# Bluetooth Beacon VG02 User Manual

Name: Bluetooth Beacon

Model No: VG02

Revision: V1.02

## Revision History

| Revision | Description | Approved | Date |
|---|---|---|---|
| V1.01 | Initial Release | Hogan | 20170403 |
| V1.02 | Update certification information | George | 20170831 |

# Contents



**List**

| Device Name | Device No. | Number | Remark |
|---|---|---|---|
| Bluetooth Beacon | VG02 | 1 PCS | |
| Button Cell Battery | Size AA | 2 PCS | |

# 1. Product Introduction

VG02 is a Bluetooth Beacon device. Bluetooth Beacon is a broadcasting protocol which is based on BLE protocol, also referred to a kind of BLE peripheral device that has this protocol. VG02 as a Bluetooth Beacon device, it is usually placed in a certain place, and it broadcasts its beacon signals like UUID, Major, Minor, RSSI etc. to surroundings continuously, and it can not be entered to the connection state to any BLE central device, the advertising data are arranged according to certain rules .

SkyBeacon is a Phone APP for configuring VG02 which is made by Skylab R&D Team. Use this APP to connect to VG02 and modify its parameters such as UUID, Major, Minor, Name and so on. These parameters will be advertised after the VG02 being advertising condition.


**VG02**

## 1.1 VG02 Internal Module Introduction

VG02 is based on Nordic nRF51822 or nRF51802 Bluetooth chip.
VG02 is powered by two sizeAA battery, the battery life is related to the internal parameters of the VG 02. In addition, the VG02 internal PCB board has a burning port, a pair of UART serial port.

## 1.2 VG02 Features

Low Power Consumption
Flexible Application
Easy to Install
Advertise Range up to 70 Meters
Dustproof and Waterproof Grade IP66
RoHS compliance (Lead-free)
FCC,CE compliance

### 1.3 VG02 Application

Indoor Positioning
Information Push
Identification
WeChat Shake

## 2. Hardware Parameter

### Product Parameter

| | |
|---|---|
| Size | 72*45*26mm ( Length*Width*Height ) |
| Battery Model | Size AA |
| Operating Temperature | -20℃~70℃ |
| Transmission Power | -30~+4dBm |

### Battery Life

| Power | Coverage | Advertise Interval | Battery Life |
|---|---|---|---|
| +4dBm | 70m | 100ms | 20 month |
| | | 200ms | 35 month |
| | | 500ms | 90 month |
| | | 1000ms | 120 month |
| +0dBm | 50m | 100ms | 24 month |
| | | 200ms | 46 month |
| | | 500ms | 95 month |
| | | 1000ms | 125 month |

The above data are only for reference.

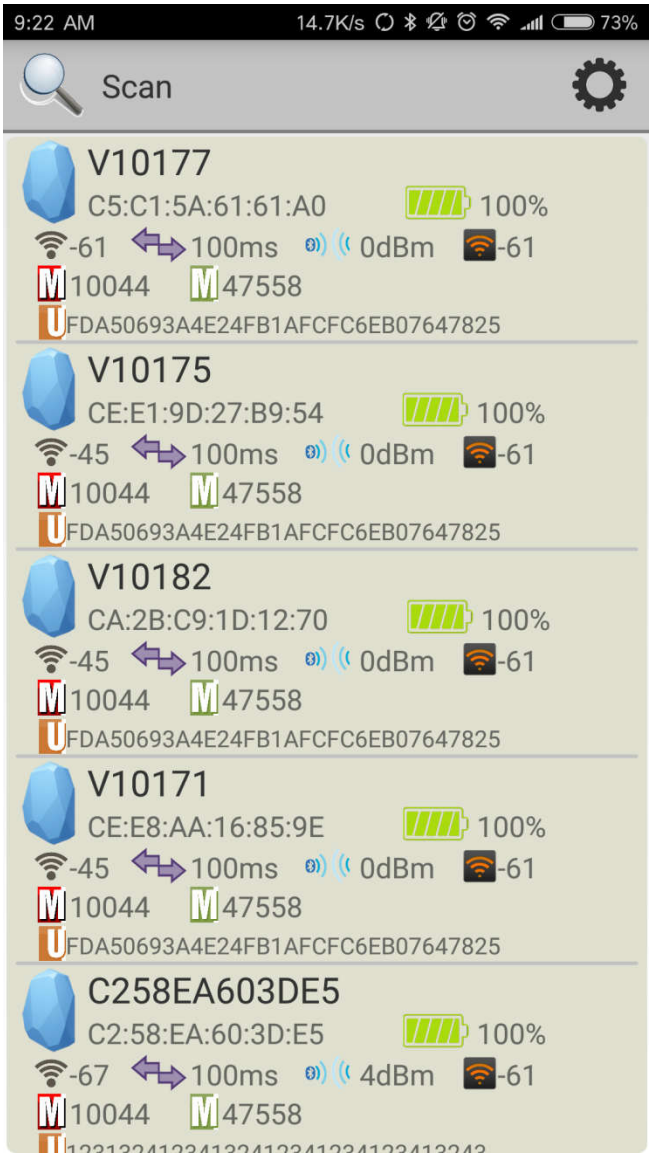
## 3. Configuration Parameters

### 3.1 VG02 Power on

Open the bottom shell of the VG02, install two Size AA batteries ,and then switch to “ON”.At this point, VG02 begin to broadcasting , and then install the bottom shell of the VG02.

