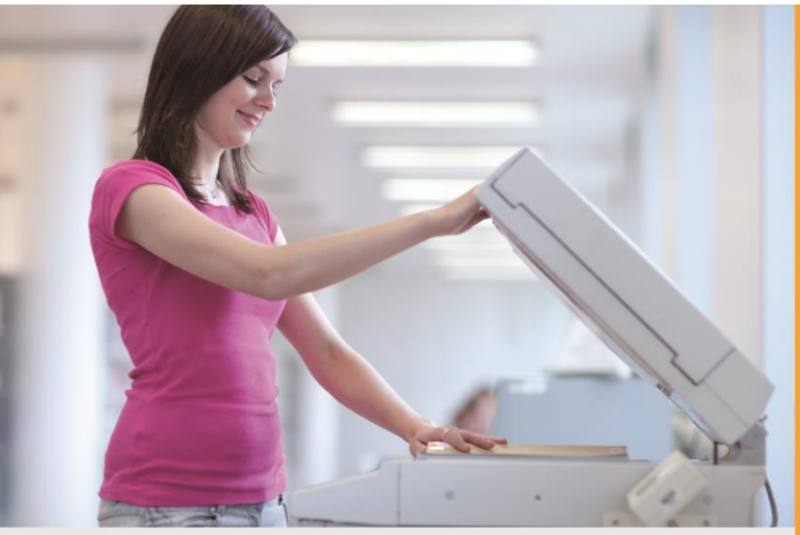
PLANET
Networking & Communication

User's Manual

Enterprise 5-Port 10/100/1000T VPN Security Router

► **VR-300 Series**



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FCC Compliance Statement

This Equipment has been tested and found to comply with the limits for a Class A 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 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.

CE mark Warning

This device is compliant with Class A of CISPR 32. In a residential environment this equipment may cause radio interference.

WEEE

To avoid the potential effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment, end users of electrical and electronic equipment should understand the meaning of the crossed-out wheeled bin symbol. Do not dispose of WEEE as unsorted municipal waste and have to collect such WEEE separately.

Trademarks

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Revision

User's Manual of PLANET 5-Port 10/100/1000T VPN Security Router
Model: VR-300, VR-300P, VR-300F, VR-300FP, VR-300W5, VR-300PW5, VR-300W6A, VR-300PW6A, VR-300W6, VR-300PW6, VR-300FW-NR
Rev.: 1.4 (Mar., 2025)
Part No. EM-VR-300 series_v1.4

Table of Contents

Chapter 1. Product Introduction

Thank you for purchasing PLANET VPN Router, VR-300 Series. The descriptions of these models are as follows:

VR-300	Enterprise 5-Port 10/100/1000T VPN Security Router
VR-300P	Enterprise 4-Port 10/100/1000T 802.3at PoE + 1-Port 10/100/1000T VPN Security Router
VR-300F	Enterprise 4-Port 10/100/1000T + 1-Port 1000X SFP VPN Security Router
VR-300FP	Enterprise 4-Port 10/100/1000T 802.3at PoE + 1-Port 1000X SFP VPN Security Router
VR-300W5	Wi-Fi 5 AC1200 Dual Band VPN Security Router
VR-300PW5	Wi-Fi 5 AC1200 Dual Band VPN Security Router with 4-Port 802.3at PoE+
VR-300W6A	Wi-Fi 6 AX2400 2.4GHz/5GHz VPN Security Router
VR-300PW6A	Wi-Fi 6 AX2400 2.4GHz/5GHz VPN Security Router with 4-Port 802.3at PoE+
VR-300W6	Wi-Fi 6 AC1800 Dual Band VPN Security Router
VR-300PW6	Wi-Fi 6 AC1800 Dual Band VPN Security Router with 4-Port 802.3at PoE+
VR-300FW-NR	5G NR Cellular + Wi-Fi 6 AX 1800 Dual Band + 1-Port 1000X SFP VPN Security Router

Model / Spec.	VR-300 VR-300P	VR-300F VR-300FP	VR-300W5 VR-300PW5	VR-300W6 VR-300PW6	VR-300W6A VR-300PW6A	VR-300FW-NR
Wi-Fi	-	-	11ac 1200Mbsp	11ax 1800Mbps	11ax 2400Mbps	11ax 1800Mbps
Fiber	-	■	-	-	-	■
PoE	VR-300P	VR-300FP	VR-300PW5	VR-300PW6	VR-300PW6A	--
5G NR Cellular	-	-	-	-	-	■

“VPN Router” mentioned in this Quick Installation Guide refers to the above models.

1.1 Package Contents

The package should contain the following:

- VPN Router x 1
- Quick Installation Guide (QR code) x 1
- Power Cord x 1
- Rubber Feet x 4
- Rack-mounting Kit x 1
- SFP Dust Cap x 1 (VR-300F/VR-300FP/VR-300FW-NR)
- Other components as shown below:

Model Name	2.4G/5G antenna	Dual band antenna	5G NR antenna
VR-300W5	2	--	--
VR-300PW5	2	--	--
VR-300W6	--	2	--
VR-300PW6	--	2	--
VR-300W6A	--	4	--
VR-300PW6A	--	4	--
VR-300FW-NR	--	2	4

Note	If any of the above items are missing, please contact your dealer immediately.

1.2 Overview

Powerful VPN Security Solution

The innovation of the Internet has created tremendous worldwide opportunities for e-business and information sharing. It has become essential for businesses to focus more on network security issues. The demand for information security has become the primary concern for the enterprises. To fulfill this demand, PLANET has launched the VR-300 series VPN Security Router, an all-in-one appliance that carries several main categories across your network security deployments: Cyber security, SPI firewall security protection, policy auditing (Content Filtering, VPN Tunnel and MAC/IP Filtering), AP controller, captive portal, RADIUS and easy management (Setup Wizard, DHCP Server and Dashboard). Furthermore, its Dual-WAN Failover, Outbound Load Balance and High-Availability features can improve the network efficiency while the web-based interface provides friendly and consistent user experience.

Automatic Failover between 5G NR and Dual WAN (For VR-300FW-NR only)

Designed with 5G NR, dual WAN interfaces (fiber and copper), 1000X SFP and Gigabyte Ethernet, the VR-300FW-NR ensures Internet connectivity by featuring failover functionality between 5G NR and dual WAN. It provides flexibilty to set priority for 5G NR or dual WAN connection. When the main WAN interface fails, the secondary WAN interface will automatically back up the connection to ensure always-on connectivity.

Ultra-Fast Speed 4G/5G Network* (For VR-300FW-NR only)

The VR-300FW-NR supports 5G NR DL (downlink) speeds higher than 2.4 Gbps and 4G LTE DL speeds of up to 1 Gbps. The wide spectrum bandwidth accelerates internet speeds and reduces network latency for premium and time-sensitive connectivity services. It also supports multi-band connectivity including LTE FDD/TDD, WCDMA and GSM for a wide range of applications.

*The real 5G NR/4G LTE data rate is dependent on local service provider.

GPS Included (For VR-300FW-NR only)

The VR-300FW-NR is equipped with the global positioning system feature. It adopts the 5G NR technology for the multiple global navigation systems (GPS/GLONASS/BeiDou/Galileo/QZSS). It helps to position location of cellular gateway based on a network of satellites that continuously transmits necessary data. More signals transmitted from more satellites can triangulate its location on the ground, meaning any location can be easily tracked.

- **Wireless 11ac Brings Excellent Data Link Speed (Wireless model only)**

The VR-300 Series is designed with high power amplifier and 4 highly-sensitive antennas which provide stronger signal and excellent coverage even in the wide-ranging or bad environment. With adjustable transmit power option, the administrator can flexibly reduce or increase the output power for various environments, thus reducing interference to achieve maximum performance. To provide extremely high-speed user experience, the VR-300W5 adopts IEEE 802.11ac technology to increase the speed from the 802.11n standard 40MHz to 80MHz and to implement the 256-QAM modulation where higher transmitting/receiving rates go up to 867Mbps in 5GHz, a less interference frequency band. In addition, the VR-300 Series is equipped with Gigabit LAN port to eliminate the restriction of 100Mbps Fast Ethernet wired connection to let users fully enjoy the high speed provided by wireless. The IEEE 802.11ac also optimizes MU-MIMO (Multi-User MIMO) mechanism to serve multiple devices simultaneously.

- **Built-in Unique PoE Functions for Powered Devices Management (PoE model only)**

The VR-300 series is capable of having a maximum of up to 120 watts of power output and can deliver up to 36W for each port. It also features the following special PoE management functions:

- **PoE Usage Monitoring (PoE model only)**

With PoE usage monitoring, it can show the PoE loading of each port, total PoE power usage and system statuses, such as overload, low voltage, over voltage and high temperature. User can obtain detailed information about the real-time PoE working condition of the VR-300 series directly.

- **PoE Schedule (PoE model only)**

Under the trend of energy savings worldwide and contributing to environmental protection, the VR-300 series can effectively control the power supply besides its capability of giving high watts power. The “PoE schedule” function helps you to enable or disable PoE power feeding for each PoE port during specified time intervals and it is a powerful function to help SMBs or enterprises save power and budget. It also increases security by powering off PDs that should not be in use during non-business hours.

- **Scheduled Power Recycling (PoE model only)**

The VR-300 series allows each of the connected PoE IP cameras or PoE wireless access points to reboot at a specific time each week. Therefore, it will reduce the chance of IP camera or AP crash resulting from buffer overflow.

- **PD Alive Check (PoE model only)**

The VR-300 series can be configured to monitor connected PD status in real time via ping action. Once the PD stops working and responding, the VR-300 series will resume the PoE port power and bring the PD back to work. It will greatly enhance the network reliability through the PoE port resetting the PD's power source and reducing administrator management burden.

Wi-Fi Deployments and Authentication with Simplified Management

The VR-300 series also provides a built-in AP Controller, Captive Portal, RADIUS and a DHCP server to facilitate small and medium businesses to deploy secure employee and guest access services without any additional server. The VR-300 series can offer a secure Wi-Fi network with easy installation for your business.

Centralized Remote Control of Managed APs*

The VR-300 series provides centralized management of PLANET Smart AP series via a user-friendly Web GUI. It's easy to configure AP for the wireless SSID, radio band and security settings. With a four-step configuration process, different purposes of wireless profiles can be simultaneously delivered to multiple APs or AP groups to minimize deployment time, effort and cost.

For example, to configure multiple Smart APs of the same model, the VR-300 series allows clustering them to a managed group for unified management. According to requirements, wireless APs can be flexibly expanded or removed from a wireless AP group at any time. The AP cluster benefits bulk provision and bulk firmware upgrade through single entry point instead of having to configure settings in each of them separately.

Ideal High-Availability VPN Security Router Solution for SMBs

The VR-300 series provides complete data security and privacy for accessing and exchanging most sensitive data, built-in IPSec VPN function with DES/3DES/AES encryption and MD5/SHA-1/SHA-256/SHA-384/SHA-512 authentication, and GRE, SSL, PPTP and L2TP server mechanism. The full VPN capability in the VR-300 series makes the connection secure, more flexible, and more capable.

Excellent Ability in Threat Defense

The VR-300's built-in SPI (stateful packet inspection) firewall and DoS/DDoS attack mitigation functions provide high efficiency and extensive protection for your network. Thus, virtual server and DMZ functions can let you set up servers in the Intranet and still provide services to the Internet users.

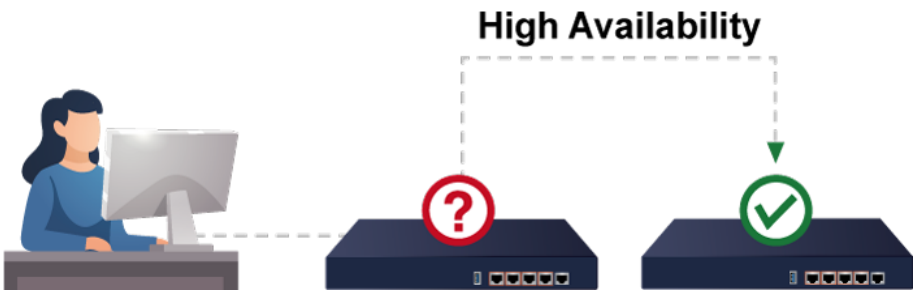
Cybersecurity Network Solution to Minimize Security Risks

The cybersecurity feature included to protect the switch management in a mission-critical network virtually needs no effort and cost to install. For efficient management, the VR-300 is equipped with HTTPS web and SNMP management interfaces. With the built-in web-based management interface, the VR-300 series offers an easy-to-use, platform independent management and configuration facility. The VR-300 series supports SNMP and it can be managed via any management software based on the standard SNMP protocol.

1.3 Topology

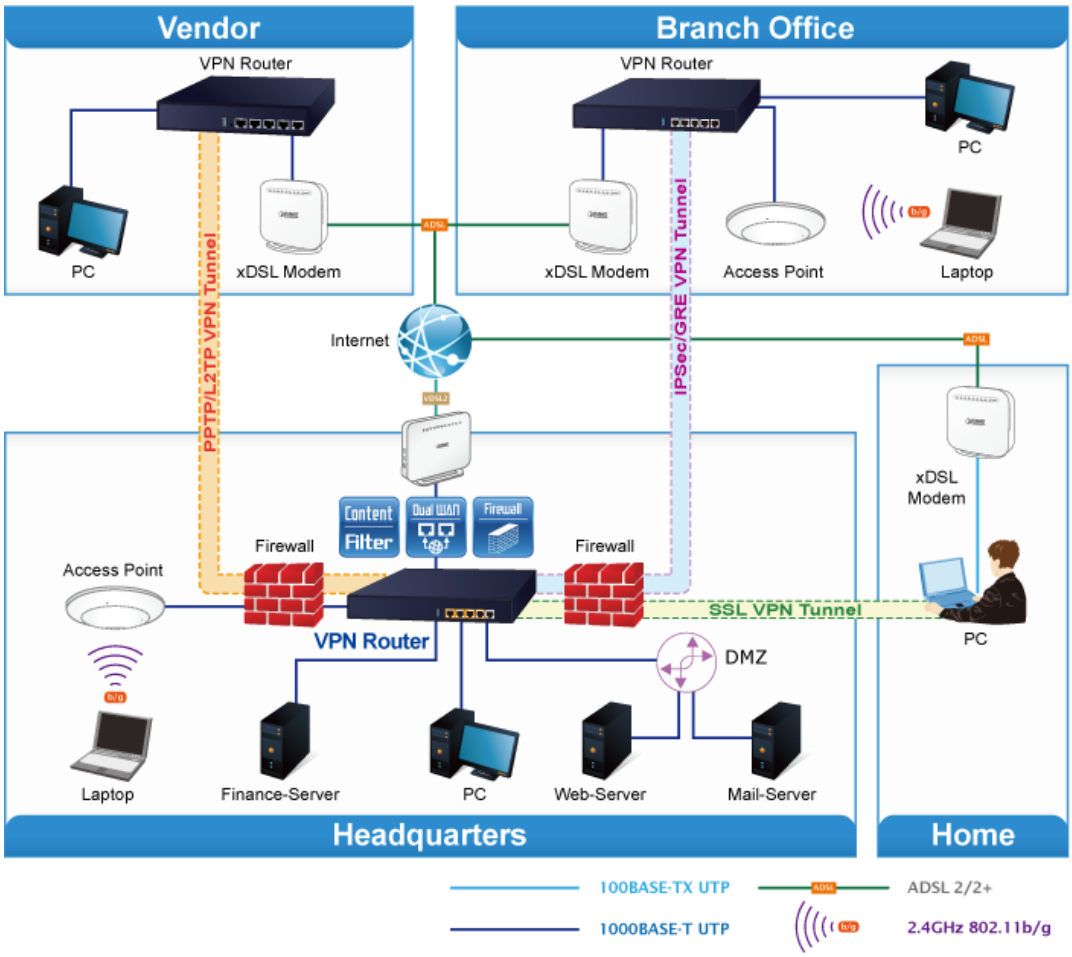
Improving Network Efficiency

It is applicable to the small-scale sector (from 60 to 100 people), using a 13-inch desktop design, with five Gigabit ports (WAN/LAN). It provides higher performance with all Gigabit Ethernet interfaces which offer faster speeds for your network applications. The Gigabit user-defined interfaces flexibly fulfill the network requirement nowadays, and the High-Availability and Dual-WAN interfaces enable the VR-300 series to support outbound load balancing and WAN fail-over features.



Furthermore, the VR-300 series can connect dual IPv4/v6 WANs with up to two different ISPs and supports many popular security features including Content Filtering to block specific URL feature that can automatically resolve the IP address corresponding to all. Users' network can be easily managed by just typing the URL of the websites like Facebook, YouTube and Yahoo.

