VDB1608 Datasheet

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Content

1. Product introduction

VDB1608 is a BLE(Bluetooth Low Energy) 5.0 card. It can broadcast its owner's personal identification information like name and number. And it can be used as indoor positioning card, which can be located by BLE gateway or other BLE locating base-station.

VDB1608 can also scan and forward at most 3 other BLE cards/beacons whose broadcasting frame pattern are the same as VDB1608's. In that way, the covering
range of BLE gateway can be extended by card relay.

VDB1608 has a rechargeable 600mAh Li-Battery.
It can be charged by a magnetic USB connector line. Please follow the magnetic draw direction which will combine the card and connector tightly. Do not let the battery run out for too long, which may damage the battery, and make it difficult to recharge.

VDB1608 has a power key which can also be used as SOS key. Short press can activate the SOS signal, and long press (>3S) can power on or power off the card.

VDB1608 has two LED. The red one will be on when the battery is charging. The blue one will be on when pressing the button.

Figure 1-1 VDB1608 top and bottom

2.Basic parameters

BLE5.0 TX power	+8dBm Max
BLE5.0 RX sensitivity	-95dBm(1Mbps BLE)；-103dBm(125Kbps BLE)
Frequency	2400~2483.5MHz
Battery Life	TBD
Power consumption	TBD
LED	Charging LED, state LED
Key	Short press: SOS Long press: Turn on/off
Broadcasting distance	100 meters
Battery capacity	550mAh
Charging cable	Magnetic connect cable
Charging time	4 hours
Program updating	Support USB JLINK Support OTA(Over The Air, by bluetooth updating)
Operating Temp.	-20~60℃
IP grade	IP67 （water resistance）
Dimention	85.33*53.92*7.26mm
Accessory	Magnetic connect cable, Hanging belt

Table 2-1 Product parameters

3. Software Application Guide

3.1 Download APP

Skylab_xbeacon hasn't been put into the market yet. Please contact our sales for the latest APP.

3.2 Scan Bluetooth Beacon

Open the APP, if cell phone ask for permission to open bluetooth, please select yes. Then it will begin to scan the surrounding Bluetooth Beacons.
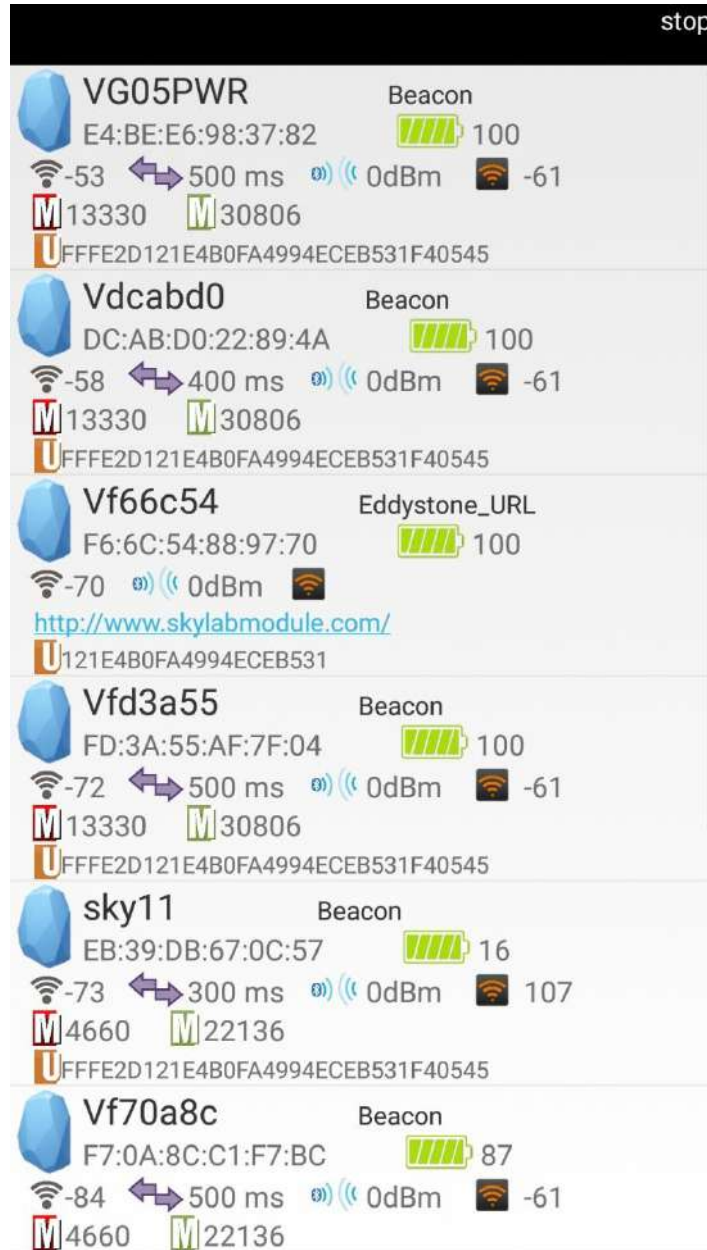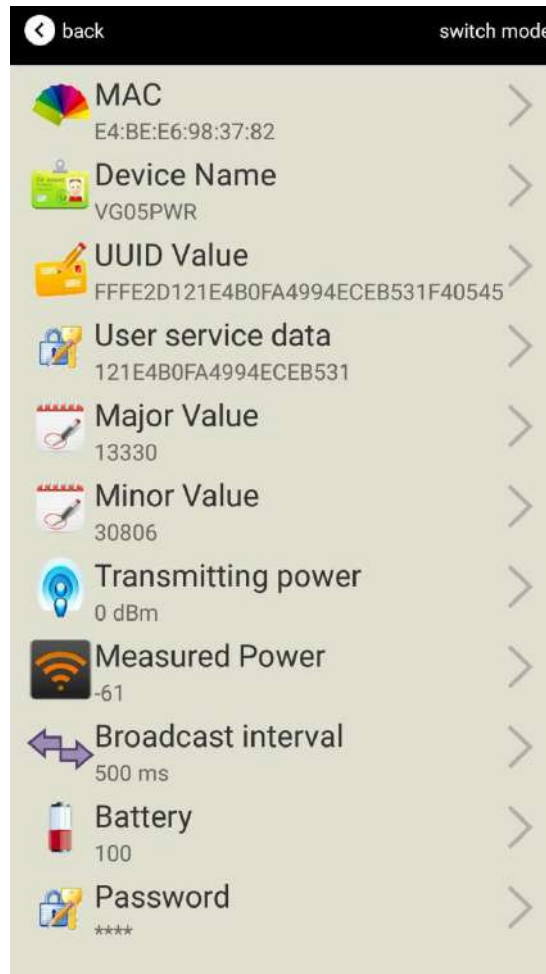
3.3 Connect Bluetooth Beacon

