

**DIGISOL™**

DG-WA1102NPLV2

DIGISOL 2.4GHZ OUTDOOR ACCESS POINT

User Manual

V1.0
2017-01-30

As our products undergo continuous development the specifications are subject to change without prior notice

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Safety

This equipment is designed with the utmost care for the safety of those who install and use it. However, special attention must be paid to the dangers of electric shock and static electricity when working with electrical equipment. All guidelines of this and of the computer manufacturer must therefore be allowed at all times to ensure the safe use of the equipment.

INDEX

1	PRODUCT INFORMATION	4
1.1	HARDWARE INSTALLATION.....	4
1 ST :	HOW TO CONNECT AND CHARGE THE AP.....	4
2 ND :	AP START AND LOG IN.....	5
3 RD :	WEB GUI INTERFACE SETTING:.....	9
4 TH	SHARE INTERNET AND OBTAIN IP ADDRESS AUTOMATICALLY.....	28
2	TROUBLE SHOOTING:	29

1 Product Information

Thank you for purchasing this Outdoor AP DG-WA1102NPLV2. This manual will instruct you how to configure and manage this AP, enable you to use it in a perfect status. After installing this AP, you will be able to enjoy surfing freely.

Please check the Package Contents before you use it:

- DG-WA1102NPLV2
- POE Adapter
- Metal strap*1
- Patch Cord
- Installation Guide CD

1.1 Hardware installation

1st: How to connect and charge the AP

- Interface Description



Fig 1 Interfaces

Item	Description
Reset	Press it for 10-15 seconds, the AP will restore to factory default.
WAN	Connect with internet cable, in Wi-Fi Repeater, bridge, WISP operation mode, it change to LAN port.
LAN	Connect the AP with computer by LAN cable.
DC	For Power supply, the DC's electronic standard is 12V/24V.

- POE: This equipment can be powered over Ethernet, Connect AP's WAN/LAN Port with PoE adapter's POE port by LAN Cable (AP's LAN port and WAN port support the 12V/24V PoE.)
- Please refer to fig 2 for PoE Power and AP configuration

DG-WA1102NPLV2

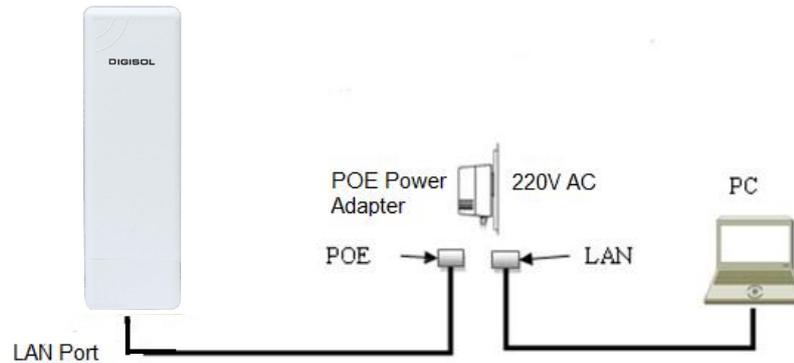


Fig 2 Diagram of PoE Power and AP configuration



Attention

Please make sure our AP is working with included Power adapter or PoE adapter, and under right connection way, or the device will be damaged.

2nd: AP Start and Log in

1) Power the AP as shown in fig 2.

2) Set a fixed IP address for this computer: The default operation mode of this outdoor AP is Wireless AP, end users should set an IP address for the computer, then you can access the Outdoor AP's IP: Set the computer's IP address as 192.168.1.X (X is number between 1-252), make it same as AP's network segment, then set Subnet mask as 255.255.255.0, Default gateway leave it blank, then click OK.

A.: Please follow fig 3 and fig 4 for wired configuration.



Fig 3 Configure the computer's IP address (by wired)

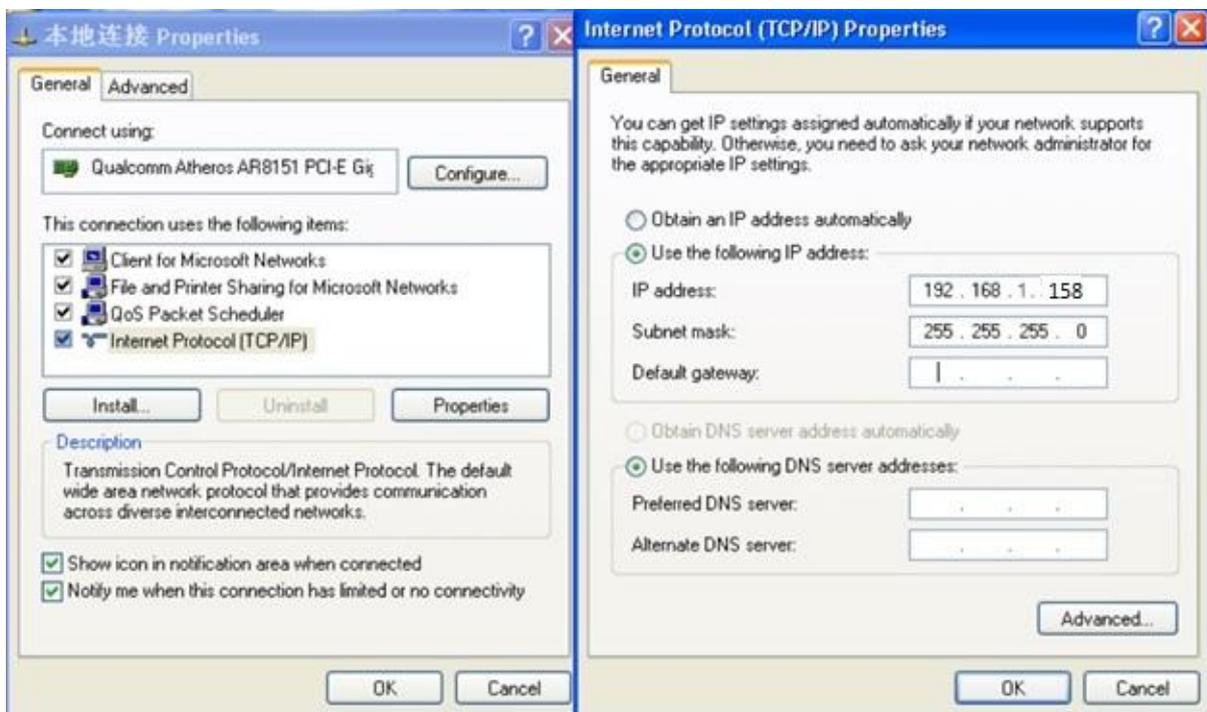


Fig 4 Configure the computer's IP (by wired)

B. Please follow fig 5 to configure the computer's IP address wirelessly.

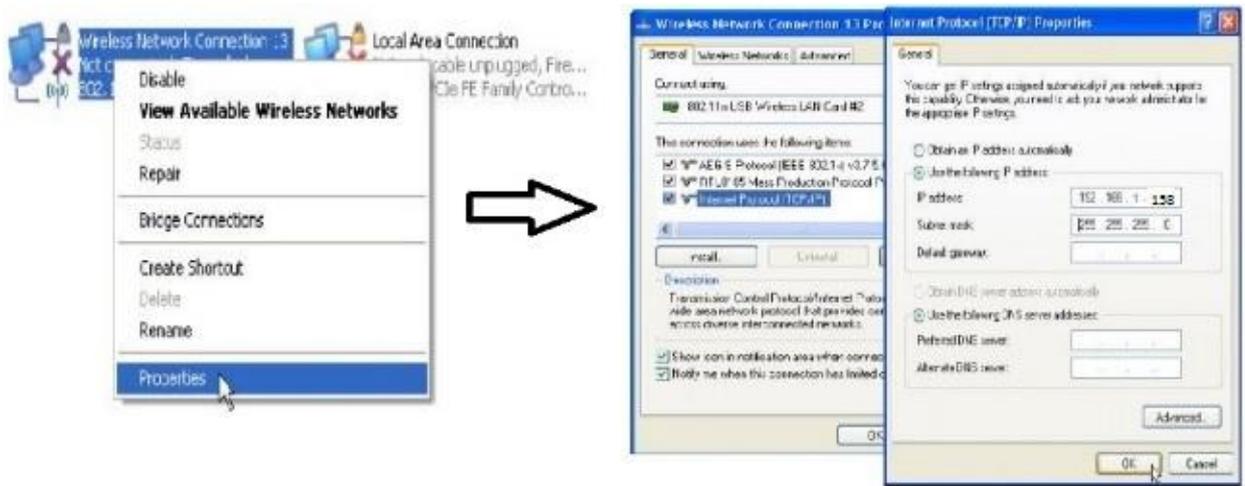


Fig 5 Configure the computer's IP Address wirelessly

If you want to connect our AP wirelessly after IP address configuration, please right click Wireless networking Connection, then View Available Wireless Networks. The default SSID is DG-WA1102NPLV2. Click Refresh network list, double click the correct SSID and input the passwords, if you have, then connect. Please refer to fig 6 and fig 7



Fig 6 AP Wireless Connection

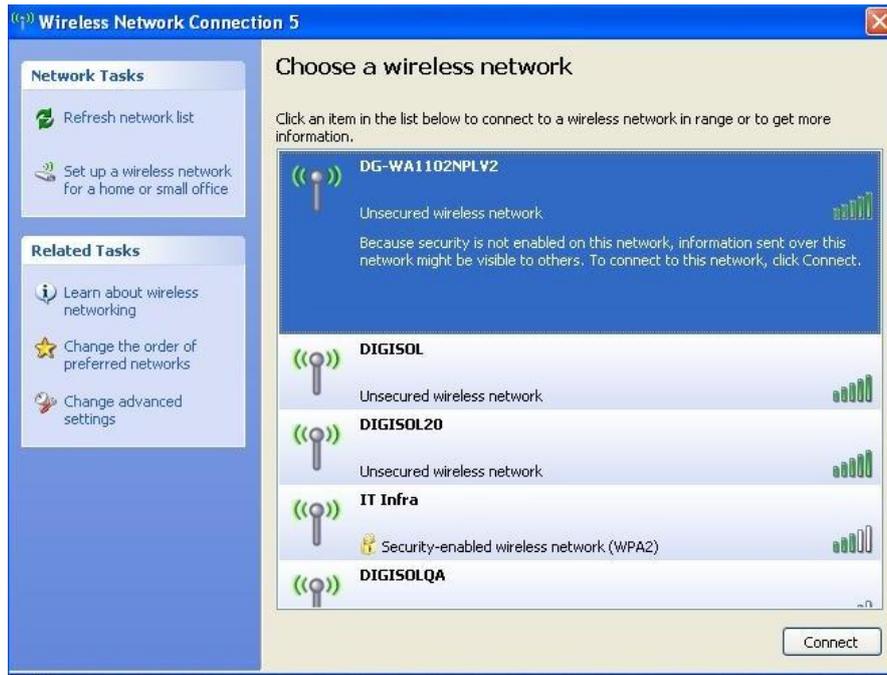


Fig 7 AP Wireless Connection



Indicator

If your computer has built in 802.11b/g/n wireless adapter, but can't search the available wireless networking after refreshing, please contact the computer supplier or after-sale department after going through the following points:

Right click My Network Places, select Properties, appear Local Area Connection or Other Connection, No Wireless Network Connection

There is Wireless Network Connection in My Network Places, Show General and Advanced after right click Wireless Network Connection and select Properties, but no Wireless Network Configuration in Window

Log in the AP: Open your web browser, type in **192.168.1.200** in the address bar, enter **admin** in white blank bar, then login.

