MTBeacon
Instructions

SHENZHEN MANTOU TECHNOLOGY CO.,LTD

Version update records

Version Number	Release Date	update content
V1.0	2015/3/5	Creation Document
V1.1	2015/5/5	Increase the square appearance of the product

Contents

Chapter I MTBeacon Introduction

1.1 Working Principle

MT Beacon based on Bluetooth Low Energy (BLE) at a fixed power, frequency, broadcast out of their own iBeacon ID, while the extended battery power pack broadcast and current work status. MTBeacon of iBeacon ID can be modified via the configuration tool, the ID is the UUID, Major, Minor three fields. All broadcast information in line with Apple's iBeacon standards.

1.2 The Phone Supports

Use MTBeacon needs phone to support hardware and systems, Apple iPhone4S phones require phone and after, the system requires a system iOS7.0 and later. Android client needs phone supports Bluetooth 4.0 and the system is Android4.3 and systems.

1.3 Main Applications

At present, there are indoor navigation application, museums, retail, line statistics, mobile payment, meeting attendance, smart home, WeChat | shake surrounding ,Alipay wisdom found.

Chapter II MTBeacon Hardware Parameters

| Project	Parameter
Chip	TI CC2541
Transmit power	Three levels：-23dBm、-6dBm、0dBm
Signal range	30m~100m
Radio frequency	100~1285ms Continuously adjustable
Protocol Standards	Standard protocol iBeacon
Firmware Update	Air Upgrade OAD
Sleep Current	1uA
Working current	The default configuration 50uA
Power supply	Mass CR2477 button battery
operating hours	The default configuration for 20 months
size	diameter:50mm，height:20mm
weight	22g（Round），25g（Square）
Material	White PC + Semipermeable ABS（Round）
	PC material（Square）
Sensing data	Light (only round), electricity
Lighting Tips	Blue LED prompt (only round)

1.4 Round Size

Polishing semipermeable shell using ABS, white apple, no logo. Base diameter 50mm, height 20mm, customizable Logo.
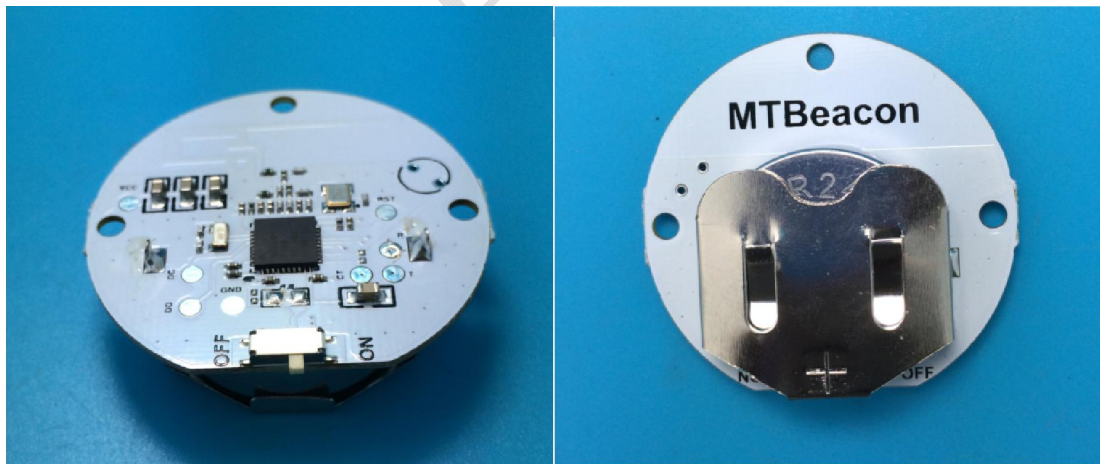
Internal structure, sampling CR2477 button battery, with power switch.

1.5 Square Size

Case Size: 46mm * 36mm * 18mm, no logo. Shell can be customized printing logo.
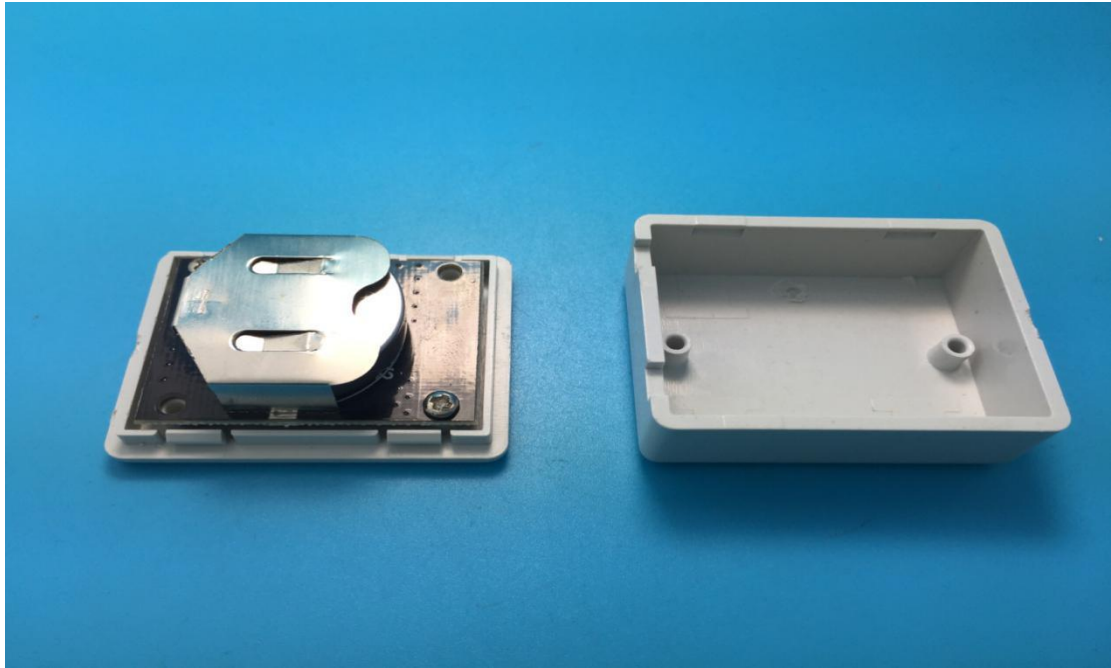
Internal structure, sampling CR2477 button battery.

