

SMP Labs BT1-iBeacon Datasheet

1. Description

The SMP Labs BT1-iBeacon is a portable iBeacon tag with ultra low power ARM® chipset **NORDIC® nRF52 series** and **BLE® 4.0** technology.

It has a **portable case shape, waterproof structure, accurate hardware, robust firmware and external push button**.

It is designed for the commercial advertising and indoor location-based service.

SMP Labs BT1-iBeacon broadcasts **2.4GHz** radio signals at regular and adjustable intervals. SMP Labs BT1-iBeacon can be heard and interpreted by iOS and Android BLE-enabled devices that are equipped with many mobile apps.



2. Features

- Portable SMP Labs BT1-iBeacon with external ON/OFF push button;
- Ultra-low power consumption chipset nRF52 series with ARM® core;
- Easy to print a customization Logo/branding on the case or the button.

3. Specification

Compatibility

- Supported iOS 7.0+ and Android 4.3+ system;
- Compatible with Apple iBeacon standard;
- Compatible with all Bluetooth Low Energy® 4.0 devices.

Replaceable Battery and Battery Level

- High quality replaceable CR2032 coin battery(230mAh);
- More than 15 months battery lifetime (at default settings);
- Easy to get the real-time battery level notification.

Configurable Parameters

- UUID, Major, Minor, Device Name, Device ID, Password, Advertising Interval, RSSI@1m, Tx Power etc;

Transmission Power Levels

- 8 adjustable grades;
- Transmission power range: -40dBm to +4dBm.

Long Range

- The max. Range 90 meters in the open space;
- The range depends on the environment where the SMP Labs BT1-iBeacon is placed.

Security

- 8 characters password (Lock/Unlock parameters).

Low power reminder

- Led flashes every 10 seconds if the battery capacity is under 5%.

Connection Mode

- Advertising mode, non-connectable;
- Configuration mode, connectable.

Custom made mounting

- Keychain / neck chain;
- 3M sticker;
- Logo and color customizable;
- Provided with your own configuration.

OTA and DFU

- Supported upgrade via Over-The-Air;
- NORDIC® official Device Firmware Upgrade(DFU);
- Reserved J-Link port on the board for programming.

Additional optional sensors available

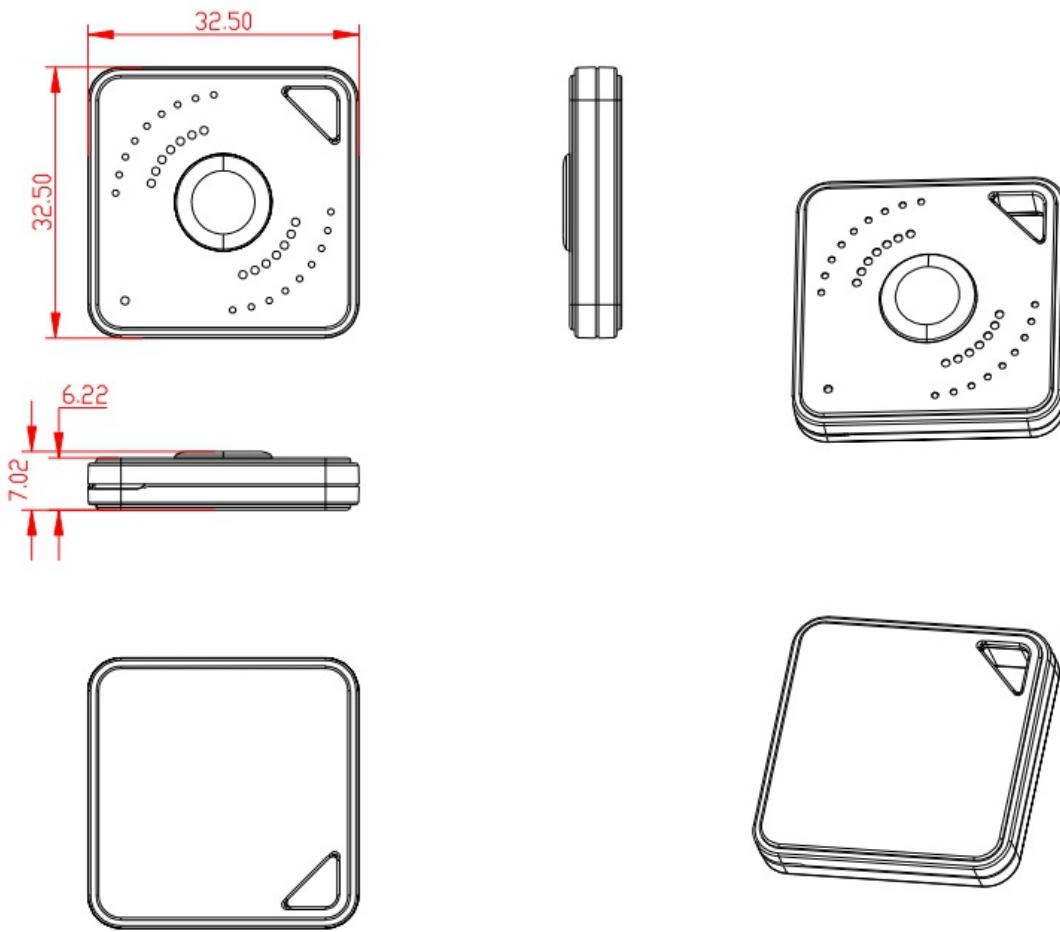
- We can also provide users with the same type of products with 3-axis accelerometer according to customer's needs.

