

ST9602MD User Manual

Part 1. Safety Caution

Before using this system, please carefully read the following precautions.

- ✧ please not put the RX antenna near the wall or metal objects.
- ✧ Please not open the enclosure for any operation without manufacture's approval.
- ✧ **Before turning power on the TX and RX, make sure the antennas are in good connection already.**
- ✧ During application, the distance between RX and TX need to be longer than 10meters.
- ✧ Make sure no any metal objects to enter the system shell
- ✧ Do not remove the antenna with power. Before disassemble the antenna please make sure the power is off.

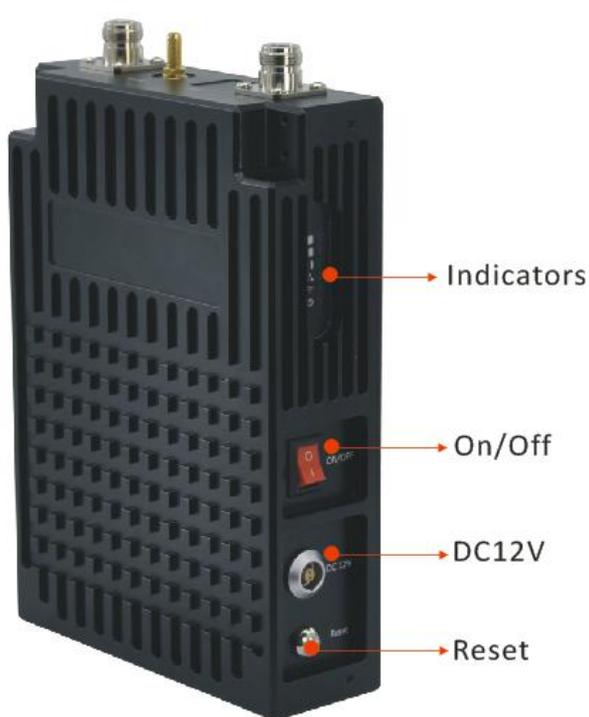
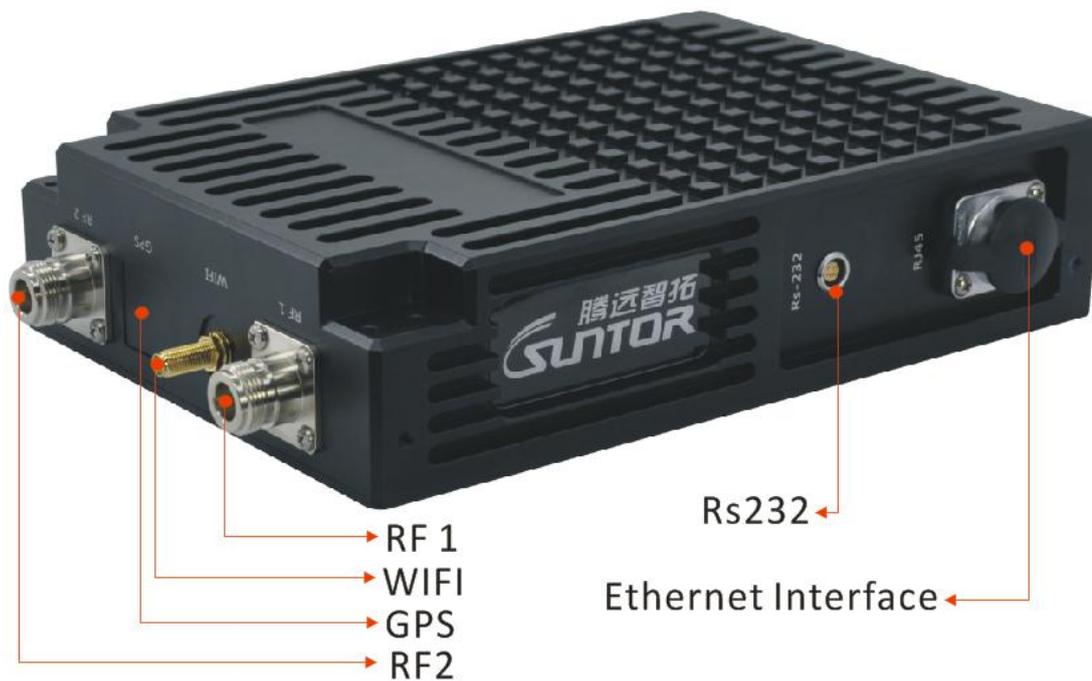
Remark: All the settings are configured before shipping. Do not change the parameters without permission.