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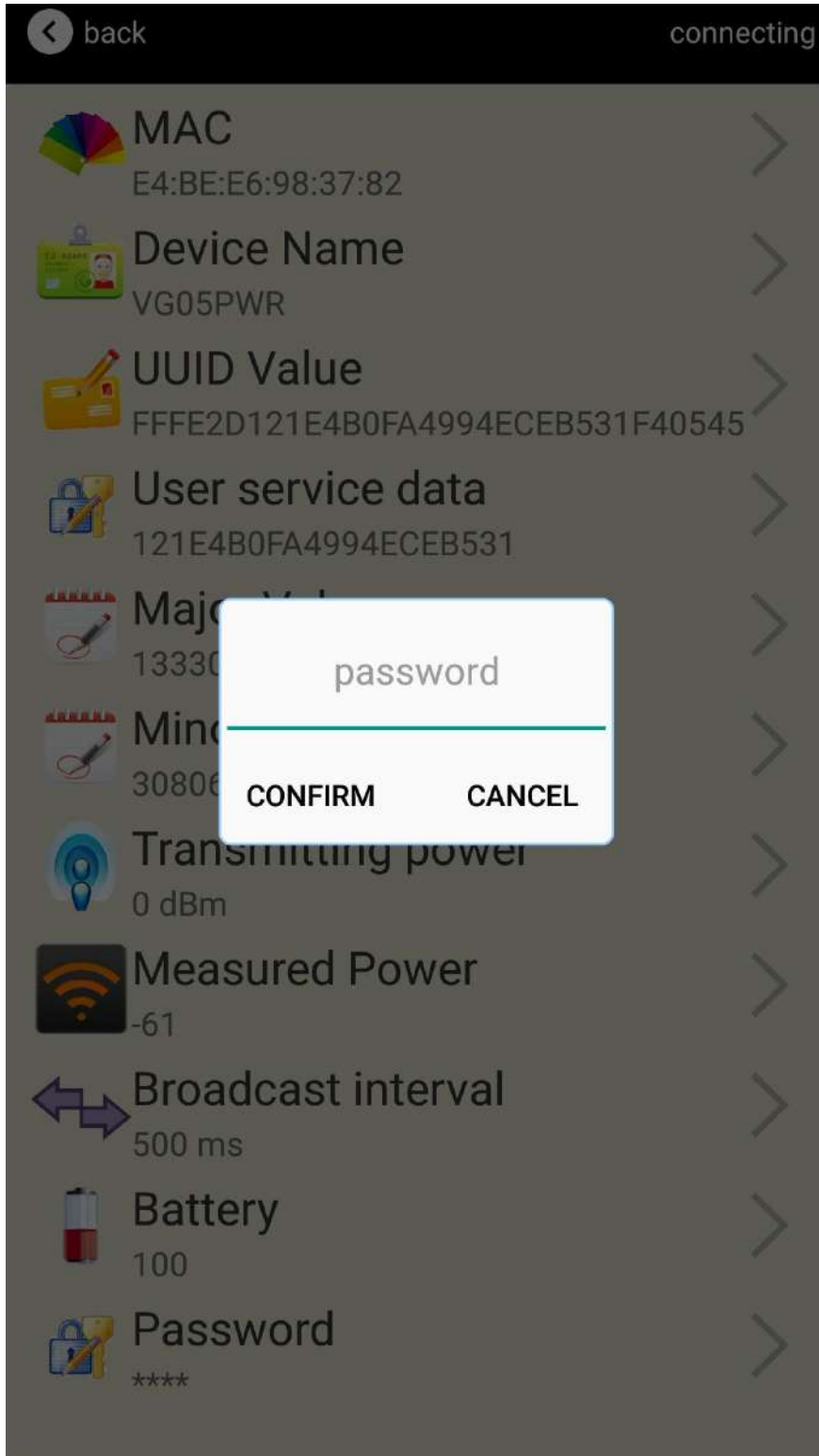
3.4 Configuration Introduction

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（VDB1608 transmission power is 0dBm）

Transmit Power: VDB1608 transmit power

Advertise Interval: VDB1608 advertise interval
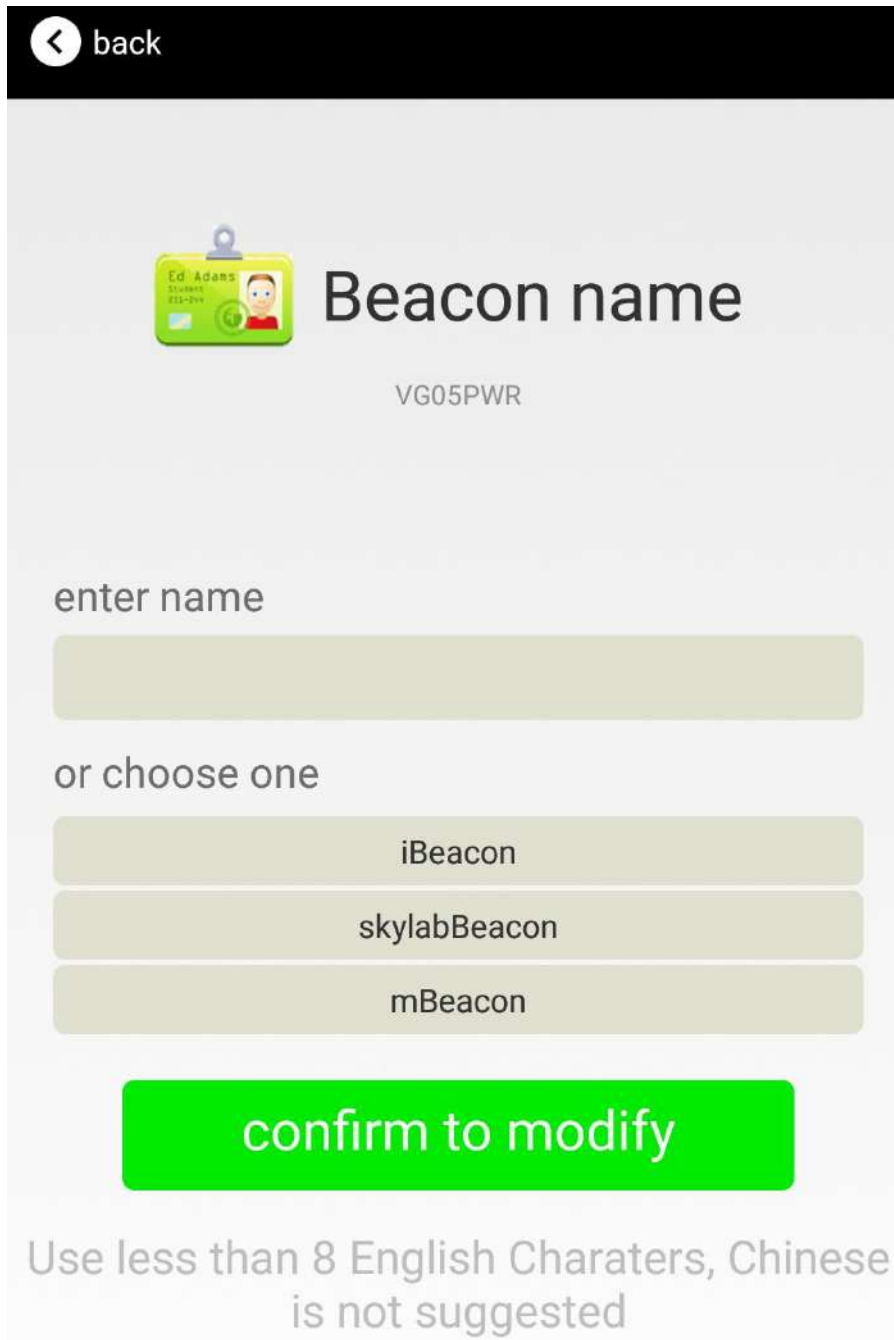
Battery Capacity: VDB1608 battery Capacity

Password: VDB1608 connection password

After the information is configured ,the configuration will take effect after the bluetooth connection   is disconnected.