The VR-300 series has link redundancy, MAC/IP filtering, outbound load balancing, QoS and many more functions to make the entire network system better. It creates a stable and qualified VPN security connection for many important applications such as VoIP, video conferencing and data transmission. The VR-300's economical price and complete network security management features make it an inevitable choice for the next-generation office network load balancer.



1.4 Features

➢ Highlights

- Dual-WAN failover and Dual-WAN load balancing
- SSL VPN and robust hybrid VPN (IPSec/PPTP/L2TP over IPSec)
- Stateful Packet Inspection (SPI) firewall and content filtering
- Blocks DoS/DDOS attack, port range forwarding
- High Availability, AP Controller, Captive Portal and RADIUS
- Compliant with the IEEE 802.3at PoE+ with PD alive check and schedule management
- Planet Universal Network Management System and CloudViewer app supported

➢ Hardware

- 5 10/100/1000BASE-T RJ45 ports
- 4 10/100/1000BASE-T RJ45 ports (VR-300F and VR-300FP)
- 1 1000BASE-X mini-GBIC/SFP slot (VR-300F, VR-300FP and VR-300FW-NR)
- 1 undefined Ethernet port (LAN/WAN) for Dual-WAN function
- 1 USB 2.0 port for system configuration backup and restoration
- Desktop installation or rack mounting

➢ Cellular Interface

VR-300FW-NR

- Supports multi-band connectivity with 5G NR (NSA/SA), LTE-FDD, LTE-TDD, and WCDMA
- Built-in SIM and broadband backup for network redundancy
- Four detachable antennas for 5G NR connection
- LED indicators for signal strength and connection status
- Global Navigation Satellite System (GNSS)

➢ RF Interface Characteristics

VR-300W5 and VR-300PW5

- Features 2.4GHz (802.11b/g/n) and 5GHz (802.11a/n/ac) concurrent dual band for more efficiency of carrying high load of traffic
- 2T2R MIMO technology for enhanced throughput and coverage
- Provides multiple adjustable transmit power control
- High speed up to 1.2Gbps (300Mbps for 2.4GHz + 867Mbps for 5GHz) wireless data rate

VR-300W6A and VR-300PW6A

- Features 2.4GHz (802.11b/g/n/ax) and 5GHz (802.11a/n/ac/ax) selectable dual band for carrying high load traffic
- 4T4R MIMO technology for enhanced throughput and coverage
- Provides multiple adjustable transmit power control
- High-speed wireless data rate of up to 2.4Gbps (600Mbps for 2.4GHz or 2400Mbps for 5GHz)

VR-300W6, VR-300PW6 and VR-300FW-NR

- Features 2.4GHz (802.11b/g/n/ax) and 5GHz (802.11a/n/ac/ax) concurrent dual band for more efficiency of carrying high load of traffic
- 2T2R MIMO technology for enhanced throughput and coverage
- Provides multiple adjustable transmit power control
- High-speed wireless data rate of up to 18Gbps (600Mbps for 2.4GHz and 1200Mbps for 5GHz)

➢ Power over Ethernet (PoE model only)

- Complies with IEEE 802.3at Power over Ethernet Plus, end-span PSE
- Backward compatible with IEEE 802.3af Power over Ethernet
- Up to 4 ports of IEEE 802.3af / 802.3at devices powered
- Supports PoE power up to 36 watts for each PoE port
- Auto detects powered device (PD)
- Circuit protection prevents power interference between ports
- PoE management
  - Total PoE power budget control
  - Per port PoE function enable/disable
  - PoE port power feeding priority
  - Per PoE port power limitation
  - PD classification detection
  - PD alive check
  - PoE schedule

➢ IP Routing Feature

- Static Route
- Dynamic Route
- OSPF

Firewall Security

- Cybersecurity
- Stateful Packet Inspection (SPI) firewall
- Blocks DoS/DDoS attack
- Content Filtering
- MAC Filtering and IP Filtering
- NAT ALGs (Application Layer Gateway)
- Blocks SYN/ICMP Flooding

VPN Features

- IPSec/Remote Server (Net-to-Net, Host-to-Net), GRE, PPTP Server, L2TP Server, SSL Server/Client (Open VPN)
- Max. Connection Tunnel Entries: 60 VPN tunnels,
- Encryption methods: DES, 3DES, AES, AES-128/192/256
- Authentication methods: MD5, SHA-1, SHA-256, SHA-384, SHA-512

Networking

- Outbound load balancing
- Failover for dual-WAN
- Static IP/DHCP client for WAN
- Protocols: TCP/IP, UDP, ARP, IPv4, IPv6
- Port forwarding
- DMZ
- SNMP
- DHCP server/NTP client
- MAC address clone
- DDNS: PLANET DDNS, PLANET Easy DDNS, DynDNS and No-IP
- Cybersecurity

Others

- Setup wizard
- Dashboard for real-time system overview
- Supported access by HTTP or HTTPS
- Auto reboot
- PLANET NMS System and Smart Discovery Utility for deployment management
- PLANET CloudViewer app for real-time monitoring

1.5 Product Specifications

VR-300, VR-300P VR-300FP and VR-300FP

Models	VR-300	VR-300F	VR-300P	VR-300FP
Hardware Specifications				
WAN Ethernet	1 10/100/1000BASE-T RJ45 port (Port-5)	1 1000BASE-X SFP slot (Port-5)	1 10/100/1000BASE-T RJ45 port (Port-5)	1 1000BASE-X SFP slot (Port-5)
LAN Ethernet	4 10/100/1000BASE-T RJ45 Ethernet ports; Port-4 supports LAN/WAN mode			
USB Port	1 USB 2.0 port for system configuration backup and restoration			
Reset Button	Reset to factory default			
Thermal Fan	-	1	1	1
LED Indicators	PWR (Green) Internet (Green) LAN/WAN (Green)		PWR (Green) Internet (Green) LAN/WAN (Green) PoE-in-Use LED (Amber)	
Installation	Desktop installation or rack mounting			
Power Requirements	100~240V AC, 50/60Hz, auto-sensing			
Power Consumption / Dissipation	Max.2.9W	Max.3.7W	Max.121 watts	Max.132 watts
Weight	1.4kg	1.3kg	1.6kg	1.5kg
Dimensions (W x D x H)	330 x 155 x 43.5 mm		330 x 155 x 43.5 mm, 1U height	
Enclosure	Metal			
Power over Ethernet				
PoE Standard	-		IEEE 802.3af / 802.3at PoE+ PSE	
PoE Power Supply Type	-		End-span	
PoE Power Output	-		Per port 52V DC, 36 watts (max.)	
Power Pin Assignment	-		1/2 (+), 3/6 (-)	
PoE Power Budget	-		120 watts (max.) @ 25 degrees C 100 watts (max.) @ 50 degrees C	
Max. Number of Class 4 PDs	-		4	
PoE Management	-		PD Alive Check Scheduled Power Recycling PoE Schedule PoE Usage Monitoring	
Security Service				
Firewall Security	Cybersecurity Stateful Packet Inspection (SPI) Blocks DoS/DDoS attack			
ALG (Application Layer Gateway	SIP, RTSP, FTP, H.323, TFTP			
NAT	Port forwarding DMZ Host UPnP			

Content Filtering	MAC filtering IP filtering Web filtering
Bandwidth Management	Outbound load balancing Failover for dual-WAN QoS (Quality of Service)
Networking	
Operation Mode	Routing mode
Routing Protocol	Static Route, Dynamic Route (RIP), OSPF
VLAN	802.1q Tag-based, Port-based, Multi-VLAN
Multicast	IGMP Proxy
NAT Throughput	Max. 900Mbps
Outbound Load Balancing	Supported algorithms: Weight
Protocol	IPv4, IPv6, TCP/IP, UDP, ARP, HTTP, HTTPS, NTP, DNS, PLANET DDNS, PLANET Easy DDNS, DHCP, , PPPoE, SNMPv1/v2c/v3,
Key Features	HA (High Availability) Captive Portal RADIUS Server/Client AP Control SD-WAN* *Note: The feature will be available via firmware upgrade.
VPN	
VPN Function	IPSec/Remote Server (Net-to-Net, Host-to-Net), GRE, PPTP Server, L2TP Server, SSL Server/Client (Open VPN)
VPN Tunnels	Max. 60
VPN Throughput	Max. 60Mbps
Encryption Methods	DES, 3DES, AES or AES-128/192/256 encrypting
Authentication Methods	MD5/SHA-1/SHA-256/SHA-384/SHA-512 authentication algorithm
Management	
Basic Management Interfaces	Web browser SNMP v1, v2c PLANET Smart Discovery utility/UNI-NMS supported
Secure Management Interfaces	SSHv2, TLSv1.2, SNMP v3
System Log	System Event Log
Others	Setup wizard Dashboard System Status/Service Statistics Connections Status Auto reboot Diagnostics
Standards Conformance	
Regulatory Compliance	CE, FCC
Environment Specifications	
Operating	Temperature: 0 ~ 50 degrees C Relative Humidity: 5 ~ 95% (non-condensing)
Storage	Temperature: -10 ~ 60 degrees C Relative Humidity: 5 ~ 95% (non-condensing)

11AX Wireless Models

■ VR-300W6, VR-300W6A, VR-300PW6, VR-300PW6A

Product	VR-300W6	VR-300W6A	VR-300PW6	VR-300PW6A
Hardware Specifications				
WAN Ethernet	1 10/100/1000BASE-T RJ45 port (Port-5)			
LAN Ethernet	4 10/100/1000BASE-T RJ45 Ethernet ports; Port-4 supports LAN/WAN mode			
USB Port	1 USB 2.0 port for system configuration backup and restoration			
Reset Button	Reset to factory default			
Thermal Fan	--	--	1	1
LED Indicators	PWR (Green) Internet (Green) LAN/WAN (Green) 2.4G (Green) 5G (Green)		PWR (Green) Internet (Green) LAN/WAN (Green) 2.4G (Green) 5G (Green) PoE-in-Use LED (Amber)	
Installation	Desktop installation or rack mounting			
Power Requirements	100~240V AC, 50/60Hz, auto-sensing			
Power Consumption	Max. 8W	Max. 26W	Max. 133W	Max. 145W
Weight	1.5kg	1.5kg	1.7kg	1.7kg
Dimensions (W x D x H)	330 x 155 x 43.5 mm			
Enclosure	Metal			
Power over Ethernet				
PoE Standard			IEEE 802.3af / 802.3at PoE+ PSE	
PoE Power Supply Type			End-span	
PoE Power Output			Per port 52V DC, 36 watts (max.)	
Power Pin Assignment			1/2 (+), 3/6 (-)	
PoE Power Budget			120 watts (max.) @ 25 degrees C 100 watts (max.) @ 50 degrees C	
Max. Number of Class 4 PDs			4	
PoE Management			PD alive check Scheduled power recycling PoE schedule PoE usage monitoring	
Wireless				
Standard	IEEE 802.11a/n/ac/ax 5GHz IEEE 802.11g/b/n/ax 2.4GHz			
Band Mode	2.4G / 5G concurrent mode	2.4G / 5G selectable mode	2.4G / 5G concurrent mode	2.4G / 5G selectable mode
Frequency Range - 2.4GHz	America FCC: 2.412~2.462GHz Europe ETSI: 2.412GHz~2.472GHz			
Frequency Range - 5GHz	America FCC: 5.180~5.240GHz, 5.745~5.825GHz Europe ETSI: 5.180~5.700GHz			
Operating Channels 2.4GHz	America FCC: 1~11 Europe ETSI: 1~13			
Operating Channels 5GHz	America FCC: Non-DFS: 36, 40, 44, 48, 149,153,157,161,165			

	DFS: 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140 Europe ETSI: Non-DFS: 36, 40, 44, 48, 149,153,157,161,165 DFS: 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140 5GHz channel list may vary in different countries according to their regulations.			
Channel Width	20MHz, 40MHz, 80MHz	20MHz, 40MHz, 80MHz, 80+80 MHz	20MHz, 40MHz, 80MHz	20MHz, 40MHz, 80MHz, 80+80 MHz
Data Transmission Rates 2.4GHz	600Mbps	600Mbps	600Mbps	600Mbps
Data Transmission Rates 5GHz	1200Mbps	2400Mbps	1200Mbps	2400Mbps
Transmission Power 2.4GHz	11b: 23dbm+/- 1.5dbm @11Mbps 11g: 20dbm+/- 1.5dbm @54Mbps 11g/n: 20dBm +/- 1.5dbm @MCS7, HT20 17dBm@MCS7,HT40			
Transmission Power 5GHz	11a: 19.5dBm +/- 1.5dbm @54Mbps 11a/n: 19.5dBm+/- 1.5dbm @MCS7, HT20 17dBm@MCS7, HT40 11ac HT20: 20+/-1.5dBm @MCS8 11ac HT40: 17+/-1.5dBm @MCS9 11ac HT80: 14.5+/-1.5dBm @MCS9 11ax HT20: 20+/-1.5dBm @MCS9 11ax HT40: 17 +/- 1.5dBm @MCS9 11ax HT80: 14.5 +/- 1.5dBm @MCS11			
Encryption Security	WEP (64/128-bit) encryption security WPA / WPA2 (TKIP/AES) WPA-PSK / WPA2-PSK (TKIP/AES) / WPA3-PSK (TKIP/AES) 802.1x Authenticator			
Wireless Advanced	Wi-Fi Multimedia (WMM) Auto channel selection Wireless output power management MAC address filtering			
Security Service				
Firewall Security	Cybersecurity Stateful Packet Inspection (SPI) DoS/DDoS Attack Defense			
ALG (Application Layer Gateway)	SIP, RTSP, FTP, H.323, TFTP			
NAT	Port forwarding DMZ Host UPnP			
Content Filtering	MAC filtering IP filtering Web filtering			
Bandwidth Management	Outbound load balancing Failover for dual-WAN QoS (Quality of Service)			
VPN				
VPN Function	IPSec/Remote Server (Net-to-Net, Host-to-Net) GRE PPTP Server L2TP Server SSL Server/Client (Open VPN)			
VPN Tunnels	Max. 60			

VPN Throughput	Max. 60Mbps
Encryption Methods	DES, 3DES, AES or AES-128/192/256 encrypting
Authentication Methods	MD5/SHA-1/SHA-256/SHA-384/SHA-512 authentication algorithm
Networking	
Operation Mode	Routing mode
Routing Protocol	Static Route, Dynamic Route (RIP), OSPF
VLAN	802.1q Tag-based, Port-based, Multi-VLAN
Multicast	IGMP Proxy
NAT Throughput	Max. 900Mbps
Outbound Load Balancing	Supported algorithms: Weight
Protocol	IPv4, IPv6, TCP/IP, UDP, ARP, HTTP, HTTPS, NTP, DNS, PLANET DDNS, PLANET Easy DDNS, DHCP, , PPPoE, SNMPv1/v2c/v3,
Key Features	HA (High Availability) Captive Portal RADIUS Server/Client AP Control
Management	
Basic Management Interfaces	Web browser SNMP v1, v2c PLANET Smart Discovery utility/UNI-NMS supported Planet CloudViewer APP
Secure Management Interfaces	SSHv2, TLSv1.2, SNMP v3
System Log	System Event Log
Others	Setup wizard Dashboard System Status/Service Statistics Connections Status Auto reboot Diagnostics
Standards Conformance	
Regulatory Compliance	CE, FCC
Environment Specifications	
Operating	Temperature: 0 ~ 50 degrees C Relative Humidity: 5 ~ 95% (non-condensing)
Storage	Temperature: -10 ~ 60 degrees C Relative Humidity: 5 ~ 95% (non-condensing)

*The estimated transmission distance is based on the theory. The actual distance will vary in different environments.

