

# VDG01 规格书

## Cat1 蓝牙网关/

# VDG01 Datasheet

# Bluetooth Gateway With

# Cat1

### 文档信息/Document Information

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VDG01 规格书带 4G 调制解调器的蓝牙网关/

VDG01 Bluetooth Gateway With 4G LTE Modem Datasheet

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## 1 产品描述/General Description

VDG01 是一款 Cat1 蓝牙网关，它可以在各种场景中灵活使用。例如，远程控制 BLE 设备，接收 BLE 设备发送的数据并将其发送给服务器。VDG01 支持 5.0V 电源。

VDG01 is a Cat1 Bluetooth gateway that can be flexibly used in a variety of scenarios. For example, remotely control the BLE device, receive data sent by the BLE device and send it to the server. The VDG 01 supports a 5.0V power supply.

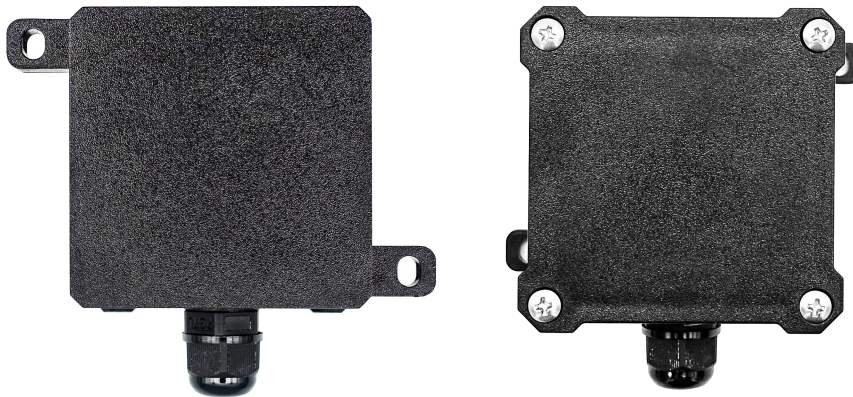


图 1: VDG 01 产品示图/ Figure1: VDG 01 product diagram

## 2 应用框图/Application Block Diagram

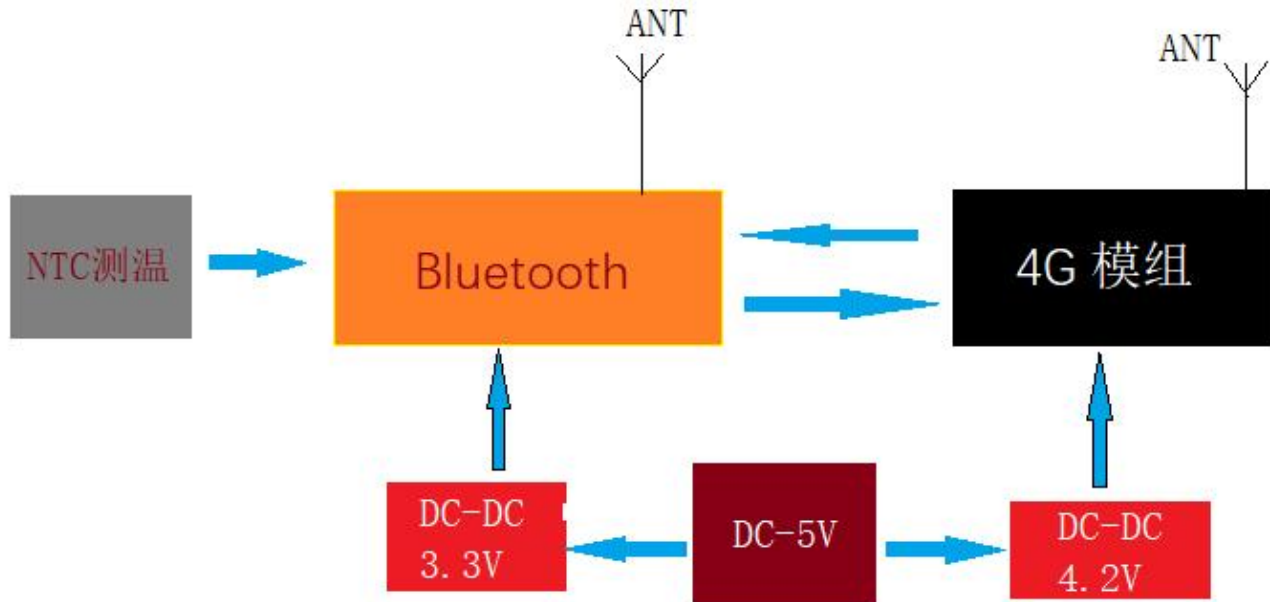


Figure 2: VDG01 Block Diagram

## 3 特性/Features

- ◆ 支持蓝牙® 5.0(支持远程)。 / Support BLE® 4.2/5.0(Long-Range is supported).
- ◆ 支持 LTE-TDD / LTE-FDD / Support LTE-TDD/ LTE-FDD

支持协议：TCP；UDP\*/ PPP\*/ NTP\*/ NITZ\*/ FTP\*/ HTTP\*/ PING\*/ CMUX\*/ HTTPS\*/ FTPS\*/ SSL\*/ FILE\*/ MQTT\*/ MMS\*/ SMTP\*/SMTPS\*（带\*为待开发/Belt \* is to be developed）

- ◆ RoHS compliance (Lead-free).
- ◆ FCC,CE compliance

## 4 接口/ Interface

### 电源接口/ Power Supply Port

VDG01 电源接口支持 DC\_5V 输入，电流大于 500mA。网关已引出电源线，需接入 DC 5V 电源供电。  
VDG 01 power interface supports DC\_5V input, current greater than 500 mA. The gateway has led out the power cord, requiring DC 5V power supply.

## 5 应用/ Applications

### 室内/外定位/ Indoor/external Positioning

1) VDG01 蓝牙模块每秒采集一次附近信标信息，包括 RSSI、MAC 等。/ VDG01 Bluetooth module collects information about Beacon nearby, including RSSI, MAC, etc., once per second.

2) 蓝牙模块通过蓝牙广播发送 Beacon 信息，每秒发送一次。/ Bluetooth module send the Beacon information to WiFi module through UART serial port, once per second.

3) 通过 UDP 服务器分析和计算信标信息后，信标位置可以显示在首页上。

Beacon locations can be displayed on the front page after the UDP server analyze and calculate the beacon information.

## 6 参数指标/ Module Specification

尺寸/ Dimension	83.7*81.6*49.3mm
电源/ Power Supply	DC 5V
工作温度/ Operating Temperature	-40℃~85℃
接口/ Interface	Power Supply Port
<b>蓝牙/ Bluetooth</b>	
蓝牙协议/ Bluetooth Protocol	BLE@5.0
传输速率/ Data Rate	Uncoded:1Mbps/2Mbps,Coded:125kbps(S=8)/500kbps(S=2)
调制技术/ Modulation Technique	GFSK Modulation
无线安全/ Wireless Security	AES HW Encryption
连接距离/ Connection Distance	100m
发射功率/ Transmit Power	-20 to +8 dBm in 4 dB Steps
<b>LTE Cat.1</b>	
模块型号/ Module Number	EC800M-CN
工作模式/ Working Mode	LTE-TDD/LTE-FDD
频段支持/ Band support	支持移动、电信网络/ Support for China Mobile and China Telecom

