SmartBeacon-4AA User Manual

Outlook

Sensoro Box series Beacon Sensor SmartBeacon-4AA have integrated Sensoro Tag as the PCB. The build-in PCB Antenna is an ultra small form-factor, high-performance antenna for 2.4GHz. It operates with high stability in wide temperature range and adjusts to temperature / humidity changes, allowing SmartBeacon-4AA to work stably in complex environment.

Tech Specifications

Item	Description	
Appearance		
*Length	64.0 mm	
*Width	64.0 mm	
* Thickness	23.5 mm	
Board Info		
*Layer	2 Layer	
*Size	53mm(L)*34mm(W)	
*Thickness	1mm	
*Surface Treatment	Matt black ENIG PCB	
Control & Display		
*Control	BLE SOC Chip	
*Antenna	2.4G PCB Antenna	
*LED	LED * 1	
*Sensor	Temperature Sensor	Support
	3 Axis G-Sensor	Optional
Basic Info		
*BT	BLE Only	
*Operating Voltage	DC 2.1V ~ 3.6V，Typ 3.0V	
*Operating Temperature	-25°C ~ 55°C	
*Sleep Mode Power Consumption	30uW	

*Sleep Mode Current	10uA
*Power Consumption per Broadcast	$7.58 * 10^{-6}$mAh (-8dBm transmitting power)
*Radius Power	-30dBm to +4dBm; applicable for signal coverage optimization
*Transmission Range	0.15m to 80m
*Broadcast Frequency	Broadcasting time interval, Adjustable (100~1285ms)
* Weight	132g
* Resistances	Anti-vibration
*TF Card Socket	1 Micro TF Card Socket
*Protocol standard	Bluetooth® 4.0, Apple iBeacon,Google Eddystone
*System Requirements	iOS7.0/ Android 4.3 or above
*Upgrade	Support for Firmware Over-The Air upgrade
*Security	Support Password for Connection

Battery Usage Reference(Days)

And the preference data below, is based the button cell battery(CR2477).

Power\ Interval	+4dBm	0dBm	-8dBm	-12dBm	-30dBm
100ms	105	126	138	146	152
152.5ms	156	185	203	215	223
211.25ms	211	249	271	286	297
318.75ms	301	353	382	402	416
417.5ms	378	438	473	497	513
546.25ms	467	538	578	604	622
760ms	596	677	722	752	772
852.5ms	645	729	776	806	827
1022.5ms	727	815	864	895	916
1285ms	836	928	977	1009	1031

Main Features

1. Easy to Use
   SmartBeacon-4AA was powered by 4 AA batteries.

2. Low power consumption
   Employing Bluetooth® 4.0(Bluetooth® low energy) Nordic N51822 chip, and consuming less power with better performance.

   Equipped with energy-efficient sensors and by using intelligent energy saving solution, 4 AA batteries will be able to power SmartBeacon-4AA continuously operating for around 3 years.

3. Compatibility
   Software and firmware completely fulfill Apple's iBeacon technical standards and can be applied to systems including:

   iOS 7.0 or above：

iPhone 4S,iPhone 5, iPhone 5S， iPad 3, iPad mini, iPad air.

Android 4.3 or above：
Samsung Galaxy S III, Galaxy S IV, Galaxy Note II, Galaxy Note III and Motorola RAZR, HTC ONE, etc.

Download configuration tool

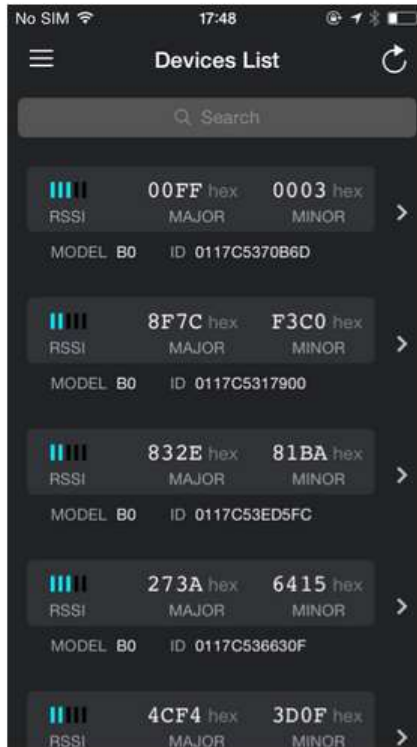Scan QR code to get the App from www.sensoro.com

Signal stability and data transmission

1. Transmission reliability and range
   To achieve long-distance data transmission with more stable signals, we have conducted numbers of testing and corresponding modifications. Tag works stable under complex circumstances. Radius power is adjustable to fit the need, the largest signal coverage of which can be ranged up to 80m with 2826 m2 area.

