

Prism Mesh Router

User Guide v1.0

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About this Guide

Purpose

This document provides information of web configuration of the Prism Mesh Access Points:

- MI10
- MO10

Prerequisite Skills and Knowledge

To use this document effectively, you should have a working knowledge of Local Area Networking (LAN) concepts and wireless Internet access infrastructures. In addition, you should be familiar with the following:

- Hardware installers should have a working knowledge of basic electronics and mechanical assembly, and should understand related local building codes.
- Device administrators should have a solid understanding of device management, network operations and troubleshooting knowledge.
-

Conventions Used in this Document

The following typographic conventions and symbols are used throughout this document:

	Very important information. Failure to observe this may result in damage.
	Important information that should be observed.
	Additional information that may be helpful but which is not required.
bold	Menu commands, buttons and input fields are displayed in bold
<code>code</code>	File names, directory names, form names, and system-generated output such as error messages are displayed in constant-width type
<code><value></code>	Placeholder for certain values, e.g. user inputs
<code>[value]</code>	Input field format, limitations, and/or restrictions.

Chapter 1 – Introduction

Thank you for choosing the Prism Mesh Access Point product.

The Prism Mesh Access Point product features 2.4GHz+5GHz 2x2 and 5GHz 4x4 tri-band with a superior connectivity capability across large-range density deployments such as office spaces, training and meeting facilities, shopping mall and hotel.

By utilizing AX6600 data rate, Prism Mesh Access Point product handles multiple clients on each channel, regardless of device or traffic type, delivers very high speed and reliable wireless connection in both outdoor and indoor environments.

Configuration

Access and configure the access point by executing web browser and enter IP address. The default IP address is:

MO10 IP 192.168.2.1 subnet 255.255.255.0 on LAN port

MI10 IP 192.168.2.1 subnet 255.255.255.0 on LAN port

IP 192.168.1.1 subnet 255.255.255.0 on WAN port

Step 1 Configure your PC with a static IP address on the 192.168.2.x subnet with mask 255.255.255.0. Connect the Access Point into the same physical network as your PC. Open the Web browser and type the default IP address.



Please refer to quick installation guide for hardware installation and physical Ethernet port connection on each model.

Step 2 Enter the administrator login details to access the Web management.



The default administrator settings for web interfaces are:

Username: **prism**

Password: **prism**

Click Log In to proceed:



Sign In

Log In

You can choose to click Skip or enter a new password then click Save to proceed:



Update your credentials
For security reasons we suggest you to update your username and password

Chapter 2 – Web Menu

This chapter describes the configuration menu page of the Prism Mesh Access Point which works in AP mode, Station mode or Mesh mode by using the Web Interface configuration.



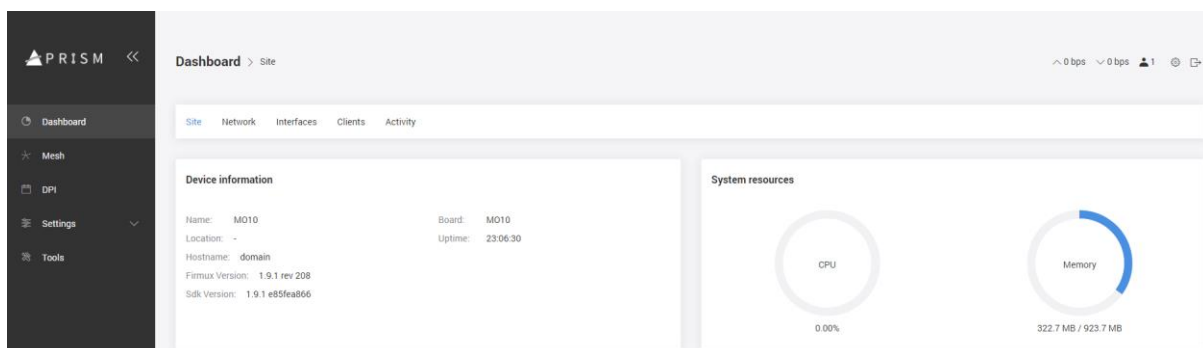
The default configuration is AP mode.

The **main menu** consists of the following sub menus:

- **Dashboard** – to show current status
- **Mesh** – to perform Mesh Wizard and show mesh connection information
- **DPI** – to detect and show user's traffic and application information
- **Settings** – to configure the access point
- **Tools** – built-in tools that help to debug the connection

Web Interface

The dashboard page is displayed after successfully logging into the system (see the figure below). From this menu all essential configuration pages are accessible.



The **web management** has the following structure:

Dashboard

- Site** – show the status related with the whole device
- Network** – show the status of the network
- Interfaces** – show the status of each interface, including Ethernet and radios
- Client** – show the status of client (users) information
- Activity** – show the event log related to the access point

Mesh

- Mesh Wizard** – perform mesh configuration
- Mesh Information** – show the status of the mesh interface, including CAP and RE
- Topology** – show the topology of mesh connection

DPI

DPI graphs – show user's traffic and application information

Settings

Network – specify the network parameters

Wireless – specify the settings of Wi-Fi radios

Services – specify management's interfaces

System – configure basic access point's information

Users – manage the login credentials

Tools

Site Survey – perform site survey on specific radio and show results

Ping – perform ping to specific address and show results

Tracerout – perform traceroute to specific address and show results

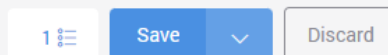
View log – show detailed syslog

Device discovery – perform and show discovered device

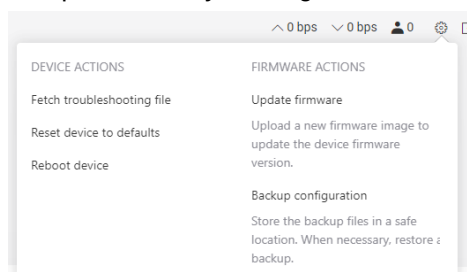
Speedtest – perform speedtest and show results



Please click **Save** to make changes effective, or click **Discard** to drop changes on top menu.



Reset device to defaults, Reboot device, Update firmware and backup configuration can be performed by clicking tool button on top menu.

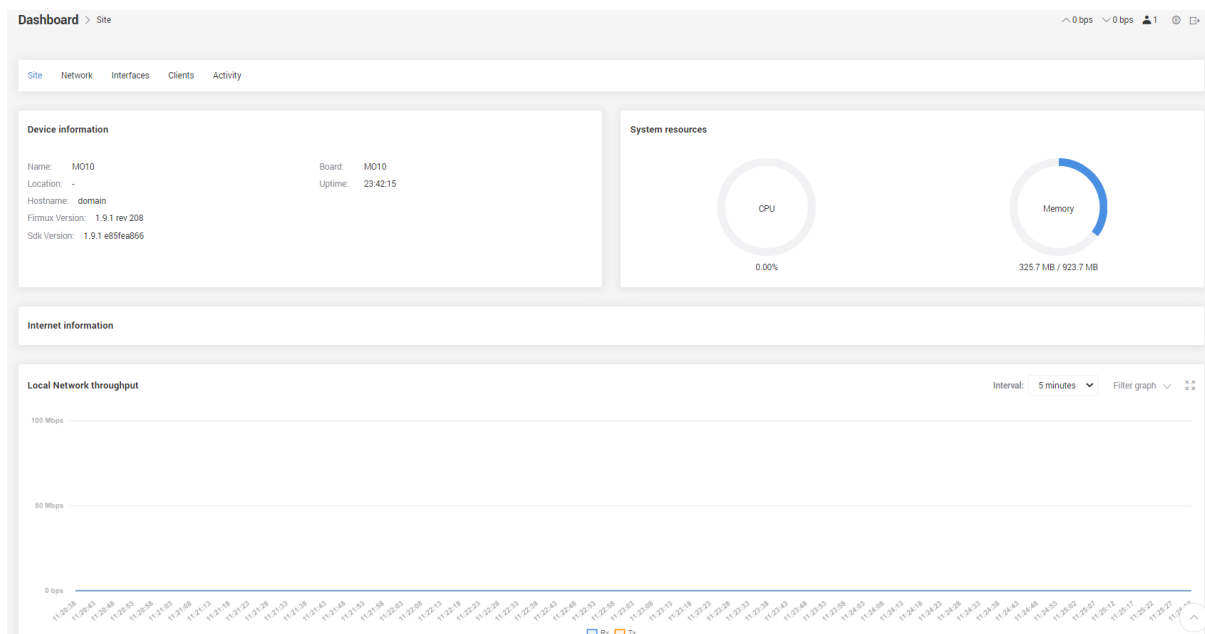


Chapter 3 - Dashboard

This chapter describes the dashboard page of the Prism Mesh Access Point.

Dashboard > Site

The **Site** page shows important information of system and network status.



Device information – display the access point's basic information

System resources – display the system utilization

Local Network throughput – show the network throughput in 5 mins, 2 hours, day, week or year

Dashboard > Network

The **Network** page shows the status of the network

Dashboard > Network 0 bps 0 bps 1

Site **Network** Interfaces Clients Activity

Network information:

Local Network IP v4 Throughput

Address: 192.168.2.1 Gateway: -
Netmask: 255.255.255.0 Members: 4 Members

ARP entries:

Items per page: 10 Search

IP address	MAC address	Interface
192.168.2.10	AC:BC:32:93:BA:87	Local Network
192.168.2.101	10:62:E5:9B:B7:A9	Local Network
192.168.2.11	C6:67:9C:4A:0FDA	Local Network
192.168.2.13	14:4F:8A:1A:B7:A6	Local Network
192.168.2.2	9E:83:E2:AB:FA:4F	Local Network
192.168.2.3	9C:5A:81:CA:47:D1	Local Network
192.168.2.4	00:45:E2:14:F4:08	Local Network
192.168.2.5	FC:F8:AE:43:F2:4C	Local Network
192.168.2.6	92:73:58:1E:8A:57	Local Network
192.168.2.7	BC:54:2F:D2:4B:14	Local Network

Total entries: 12

DHCP active leases:

Items per page: 10 Search

IP address	MAC address	Hostname	Time left	Interface
192.168.2.10	AC:BC:32:93:BA:87	AndrewShiudeMBP	21:13:56	Local Network
192.168.2.11	C6:67:9C:4A:0FDA	-	21:58:35	Local Network
192.168.2.13	14:4F:8A:1A:B7:A6	Gordon-NB	21:53:25	Local Network
192.168.2.2	9E:83:E2:AB:FA:4F	Clevis-X3	05:23:53	Local Network
192.168.2.3	9C:5A:81:CA:47:D1	M2012K11AG	05:57:49	Local Network
192.168.2.4	00:45:E2:14:F4:08	LAPTOP-HC9FT709	06:23:16	Local Network
192.168.2.5	FC:F8:AE:43:F2:4C	DESKTOP-UF6S48N	06:25:46	Local Network
192.168.2.6	92:73:58:1E:8A:57	-	09:28:59	Local Network
192.168.2.7	BC:54:2F:D2:4B:14	LAPTOP-LGJPBIN8	20:31:51	Local Network
192.168.2.8	20:34:FB:90:2D:55	RedmiNote7-Jason	21:40:04	Local Network

Total entries: 11

Local Network – display the IP information of network interface of the access point

ARP entries – show all IP and MAC information of the whole network

DHCP active leases – show DHCP active lease time

Dashboard > Interfaces

The **Interfaces** page shows the status of each interface, including Ethernet and radios.

