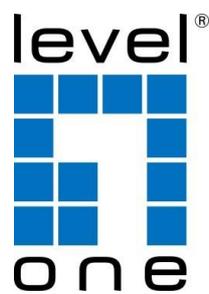


User Manual

(WAB-5010)



HW: V2
UM: V1.2

Default Settings

IP Address	192.168.188.253	
User name	user	Admin
Password	admin	root

Attention:

Check box contents:

- 1.Pole Mounting Hose Clamp (40-64mm)
- 2.RJ45 Network Cable
- 3.Resource CD (User Manual, QIG)
- 4.Quick Installation Guide

Warning:



Attention

- Do not use the product in high humidity or high temperatures.
- Do not use the same power source for the Product as other equipment. Only use the power adapter that comes with the package. Using a different voltage rating power adapter may damage the device.
- Do not open or repair the case yourself. If the Product is too hot, turn off the power immediately and have it repaired at a qualified service center.
- Place the Product on a stable surface and avoid using this product and all accessories outdoors.

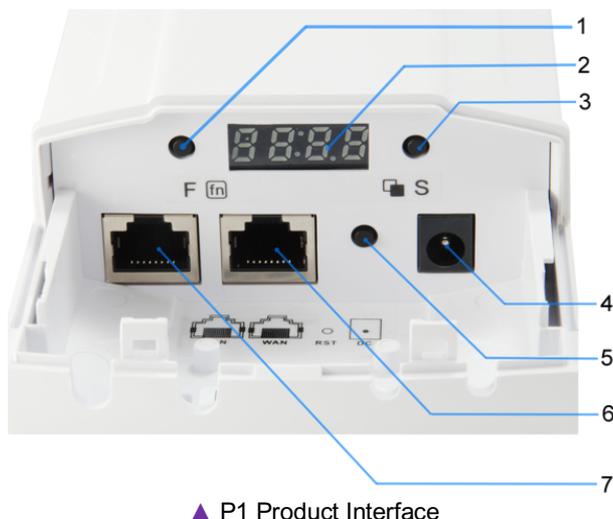
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Chapter 1 Hardware and Operation mode Instruction

1.1 Interface Instruction:



Marked number	LED/Button/Interface	Description
1	LED display Function Button	Select modify location
2	LED display	show AP/Client operation mode, Channels, IP address and RF Power .(If not operate this LED display in 10 mins, the screen will be automatically black screen)
3	LED display Selection Button	Can select the Increase or decrease value ; View Channels, IP address and Signal strength status.
4	DC	12V/1A DC input injector (Power adapter unit is to be ordered separately)
5	RST(Reset to Default)	With the AP powered on, press the Reset button for 10 seconds until the Signal Strength LED blink faster than ever. The AP will restart itself and reset the device to factory default settings.
6	WAN/POE port (10/100Mbps RJ45 port)	The WAN/POE port is used to connect to network devices, such as a switch OR POE adapter to power the device
7	LAN port (10/100Mbps RJ45 port)	The LAN port is used to connect to network devices, such as a switch or PC / NB

1.2 LED light instruction:



LED	Color	Status	Description
5G	Green	Blinking	On 5.8G WIFI is on
LAN	Green	On	On LAN is connected
WAN	Green	On	On WAN is connected
SYS	Green	Solow Blinking	WDS Mode, Master AP
	Green	On	WDS Mode Client / Slave AP
	Green	Fast Blinking	Reset to Defaults

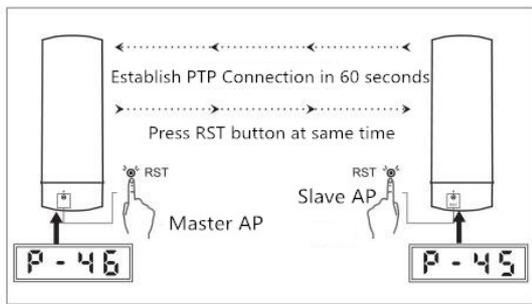
1.3 LED Display instruction:

LED Display Content	Content Instruction	Remark
	H: Hotspot, WDS mode, Master AP 44: Channel is 44	Show the channel of AP and Client; Pls note, the channel should be same of AP and Client.
	C: Client, WDS Mode, Slave AP 44: Channel is 44	If not operate this LED display in 10 mins, the screen will be automatically black screen
	A: IP Address 253: IP address is 192.168.188.253	Show AP or Client's IP address; Remark: In AP and Clients, there is one device with IP address: 192.168.188.253; Other device with IP of 192.168.188.X, to avoid the IP address conflict.
	P: RF Power -42: The signal Strength is -42dBm	The signal strength is different if distance different.

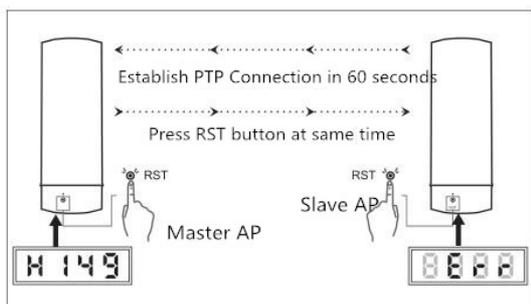
1st: In default, all device is in Client(Slave AP) Mode, the IP address is 192.168.188.253;
So, please setup one device when bridge the two outdoor WAB-5010 together.
In 5G Outdoor WAB-5010, the default channel is 44 ; Picture showed as follow:



2nd: Configure the Point to Point connection by press reset button, then waiting for the PTP connection, No need to setup client side:



Connection Success



Connection Fail

Press mater AP and slave AP's reset button at same time to establish the point to point connection;

When LED display show , mean is in connecting, should be connected in 60 seconds;

When PTP connection success, the LED display will show WAB-5010's signal strength ;

We can press "S" button to view WAB-5010's IP address, channel, signal strength; If connection fail, the

LED display show , will back to default page after 10 seconds.

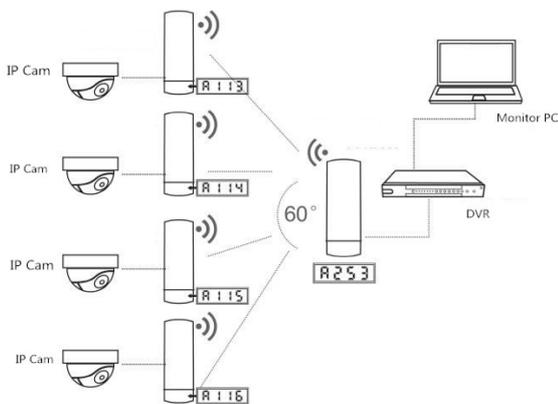
3rd: Firmware Status

When PTP connection success, can view the connection status in WEB interface, picture showed as follow:

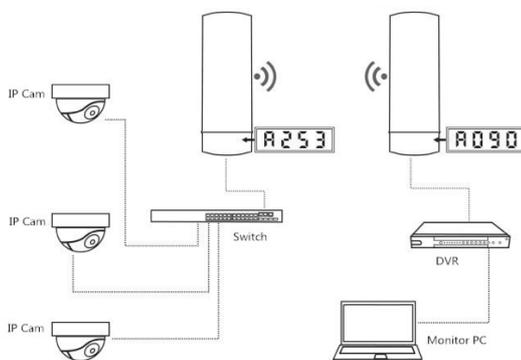
CHANEL: 36							
Device List	Description	MAC Address	IP Address	Signal	Status	Uptime	
DEV0	N/A	44:D1:FA:21:A3:7E	192.168.188.253	-53 dBm	on-line	00:6:37	
DEV1	N/A	44:D1:FA:21:68:E9	192.168.188.156	-53 dBm	on-line	00:6:37	

4th: The application network topology.

Point to Multi Point



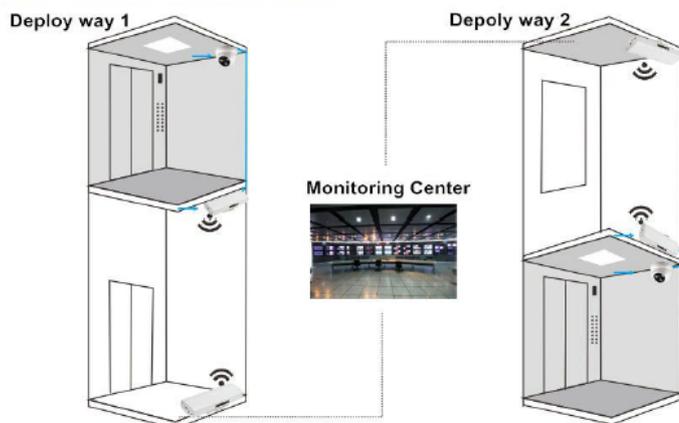
Point to Point



Chapter 2 Working Diagram

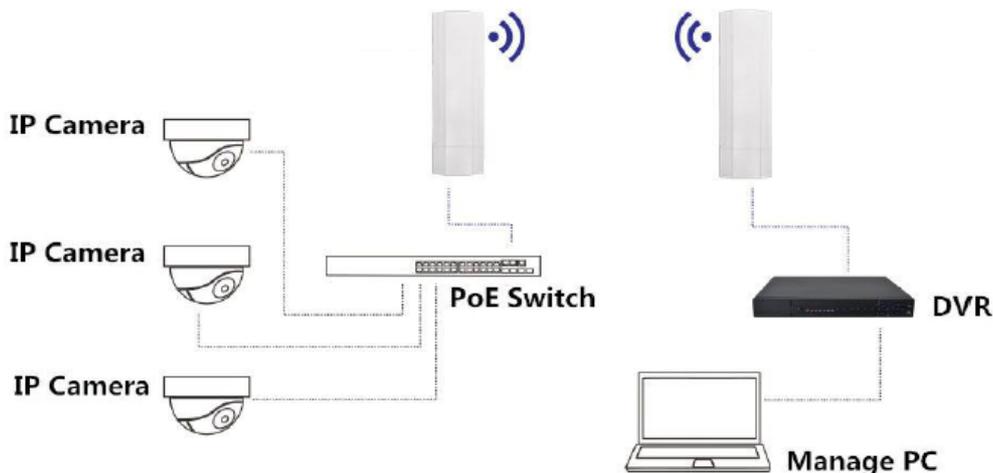
Mostly for Point to Point and Point to multi Point connections, outdoor WAB-5010 work with IP camera for example to show the working diagram:

A. PTP Working Diagram of Outdoor WAB-5010 work in Elevator:



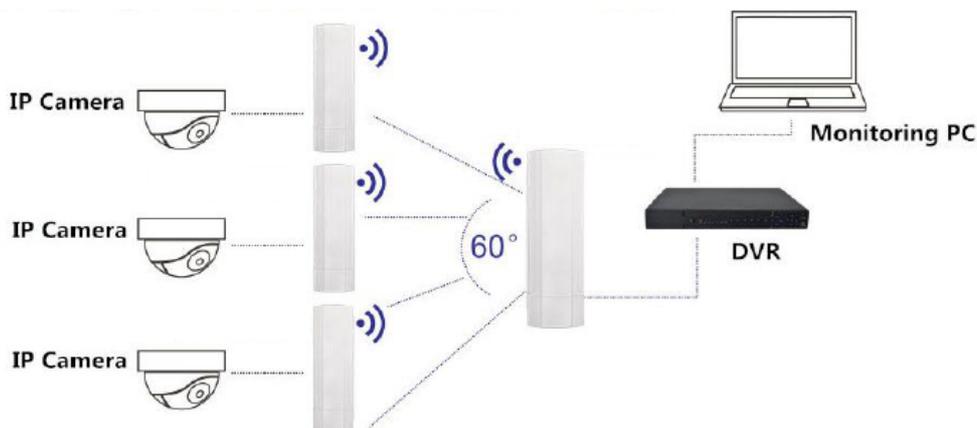
▲ P3: Working diagram

B. PTP Working Diagram of Outdoor WAB-5010 work with Multiple IP Camera:



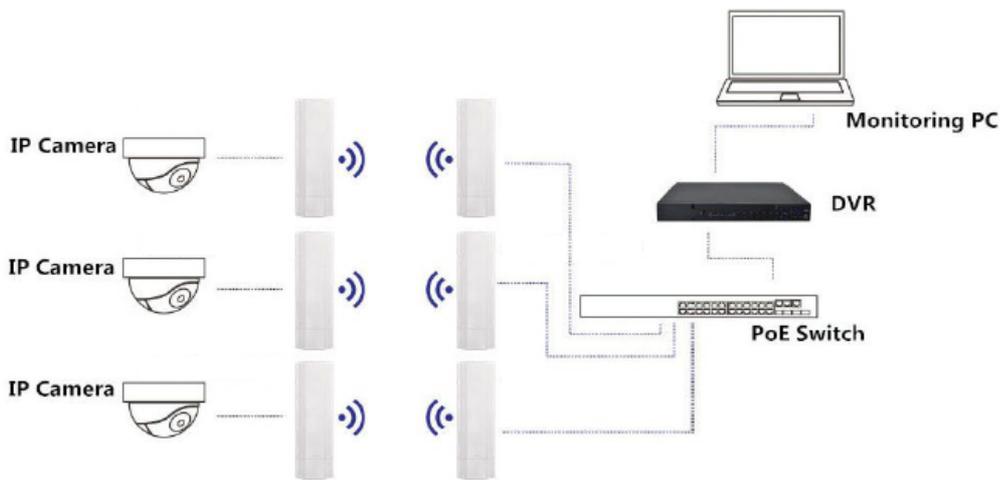
▲ P4: Working diagram

C. PTMP Working Diagram of Outdoor WAB-5010 work with IP Camera:



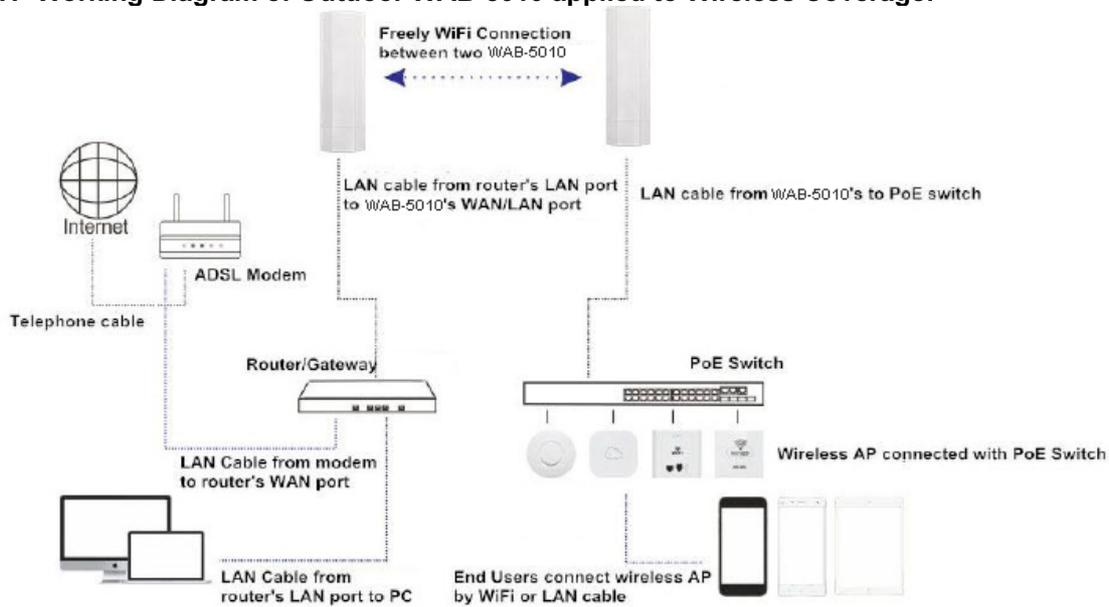
▲ P5: Working diagram

D. PTMP Working Diagram of Outdoor WAB-5010 work with Multiple IP Camera:



▲ P6: Working diagram

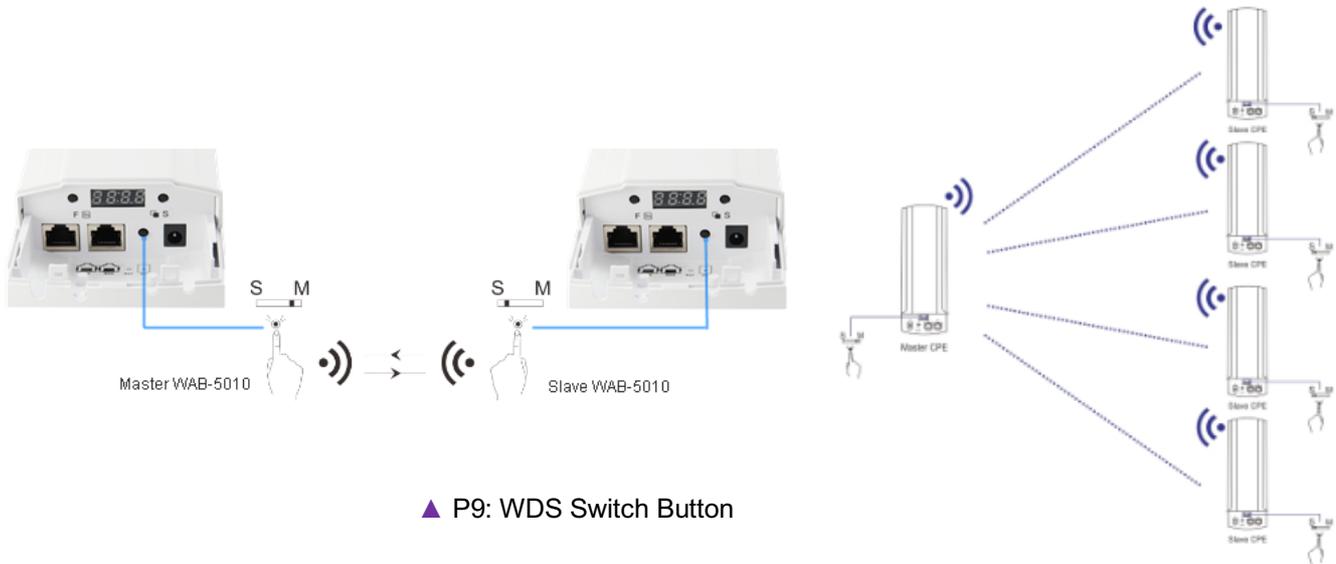
E. PTP Working Diagram of Outdoor WAB-5010 applied to Wireless Coverage:



▲ P7: Working diagram

Chapter 3 WDS Switch Button Configuration

This Outdoor WAB-5010 support Wireless AP, Gateway, WISP, Wireless Bridge, WDS operation mode, effective solution for PTP, PTMP application and outdoor long range wifi coverage application. What's more, there is WDS button on the case, easy to do PTP,PTMP connection by press the WDS button and reset button, no need to access into product GUI.



▲ P9: WDS Switch Button

Here we are show how to the connection by press the WDS switch button:

- S: Mean Slave AP
- M: Mean Master AP

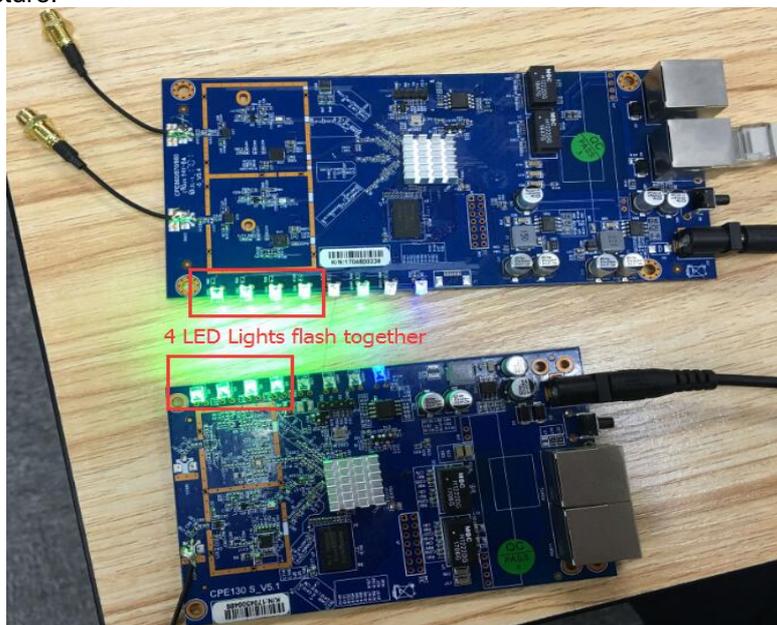
When WDS switch button on M side, mean this outdoor WAB-5010 is a master AP;
 When WDS switch button on S side, mean this outdoor WAB-5010 is an slave AP

Remark:

- The master AP can connect with 1~4 slave AP
- The WDS switch button in S side in default
- The default IP address of master AP and slave AP is 192.168.288.253.

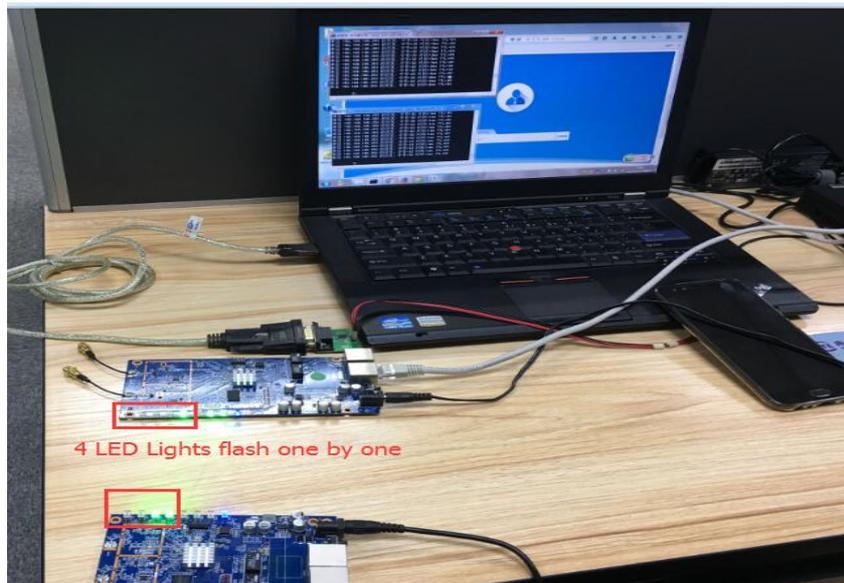
Operation:

- 1st : Power on the Master AP and Slave AP;
- 2nd: Push the WDS switch button to M side on Master AP, Master AP's IP address will change to 192.168.188.252.
- 3rd: Press the reset button on master AP and Slave AP together in 1 second, then 4 signal LED light will flash together like following picture:



▲ P10: LED Light Status

4th: Wait a while, the slave AP will connect with master AP automatically, then master AP and slave AP LED signal LED lights flash one by one as following picture:



▲ P11: LED Light Status

If there are 2~4 Slave APs, the 4 steps will change to as follow:

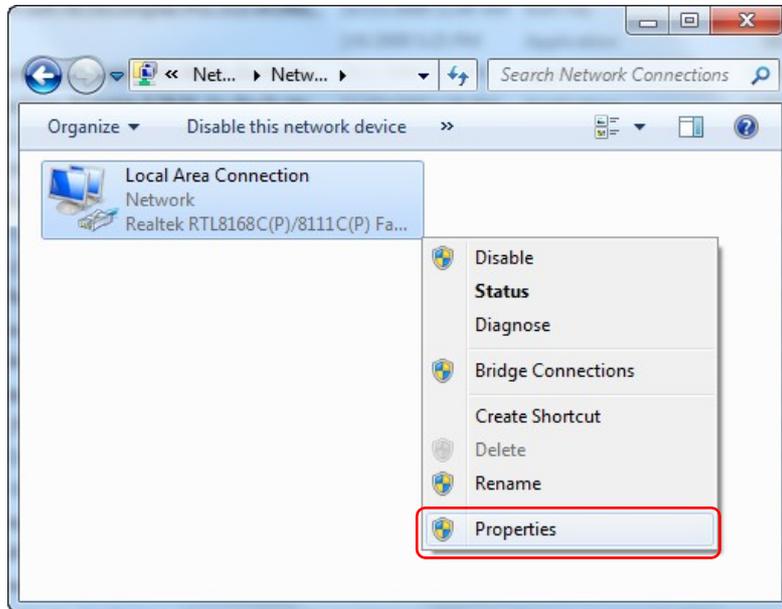
Press the reset button around 1 second on the 2nd slave AP, 3rd slave AP, 4th slave AP, and finish this step in 2 mins, then all slave AP will connect with master AP automatically; The LED lights status is same.

Chapter 4 Login

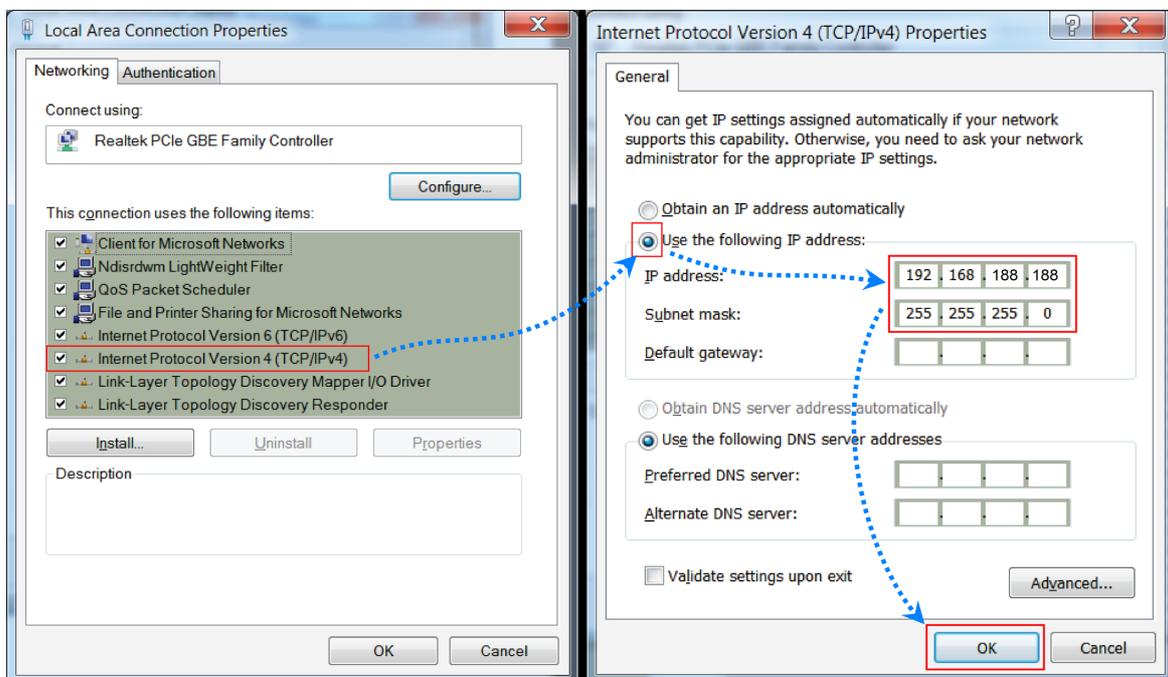
The necessary information about log in is displayed on the sticker of the product, including the URL, User Name and Pass Word

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 252), subnet mask is 255.255.255.0, follow P1 and P2 to finish.

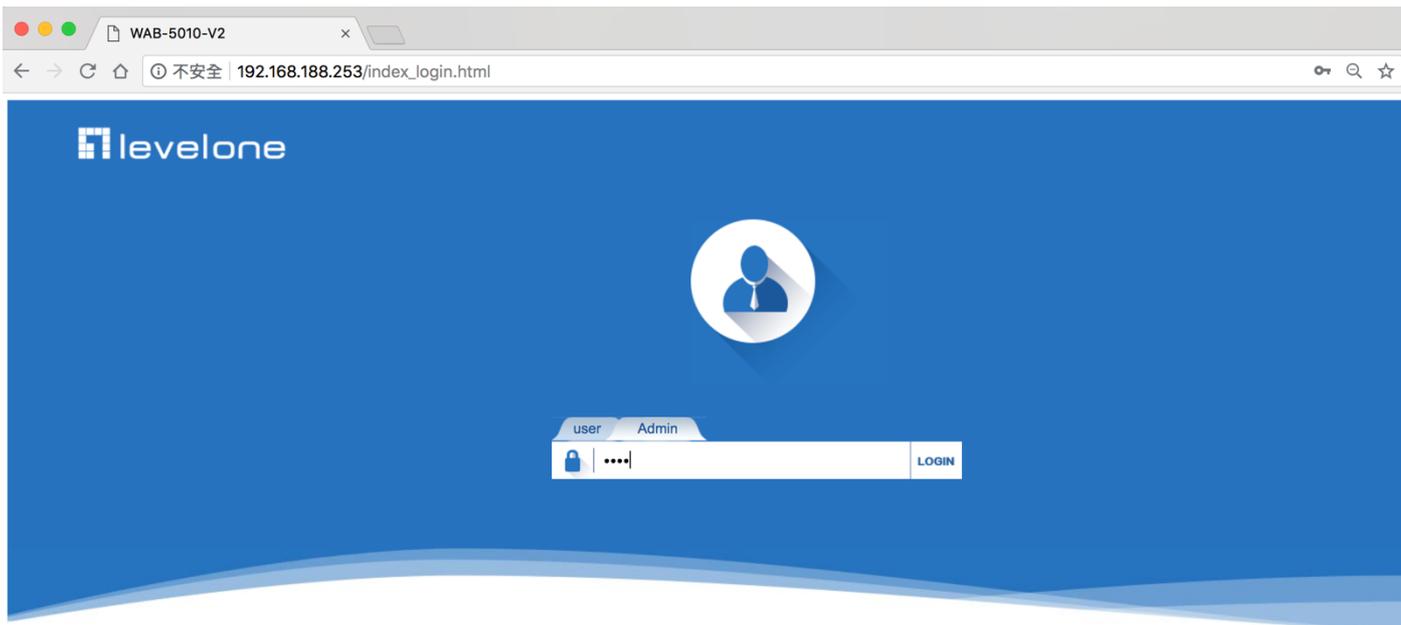


▲ P1 Setting of computer's IP address



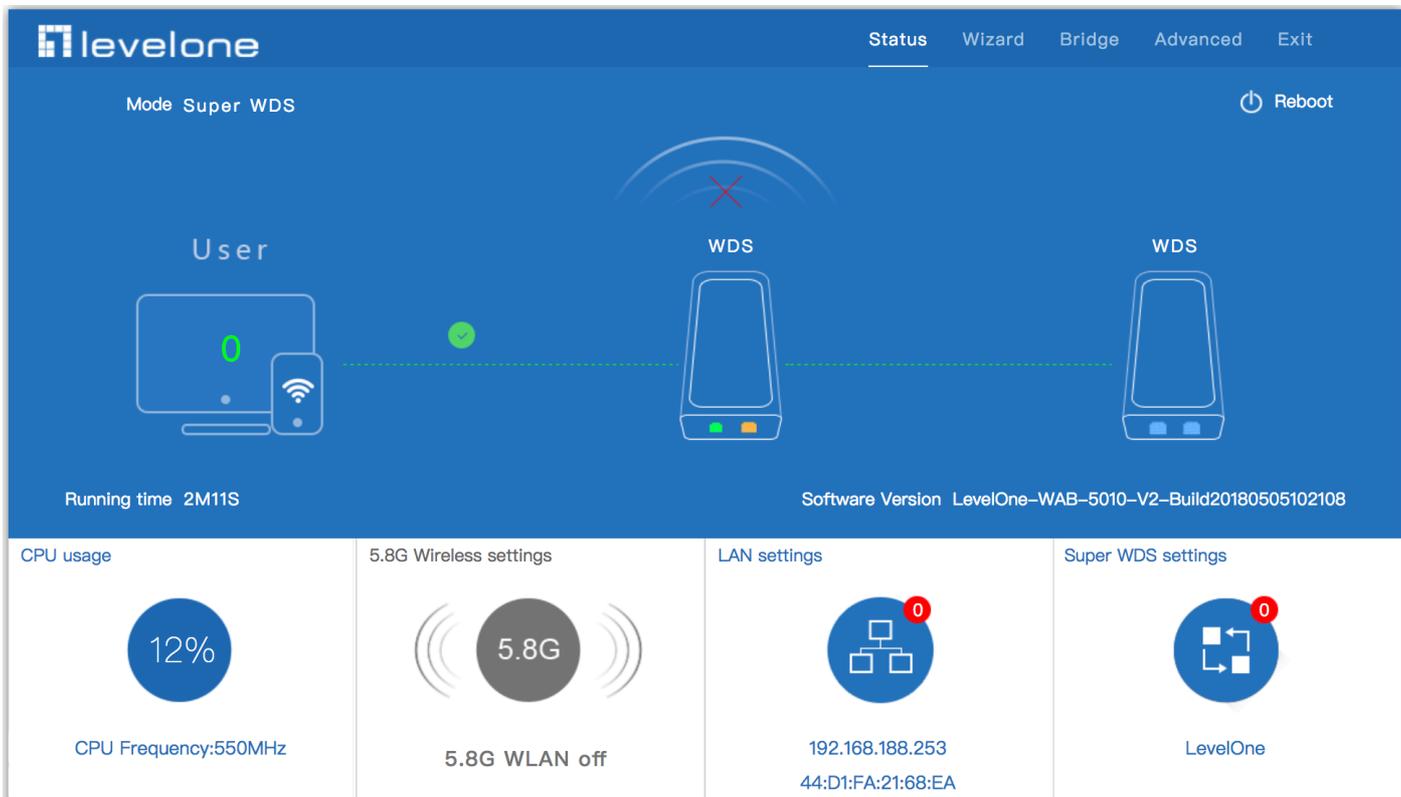
▲ P 2 Setting of computer's IP address

3. Input 192.168.188.253 into browser, then pop up the login page, there are user/Admin login page, input Admin to login the user page; input root to login the admin page.



4. After login, then P4 Device Status will be showed;

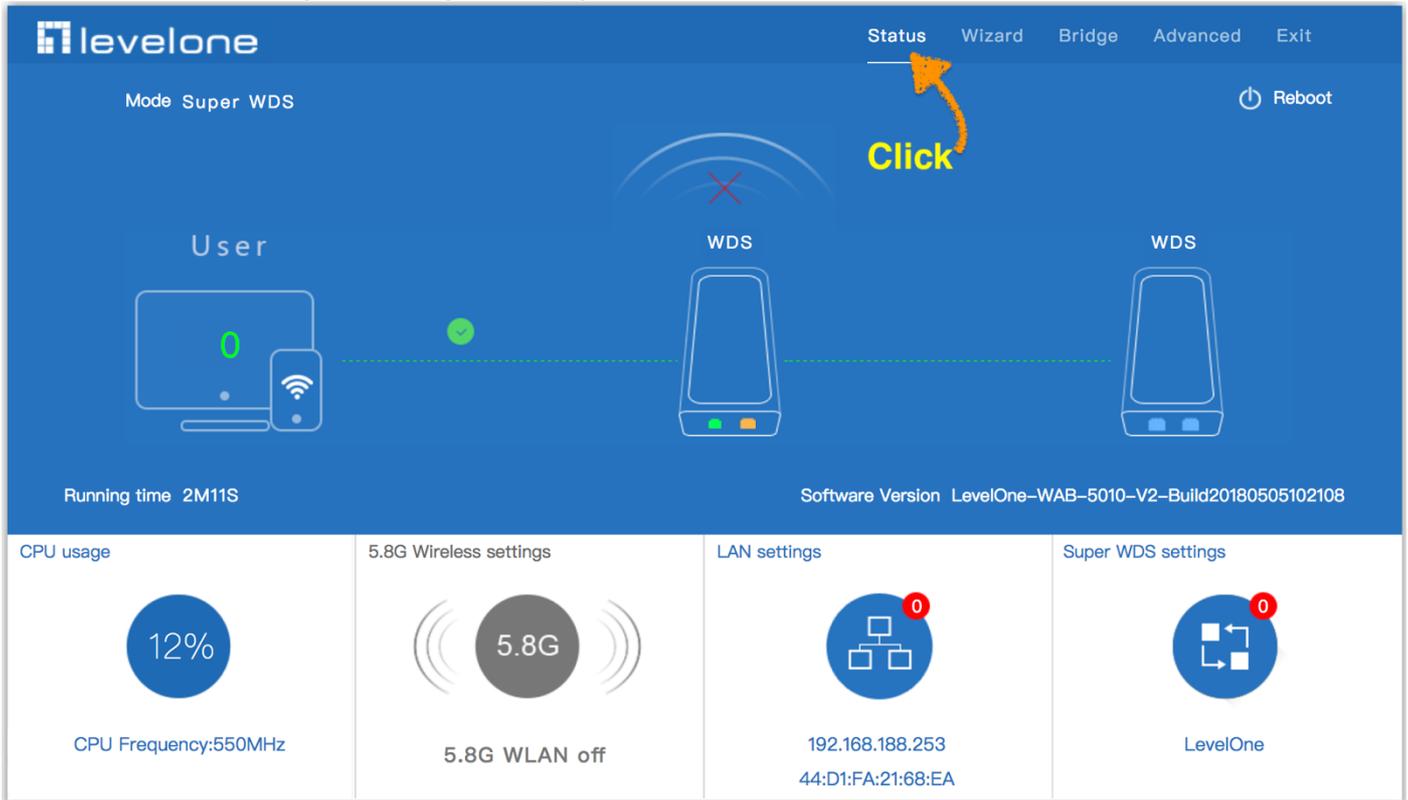
This page will show the Wireless AP's default operation mode, channel, connection status, CPU usage, Wireless settings, LAN Setting, Wireless AP's Location, hardware/firmware version.



