WLN-EB5E-IN & WLN-EB5N-IN Wireless Device

User Manual

V1.0.0

Zhejiang Uniview Technologies Co.,Ltd.

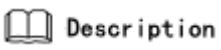
Preface

Overview

This document details the installation, configuration and use of the WLN-EB5E-IN and WLN-EB5N-IN wireless devices.

Symbol Contract

The following symbols may appear in this document, and their meanings are as follows:

Symbol	Description
	Indicating a high potential risk, If not avoided, it will result in personal injury or serious injury.
	Indicating a moderate or low potential hazard, Minor or moderate personal injury may result if not avoided.
	Indicating a potential risk, disregarding these texts may result in device damage, data loss, reduced device performance, or unpredictable results.
	Indicating that it can help you solve a problem or save you time.
	Indicates that it is additional information to the main text, and is an emphasis and supplement to the main text.

Important Safety Instructions

Before using the product, please carefully read and strictly comply with the following requirements to avoid damage to your product and property.

notice

- Please transport, use and store this product under the allowable temperature and humidity.
- Do not place the product in direct sunlight or near heat sources.
- Do not place the product in a damp, dusty or soot place.
- Please install the product in a well-ventilated place, and do not block the ventilation openings of the device.
- Please install the product in a stable place.
- Do not drip liquid onto the product.
- Do not place other items on top of the product.
- Do not disassemble this product at will.

warn

- Please use the recommended power cable and use it within its rated specifications.

Special Statement

- Please refer to the actual product, the manual is for reference only.
- The product is updated in real time without further notice。
- For the latest procedures and supplementary documentation, please contact the customer service department of the company.
- If you do not operate according to the instructions in the instructions, the resulting loss shall be borne by the user.
- If there are doubts or disputes in the product description, the final interpretation of the company shall prevail.

Directory

1 Product Installation

1.1 Interface/Button

Picture 1-1 WLN-EB5E-IN Interface/Button

Table 1 WLN-EB5E-IN Interface/Button Description

Interface/Button		Connection and action
wireless device	POE	connected to the POE port with its own power supply.
	LAN2	Reserved network port for connection with front-end network devices such as IPC.
	Reset	When the device is working, please press the reset button for 10 seconds and wait for 2~3 minutes to restore the default factory.
power adapter	POE	connected to the POE port of the equipment.
	LAN	connect with front-end network equipment such as IPC.

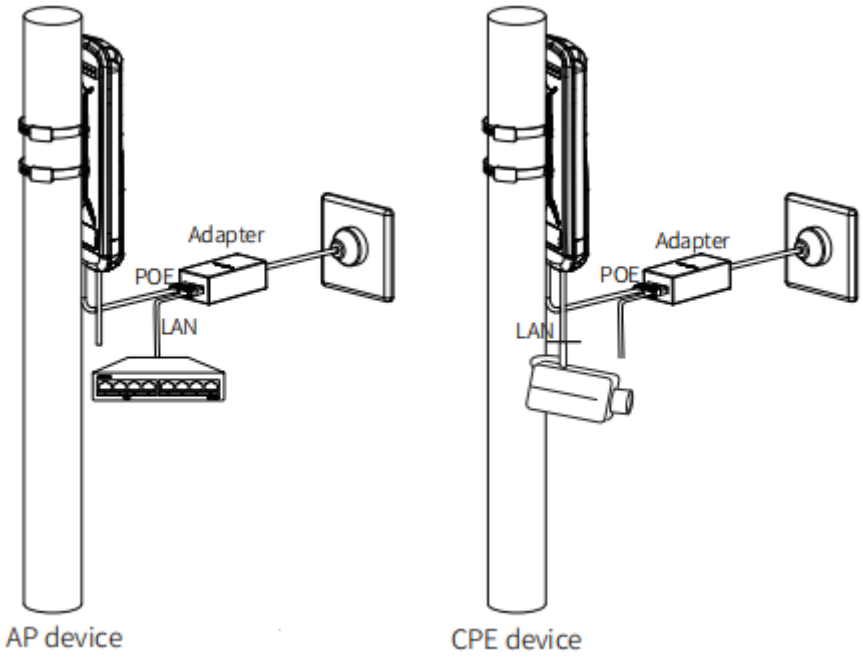
Picture 1-2 WLN-EB5N-IN Interface/Button

Table 2 WLN-EB5N-IN Interface/ Button Description

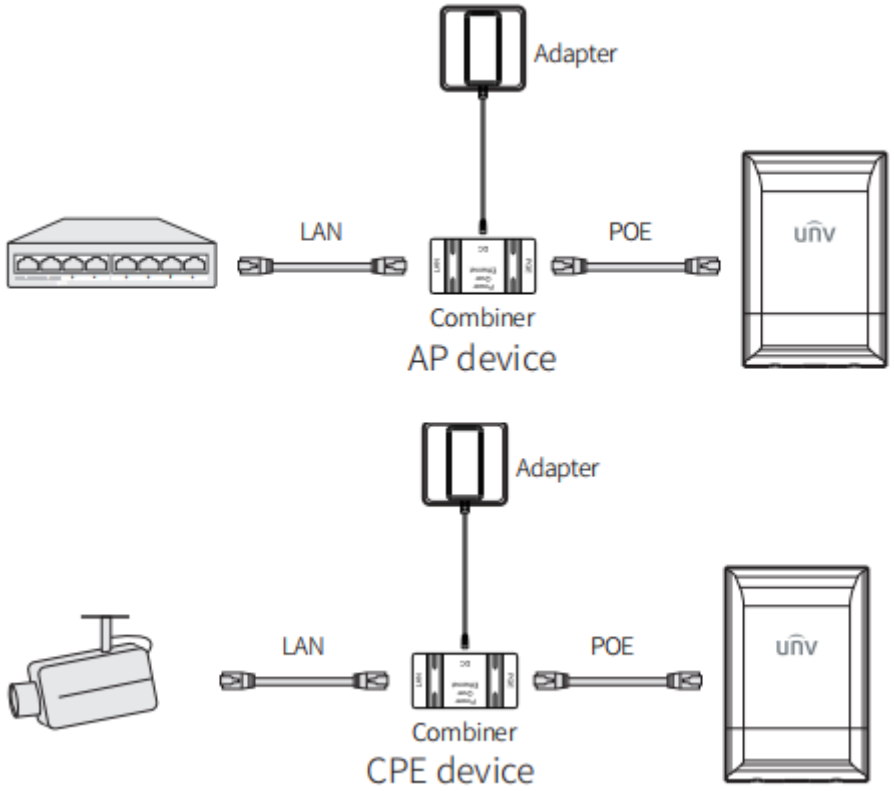
Interface/Button		Connection and action
wireless device	POE	connected to the POE port with its own power supply.
	LAN2	Reserved network port for connection with front-end network devices such as IPC.
	Reset	When the device is working, please press the reset button for 10

		seconds and wait for 2~3 minutes to restore the default factory.
power adapter	POE	connected to the POE port of the equipment.
	LAN	connect with front-end network equipment such as IPC.

1.2 Line Connection



Picture 1-3 WLN-EB5E-IN Line Connection



Picture 1-4 WLN-EB5N-IN Line Connection

1.3 Default Parameters

Table 3 Main parameters of the device's default factory setting

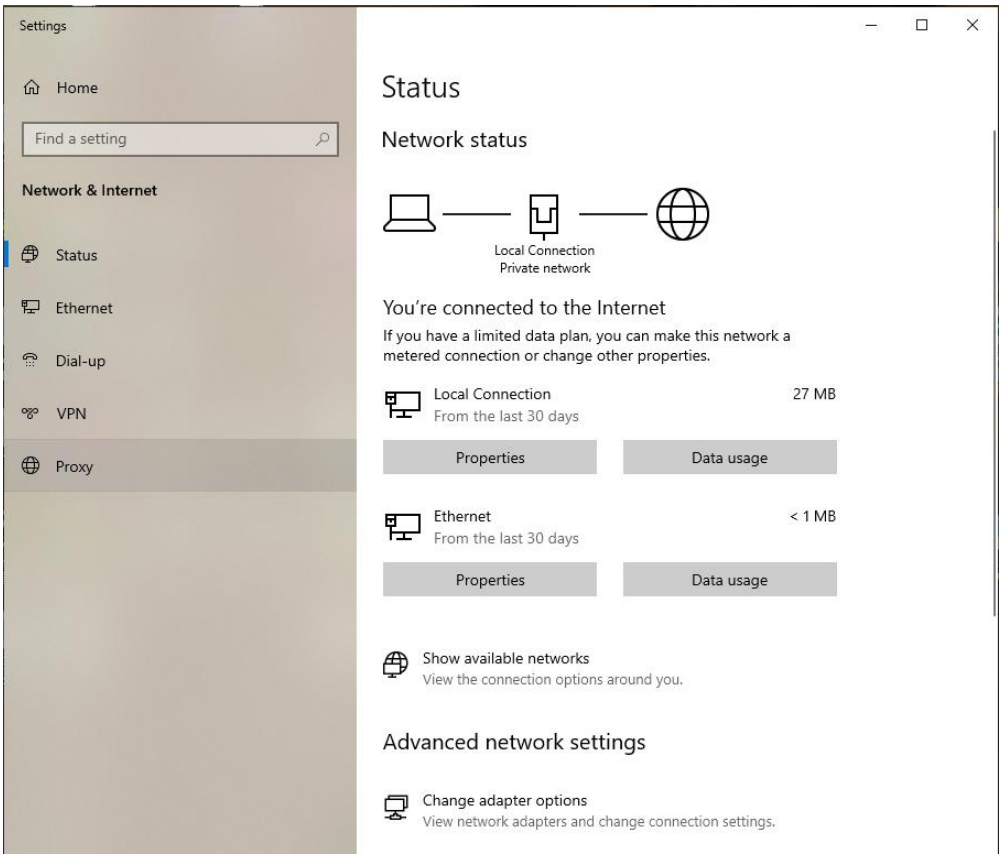
Project	WLN-EB5E-IN/ WLN-EB5N-IN	
Device	AP	CPE
IP address	192.168.1.35	192.168.1.36
Username	admin	admin
Password	admin	admin
Wireless Mode	Access Point (WDS)	Client (WDS)
Encryption	WPA2-PSK	WPA2-PSK
Key	1234567890abc	1234567890abc

2 Quick Configuration

2.1 Login

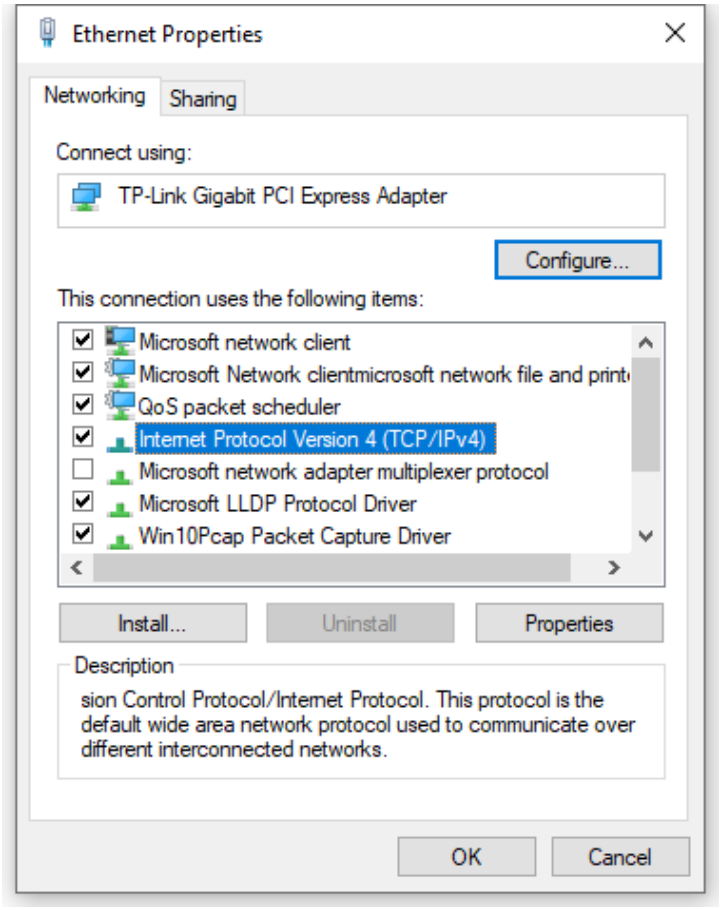
The configuration methods of WLN-EB5E-IN and WLN-EB5N-IN are the same, so take WLN-EB5E-IN as an example to describe how to login and configure the device. Before login, perform simple configuration on the PC to ensure that the IP address of the PC and the device are in the same network segment, the detailed procedure is as follows (take Windows10 as an example):

1.Right-click the network icon in the taskbar, click to open the "Network & Internet Settings" window, and the window shown below will pop up:



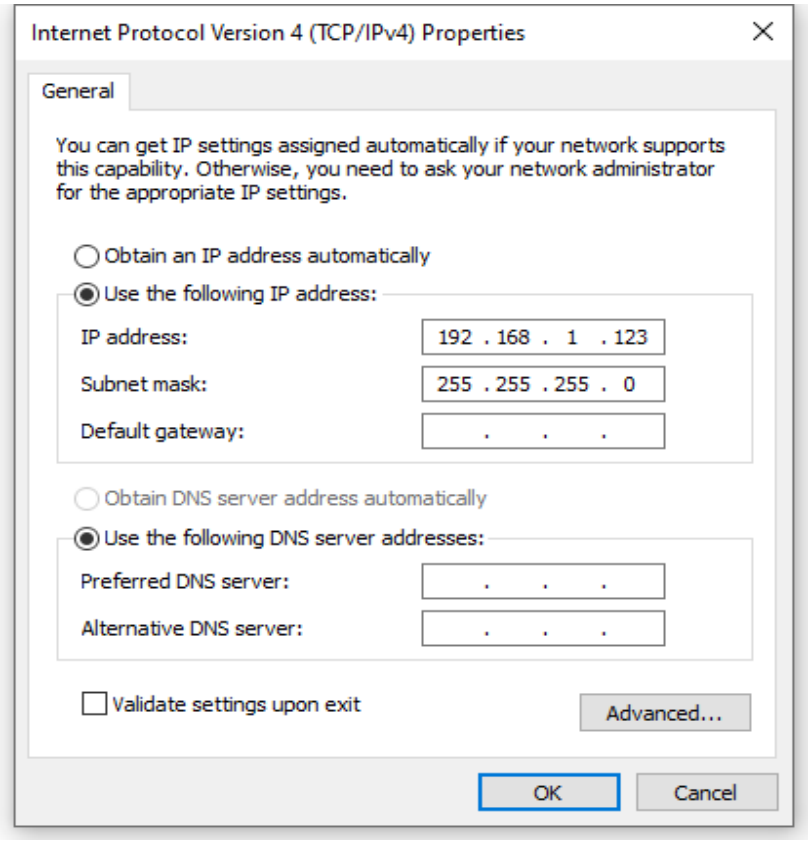
Picture 2-1 Network Status Page

2.Click “Change adapter options”->Ethernet->Properties, open the Properties Configuration page，as picture follow:



Picture 2-2 Network Status Page

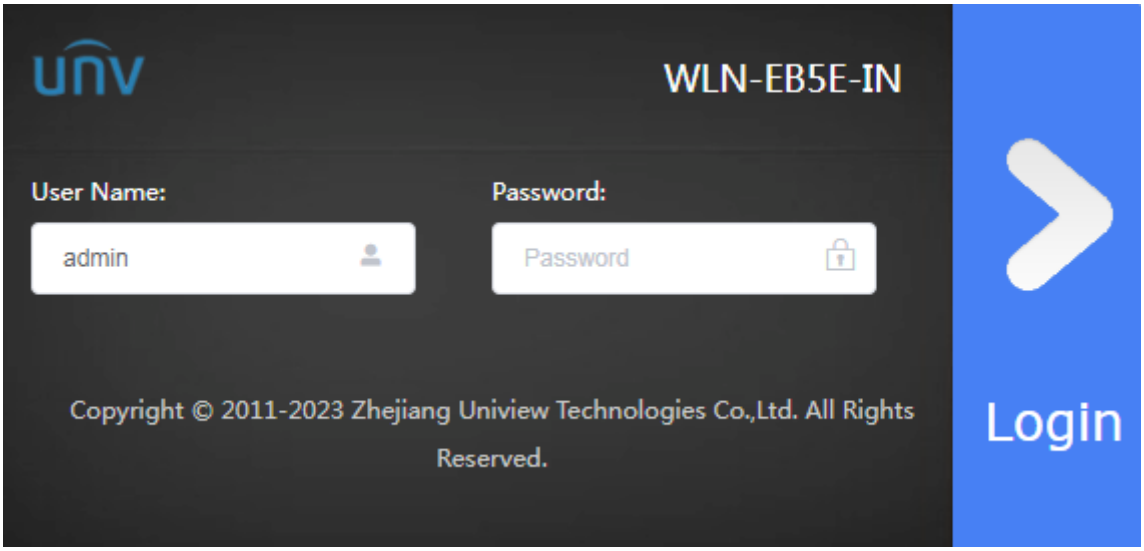
2.Double click on the 'Internet Protocol Version 4(TCP/IPv4) ', The window shown below will pop up:



