User Manual of 11ac Wave2 Tri-band AP

This is the user manual of 11ac Wave2 Tri-band AP, which will approximate guide you how to set and apply the Ceiling AP, it provide a convenient graphical interface for network construction and maintenance person, as well as a user through a simple and accurate operation, and configuration management of the ceiling wireless access point.
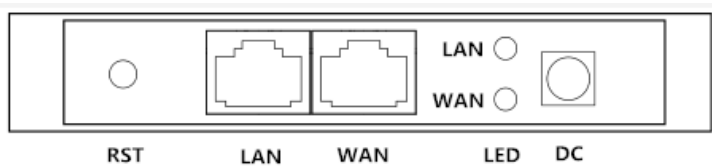
1st Hardware and Operation mode Instruction

LED indicator:

Green: Power Indicator
Blue: WiFi Indicator

AP Interface:

RST: Reset Button, it make AP revert to default data after press it 15 seconds.

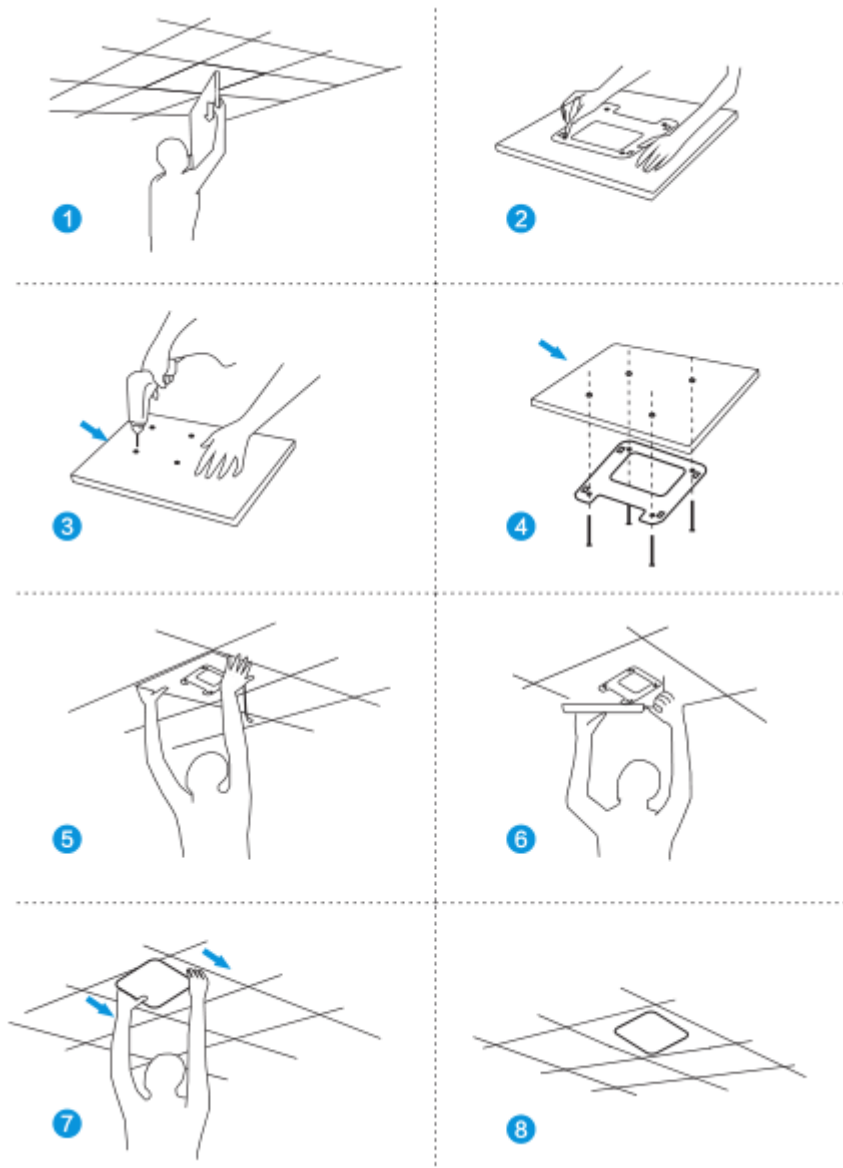WAN: Gigabit WAN Port, connect with ADSL modem or Internet mainly. It will be LAN port under Wireless AP and WiFi Repeater operation mode

LAN: Gigabit LAN Port to end users

LED: LED Indicator of WAN port and LAN port
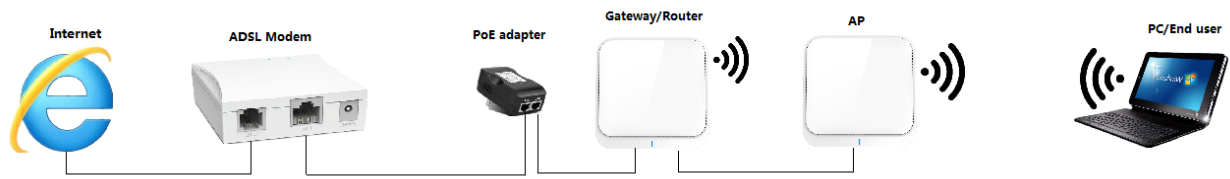
DC: DC power connector

AP installation:

Power Supply and working diagram:

1. Work at home:

If work at home, this device can be power by DC adapter or PoE adapter. Then access into IP address 192.168.188.253, switch to FAT AP mode and setup the SSID. User can choose gateway or AP operation mode based on their Internet environment and structure.
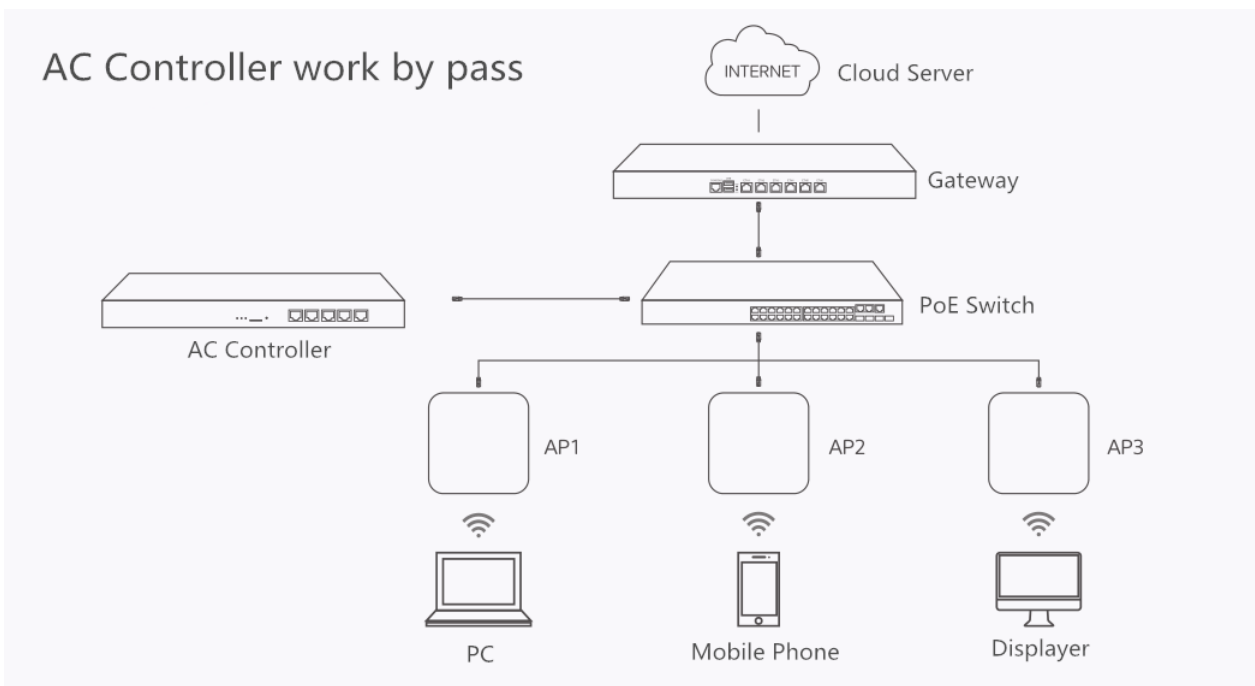
P1 Working diagram

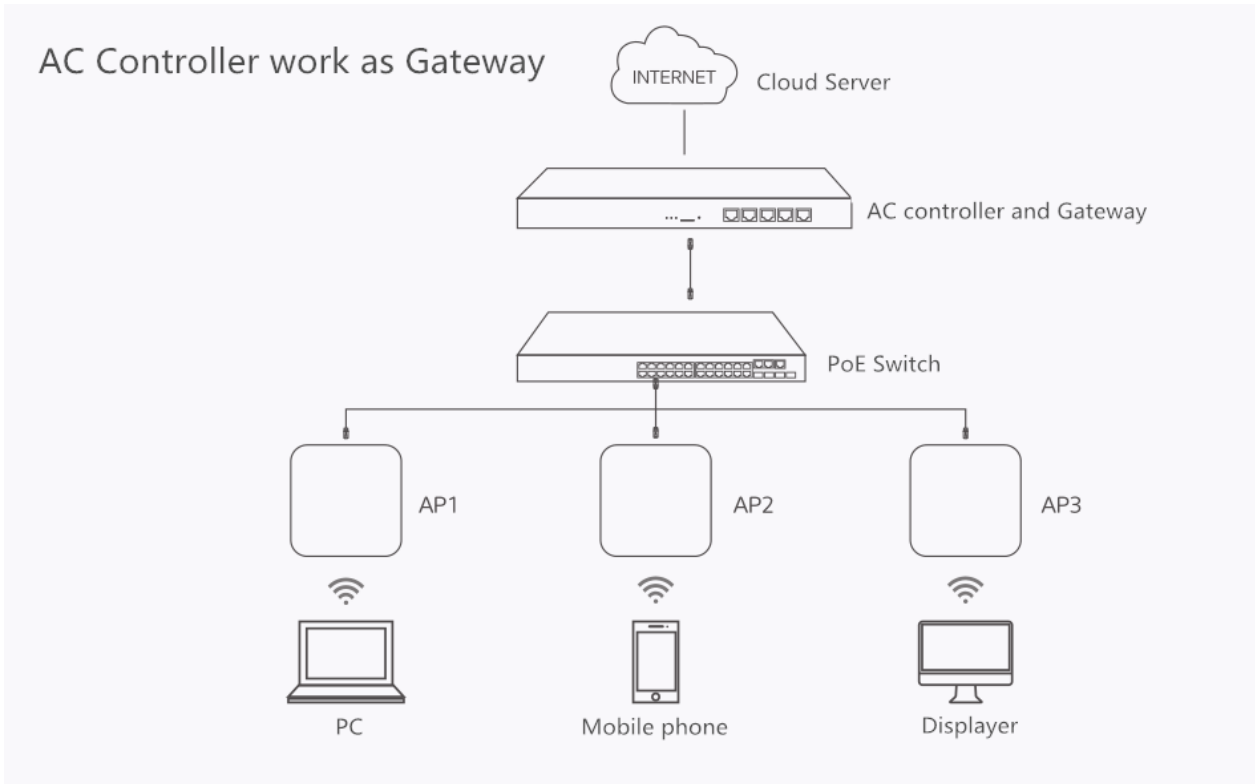## 2. Work in business area:

This wireless AP work in most business area like hotel, school, hospital, shopping wall etc.

In this application, it work in FIT AP mode, powered by PoE switch, managed by AC controller in centrally or remotely.
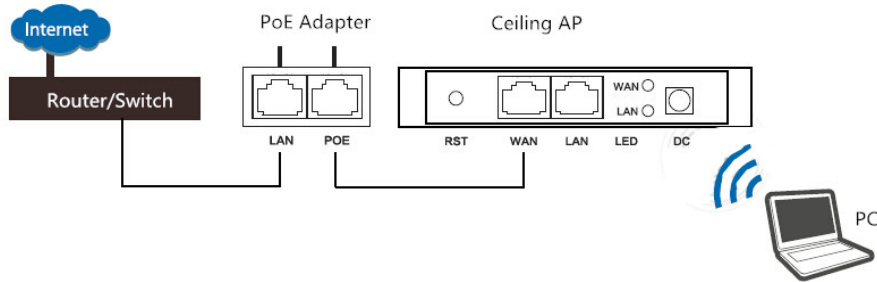
The working diagram showed as follow:
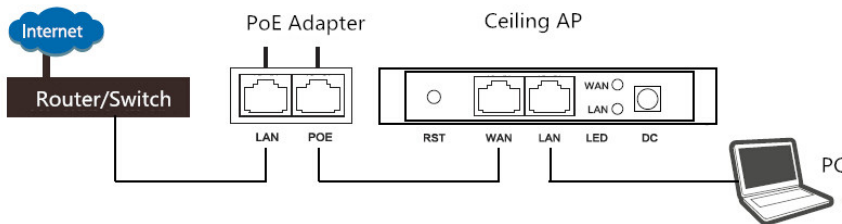

P2 Working Diagram

P3 Working Diagram

Connect Wireless AP with PC:

Use can connect the PC with wireless AP by Wireless SSID and LAN cable:
The diagram of wireless connection showed as follow:
Pls note: the default SSID is WirelessAP2.4G/5.8G, SSID's password is 66666666
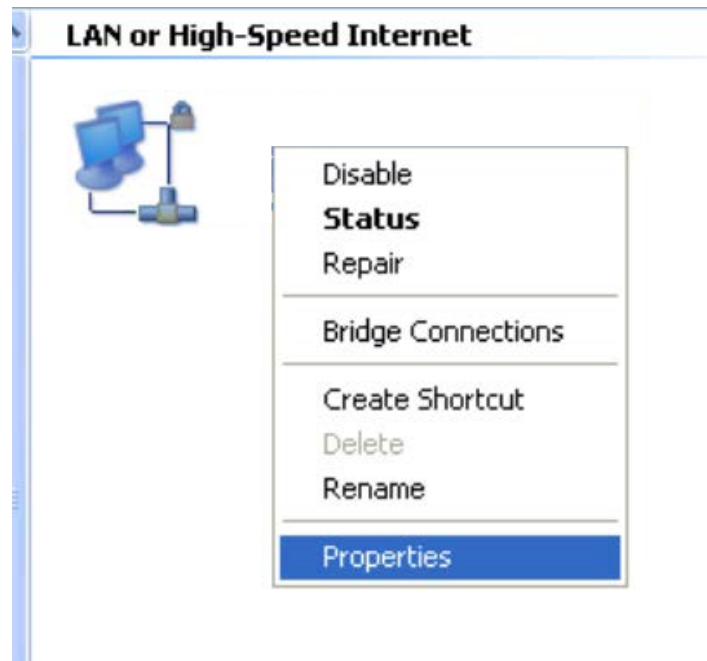