Chapter 5 WEB GUI interface Setting

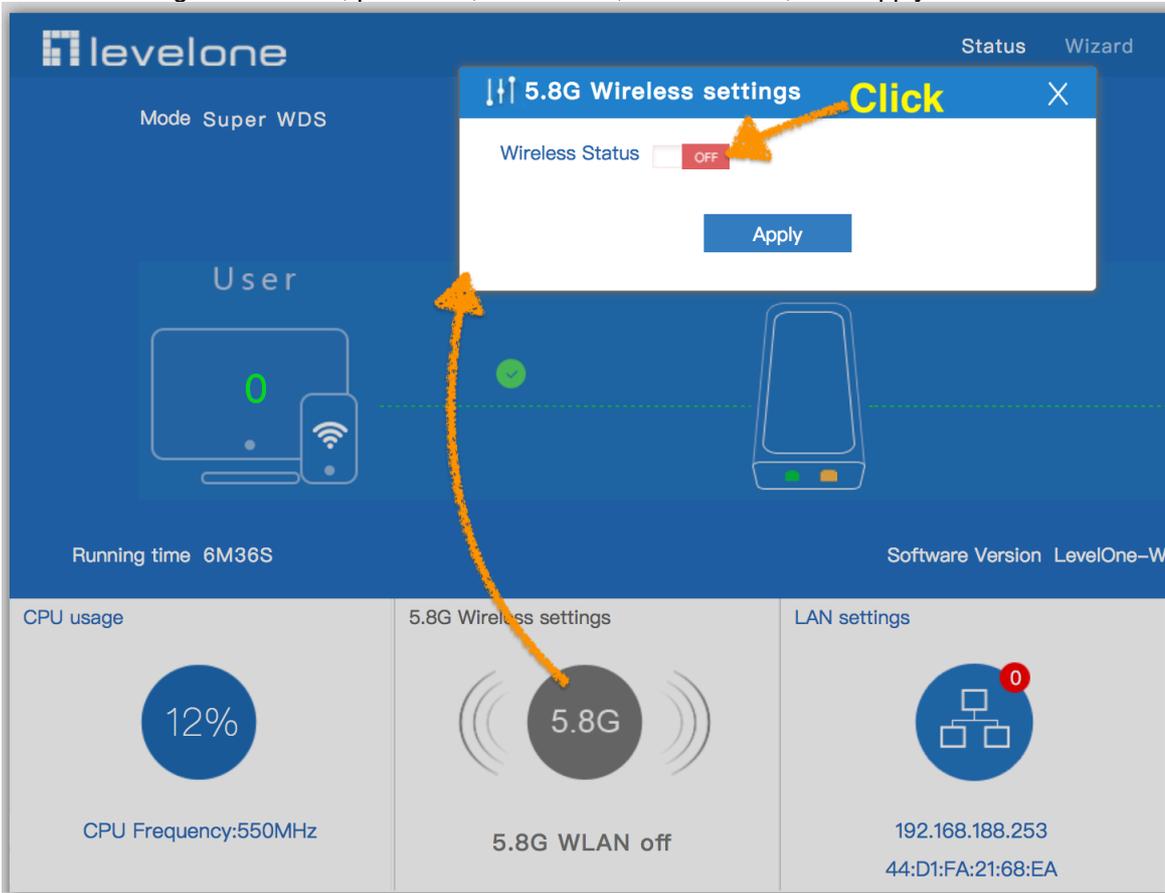
5.1 Status :

1. Then in Wireless Setting, GUI configuration page showed as below

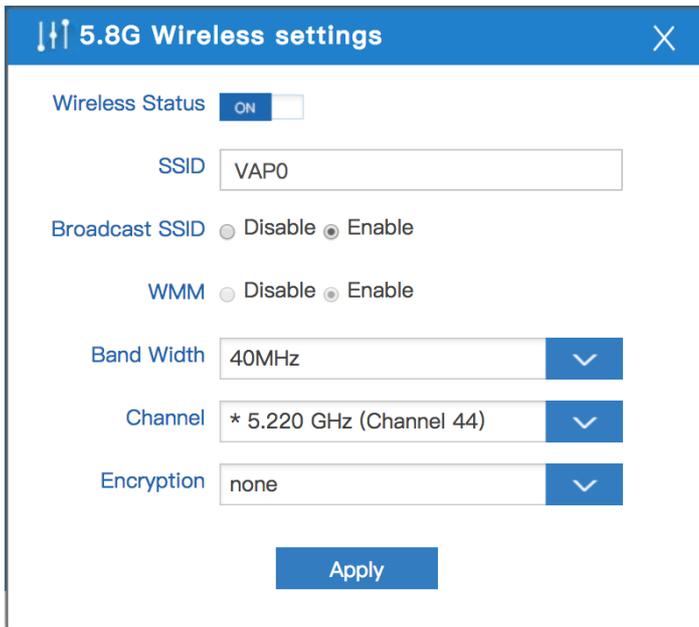


2. Then in Wireless Setting, GUI configuration page showed as below:

User can configure the SSID, password, band width, channel here, then Apply to finish.

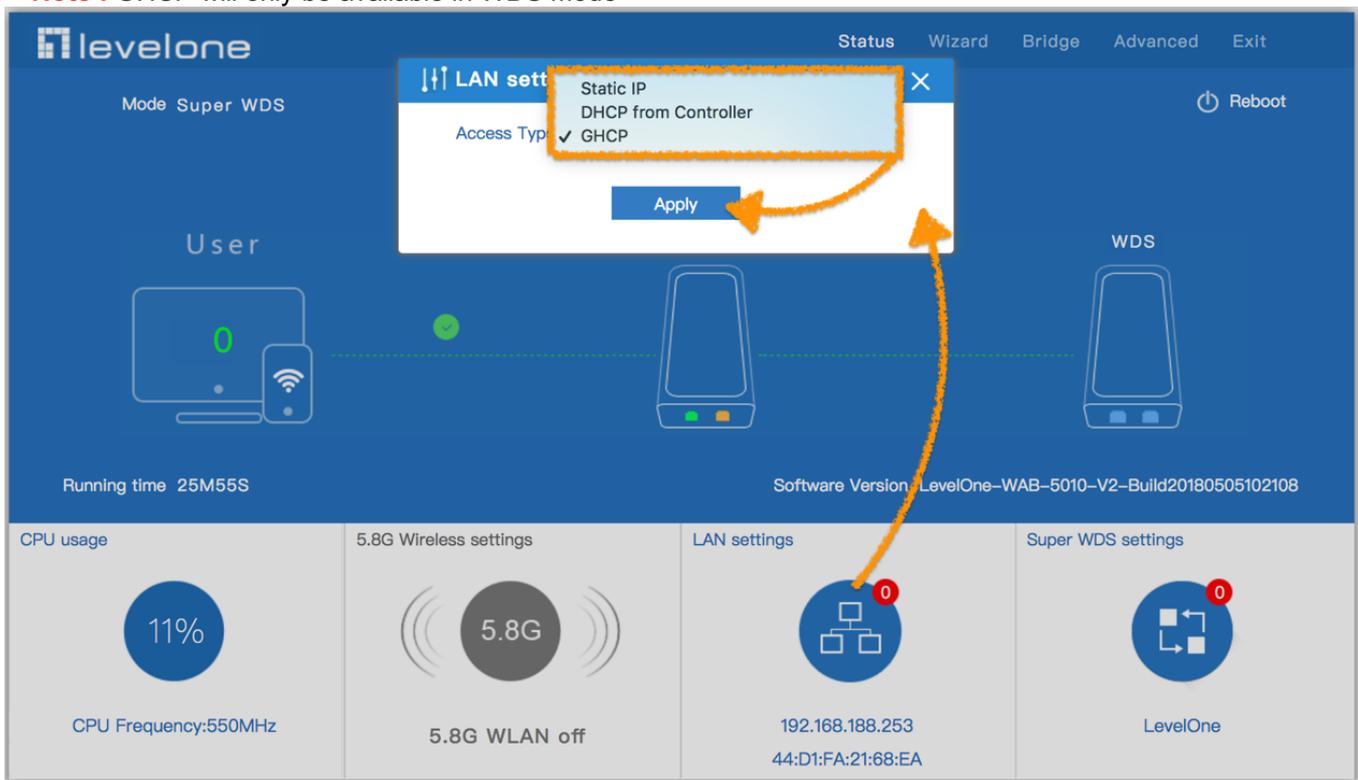


3. User can configure the SSID, password, bandwidth, channel in the above picture, then Apply to finish.



4. LAN Setting can be used in one of the modes depending on your network environment.

Note : GHCP will only be available in WDS Mode

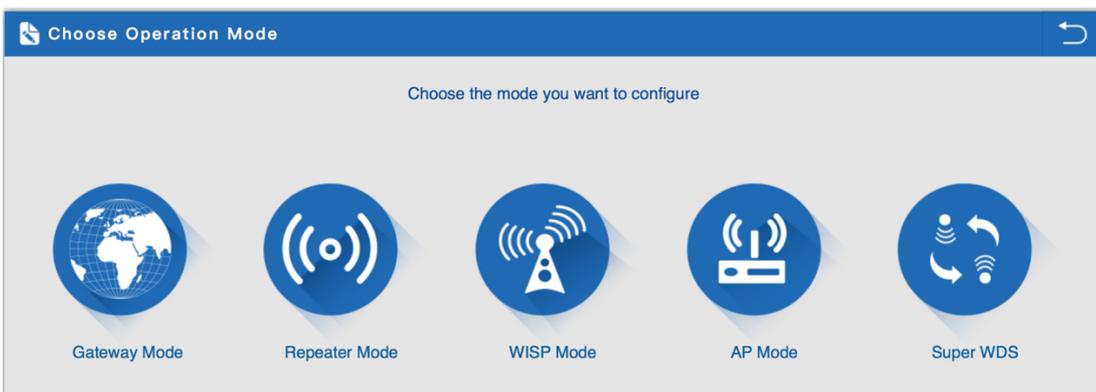


5.2 Wizard :

1. Click Wizard in Status page, will pop up following page to configure the operation mode and there are explanation for each operation mode for better application.

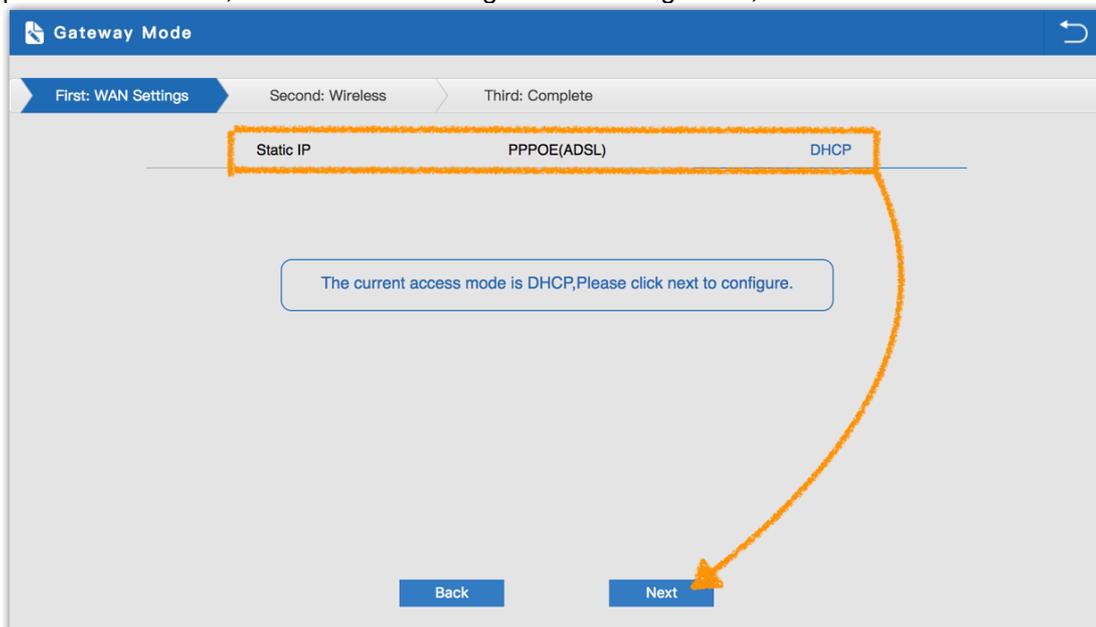


2. In admin login to Wizard, There are Gateway, Repeater, WISP, AP and Super WDS operation mode, Please confirm the operation mode first before configuration starting. Click Wizard in Status page, will pop up following page to configure the operation mode and there are explanation for each operation mode for better application.



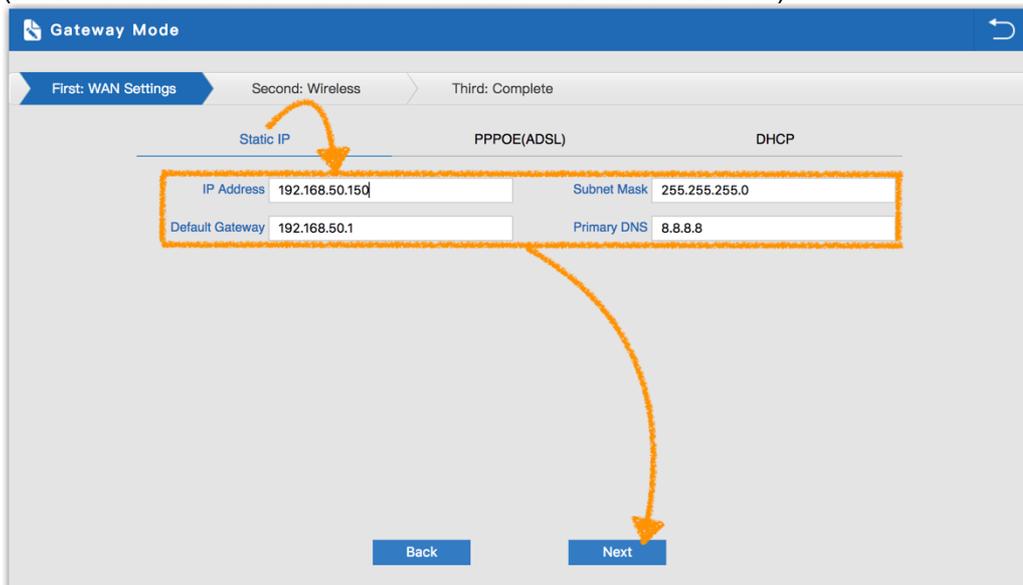
5.2.1 Gateway Mode:

Before Click Gateway mode, confirm your internet will be static IP, PPPoE, or DHCP: Then will pop up following picture after click it, Please choose the right WAN setting mode, then click next to continue.



5.2.1.1 Static IP setting in Gateway Mode :

1. Sample Static IP mode setting method, then click next to continue.
(Please contact with ISP for correct IP address and DNS address)

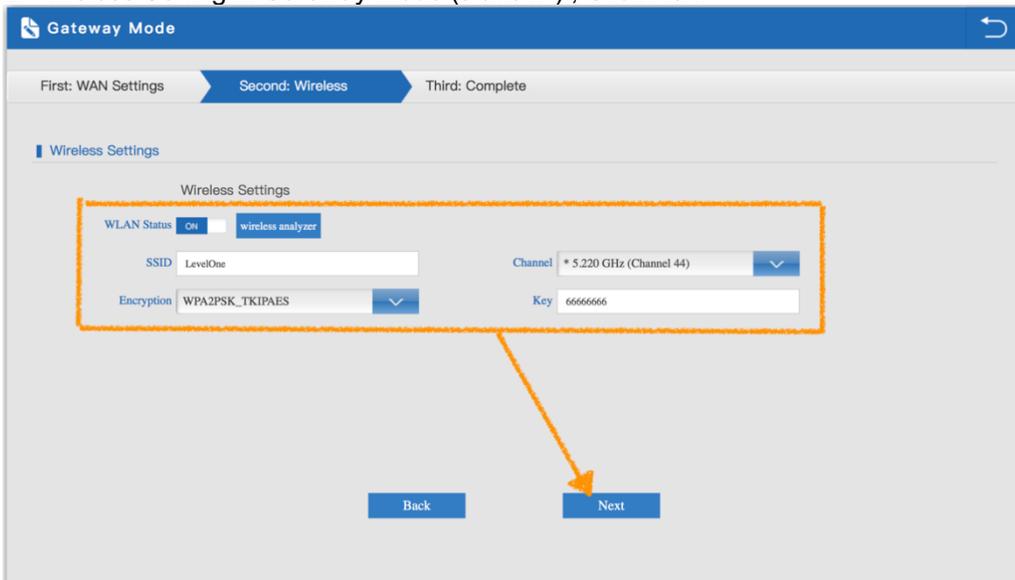


The screenshot shows the 'Gateway Mode' configuration interface. At the top, there are three progress steps: 'First: WAN Settings', 'Second: Wireless', and 'Third: Complete'. Below these, three options are available: 'Static IP', 'PPPOE(ADSL)', and 'DHCP'. The 'Static IP' option is selected and highlighted with an orange arrow. A table of configuration fields is shown below, with an orange dashed box around it:

IP Address	192.168.50.150	Subnet Mask	255.255.255.0
Default Gateway	192.168.50.1	Primary DNS	8.8.8.8

At the bottom of the screen, there are two buttons: 'Back' and 'Next'. An orange arrow points from the 'Next' button back to the 'Static IP' option.

2. Wireless Setting in Gateway Mode (static IP) , Click Next

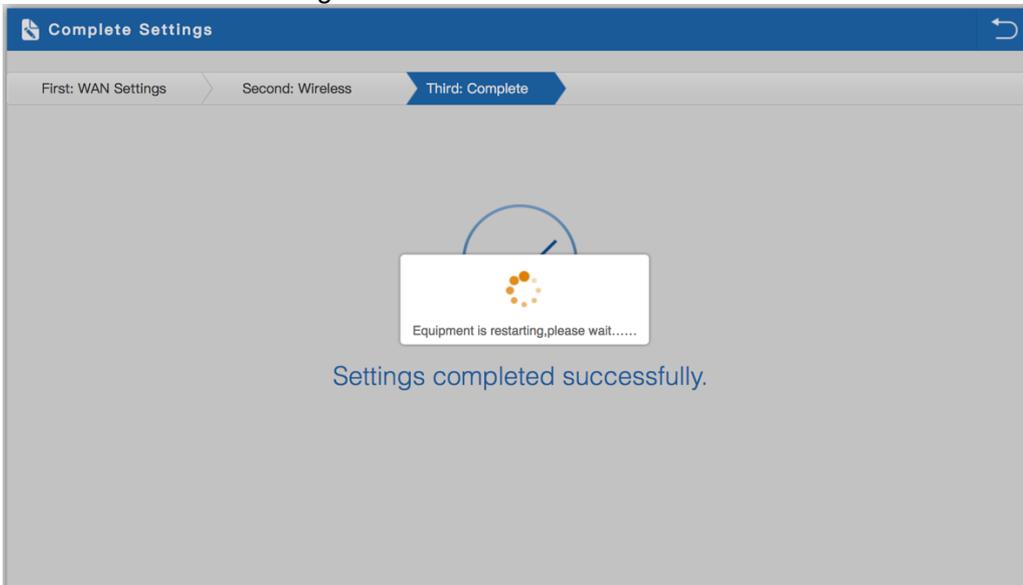


The screenshot shows the 'Gateway Mode' configuration interface, now on the 'Wireless Settings' screen. The progress steps are 'First: WAN Settings', 'Second: Wireless', and 'Third: Complete'. The 'Wireless Settings' section is highlighted. A table of configuration fields is shown below, with an orange dashed box around it:

WLAN Status	ON	wireless analyzer	
SSID	LevelOne	Channel	* 5.220 GHz (Channel 44)
Encryption	WPA2PSK_TKIPAES	Key	66666666

At the bottom of the screen, there are two buttons: 'Back' and 'Next'. An orange arrow points from the 'Next' button to the 'Wireless Settings' section.

3. Please wait for the configuration to finish



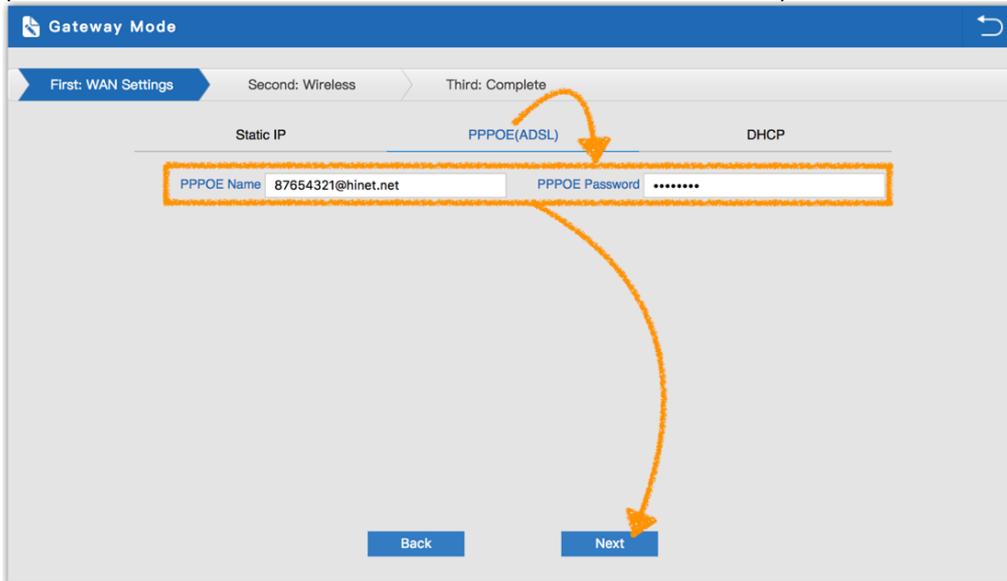
The screenshot shows the 'Complete Settings' screen. The progress steps are 'First: WAN Settings', 'Second: Wireless', and 'Third: Complete'. The 'Third: Complete' step is highlighted. In the center of the screen, there is a loading spinner icon and a message box that says 'Equipment is restarting, please wait.....'. Below this, the text 'Settings completed successfully.' is displayed.

4. Please log in again ,This page will show the connection Static IP status

The screenshot displays the LevelOne router's status page. At the top, the LevelOne logo is on the left, and navigation tabs for 'Status', 'Wizard', 'Advanced', and 'Exit' are on the right. Below the logo, it shows 'Mode Gateway Mode' and 'channel 44'. A 'Reboot' button is in the top right corner. The main area features a network diagram with three components: 'User' (represented by a laptop and smartphone), 'Router' (represented by a router icon), and 'Internet' (represented by a globe). A green checkmark is visible between the User and Router, and another green checkmark is inside a green circle labeled 'STATIC IP' between the Router and Internet. Below the diagram, it shows 'Running time 2M54S' and 'Software Version LevelOne-WAB-5010-V2-Build20180505102108'. The bottom section is divided into four panels: 'CPU usage' (4%, CPU Frequency:550MHz), '5.8G Wireless settings' (5.8G, LevelOne, MAC: 44:D1:FA:21:68:EC), 'LAN settings' (192.168.188.253, MAC: 44:D1:FA:21:68:EB), and 'WAN settings' (192.168.50.150, MAC: 44:D1:FA:21:68:EA). The WAN settings panel is highlighted with a green dashed circle.

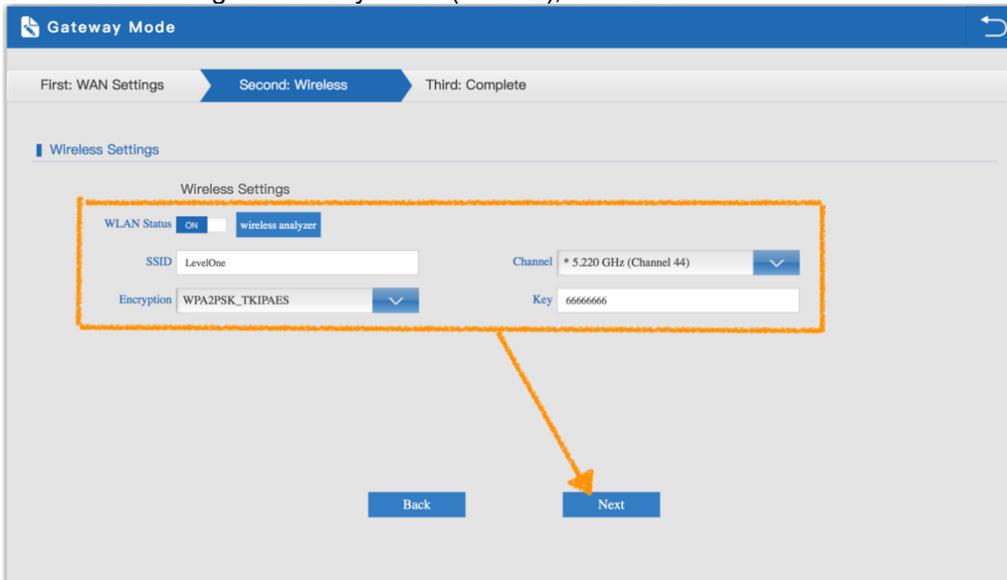
5.2.1.2 PPPoE(ADSL) setting in Gateway Mode :

1. Sample PPPoE mode setting method, then click next to continue.
(Please contact with ISP for correct PPPoE Name and Password)



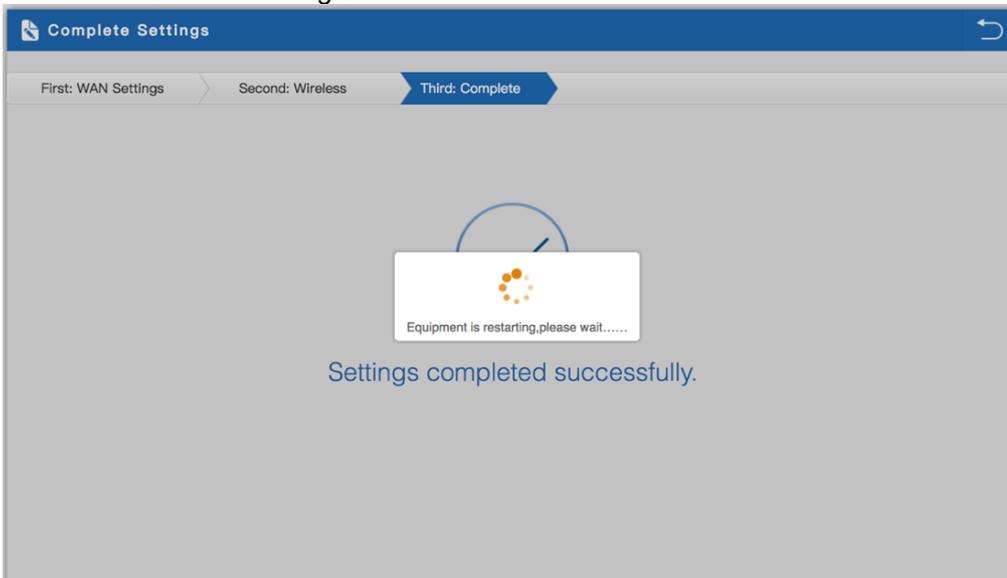
The screenshot shows the 'Gateway Mode' configuration interface. At the top, there are three progress steps: 'First: WAN Settings', 'Second: Wireless', and 'Third: Complete'. The 'First: WAN Settings' step is active. Below the progress bar, there are three tabs: 'Static IP', 'PPPOE(ADSL)', and 'DHCP'. The 'PPPOE(ADSL)' tab is selected. In this tab, there are two input fields: 'PPPOE Name' with the value '87654321@hinet.net' and 'PPPOE Password' with a masked password '*****'. Below these fields are two buttons: 'Back' and 'Next'. An orange dashed box highlights the input fields, and an orange arrow points from the 'Next' button back to the 'PPPOE(ADSL)' tab.

2. Wireless Setting in Gateway Mode (PPPoE), Click Next



The screenshot shows the 'Gateway Mode' configuration interface. At the top, there are three progress steps: 'First: WAN Settings', 'Second: Wireless', and 'Third: Complete'. The 'Second: Wireless' step is active. Below the progress bar, there are three tabs: 'First: WAN Settings', 'Second: Wireless', and 'Third: Complete'. The 'Second: Wireless' tab is selected. In this tab, there are several settings: 'WLAN Status' is set to 'ON' with a 'wireless analyzer' button; 'SSID' is 'LevelOne'; 'Channel' is '* 5.220 GHz (Channel 44)'; 'Encryption' is 'WPA2PSK_TKIPAES'; and 'Key' is '6666666'. Below these settings are two buttons: 'Back' and 'Next'. An orange dashed box highlights the settings, and an orange arrow points from the 'Next' button to the 'Third: Complete' step.

3. Please wait for the configuration to finish



The screenshot shows the 'Complete Settings' screen. At the top, there are three progress steps: 'First: WAN Settings', 'Second: Wireless', and 'Third: Complete'. The 'Third: Complete' step is active. In the center, there is a loading spinner icon and the text 'Equipment is restarting, please wait.....'. Below this, the text 'Settings completed successfully.' is displayed.

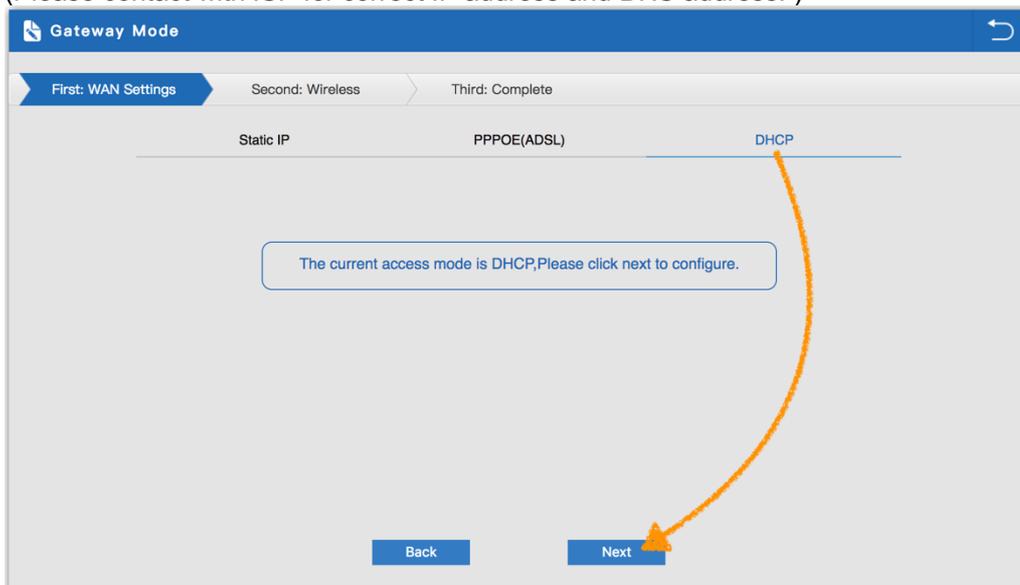
4. Please log in again ,This page will show the connection PPPoE status

The screenshot displays the LevelOne router's status page. At the top, the LevelOne logo is on the left, and navigation tabs for 'Status', 'Wizard', 'Advanced', and 'Exit' are on the right. Below the logo, it shows 'Mode Gateway Mode' and 'channel 44'. A 'Reboot' button is in the top right. The main section features a network diagram with 'User' (laptop and phone), 'Router' (router icon), and 'Internet' (globe). A green checkmark and 'PPPOE' label are in the connection between the Router and Internet. Below the diagram, 'Running time 9M17S' and 'Software Version LevelOne-WAB-5010-V2-Build20180505102108' are shown.

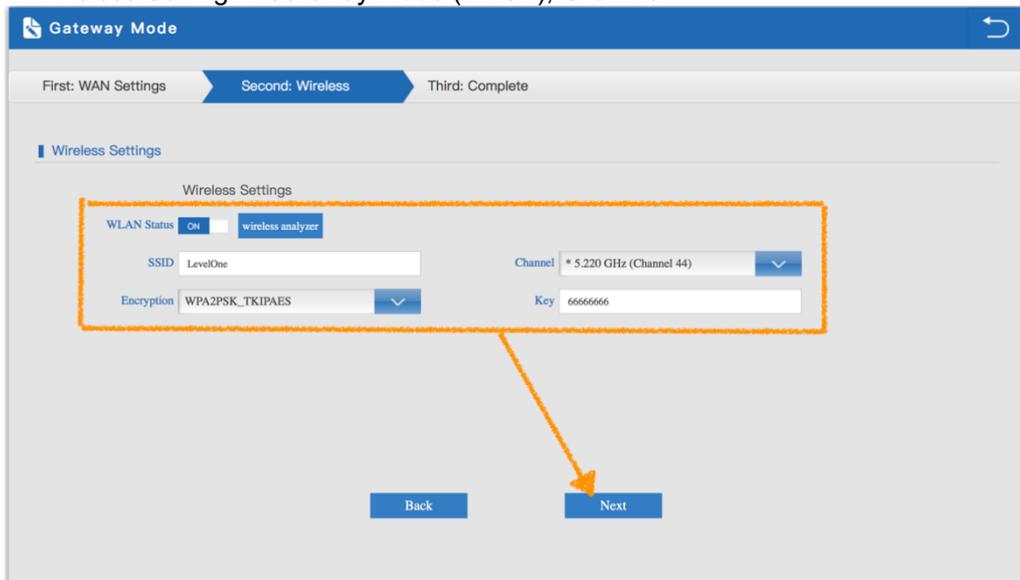
CPU usage	5.8G Wireless settings	LAN settings	WAN settings
<p>31%</p> <p>CPU Frequency:550MHz</p>	<p>5.8G</p> <p>LevelOne</p> <p>44:D1:FA:21:68:EC</p>	<p>192.168.188.253</p> <p>44:D1:FA:21:68:EB</p>	<p>111.250.103.214</p> <p>44:D1:FA:21:68:EA</p>

5.2.1.3 DHCP setting in Gateway Mode :

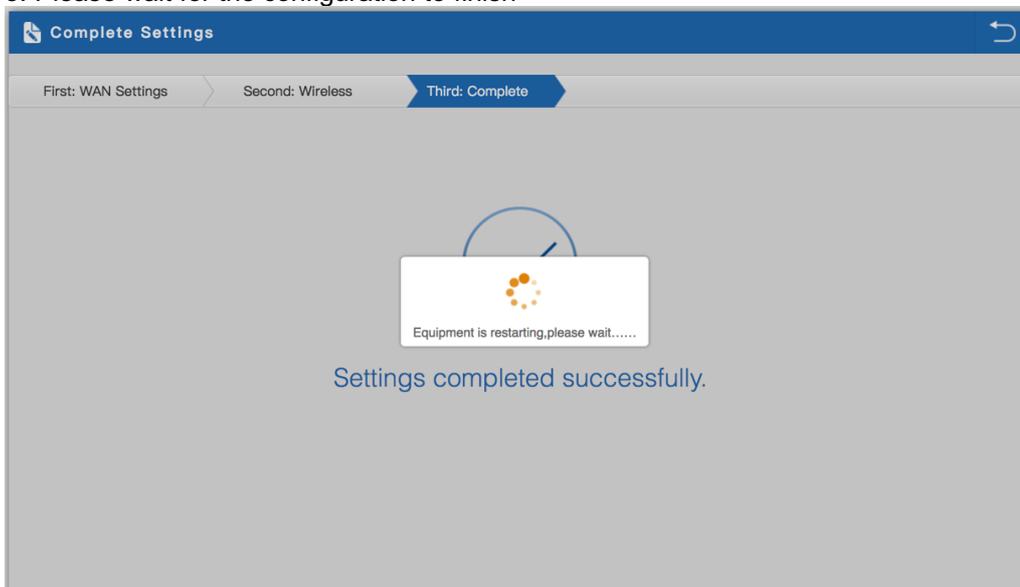
1. Sample DHCP mode setting method, then click next to continue.
(Please contact with ISP for correct IP address and DNS address.)



2. Wireless Setting in Gateway Mode (DHCP), Click Next



3. Please wait for the configuration to finish

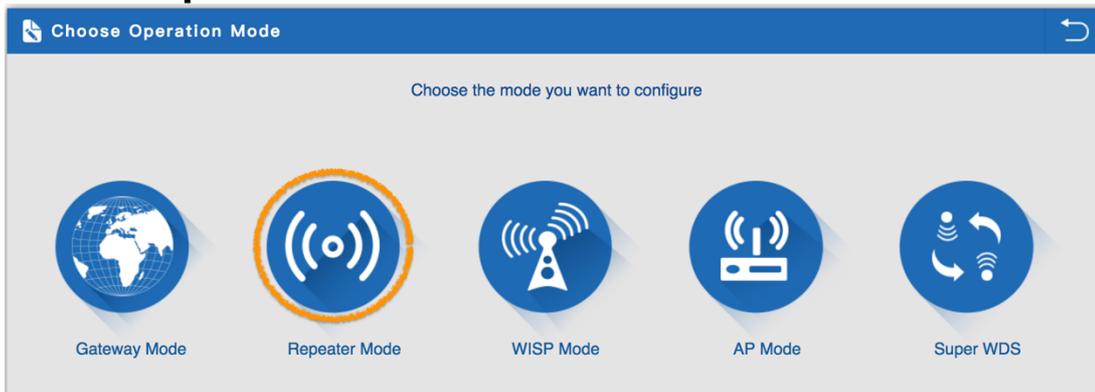


4. Please log in again ,This page will show the connection DHCP status

The screenshot displays the LevelOne gateway status page. At the top, the LevelOne logo is on the left, and navigation tabs for 'Status', 'Wizard', 'Advanced', and 'Exit' are on the right. Below the logo, the mode is set to 'Gateway Mode' and the channel is 'channel 44'. A 'Reboot' button is visible in the top right corner. The main section features a network diagram with three components: 'User' (represented by a laptop and smartphone), 'Router' (represented by a router icon), and 'Internet' (represented by a globe). A green checkmark is shown between the User and Router, and another green checkmark is shown between the Router and Internet, with the word 'DHCP' written below the latter checkmark. Below the diagram, the running time is '9M6S' and the software version is 'LevelOne-WAB-5010-V2-Build20180505102108'. The bottom section is divided into four panels: 'CPU usage' showing 10% usage and 550MHz frequency; '5.8G Wireless settings' showing 5.8G and MAC address 44:D1:FA:21:68:EC; 'LAN settings' showing IP 192.168.188.253 and MAC address 44:D1:FA:21:68:EB; and 'WAN settings' showing IP 192.168.188.201 and MAC address 44:D1:FA:21:68:EA. The WAN settings panel is highlighted with a green dashed circle.