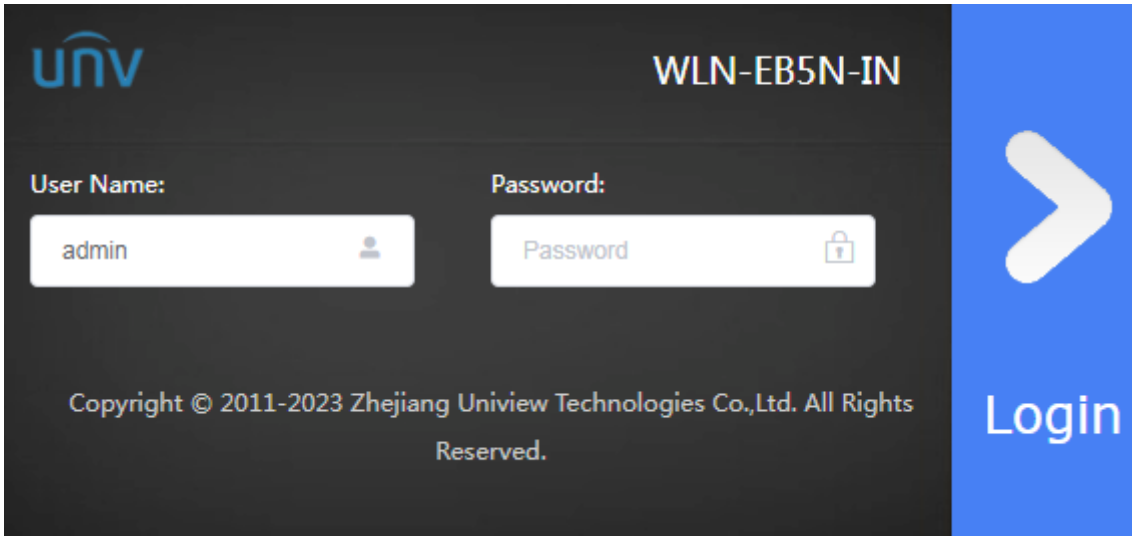
Picture 2-3 IP Setting

3.Set the computer IP address to ensure that the computer and the device are in the same subnet, and the IP address cannot be the same, for example: If the device IP address is 192.168.1.35, you can set the host IP address to 192.168.1.123.

4.Enter the default IP address of the device (for example:192.168.1.35) in the address box of the browser, and press Enter to jump to the page shown in the Picture below.



Picture 2-4 WLN-EB5E-IN Login Page



Picture 2-5 WLN-EB5N-IN Login Page

5.Enter the default password in the login box: admin. Click the login button to jump to the device page (Default Username: admin).

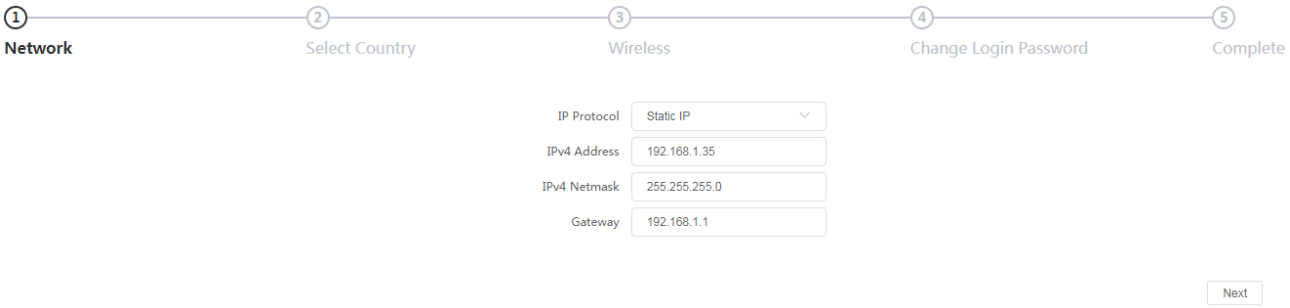
2.2 Wizard

You can quickly complete the configuration of basic functions, network configuration, wireless

parameters, etc. through the wizard. Device can be configured with four modes: Access Point mode, Client mode, Access Point(WDS) mode and Client(WDS) mode, The Client mode can only be used in conjunction with the Access Point mode, and the Access Point (WDS) mode can be used in conjunction with the Client (WDS) mode.

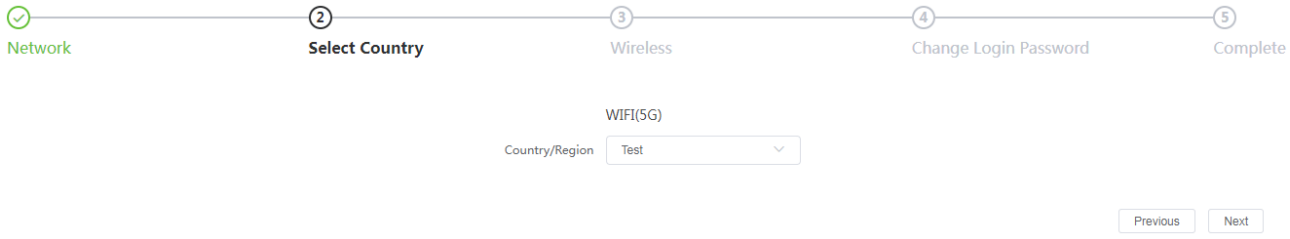
2.2.1 Configure As Access Point

(1) After successful login, you will enter the "Status - Info" page by default. Click "Wizard" in the upper right corner to enter the "Wizard - Network" page, as shown in the picture below. To prevent IP conflicts, please modify the IPv4 address.



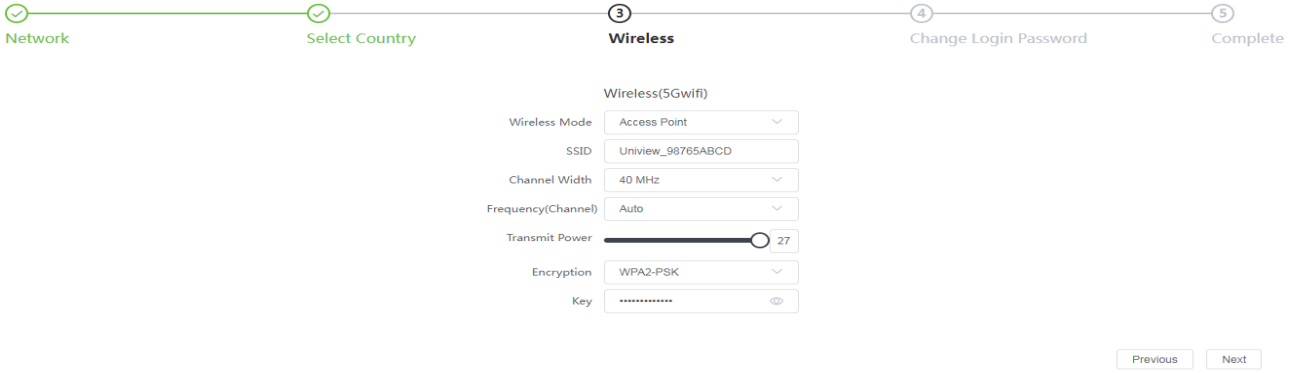
Picture 2-6 Wizard – Network

(2) Click "Next" to enter the "Wizard - Select Country" page, which displays the country/region configurations supported by the device, as shown in the following figure.



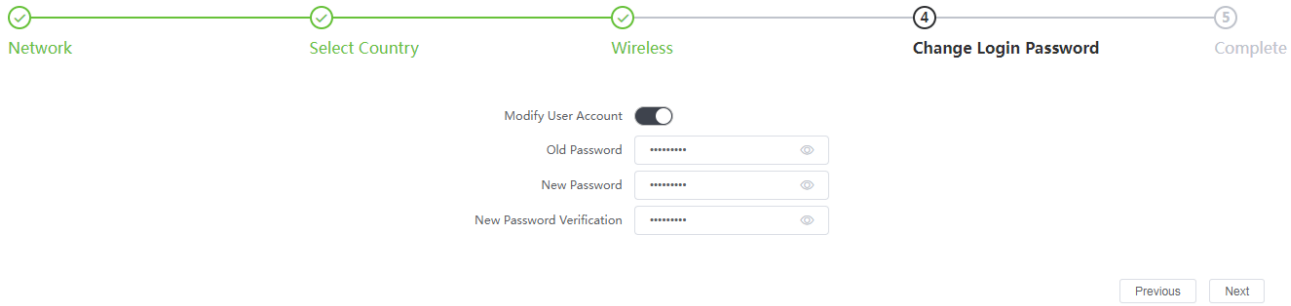
Picture 2-7 Wizard – Select Country

(3) Click "Next" to enter the "Wizard-Wireless" page, which displays the basic wireless parameter configuration and wireless encryption options of the device, as shown in the picture below. Change the wireless mode to access point.



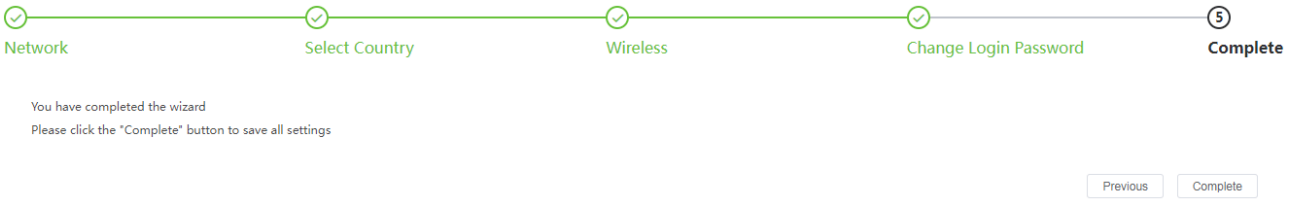
Picture 2-8 Wizard – Wireless

(4) Click "Next" to enter the "Wizard - Change Login Password" page. Click the "Modify User Account" button to modify the current password. If not clicked, skip, as shown in the following figure.



Picture 2-9 Wizard – Change Login Password

(5) Continue to click "Next" to enter the "Wizard-Complete" page, as shown in the picture below. Click the "Complete" button to save all the settings, or click "Previous" to change the previous configuration.

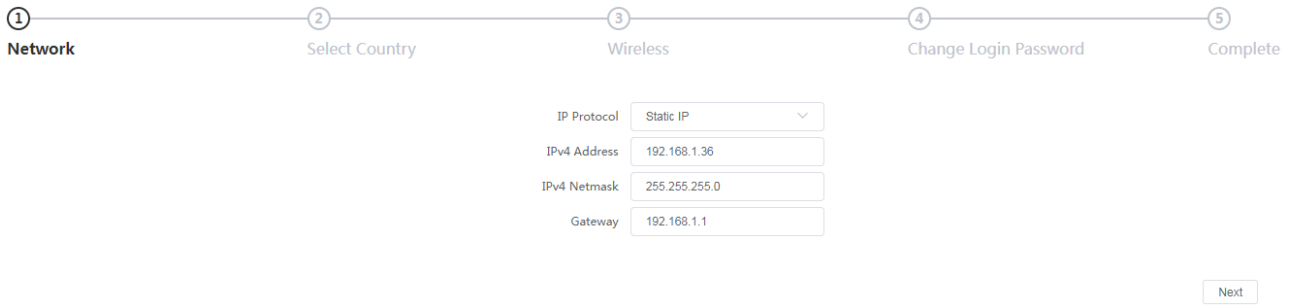


Picture 2-10 Wizard - Complete

The access point configuration is completed.

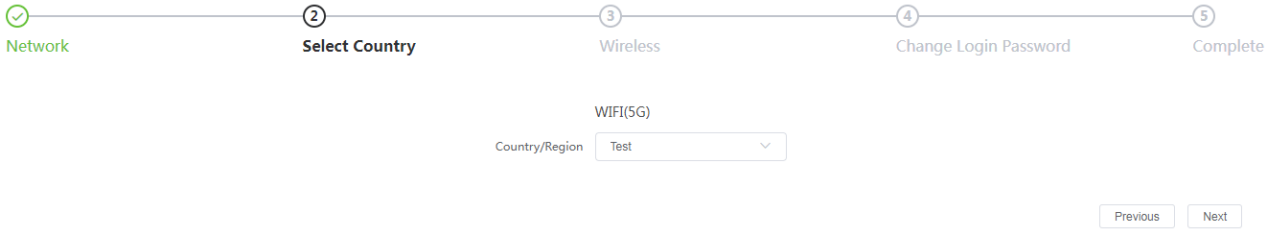
2.2.2 Configure As Client

(1) After successful login, you will enter the "Status - Info" page by default. Click "Wizard" in the upper right corner to enter the "Wizard - Network" page, as shown in the picture below. To prevent IP conflicts, please modify the IPv4 address.



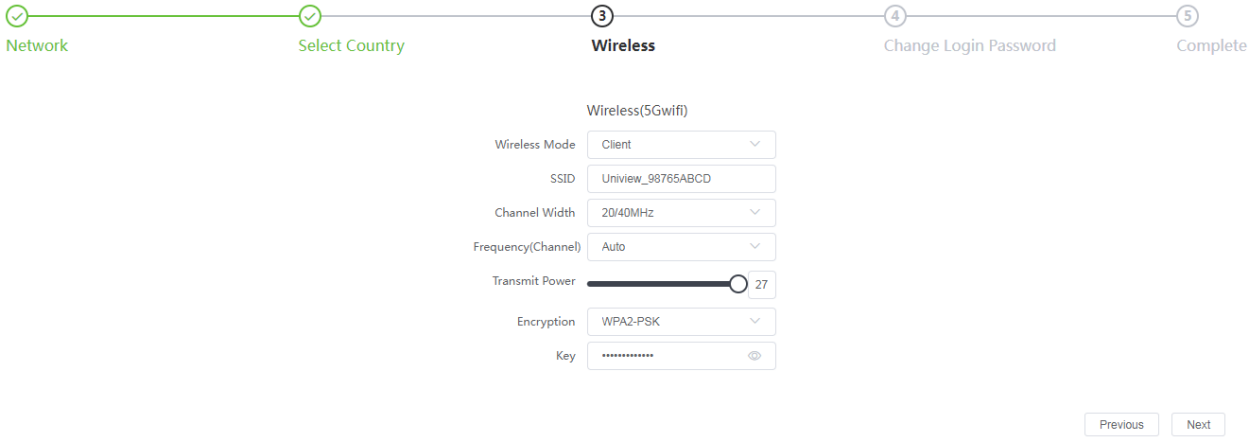
Picture 2-11 Wizard – Network

(2) Click "Next" to enter the "Wizard – Select Country" page, which displays the country/region configurations supported by the device, as shown in the following figure.



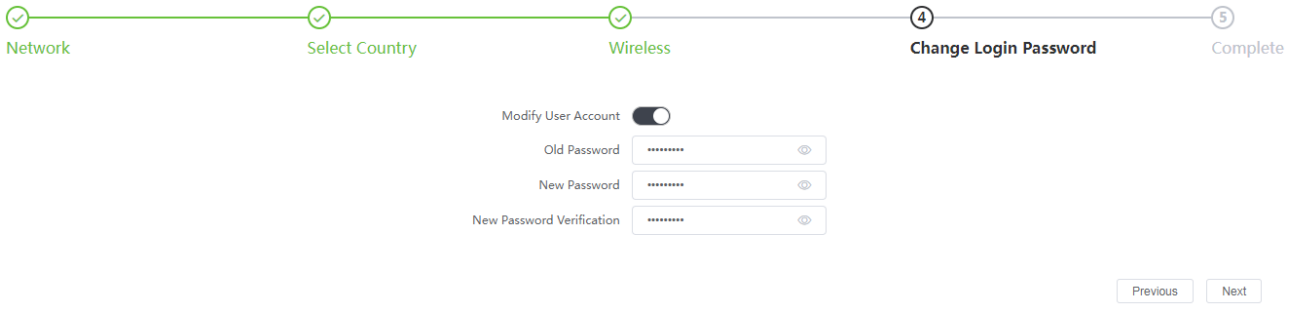
Picture 2-12 Wizard – Select Country

(3) Click "Next" to enter the "Wizard-Wireless" page, which displays the basic wireless parameter configuration and wireless encryption options of the device, as shown in the picture below. Change the wireless mode to Client and the SSID to Uniview_98765ABCD.