Part 2. Package List in one package box



- 1*ST9602MD,
- 2*Manpack Antenna,
- 1*Battery(12V/21Ah),
- 1*Manpack Harness,
- 1*Power Cable,
- 1*RS232 Data Cable,
- 1*Battery Charger
- 1*Wifi Antenna
- 1*Hand Grip

Part 3. Interface Introduction



Battery

Part 4. Installation Steps

1. Put the device vertically. Then connect the antenna for each device and make sure the connection is firmly.
2. Connect the data source to the Ethernet port(RS232 port is for serial data input)
3. Connect the device with battery by power cable
4. Check all the connections are in good condition and then press the on/off button.

❖ **Note: Before disassemble the antenna, please make sure the power is off.**

✧ **Reset Button:** If you can not find the IP address during application, you can press the reset button to Restore Factory Defaults. The factory default IP: 192.168.17.1

Part 5. Network

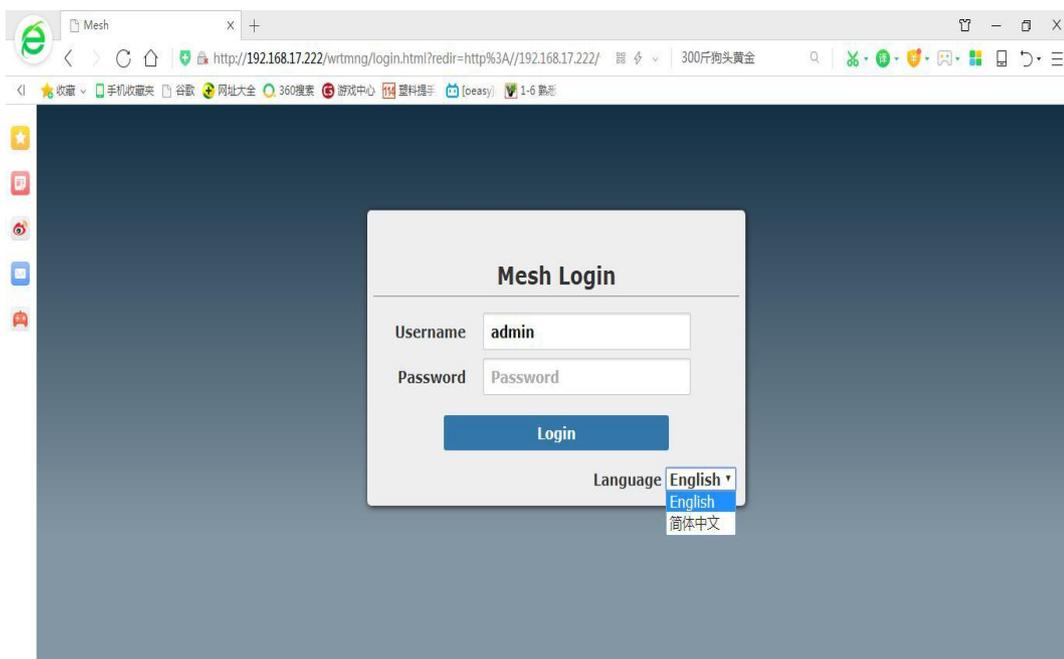
1. **Firstly, keep the gateway of PC and ST9602MD same.**