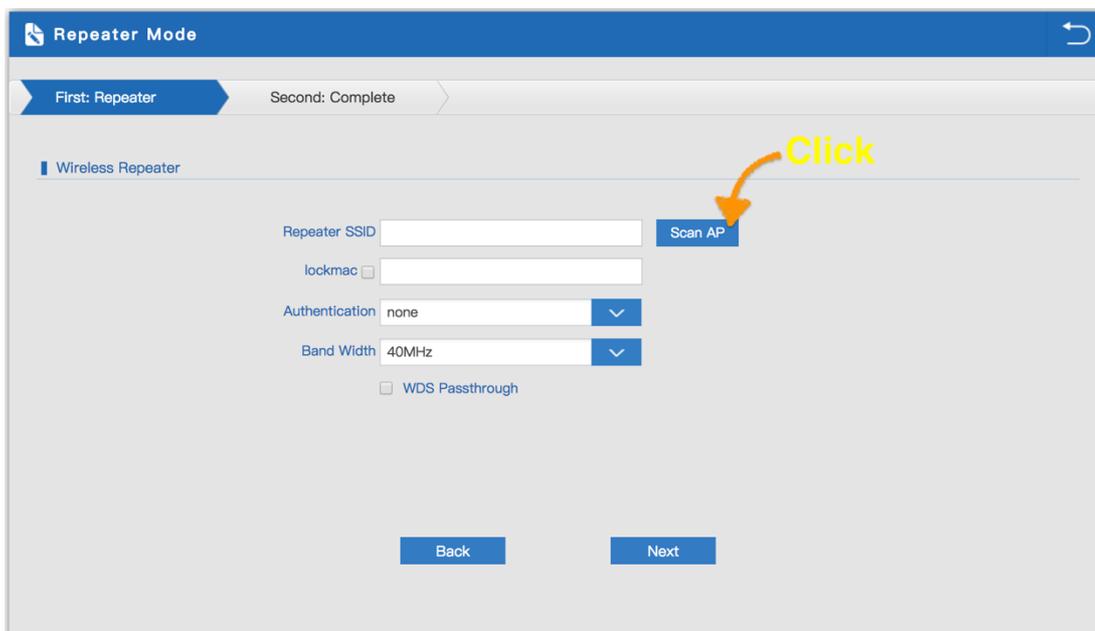
CPU usage	5.8G Wireless settings	LAN settings	WAN settings
10%	5.8G	192.168.188.253	192.168.188.201
CPU Frequency:550MHz	LevelOne 44:D1:FA:21:68:EC	44:D1:FA:21:68:EB	44:D1:FA:21:68:EA

5.2.2 Repeater Mode

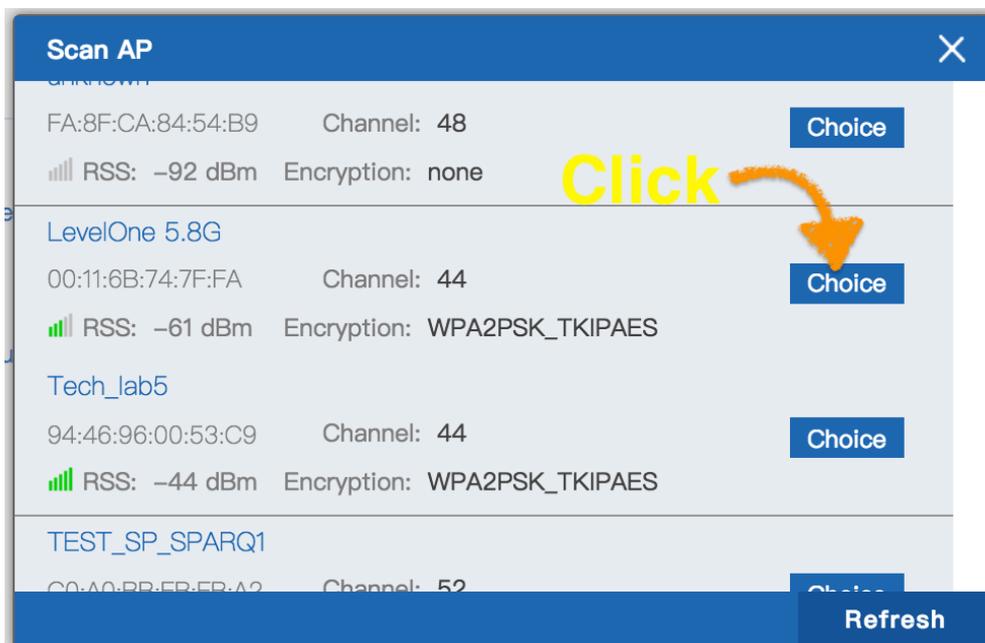


1. Can choose to relay the front-end 5.8G wireless signal to extend the wireless signal range. Select the AP's SSID want to bridge, then input the AP's key, Click Scan AP .

Note: If the upper wireless device is not the same model (WAB-5010), Don't click to WDS Passthrough.



2. Please select WIFI SSID to connect



3. Enter the WIFI SSID password to be linked, When click Next

Note: If the upper wireless device is not the same model (WAB-5010), Don't click to WDS Passthrough.

Repeater Mode

First: Repeater Second: Complete

Wireless Repeater

Repeater SSID: LevelOne 5.8G Scan AP

lockmac 00:11:6B:74:7F:FA

Authentication: WPA2PSK_TKIPAES

Key: 66666666

Band Width: 40MHz

WDS Passthrough

Back Next

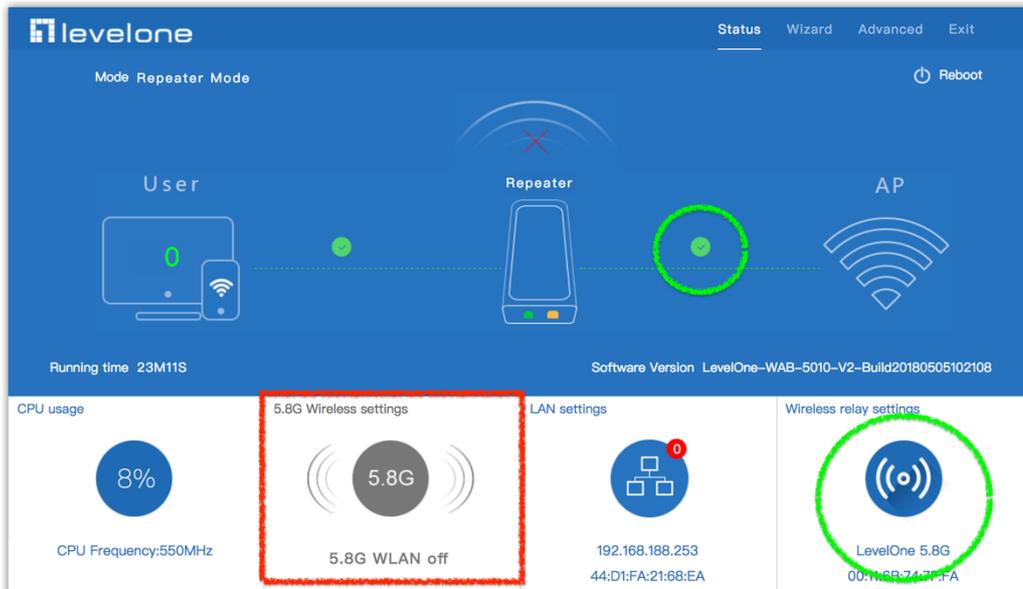
4. Click Return button, will back to Status, show Repeater mode data, show fail or success

Repeater Mode

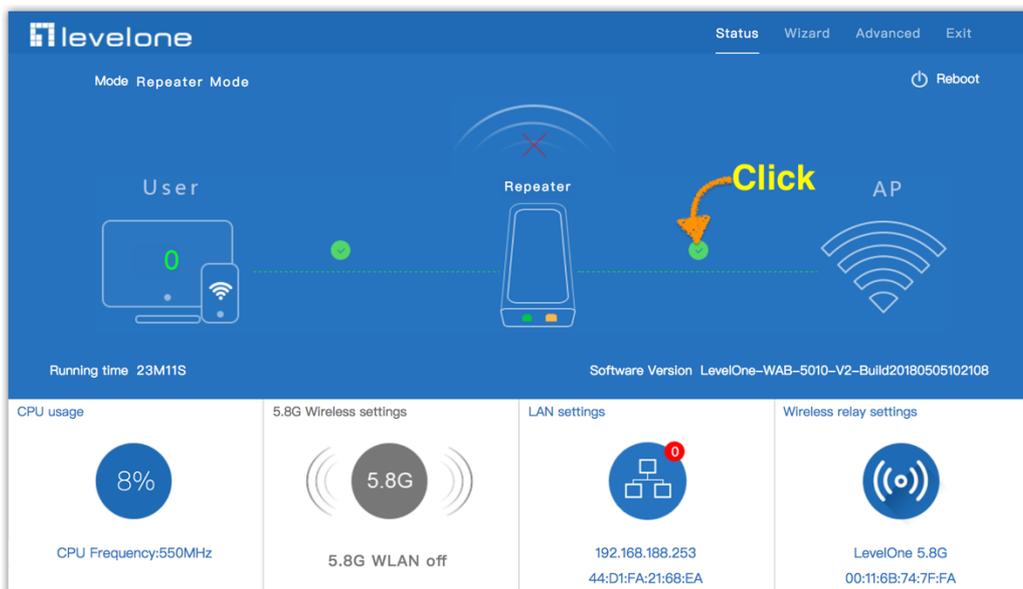
First: Repeater Second: Wireless Third: Complete

Settings completed successfully.

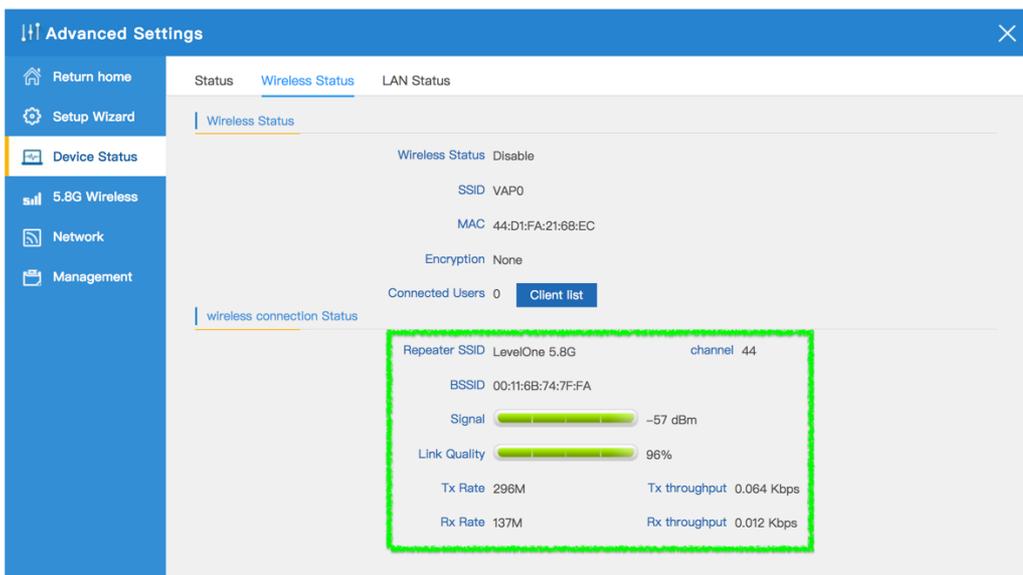
5. Check WIFI Repeater mode data (**NOTE:** In wifi repeater operation mode, the default is SSID disable.)



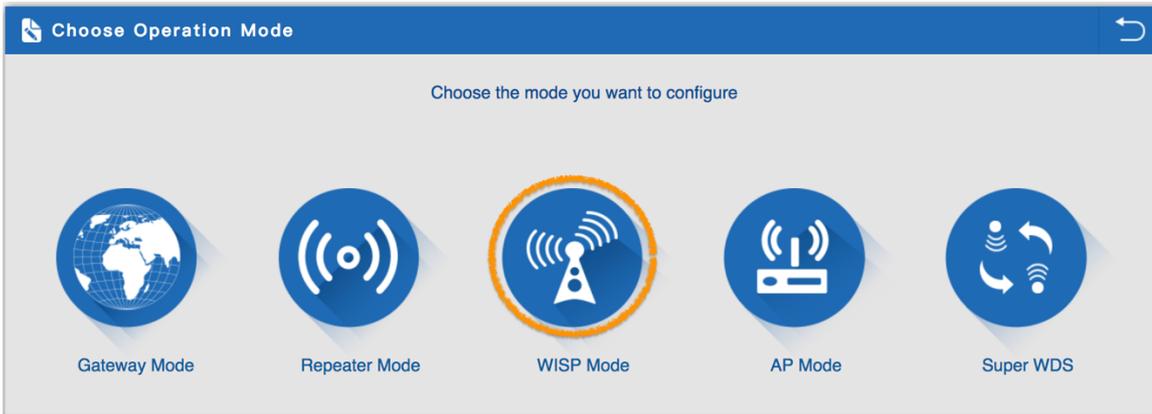
6. Click Status button



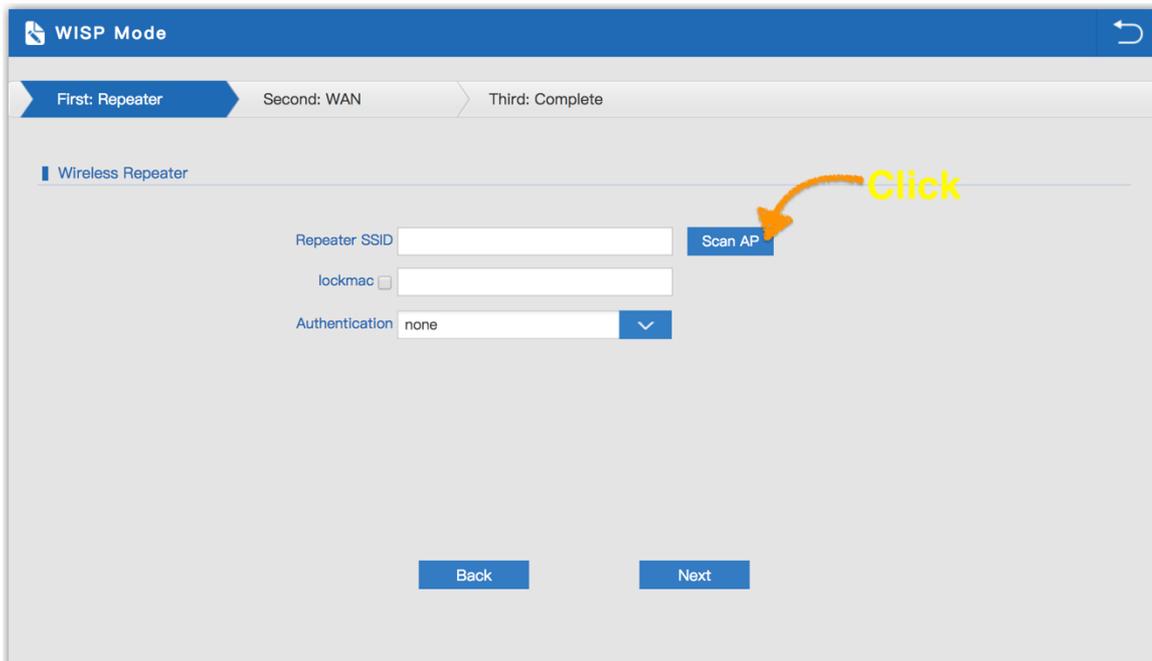
7. Check WIFI Repeater mode data



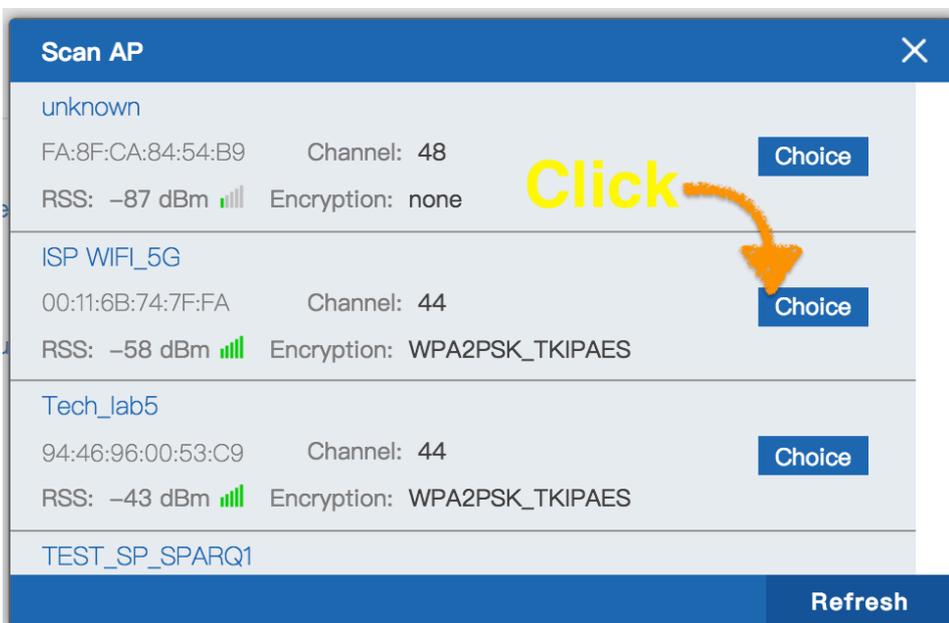
5.2.3 WISP Mode:



1. Click Scan AP.



2. Select the AP's SSID want to bridge, take "ISP WIFI 5G" for example, then input the AP's key, click Scan AP.



3. Enter the WIFI SSID password to be linked, When click Next

WISP Mode

First: Repeater Second: WAN Third: Complete

Wireless Repeater

Repeater SSID: ISP WIFI_5G Scan AP

lockmac 00:11:6B:74:7F:FA

Authentication: WPA2PSK_TKIPAES

Key: 66666666

Back Next

4. Before Click WISP Mode, confirm your ISP WIFI will be static IP, PPPoE, or DHCP:

Then will pop up following picture after click it, Please choose the right WAN setting mode, then click next to continue.

WISP Mode

First: Repeater Second: WAN Third: Complete

Static IP PPPOE(ADSL) DHCP

The current access mode is DHCP, Please click next to configure.

Back Next

5. take "Static IP" for example. (Please contact with ISP for correct IP address and DNS address)

WISP Mode

First: Repeater Second: WAN Third: Complete

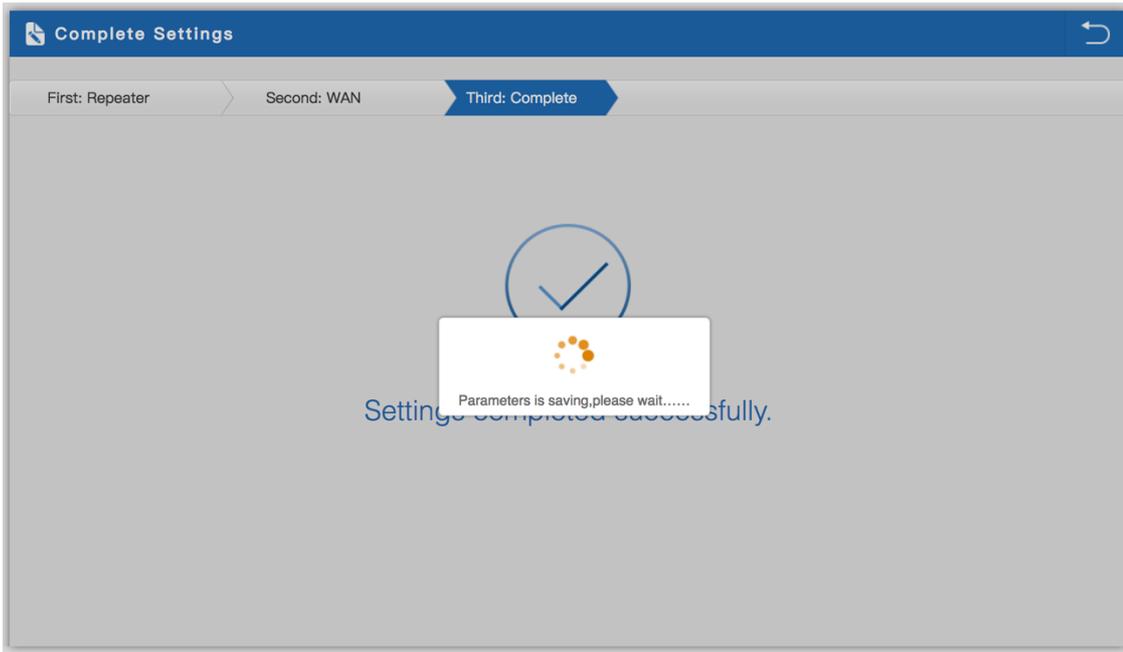
Static IP PPPOE(ADSL) DHCP

IP Address: 192.168.188.200 Subnet Mask: 255.255.255.0

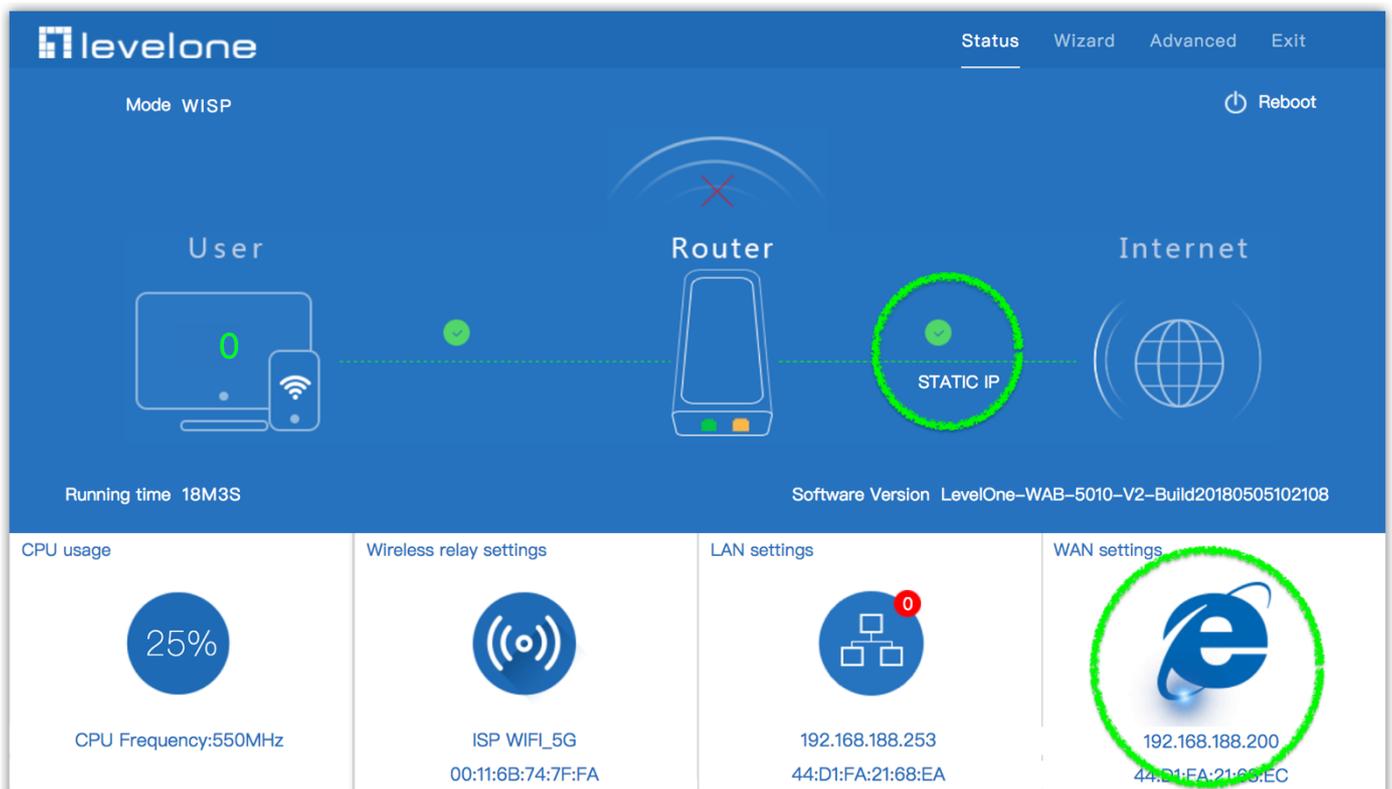
Default Gateway: 192.168.188.254 Primary DNS: 8.8.8.8

Back Next

6. Click Return button, will back to Status, show WISP mode data, show fail or success



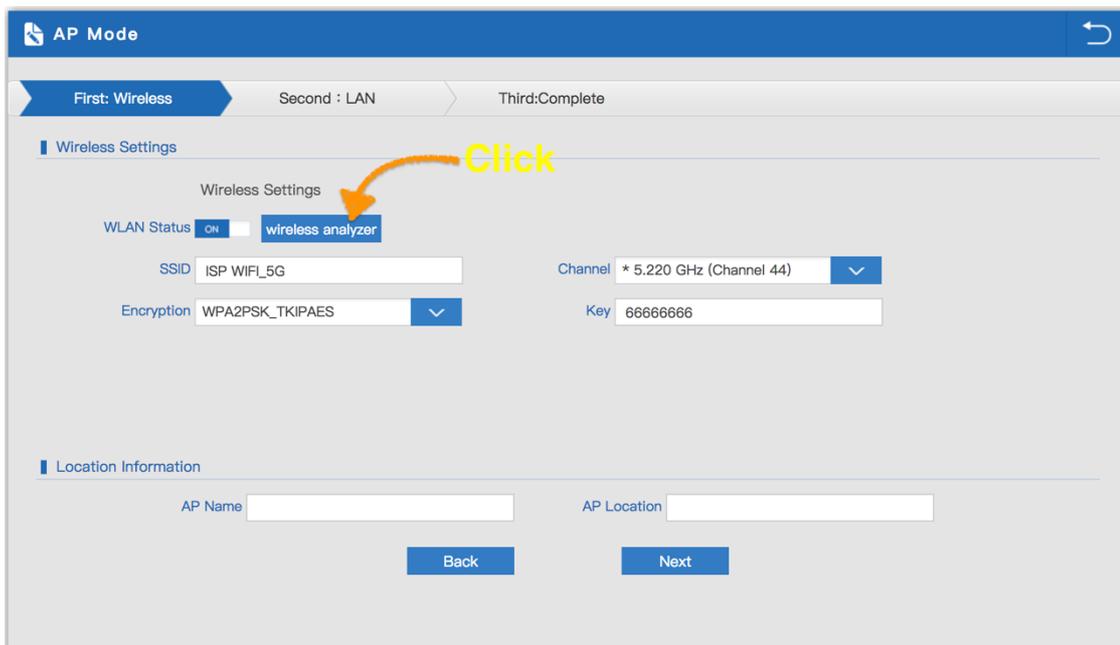
7. Check WISP Mode Status show fail or success



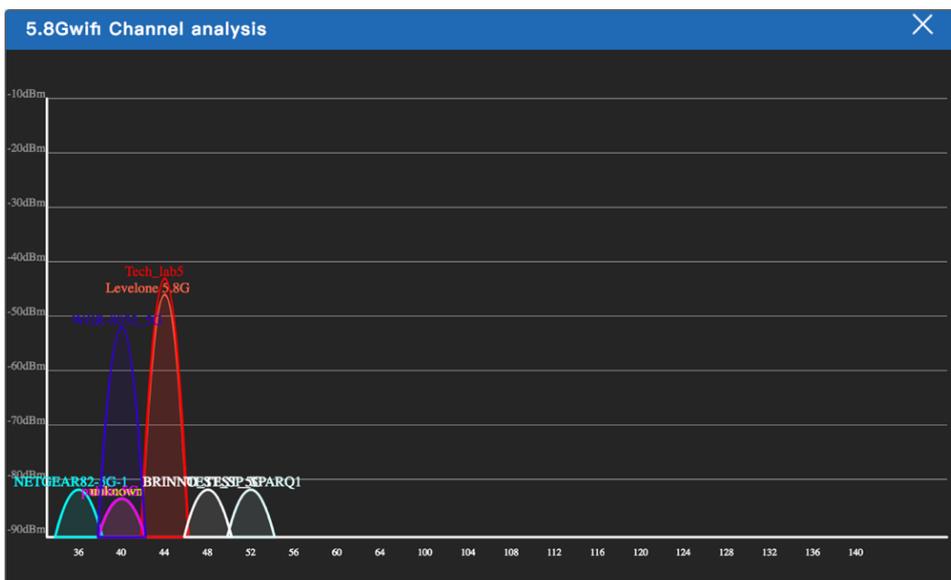
5.2.4 AP mode & Wireless analyzer :



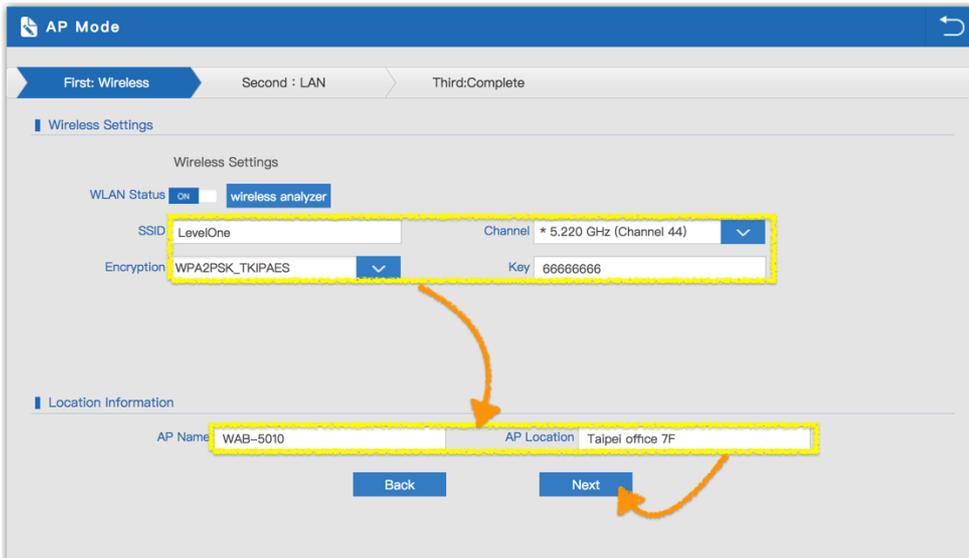
1. To make the WAB-5010 work in some clear channel, user can click wireless analyzer at first. Look for Unoccupied channel, then Wireless performance will be more stable. Picture showed as below.



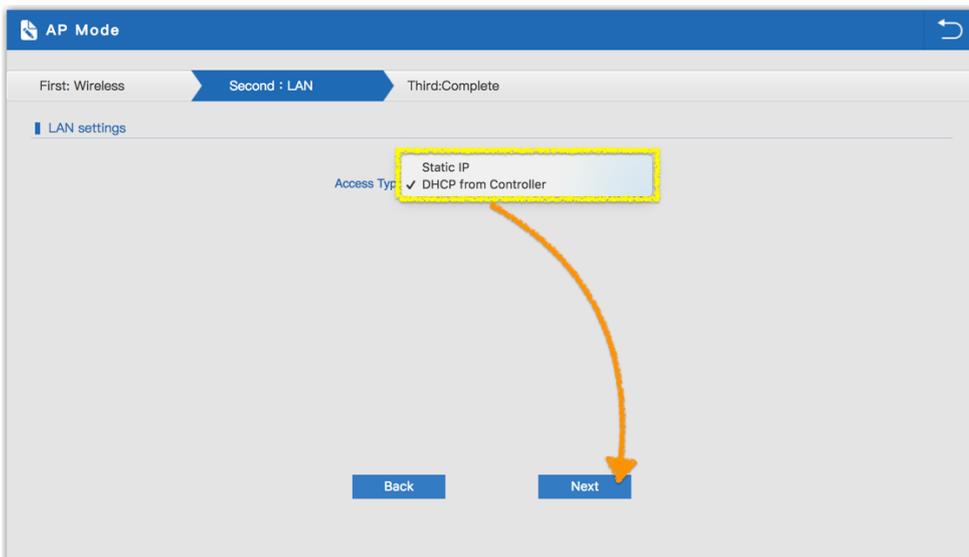
2. Wireless analyzer Look for Unoccupied channel (5.8GHz)



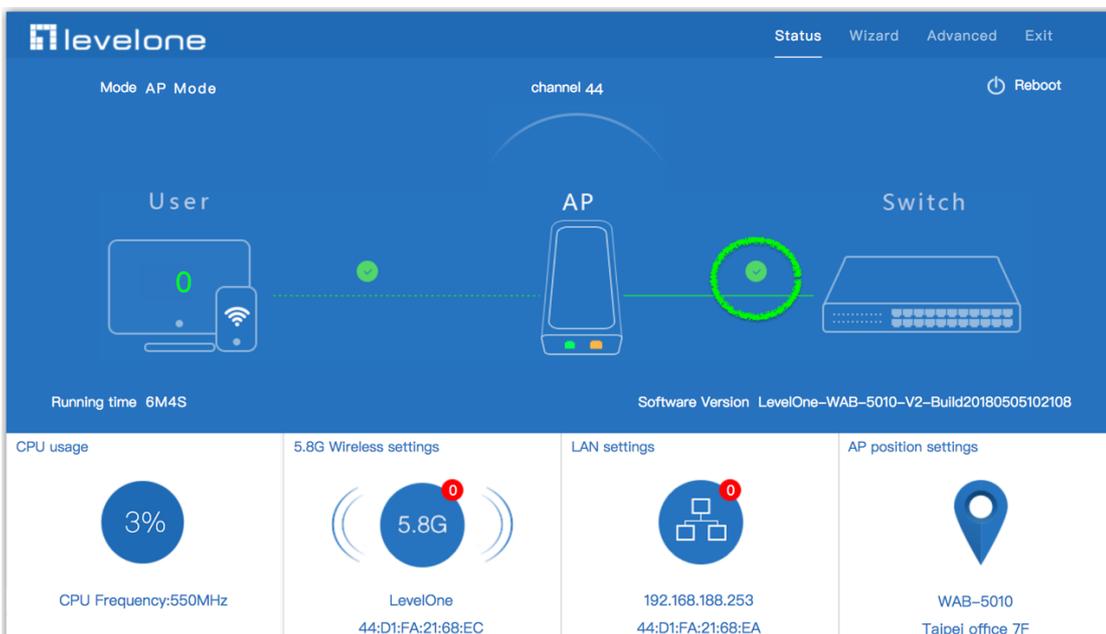
3. Set the wireless data, AP Location info as required, then click next to continue and enter into LAN setting. After LAN setting, complete the AP mode configuration and back to Status.



4. Set according to environmental requirements.

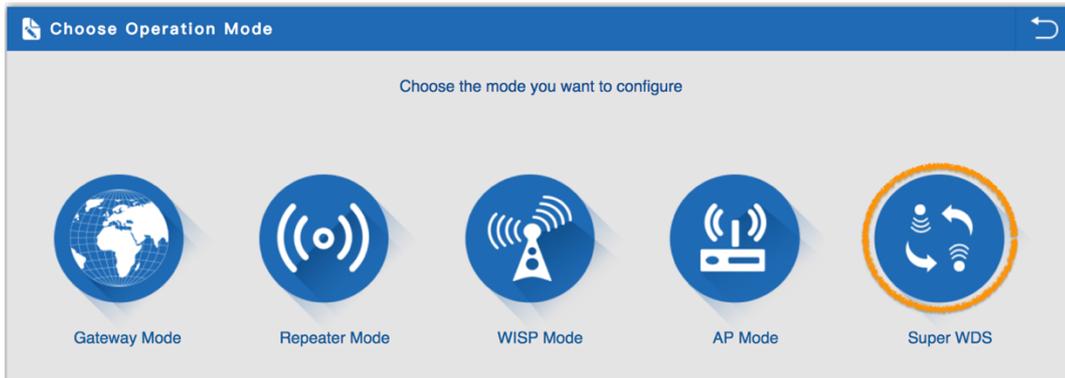


5. Check AP Mode Status show fail or success.

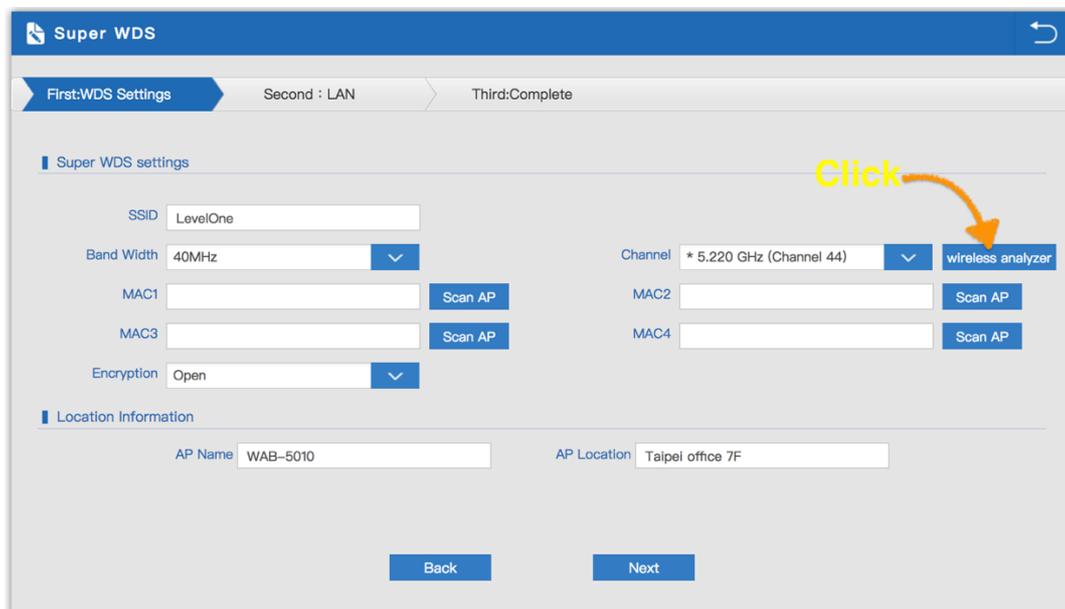


5.2.5 Super WDS Mode & Wireless analyzer

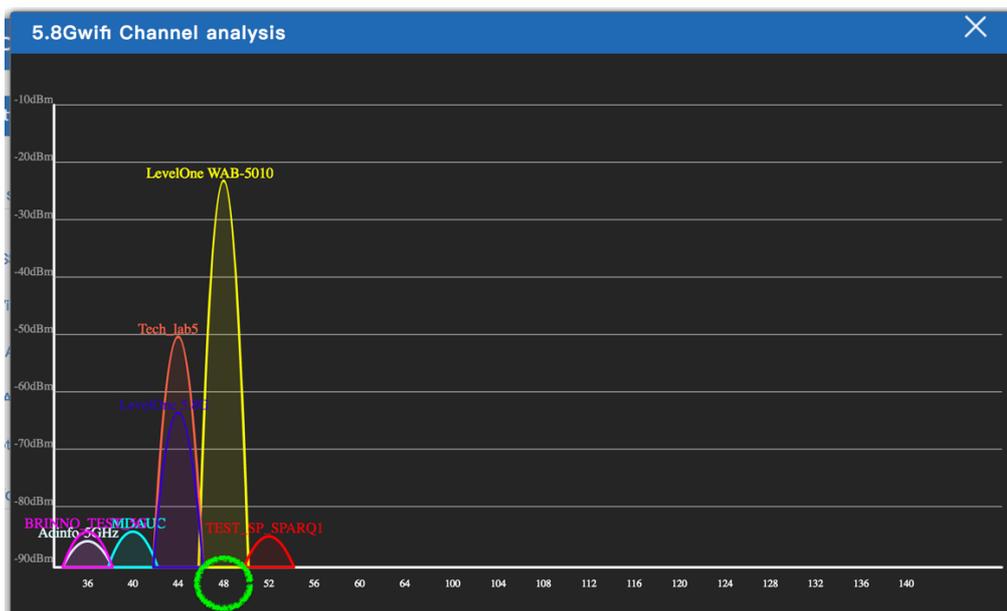
Note: That if you want to use WDS mode connection, Please use the same model wireless ap to avoid compatibility issues. Please check these 2 APs are face(front panel) to face at the same height.



