



WiFi Module VM300-H/VM5G /VBG1200

Quick Setting Guide

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Note: Because the module is too small, the four metal screws are easy to lead to deformation of the module, chip desoldering, it is recommended to use plastic screws, and only used to locate can be, to leave a little room for manoeuvre!

Form 1

Transmission Distance Parameters Form			
Model	No-barrier point to point Transmission Distance	Transmission Rate (Mbps)	Band
VM300-H/L	80m--100m	300	2.4G
VM5G/VBG1200	600m--700m	300+900	2.4G/5G

Form2

Power Supply Parameters List			
Model	Power Supply Voltage	Input Power	Typical Power Supply
VM300-H/L	DC5V--24V	≥8W	12V/1A
VM5G/VBG1200	DC5V--24V	≥10W	12V/1A

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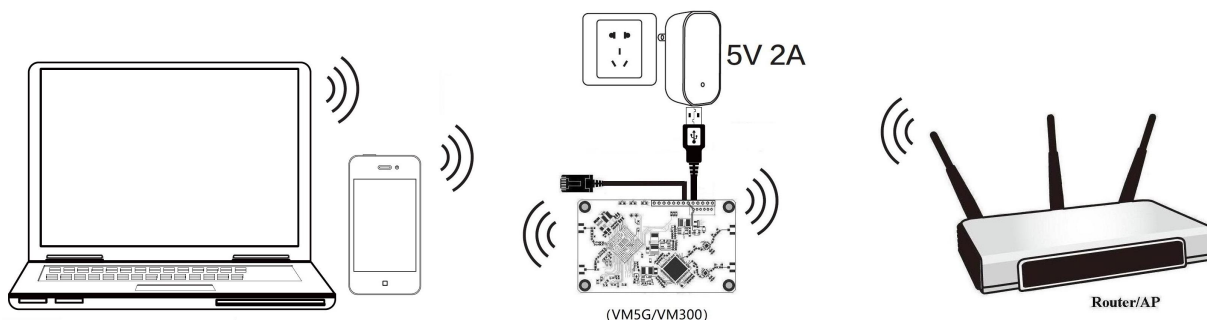
Chapter 1 Application Mode

1.1 Bridge + Repeater Mode

There are three application modes for the bridge mode of VONETS module: WiFi repeater, WiFi bridge and WiFi AP.

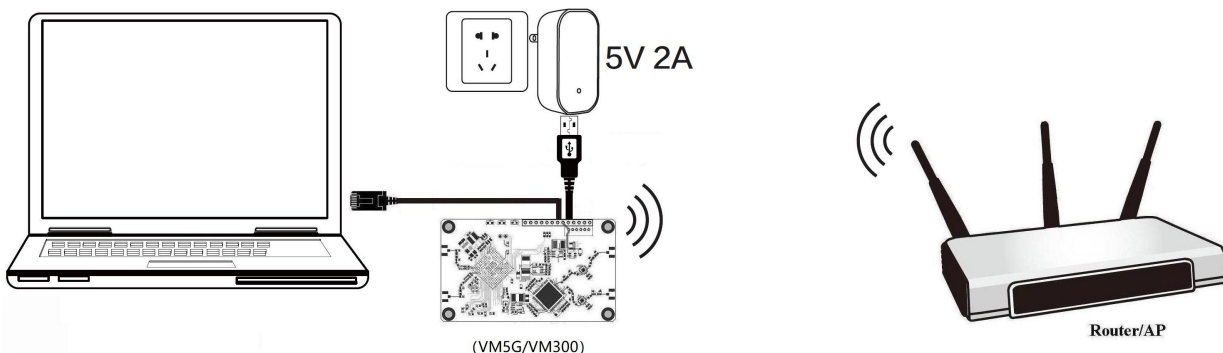
- **WiFi Repeater:**

VONETS module as WiFi Repeater, it must be configured to source WiFi hotspot parameters, can be used to extend the wireless signal coverage of existing APs or wifi router .



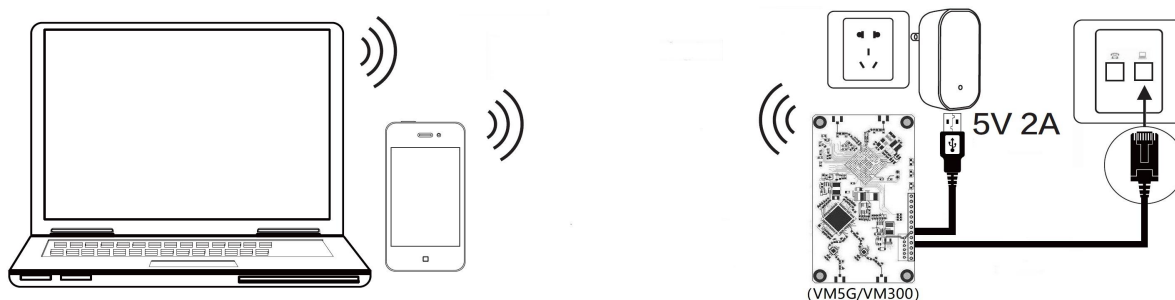
- **WiFi Bridge:**

VONETS module as WiFi bridge, it must be configured to source WiFi hotspot parameters, can be used for devices only with Ethernet ports to access wireless networks.



- **WiFi AP:**

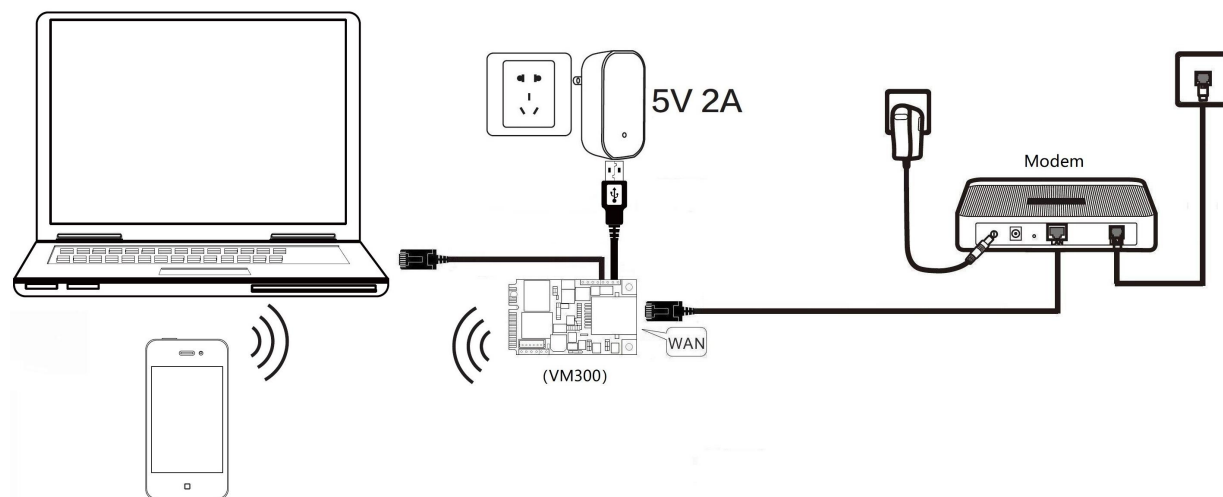
VONETS module as WiFi AP, it can achieve wireless access to wired LAN, no configuration required, plug and play.