3.5 Modify Bluetooth Beacon Name

Click the "Device Name", the following UI will be opened. Then enter a length of less than 12-bit English characters as VDB1608 device name in the following "Enter a Name" box. Then click "confirm to modify".
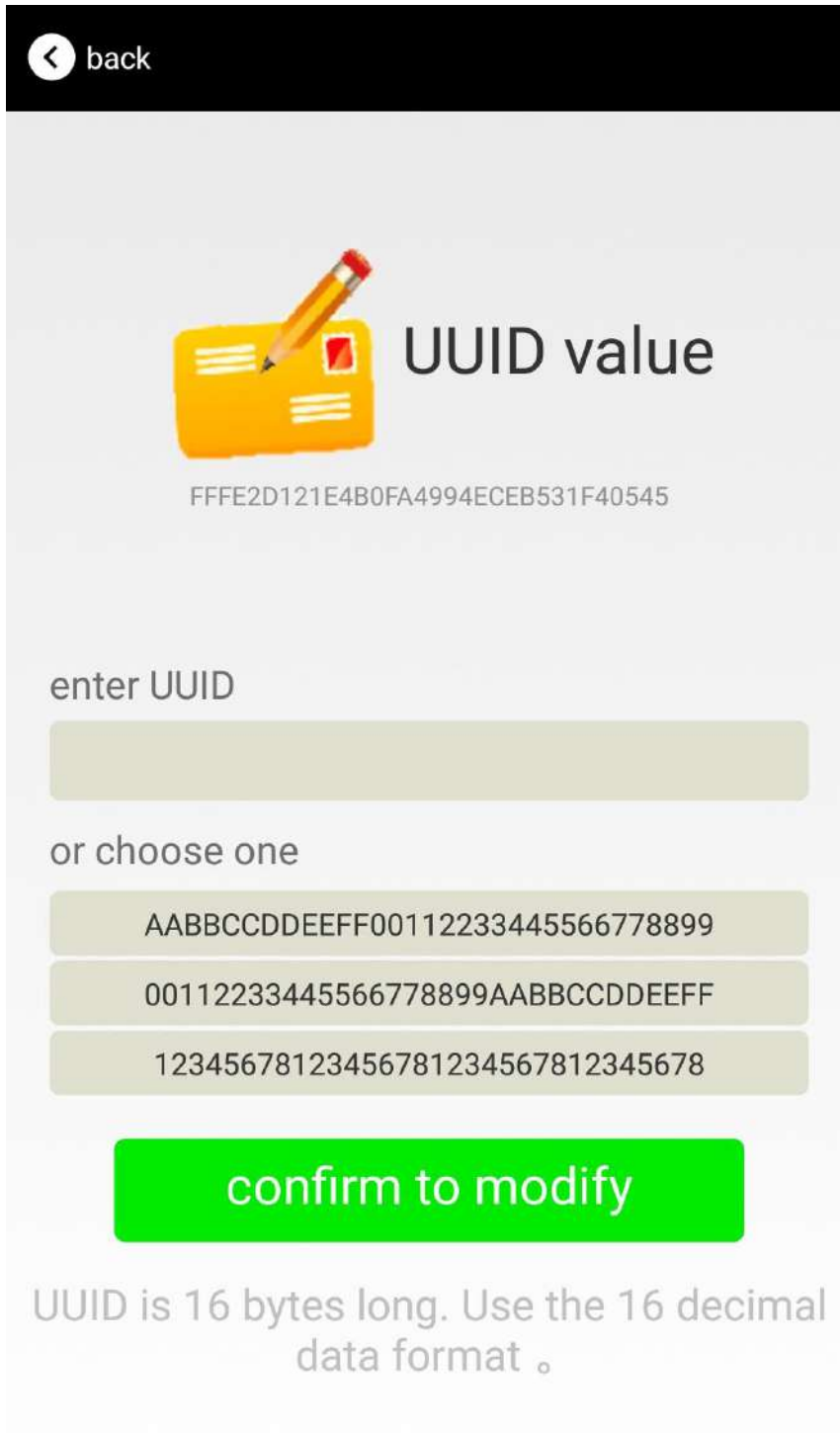
3.6 Modify UUID

Click the "UUID", ,the following UI will be opened. Then and then enter a 32-byte string of sixteen as the UUID of VDB1608 in the following "Enter an UUID" box. Then click "confirm to modify".
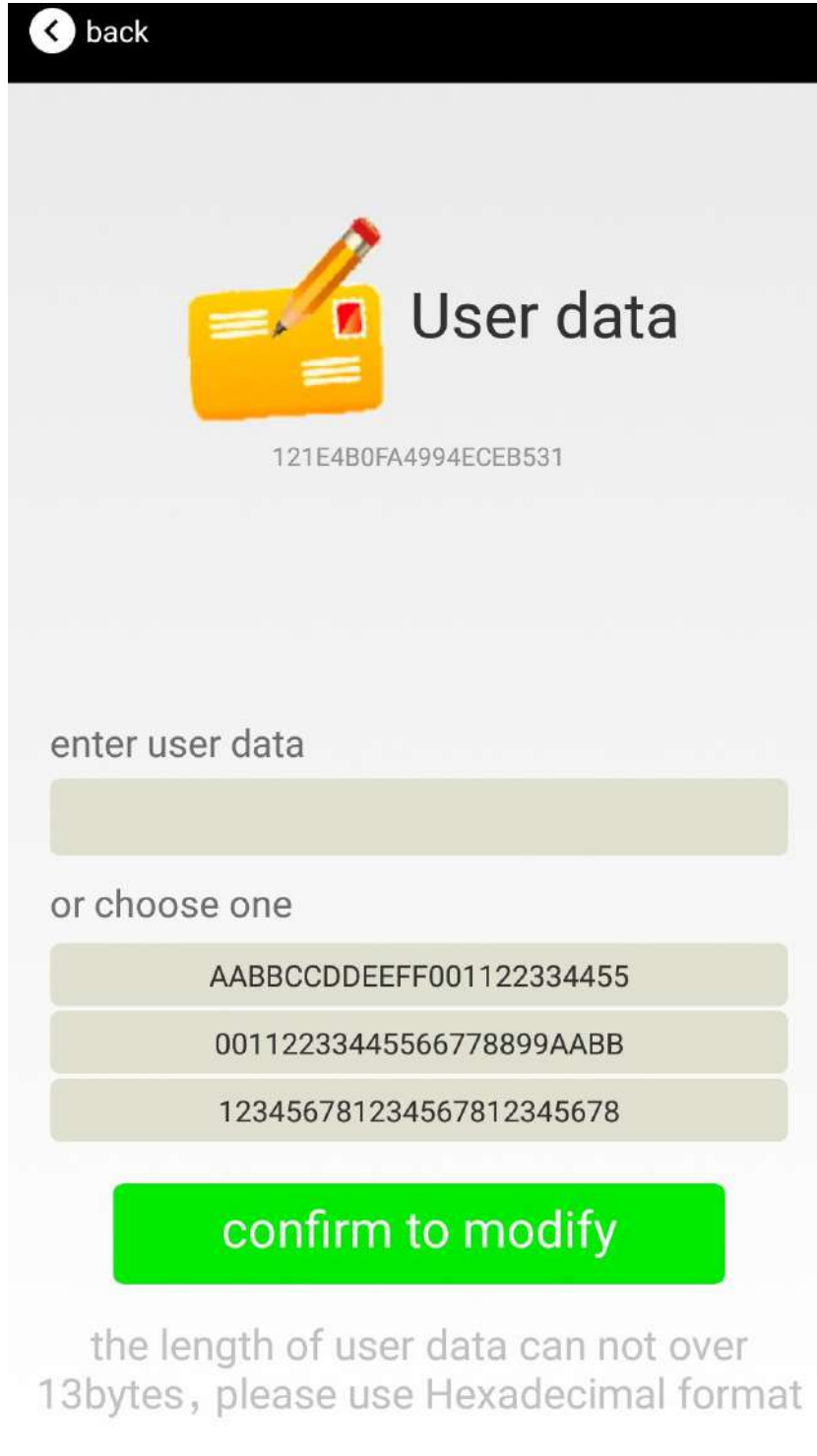
3.7 Modify User service data

Click the " User service data ", the following interface will be opened. Then enter a Hexadecimal string of 24 word . Then click "confirm to modify".