For example, ST9602MDD IP address: 192.168.17.222

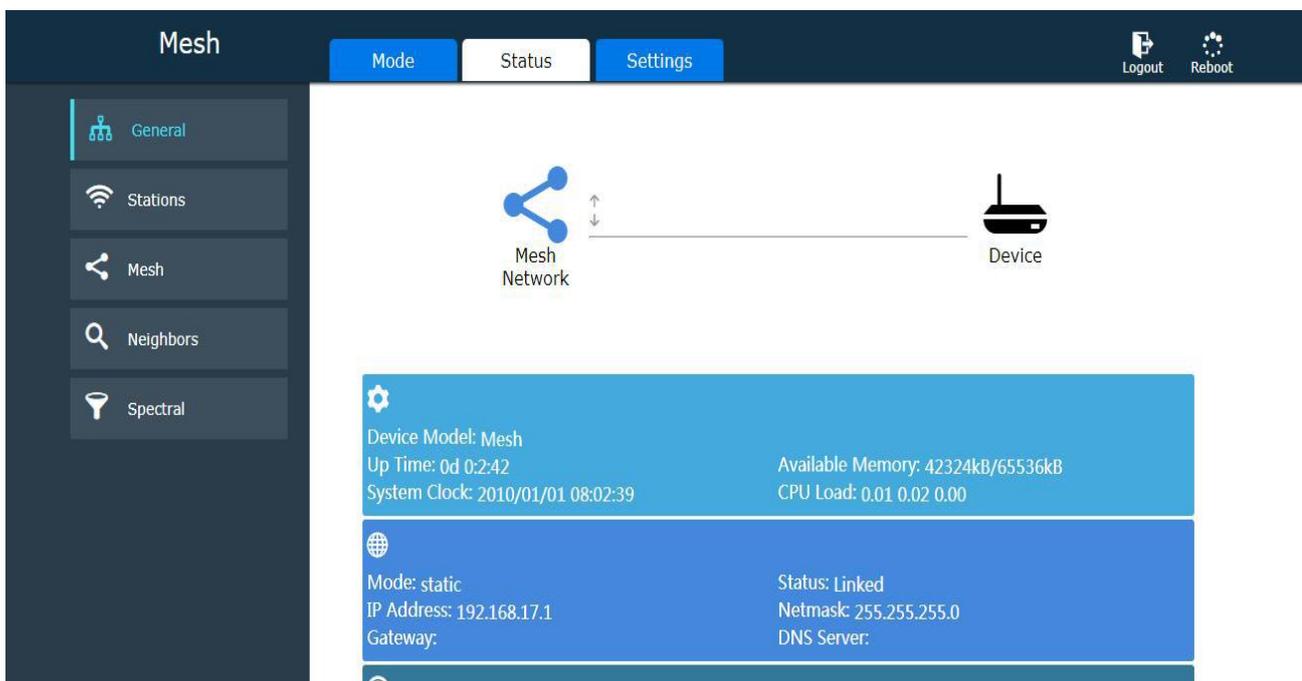
You need to set PC IP Address: 192.168.17.X(X=2~253 any number between 2~253, except 222)
subnet mask: 255.255.255.0

2. Log In

Open IE browser, input ST9602MD IP address: 192.168.1.222. User Name: admin. Password: no pass work, keep it blank.



There are three table on the home screen: Mode, Status and Settings



3. Change IP Address

Settings→Network→Network Management

The screenshot shows the 'Mesh' configuration interface. On the left is a sidebar with 'Wireless', 'Network', 'System', and 'Tools' options. The 'Network' option is selected. The main area is titled 'Network Management' and has three tabs: 'Mode', 'Status', and 'Settings'. The 'Settings' tab is active. The settings include: Mode (Static Address), IP Address (192.168.17.111), Netmask (255.255.255.0), Gateway, DNS Server, and VLAN. Below these are three checkboxes: Mesh (Enable), IGMP Snooping (Enable), and DHCP Server (Enable). Each checkbox has a descriptive note: 'Wire interfaces add to mesh.', 'Only need enabled in one side.', and 'Only need enabled in one side.' respectively. In the top right corner, there are 'Logout' and 'Reboot' buttons.