11AC Wireless Models

■ VR-300W5, VR-300PW5

Product	VR-300W5	VR-300PW5
Hardware Specifications		
WAN Ethernet	1 10/100/1000BASE-T RJ45 port (Port-5)	
LAN Ethernet	4 10/100/1000BASE-T RJ45 Ethernet ports; Port-4 supports LAN/WAN mode	
USB Port	1 USB 2.0 port for system configuration backup and restoration	
Reset Button	Reset to factory default	
Thermal Fan	--	1
LED Indicators	PWR (Green) Internet (Green) LAN/WAN (Green) 2.4G (Green) 5G (Green)	PWR (Green) Internet (Green) LAN/WAN (Green) 2.4G (Green) 5G (Green) PoE-in-Use LED (Amber)
Installation	Desktop installation or rack mounting	
Power Requirements	100~240V AC, 50/60Hz, auto-sensing	
Power Consumption	Max. 24W	Max. 140W
Weight	1.6kg	1.7kg
Dimensions (W x D x H)	330 x 155 x 43.5 mm	
Enclosure	Metal	
Power over Ethernet		
PoE Standard	--	IEEE 802.3af / 802.3at PoE+ PSE
PoE Power Supply Type	--	End-span
PoE Power Output	--	Per port 52V DC, 36 watts (max.)
Power Pin Assignment	--	1/2 (+), 3/6 (-)
PoE Power Budget	--	120 watts (max.) @ 25 degrees C 100 watts (max.) @ 50 degrees C
Max. Number of Class 4 PDs	--	4
PoE Management	--	PD alive check Scheduled power recycling PoE schedule PoE usage monitoring
Wireless		
Standard	IEEE 802.11 b/g/n 2.4 GHz IEEE 802.11 a/n/ac 5 GHz	
Band Mode	2.4G / 5G concurrent mode	
Frequency Range - 2.4GHz	America FCC: 2.412~2.462GHz Europe ETSI: 2.412GHz~2.484GHz	
Frequency Range - 5GHz	America FCC: 5.180~5.240GHz, 5.725~5.850GHz Europe ETSI: 5.180~5.240GHz	
Operating Channels 2.4GHz	America FCC: 1~11 Europe ETSI: 1~13	
Operating Channels	America FCC:	

5GHz	Non-DFS: 36, 40, 44, 48, 149,153,157,161,165 DFS: 52, 56, 60, 64, 100, 104, 108, 112, 116, 132, 136, 140 Europe ETSI: Non-DFS: 36, 40, 44, 48 DFS: 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140 5GHz channel list may vary in different countries according to their regulations.
Channel Width	802.11ac: 20/40/80MHz 802.11n: 20/40MHz
Data Transmission Rates	Transmit: 300 Mbps* for 2.4 GHz and 867 Mbps* for 5 GHz Receive: 300 Mbps* for 2.4 GHz and 867 Mbps* for 5 GHz *The estimated transmission distance is based on the theory. The actual distance will vary in different environments.
Transmission Power	<=20dBm (2.4G frequency band: 2.400 – 2.4835 GHz) <=23dBm (5G frequency band: 5.150 – 5.350 GHz)
Encryption Security	WEP (64/128-bit) encryption security WPA / WPA2 (TKIP/AES) WPA-PSK / WPA2-PSK (TKIP/AES) / WPA3-PSK (TKIP/AES) 802.1x Authenticator
Wireless Advanced	Wi-Fi Multimedia (WMM) Auto channel selection Wireless output power management MAC address filtering
Security Service	
Firewall Security	Cybersecurity Stateful Packet Inspection (SPI) DoS/DDoS Attack Defense
ALG (Application Layer Gateway)	SIP, RTSP, FTP, H.323, TFTP
NAT	Port forwarding DMZ Host UPnP
Content Filtering	MAC filtering IP filtering Web filtering
Bandwidth Management	Outbound load balancing Failover for dual-WAN QoS (Quality of Service)
VPN	
VPN Function	IPSec/Remote Server (Net-to-Net, Host-to-Net) GRE PPTP Server L2TP Server SSL Server/Client (Open VPN)
VPN Tunnels	Max. 60
VPN Throughput	Max. 60Mbps
Encryption Methods	DES, 3DES, AES or AES-128/192/256 encrypting
Authentication Methods	MD5/SHA-1/SHA-256/SHA-384/SHA-512 authentication algorithm
Networking	
Operation Mode	Routing mode
Routing Protocol	Static Route, Dynamic Route (RIP), OSPF
VLAN	802.1q Tag-based, Port-based, Multi-VLAN
Multicast	IGMP Proxy

NAT Throughput	Max. 900Mbps
Outbound Load Balancing	Supported algorithms: Weight
Protocol	IPv4, IPv6, TCP/IP, UDP, ARP, HTTP, HTTPS, NTP, DNS, PLANET DDNS, PLANET Easy DDNS, DHCP, PPPoE, SNMPv1/v2c/v3,
Key Features	HA (High Availability) Captive Portal RADIUS Server/Client AP Control
Management	
Basic Management Interfaces	Web browser SNMP v1, v2c PLANET Smart Discovery utility/UNI-NMS supported Planet CloudViewer APP
Secure Management Interfaces	SSHv2, TLSv1.2, SNMP v3
System Log	System Event Log
Others	Setup wizard Dashboard System Status/Service Statistics Connections Status Auto reboot Diagnostics
Standards Conformance	
Regulatory Compliance	CE, FCC
Environment Specifications	
Operating	Temperature: 0 ~ 50 degrees C Relative Humidity: 5 ~ 95% (non-condensing)
Storage	Temperature: -10 ~ 60 degrees C Relative Humidity: 5 ~ 95% (non-condensing)

VR-300FW-NR

Product	**VR-300FW-NR**
Hardware Specifications	
Ethernet	5 10/100/1000BASE-T RJ45 Ethernet ports ■ 4 LAN ports (Ports 1 to 4) ■ 1 WAN/LAN port (Port 5)
Fiber	One 1000BASE-X SFP Gigabit Ethernet port (Port 6) Supports WAN port mode or LAN port mode over software configuration
USB Port	1 USB 2.0 port for system configuration backup and restoration
Reset Button	Reset to factory default
LED Indicators	System: PWR, Internet, SIM, 5G, 2.4G (Green) Ethernet Interfaces (Port 1-5): 10/100/1000 LNK/ACT (Green) Fiber Interfaces (Port 6): 1000 LNK/ACT (Green)
Installation	Desktop installation or rack mounting

Power Requirements	100~240V AC, 50/60Hz, auto-sensing	
Power Consumption / Dissipation	Max. 6.4 watts/21.82 BTU (No Loading) Max. 9.5 watts/32.39 BTU (Full loading)	
Weight	1508g	
Dimensions (W x D x H)	330 x 155 x 44 mm, 1U height	
Enclosure	Metal	
Multi Band Supports		
5G SUB6 BANDS	NSA	n1/n2/n3/n5/n7/n8/n12/n13/n14/n18/n20/n25/n28/n29/n30/n38/ n40/n41/n48/n66/n70/n71/n75/n76/n77/n78/n79
	SA	n1/n2/n3/n5/n7/n8/n12/n13/n14/n18/n20/n25/n28/n29/n30/n38/ n40/n41/n48/n66/n70/n71/n75/n76/n77/n78/n79
LTE BANDS	FDD	B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B25/B 26/B28/B29/ B30/B32/B66/B71
	TDD	B34/B38/B39/B40/B41/B42/B43/B48
	LAA	B46
UMTS BANDS	FDD	B1/B2/B8/B4/B5/B19 MAX DL SPEED: DL3.4Gbps; UL 550 Mbps GNSS: GPS/ GLONASS/ BDS/ Galileo/ QZSS
	TDD	MAX DL SPEED DL 2.4 Gbps; UL 900 Mbps
WCDMA	B1/B2/B3/B4/B5/B8	
GNSS	GPS L1+L5 dual bands/GLONASS/BeiDou/Galileo/QZSS	
Data Transmission Throughput	2.4Gbps (DL)/500Mbps (UL) for NR 1Gbps (DL)/200Mbps (UL) for LTE 42Mbps (DL)/5.76Mbps (UL) for HSPA+	
Wireless		
Standard	IEEE 802.11a/n/ac/ax 5GHz IEEE 802.11g/b/n/ax 2.4GHz	
Band Mode	2.4G & 5G concurrent mode	
Frequency Range	2.4GHz	America FCC: 2.412~2.462GHz Europe ETSI: 2.412GHz~2.472GHz
	5GHz	5.15GHz ~5.875GHz
Operating Channels	2.4GHz	America FCC: 1~11 Europe ETSI: 1~13
	5GHz	America FCC: Non-DFS: 36, 40, 44, 48, 149,153,157,161,165 DFS: 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140 Europe ETSI: Non-DFS: 36, 40, 44, 48, 149,153,157,161,165 DFS: 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140 5GHz channel list will vary in different countries according to their regulations.
Channel Width	20MHz, 40MHz, 80MHz	
Data Transmission Rates	Transmit: 600 Mbps* for 2.4 GHz and 1200 Mbps* for 5 GHz Receive: 600 Mbps* for 2.4 GHz and 1200 Mbps* for 5 GHz	

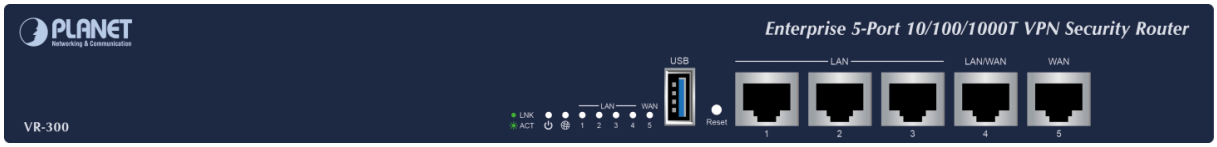
	*The estimated transmission distance is based on the theory. The actual distance will vary in different environments.
Transmission Power	11b: 23dbm+/- 1.5dbm @11Mbps 11g: 20dbm+/- 1.5dbm @54Mbps 11g/n: 20dBm +/- 1.5dbm @MCS7, HT20 17dBm@MCS7,HT40 11a: 19.5dBm +/- 1.5dbm @54Mbps 11a/n: 19.5dBm+/- 1.5dbm @MCS7, HT20 17dBm@MCS7, HT40 11ac HT20: 20+/-1.5dBm @MCS8 11ac HT40: 17+/-1.5dBm @MCS9 11ac HT80: 14.5+/-1.5dBm @MCS9 11ax HT20: 20+/-1.5dBm @MCS9 11ax HT40: 17 +/- 1.5dBm @MCS9 11ax HT80: 14.5 +/- 1.5dBm @MCS11
Encryption Security	WEP (64/128-bit) encryption security WPA / WPA2 (TKIP/AES) WPA-PSK / WPA2-PSK (TKIP/AES) / WPA3-PSK (TKIP/AES) 802.1x Authenticator
Wireless Advanced	Wi-Fi Multimedia (WMM) Auto channel selection Wireless output power management MAC address filtering
Security Service	
Firewall Security	Cybersecurity Stateful Packet Inspection (SPI) Blocks DoS/DDoS attack
ALG (Application Layer Gateway)	SIP, RTSP, FTP, H.323, TFTP
NAT	Port forwarding DMZ Host UPnP
Content Filtering	MAC filtering IP filtering Web filtering
Bandwidth Management	Outbound load balancing Failover for dual-WAN QoS (Quality of Service)
Networking	
Operation Mode	Routing mode
Routing Protocol	Static Route, Dynamic Route (RIP), OSPF
VLAN	802.1q Tag-based, Port-based, Multi-VLAN
Multicast	IGMP Proxy
NAT Throughput	Max. 900Mbps
Outbound Load Balancing	Supported algorithms: Weight
Protocol	IPv4, IPv6, TCP/IP, UDP, ARP, HTTP, HTTPS, NTP, DNS, PLANET DDNS, PLANET Easy DDNS, DHCP, PPPoE, SNMPv1/v2c/v3,
Key Features	HA (High Availability) Captive Portal RADIUS Server/Client AP Control
VPN	
VPN Function	IPSec/Remote Server (Net-to-Net, Host-to-Net)

	GRE PPTP Server L2TP Server SSL Server/Client (Open VPN)
VPN Tunnels	Max. 60
VPN Throughput	Max. 108Mbps
Encryption Methods	DES, 3DES, AES or AES-128/192/256 encrypting
Authentication Methods	MD5/SHA-1/SHA-256/SHA-384/SHA-512 authentication algorithm
Management	
Basic Management Interfaces	Web browser SNMP v1, v2c PLANET Smart Discovery utility/UNI-NMS supported
Secure Management Interfaces	SSHv2, TLSv1.2, SNMP v3
System Log	System Event Log
Others	Setup wizard Dashboard System status/service Statistics Connection status Auto reboot Diagnostics
Standards Conformance	
Regulatory Compliance	CE, FCC
Environment Specifications	
Operating	Temperature: 0 ~ 50 degrees C Relative Humidity: 5 ~ 95% (non-condensing)
Storage	Temperature: -10 ~ 60 degrees C Relative Humidity: 5 ~ 95% (non-condensing)

Chapter 2. Hardware Introduction

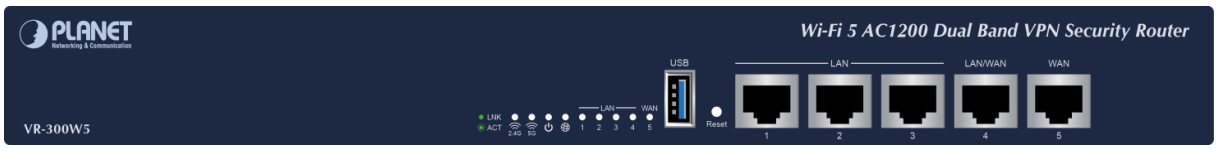
2.1 Physical Descriptions

Front View

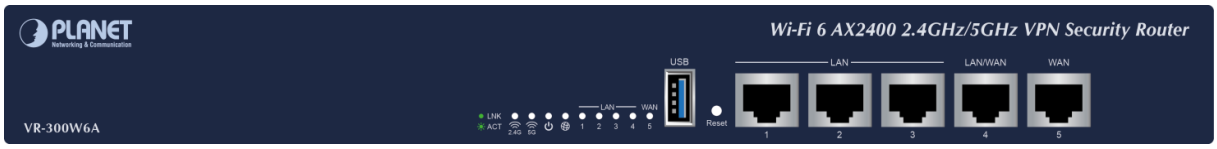


VR-300

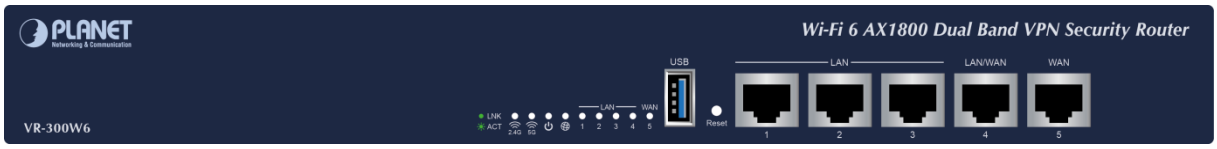
VR-300F



VR-300W5



VR-300W6A



VR-300W6

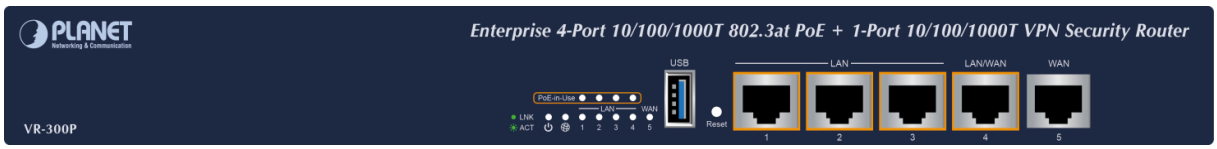
- **LAN Per 10/100/1000Mbps PoE Port (Ports 1 to 4)**

LED	Color	Function	
LNK/ACT	Green	**Lights.**	To indicate the port is running at 1000Mbps or 100Mbps or 10Mbps and successfully established
		Blinks:	To indicate that the router is actively sending or receiving data over that port.

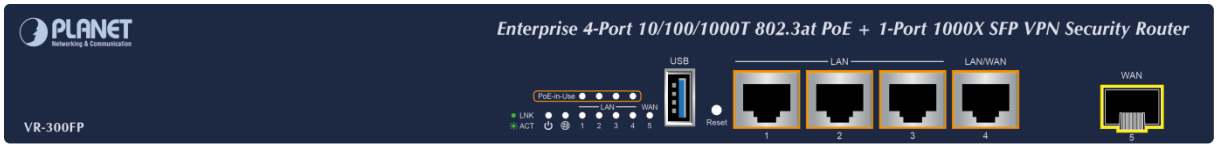
■ **WAN Per 10/100/1000Mbps RJ45 Port (Ports 4 to 5)**

LED	Color	Function	
LNK/ACT	Green	Lights.	To indicate the port is running at 1000Mbps or 100Mbps or 10Mbps and successfully established
		Blinks:	To indicate that the router is actively sending or receiving data over that port.

LED	Color	Function
PWR	**Green**	Lights up when the power is on.
Internet	**Green**	Lights up when the router connects to internet successfully.
2.4G	**Green**	Lights up when 2.4G Wi-Fi service is enabled.
5G	**Green**	Lights up when 5G Wi-Fi service is enabled.