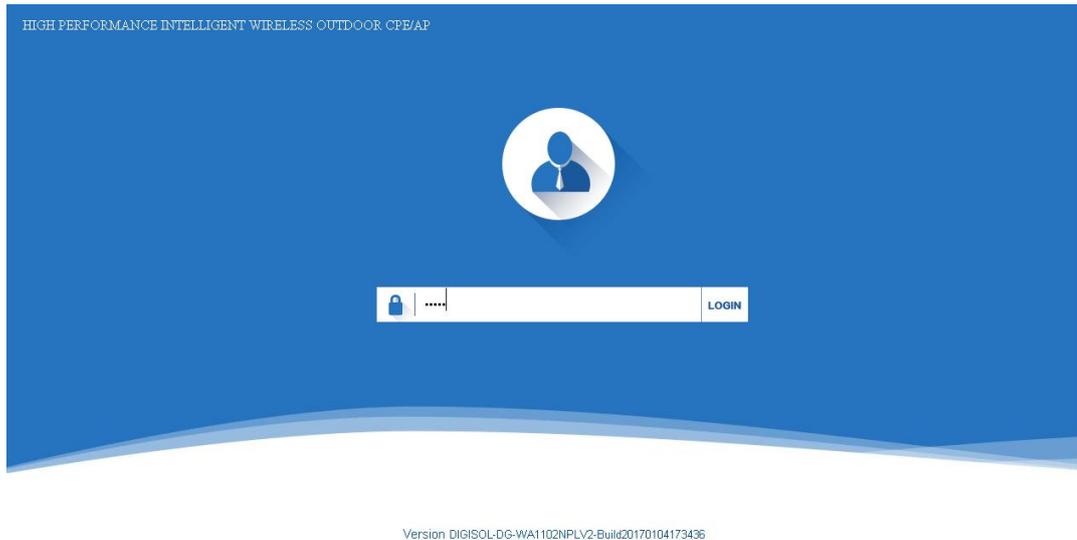


Fig 8 Log in

3rd: WEB GUI interface Setting:

1) Status

After login, fig 9 Device Status will be shown:

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

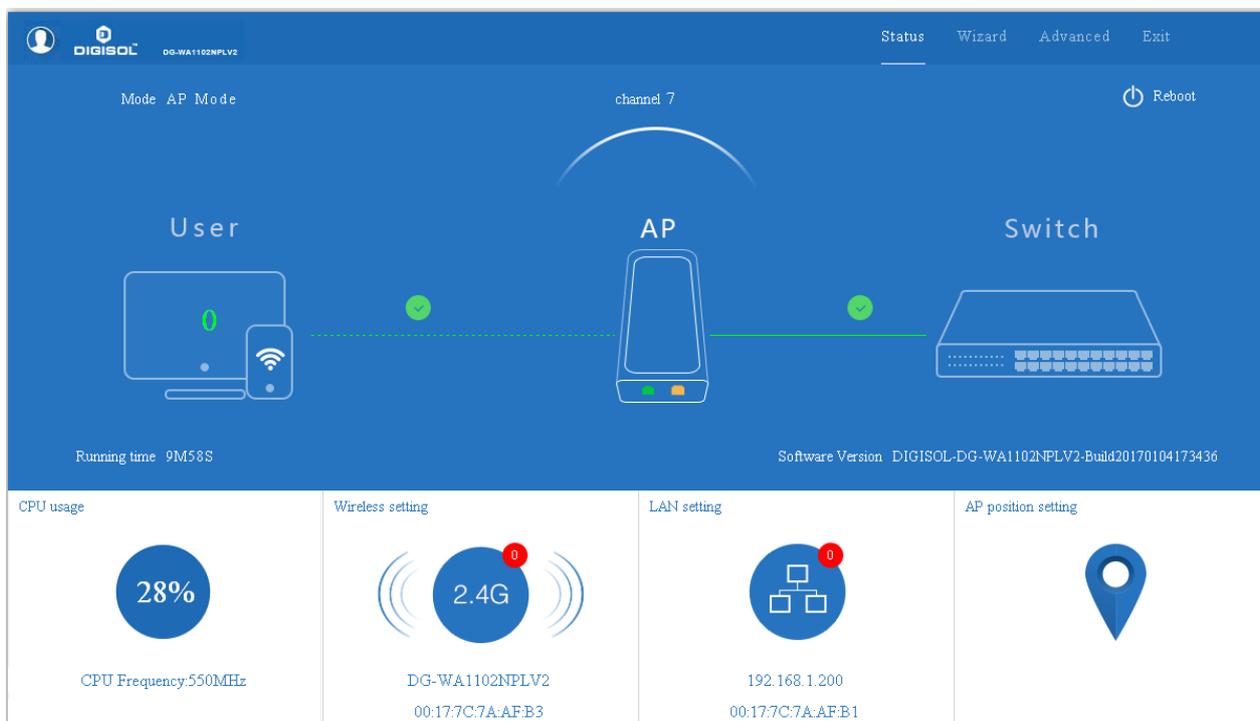


Fig 9 Status

In this Outdoor AP, the default operation mode is AP mode.

Then in 2.4G Wireless Setting, GUI configuration page will be as shown below:

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

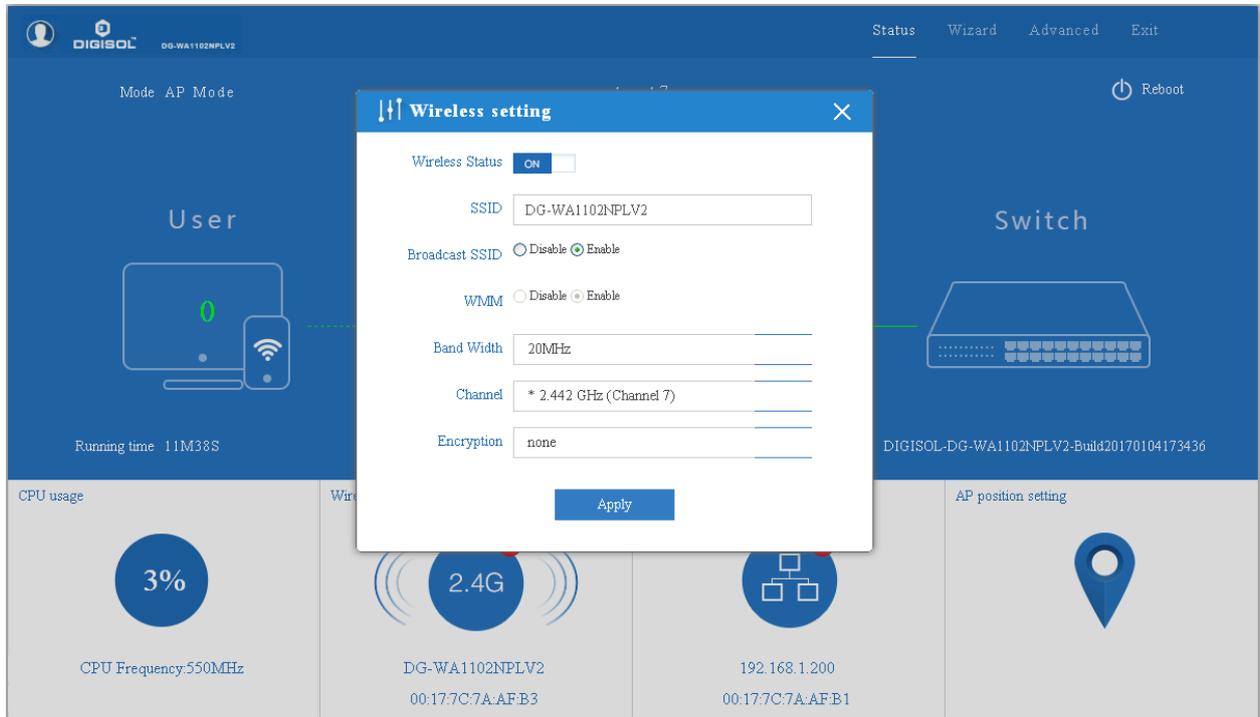


Fig 10 Wireless Setting

LAN Setting to configure the DHCP or Fix IP for local LAN.

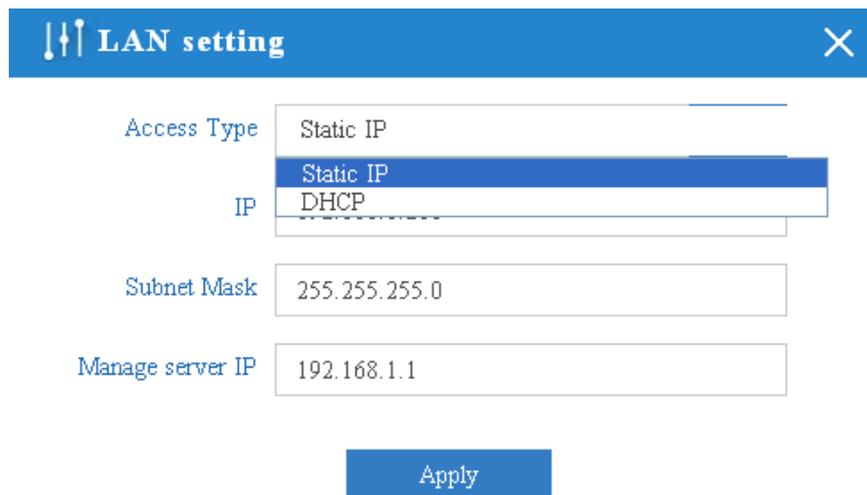


Fig 11 LAN Setting

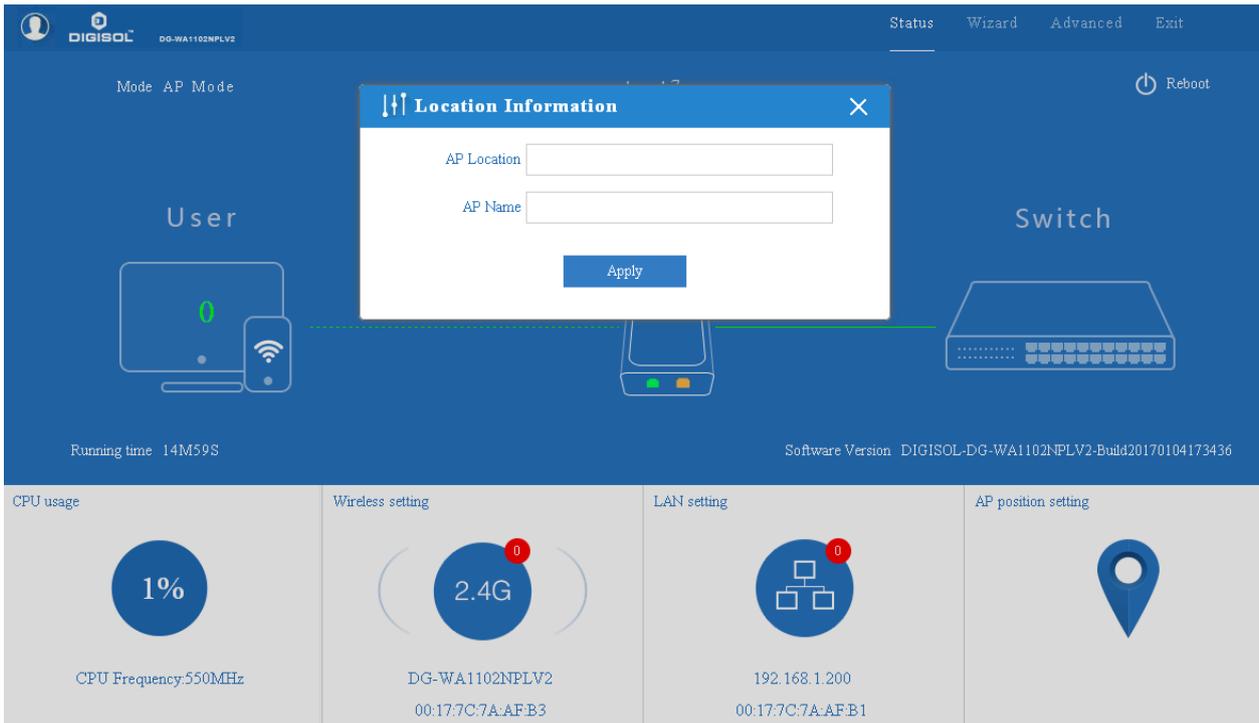


Fig 12 AP Position setting

2) Wizard Configuration:

Click Wizard in Status page, will pop up following page to configure the operation mode:

There are four operation modes of this ceiling wireless AP, and there are explanations for each operation mode for better application.

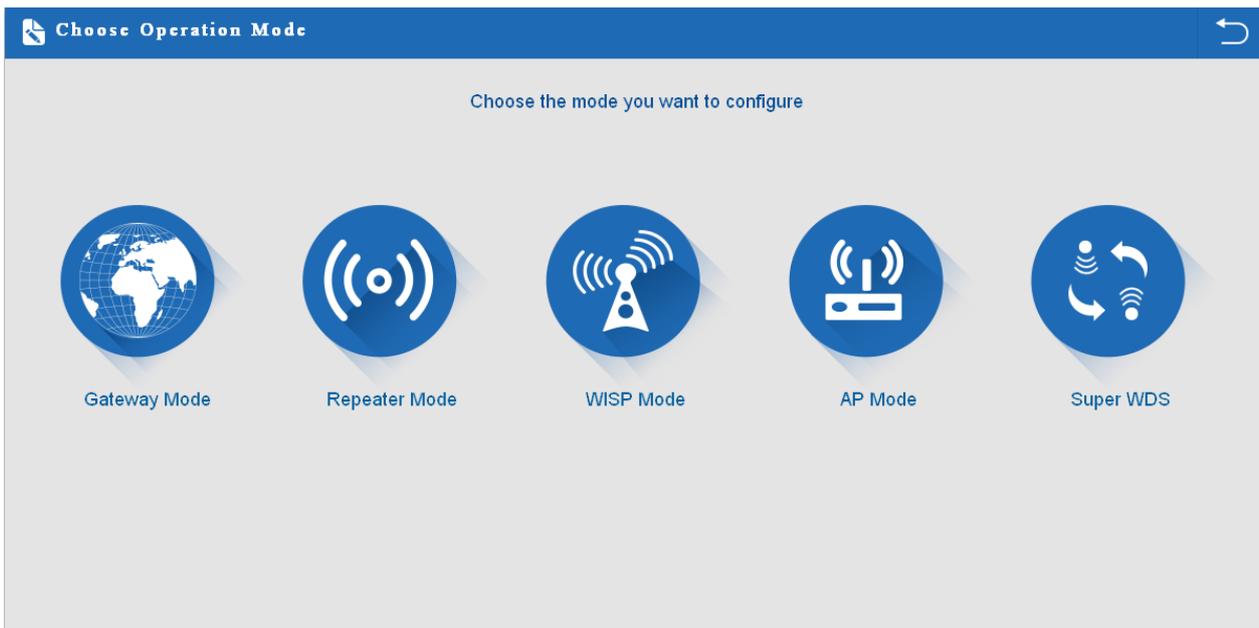


Fig 13 Operation modes

I Gateway Mode:

Click Gateway mode, the following pictures will pop up:

Please choose the right WAN setting mode, then click next to continue.

