

Product Name	GAOTek Waterproof Bluetooth Beacon
Product SKU	GAOTek-BB-116
Product URL	https://gaotek.com/product/gaotek-waterproof-beacon-bluetooth-2/

CONTENT

1. INTRODUCTION:	3
2. FEATURES	3
3. SPECIFICATION	3
4. DATA PROTOCOL	5
5. EXAMPLE CODE TO CALCULATE RSSI VALUE FROM RSSI BYTE:	6
6. CONFIG WORKING PARAMETERS	6
7. ELECTRONIC PARAMETERS	6

INTRODUCTION: -

The is a GAOTek Waterproof Bluetooth Beacon - BLE 5.0 Bluetooth® Low Energy gateway device, it is designed to scan nearby Bluetooth beacon advertising package, can be used for asset tracking, people tracking, pet tracking, sensor data collecting, SOS button signal collecting, etc.

FEATURES

- Support customized firmware.
- -91 dBm sensitivity
- 13 mA peak RX,
- 10.5 mA peak TX (0 dBm)
- 2.4G WIFI
- Easy to print the logo.



SPECIFICATION:

Compatibility

- Compatible with all Bluetooth® 4.0 and 5.0 BLE advertising devices.

No battery, powered by USB port.

- The USB port provide power.

Soft Reboot

- Not supported.

OTA and J-Link

- Upgrade via Over-The-Air supported. Reserved J-Link port on the board for programming.

Configurable Parameters

Customized firmware for client's requirements.

Transmission Power Levels

-30, -20, -16, -12, -8, -4, 0, +4 dBm.

Security

- AES HW encryption

Install

- Plug into computer USB port.

Working Mode

- Always scan nearby ble advertising package and report to computer.



DATA PROTOCOL

Message	Direction	Data format	Note
CC_GS_Gateway Status Report	Gateway - >Server By UDP	Communicate code (2 bytes) =0x03, 0x03 Message length (1 byte) =7 Gateway Mac (6 bytes) Gateway Battery percent (1 byte)	To tell server this gateway's working status every one minute.
CC_GS_Scan Report iBeacon	Gateway > Server By UDP	Communicate code(2 bytes) =0x04, 0x02 Message length(1 byte) = 34 Gateway Mac(6 bytes) iBeacon Mac(6 bytes) iBeacon UUID(16 bytes) iBeacon Major id(2 bytes) iBeacon Minor id(2 bytes) iBeacon Battery percent(1 byte) iBeacon Rssi(1 byte)	When iBeacon is scanned by gateway, gateway will report event to server immediately.
CC_GS_Scan Report TSensor	Gateway - >Server By UDP	Communicate code(2 bytes) =0x04, 0x03 Message length(1 byte) = 24 Gateway Mac(6 bytes) T-Sensor Mac(6bytes) T- Sensor Rssi(1 byte) Sensor data(11 bytes)	When T-Sensor is scanned by gateway, gateway will report sensor data to server immediately.

EXAMPLE CODE TO CALCULATE RSSI VALUE FROM RSSI BYTE:

```
int rssiByte = receiveBytes[rssiByteIndex];
int rssiSign = (rssiByte & 0x80) == 0x80 ? (-1) : (1);
int rssiABS = (~rssiByte) & 0x7F;
Int rssiValue = rssiSign * rssiABS;
```

CONFIG WORKING PARAMETERS

1. You can specify your server IP & UDP port, WIFI SSID name and password, we will preset.
2. them in gateway when production.
3. You can change above parameters via app 'GAOTek Beacon'.
4. You can update gateway firmware via app 'GAOTek Beacon'.

ELECTRONIC PARAMETERS

Item	Value	Remarks
Case Color	Black	
Battery Model	No battery	
Operation Voltage	5V	DC
Transmission Current	10.5mA (Max.)	Test at 0dBm transmission power
Transmission Range	50 meters	Depend on beacon transmitting power
Antenna	50ohm	
Net Weight	26g	
Size	10.5x2.5x5cm	

Contact us: sales@gaotek.com

Based in New York City & Toronto, GAO Tek Inc. is ranked as one of the top 10 global B2B technology suppliers. GAO ships overnight within the U.S. & Canada & provides top-notch support thanks to its 4 decades of experience.