HIKVISION

Wireless Bridge (Web)

User Manual

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Preface

Applicable Models

This manual is applicable to the wireless bridge for web operation.

Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
_ Danger	Indicates a hazardous situation which, if not avoided, will or could result in death or serious injury.
Caution	Indicates a potentially hazardous situation which, if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
iNote	Provides additional information to emphasize or supplement important points of the main text.

Safety Instructions

<u>/</u>Danger

- This is a class A product and may cause radio interference in which case the user may be required to take adequate measures.
- No naked flame sources, such as lighted candles, should be placed on the equipment.
- The serial port of the equipment is used for debugging only.
- Install the equipment according to the instructions in Quick Start Guide.
- To prevent injury, this equipment must be securely attached to the installation surface in accordance with the installation instructions.
- Keep vertical downward when moving or using the equipment.

Caution

- In the use of the product, you must be in strict compliance with the electrical safety regulations of the nation and region.
- The socket-outlet shall be installed near the equipment and shall be easily accessible.
- Do not connect several devices to one power adapter as adapter overload may cause overheating or a fire hazard.
- Please make sure that the plug is firmly connected to the power socket.

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Chapter 1 Introduction

You can manage and configure the wireless bridge (hereinafter referred to as the device) through the web browser, including network settings, wireless network settings, and system management.

iNote

Functions vary with device models. Pictures used for illustration here are for example purposes. The actual interface prevails.

Chapter 2 Activation and Login

2.1 Activate the Device

For the security of your privacy and system data, you are required to set a password for your first use. After the password is set, you can log in to the web for further configuration.

Before You Start

Ensure that your PC and the device are on the same network segment.

Steps

- 1. Run the web browser.
- 2. Enter the IP address of the device in the address bar, and press Enter.
- 3. Set your password and confirm.



- The password strength of the device can be automatically checked. We highly recommend you change the password of your own choosing (using a minimum of 8 characters, including at least three kinds of following categories: uppercase letters, lowercase letters, numbers, and special characters) in order to increase the security of your product. And we recommend you change your password regularly, especially in the high security system. Changing the password monthly or weekly can better protect your product.
- Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.

4. Select the desired Country/Region Code and confirm.	
Note	

Only when **Country/Region Code** is set, can the device work normally.

2.2 Log in to the Device

Log in to the device to check device information and configure related parameters.

Steps

1. Enter the IP address in the address bar of the web browser, and press Enter.

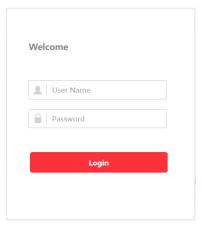


Figure 2-1 Log In

- 2. Enter the user name and password.
- 3. Click Login.

Chapter 3 Network Configuration

3.1 Network Settings

Click **Network Settings** to set relevant network parameters for the device.

3.1.1 Network Connection Settings

Note

The function is available for some models only when **AP** is set as the working scene.

When the device is working in AP mode, you can enable WAN port and set relevant parameters, such as **Network Connection Method** and **WAN IPv4**, to suit your needs.

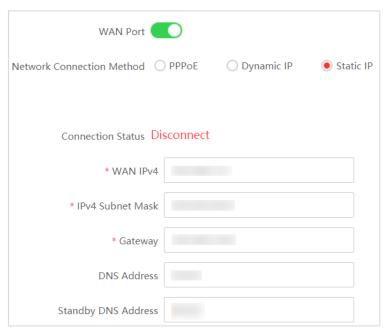


Figure 3-1 WAN Port Settings

Table 3-1 Parameter Description

Parameter	Description
PPPoE	Select this mode if your ISP (Internet Service Provider) has provided a broadband account and password.
Dynamic IP	No additional configuration is required if you choose this mode.

Parameter	Description
Static IP	Select this mode if your ISP has provided an IP address and other information related.

3.1.2 LAN Settings

After configuring the network connection parameters, you can go to **Network Settings** \rightarrow **LAN Settings** to configure detailed network parameters.



The function varies with models. Devices with WAN port function and devices without WAN port function may have different sets of parameters to be configured. The actual interface prevails.

For devices without WAN port function or devices with WAN port function disabled, you can set Network Connection Method, IPv4, IPv4 Subnet Mask, Gateway, DNS Address, and Standby DNS Address.