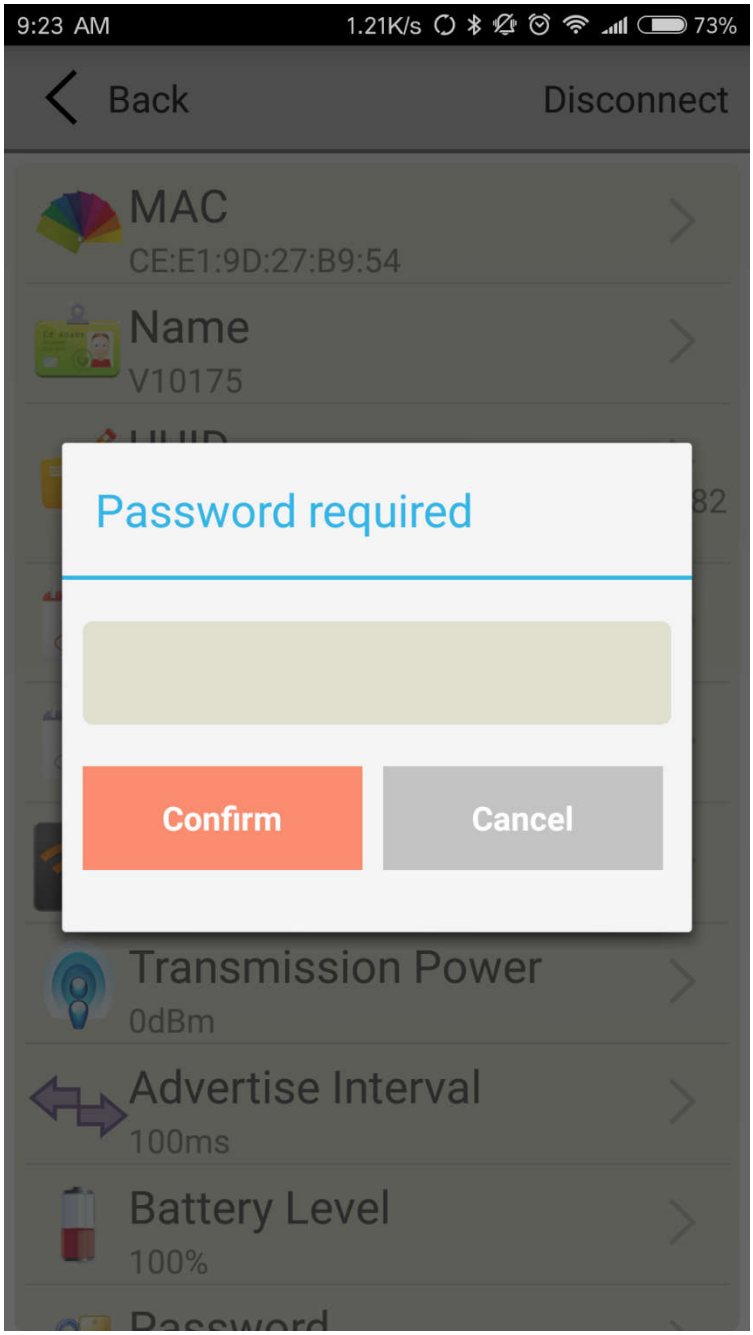
### 3.2 Scan Bluetooth Beacon

Open the APP and click the "Scan", cell phones begin to scan the surrounding Bluetooth Beacons.

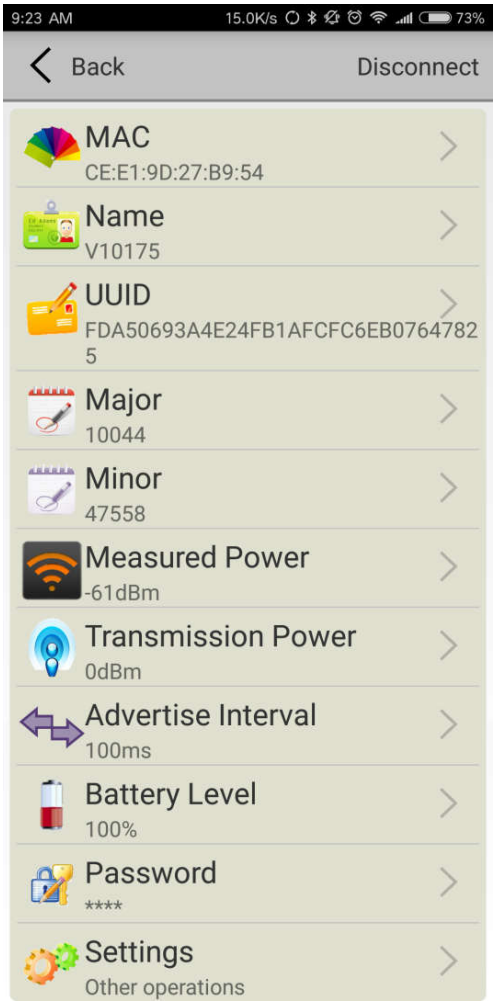


### 3.3 Connect Bluetooth Beacon

Click the Bluetooth beacon to be connected, enter the password within 30 seconds, in order to obtain operating privileges .(Factory Password:1234)



### 3.4 Configuration Introduction




Introductions:

MAC: Chip MAC address

Name: The name of the Bluetooth Beacon which is selected.

UUID: 128-bit identifier according to ISO/IEC11578:1996 standard (32 hexadecimal digits)

Major: set 16-bit identifier (0-65535)

Minor: set 16-bit identifier (0-65535)

Measured Power: Signal strength at 1 meter ( VG02 transmission power is 0dBm )