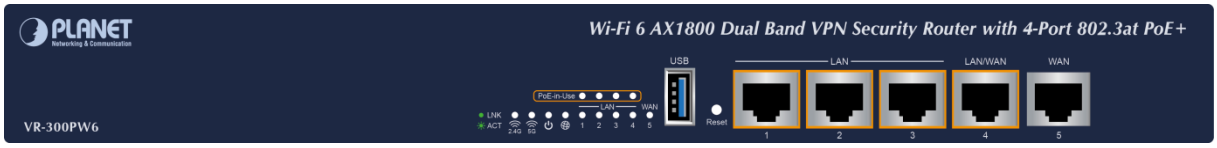
VR-300P



VR-300FP

VR-300PW5

VR-300PW6A



VR-300PW6

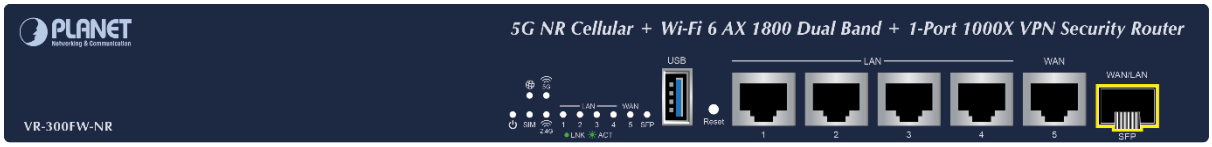
■ **LAN Per 10/100/1000Mbps PoE Port (Ports 1 to 4)**

LED	Color	Function	
LNK/ACT	Green	**Lights.**	To indicate the port is running at 1000Mbps or 100Mbps or 10Mbps and successfully established
		Blinks:	To indicate that the router is actively sending or receiving data over that port.
PoE	Amber	**Lights:**	To indicate the port is providing 48V~56VDC in-line power
		Off:	To indicate the connected device is not a PoE powered device (PD)

■ **WAN Per 10/100/1000Mbps RJ45 Port (Ports 4 and 5)**

LED	Color	Function	
LNK/ACT	Green	Lights.	To indicate the port is running at 1000Mbps or 100Mbps or 10Mbps and successfully established
		Blinks:	To indicate that the router is actively sending or receiving data over that port.

LED		
PWR	**Green**	Lights up when the power is on.
Internet	**Green**	Lights up when the router connects to internet successfully.
Ports 1-5	**Green**	"Steady on" indicates the port is connected to other network device. "Blinks" to indicate there is traffic on the port.
PoE Ports 1-4	**Amber**	Lights up when the port is providing 48V~56VDC in-line power
2.4G	**Green**	Lights up when 2.4G Wi-Fi service is enabled
5G	**Green**	Lights up when 5G Wi-Fi service is enabled



VR-300FW-NR

■ **System**

LED	Color	Function
PWR	**Green**	Lights up when the power is on.
Internet	**Green**	Lights up when the router connects to internet successfully.
SIM	**Green**	Indicates SIM is connecting successfully
5G	**Green**	Lights up when 5G Wi-Fi service is enabled
2.4G	**Green**	Lights up when 2.4G Wi-Fi service is enabled

■ **LAN Per 10/100/1000Mbps RJ45 Port (Ports 1 to 5)**

LED	Color	Function	
LNK/ACT	**Green**	Lights	To indicate the port is running at 1000Mbps, 100Mbps or 10Mbps and successfully established
		Blink	To indicate that the router is actively sending or receiving data over that port.

■ **1000BASE-X SFP Port (Port 6)**

LED	Color	Function	
LNK/ACT	**Green**	Lights	To indicate the port is running at 1000Mbps and successfully established
		Blinks	To indicate that the router is actively sending or receiving data over that port.

Rear View

VR-300

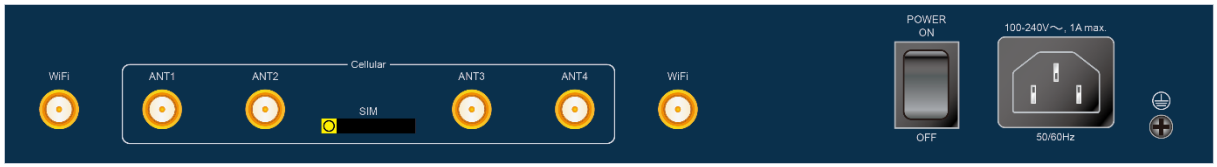
VR-300W5 and VR-300W6A

VR-300W6

VR-300P

VR-300PW5 and VR-300PW6A

VR-300PW6



VR-300FW-NR

Interface	
AC Power Receptacle	For compatibility with electrical outlet standard in most areas of the world, the device's power supply automatically adjusts to line power in the range of 100-240V AC and 50/60Hz. Plug the female end of the power cord firmly into the receptacle on the rear panel of the device and the other end into an electrical outlet, and the power will be ready.

2.2 Hardware Installation

To install the VR-300 Series on desktop, simply follow the following steps:

2.2.1 Wireless Antennas Installation

Step 1: For wireless models, fasten the 2.4G/5G antennas to the 2.4G/5G antenna connectors. And you can bend the antennas to fit your actual needs.

VR-300W/VR-300PW Series Rear View:

VR-300FW-NR Rear View:

Step 2: Place the VPN Router on desktop.

Step 3: Keep enough ventilation space between the VPN Router and the surrounding objects.

Note

When choosing a location, please keep in mind the environmental restrictions should be under the specifications of the VPN router.

Step 4: Connect your VPN Router to hub / switch.

A. Connect one end of a standard network cable to the LAN port (port 1) on the front panel of the VPN router.

B. Connect the other end of the cable to the hub / switch.

Note

The UTP Category 5e/6 network cabling with RJ45 tips is recommended.

Step 5: Connect your VPN Router to internet.

A. Connect one end of a standard network cable to the WAN port (port 5) on the front panel of the VPN router.

B. Connect the other end of the cable to the xDSL/x PON modem/ONU LAN port or an upper layer port to outer network layer.

Note

If there is only one line connected to the outer network in your network environment, it is suggested that you use WAN port (port 5).

Step 6: Connect the included power cord to an AC 100-240V wall outlet. When the VPN router receives power, the Power LED should remain solid Green.

2.2.2 SIM Card Installation

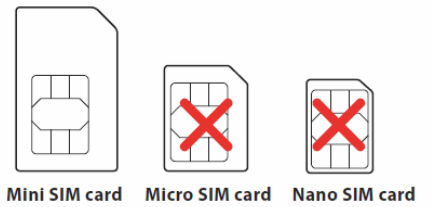
For VR-300FW-NR only

A. Insert an ejector pin into the yellow button next to the tray to loosen the tray.

B. Pull out the tray gently from the tray slot. Place the SIM card on the tray with the gold-colored contacts facing upwards.

C. Insert the tray back into the tray slot.

- **A mini SIM card with 5G NR and 4G LTE subscription**



2.2.3 5G NR Antenna Installation

For VR-300FW-NR only

Step 1: Connect 5G NR antennas to the 5G NR antenna extender.

Chapter 3. Preparation

Before getting into the device's web UI, user has to check the network setting and configure PC's IP address.

3.1 Requirements

User is able to confirm the following items before configuration:

1. Please confirm the network is working properly; it is strongly suggested to test your network connection by connecting your computer directly to ISP.

2. Suggested operating systems: Windows 7/8/10/11, macOS 10.12 or later, Linux Kernel 2.6.18 or later, or other modern operating system are compatible with TCP/IP Protocols.

3. Recommended web browsers: Google Chrome, Microsoft Edge or Mozilla Firefox.

3.2 Setting TCP/IP on your PC

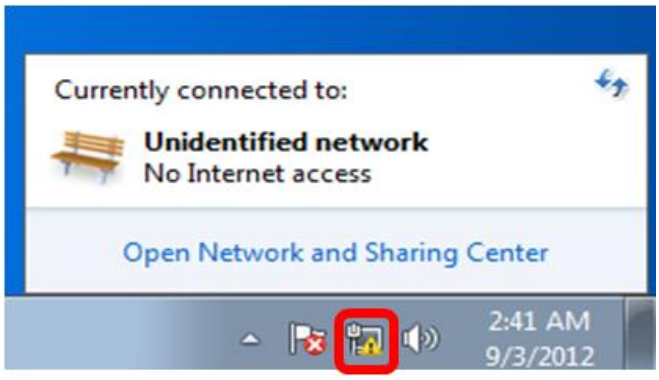
The default IP address of the VPN router is 192.168.1.1, and the DHCP Server is on. Please set the IP address of the connected PC as DHCP client, and the PC will get IP address automatically from the VPN router.

Please refer to the following to set the IP address of the connected PC.

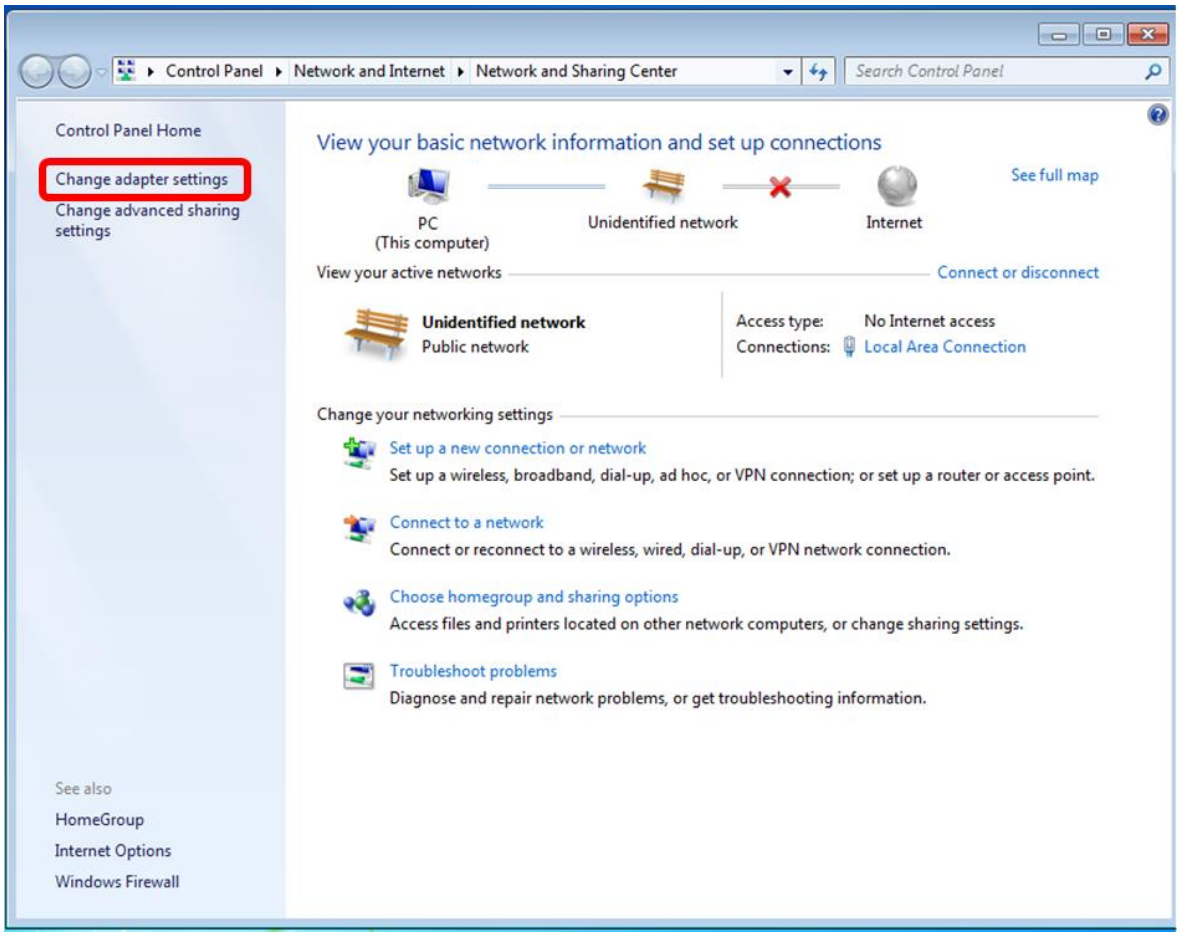
Windows 7/8

If you are using Windows 7/8, please refer to the following:

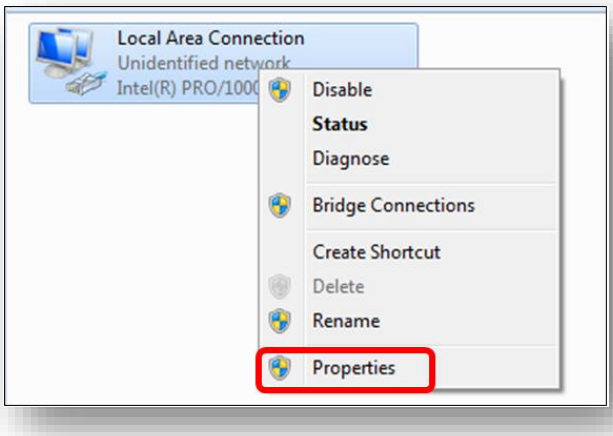
1. Click on the network icon from the right side of the taskbar and then click on “Open Network and Sharing Center”.



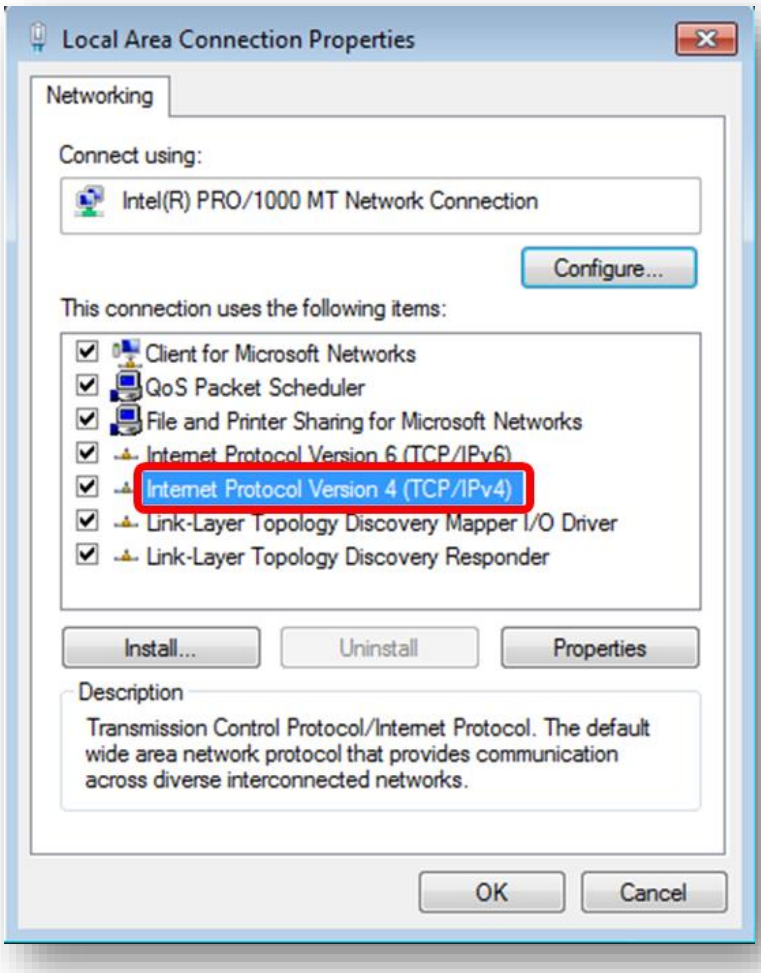
2. Click "**Change adapter settings**".