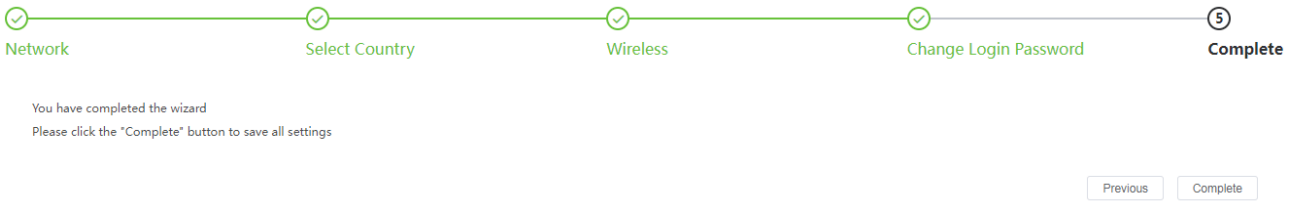
Picture 2-13 Wizard – Wireless

(4) Click "Next" to enter the "Wizard - Change Login Password" page. Click the "Modify Password" button to modify the current password. If not clicked, skip, as shown in the following figure.



Picture 2-14 Wizard – Change Login Password

(5) Continue to click "Next" to enter the "Wizard-Complete" page, as shown in the picture below. Click the "Complete" button to save all the settings, or click "Previous" to change the previous configuration.

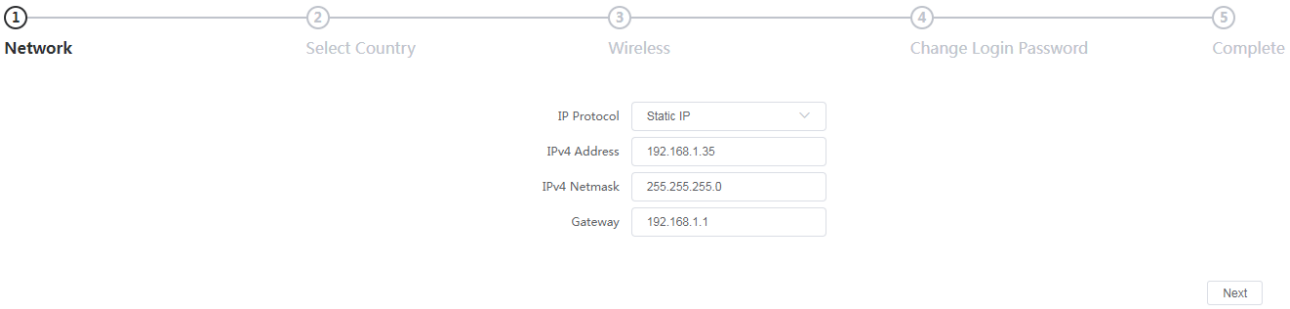


Picture 2-15 Wizard - Complete

The Client configuration is complete. At this point, the Client can successfully connect to the Access Point whose SSID is Uniview_98765ABCD.

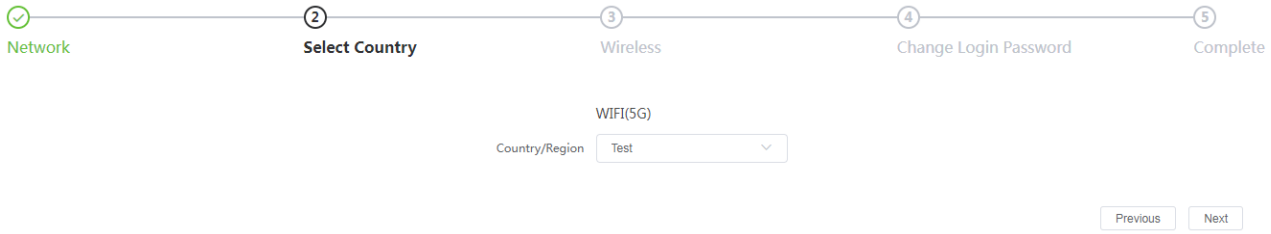
2.2.3 Configure As Access Point (WDS)

(1) After successful login, you will enter the "Status - Info" page by default. Click "Wizard" in the upper right corner to enter the "Wizard - Network" page, as shown in the picture below. To prevent IP conflicts, please modify the IPv4 address.



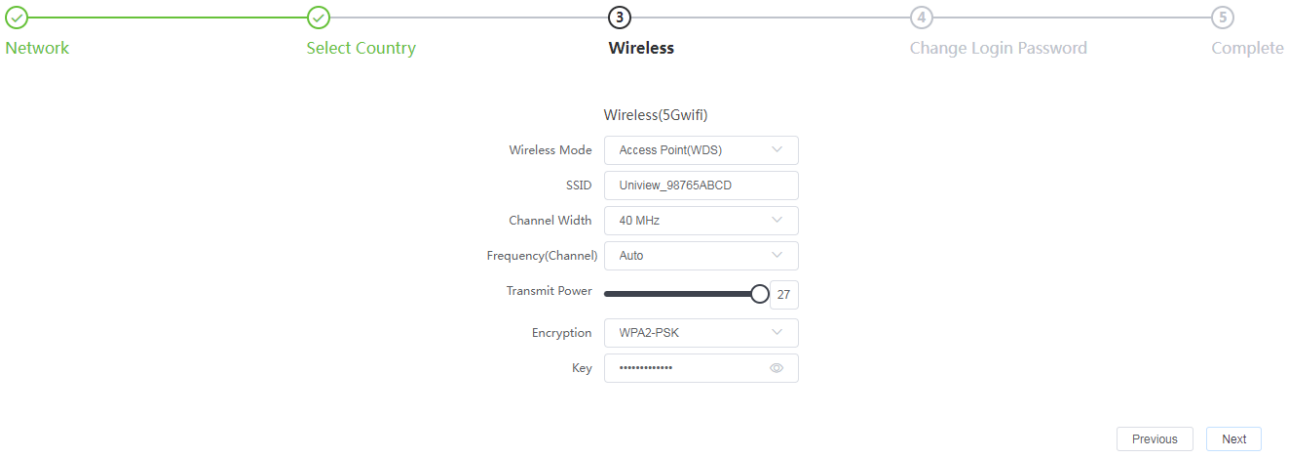
Picture 2-16 Wizard – Network

(2) Click "Next" to enter the "Wizard - Select Country" page, which displays the country/region configurations supported by the device, as shown in the following figure.



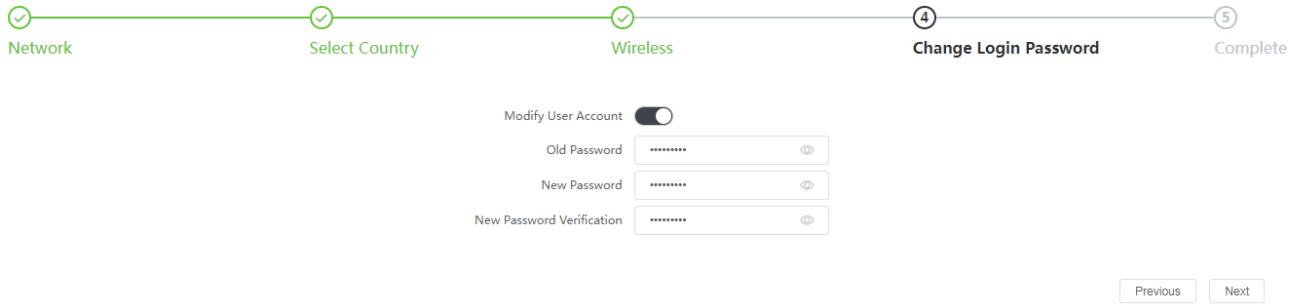
Picture 2-17 Wizard – Select Country

(3) Click "Next" to enter the "Wizard-Wireless" page, which displays the basic wireless parameter configuration and wireless encryption options of the device, as shown in the picture below. Change the wireless mode to Access Point (WDS) and the SSID to Uniview_98765ABCD.



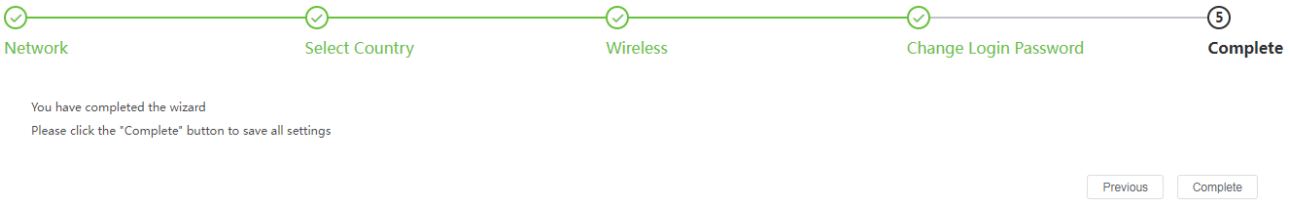
Picture 2-18 Wizard – Wireless

(4) Click "Next" to enter the "Wizard - Change Login Password" page. Click the "Modify User Account" button to modify the current password. If not clicked, skip, as shown in the following figure.



Picture 2-19 Wizard – Change Login Password

(5) Continue to click "Next" to enter the "Wizard-Complete" page, as shown in the picture below. Click the "Complete" button to save all the settings, or click "Previous" to change the previous configuration.

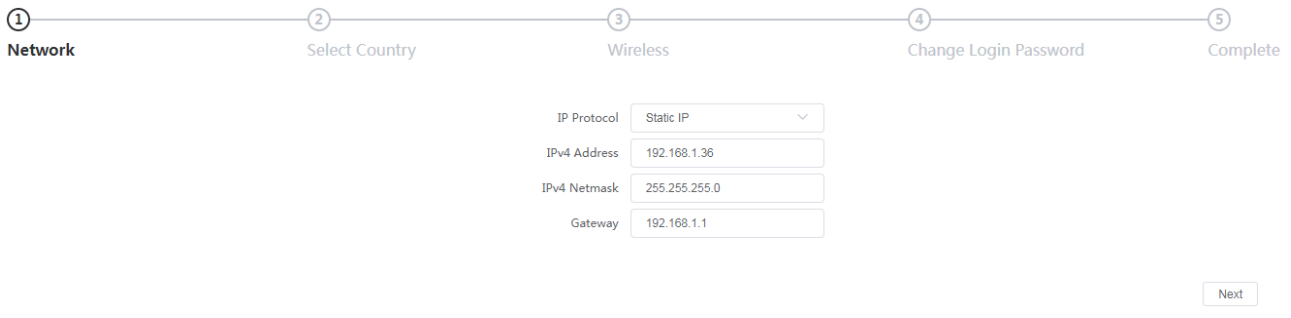


Picture 2-20 Wizard - Complete

The Access Point (WDS) configuration is completed.

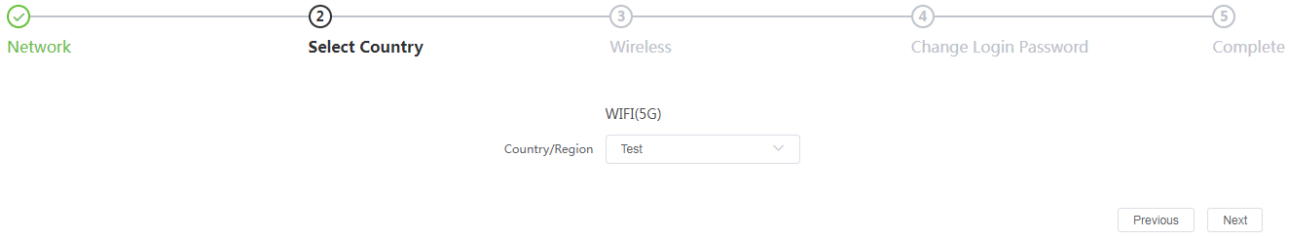
2.2.4 Configure As Client (WDS)

(1) After successful login, you will enter the "Status - Info" page by default. Click "Wizard" in the upper right corner to enter the "Wizard - Network" page, as shown in the picture below. To prevent IP conflicts, please modify the IPv4 address.



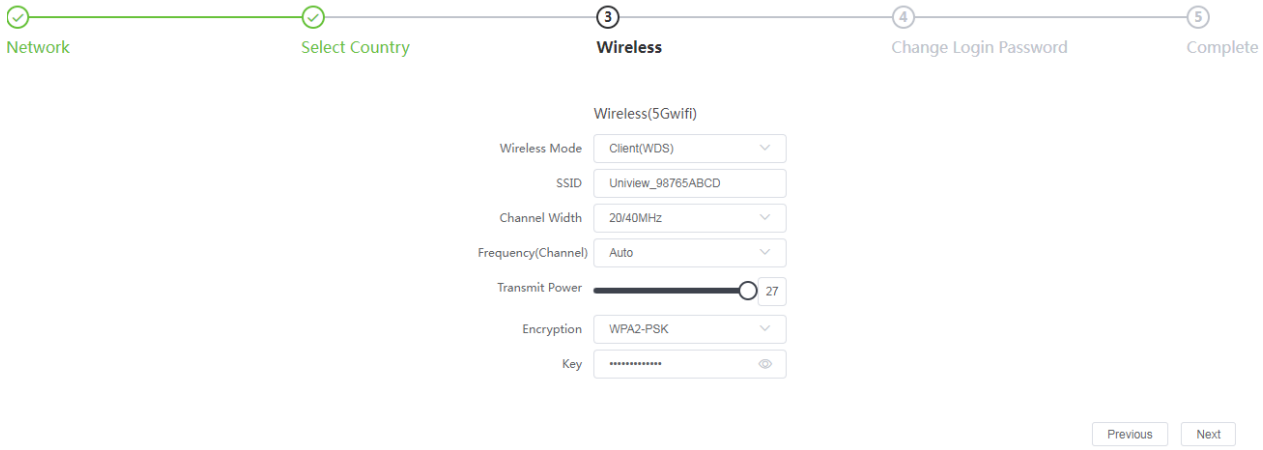
Picture 2-21 Wizard – Network

(2) Click "Next" to enter the "Wizard – Select Country" page, which displays the country/region configurations supported by the device, as shown in the following figure.



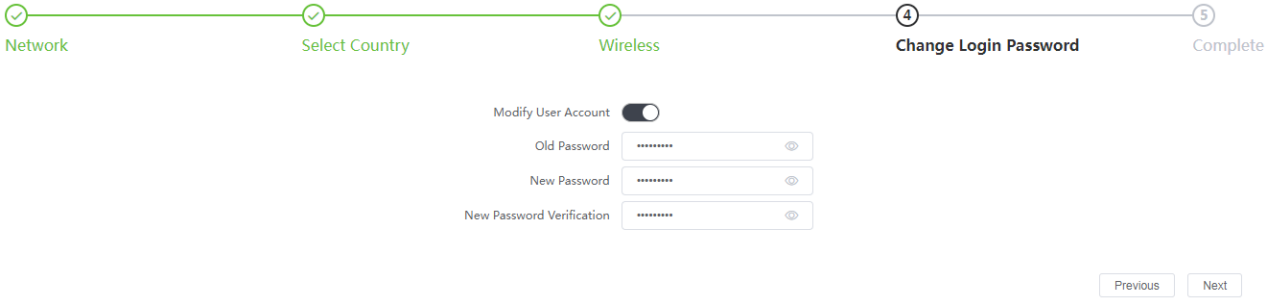
Picture 2-22 Wizard – Select Country

(3) Click "Next" to enter the "Wizard-Wireless" page, which displays the basic wireless parameter configuration and wireless encryption options of the device, as shown in the figure below. The wireless mode is changed to Client (WDS), and the SSID is changed to Uniview_98765ABCD.



