



# **AR2146 (EVO5000AP) User Manual**



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# 1. Introduction

This user manual is designed to provide the detailed instruction on how to set-up and manage AR2146. Before the instruction started, please check out the below notes.

## Introduction

AR2146 does not assume any liability arising out of the application or use of any products, or software described herein. Neither does it convey any license under its patent rights nor patent rights of others. AR 2146 further reserves the right to make changes to any products described herein without notice. This publication is subject to change without notice.

Any trademarks mentioned in this publication are used for identification purposes only and may be properties of their respective owners.

## Copyright Statement

Please note that features of AR2146 may vary slightly depending on the model and software version you have, and on your location, language and internet service provider. All images, parameters and descriptions documented in this guide are used for informational purposes only, and may change without notice. This publication may not be reproduced, in whole or in part, without prior expressed written permission from KAONMEDIA Co., Ltd.

## FCC Interference Statement

This device complies with Part 15 of the Federal Communications Commission (FCC) Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
  - This device must accept any interference received, including interference that may cause undesired operation.
- 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 or more 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.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

## 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.

IMPORTANT NOTE: FCC 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 a minimum distance of 20cm between the radiator and your body.
- This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

## Safety Warnings

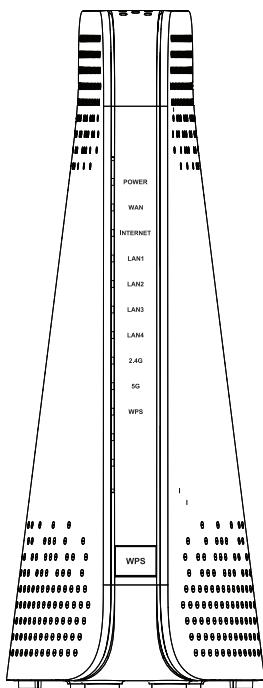
- To reduce the risk of fire, use only No. 26 AWG (American Wire Gauge) or larger telecommunication line cord.
- Do NOT open the device or unit. Opening or removing covers can expose you to dangerous high voltage points or other risks.
- ONLY qualified service personnel can service the device. Please contact your vendor for further information.
- Use ONLY the dedicated power supply for your device. Connect the power cord or power adapter to the correct supply voltage (110V AC in North America or 230V AC in Europe).
- Do NOT use the device if the power supply is damaged as it might cause electrocution.
- If the power supply is damaged, remove it from the power outlet.
- Do NOT attempt to repair the power supply. Contact your local vendor to order a new power supply.
- Place connecting cables carefully so that no one will step on them or stumble over them. Do NOT allow anything to rest on the power cord and do NOT locate the product where anyone can walk on the power cord.
- If you wall mount your device, make sure that no electrical, gas, or water pipes will be damaged.
- Do NOT install nor use your device during a thunderstorm. There may be a remote risk of electric shock from lightning.
- Do NOT expose your device to dampness, dust, or corrosive liquids.
- Do NOT use this product near water, for example, in a wet basement or near a swimming pool.
- Make sure to connect the cables to the correct ports.
- Do NOT obstruct the device ventilation slots, as insufficient airflow may harm your device.
- Do NOT store things on the device.
- Connect ONLY suitable accessories to the device.

## 2. Product Overview

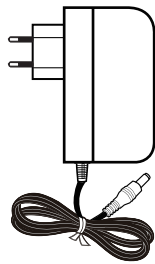
### 2.1. Product Introduction

The AR2146 AP Router delivers combined Wi-Fi connection speeds up to AC2200 (450 Mbps at 2.4 GHz 802.11n and 1733 Mbps at 5 GHz 802.11ac). AR2146 is ideal for bandwidth-hungry activities such as online gaming and video streaming, powered by a dual-core 1.5 GHz processor. High-powered amplifiers with antennas provide Wi-Fi coverage anywhere around your home, inside or out.

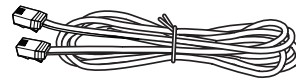
### 2.2. Package Contents



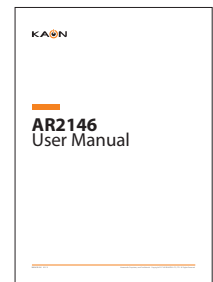
AR2146



Power Adapter

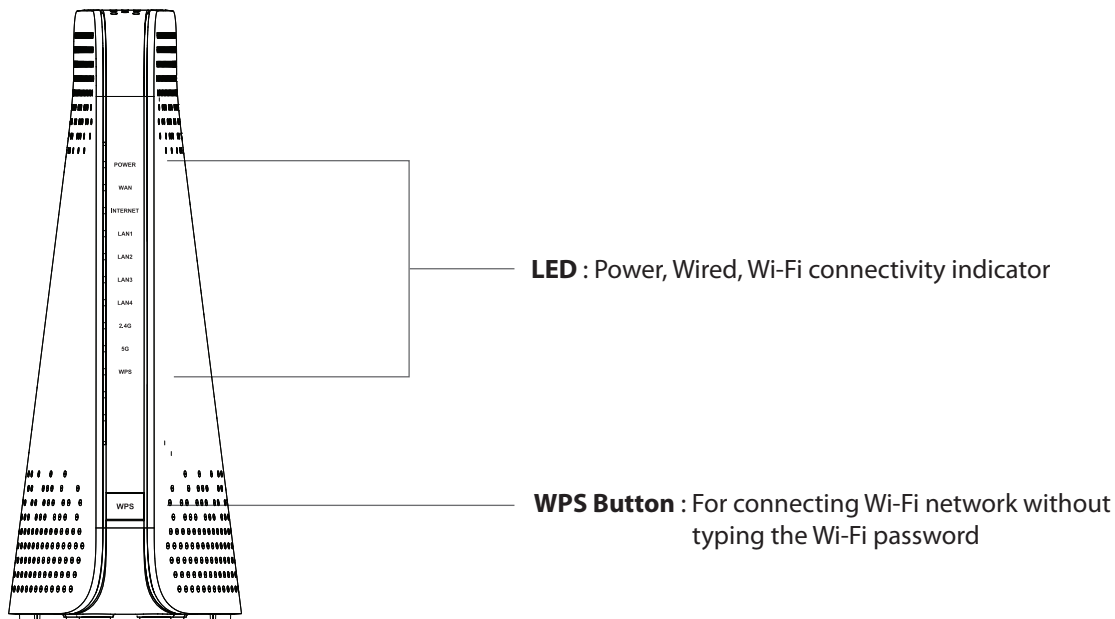


RJ-45 Cable  
(Ethernet Cable)