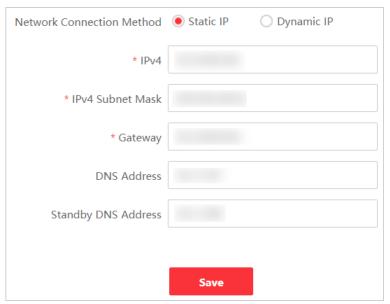


Figure 3-2 LAN Settings (Without WAN Port Function/With WAN Port Function Disabled)

For devices with WAN port function enabled, you can configure the LAN port and DHCP server respectively.

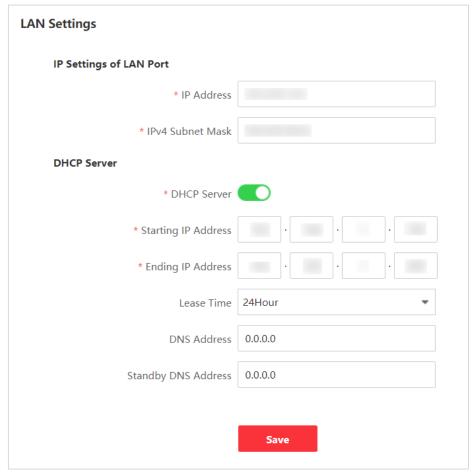


Figure 3-3 LAN Settings (With WAN Port Function Enabled)

After the IP address is reset, the web page redirects to the new login interface of the newly set IP address.

Note

To prevent IP address conflict, it is recommended to use SADP tool when you set the device IP address.

3.1.3 Data Forwarding Settings

In a complex LAN environment, to reduce the negative impact of certain multicast, broadcast, and unknown unicast packets on the device, you can filter the packets as required. Go to **Network Setting** \rightarrow **Data Forwarding Settings** to enable/disable the packet filtering features of the device.

iNote

The function is available for some models only when **AP** is set as the working scene.

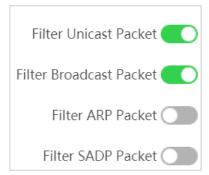


Figure 3-4 Data Forwarding Settings

Table 3-2 Parameter Description

Parameter	Description
Filter Unicast Packet	Enabled by default. Enabling this function helps filter all unknown unicast packets, to minimize the negative influence brought by massive unknown unicast packets in the LAN.
Filter Broadcast Packet	Enabled by default. Enabling this function helps filter all unnecessary broadcast packets, to minimize the negative influence brought by massive broadcast packets in the LAN.
Filter ARP Packet	Disabled by default. Enabling this function helps filter ARP packets sent to unknown devices, to minimize the negative influence brought by massive ARP packets in the LAN.
Filter SADP Packet	Disabled by default. Enabling this function helps filter SADP multicast packets, to minimize the negative influence brought by massive SADP multicast packets in the LAN. Note
	SADP discovery and related functions will become unavailable after this function is enabled.

3.2 Wireless Network Settings

Click Wireless Network Settings to set basic and advanced parameters of wireless network.

Note
Parameters of this function vary with models. The actual interface prevails.

3.2.1 Basic Settings

Go to Wireless Network Setting \rightarrow Basic Settings to set wireless network basic parameters.

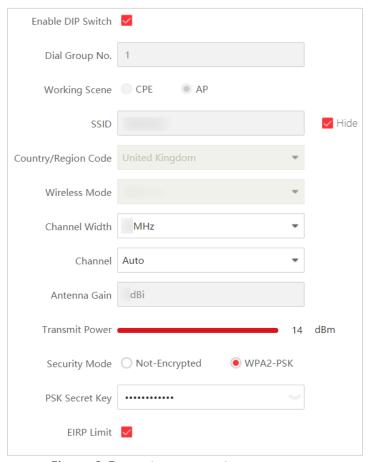


Figure 3-5 Wireless Network Basic Settings

iNote

The picture used above is an example of a device with DIP switch function. The actual interface varies with device models.