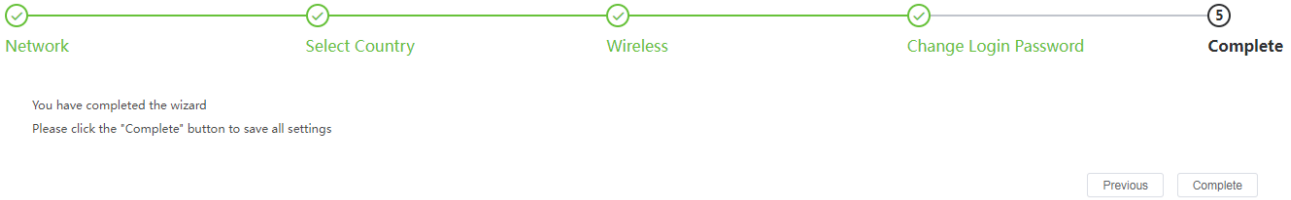
Picture 2-23 Wizard – Wireless

(4) Click "Next" to enter the "Wizard - Change Login Password" page. Click the "Modify Password" button to modify the current password. If not clicked, skip, as shown in the following figure.



Picture 2-24 Wizard – Change Login Password

(5) Continue to click "Next" to enter the "Wizard-Complete" page, as shown in the picture below. Click the "Complete" button to save all the settings, or click "Previous" to change the previous configuration.



Picture 2-25 Wizard - Complete

The Client (WDS) configuration is completed, and the Client (WDS) can successfully connect to the Access Point (WDS) which SSID is Uniview_98765ABCD.

 **notice**

The Client mode is used together with the Access Point mode. The Client (WDS) mode and the Access Point (WDS) mode are used together. Do not mix them.

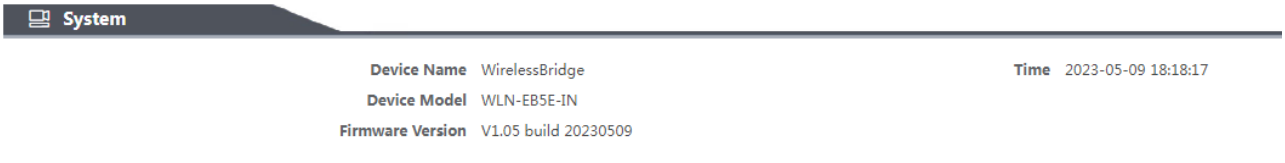
3 Status

After the page is successfully logged in, the default display page is the status page, which displays some of the current parameter configurations of the device and real-time monitoring of the current working status, including information, statistics, network and System Log.

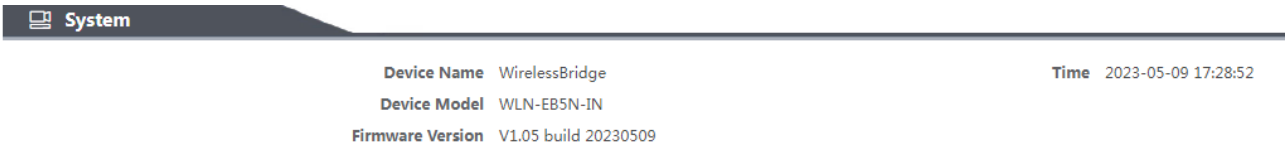
3.1 Status-Information page

The status-information page displays part of the current configuration information of the device (take the WLN-EB5E-IN device as an example):

System: System information about the device, Contains the Device Name, Device Model, Firmware Version, and Times.

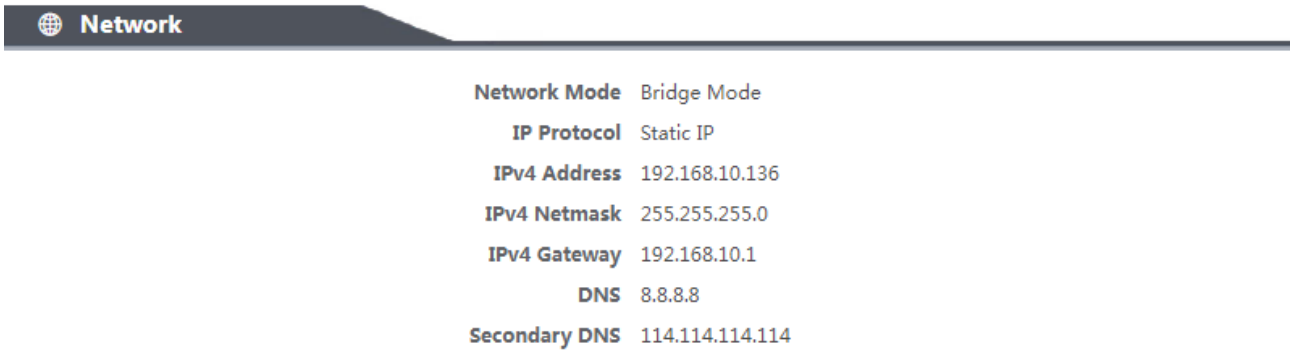


Picture 3-1 WLN-EB5E-IN Device Information



Picture 3-2 WLN-EB5N-IN Device Information

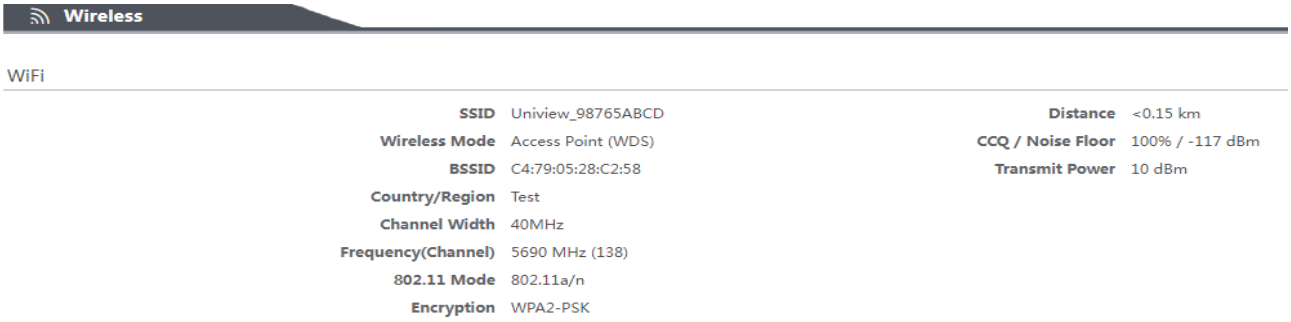
Network: Device network-related information, including the Network Mode and IPv4 Address, can be configured in Settings - Network Settings.



Picture 3-3 Network Information

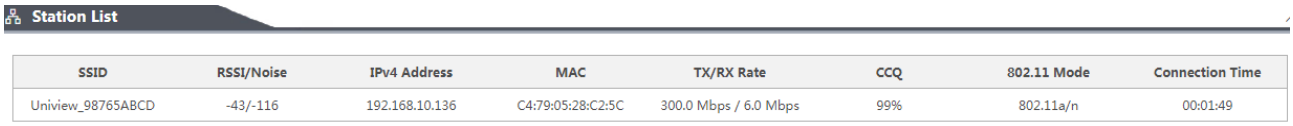
Wireless: Displays 5G wireless information of the device, including wireless mode, network name,

frequency, and safe mode, which can be configured in Setups - Wireless Settings.



Picture 3-4 Wireless Information

Station List: The information of the peer device when the device is associated, including SSID, RSSI, IPv4 Address, MAC, TX/RX Rate, CCQ,802.11 Mode and Connection Time.



SSID	RSSI/Noise	IPv4 Address	MAC	TX/RX Rate	CCQ	802.11 Mode	Connection Time
Uniview_98765ABCD	-43/-116	192.168.10.136	C4:79:05:28:C2:5C	300.0 Mbps / 6.0 Mbps	99%	802.11a/n	00:01:49

Picture 3-5 Connected Devices Information

3.2 Status-Statistics page

This page displays the network interface statistics and traffic statistics of the device, which refer to the amount of data transmitted on the network per unit time, and are the main indicators for measuring network performance. The specific information is as follows (take the WLN-EB5E-IN device as an example):

Interface Statistics: Contains the number of bytes received and sent by the wired and wireless interfaces of the device and the number of packets.

Interface	MAC Address	RX Bytes	TX Bytes	RX Packets	TX Packets	RX ERR	TX ERR
Wired Ethernet							
eth0	C4:79:05:28:C2:56	0 Byte	0 Byte	0	0	0	0
eth1	C4:79:05:28:C2:57	2126739 Byte	10595080 Byte	12201	13915	0	0
Wireless							
ath0	C4:79:05:28:C2:58	5205868 Byte	441921 Byte	4531	2818	0	0

Picture 3-6 Interface Statistics

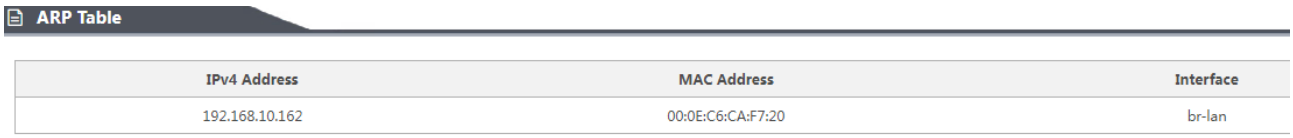
Throughput: It contains wired traffic statistics and wireless traffic statistics. It displays TX and RX (that is, send and receive) real-time traffic in a chart, which is more intuitive and clearer.

Picture 3-7 Traffic statistics

3.3 Status-Network Page

This page displays the ARP table and bridge device list of the device. The specific information is as follows:

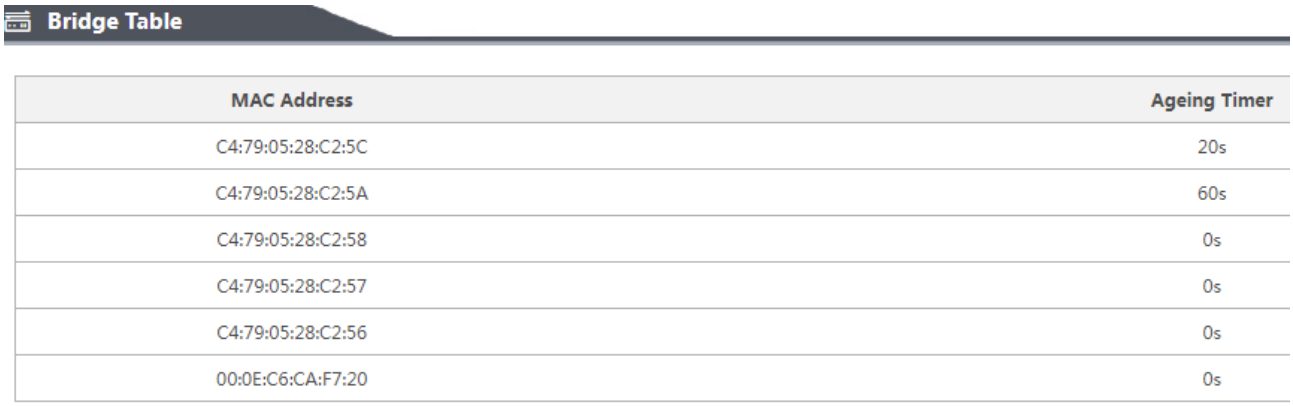
ARP Table: The correspondence between the IP address and the MAC address obtained by the device and used in the recent period of times.



Picture 3-8 ARP Table

Bridge Table: The corresponding relationship between the MAC addresses and aging time of other

devices that have communicated through it in the recent period obtained by the device.



Picture 3-9 ARP Table

3.4 Status-Log Page

This page displays device log information.

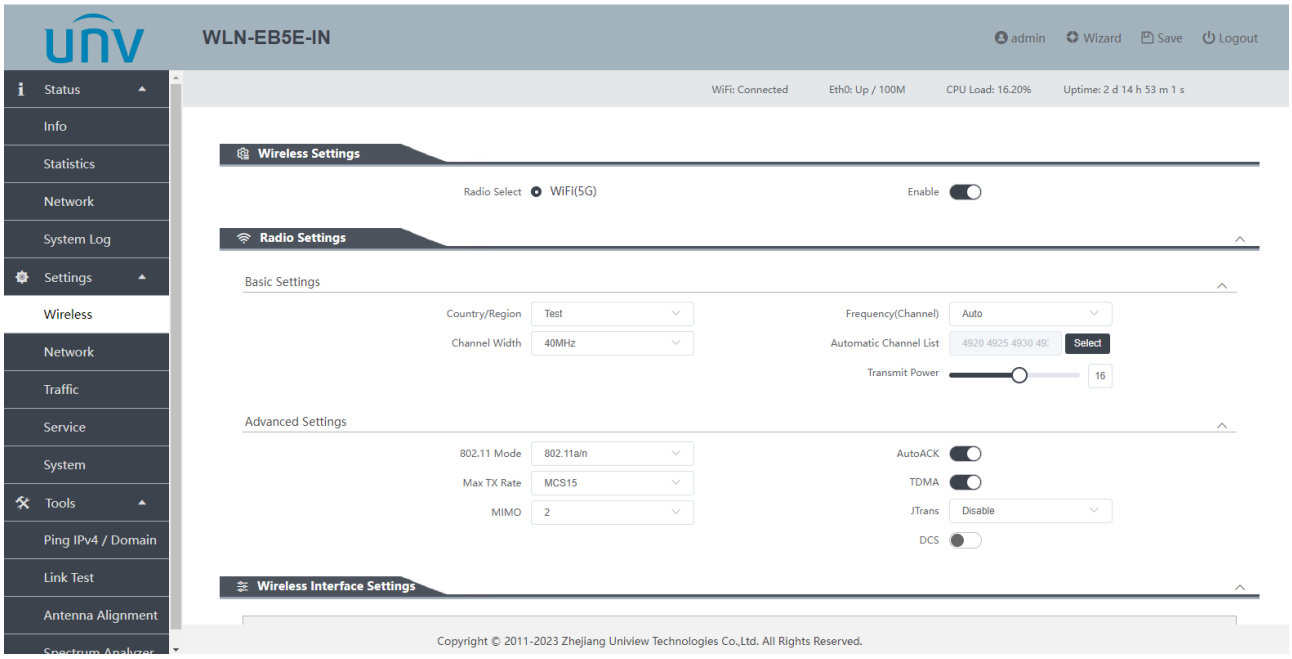
Picture 3-10 System Log

4 Settings

The settings page can configure the device in detail, including wireless Settings, network Settings, traffic management Settings, service Settings, and system Settings.

4.1 Wireless Settings

The wireless setting page is shown in the following picture:



Picture 4-1 Wireless setting - 5G

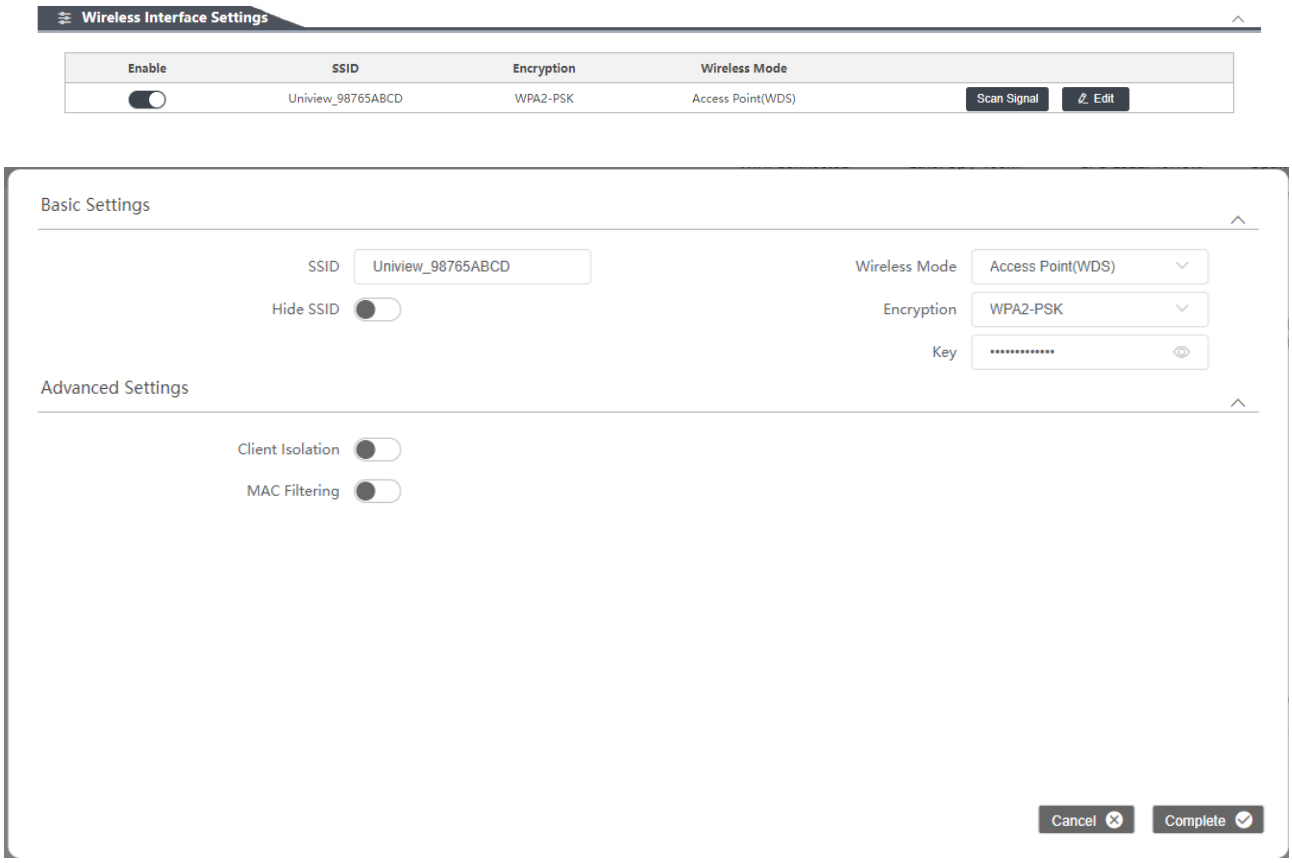
Wireless Setting: Select the wireless network, the device only supports the 5G frequency band. When enabled, 5G wireless can be configured, and when it is turned off, it means that the corresponding wireless function is turned off.