P4. Wireless Connection

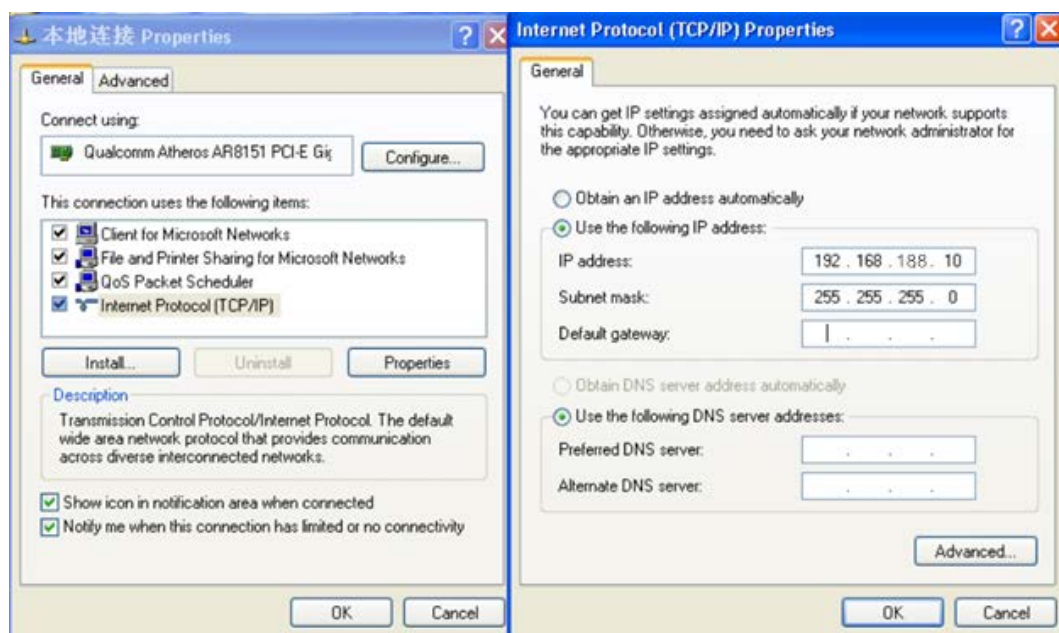The diagram of LAN cable connection showed as follow:

P5 Wired Connection

2nd：Login

1）Connect the Ceiling AP with computer

2）Configure the PC's local connection IP address as 192.168.188.X (X is number from 2 to 254), subnet mask is 255.255.255.0, follow P4 and P5 to finish.
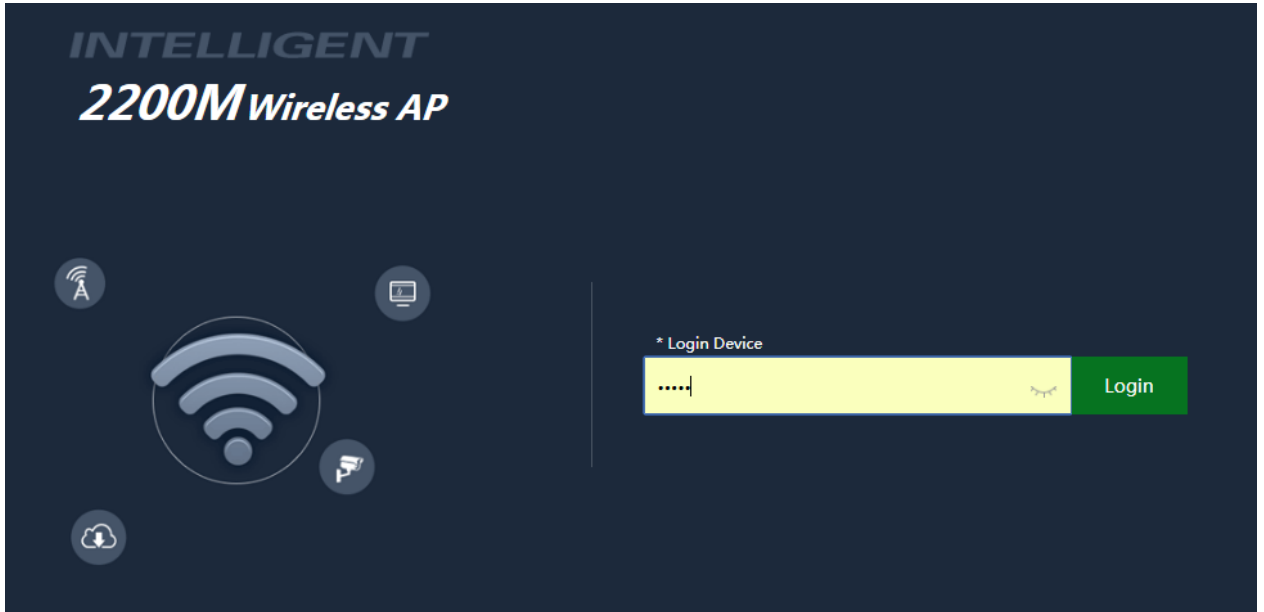

P5　Setting of computer's IP address

P 6　Setting of computer's IP address

3) Input 192.168.188.253 into IE browser, then pop up the login page, the default login user name: Admin,
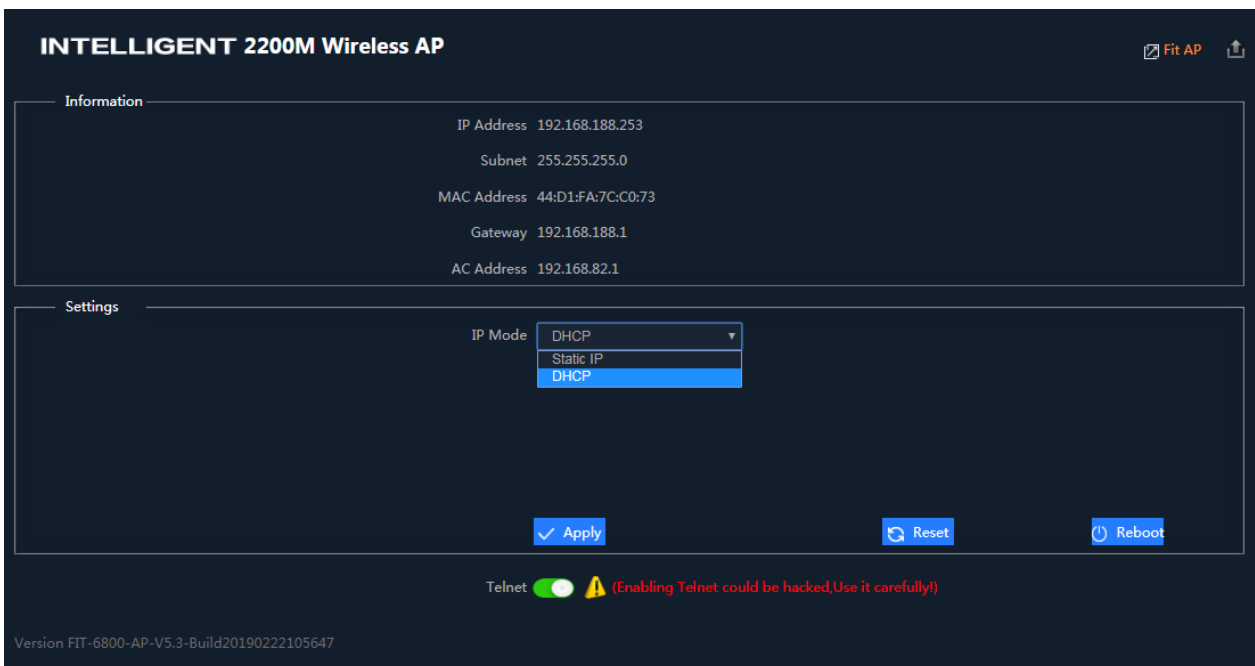
Passwords: admin, pls do following P6

P7 Login

3ʳᵈ : WEB GUI interface Setting:

1) Home

After login, if default mode is FIT AP, then following device status will be showed:
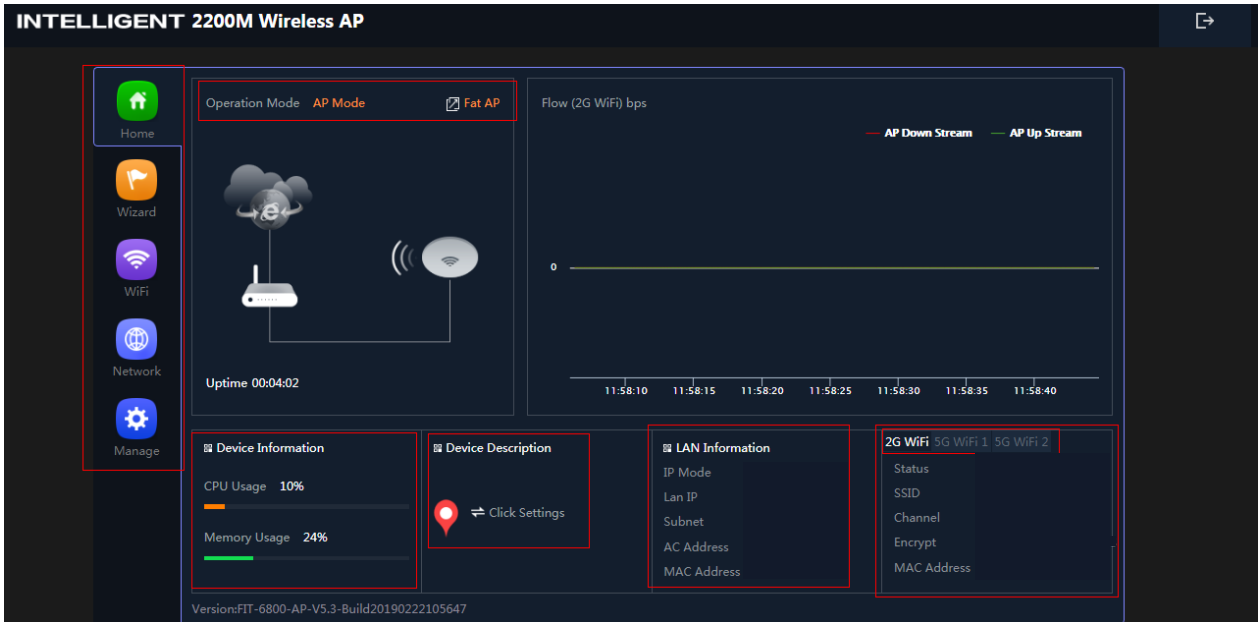

P8 home

In fit AP, user can configure the IP mode, reset and reboot this device. Other configurations is managed by AC

controller in centrally. Click FIT AP, then switch to FAT AP.

For the FAT AP, the login page showed as follow:

P7: Device Status

FAT AP: Mean this AP in FAT mode now, click here to change to FIT AP if need. Pls note: FAT AP comply with SNMP protocol, can be configured through GUI interface or managed by SNMP controller. FIT AP comply with CAPWAP protocol, can be managed by CAPWAP controller.

Operation mode: the default operation mode is AP; But in FAT AP, it support gateway, repeater, WISP operation mode also.

In the above picture, showed in AP operation mode, CPU usage, AP location, LAN IP and Wi-Fi status. And it can view user Wi-Fi connection information after click user quantity:
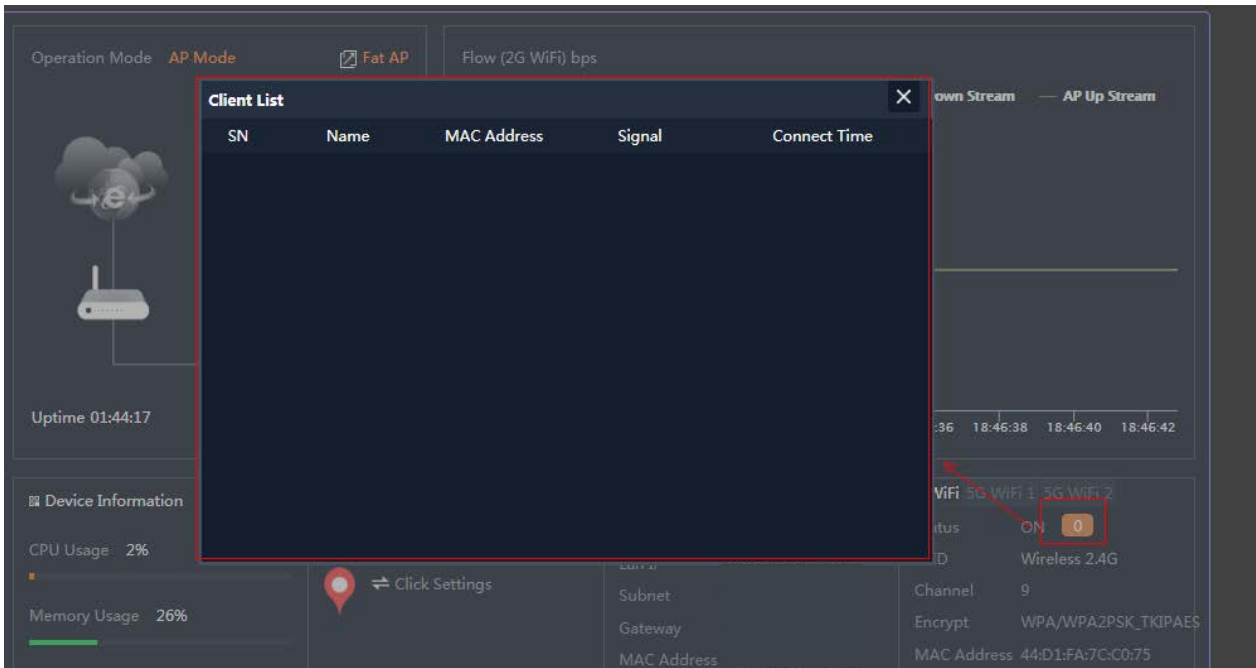
P8 client list

2) Wizard

In FAT AP ,support Gateway, Repeater, WISP and AP operation mode, which can be set in Wizard. Let's show this operation mode one by one:

P9 Wizard

2.1 Gateway mode

Click Gateway mode, will ask for WAN settings, use choose the right internet mode based on their network structure,
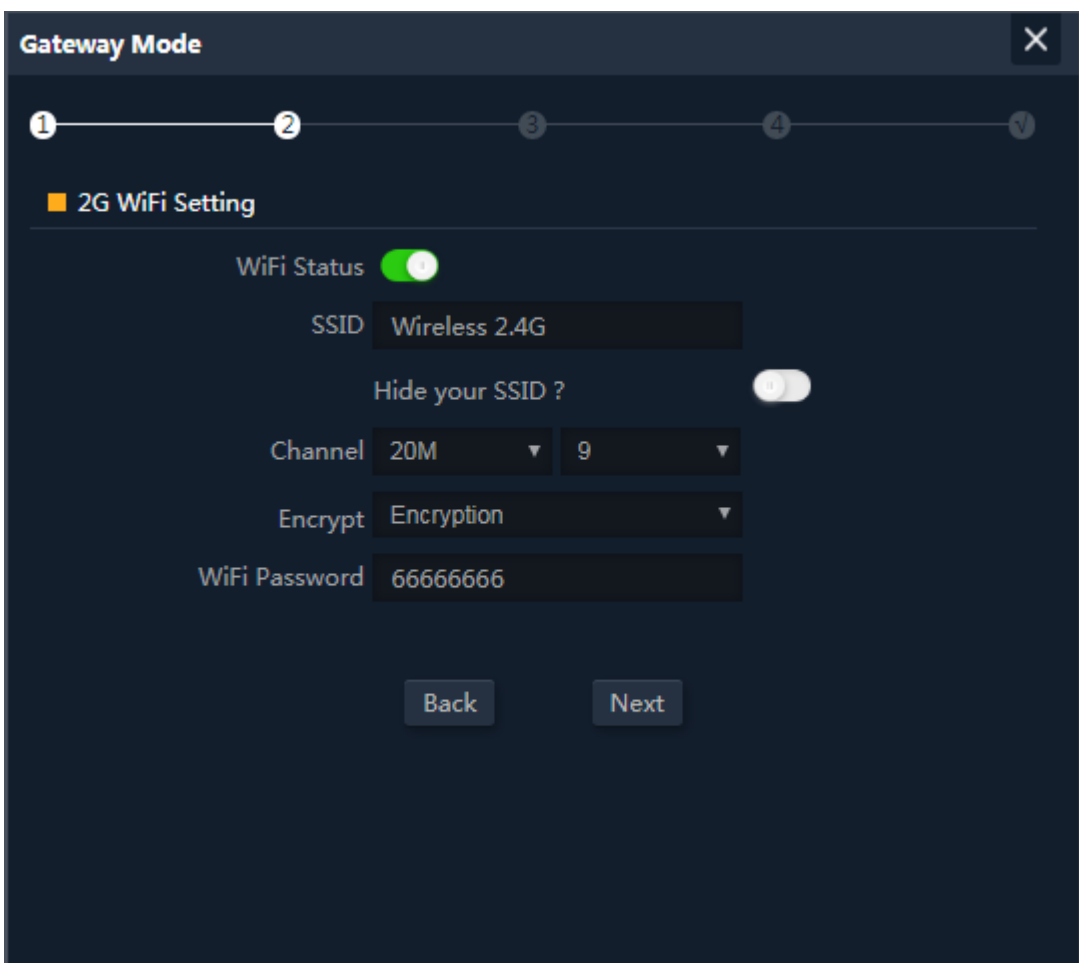
then click to continue.

P10. WAN setting in Gateway Mode

After configure the WAN setting, continue to Wi-Fi setting, including 2.4G Wi-Fi setting and 5G Wi-Fi setting:
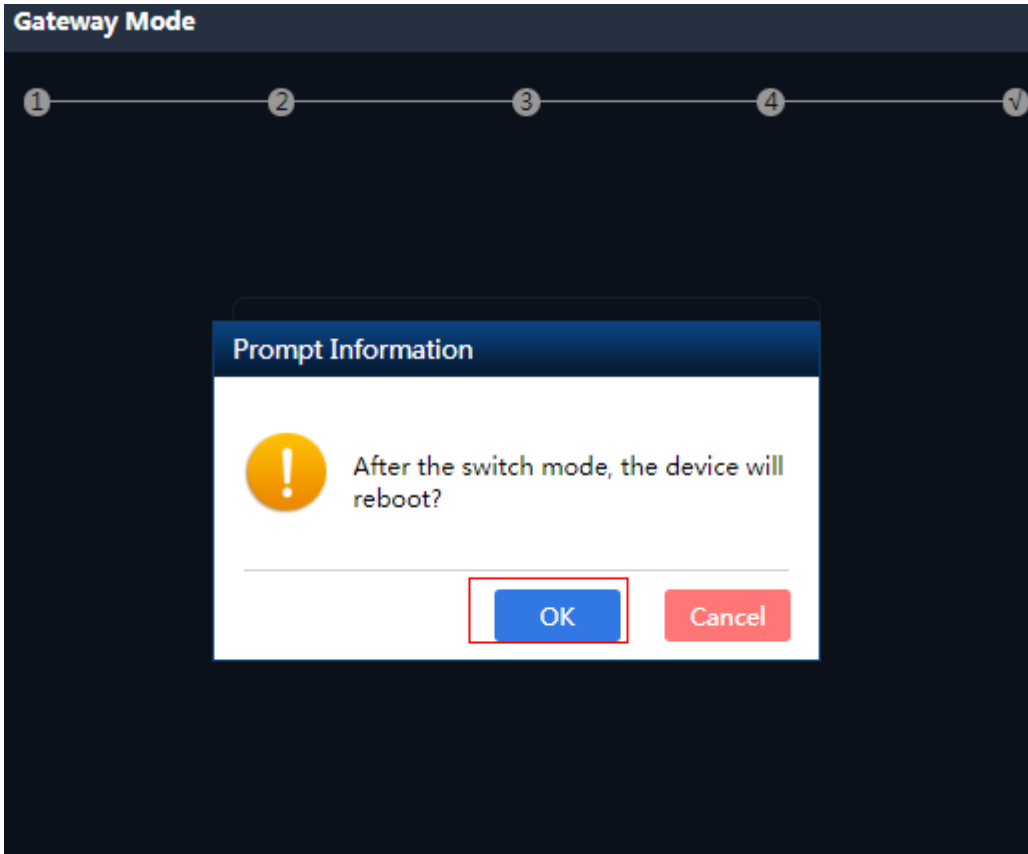
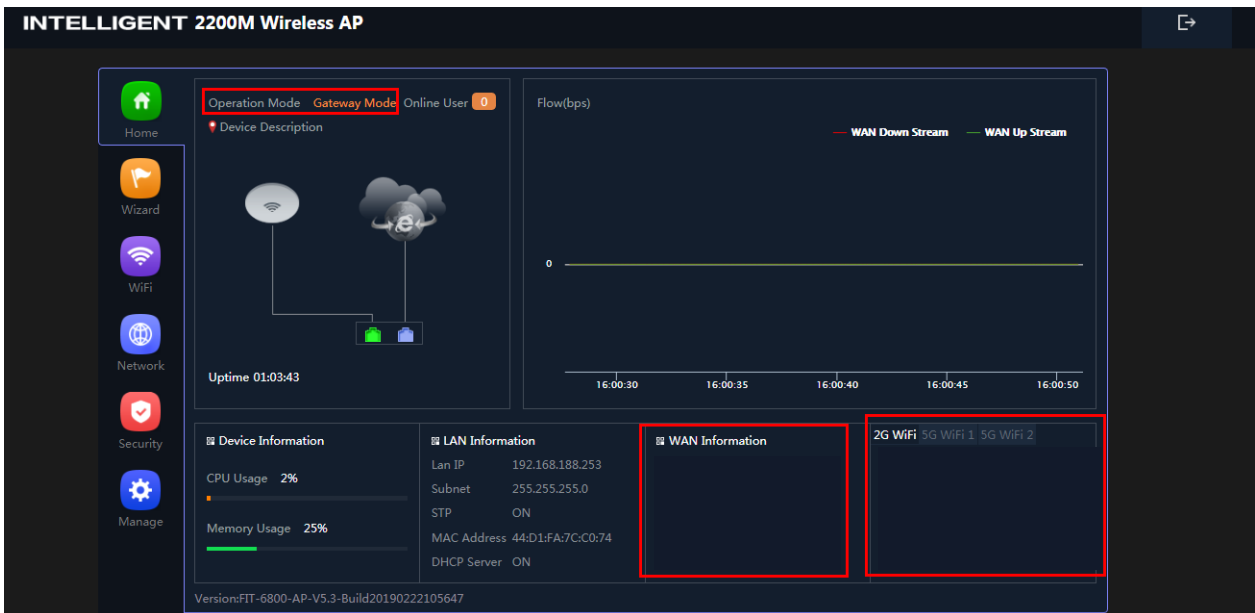In this part, mainly to set the SSID, channel, password, security...

P11 Wireless Setting in Gateway Mode

When click Next, then will complete the Gateway mode setting and show following picture, this AP will be reboot after click OK.

P12　　Complete the setting in Gateway Mode

When return to Status, the page showed as follow:
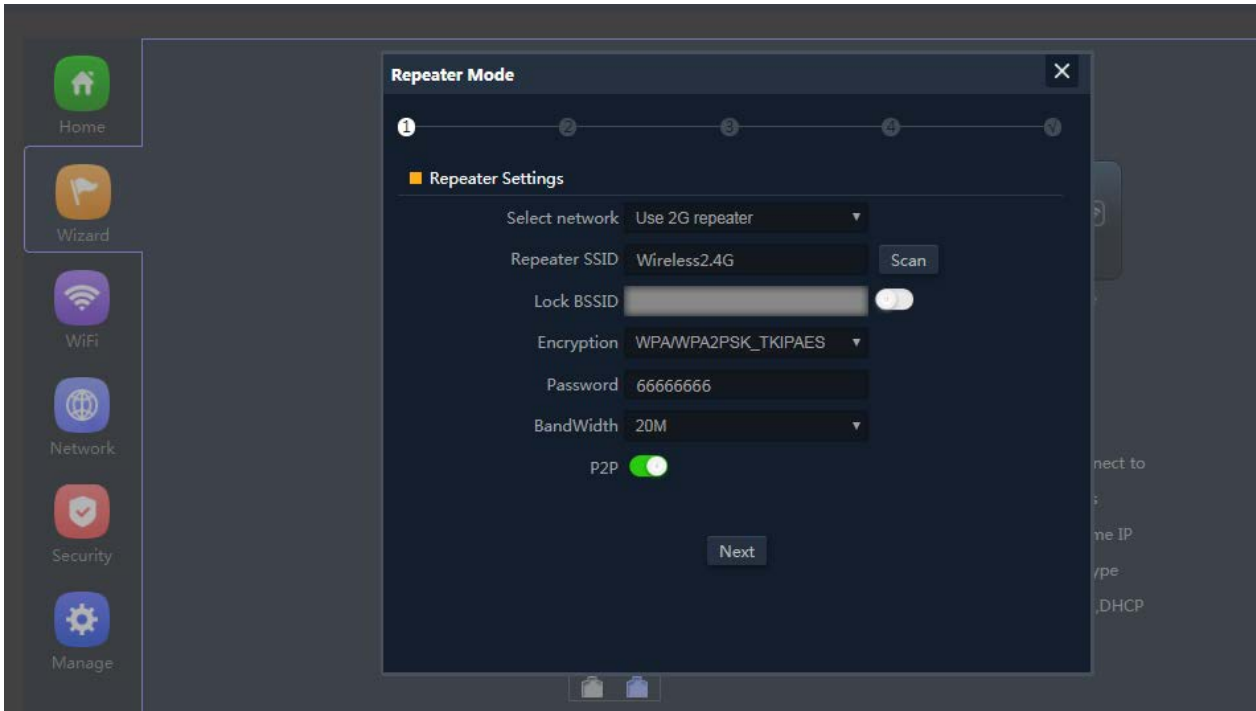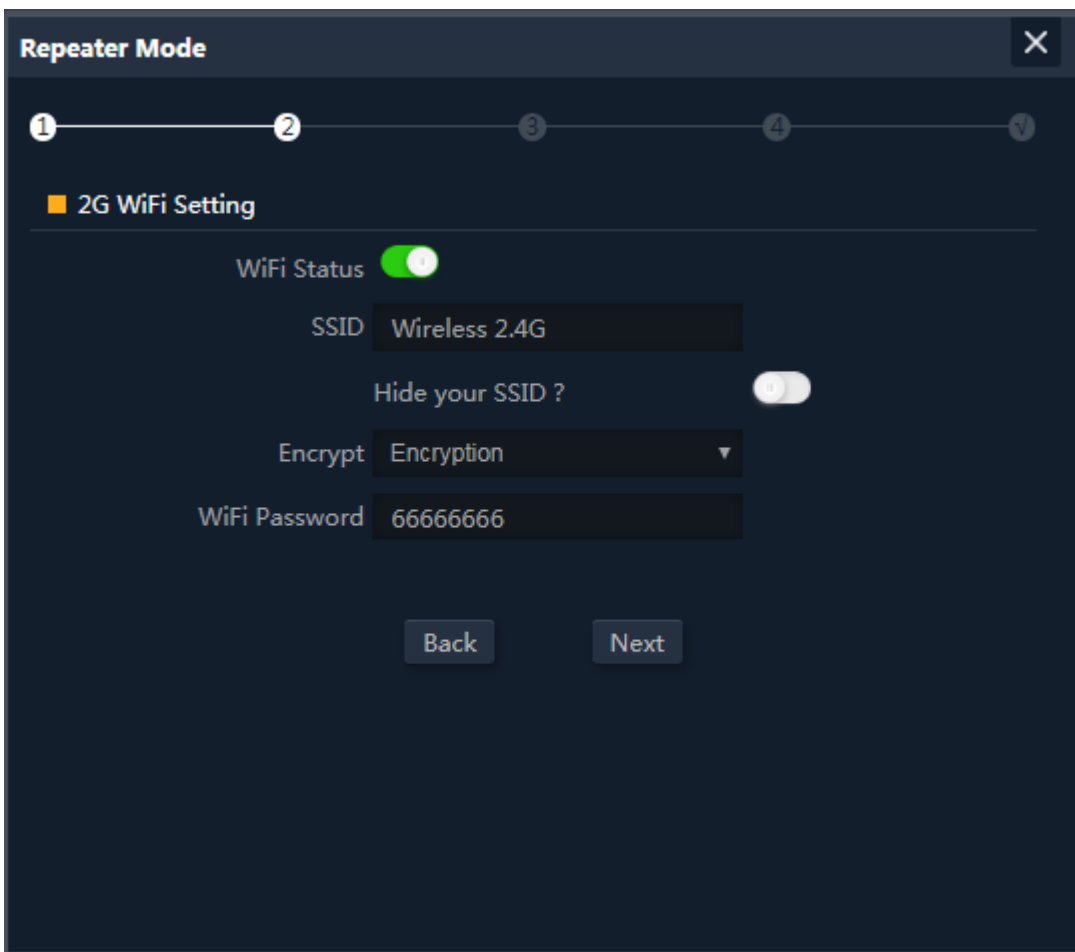

P13 Status in Gateway Mode

2.2 WiFi Repeater mode

Click WiFi Repeater operation mode in Wizard, then following page will pop up, scan the Wi-Fi and choose the SSID to

be bridged, then next.