Quick Guide

## 2.3. Product Interfaces



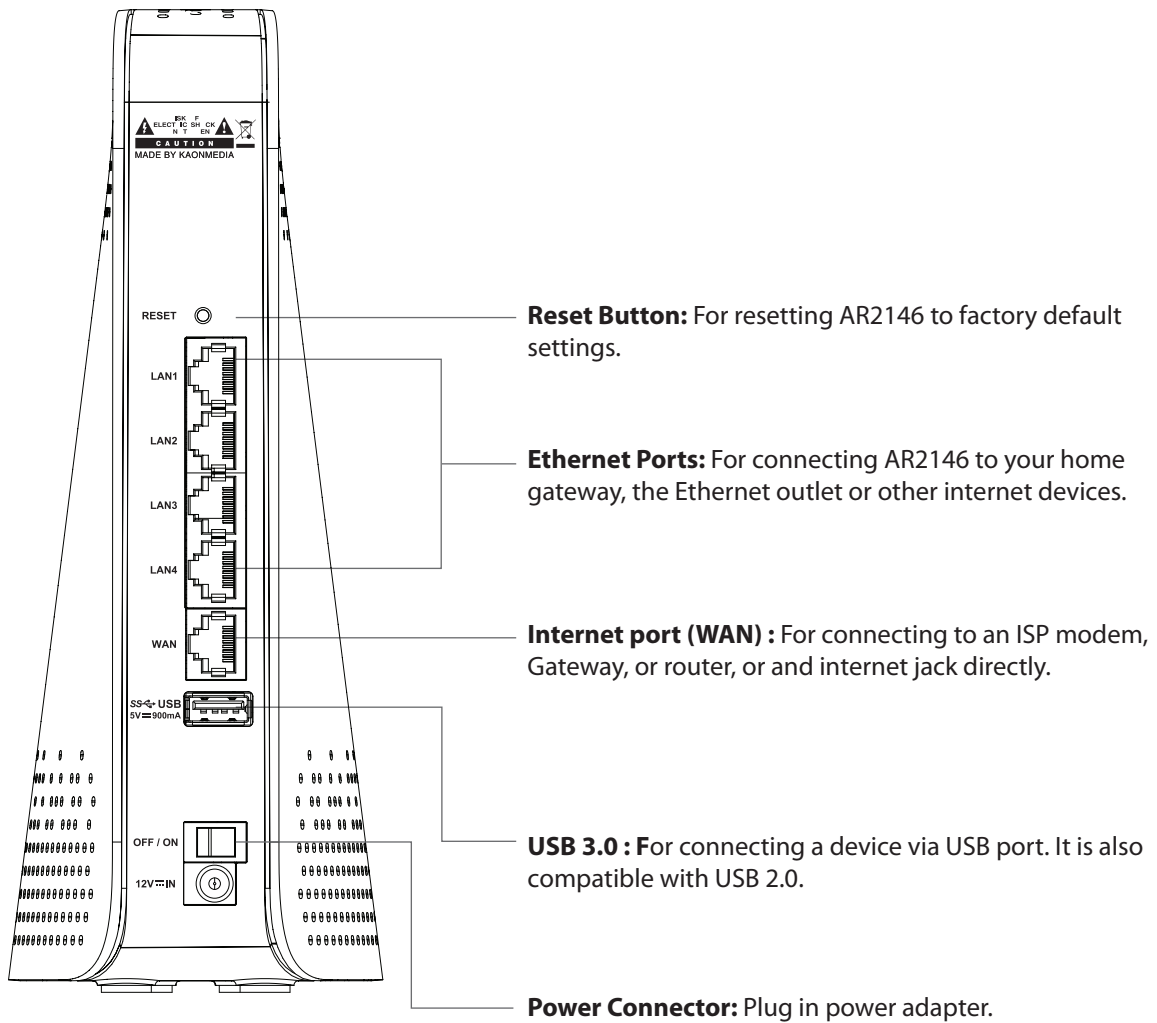
### LED & Button Descriptions

LED	Description
POWER LED	Solid green – AP Router is ready
	Off - Power is not supplied to the router
WAN LED	Solid green - WAN interface enabled
	Blinking - WAN port is sending or receiving data
	Off - WAN interface disabled
INTERNET LED	Solid green – The Internet connection is ready
	Off - Internet service is not available
LAN 1~4 LED	Solid green – A powered-on device is connected to the LAN port
	Blinking - The LAN port is sending or receiving data
	Off – No device is connected to this LAN port
2.4G WiFi LED	Solid green – The 2.4GHz radio is operating
	Blinking – The router is sending or receiving WiFi traffic
	Off - The 2.4GHz radio is off
5G WiFi LED	Solid green – The 5GHz radio is operating
	Blinking – The router is sending or receiving WiFi traffic
	Off - The 5GHz radio is off
WPS LED	Blinking – The WPS LED blinks green during WPS process and then lights solid green
	Off - WPS connected successfully or connection timed out
WPS Button	This button lets you use WPS to join the Wi-Fi network without typing the Wi-Fi password and selecting Encryption Press and hold this button for about 2 seconds to enable the WPS function

## WPS LED Descriptions

LED	Description
WPS LED	High rate of blinking – Wi-Fi Mesh smart connecting
	Off - Power is not supplied to the router

## Back Panel





## 2.4. Product Specification

Category	Description
Memory	SRAM: 256MB DDR3 NAND : 128MB
Wireless LAN Interface	IEEE802.11ac (5GHz, 80MHz) up to 1.733Gbps IEEE802.11n (2.4GHz, 40MHz) up to 450Mbps Antenna Type : Internal Antenna 4 PCS (3 Internal Dual Band Antennas & One 5GHz Sing Band Antenna) Antenna Configuration : 3x3 2.4GHz & 4x4 5GHz DBDC
LAN	Four 10/100/1000M Auto MDI/MDI-X RJ-45 Ports
Switch/ Button	Front Panel: WPS button Rear Panel: 4 LAN Ethernet ports, 1 x WAN ports, On/Off switch, Power input, Factory reset button (pin-hole), USB3.0
LED	Power, WAN, Internet, LAN, 2.4GHz WiFi, 5GHz WiFi, WPS
Power	DC12V / 2.0A
Physical Specification	Device dimension: 78(35)mm x 155mm x 210mm (W x D x H) Device weight: ???g
Environmental Specification	Operating Environment Temperature : 0°C to 40°C Humidity: 20% to 90% (Non-condensing) Storage Environment Temperature: -30°C to 60°C Humidity: 20% to 90% (Non-condensing)

# 3. Installation

## 3.1. Note for Placement

Before you set-up the AR2146, please thoroughly read the below placement guide for your successful internet connection of the AR2146.

Place the router near the center area where your connected devices like computers, tablets, and mobile phone operate. Please avoid placing the router in the closed area such as cabinet or closet. In this case, Wi-Fi performance can deteriorate due to obstacles.

Place the router in an slightly elevated location minimizing the number of walls and ceilings between the router and the connected devices.

Please avoid placing the router besides the below appliances or objects:

Home Security Devices or System

Fans

Microwaves

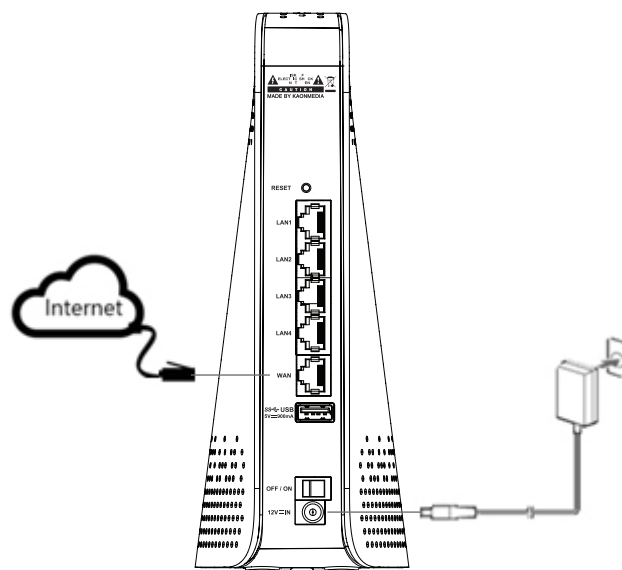
Computers

Cordless phones

Metal Objects

## 3.2. Hardware Set-up

This section is for the hardware installation of the AR2146. While you proceed the installation, the internet connection will not be available until the set-up process is fully completed.



- 1) Place the router near the power outlet and internet line
- 2) Unplug your modem's power, leaving the modem connected to the wall jack for your Internet service
- 3) Connect your modem to the Internet port of your router with the Ethernet cable that came with your router.
- 4) Connect the power adapter to your router and plug the power adapter into an outlet.
- 5) Press the Power On/Off button on the rear panel of the router.
- 6) Confirm that the following LEDs are on and solid to verify the hardware is connected correctly.