Dashboard > Interfaces 0 bps 0 bps 24

Site Network **Interfaces** Clients Activity

Ethernet ports:

Ethernet 0
Info Throughput

MAC: BA:EF:43:0D:4B:65 Bytes Tx: 0 B
Link: No Bytes Rx: 0 B
Speed: -

Ethernet 1
Info Throughput

MAC: 76:59:D6:27:3A:6E Bytes Tx: 0 B
Link: No Bytes Rx: 0 B
Speed: -

Ethernet 2
Info Throughput

MAC: 46:29:AE:08:E7:B9 Bytes Tx: 8.3 GB
Link: Yes Bytes Rx: 58.5 GB
Speed: 100 Mbps Full Duplex

Wireless radios:

5 GHz Radio (IPQ6018)
Info Throughput Clients

Channel: 144 (5720 MHz), 80 MHz Clients: 0
TxPower: 10 dBm

Radio SSIDs:

SSID	Mode	Security
> wrtq360ax-91ca	Access point	WPA2-PSK (TKIP/AES)

2.4 GHz Radio (IPQ6018)
Info Throughput Clients

Channel: 6 (2437 MHz), 40+ MHz Clients: 0
TxPower: 10 dBm

Radio SSIDs:

SSID	Mode	Security
> wrtq360ax-91cb	Access point	WPA2-PSK (TKIP/AES)

5 GHz Radio (QCN9024)
Info Throughput Clients

Channel: 100 (5500 MHz), 160 MHz Clients: 0
TxPower: 10 dBm

Radio SSIDs:

SSID	Mode	Security
> wrtq360ax-913c	Access point	WPA2-PSK (TKIP/AES)

Ethernet Ports – display the status of each Ethernet port



For MI10, there are three Ethernet ports:

- Ethernet 0 (LAN2)
- Ethernet 1 (LAN1)
- Ethernet 2 (WAN)

For MO10, there is only one Ethernet port:

- Ethernet 0 (water-proof Ethernet port)

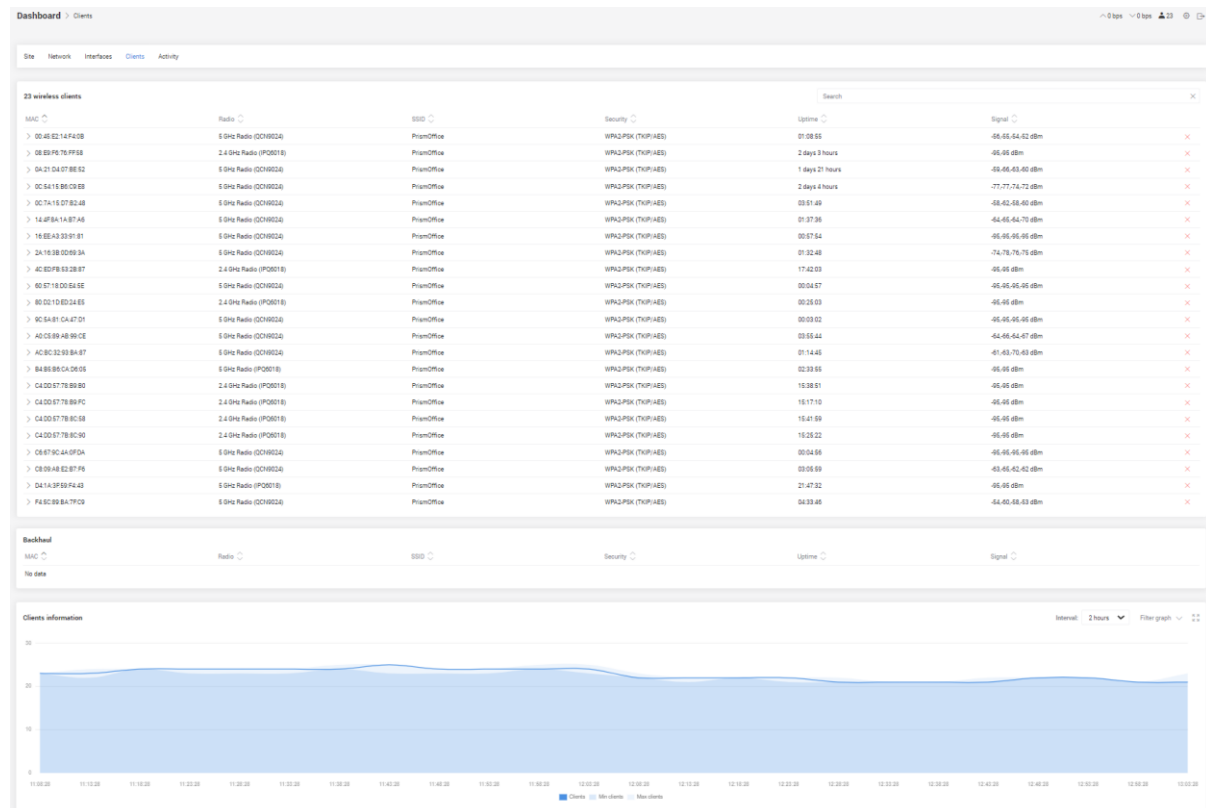
Wireless Radios – display the status of each radio, including channel, bandwidth, Tx power, connected clients (users) and SSID information



Please follow country-specific regulation.

Dashboard > Clients

The **Clients** page shows the status of connected clients (wireless users) information.



Wireless clients – show the connected clients (wireless users) information, including MAC, Radio, SSID, Security and Uptime

Backhaul – show the connected mesh clients information, including MAC, Radio, SSID, Security and Uptime

Clients information – show the numbers of connected clients in 2 hours, day, week or year

Dashboard > Activity

The **Activity** page shows the event log related to the access point.

Dashboard > Activity 0 bps 0 bps 24

Site Network Interfaces Clients **Activity**

Events

Items per page: 10 Download data Search

Date & Time	Message
2021-11-26 13:18	Client 0C:54:15:B6:C9:E8 disconnected from PrismOffice (5 GHz Radio)
2021-11-26 13:15	Client B4:39:39:66:F0:BC connected to PrismOffice (2.4 GHz Radio)
2021-11-26 13:12	Client 2C:8D:B1:3E:19:58 connected to PrismOffice (5 GHz Radio)
2021-11-26 13:05	Client C8:09:A8:E2:A1:76 disconnected from PrismOffice (5 GHz Radio)
2021-11-26 13:05	Client 9C:5A:81:CA:47:D1 connected to PrismOffice (5 GHz Radio)
2021-11-26 13:03	Client C6:67:9C:4A:0FDA connected to PrismOffice (5 GHz Radio)
2021-11-26 13:03	Client 60:57:18:D0:E4:5E connected to PrismOffice (5 GHz Radio)
2021-11-26 12:53	Client 60:57:18:D0:E4:5E disconnected from PrismOffice (5 GHz Radio)
2021-11-26 12:43	Client 80:D2:1D:ED:24:E5 connected to PrismOffice (2.4 GHz Radio)
2021-11-26 12:27	Client 2C:8D:B1:3E:19:58 disconnected from PrismOffice (5 GHz Radio)

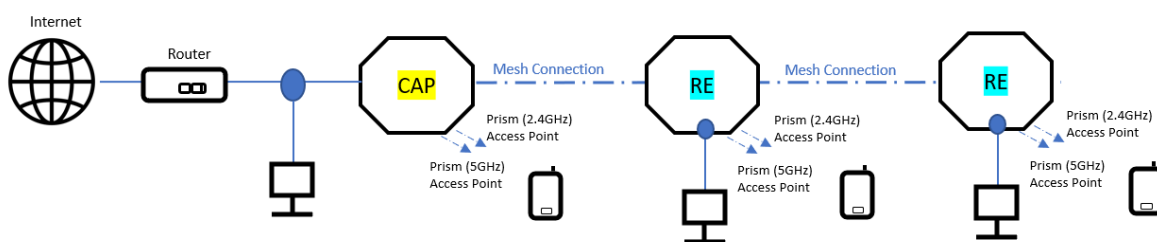
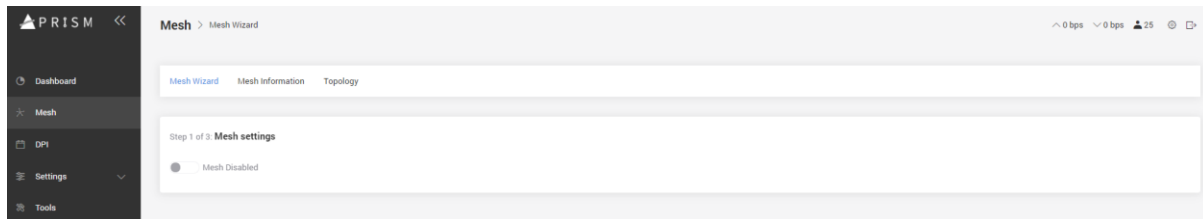
Total entries: 680 << < 1 2 3 > >>



Event log data is downloadable by clicking **Download data** button.

Chapter 4 - Mesh

This chapter describes the mesh configuration of the Prism Mesh Access Point.



Central Access Point (CAP) is the Root (also known as Master) of mesh network that provides Internet connectivity to whole mesh network.

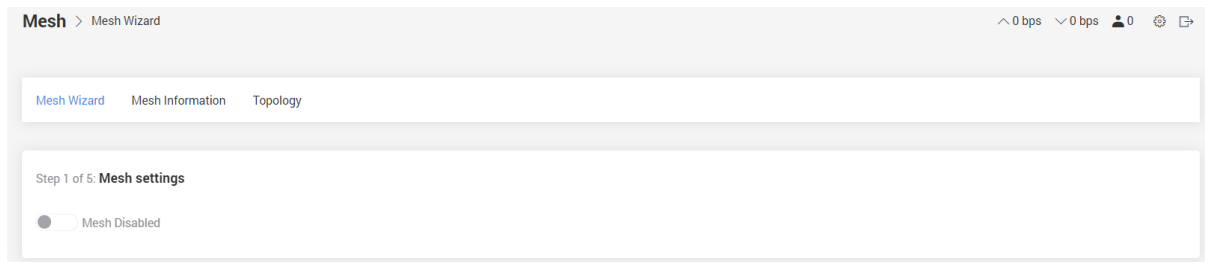
Range Extender (RE) is the Node (also known as Slave) of mesh network that extend Internet connectivity to remote area wirelessly.



As far as throughput is concerned, suggest not to install more than 4 REs in a daisy chain.

Mesh > Mesh Wizard

The **Mesh Wizard** page will guide you to establish mesh network step by step.

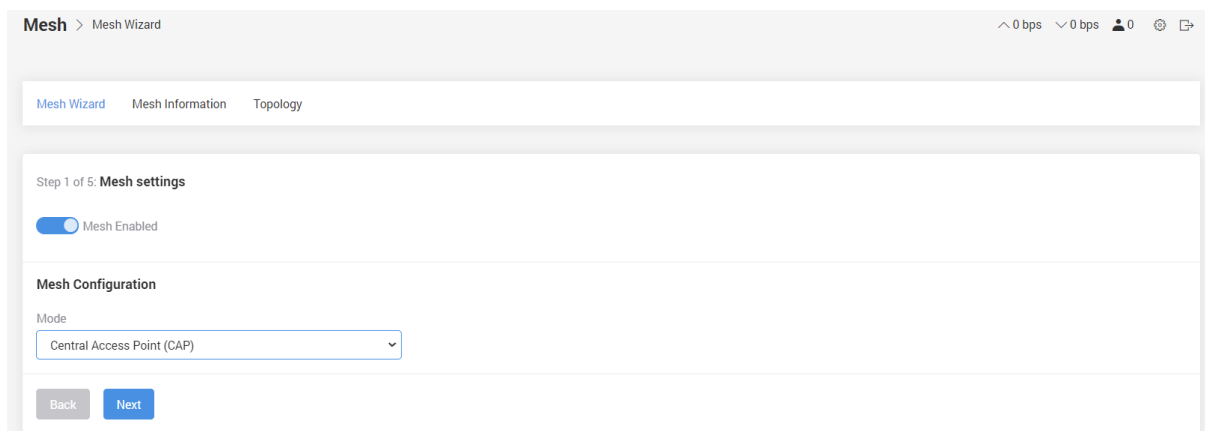


The screenshot shows the 'Mesh Wizard' interface. At the top, there's a breadcrumb 'Mesh > Mesh Wizard' and a status bar with '0 bps', '0 bps', and a user icon. Below this is a navigation bar with 'Mesh Wizard', 'Mesh Information', and 'Topology'. The main content area is titled 'Step 1 of 5: Mesh settings'. It contains a toggle switch labeled 'Mesh Disabled' which is currently turned off.

Mesh > Mesh Wizard (Create a CAP)

Step 1

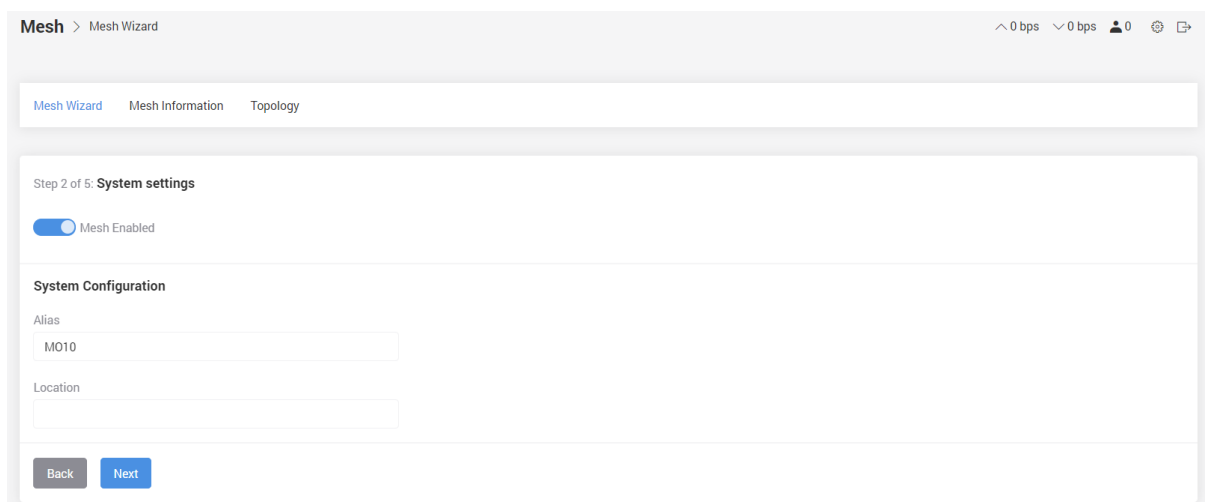
To create a CAP, select **Central Access Point (CAP)** from **Mesh Configuration**, then click **Next**.



