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013

**3. Electromagnetic compatibility (Article 3.1 (b) of the RED Directive)**

Applied Standard(s):

■ Draft EN 301 489-1 V2.2.0

■ Draft EN 301 489-17 V3.2.0

**4. Radio frequency spectrum usage (Article 3.2 of the RED Directive)**

Applied Standard(s):

■ EN 300 328 V2.1.1

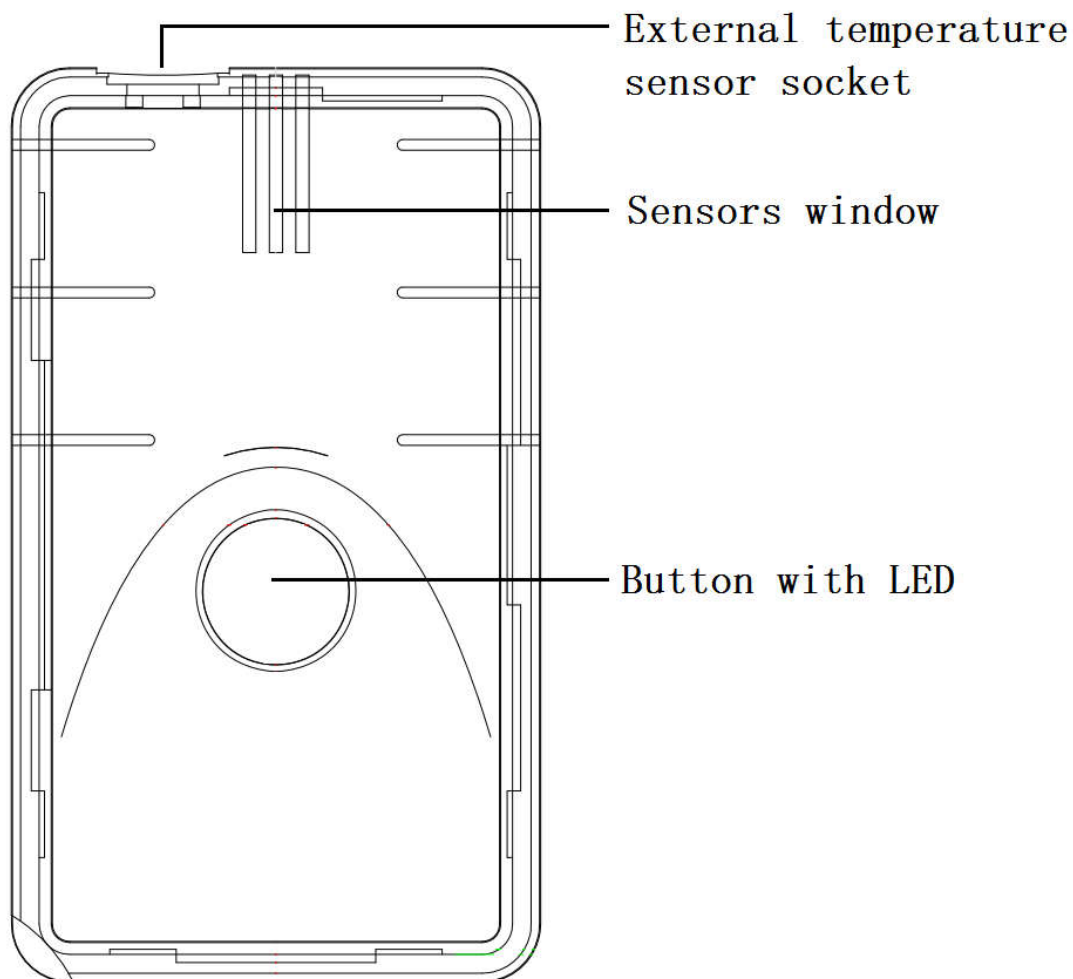
## 1. Function Description

GO Bluetooth Logger is the environment data collector in the monitoring system. It will detect the temperatures, humidity and vibration of product storage and record them on time. Later it will be able to upload the records by bluetooth or USB connection. And the uploaded data can be merged with big data for IoT remote beginning to end monitoring.