Transmit Power: VG02 transmit power

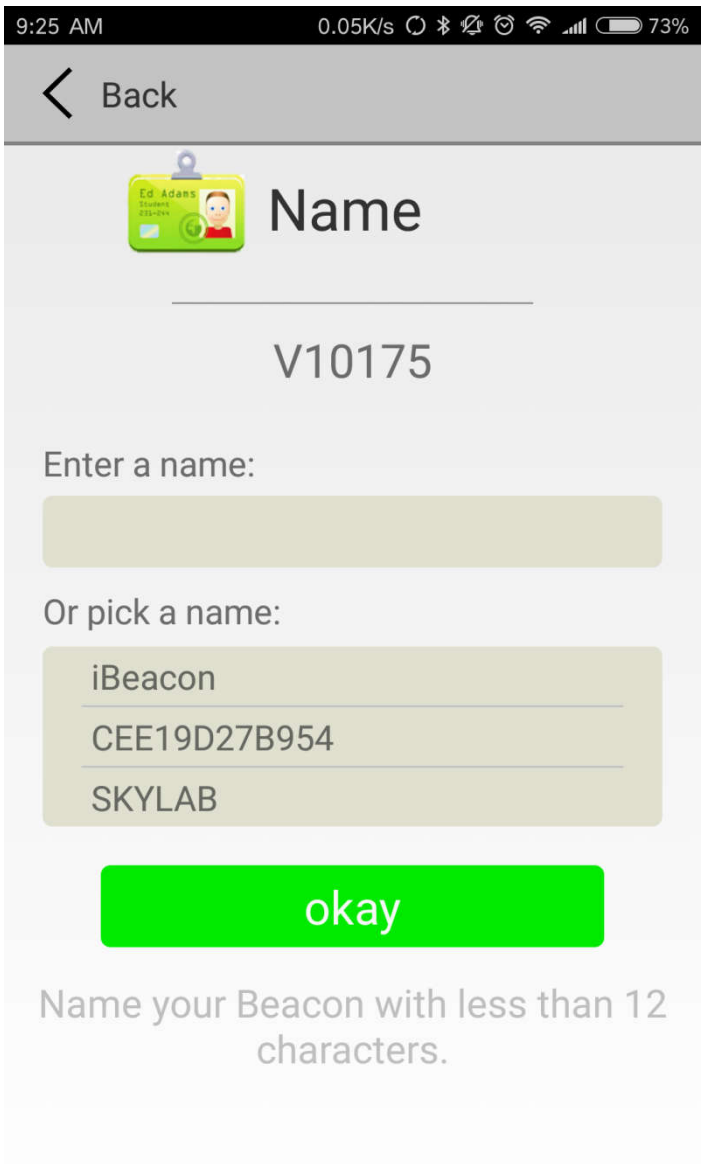
Advertise Interval: VG02 advertise interval

Battery Capacity: VG02 battery Capacity

Password: VG02 connection password

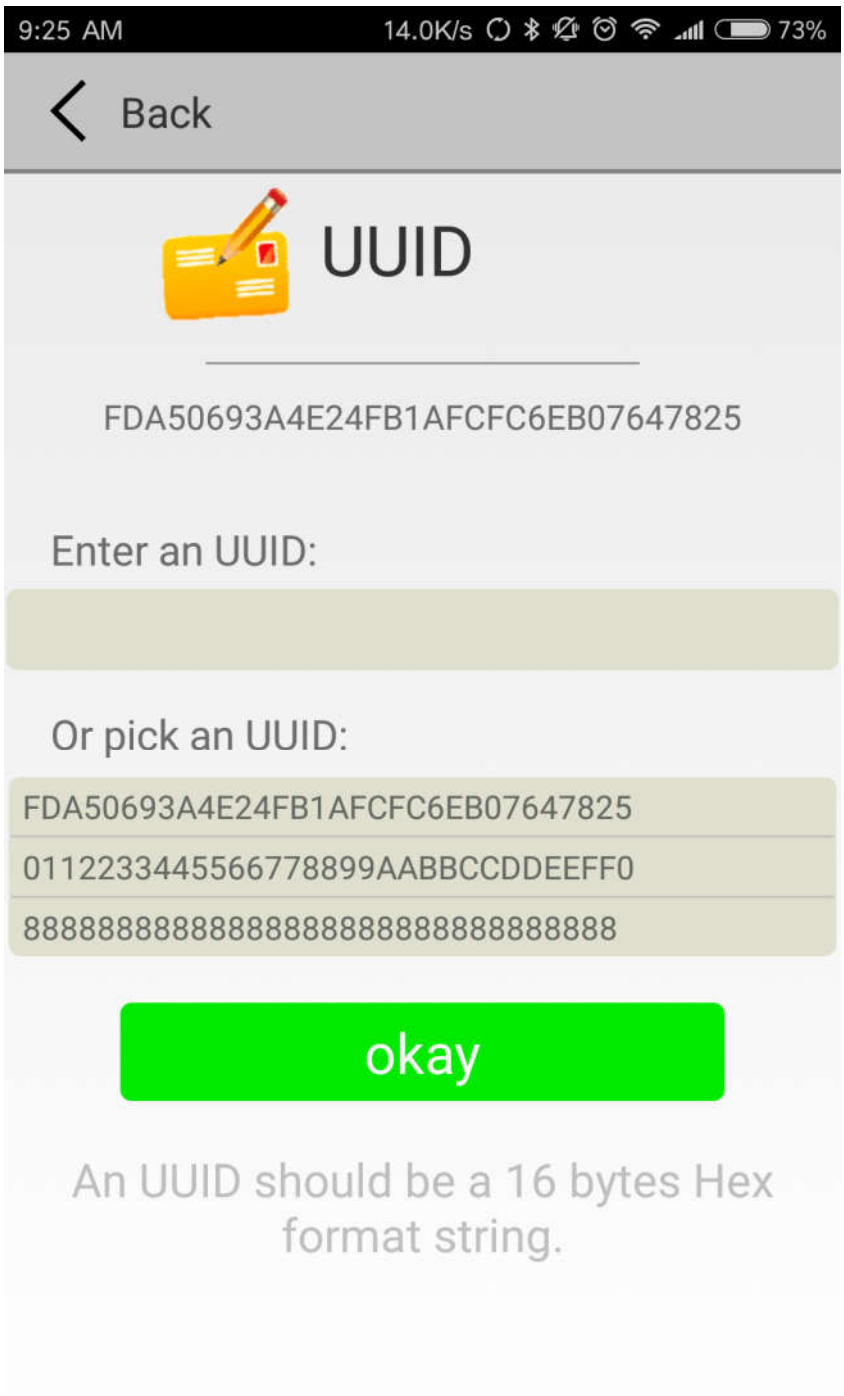
### 3.5 Modify Bluetooth Beacon Name

Click the “Name”, appear the following UI, and then enter a length of less than 12-bit English characters as VG02 device name in the following “Enter a Name” box. Then click “okay”.