4. Create a new network interface

The dialog box is titled 'Create a new network interface' and has three tabs: 'Network', 'Wireless', and 'Management'. The 'Network' tab is selected. The settings are: Mode (Static Address), IP Address (192.168.17.111), Netmask (255.255.255.0), Gateway, and DNS Server. A blue 'Next' button is located at the bottom right. At the bottom of the dialog, there is a green bar with a white checkmark and the text 'Apply', and a white circle with a diagonal slash and the text 'Cancel'.

Mode→MESH→Next Step

Mode Status Settings

Network Wireless Management

Radio

phy0 Channel: 1 (2412 MHz) ▾

phy1 Channel: 3 (580 MHz) ▾

Virtual Interface

Wireless: Enable

Mode: Access Point(AP) ▾

Name(SSID): wf12345

Authorization: WPA2-PSK ▾

Password:

Apply Cancel

Choose wireless enable→Input Name→Choose Authorization→Set Password→Next Step

Mode Status Settings

Network Wireless Management

Remote Server: Enable

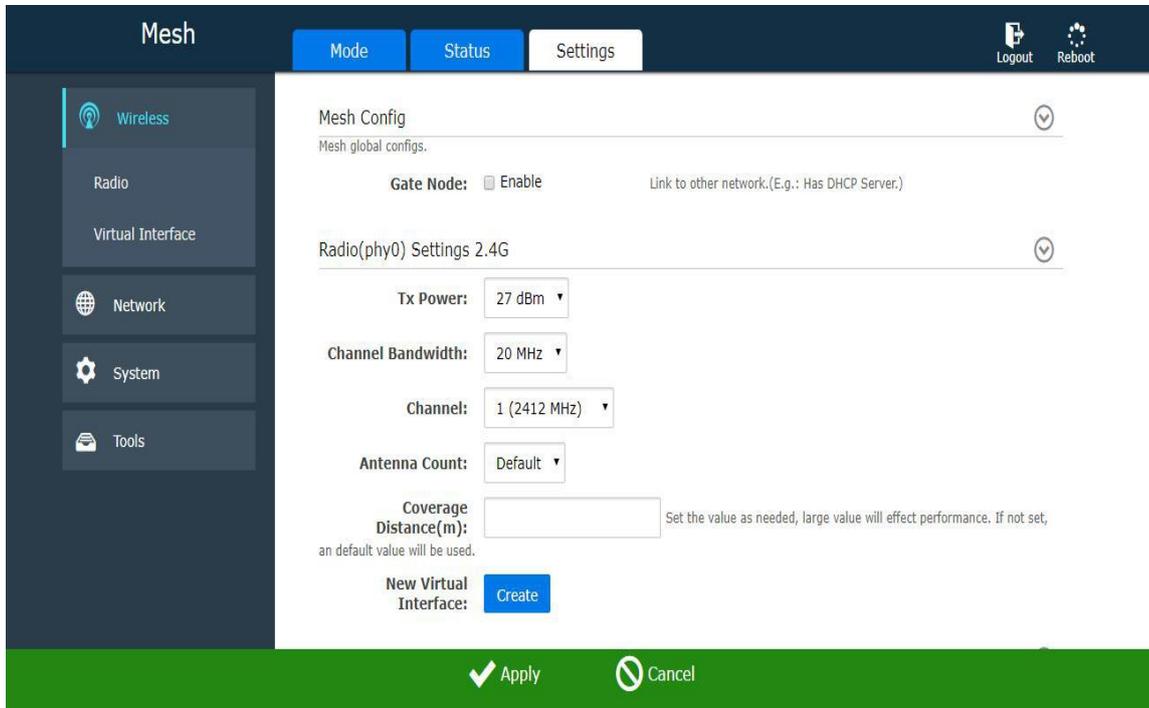
Mac Layer Management Service: Enable

OK