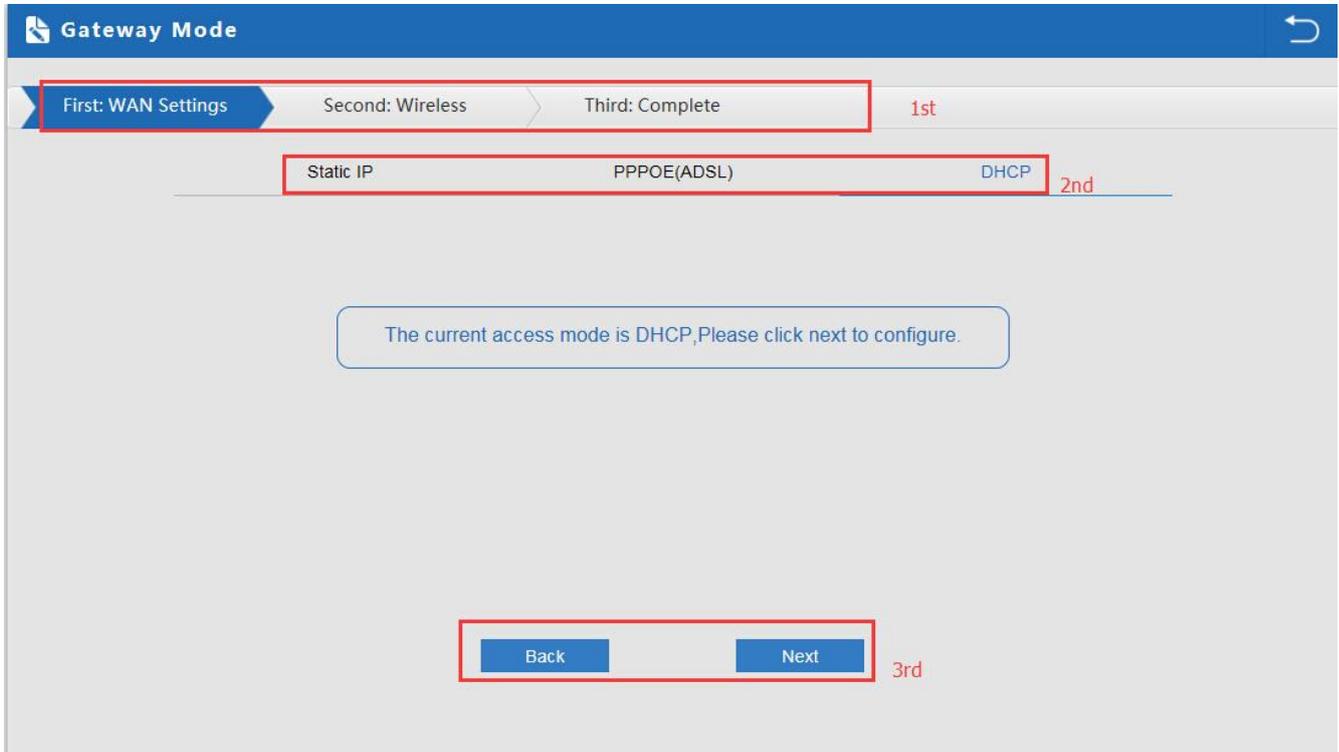


Fig 14. WAN setting in Gateway Mode

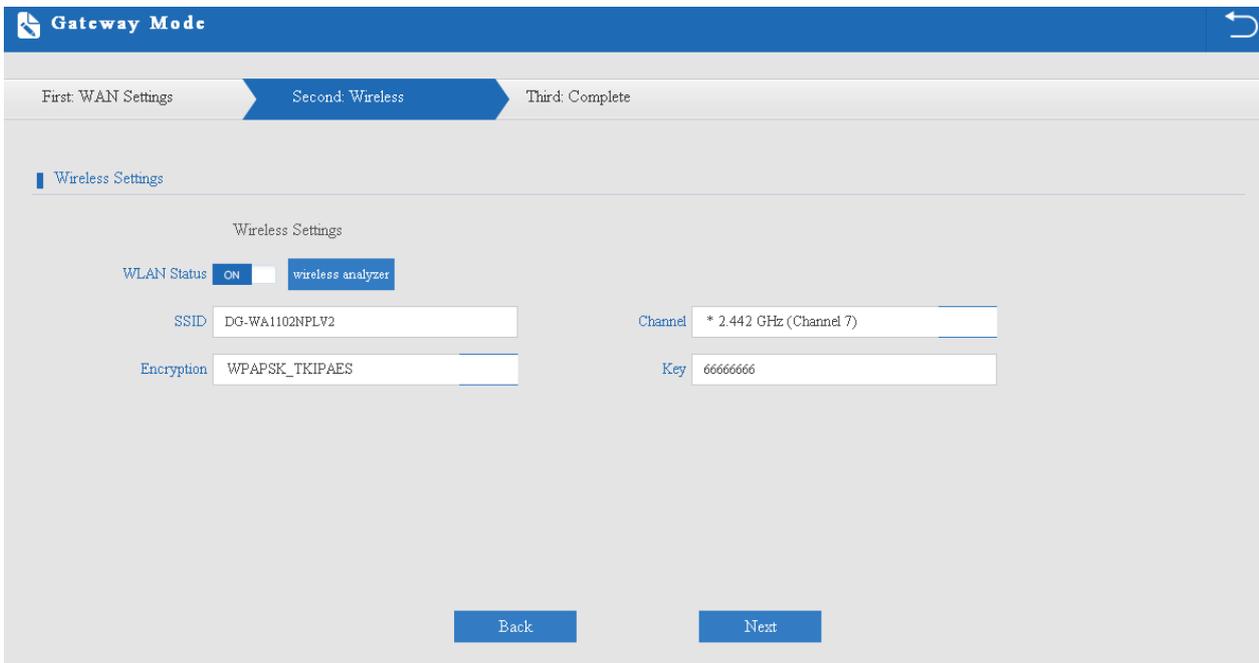


Fig 15 Wireless Setting in Gateway Mode

When you click on Next, then will complete the Gateway mode setting and show the following

picture:

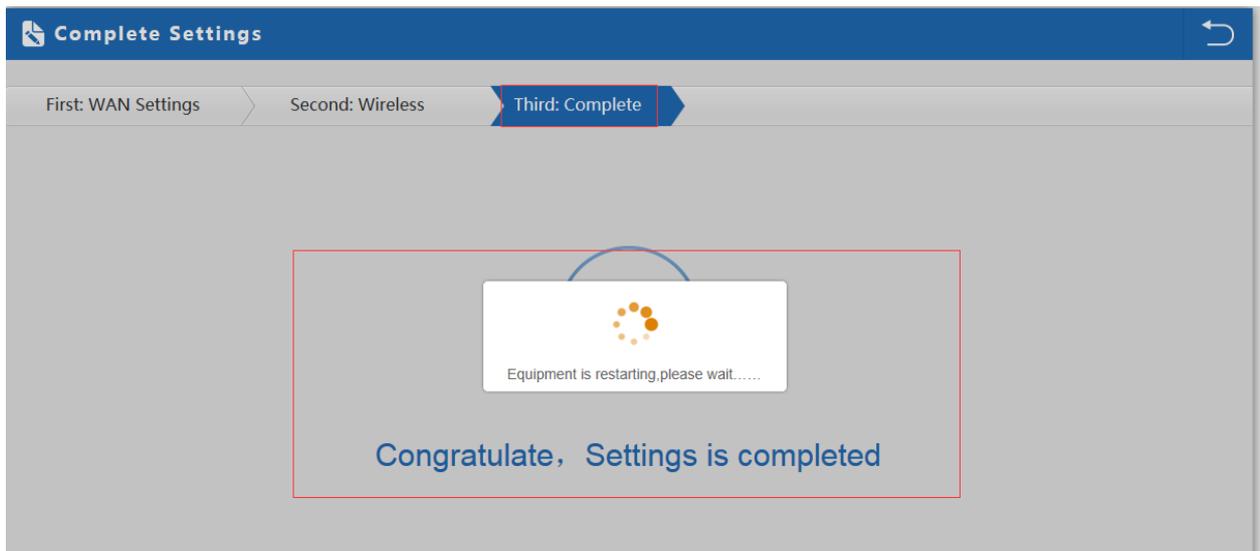


Fig 16 Complete the setting in Gateway Mode

When you return to Status, the page as shown below appears:

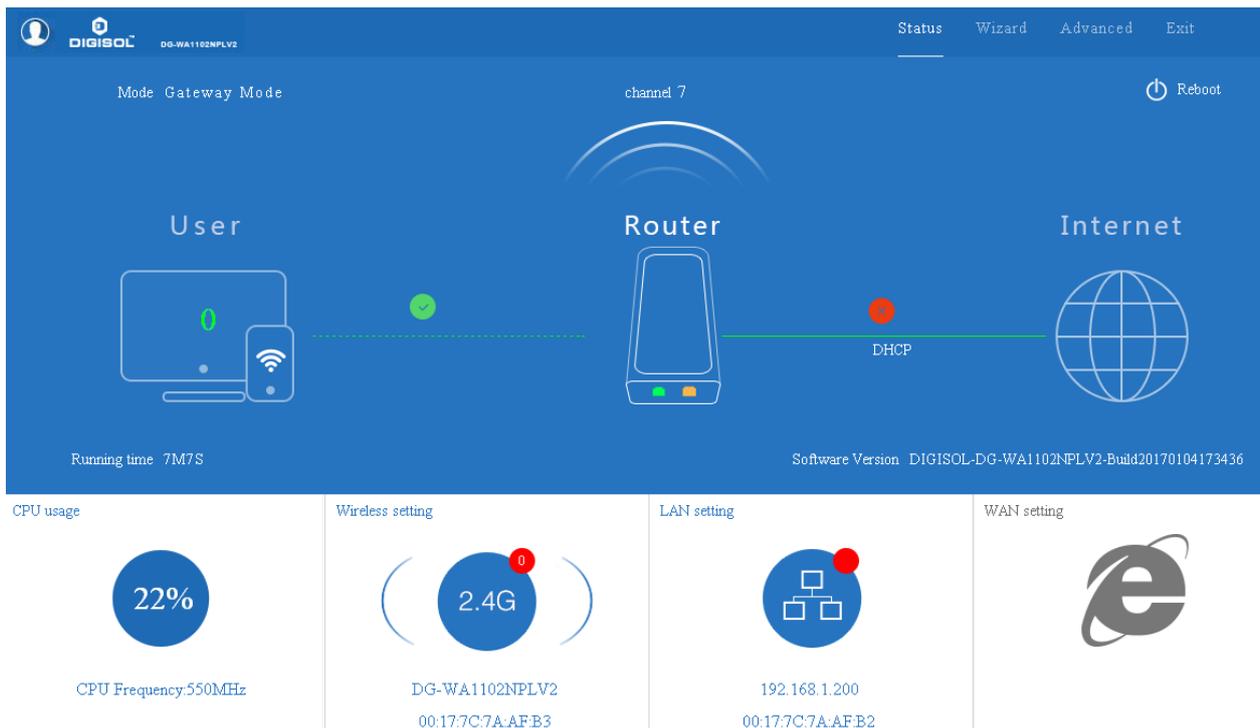


Fig 17 Status in Gateway Mode

II Wi-Fi Repeater mode

Click Wi-Fi Repeater operation mode in Wizard, then following page will pop up, and choose the right SSID to bridge, then click next to finish it.