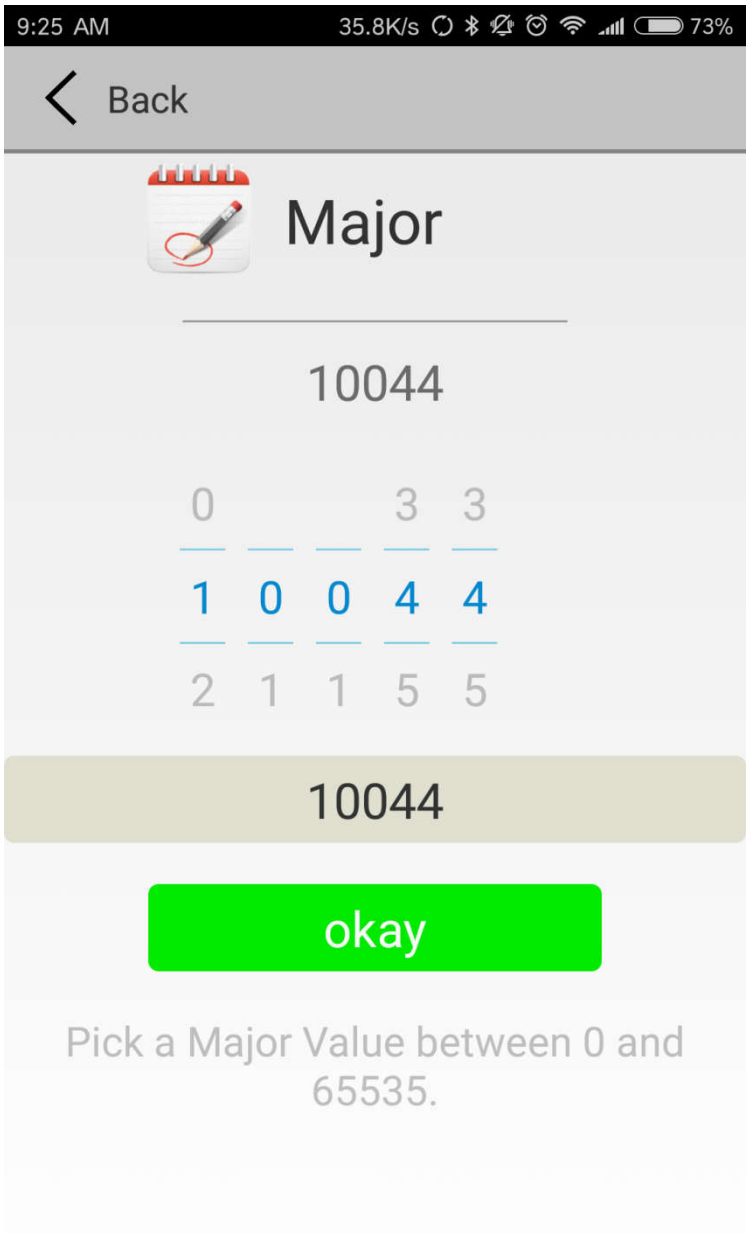
### 3.6 Modify UUID

Click the “UUID”, appear the following UI, and then enter a 32-byte string of sixteen as the UUID of VG02 in the following “Enter an UUID” box. Then click “okay”.