	<p>network</p> <ul style="list-style-type: none"> <li>• LTE-TDD Band 38/39/40/41</li> <li>• LTE-FDD Band 1/3/5/8</li> </ul>
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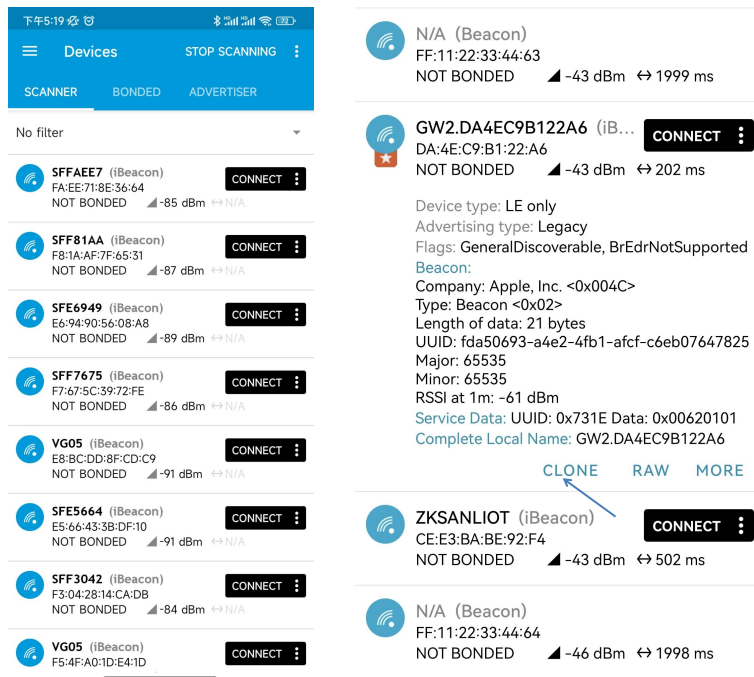
## 7 软件使用说明/Software Instructions