3.8 Modify Major/Minor

Click the "Major"/"Minor" ,the following UI will be opened. Then set a value between 0~65535 as the Major/Minor value of the device. Then click "confirm to modify".
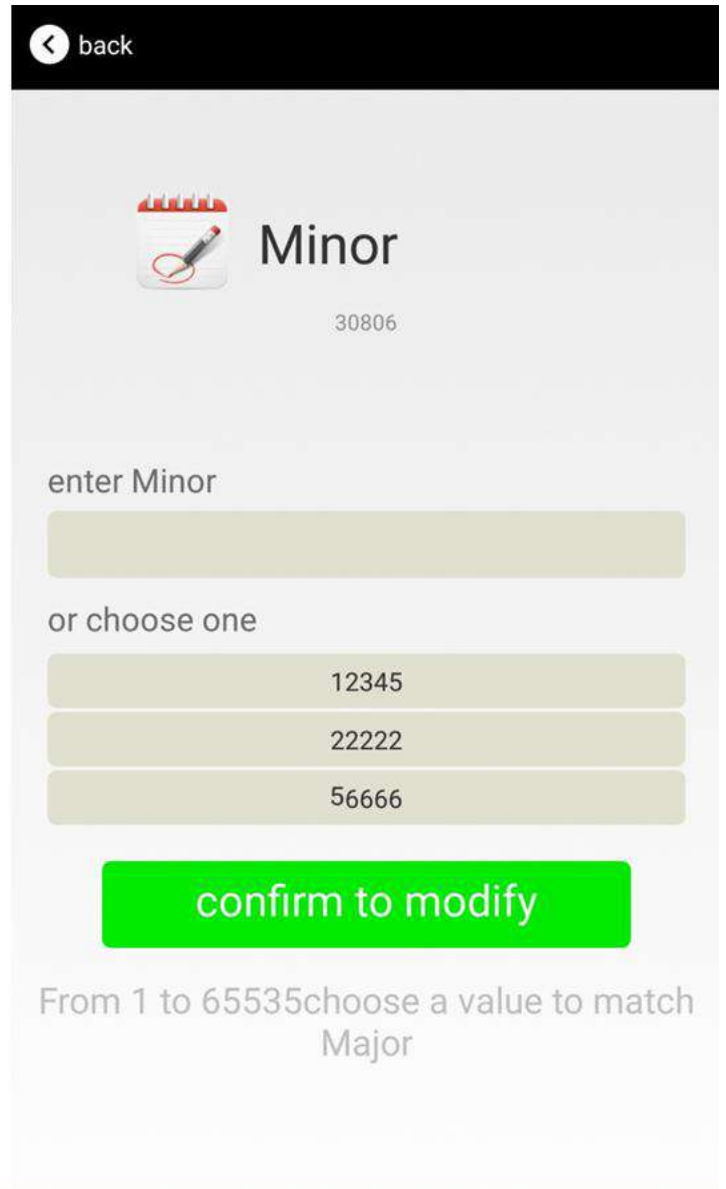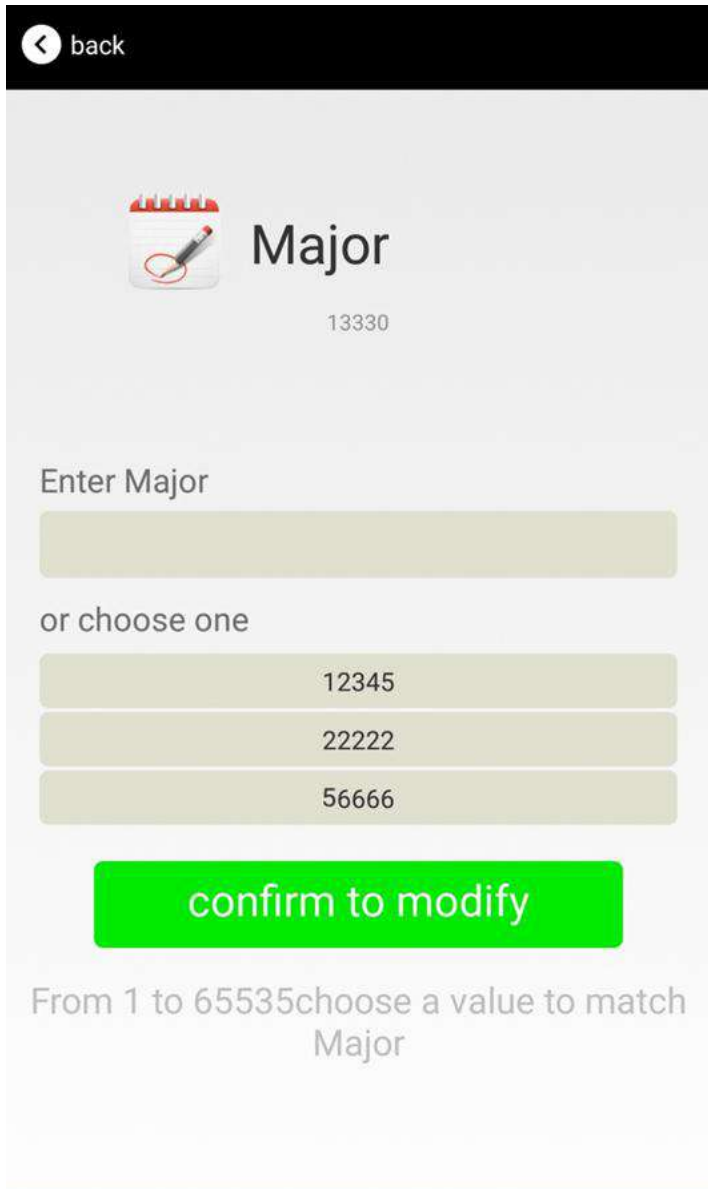
3.9 Modify Measured Power

Click the "Measured Power", ,the following UI will be opened. Then select a measured power range from -100dBm to -30dBm. The default is -61dBm. Then click "confirm to modify".

Measured Power means, when a phone's RSSI is -61dBm, it is about 1 meter from VDB1608.
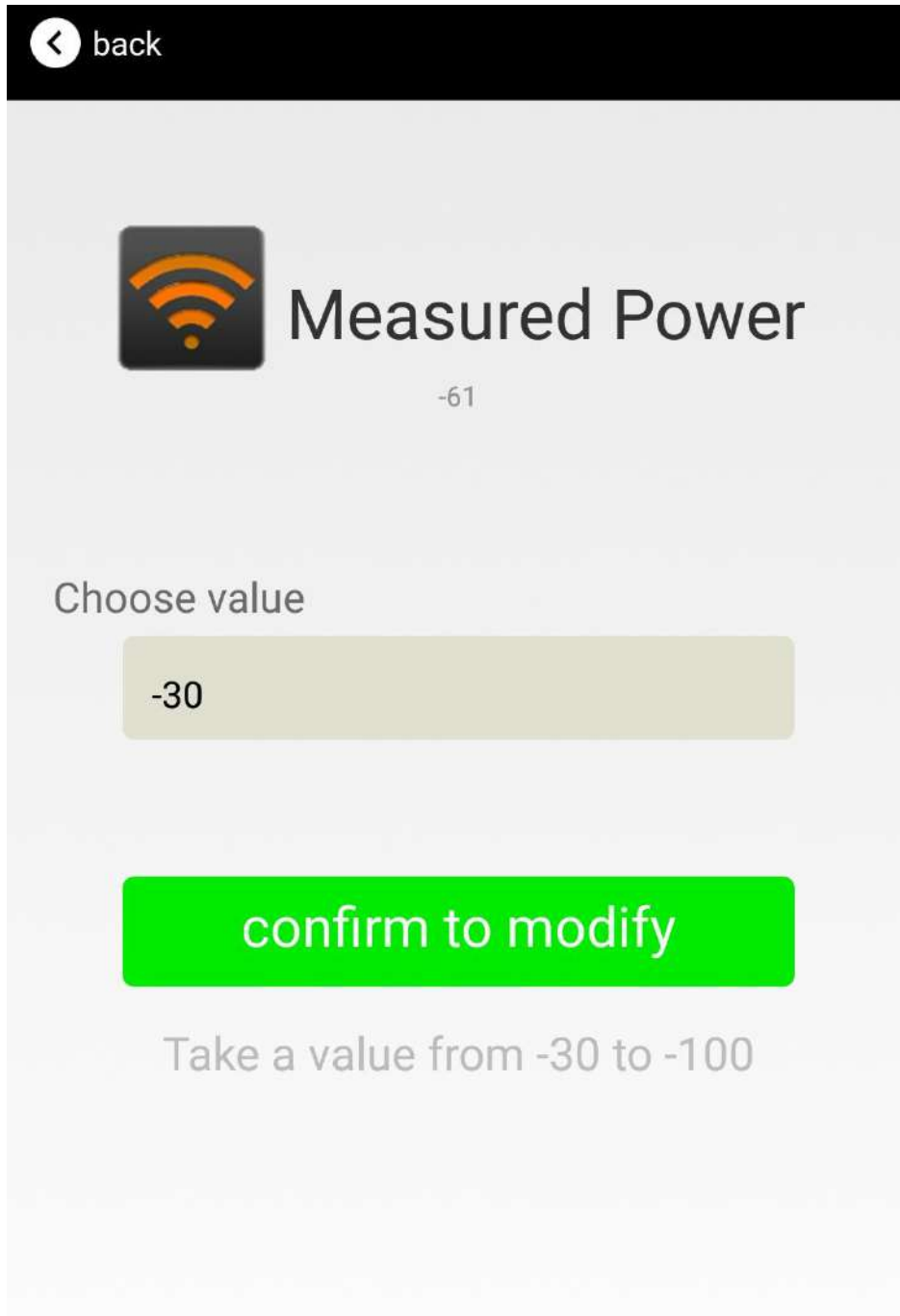
3.10 Modify Transmitting Power