Repeater Mode

First: Repeater
➤
Second: Complete

Wireless Repeater

Repeater SSID

Authentication none ▼

Band Width 20MHz ▼

WDS Passthrough

Scan AP

Back

Next

Scan AP ✕

bg4100n		
00:17:7C:25:87:78	Channel: 9	Choice
▬▬▬ RSS: -45 dBm	Encryption: WPAPSK_TKIPAES	
Digisol 2nd floor		
00:50:18:21:DC:DC	Channel: 13	Choice
▬▬▬ RSS: -28 dBm	Encryption: WPA/WPA2PSK_TKIPAES	
IT Infra		
00:17:7C:16:43:F8	Channel: 3	Choice
▬▬▬ RSS: -48 dBm	Encryption: WPA2PSK_TKIPAES	
tee		
		Refresh

Fig 18 Repeater Mode

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

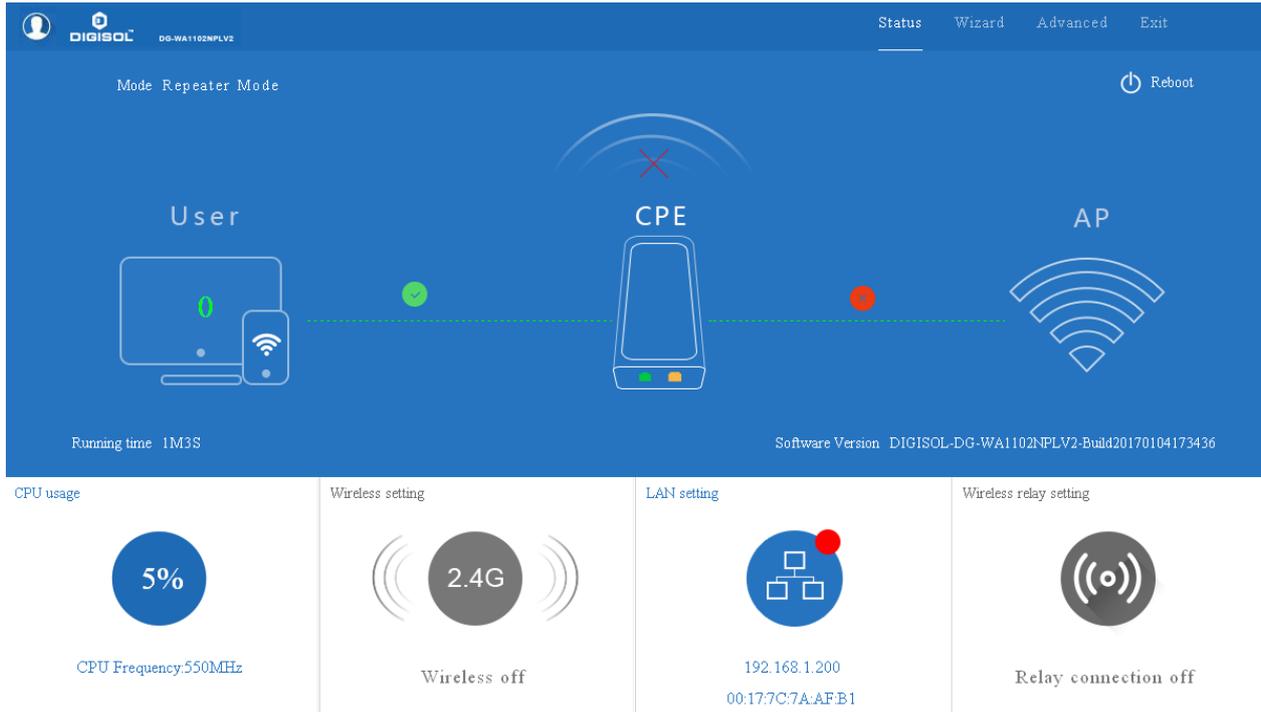


Fig 19 Status in Repeater Mode

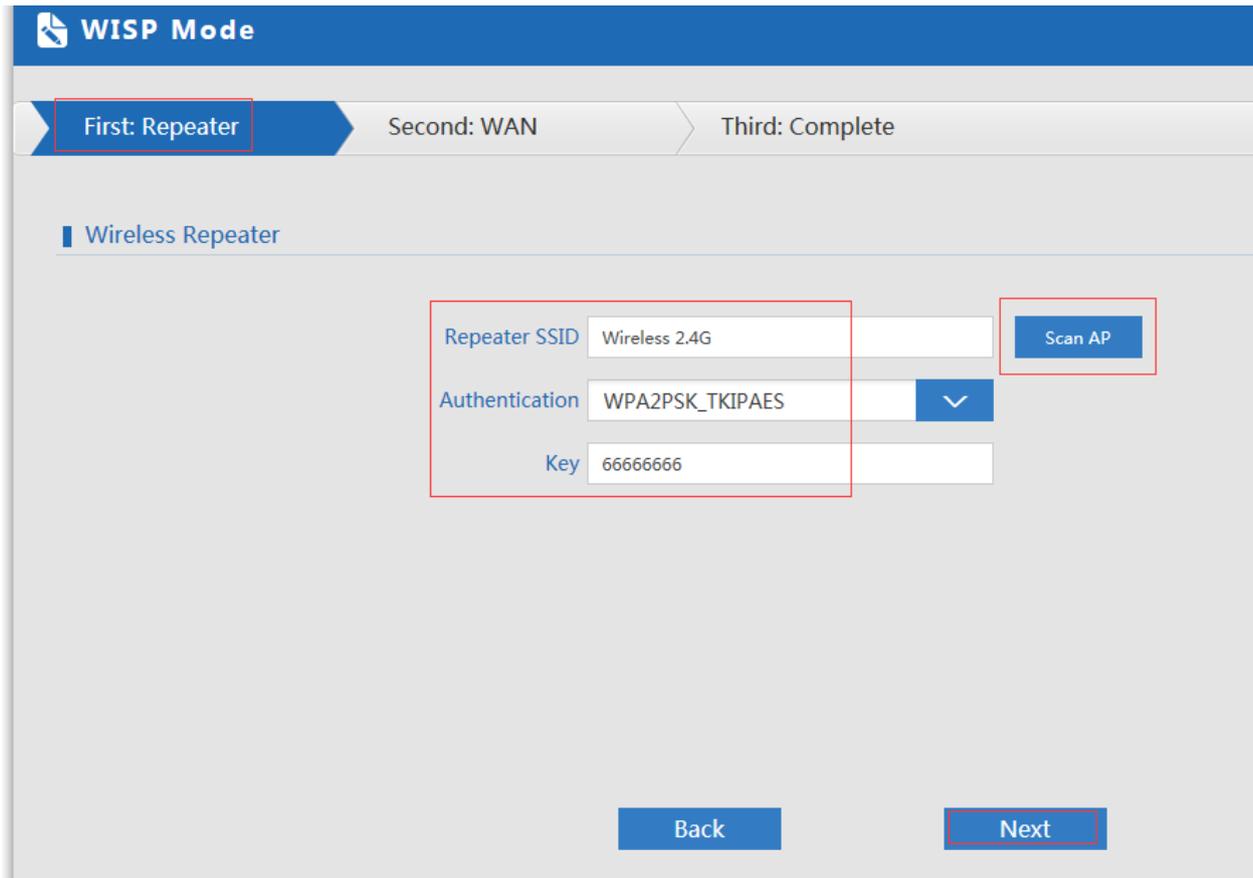
Please note, in Wi-Fi Repeater operation mode, the wireless is disabled by default, will not broadcast the wireless SSID.

If you need to enable SSID, please do based on following picture:

Please note, when you click on wireless relay settings, will go back to fig 18 wi-fi repeater setting directly.

III WISP Operation mode:

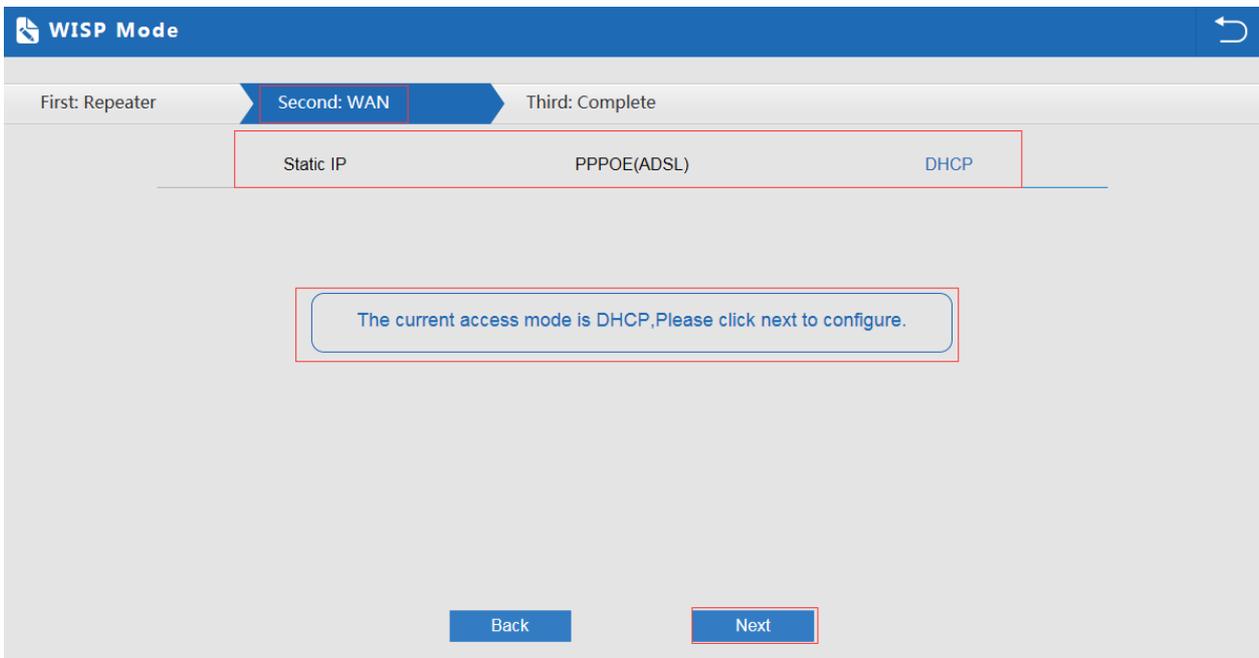
Click WISP operation mode in Wizard, then will pop up the configure page, please set the WISP operation mode based on the steps shown in picture:



The screenshot shows the 'WISP Mode' configuration interface. At the top, a blue header contains the 'WISP Mode' title. Below it, a progress bar indicates three steps: 'First: Repeater' (highlighted in blue), 'Second: WAN', and 'Third: Complete'. The main content area is titled 'Wireless Repeater' and contains three input fields: 'Repeater SSID' with the value 'Wireless 2.4G', 'Authentication' with the value 'WPA2PSK_TKIPAES', and 'Key' with the value '66666666'. A 'Scan AP' button is located to the right of the SSID field. At the bottom, there are 'Back' and 'Next' buttons, with 'Next' highlighted in blue.

Fig 20 WISP Mode

Configure the right WAN setting in WISP operation mode, then next to restart the outdoor AP.



The screenshot shows the 'WISP Mode' configuration interface at the 'Second: WAN' step. The progress bar at the top shows 'First: Repeater', 'Second: WAN' (highlighted in blue), and 'Third: Complete'. Below the progress bar, three radio button options are visible: 'Static IP', 'PPPOE(ADSL)', and 'DHCP'. The 'DHCP' option is selected. A message box in the center states: 'The current access mode is DHCP, Please click next to configure.' At the bottom, there are 'Back' and 'Next' buttons, with 'Next' highlighted in blue.

Fig 21 WAN 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:

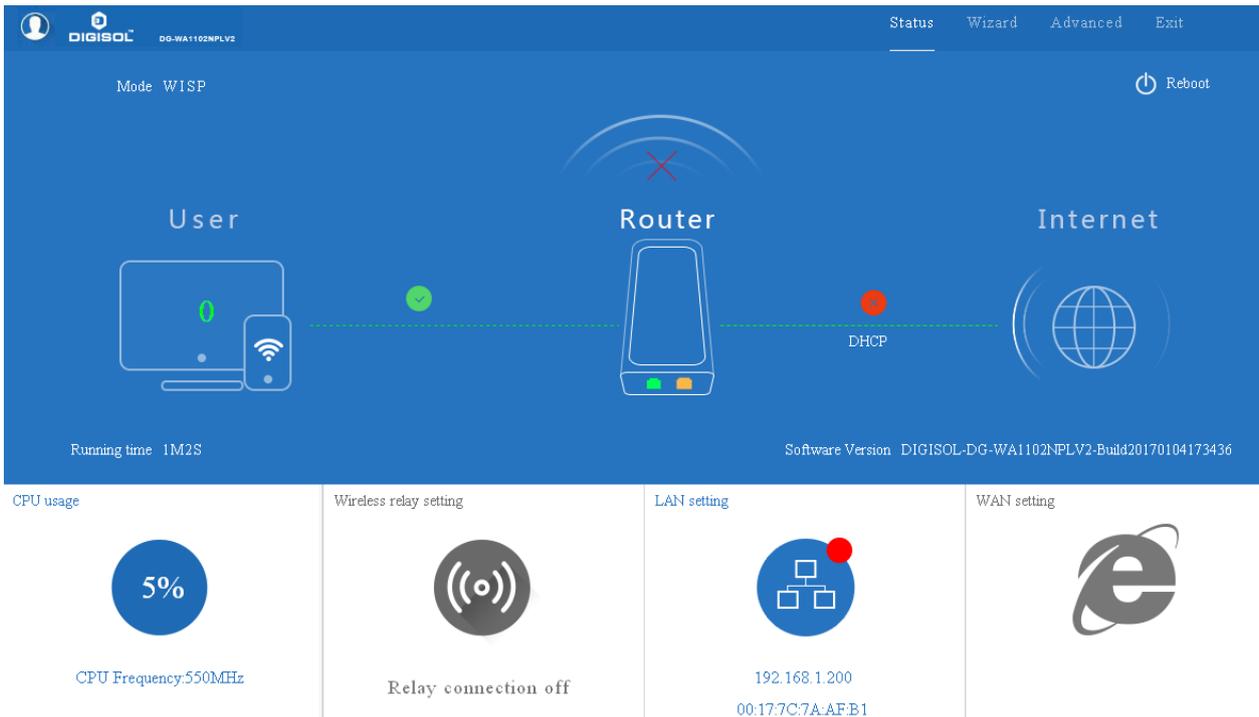


Fig 22 Status in WISP mode

Remark: When you click on WAN setting the screen will pop up as shown in the following picture:



Fig 23 WAN setting in WISP mode

IV AP Operation mode:

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:

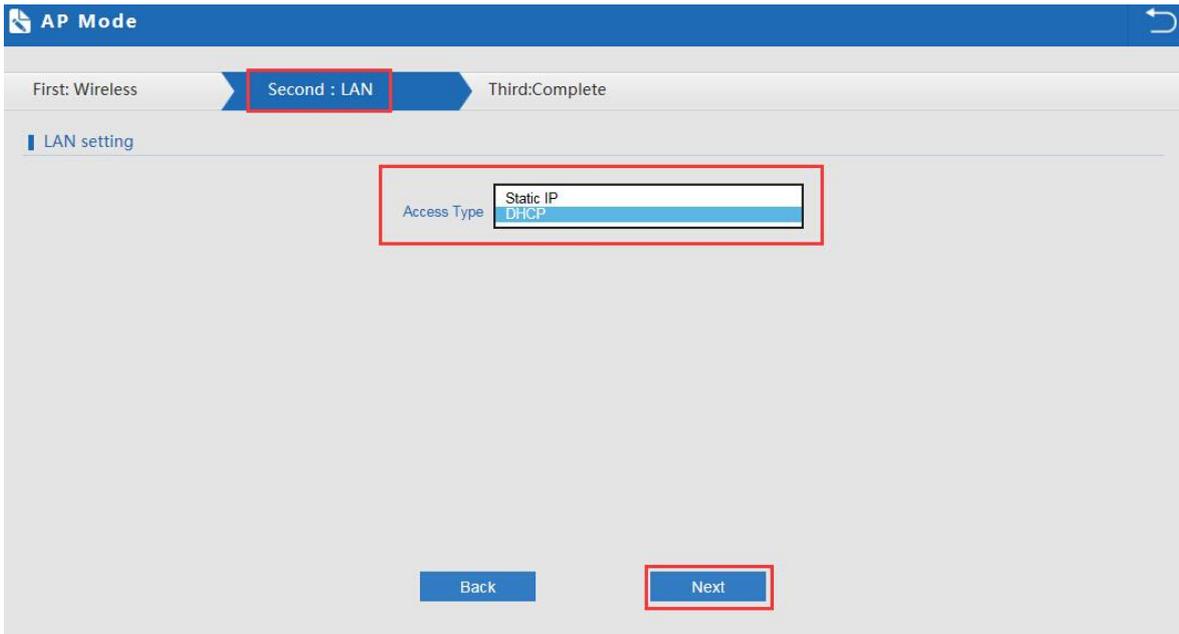


Fig 26 LAN Setting in AP Mode

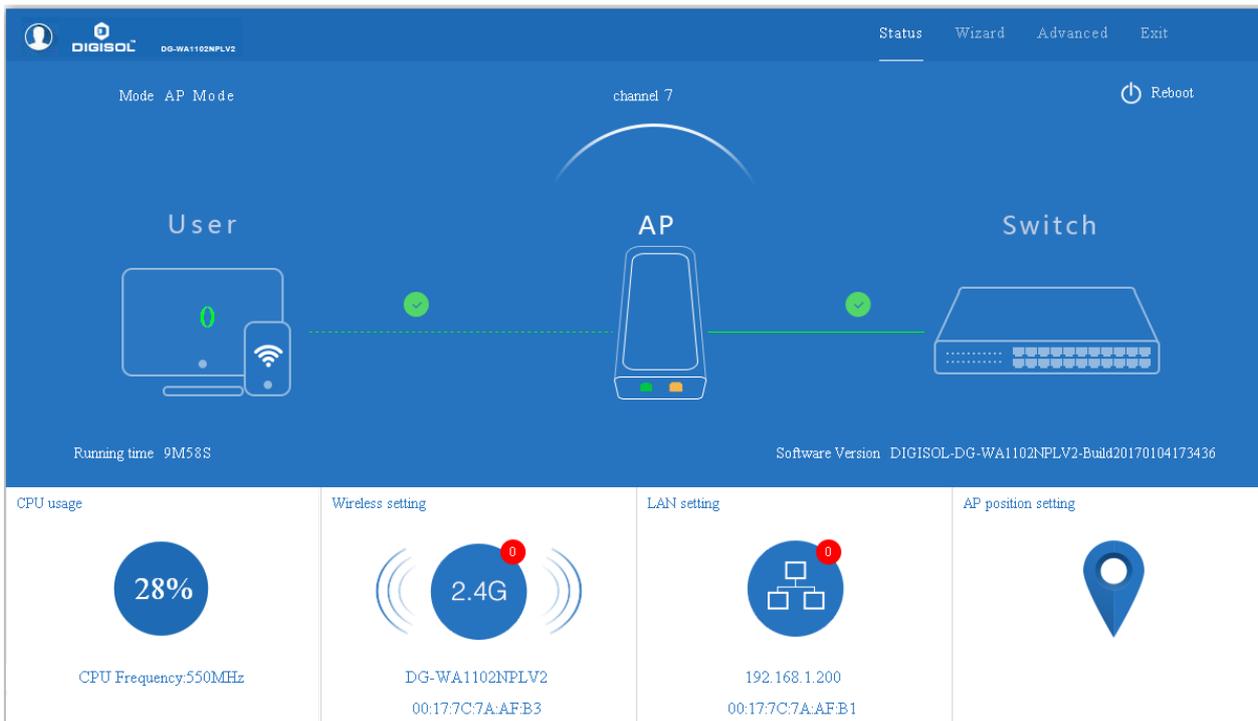


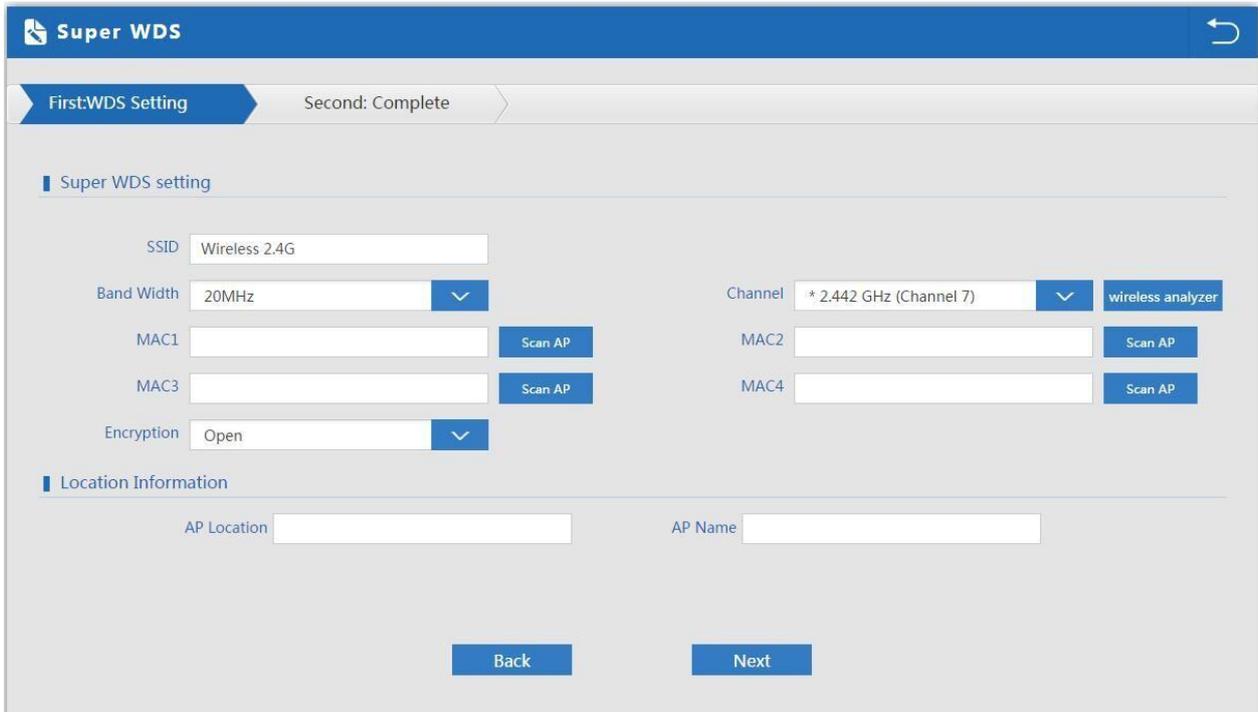
Fig 27 Status in AP Mode

V WDS operation mode

In WDS setting two AP's work in WDS operation mode:

A. Connect with WDS1 device and enter into the GUI page, Click Wizard and Choose SUPER WDS mode, input the SSID, Band Width, Channel as you like, then click next to finish.

For example, the SSID is Wireless 2.4G-test-02.



Super WDS

First: WDS Setting Second: Complete

Super WDS setting

SSID: Wireless 2.4G

Band Width: 20MHz

Channel: * 2.442 GHz (Channel 7) wireless analyzer

MAC1: Scan AP

MAC2: Scan AP

MAC3: Scan AP

MAC4: Scan AP

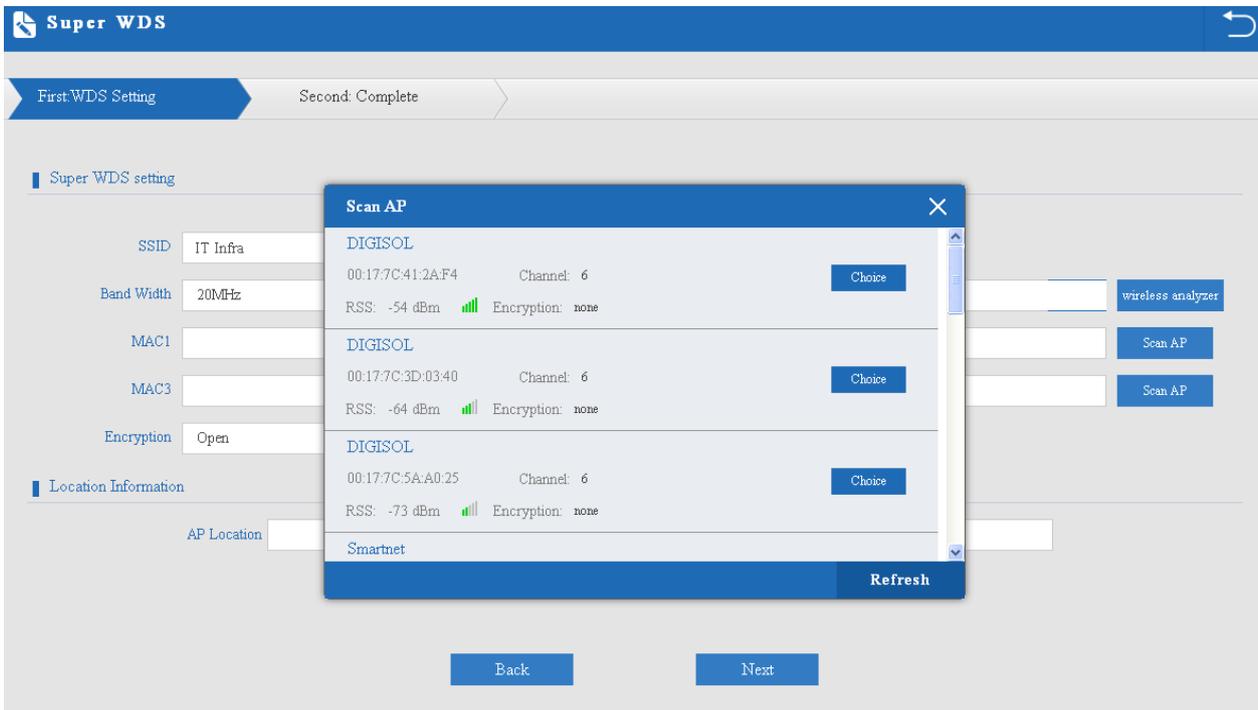
Encryption: Open

Location Information

AP Location: AP Name:

Back Next

B. Enter into WDS 2 device's GUI page, click Wizard, then choose super WDS function. In this page, click scan AP to choose WDS 1's SSID. In this page, can set WDS 2 device's SSID as Wireless 2.4G-Test-01.



Super WDS

First: WDS Setting Second: Complete

Super WDS setting

SSID: IT Infra

Band Width: 20MHz

MAC1: wireless analyzer

MAC2: Scan AP

MAC3: Scan AP

Encryption: Open

Location Information

AP Location:

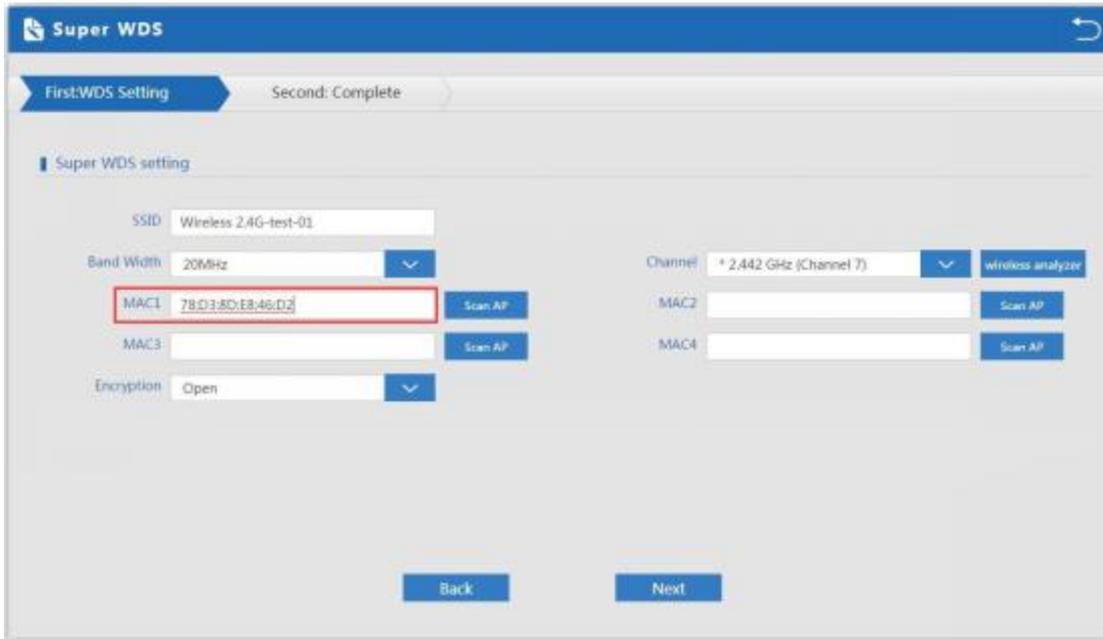
Back Next

Scan AP

DIGISOL	00:17:7C:41:2A:F4	Channel: 6	Choice
	RSS: -54 dBm	Encryption: none	
DIGISOL	00:17:7C:3D:03:40	Channel: 6	Choice
	RSS: -64 dBm	Encryption: none	
DIGISOL	00:17:7C:5A:A0:25	Channel: 6	Choice
	RSS: -73 dBm	Encryption: none	
Smartnet			

Refresh

C. Click next to finish, then WDS2 will work with WDS1.



- D. Back to WDS 1, Wizard---Super WDS---Scan AP---Choose WDS 2 device's SSID, then WDS1 will work with WDS2.
- E. If WDS 3 device should work with WDS1, scan WDS1, then make WDS3 to work with WDS1. And in WDS1, can scan WDS3's SSID also if needed.