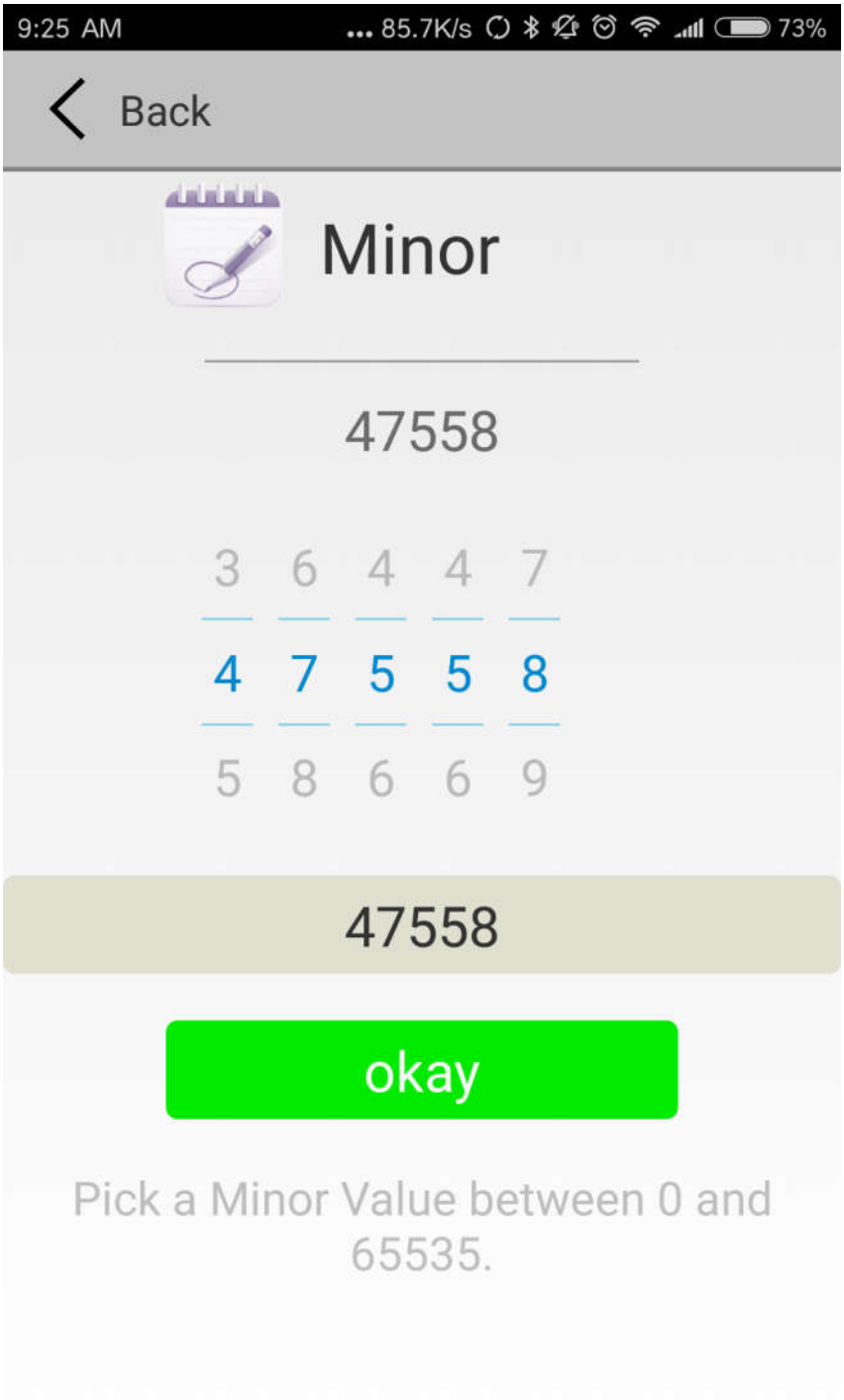
### 3.7 Modify Major

Click the "Major ", appear the following interface, set a value between 0~65535 as the Major values of the device. Then click “okay”.



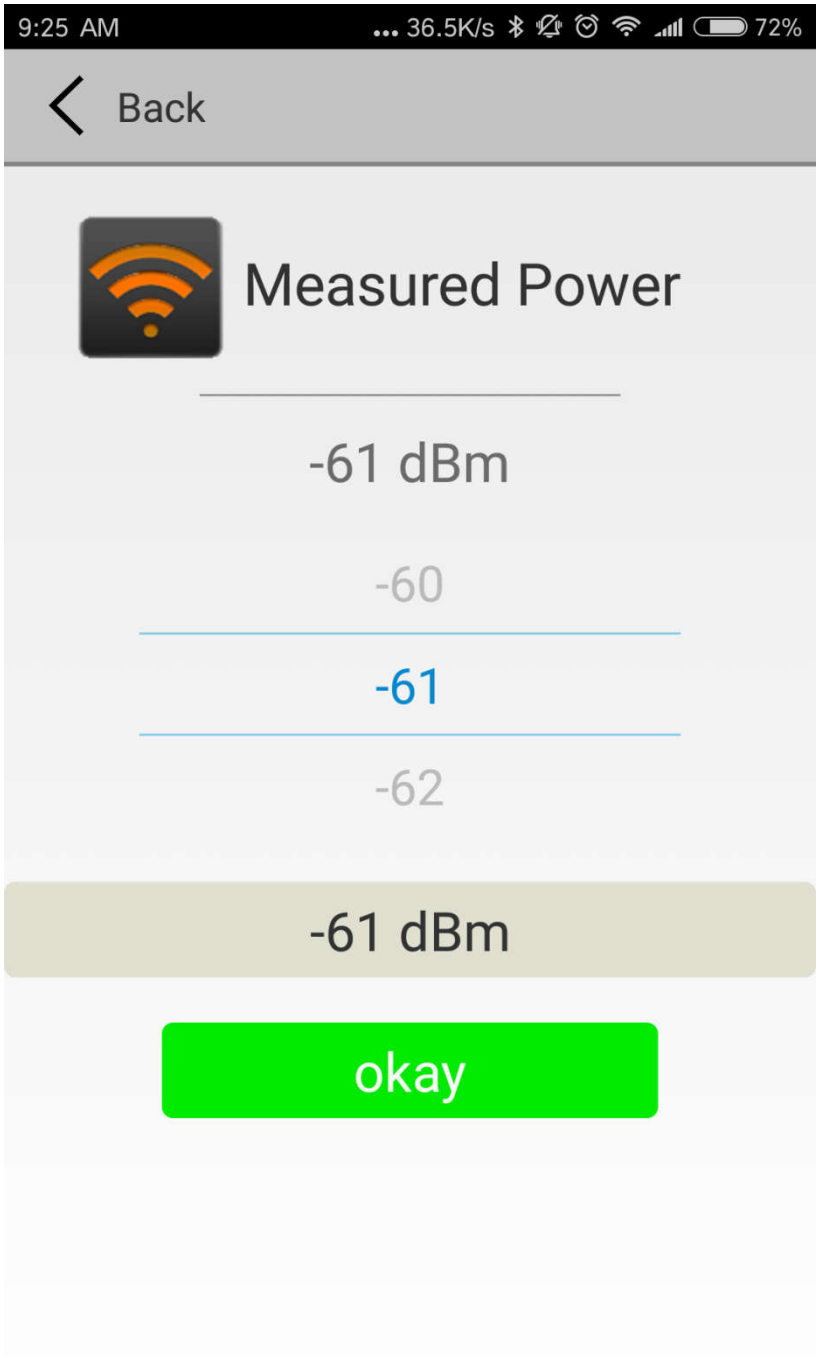
### 3.8 Modify Minor

Click the "Minor" appear the following UI, set a value between 0~65535 as the Minor value of the device. Then click “okay”.