Click the "Transmitting Power" ,the following UI will be opened. Then set a transmitting power, which can be set to: -16dBm, -12dBm, -8dBm, -4dBm, 0dBm, 4dBm(8dBm will be added in the future). Default Power is 0dBm. Then click "confirm to modify".
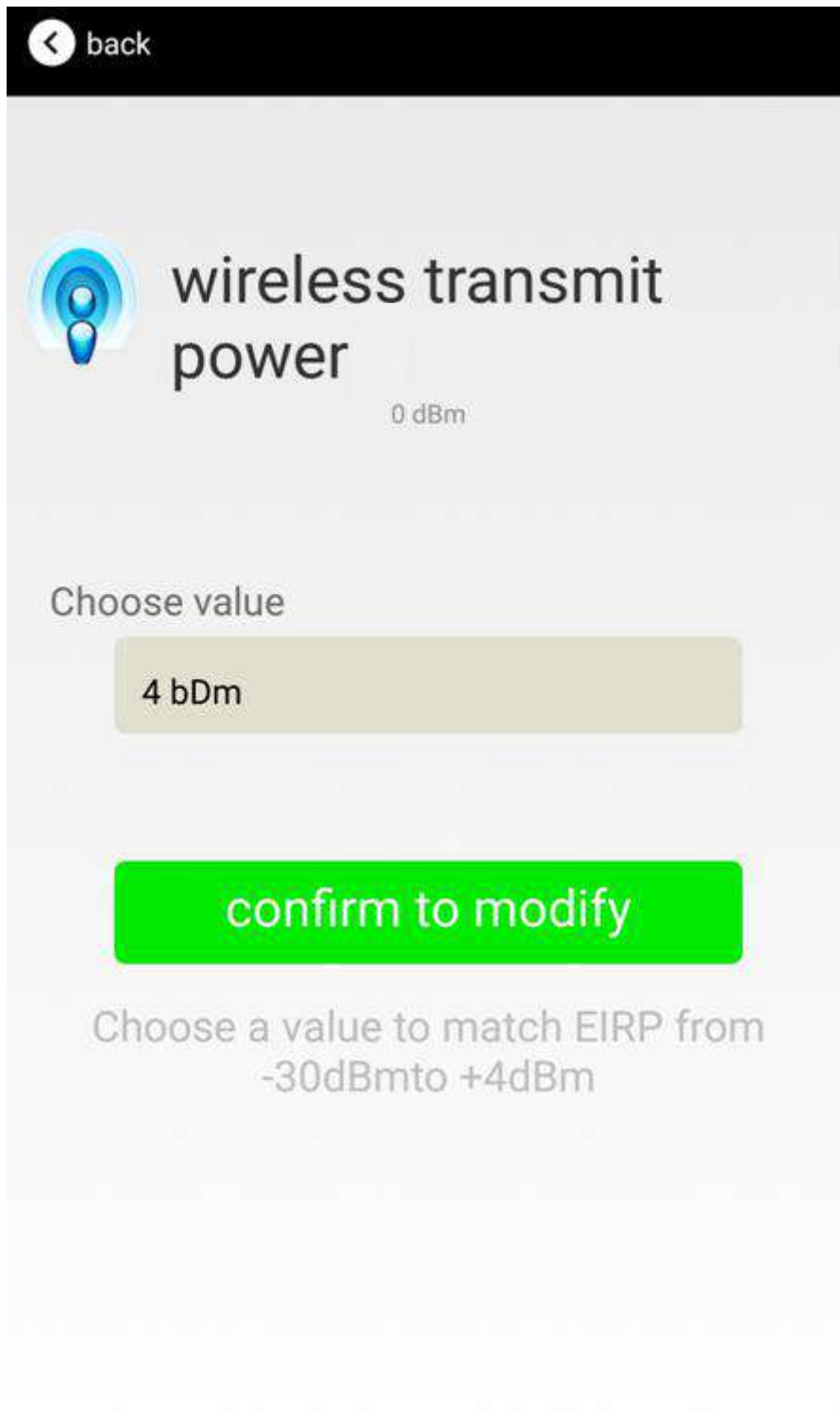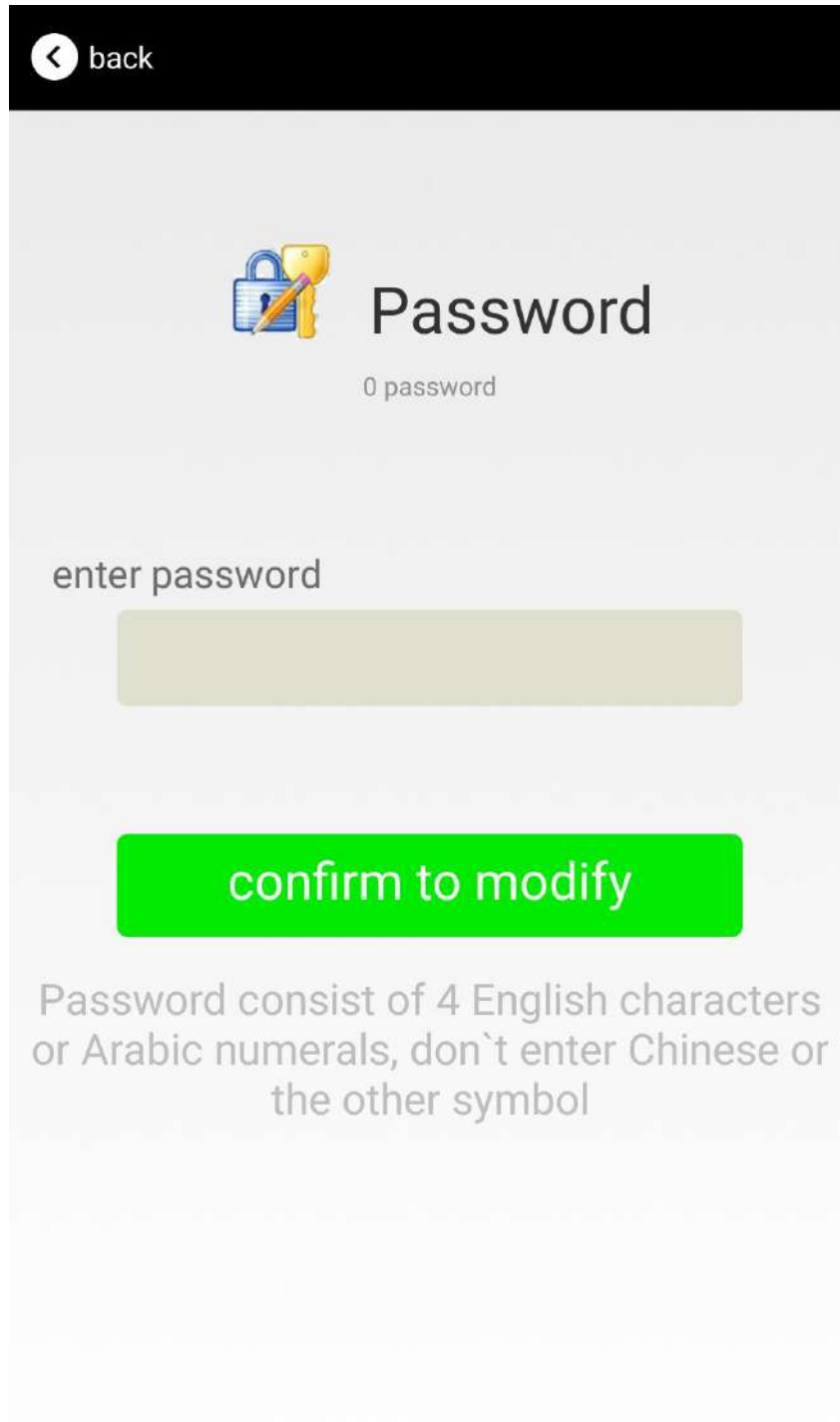
3.11 Modify Advertise Interval