## 3.3. Completing set-up

After the hardware set-up, you should log in to the router and configure it. Please refer to the next page for the configuration.

# 4. Configuration

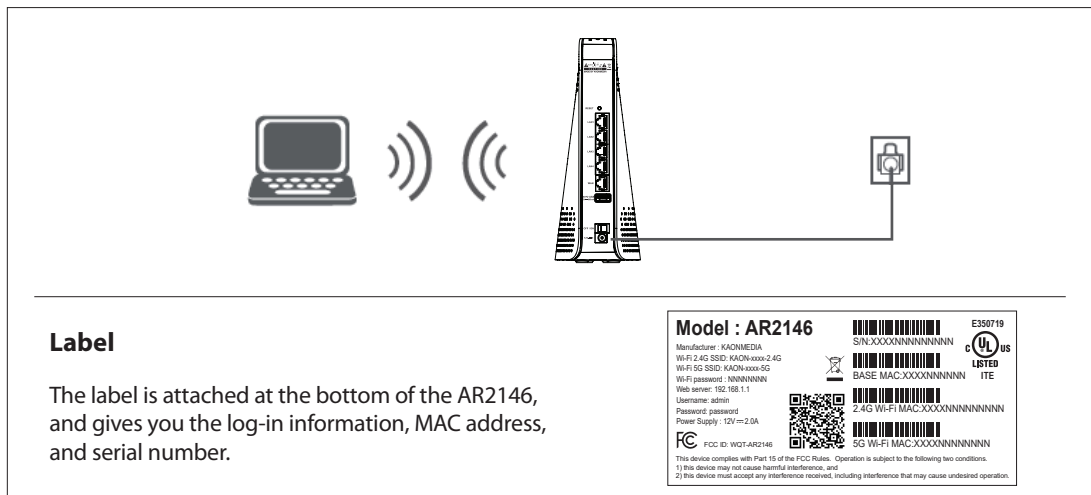
## 4.1. Note for configuration

Before you configure the AR2146, you should check the your home network environment. Please read thoroughly. If you are using a the modem, gateway, or router provided by Internet Service Provider(ISP), depending on the mode of those device, you need to set the AR2146 to either "bridge" mode or "router" mode so the router can work properly. Please contact your ISP or refer to the user manual for detail settings. In case that you are using AR2146 provided by ISP (Internet Service Provider), you can find account's username and password from the bottom of the AR2146 or better ask ISP. Your ISP may also supply you with additional WAN configuration setting.

## 4.2. Configuration Set-up

To configure your router, please connect your computer or wireless device like a mobile phone with the AR2146. Your computer can connect to the AR2146 with Wi-Fi or Ethernet cable.

### Wi-Fi Connection



1. To use WPS to connect to the Wi-Fi network;
  - 1) Make sure power is supplied to the router. (its Power LED is lit green)
  - 2) Check the WPS instructions for your computer or wireless device.
  - 3) Press the WPS button on the router.
  - 4) Within two minutes, on your computer or Wi-Fi device, press its WPS button or follow its instructions for WPS connections.
  - 5) Your computer connects to the Wi-Fi network.
  - 6) The next time you connect to this network from the same computer or device.
  - 7) The router has sent all the necessary settings, including the security password, to Computer or device, so you don't have to use the WPS button again.
2. To find and select the Wi-Fi network to connect;
  - 1) Make sure that the router has power (its Power LED is lit green).
  - 2) On your computer or wireless device, find and select the right Wi-Fi network which AR2146 provides. The Wi-Fi network name is on the router's label as SSID (Service Set Identifier).
  - 3) Join the Wi-Fi network and enter the Wi-Fi password. The password is on the router's label. Your wireless device gets to connect to the Wi-Fi network.

You can connect your computer to the router using an Ethernet cable and join the router's local area network (LAN)



3. To connect your computer to the router using Ethernet cable:

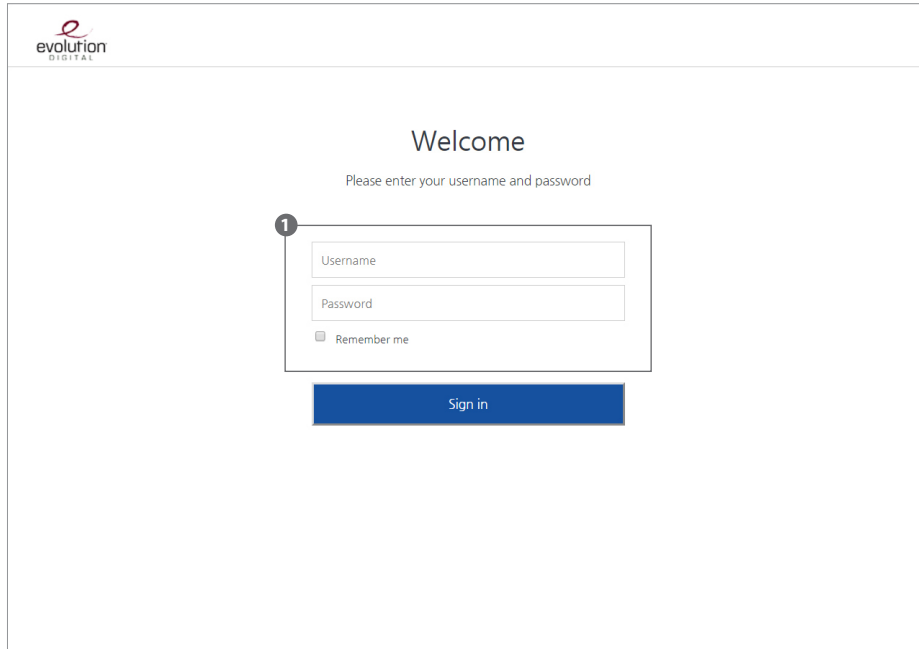
- 1) Make sure power is supplied to the router. (its Power LED is lit green)
- 2) Connect the supplied Ethernet cable to an Ethernet port on your computer.
- 3) Connect the other end of the Ethernet cable to one of the numbered Ethernet ports.
- 4) Your computer connects to the local area network (LAN). A message may be displayed on your computer screen to notify you that network is connected.

### **Completing Configuration Set-up**

After completing the set-up process to connect your computer to the AR2146, you can log-in the AR2146. Please refer to the information from the next page.

## 5. Login

To log in to the AR2146 and make the configuration, you open an internet browser and type `http://192.168.1.1` on your computer. Please make sure the your computer is connected to the AR2146.



evolution  
DIGITAL

Welcome

Please enter your username and password

1

Username

Password

Remember me

Sign in

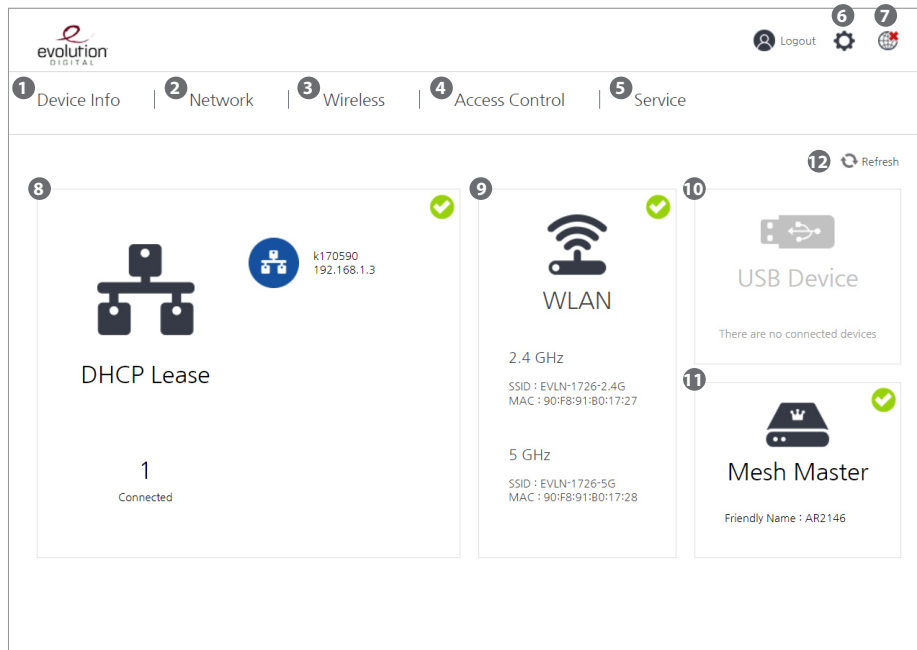
- 1) Enter the default username and password and click "Sign in" to display the default landing page. For the information of username and password, refer to the page 16. You can find out the username and password information on the label.