P14 Repeater Mode

After click Next button, then should configure the wireless setting as follow, then click Next to set SSID, password,

channel, for broadcast 2.4G Wi-Fi and 5G Wi-Fi
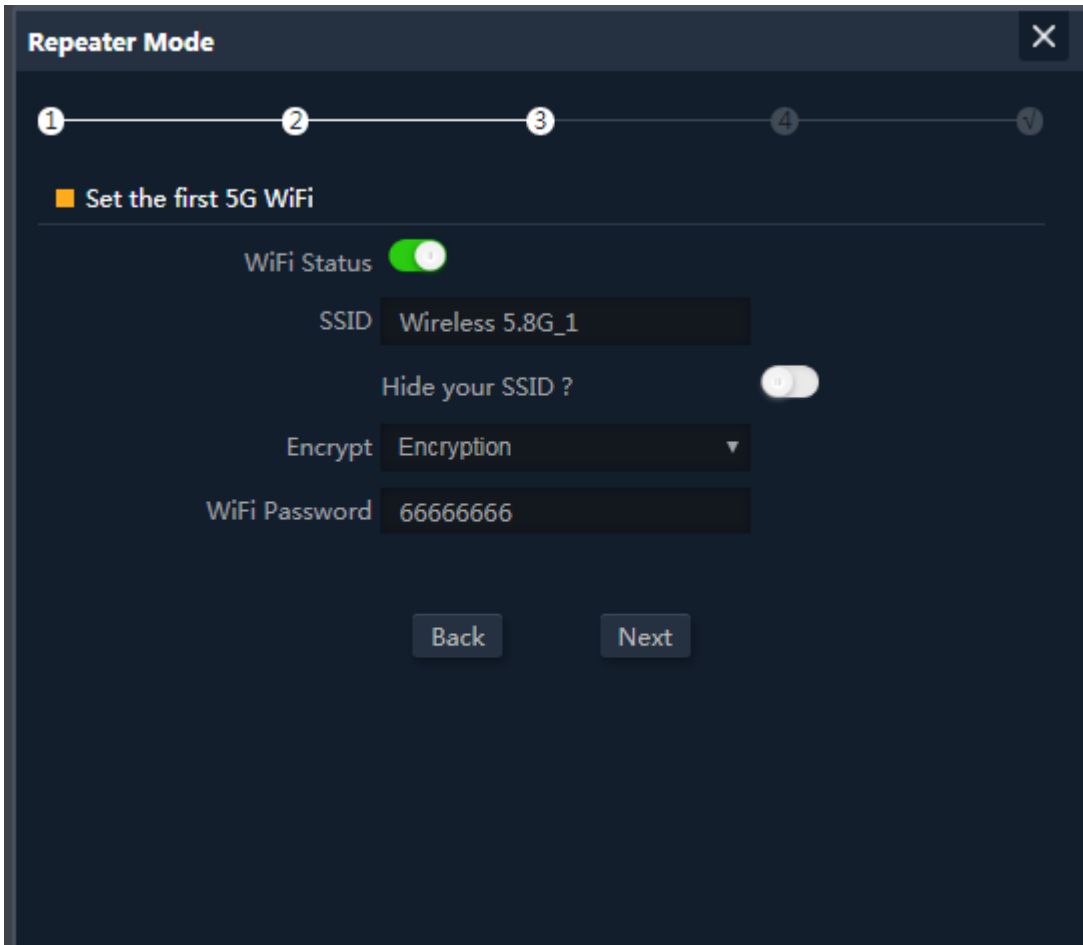
P15 Wireless Setting in Repeater Mode

Click Return button, will back to Status, show Repeater mode data, show fail or success, and user can configure this data in this page if required.
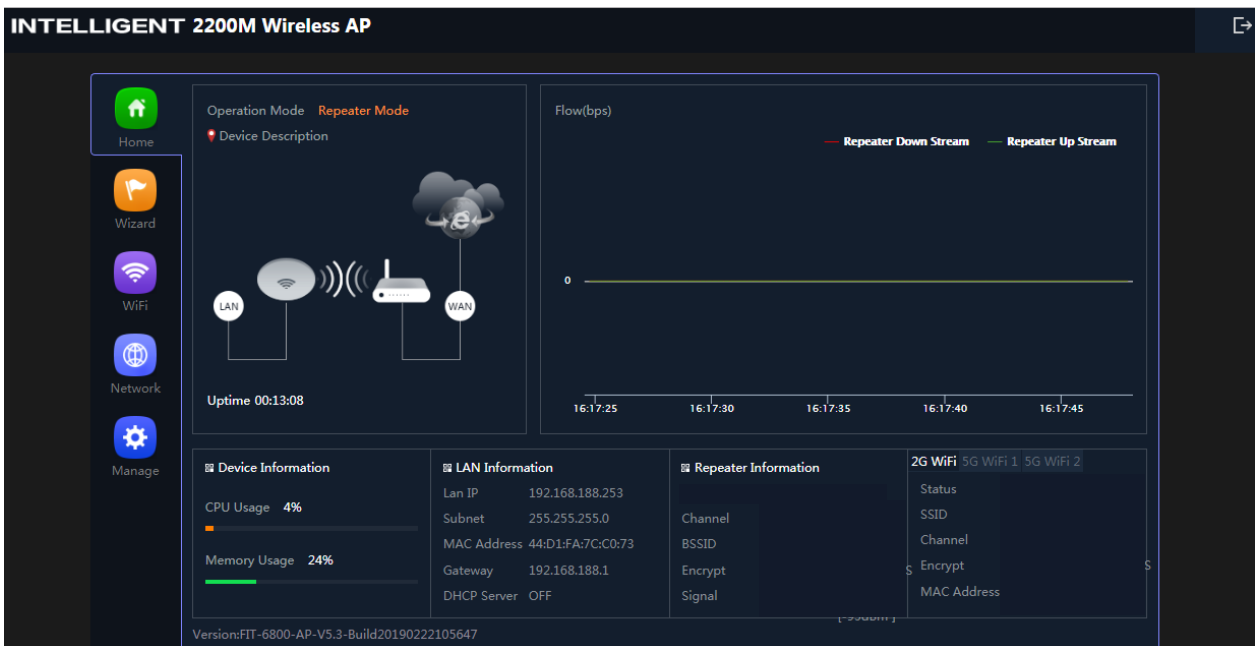
P16 Status in Repeater Mode

2.3 WISP Operation mode:

Click WISP operation mode in Wizard, then will pop up the configure page, pls set the WISP operation mode based on

the step showed in picture:
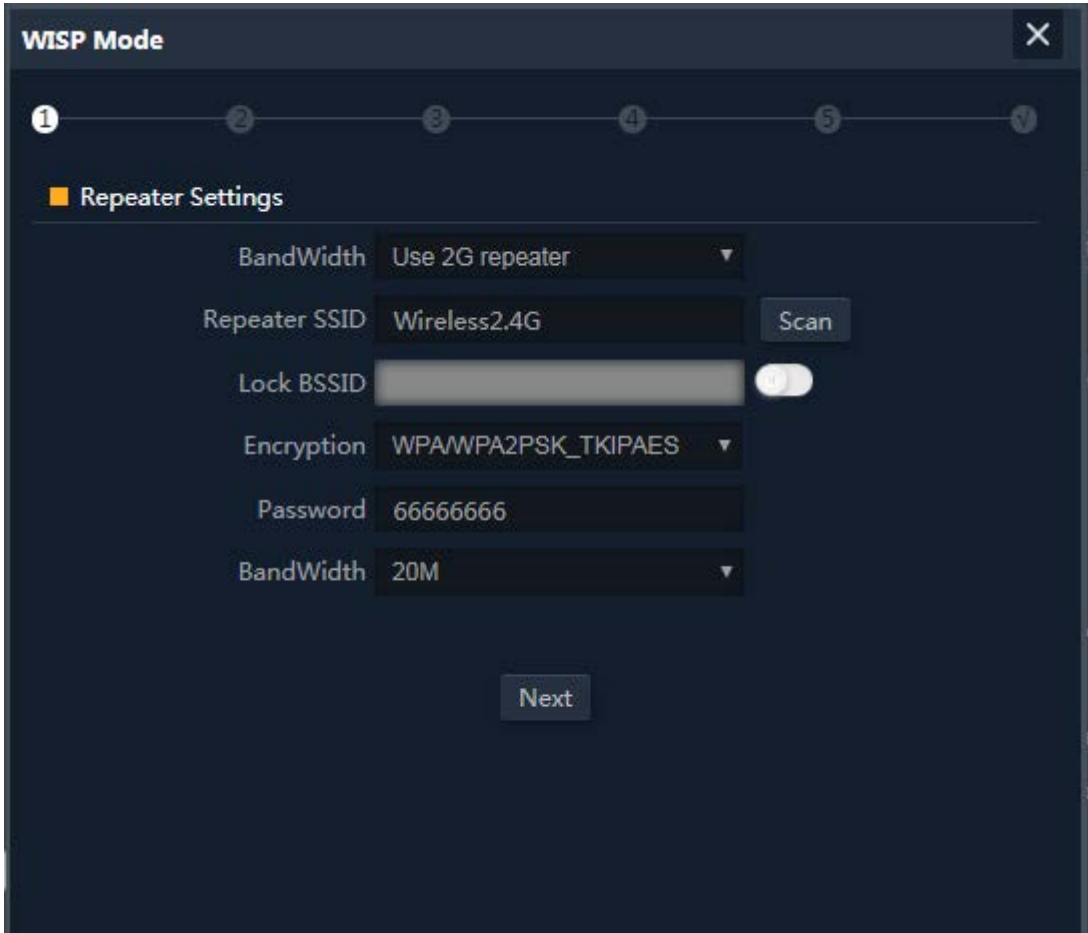
P17 WISP Mode

Configure the right WAN setting in WISP operation mode, then next.
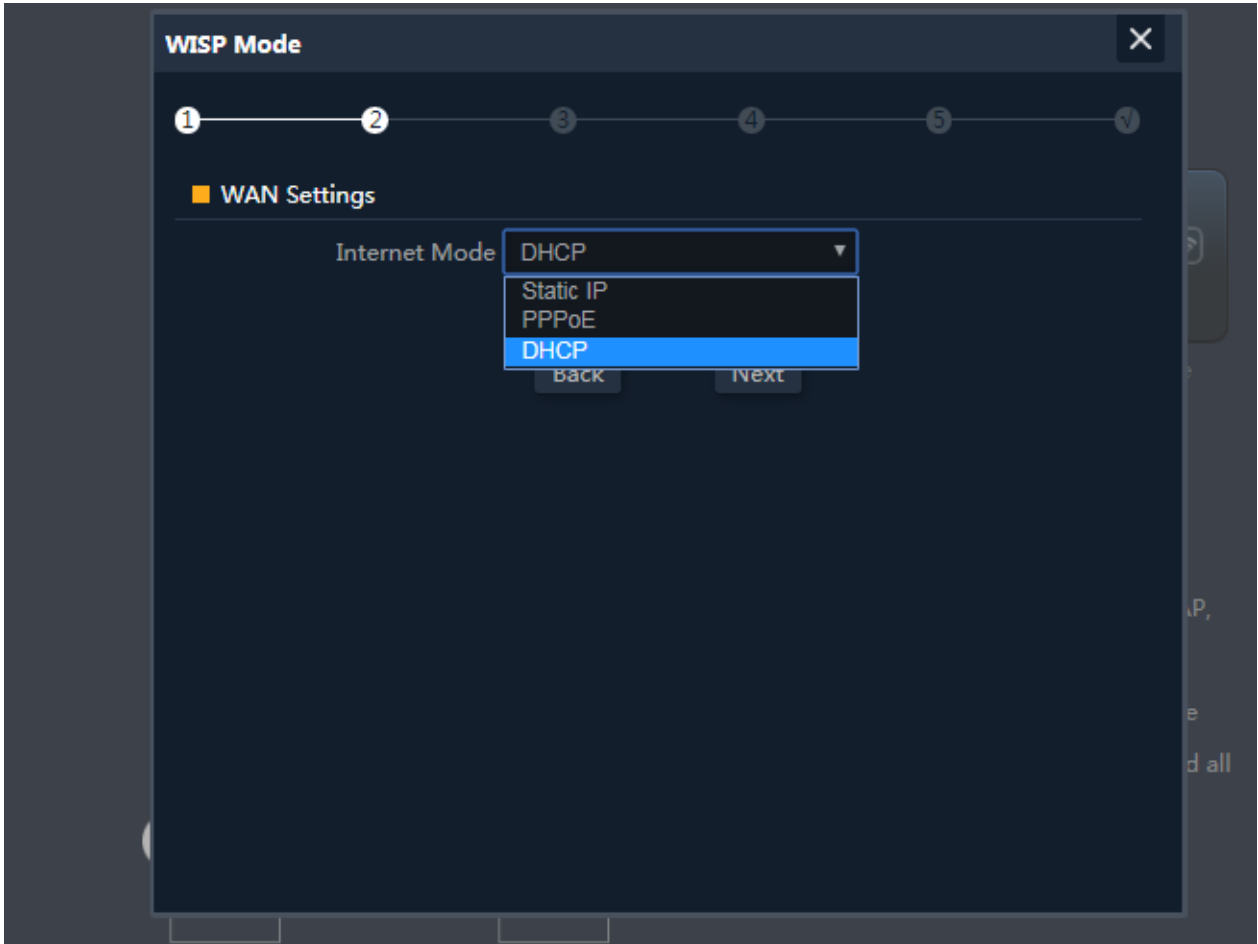
P18 WAN setting in WISP mode

