BLE Beacon GB30 User Guide

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RUICTEC

No.155, LongPan Road, Nanjing, China

Emai：support@ruichuangte.com

1. Product Introduction

1.1 Overview

GB30 is an ultra-low energy Bluetooth beacon developed based on TI CC2640R2F, which conforms to the Apple iBeacon protocol. The way it works is to use BLE technology to periodically send its own unique ID to the surrounding devices. It has a long standby time and can work for more than 5 years after replacing the battery.

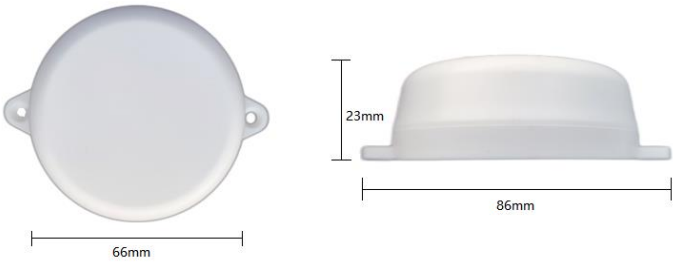
Beacon data (iBeacon) consists of four kinds of information, which are UUID (universally Unique Identifier), Major, Minor and Battery SOC.

The beacon is a low-power device with an average static current of only about 1uA, a transmission current of 7.2mA, and a signal broadcast twice per second with an average current of 36uA. The Bluetooth beacon is powered by a disposable battery, which is easy to install.

1.2 Application

- Indoor positioning
- Parking management
- Asset Management
- Consumer electronics
- Security inspection
- Health and medical care
- Sports and leisure equipment

2. Size



3. Parameters

Type	GB30	GB30-E1	GB30-E2
Protocol	BLE4.2、BLE5，iBeacon，Support Android and IOS		
Chip	CC2640R2		
Power	-21~5dbm		
Tx Distance	70m		
Battery	CR2477*2(2100mAh)	ER14505(2700mAh)	ER14505*2(5400mAh)
Work Time (500ms)	5 Years	6 Years	12 Years
Work Temp	-20℃~60℃	-45℃~85℃	-45℃~85℃
IP	IP67		
Size	66*23mm		
Weight	53g	52g	70g
Material	ABS		
Installation	3M adhesive/screw		

4. Power Consumption Test

Test conditions: temperature, 25 degrees, transmit power, 0dbm, signal transmission interval, 0.5s.

Test tools: DC Power analyzer, Agilent N6705, Software 14585A

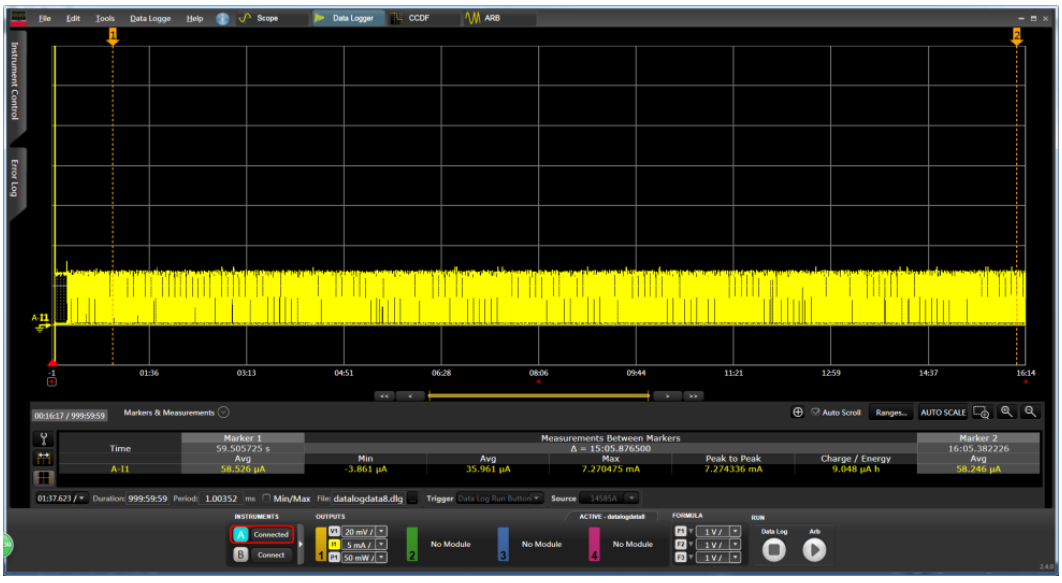
Test object: BLE beacon, model: GB30

Input voltage: 3V

In test 1, after one minute of boot, the power consumption within 5 minutes is as follows:

Average current: 35.927uA Maximum current: 7.218085mA

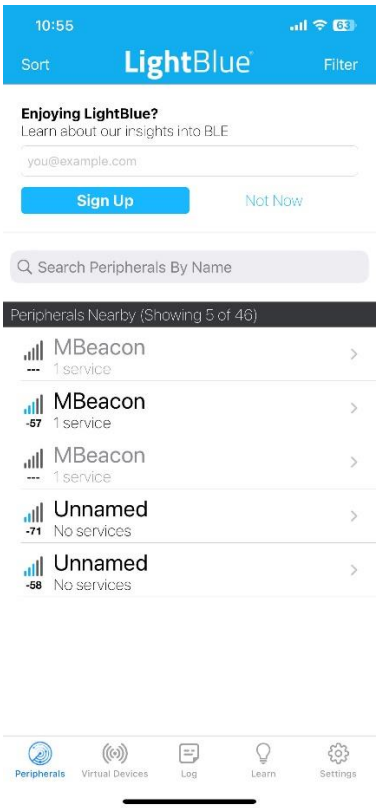
Test two, one minute after the boot, the power consumption within 15 minutes is as follows:

