

BLE beacon user manual

(Beacon: HOLYIOT-21011)



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1. Introduction

HOLYIOT-21011 has good performance at ultra-low power consumption, stable Bluetooth , small size, waterproof and convenient parameter configuration etc. With the APP 'Holyiot-beacon' , it is convenient for customers to test and adjust advertise parameters.It can meet various needs in different environmental conditions.

Product shape and size:



2. Features

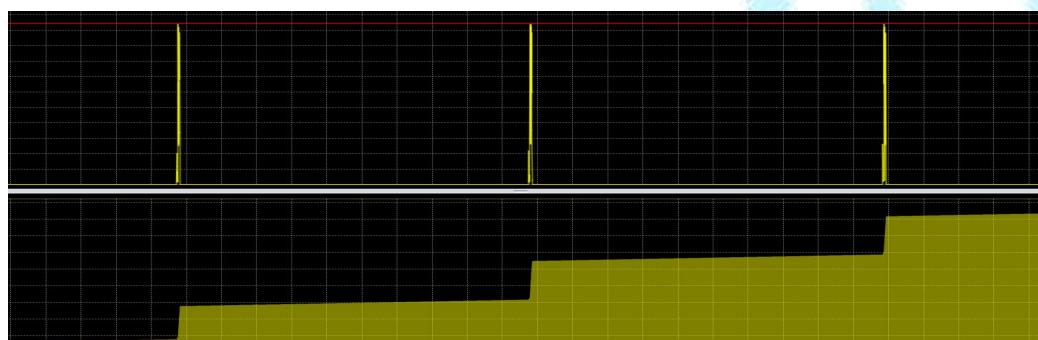
2.1 Physical characteristics

Product	HOLYIOT-21011
Bluetooth version	BLE5.0
Chip	nRF52810
Configure APP	Holyiot-beacon
Battery	CR2032
Supply voltage	2.2 - 3.6V
Waterproof	IP67
Size	42mm*32mm*(thickness)10mm
Weight	6.5g

2.2 Electrical characteristics

Quiescent Current	3uA
Peak current	6.5mA
Average current	49uA (+4dB/500ms)
Battery capacity	220 mAh
Battery life	180 days
Working Temperature	-20℃ ~ 60℃

2.3 Example of average current data (所有beacon工作电流)



	0DB(without accelerometer)	+4DB(without accelerometer)	0DB(with accelerometer)	4DB(with accelerometer)
80MS	225uA	242uA	229uA	246uA
300MS	65uA	73uA	69uA	77uA
500MS	40uA	45uA	44uA	49uA
1000MS	22uA	25uA	26uA	28uA

Calculation formula for use time:

Use time (days) = 1000 × battery capacity (mA·H) / average current (uA) / 24H;

2.4 Technical parameters

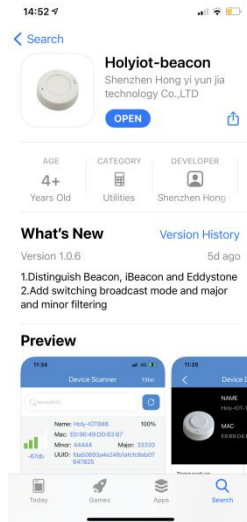
Communication and Protocol	Bluetooth5.0
Radio Transmission Power	-40dB ~ +4dB(default:+4dB)
Radio Transmission Time Interval	80mS ~ 1000mS(default:500mS)
Wireless transmission distance	Open space distance 50 meters
Supporting Device	IOS7.0 and Android4.3 above
Optional peripheral	Accelerometer inside

2.5 Bluetooth broadcast default parameters

Bluetooth Advertising Name	Holy-IOT
Password	AA14061112
UUID	FDA50693-A4E2-4FB1-AFCF-C6EB07647825
Major	10011
Minior	10012
TX power	+4dB
ADV_interval	500mS
One meter RSSI	-59dB
Mac address	The default is the original processor factory parameters

3. How to use APP"Holyiot-beacon"

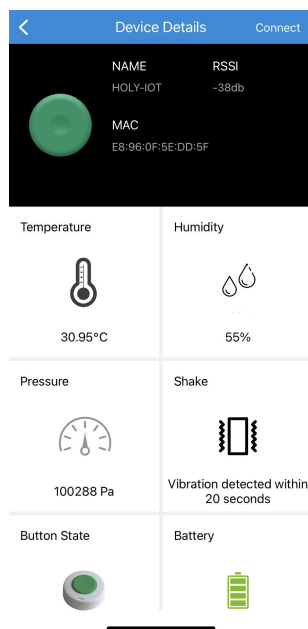
1. Search and download "Holyiot-beacon" from the APP store.