Configure wireless data showed as follow, including 2.4G Wi-Fi and 5G Wi-Fi
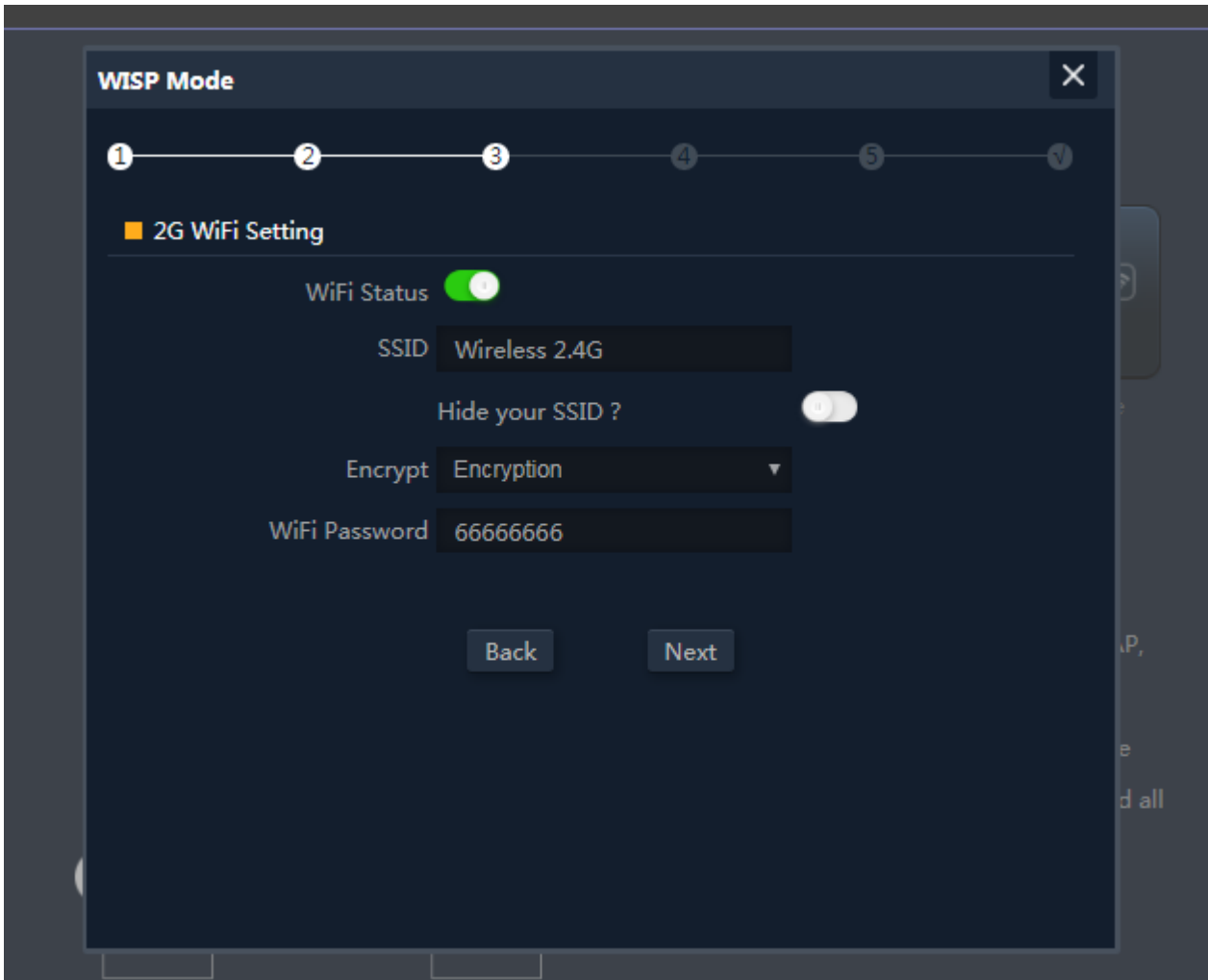
P19 Wireless Setting in WISP mode

Then complete and back to status, will show the connection fail or success, then can configure the data based on request:

P20 Status in WISP mode

2.4 AP Operation mode:

For the AP mode, mainly from cable internet to Wi-Fi internet.

And for this AP, user can set fixed IP address for AP in LAN setting, or make AP obtain the IP address from gateway or

AC controller. If obtain the IP address from gateway, mean IP address will be same segment of gateway; And if obtain

IP address from AC controller, should set IP segment in the address server in AC controller part.
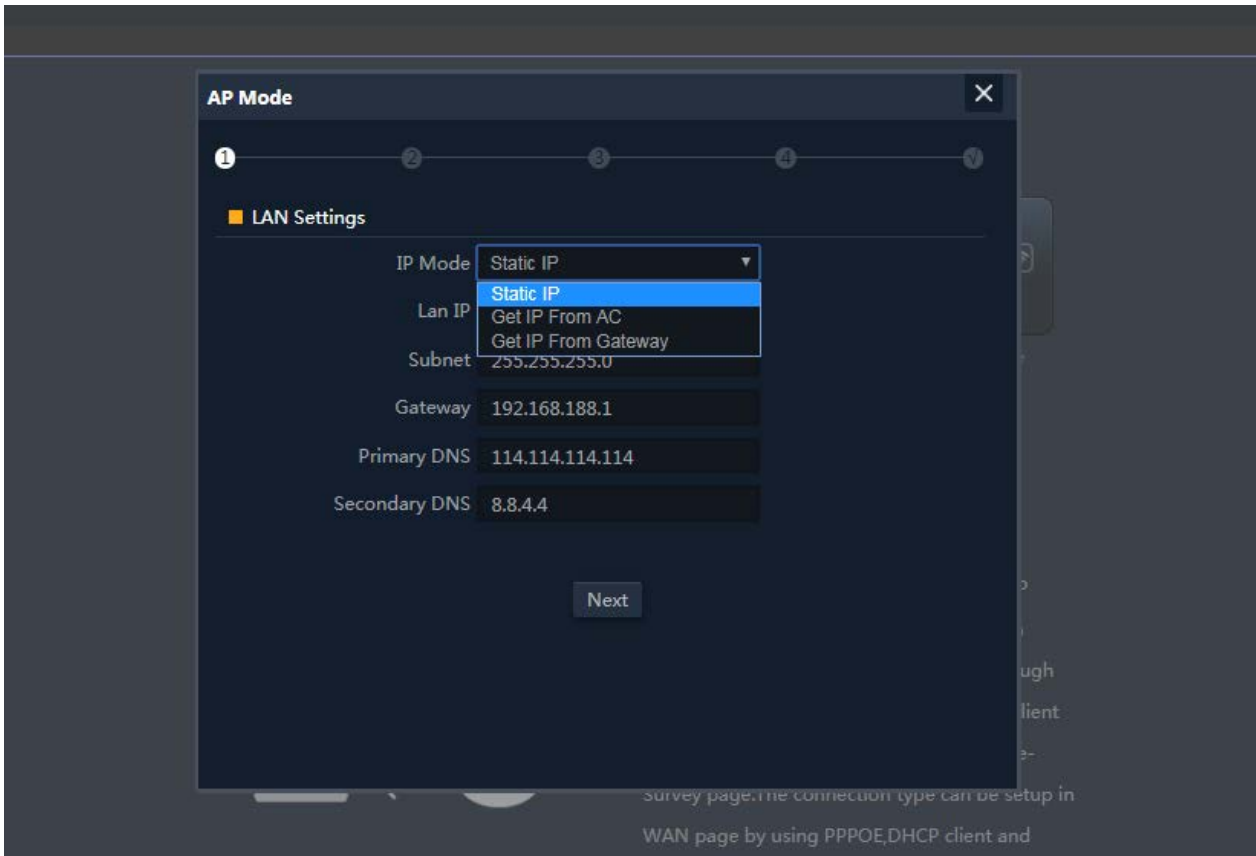
P21 LAN setting in AP Mode

Click next in LAN setting, enter into wireless setting to set the SSID, password, channel, including 2.4G Wi-Fi and 5G
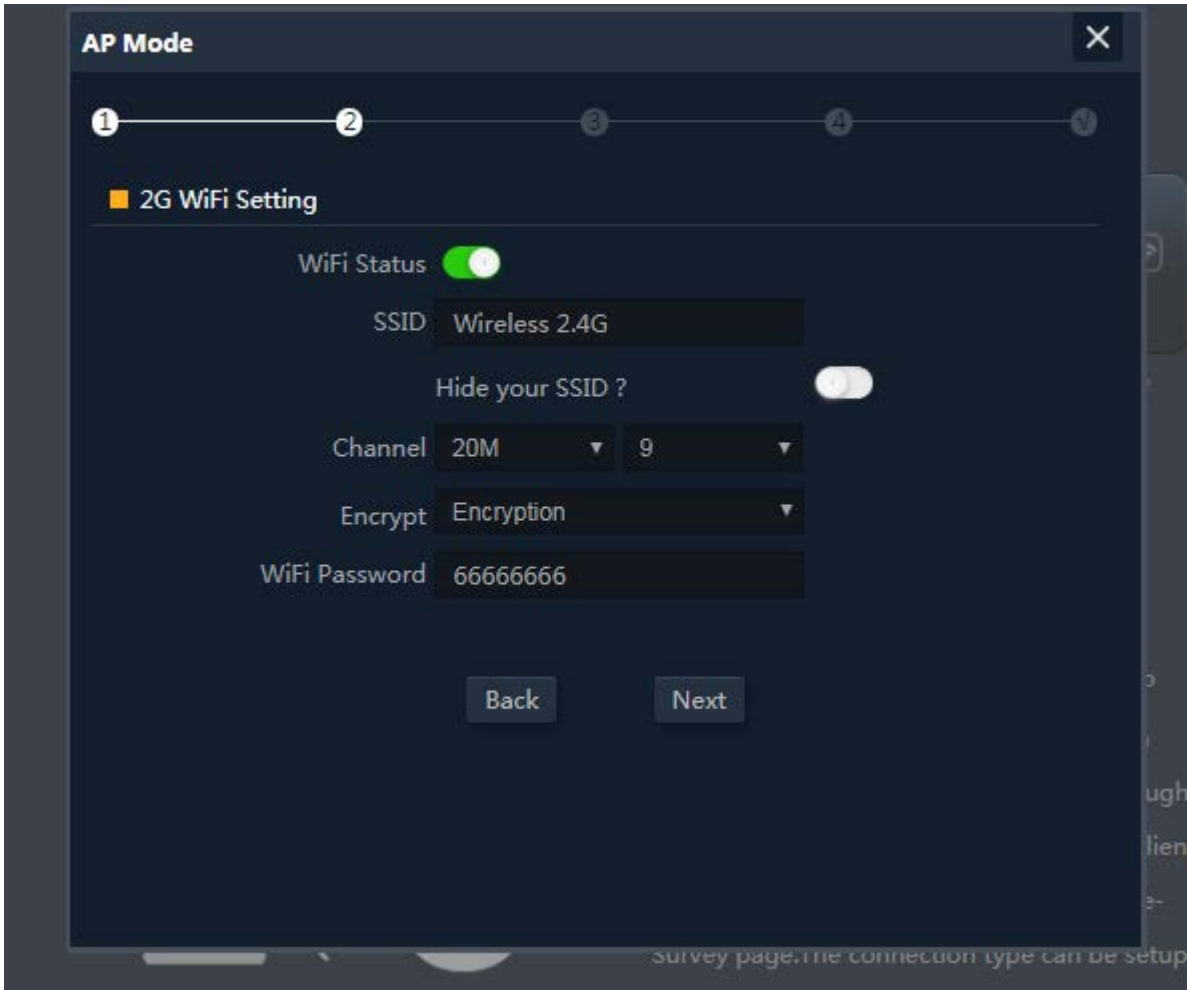
Wi-Fi

P22 Wireless Setting in AP Mode
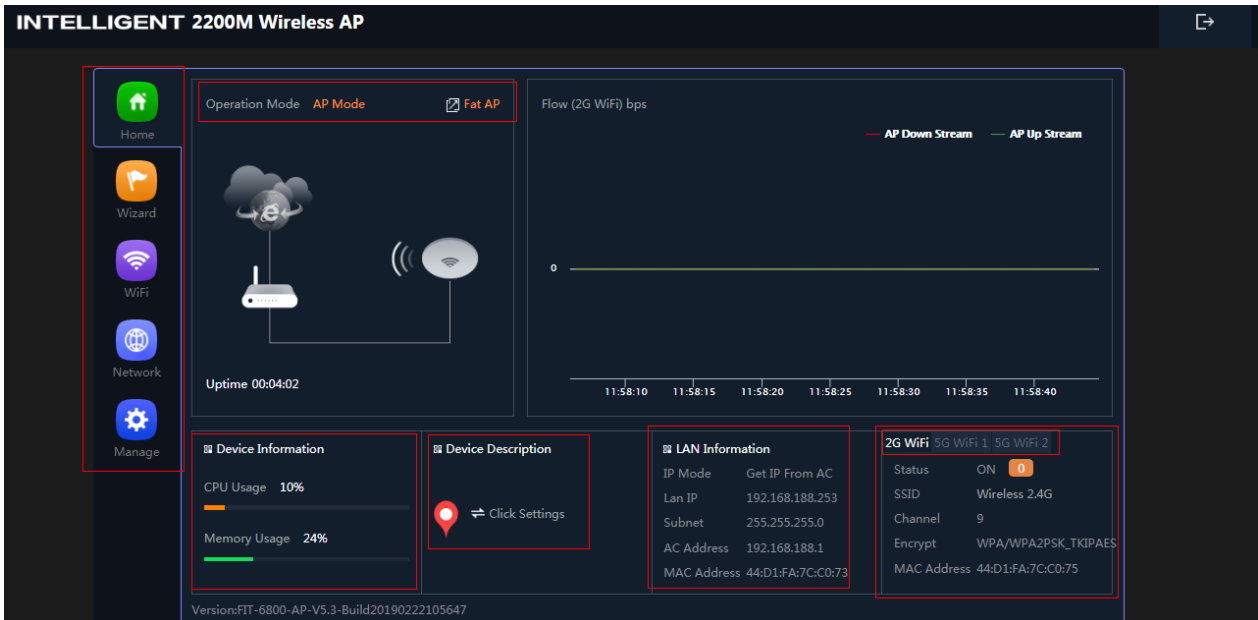
P23 Status in AP Mode

3) **WiFi**

In WiFi setting, user can set SSID, channel, password, bandwidth for 2.4G wireless, 5.8G Wireless

Let's Click WiFi in home page, will show return home, will show 2.4G WiFi, 5G WiFi, MAC ACL, WiFi Timer off and Advance:

For 2.4G WiFi, 5G WiFi, it is same configuration we showed in Wizard.
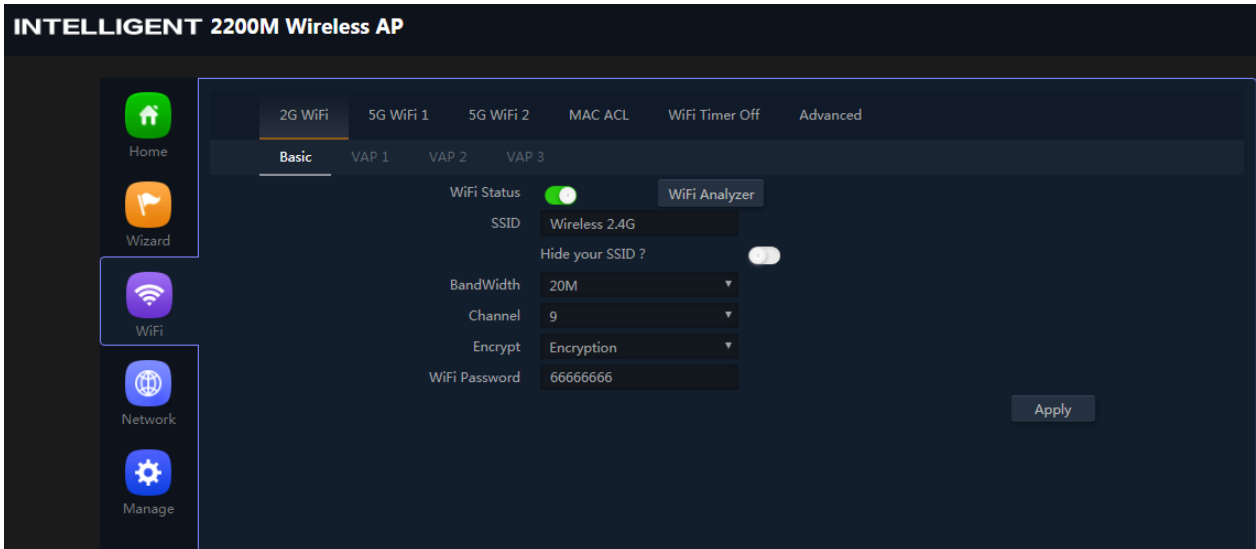
P24 WiFi

In the above picture, we can find WiFi Analyzer: Mainly to analyze the AP's signal strength in some channel, then make AP work in the channel with small quantity of AP, to avoid WiFi interference.
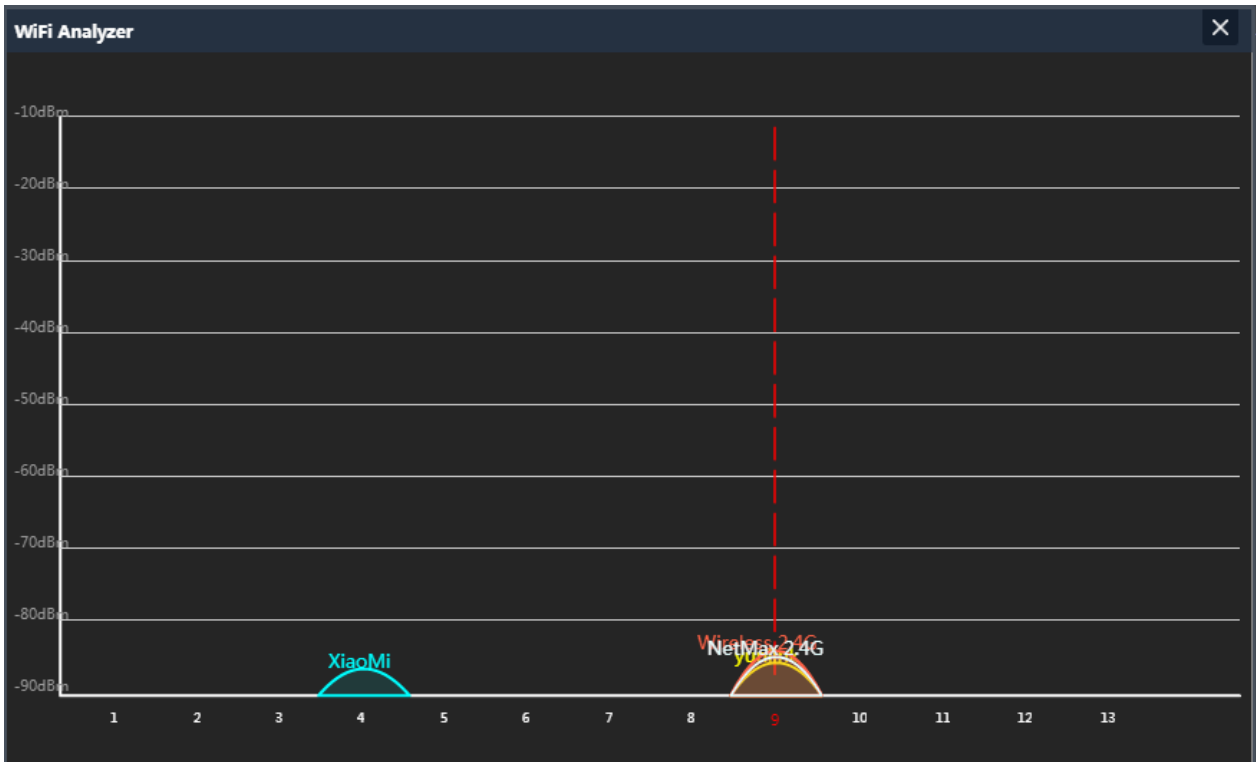
P25 Wireless Analyzer

Virtural AP:

There are 3 virtual AP in 2.4G wireless, if need virtual SSID, then users can configure it showed in following picture:

Click VAP1 in 2G WIFI--Enable WiFi status--input SSID, password--Click Apple to enable multi-SSID for 2.4G WiFi.
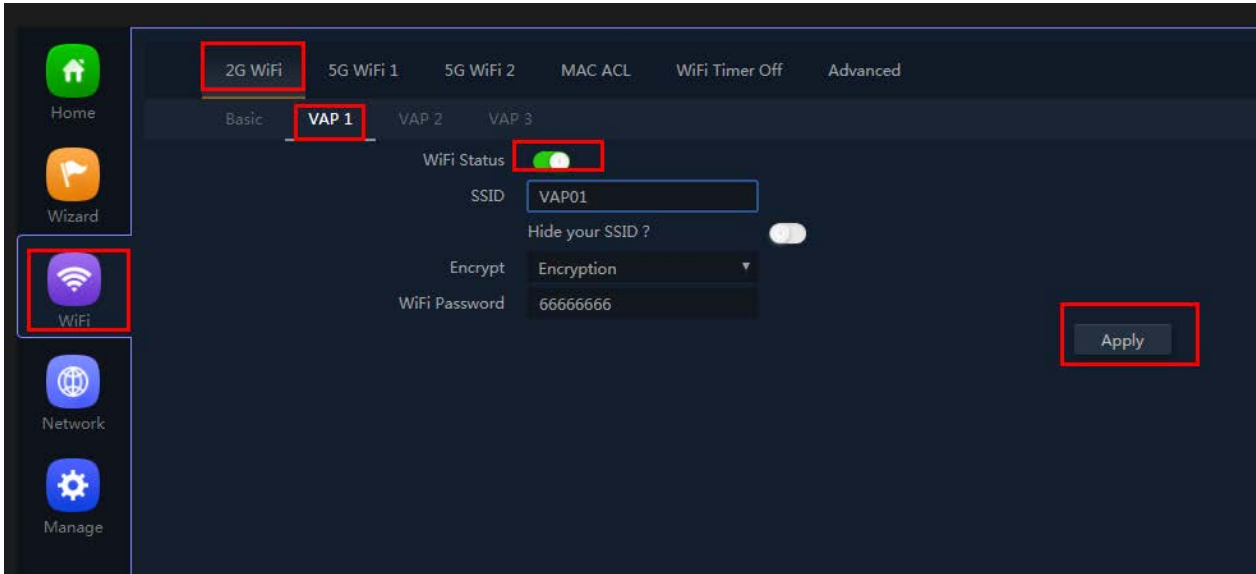
P26 Virtual AP

MAC ACL: Mean MAC access control: allow or deny user access by MAC address.
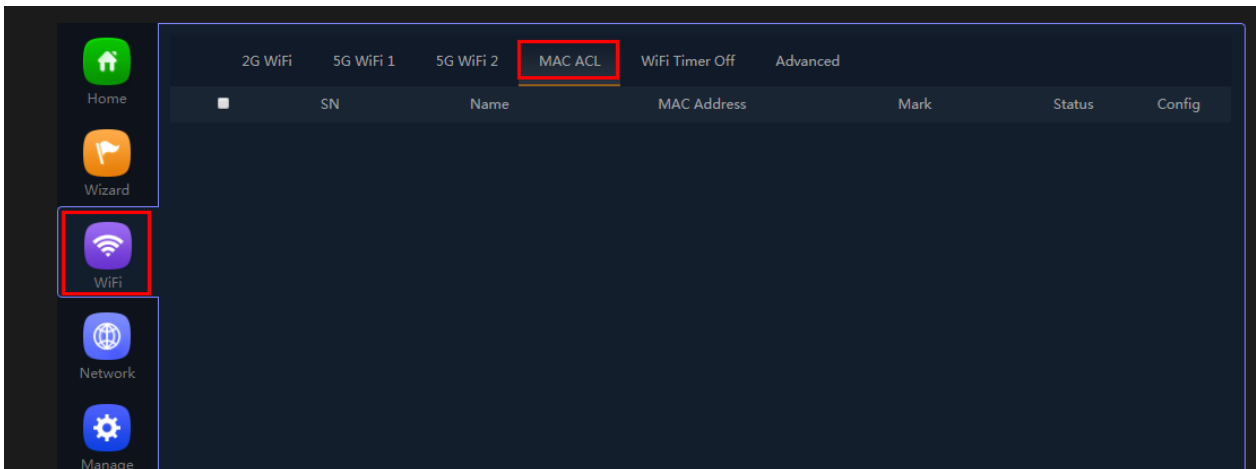
P27 MAC Access Control

WiFi Timer Off: mean WiFi SSID will be off in the configured time.

Enable WiFi time off, set WiFi off time, then apply to finish.
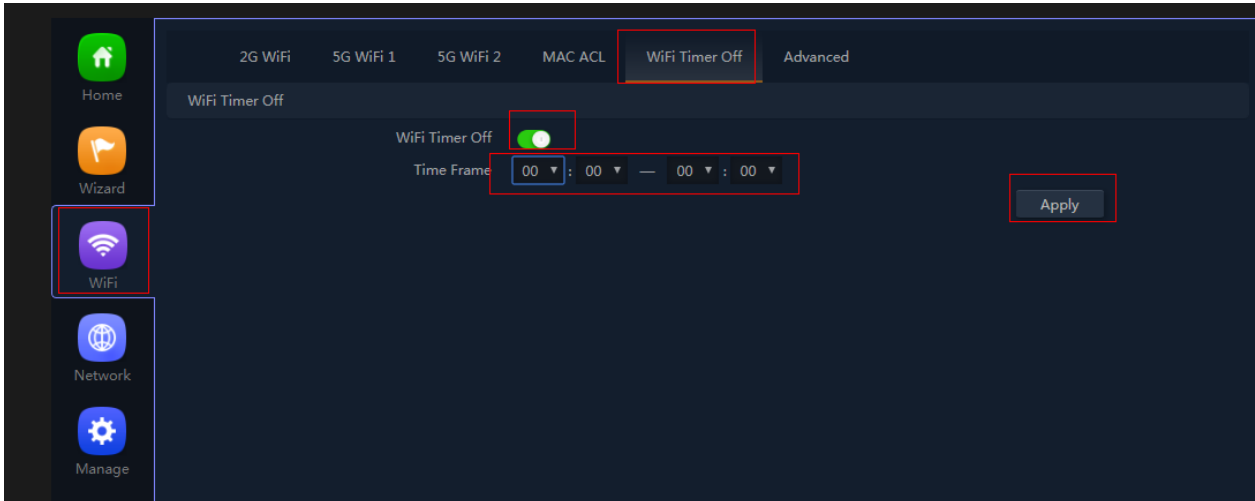
P28 WiFi Timer Off

Advanced Settings:

In this page, will show the region, RF Power, Max user access...
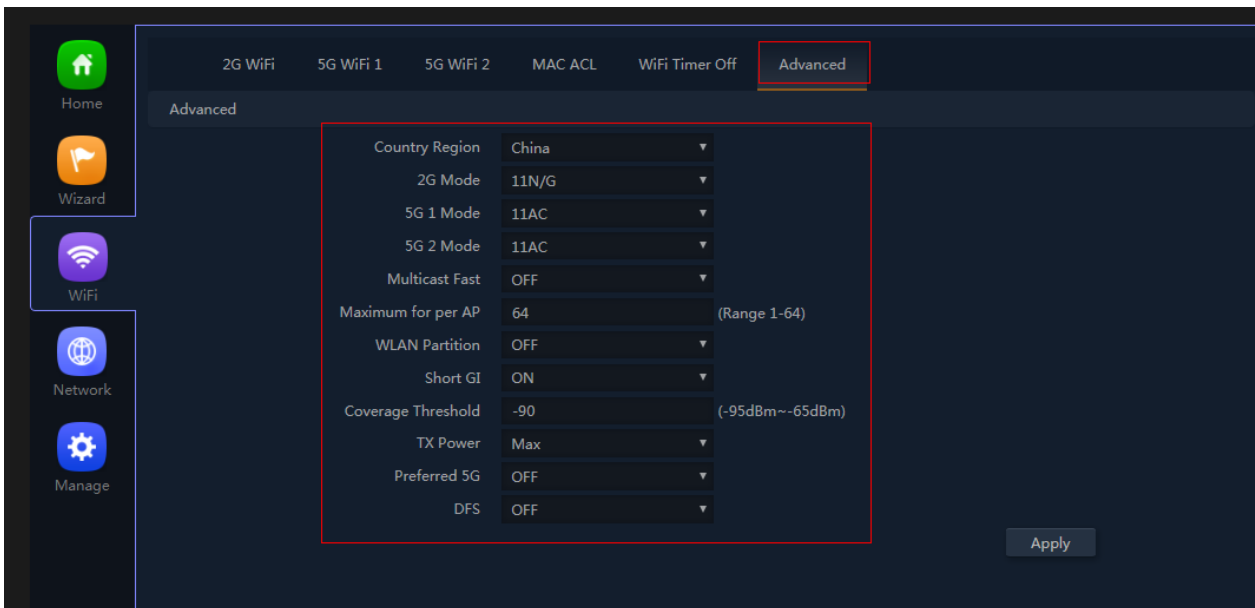
P29 Advanced Setting

Country Region: can choose China, USA, Brazil, UAE, ETSI, India.

2G mode: including 11n/g (40MHz), 11b/g(20MHz)

5G mode: including 11a(20MHz), 11an(40MHz), 11ac(80MHz)

Multicast Fast: Default is off, but can choose 6M,9M, 12M, 18M, 24M, 36M, 54M

Maximum for per AP: mean maximum user for each band.

WLAN Partition: mean user isolation, default is disable.

Short GI: data isolation, default is on.

Coverage Threshold: The input data is signal strength that user connect with AP. The data is smaller, then mean user will connect with weak signal AP; the data is larger, mean user will connect to the stronger signal AP. Recommend to input -90dBm.

TX Power: mean RF power is adjustable; Max mean the RF power showed in data sheet; Efficient: 4dBm lower than max; Enhanced: 4dBm lower than efficient...

