



## Description

The CobiBeacon CBV100 has a built-in battery holder, which uses a coin battery, and it can work as a standalone system. More importantly, the CobiBeacon CBV100 is based on the CC2540/CC2541 BLE 4.0 module and has a built-in advanced power management unit, which helps the CobiBeacon save at least 20% battery energy more than other beacons that do not have this unit.



## About CobiBeacon

- Built-in CobiBeacon firmware
- Built-in a 1000mAh CR2477 battery
- Bluetooth low energy technology compatible
- Excellent link budget (up to 97dB)
- Suitable for long distance applications
- Accurate digital RSSI
- High performance and low power 8051 core MCU
- AES security coprocessor

## Certifications

- iBeacon License
- FCC Regulation (FCC Part 15.)
- CE Regulations (Included EN300328, EN301489, EN60950, EN62479)

## Feature & Advantage

- Application for advertisement and proximity location
- Supports both iOS 7.0+ and Android 4.3+ system
- Built-in pairing password to prevent others changing the settings
- CobiBeacon name, UUID, Major, Minor values and broadcasting interval can be changed by customer
- Battery capacity intelligent detecting and notification feature
- Supports soft reboot function, no longer required to take out the battery to reboot the device
- CobiBeacon serial ID can be customized, it will help customer to easily distinguish which one is which
- Placed a button on the board used to activate / shutdown beacon device
- Supports the connectable and non-connectable broadcasting mode
- Supports the OAD function
- Publishes the free upgraded firmware regularly
- Built-in JTAG port for other customized application firmware as a standalone system
- The customer's logo can be printed on the housing if required

### **Operation Instructions**

1. Activate CobiBeacon before using device
  - 1.1 Use a small screw driver or sharp flat tool to open the case, take out the module and find the BUTTON;
  - 1.2 Press the BUTTON and hold down for 10 seconds, the Blue LED will light will come on for 5 seconds and then go off; indicating the beacon is active and ready to start broadcasting.
2. Shutdown CobiBeacon as below method
  - 2.1 Use the same tool referred to above, to open the case, take out the module;
  - 2.2 Press the BUTTON and hold down for 10 seconds, the Blue LED will flash 5 times and then go off; it means that CobiBeacon is in Sleep mode and stop broadcasting.



### Low Battery Indication

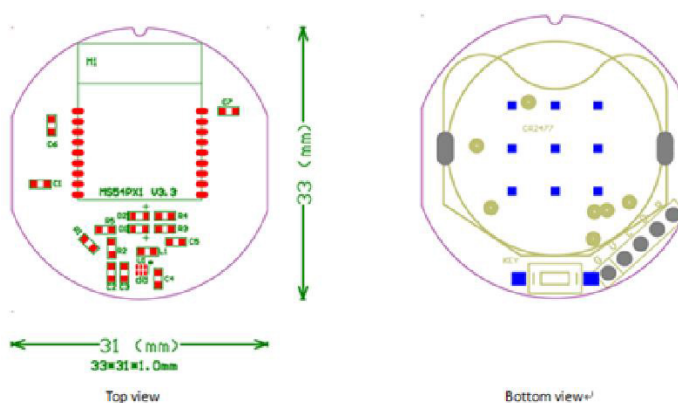
If the battery level reduces to below 2.3V, the Red LED will flash every 5 seconds. The CobiBeacon will stop broadcasting automatically once the battery level has reduced below 2.1V.



### Default Setting

Parameters	Item	Default Value
0xFFF1	Proximity UUID	E2C56DB5-DFFB-48D2-B060-D0F5A71096E0
0xFFF2	Major	0x0000
0xFFF3	Minor	0x0000
0xFFF4	Measured Power	0xC5
0xFFF5	Transmission Power	0x00 (0dBm)
0xFFF6	Pairing Password	0x0F0FF3 (the corresponding decimal is 987123)
0xFFF7	Broadcasting interval	0x09
0xFFF8	Beacon Serial ID	Random (Unique serial ID for beacon)
0xFFFE	Connection Mode	0x00 (connectable mode)
0xFFFF	Soft Reboot	0x0F0FF3 (the corresponding decimal is 987123)
0x180F	Battery Service	0x64 (100% full capacity of battery)

### JTAG Connection



Pin	Symbol	Connection	Remarks
1	G	Ground	---
2	V	3.3Vdc from CC Debugger	---
3	C	DC (Debug Clock)	Put a pull-up resistor 10Kohm to VDD
4	D	DD (Debug Data)	Put a pull-up resistor 10Kohm to VDD
5	R	Reset	---

\* The definition of symbol complies with TI's standard JTAG.

### Electronic Parameters

Item	Value	Remarks
Firmware	BLE4.0 Stack	V1.4x
Software	CobiBeacon	V1.83
Battery Model	CR2477	1000mAh, Coin battery, 3.0Vdc, 1pc
Operation Voltage	2.0-3.6V	DC
Operation Frequency	2400-2483.5MHz	Programmable
Frequency Error	+/- 20KHz	Null
Modulation	Q-QPSK	Null
Standby Current	50uA (average)	Depends on duty cycle / broadcasting cycle
Broadcasting Cycle	900mS	Duty cycle / Advertising interval
Output Power	0 dBm	Default setting, programmable
Receiving Sensitivity	-93dBm	High gain mode
Transmission Distance	50-90 meters	BER<0.1%, Open space
Antenna	50ohm	On board / PCB Antenna
Accessories	3M double sided tape	Null
Net Weight	21.0g	Including the battery but without packing
Size	Ø36 x 16 mm	CR2477 battery socket

### Operation State & Power Consumption

State	Operation Current (mA)	
	DC/DC Enable OFF	DC/DC Enable ON
State 1: Wake-up	7.1	5.4
State 2: Pre-processing	8.4	6.9
State 3: Pre-receiving	11.6	10.7
State 4: Receiving	18.9	15.4
State 5: Rx changed to TX	9.2	5.8
State 6: Transmitting	18.3	15.1
State 7: Pre-processing	8.1	6.7

### Packing Information



Colour Box Front A



Colour Box Front B