网关连接服务器必须要在网关状态值为 1(即网关初始化成功后)后才可进行具体网关状态值请看<网关广播数据解析>。

### 7.1 连接指令：AT+QIOPEN="TCP","IP 地址","端口号"

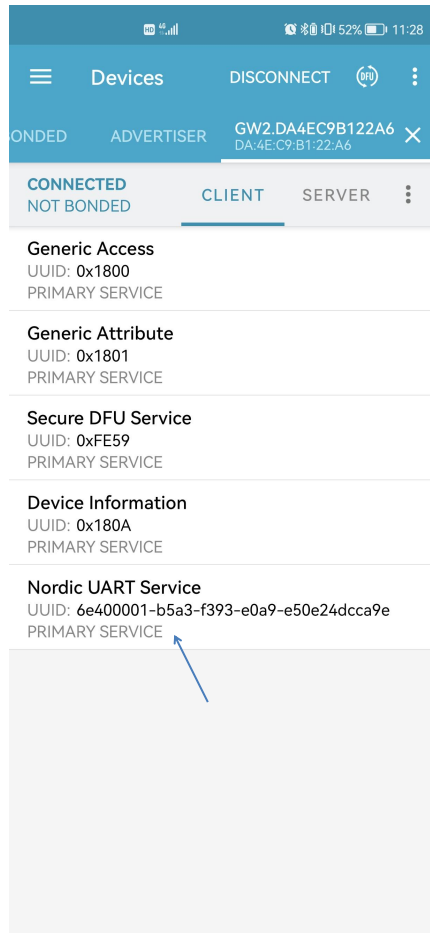
例（使用 nrf connect 手机 APP 测试）：

(1) 打开 nRF Connect，下拉界面刷新后就开始扫描周围的蓝牙信标。



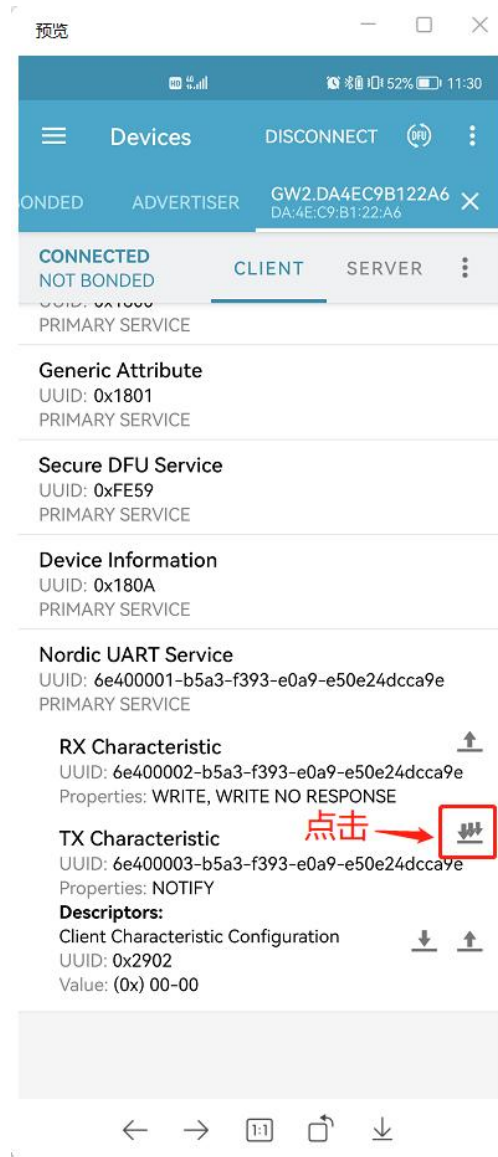
观察网关状态值是否初始化成功

(2) 点击右边的“CONNECT”后进入如下左图界面，然后点击最下面一栏的“Nordic UART Service”