Chapter III Performance

MTBeacon signal range and battery life with work-related modes, listed here signal range and battery life under different parameter settings.

Transmit power	-23dBm		-6dBm		0dBm	
project Broadcast interval	Distance (m)	operating time (month)	Distance (m)	operating time (month)	Distance (m)	operating time (month)
100ms	30	3	70	2.5	100	2
150ms		5.6		4.7		4
300ms		10.2		9		8
500ms		18		16		15
750ms		25		23		22
800ms		27		25.5		24
1000ms		36		32		30
1285ms		43		40		38

Note: the range of the test data signal under open environment, different indoor environments have different distances.

Chapter IV Using The Configuration Tool

1.6 Android System

1.6.1   Tool Installation

How to download：

PC ：http://android.myapp.com/myapp/detail.htm?apkName=com.mt.mtbeacon2

phone：Scan the two-dimensional code to download

1.6.2 Search

After opening the MTS Beacon tool to enter the search interface：

1.6.3 Static Scanning

In the static scanning mode, APP automatically start searching MTBeacon, Beacon and all the information, power information presented, if you need to update the scanned information, the search drop-down list refreshes to update.

1.6.4 Dynamic Scan

Click the button in the upper right corner of the static scanning, it will switch to dynamic scanning, this time, according to the scan parameters set dynamically updated device information, scan parameters configured through the Settings button in the upper left corner.

1.6.5 Single Configuration

If you need a single MTBeacon parameter settings, click on the scan list corresponding device to enter the setting interface, after entering the setting interface App will automatically be synchronized MTBeacon current configuration parameters to App, we can according to their needs in the current under configuration changes, as far as possible only modify their own parameters to be modified without modifying the parameters of the default values.

Parameters explain：

major：iBeacon major number, if used for WeChat | shake surrounding, the public number of parameters in the application down there Major, only need to apply for an ID to enter.

Minor：Parameter iBeacon minor number, if used for WeChat | shake surrounding, the public application number down in there Minor, only need to apply for an ID to enter.

Txpower: This value is the signal intensity from the user equipment at 1 meter, ie the user hold the phone away from the stand about 1 meter MTBeacon received signal strength (RSSI), generally use the default value, if not in distance when accurate, you can use the distance calibration feature to automatically adjust the settings.

Transmitting power: MT Beacon emission intensity of the signal, the default is the strongest C grade, B grade weaker, A grade weakest. The higher the signal strength, a signal corresponding to a larger range, the power consumption of the device will increase.

UUID: iBeaconUUID, used to distinguish the different functions of the device. If used for WeChat | shake surrounding, WeChat | shake surrounding is only a unified UUID, MTBeacon factory default setting is this UUID, may need to be changed. If you need to set up additional UUID, we can touch edit UUID enter the editing interface.

Temporary deployment: the temporary deployment of equipment, the device will not be connected after deployment, this function is suitable for public places, to prevent others from malicious attacks, after MTBeacon deployment, does not accept connections from other devices. If you need to reconfigure the parameters, you need to MTBeacon can be conducted after power reboot.

1.6.6   Bulk edit

Click on the following tab options feature bar, you can see the bulk edit feature MTBeacon.

After entering the bulk edit all parameters settings and individual configuration is the same. But the front of each parameter will have a check button, if the button has checked, when bulk editing will modify the parameters which, if not selected, batch modify this parameter will not change (use current MTBeacon value).

Behind **major** and **minor** have a drop-down option, namely to maintain, increase, decrease.

Hold: all set to the same parameters MTBeacon

Increments: starting from the parameters of the current set increment settings on each MTBeacon.

Decreasing: from the beginning of the current parameter settings, set the decremented each MTBeacon.

1.7 IOS system

Search the Apple Store：MTBLE。

SHENZHEN MANTOU TECHNOLOGY CO.,LTD

Main Business

Focus on technology development and low-power Bluetooth module, iBeacon supply base, deeply rooted in the field of BLE. A number of customized programs, such as: BT thermometer, baby temperature and humidity detection, monitoring vaccine handheld device, Bluetooth cell access control systems.

Company Address：Floor2,Building H2,Hongfa-techPark,Tangtou Road,Shiyan Town,Bao'an District,Shenzhen,China.

Company Website：http://www.mantoukeji.cn/

Company Phone: 0755-27657416

Company Fax: 0755-23347853

Contact Number：188 2333 5955

Technical Services QQ：2780785667

Buy：http://mantoukeji.taobao.com/

Federal Communications Commission (FCC) Statement

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 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.

Warning: Changes or modifications made to this device not expressly approved by Hunan Forzone Culture Science And Technology Development Co., LTD may void the FCC authorization to operate this device.

Note: The manufacturer is not responsible for any radio or tv interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

RF exposure statements

The transmitter must not be co - located or operated in conjunction with any other antenna or transmitter. This equipment complies with the FCC RF radiation exposure limits set forth for an uncontrolled environment.