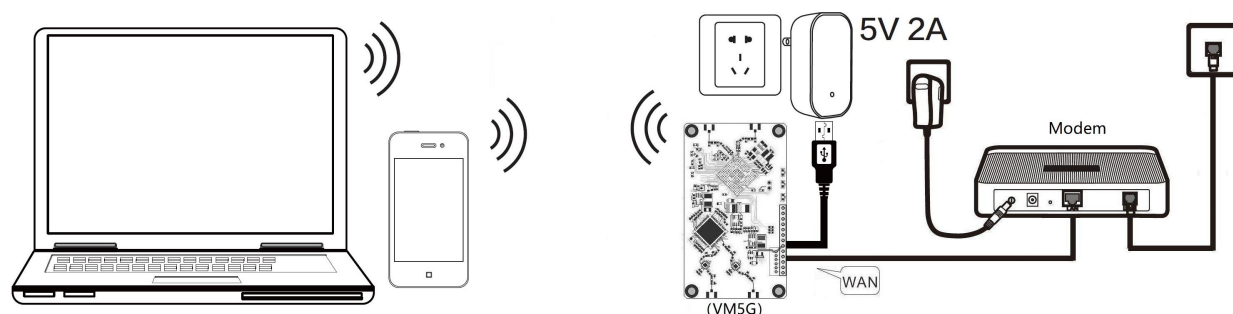
1.2 Router Mode

- VONETS module as WiFi router

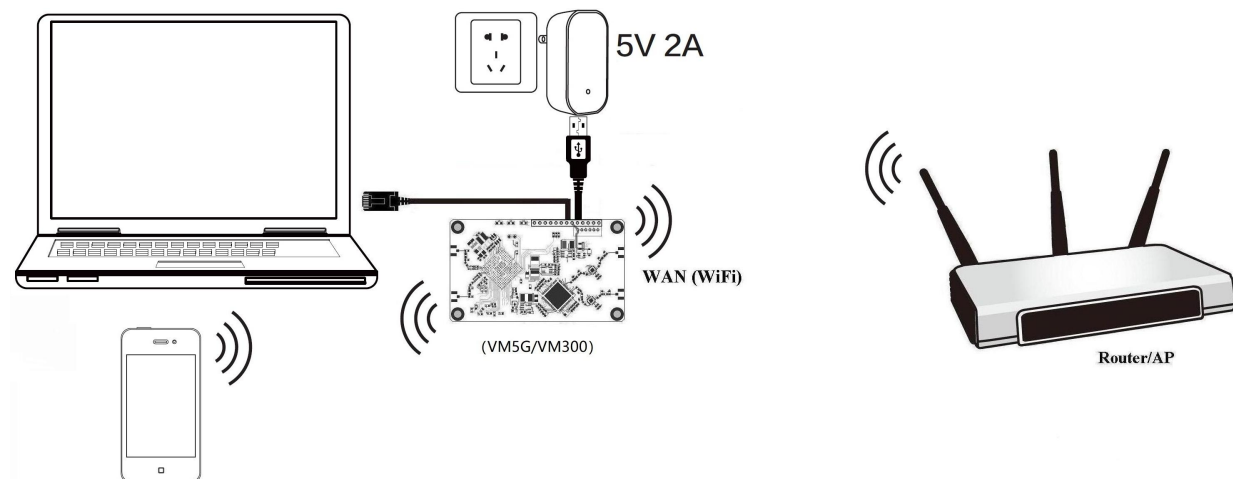
The Ethernet port of **VM300** module defaults to WAN port. The Ethernet cable defaults to the LAN port. WAN and LAN ports are interchangeable.



The Ethernet cable of **VM5G** module defaults to LAN port, you must set “WAN/LAN interchange” so that the Ethernet cable is WAN port to use the broadband dialing function.



- VONETS module is used as a wireless router. WAN port can be set to connect to the WiFi hotspot for use as a secondary router.



Chapter 2 Bridge+Repeater Mode Configuration

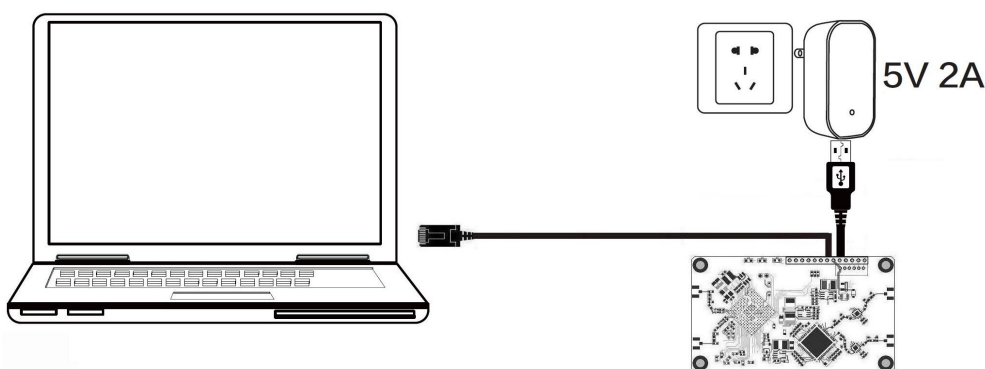
Instruction

2 Method 2: Log in to the device's Web configuration page to configure

2.1 Device Connection

Power on VONETS module by 12V/1A power supply, then connect to PC, there are two connection ways as below:

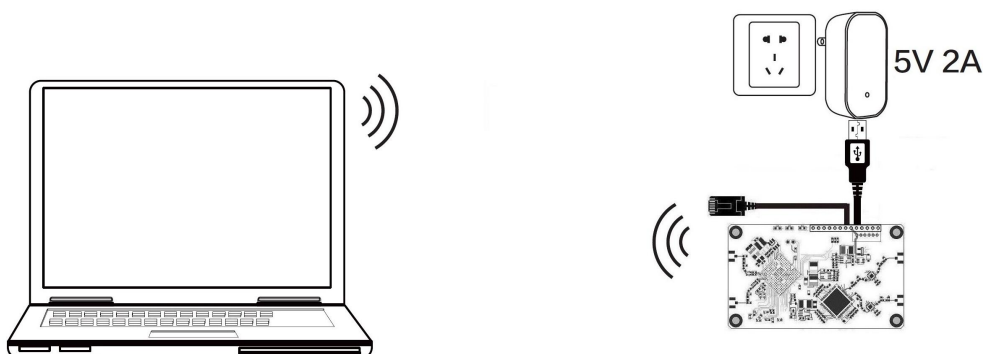
- A. Computer is wired connected to LAN port of VONETS module;



(Recommend Method)

- B. The computer wirelessly connects to the WiFi signal of VONETS module, its default hotspot parameters are as follows:

WiFi SSID	WiFi Password
VONETS_2.4G_****	12345678
VONETS_5G_****	12345678

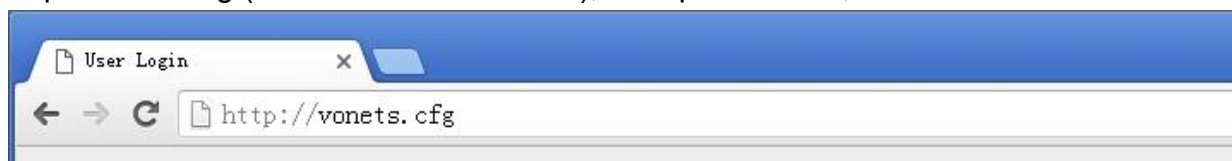


(After the WiFi parameters are configured, the WiFi will be disconnected, that is normal.)

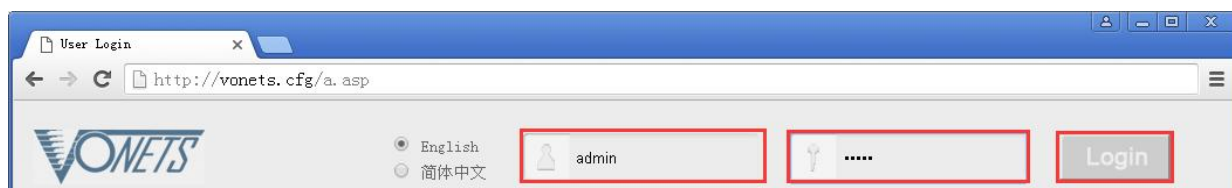
2.2 Bridge+Repeater Application Configuration

The configuration steps of VONETS module for WiFi repeater and WiFi bridge are basically the same, so this manual combines the configuration instructions of the two application modes.

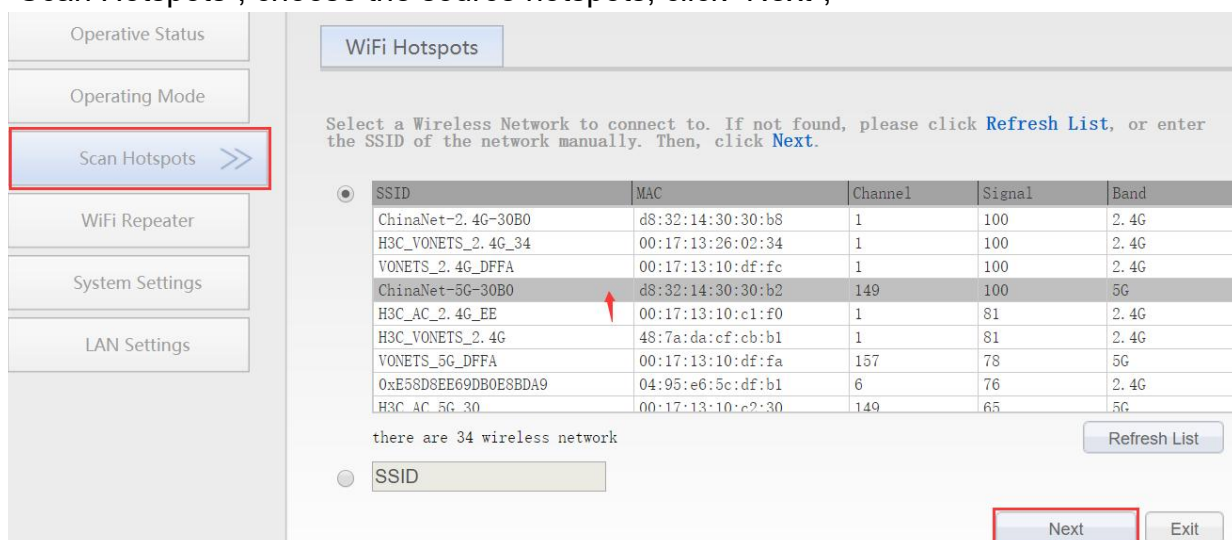
1. After computer is connected to VONETS module, open browser, input configured page: `http://vonets.cfg` (or IP: 192.168.254.254), then press Enter;



2. Input User name and Password in login page (both are “admin”), click “Login” button to enter configured page;



3. “Scan Hotspots”, choose the source hotspots, click “Next”;



4. Input “Source wireless hotspot password”, click “Apply”;
 - **IP layer transparent transmission** (factory default), transparent transmission of IP layer data, can meet most of WiFi bridge applications;
 - **MAC layer transparent transmission**, transparent transmission of all data above the MAC layer (link layer) and MAC layer, including IP layer data. MAC transparent transmission can solve some special applications for MAC layer encryption, such as GoPro camera, Cisco AP, Hikvision monitoring system, etc;
 - The option “**The configuration parameters of WiFi repeater security is synchronized with source hotspot**” is default ticked, it means the SSID of VONETS repeater is associated with the SSID of the source hotspot, and the WiFi password is the same as the password of the source hotspot;
 - **Disable hotspot**, if you select “Disable hotspot” on the right side of the SSID, the device will not transmit the corresponding hotspot and can only be used as a bridge application;

- **Advanced Setting**, include Hot spot authentication match mode, WiFi Signal Motion Detection and SSA Signal strength alarm threshold, these options here can be kept unchanged, for instructions on this option, go to www.vonets.com and download the “V Series WiFi Bridge Advanced Features Instruction”;