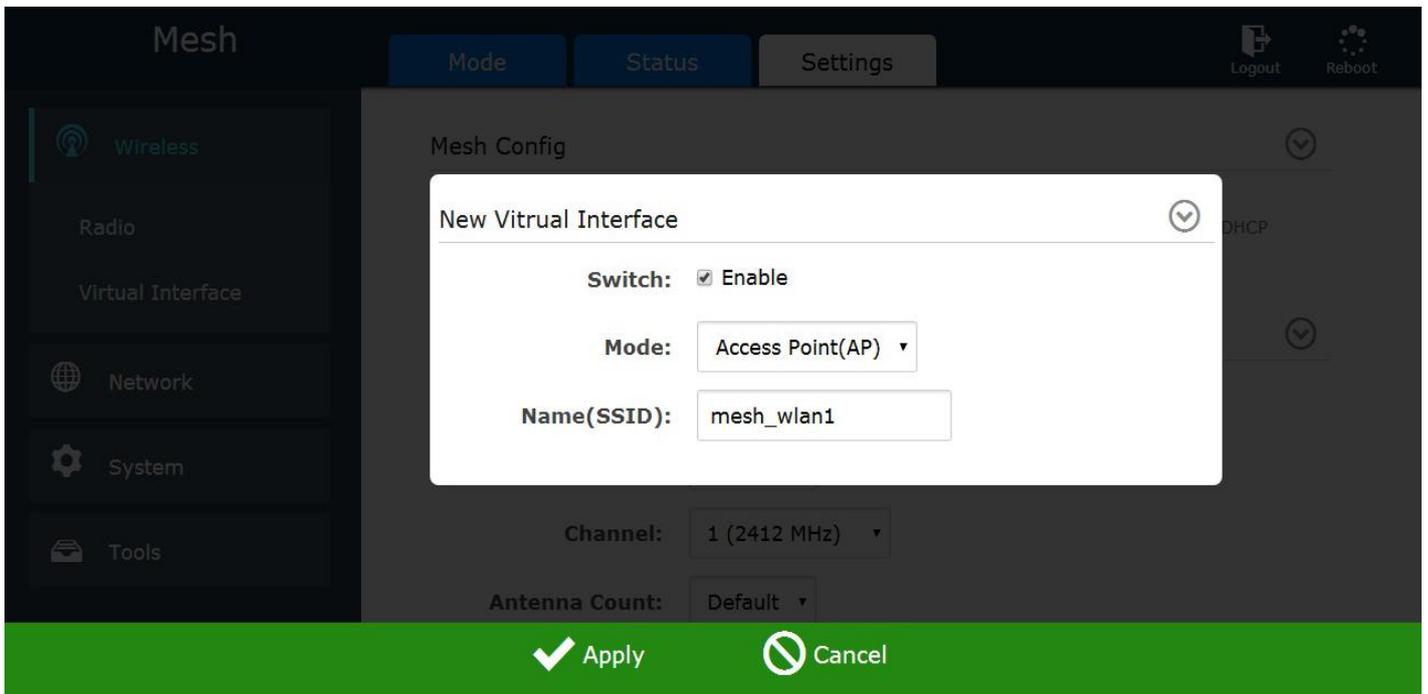
Apply Cancel

Setting finish→Click Apply(After you click Apply, the System configuration need a long time to complete. Please wait patiently and not take other operation)

5. Wifi Covering



Setting→Wireless(2.4Ghz)→Create(As shown above)



As shown above: Choose the Enable→Mode Access Point(AP)→Input Name→Click Apply

At the bottom of the window, Open DHCP and input Start IP Address and End IP Address. As shown below:

Gateway:	<input type="text"/>
DNS Server:	<input type="text"/>
VLAN:	<input type="text"/>
Mesh:	<input type="checkbox"/> Enable Wire interfaces add to mesh.
IGMP Snooping:	<input type="checkbox"/> Enable Only need enabled in one side.
DHCP Server:	<input checked="" type="checkbox"/> Enable
Start Address:	<input type="text"/>
End Address:	<input type="text"/>
Lease (sec):	<input type="text" value="86400"/>

Apply Cancel

After finishing the creating, click the apply.(After you click Apply, the System configuration need a long time to complete. Please wait patiently and not take other operation)