Click the "Advertise Interval" ,the following UI will be opened. Then set a advertise interval. Broadcasting interval can be set to 100ms, 200ms, 300ms, 400ms, 500ms, 600ms ,700ms, 800ms, 900ms and 1000ms. The default is 500ms. Then click "confirm to modify".
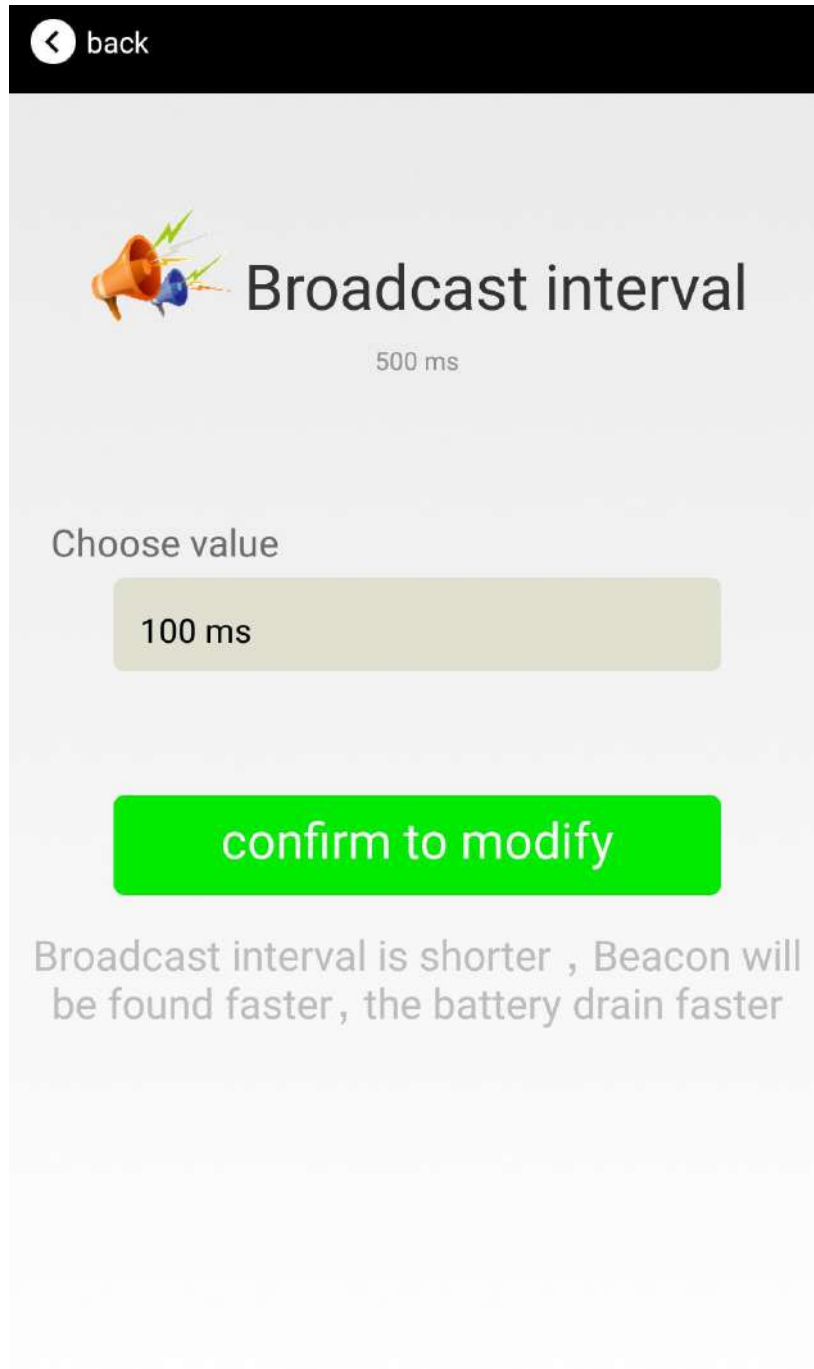
3.12 Modify Password

Click the "Password", ,the following UI will be opened. Then and then enter the 4 characters as a connection password in the "Password" box, the default is 1234. Then click "confirm to modify".
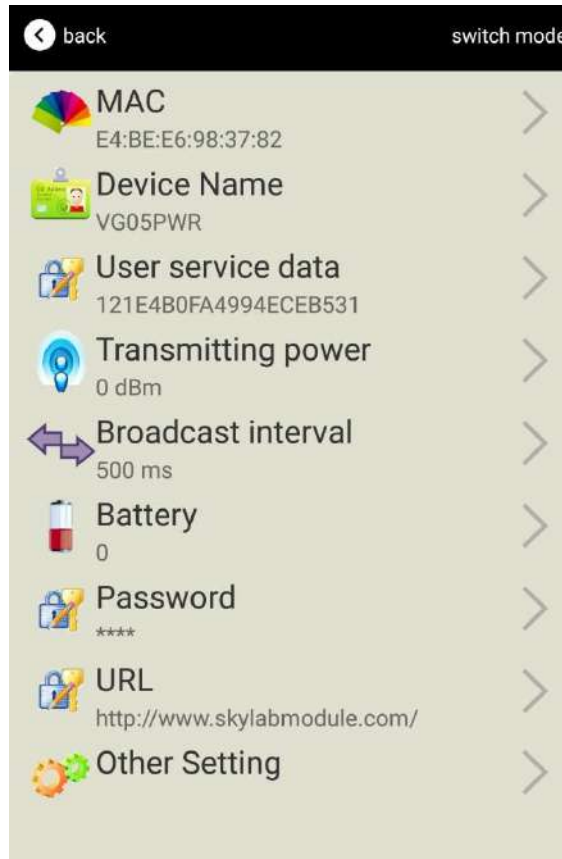
3.13 Switch mode