Preferred 5G: mean band steering, 5G priority. Enable it, then mobile phone will connect with 5G SSID in priority.

DFS: special channel, most suit for USA, default is disable.

4.Network setting:

In this page, mainly to show the LAN setting, VLAN setting and cloud server setting.
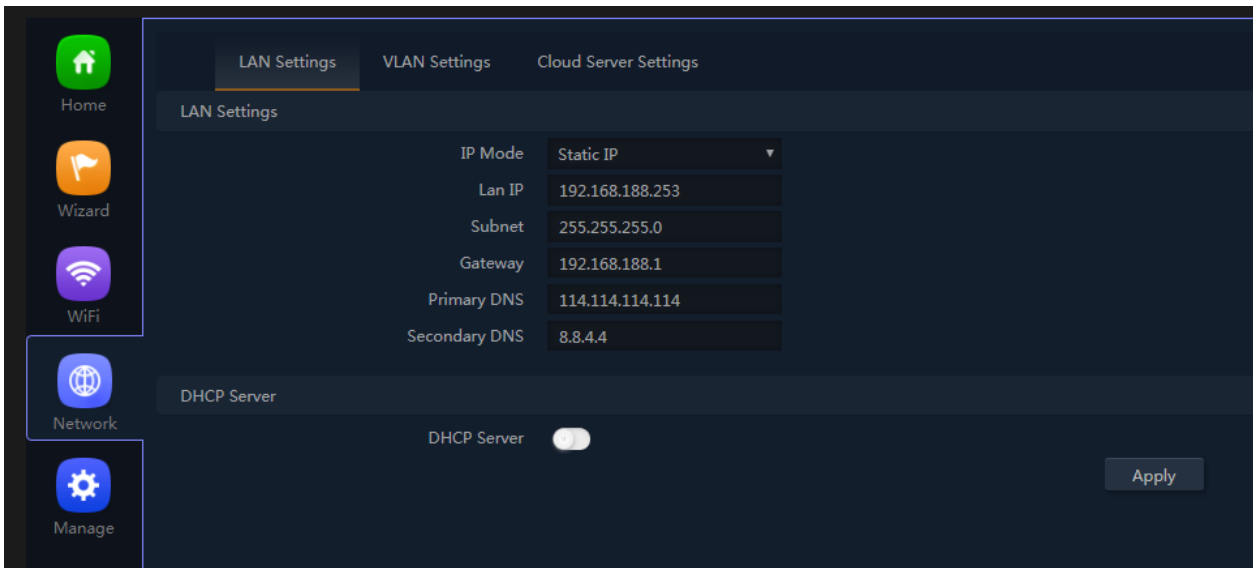
P30 Network Setting

LAN Setting:
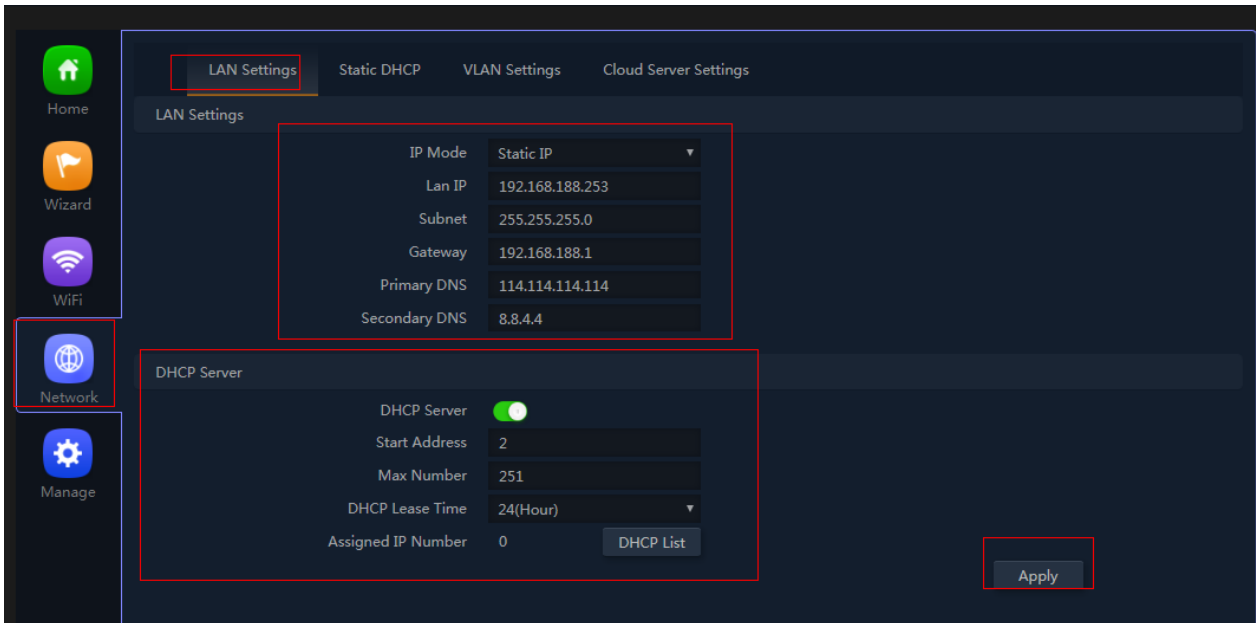
P31 WiFi Timer Off

VLAN setting:

This AP support tag VLAN based on SSID. Input VLAN ID in 2G SSID, then when user access into this SSID, it get data from VLAN switch.

Network--VLAN setting--ON- Input VLAN ID on SSID--Apply.
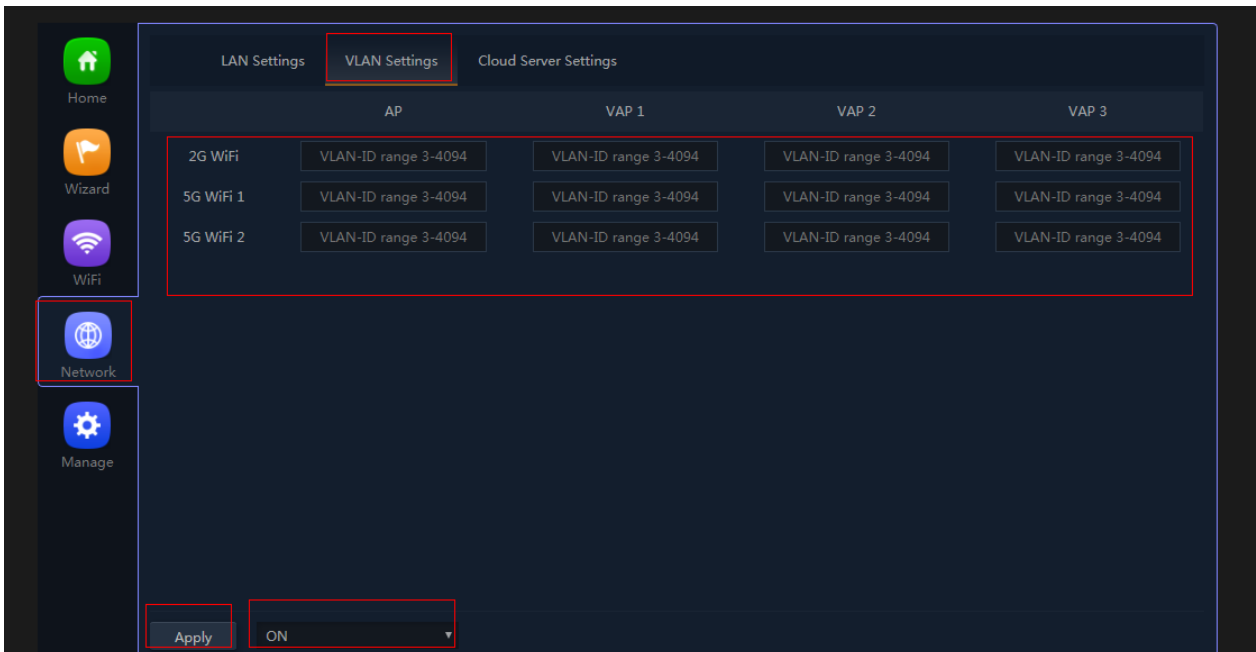
P32 Tag VLAN Setting

Cloud Server setting:

In this part, make AP access into cloud server for remote management. But make sure: A.the AP in Internet access

already; B. Had registered ID from our cloud www.yowifi.net.
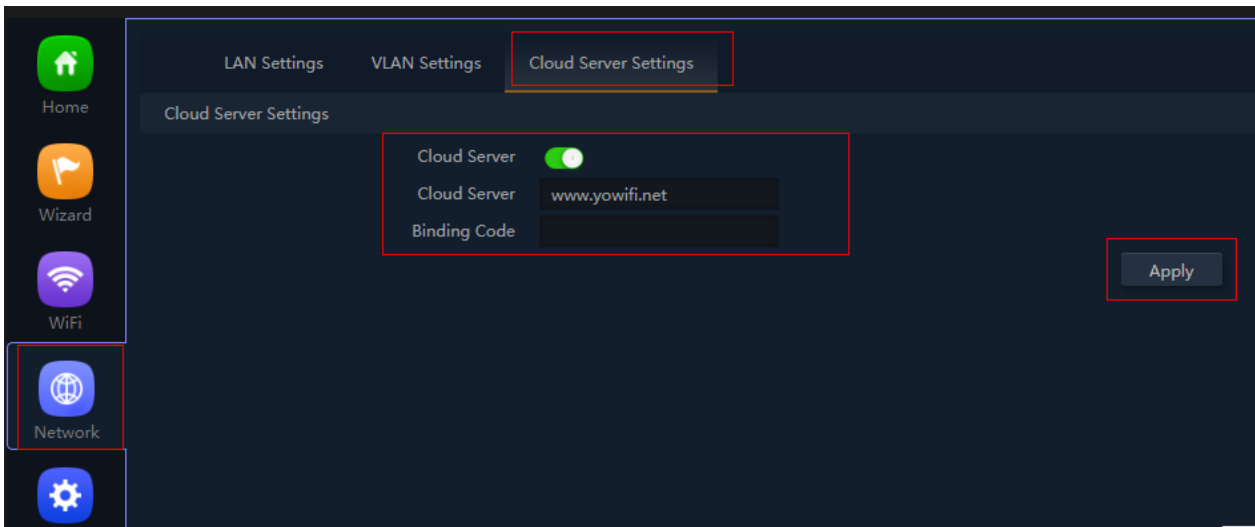
P33 Cloud setting

Management:

In this part, show the device backup, reboot, password modify, firmware upgrade and log.
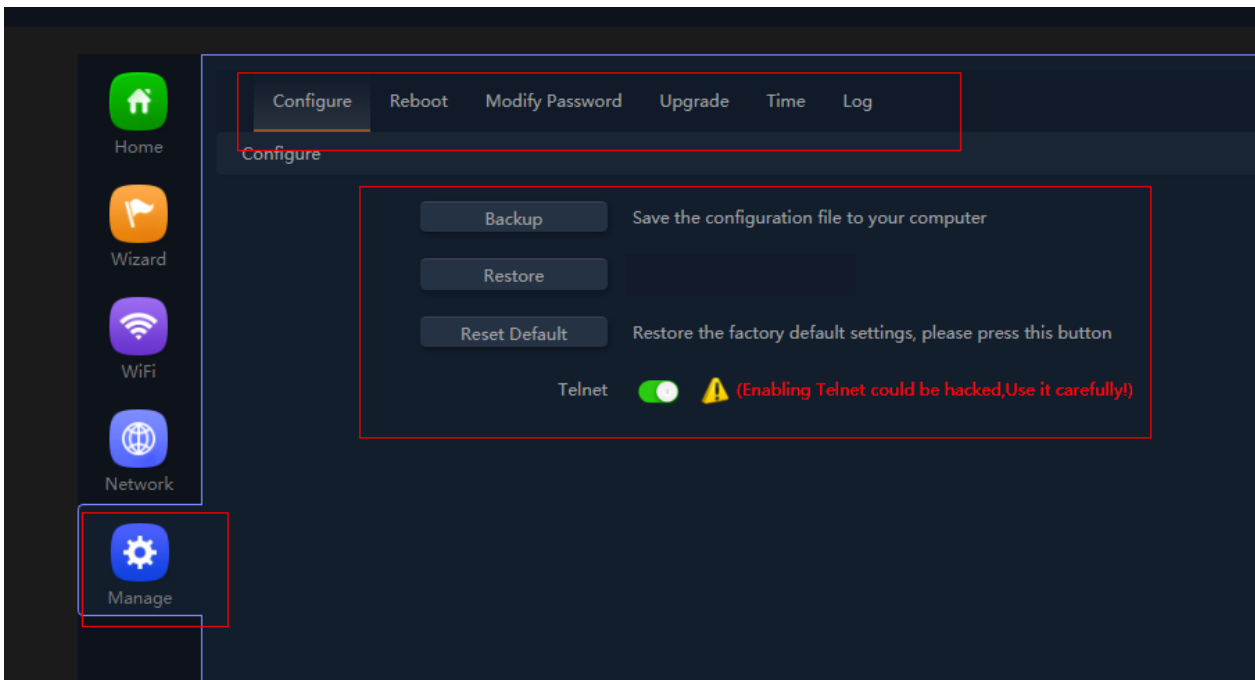
P34 Management

Backup: Mean if you do some configure for this AP, then can save this configuration in file to computer. Next time if reset the AP, then restore this backup file to restore this AP with same configuration before reset.

Reset default: mean restore to factory default settings, all configuration will be missed.

Telnet: Enable this, mean can do engineer debug, but have risk in hacking.