Radio Settings: The Radio Settings page contains basic Settings and advanced Settings; the following parameters can be configured:

- **Country/Region:** Different countries or regions have different standard channels, select the corresponding country code as needed.
- **Channel Width:** Limit the upper and lower frequencies of the signal allowed to pass through the channel.

- **Frequency(Channel)：** The center frequency of the carrier. When the access point is associated with the client, the frequency must be the same.
- **Automatic Channel List：** When the frequency is set to auto, Automatic Channel List will display a list of supported configurations based on the current country code.
- **Transmit Power：** Configure the transmission power of the current device.
- **802.11 Mode:** The device 5G wireless only supports 802.11a/n.
- **Max TX Rate:** The maximum transmission rate of the device, the maximum transmission rate of the device, by setting it to limit the maximum transmission rate of the device to ensure the stability of the device performance.
- **MIMO:** Users can choose 1×1 or 2×2 to adjust whether the device is working wirelessly with 1 send and 1 receive, or 2 send and 2 receive.
- **AutoACK:** Intelligently calculates the ACK value required for long-distance transmission to achieve the optimal performance at this distance. The default value is enabled.
- **TDMA:** It is a communication technology for realizing a shared transmission medium (generally the radio field) or network. It allows multiple users to use the same frequency in different time slices (slots). The default value is enabled.
- **JTrans:** JTrans is used in Point-to-Point scenarios. When JTrans is enabled on both the access point and the client, other WiFi devices working on the same channel as the pair are "silenced" so that the pair of devices can use the channel resources to the greatest extent.
- **DCS(Dynamic channel selection):** Dynamic channel selection is a feature that detects and avoids low noise interference. When the channel noise or interference reaches a certain level, the device will dynamically select a channel with less interference to reconnect.

Wireless Interface Settings: A wireless network is enabled by default in the 5G wireless interface settings. Terminals such as mobile phones and laptops are connected to the network, which can access the devices and support the Internet. The wireless network can be configured, click Edit button and the following page will pop up.



Picture 4-2 Wireless Interface settings

You can set the following parameters on this page:

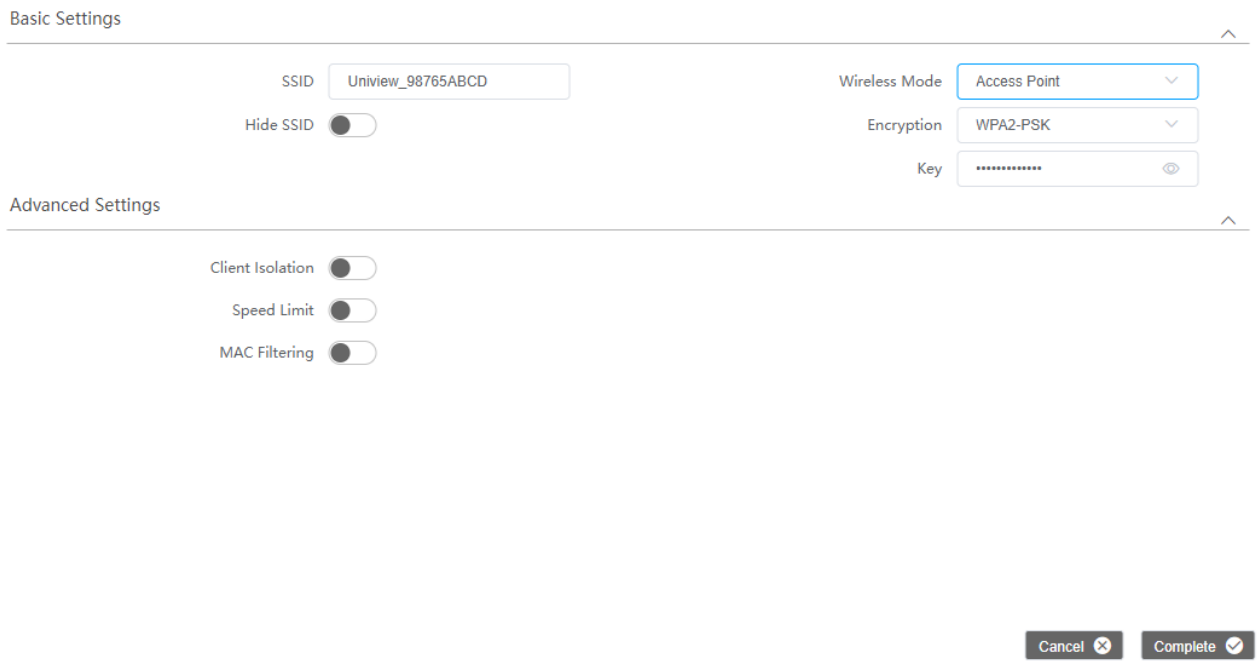
- **SSID (Wireless Name):** The value used to control the access to the wireless network. When other devices connect to the device, they can communicate with each other only if the set SSID is the same. The SSID supports 1~32-bit Chinese (1 Chinese character is 3 digits), English, numbers, special symbols !@#$%^&*()_+-=<>?/:|[]{}`. and non-header and tail spaces.
- **Hide SSID:** Hide the wireless network name (SSID). After this function is checked, other terminals such as mobile phones, computers, and client devices will not be able to search for the SSID of the access point device, so as to avoid being connected by others and not affect their own use.
- **Wireless Mode:** The device has four wireless modes: Access Point, Client, Access Point (WDS), Client (WDS).
- **Encryption:** Select the desired encryption method to encrypt the wireless connection to improve network security. The wireless encryption of the devices to be associated with each other must be set to the same, otherwise the association cannot be successful.

- **Key:** Set the encryption mode to WPA-PSK, WPA2-PSK or WPA/WPA2 Hybrid-PSK mode, configure the wireless password, and click on the small eye icon to displayed in plaintext.
- **Client Isolation:** Enabling this function can prevent the devices connected to the same access point device from communicating with each other. Even if the IP of each client is repeated, it will not have any effect on communication. This function only exists in the access point mode.
- **MAC Filtering:** Allow devices on or off the list to communicate (displayed only on the Access Points page).

The following sections will introduce how to configure the wireless association between 2 WLN-EB5E-IN hosts (the wizard page can also be quickly configured, see section 3.2 for details). WLN-EB5E-IN can be configured with four modes: Access Point mode, Client mode, Access Point (WDS) mode, Client (WDS) mode, Client mode can only be used with Access Point mode, Access Point (WDS) mode with Client (WDS) mode.

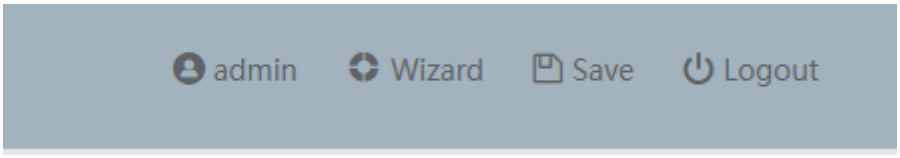
4.1.1 Configure As Access Point

Click the Edit button of the wireless interface settings, modify the network name to Uniview_98765ABCD, set Wireless Mode to Access Point and click Complete.



Picture 4-3 Wireless Interface Settings-Modify the SSID

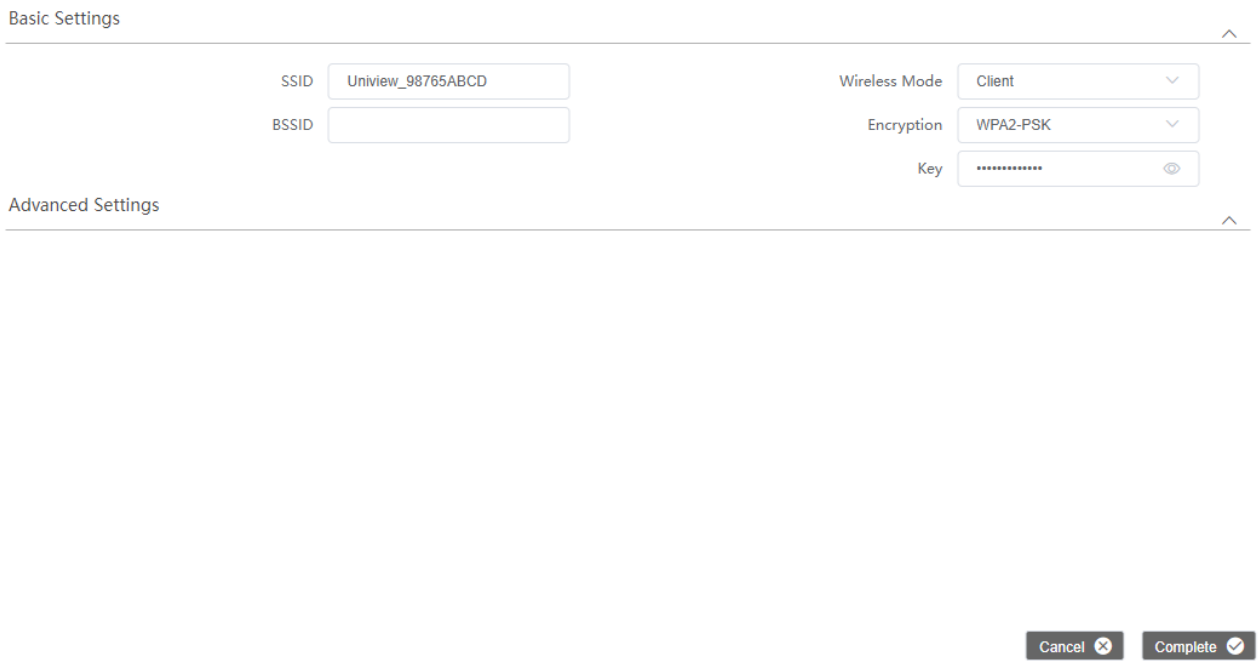
Click Save in the upper right corner. The Access Point is configured.



Picture 4-4 Save

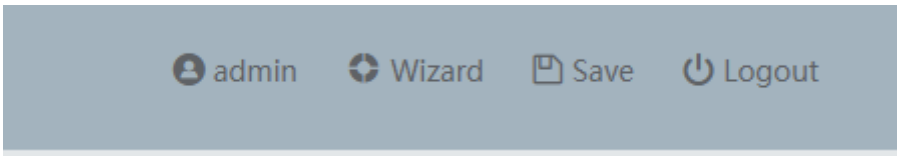
4.1.2 Configure As Client

Click the Edit button of the wireless interface settings, modify the network name to Uniview_98765ABCD, set Wireless Mode to Client and click Complete.



Picture 4-5 Wireless Interface Settings - Modify the wireless mode and SSID

Click Save in the upper right corner. The Client is configured.

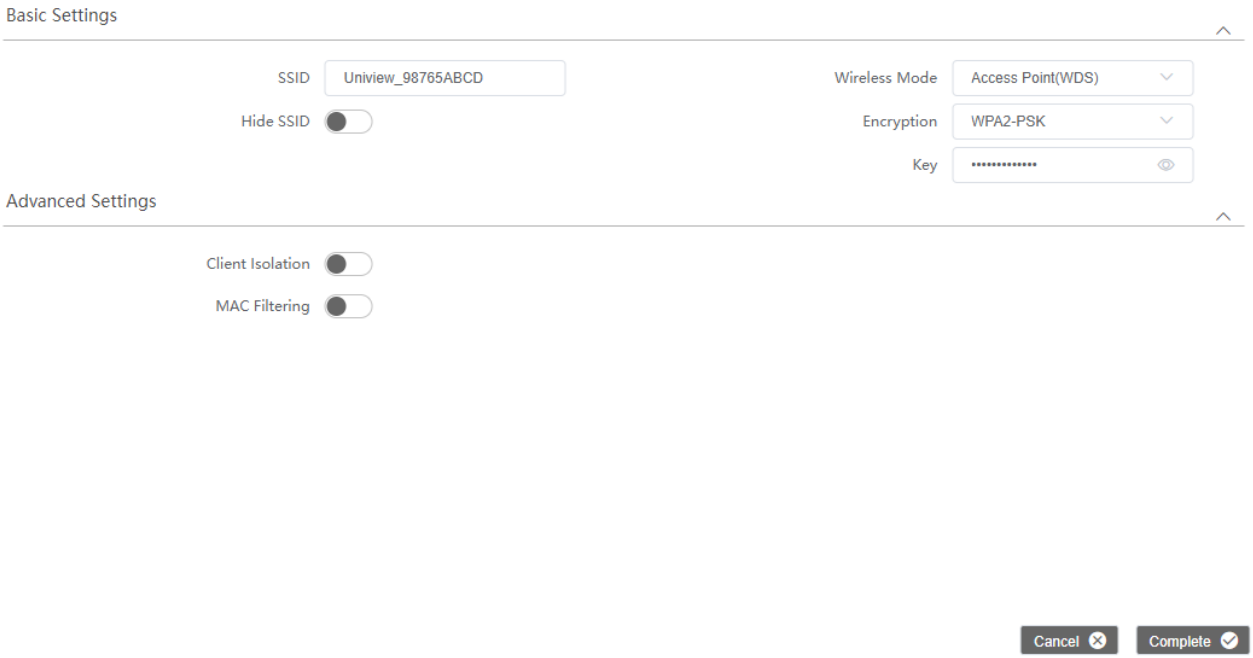


Picture 4-6 Save

The Client configuration is complete. In this case, the client can connect to the Access Point Uniview_98765ABCD.

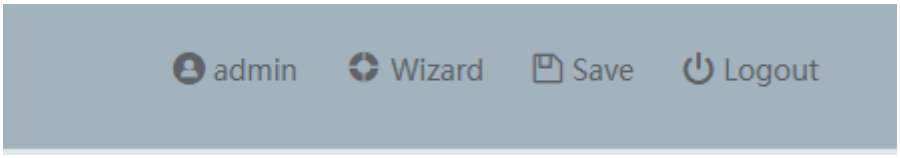
4.1.3 Configure As Access Point (WDS)

Click the Edit button of the wireless interface settings, modify the network name to Uniview_98765ABCD, set Wireless Mode to Access Point (WDS) and click Complete.