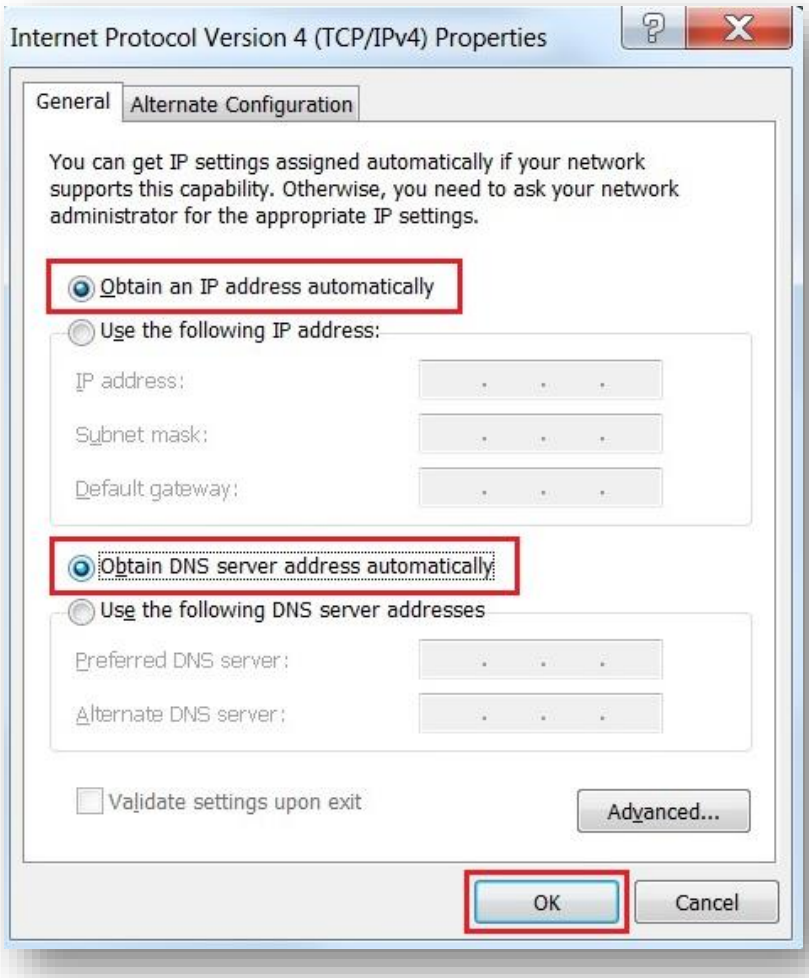
3. Right-click on the Local Area Connection and select Properties.



4. Select Internet Protocol Version 4 (TCP/IPv4) and click Properties or directly double-click on Internet Protocol Version 4 (TCP/IPv4).



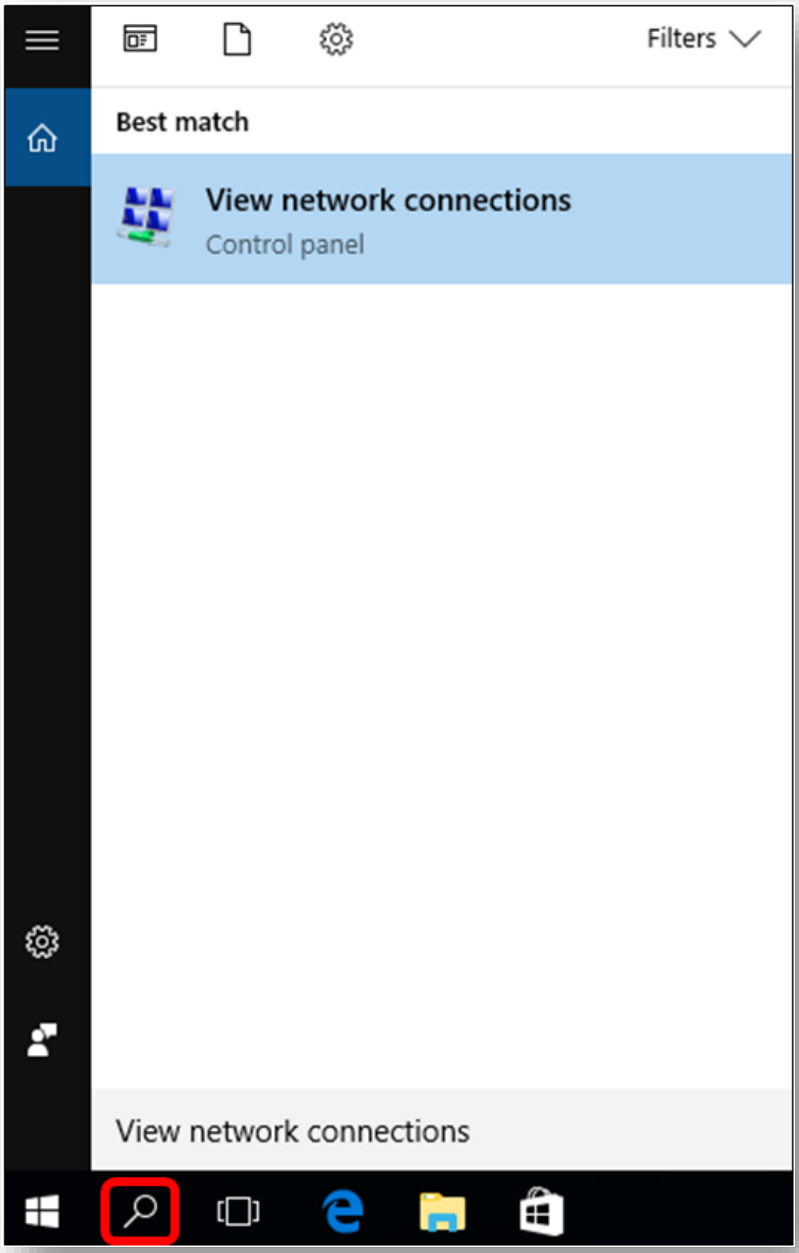
5. Select "**Use the following IP address**" and "**Obtain DNS server address automatically**", and then click the "**OK**" button.



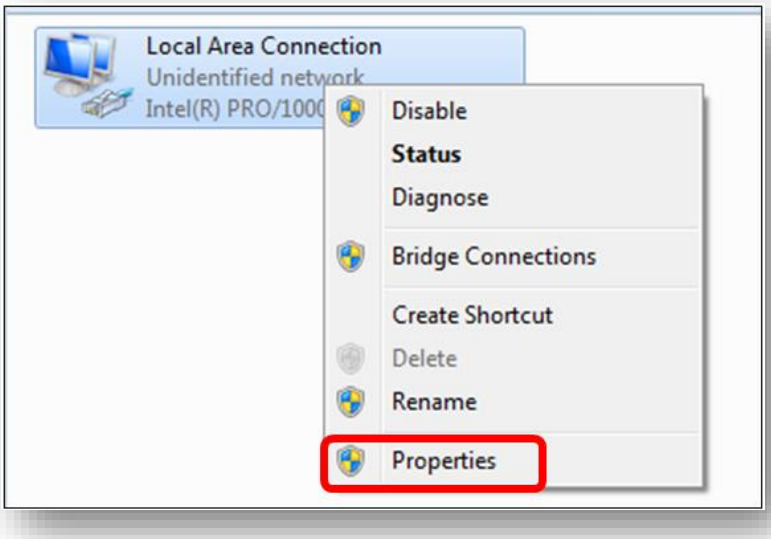
Windows 10

If you are using Windows 10, please refer to the following:

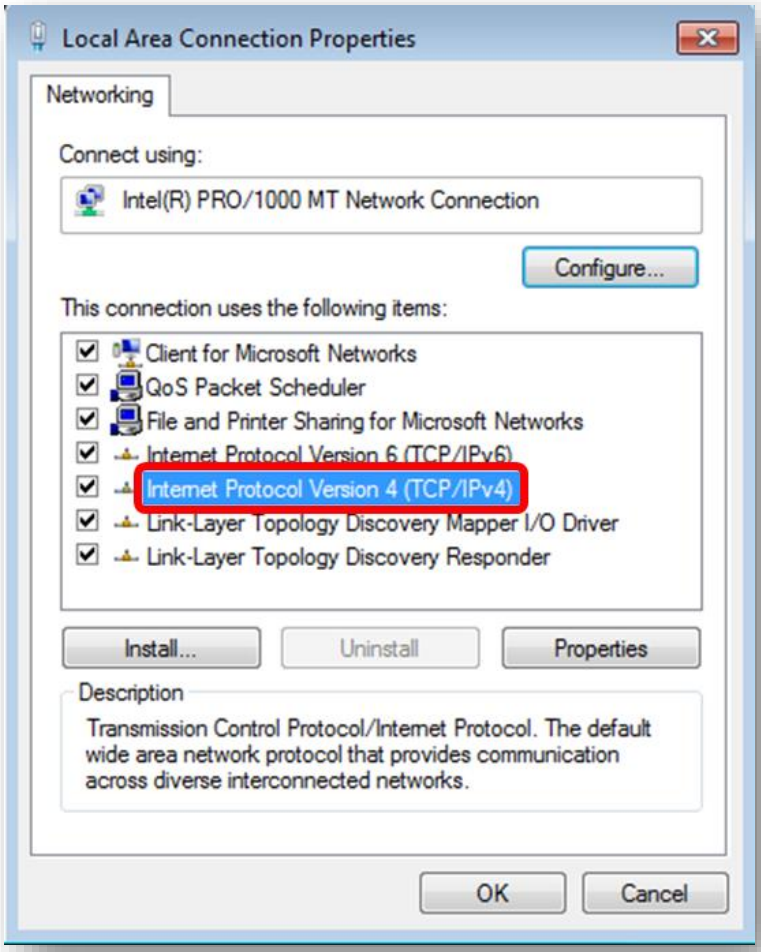
1. In the search box on the taskbar, type “View network connections”, and then select View network connections at the top of the list.



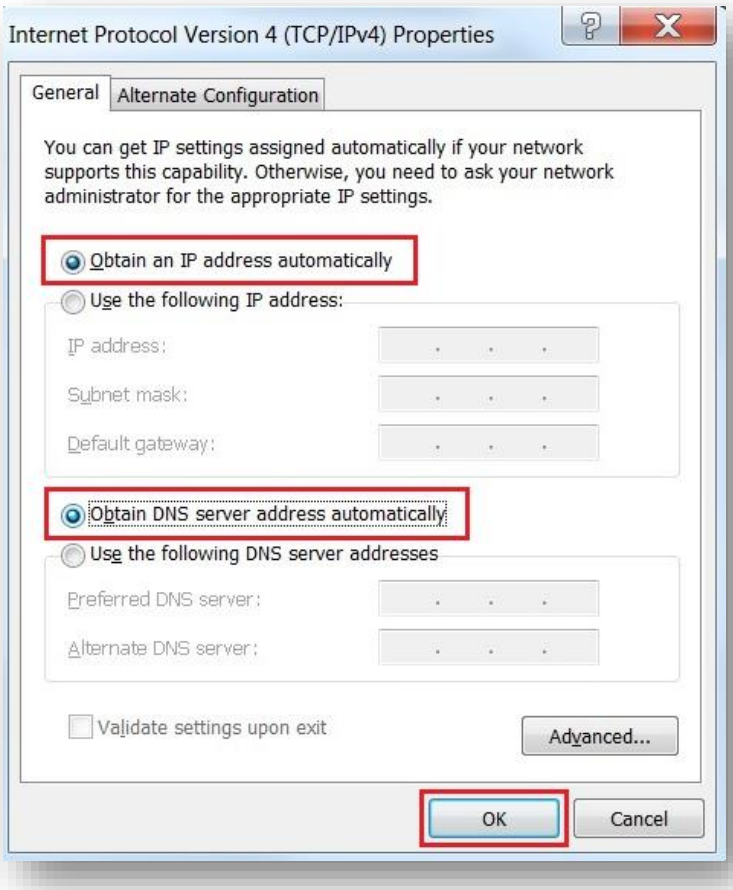
2. Right-click on the Local Area Connection and select Properties.



3. Select Internet Protocol Version 4 (TCP/IPv4) and click Properties or directly double-click on Internet Protocol Version 4 (TCP/IPv4).



4. Select "**Use the following IP address**" and "**Obtain DNS server address automatically**", and then click the "**OK**" button.



3.3 Planet Smart Discovery Utility

For easily listing the router in your Ethernet environment, the search tool -- Planet Smart Discovery Utility -- is an ideal solution.

The following installation instructions are to guide you to running the Planet Smart Discovery Utility.

1. Download the Planet Smart Discovery Utility in administrator PC.
2. Run this utility as the following screen appears.

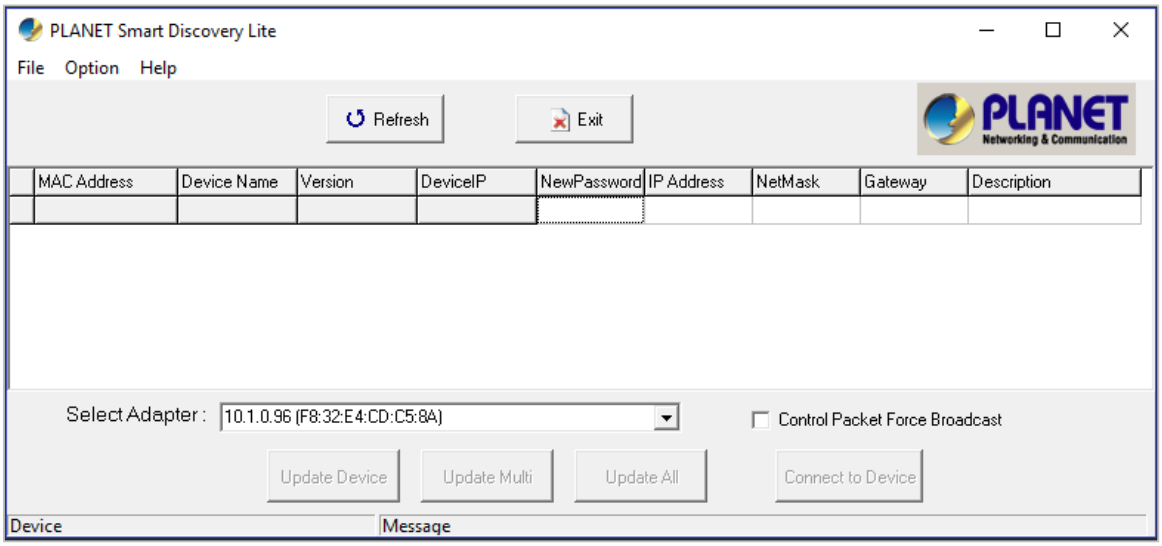


Figure 3-1-6: Planet Smart Discovery Utility Screen

> **Note**
> If there are two LAN cards or above in the same administrator PC, choose a different LAN card by using the **"Select Adapter"** tool.

3. Press the **"Refresh"** button for the currently connected devices in the discovery list as the screen shows below:

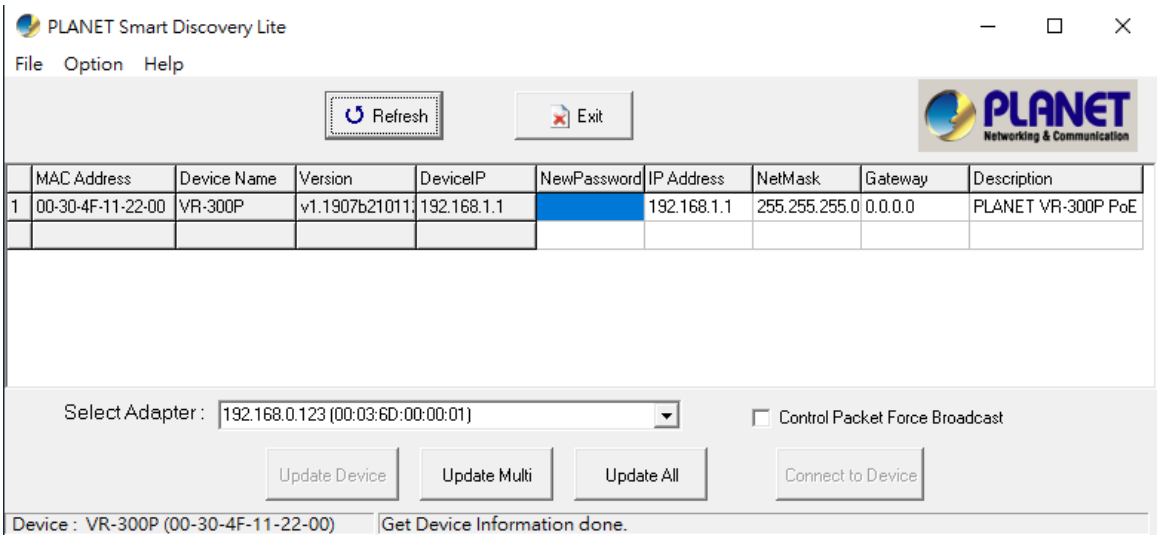


Figure 3-1-7: Planet Smart Discovery Utility Screen

1. This utility shows all necessary information from the devices, such as MAC address, device name, firmware version, and device IP subnet address. It can also assign new password, IP subnet address and description to the devices.

2. After setup is completed, press the "**Update Device**", "**Update Multi**" or "**Update All**" button to take effect. The functions of the 3 buttons above are shown below:
   - **Update Device**: use current setting on one single device.
   - **Update Multi:** use current setting on choose multi-devices.
   - **Update All:** use current setting on whole devices in the list.

   The same functions mentioned above also can be found in "**Option**" tools bar.

3. To click the "**Control Packet Force Broadcast**" function, it allows you to assign a new setting value to the device under a different IP subnet address.

4. Press the "**Connect to Device**" button and the Web login screen appears.

Press the "**Exit**" button to shut down the Planet Smart Discovery Utility.