## 6. Home

The home page is the first page that is loaded when you log in.

When you log into the AR2146, you can check overall status.

If your AR2146 is configured for "bridge mode" (modem) operation, your PC will NOT be able to acquire an address via CPE DHCP. Instead, manually configure your PC's interface with an IP address on the default network (e.g., 192.168.1.1).



### 1) Device Info

It shows the general information about this CPE. It includes summary, WAN, LAN, and Network Statistics information.

### 2) Network Configuration

It shows network related information such as WAN Service, LAN Service, Internet Time.

### 3) Wireless Configuration

It shows Wireless interface related information such as Wi-Fi and Mesh.

### 4) Access Control Configuration

It shows access-control related information such as NAT, Filtering, Parental Control.

### 5) Service Configuration

It shows Service related information such as Dynamic DNS, DLNA.

### 6) Management Configuration

You can configure password, backup settings, update software, reset, TR-069 client, and system log. Go to p114 for more information.

### 7) Internet Connectivity Information

It shows whether or not the AR2146 is connected to the internet.

### 8) DHCP Information

It displays how many clients get connected to the AR2146.

### 9) WLAN Information

It shows the Wi-Fi information including SSID and MAC address of each Wi-Fi interface (2.4GHz and 5GHz).

### 10) USB Device Information

It shows whether a USB device is connected or not.

### 11) Mesh Master Information

When AR2146 is connected with KAON repeaters with Wi-Fi Mesh, it becomes a Mesh controller (master). This icon shows the name of WiFi Mesh.

### 12) Refresh Button

Click the refresh button to update the status information, then the status will be renewed. nected or not.

## 7. Device Info Menu

This page shows the overall system information of the AR2146.

This page displays details about the hardware, software, and network information.

When you need to check the each interface's information, you can visit this page.

evolution  
DIGITAL

Logout

Device Info | Network | Wireless | Access Control | Service

Refresh

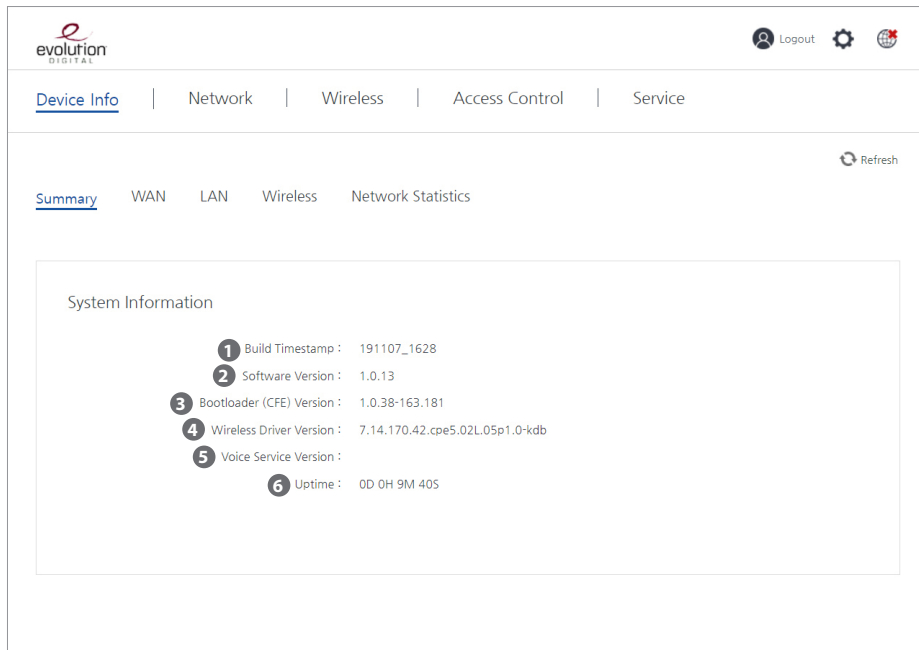
Summary | WAN | LAN | Wireless | Network Statistics

System Information

Build Timestamp : 191107\_1628  
Software Version : 1.0.13  
Bootloader (CFE) Version : 1.0.38-163.181  
Wireless Driver Version : 7.14.170.42.cpe5.02L.05p1.0-kdb  
Voice Service Version :  
Uptime : 0D 0H 9M 40S

## 7.1. Summary

This page shows system information.



### 1) Build time stamp

It shows the date when the firmware is built. The format is following: YYYYMMDD\_HHMM  
For example, 191107\_1628 means that 2019, November, 07\_16:28

### 2) Software version

The firmware software version

### 3) Bootloader version

The bootloader version

### 4) Wireless driver version

Wireless driver version

### 5) Voice service version

VoIP driver version

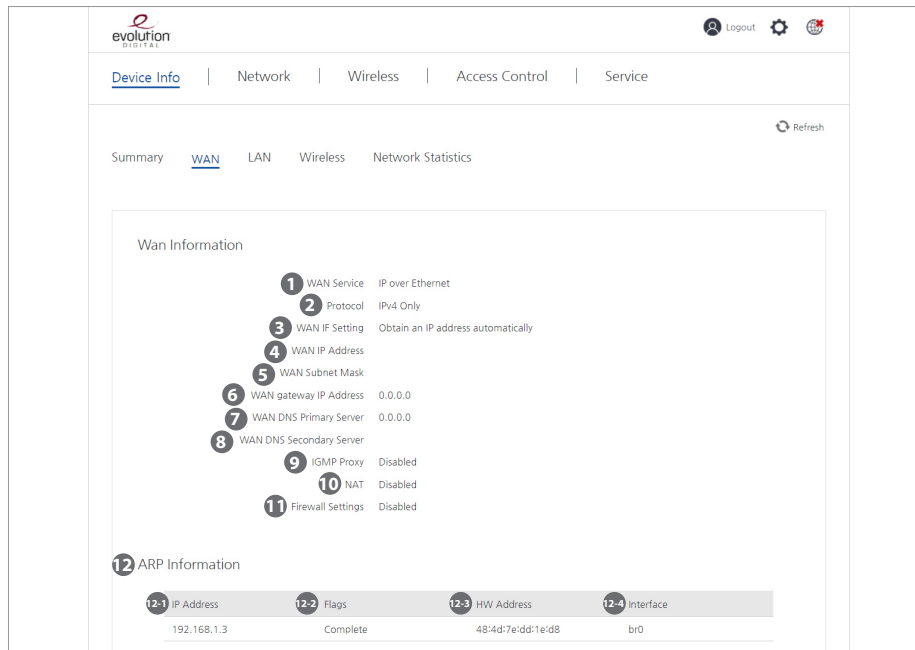
### 6) Uptime

Uptime of the CPE with the following format DD:HH:MM:SS



## 7.2. WAN

This page shows WAN information.



### 1) WAN service

It shows WAN service uses either IPoE or PPPoE.