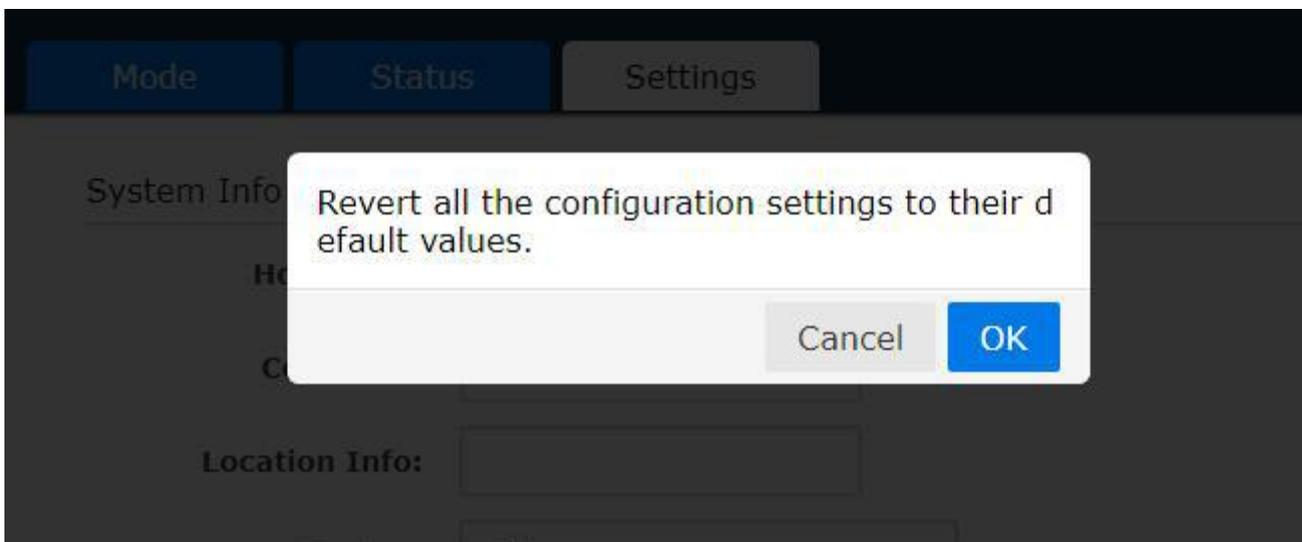
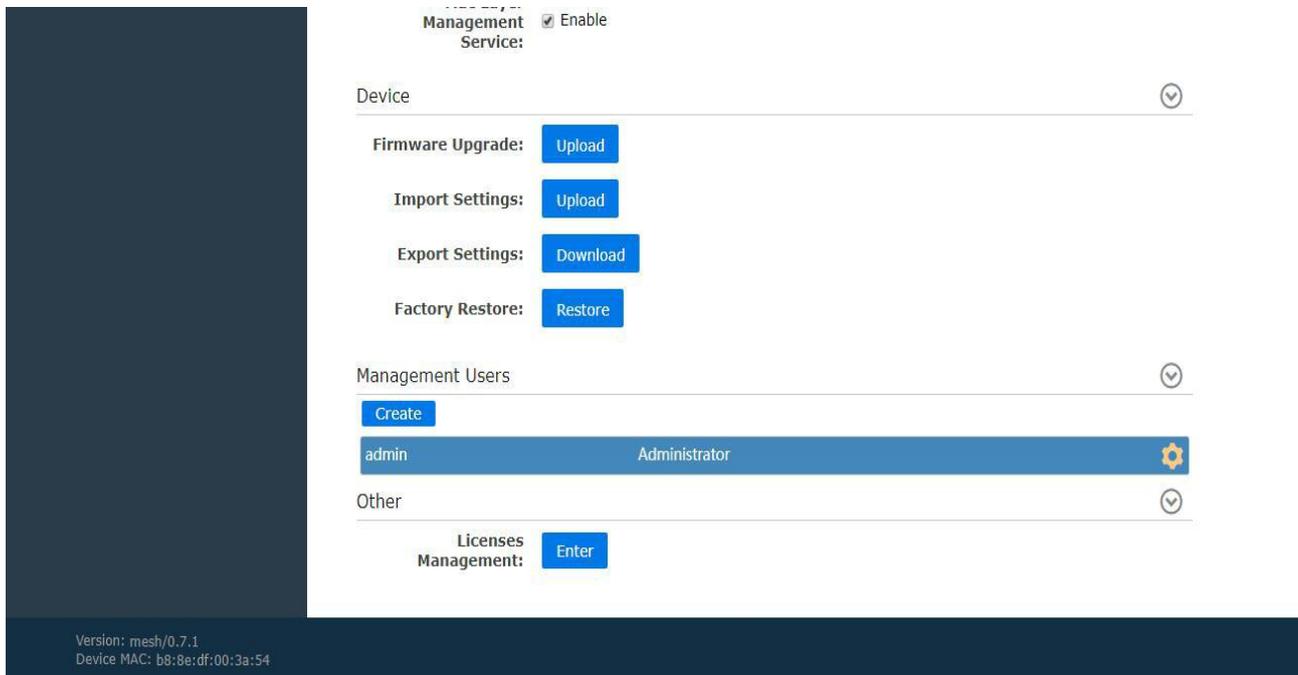
6. Check the network status