Chapter 4. Web-based Management

This chapter provides setup details of the device's Web-based Interface.

4.1 Introduction

The device can be configured with your Web browser. Before configuring, please make sure your PC is under the same IP segment with the device.

4.2 Logging in to the VPN Router

Refer to the steps below to configure the VPN router:

Step 1. Connect the IT administrator's PC and VPN router's LAN port (port 1) to the same hub / switch, and then launch a browser to link the management interface address which is set to **https://192.168.1.1** by default.

> Note: The DHCP server of the VPN router is enabled. Therefore, the LAN PC will get IP from the VPN router. If user needs to set IP address of LAN PC manually, please set the IP address within the range between 192.168.1.2 and 192.168.1.254 inclusively, and assigned the subnet mask of 255.255.255.0.

Step 2.

A. The browser prompts you for the login credentials. (Both are **"admin**" by default.)

> Note: The following steps is based on the firmware version before **August of 2024**.

Default IP address: **192.168.1.1**

Default user name: **admin**

Default password: **admin**

Default SSID (2.4G): **PLANET_2.4G** (Wireless model only)
Default SSID (5G): **PLANET_5G** (Wireless model only)

Note

The SSIDs are designed for wireless models: VR-300W5, VR-300PW5, VR-300W6A, VR-300PW6A, VR-300W6, VR-300PW6, VR-300FW-NR

B. The browser prompts you for the login credentials.

Note

The following step is based on the firmware version of **August of 2024** or after.

Default IP address: 192.168.1.1
Default user name: admin
Default password: **cg + the last 6 characters of the MAC ID in lowercase**
Default 2.4GHz SSID: PLANET_2.4G (Wireless model only)
Default 5GHz SSID: PLANET_5G (Wireless model only)

When Login dialog box appears, please enter the default user name and password. Refer to Figure 4.2-1 to determine your initial login password. Default IP address is 192.168.1.1, default username is admin and default password is cg + the last 6 characters of the MAC ID in lowercase.

Find the MAC ID on your device label. The default password is "cg" followed by the last six lowercase characters of the MAC ID.

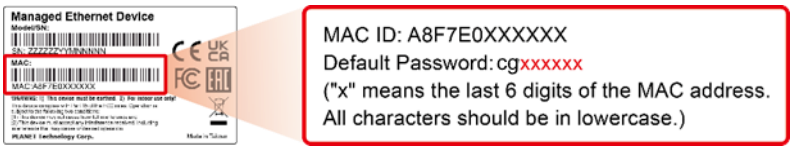


Figure 4.2-1: MAC ID Label

Note

Administrators are strongly suggested to change the default admin and password to ensure system security.

4.3 Main Web Page

After a successful login, the main web page appears. The web main page displays the web panel, main menu, function menu, and the main information in the center.

Figure 4-: Main Web Page

■ Web Panel

The web panel displays an image of the device's ports as shown in Figure 4-2.

Figure 4-2: Web Panel

Object	Icon	Function
PoE Consumption	0 W	To indicate the PoE consumption.
LAN		To indicate the LAN with the RJ45 plug-in.
		To indicate the PoE is in use. (VR-300P only)
		To indicate network data is sending or receiving

Main Menu

The main menu displays the product name, function menu, and main information in the center. Via the Web management, the administrator can set up the device by selecting the functions listed in the function menu and button as shown in Figures 4-3 and 4-4.

Figure 4-3: Function Menu

Object	Description
System	Provides system information of the router.
Network	Provides WAN, LAN and network configuration of the router.
Cellular	Provides cellular configuration of the router (VR-300FW-NR Only).
Security	Provides firewall and security configuration of the router.
VPN	Provides VPN configuration of the router.
AP Control	Provides AP Control configuration of the router.
PoE	Provides PoE Management configuration of industrial wall-mount Gigabit router (VR-300P only).
Wireless	Provides wireless configuration of the router.
Maintenance	Provides firmware upgrade and setting of the file restore/backup configuration of the router.

Figure 4-4: Function Button

Object	Description
	Click the "**Refresh button**" to refresh the current web page.
	Click the "**Logout button**" to log out the web UI of the router.

4.4 System

Use the System menu items to display and configure basic administrative details of the router. The System menu shown in Figure 4-5 provides the following features to configure and monitor system.

Figure 4-5: System Menu

Object	Description
Wizard	The Wizard will guide the user to configuring the router easily and quickly.
Dashboard	The overview of system information includes connection, port, and system status.
System Status	Display the status of the system, device information, LAN and WAN.
System Service	Display the status of the system, secured service and server service
Statistics	Display statistics information of network traffic of LAN and WAN.

Connection Status	Display the DHCP client table and the ARP table
SFP Module Information	Display the physical or operational status of an SFP module via the SFP Module Information page (VR-300F and VR-300FP only)
High Availability	Enable/Disable High Availability on routers
RADIUS	Enable/Disable RADIUS on routers
Captive Portal	Enable/Disable Captive Portal on routers
SNMP	Display SNMP system information
NMS	Enable/Disable NMS on routers
Remote Syslog	Enable Captive Portal on routers
Event Log	Display Event Log information

4.4.1 Setup Wizard

The Wizard will guide the user to configuring the router easily and quickly. There are different procedures in different operation modes. According to the operation mode you switch to, please follow the instructions below to configure the router via **Setup Wizard** as shown in Figure 4-6.

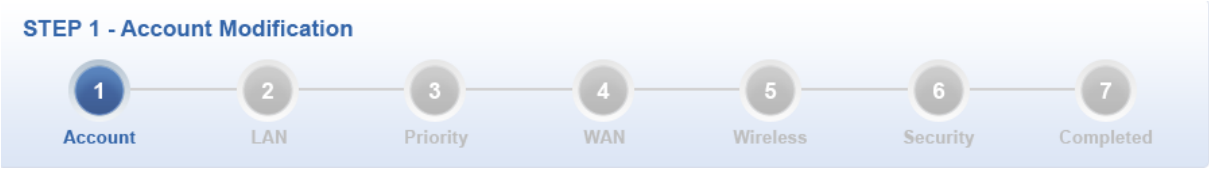
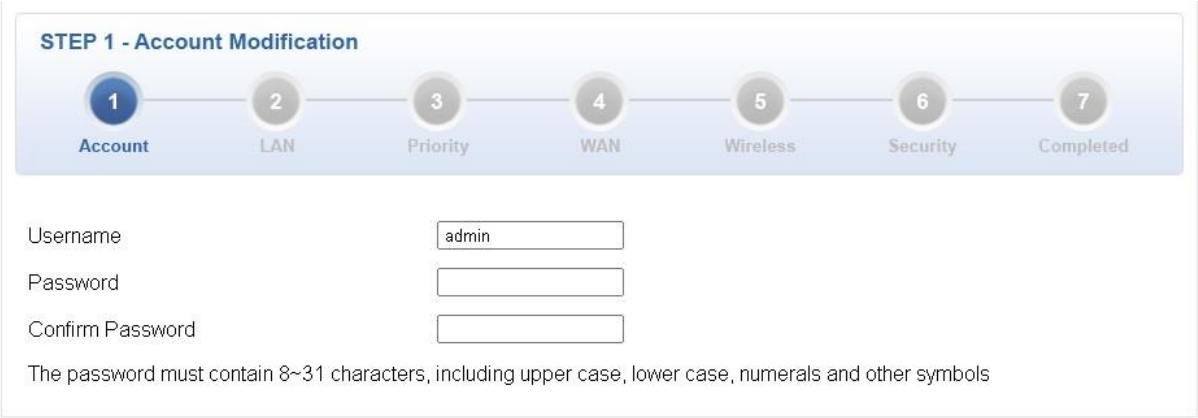


Figure 4-6: Setup Wizard

Step 1: Account Modification

Set up the Username and Password for the Account Modification



Step 2: LAN Interface

Set up the IP Address and Subnet Mask for the LAN interface as shown in Figure 4-7.

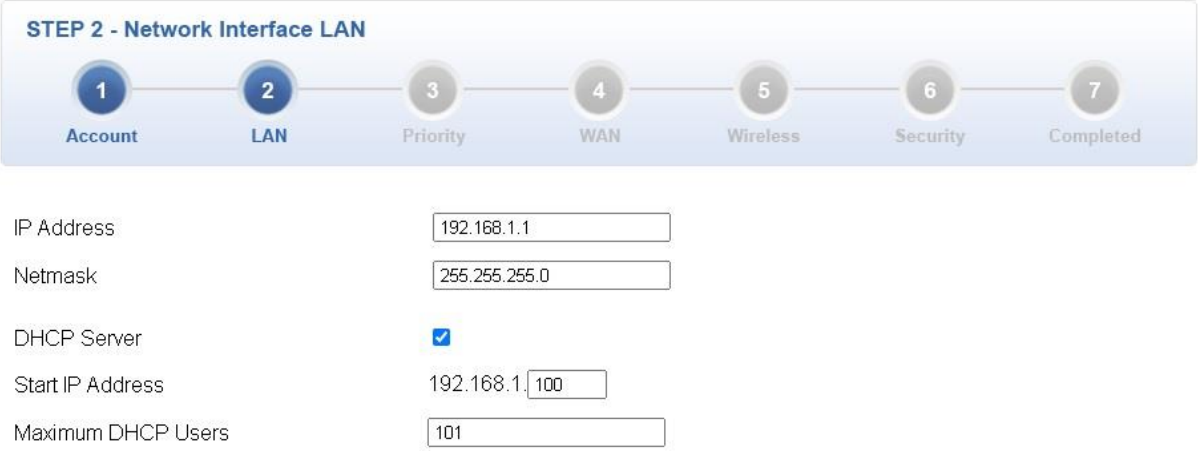


Figure 4-7: Setup Wizard – LAN Configuration

Object	Description
IP Address	Enter the IP address of your router. The default is 192.168.1.1.
Subnet Mask	An address code that determines the size of the network. Normally use 255.255.255.0 as the subnet mask.
DHCP Server	By default, the DHCP Server is enabled. If user needs to disable the function, please uncheck the box.
Start IP Address	By default, the start IP address is 192.168.1.100. Please do not set it to the same IP address of the router.
Maximum DHCP Users	By default, the maximum DHCP users are 101, which means the router will provide DHCP client with IP address from 192.168.1.100 to 192.168.1.200 when the start IP address is 192.168.1.100.
Next	Press this button to the next step.
Cancel	Press this button to undo any changes made locally and revert to previously saved values.

Step 3: Priority Interface (VR-300FW-NR Only)

The cellular VPN Security Router supports two access modes on the WAN side shown below:

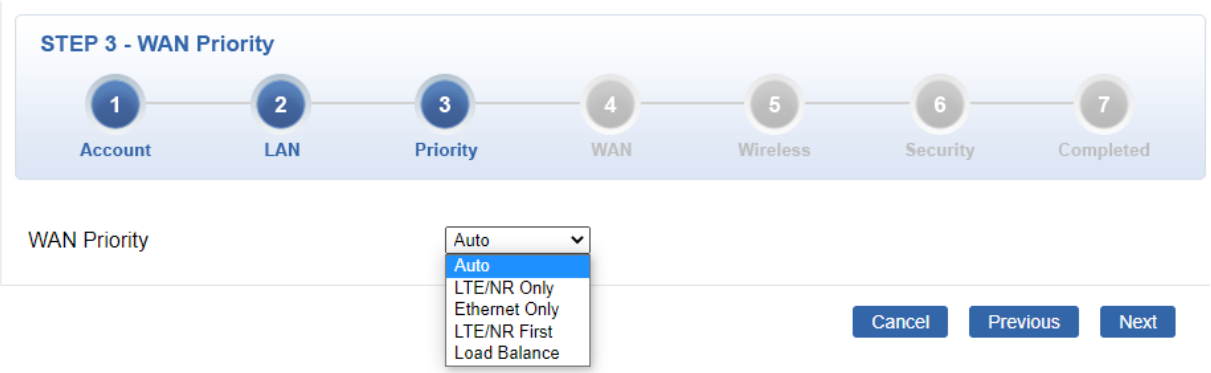


Figure: Setup Priority Configuration

Object	Description
WAN Priority	■ Auto: WAN Ethernet is first priority and second priority is NR/LTE. The default is Auto. ■ LTE/NR Only: The priority is only LTE/NR ■ ETH Only: The priority is only Ethernet. ■ LTE/NR First: LTE/NR is first priority and second priority is Ethernet

Step 4: WAN Interface

The router supports two access modes on the WAN side shown in Figure 4-8

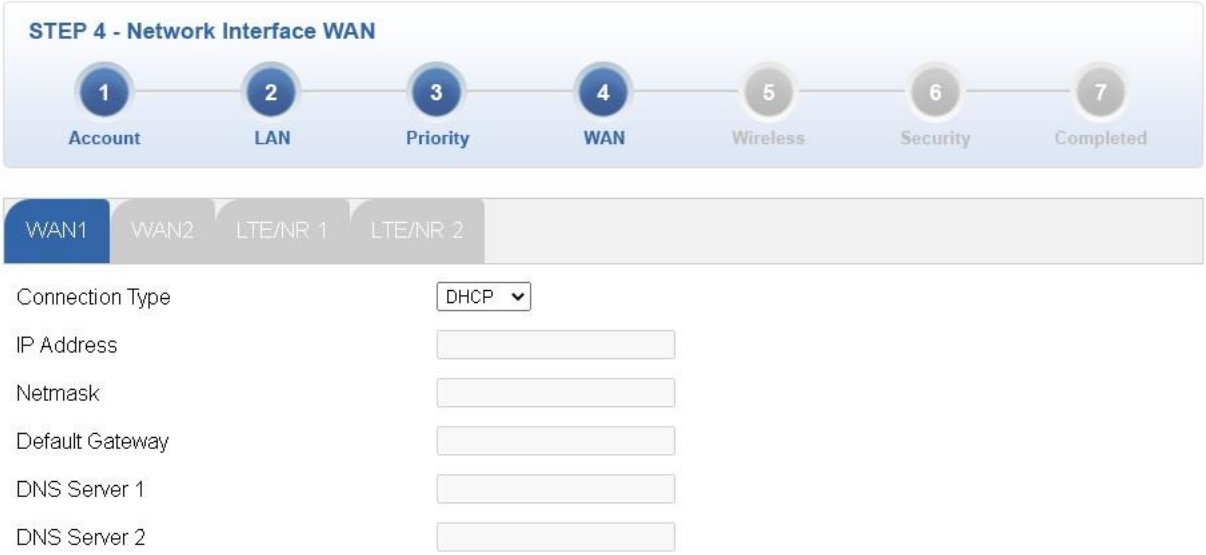


Figure 4-8: Setup Wizard – WAN 1 Configuration

Figure 4-9: Setup Wizard – WAN 2 Configurations

Mode 1 -- Static IP

Select **Static IP Address** if all the Internet port's IP information is provided to you by your ISP. You will need to enter the **IP Address**, **Netmask**, **Default Gateway** and **DNS Server** provided to you by your ISP. Each IP address entered in the fields must be in the appropriate IP form, which are four octets separated by a dot (x.x.x.x). The router will not accept the IP address if it is not in this format. The setup is shown in Figure 4-10.

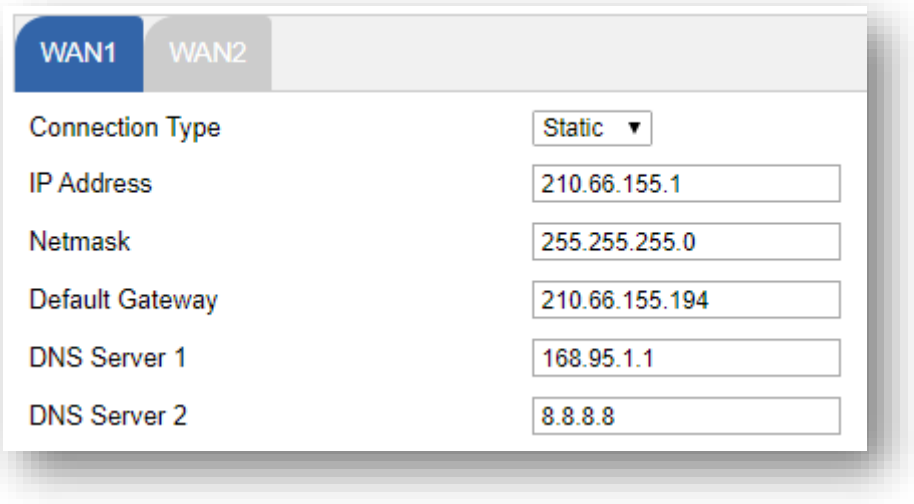


Figure 4-10: WAN Interface Setup – Static IP Setup

Object	Description
IP Address	Enter the IP address assigned by your ISP.
Netmask	Enter the Netmask assigned by your ISP.
Default Gateway	Enter the Gateway assigned by your ISP.
DNS Server	The DNS server information will be supplied by your ISP.
Next	Press this button for the next step.
Previous	Press this button for the previous step.
Cancel	Press this button to undo any changes made locally and revert to previously saved values.