1. Click Wireless analyzer, Confirm the current 5.8G WiFi Channel wireless network environment



2. WAB-5010 Both parties need to choose the same Wireless Channel.



3. After the wireless analysis is confirmed, change to use the same Wireless Channel 48. Click on Scan AP

Super WDS

First:WDS Settings Second : LAN Third:Complete

Super WDS settings

SSID: LevelOne

Band Width: 40MHz

Channel: 5,240 GHz (Channel 48) wireless analyzer

MAC1: [] Scan AP

MAC2: [] Scan AP

MAC3: [] Scan AP

MAC4: [] Scan AP

Encryption: Open

Location Information

AP Name: WAB-5010 AP Location: Taipei office 7F

Back Next

4. Click on Choice

Scan AP

LevelOne WAB-5010

78:D3:8D:FE:83:07 Channel: 48

RSS: -19 dBm Encryption: none

Tech_lab5

94:46:96:00:53:C9 Channel: 44

RSS: -45 dBm Encryption: WPA2PSK_TKIPAES

TEST_SP_SPARQ1

C0:A0:BB:FB:FB:A2 Channel: 52

RSS: -88 dBm Encryption: WPA/WPA2PSK_TKIPAES

Adinfo-5GHz

Refresh

5. The two WAB-5010s can each set Band Width 40 MHz

Super WDS

First:WDS Settings Second : LAN Third:Complete

Super WDS settings

SSID: LevelOne

Band Width: 40MHz

Channel: 5,240 GHz (Channel 48) wireless analyzer

MAC1: 78:D3:8D:FE:83:07 Scan AP

MAC2: [] Scan AP

MAC3: [] Scan AP

MAC4: [] Scan AP

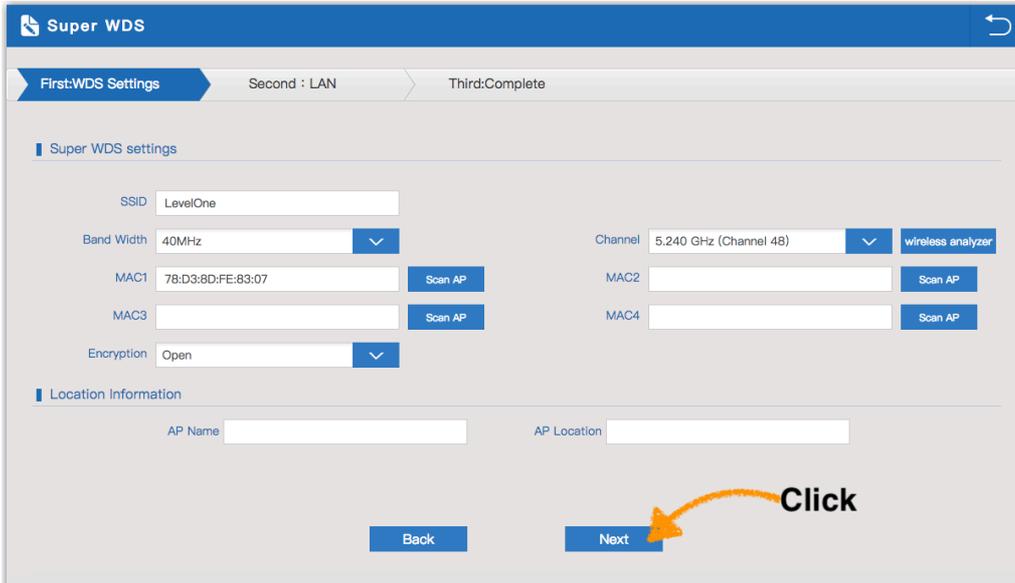
Encryption: Open

Location Information

AP Name: [] AP Location: []

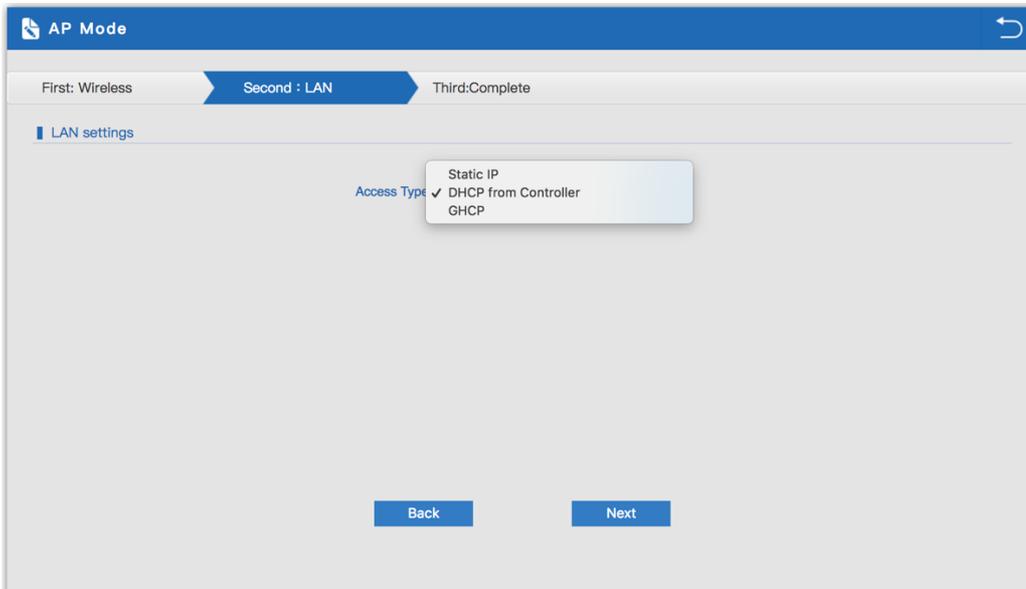
Back Next

6. Click on Next.



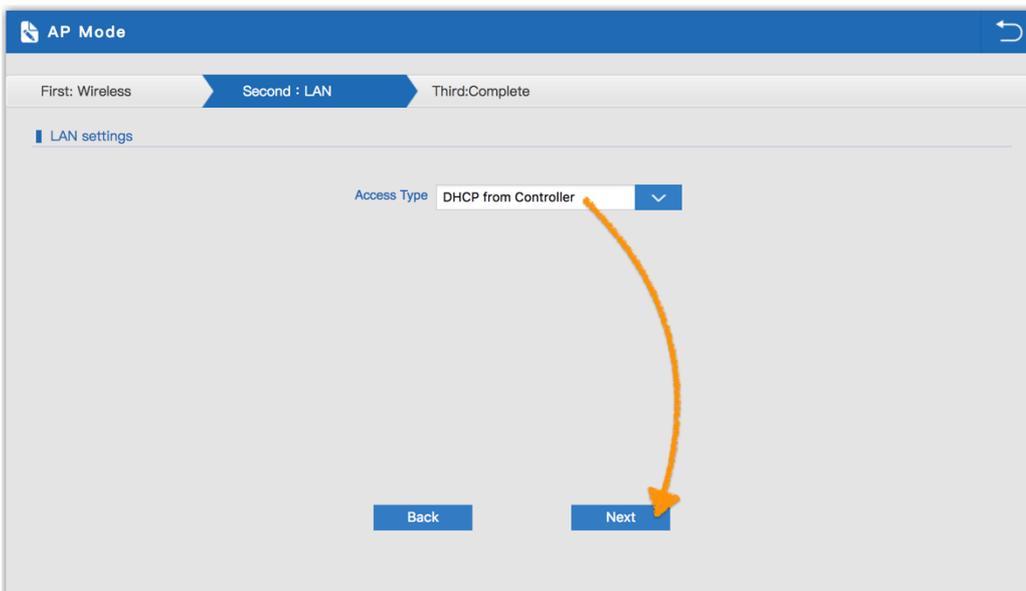
The screenshot shows the 'Super WDS' configuration page. At the top, there are three tabs: 'First:WDS Settings', 'Second : LAN', and 'Third:Complete'. The 'Super WDS settings' section includes fields for SSID (LevelOne), Band Width (40MHz), Channel (5.240 GHz (Channel 48)), MAC1 (78:D3:8D:FE:83:07), MAC2, MAC3, MAC4, and Encryption (Open). There are 'Scan AP' buttons for MAC1, MAC2, and MAC4. The 'Location Information' section has fields for AP Name and AP Location. At the bottom, there are 'Back' and 'Next' buttons. An orange arrow points to the 'Next' button with the word 'Click' written next to it.

7. Need to confirm the current environment settings to choose one of the 3 modes



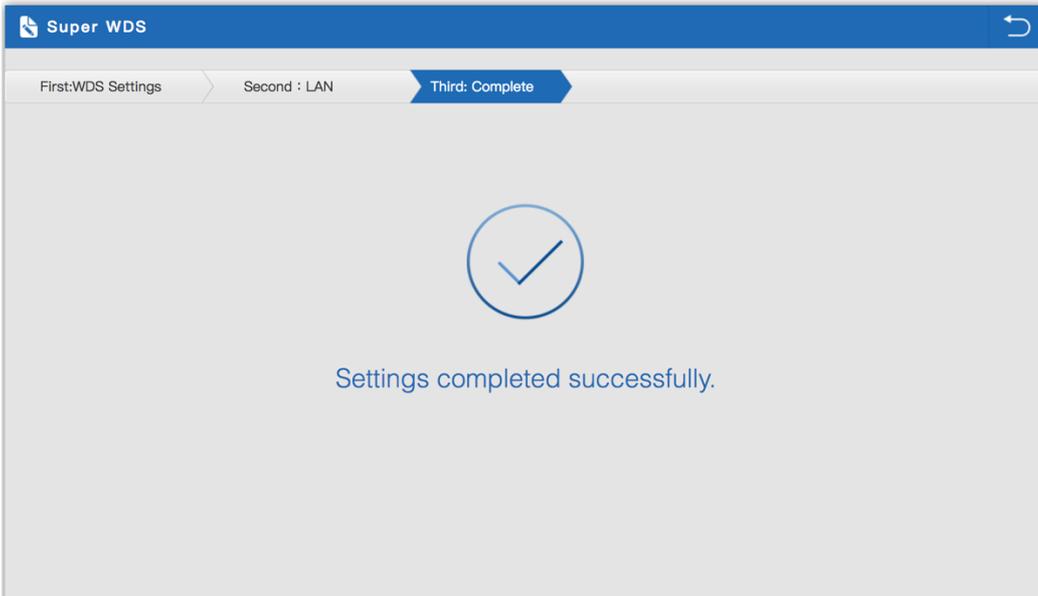
The screenshot shows the 'AP Mode' configuration page. At the top, there are three tabs: 'First: Wireless', 'Second : LAN', and 'Third:Complete'. The 'LAN settings' section has an 'Access Type' dropdown menu. A tooltip is visible over the dropdown, showing three options: 'Static IP', 'DHCP from Controller' (which is selected with a checkmark), and 'GHCP'. At the bottom, there are 'Back' and 'Next' buttons.

8. The following examples of how the Static IP is set

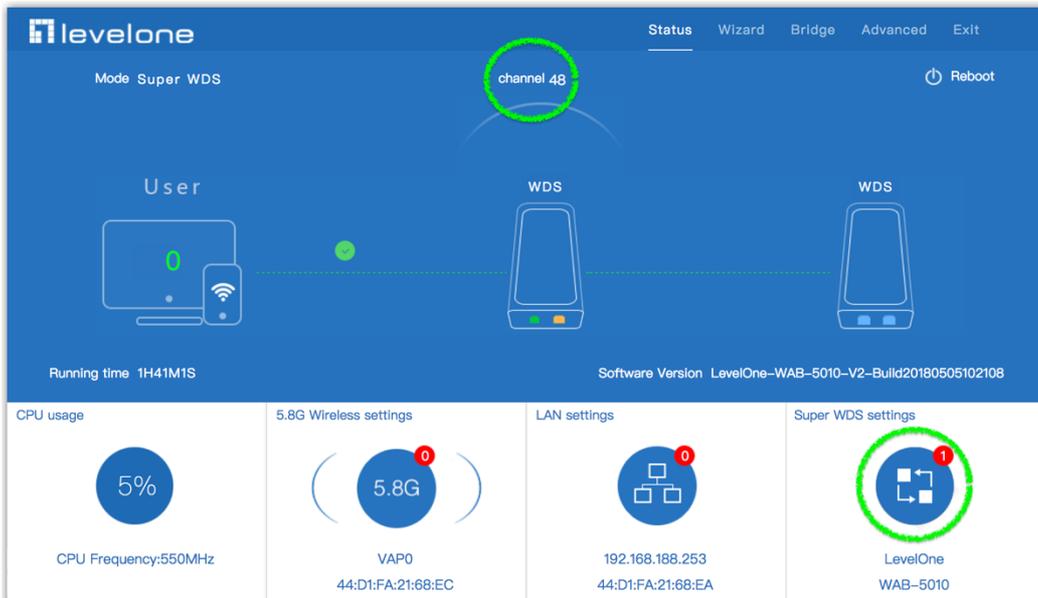


This screenshot is identical to the previous one, showing the 'AP Mode' configuration page with the 'Access Type' dropdown menu. An orange arrow points from the 'DHCP from Controller' option in the dropdown menu down to the 'Next' button at the bottom of the page.

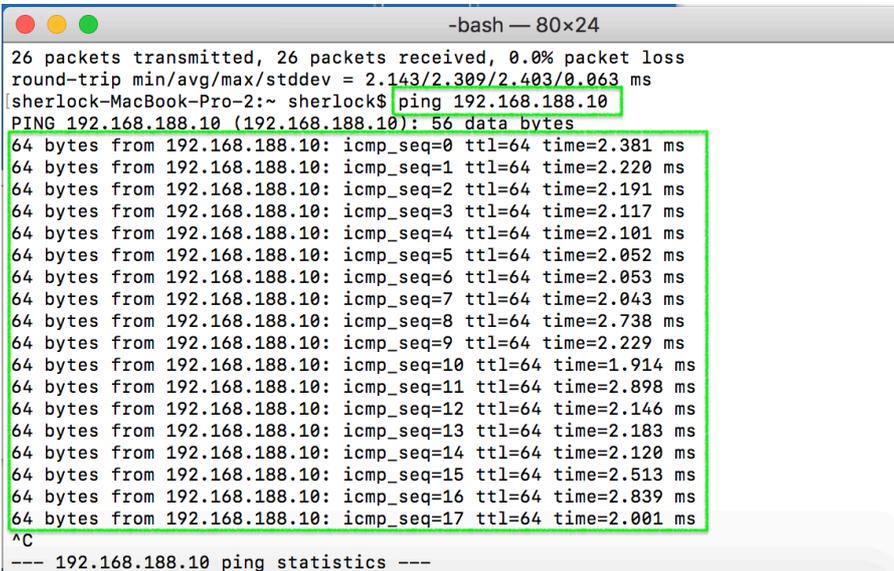
9. Set the save, please wait 30~40 seconds



10. Confirm the status of WDS Mode, whether it is set successfully



11. Use ping another Wireless AP IP Address to confirm the status of the WDS mode.

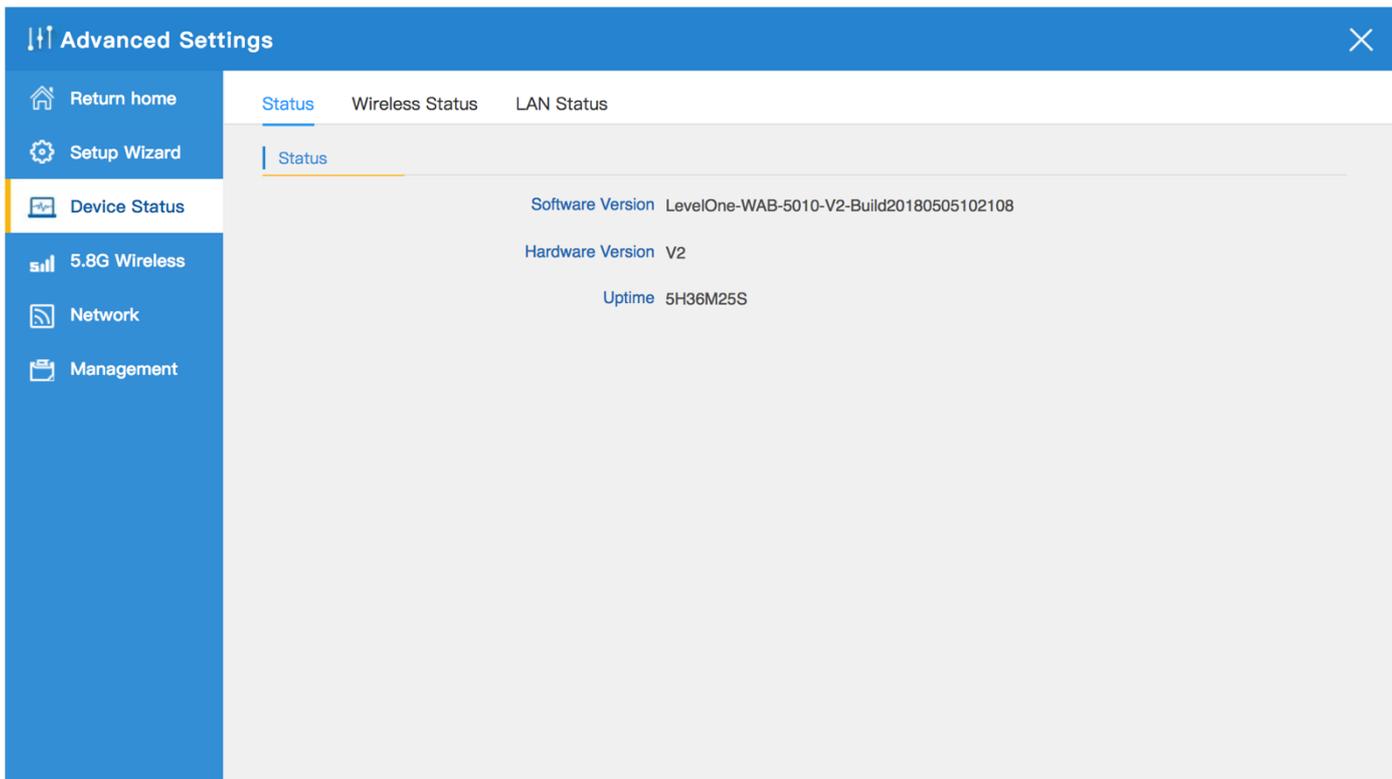


Chapter 6 Advanced Setting

6.1 Device Status

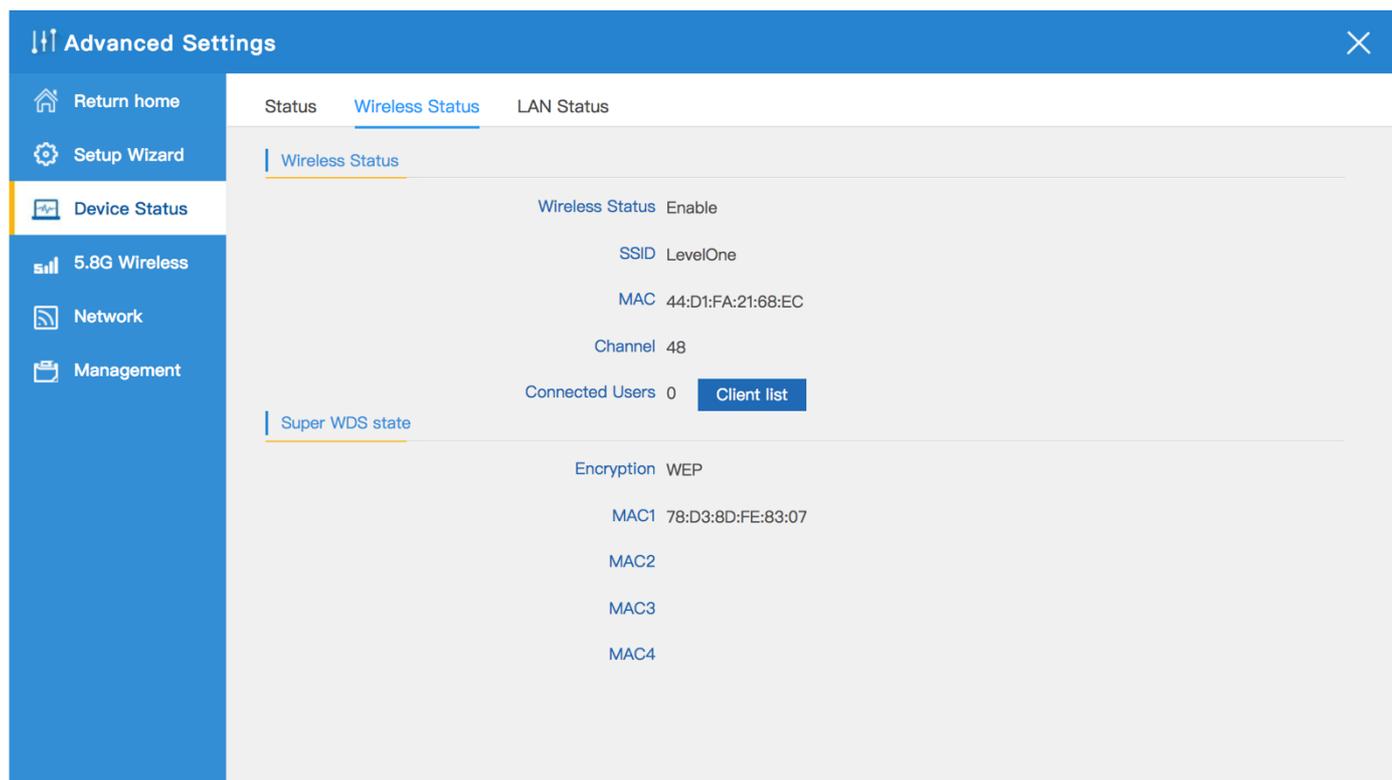
6.1.1 Status:

- Mainly to check the wireless AP's firmware version, hardware version, uptime info.



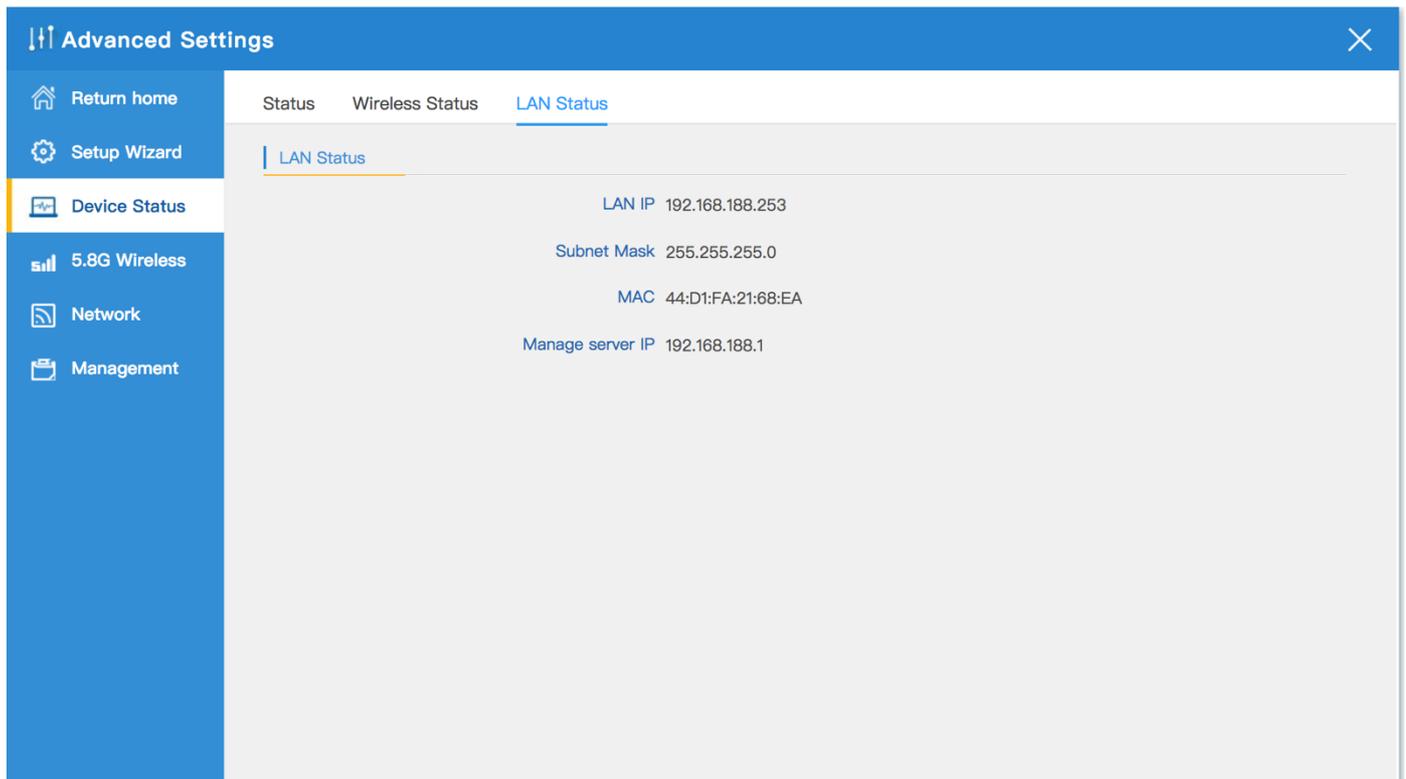
6.1.2 5.8G wireless status:

- Show wireless AP's SSID, MAC address for WiFi, Channel, Encryption, Client List info.



6.1.3 LAN Status:

- Check wireless AP's IP address, Subnet Mask, LAN MAC address and other info showed in following picture



The screenshot shows a web interface for network management. The top bar is blue with the text "Advanced Settings" and a close button. A left sidebar contains navigation options: "Return home", "Setup Wizard", "Device Status" (highlighted), "5.8G Wireless", "Network", and "Management". The main content area has tabs for "Status", "Wireless Status", and "LAN Status" (selected). Below the "LAN Status" tab, the following information is displayed:

LAN IP	192.168.188.253
Subnet Mask	255.255.255.0
MAC	44:D1:FA:21:68:EA
Manage server IP	192.168.188.1

6.2 5.8G Wireless

6.2.1 5.8G Basic Settings :

- Mainly to configure the wireless SSID, password, band width ,encryption, channel, Multi SSID.

The screenshot shows the 'Advanced Settings' interface for 5.8G Wireless. The left sidebar contains navigation options: Return home, Setup Wizard, Device Status, 5.8G Wireless (selected), Network, and Management. The main content area has tabs for Basic Settings, Virtual AP, Access Control, and Advanced Settings. Under 'Super WDS settings', the following fields are visible:

- SSID: LevelOne
- Band Width: 40MHz
- MAC1, MAC2, MAC3, MAC4: (empty text boxes)
- Encryption: Open
- Channel: * 5.220 GHz (Channel 44)
- Onekey AiConnect: ON
- Wireless analyzer: (button)
- SSID1, SSID2, SSID3, SSID4: (empty text boxes)
- Scan AP: (button for each SSID)

An 'Apply' button is located at the bottom center of the settings area.

6.2.2 5.8G Virtual AP :

- There are 3 virtual AP in 5.8G wireless, if need enable multi SSIDs, then users can configure it showed in following picture

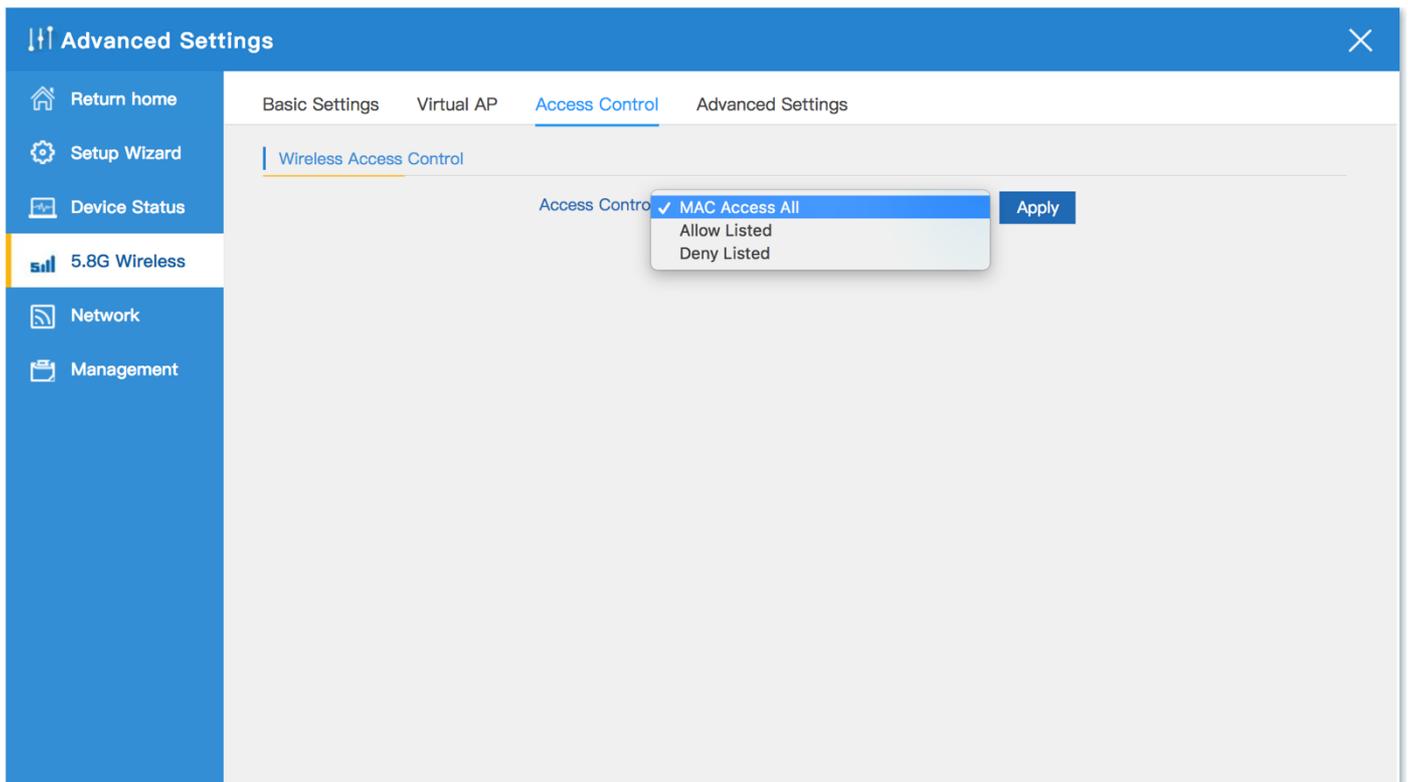
The screenshot shows the 'Advanced Settings' interface for 5.8G Wireless, specifically the 'Virtual AP' section. The left sidebar is the same as in the previous screenshot. The main content area has tabs for Basic Settings, Virtual AP (selected), Access Control, and Advanced Settings. The 'Virtual AP' section is divided into three columns: Virtual AP1, Virtual AP2, and Virtual AP3. The settings for Virtual AP2 are visible:

- Wireless Status: OFF
- SSID: VAP0
- Broadcast SSID: Disable (radio button), Enable (radio button)
- WMM: Disable (radio button), Enable (radio button)
- Encryption: none

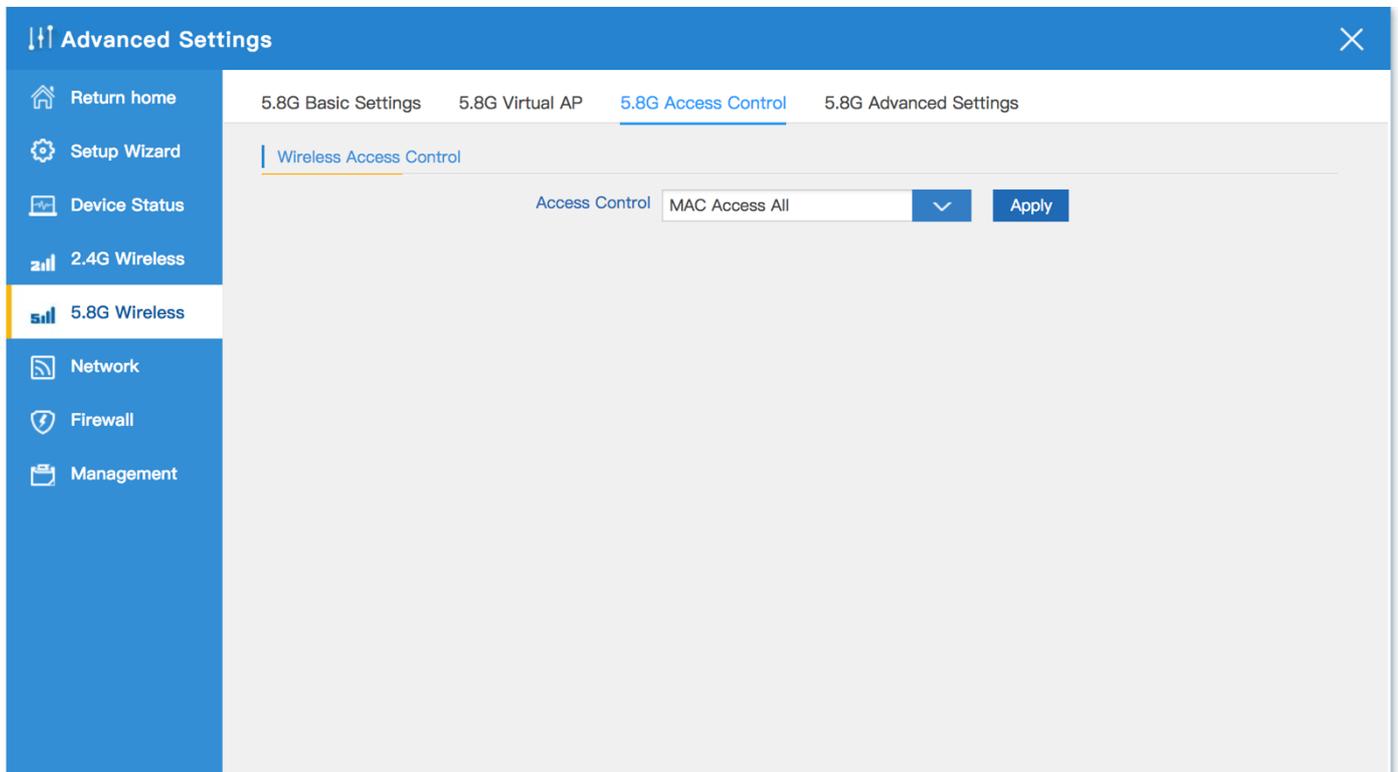
An 'Apply' button is located at the bottom center of the settings area.

6.2.3 5.8G Access Control :

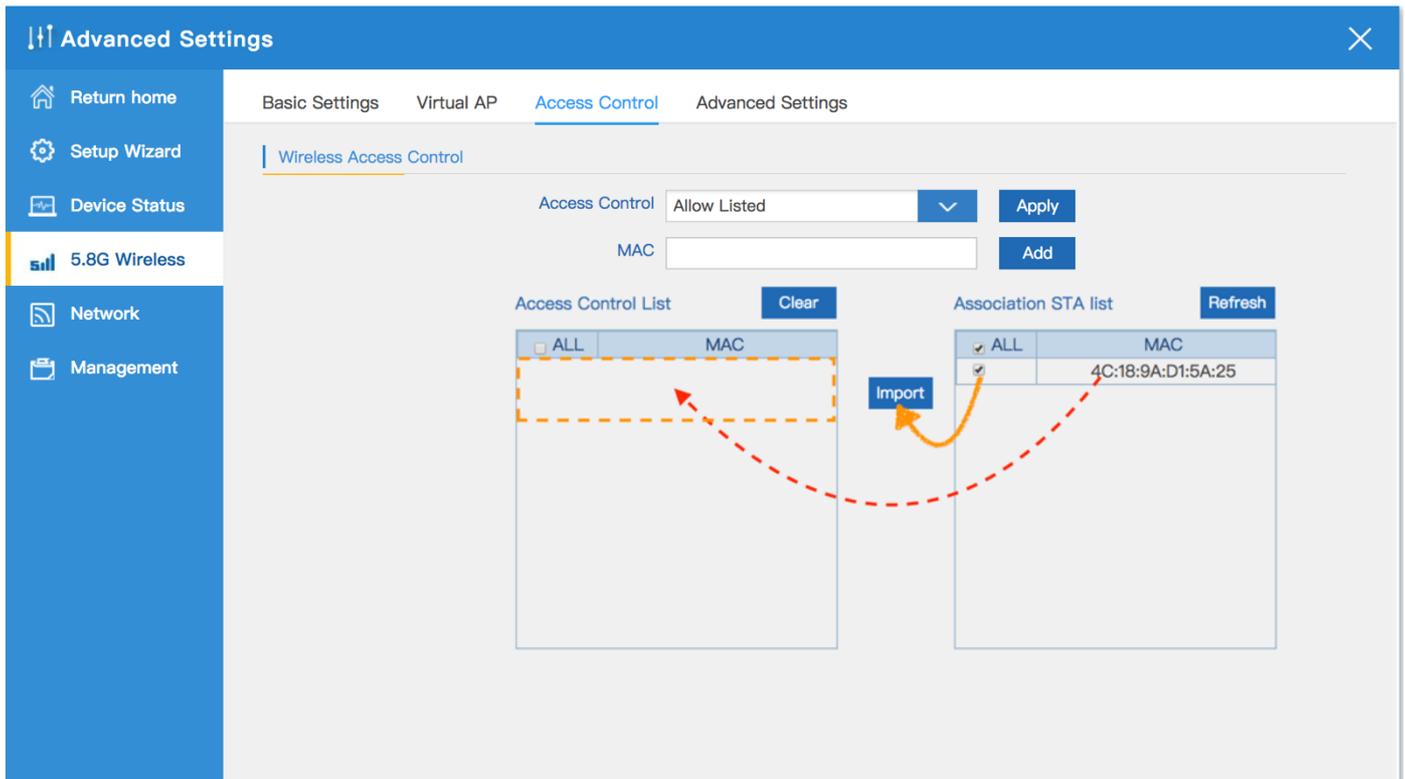
1.Allow or deny the users access into this wireless AP based on MAC address.



