

# VDB2603 BLE5.0 Gateway With PoE Datasheet

**Document Information**

<b>Title</b>	VDB2603 BLE5.0 Gateway With PoE Datasheet
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**This document applicable to the following products:**

<b>Product name</b>	<b>Type number</b>	<b>Product status</b>
VDB2603	VDB2603 (0927204)	Mass production

**Revision History**

Revision	Description	Approved	Date
V1.01	Initial Release.	George	20180820

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**Bill of Materiel**

Name	Model	Quantity	Remark
BLE5.0 Gateway	VDB2603	1	VDB2603
AC-DC Adapter	BSF-137F	1	IN:AC100-240V/OUTPUT: 5.0V±10%

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## 1 General Description

VDB2603 is a BLE5.0 Gateway with PoE or DC power supply. It can be used in various scenarios flexibly. For example, the remote control BLE device, receives the data sent by the BLE device and sends it to servers. The WiFi data rate of VDB2603 can be up to 150Mbps and BLE data rate can be up to 2Mbps. VDB2603 also supports the POE switch power supply and 5.0V adapter power supply.



Figure1: VDB2603

## 2 Application Block Diagram

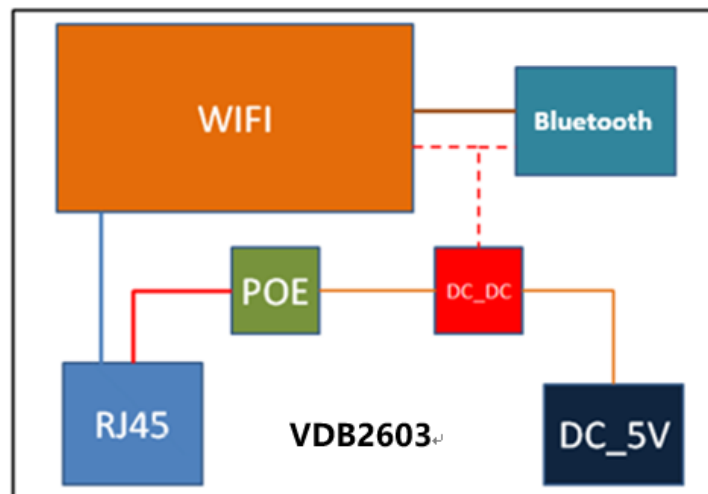
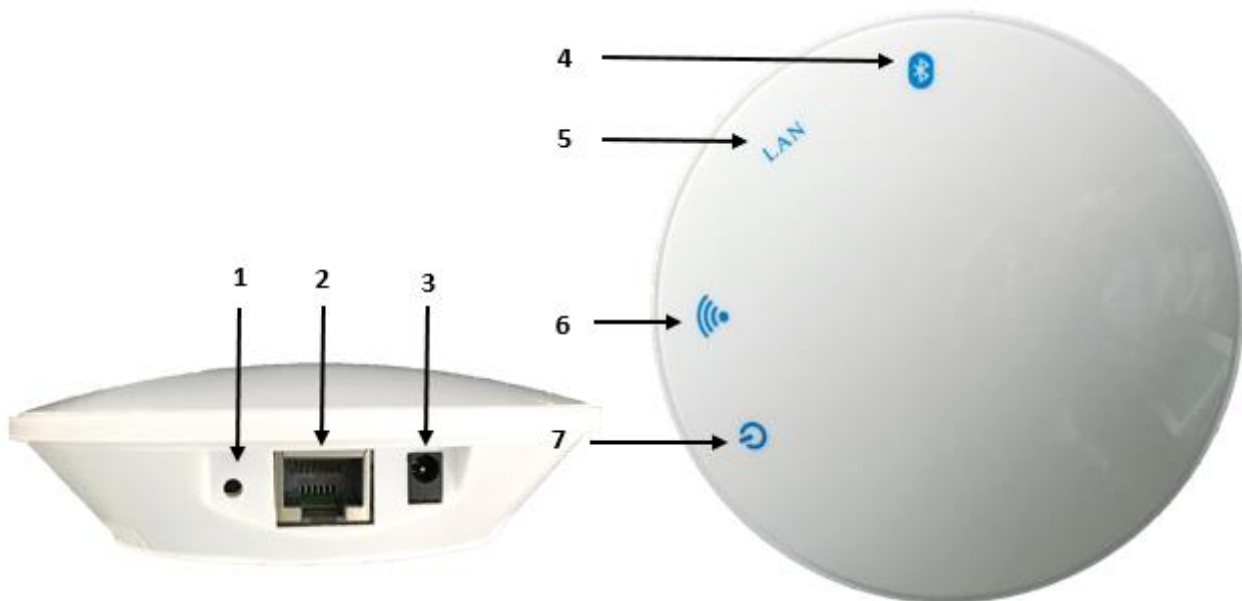