This screenshot shows the 'Mesh Wizard' interface at Step 1. The 'Mesh Enabled' toggle is now turned on. Under the 'Mesh Configuration' section, the 'Mode' dropdown menu is set to 'Central Access Point (CAP)'. At the bottom, there are 'Back' and 'Next' buttons.

Step 2

Enter **Alias** and **Location**, then click **Next**.

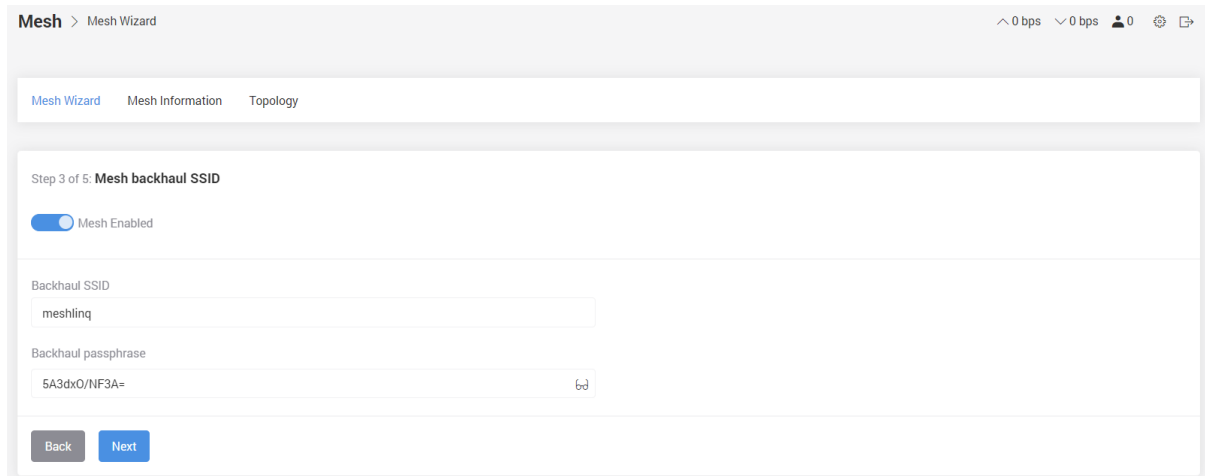


The screenshot shows the 'Mesh Wizard' interface at Step 2. The 'Mesh Enabled' toggle remains on. Under the 'System Configuration' section, there are two input fields: 'Alias' (containing 'M010') and 'Location' (empty). At the bottom, there are 'Back' and 'Next' buttons.

	Alias and Location can be kept blank.
---	---

Step 3

Enter **Backhaul SSID** and **Backhaul passphrase**, then click **Next**.



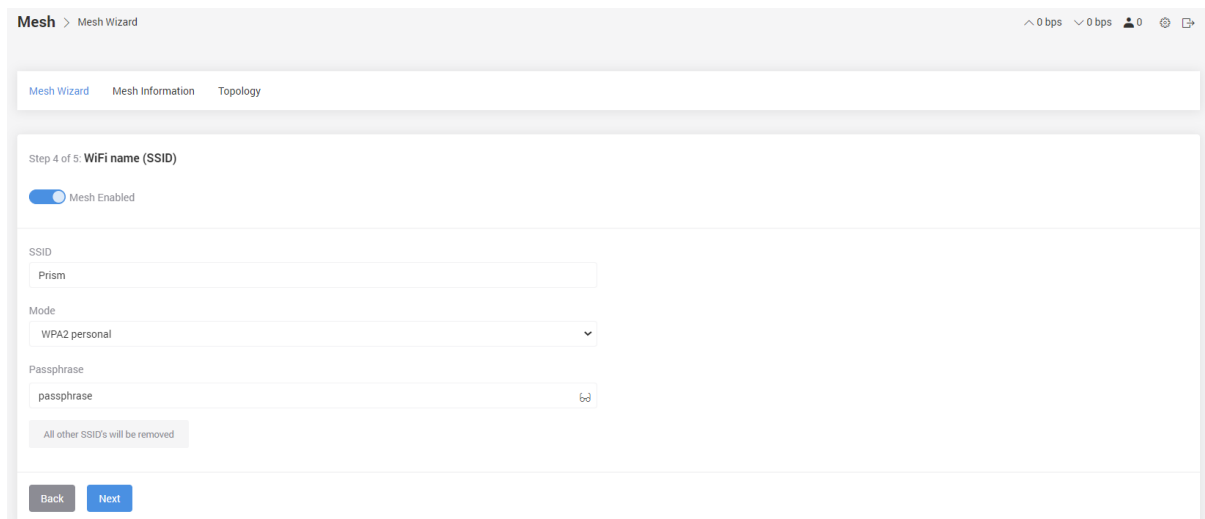
Backhaul SSID – an unique ID for establishing wireless mesh connection

Backhaul passphrase – password for wireless mesh connection

	1. Backhaul SSID is used for mesh connection only. 2. Suggest to keep Backhaul SSID and Backhaul passphrase unchanged if you are not familiar with network configuration.
---	--

Step 4

Enter **WiFi name (SSID)**, **Security Mode** and **Passphrase**, then click **Next**.



WiFi name – specify the WiFi SSID name that can be associated by station (user) devices

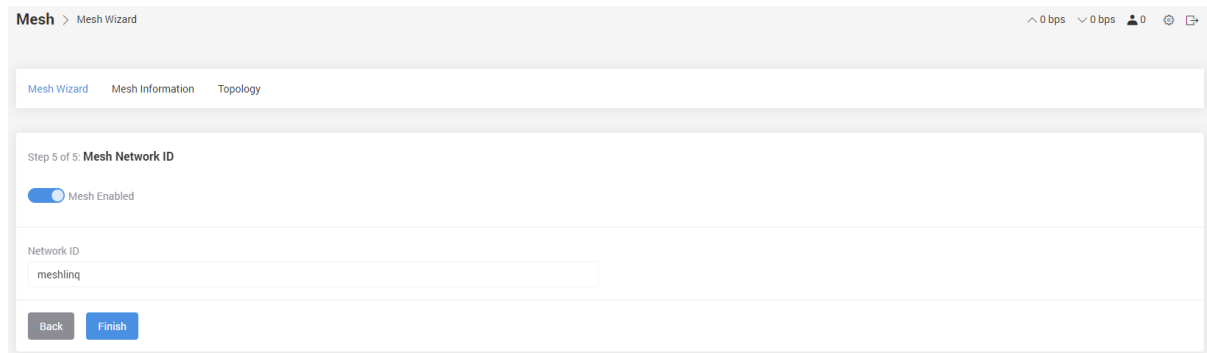
Mode – specify the security mode from menu, including Open, WPA2 personal, WPA2 enterprise and WPA3 enterprise

Passphrase – specify the password of the WiFi SSID

	1. WiFi name (SSID), Security Mode and Passphrase, are used for stations (users) to connect. 2. WPA2 enterprise and WPA3 enterprise are required to connect external RADIUS server.
---	---

Step 5

Enter **Network ID**, then click **Finish**.



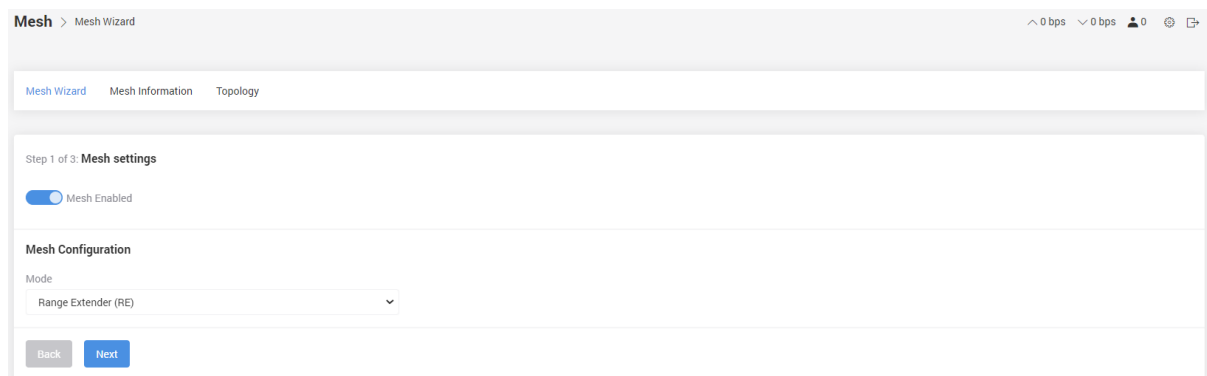
Network ID – an unique ID for adding RE into existing mesh connection

	Please note that RE's Network ID should be the same as CAP's.
---	---

Mesh > Mesh Wizard (Add a RE)

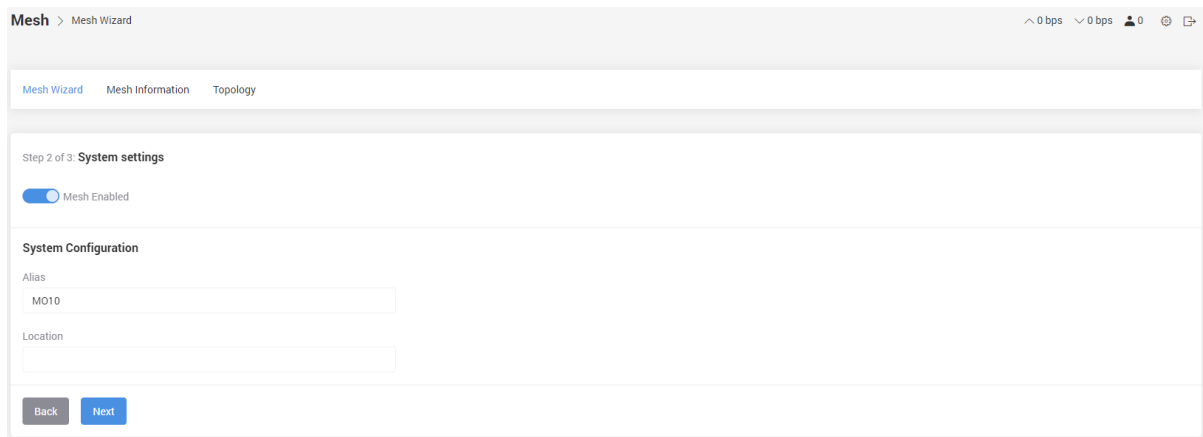
Step 1

To add a RE, select **Range Extender (RE)** from **Mesh Configuration**, then click **Next**.



Step 2

Enter **Alias** and **Location**, then click **Next**.



Mesh > Mesh Wizard

Mesh Wizard Mesh Information Topology

Step 2 of 3: **System settings**

☒ Mesh Enabled

System Configuration

Alias
M010

Location

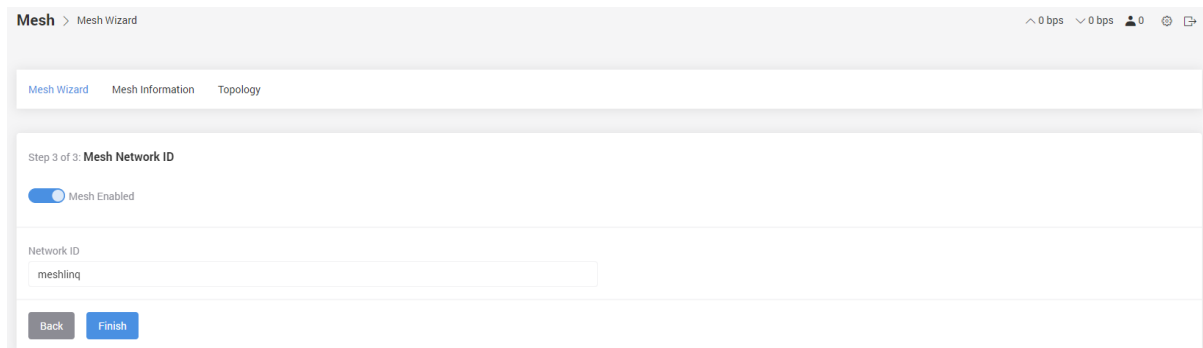
Back Next



Alias and **Location** can be kept blank.