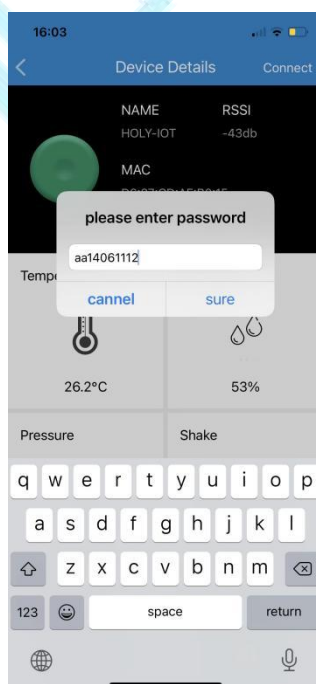
2. Power the module, and turn on Bluetooth, then open the "Holyiot-beacon", you will see detailed beacon advertising information. In the "Beacon" interface, you can see the advertising name, RSSI, MAC, Major, Minor, UUID and remaining battery of the device, and you can filter the signal strength by clicking "Filter", APP supports changing the advertising type of search, Users can change the search advertising type arbitrarily to scan the corresponding type of advertising equipment.



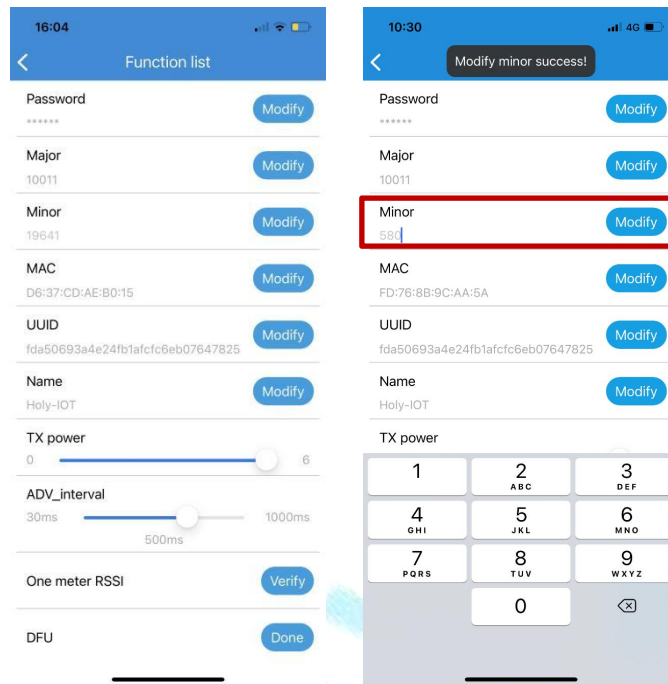
3. In the generic beacon interface, click to select this device, You can see the temperature, air pressure, humidity, whether there is vibration within 20S, button status and power data will be refreshed to the list, provided that the device supports the update of these data.



4. You can click to connect to this beacon device, In order to better protect and save the set beacon advertising parameters, you need to enter a password after each Bluetooth connection. This password can be modified. The default is: **AA1406111200** (The last two 0s can be omitted).