The screenshot shows the 'WiFi Hotspots' configuration page. On the left is a sidebar with options: Operative Status, Operating Mode, Scan Hotspots >>, WiFi Repeater, System Settings, and LAN Settings. The main area is titled 'WiFi Hotspots' and contains several sections:

- Security Settings:**
 - SSID: ChinaNet-5G-30B0
 - Source WiFi hotspot password: (highlighted with a red box)
 - Transmission mode: ☒ IP layer transparent, ☐ MAC layer transparent
 - ☒ The configuration parameters of WiFi repeater security is synchronized with source hotspot
 - 2.4G WiFi Repeater SSID: ChinaNet-5G-30B0_2.4G_CA, ☐ Disable Hotspot, ☒ Disable WiFi Hardware
 - 5G WiFi Repeater SSID: ChinaNet-5G-30B0_5G_CA, ☐ Disable Hotspot
- DHCP Server Settings:**
 - DHCP Server: ☒ Disable (Recommended configuration), ☐ Enable
- Advanced Setting (For specific applications only) >>**

At the bottom, there is a note: "In order to prevent network conflicts, after parameters are configured, please disable DHCP server. Logging in page again will be failed because of 'Disable DHCP server', so please make sure the hotspot parameters are correct." Below this note are two buttons: 'Apply' (highlighted with a red box) and 'Back'.

5. Click “Reboot”, VONETS module will connect to the configured WiFi hotspot automatically, if connection is successful, the WiFi LED light will flash quickly;

This screenshot shows the same 'WiFi Hotspots' configuration page as the previous one, but with the 'Source WiFi hotspot password' field now containing 'Abc.12345'. The 'Reboot' button at the bottom right is highlighted with a red box.

Below the 'Advanced Setting' section, there is a note: "If you want to add one more hotspot, please click 'Continue Add' button." followed by 'Continue Add' and 'To Connect' buttons. Below that, another note: "To make the new parameters effective, after parameters are configured, please click 'Reboot' button." followed by the 'Reboot' button (highlighted with a red box).

Remark 1:

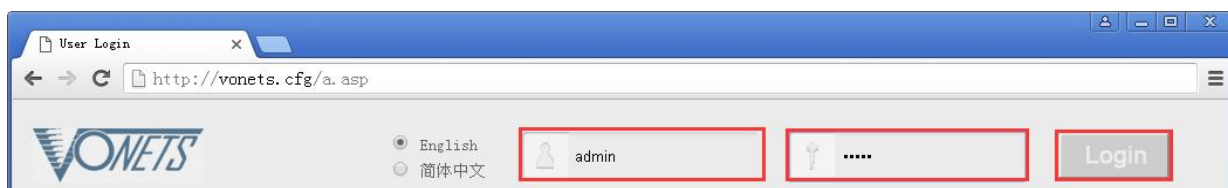
LED Light Form			
Model	Blue Light	Green Light	Yellow Light
VM300-H/L	2.4G WiFi Connection Status Light	Ethernet Cable Connection Status Light	/

VM5G /VBG1200	2.4G WiFi Connection Status Light	5G WiFi Connection Status Light	Ethernet Cable Connection Status Light
① VONETS module is not connected to any hotspot, WiFi connection status light will flash quickly; ② VONETS module is connected to hotspot successfully, WiFi connection status light will quick flash; ③ VONETS module is connected to hotspot successfully, but hotspot signal strength is less than 50% greater than 10%, WiFi status light will pause flash and flash; ④ VONETS module is connected to hotspot failed, WiFi connection status light will flash slowly.			

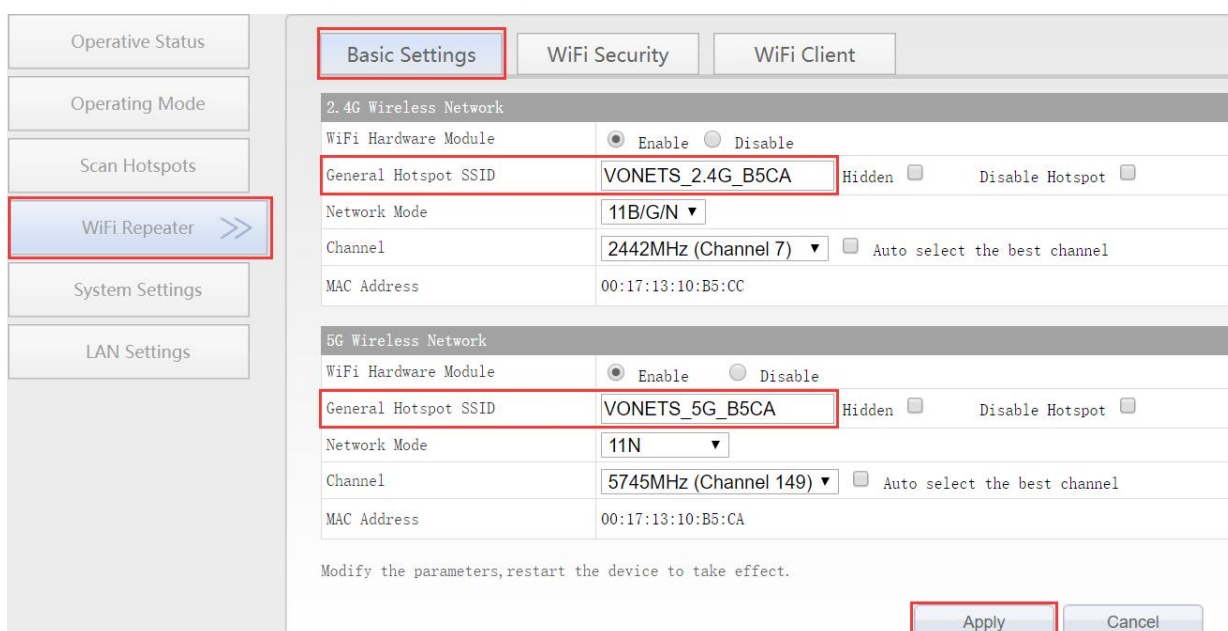
2.3 AP Application Configuration

VONETS module can be configured as an AP application. The wireless terminal device can connect to VONETS module hotspot to connect to the network; however, it is best to change its WiFi name and password for network security.