## 2. Features

- a) Temperatures, humidity and vibration detection
- b) Temperatures, humidity and vibration data Logger
- c) Data records uploading (bluetooth or USB connection)
- d) Configuration (bluetooth or USB connection)
- e) Power saving & low power warning (recording)

## 3. Appearance diagram





<b>Function</b>	<b>Operation</b>	<b>LED indication</b>
Start system with Self-examination	Unplug the power tag (first time) or change battery (re-use)	Pass: Green slow flash Low batt: Red slow flash Sensor fault: Red and Green slow flash
Stop to work	Take away battery or power down	Light is off.
Pause recording new data	while APP is downloading the data	Green fast flash 1 sec.
Pairing	Open the collector APP	Paired: Green fast flash 1 sec. Failed: Red fast flash 1 sec.
Data recording	System automatic running	While recording data, Green light flashing once as marking

#### 4. Use the terminal

- a) System Start/Stop
  - i. Unplug the power tag or change battery then power is on. System starts to work and record the time offset with temperatures, humidity and vibration. It will detect and record temperatures, humidity and vibration. It will also broadcasting for connection;
  - ii. Take away battery or power down, system stops to work;
  
- b) Pause recording or restart
  - i. System will pause recording new data while APP is downloading the data.
  - ii. The time will be continued when system pause recording.
  - iii. System will continue recording new data after APP download is over.
  - iv. After you take off the battery then plug in it again. System will restart to record from the beginning. The time will be reset too.
  - v. Every time you download the data that is always the last time recording.
  
- c) Self-examination
  - i. After removing power tab or restart, system will power on and start self-examination procedure;
  - ii. System will check battery and sensors;
  - iii. The result will be shown by LED;
  
- d) Data collecting and storing
  - i. System will collect and store the temperatures, humidity and vibration data according to the configuration;
  - ii. System could insure every temperatures, humidity and vibration data are accurately;
  - iii. System could store 130,000 records that is the maximum. It will stop recording new data if the memory is full.
  
- e) Upload data
  - i. Bluetooth Logger will be connected to the Data Collector (App) through technology of BLE (Bluetooth Low Energy);
  - ii. When BLE build up connection with APP, Bluetooth Logger will upload all stored temperatures, humidity and vibration data;

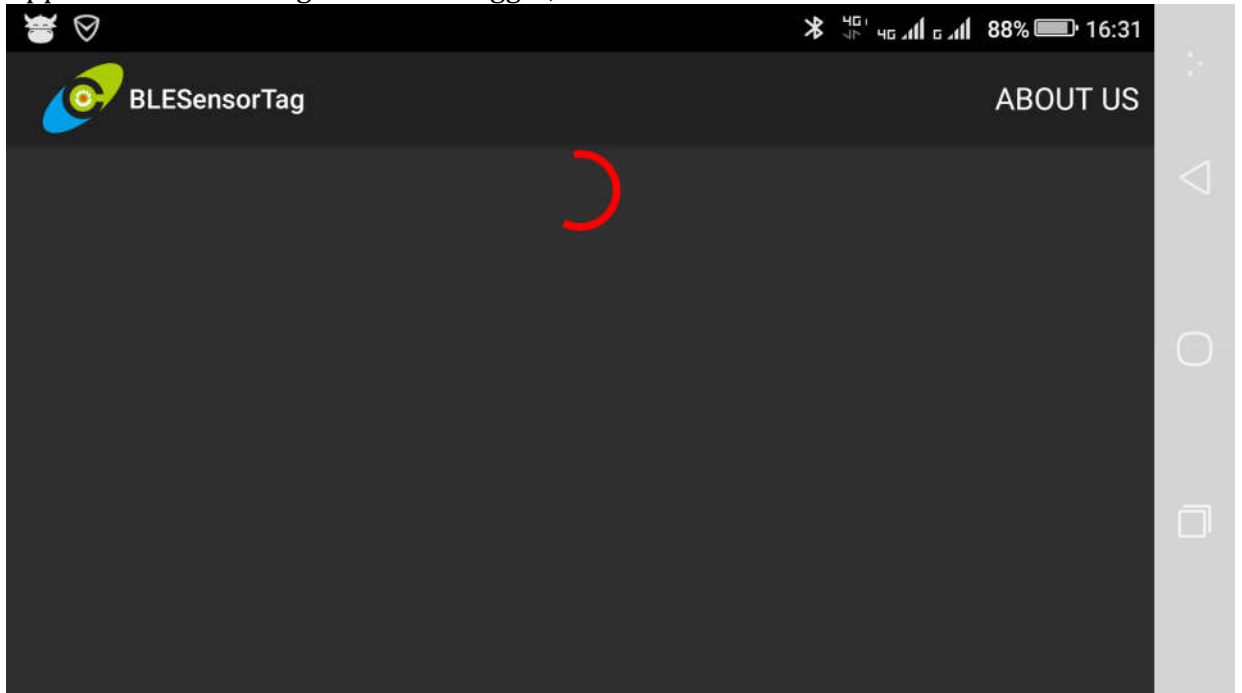
- f) Configuration parameters
  - i. After Bluetooth Logger connected to Data Collector, Data Collector can also modify the configuration parameters;
  - ii. The parameters includes as below:
    - Data recording frequency;
    - Temperature alarm threshold;