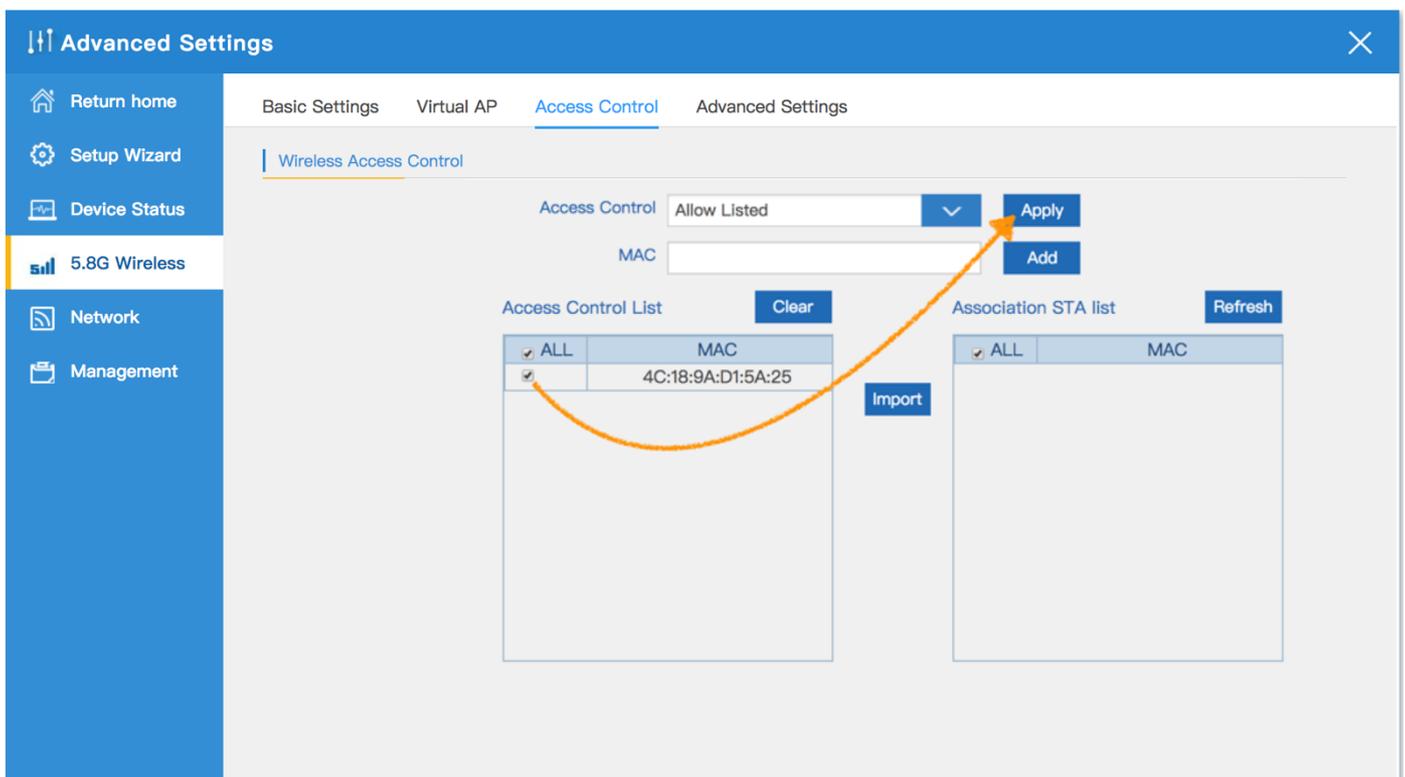
2.Allow all the users access into this wireless AP



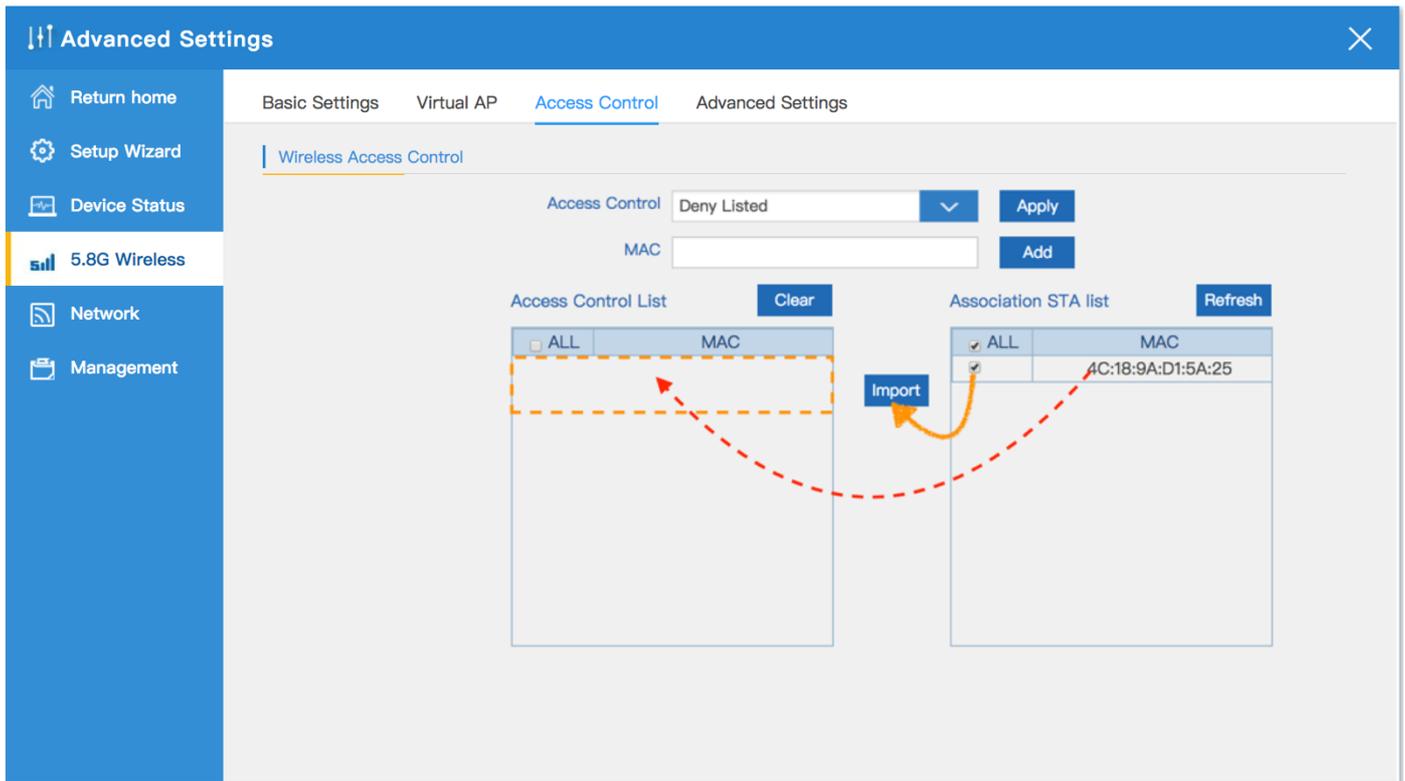
3. Only users who have joined the MAC address list can access the wireless AP. The following is a demonstration of teaching . Add the user MAC address in the list to the access control list.



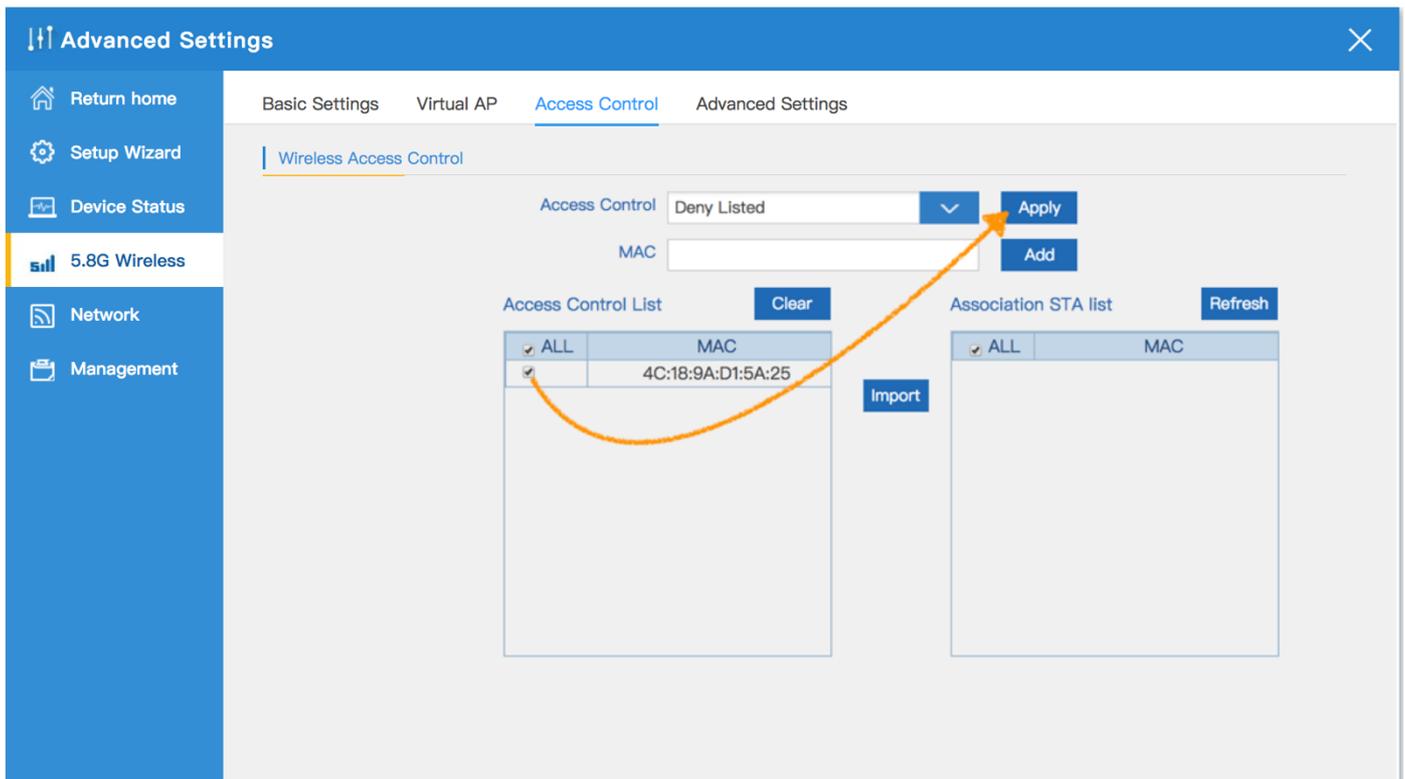
4. After the user's MAC address is added to the access control list, Click Apply. After setting is completed, it will start to allow users access to this wireless AP function



5. Users who have joined the MAC address list are denied access to the wireless AP. The following is a demonstration of teaching . Add the user MAC address in the list to the access control list



6. After the user's MAC address is added to the access control list, Click Apply. After setting is completed, it will start to deny users access to this wireless AP function



6.2.4 Advanced Settings :

- In this page, will show the regional, mode, RF Power, Max user access...

Advanced Settings

Basic Settings Virtual AP Access Control **Advanced Settings**

Advanced Settings

Regional Channel(36-64),(100-128),(132-140)

MODE

RF Output Power

Packet Threshold (256-2346)

Beacon interval (100-1024)ms

MAX User (Range 0-64 0 not limited)

Coverage Threshold (-95dBm--65dBm)

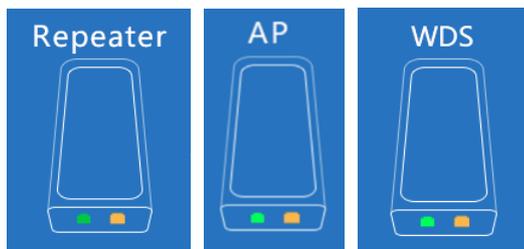
Distance (0 Meter-20000 Meter)

Aggregation ON Short GI ON User isolation OFF DFS switch OFF

DFS opened will cause connect fail in one key connect procedure

Apply

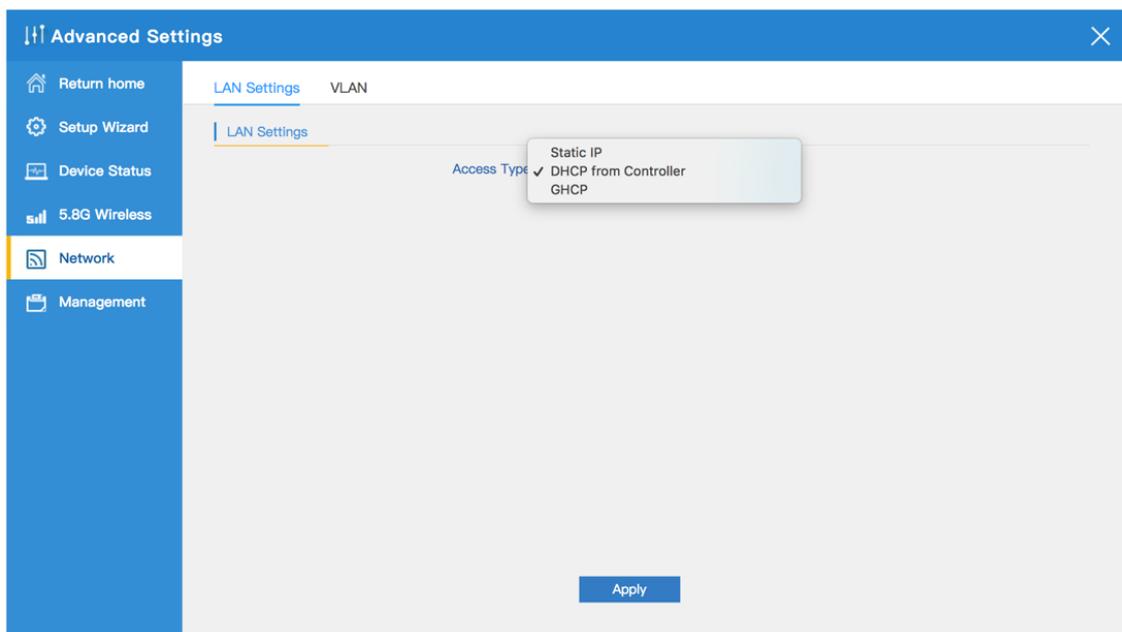
CHAPTER 7 Enable the status of Repeater Mode or AP Mode or WDS Mode



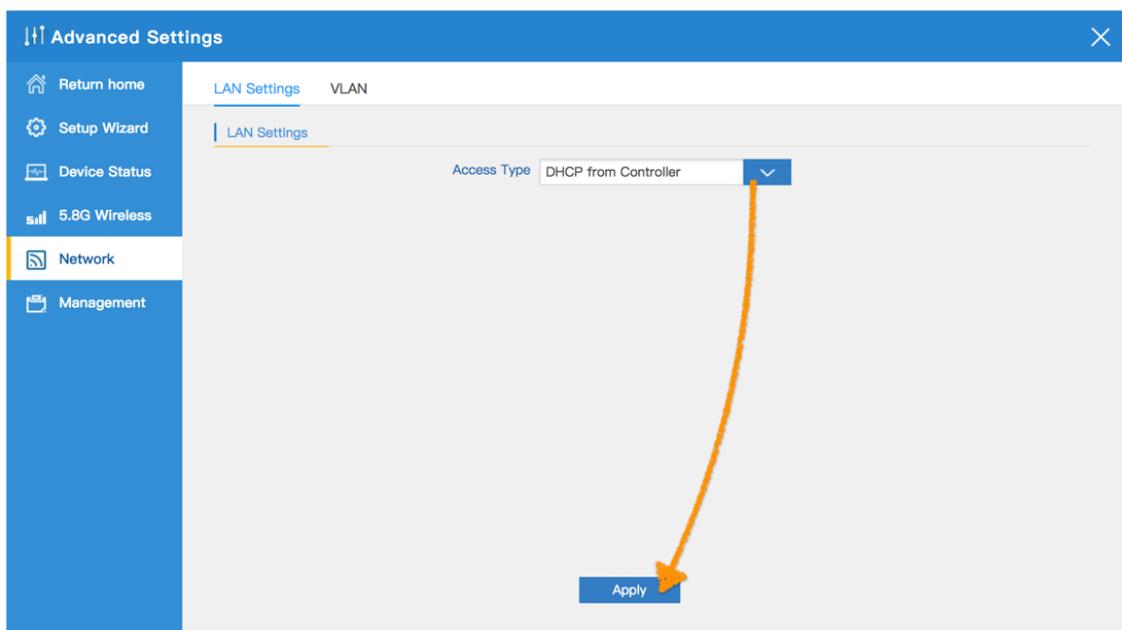
7.1 Network

7.1.1 LAN Settings :

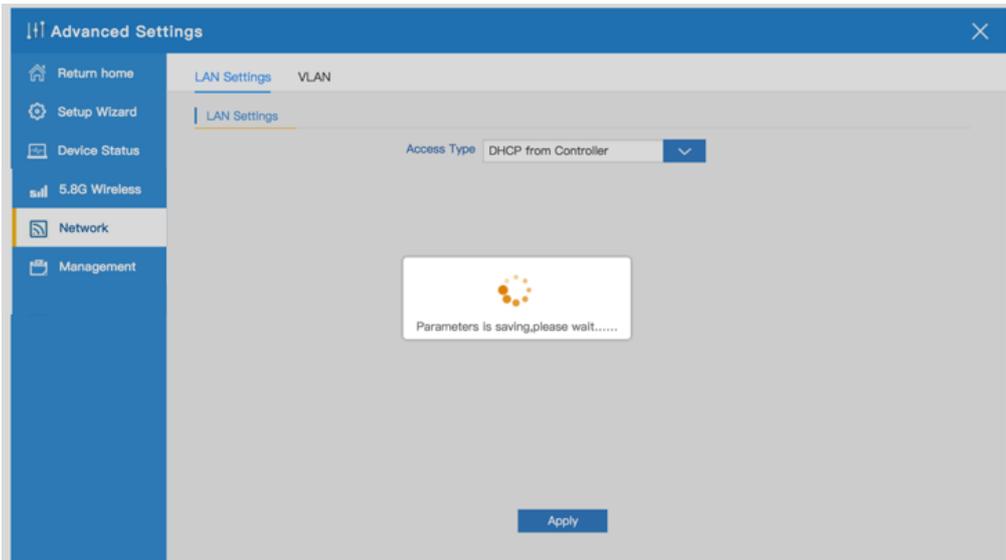
1. Can choose three kinds of usage modes (Static IP, DHCP for Controller ,GHCP) which can be selected according to the current network architecture environment.



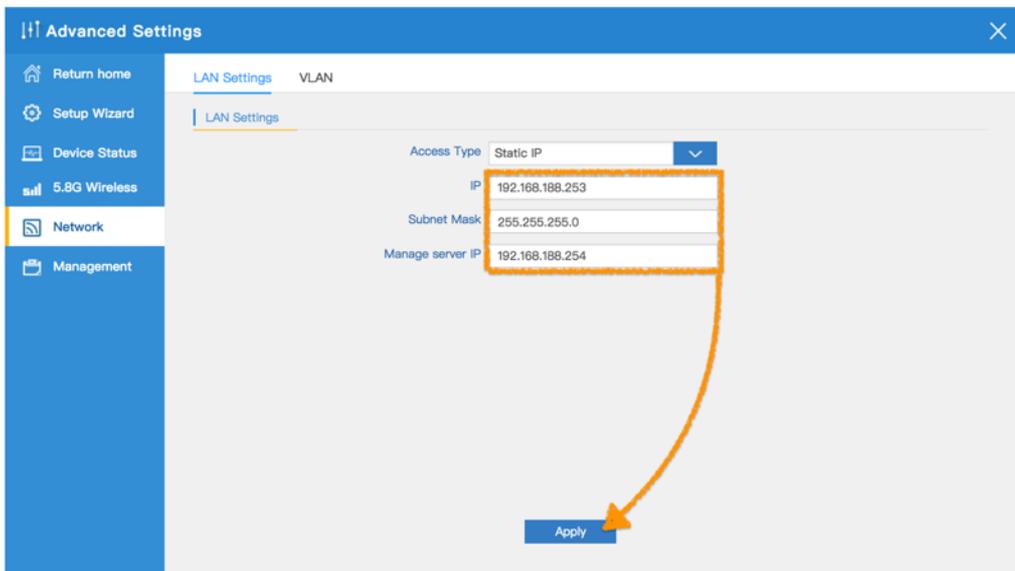
2. Use DHCP for Controller mode, please confirm that the current network architecture has IP address allocation.



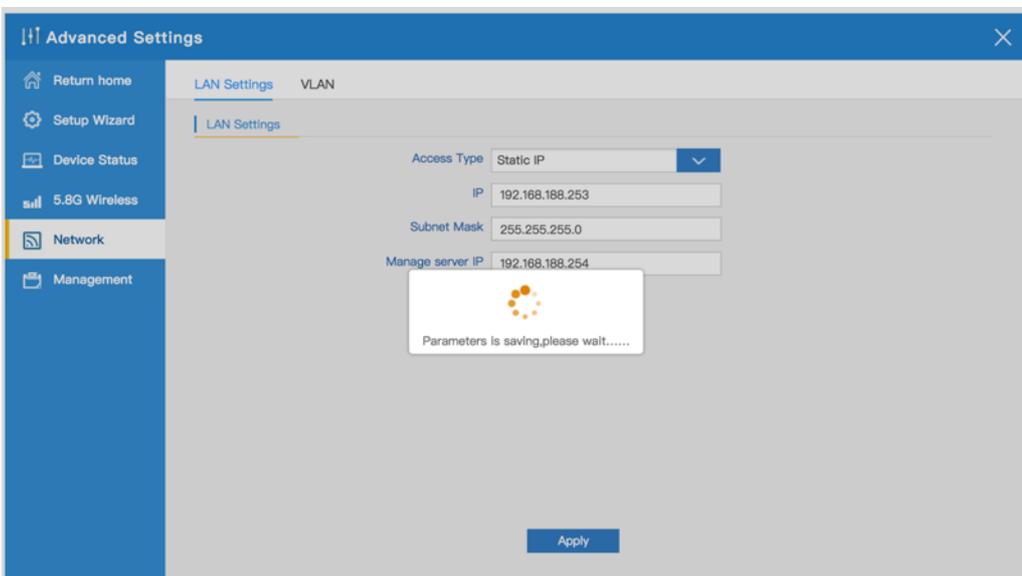
3. Click Apply, Wait for DHCP Controller Mode is Enable, please wait about 20~30 seconds.



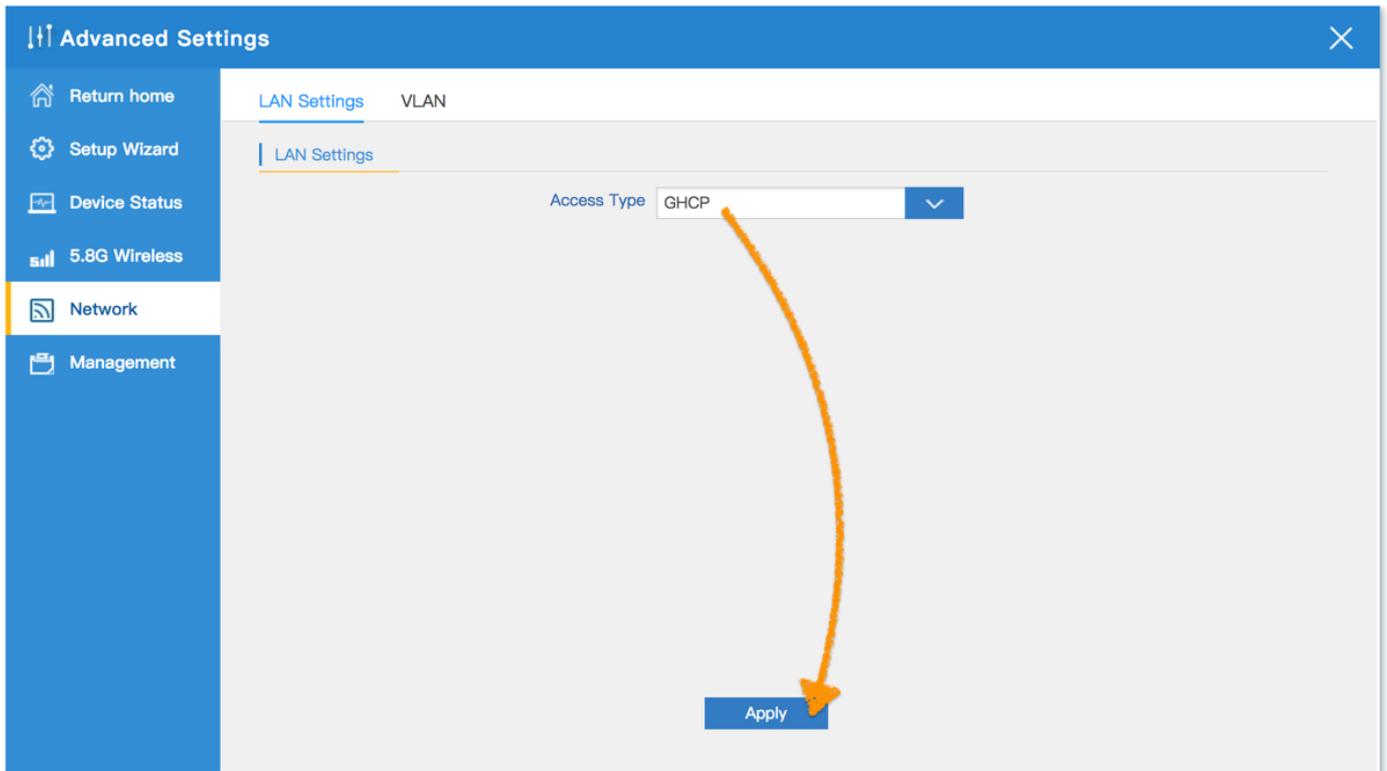
4. Sample Static IP mode setting method, then click Apply to continue.
(Please contact with ISP for correct IP address, Subnet MasDNS address)



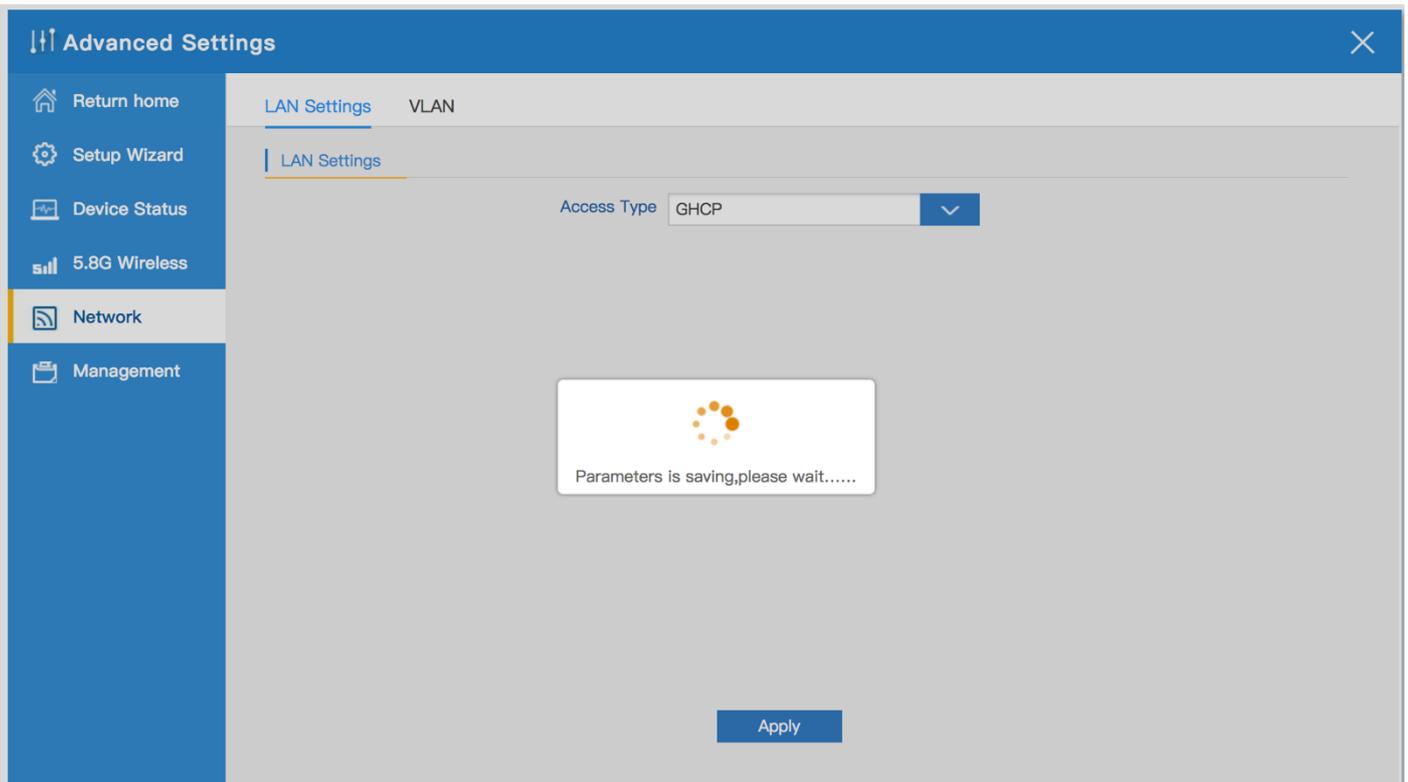
5. Click Apply, Wait for Static IP Mode is Enable, please wait about 40~50 seconds.



6. Use GHCP mode, please confirm that the current network architecture has IP address allocation

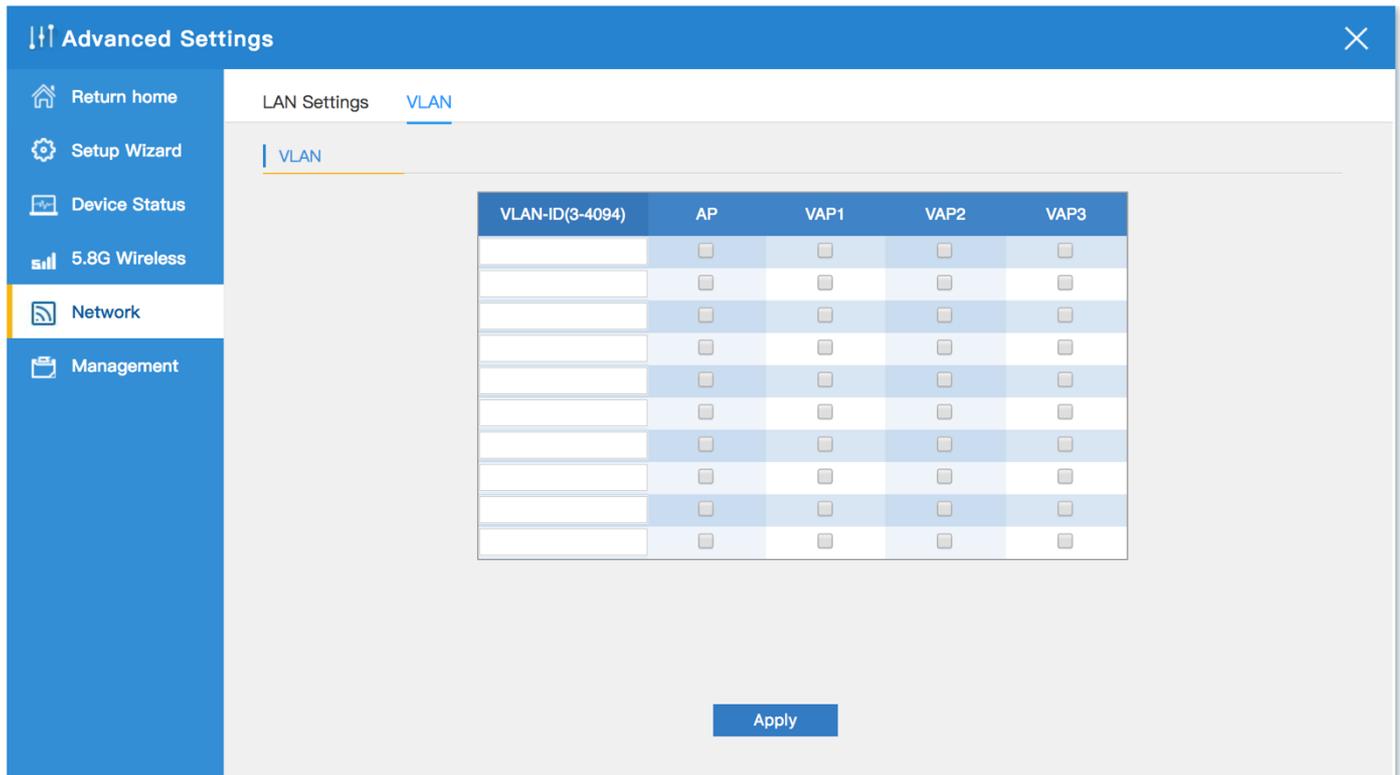


7. Click Apply, Wait for GHCP Mode is Enable, please wait about 20~30 seconds.



6.3.2 VLAN :

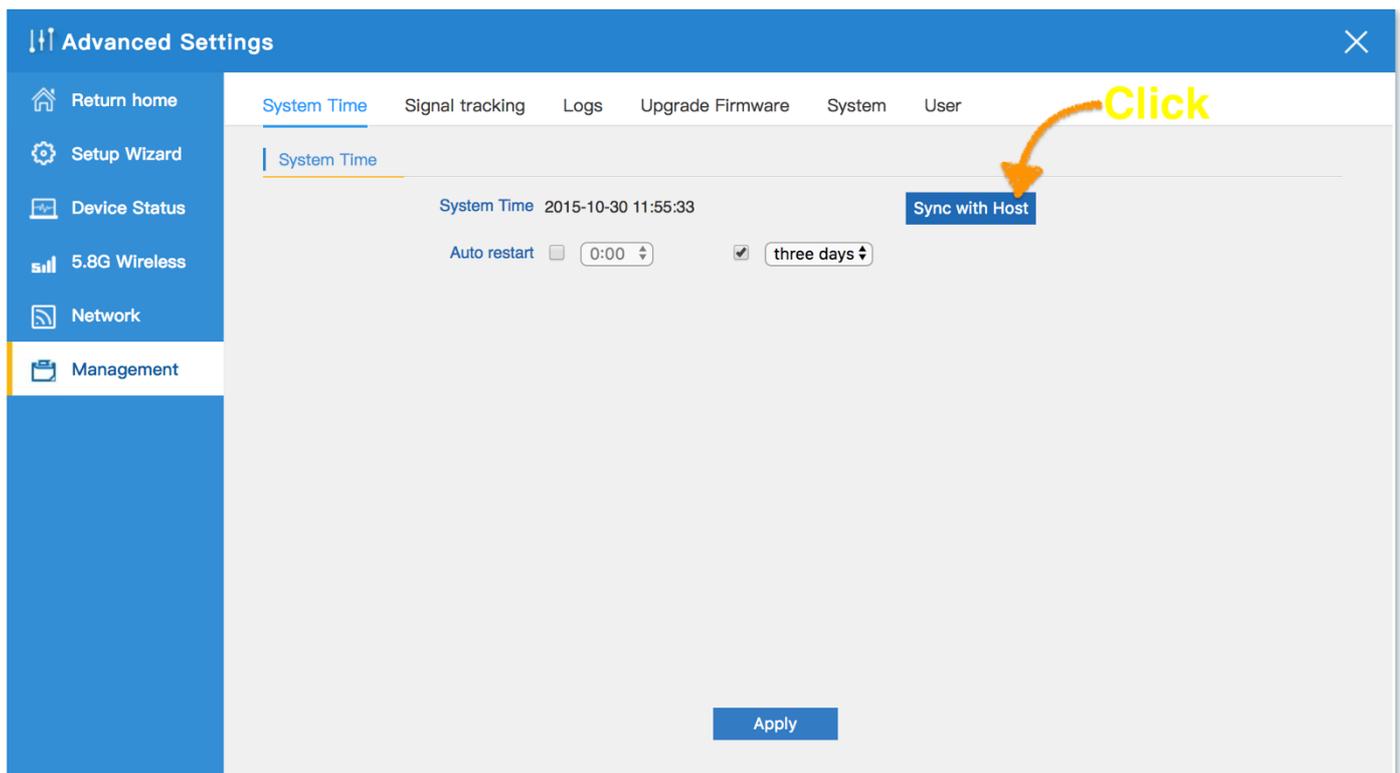
- Please confirm before you can use ,Need support IEEE 802.1Q and VLAN Tagging Managed Switch, Specify WiFi SSID or WAN/LAN Port for WAB-5010 , corresponding to the VLAN-ID (3-4094).