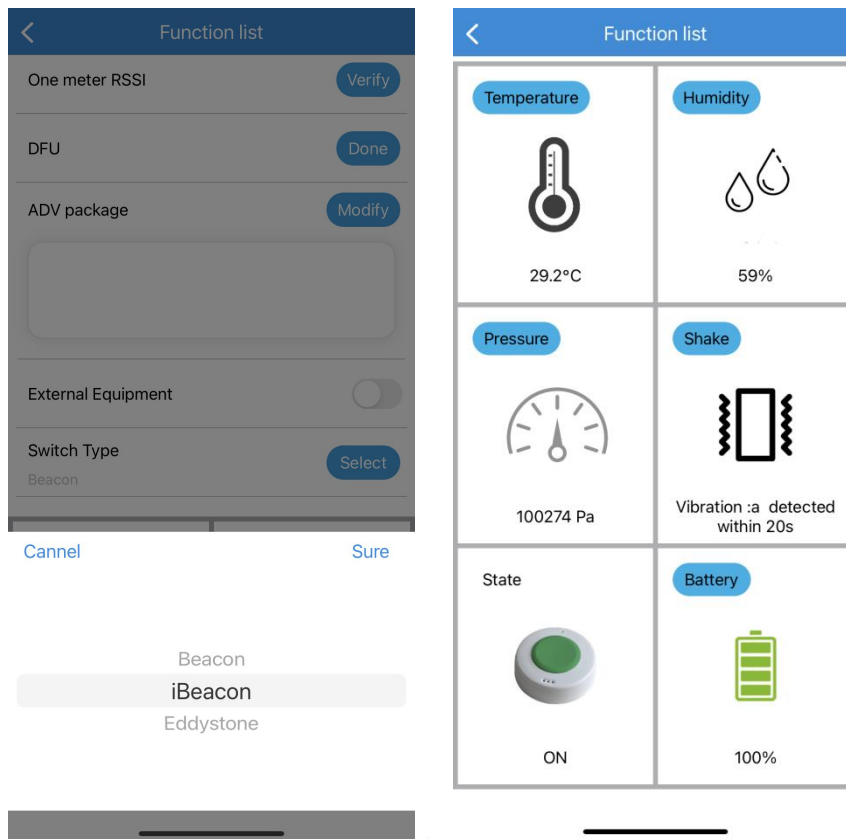


5. After connecting, you can modify the password, Major, Minor, MAC, UUID, broadcast name, transmit power and broadcast interval, and you can also verify the RSSI value at 1 meter. After the adjustment is successful, there will be a "Modify success" prompt, and it will be updated automatically after disconnection.



6. This interface slides down, there are some interactive buttons:

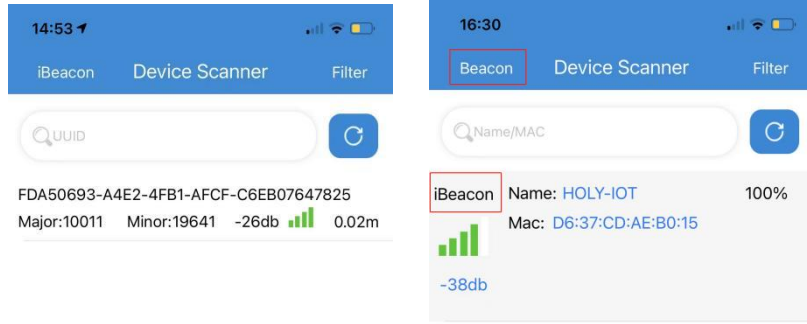
1. **External Equipment:** You can control peripherals by sliding switches, such as turning on or off an LED or other available peripheral resources.
2. **Switch Type:** The APP supports switching the broadcast type of the device among the three advertising types of universal-beacon, ibeacon and Eddystone.
3. **Temperature:** You can get the real-time collected temperature by pressing this button, if the beacon device has a temperature collection function.
4. **Humidity:** If the beacon device has a humidity collection function, you can get the humidity collected in real time by pressing this button.
5. **Pressure:** If the beacon device has an atmospheric air pressure collection function, you can obtain real-time atmospheric air pressure data collected by pressing this button.
6. **Shake:** If the beacon device has an acceleration detection function, you can check whether the device vibrates within 20 seconds by pressing this button.
7. **State:** If there are physical buttons, the real-time button status will be displayed, press or release.
8. **Battery :** Display the current remaining battery.