## 5. Data Collector App function (Android)

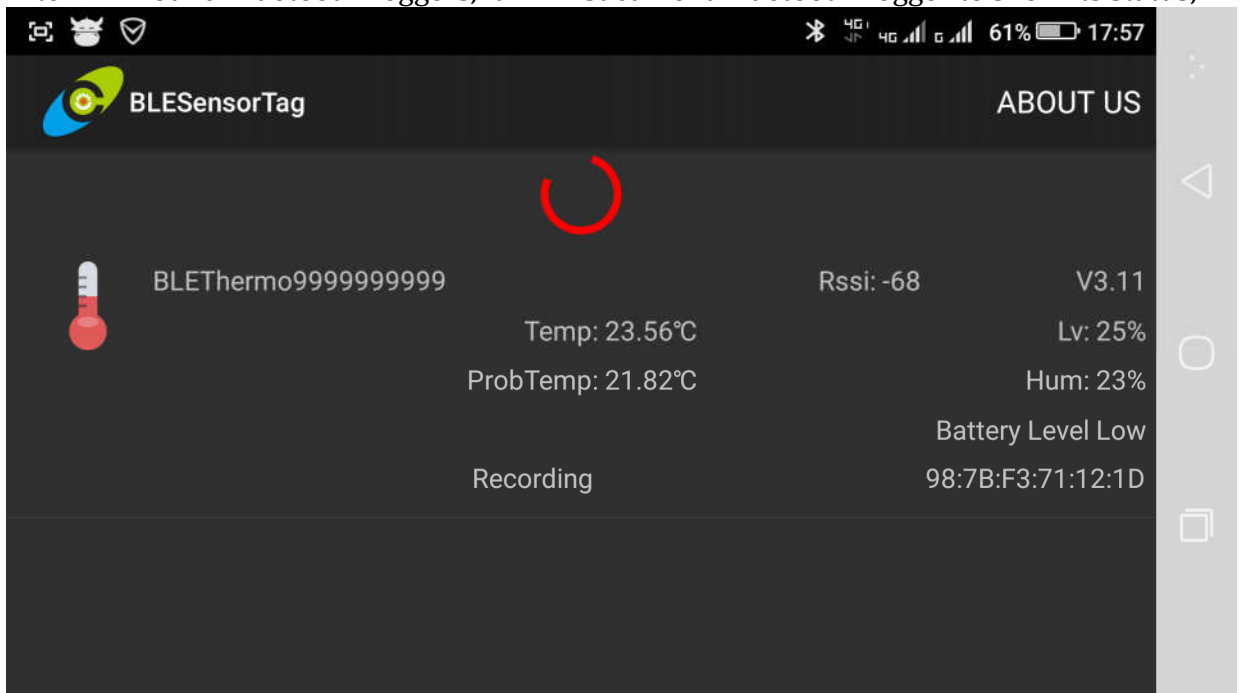
- a) user activate the App ; 