Step 3

Enter **Network ID**, then click **Finish**.



Mesh > Mesh Wizard

Mesh Wizard Mesh Information Topology

Step 3 of 3: **Mesh Network ID**

☒ Mesh Enabled

Network ID
meshlinq

Back Finish

Network ID – an unique ID for adding RE into existing mesh connection



Please note that RE's Network ID should be the same as CAP's.

Mesh > Mesh Information

Mesh status is shown here.

Mesh > Mesh Information

Mesh Wizard **Mesh Information** Topology

Mesh status :

```
@ Topology Discovery Service module status:
Mode of operation: Relaying device
IEEE 1905.1 mode: QCA Enhanced
QCA IEEE 1905.1 device: 00:16:16:2B:91:C9, IPv4 address: 192.168.2.1
Upstream Device: None
Flags: 0x13
ConnectionMap: 0x1f

Local Interfaces:

Interface name Medium Type MAC Address Contention Role PHY Capabilities Network Information
ath0 (R=0) VLAN5G 00:16:16:2B:91:CA 64 AP 80MHz,2,HE,11,10 br-lan (V=0)
ath1 (R=1) VLAN2G 00:16:16:2B:91:C8 11 AP 40MHz,2,HE,11,10 br-lan (V=0)
ath2 (R=2) VLAN5G 06:16:16:2B:91:3C 108 AP 160MHz,4,HE,11,10 br-lan (V=0)
ath9B (R=2) VLAN5G 00:16:16:2B:91:3C 108 AP 160MHz,4,HE,11,10 br-lan (V=0)
eth0 ETHER 00:16:16:2B:91:C9 255 br-lan (V=0)

Legacy Devices:
Interface eth0:
10:62:E5:98:B7:A9
```

Mesh > Mesh Information

Mesh topology is shown here.

Mesh > Topology

Mesh Wizard Mesh Information **Topology**

Legend:

- Current node
- CAP node
- RE node
- Selected node

Settings > Wireless > Networks

Once mesh configuration is enabled, go to **Settings > Wireless > Networks** for detailed settings.

The following describes the default settings of **Central Access Point (CAP)**.

Settings > Wireless > Networks

0 bps 0 bps 0

Networks Radios

Mesh configuration

☒ Enabled

Network zone
Local Network

Only those SSIDs that are added to the selected network zone will be a part of the Mesh

Mode
Central Access Point (CAP)

Backhaul radio
5 GHz Radio (QCN9024)

Backhaul SSID
meshling

Backhaul passphrase
nh3lWJwwgsM=

☐ Coordinated ATF

Network ID
meshling

☐ Gateway redundancy

[Connect \(WPS push\)](#) [Resync](#)

Select network: **AP (Prism)** + Add network

AP (Prism) configuration [Remove](#)

General

Mode
Access point

SSID
Prism

Network zone
Local Network

Enable on radio
☒ 5 GHz Radio (IPQ6018)
☒ 2.4 GHz Radio (IPQ6018)

Access Control List
☐ Disabled

Security

Mode
WPA2 personal

Passphrase
.....

Network zone – Local Network in default



To know more about **Network zone**, please refer **Settings > Network > Zones**. In CAP mode, the **DHCP client** is enabled in **Local Network** configuration, and **DHCP server** is enabled as well. If no IP assigned by external DHCP server to this interface, it will fall back to default IP address 192.168.2.1.

Mode – **Central Access Point (CAP)** is selected

Backhaul radio – the default radio of mesh connection is **5GHz Radio (QCN9024)**

Backhaul SSID – the default is **meshling** for mesh connection

Backhaul passphrase – the default is generated as a random password

Coordinated ATF – disabled in mesh settings

Network ID – an unique ID for adding RE into existing mesh connection

Gateway redundancy – disabled in mesh settings

Connect (WPS push) – force to send the Network ID manually

Resync – force to send the CAP's RF configuration to RE

Select Network AP (Prism) – once mesh is configured as CAP, the other two radio interfaces will be changed to **Access Point** mode automatically

SSID – the name of Access Point

Network zone – **Local Network** in default

Enable on radio – both of **5 GHz Radio (IPQ6018)** and **2.4 GHz Radio (IPQ6018)** are enabled

Access Control List – **disabled** in default

The following describes the default settings of **Range Extender (RE)**.

The screenshot shows the 'Settings > Wireless > Networks' interface. The 'Networks' tab is active. Under 'Mesh configuration', the 'Enabled' toggle is turned on. The 'Network zone' is set to 'Local Network'. A note states: 'Only those SSIDs that are added to the selected network zone will be a part of the Mesh'. The 'Mode' is set to 'Range Extender (RE)'. The 'Backhaul radio' is set to '5 GHz Radio (QCN9024)'. The 'Fronthaul Cloning' toggle is turned on. The 'Network ID' is 'meshlinq'. The 'Gateway redundancy' toggle is turned off. A 'Connect (WPS push)' button is present.

Below the mesh configuration, there is a section for 'Select network:' with tabs for 'AP (wrtq360ax-913c)', 'AP (wrtq360ax-91ca)', 'AP (wrtq360ax-91cb)', and '+ Add network'. The 'AP (wrtq360ax-913c) configuration' tab is selected, showing a 'Remove' button.

The 'AP (wrtq360ax-913c) configuration' section is divided into 'General' and 'Security'.

General

- Mode: Access point
- SSID: wrtq360ax-913c
- Network zone: Local Network
- Enable on radio:
 - ☒ 5 GHz Radio (IPQ6018)
 - ☐ 2.4 GHz Radio (IPQ6018)
- Access Control List:
 - ☒ Disabled

Security

- Mode: WPA2 personal
- Passphrase: [masked]

Network zone – Local Network in default



To know more about **Network zone**, please refer **Settings > Network > Zones**. In RE mode, the **DHCP client** is enabled in **Local Network** configuration, but **DHCP server** is disabled. If no IP assigned by external DHCP server to this interface, it will fall back to default IP address 192.168.2.1.

Mode – **Range Extender (RE)** is selected

Backhaul radio – the default radio of mesh connection is **5GHz Radio (QCN9024)**

Fronthaul Cloning – enabled to get the same Wi-Fi radio settings from CAP

Network ID – an unique ID for adding RE into existing mesh connection

Gateway redundancy – disabled in mesh settings

Connect (WPS push) – force to send the Network ID manually

Select Network AP (wrtq-360ax-xxxx) – once mesh is configured as RE, one radio is configured to mesh connection and the other two radio interfaces will be changed to **Access Point** mode automatically

SSID – the name of Access Point

Network zone – **Local Network** in default

Enable on radio – show radio interface used by the Wi-Fi access point

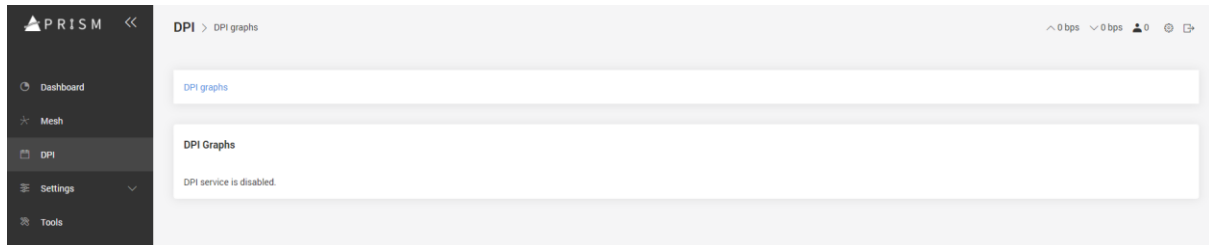
Access Control List – **disabled** in default

Security – the security settings of the Wi-Fi access point

Chapter 5 - DPI

DPI > DPI graphs

DPI will be available in future release.

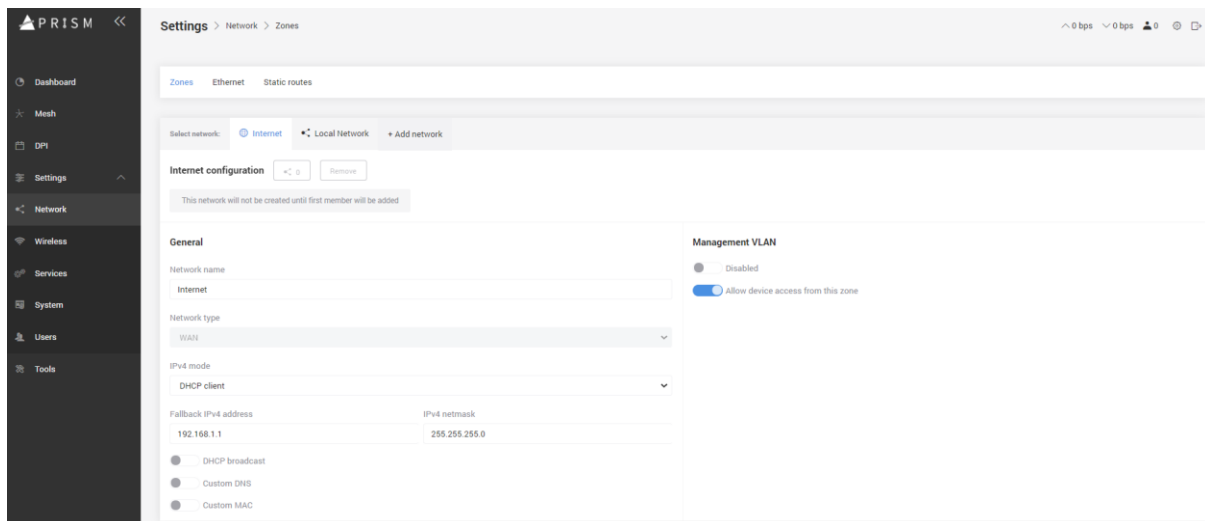


Chapter 6 - Settings

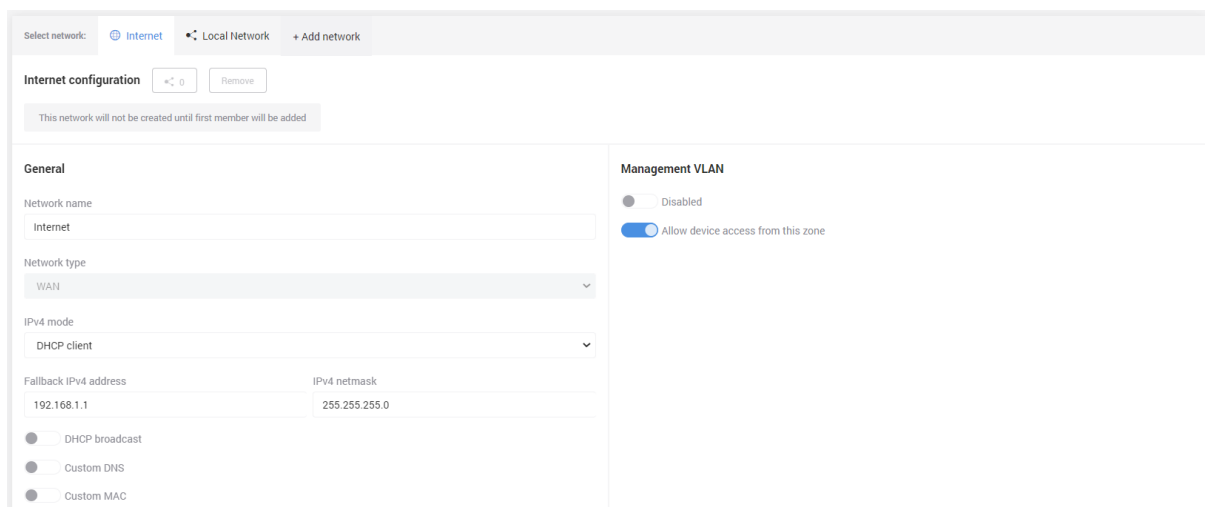
This chapter describes the settings of the Prism Mesh Access Point.

Settings > Network > Zones

There are two default configurations for interface type in network zones, **Internet** for WAN type and **Local Network** for LAN type. You can also define some new user-defined zone configurations for your network planning.



Internet configuration in default is defined as DHCP client. If no IP assigned by external DHCP server to this interface, it will fall back to defined IP address.



Network name – editable name

IPv4 mode – can be selected as DHCP client or static mode. Once the interface is assigned to a new IP, the web login IP address is changed accordingly.

Fallback IPv4 address – enter the defined IP address. The IP address can also be used for web login.

IPv4 netmask - enter the defined netmask

DHCP broadcast – enable to broadcasting DHCP discovery message

Custom DNS – a DNS server can be specified

Custom MAC – the MAC address of physical Ethernet port can be changed to meet network setting

Local Network configuration in default is defined as a fixed IP and DHCP server is enabled.