Figure 2: VDB2603 Block Diagram

### 3 Features

- Supports the POE switch power supply and 5V adapter power supply.
- Support IEEE 802.3 standard-compliant solution, including pre-standard PoE support.
- Support IEEE 802.11n, IEEE 802.11g, IEEE 802.11b Protocol.
- Support BLE 5.0.
- One WAN/LAN variable network port.
- RoHS compliance (Lead-free).
- FCC,CE compliance.

### 4 Interface



- 1: Reset
- 2: Network Interface
- 3: Power Interface
- 4: Bluetooth LED
- 5: Network LED
- 6: WiFi LED

7: Power LED

## WAN/LAN

The VDB2603 network interface supports CAT-5/CAT-5E to transmit data and POE Power Supply(voltage range is 44~ 57V). It is WAN/LAN variable.

Working Mode	Network Interface
AP Client	LAN
Getway	WAN

## Power Supply Port

The VDB2603 power interface supports DC\_5V input, input voltage range is 3.5-5.5 V, and the current is greater than 1000mA.The voltage interface adopts the DC-005 power socket, and power seat aperture is 5.5mm. The needle diameter is 2.1 mm and is positive.

Remark: The input voltage of the 5V power adaptor is AC 100-240V and 50/60Hz, output voltage is 5V 2A.The power connector is positive inside and negative outside.

## Reset

The VDB2603 WiFi part will resume factory setting after pressing the reset button for more then 5 seconds.