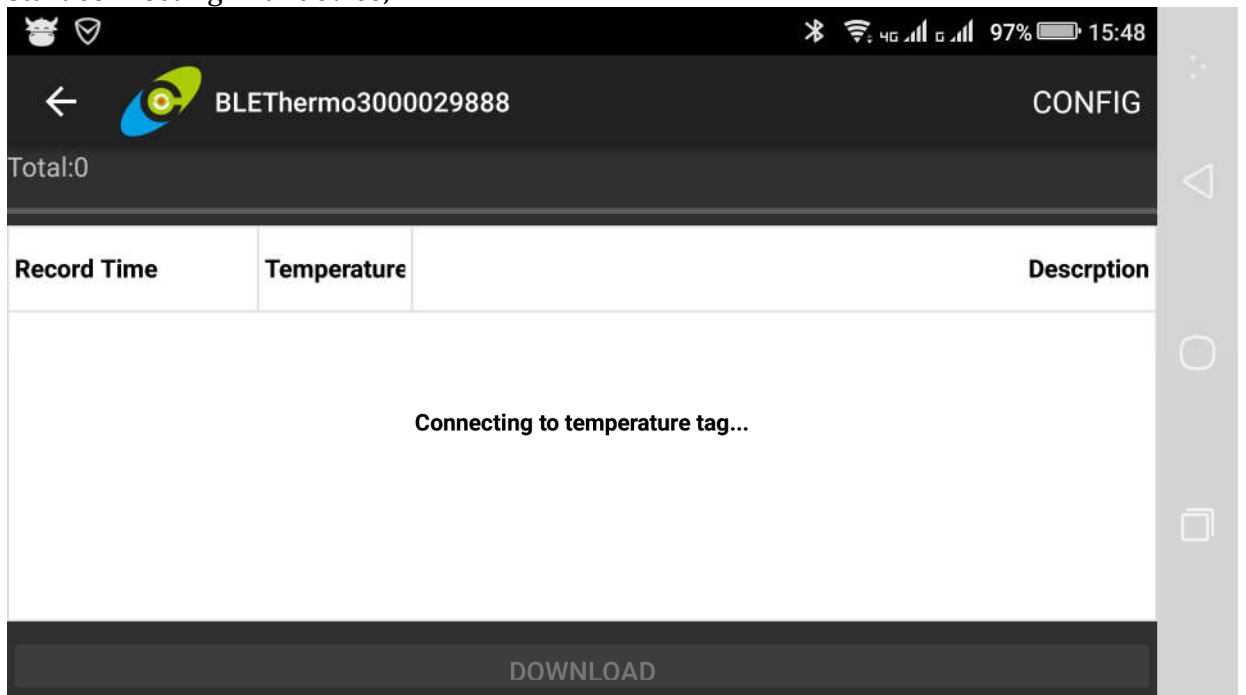
b) App will start scanning Bluetooth Logger;



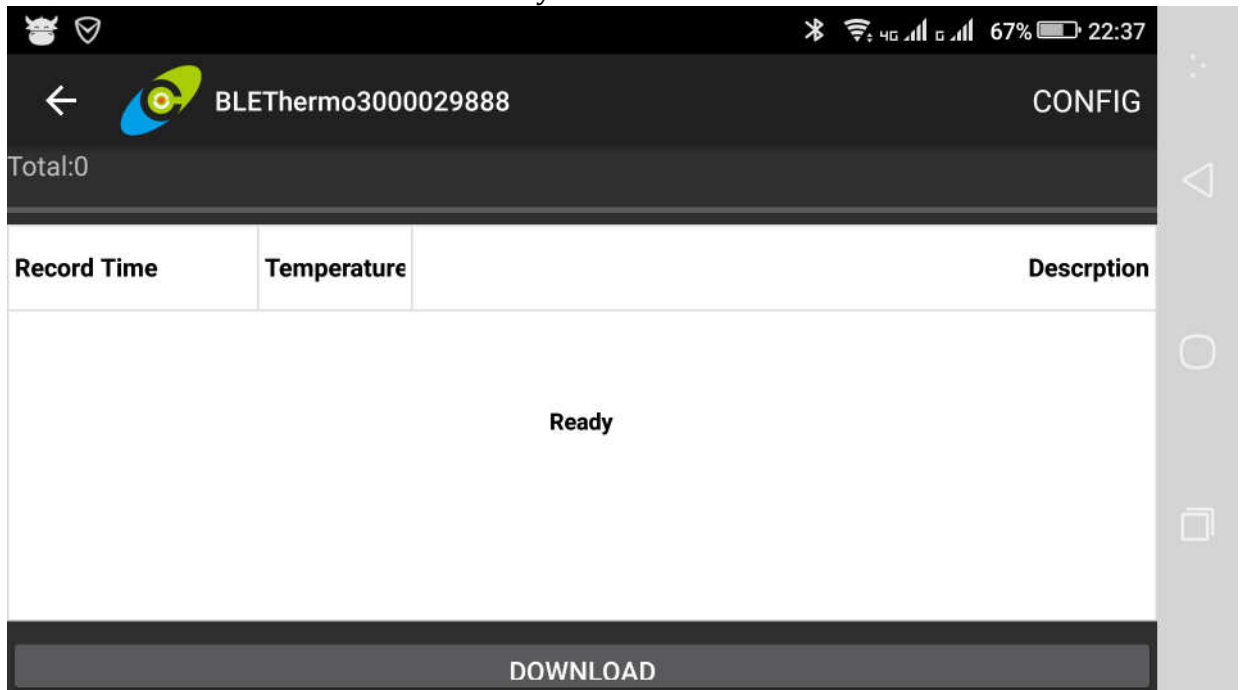
c) After APP found Bluetooth Loggers, it will list current Bluetooth Logger to show its status;