Using other equipment to research the network of ST9602MD and connect its network. After connecting successful, MESH→Status→Stations→Choose Auto Refresh. Then you can get the connection information. Such as the quantity of connected equipments, IP Address and signal strength

Station Name	Signal Strength
wlan10:mesh	0
wlan0:mesh	0

7. Restore Factory Defaults

Settings→System→Click Restore→Click ok



Note: After the Restore Factory Defaults, the IP will be 192.168.17.1

8. MESH topological graph

8.1. According to the application environment to adjust the parameters and frequency

Tx Power Setting

Longer distance need bigger Tx Power, Short distance need smaller Tx Power

Radio(phy1) Settings Convert(570MHz - 590MHz)



Tx Power: 8 dBm

Channel Bandwidth: 27 dBm, 26 dBm, 25 dBm, 24 dBm, 23 dBm, 22 dBm, 21 dBm, 20 dBm, 19 dBm, 18 dBm, 17 dBm, 16 dBm, 15 dBm, 14 dBm, 13 dBm

Channel:)

Antenna Count:

Coverage Distance(m): an default value will be used. Set the value as needed, large value will effect performance. If not set,

New Virtual Interface:

Channel Bandwidth Setting

In more barriers environment, setting bandwidth smaller. In Open air, make the bandwidth bigger

Channel Bandwidth: 10 MHz

Channel: 5 MHz, 10 MHz, 20 MHz, 40 MHz, Default

Antenna Count:

Frequency Setting

According to application environment to avoid the same frequency with other surrounding electronics equipment.

Radio(phy1) Settings Convert(570MHz - 590MHz)



Tx Power: 8 dBm

Channel Bandwidth: 10 MHz

Channel: 2 (575 MHz), 1 (570 MHz), 3 (580 MHz), 4 (585 MHz), 5 (590 MHz)

Antenna Count: 2 (575 MHz)

Coverage Distance(m): an default value will be used. Set the value as needed, large value will effect performance. If not set,

New Virtual Interface: Create

Antenna Quantity Setting

Choose antenna count 2

Radio(phy1) Settings Convert(570MHz - 590MHz)

Tx Power: 8 dBm

Channel Bandwidth: 10 MHz

Channel: 2 (575 MHz)

Antenna Count: 2

Coverage Distance(m): 1
2

an default value will be used.

New Virtual Interface: Create

Set the value as needed, large value will effect performance. If not set,

Covering Distance Setting

According to application environment to set the communication distance(Unit: meter)

Radio(phy1) Settings Convert(570MHz - 590MHz)

Tx Power: 8 dBm

Channel Bandwidth: 10 MHz

Channel: 2 (575 MHz)

Antenna Count: 2

Coverage Distance(m): 12300

an default value will be used.

New Virtual Interface: Create

Set the value as needed, large value will effect performance. If not set,

8.2. MESH topological graph

Click Status→Topology(Note: Choose auto refresh)