Network name – editable name

Custom MAC – the MAC address of physical Ethernet port can be changed to meet network setting

IPv4 – default is enabled. The interface will be changed to bridge mode by disabling it.

IP address – enter the defined IP address. The IP address can also be used for web login.

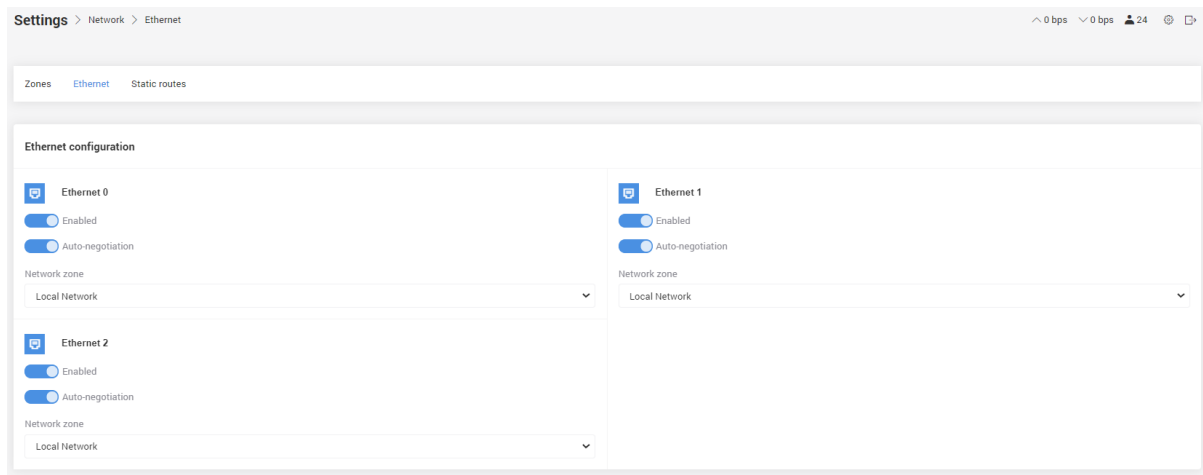
Netmask – enter the defined netmask

DHCP server – default is enabled. IP range and lease time can be user-defined

Static DHCP leases – a static IP can be assign to specific MAC address

Settings > Network > Ethernet

The Ethernet physical port can be flexibly assigned to different zone, according network plan and topology case by case.

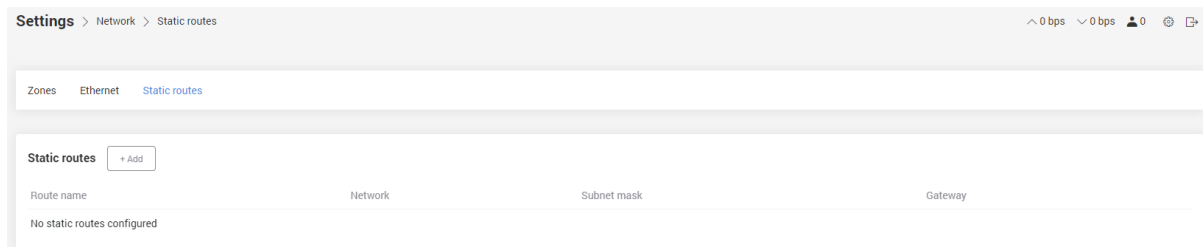


MO10 has only one physical port - Ethernet 0.

MI10 has three physical ports - Ethernet 0, Ethernet 1 and Ethernet 2.

Settings > Network > Static routes

Static routes allow you to manually adding routing rules to remote networks in table.



Route name – user defined name

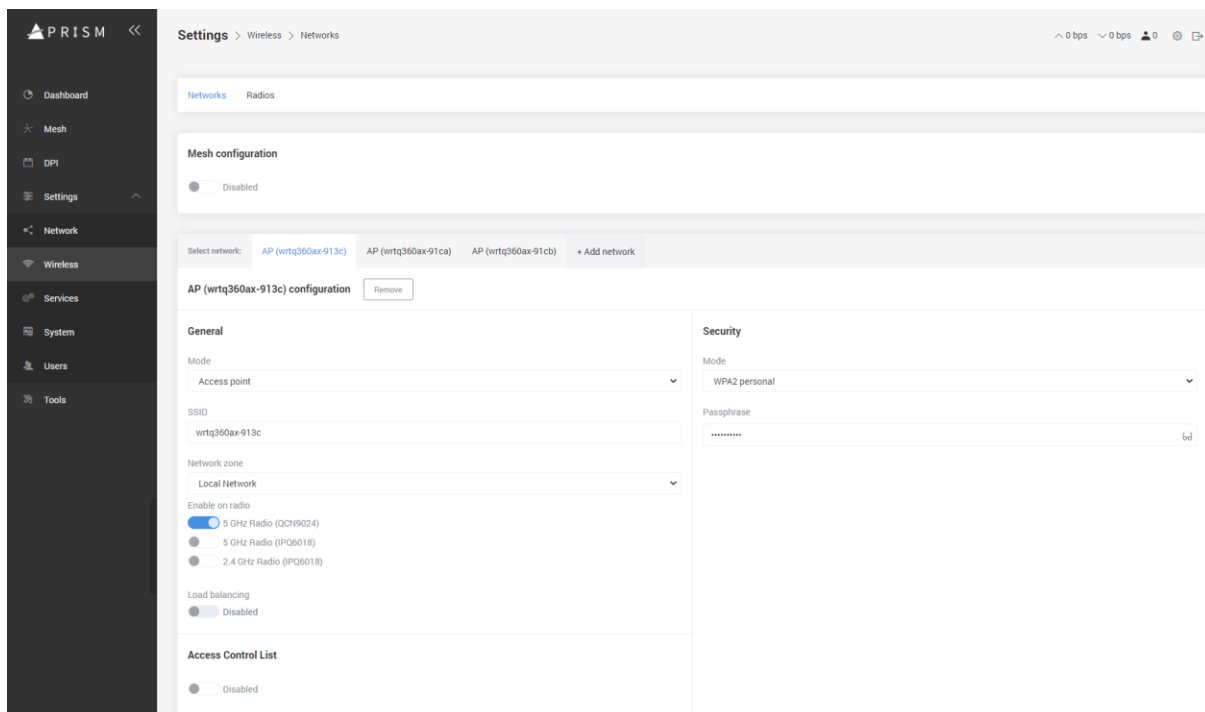
Network - The network address of destination network

Subnet mask - The subnet mask of destination network

Gateway - the ip address of the router to the desired network

Settings > Wireless > Networks

All wireless settings can be configured from here.

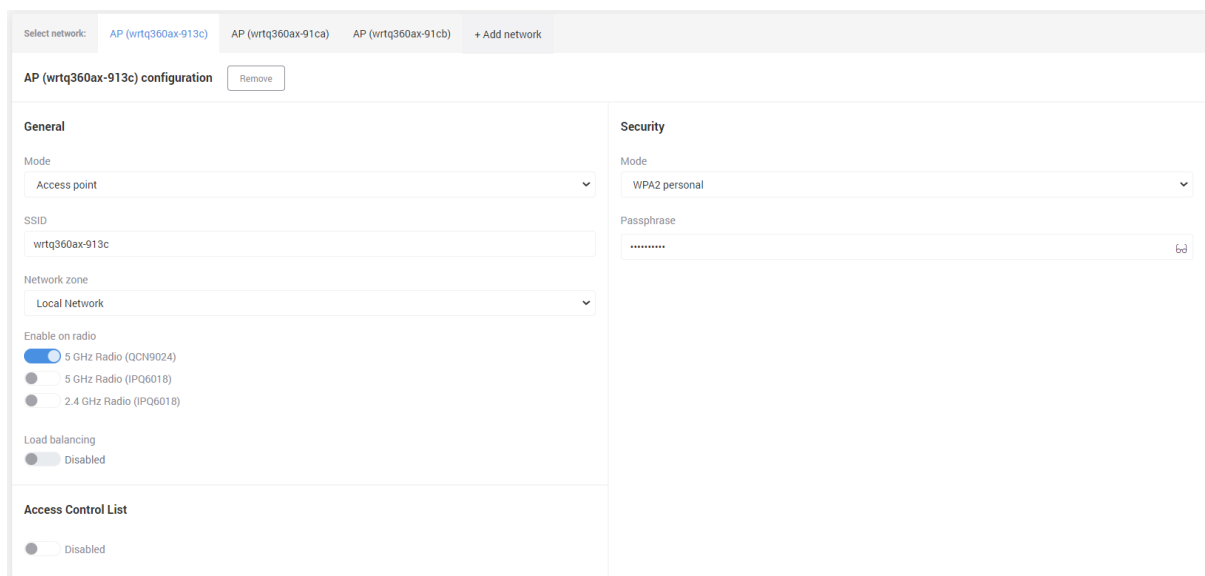


Mesh configuration – disable in default

	Suggest to configure mesh connection by using Mesh Wizard. Please refer to Chapter 4 when mesh configuration is enabled.
--	---

Mode – The mode can be selected to **Access Point** or **Station** mode

Access Point Mode



SSID – The name of Wi-Fi network

Network zone – Select the default network zone or user-defined zone

Enable on radio – the setting can be applied to other radio by clicking enable button

Load balancing – two or more of radios should be selected before enabling it

Security – the security of Wi-Fi network

Access Control List – two policies can be choosed, **Deny** or **Allow**

Deny – to permit specific MAC

Allow – to block specific MAC



Maximum 8 SSIDs can be added and configured.

Station Mode

Enable on radio – select the radio to work as station

SSID – Clicking **Scan** to do the site survey and select the Wi-Fi network the station would like to connect.

Security – the security of Wi-Fi network

Network zone – Select the default network zone or user-defined zone



It requires network administrator to carefully plan the network.

Settings > Wireless > Radios

This page shows you the radio parameters for each radio.

The screenshot displays the 'Radios' configuration page in the Prism interface. It is organized into three main sections for different radio types:

- 5 GHz Radio (IPQ6018):** Status is 'Enabled'. IEEE mode is 'Auto'. Channel width is '80 MHz'. Channel is 'Auto'. Tx power is '10' dBm. DFS and Ignore DFS CAC are enabled. Airtime fairness is disabled.
- 2.4 GHz Radio (IPQ6018):** Status is 'Enabled'. IEEE mode is 'Auto'. Channel width is '40 MHz'. Channel is 'Auto'. Tx power is '10' dBm. Airtime fairness is disabled.
- 5 GHz Radio (QCN9024):** Status is 'Enabled'. IEEE mode is 'Auto'. Channel width is '160 MHz'. Channel is 'Auto'. Tx power is '10' dBm. DFS and Ignore DFS CAC are enabled. Airtime fairness is disabled.

5 GHz Radio (IPQ6018) – Wi-Fi 5GHz 2x2 radio, normally as Access Point

2.4 GHz Radio (IPQ6018) – Wi-Fi 2.4GHz 2x2 radio, normally as Access Point

5 GHz Radio (QCN9024) – Wi-Fi 5GHz 4x4 radio, dedicated backhaul radio once mesh is enabled

Enable – default is **enabled**

IEEE mode – **Auto** in default. 4 modes can be chosen from Auto, 802.11ac, 802.11ax or 802.11n

Channel width – 4 channel width parameters can be chosen from drop-down menu 20MHz, 40MHz, 80MHz or 160MHz, depending on radio capability

Channel – **Auto** in default. Channel can be selected from drop-down menu

Tx power (dBm) – **10** dBm in default

DFS – default is enabled



In many countries, regulatory requirements may limit the number of 5 GHz channels available or place additional restrictions on their use because the spectrum is shared with other technologies and services. For instance, some of the Unlicensed National Information Infrastructure (U-NII) bands are used by radar systems. Wi-Fi networks operating in those bands are required to employ a radar detection and avoidance capability.

Ignore DFS CAC – default is enabled



Channel Availability Check (CAC) is used to detect radar signals. The radio scans a target dynamic frequency selection (DFS) channel for radar signals for 60 seconds. After the 60-second scan, if no radar signals are detected, the radio can transmit on the target DFS channel. During the 60-second scan, if radar signals are detected on a target DFS channel, the radio must move to another DFS channel and restart the 60-second CAC.