- d) If user want to connect one of the Bluetooth Loggers, then click the screen list; system will start connecting with device;



- e) Connection is built that will show "Ready" as below:





- f) User can touch screen button “Download” then system will start collecting device records and showing progress; after download is over, user will see the data list as below:

Record Time	Temperature	LMT01	X	Y	Z	Humidity	description
2017-03-06 08:56:1	-22.12 °C	-19.23 °C	-211 mg	-395 mg	860 mg	60 %	Temperature Low
2017-03-06 09:01:1	-21.12 °C	-18.72 °C	-192 mg	-360 mg	938 mg	61 %	Temperature Low
2017-03-06 09:06:1	-20.25 °C	-18.15 °C	-156 mg	-383 mg	837 mg	61 %	Temperature Low
2017-03-06 09:11:1	-19.43 °C	-17.64 °C	-137 mg	-395 mg	923 mg	61 %	Temperature Low

- g) User can touch screen button “CONFIG” to enter configuration and set up all different parameters (will show current parameters);

Sampling temperature period (Second).  
300

High temperature alarm threshold value(°C).  
30

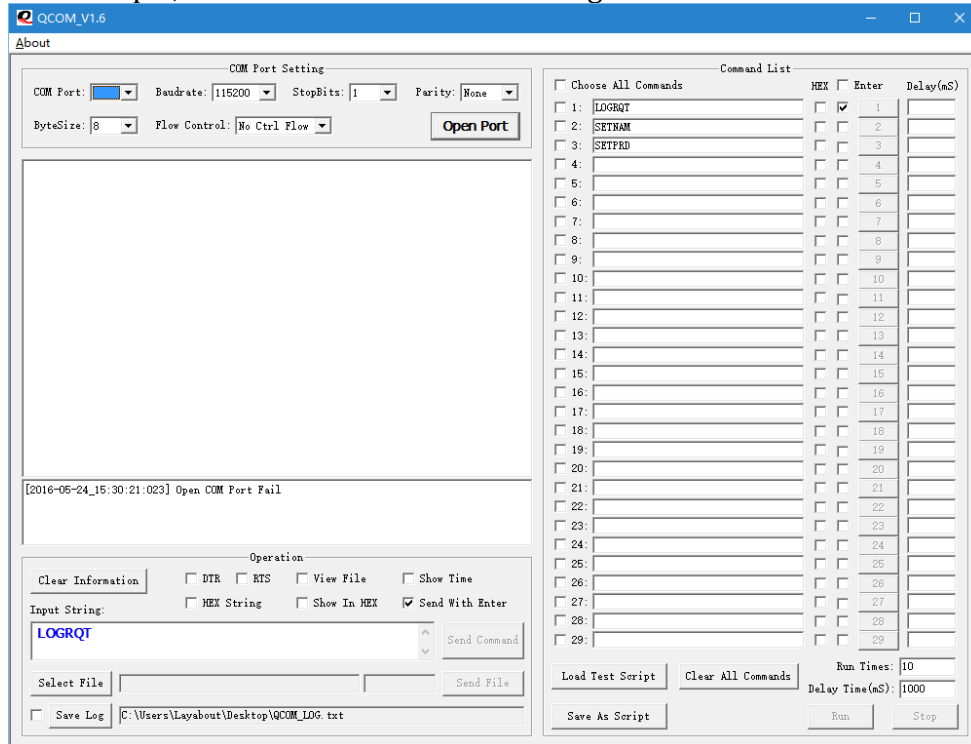
Low temperature alarm threshold value(°C).  
-10

## 6. USB Connecting for test

a) Install COM port driver and test tool on computer;

- i. There are driver file names as below:  
ccxxxx\_usb\_cdc.inf  
ccxxxx\_usb\_cdc.cat

ii. For example, there is a COM tool with settings as below:



b) Let Bluetooth Logger device connect to computer's USB port through USB cable;

c) Computer will identify the device and build a com port for communication when you open the COM tool;

d) After you selected the correct com port and settings, you can click "Open Port" button on COM tool;