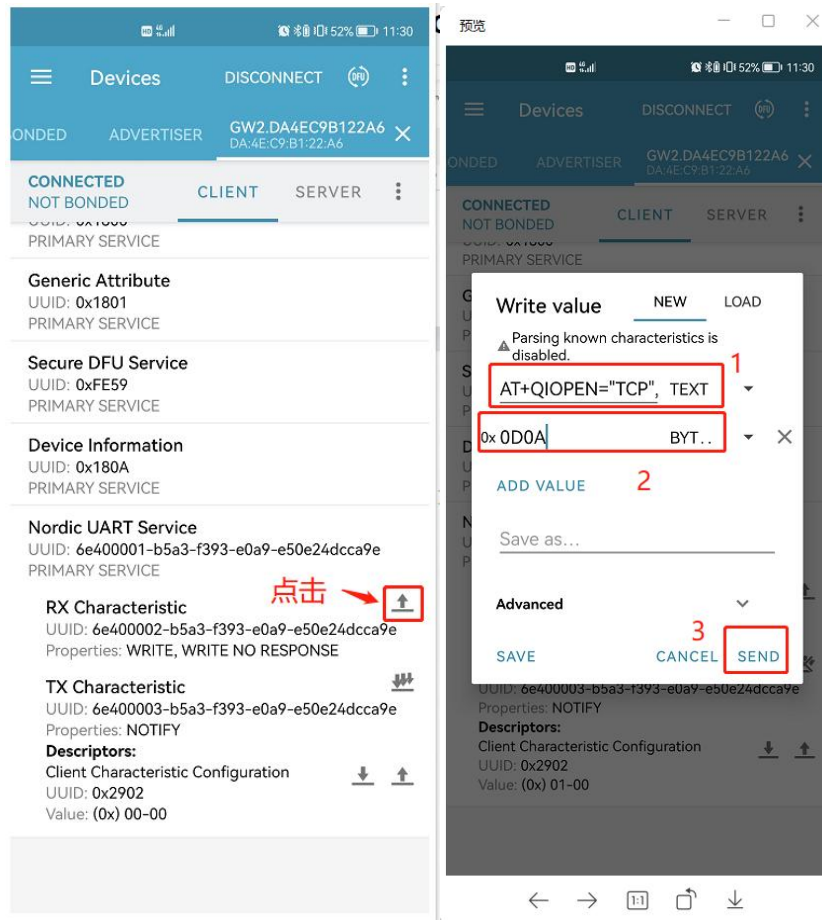


(3) 点击“TX Characteristic”右边的三个指向下方的箭头符号进行连接

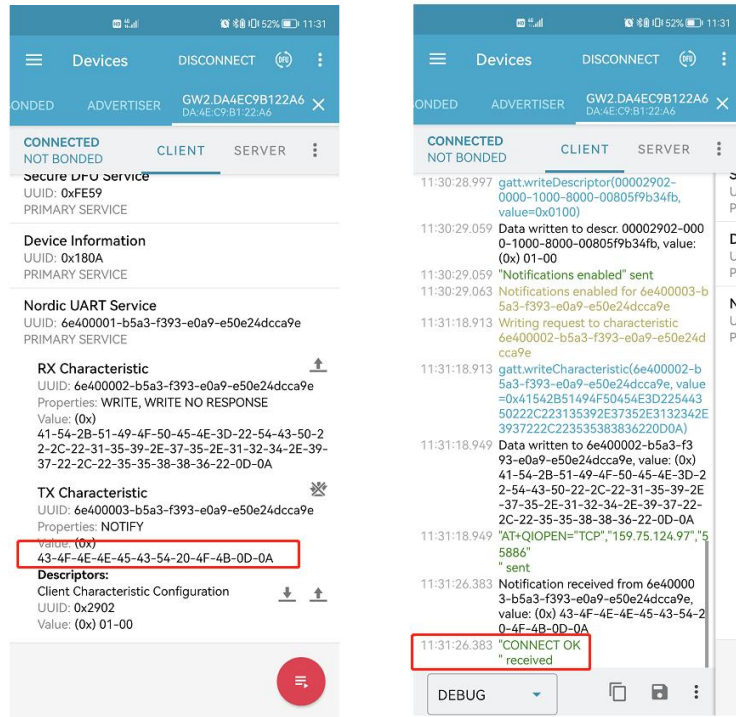




(4) 点击“RX Characteristic” 右边的一个指向上方的箭头符号，在弹出的界面中进行设置



(5) 输入如上图的指令后，点击“SEND”，然后将界面拉到右边，可以看到“CONNECT OK”回复，即为连接成功

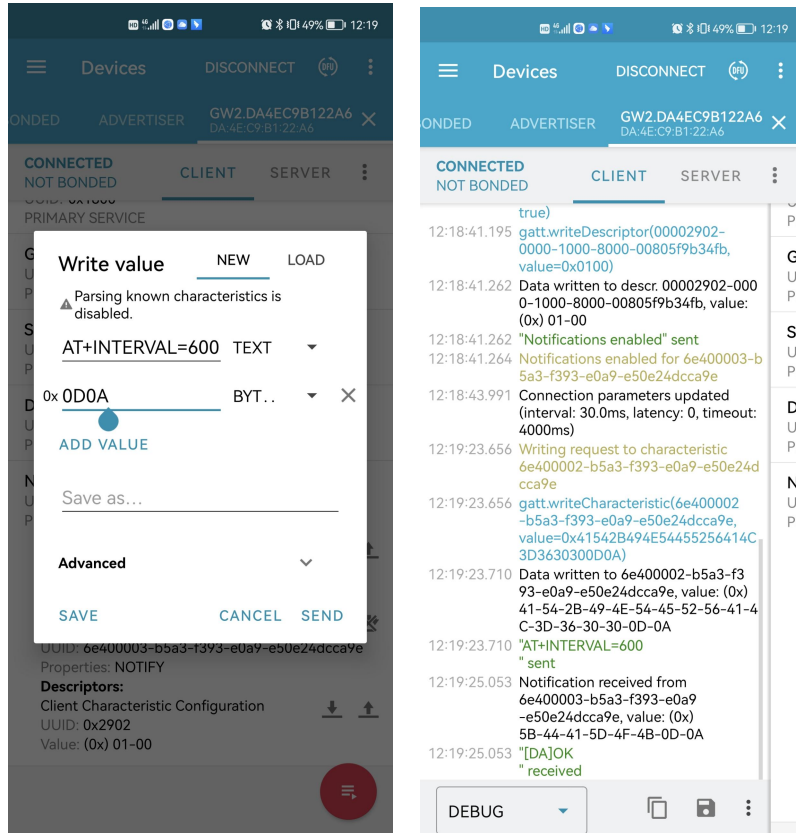


(6) 注：发送连接指令后看信号如何，最长需要等待 2 分钟后未有反应才可重新连接

## 7.2 设置上报间隔：AT+INTERVAL=100

范围：600~32400 单位：s

设置步骤与 TCP 连接步骤一致



## 8 联系信息/ Contact Information

**95Power Information Technology Co., Ltd**

深圳市微能信息科技有限公司

Address: 6 Floor, Building 9, Lijincheng Scientific & Technical Park, Gongye East Road, Longhua District, Shenzhen

Tel: 86-755 23779409

Fax: 86-755 23779409

E-mail: sales@95power.com.cn

Website: www.95power.com.cn