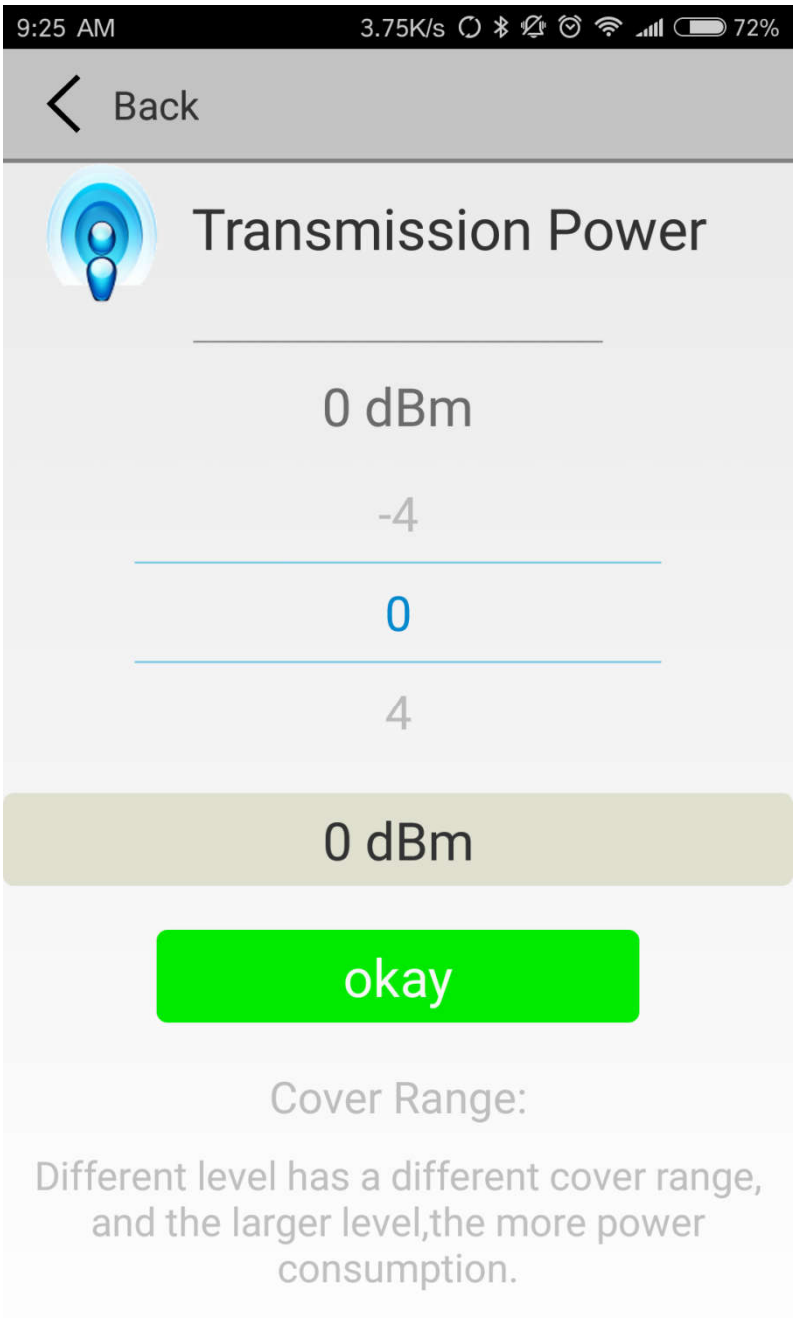
### 3.9 Modify Measured Power

Click the “Measured Power”, appear the following UI, set a measured power far away one meters from VG02, adjustable range -100dBm~-30dBm, the default is -61dBm.The meaning of the value, when the device received advertise signal strength is -61dBm of VG02, the device is about 1 meter from VG02. Then click “okay”.



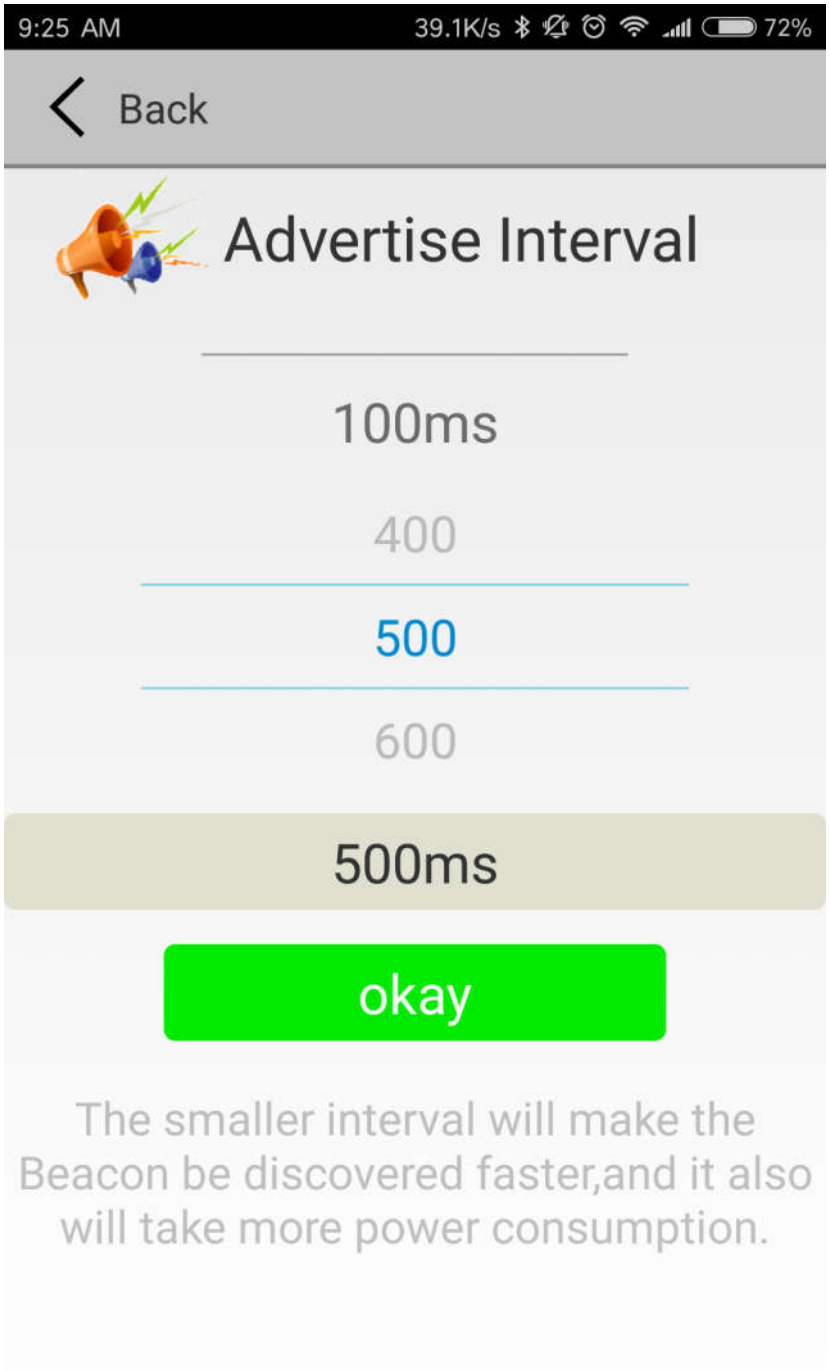
### 3.10 Modify Transmission Power

Click the "Transmit Power" appear the following UI, set a transmission power of VG02,, the power can be set to: -30dBm, -20dBm, -16dBm, -12dBm, -8dBm, -4dBm, 0dBm and 4dBm. Default is 0dBm. Then click “okay”.