### 2) Protocol

It shows this CPE uses either IPv4, IPv6, or dual-stack.

### 3) WAN IF setting

It shows the IP address of this CPE. it can be set manually (Static) or dynamically (provided by a server automatic).

### 4) WAN IP Address

The IP address of WAN interface.

### 5) WAN subnet mask

It shows the subnet mask information.

### 6) WAN gateway IP address

It shows the server IP address which provides the IP address.

### 7) WAN DNS primary server

It shows the primary DNS server IP address which can be provided by the server or set manually.

### 8) WAN DNS secondary server

It shows the secondary DNS server IP address which can be provided by the server or set manually.

### 9) IGMP proxy

It shows whether IGMP proxy function of the AR2146 is disabled or enabled.

### 10) NAT

It shows whether NAT function of the AR2146 is disabled or enabled.

### 11) Firewall setting

It shows whether Firewall function of the AR2146 is disabled or enabled.

### 12) ARP Information

It shows the IP addresses and the relevant MAC addresses which the AR2146 is connected to via (W) LAN or WAN.

#### 12-1) IP address

It shows the IP addresses connected with the AR2146.

#### 12-2) Flags

It shows whether ARP process is completed or not.

### 12-3) HW address

It shows the MAC addresses of the connected devices.

### 12-4) Interface

It can show either br0, eth, or wl.

br0 means LAN connection, eth 4 means WAN connection, and wl means WLAN connection.

## 7.3. LAN

This page shows LAN and DHCP information.

The screenshot displays the Evolution Digital web interface. At the top, there is a navigation menu with options: Device Info, Network, Wireless, Access Control, and Service. Below this, there are tabs for Summary, WAN, LAN (selected), Wireless, and Network Statistics. The main content area is titled 'Lan Information' and contains the following details:

- 1) IP Address: 192.168.1.1
- 2) DHCP Server: Enabled
- 3) Dynamic IP Address Range: 192.168.1.2 - 192.168.1.254
- 4) System Delegated Prefix: (null)
- 5) DHCPv6 Server: Enabled
- Dynamic IPv6 Address Range: 0:0:0:2 - 0:0:0:254

Below the LAN information is a section for 'DHCP Information' with a table of connected devices:

6-1 Host	6-2 Type	6-3 MAC Address	6-4 IP Address	6-5 Expires In
k170590	lan	48:4d:7e:dd:1e:d8	192.168.1.3	23 hours, 49 minutes, 29 seconds

#### 1) IP address

It shows the IP address of the AR2146 on LAN interface. This IP address becomes the gateway IP address of the devices connected to the AR2146 via (W)LAN.

#### 2) DHCP server

It shows whether the DHCP server function of the AR2146 is enabled or disabled.

#### 3) Dynamic IP address range

It shows the dynamic IP address range for IPv4 which this CPE can provide to the connected devices.

#### 4) DHCPv6 server

It shows whether the DHCP function of this CPE is enabled or disabled for IPv6.

#### 5) Dynamic IPv6 address range

It shows the dynamic IP address range for IPv6 which this CPE can provide to the connected devices.

#### 6) DHCP information

It shows the DHCP IP address which the AR2146 has provided to the connected devices. This information is cached for a configured time duration; if the device is no longer connected after this time period, the related DHCP information will disappear.

##### 6-1) Host

It shows the host name of the device.

##### 6-2) Type

It shows the type of connectivity, LAN or WLAN.

### 6-3) MAC address

It shows the MAC address of the device.

### 6-4) IP address

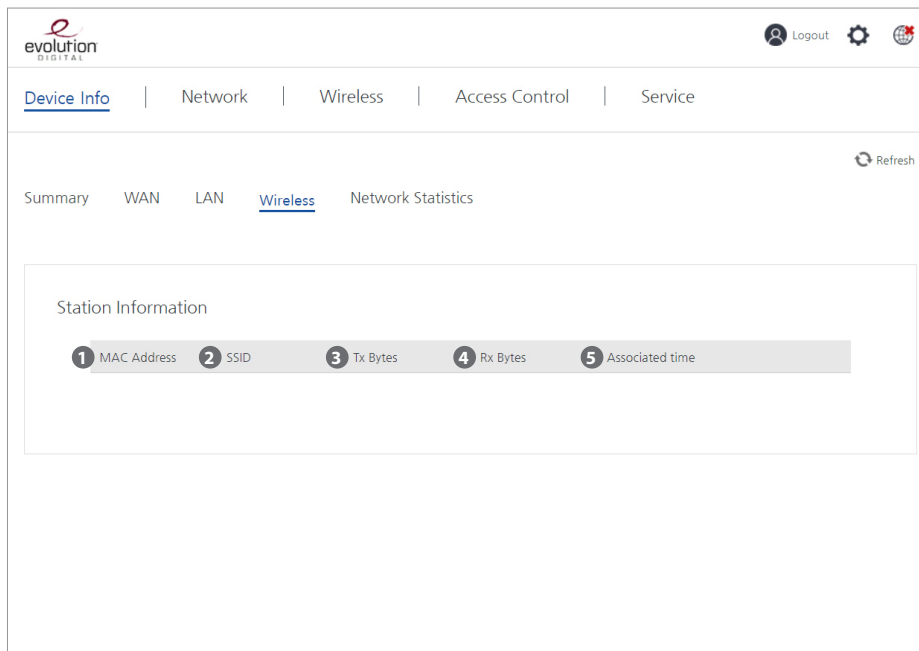
It shows the IP address of the device.

### 6-5) Expires in

It shows when the DHCP lease time finish.

## 7.4. Wireless

This page shows the connected devices via WLAN (Wi-Fi).



### 1) MAC address

It shows the MAC address of the connected device.

### 2) SSID

It shows the SSID name of the Wi-Fi with which the connected device use.

### 3) Tx Bytes

TX is an abbreviation of Transmit.

TX bytes means the total number of bytes this CPE transmitted.

### 4) RX Bytes

RX is an abbreviation of Receive.

RX bytes means the total number of bytes this CPE received.

### 5) Associated Time

It shows how long the devices connected to this CPE via WiFi.

## 7.5. Network Statistics

This page shows the TX (transmitted) and RX (received) packet information each network interface. You can view the received and transmitted bytes, packets, errors and drops for Network statistics.

The screenshot displays the 'Network Statistics' page in the Evolution Digital interface. The page includes a navigation menu with 'Device Info', 'Network', 'Wireless', 'Access Control', and 'Service'. Below the navigation, there are tabs for 'Summary', 'WAN', 'LAN', 'Wireless', and 'Network Statistics'. A 'Refresh' button is located in the top right corner. The main content area contains a table titled 'Network Statistics' with the following data:

Interface	Received				Transmitted			
	Bytes	Packets	Errors	Drops	Bytes	Packets	Errors	Drops
LAN1	0	0	0	0	0	0	0	0
LAN2	0	0	0	0	0	0	0	0
LAN3	0	0	0	0	0	0	0	0
LAN4	482120	3755	0	0	1899678	2601	0	0
WAN	0	0	0	0	0	0	0	0
5G	0	0	0	2	102825	685	0	33
2.4G	0	0	0	0	108237	684	0	0

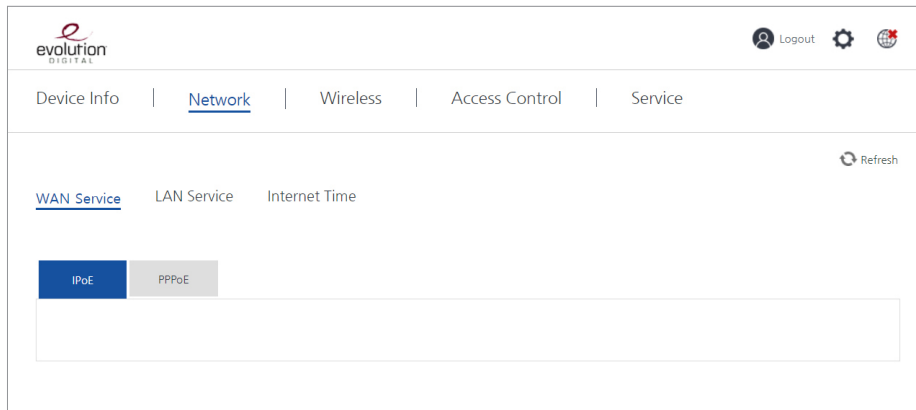
Below the table, there is a blue button labeled 'Reset Statistics' with a circled '1' next to it, indicating the first step in the process.