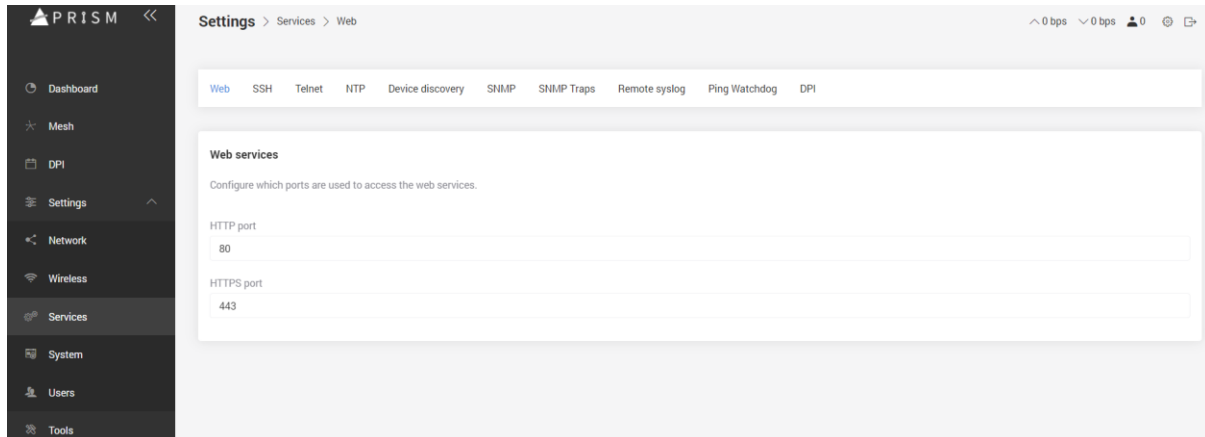
Airtime fairness – default is disabled



Airtime Fairness ensures that every client has equal access to air time, regardless of client capability (for example, operating system, 802.11 mode, low RSSI). The regulated wireless spectrum, where all wireless communication takes place, is shared amongst all clients on the wireless access point as well as neighboring APs on the same channel.

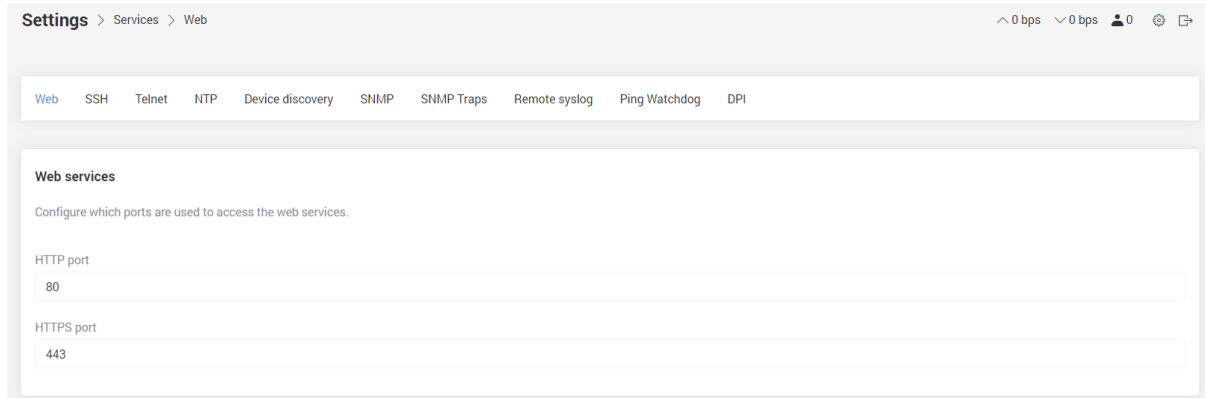
Settings > Services

The function of services allows network administrator to manage the mesh access point easily.



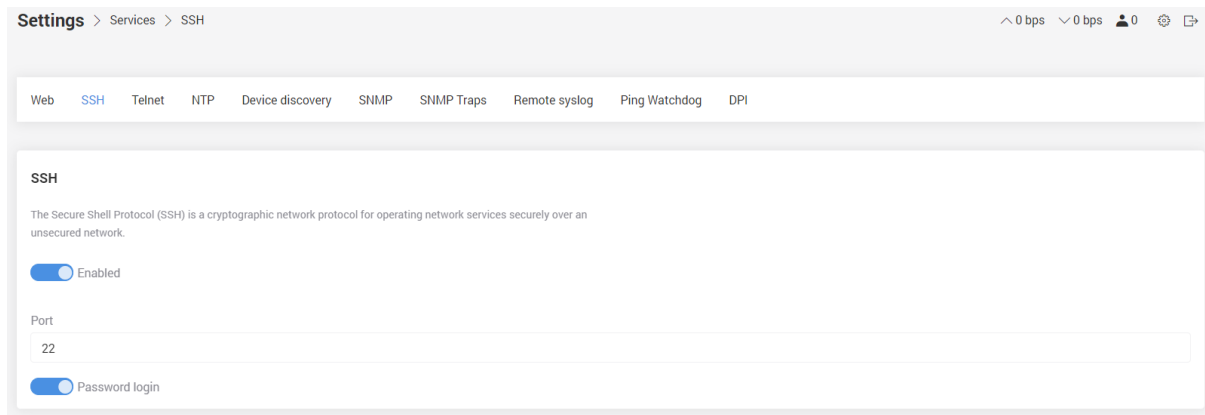
Settings > Services > Web

It provides you to configure specific port to access the web services through HTTP or HTTPS.



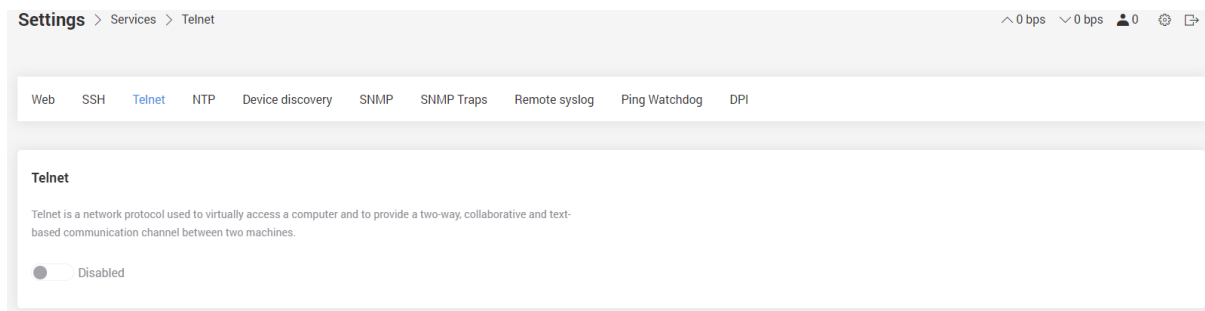
Settings > Services > SSH

It allows you to enable SSH port for accessing the mesh access point.



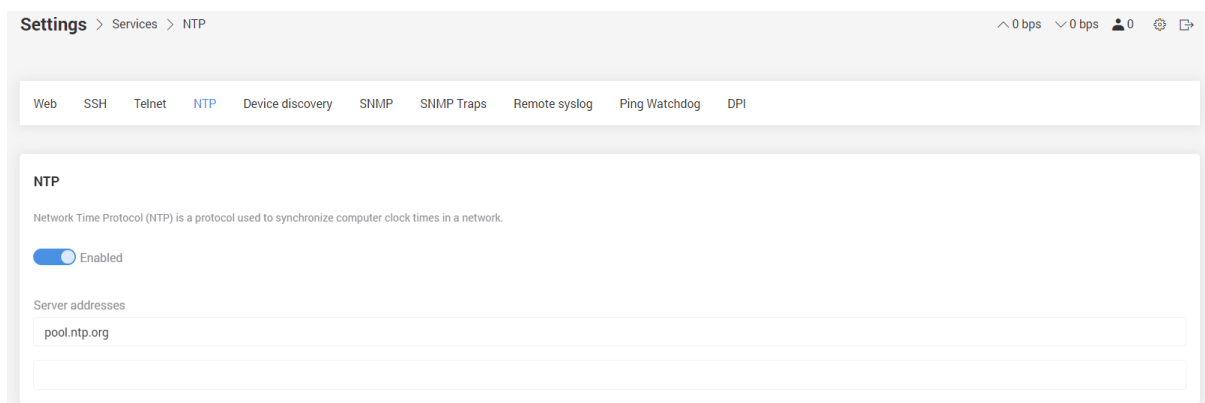
Settings > Services > Telnet

It allows you to enable Telnet for accessing the mesh access point.



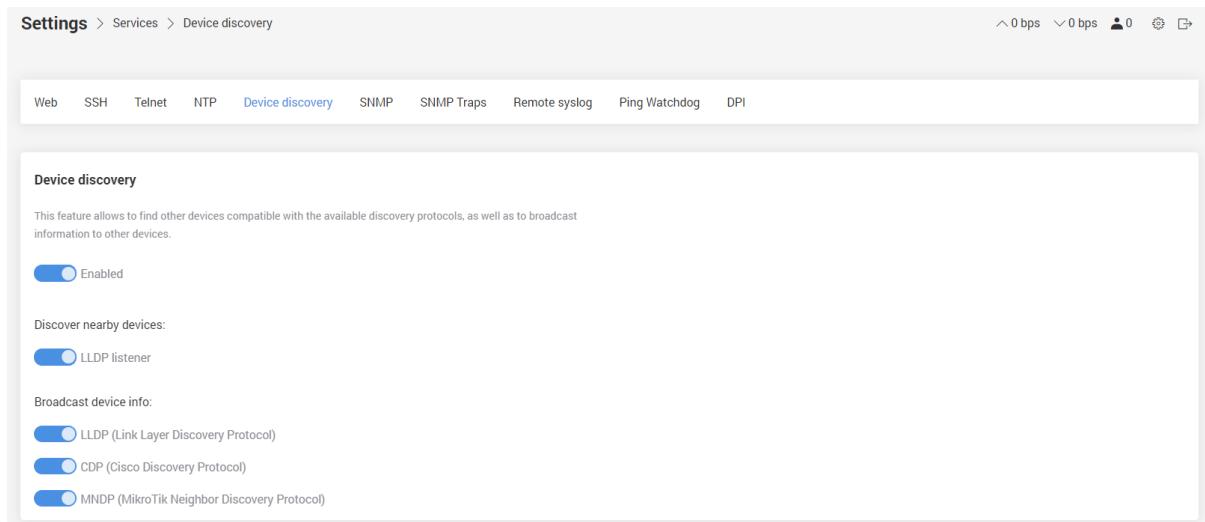
Settings > Services > NTP

It allows you to enable NTP and configure NTP server address to synchronize the mesh access point time with NTP server.



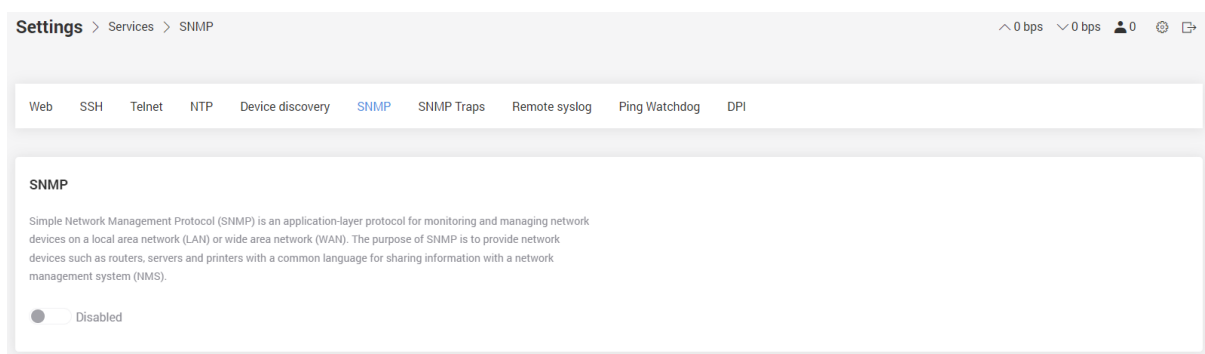
Settings > Services > Device discovery

This feature allows to find other devices, as well as to broadcast information to other devices, in the same network.



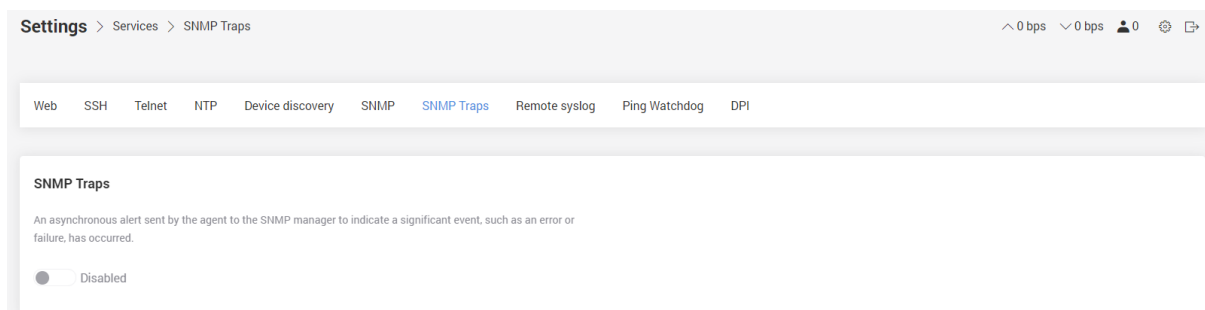
Settings > Services > SNMP

It allows you to enable SNMP to be managed by a network management system (NMS).