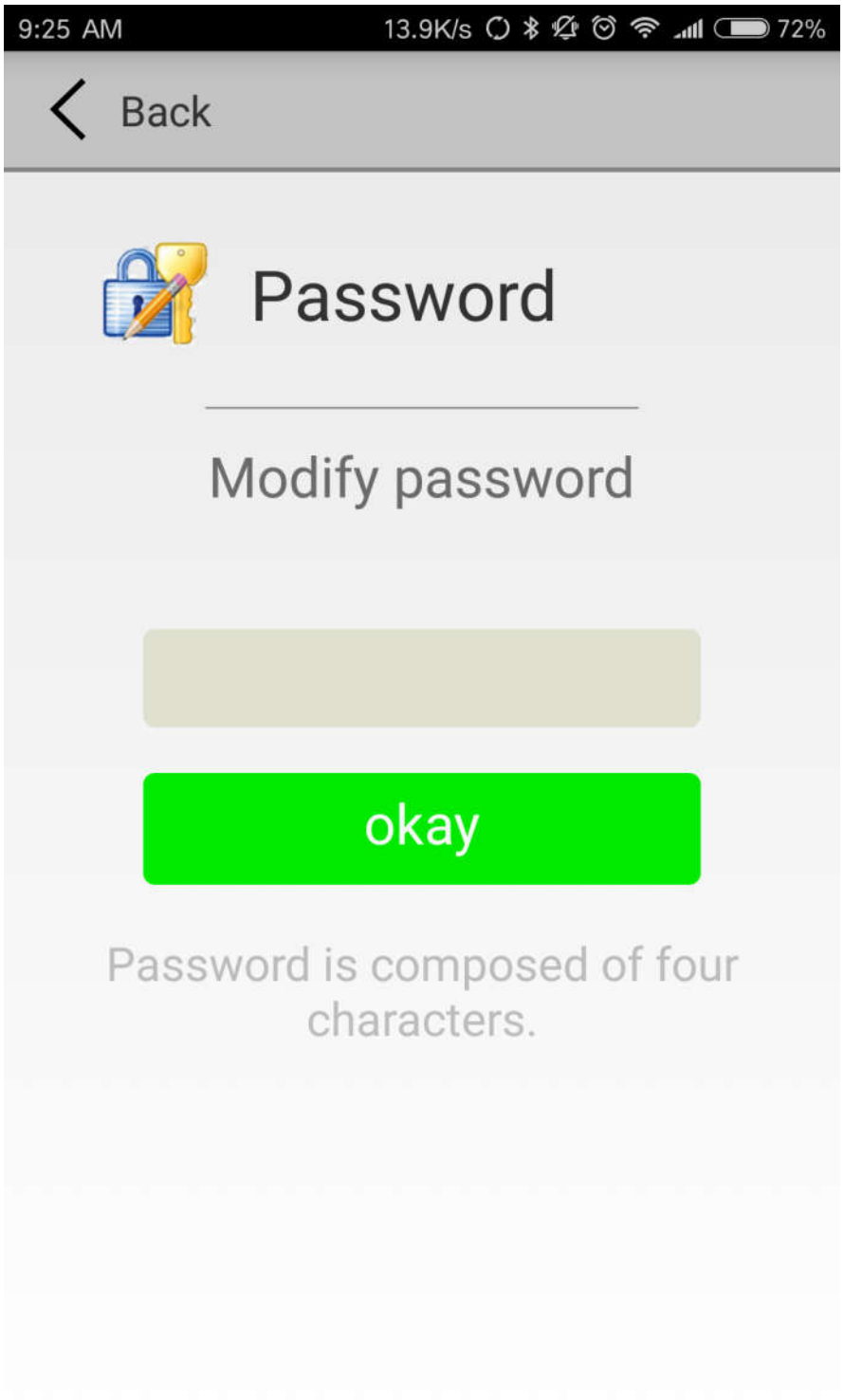
### 3.11 Modify Advertise Interval

Click the "Advertise Interval" appear the following UI, set a advertise interval, broadcasting interval can be set to 100ms, 200ms, 300ms, 400ms, 500ms, 600ms of 700ms, 800ms, 900ms and 1000ms. The default is 500ms. Then click “okay”.