4. Electronic parameters

Item	Value	Remarks
Case Color	White	Other colors can be customized
Main material	ABS	
Battery Model	CR2032	Coin battery, 1pc, 230mAh
Operation Voltage	1.8-3.6V	DC
Waterproof level	IP67	
Average Current	19.4uA	Tested at -4dBm transmission power and 1000ms Advertising Interval.
Transmission Range	Up to 90m(+4dBm)	Depending on the environment where the SMP Labs BT1-iBeacon is placed these value might differ.
Antenna	50ohm	On board/Ceramic Antenna

Size	32.5 x 32.5 x 6.22mm	Refer to SMP Labs BT1-iBeacon mechanical draws for details.
Net Weight	7.8g	With battery
Operating Temperature	-25 to +60°C	
Storage Temperature	20 to +30°C	

5. SMP Labs BT1-iBeacon mechanical draws



All dimensions is mm

6. Battery life estimation

Notice:

All values shown in this chapter are just an estimation. Real battery life might differ depending on the environment where the SMP Labs BT1-iBeacon is placed.

TX Power(dBm) /Advertising Interval(ms)	100	200	300	400	500	1000
+4	1.5	3	4	5.5	7.5	13.5

0	2	3.5	4.5	6	9	15.5
-4	2.5	4.5	5.5	7	10	16.5
-12	2.5	5	6	7.5	10.5	17.5
-30	3	5.5	6.5	8.5	11.5	18.5

Notes:

Battery Life in months. Battery Capacity: 230mAh

7. Configurable parameters

Characteristic	Item	Default Setting
0xFF01	UUID	E2C56DB5-DFFB-48D2-B060-D0F5A71096E0
0xFF02	Major	0
0xFF03	Minor	0
0xFF04	Measured Power (RSSI@1m)	-80dBm
0xFF05	TX Power	0dBm
0xFF06	Password	Moko4321
0xFF07	Advertising Interval	1000ms
0xFF08	Serial ID	00000
0xFF09	Device Name	MkiBeacon_ , 10 characters max
0xFF0E	Connection Mode	0 (Connectable)
0xFF0F	Soft Reboot	Moko4321 (It is same as the value of password)

8.FCC STATEMENT

1. 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.
 - (2) This device must accept any interference received, including interference that may cause undesired operation.
2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment 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.

RF warning statement:

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without

restriction.

Revision History

Revision Number	Description of changes	Approved	Date
V1.0	Initial Release	Hannah	2019.11