1. Log in to the configuration page <http://vonets.cfg> (or IP: 192.168.254.254) in your computer browser, both user name and password are “admin”



2. Revise WiFi name: Jump to “WiFi Repeater”---- “Basic Settings”, enter new WiFi name in “WiFi Repeater (SSID)”, click “Apply”;



- Revise WiFi password, in “WiFi Repeater”----“WiFi Security”, enter new WiFi password in “Pass Phrase”, click “Apply”;

- “WiFi Tx Power” of VONETS module can be changed, jump to “System Settings”----“Advance Settings”, choose suitable transmit power, then click “Apply”;

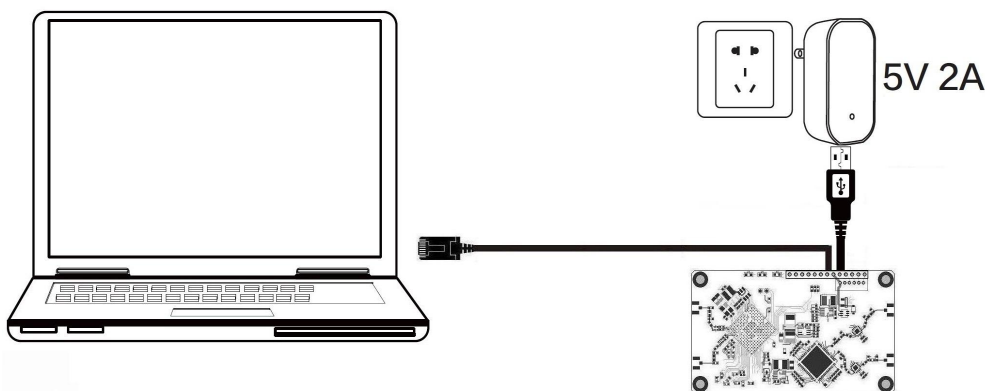
- Reboot device, jump to “System Settings”---- “Reboot Device”, click “Reboot”, when it is finished, all revised options will take effort.

Remark 2: When VONETS module connect to external network, its IP address will be changed. At this time, when log in configured page, we suggest you enter configured domain name: <http://vonets.cfg>. Or in Windows command window, enter the command: ping vonets.cfg, to get the IP address of the device, then log in configuration page by this IP address.

Chapter 3 Router Mode Configuration Instruction

3.1 Change device mode

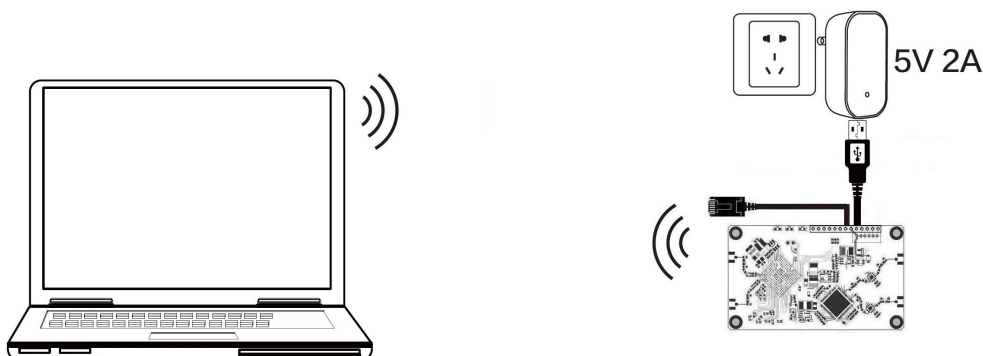
1. Power on VONETS module by 12V/1A power supply, then connect to PC, there are two connection ways as below:
 - A. Computer is wired connected to LAN port of VONETS module;



(Recommend Method)

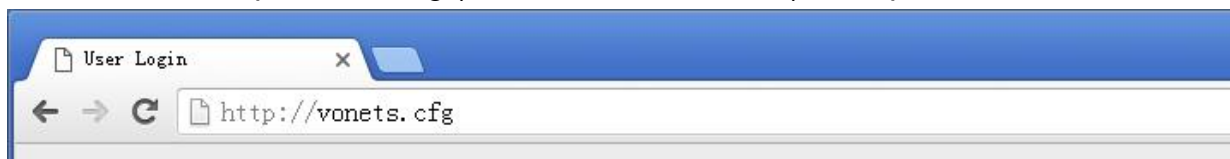
- B. Computer wirelessly connects to the WiFi signal of VONETS module, its default hotspot parameters are as follows:

WiFi SSID	WiFi Password
VONETS_2.4G_****	12345678
VONETS_5G_****	12345678

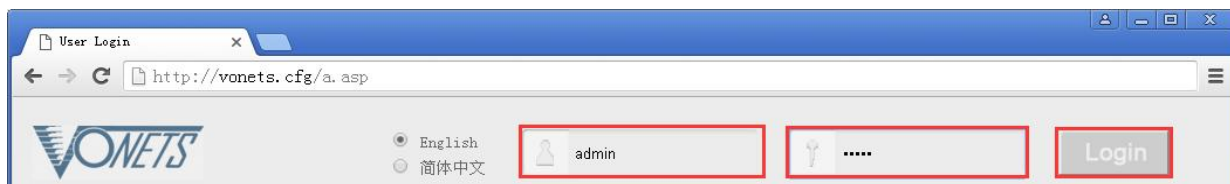


(After the WiFi parameters are configured, the WiFi will be disconnected, that is normal.)