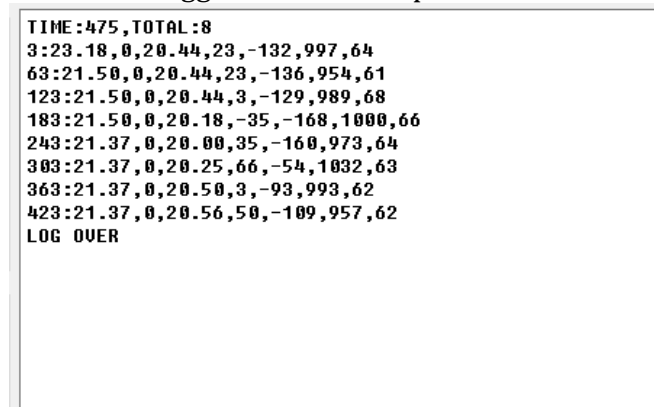
e) You can send commands to the Bluetooth Logger device through the COM tool.

For example as below:

You input the word of "LOGRQT" then click "Send Command" button.



Bluetooth Logger device will upload current all the records to the COM tool;



f) Commands list:

Commands	Application	Example & Explaining
SETNAM	Set device ID	SETNAM=1234 Set device ID as 1234
SETPRD	Set recording time	SETPRD=300 Recording once per 300 sec.
SETMAX	Set high temperature alarm threshold	SETMAX=30 Alarm over 30 degrees Celsius
SETMIN	Set low temperature alarm threshold	SETMIN=-10 Alarm below -10 degrees Celsius
SETADV	Set broadcasting time	SETADV=3 Broadcasting once per 3 sec.
SETDBM	Set RF communication power level	SETDBM=2 RF communication power is 0dbm;  Level parameters as below: 0 means -23dbm; 1 means -6dbm; 2 means 0dbm; 3 means 4dbm;
FLUSH	Clear memory data and recount time	FLUSH=1 System clear memory data and recount time
CONMIN	Set min desired connect interval	CONMIN=8 8*1.25 =10, The min desired connect interval value is 10ms, the parameter could be from 6 to 3200, the connect interval is from 7.5ms to 4000ms.
CONMAX	Set max desired connect interval	CONMAX=16 16*1.25 =20, The max desired connect interval value is 20ms, the parameter could be from 6 to 3200, the connect interval is from 7.5ms to 4000ms.
LOGRQT	Upload current all the records	
LOGALL	Upload before and current all the records	