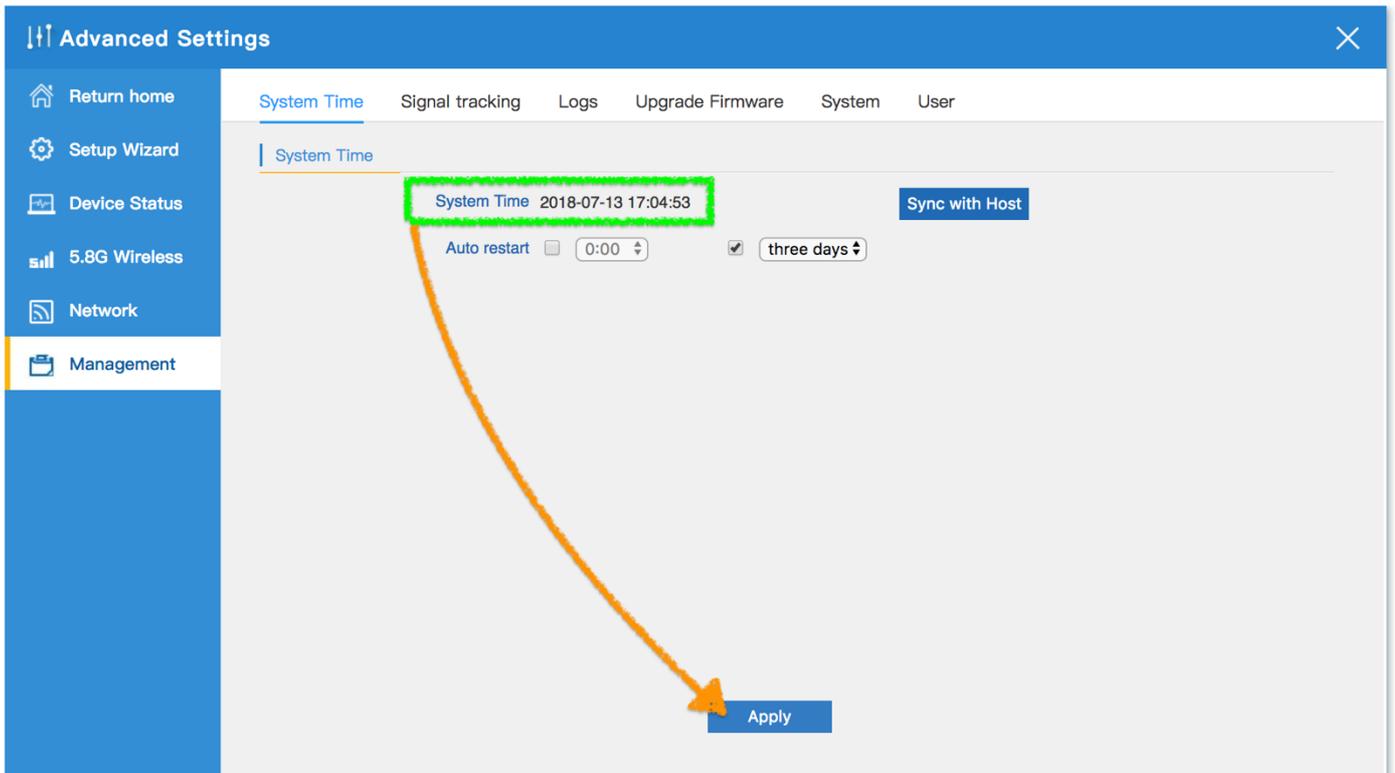
7.2 Management

7.2.1 System Time & Define the system reboot time :

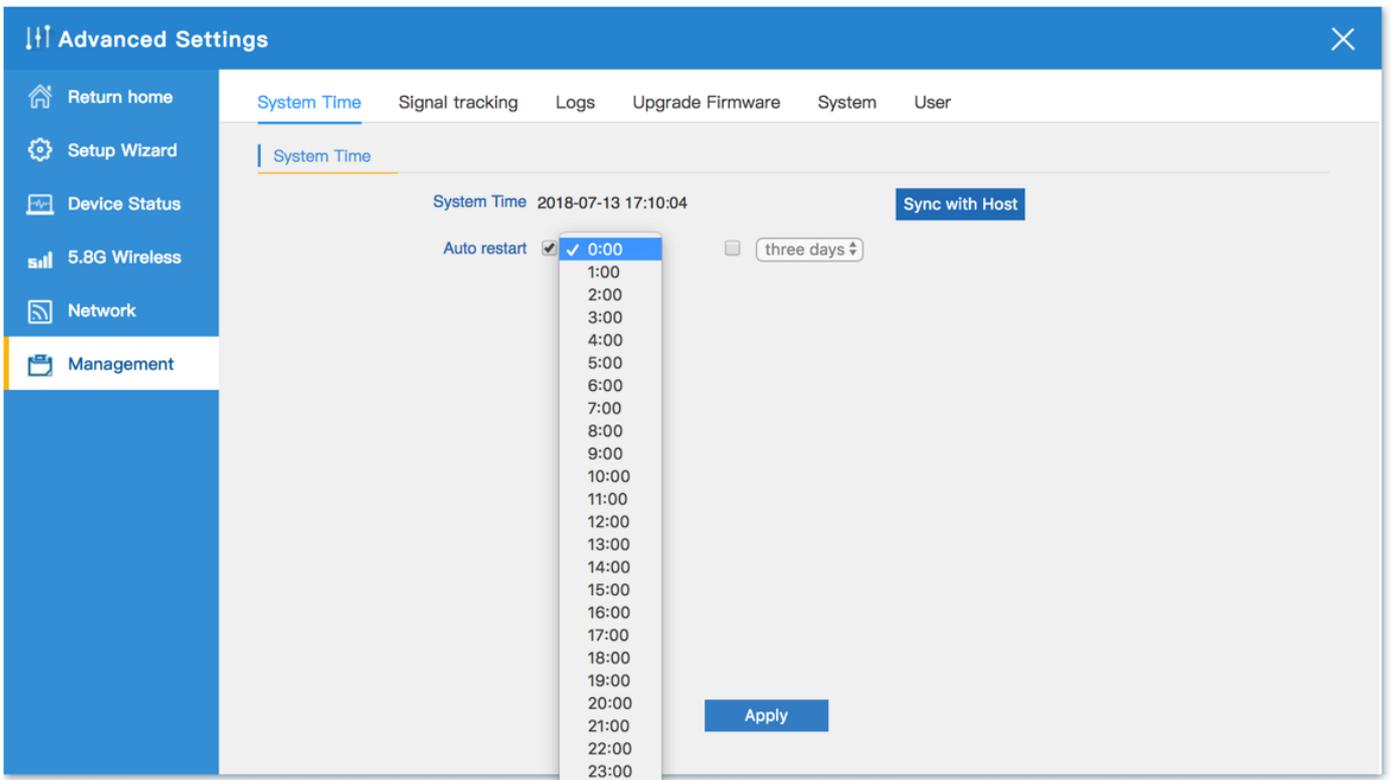
1. Click on Sync with Host to automatically update to the current Time.



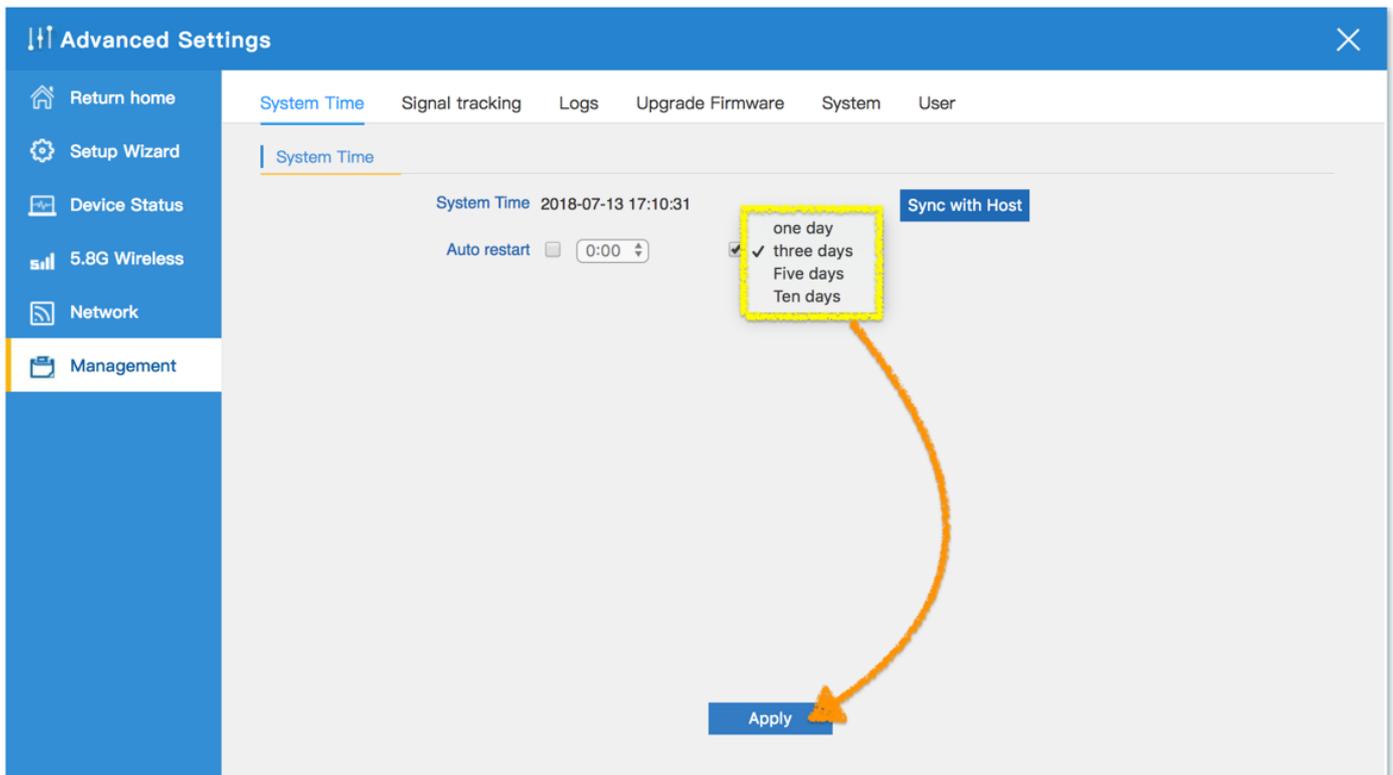
2. Confirm that System Time is correctly refreshed to the current time, Click Apply



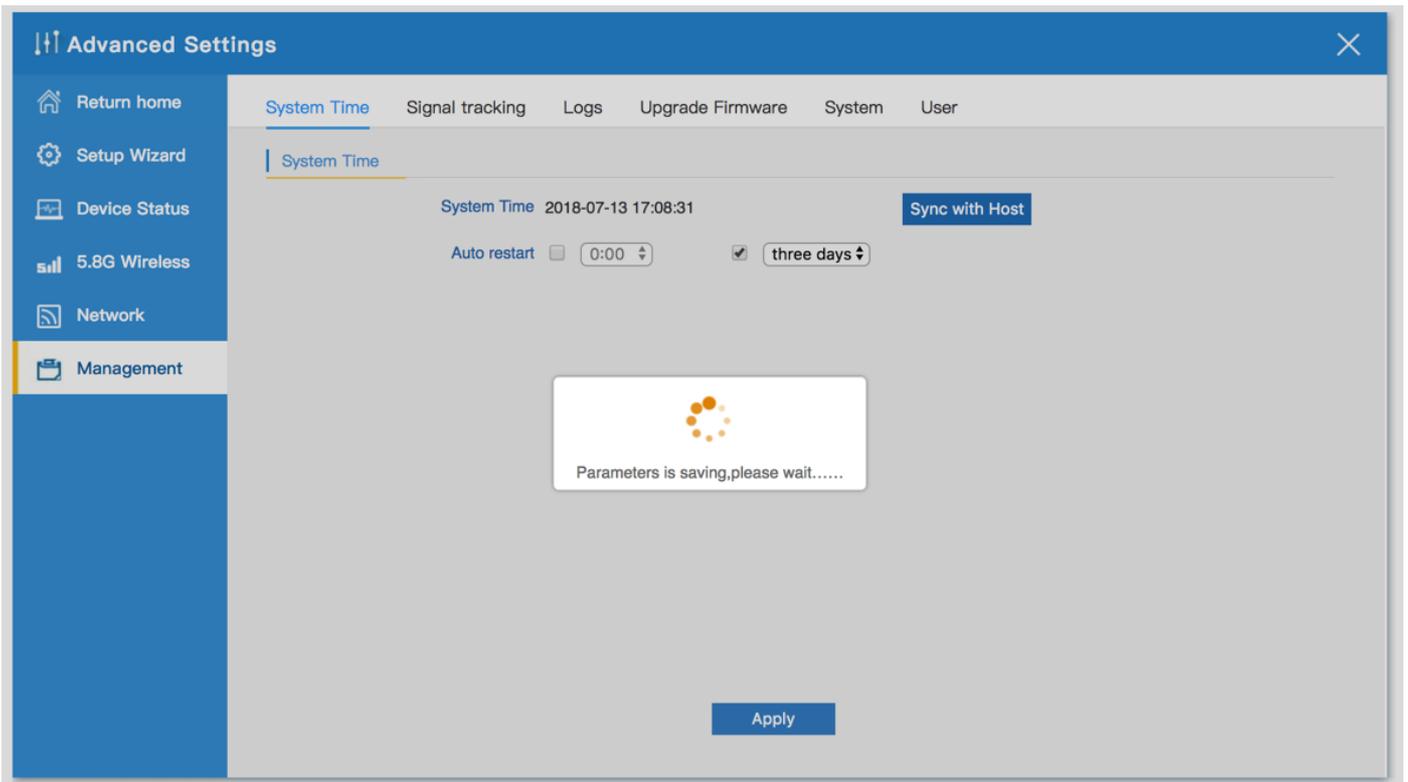
3. Define the system reboot time(0:00~23:00)



4. Can choose every day or every five days or every 10 days , System Reboot Automatically.

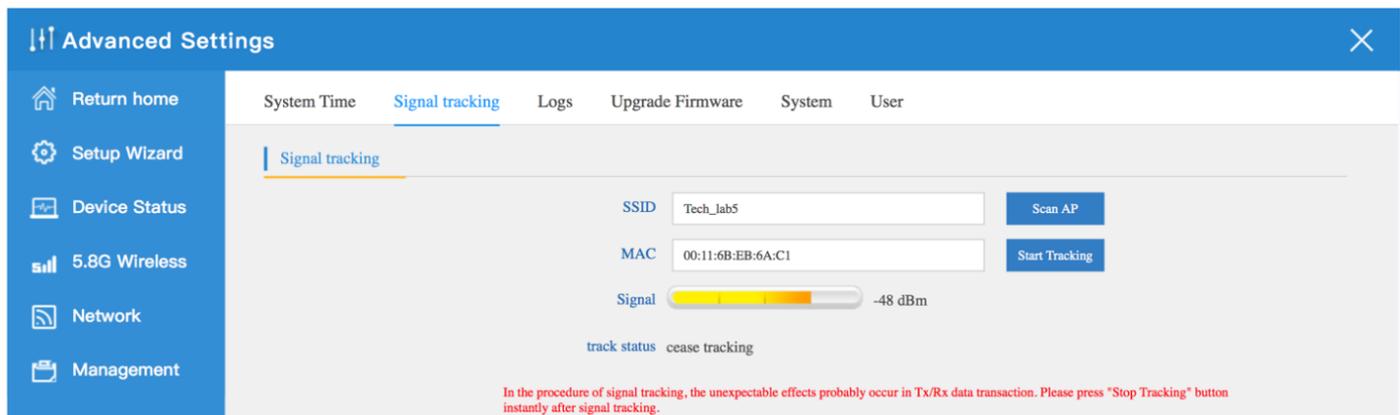


5. Enable Define the system reboot time, please wait about 20~30 seconds.



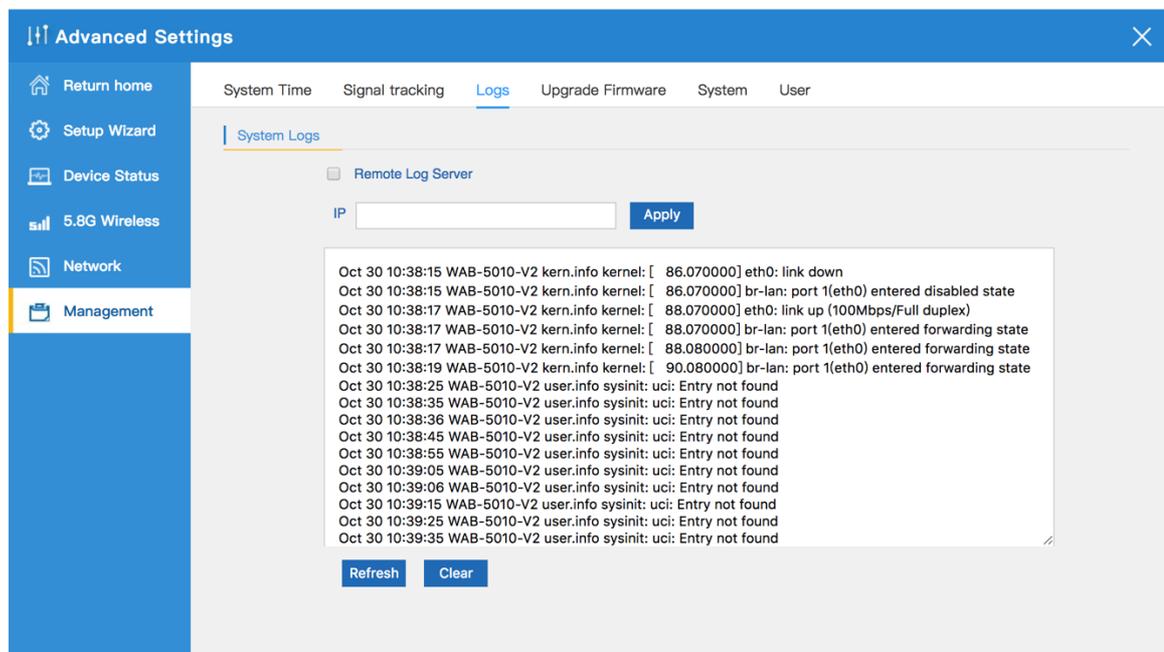
7.2.2 Signal tracking

- can display the information of the AP in the tracking. ex: MAC, Signal receiving strength



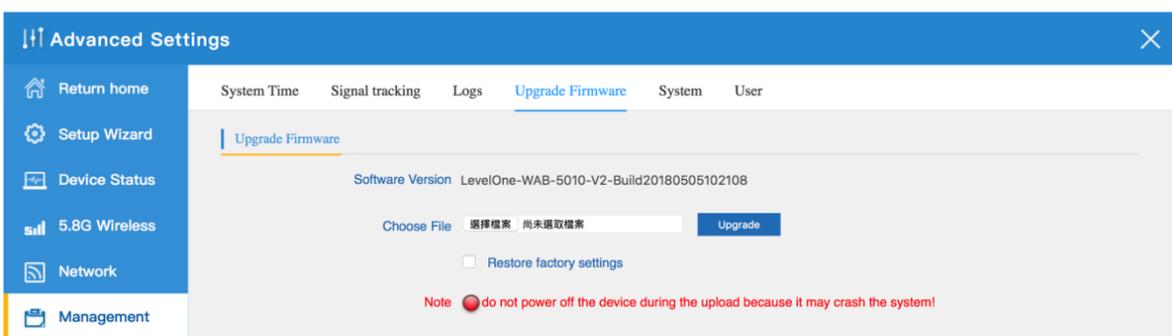
7.2.3 Log

- Logs to show the outdoor WAB-5010's operation logs, useful for problem solved.



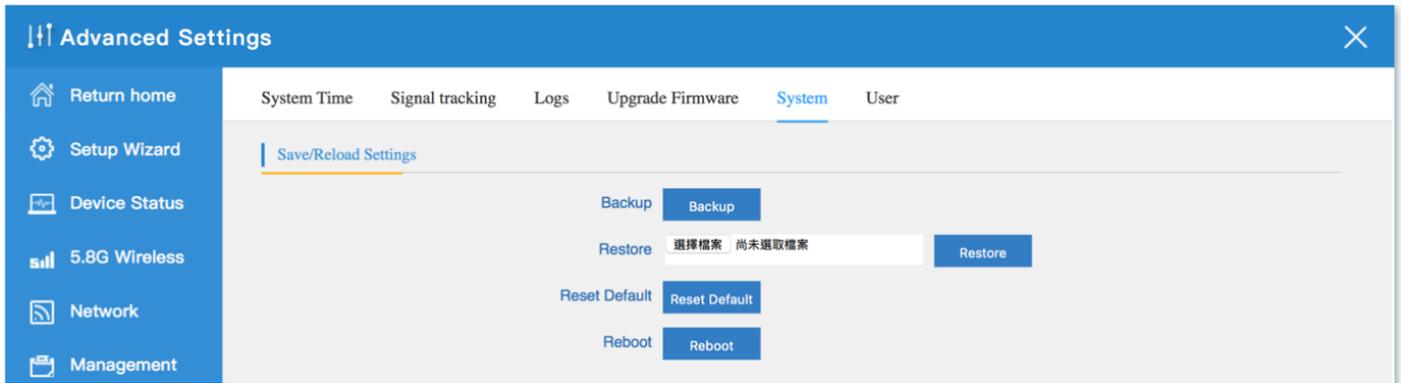
7.2.4 Upgrade Firmware

- The browse the new firmware in your computer and upgrade. Please do not power off the device during upgrade.
- **Note** : The update firmware is recommended to use the connection RJ45 Network Cable update . Not recommended to use the wireless connection method to update the firmware.



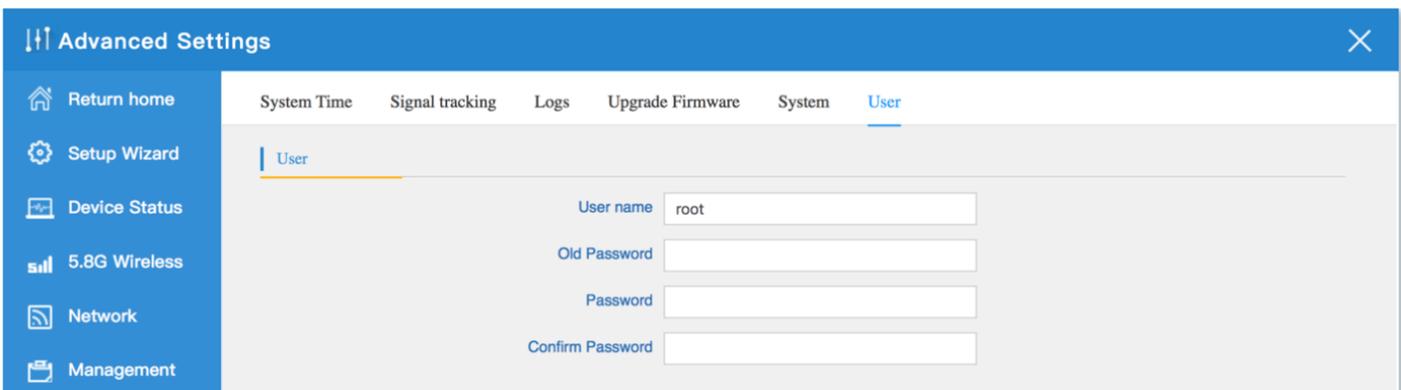
7.2.5 System

- In System, this is for firmware backup or restore, or reset to default. Or reboot, mostly for problem solve.



7.2.6 User

- user can change the login password based on their needs:



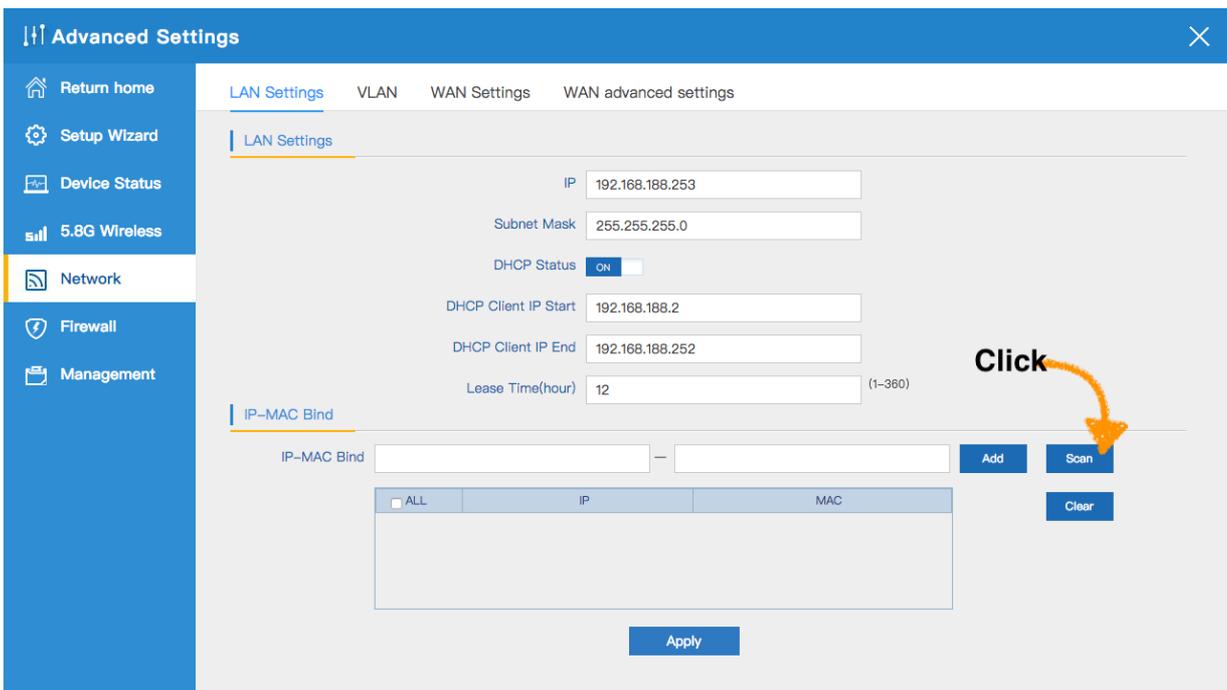
CHAPTER 8 Enable the status of Gateway Mode or WISP Mode



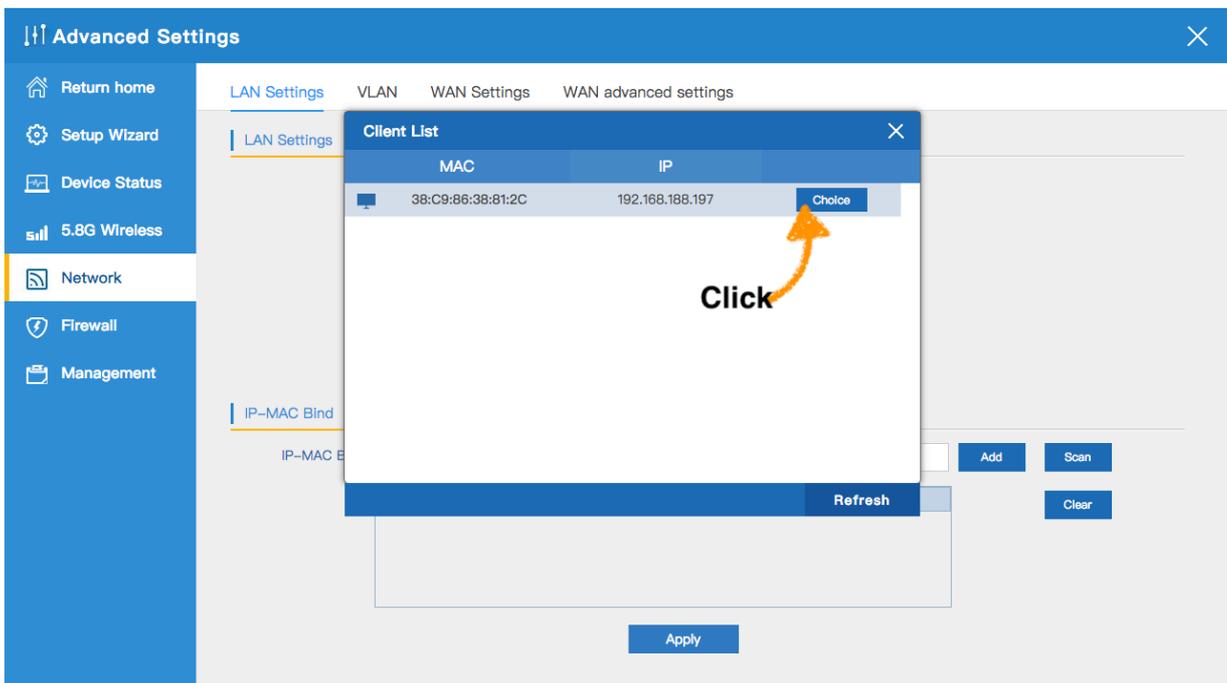
8.1 Network

8.1.1 LAN Settings :

1. Set the specified device retention IP for easy management. The following is a demonstration of teaching .



2. Click Choice



3. Add the user MAC address in the list to the access control list . Completed the reserved IP settings

The screenshot shows the 'Advanced Settings' interface with the 'LAN Settings' tab selected. Under the 'IP-MAC Bind' section, there are input fields for IP (192.168.188.197) and MAC (38:C9:86:38:81:2C), along with 'Add', 'Scan', and 'Clear' buttons. Below these is a table with columns for 'ALL', 'IP', and 'MAC'. The table contains one row with checked boxes in the 'ALL' and 'IP' columns, and the IP address 192.168.188.197 and MAC address 38:C9:86:38:81:2C. An 'Apply' button is located at the bottom right of the table. Orange arrows highlight the flow from the 'Add' button to the table and then to the 'Apply' button.

8.1.2 VLAN :

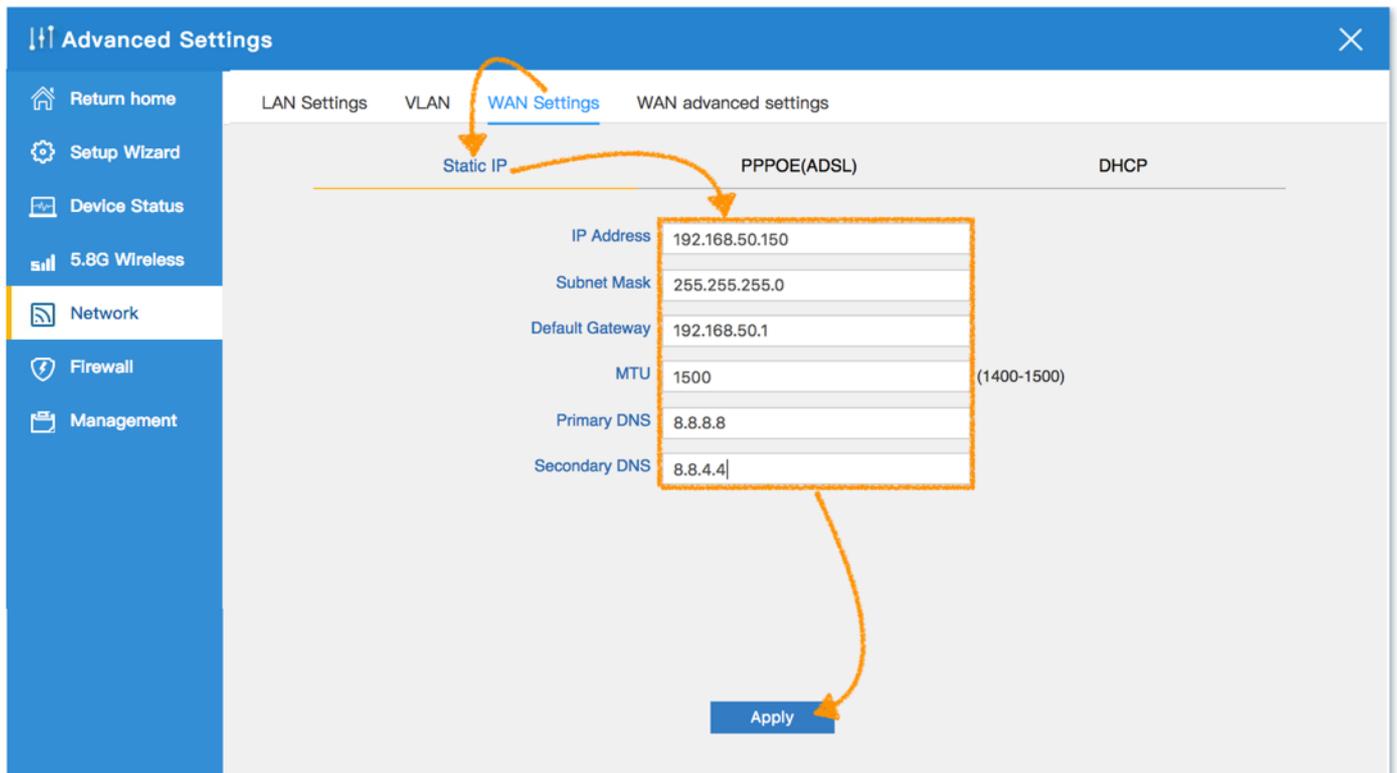
- Please confirm before you can use ,Need support IEEE 802.1Q and VLAN Tagging Managed Switch, Specify WiFi SSID or WAN/LAN Port for WAB-5010 , corresponding to the VLAN-ID (3-4094).

The screenshot shows the 'Advanced Settings' interface with the 'VLAN' tab selected. It displays a table for configuring VLAN settings. The table has five columns: 'VLAN-ID(3-4094)', 'AP', 'VAP1', 'VAP2', and 'VAP3'. Each cell in the table contains a checkbox. Below the table is an 'Apply' button.

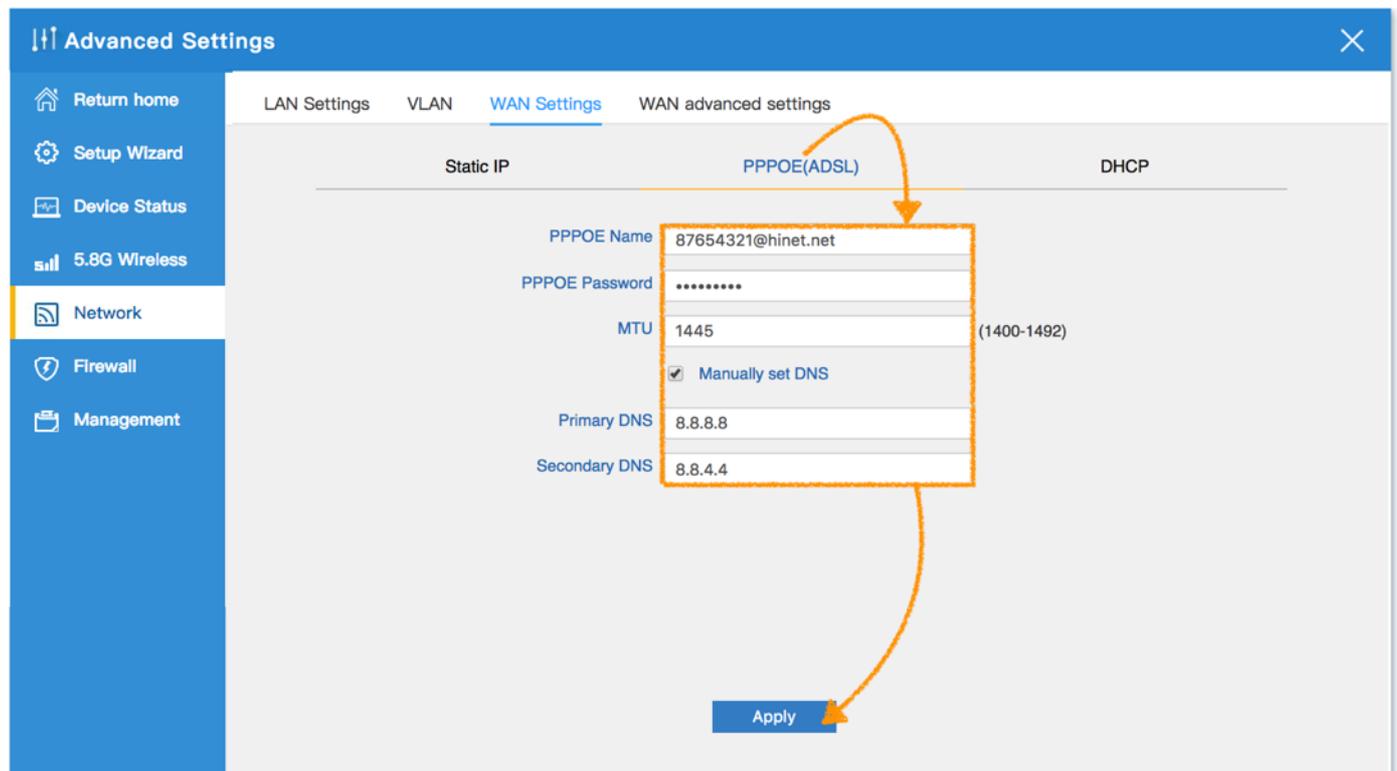
VLAN-ID(3-4094)	AP	VAP1	VAP2	VAP3
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8.1.3 WAN Settings :

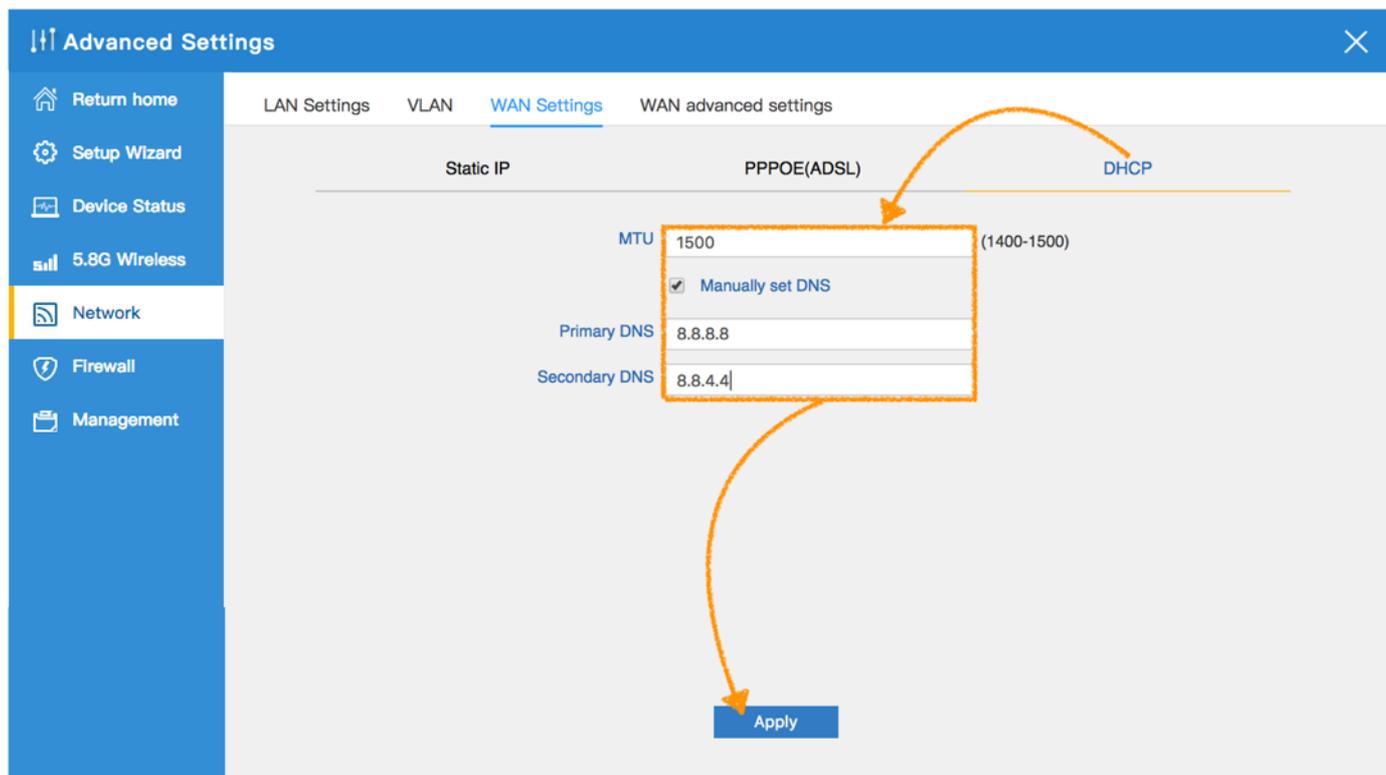
1. Please check with the ISP first how to access the Internet , The following is a demonstration of Static IP teaching .