3) Advanced Setting:

In advanced setting, user can check the ceiling AP's firmware version, working status, 2.4G wireless, LAN Status, upgrade firmware, Reset.

Let's Click Advanced Setting in status page, will show return home, Setup Wizard which was shown earlier.

The following will be seen: Device Status, Wireless, Network and Management.

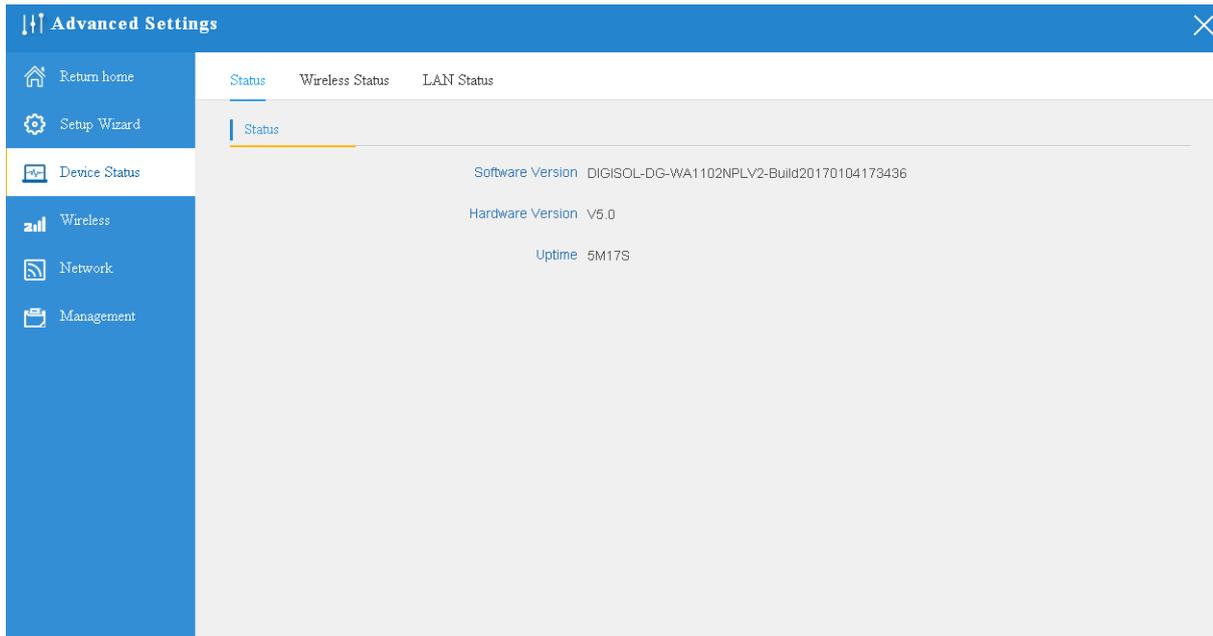


Fig 28 Device Status

Device Status: In this page, mainly to check the ceiling AP's status in firmware version, Wireless status, LAN status:

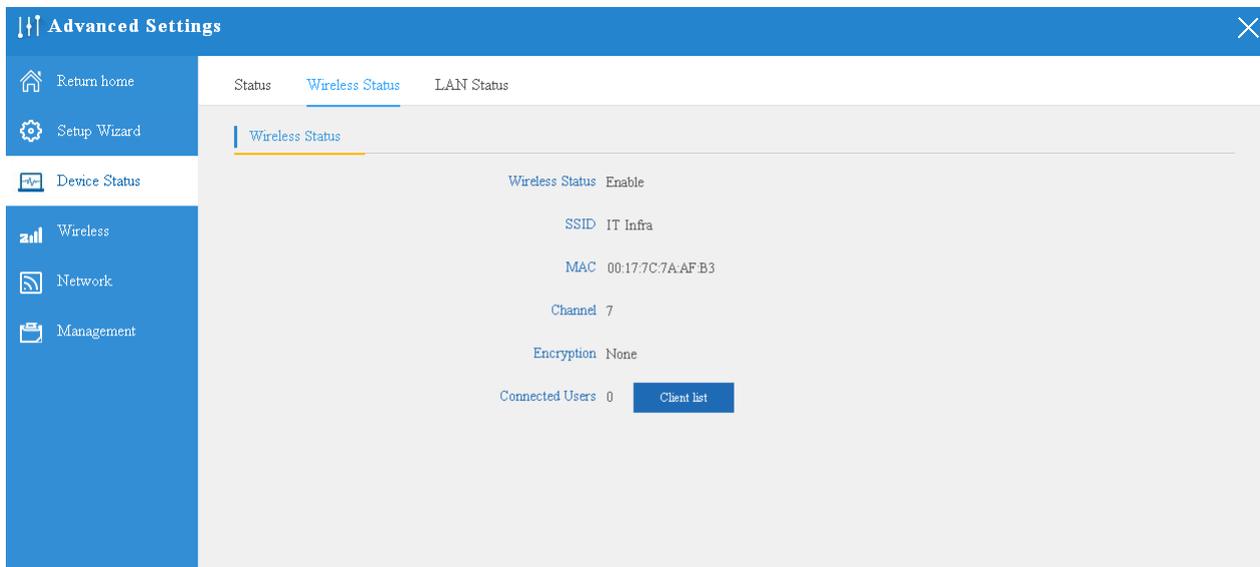


Fig 29 2.4G Wireless Status

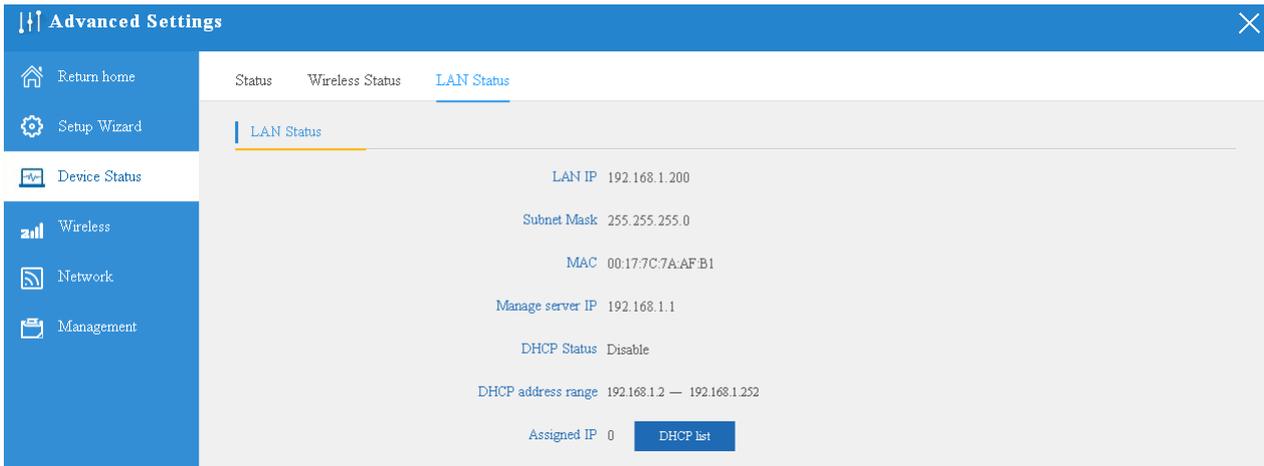


Fig 30 LAN Status

2.4G Wireless Setting:

This part, will show the Wireless Basic Setting, Virtual AP, Access control and Advanced Setting:

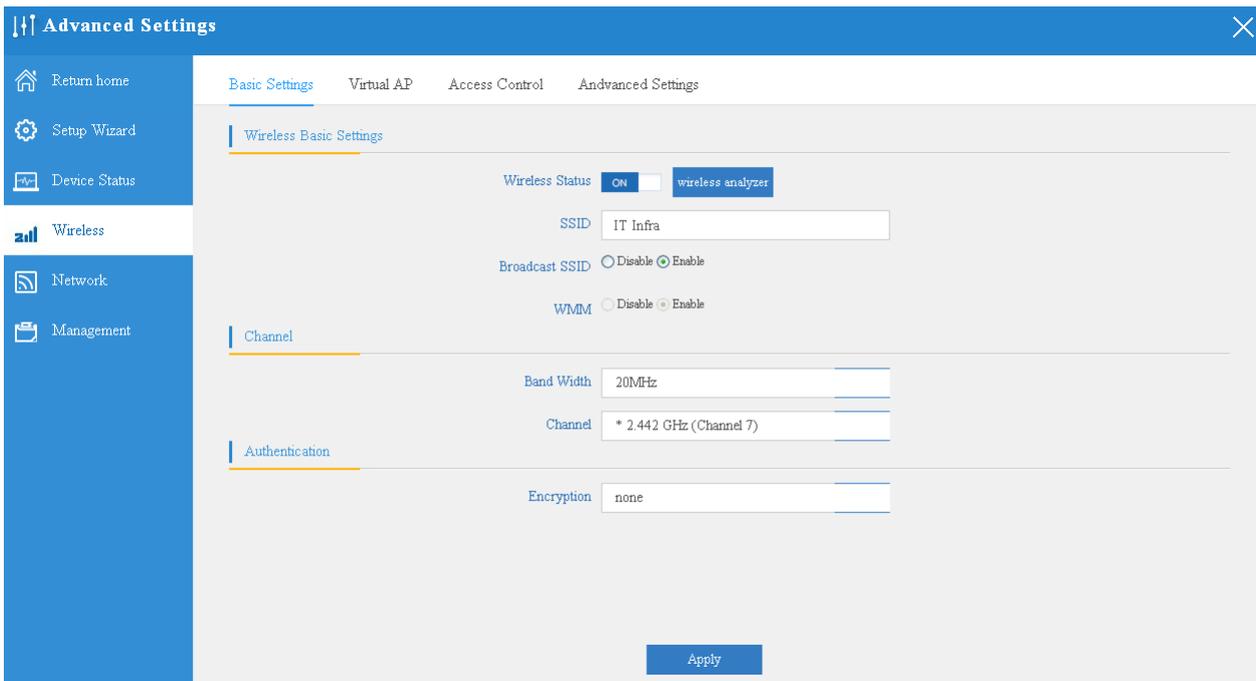


Fig 31 Basic Setting in 2.4G Wireless

Virtual AP:

There are 3 virtual AP in this outdoor AP, if needed virtual SSID, then users can configure it as shown in the following picture:

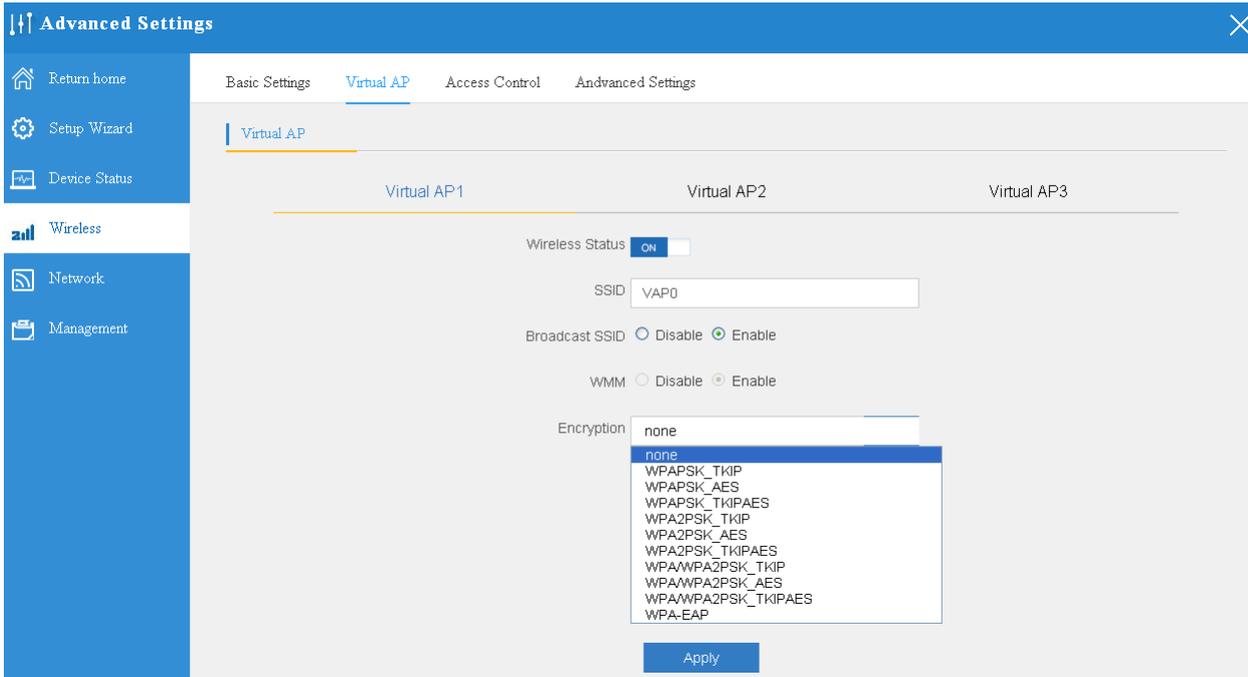


Fig 32 Virtual AP

Access Control: Mainly shows MAC allow or deny:

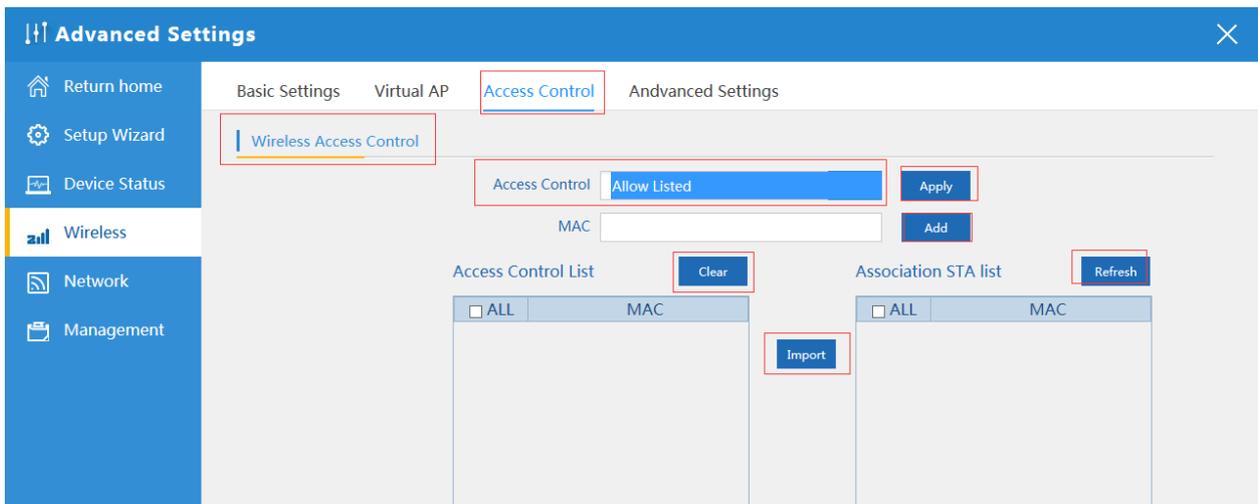
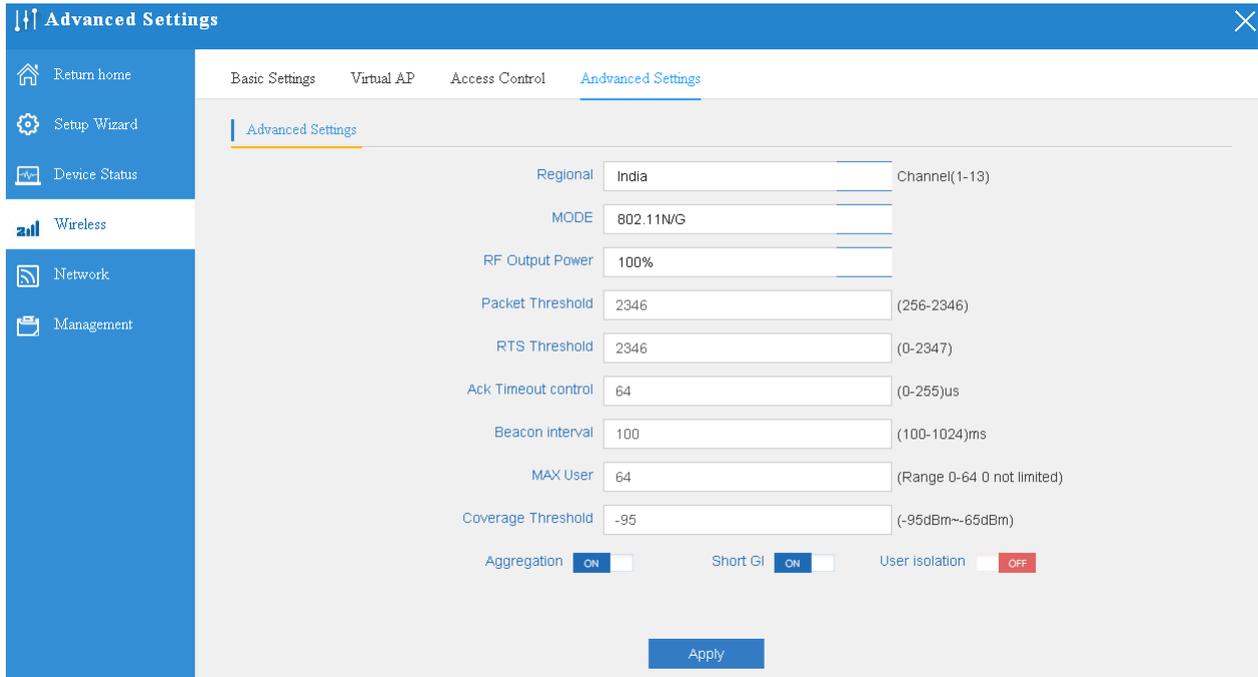


Fig 33 MAC Access Control

Advanced Settings:

This page, will show the regional, RF Power, Max user access.



Advanced Settings

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

Advanced Settings

Regional: India Channel(1-13)

MODE: 802.11N/G

RF Output Power: 100%

Packet Threshold: 2346 (256-2346)

RTS Threshold: 2346 (0-2347)

Ack Timeout control: 64 (0-255)us

Beacon interval: 100 (100-1024)ms

MAX User: 64 (Range 0-64 0 not limited)

Coverage Threshold: -95 (-95dBm~-65dBm)

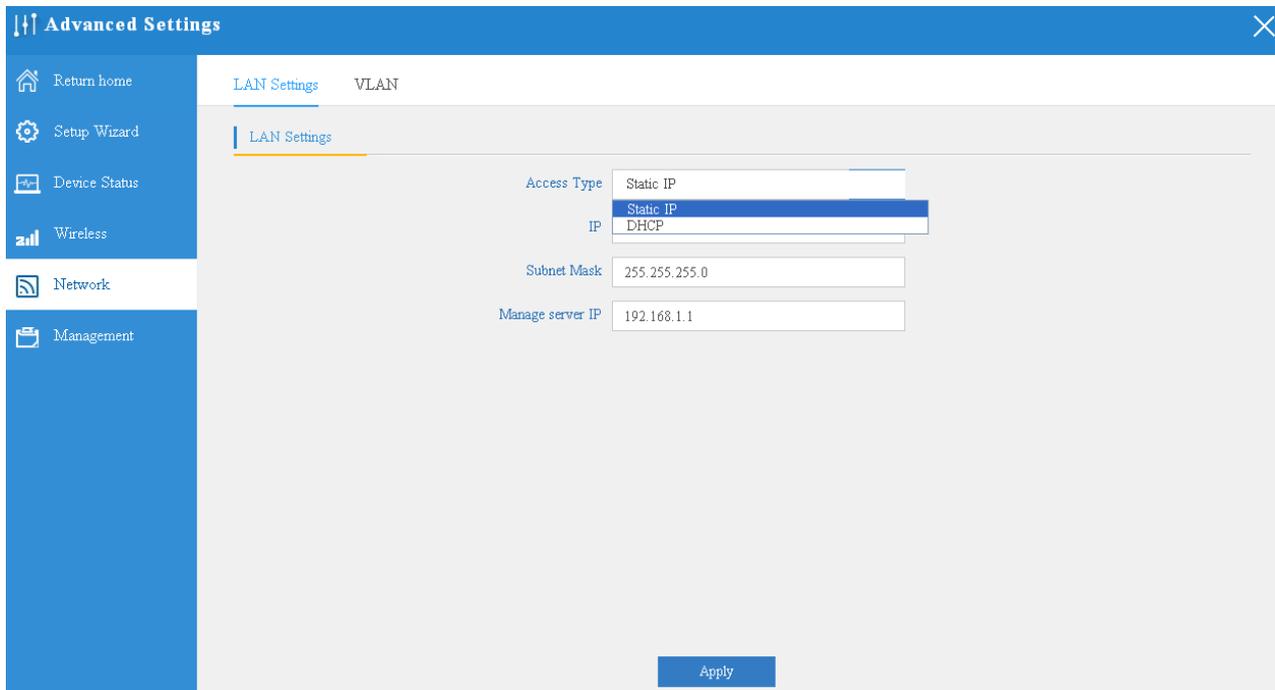
Aggregation ON Short GI ON User Isolation OFF

Apply

Fig 34 Advanced Setting

Network setting:

This page, mainly shows the LAN setting and VLAN as follows:



Advanced Settings

LAN Settings VLAN

LAN Settings

Access Type: Static IP
Static IP
DHCP

IP:

Subnet Mask: 255.255.255.0

Manage server IP: 192.168.1.1

Apply

Fig 35 Network Setting

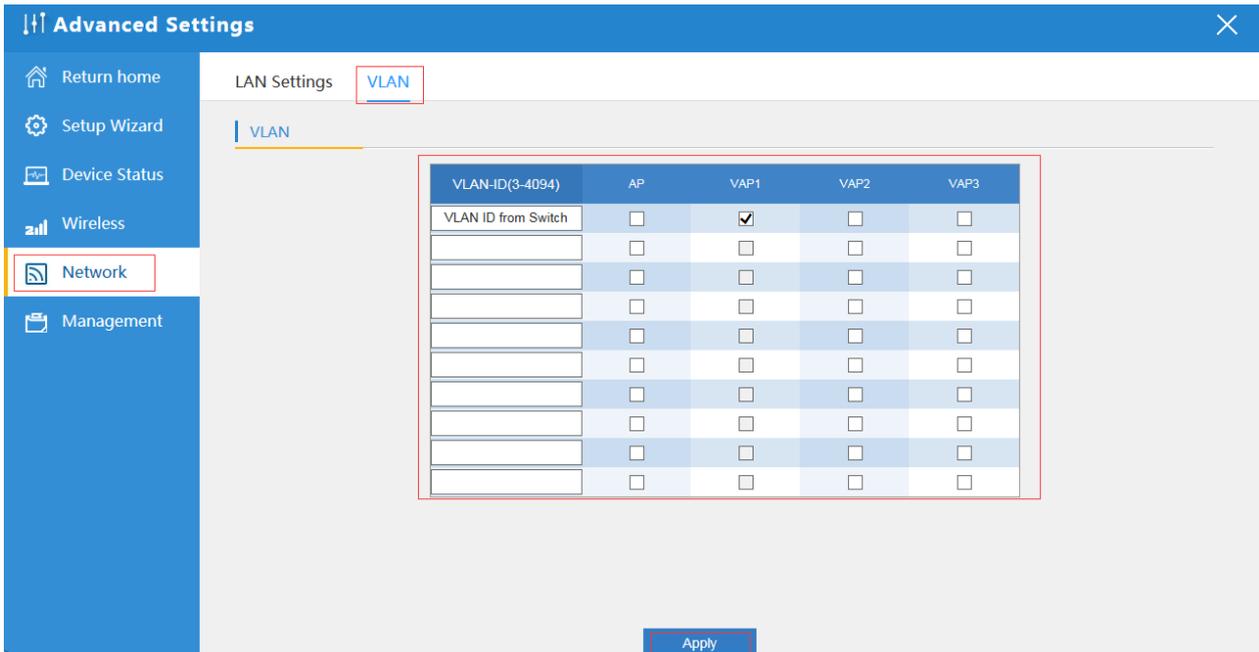


Fig 36 Tag VLAN Setting

Management:

This part, shows the system time, Logs, upgrade firmware, system, user info.