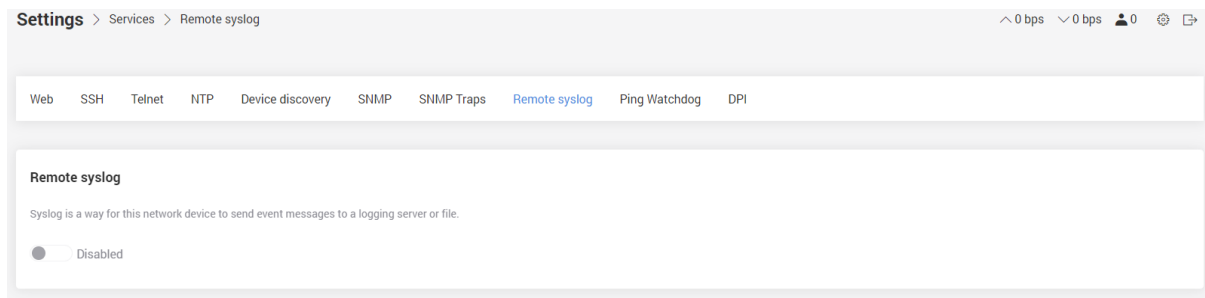
Settings > Services > SNMP Traps

The SNMP trap is a type of SNMP protocol, that sends an unrequested message to the manager to notify about an important event.



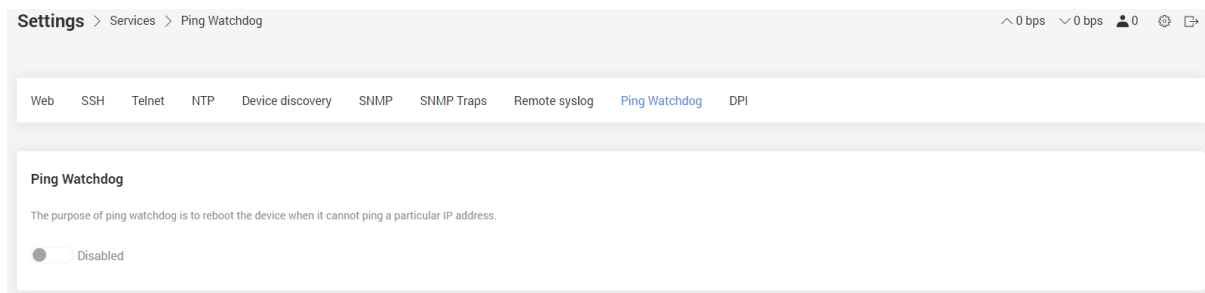
Settings > Services > Remote syslog

By enabling this function, syslog will be stored in a file or sent a remote logging server.



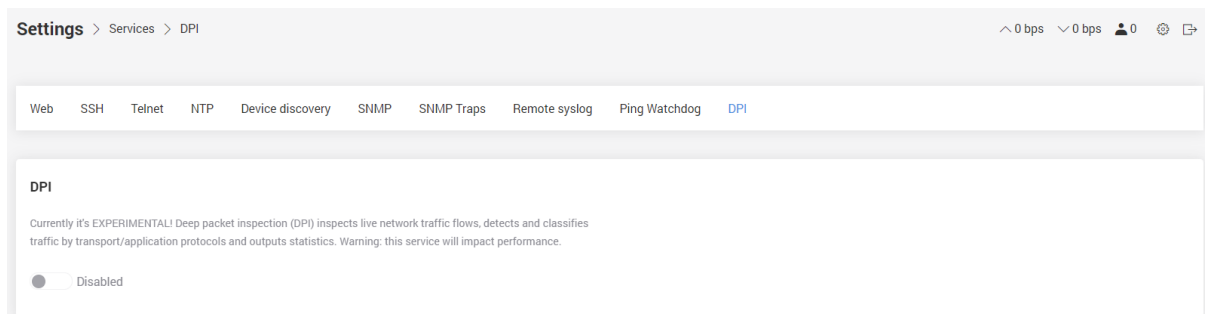
Settings > Services > Ping Watchdog

By enabling ping watchdog, the device will be reboot when it cannot ping a particular IP address with defined rules.



Settings > Services > DPI

DPI will be available at future release.



Settings > System

This page allows you to configure system-related settings.

Settings > System

System configuration

Device information

Device name
MO10

Device location

Country
Other country

Hostname
domain

Time settings

Time zone
(UTC-5) America/New York

Date
2021/11/17

Time
下午 05:09

[Set current time](#)

Automatic firmware update

☐ Check for firmware updates

Other settings

☒ Physical reset button

Device information – Device name, Device location, Country, Hostname can be edited here

Time settings – can be manually entered or synchronized with NTP server

Automatic firmware update – external HTTP server is necessary when enabling firmware update



Example files in http server:

Mango_zefir-master-cc99739-7773762.bin	2021-Nov-24 20:01:11	21.2M	application/octet-stream
firmwares.json	2021-Nov-24 20:01:12	0.2K	application/octet-stream

Example firmwares.json:

```
{
  "mango": {
    "checksum": "0675d2cd94a1af66c3fa0a3553ab5bee",
    "image": "Mango_zefir-master-cc99739-7773762.bin",
    "version": {
      "firmux": "7773762",
      "release": "1.9.0",
      "sdk": "cc99739"
    }
  }
}
```

Other settings – Physical reset button can be enabled/disabled

Settings > Users

This function allows you to change the username or reset the password, and to add new credentials.

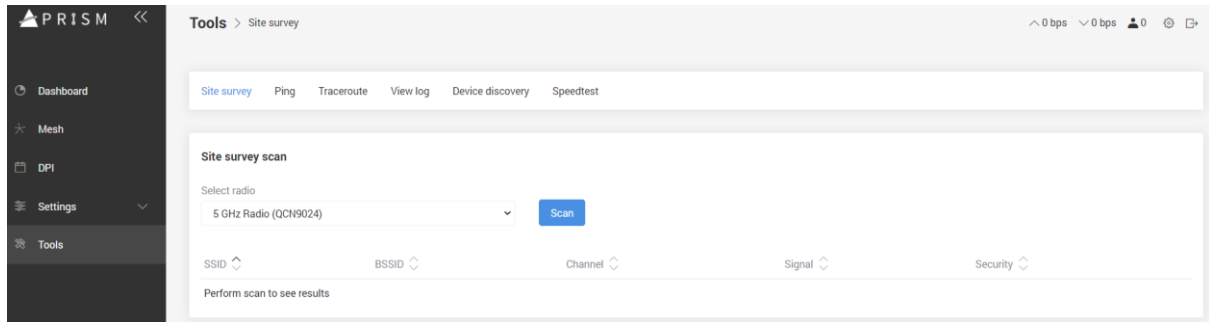
Settings > Users

User configuration [+ Add](#)

User name	Role	Status	Set new password
> prism	Admin	☒	

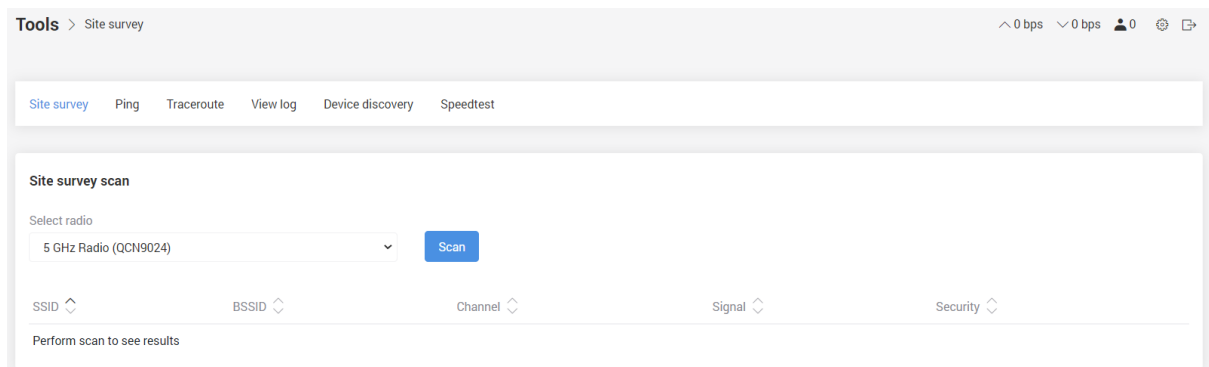
Chapter 7 - Tools

This chapter describes the utility functions of the Prism Mesh Access Point.



Tools > Site survey

This function allows you to perform site survey per radio to understand the usage of other Wi-Fi networks in the environment.

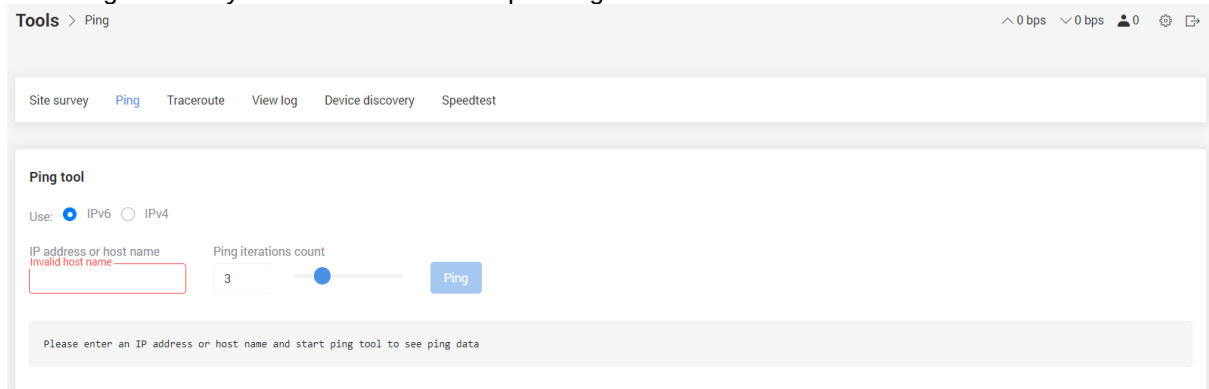


Select radio – choose the radio from drop-down menu

Scan – by clicking the button can see the results of site survey

Tools > Ping

This Ping can verify if a domain/server is operating and network accessible.



Tools > Traceroute

The Traceroute is a utility that uses ICMP packets to record the route through the internet from one computer/server to another.

Tools > Traceroute 0 bps 0 bps 0

Site survey Ping **Traceroute** View log Device discovery Speedtest

Traceroute tool

Use: ☒ IPv6 ☐ IPv4

IP address or host name
Invalid host name

Traceroute

Please enter an IP address or host name and start traceroute tool to see traceroute data

Tools > View log

It shows you the real-time system log.