Picture 4-7 Wireless Interface Settings - Modify the network name and wireless mode

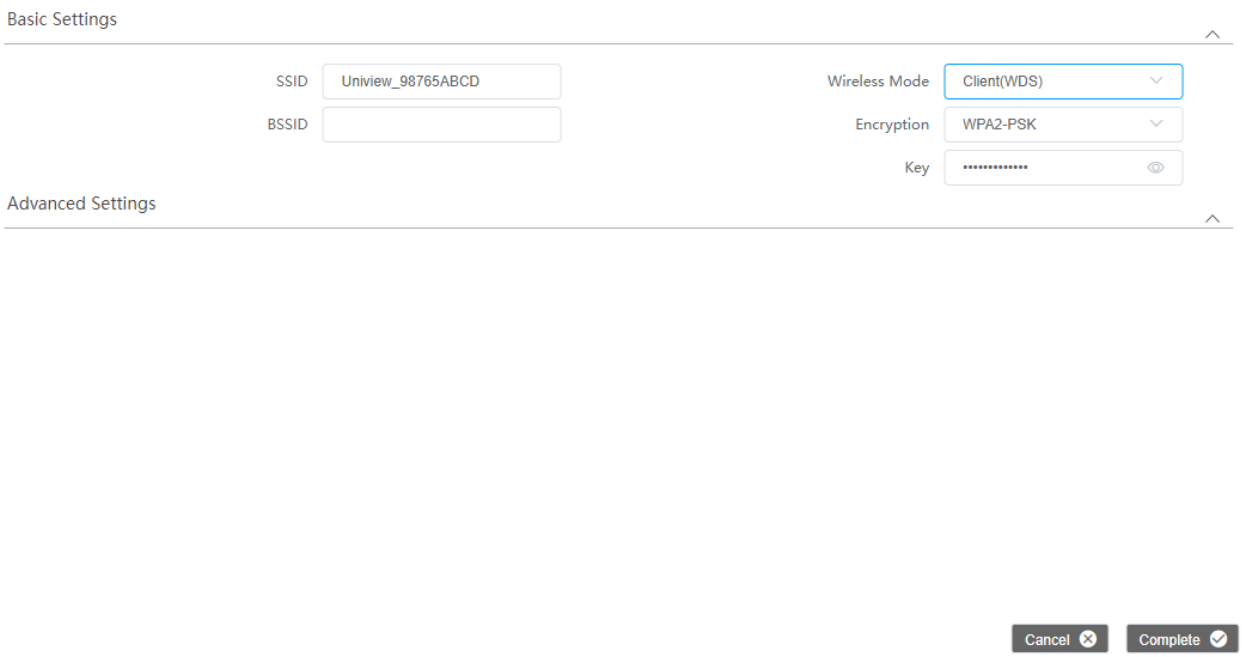
Click Save in the upper right corner. The Access Point(WDS) is configured.



Picture 4-8 Save

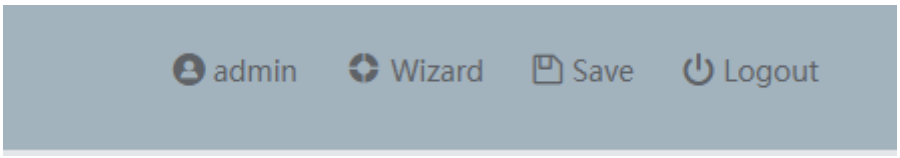
4.1.4 Configure As Client (WDS)

Click the Edit button of the wireless interface settings, modify the network name to Uniview_98765ABCD, set Wireless Mode to Client (WDS) and click Complete.



Picture 4-9 Wireless Interface Settings - Modify the network name and wireless mode

Click Save in the upper right corner. The client is configured.



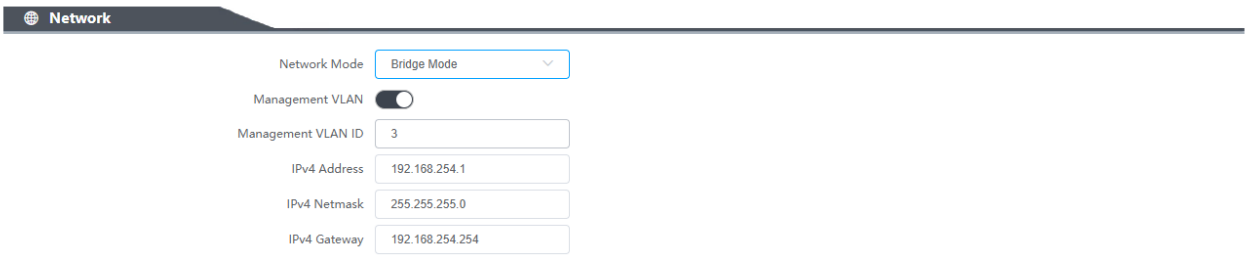
Picture 4-10 Save

At this point, the client (WDS) can successfully connect to the Access Point (WDS) whose network name is Uniview_98765ABCD.

4.2 Network Settings

4.2.1 Network Settings

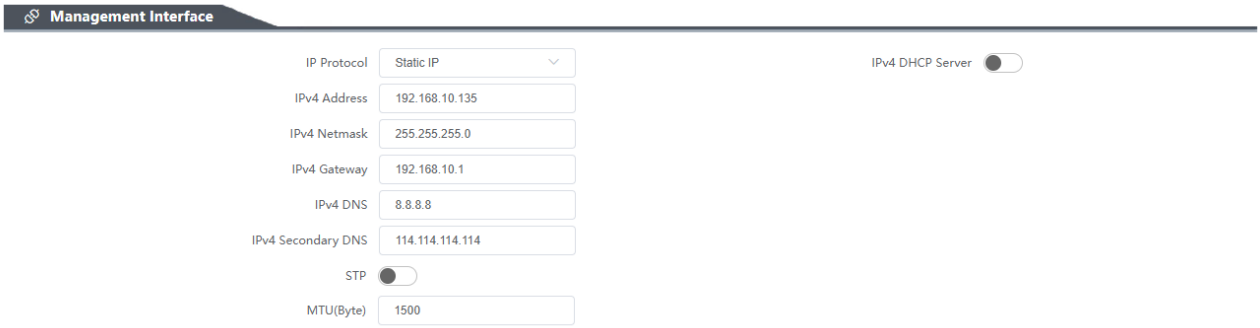
Optional network mode: the default network mode is bridge mode, and support Route Mode. and configure the management VLAN related parameters. The management VLAN is disabled by default. For details, see 4.2.3 Advanced Settings chapter.



Picture 4-11 Network Settings

4.2.2 Management Interface

The network mode selects the bridge mode, and the interface settings are as shown in the picture below:



Picture 4-12 Interface Settings - Bridge mode

- When the IP type is static, users can set the IP address, subnet mask, default gateway and DNS according to their needs; make sure that the IP is not the same as the IP of other devices in the same network to avoid IP address conflict; the gateway address and IP addresses are on the same network segment.

To enable the device to access the external network, it is necessary to connect the device to the external network, modify the IP of the device to be the same network segment as the IP of the Internet access router in the LAN, The gateway is the IP address of the connected upper-layer routing port, and connects the access point device to the router through the network cable.

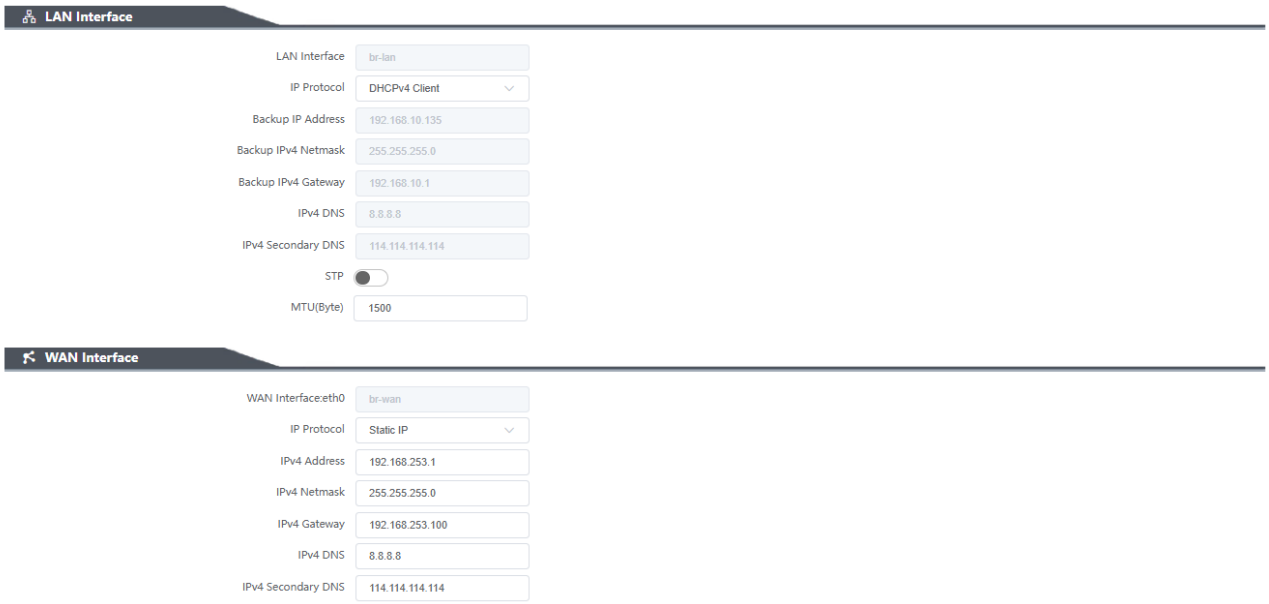
- When the IP type is DHCPv4 Client, the device can obtain the dynamically allocated address after connecting to the external network. The set backup IP can still be managed by entering the device page through the backup IP before the device does not obtain an IP address or after obtaining an IP address fails.

- The IPv4 DHCP server is disabled by default. After it is enabled, parameters such as starting address, end address, lease time, gateway and DNS can be set. When terminals such as mobile phones, computers and client devices are wirelessly associated, the IP address assigned by the device can be obtained.

- STP: After this function is enabled, network loops are eliminated.

- MTU: Set the maximum Transmission unit, default setting is 1500.

Set Network Mode to Route mode, and the interface settings are as shown in the picture below:



Picture 4-13 Interface Settings - Route mode

- When the LAN IP Protocol is static, users can set the IPv4 address, IPv4 Netmask, IPv4 gateway ,IPv4 DNS and IPv4 Secondary DNS according to their needs; make sure that the IP is not the same as the IP of other devices in the same network to avoid IP address conflict; the gateway address and IP addresses are on the same network segment. The configuration method for WAN IP Protocol is the same as for LAN.

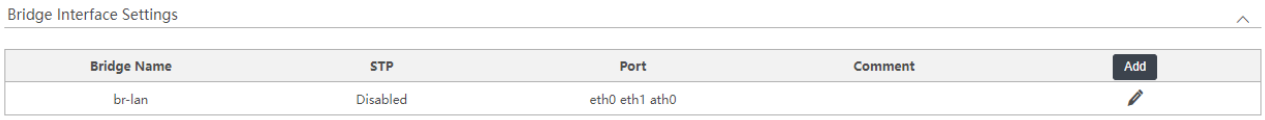
To enable the device to access the external network, it is necessary to connect the device to the external network, modify the IP of the device to be the same network segment as the IP of the Internet access router in the LAN, The gateway is the IP address of the connected upper-layer routing port, and connects the access point device to the router through the network cable.

- When the LAN IP Protocol is DHCPv4 Client, the device can obtain the dynamically allocated address after connecting to the external network. The backup IP can still be managed by entering the device page through the backup IP before the device does not obtain an IP address or after obtaining an IP address fails. The configuration method for WAN IP Protocol is the same as for Lan.
- The IPv4 DHCP server is disabled by default. After it is enabled, parameters such as starting address, number of clients, lease time, gateway and DNS can be set. When terminals such as mobile phones, computers and client devices are wirelessly associated, the IP address assigned by the device can be obtained.
- STP: After this function is enabled, network loops are eliminated.
- MTU: Set the maximum Transmission unit, default setting is 1500.

4.2.3 Advanced Settings

Advanced includes bridge interface Settings, VLAN, Ethernet Interface Settings, and Interface Isolation.

Bridge interface Settings: You can add or delete bridge interfaces by yourself, and configure parameters such as ports. The device includes 3 interfaces, eth0, eth1 and ath0. eth0 is the LAN port on the POE power supply, eth1 is the LAN port, and ath0 is the 5G wireless interface. The following figure shows the default display of the bridge interface in bridge mode.

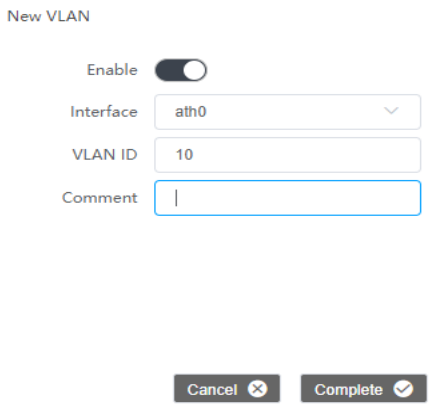


Picture 4-14 Bridge Interface Settings

VLAN： The VLAN feature allows users to add multiple VLAN interfaces on each network interface. As shown in the picture below, on ath0 (that is, the wireless link), add a VLAN with ID 10. The number of VLANs ranges from 3 to 4094, and each ID represents a different VLAN.

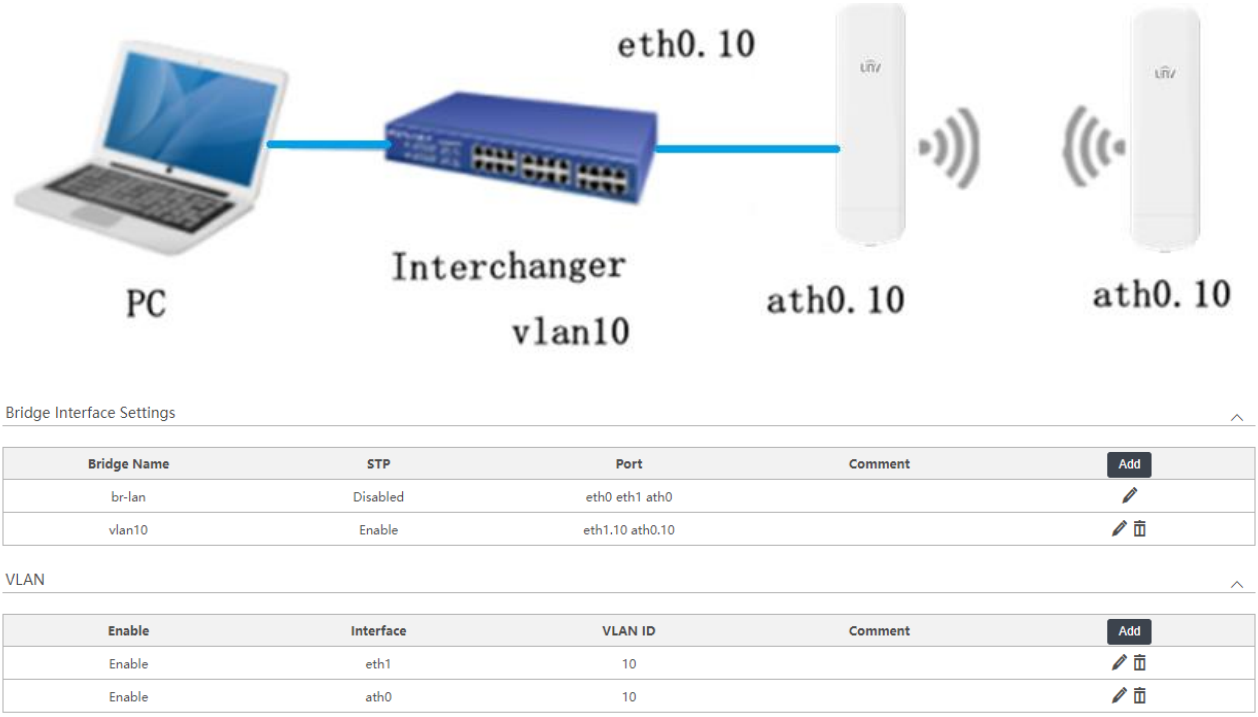
Picture 4-15 VLAN

The VLAN function needs to be used together with the bridge interface settings. As shown in the figure below, VLANs are added to both eth0 and ath0 with an ID of 10, and they are placed in a bridge interface, so that they are in a VLAN. Both outgoing and incoming packets from ath0.10 or eth0.10 will be tagged with VLAN ID 10. This requires: In terms of wireless connection, the other party should also support VLAN10 (that is, add VLAN with ID 10 to ath0); in wired connection, eth0 interface needs to be connected to a device that supports VLAN10 (such as a VLAN switch and supports VLAN with ID 10).