Table 3-3 Parameter Description

Parameter	Description
Enable DIP Switch	Enable/disable the pairing code and scene switching function through the DIP switch.
	This function is enabled by default.
	iNote
	If the DIP group numbers are not enough for use, you can disable this

Parameter	Description
	 function and set SSID accordingly. Enabling or disabling DIP switch makes the wireless connection disconnected. Please operate with caution. This parameter is only available for devices with DIP switch function.
Dial Group No.	1 to 16, used to indicate different group numbers. This information is only displayed when DIP switch is enabled. Note
Working Scene	This parameter is only available for devices with DIP switch function. You can set Working Scene as desired through the web. Select AP to set AP as Working Scene . Select CPE to set CPE as Working Scene .
SSID	 By default, the SSID is determined by the dial group number, and the CPE pairs with the AP according to SSID. It is recommended to hide the SSID of APs for security.
Country/Region Code	Set when activating the device. It is unchangeable after selected, unless you restore all the settings to default settings.
Wireless Mode	It is not configurable.
Channel Width	 For APs: Channel widths are available for selection. The specific value depends on the country/region code. For CPEs: The channel width is automatically changed according to the AP. It is not configurable.
Channel	 For APs: Auto is set by default. You can select a desired one. For CPEs: Auto is set by default. It is not configurable.
Antenna Gain	The power transmitted in the direction of peak radiation to that of an isotropic source.
Transmit Power	A key factor affecting the wireless coverage area and the maximum achievable signal-to-noise ratio.
Security Mode	 WPA2-PSK is set by default, and the encryption method is AES. If Not-Encrypted is selected, there is no need to set PSK Secret Key.
PSK Secret Key	The pairing password for CPEs and APs. If WPA2-PSK is set as Security Mode , you should configure PSK Secret Key .
EIRP Limit	Check to limit the EIRP (Effective Isotropic Radiated Power) of the device.

iNote

You can select an optimum channel by clicking **Scan Signal** to check the signal intensity of available channels nearby.

3.2.2 Advanced Settings

Go to Wireless Network Settings \rightarrow Advanced Settings, enable or disable TDMA and Intelligent Frequency Management as desired.

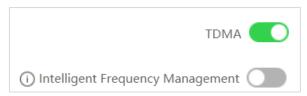


Figure 3-6 Advanced Settings

Table 3-4 Parameter Description

Parameter	Description
TDMA	Enable TDMA to improve the throughput performance of the working scene when an AP is connected to multiple devices. Note The function is available for some models only when AP is set as the working scene.
	Enable Intelligent Frequency Management to ensure stable video transmission when interference is detected. Note
Intelligent Frequency Management	 The function is available for some models only when AP is set as the working scene. With this function, the working channel will be automatically switched to the optimal channel of all the choices except the DFS (Dynamic Frequency Selection) channels and indoor channels. The function varies with countries. For certain countries, this function is not available. With this function enabled, you are not able to set the channel and channel width manually. It is recommended that you disable this function if roaming is needed.

Chapter 4 System Maintenance

4.1 Check Device Information

You can view the basic information, hardware status, network status, and wireless status for routine check or device maintenance.

4.1.1 Device Information

Go to **System Status** → **Device Information** to check device name, device model, serial No., program version, MAC address, etc.

Device Name is configurable. See **4.2 Edit Device Name**.



Figure 4-1 Check Device Information

4.1.2 Device Status

Go to **System Status** → **Basic Status** to check the CPU usage, memory usage, running time, and background noise condition of the device. Click **Refresh** at the upper-right corner to update the overall status.

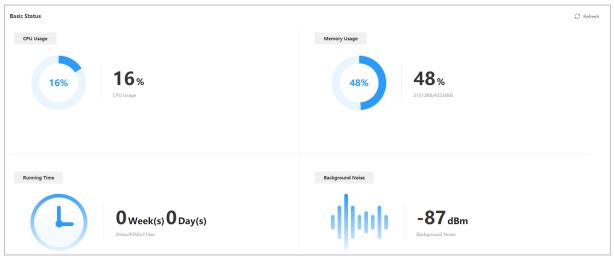


Figure 4-2 Check Device Status

4.1.3 Network Status

Go to **System Status** → **Network Status** to check the working mode, IPv4, IPv4 subnet mask, gateway, DNS address, and standby DNS address of the device.

The LAN parameters are configurable. See **3.1 Network Settings**.

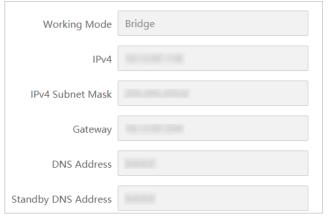


Figure 4-3 Check Network Status

4.1.4 Connected Device Information

Go to **System Status** \rightarrow **Wireless Status** to check wireless parameters and the information of connected devices.