## LED

Power LED normally on when powered on

Network LED normally on when connected

WiFi LED normally on after connecting to WiFi for 1-2sec

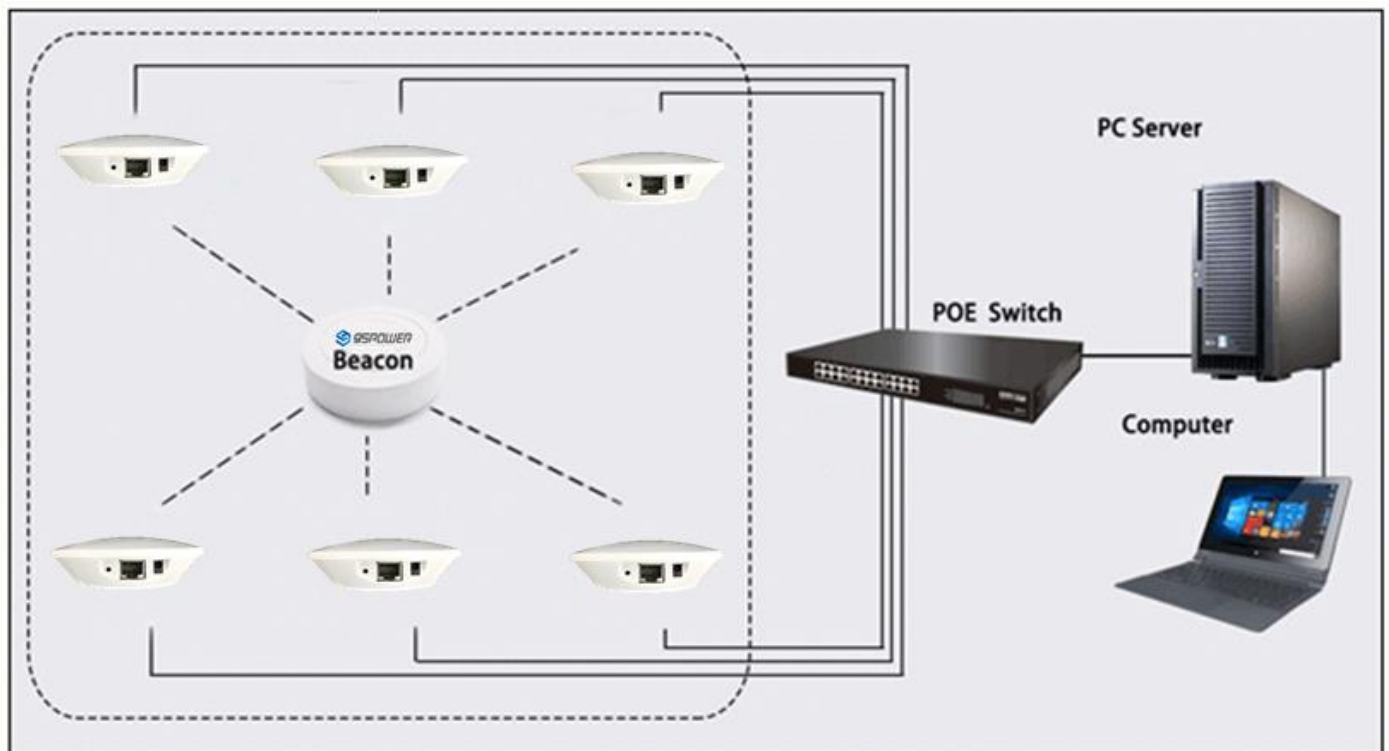
Bluetooth LED flashing once power on

## 5 Applications

### Indoor Positioning

- 1)VDB2603 Bluetooth module collects information about Beacon nearby, including RSSI, MAC, etc., once per second.
- 2)Bluetooth module send the Beacon information to WiFi module through UART serial port, once per second.
- 3)WiFi module transfers the Beacon information to the specified UDP server, and accepts the information returned by the server.
- 4)Beacon locations can be displayed on the front page after the UDP server analyze and calculate the beacon information. An order can also be delivered to the WiFi module, then sent to the bluetooth module to develop different functions (such as: Lighting lamps and lanterns etc.).

#### Schematic of Positioning:



**Remark:** VDB2603 can be connected to the Internet via the POE switch or the wireless router.

## 6 Module Specification

Dimension	Diameter: 110mm; Height: 35mm
Power Supply	DC3.5-5.5V、 POE Switch up to 57V
Currents	200mA@5V
Operating Temperature	-20°C~70°C
Interface	WAN Port and Power Supply Port
<b>WiFi</b>	
WiFi Protocol	IEEE 802.11n, IEEE 802.11g, IEEE 802.11b
Data Rate	IEEE 802.11 b Standard Mode: 1,2,5.5,11Mbps
	IEEE 802.11g Standard Mode: 6,9,12,18,24,36,48,54Mbps
	IEEE 802.11n : 72Mbps @ HT20 150Mbps @ HT40
Sensitivity	HT40 MCS7 : -67dBm@10% PER(MCS7)
	HT20 MCS7 : -73dBm@10% PER(MCS7)
	54M: -76dBm@10% PER
	11M: -91dBm@ 8% PER
Transmit Power	IEEE 802.11n: 15dBm @HT40 MCS7 15dBm@HT20 MCS7
	IEEE 802.11g: 16dBm
	IEEE 802.11b: 18dBm
Wireless Security	WPA/WPA2, WEP, TKIP, and AES
Working mode	Bridge、 Gateway、 AP Client
<b>Bluetooth</b>	
Bluetooth Protocol	BLE 5.0
Data Rate	2Mbps
Wireless Security	AES HW Encryption
Connection Distance	150m
Transmit Power	-20~+8dBm