Reboot: Reboot the device immediately, or reboot the device in certain time. Can reboot everyday or every week.
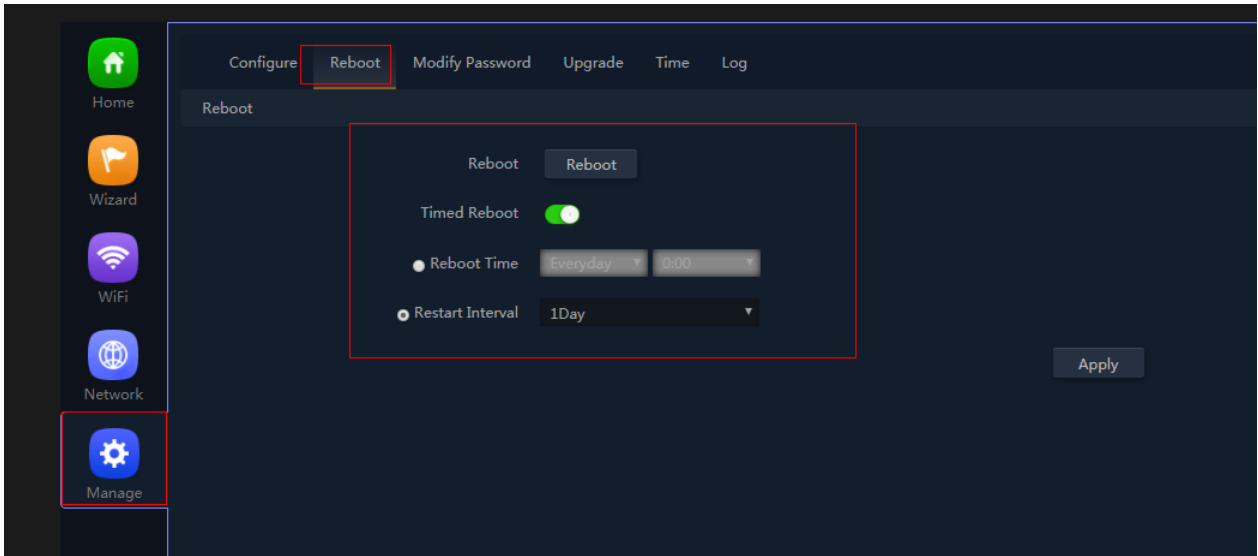
P35 Reboot

Modify password: Modify WEB GUI login password, the default is admin.
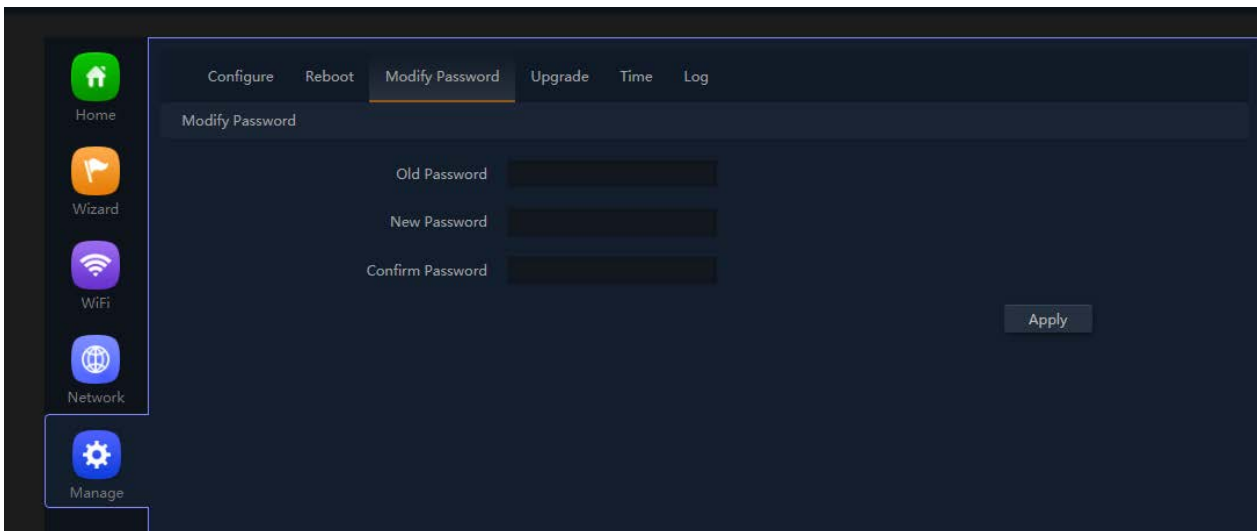
P36 Modify password

Upgrade firmware: Mean upgrade new firmware for this wireless AP, but before upgrade, pls note: A. the device can upgrade the firmware in newest version, can't upgrade old version; B. don't power off the device when upgrade the firmware; C. Reset the AP after firmware upgrade.
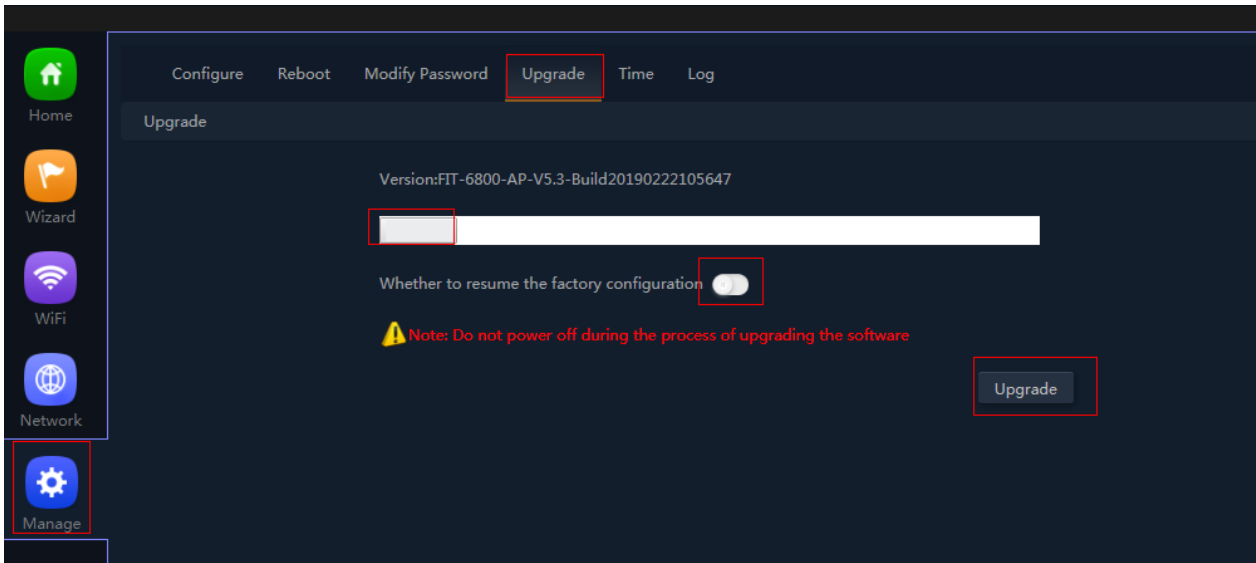
P37 Firmware Upgrade

Time: Mean set system time for wireless AP.
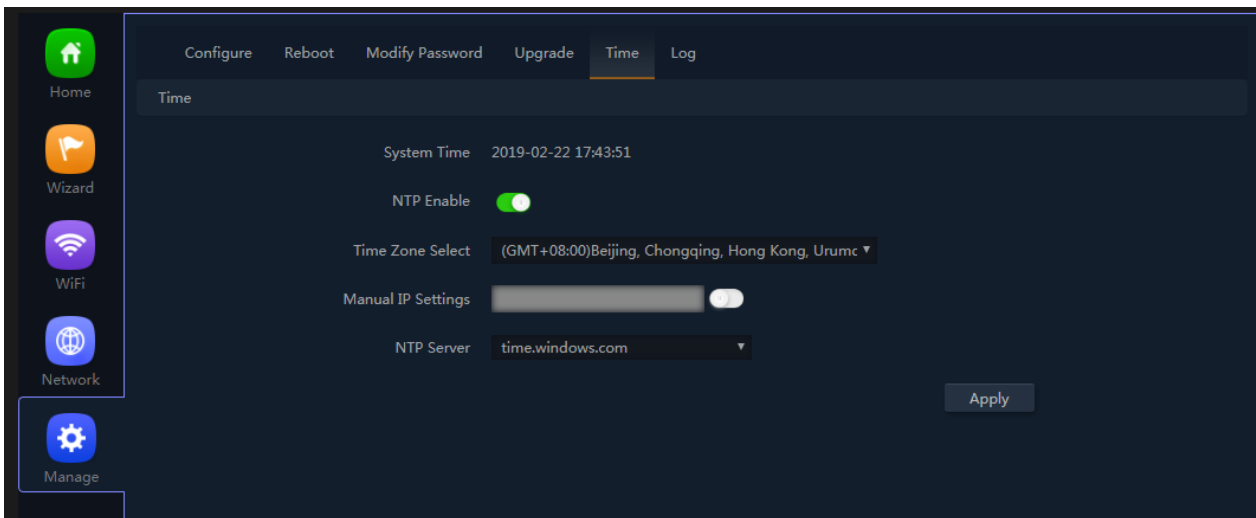
P38 Time

Log:this is for AP working information, can export for problem recovery.
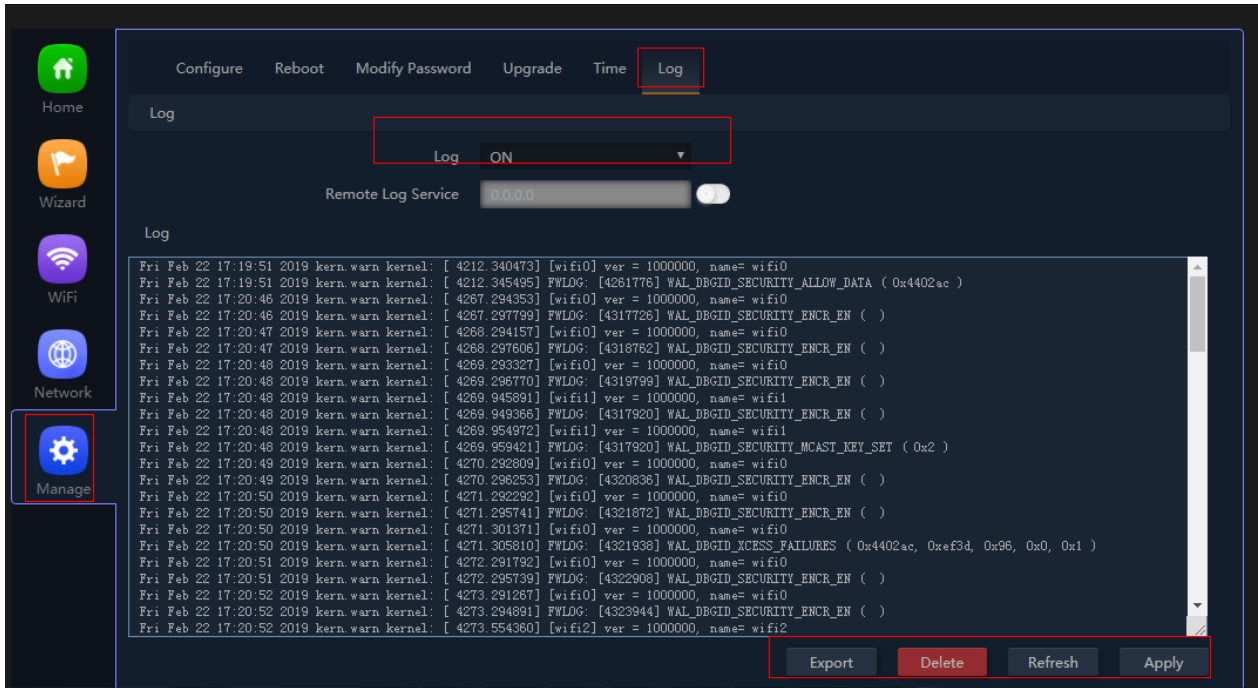
P39 System info

4th Share Internet and Obtain IP address automatically

Set computer's TPC/IP as Obtain an IP address automatically, Obtain DNS server address automatically as following picture showed.

the computer will obtain the IP address from router or base station to get Internet.

P40 Fix IP.

Trouble Shooting:

F 1   The Failure phenomenon and solution

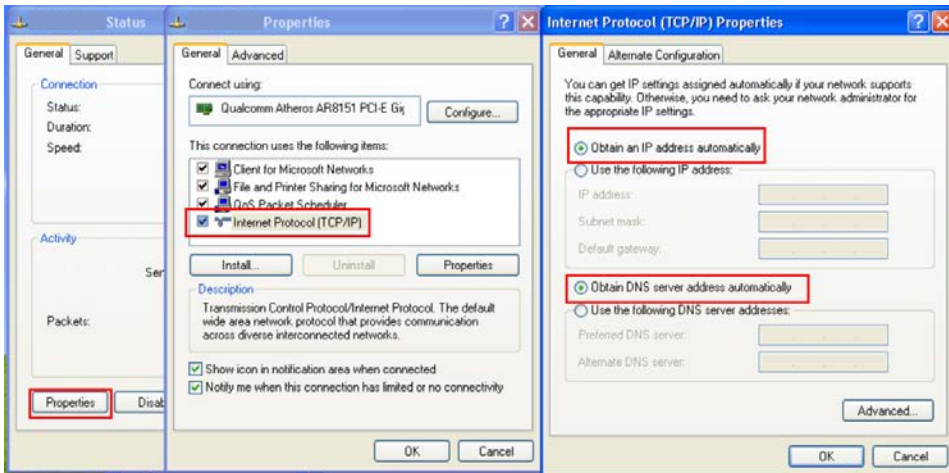| Failure phenomenon	Solution
SYS Indicator off	Pls make sure the PoE module connection is right. POE Port connect with AP, LAN port connect with computer
Can't land to Wireless AP through Web page	Pls check the IP address of computer and Wireless AP to see whether they are in same networking segment, The method is click "start"-"Run" input"cmd"，ping 192.168.188.253 to test the Wireless AP connectivity. Reset Wireless AP and load it again; Pls make sure the IP address 192.168.188.253 is not occupied by other device in Wireless AP's networking; Check computer and cable problem, recommend to use 10/100M UTP unshielded cable; Clean up Arp binding from "Start"-"Run" input"cmd" arp –d Clean the IE Brower's temporary files and Cache file。
Wireless AP can't connect with AP（the status display unconnected）	Try to scan the avaliable wireless networking again； Make sure the Wireless AP's wireless standard（11b/g/n, 2.4G）is correct； The Security and passwords are matched between Wireless AP and AP； The signal strength of AP is too weak to connect, should be more than -75dBm；
Can't scan the wireless AP	Scan it several times more； Make sure there are 5G signal existed. Reset the Wireless AP, scan it again after Wireless AP restart；
The connection of Wireless AP and AP is success, but the computer can't share internet	Pls Check the computer's IP address and DNS setting. If it is dynamin, set the network card as automatically obtain. If it is static IP, pls contact with ISP for correct IP address and DNS address.
How to Reset Wireless AP	Press the "Reset" button more than 15 seconds after power on. The Wireless AP will restore factory default after the Wireless AP restart.

Warning：

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-- Reorient or relocate the receiving antenna.

-- Increase the separation between the equipment and receiver.

-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-- Consult the dealer or an experienced radio/TV technician for help.

NOTE: This device and its antenna(s) must not be co-located or operation in conjunction with any other antenna or transmitter

RF Exposure Statement

To maintain compliance with FCC's RF Exposure guidelines, This equipment should be installed and operated with minimum distance of 20cm the radiator your body. This device and its antenna(s) must not be co-located or operation in conjunction with any other antenna or transmitter