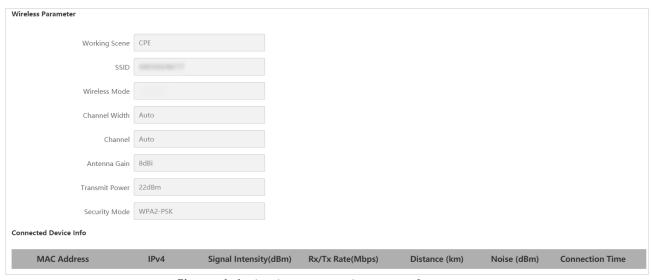


Figure 4-4 Check Connected Device Information



Parameters of this function vary with models. The actual interface prevails.

4.2 Edit Device Name

Edit the device name for identification.

Steps

- 1. Go to System Management \rightarrow Device Maintenance.
- 2. Edit your desired name in **Device Name**.
- 3. Click Save.

4.3 Reboot the Device

You can reboot the device remotely through the web page.

Steps

- 1. Go to System Management \rightarrow Device Maintenance.
- 2. Click **Reboot** in **Device Maintenance**.
- 3. Follow the prompts for further operation.

4.4 Restore Defaults

Go to **System Management** → **Device Maintenance** for default settings restoration.

- **Restore Default Settings**: Restore the parameters to the default settings, except network settings and user settings.
- Restore All: Restore all the parameters to the default settings.



- Restoring all the parameters will clear all the settings, please operate with caution.
- It is recommended to export all the configuration files before restoration.

4.5 Enable Intelligent Power Management

When the intelligent power management feature is enabled, the device would power off automatically in condition of insolvable device failure.

Go to **System Management** \rightarrow **Device Maintenance**. Enable **Intelligent Power Management** as needed.



This function is only available for some models. The actual interface prevails.

4.6 Save Debug Information

Save debug information of different levels for restoring specific information when the device reboots. The saved information can be used for technical support professionals to conduct troubleshooting and maintenance.

Steps

- 1. Go to System Management → Device Maintenance.
- 2. Select Level in Debug Information as desired.



Three levels are selectable: **Low (Alarm)**, **Medium (Report)**, and **High (Message)**. The higher the level is, the more specific the information will be.



Figure 4-5 Save Debug Information

3. Click Save.

4. Enable **Save** above **Level** to save the debug information in the next 7 days.

Note

After 7 days, this function will be restored to disabled status.

4.7 Import and Export Files

Go to **System Management** \rightarrow **Device Maintenance**, you can import or export configuration files for quick configuration or backup. Debug information can also be exported for troubleshooting by professionals.

- Export Debug Information: Click Export to export debug information in TXT format.
- Export Configuration File: Click Export, set the password of configuration file, and click OK.
- Import Configuration File: Click ... to select the desired configuration file, and click Import.

iNote

Importing configuration file requires the password you set when exporting files, and the device will reboot automatically after the file is imported.

4.8 Upgrade the Device

Use the newest firmware for available upgrades, and upgrade the device through web page remotely.

Before You Start

Copy the upgrade package to the local directory of the PC used for remote access.

Steps

- 1. Go to System Management \rightarrow Device Maintenance.
- 2. Click in **Upgrade Device** to go to the local directory, and select the desired upgrade package.
- 3. Click Upgrade.

Note

- The device will reboot automatically after upgrade, and you need to log in again.
- If upgrade fails and the device cannot work normally, please contact the supplier for restoration.

4.9 Set Time

Both manual time synchronization and NTP time synchronization are supported.

4.9.1 Manual Settings

You can set a desired specific time, or synchronize the time with that of the computer.

Steps

- 1. Go to System Management \rightarrow Time Settings.
- 2. Select a Time Zone.



The time zone is automatically selected after you set the country/region code. You can also select the desired time zone as needed.

- 3. Select Manual Time Sync. as Sync Method.
- 4. Set the desired time or check **Sync. with computer time**.

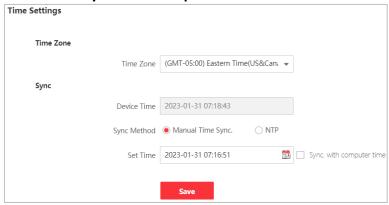


Figure 4-6 Manual Setting

5. Click Save.

4.9.2 NTP Setting

NTP time synchronization is used to synchronize the time with that of a specific NTP server.