## 7. Upgrade the firmware

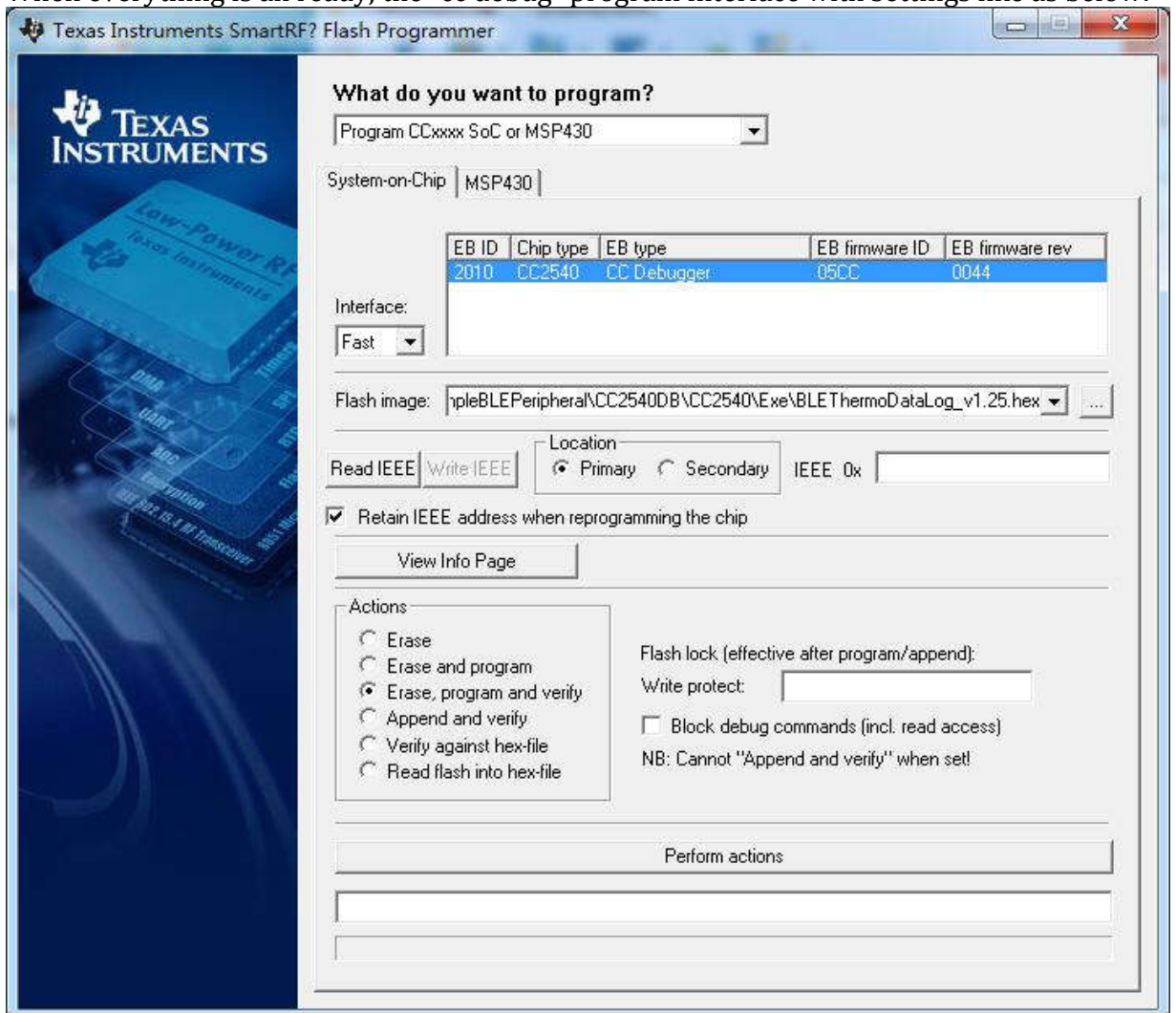
- a) Please use the "cc debug" tool to upgrade firmware for the Bluetooth Logger device;
- b) Please install "cc debug" program software on computer;  
There are install file names as below:  
SmartRF Flash Programmer 1.12.7.exe
- c) Please download the new firmware to your computer;

The firmware file name like as below:  
BLEThermoDataLog\_v1.25.hex

- d) Let the “cc debug” tool device connect to computer’s USB port through USB cable;
- e) Let Bluetooth Logger device connect to “cc debug” tool through data line;
- f) Please activate the “cc debug” program on your computer;



- g) Please load the new firmware into “cc debug” program;
- h) Please insure that “cc debug” tool connect Bluetooth Logger device is succeed;
- i) Please select the correct settings;
- j) When everything is all ready, the “cc debug” program interface with settings like as below:



- k) Click “Perform actions” button, the firmware will be upgraded;

## 8. Technical Specifications

Temperature Measurement Range	-20°C to 60°C (Built-in normal battery) -35°C to 70°C (Built-in special battery)
Temperature Accuracy Range	Accuracy: +/- 0.5 °C (max) from -20°C to 60°C (Built-in normal battery) +/- 0.5 °C (max) from -35°C to 70°C (Built-in special battery)
Temperature Resolution	0.1°C/F over full temperature measurement range
Supported Devices	Android™ devices (Android4.3 above version)
Maximum wireless range	30 m unobstructed
Bluetooth frequency band	2.4 GHZ ISM Band
Bluetooth	frequency: 2402-2480MHz transmitting power: <20 dBm
Channel	40 channels with 2 MHz spacing <ul style="list-style-type: none"> <li>• 3 fixed advertising channels for broadcasting</li> <li>• 37 adaptively frequency hopped dynamic data channels</li> </ul>
Modulation Mode	GFSK
network protocol	BLE4.0
Topology	Point-to-point, Star
Memory	Memory Depth 130,000 samples; Time Offset + Temp, Status
Power range	Voltage: DC 2 - 3.6 V; Current: Working < 80mA @ 3V; Sleeping < 5uA @ 3V
Housing size	68.8 L * 39.8 W * 14.5 H mm
Housing water proofness	IP54