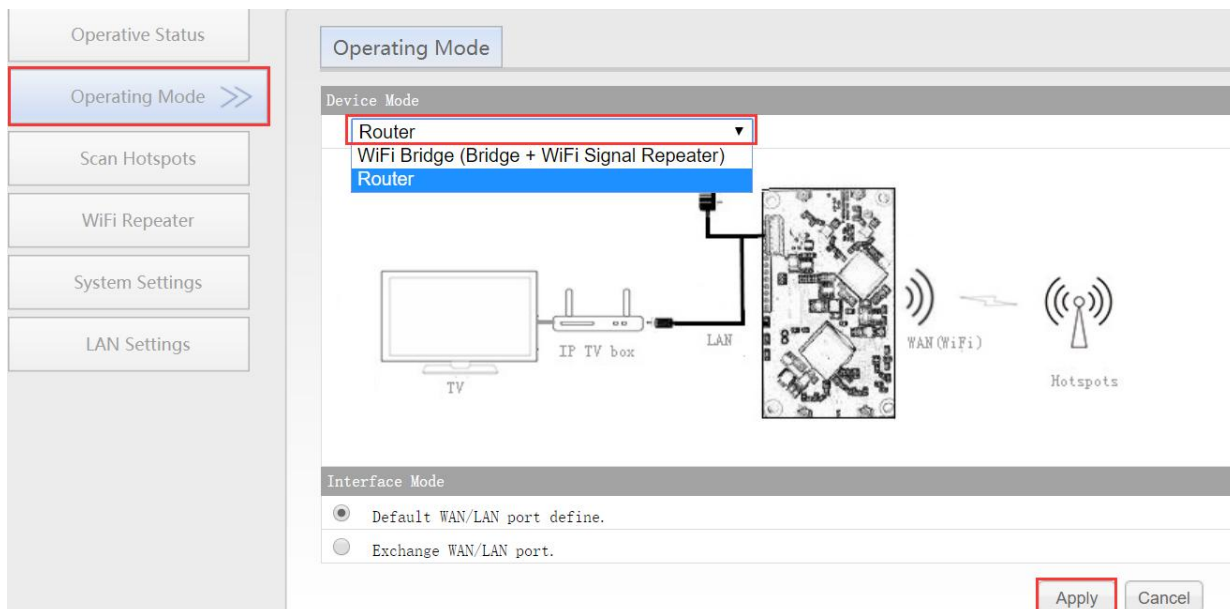
- After computer is connected to VONETS module, open browser, input configured page domain name: `http://vonets.cfg` (or IP: 192.168.254.254), then press Enter;



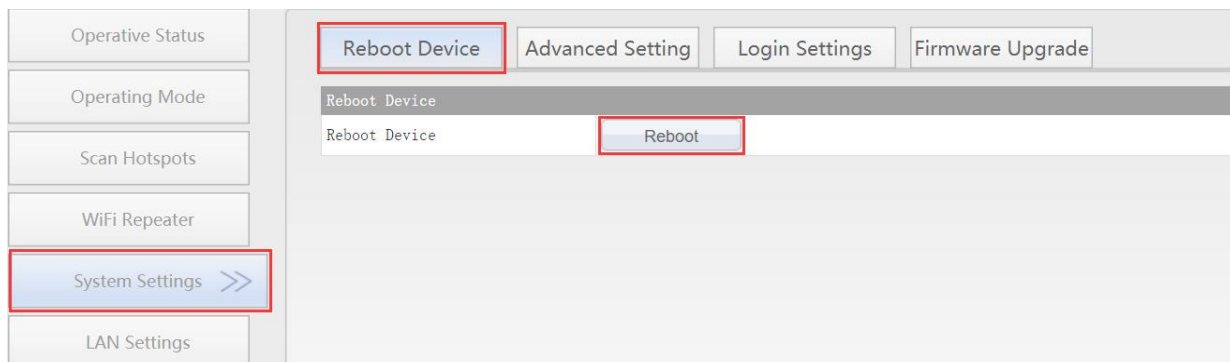
- Enter User name and Password in login page (both are “admin”), click “Login” button to enter configured page;



- In “Operating Mode”, change Device mode to “Router” mode, click “Apply” button;



- Reboot device: go to “System Settings”-- “Reboot device”, click “Reboot” button, VONETS module will automatically switch to router mode.



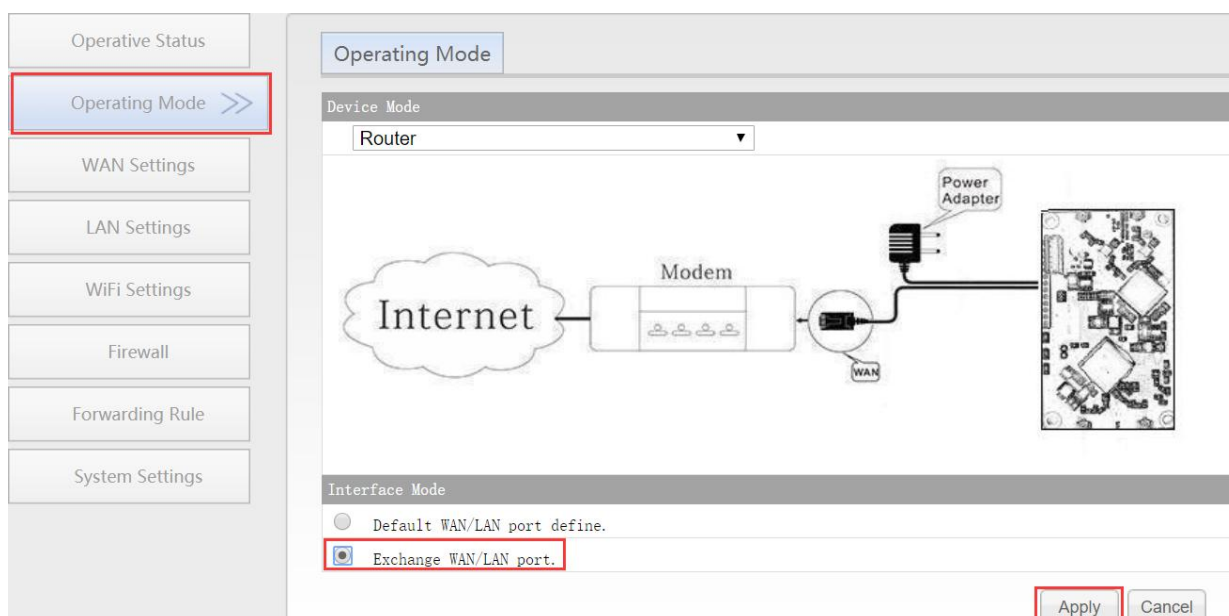
3.2 WAN port setting

3.2.1 WAN/LAN exchange

In routing mode, the Ethernet port of VONETS module is divided into a WAN port and a LAN port, and WAN/LAN can be interchanged.

The Ethernet port of **VM300** module defaults to WAN port. The Ethernet cable defaults to LAN port. If the interface mode is changed to “WAN/LAN exchange”, the Ethernet cable will be WAN port and the Ethernet port will be LAN port.(This option can keep unchanged);

The Ethernet cable of **VM5G** defaults to LAN port, the interface mode must be changed to “WAN/LAN interchange” to make Ethernet cable to WAN port, click “Apply”, then reboot VONETS module.