2. Enterprise level device management support
   Manage status of mass volume devices is an essential requirement for an enterprise level deployment. By using our patent technology, you can gather status of each device that deployed in a batch way. Assets management of beacon devices is an easy task now with our solution.

Configuration tool

The configuration tool "Sensoro" is a mobile app designed for developers to check and modify Sensoro SmartBeacon's configurations. It is compatible with iOS 7.0 or above (iPhone 4S,iPhone 5, iPhone 5S， iPad 3, iPad mini, iPad air) and Android 4.3 or above (Samsung Galaxy S III, Galaxy S IV, Galaxy Note II, Galaxy Note III and Motorola RAZR, HTC ONE, etc.)

Open up the configuration tool, you will see all the SmartBeacons nearby. Each SmartBeacon's Major, Minor and animated RSSI bar will be shown on the list.
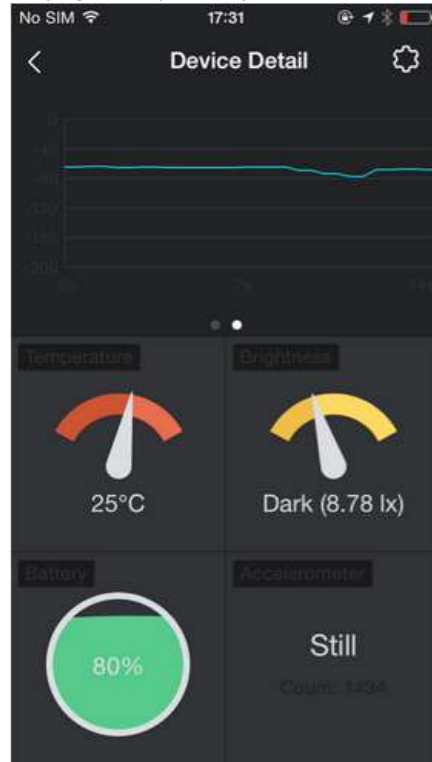
In case you are deploying numbers of SmartBeacons within certain area, a specific function is designed to help you select the one at hand - simply shake the SmartBeacon and its information bar will perform a vibrating animation.

Select one SmartBeacon's info bar and enter the detail page. Every SmartBeacon is integrated with a temperature sensor, and an accelerometer. Every sensor's data and the battery status are real-time displayed, which reflect the operation status of specific SmartBeacon in a visualized and direct manner.

Flip the upper section of this page and you may check the RSSI signal graph accurately.

You can access to SmartBeacon's UUID, Major and Minor through this configuration tool and revise them according to your need. Through this app, you may also setup SmartBeacon's radius power, broadcasting frequency and even modify the operation parameters of the sensors.
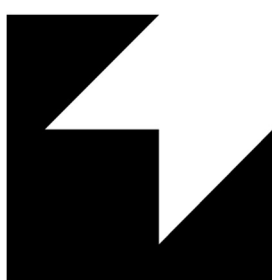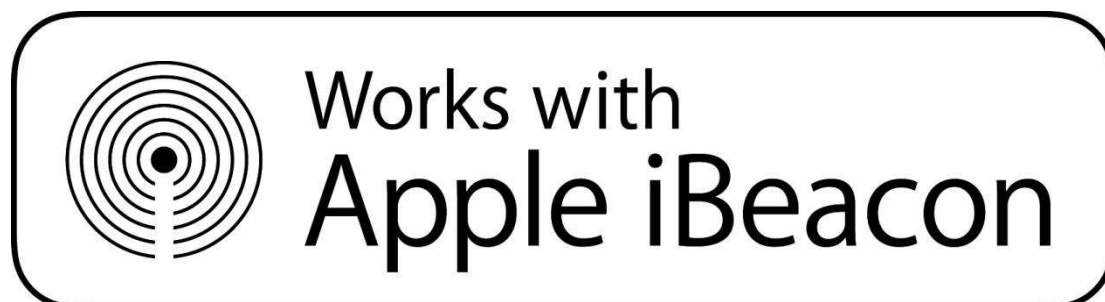

As to security considerations, you may setup password so that only authorized user can access to SmartBeacon's settings.

Quality Guarantee

iBeacon,Google EddyStone, FCC, CE and TELEC

SmartBeacon has been certificated with FCC, CE and TELEC. To ensure the quality, every single device has to pass through testing and must be scrupulously checked for imperfections (Defect detection, frequency spectrum test, power consumption test, stability test, etc.).

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

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.

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 a nd 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.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This equipment should be installed and operated with minimum distance 20cm between the radiator& your body.

Note

Trademark: SENSORO
Product Name: SmartBeacon
Model No: 4AA

Customer Service

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