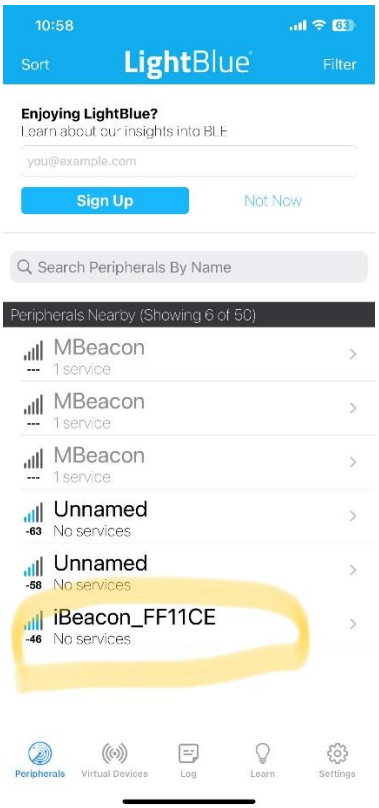


Average current: 35.961uA, Maximum current: 7.270475mA

5. Setting

1.Install APP LightBlue.





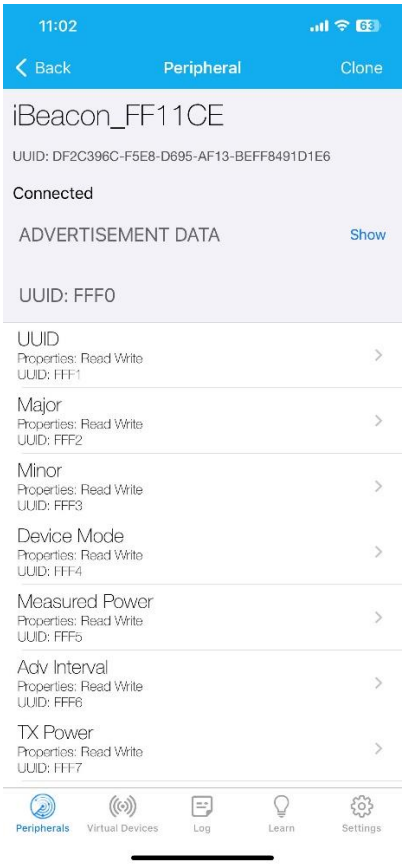
2. Open the cover of the beacon and turn on the power, you'll see the beacon as the above diagram shows.

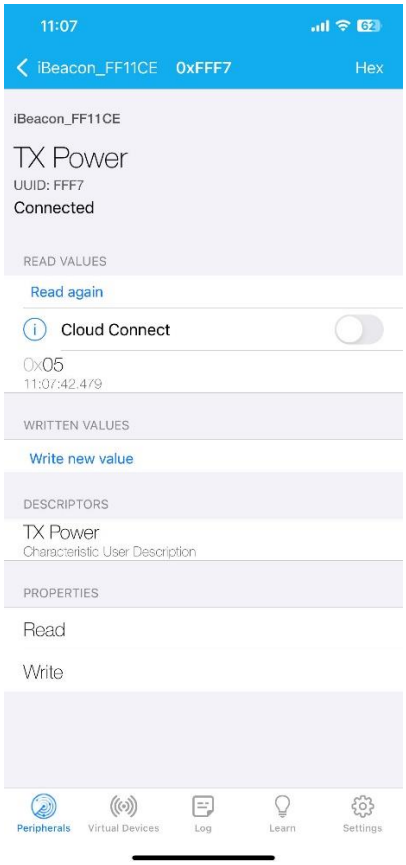
3. Click the beacon to connect, the beacon can only be connected in the first 40 seconds after power on. The parameters can be set include UUID, Major, Minor, Adv interval, Tx Power.

For Adv interval, the unit is 100ms, the value can be set is from 1 to 100, means from 100ms to 10s.

For Tx Power, the range is from 0 to 7, the corresponding power is:

0:-21dbm 1:-18dbm 2:-15dbm 3:-12dbm 4:-9dbm 5:-6dbm 6:-3dbm 7:0dbm





NOTICE: Measured Power which indicates RSSI@1m of iBeacon protocol is not used, the position is used to store the battery SOC, the range is from 1 to 100.

6. About Us

We have many years of experience in IOT product development, and are committed to the development of personnel and asset management products and platforms based on BLE. Our products include various positioning terminals and application platforms, which can provide customers with positioning services with 5-meter to sub meter accuracy. Our goal is to provide customers with the best personnel and asset management solutions with the highest cost performance, so that everyone can establish a perfect personnel and asset management system regardless of the scale of the project.

7. CC2640R2F Schematic diagram