### 1) Reset Statistics

It resets the TX and RX statics of Network Statistics table.

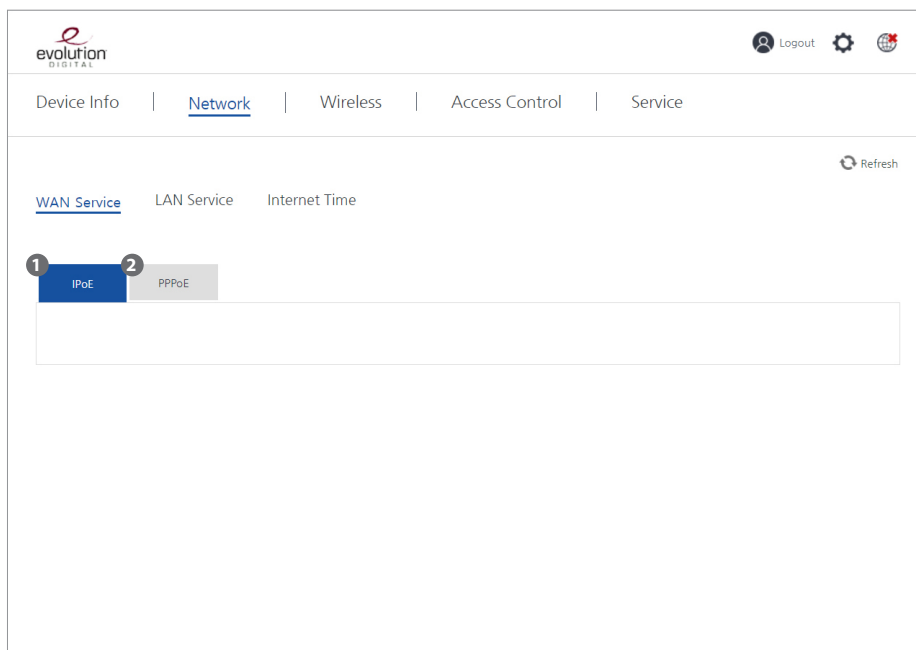
# 8. Network Menu

Network Menu page enables you to manage WAN/LAN interface setting.



## 8.1. WAN Service – IPoE & PPPoE

In the WAN Service sub-menu, you can manage the IPoE & PPPoE setting.



### 1) IPoE

Internet Protocol over Ethernet (IPoE) is a method of delivering an IP payload over an Ethernet-based access network or an access network using bridged Ethernet over Asynchronous Transfer Mode (ATM) without using PPPoE.

### 2) PPPoE

The Point-to-Point Protocol over Ethernet (PPPoE) is a network protocol for encapsulating PPP frames inside Ethernet frames.

## 8.1.1 WAN Service - IPoE

In this page, you can configure IPoE for WAN service connection.

4	5	6	7	8	9	10	11
Interface	Description	IGMP Proxy	NAT	Firewall	IPv6	MLD Proxy	Edit
eth4.1	IPoE	Enabled	Enabled	Enabled	Disabled	Enabled	

### 1) WAN IF Settings

You can set the WAN interface information.

#### 1-1) WAN Service

A user can choose either "IP over Ethernet" or "Bridging" mode. When the user select "IP over Ethernet", the user can manually configure the rest of the menu below. When the user select "Bridging", 802.1 P priority get set to "-1" and 802.1Q LAN ID get set to "-1" and all other parameters below become deactivated.

#### 1-2) Protocol

A user can select IPv4 Only , IPv4 & IPv6 (dual stack), or IPv6 only.

#### 1-3) WAN IF Setting

A user can select either one of the following mode; "User the following static IP address" or "obtain an IP address automatically".

### 2) NAT

A user can enable or disable NAT (Network Address Translation) function.

### 3) Firewall Settings

You can set the Firewall information.

#### 3-1) IPv4 Firewall Protection

User can enable or disable the basic firewall functions.

### 4) Interface

It shows the interface information like Wi-Fi interface or Ethernet interface.

### 5) Description

It shows which authentication method is used e.g. IPoE or PPPoE.

### 6) IGMP Proxy

It shows whether IGMP Proxy is enabled or disabled.

### 7) NAT

It shows whether NAT is enabled or disabled.

**8) Firewall**

It shows whether Firewall is enabled or disabled.

**9) IPv6**

It shows whether IPv6 is enabled or disabled.

**10) MLD Proxy**

It shows this CPE is functioning as MLD proxy server .

**11) Edit**

When a user click "Edit" button, the user can re-configure the selected WAN interface entry.

**12) Apply**

When a user click "Apply" button, all the configurations the user configured will be applied to the AR2146 and a new WAN service entry will be added to the below table.

## 8.1.2 WAN Service - PPPoE

User can enter the PPPoE username and password if ISP provides and requires the PPPoE information.

### 1) WAN IF Name

It shows which WAN interface to use in case the AR2146 uses multiple WAN interfaces.

### 2) WAN Service

User can choose how to connect to the server either via PPP over Ethernet or Bridging mode. When the user selects "PPP over Ethernet", the user can manually configure the rest of the menu below. When the user selects "Bridging", 802.1P priority gets set to "-1" and 802.1Q LAN ID gets set to "-1" and all other parameters below become deactivated.

### 3) Enter 802.1P Priority (0-7)

User can select the priority to the specific WAN interface he selects in the WAN IF Name. 7 is the highest priority. If the user does not want to put any priority, the user can set "-1".

### 4) Enter 802.1Q VLAN ID (0-4094)

User can set the VLAN ID to the specific WAN interface he selects in the WAN IF Name. If the user does not want to put any VLAN ID, the user can set "-1".

### 5) Select VLAN TPID

TPID is the tag protocol identifier. User can choose either 0x8100, 0x88AB, or 0x9100.

### 6) Protocol

User can select IPv4 Only, IPv4 & IPv6 (dual stack), or IPv6 only.

### 7) WAN IF Setting

User can select either one of the following modes: Auto, PAP, CHAP, MSCHAP to obtain the IP address of the WAN interface.

### 8) PPP User Name

User can enter the user name for the PPPoE to activate the network service. When the user enters the correct PPP user name and PPP password, this CPE gets authenticated by the PPP server and the internet service will be activated.



### 9) PPP Password

User can enter the password for the PPPoE to activate the network service. When the user enters the correct PPP user name and PPP password, this CPE get authenticated by the PPP server and the internet service will be activated.