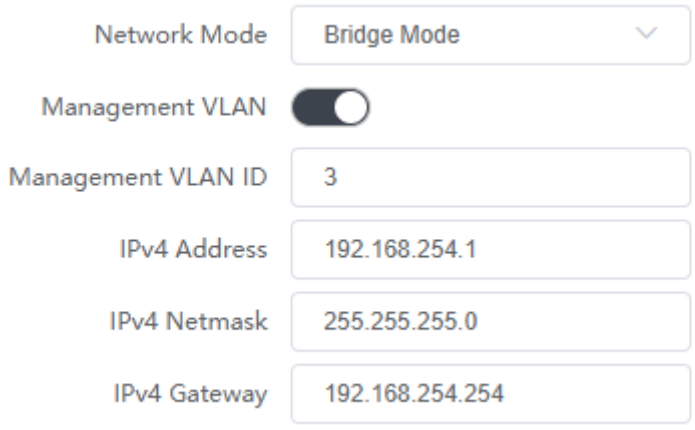
Picture 4-16 VLAN Setting

Common connection methods are shown in the following picture:



Picture 4-17 Connection diagram

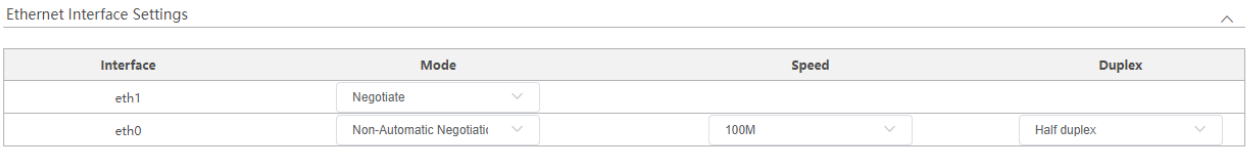
Management VLAN: After the management VLAN is enabled in Network Settings, the VLANs of the two ports of the device will be automatically added in the VLAN settings, and a mgmtvlan will be created in the bridge interface settings. , and the VLAN with ID 2 is supported), you can use the IP address set by the management VLAN to access the device page for management (take the WLN-EB5E-IN device as an example).



Picture 4-18 Management VLAN Setting

Ethernet Interface Settings：

Configure the negotiation method for wired interfaces. Negotiate means automatically configuring speed and duplex, Non-Automatic Negotiation means manually configuring speed and duplex.



Picture 4-19 Ethernet Interface Settings

Interface Isolation：

Picture 4-20 Interface Isolation

Wired interface isolation: After this function is enabled, the wired ports of the device cannot communicate with each other.

4.3 Traffic Management

This page can be used for firewall settings and interface speed limit. The details are as follows:

Firewall： When the user uses the device to block other devices, the firewall can be used to achieve this function.

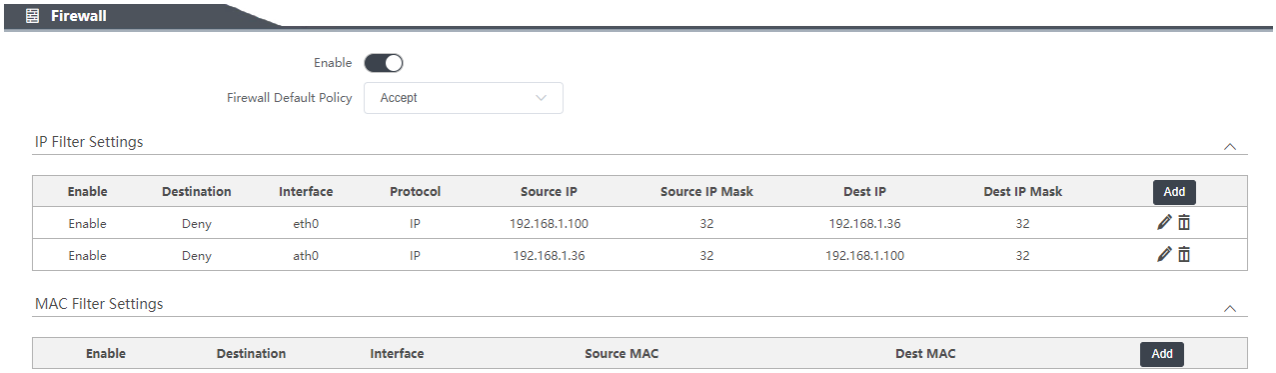
Picture 4-21 Firewall

- Filter the packets whose IP address is 192.168.1.100 from port eth0 (LAN port on POE power supply)

Firewall is enabled, the firewall default rules are received, and two rules are added to the IP filtering settings.

(1) The destination IP address is deny, the protocol of the interface is eth0, the source IP address/mask is 192.168.1.100/32, and the destination IP address/mask is 192.168.1.36 (the IP address of the device) /32;

(2) The destination IP address is deny, the protocol of the interface is eth0, the source IP address/mask is 192.168.1.36 (IP address of the device) /32, and the destination IP address/mask is 192.168.1.100/32.



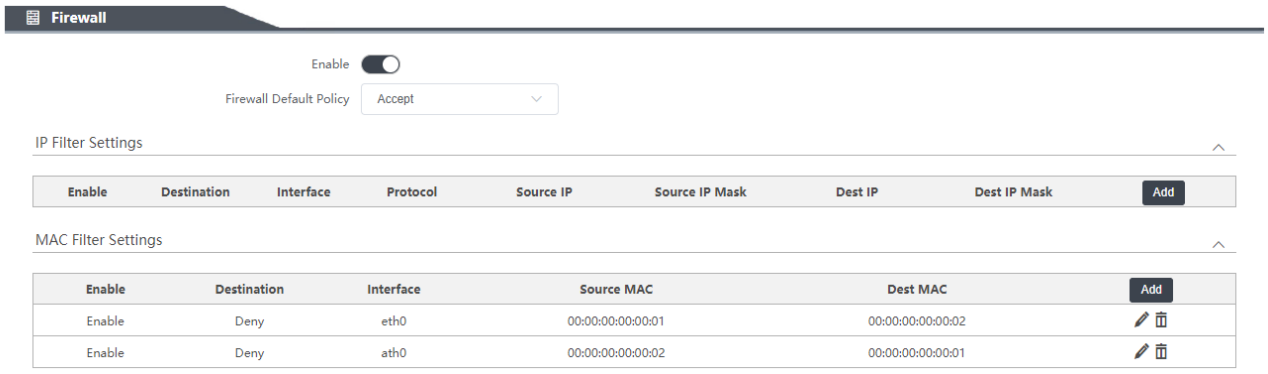
Picture 4-22 IP Filter Settings

- Filter the packets of the device whose MAC address is 00:00:00:00:00:01 on eth0 (the LAN port on the POE power supply

  The firewall is enabled, the firewall default rules are received, and two rules are added to the MAC filter settings:

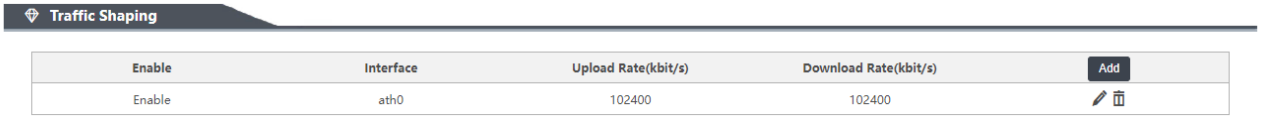
  (1) The destination is discarded, the interface eth0, the source MAC is 00:00:00:00:00:01, and the destination MAC is the MAC address of the device;

  (2) The target is to drop, the interface eth0, the source MAC is the MAC address of the device, and the destination MAC is 00:00:00:00:00:01.



Picture 4-23 MAC Filter Settings

Traffic Shaping: The upload rate and download rate can be limited on the device interface, as shown in the following picture.



Picture 4-24 Traffic Shaping

WMM Mapping: Map VLAN priority to different queues.

WMM Mapping

Enable	802.1p Priority	WMM Access Category
	0	BE
	1	BK
	2	BK
	3	BE
	4	VI
	5	VI
	6	VO
	7	VO

Picture 4-25 WMM Mapping

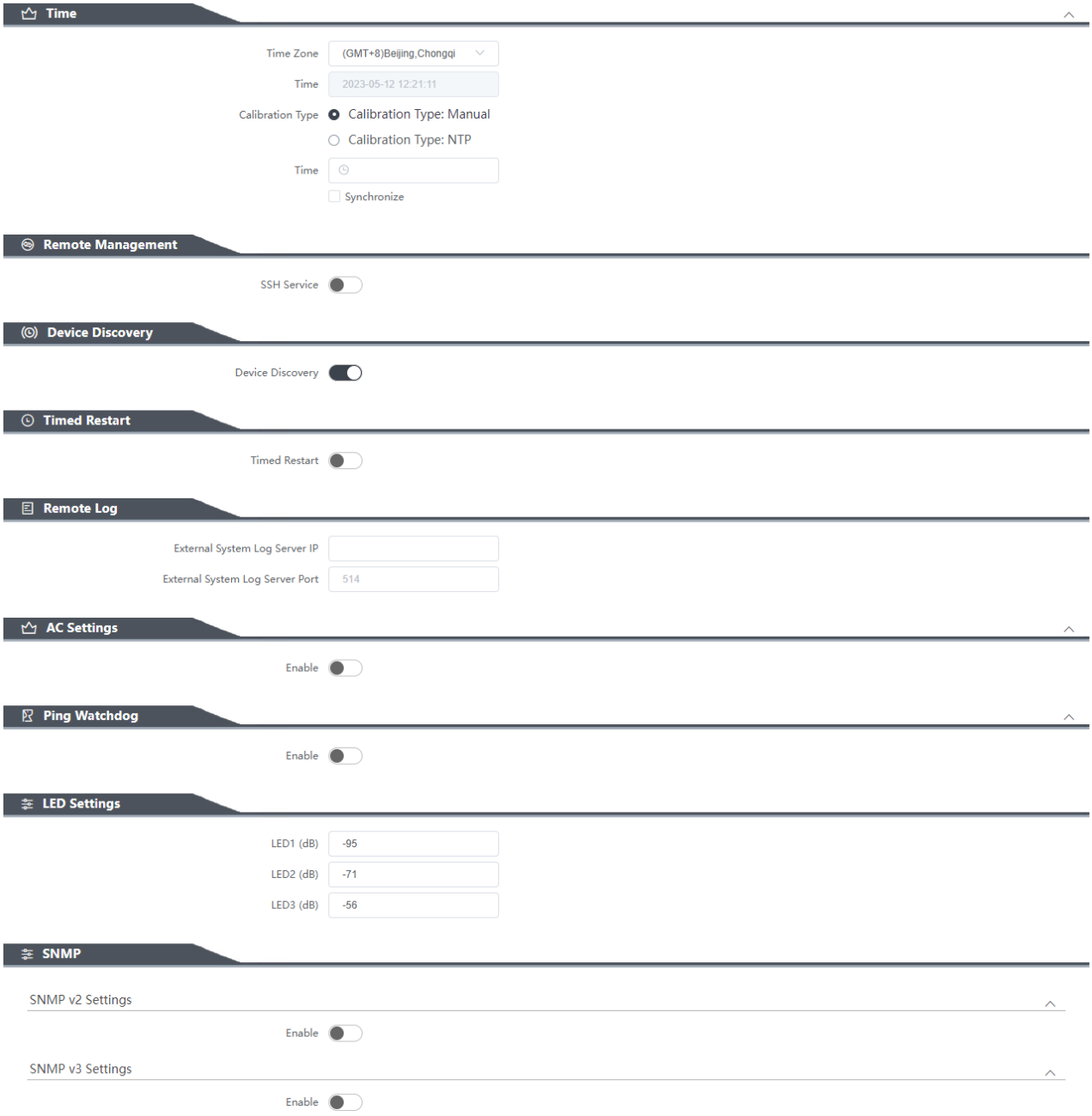
QoS Priority: Configuration quality of service.

QoS Priority

Enable	Target CoS	Target DSCP	Source MAC	Dest MAC	VLAN ID	CoS	Eth Type	DSCP	IP Type	Source IP	Dest IP	Source Port	Dest Port	Add
Disabled	2	28				6	IP	47	All	192.168.1.100	192.168.1.36			

Picture 4-26 QoS Priority

4.4 Service Settings



Picture 4-27 Service Settings

Time Settings: Set the device time. You can choose different time zones; the time adjustment methods are divided into manual time adjustment and NTP time adjustment. You can set the time yourself for manual time adjustment, or click to synchronize with the computer time. For NTP time adjustment, you need to fill in the server address, NTP port, the default time interval of school time is 15. At this time, you need to configure the device to access the external network (refer to 5.2.2 Interface Settings), and the time of the device will be automatically calibrated from the NTP server and displayed on the status display page.

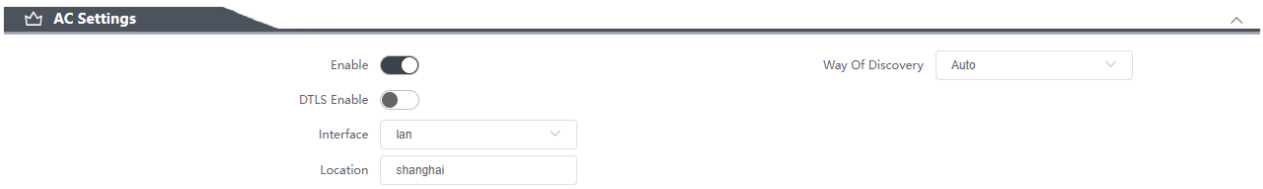
Remote Management： If SSH is enabled, you can use serial port printing tools such as SecureCRT and

XShell to log in to the device. If SSH is disabled, you cannot log in to the device.

Device Discovery： When this function is enabled, please use it with a dedicated tool set. The tool set window will display the MAC address, IP address, product name, and firmware name of the discovered device. Note: When discovering devices wirelessly, keep multicast support enabled.

Timed Restart： This function enables you to restart the device periodically.

Remote Log: Enable the remote log function, fill in the IP address of the PC where the remote Log server is located, set the server port to 514, click Save, and the log information of the device can be recorded in real time on the Log server.



Picture 4-28 Open AC Settings

AC Settings: After this function is enabled, it must be used with the AC management system.

Location: The deployment location of the device, you can fill in the device location you want to display on the AC map as needed.

Way Of Discovery: There are two ways for APs to discover ACs: manually specified and automatically. When the discovery mode is manually specified, you can add the primary AC address and the secondary AC address, and the added IP address is the IP of the AC management system. When going online at Layer 2, the device IP and AC IP must be on the same network segment. When the Layer 3 goes online, if automatic discovery is selected, the IP address of the AC needs to be filled in the Option43 field of the DHCP server. It is recommended that non-professionals configure the manual discovery method here.

Notice: The client device can join the AC successfully only after it is associated with the access point device, and the access point device has also enabled the AC function and joined the same AC system.

Ping Watchdog: This feature is designed to continuously monitor the operation of the equipment. The device can ping the IP address of the target host or device for a long time. If the device does not receive a defined number of replies, the tool will restart the device. It is recommended that users enable this

function on the side where the wireless mode is "client". It is not recommended for users to enable this function on the side where the wireless mode is "Access Point".

Ping Interval: The interval between two pings, the unit is in seconds.

Ping IP: Generally, fill in the IP address of the target host or device. When Ping Watchdog is enabled in "Client" mode, the IP address of the access point device connected to the client can be filled in here.

Start Delay: After the system of the device is started, the device will Ping the target host after the specified delay (The unit is in seconds).

Ping Failed Times: When the number of consecutive ping failures reaches the set value, the device will restart.

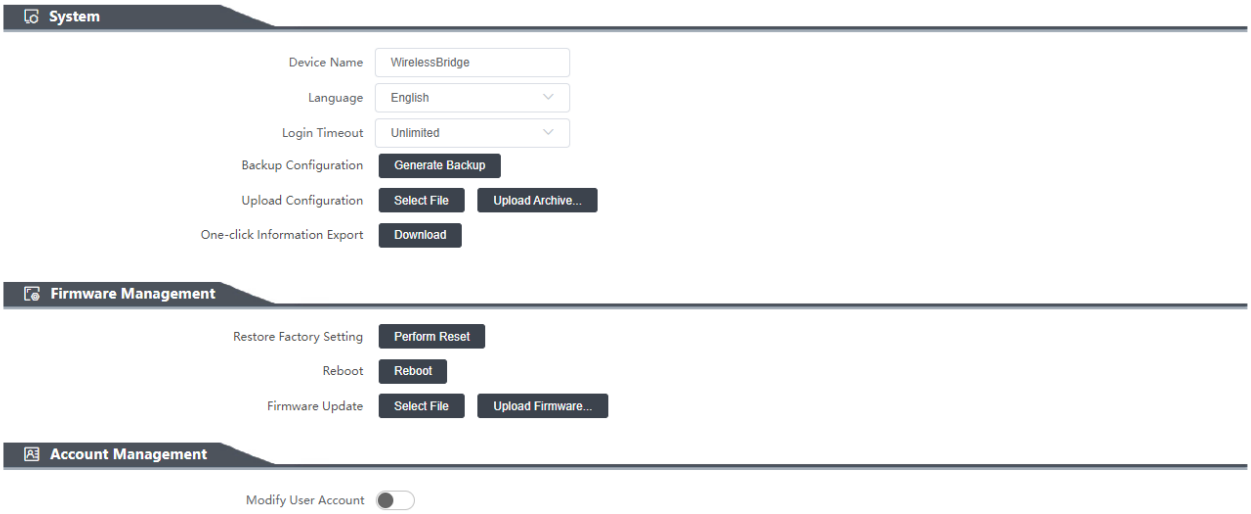
Notice: If you want to modify the parameter configuration of Ping Watchdog, please disable Ping Watchdog first. After the disable takes effect, enable Ping Watchdog to configure new parameters.