Steps

- 1. Go to System Management \rightarrow Time Settings.
- 2. Select a **Time Zone**.



The time zone is automatically selected after you set the country/region code. You can also select the desired time zone as needed.

3. Select NTP as Sync Method.

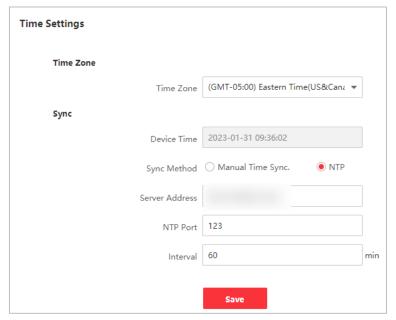


Figure 4-7 NTP Setting

4. Enter NTP server information.

Server Address

The IP address of the NTP server.

NTP Port

Monitoring port of the NTP server. Default value: 123. Value range: 1 to 65535.

Interval

The frequency for the device to synchronize with the NTP server. Value range: 1 to 10080 minutes.

4.10 Manage Safety

4.10.1 HTTP Service

The port used for HTTP (Hyper Text Transfer Protocol) connection can be set as needed. HTTP service is available on port 80 by default.



This function is only available for some models. The actual interface prevails.

Steps

1. Go to System Management \rightarrow Safety Management.

2. Enter the server port number for HTTP connection.



Figure 4-8 HTTP Service



The server port number for HTTP service can be set as 80 or any number from 2000 to 65535.

4.10.2 HTTPS Service

The port used for HTTPS (Hypertext Transfer Protocol Secure) connection can be set as needed. HTTPS service is available on port 443 by default when enabled.



This function is only available for some models. The actual interface prevails.

Steps

- 1. Go to System Management \rightarrow Safety Management.
- 2. Enable HTTPS service.
- 3. Enter the server port number for HTTPS connection.



Figure 4-9 HTTPS Service

Note

The server port number for HTTPS service can be set as 443 or any number from 2000 to 65535.

4.10.3 SSH Service

SSH protocol can prevent information leakage caused by remote management. If SSH service is enabled, you can manage the device remotely. SSH service is disabled by default.

Steps

- 1. Go to System Management \rightarrow Safety Management.
- 2. Enable **SSH Service**.



Figure 4-10 SSH Service



The user name of **SSH Client** is **root**, and the password is the same as that of web login.

4.10.4 SADP Service

If SADP service is enabled, you can activate the device, change password, and modify IP address through the software. SADP service is enabled by default.

Steps

- 1. Go to System Management \rightarrow Safety Management.
- 2. Enable **SADP Service**.



Figure 4-11 SADP Service

iNote

If SADP service is disabled, some of the functions may become unavailable. It is recommended to enable this service.

4.11 Manage Log

Export desired logs to your local storage.

Steps

- 1. Go to System Management \rightarrow Log Management.
- 2. Select Main Type, Subtype, Starting Time, and End Time.
- 3. Click Search.

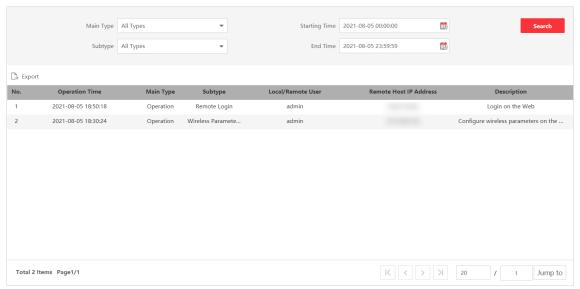


Figure 4-12 Log Search

4. Click **Export** to save the log files.

4.12 Diagnose Network

Network diagnosis provides network status information, which would be useful for the technical support.

Steps

- 1. Go to System Management \rightarrow System Tool \rightarrow Network Diagnosis.
- 2. Enter the IP address.
- 3. Click Ping.

Diagnosis results will display.

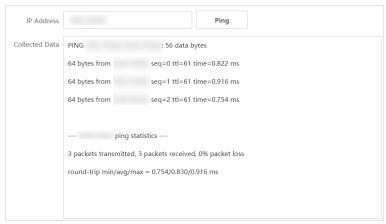


Figure 4-13 Network Diagnosis

4.13 Ping Watchdog

By pinging a specific IP address and check the packet loss, technical support professionals can examine the device working status. If the device is in abnormal status, they may reboot the device.