3.2.2 WAN Port connection method

By setting the WAN port of the router, you can change the network connection type according to the actual needs of the individual, there are three types of WAN port connections commonly used in the routing mode of the VONETS module: DHCP(Auto Config), PPPoE(ADSL) and WiFi. DHCP and PPPoE are wired connections, and the WAN port needs to be connected to the source network through a wired connection:

- DHCP(Auto Config): WAN port connection type is selected as “**DHCP(Auto Config)**”, VONETS module will automatically obtain IP address from source network;
- PPPoE(ADSL): WAN port connection type is selected as “**PPPoE**”, that is, ADSL virtual dialing mode requires ISP (Internet Service Provider) to provide Internet account and password.
- WiFi: WAN port connection type is selected as “**WiFi**”, VONETS module uses a built-in WiFi network card (used to connect to the source hotspot) as a WAN port, and all Ethernet ports as LAN ports, while providing WiFi hotspot functions.

3.2.3 WAN port wired connect network——DHCP

The default WAN port connection mode of VONETS is DHCP. The WAN port can automatically obtain an IP address after connecting with the source network.

The screenshot shows the 'Basic Settings' tab in the VONETS configuration interface. On the left sidebar, 'WAN Settings' is highlighted with a red box and a double arrow. The main content area shows the 'WAN Connection Type' section with 'Connection Type' set to 'DHCP (Auto config)' (highlighted with a red box). Below this, 'Remote Management' has 'Disable' selected. The 'DHCP Mode' section includes 'Hostname' set to 'VONETS.COM', 'MAC Clone' checked, and 'MAC Address' with a 'Get PC MAC' button. A note at the bottom states: 'Modify the parameters, restart the device to take effect.' 'Apply' and 'Cancel' buttons are at the bottom right.

3.2.4 WAN port wired connect network——PPPoE

In “WAN settings”, select “Basic settings”, change the connection type to “PPPoE (ADSL)”, then enter the Internet account and password provided by the ISP (Internet Service Provider), click the “Apply” button, and then reboot VONETS module, then can access to network.

The screenshot shows the 'Basic Settings' tab in the VONETS configuration interface. On the left sidebar, 'WAN Settings' is highlighted with a red box and a double arrow. The main content area shows the 'WAN Connection Type' section with 'Connection Type' set to 'PPPoE (ADSL)' (highlighted with a red box). Below this, 'Remote Management' has 'Disable' selected. The 'PPPoE Mode' section includes 'User Name' set to '15278511540@163.sz.com' and 'Password' (highlighted with a red box). The 'Operation Mode' is set to 'Always on'. Below this, 'Always on mode' parameters are shown: 'Redial Period' set to 60 seconds and 'Idle Time' set to 5 minutes. The 'MAC Clone' section includes 'MAC Address' with a 'Get PC MAC' button. A note at the bottom states: 'Modify the parameters, restart the device to take effect.' 'Apply' and 'Cancel' buttons are at the bottom right, with 'Apply' highlighted by a red box.

3.2.5 WAN port wireless connect network---- WiFi

1. In “WAN Settings”, select “Basic Settings”, change Connection type to “WiFi”, then click “Scan Hotspots” to enter the scanning hotspot list.

Operative Status

Operating Mode

WAN Settings >>

LAN Settings

WiFi Settings

Firewall

Forwarding Rule

System Settings

Basic Settings DDNS

WAN Connection Type

Connection Type WIFI

Remote Management ☒ Disable ☐ Enable

WiFi Mode

SSID

MAC Address

Security Mode

Encryption Type

Channel

Connection Status Disconnected

Scan Hotspots Scan Hotspots

MAC Clone

MAC Address Get PC MAC

Modify the parameters, restart the device to take effect.

Apply Cancel

2. Choose the source hotspots, click “Next”;

Operative Status

Operating Mode

WAN Settings

LAN Settings

WiFi Settings >>

Firewall

Forwarding Rule

System Settings

Basic Settings WiFi Security WiFi Client

Select a Wireless Network to connect to. If not found, please click [Refresh List](#), or enter the SSID of the network manually. Then, click [Next](#).

SSID	MAC	Channel	Signal	Band
VONETS_2_4G_DFFA	00:17:13:10:df:fc	1	100	2.4G
ChinaNet-2_4G-30B0	d8:32:14:30:30:b8	1	100	2.4G
H3C_AC_2_4G_EE	00:17:13:10:c1:f0	1	100	2.4G
H3C_VONETS_2_4G_34	00:17:13:26:02:34	1	100	2.4G
ChinaNet-5G-30B0	d8:32:14:30:30:b2	149	100	5G
H3C_VONETS_2_4G	48:7a:da:cf:cb:b1	1	91	2.4G
H3C_AC_5G_30	00:17:13:10:c2:30	149	83	5G
VONETS_5G_DFFA	00:17:13:10:df:fa	157	78	5G
VONETS_INIT_2G4	00:17:13:10:d3:d2	7	65	2.4G

there are 39 wireless network

Refresh List

SSID

Next Exit

3. Input “Source wireless hotspot password”, click “Apply”

- The option “**The configuration parameters of WiFi repeater security is synchronized with source hotspot**” is default ticked, it means the SSID of VONETS repeater is associated with the SSID of the source hotspot, and the WiFi password is the same as the password of the source hotspot;
- **Disable hotspot**, if you select “Disable hotspot” on the right side of the SSID, the device will not transmit the corresponding hotspot and can only be used as a bridge application;
- **Advanced Setting**, include Hot spot authentication match mode, WiFi Signal Motion Detection and SSA Signal strength alarm threshold, these options here can be kept unchanged, for instructions on this option, go to www.vonets.com and download the “V Series WiFi Bridge Advanced Features Instruction”;

The screenshot shows the 'WiFi Security' configuration page. On the left is a sidebar with navigation options: Operative Status, Operating Mode, WAN Settings, LAN Settings, WiFi Settings (highlighted with a blue bar and double arrows), Firewall, Forwarding Rule, and System Settings. The main content area has three tabs: Basic Settings, WiFi Security (selected), and WiFi Client. Under the 'WiFi Security' tab, there's a 'Security Settings' section with fields for SSID (ChinaNet-5G-30B0), Source WiFi hotspot password (highlighted with a red box), and checkboxes for synchronizing security parameters. Below this are fields for 2.4G and 5G WiFi Repeater SSIDs, each with a 'Disable Hotspot' checkbox. At the bottom right, the 'Apply' button is highlighted with a red box, next to a 'Back' button.

- Click “Reboot”, VONETS module will connect to the configured WiFi hotspot automatically, if connection is successful, the WiFi LED light will flash quickly;(Please refer to Remark 1 for the description of the LED light.)