2. The following is a demonstration of PPPoE teaching .

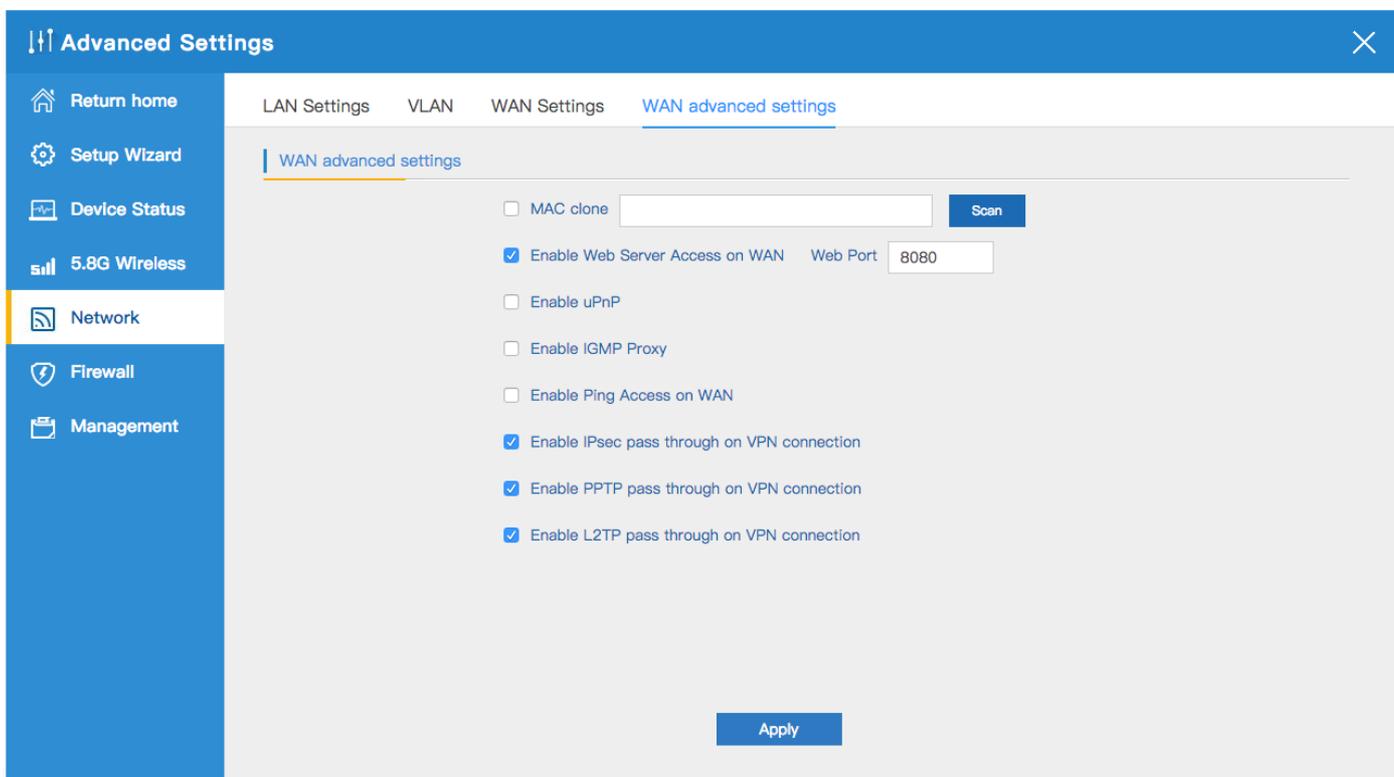


3.The following is a demonstration of DHCP teaching .



8.1.4 WAN advanced settings:

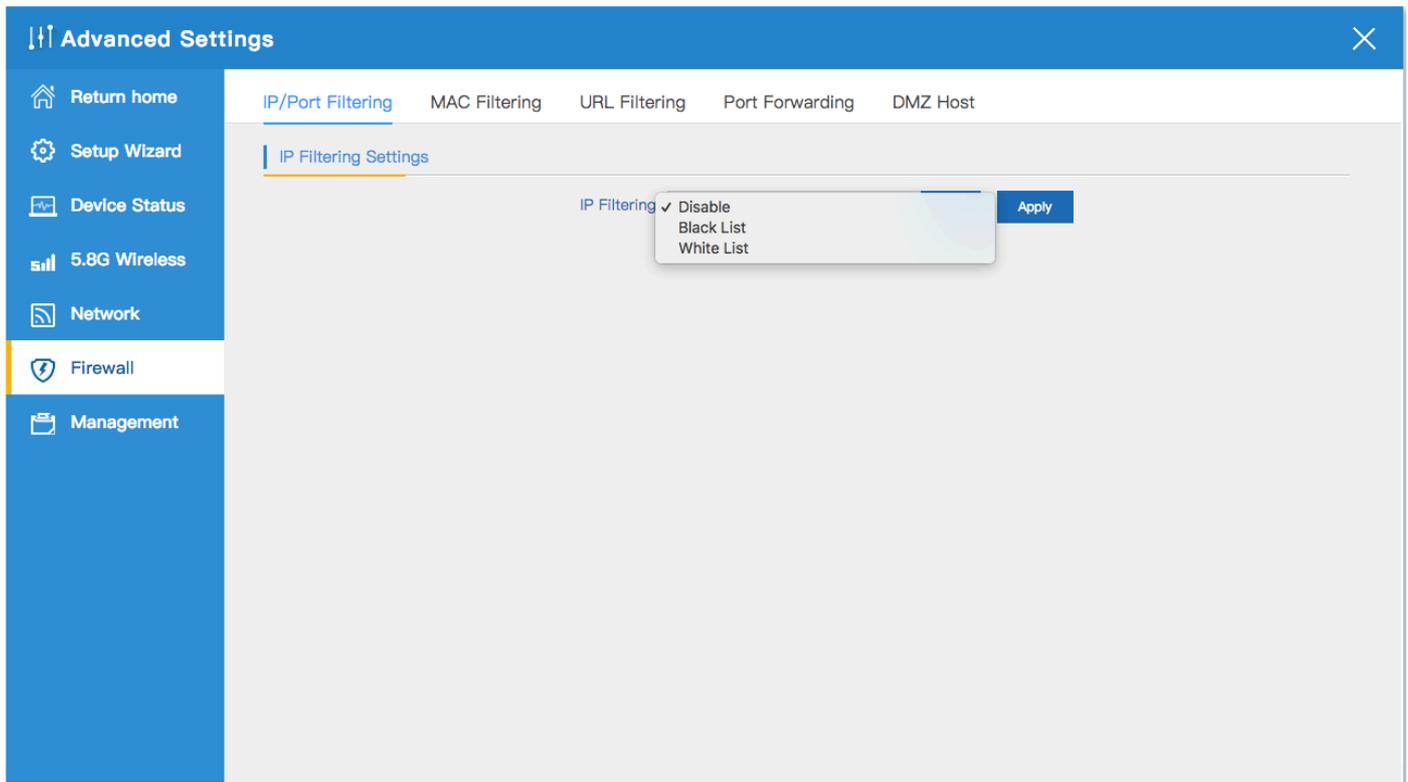
- Internet security does not recommend enable Ping Access on WAN to prevent interested people from knowing the real IP address



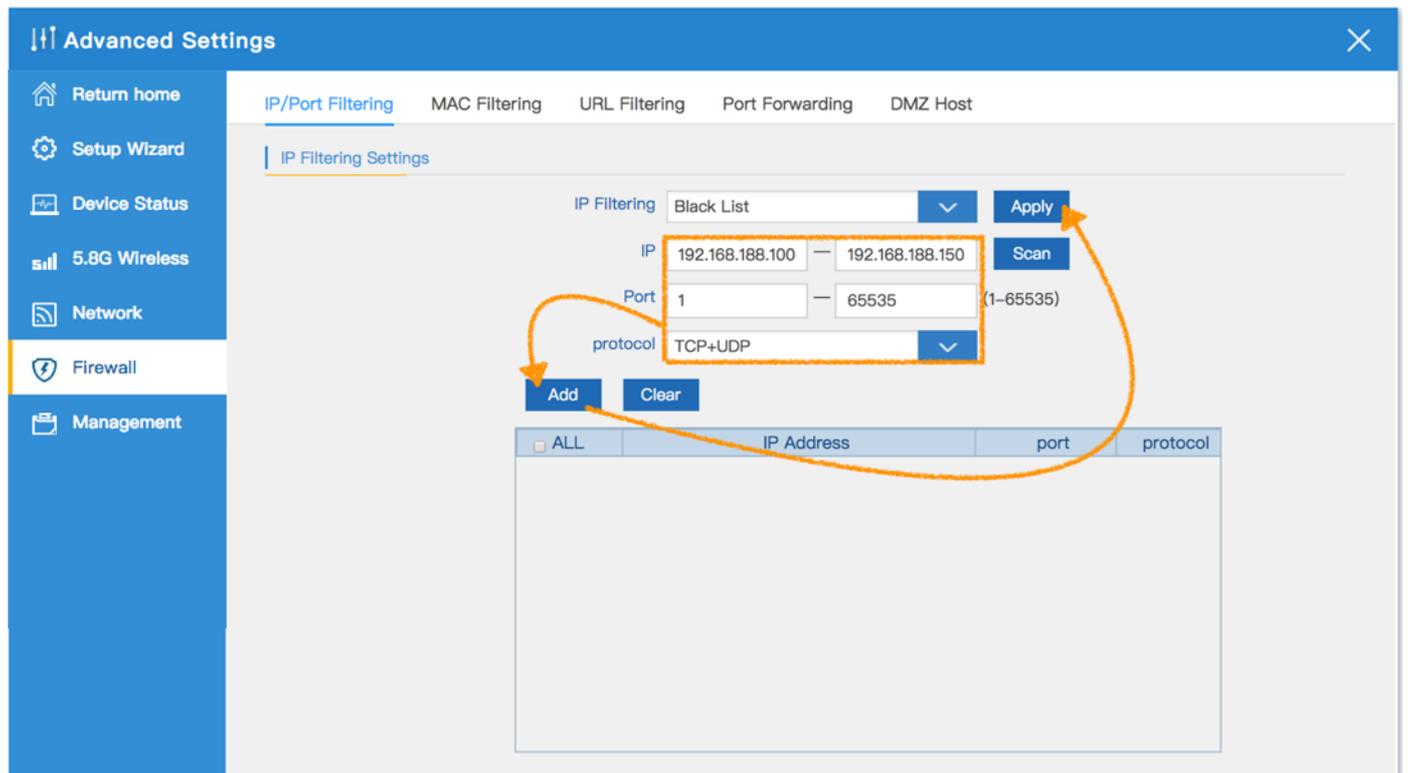
8.2 Firewall

8.2.1 IP/Port Filtering :

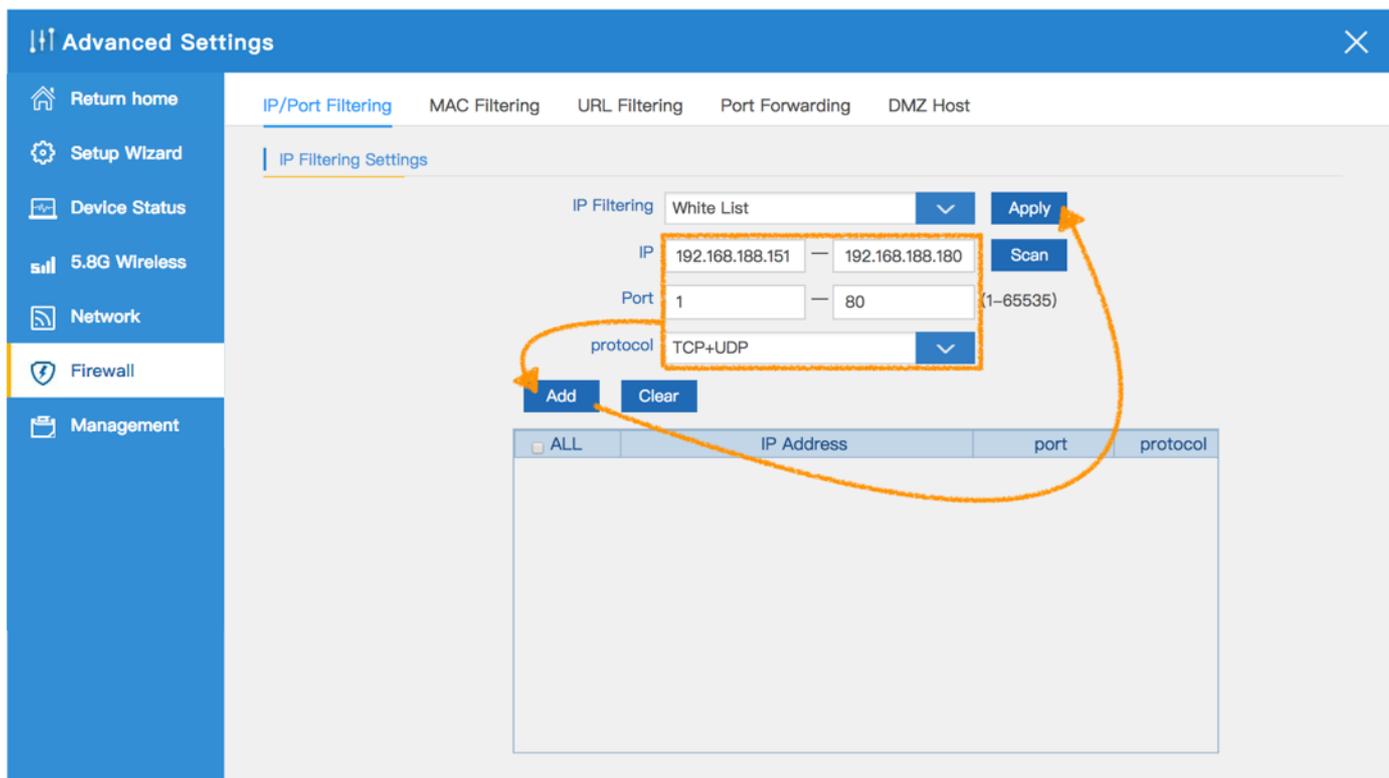
1.Factory default value is Disable, Can be set to whitelist or blacklist. The following will begin to introduce how to set the enable function



2.Black List : IP Address that can be specified as a separate or range , and then specifies the port range (1~65535) and protocol(TCP/UDP) .

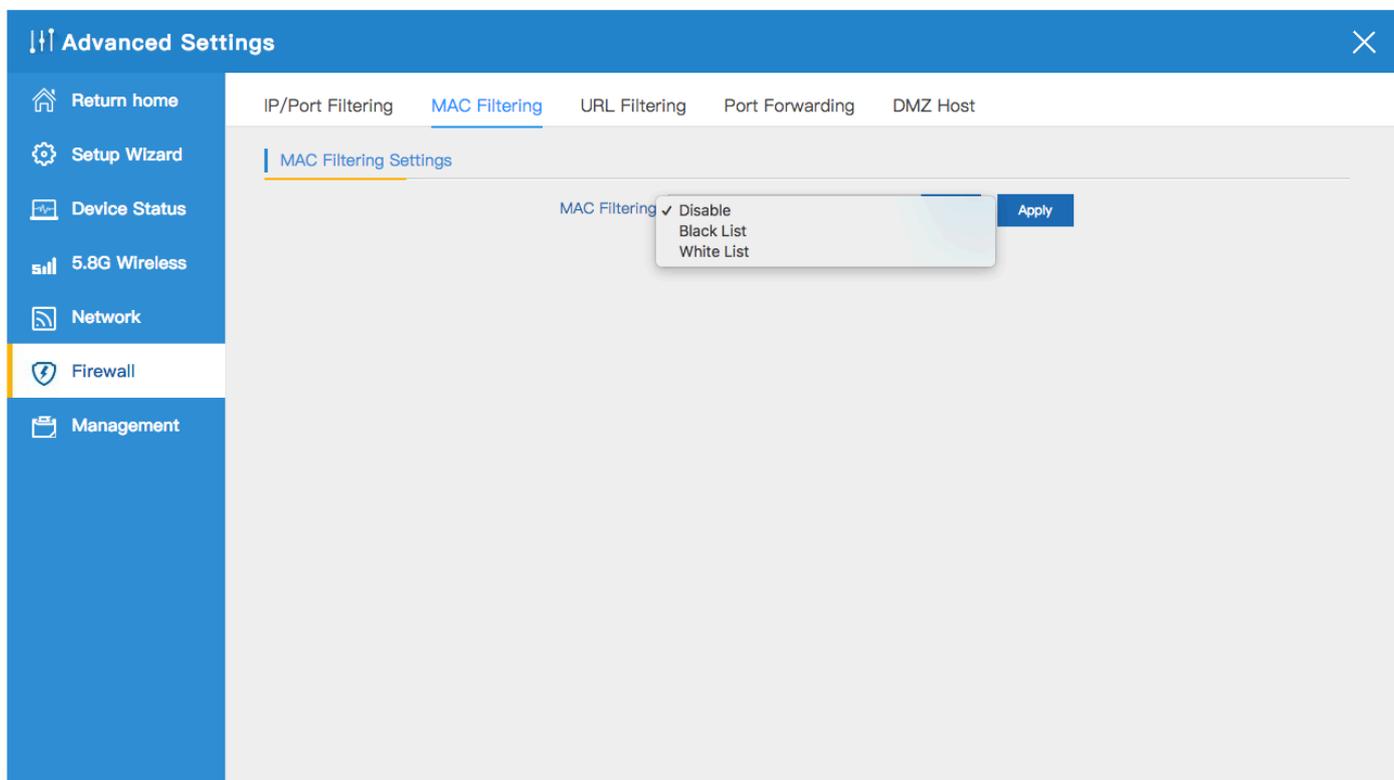


3.White List : IP Address that can be specified as a separate or range , and then specifies the port range (1~65535) and protocol(TCP/UDP) , which is set as the status of the allow.

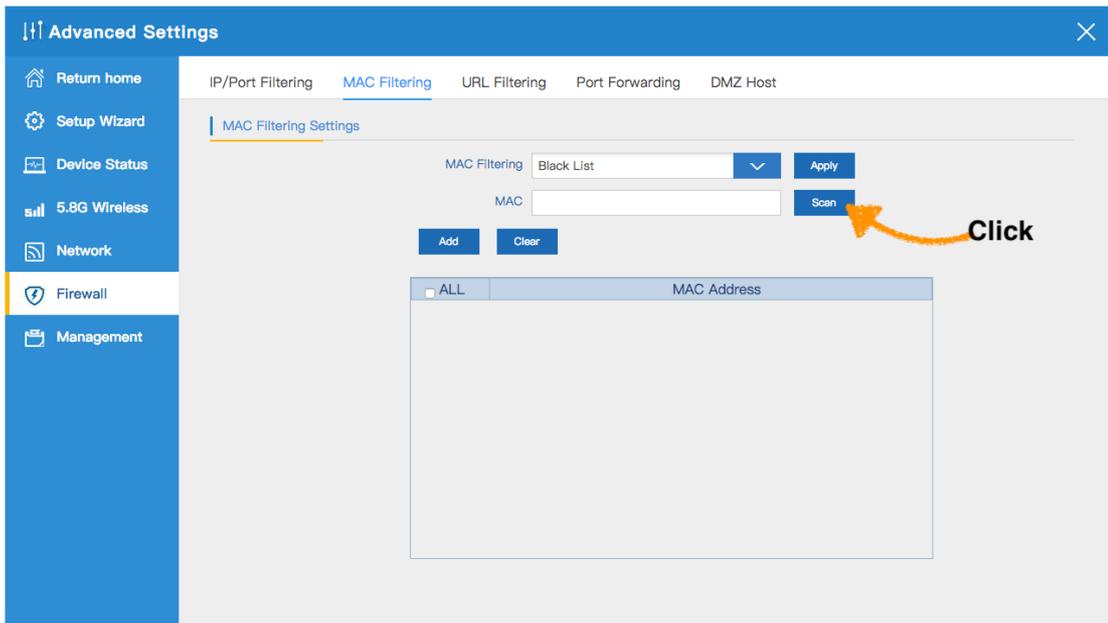


8.2.2 MAC Filtering :

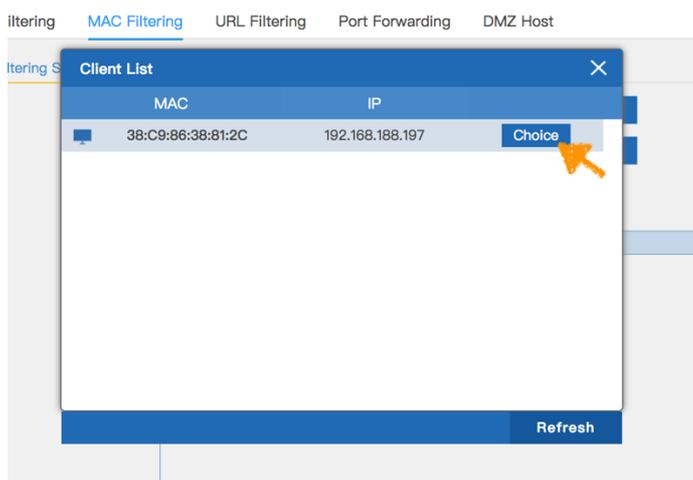
1.Factory default value is disable, Can be set to whitelist or blacklist. The following will begin to introduce how to set the enable function



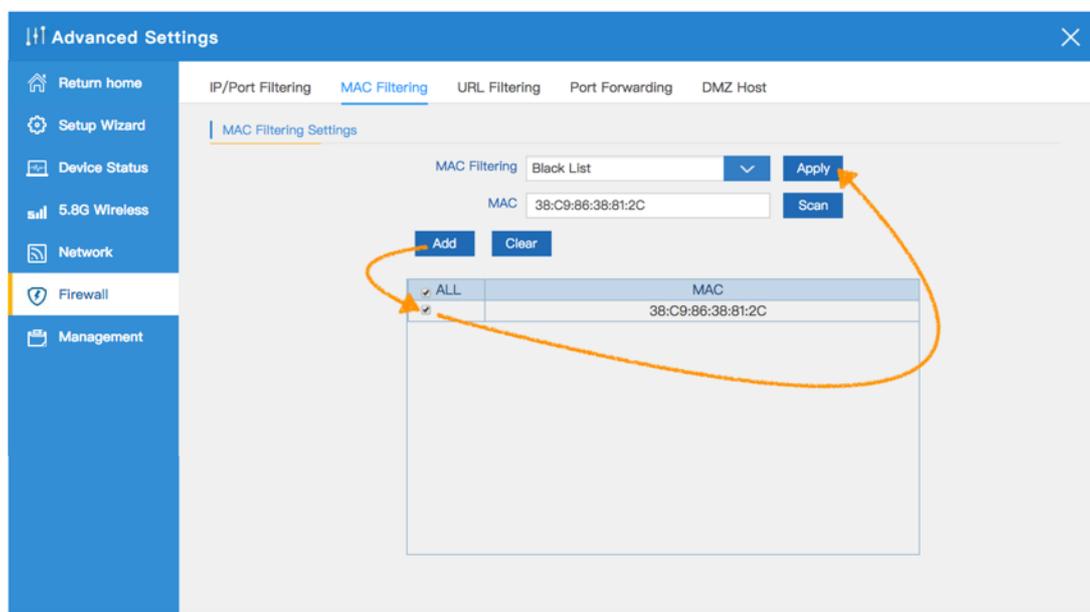
2.Black List : Scan specified mode or manual input mode to set, you can block the specified MAC address to connect to the Internet, leaving only link Regional network function.



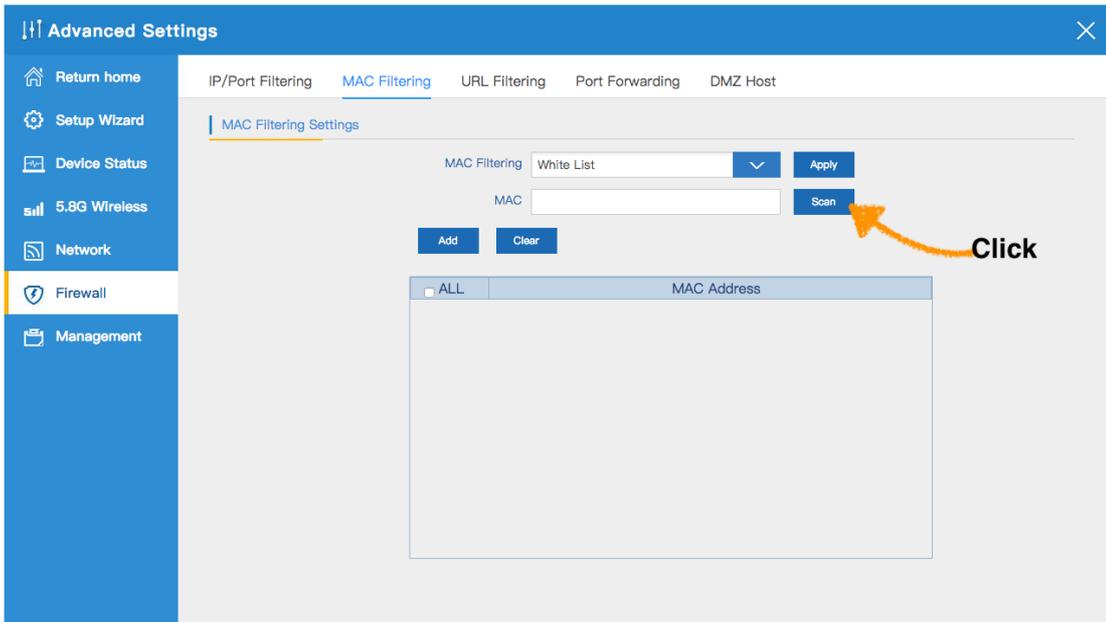
3. Click Choice



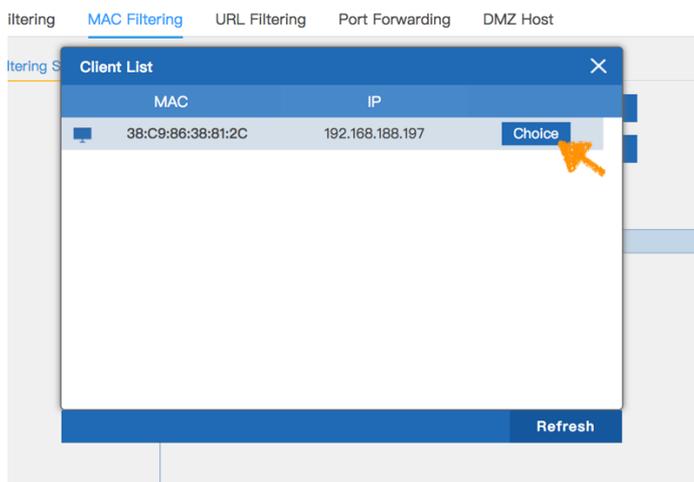
4. Added specified MAC address , Click Apply



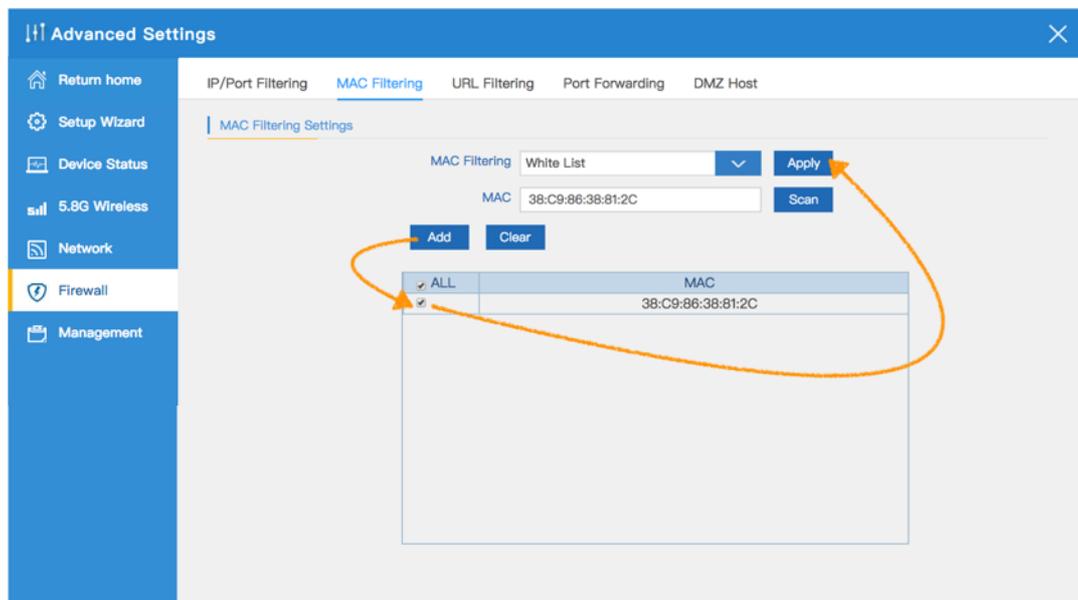
5.White List : Scan specified mode or manual input mode is set to allow the specified MAC address to connect to the Internet



6.Click Choice

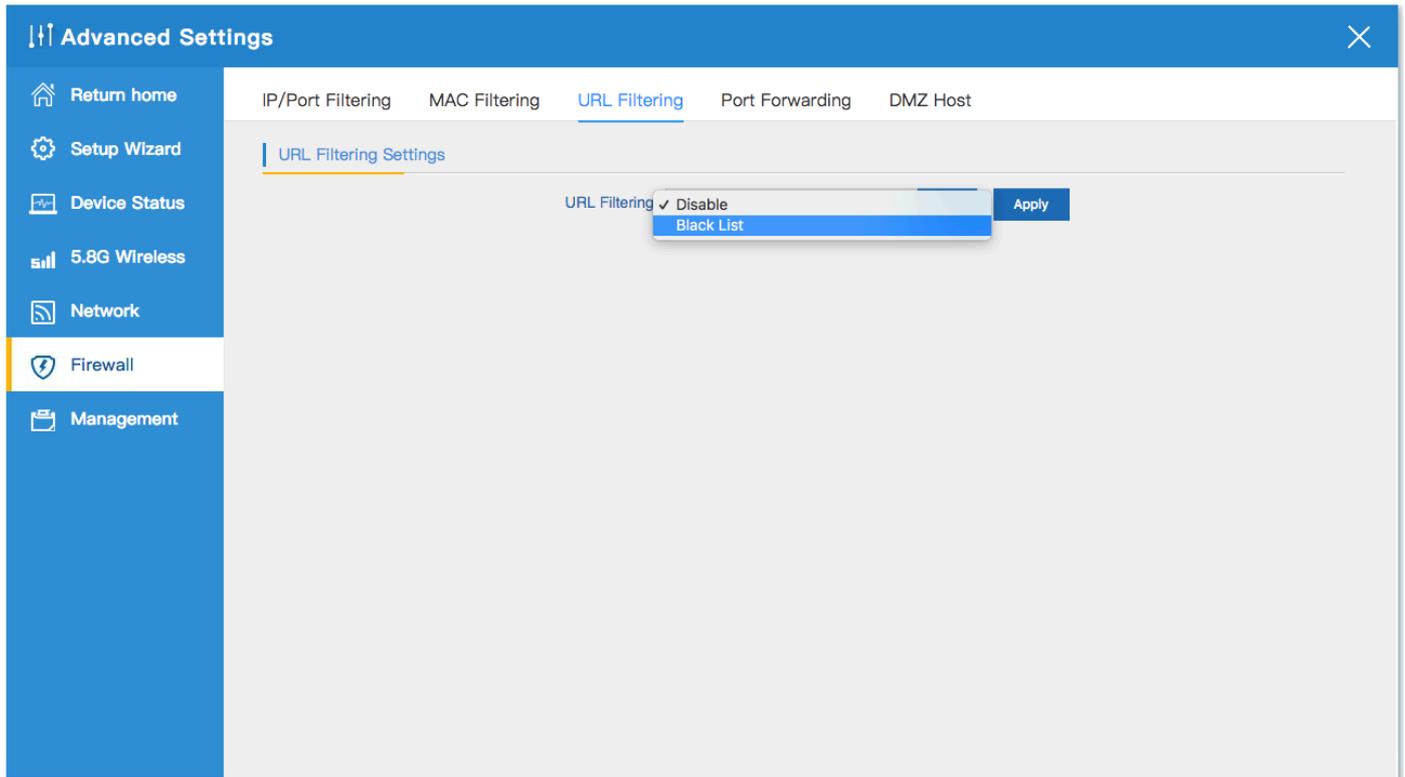


7.Added specified MAC address , Click Apply

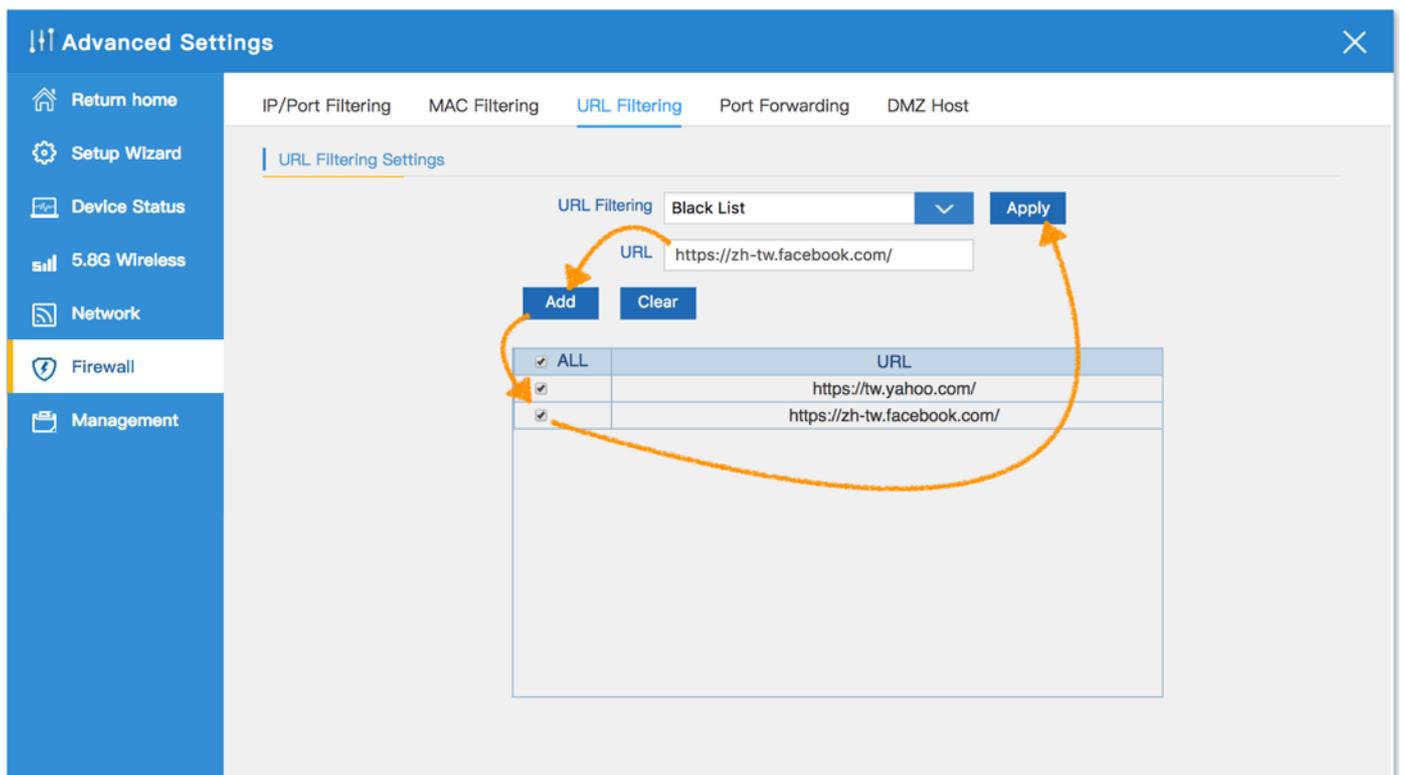


8.2.3 URL Filtering :

1.Factory default value is disable, Can be set to Black List. The following will begin to introduce how to set the enable Black List function