Tools > View log 0 bps 0 bps 0

Site survey Ping Traceroute **View log** Device discovery Speedtest

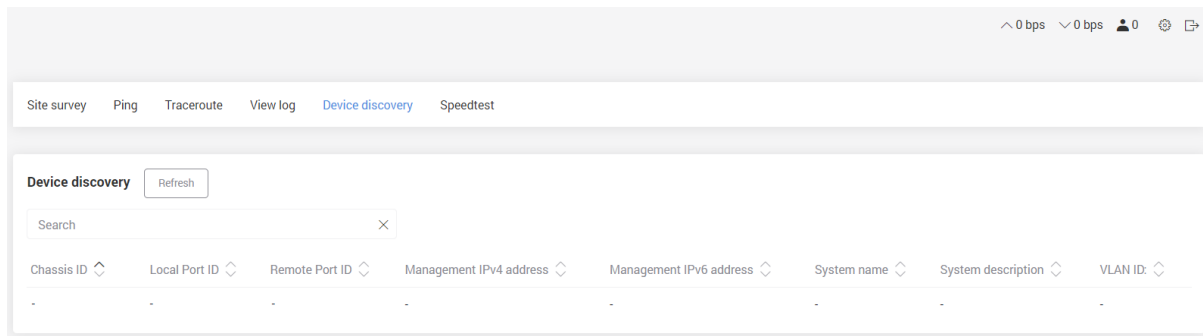
Device log Refresh

Search

[27.604062] wlan: [628:E1:M8551E] ieee80211_ucfg_set_txvap: M8551D is not enabled
[13413.135731] nss-dp 3a001800.dp5 eth0: PHY Link is down
[13413.136033] br-lan: port 1(eth0) entered disabled state
[13415.135658] nss-dp 3a001800.dp5 eth0: PHY Link up speed: 100
[13415.135722] br-lan: port 1(eth0) entered forwarding state
[13415.140393] br-lan: port 1(eth0) entered forwarding state
[13416.135610] br-lan: port 1(eth0) entered forwarding state
[13417.145732] nss-dp 3a001800.dp5 eth0: PHY Link is down
[13417.145968] br-lan: port 1(eth0) entered disabled state
[62757.145449] nss-dp 3a001800.dp5 eth0: PHY Link up speed: 10
[62757.145582] br-lan: port 1(eth0) entered forwarding state
[62757.149839] br-lan: port 1(eth0) entered forwarding state
[62758.145397] br-lan: port 1(eth0) entered forwarding state
[62759.155522] nss-dp 3a001800.dp5 eth0: PHY Link is down
[62759.155757] br-lan: port 1(eth0) entered disabled state
[62761.155448] nss-dp 3a001800.dp5 eth0: PHY Link up speed: 1000
[62761.155514] br-lan: port 1(eth0) entered forwarding state
[62761.160185] br-lan: port 1(eth0) entered forwarding state
[62762.155397] br-lan: port 1(eth0) entered forwarding state

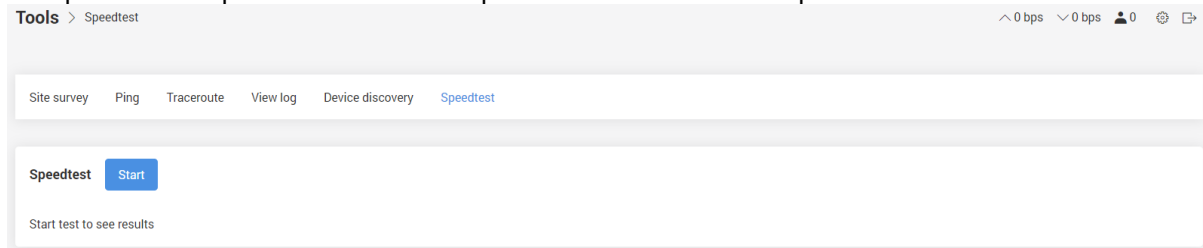
Tools > Device discovery

It shows you the discovered devices in the same network.



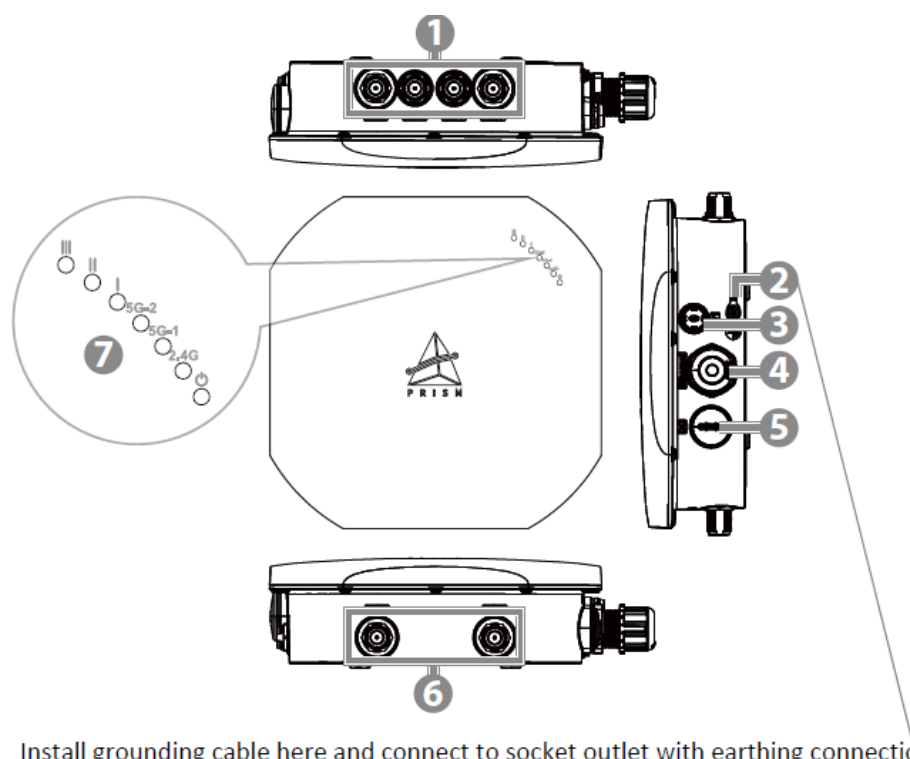
Tools > Speedtest

It helps to check upload and download speeds of the mesh access point.



Chapter 8 - Appendix

I/O Description, Wall Mount, and Basic Installation of MO10



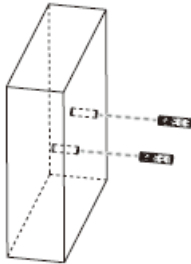
Install grounding cable here and connect to socket outlet with earthing connection

No.	Description
1	Antennas 1 – 4: 5G High for MESH link
2	Grounding
3	Gore-tex
4	Ethernet (RJ-45): For PoE/data transfer
5	DC 12V (optional)
6	Antennas 5 – 6: 2.4G/5G Low for client access
7	LEDs (see table below for definitions)

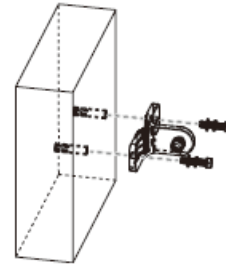
LED	Color	Definition
	Green	On: Powered on and ready Off: Powered off or not working properly
2.4G		2.4G Wireless is working
5G-1		5G Low Wireless is working
5G-2		5G High Wireless is working
I		Mesh link established (signal >80)
II		Mesh link established (signal >65)
III		Mesh link established (signal >55)

Installing the Wall Mount

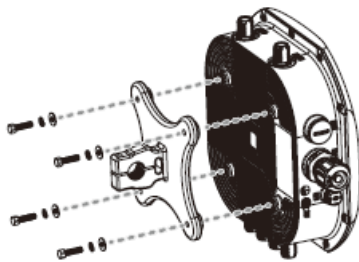
- 1 Measure and install two screw anchors into the wall.



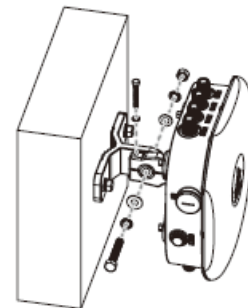
- 2 Secure the bracket to the wall using two sets of bolts, washers, and cushions.



- 3 Secure the mount to the router using four sets of bolts, washers, and cushions.



- 4 Secure the router to the bracket using two sets of bolts, washers, cushions, and nuts.

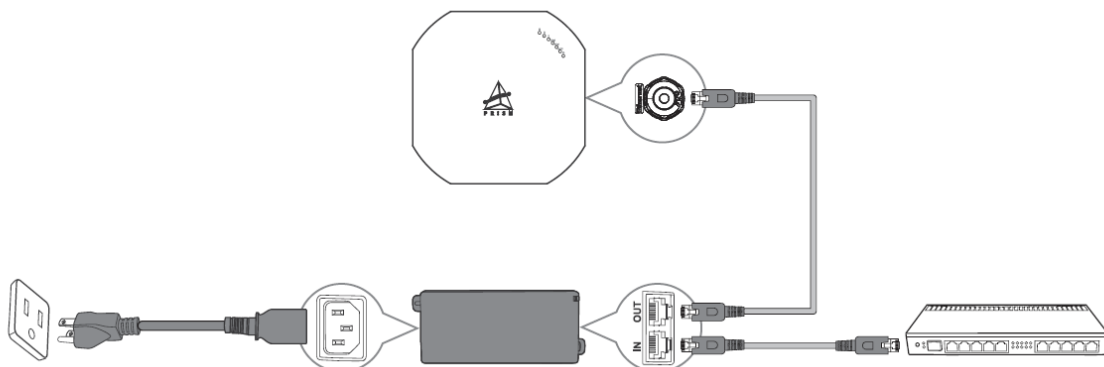


Connecting the Router (PoE)

The PoE (Power over Ethernet) adapter allows the router to be powered by the same Ethernet (RJ-45) connection that also provides it data. To setup the PoE connection for the router follow the steps below:

1. Following the instructions in the “Connecting an RJ-45 Cable” section, connect the Ethernet port on the router to the **OUT** port on the PoE adapter using an RJ-45 cable.
2. Connect the **IN** port on the PoE adapter to a hub/router with Internet access using an RJ-45 cable.
3. Connect the power socket on the PoE adapter to a 100 - 220V power outlet/source using the supplied power cable.

This Equipment Is Not Suitable for Use in Locations Where Children Are Likely to Be Present.



FCC/IC Statement

Federal Communication Commission Interference Statement

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

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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

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

IMPORTANT NOTE:

Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance **31 cm** between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Country Code selection feature to be disabled for products marketed to the US/CANADA

Industry Canada statement:

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

- (1) This device may not cause interference
- (2) This device must accept any interference, including interference that may cause undesired operation of the device

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) L'appareil ne doit pas produire de brouillage;
- (2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This radio transmitter [IC: 26296-MO10] has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Le présent émetteur radio [IC: 26296-MO10] a été approuvé par Innovation, Sciences et Développement économique Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal. Les types d'antenne non inclus dans cette liste, et dont le gain est supérieur au gain maximal indiqué pour tout type figurant sur la liste, sont strictement interdits pour l'exploitation de l'émetteur.

Type	Connector	Gain				
		2.4G	UNII 1	UNII 2A	UNII 2C	UNII 3
Dipole ANT6	N type	-	-	-	5.3	4.9
Dipole ANT2	N type	-	-	-	5.1	6.8
Dipole ANT5	N type	-	-	-	5.4	4.8
Dipole ANT4	N type	-	-	-	5.7	6.3
Dipole ANT3	N type	5.6	4.3	5.2	-	-
Dipole ANT1	N type	7.4	5.3	5.6	-	-

Caution:

the device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;

Avertissement:

les dispositifs fonctionnant dans la bande de 5150 à 5250MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;

Radiation Exposure Statement:

This equipment complies with Canada radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance **31 cm** between the radiator & your body.

Déclaration d'exposition aux radiations:
Cet équipement est conforme Canada limites d'exposition aux radiations dans un environnement non contrôlé. Cet équipement doit être installé et utilisé à distance minimum de **31 cm** entre le radiateur et votre corps.

Professional installation instruction

Please be advised that due to the unique function supplied by this product, the device is intended for use with our interactive entertainment software and licensed third-party only. The product will be distributed through controlled distribution channel and installed by trained professional and will not be sold directly to the general public through retail store.

1. Installation personal

This product is designed for specific application and needs to be installed by a qualified personal who has RF and related rule knowledge. The general user shall not attempt to install or change the setting.

2. Installation location

The product shall be installed at a location where the radiating antenna can be kept **31 cm** from nearby person in normal operation condition to meet regulatory RF exposure requirement.

3. External antenna

Use only the antennas which have been approved by the applicant. The non-approved antenna(s) may produce unwanted spurious or excessive RF transmitting power which may lead to the violation of FCC/IC limit and is prohibited.

4. Installation procedure

Please refer to user's manual for the detail.

5. Warning

Please carefully select the installation position and make sure that the final output power does not exceed the limit set force in relevant rules. The violation of the rule could lead to serious federal penalty.

Instructions d'installation professionnelle

Veillez noter que l'appareil étant dédié à une fonction unique, il doit être utilisé avec notre logiciel propriétaire de divertissement interactif. Ce produit sera proposé par un réseau de distribution contrôlé et installé par des professionnels; il ne sera pas proposé au grand public par le réseau de la grande distribution.

1. Installation

Ce produit est destiné à un usage spécifique et doit être installé par un personnel qualifié maîtrisant les radiofréquences et les règles s'y rapportant. L'installation et les réglages ne doivent pas être modifiés par l'utilisateur final.

2. Emplacement d'installation

En usage normal, afin de respecter les exigences réglementaires concernant l'exposition aux radiofréquences, ce produit doit être installé de façon à respecter une distance de **31 cm** entre l'antenne émettrice et les personnes.

3. Antenne externe.

Utiliser uniquement les antennes approuvées par le fabricant. L'utilisation d'autres antennes peut conduire à un niveau de rayonnement essentiel ou non essentiel dépassant les niveaux limites définis par FCC/IC, ce qui est interdit.

4. Procédure d'installation

Consulter le manuel d'utilisation.

5. Avertissement

Choisir avec soin la position d'installation et s'assurer que la puissance de sortie ne dépasse pas les limites en vigueur. La violation de cette règle peut conduire à de sérieuses pénalités fédérales.