

VG02-DA-001,A/0

# **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

1. Product Introduction	3
1.1 VG02 Internal Module Introduction	3
1.2 VG02 Features	3
1.3 VG02 Application	4
2. Hardware Parameter	4
3. Configuration Parameters	5
3.1 VG02 Power on	5
3.2 Scan Bluetooth Beacon	5
3.3 Connecting Bluetooth Beacon	6
3.4 Configuration Introduction	7
3.5 Modify Bluetooth Beacon Name	8
3.6 Modify UUID	9
3.7 Modify Major	10
3.8 Modify Minor	11
3.9 Modify Measured Power	12
3.10 Modify Transmission Power	13
3.11 Modify Advertise Interval	14
3.12 Modify Password	15
3.13 Settings	16
3.14 Fast Configuration	17
3.15 APP Download	18
4. Contact Information	18

# List

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



VG02-DA-001,A/0

# **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.





#### **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°C~70°C
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.

9:22 AM	14.7K/s 🗘 🖇 🕸 🏵 奈 📶 🗩 73%
🔍 Scan	0
V10177	
C5:C1:5A:61:67	1:A0 100%
?-61 < 100ms	🗴 🔍 🗘 0dBm 🛛 🛜 -61
10044 475	58
UFDA50693A4E24FB	1AFCFC6EB07647825
V10175	
CE:E1:9D:27:B9	9:54 100%
? -45 ► 100ms	; • 0dBm 🛜-61
	08 1AFCEC6EB07647825
V10182	
CA:2B:C9:1D:1	2:70
?-45 ↔ 100ms	🔊 🔍 0dBm 🛜-61
10044 475	58
FDA50693A4E24FB	1AFCFC6EB07647825
🚺 V10171	
CE:E8:AA:16:8	5:9E 100%
?-45 ↔ 100ms	🛿 🔍 🗘 0dBm 🛛 🛜 -61
<u>10044</u> 475	58
	1AFCFC6EB0/64/825
C258EA603	DE5
C2:58:EA:60:3L	D:E5 100%
• -07 ↔ 100ms	58 W 40BM 🔄-01
	00/100/100/100/0



#### **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".

9:25 AM	0.05K/s 🗘 🕸 🕸 🥱 📶 🗩 73%
< Back	
Ed Adas Starts	Name
	V10175
Enter a name:	
Or pick a name	e:
iBeacon	
CEE19D27	B954
SKYLAB	
	okay
Name your B	eacon with less than 12 characters.



# 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".

9:25 AM	14.0K/s 🗘 🕸 🖉 🏵 🛜 📶 🗩 73%
< Back	
	JUID
FDA50693A4E24	4FB1AFCFC6EB07647825
Enter an UUID:	
Or pick an UUID:	
FDA50693A4E24FB1A	FCFC6EB07647825
011223344556677889	9AABBCCDDEEFF0
888888888888888888888888888888888888888	888888888888888888888888888888888888888
	okay
An UUID shou forr	ld be a 16 bytes Hex nat string.



# 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".

9:25 AM 35.8K/s C) <b>*</b> Ø ⊗ ≈11
Major
10044
0 3 3
1 0 0 4 4
2 1 1 5 5
10044
okay
Pick a Major Value between 0 and 65535.



# 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".

9:25 AM	••• 85.	7K/s () 🖇 🖉 (	ð 奈 📶 🗩 73%
K Back	K		
	Mir	nor	
	47	558	
	3 6 4	4 7	
	4 7 5	58	
	5 8 6	69	
	47	558	
	ok	ay	
Pick a	Minor Valu 655	ue betwee 535.	en 0 and



#### **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".

9:25 AM	3.75K/s 🗘 🖇 🖄 🟵 🛜 📶 🗩 72%
< Bac	ck
9	Transmission Power
	0 dBm
	-4
	0
	4
	0 dBm
	okay
	Cover Range:
Differen and	it level has a different cover range, the larger level,the more power consumption.



## 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.

9:26 AM 0.52K/s \$ ∯ ⊙ 奈 ₊₊₊t ⊂ 71%
K Back
Fast Configuration
Name:V10175
UUID:FDA50693A4E24FB1AFCFC6EB07 647825
Major:10044
Minor:47558
Measured Power:-61dBm
Transmission Power:0dBm
Advertise Interval:100ms
Confirm Configuration
Fast configurations 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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