LED Settings: Here, the settings of LED1, LED2 and LED3 are the signal strength values required to light up the 3 LED lights of the device. The signal strength value of LED3 is the maximum (LED3>LED2>LED1), and the default settings are LED1: -95dB, LED2: -71dB and LED3: -56dB. When the signal strength is higher than LED1 and lower than LED2, LED1 is on. When the signal strength is higher than LED2 and lower than LED3, LED1 and LED2 are on. When the signal strength is higher than LED3, LED1, LED2 and LED3 are all on.

SNMP: The device supports SNMP V2 and V3. After the SNMP function is enabled, you can use the SNMP management tool to manage the device.

4.5 System Settings

The system setting interface is divided into three parts: System Settings, firmware Management and Account Management, as shown in the figure below:



Picture 4-29 System Settings

Device Name: Users can set the setting name to the name they need according to their own needs.

Language: Users can choose the page display language according to their own needs.

Login Timeout: When the time that the user does not operate the device exceeds the value set by the login timeout, the user will automatically jump to the login interface when operating the page again.

Backup Configuration: Click Generate Backup, all current configurations on the webpage will be backed up to a local file, note that the content of the configuration file cannot be modified manually.

Upload Configuration: Click Select File, select the previously downloaded configuration file, and click Upload to restore the device configuration to the configuration of the device when the backup configuration file was taken (it needs to be restarted to take effect).

One-click Information Export: Click Download to export the system log file, which contains the configuration file.

Restore Factory Setting: Click Perform Reset on the web page, and the page will jump to the waiting page. After the reset is completed, the page will jump to the login page, and the device configuration will be restored to factory Settings.

Reboot: Click Restart to restart the device system. After the restart, the configuration remains unchanged.

Firmware Update: Click Browse and select the version to be upgraded. After the firmware is uploaded, click Upgrade to upgrade the device.

Modify User Account: After the Change User password function is enabled, you can change the

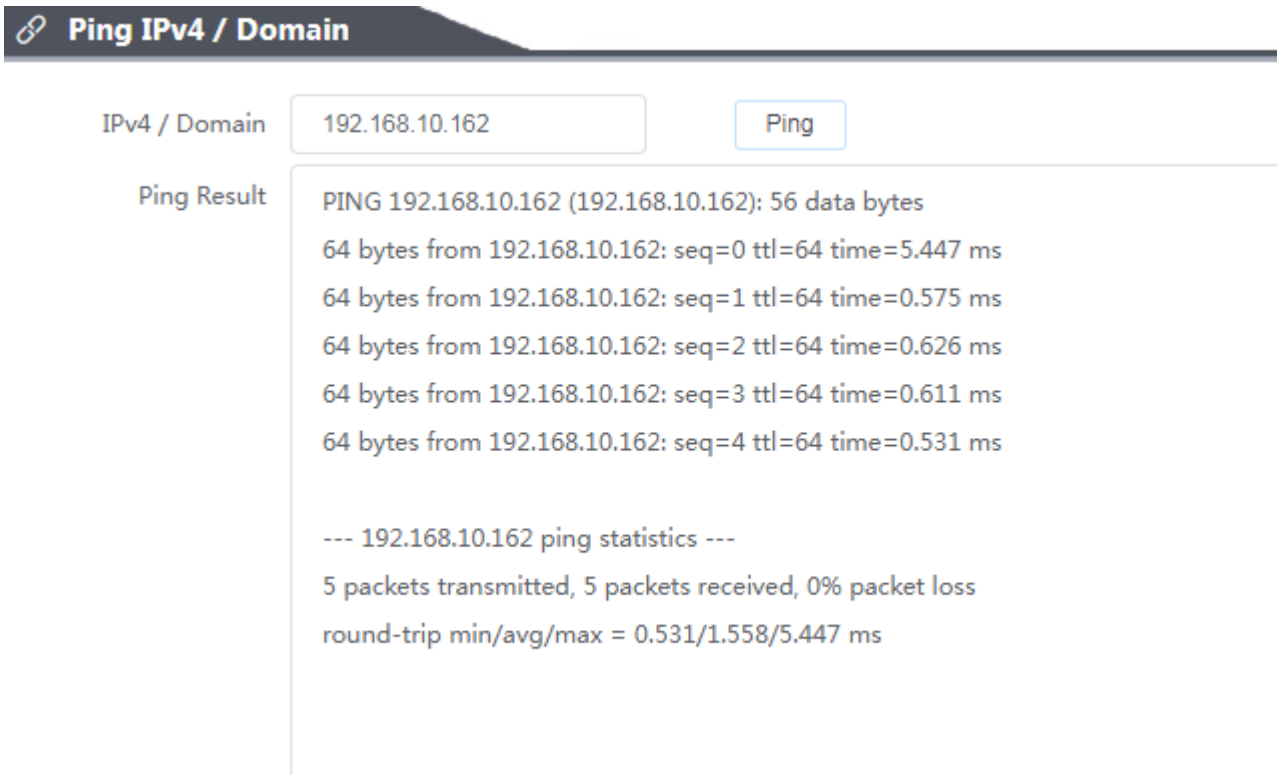
password for logging in to the device management web page as required. To enhance information security, change the device password periodically. Do not use simple passwords, such as numbers, letters, and birthdays.

5 Tools

The tools page is divided into four sub-pages: Ping IP, Link test, and Antenna Alignment. Details are as follows:

5.1 Ping IPv4

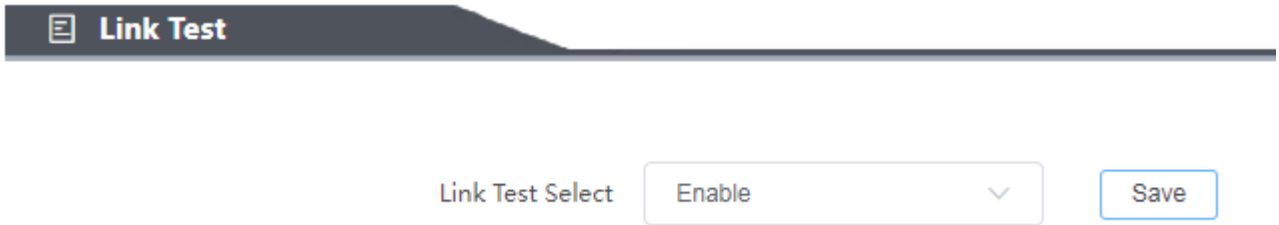
Enter the IP address of a device and click “Ping”. The ping result is displayed in the collected data, as shown in the following picture:



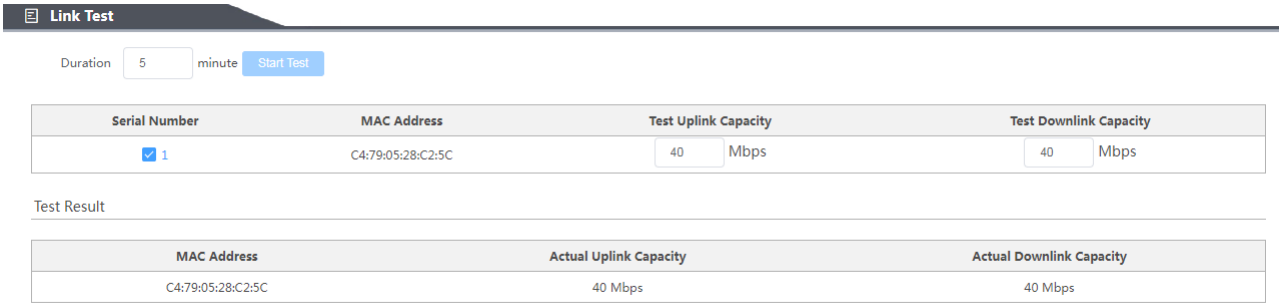
Picture 5-1 Ping IP

5.2 Link Test

The Link Test can test the maximum bandwidth performance and is used to test the throughput of the wireless side between devices. Configure the link test switch on the client device to be enabled and save it. Fill in the test duration on the access point device, test the upstream traffic and test the downstream traffic. After filling in these parameters, click the "Start Test" button to test.



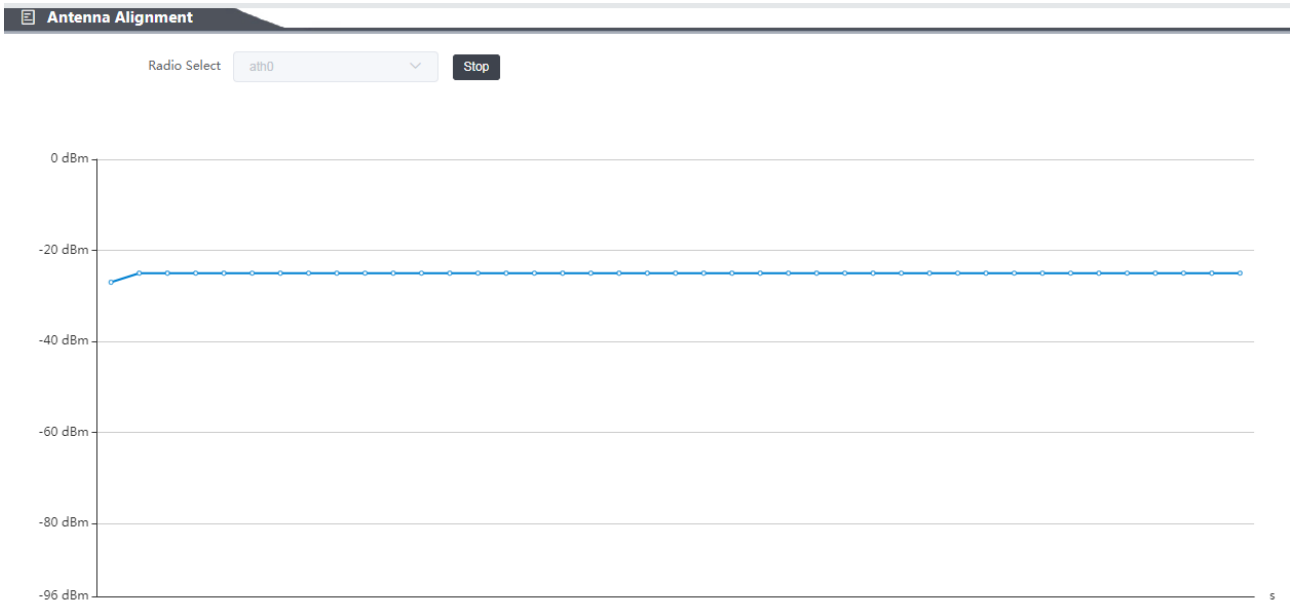
Picture 5-2 Link Test-Client Mode



Picture 5-3 Link Test -Access Point Mode

5.3 Antenna Alignment

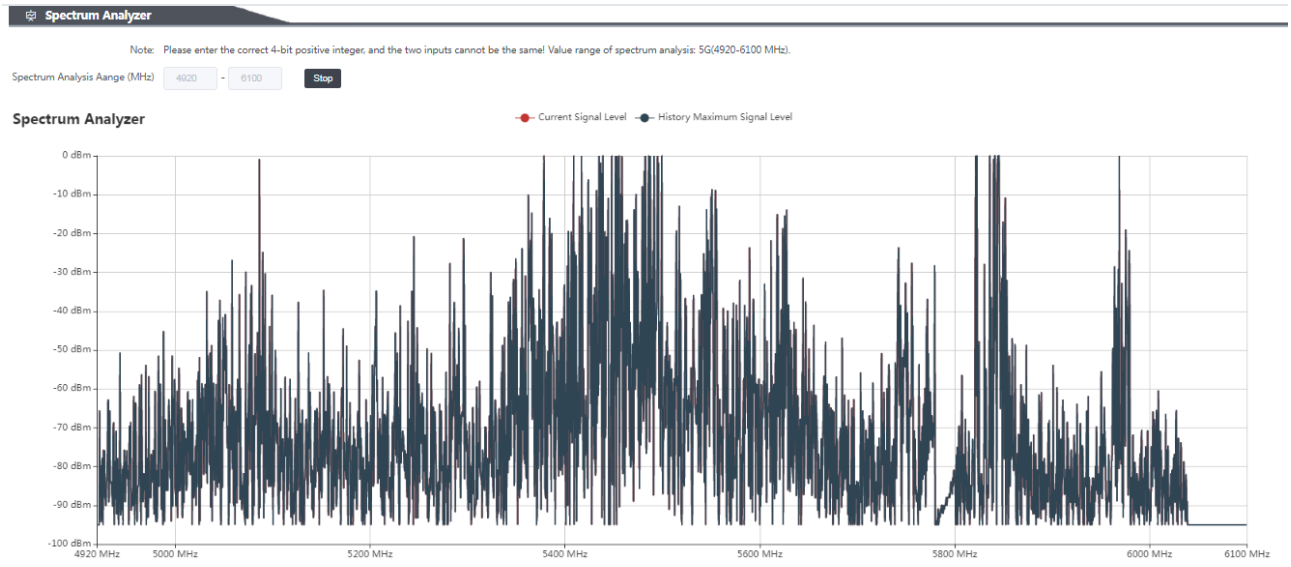
Since the antenna should be aligned when setting up the remote device environment, select the default wireless interface, click Start, you will see the signal strength of the device at this time, you can adjust the placement of the device and adjust the antenna direction and find the appropriate device signal, Click Stop to stop calibration.



Picture 5-4 Antenna Alignment

5.4 Spectrum analysis

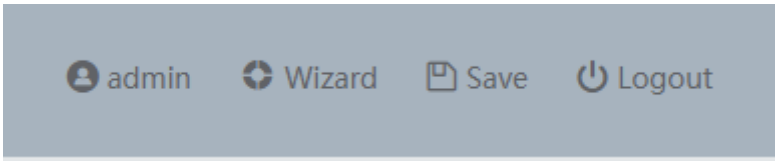
Spectrum analysis, input and select the range of channels to scan, click Start, the device scans for signals with frequencies ranging from 4920 to 6100, and can view the real-time signal strength and historical maximum signal strength of the surrounding channels. As shown in the figure.



Picture 5-5 Spectrum analysis

6 Logout

Logout: It is used to log out of the device page. When the user clicks Log out in the upper right corner, it will jump to the login page.



Picture 6-1 Logout

7 Troubleshooting

1. What should I do if I forget the device IP address?

① Confirm that the device is connected correctly and the network cable is not loose.

② Confirm whether the device IP has been modified.

③ Confirm that the computer IP address is 192.168.1.X (X is 2~254, except the device IP).

④ Restore the device to factory Settings and log in to the device again.

2. What should I do if I cannot open the device web interface?

① Open the computer and run cmd, check whether the IP of the ping device can be pinged, and confirm whether the IP address is correct;

② Determine that the IP address of the local computer and the IP address of the bridge are in the same local area network;

③ Try to clear the browser cache, or try another browser (Google, IE, etc.).

3. What should I do if the video drops or freezes?

Check whether the wireless connection of the device is normal. If it is not associated, please check whether the wireless configurations of the access point and the client are consistent; such as network name, channel width, encryption method, etc.

Check whether the installation location is obstructed; the front of the device is the antenna position, and it is necessary to ensure that the antennas of the two devices are facing each other and are not obstructed.

The device can check the client's signal strength indicator status:

① All three lights are off, indicating that the device is not successfully associated.

②Only the red light is on, indicating that the signal is very weak.

③The yellow and red lights are on, indicating that the signal strength is medium.

④The yellow, red and green lights are all on, indicating that the signal strength is high.

Check whether the wired link is normal. Methods as below:

①Check whether the wired connection interface is firm and in good contact, so as to avoid wired faults caused by loose or damaged interfaces.

②Use the computer to connect the device directly, open the cmd command line, and enter the command to check whether the delay is less than 13ms: ping [device IP] -t -l 60000. Example ping 192.168.1.1 –t –l 60000. When the delay is abnormal, it is recommended to replace the network cable or remake the registered jack.

③You can also follow the above steps to troubleshoot between the camera-side bridge and the camera.