This screenshot shows the same 'WiFi Security' configuration page, but the 'Source WiFi hotspot password' field now contains the text 'Abc.12345'. At the bottom of the page, there is a message: 'If you want to add one more hotspot, please click “Continue Add” button. To make the new parameters effective, after parameters are configured, please click “Reboot” button.' Below this message are three buttons: 'Continue Add', 'To Connect', and 'Reboot' (highlighted with a red box).

Remark 3: After VONETS module sets the WAN port to access the WiFi hotspot in the routing mode, its LAN port IP is still 192.168.254.254, and the terminal device also obtains the IP address of the same network segment, can login configuration page by 192.168.254.254 or <http://vonets.cfg>.

3.3 Set WiFi hotspot parameters

- Revise WiFi name: Jump to “WiFi Repeater”---- “Basic Settings”, enter new WiFi name in “WiFi Repeater (SSID)”, click “Apply”;

Operative Status	Basic Settings	WiFi Security	WiFi Client
Operating Mode	2.4G Wireless Network		
WAN Settings	WiFi Hardware Module	☒ Enable ☐ Disable	
LAN Settings	General Hotspot SSID	VONETS_2.4G_B5CA Hidden ☐ Disable Hotspot ☐	
WiFi Settings >>	Network Mode	11B/G/N ▼	
Firewall	Channel	2442MHz (Channel 7) ▼ ☐ Auto select the best channel	
Forwarding Rule	MAC Address	00:17:13:10:B5:CC	
System Settings	5G Wireless Network		
	WiFi Hardware Module	☒ Enable ☐ Disable	
	General Hotspot SSID	VONETS_5G_B5CA Hidden ☐ Disable Hotspot ☐	
	Network Mode	11N ▼	
	Channel	5745MHz (Channel 149) ▼ ☐ Auto select the best channel	
	MAC Address	00:17:13:10:B5:CA	
	Modify the parameters, restart the device to take effect.		
	Apply		Cancel

2. Revise WiFi password, in “WiFi Repeater”----“WiFi Security”, enter new WiFi password in “Pass Phrase”, click “Apply”;

Operative Status	Basic Settings	WiFi Security	WiFi Client
Operating Mode	[2.4G] WiFi Security		
WAN Settings	Repeater SSID	VONETS_2.4G_B5CA ▼	
LAN Settings	Security Mode	WPA2PSK-WPA2PSK ▼	
WiFi Settings >>	WPA Algorithms	☐ TKIP ☒ AES ☐ TKIP-AES	
Firewall	Pass Phrase	12345678 (8-63 characters or 64 hex numbers)	
Forwarding Rule	[5G] WiFi Security		
System Settings	Repeater SSID	VONETS_5G_B5CA ▼	
	Security Mode	WPA2PSK-WPA2PSK ▼	
	WPA Algorithms	☐ TKIP ☒ AES ☐ TKIP-AES	
	Pass Phrase	12345678 (8-63 characters or 64 hex numbers)	
	Modify the parameters, restart the device to take effect.		
	Apply		Cancel

3. Reboot device, jump to “System Settings”---- “Reboot Device”, click “Reboot”, when it is finished, all revised options will take effort.

Operative Status	Reboot Device	Advanced Setting	Login Settings	Firmware Upgrade
Operating Mode	Reboot Device			
WAN Settings	Reboot Device	Reboot		
LAN Settings				
WiFi Settings				
Firewall				
Forwarding Rule				
System Settings >>				

Appendix Frequently Asked Questions

1. How to reset to the factory default parameters?

Please refer to the information below to reset the factory default parameters of the VONETS module:

Reset Procedure:

After powering on the VONETS device for 40 seconds, press and hold the reset button for 5 seconds, then release. Wait for the indicator light to slow flash -> stop -> and finally resume rapid flashing, indicating the reset is complete. (Avoid using power supplies from boost converters, transformers, or laptop/computer USB ports. Otherwise, voltage output may fail to reach rated levels during factory reset, causing the bridge router's software rewrite to fail. Also, never disconnect power during reset, as this may cause abnormal damage to the VONETS device.)

2. Does VONETS module support firmware upgrade, how to upgrade?

VONETS module supports firmware upgrade, and support online upgrade, please visit website: www.vonets.com to refer to the related documents.

3. The device WiFi hot spot can be found, but the smart phone or PC can't connect to this device hotspot?

- Reason 1. Due to some unexpected operation or power down, caused the destroy of device parameters. At this time, just need to reset the device to factory default parameters;
- Reason 2. The device WiFi doesn't work at the best channel, make the performance worse. At this time, you can try to change the source WiFi hot spot and this device WiFi channel to make the performance better;
- Reason 3. The smart phone or PC haven't been configured the correct WiFi password.

4. The device has been configured the source WiFi hot spot parameters, the smart phone or PC has connected to the device WiFi hot spot, but still doesn't get internet?

- First, check the status light to know the current state of the device, then according to the state of the device to analyze the fault reasons;
- Reason 1. The distance between the device and source WiFi hot spot is too long, cause the communication performance degradation, finally effect the user's access to the Internet. At this time, just need shorten the distance between the device and source WiFi hot spot to solve this problem;
- Reason 2. Due to some unexpected operation or power down, caused the destroy of device parameters. At this time, just need to reset the device to factory default parameters;
- Reason 3. The device WiFi doesn't work at the best channel, make the performance worse. At this time, you can try to change the source WiFi hot spot WiFi channel to make it the same as the default channel of the device, the reboot the device, the device will automatically exchange to the same channel as the source WiFi hotspot,

to make the performance better;

- Reason 4. There are several WiFi hot spot around the device, WiFi channel mutual interference, make the performance worse. At this time, you can try to change the source WiFi hot spot and this device WiFi channel to make the performance better;
- Reason 5. The configured source WiFi hot spot parameters are not correct. At this time, just need to configure the correct parameters then reboot the device;

5. The smart phone or PC has been connected the device by WiFi or Ethernet cable, but user can't log in the device WEB page, or after log in the WEB it shows error?

- Reason 1. The users don't use the browser recommended by VONETS(IE,Google Chrome, Safari, the mobile phone browser);
- Reason 2. The smart phone or PC installed the firewall, the security level is set too high, caused the above problem. At this time, only need to close the firewall;
- Reason 3. The security level of browser is too high, it will also cause the above problem. At this time, just need to reduce the browser's security level, then log in again;
- Reason 4. The IP address of the device input error. For the new device from the factory, user only need input the correct IP address according to the instruction guide; for the device that has connected the source hot spot, user only operate according to <Remark 2>.