Steps

- 1. Go to System Management \rightarrow System Tool \rightarrow Ping Watchdog.
- 2. Enable Ping Watchdog.

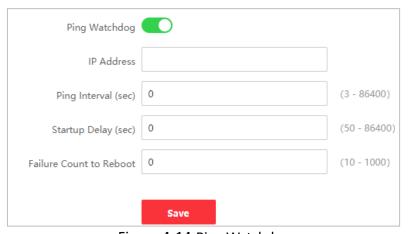


Figure 4-14 Ping Watchdog

3. Enter related information.

Ping Interval

The interval of Ping packet.

Startup Delay

The delay time for reboot when the device is in abnormal status.

Failure Count to Reboot

The limit for packet loss times. The device is reckoned as abnormal when the packet loss times reach this limit.

4. Click Save.

4.14 Test Wireless Bandwidth

By testing the wireless bandwidth, technical personnel can judge whether the network is smooth enough.



This function is only available for some models when the working scene of the device is set as AP.

Steps

- 1. Go to System Management \rightarrow System Tool \rightarrow Wireless Bandwidth Test.
- 2. Click **Test** to get the test result.



Figure 4-15 Test Wireless Bandwidth

4.15 Change Password

For data security, we highly recommend you to change your password regularly.

Steps

- 1. Click Admin at the upper-right corner.
- 2. Select Change Password.

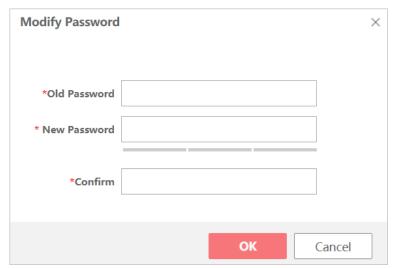


Figure 4-16 Change admin Password

- 3. Enter the original password, new password and confirm.
- 4. Click **OK**.

The web page redirects to the login interface.

4.16 View Open Source Software Licenses

Open source licenses are licenses that allow software to be freely used, modified, and shared. Go to **System Management** \rightarrow **About Device** and click **View** to read the open source software licenses of this software.

Chapter 5 FAQs

5.1 Why the device cannot start up?

Reason

- The network cable length connecting the wireless bridge to the PoE module exceeds 60 m.
- The network cable cannot meet the standard of Category 5e.
- 3. The registered jack of the network cable is not firmly connected, or the connection order is improper.

Solution

- 1. Use a network cable shorter than 60 m.
- 2. Use a network cable with Category 5e or higher standard.
- 3. Remake the registered jack.

5.2 Why devices pairing failed?

Reason

The devices pairing status depends on the distance, direction, SSID name, and PSK password.

Solution

You can check as follows:

- 1. Check distance and direction: Ensure the AP and CPE are directly faced to each other, and the distance between them is within the limit.
- 2. Check SSID name and PSK password: Ensure the SSID name and PSK password are correct.

5.3 Why the wireless connection rate is relatively low?

Reason

The wireless system makes connection with its maximum working rate, and the actual rate depends on the distance and environment.

Solution

You can check as follows to ensure the highest connection rate:

- 1. Device position: Adjust the device position and direction.
- 2. Wireless channel or frequency: Change to another signal channel or frequency to reduce interference.
- 3. Wireless interference: Adjust, shield, or disable the device causing interference.

5.4 Why the signal intensity is too low?

Reason

- 1. There is a large-sized obstruction between the CPE and the AP.
- 2. The CPE is not directly faced to the AP.

Solution

- 1. Remove the obstruction or bypass it.
- 2. Adjust the angle of the CPE and the AP.

5.5 Why the throughput is inadequate even with high signal quality?

Reason

- 1. Excessive interference or multipath interference.
- 2. Wired device error.

Solution

- Remove the interference or change the device frequency.
 Method of changing frequency: Reboot the AP of wireless bridge to allow auto search of available signal channels.
- 2. Change a network cable or use another PC.

5.6 Why there are excessive packet loss and time delay when PC pings the device IP address?

Reason

- 1. The registered jack of the network cable is not firmly connected.
- 2. The IP addresses of multiple devices conflict.

Solution

Port isolation should be conducted for APs connected to the same switch.

- 1. Remake the registered jack.
- 2. Modify the IP addresses of different devices.