Mode 2 -- DHCP Client

Select DHCP Client to obtain IP Address information automatically from your ISP. The setup is shown in Figure 4-11.

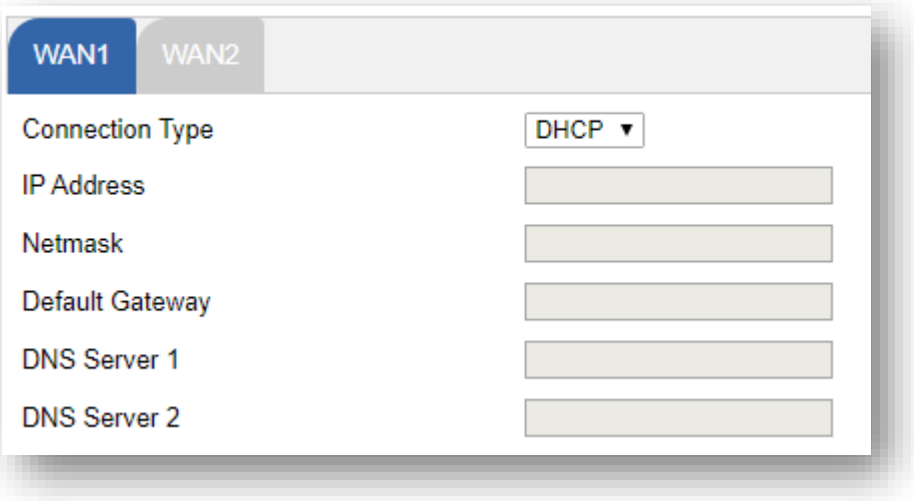


Figure 4-11: WAN Interface Setup – DHCP Setup

Step 5: Wireless Setting

Set up the Wireless Settings as shown below

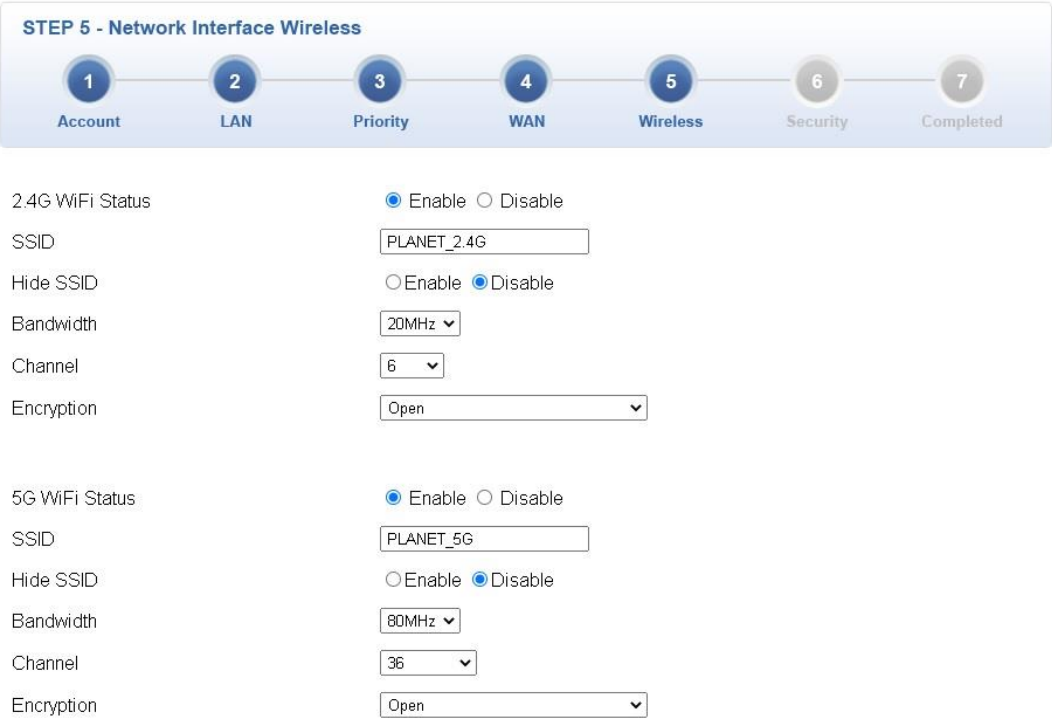


Figure: Setup Wizard – Security Setting

Object	Description
2.4G Wireless Status	Allows user to enable or disable 2.4G Wi-Fi
Wireless Name (SSID)	It is the wireless network name. The default 2.4G SSID is "PLANET_2.4G".
Hide SSID	Allows user to enable or disable SSID
Bandwidth	Select the operating channel width, "**20MHz**" or "**40MHz**"
Channel	It shows the channel of the CPE. Default 2.4GHz is channel 6.
Encryption	Select the wireless encryption. The default is "**Open**"
Wi-Fi Multimedia	Enable/Disable WMM (Wi-Fi Multimedia) function

Object	Description
5G Wireless Status	Allows user to enable or disable 5G Wi-Fi
Wireless Name (SSID)	It is the wireless network name. The default 5G SSID is "PLANET_5G".
Hide SSID	Allows user to enable or disable SSID
Bandwidth	Select the operating channel width, "**20MHz**" or "**40MHz**" or "**80MHz**"
Channel	It shows the channel of the CPE. Default 5GHz is channel 36.
Encryption	Select the wireless encryption. The default is "**Open**"
Wi-Fi Multimedia	Enable/Disable WMM (Wi-Fi Multimedia) function

Step 6: Security Setting

Set up the Security Settings as shown in below..

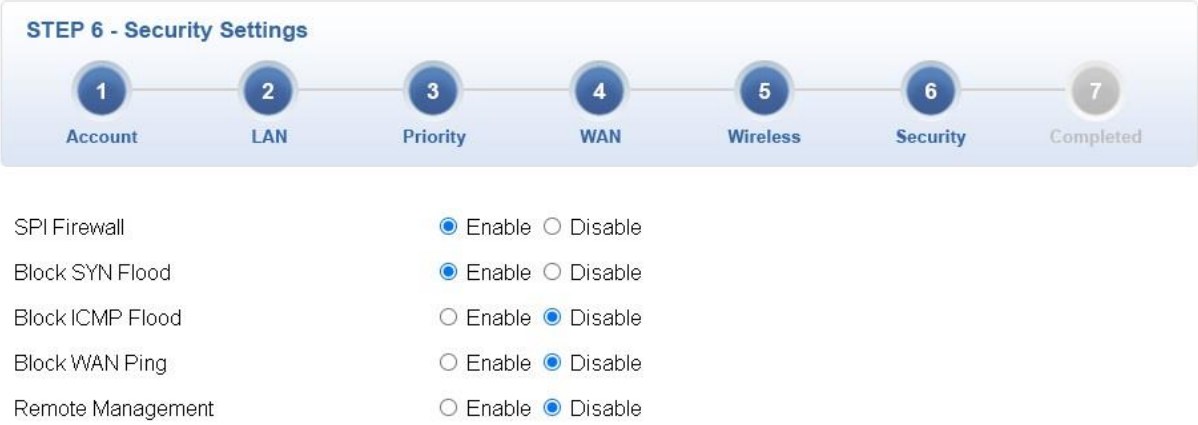


Figure : Setup Wizard – Security Setting

Object	Description
SPI Firewall	The SPI Firewall prevents attack and improper access to network resources. The default configuration is enabled.
Block SYN Flood	SYN Flood is a popular attack way. DoS and DDoS are TCP protocols. Hackers like using this method to make a fake connection that involves the CPU, memory, and so on. The default configuration is enabled.
Block ICMP Flood	ICMP is kind of a pack of TCP/IP; its important function is to transfer simple signal on the Internet. There are two normal attack ways which hackers like to use, Ping of Death and Smurf attack. The default configuration is disabled.
Block WAN Ping	Enable the function to allow the Ping access from the Internet network. The default configuration is disabled.
Remote Management	Enable the function to allow the web server access of the cellular gateway from the Internet network. The default configuration is disabled.

Step 7: Setup Completed

The page will show the summary of LAN, WAN and Security settings as shown below.

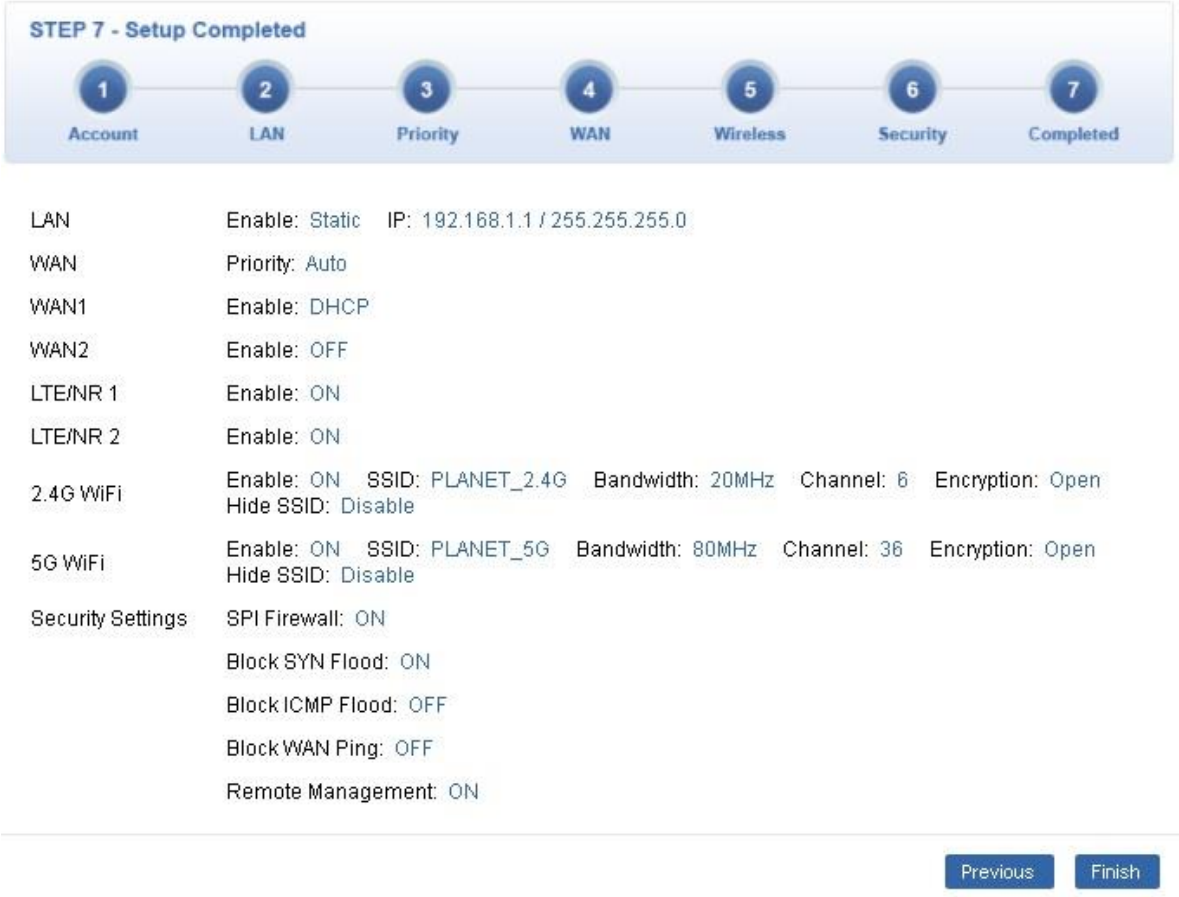


Figure : Setup Wizard – Setup Completed

Object	Description
Finish	Press this button to save and apply changes.
Previous	Press this button for the previous step.

4.4.2 Dashboard

The dashboard provides an overview of system information including connection, port, and system status as shown in Figure 4-14.

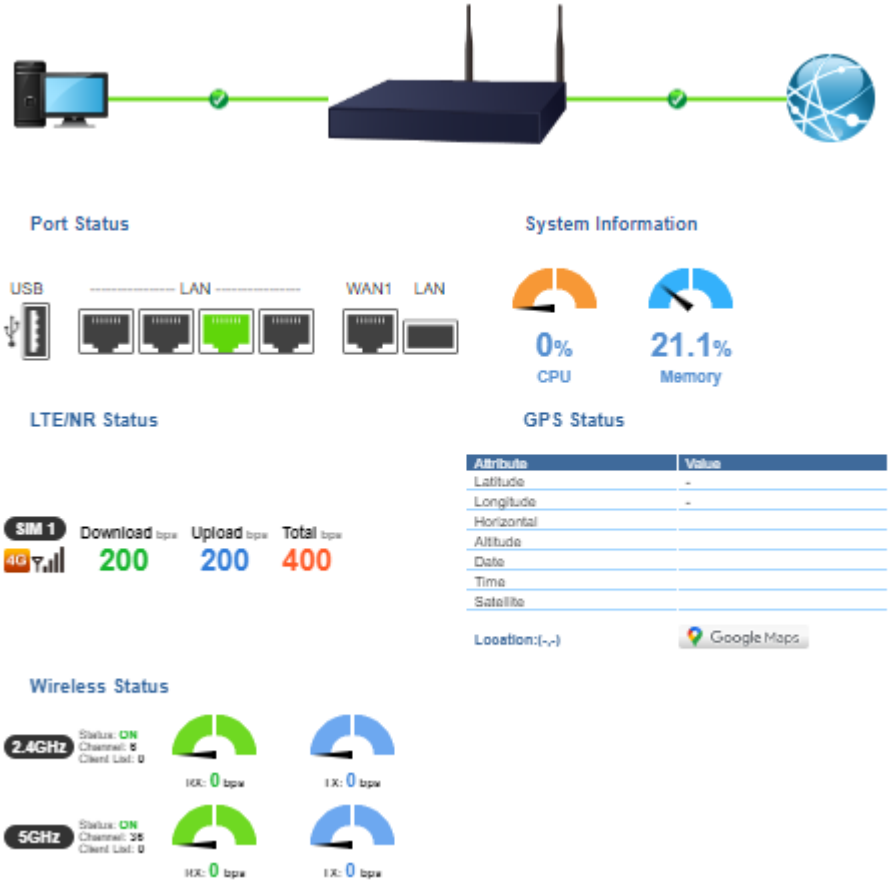


Figure 4-14: Dashboard

WAN/LAN Connection Status

Object	Description
	The status means WAN is connected to Internet and LAN is connected.
	The status means WAN is disconnected to Internet and LAN is connected.
	The status means WAN is connected to Internet and LAN is disconnected.

Port Status

Object	Description
	Ethernet port is in use.
	Ethernet port is not in use.
	USB port is in use.
	USB port is not in use.

Wireless Status

Object	Description
	Wireless is in use.
	Wireless is not in use.

System Information

Object	Description
CPU	Display the CPU loading
Memory	Display the memory usage
PoE Budget	Display the PoE Budget usage (PoE model only)

LTE/NR Status

Object	Description
SIM	SIM signal ■ 5G signal ■ 4G signal ■ 3G signal
Download	Download data rate of SIM
Upload	Upload data rate of SIM
Total	Total data rate of SIM

4.4.3 System Status

This page displays system information as shown in Figure 4-15.

Device Information

Model Name	VR-300FW-NR
Firmware Version	v1.2102b220930
Region	ETSI
Current Time	2022-12-01 Thursday 21:50:32
Running Time	0 day, 05:29:32

WAN1

MAC Address	A8:F7:E0:00:30:56
Connection Type	DHCP
Display Name	WAN1
IP Address	
Netmask	
Default Gateway	

LAN

MAC Address	A8:F7:E0:00:30:55
IP Address	192.168.1.1
Netmask	255.255.255.0
DHCP Service	Enable
DHCP Start IP Address	192.168.1.100
DHCP End IP Address	192.168.1.200
Max DHCP Clients	101

2.4GHz WiFi

Status	ON
SSID	PLANET_2.4G
Channel	6
Encryption	Open
MAC Address	A8:F7:E0:00:30:5B

5GHz WiFi

Status	ON
SSID	PLANET_5G
Channel	36
Encryption	Open
MAC Address	A8:F7:E0:00:30:5C

LTE/NR 1

Activated SIM	SIM1
SIM Status	Ready
Operator	Far EasTone
IP Address	10.130.5.22
Netmask	255.255.255.252
Default Gateway	10.130.5.21
Running Time	05:28:48
Roaming	No

Figure 4-15: Status

4.4.4 System Service

This page displays system service information as shown below.