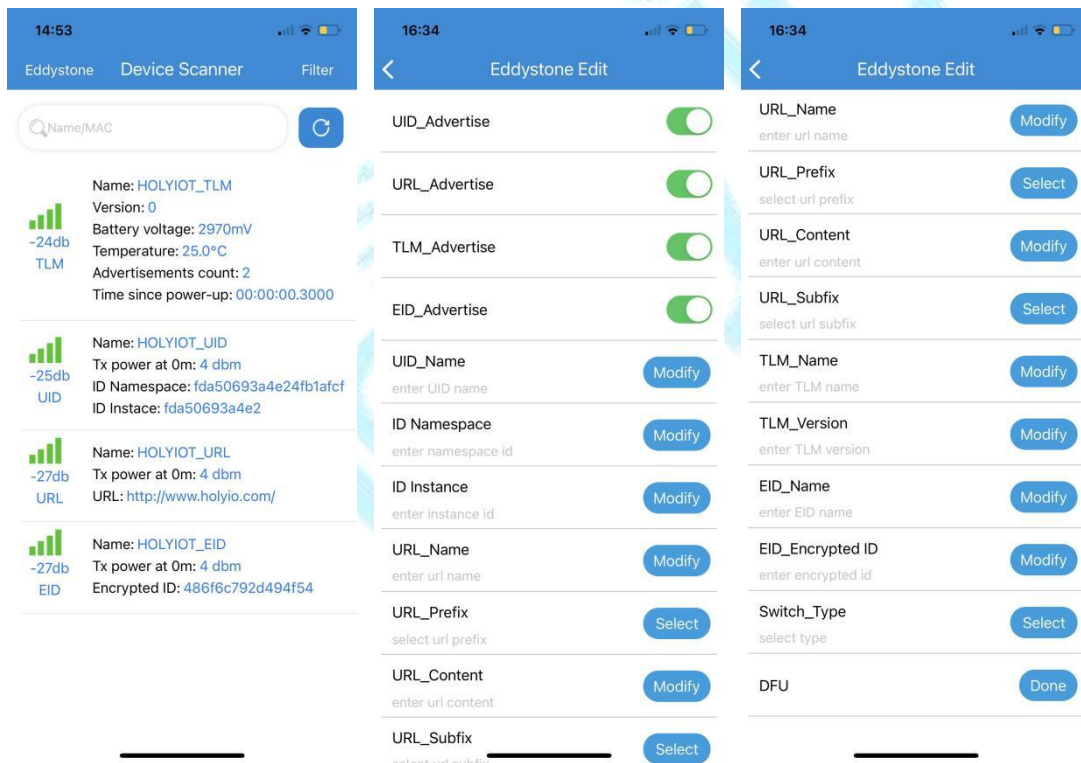
7. After modifying the parameters, and disconnecting, the display is as follows:



8. If you switch to the ibeacon interface, user can see UUID, Major, Minor, RSSI and approximate distance of ibeacon device. If the customer needs to change the UUID, Major, Minor, MAC and other information of the ibeacon device, you can select and click the ibeacon device in the list, the APP will automatically switch to the general beacon interface, and can connect on the general beacon interface. The method of modifying the advertising parameters of the general beacon can modify the UUID, Major, Minor, MAC and other information of ibeacon.



9. If you switch to the Eddystone interface, users can see the advertising information of Eddystone-UID, Eddystone-URL, Eddystone-TLM and Eddystone-EID respectively. If you want to configure the Eddystone device, you can click and establish a connection. In the connection interface, you can change the advertising parameters of each Eddystone, and you can also choose to block and unblock each Eddystone type advertising.



10. How to modify the whole advertising package: First we need to find the complete advertising package available, for example:

0201061AFF4C000215FDA50693A4E24FB1AFCFC6EB07647825271B271BC90D1642524164320653B3EBF5000009095357542031393033

Import it into the "ADV package" blank, click "Modify", after disconnecting the Bluetooth connection, the device will automatically advertising according to the new advertising packet. Please note, please use the function of modifying the whole advertising packet with caution. The device's chip does not support all types of advertising packet formats. If the modification is successful, the device may no longer be compatible with the "Holyiot-beacon" APP; if the modification is unsuccessful, the device will A situation that causes the device to reset or freeze.