Click " switch mode" on the upper right corner, the mode selection window will be openend. Then you can choose iBeacon or Eddystone mode. Default mode is iBeacon.
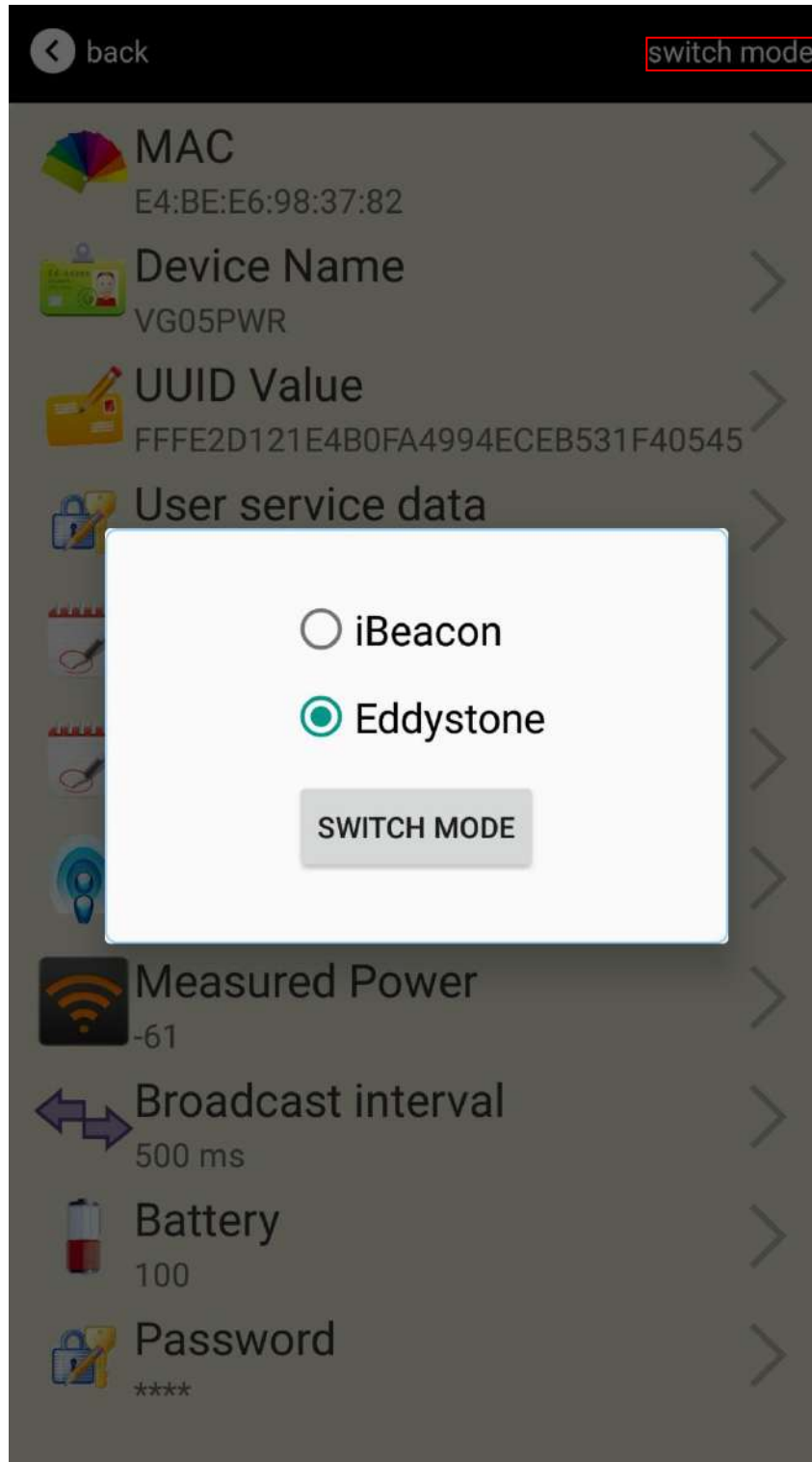
3.14 Eddystone configuration page Introduction

Introduction:

MAC: Chip MAC address

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

User service data：User-defined data in broadcasting

Transmit Power: VDB1608 transmit power

Advertise Interval: VDB1608 advertise interval

Battery Capacity: VDB1608 battery Capacity

Password: VDB1608 connection password

URL : modify the Frame field information in Eddystone. The default format is URL.Other Formats can be selected by other setting

Other setting :Fornat selection of Frame field information in Eddystone.

After the information is configured ,the configuration will take effect after the bluetooth connection   is disconnected.

3.15 Modify URL

Click "URL" ,the following UI will be opened. Then intput at most 16 characters as broadcasting URL. Then click "confirm to modify".
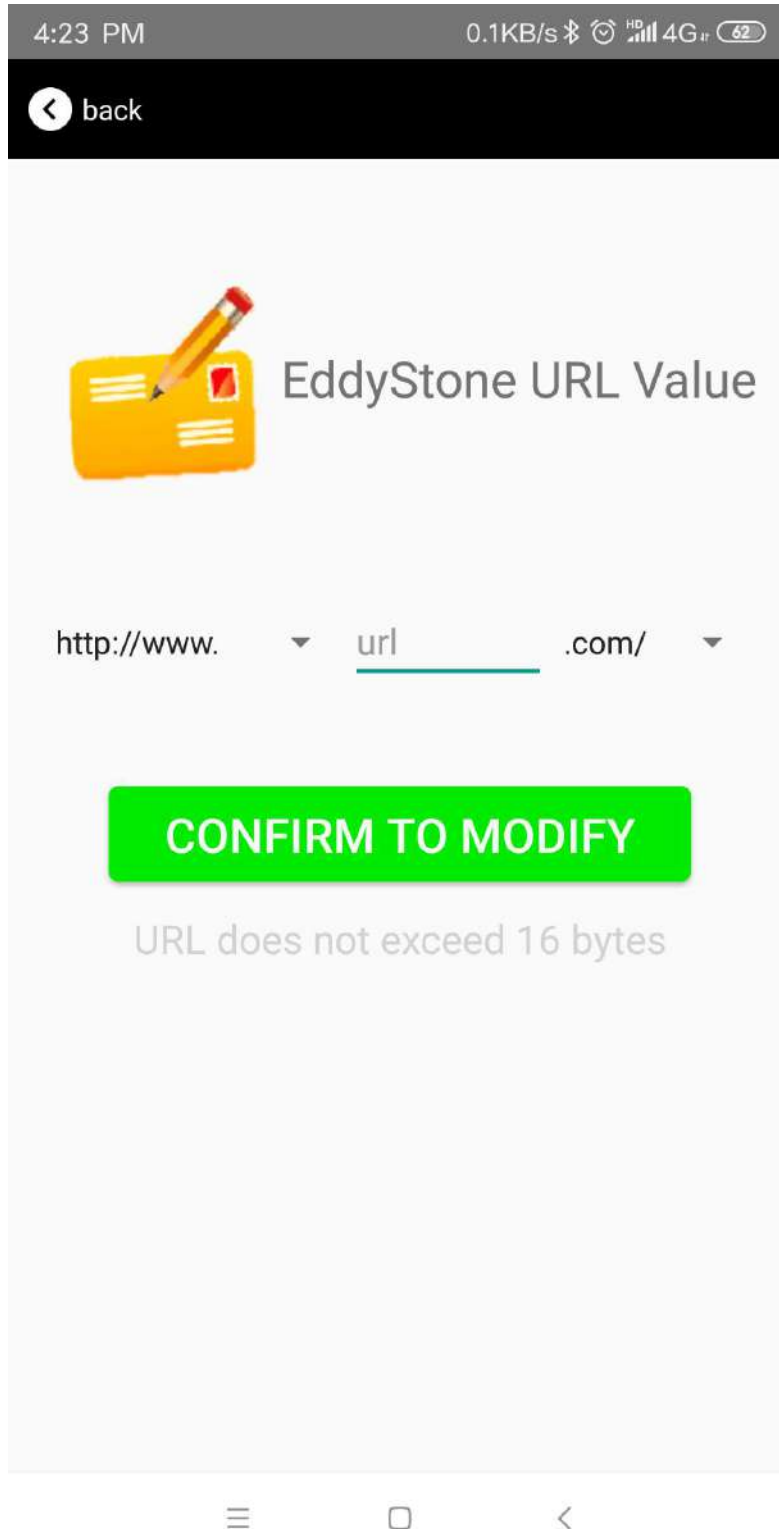
3.16 Other Setting

Click "Other setting" ,the following UI will be opened. The following three options are UID, EID and TLM.