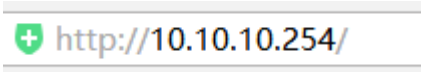


## 7 Configuration

### Gateway

7.1.1 Connect to VDB2603 by WLAN

7.1.2 Enter to the page <http://10.10.10.254>

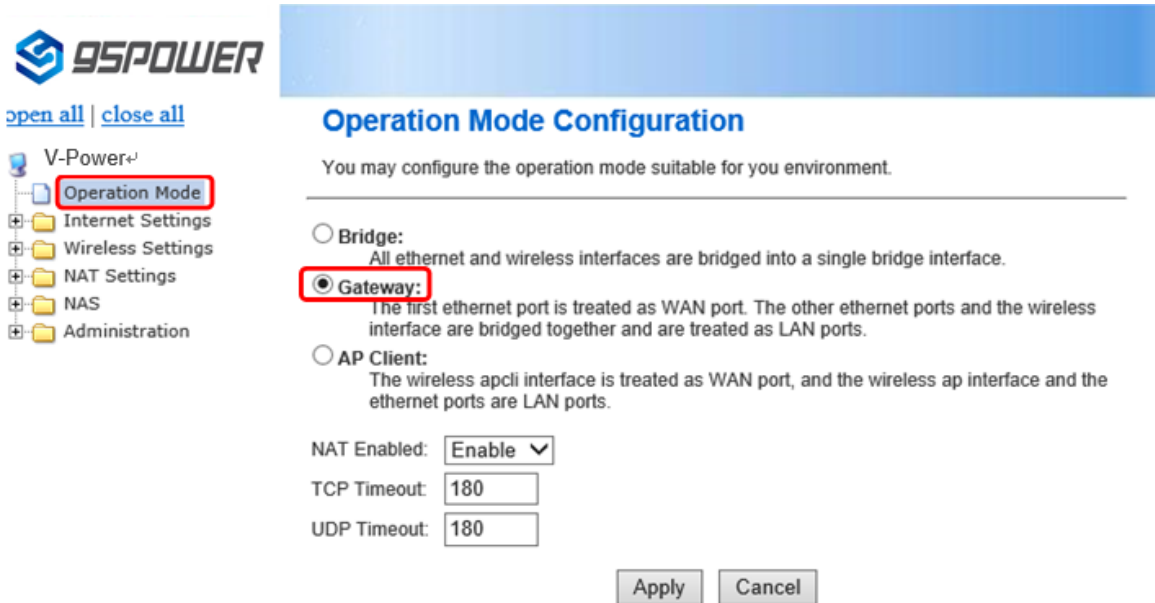


7.1.3 Input Account and Password <admin/admin>

7.1.4 Select Language



7.1.5 Click the **Operation Mode** and choose **Gateway**.



**Operation Mode Configuration**

You may configure the operation mode suitable for you environment.

**Bridge:**  
All ethernet and wireless interfaces are bridged into a single bridge interface.

**Gateway:**  
The first ethernet port is treated as WAN port. The other ethernet ports and the wireless interface are bridged together and are treated as LAN ports.

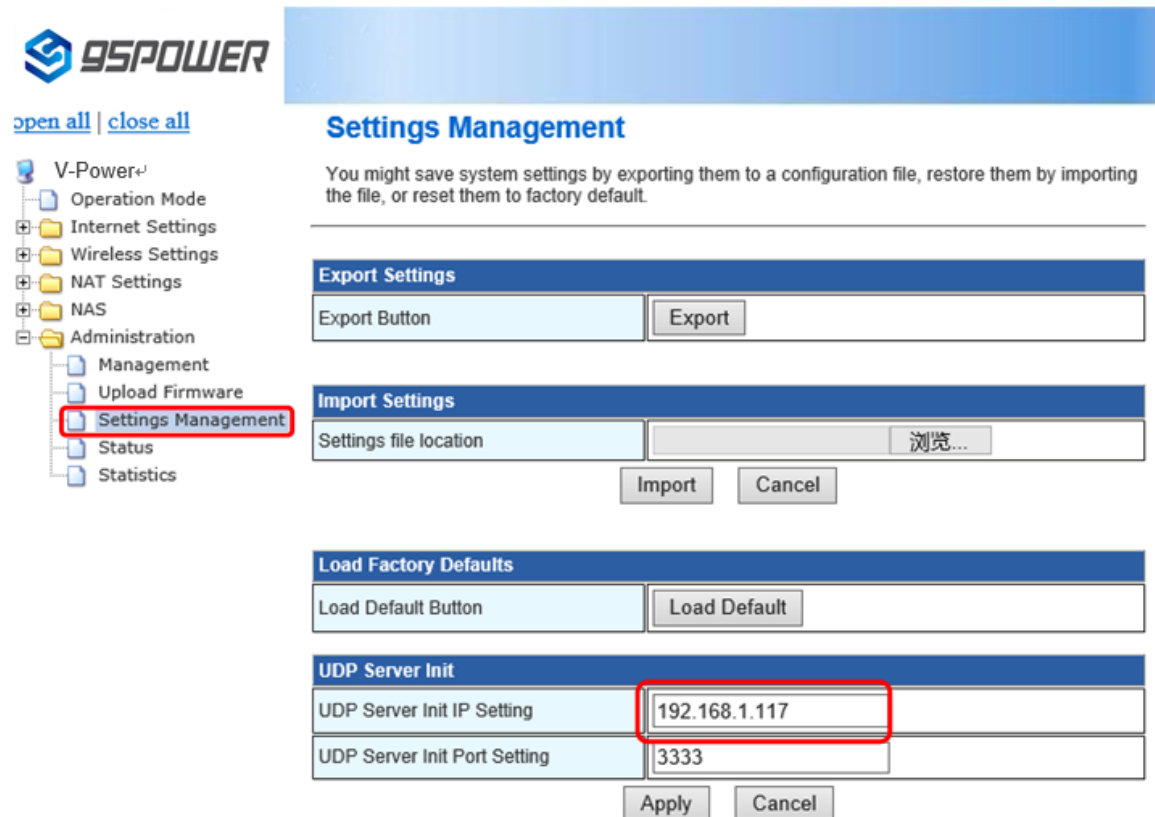
**AP Client:**  
The wireless apcli interface is treated as WAN port, and the wireless ap interface and the ethernet ports are LAN ports.