2.**Black List** : Can set the URL refuse to access the list , making all devices unable to connect to the list of websites



8.2.4 Port Forwarding

- The scan specified mode or manual input mode is set to allow the specified internal IP address of the External / External port so that other users can connect from the remote network to the WAB-5010 internal network equipment (ex: NAS , IP camera)
- After the setting is completed, the real fixed IP address or DDNS mode can be used to remotely connect to the NAS inside the WAB-5010

(ex: Remote user page input http://111.250.96.135:2020 Port Forwarding to NAS IP address:192.168.188.197:80)

Advanced Settings

IP/Port Filtering MAC Filtering URL Filtering **Port Forwarding** DMZ Host

Port Forwarding

IP: 192.168.188.197 **Apply**

Internal Port: 80 (1-65535)

External Port: 2020 (1-65535)

Add **Clear** **Scan**

<input checked="" type="checkbox"/>	ALL	IP	Internal Port	External Port
<input checked="" type="checkbox"/>		192.168.188.197	80	2020

8.2.5 DMZ Host

1.Factory default value is disable . The following will begin to introduce how to set the enable DMZ Host function

Advanced Settings

IP/Port Filtering MAC Filtering URL Filtering Port Forwarding **DMZ Host**

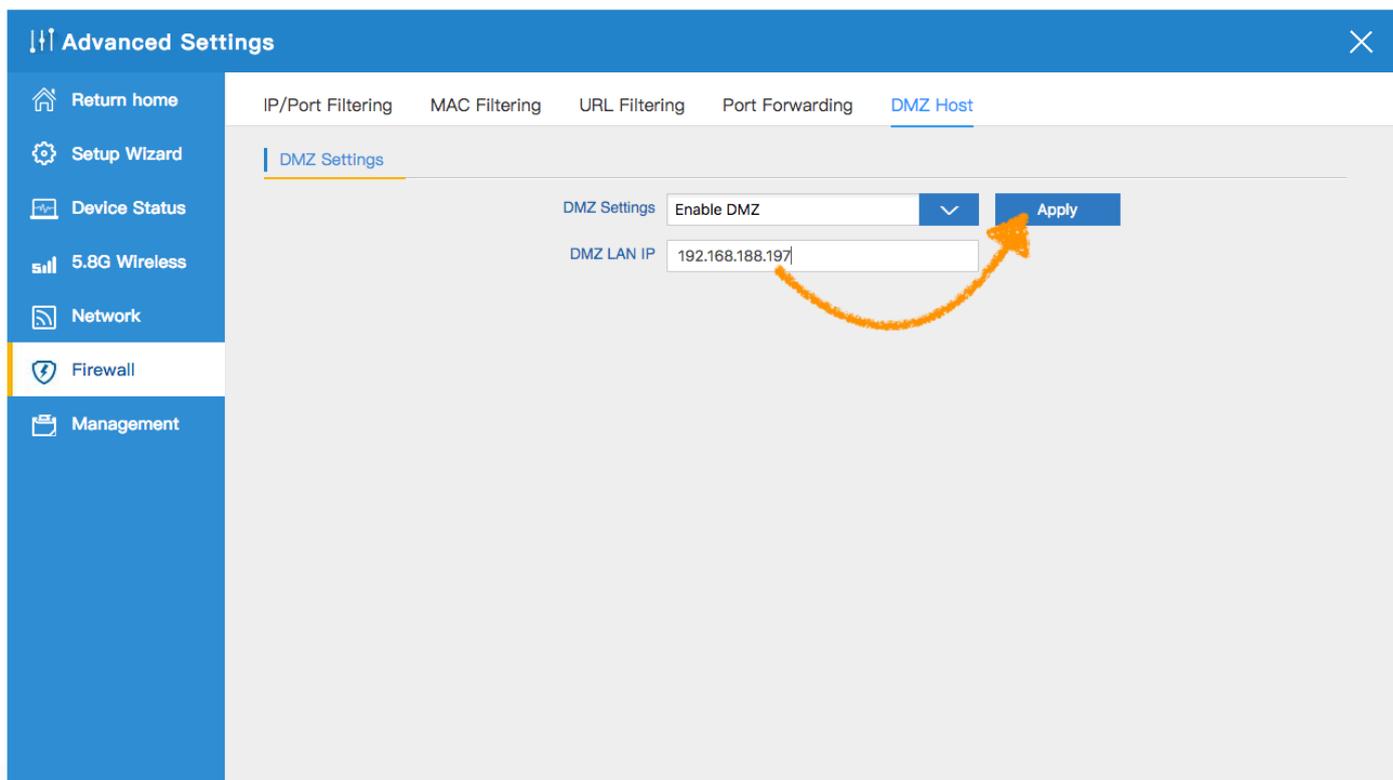
DMZ Settings

DMZ Settings: **Disable** **Apply**

Enable DMZ

2. When enabled, will independent a non-military block for this ip address device.

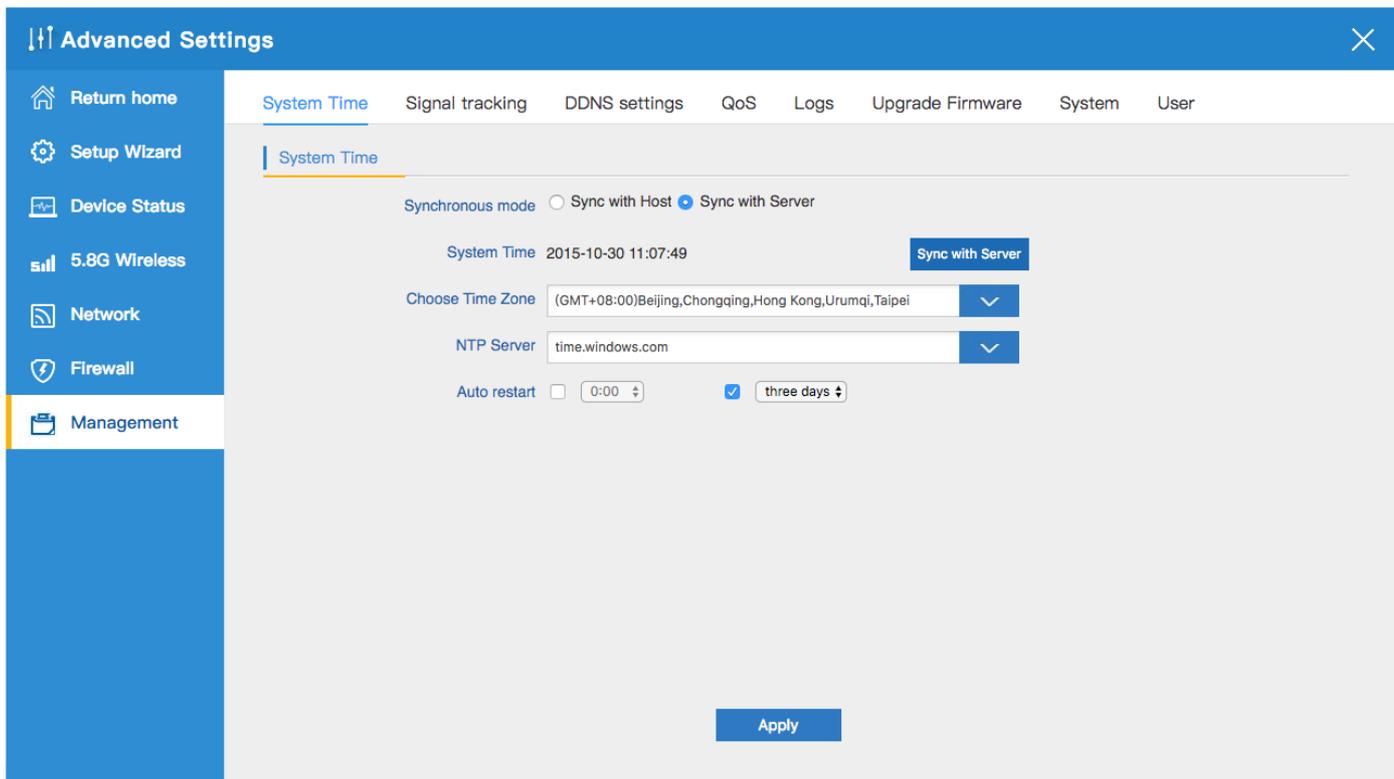
Note : This device will be directly exposed on the Internet, there will be some risk



8.3 Management

8.3.1 System Time :

1. Get time from NTP server can only be available under Gateway and WISP Mode. Before sync with host, please select your Time zone. **Auto restart** : Define the system reboot time(0:00~23:00) , Can choose every day or every five days or every 10 days , System Reboot Automatically.

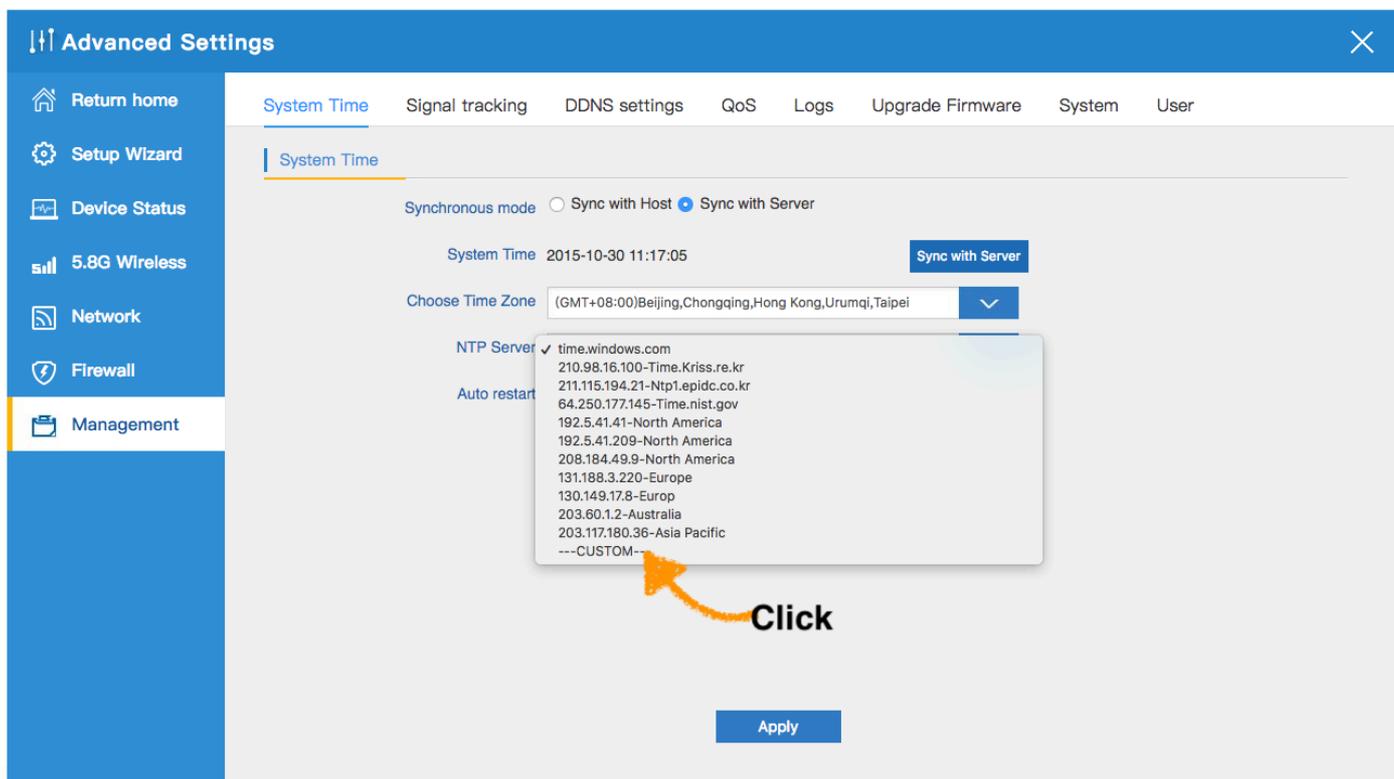


The screenshot shows the 'Advanced Settings' interface with the 'System Time' tab selected. The left sidebar contains navigation options: Return home, Setup Wizard, Device Status, 5.8G Wireless, Network, Firewall, and Management. The main content area displays the following settings:

- Synchronous mode:** Sync with Host (unselected), Sync with Server (selected).
- System Time:** 2015-10-30 11:07:49. A 'Sync with Server' button is present.
- Choose Time Zone:** (GMT+08:00)Beijing,Chongqing,Hong Kong,Urumqi,Taipei (dropdown menu).
- NTP Server:** time.windows.com (dropdown menu).
- Auto restart:** 0:00, three days (dropdown menu).

An 'Apply' button is located at the bottom center of the configuration area.

2. Can set up the required NAT Server



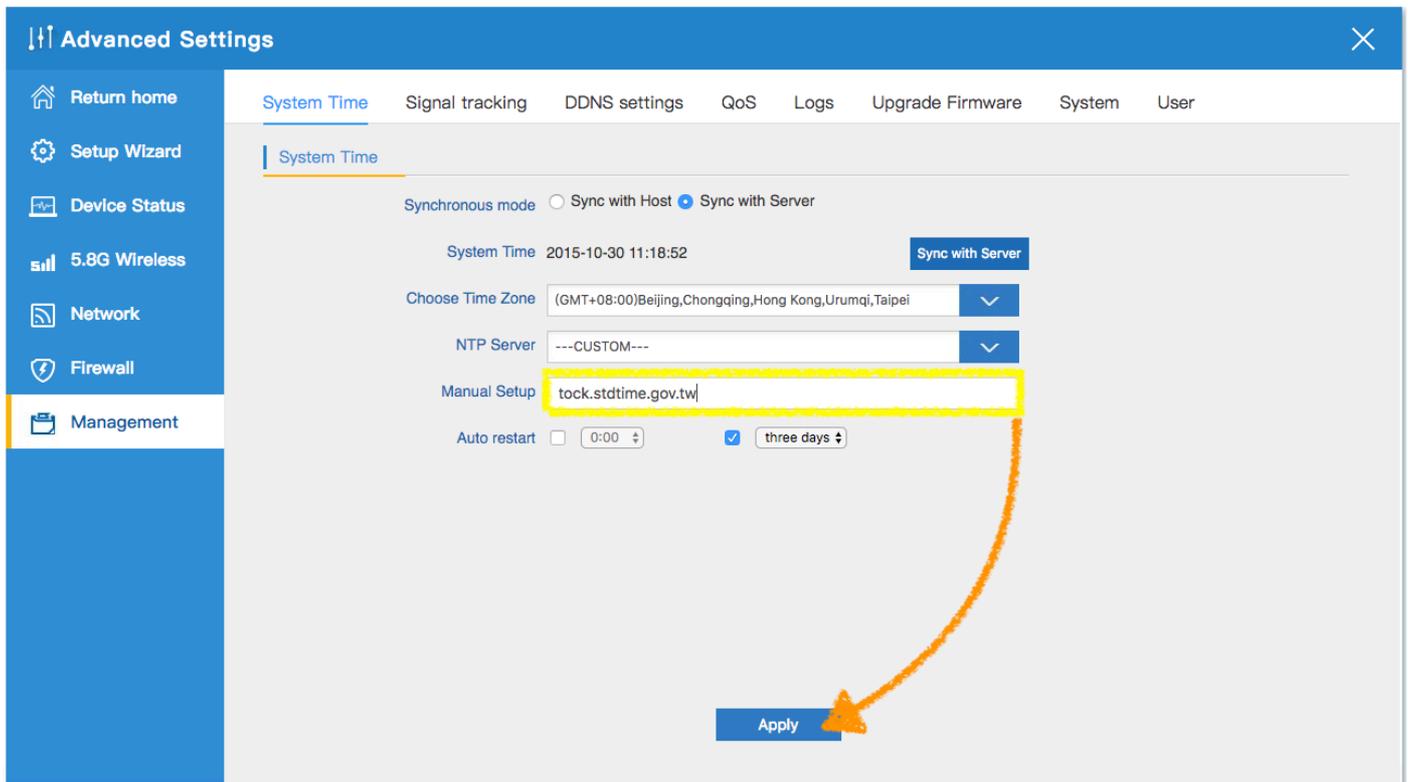
This screenshot is similar to the previous one, but the 'NTP Server' dropdown menu is open, showing a list of available servers. An orange arrow points to the 'Click' text below the dropdown.

The 'NTP Server' dropdown menu contains the following options:

- time.windows.com (checked)
- 210.98.16.100-Time.Kriss.re.kr
- 211.115.194.21-Ntp1.epidc.co.kr
- 64.250.177.145-Time.nist.gov
- 192.5.41.41-North America
- 192.5.41.209-North America
- 208.184.49.9-North America
- 131.188.3.220-Europe
- 130.149.17.8-Europ
- 203.60.1.2-Australia
- 203.117.180.36-Asia Pacific
- CUSTOM---

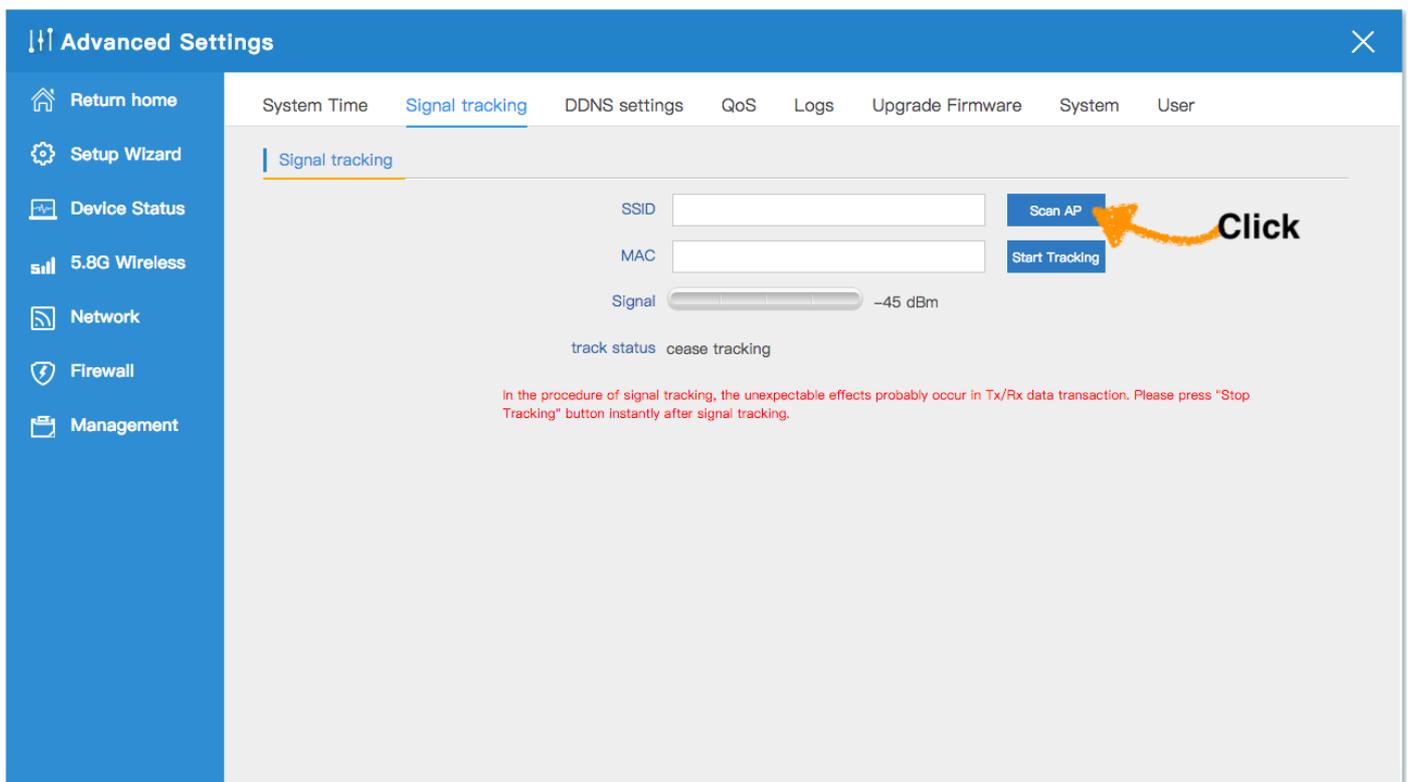
The 'Auto restart' setting is now visible as three days. An orange arrow points to the word 'Click' below the dropdown menu. An 'Apply' button is at the bottom.

3.Can add NTP Server yourself (ex: Hinet NTP Server)



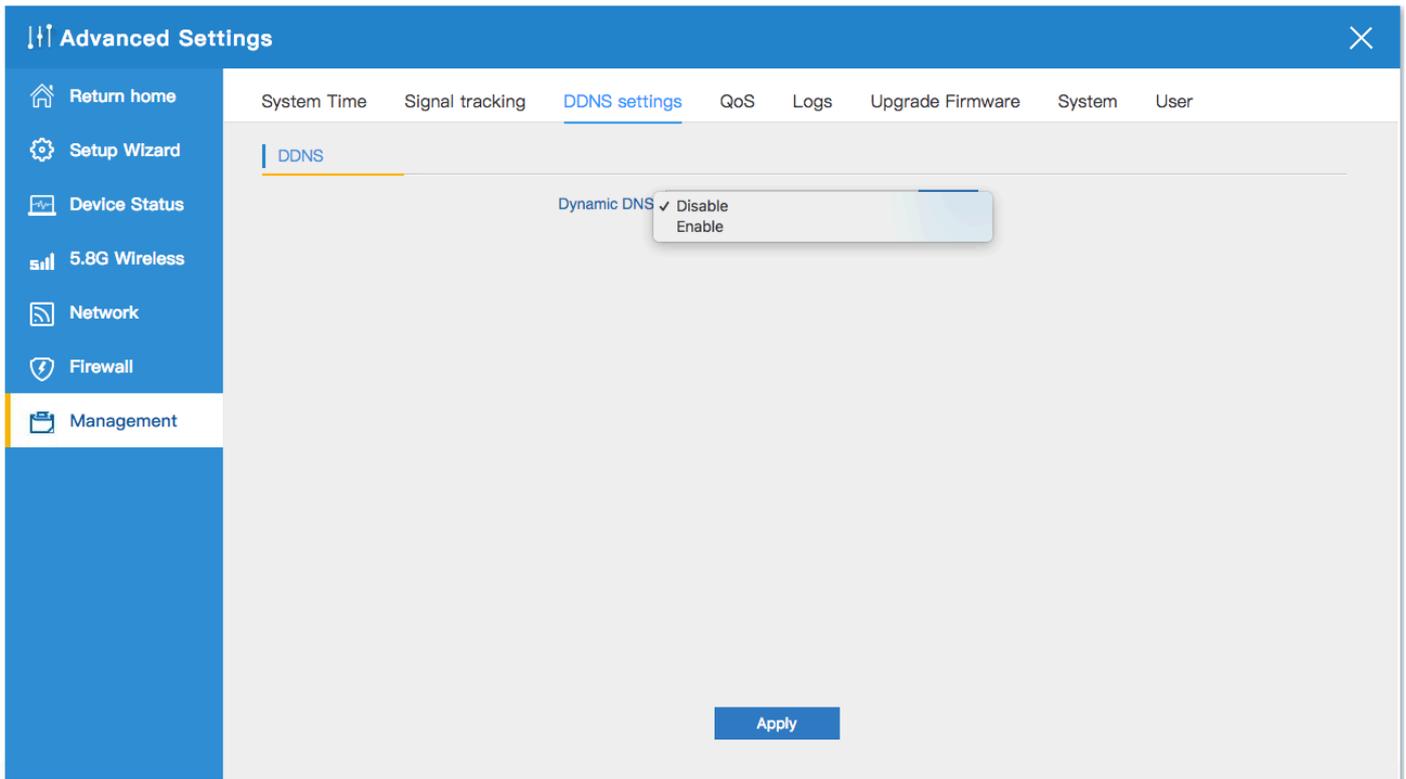
8.3.2 Signal tracking

- can display the information of the AP in the tracking. ex: MAC, Signal receiving strength

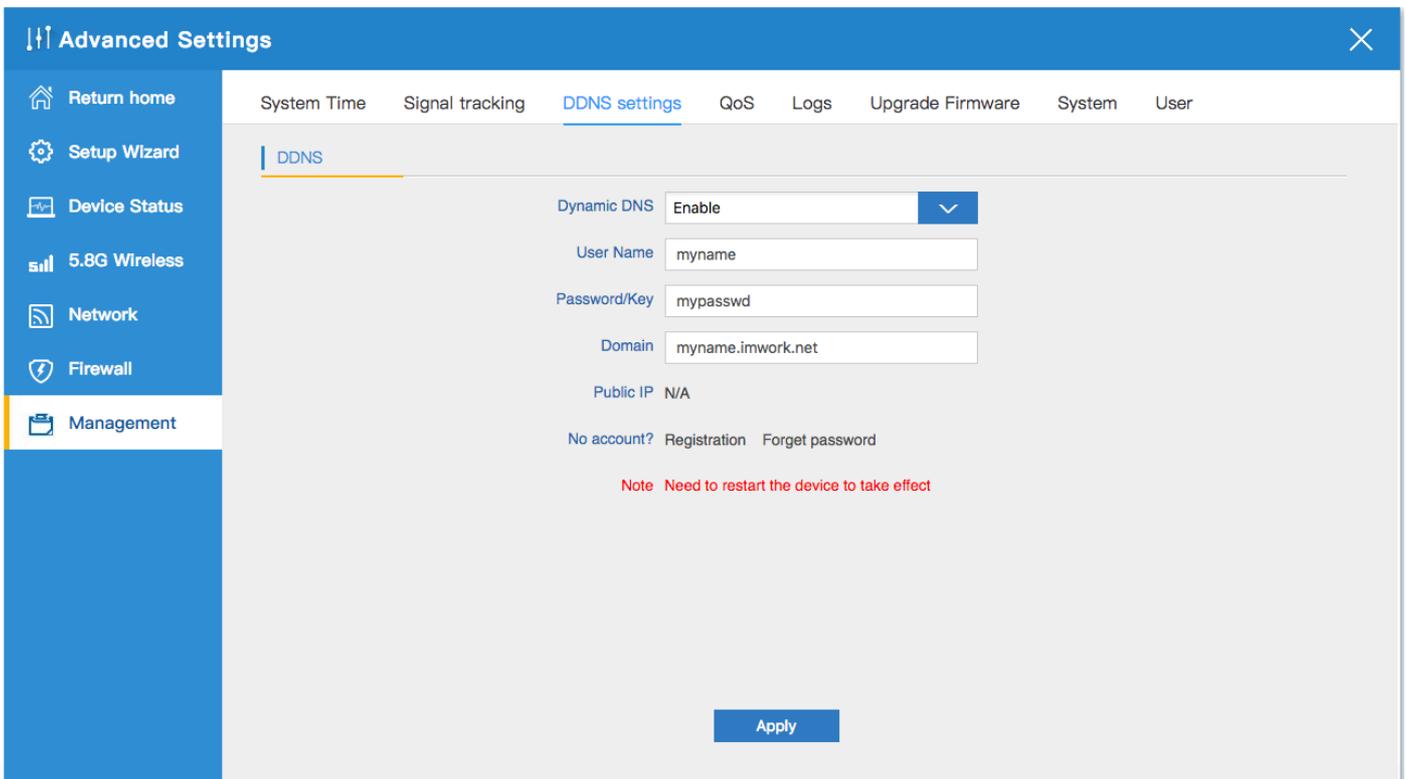


8.3.3 DDNS settings :

1.Factory default value is disable



2. For users no apply for an ISP fixed IP address, only Floating real IP address , you can also connect to the network device in WAB-5010 through the DDNS service.



8.3.4 QoS :

- Can manually specify the IP address range of the device to limit the upload and download

QoS

ON **Apply**

Upload Range:(100-1024000)Kbps

Download Range:(100-1024000)Kbps

QoS Rule settings

IP range —

Mode Share total bandwidth with all IP address. Assign bandwidth for each IP address.

Bandwidth Upload Kbps Download Kbps

Comment **Add** **Clear**

<input type="checkbox"/> ALL	Start IP	End IP	Mode	Upload(Kbps)	Download(Kbps)	Comment
<input checked="" type="checkbox"/>	192.168.188.100	192.168.188.200	Share	20000	50000	engineer

8.3.5 Logs :

- In Logs part, you can copy the running history of the device to consult the engineers when you have any trouble

System Logs

Remote Log Server

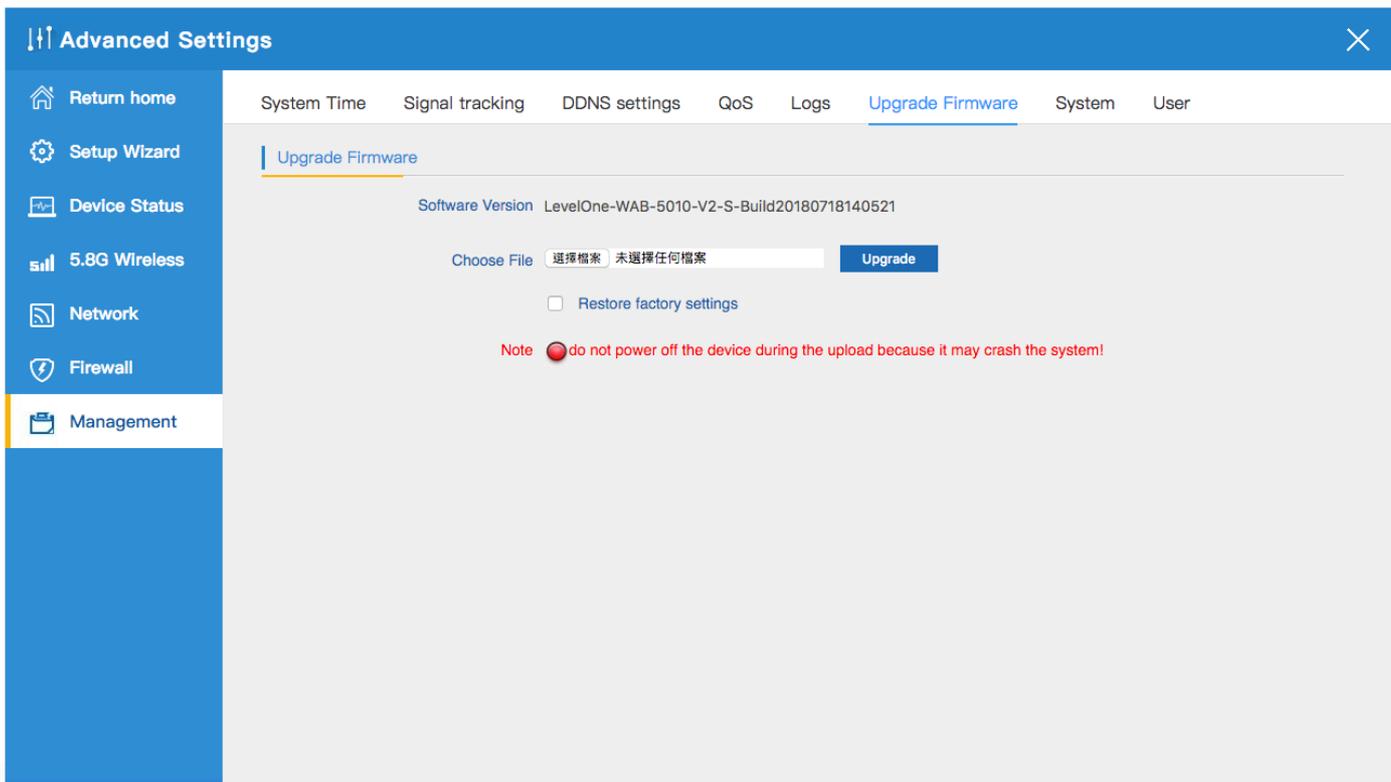
IP **Apply**

```
Oct 30 10:37:09 WAB-5010-V2 kern.info kernel: [ 2.060000] eth1: Found an AR934X built-in switch
Oct 30 10:37:09 WAB-5010-V2 kern.info kernel: [ 3.100000] GACT probability on
Oct 30 10:37:09 WAB-5010-V2 kern.info kernel: [ 3.100000] Mirror/redirect action on
Oct 30 10:37:09 WAB-5010-V2 kern.info kernel: [ 3.100000] netem: version 1.3
Oct 30 10:37:09 WAB-5010-V2 kern.info kernel: [ 3.110000] u32 classifier
Oct 30 10:37:09 WAB-5010-V2 kern.info kernel: [ 3.110000] Performance counters on
Oct 30 10:37:09 WAB-5010-V2 kern.info kernel: [ 3.110000] input device check on
Oct 30 10:37:09 WAB-5010-V2 kern.info kernel: [ 3.120000] Actions configured
Oct 30 10:37:09 WAB-5010-V2 kern.info kernel: [ 3.120000] Netfilter messages via NETLINK v0.30.
Oct 30 10:37:09 WAB-5010-V2 kern.info kernel: [ 3.130000] nf_conntrack version 0.5.0 (947 buckets, 3788 max)
Oct 30 10:37:09 WAB-5010-V2 kern.info kernel: [ 3.130000] ctnetlink v0.93: registering with nfnetlink.
Oct 30 10:37:09 WAB-5010-V2 kern.info kernel: [ 3.140000] ip_tables: (C) 2000-2006 Netfilter Core Team
Oct 30 10:37:09 WAB-5010-V2 kern.info kernel: [ 3.140000] TCP cubic registered
Oct 30 10:37:09 WAB-5010-V2 kern.info kernel: [ 3.150000] NET: Registered protocol family 17
Oct 30 10:37:09 WAB-5010-V2 kern.notice kernel: [ 3.150000] Bridge firewalling registered
Oct 30 10:37:09 WAB-5010-V2 kern.info kernel: [ 3.160000] Ebtables v2.0 registered
Oct 30 10:37:09 WAB-5010-V2 kern.info kernel: [ 3.160000] 8021q: 802.1Q VLAN Support v1.8
Oct 30 10:37:09 WAB-5010-V2 kern.info kernel: [ 3.160000] ## of selftest(): No testcase data in device tree; not running tests
Oct 30 10:37:09 WAB-5010-V2 kern.info kernel: [ 3.180000] MFS: Mounted root (squashfs filesystem) readonly on device 31:2
```

Refresh **Clear**

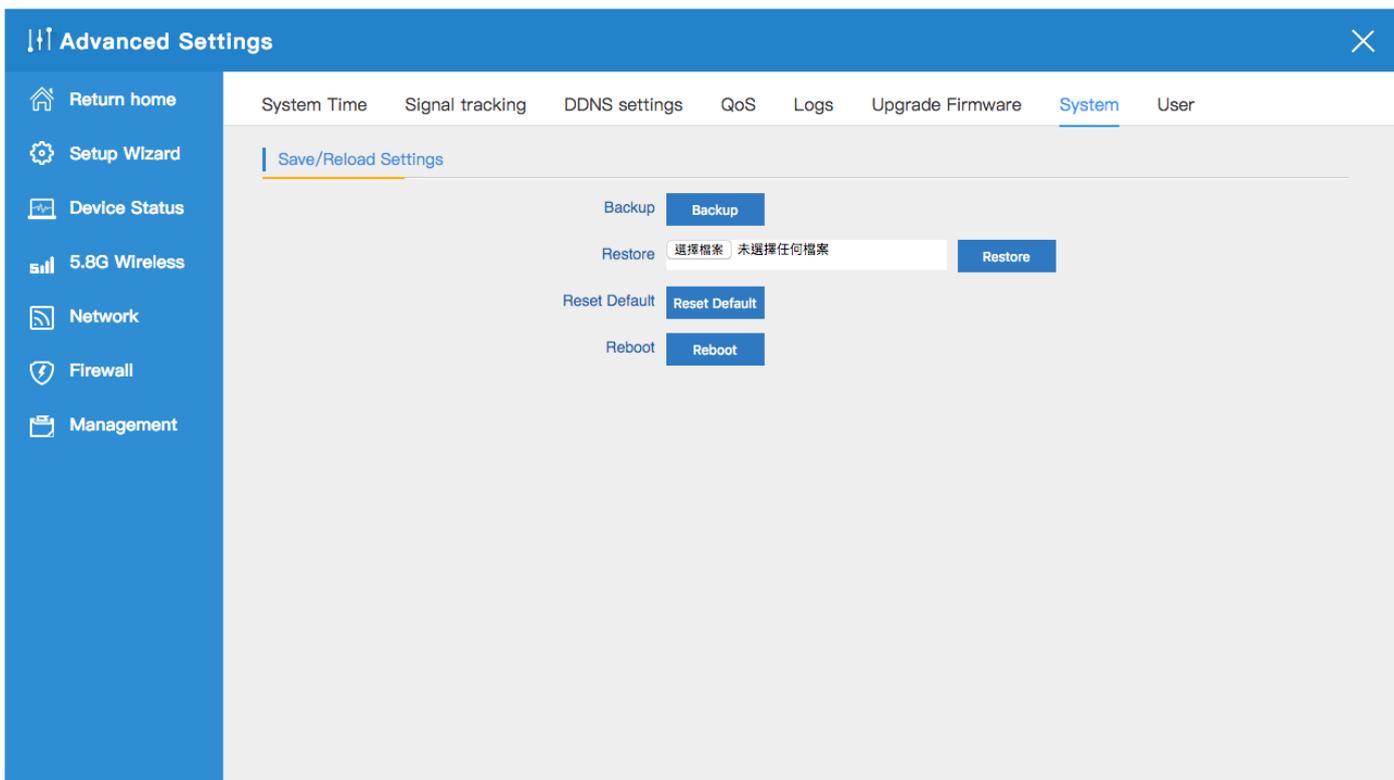
8.3.6 Upgrade Firmware :

- Allows you to browse the new firmware in your computer and upgrade. Please do not power off the device during upgrade.



8.3.7 System :

You are able to backup the current configuration to your PC and restore by applying the configuration file from your PC. And you can Reset and Reboot the device with just one click



8.3.8 User :

- Management and change the password for Log in

Advanced Settings

System Time Signal tracking DDNS settings QoS Logs Upgrade Firmware System User

User

User name

Old Password

Password

Confirm Password

Apply

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Digital Data Communications GmbH

Zeche-Norm-Str. 25

44319 Dortmund

Deutschland

Phone: [+49 231 9075 - 0](tel:+492319075)

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