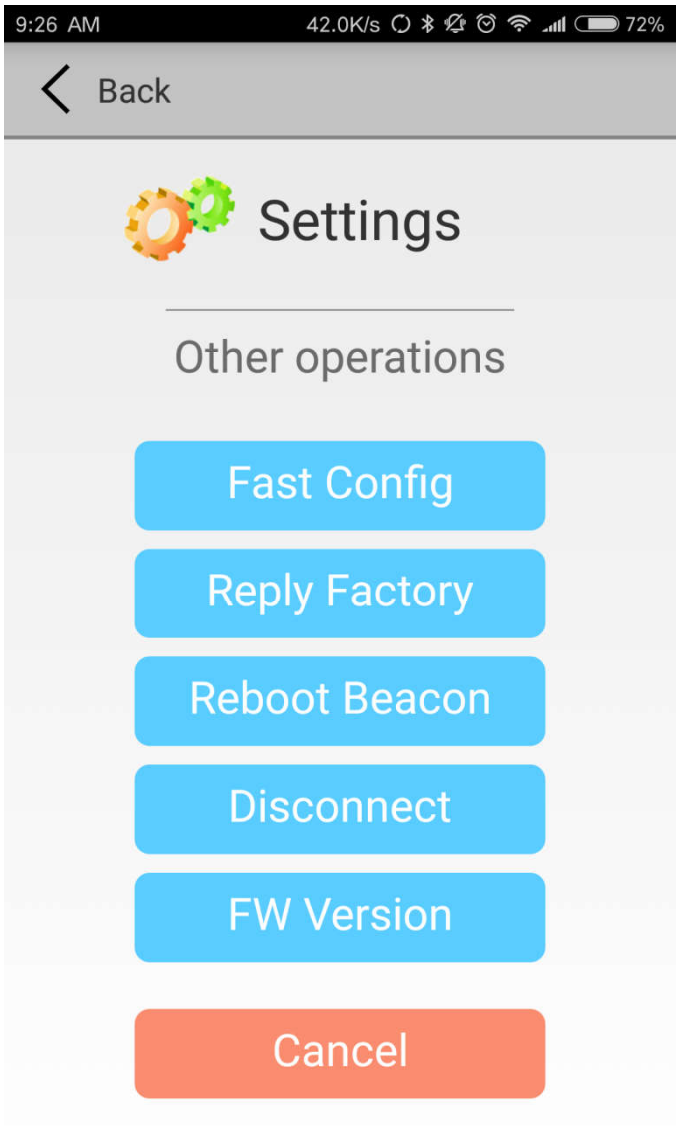
### 3.12 Modify Password

Click the “Password”, appear the following UI, and then enter the 4 characters as a connection password in the “Password” box, the default is 1234. Then click “okay”.



### 3.13 Settings

Settings interface can achieve other operations.




Introductions:

Fast Config: Fast configuration can realize quickly configuration your beacons by using the last record

Reply Factory: Restore factory settings

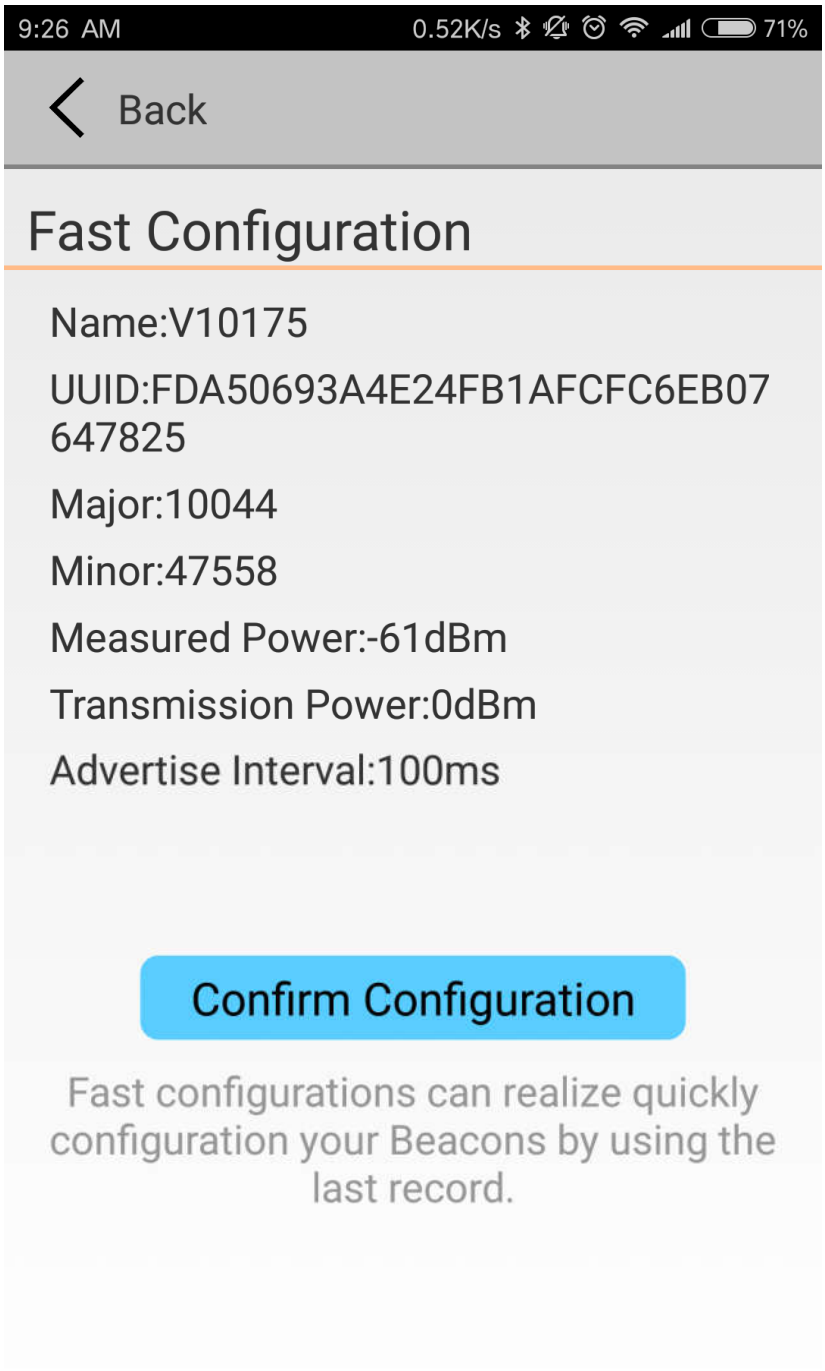
Reboot Beacon: Restart the VG02

Disconnect: Disconnect the current VG02

FW version: View the current firmware version of VG02

### 3.14 Fast configuration

Fast Configuration can realize quickly configuration your beacons by using the last record.



### 3.15 Download APP

Android Version of QR Code

IOS Version of QR Code

Introductions: Also available in Android Market (Android version) or the APP Store (IOS version) download in APP. SkyBeacon is the name of the APP.

## 4. Contact Information

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