### 10) PPP Service Name

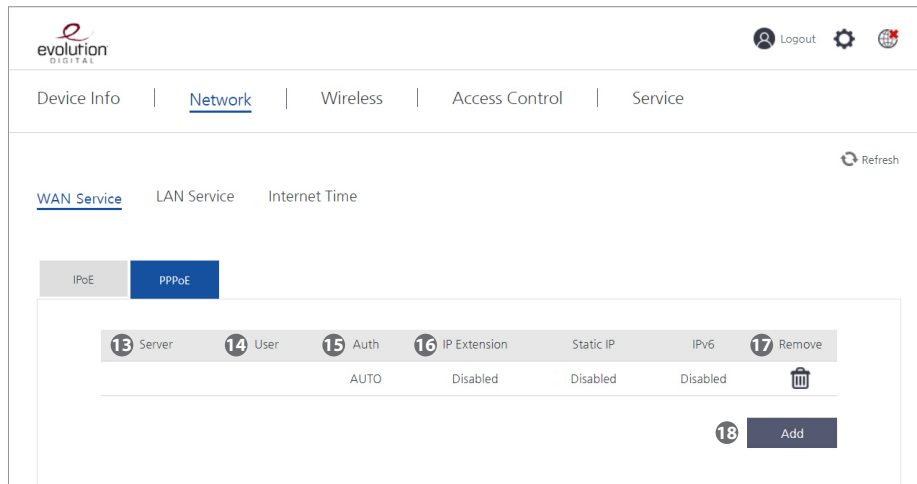
User can make a name for this new PPP service entry.

### 11) PPP Authentication Method

It shows the PPP authentication method consists of Auto, PAP, CHAP, and MSCHAP.

### 12) Apply

When the user click "Apply" button, all the configurations the user configured will be applied to the CPE and a new WAN service entry will be added to the below table.



### 13) Server

It shows "the PPPoE Service name" a user entered in the configuration page.

### 14) User

It shows "the User name" the user entered in the configuration page.

### 15) Auto

It shows which "PPP authentication method" is used.

### 16) IP extension

It shows whether PPP IP Extension is enable or disabled.

#### Static IP

It shows whether static IP provision service is enabled or disabled.

#### IPv6

It shows whether IPv6 service is enabled or disabled.

### 17) Remove

User can remove this WAN configuration entry.

### 18) Add

When user click "Add" button, the user can configure another WAN service.

## 8.2.1 LAN Service – IPv4 Setup

In the LAN Service sub-menu, you can manage the IP addresses of LAN interface.

The screenshot displays the 'LAN Service' configuration page for IPv4 Setup. The page is titled 'Local Area Network Setup' and includes the following fields and controls:

- 1) IP Address:** 192.168.1.1
- 2) Subnet Mask:** 255.255.255.0
- 3) Enable UPnP:** Checked (toggle switch)
- 4) DHCP Server:** Checked (toggle switch)
- 5) Start IP Address:** 192.168.1.2
- 6) End IP Address:** 192.168.1.254
- 7) Lease Time (Hour):** 24

Below the fields is a table for static IP leases with columns for MAC Address, IP Address, and Remove. An 'Add' button (8) is located to the right of the table. An 'Apply' button (9) is at the bottom of the page.

### 1) IP Address

It shows the IP address of the AR2146 the user configured. This IP address become the gateway IP address to the connected devices of the AR2146.

### 2) Subnet Mask

It shows the subnet mask of the AR2146 the user configured.

### 3) Enable UPnP

User can enable or disable the UPnP function of the AR2146. UPnP offers compatibility with networking equipment, software, and peripherals.

### 4) DHCP Server

User can enable or disable the DHCP server.

### 5) Start IP Address

User can configure the first IP address of the DHCP IP range which can be provided to the connected devices.

### 6) End IP Address

User can configure the last IP address of the DHCP IP range which can be provided to the connected devices.

### 7) Lease Time (hour)

User can configure the lease time of the DHCP IP address.

### 8) ADD

When user click "Add" button, the pop-up screen for "DHCP Static IP Lease" will be displayed. Refer to the below image.

The screenshot shows a pop-up window titled 'DHCP Static IP Lease'. The text inside reads: 'Enter the MAC address and static IP address then click "Apply".' Below this text are two input fields: 'MAC Address' and 'IP Address'. At the bottom of the window are two buttons: 'Apply' and 'Cancel'.

A user can select a specific device by clicking the MAC address from the table to and configure a specific IP address to the device manually.

### 9) Apply

When user click "Apply", the new entry of the network configuration get applied to the CPE.

## 8.2.2 LAN Service – IPv6 LAN Auto Configuration

User can configure the IPv6 information.

The screenshot shows the Evolution Digital Network configuration interface. The top navigation bar includes 'Device Info', 'Network', 'Wireless', 'Access Control', and 'Service'. The 'Network' section is active, with sub-tabs for 'WAN Service', 'LAN Service', and 'Internet Time'. The 'LAN Service' tab is selected, and the 'IPv6 Autoconfig' sub-tab is active. The main configuration area is titled 'IPv6 LAN Auto Configuration' and contains the following settings:

- 1) System Delegated Prefix: (null)
- 2) Stateless: Enabled (toggle switch)
- 3) DHCPv6 Server: Enabled (toggle switch)
- 4) Stateful: Disabled (toggle switch)
- 5) Start interface ID: 0:0:0:2
- 6) End interface ID: 0:0:0:254
- 7) Leased Time (hour): 24

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

### 1) System delegated prefix

When IPv6 IP address is given to the AR2146, it is displayed in this box.

### 2) Stateless

User can enable or disable the IPv6 stateless function.

### 3) DHCPv6 Server

User can enable or disable DHCPv6 server function of the CPE. Once it is set to Enable, the CPE will provide IPv6 IP addresses to its connected device.

### 4) Stateful

User can enable or disable "stateful" function. When it is "disabled", the following menu (start interface id, end interface id, leased time) will become inactive.

### 5) Start IP Address

Enter the starting IPv6 address for the DHCPv6 assignment.

### 6) End IP Address

Enter the ending IPv6 address for the DHCPv6 assignment.

### 7) Leased Time (Hour)

Enter the length of time for the IP address lease in hour for the DHCP IP address.

## 8.3. Internet Time

In this page, you can configure the internet time service.

The screenshot shows the 'Internet Time Setup' configuration page. At the top, there is a navigation bar with 'Device Info', 'Network' (selected), 'Wireless', 'Access Control', and 'Service'. Below this, there are tabs for 'WAN Service', 'LAN Service', and 'Internet Time' (selected). A 'Refresh' button is located in the top right corner. The main content area is titled 'Internet Time Setup' and contains four numbered steps: 1) 'Enabled NTP Server' with a toggle switch; 2) 'First NTP time server' with a dropdown menu showing 'clock.fmt.he.net' and an adjacent input field; 3) 'Second NTP time server' with a dropdown menu showing 'clock.nyc.he.net' and an adjacent input field; 4) 'Time zone offset' with a dropdown menu showing '(GMT-05:00) Eastern Time'. An 'Apply' button is located at the bottom center of the configuration area.

### 1) Enabled NTP server

User can enable or disable the NTP server function.

### 2) First NTP time server

User can select one of the listed NTP servers in the menu. When the user select "Other" in the menu, the user can enter the specific NTP server IP address in the following column.

### 3) Second NTP time server

User can select one of the listed NTP servers in the menu. When the user select "Other" in the menu, the user can enter the specific NTP server IP address in the following column.