And we show System time, how to upgrade firmware and system page to users:

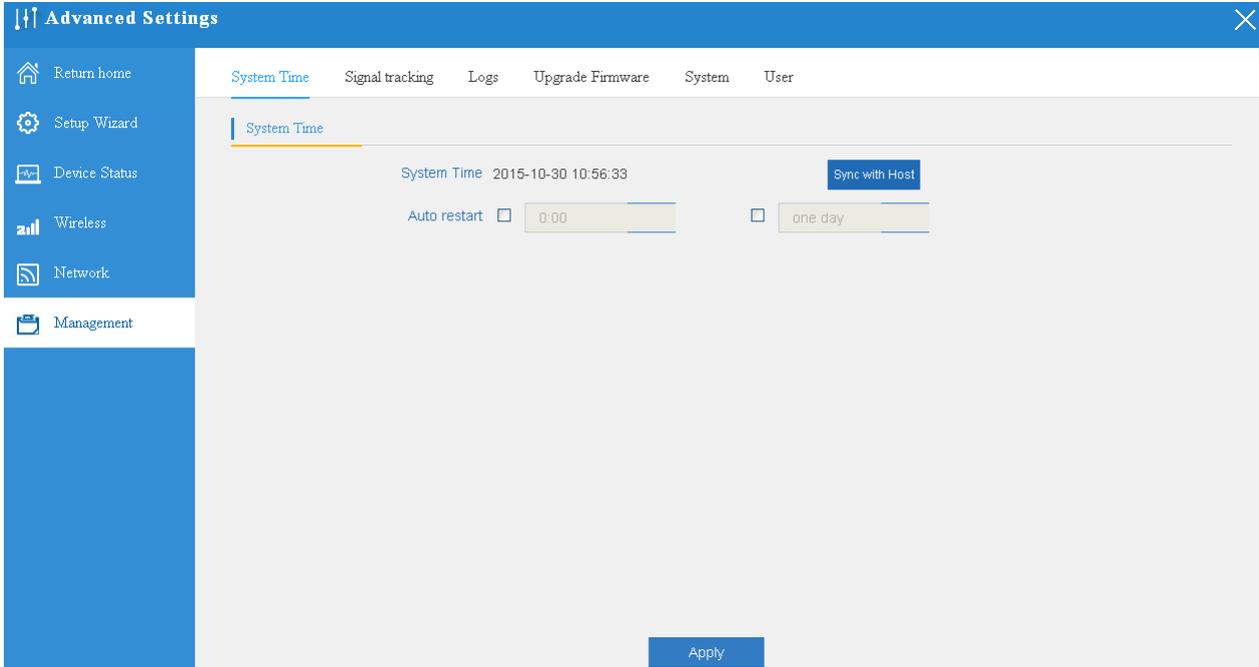


Fig 37 System Time

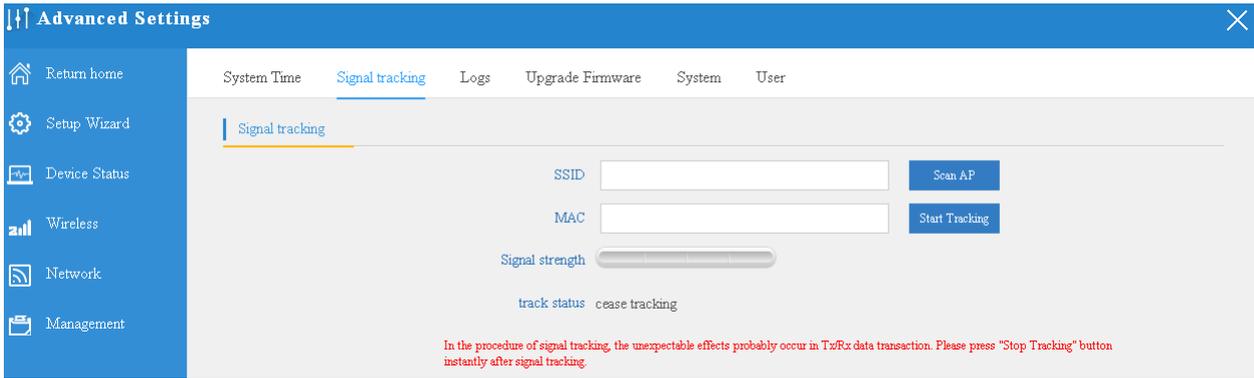


Fig 38 Signal Tracking

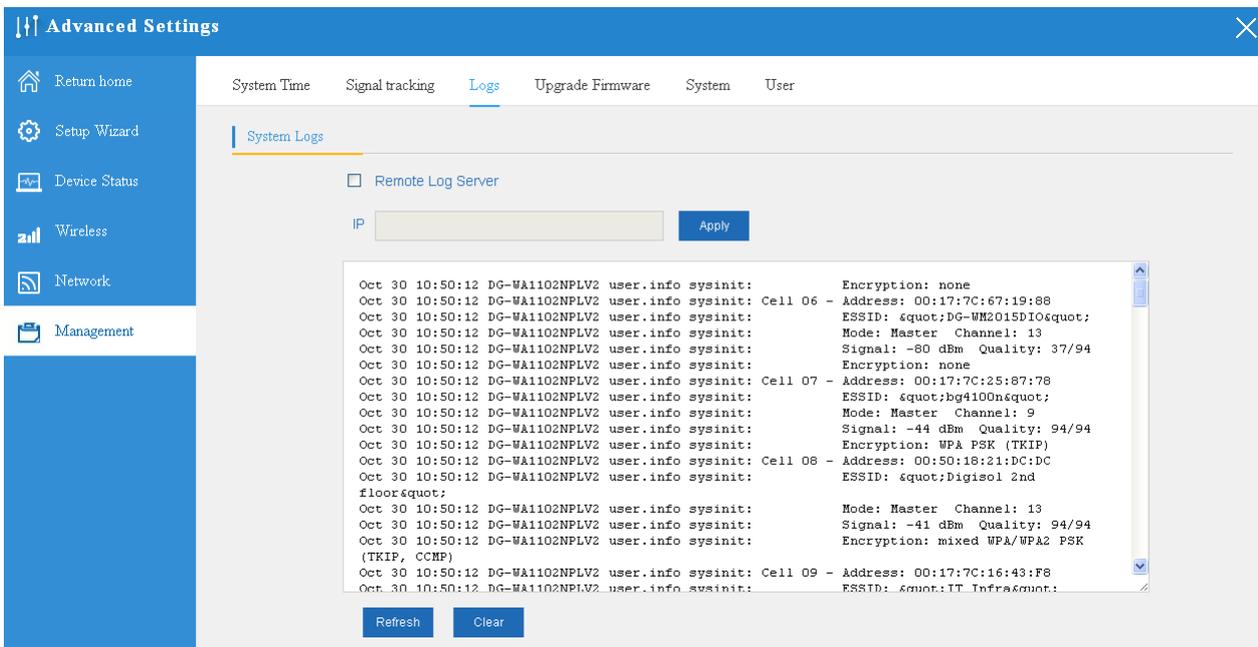


Fig 39 LOG info

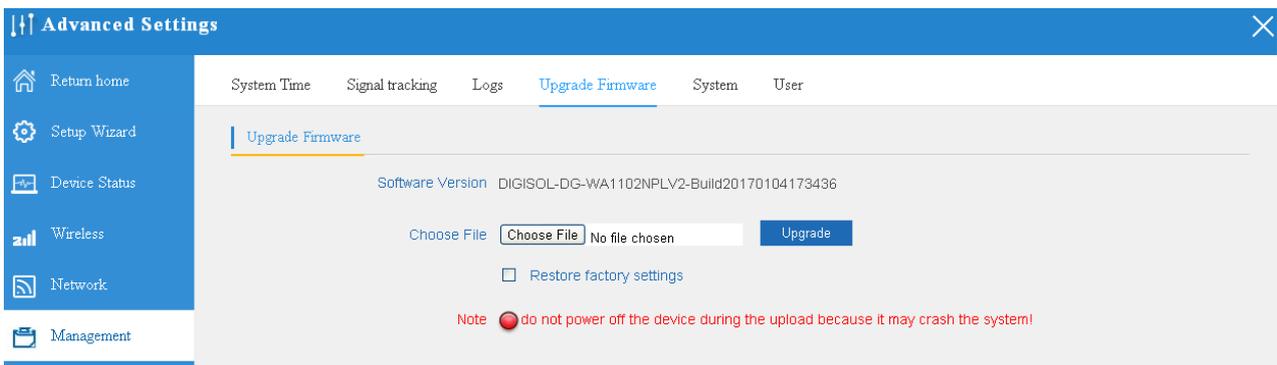


Fig 40 Firmware Upgrade

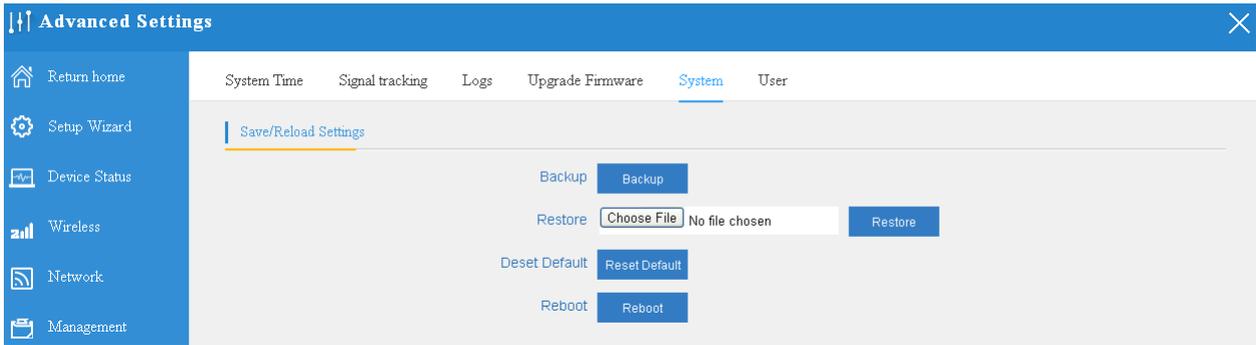


Fig 41 System info

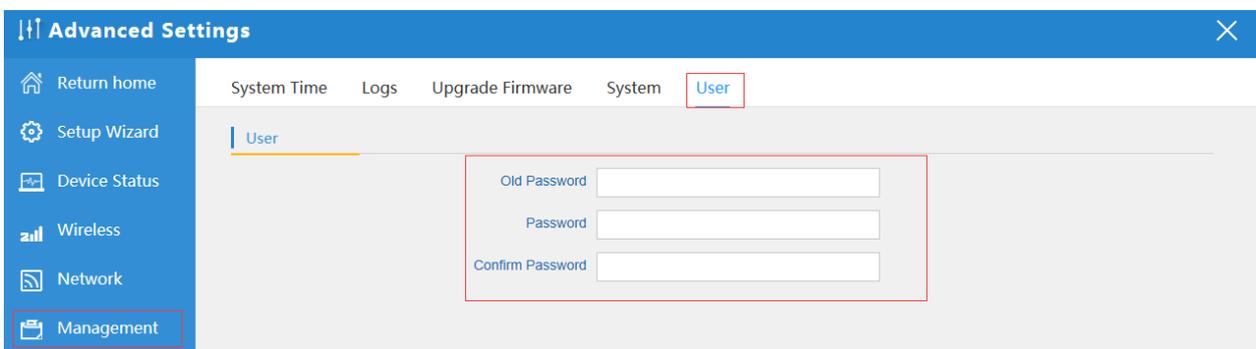
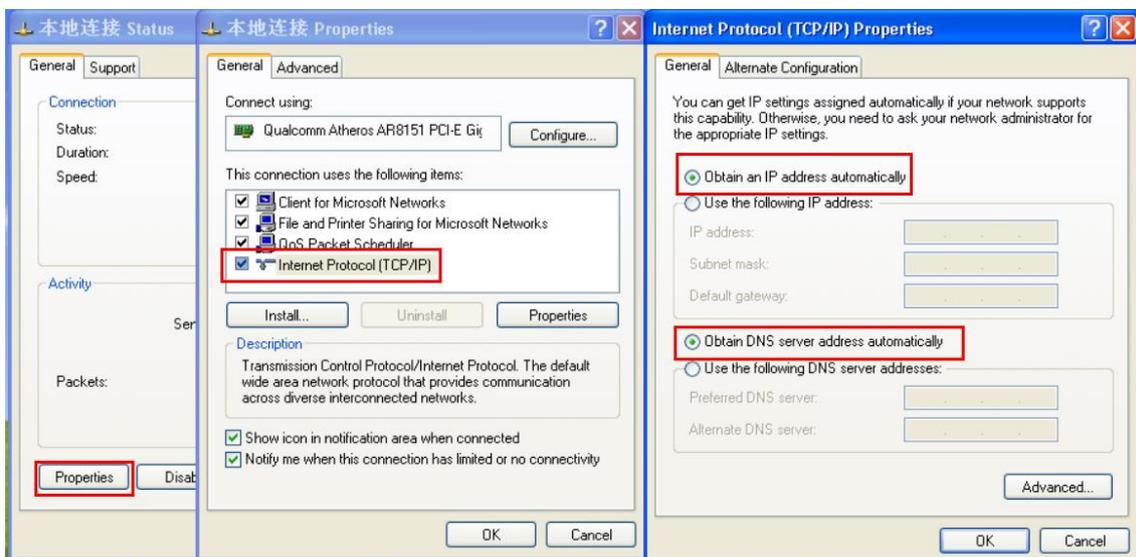


Fig 42 User Info

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 shown in following picture. The computer will obtain the IP address from router or base station to get Internet.



2 Trouble Shooting:

The Failure phenomenon and solution

Failure phenomenon	Solution
SYS Indicator off	Please make sure the PoE module connection is right. POE Port connects with AP, LAN port connects with computer
Can't reach Wireless AP through Web page	Please 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 192.168.1.200 to test the Wireless AP connectivity. Reset Wireless AP and load it again; Please make sure the IP address 192.168.1.200 is not occupied by other devices 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 disconnected)	Try to scan the available 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 existing. 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	Please Check the computer's IP address and DNS setting. If it is dynamic, set the network card as automatically obtain. If it is static IP, please 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.

This product comes with One Year warranty. For further details about warranty policy and Product Registration, please visit support section of www.digisol.com