NAT Enabled:

TCP Timeout:

UDP Timeout:

7.1.6 Click **Administration->Settings Management**, then input the UDP Server address in **UDP Server Init IP Setting**, **UDP Server Init Port Setting** default is 3333.



**Settings Management**

You might save system settings by exporting them to a configuration file, restore them by importing the file, or reset them to factory default.

**Export Settings**

Export Button

**Import Settings**

Settings file location

**Load Factory Defaults**

Load Default Button

**UDP Server Init**

UDP Server Init IP Setting

UDP Server Init Port Setting

7.1.7 Click **Administration** ->**Status** to check the Access Point Status.



[open all](#) | [close all](#)

- V-Power
  - Operation Mode
  - Internet Settings
  - Wireless Settings
  - NAT Settings
  - NAS
  - Administration
    - Management
    - Upload Firmware
    - Settings Management
    - Status**
    - Statistics

## Access Point Status

Let's take a look at the status of Ralink SoC Platform.

System Info	
SDK Version	W0099.1.1
System Up Time	14 mins, 48 secs
System Platform	RT2880 embedded switch
Operation Mode	AP Client Mode
Internet Configurations	
Connected Type	DHCP
WAN IP Address	192.168.5.102
Subnet Mask	255.255.255.0
Default Gateway	192.168.5.1
Primary Domain Name Server	192.168.5.1
Secondary Domain Name Server	0.0.0.0
MAC Address	2A:A1:EB:02:2F:0A
Local Network	
Local IP Address	10.10.10.254
Local Netmask	255.255.255.0
MAC Address	28:A1:EB:F2:2F:0A

## AP Client

7.2.1 Click the **Operation Mode** and choose **AP Client**.

**Operation Mode Configuration**

You may configure the operation mode suitable for you environment.

- Bridge:**  
All ethernet and wireless interfaces are bridged into a single bridge interface.
- Gateway:**  
The first ethernet port is treated as WAN port. The other ethernet ports and the wireless interface are bridged together and are treated as LAN ports.
- AP Client:**  
The wireless apcli interface is treated as WAN port, and the wireless ap interface and the ethernet ports are LAN ports.

NAT Enabled:

TCP Timeout:

UDP Timeout:

7.2.2 AP Client Parameters Setting

**AP Client Feature**

You could configure AP Client parameters here.

AP Client Parameters	
SSID	<input type="text" value="SKYLAB91"/>
MAC Address (Optional)	<input type="text"/>
Security Mode	<input type="text" value="WPA2PSK"/>
Encryption Type	<input type="text" value="AES"/>
Pass Phrase	<input type="text" value="Skylab20026"/>

Site Survey							
Ch	SSID	BSSID	Security	Signal(%)	W-Moe	ExtCh	NT
1	ChinaNet-5gAf	40:14:20:95:a1:ba	WPA1PSK/WPA2PSK/TKIP/AES	23	11b/g/n	NONE	In
11	skylab03	88:25:93:5c:27:83	WPA1PSK/WPA2PSK/AES	63	11b/g/n	BELOW	In

7.2.3 Click **Administration->Settings Management**, then input the UDP Server address in **UDP Server Init IP Setting**, **UDP Server Init Port Setting** default is 3333.

7.2.4 Click **Administration ->Status** to check the Access Point Status.

System Info	
SDK Version	W0099.1.1
System Up Time	14 mins, 48 secs
System Platform	RT2880 embedded switch
Operation Mode	AP Client Mode
Internet Configurations	
Connected Type	DHCP
WAN IP Address	192.168.5.102
Subnet Mask	255.255.255.0
Default Gateway	192.168.5.1
Primary Domain Name Server	192.168.5.1
Secondary Domain Name Server	0.0.0.0
MAC Address	2A:A1:EB:02:2F:0A
Local Network	
Local IP Address	10.10.10.254
Local Netmask	255.255.255.0
MAC Address	28:A1:EB:F2:2F:0A

## 8 Contact Information

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