.
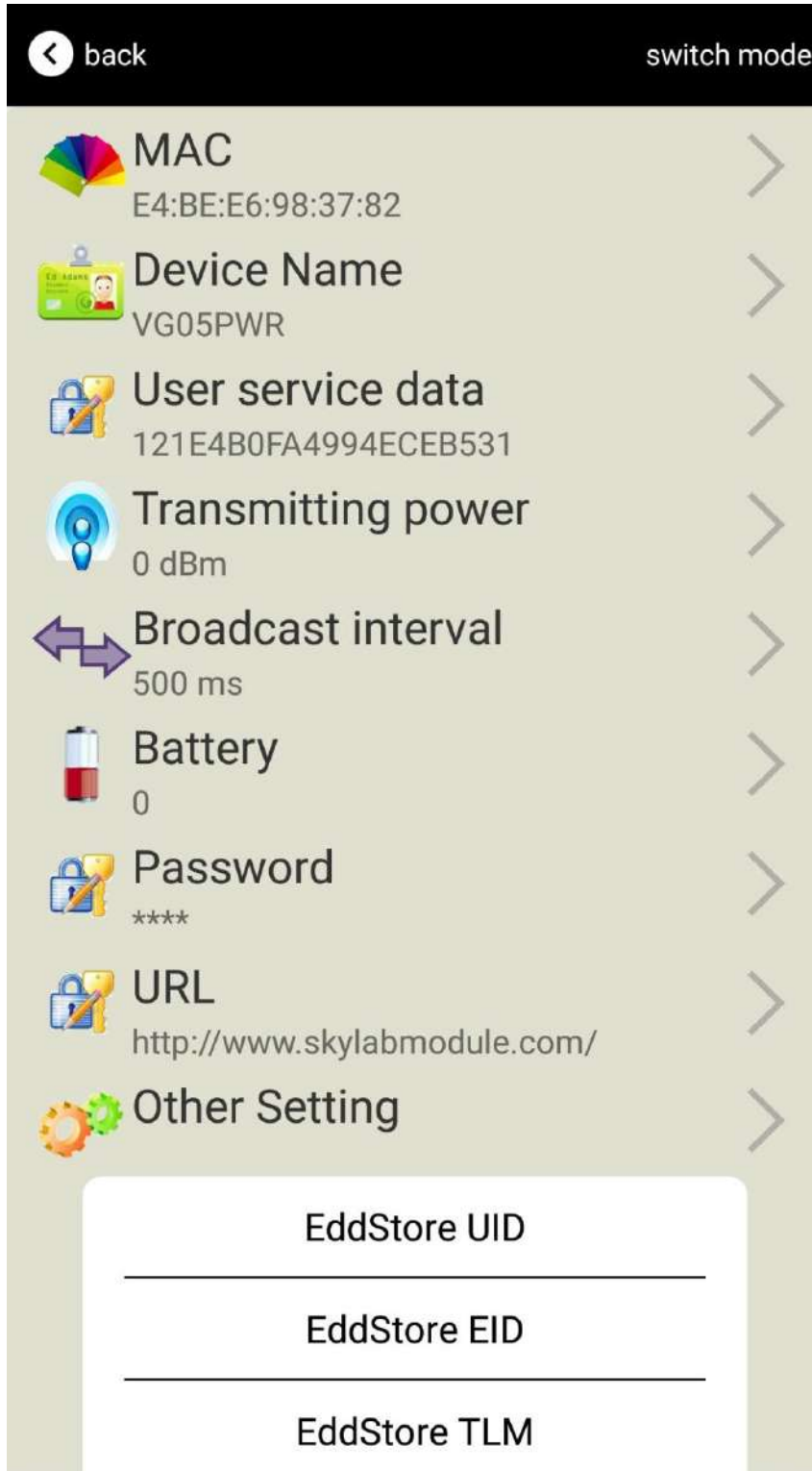
Select and set UID information:

NameSpace(10 bytes) and Instance(6 bytes) are set,respectively.
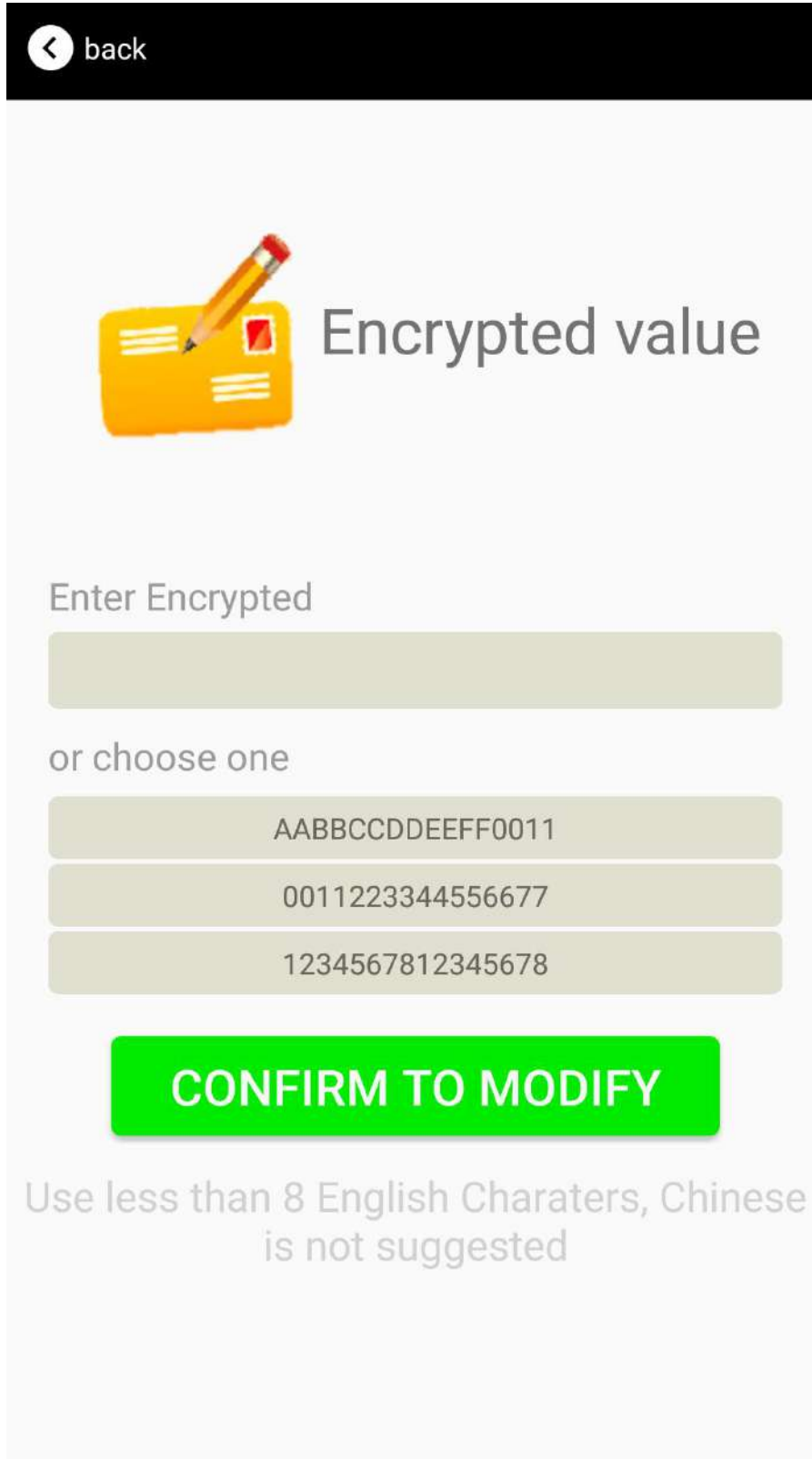
Select and set EID information:

Set EID information, maximum 8 bytes.

Select and set TLM information:

Select "Encrypted TLM specification" (suggested), and input encrypted TLM data(at most 12 byte), 16-bit Salt(2 byte) and 16-bit Message Integrity check(2 byte).

4. Contact information

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