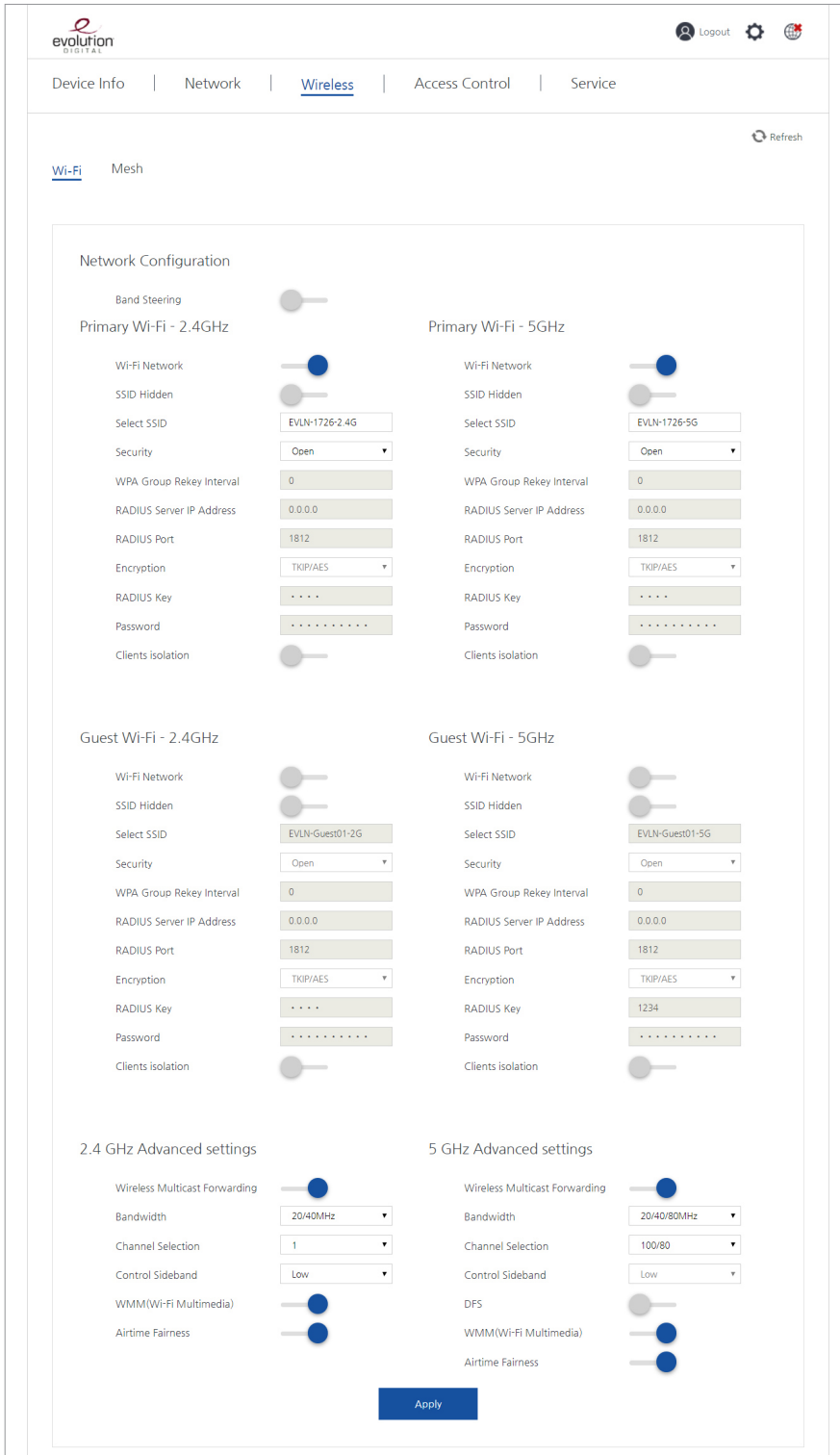
### 4) Time zone offset

User can select the time zone of the AR2146 according to the geographic area.

# 9. Wireless Menu

## 9.1 Wireless – Wi-Fi

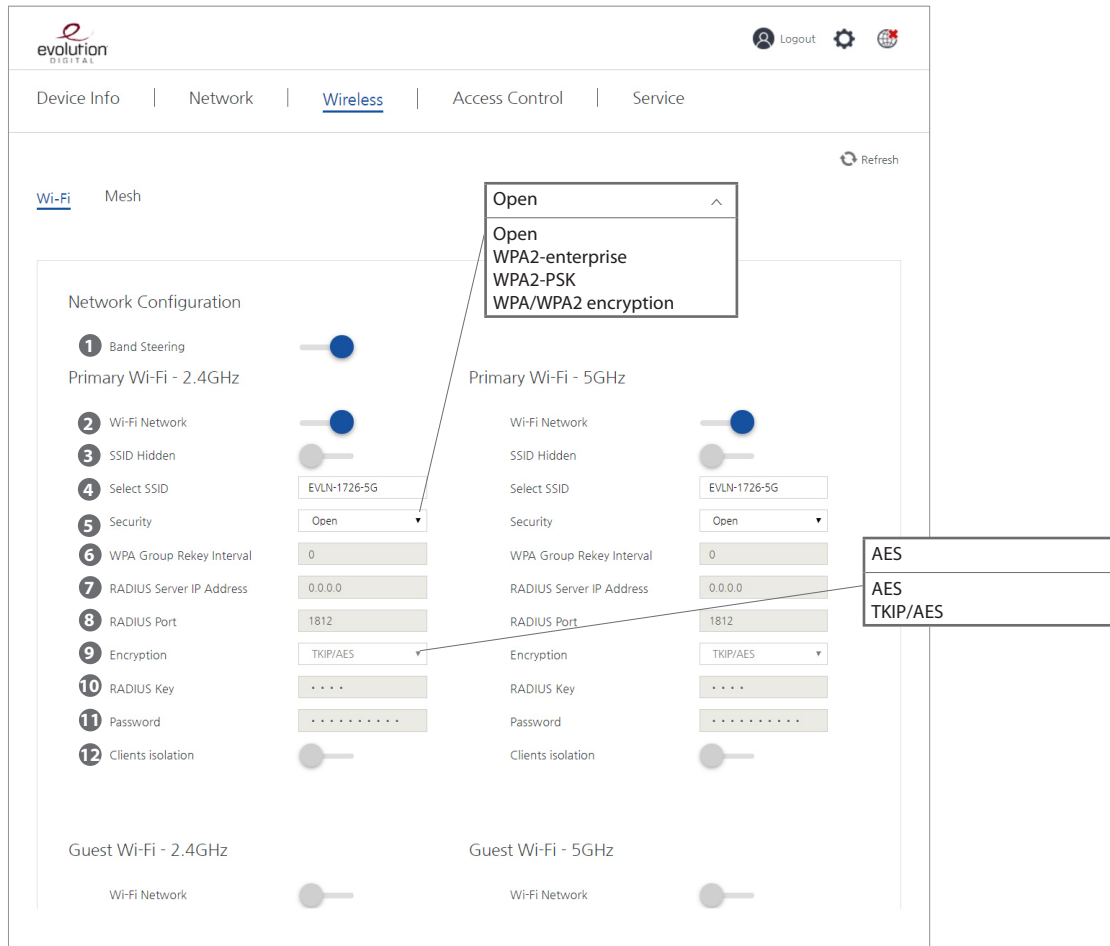
Wireless Menu page enables you to manage wireless(Wi-Fi) network setting. There are 2 sub-menus, Wi-Fi and Mesh.



## 9.1.1 Wi-Fi – Primary Wi-Fi 2.4GHz & 5GHz Setting

User can configure Wi-Fi network by frequency band, 2.4GHz and 5GHz. In addition, the user can manage Guest Wi-Fi by frequency band.

\* 2.4GHz and 5GHz configuration menus are same.



### 1) Band-steering

User can enable or disable band-steering function of this WiFi interface. Once disabled, a user can make the SSID of 2.4GHz and 5GHz differently. When enabled, the SSID of 2.4GHz become the same name of the SSID of 5GHz.

### 2) WiFi network

User can enable or disable the Wi-Fi network.

### 3) SSID hidden

User can hide the SSID.

### 4) SSID

User can create the SSID.

### 5) Security

User can select one of the following security mode: Open, WPA2-enterprise, WPA2-PSK, WPA/WPA2 encryption.

### 6) WPA group rekey interval

User can configure the WPA group key renewal time. "0" means the key is not being regenerated. The unit is second.

### 7) Radius server IP address

User can configure the IP address of the radius server.