Server Service

#	Action	Service	Status
1	Enabled	DHCP Service	DHCP Table: 1
2	Disabled	DDNS Service	Not enabled
3	Enabled	WAN Priority	Auto
4	Enabled	SIM Priority	Auto SIM1
5	Disabled	LTE/NR Roaming	--
6	Disabled	Quality of Service	
7	Disabled	High Availability	
8	Disabled	RADIUS Service	
9	Disabled	Captive Portal	
10	Enabled	2.4GHz WiFi	SSID: PLANET_2.4G
11	Enabled	5GHz WiFi	SSID: PLANET_5G

Secured Server Service

#	Action	Service	Status
1	Enabled	Cyberseurity	TLS 1.1, TLS 1.2, TLS 1.3
2	Enabled	SPI Firewall	
3	Disabled	MAC Filtering	(Active / Maximum Entries) 0 / 32
4	Disabled	IP Filtering	(Active / Maximum Entries) 0 / 32
5	Disabled	Web Filtering	(Active / Maximum Entries) 0 / 32
6	Disabled	IPSec VPN Server	(Active / Maximum Tunnels) 0 / 32
7	Disabled	GRE	(Active / Maximum Tunnels) 0 / 5
8	Disabled	PPTP	(Active / Maximum Tunnels) 0 / 91
9	Disabled	SSL VPN	(Active / Maximum Tunnels) 0 / 100
10	Disabled	L2TP	(Active Tunnels) 0

Figure: System Service

4.4.5 Statistics

This page displays the number of packets that pass through the router on the WAN and LAN. The statistics are shown in Figure 4-16.

WAN1	
Sent Packets	223
Sent Bytes	198984
Received Packets	2008
Received Bytes	385555

LAN	
Sent Packets	7
Sent Bytes	746
Received Packets	221
Received Bytes	15363

Figure 4-16: Statistics

4.4.6 Connection Status

The page shows the DHCP Table and ARP Table. The status is shown in Figure 4-17.

DHCP Table

Name	IP Address	MAC Address	Expiration Time

ARP Table

IP Address	MAC Address	ARP Type
8.8.8.8	00:00:00:00:00:00	unknow
208.67.222.222	00:00:00:00:00:00	unknow
8.8.8.8	00:00:00:00:00:00	unknow
208.67.222.222	00:00:00:00:00:00	unknow
192.168.1.18	00:00:00:00:00:00	unknow
192.168.1.69	00:30:11:11:11:12	dynamic
192.168.1.69	00:30:11:11:11:12	dynamic

Figure 4-17: Connection Status

4.4.7 SFP Module Information

This page shows the operational status, such as the transceiver type, speed, wavelength, optical output power, optical input power, temperature, laser bias current and transceiver supply voltage in real time. The SFP Module Information page is shown in Figure 4-18.

SFP Module Information

Type	Speed	Wave Length(nm)	Distance(m)	Temperature(C)	Voltage(V)	Current(mA)	Tx power(dBm)	Rx power(dBm)
1000Base-LX	1000-Base	1310	10000	39.0588	3.3112	18.9760	-6.3451	-36.9897

Figure 4-18: SFP Module Information

Object	Description
• **Type**	Display the type of current SFP module; the possible types are: ■ 1000BASE-SX ■ 1000BASE-LX
• **Speed**	Display the speed of current SFP module; the speed value or description is obtained from the SFP module. Different vendors' SFP modules might show different speed information.
• **Wave Length (nm)**	Display the wavelength of current SFP module; the wavelength value is obtained from the SFP module. Use this column to check if the wavelength values of two nodes match while the fiber connection fails.
• **Distance (m)**	Display the support distance of current SFP module; the distance value is obtained from the SFP module.
• **Temperature (C)** **– SFP DDM Module Only**	Display the temperature of current SFP DDM module; the temperature value is gotten from the SFP DDM module.
• **Voltage (V)** **– SFP DDM Module Only**	Display the voltage of current SFP DDM module; the voltage value is gotten from the SFP DDM module.
• **Current (mA)** **– SFP DDM Module Only**	Display the ampere of current SFP DDM module; the ampere value is gotten from the SFP DDM module.
• **TX power (dBm)** **– SFP DDM Module Only**	Display the TX power of current SFP DDM module; the TX power value is gotten from the SFP DDM module.
• **RX power (dBm)** **– SFP DDM Module Only**	Display the RX power of current SFP DDM module; the RX power value is gotten from the SFP DDM module.

4.4.8 High Availability

High Availability (HA) is a system redundancy where two routers of VR-300 series can be set up in a master/slave configuration. The master router provides the Internet connection but, in case hardware or WAN connectivity fails, the slave (backup) router automatically will take over Internet connection. It provides redundant hardware and software that make the system available despite failures. The page shows the High Availability configuration. The High Availability page is shown in Figure 4-19.

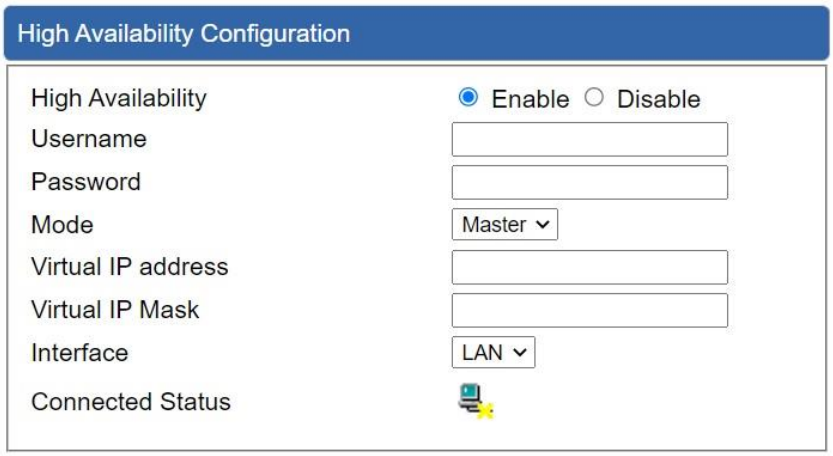


Figure 4-19: High Availability

Object	Description
High Availability	Disable or enable the High Availability function. The default configuration is disabled.
Username	Create the username for the HA.
Password	Create the password for the HA .
Mode	Choose Master or Slave role
Virtual IP address	Assign an IP address as a virtual IP.
Virtual mask	Assign a mask address as a virtual mask.
Interface	Use interface
Connection Status	Display the HA status

4.4.9 RADIUS

Remote Authentication Dial-In User Service (RADIUS) is a security authentication client/server protocol that supports authentication, authorization and accounting. The RADIUS server page is shown in Figure 4-20.

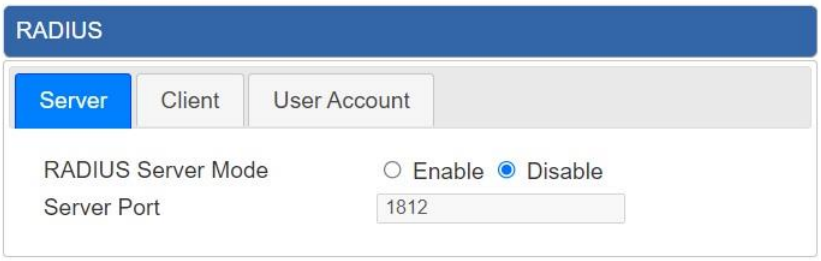


Figure 4-20: RADIUS Server

Object	Description
RADIUS	Disable or enable the RADIUS function. The default configuration is disabled.
Server Port	UDP port number for authentication

The RADIUS client page is shown in Figure 4-21.

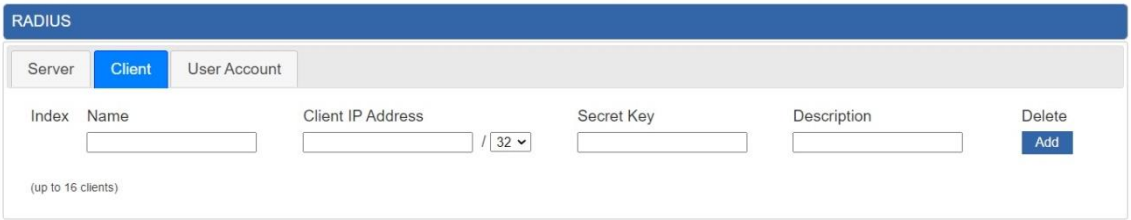


Figure 4-21: RADIUS Client

Object	Description
Name	Describe client's name
Client IP address	Describe client's IP address
Secret Key	The RADIUS server and client share a secret key that is used to authenticate the messages sent between server and client.
Description	Describe client's information

4.4.10 Captive Portal

Captive portal service gives the ability to organize a public (or guest) Wi-Fi zone with user authorization. A captive portal is the authorization page that forcibly redirects users who connect to the public network before accessing the Internet. The Captive portal page is shown in Figure 4-22.

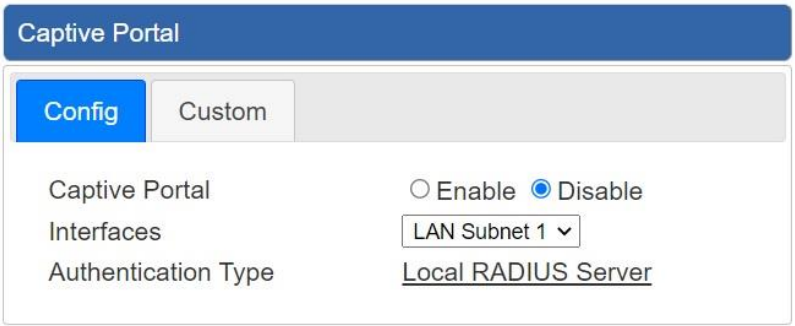


Figure 4-22: Captive portal

Object	Description
Captive portal	Disable or enable the Captive portal function. The default configuration is disabled.
Interface	Choose subnet interface ■ LAN Subnet 1 ■ LAN Subnet 2 ■ LAN Subnet 3 ■ LAN Subnet 4
Authentication Type	Support local RADIUS server

4.4.11 SNMP

This page provides SNMP setting of the router as shown in Figure 4-23.

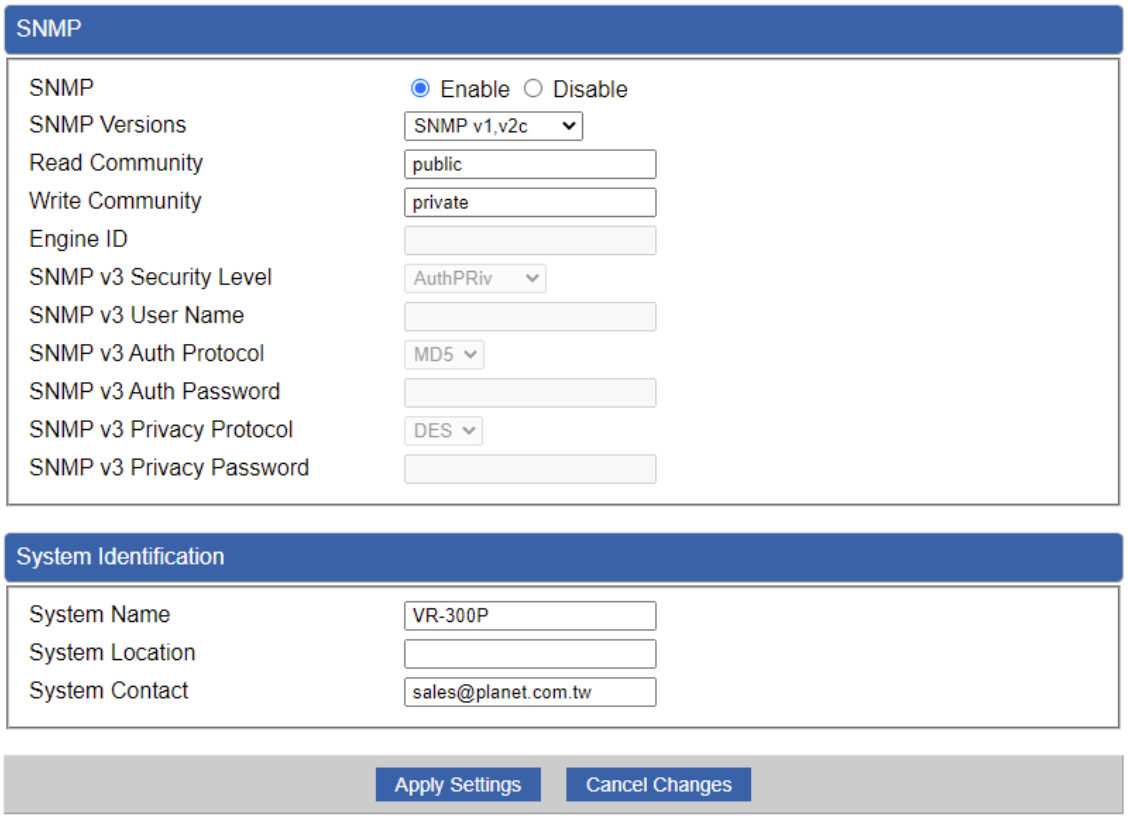


Figure 4-23: SNMP

Object	Description
Enable SNMP	Disable or enable the SNMP function. The default configuration is enabled.
Read/Write Community	Allows entering characters for SNMP Read/Write Community of the router.
System Name	Allows entering characters for system name of the router.
System Location	Allows entering characters for system location of the router.
System Contact	Allows entering characters for system contact of the router.
Apply Settings	Press this button to save and apply changes.
Cancel Changes	Press this button to undo any changes made locally and revert to previously saved values.

4.4.12 NMS

The VR-300 series can support both NMS controller and CloudViewer Server for remote management. PLANET's NMS Controller is a Network Management System that can monitor all kinds of deployed network devices, such as managed switches, media converters, routers, smart APs, VoIP phones, IP cameras, etc., compliant with the SNMP Protocol, ONVIF Protocol and PLANET Smart Discovery utility. The CloudViewer is a free networking service just for PLANET products. This service provides simplified network monitoring and real-time network status. Working with PLANET CloudViewer app, user can easily check network status, device information, port and PoE status from Internet. Other services are not included.

NMS Configuration screen is shown in Figure 4-24.

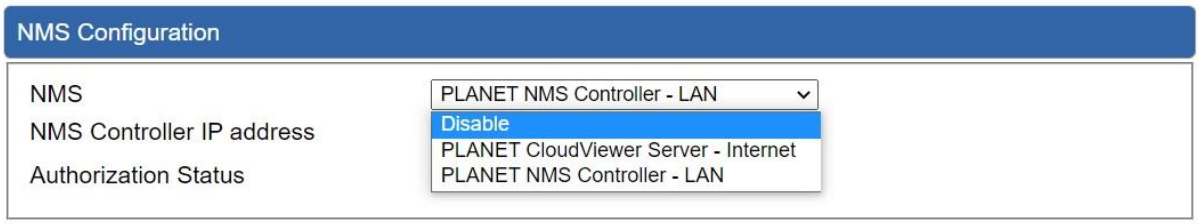


Figure 4-24 NMS Configuration Page

The NMS Controller – LAN Configuration screen is shown in Figure 4-25.

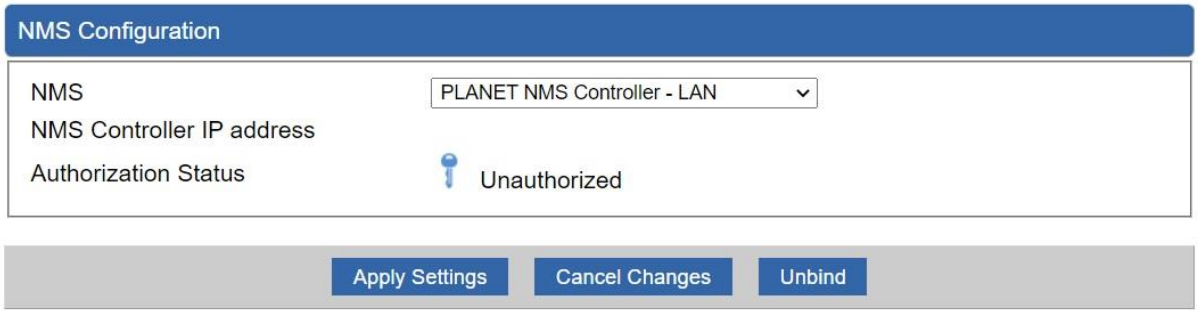


Figure 4-25 NMS Controller – LAN Configuration Page

Object	Description
• **NMS Controller IP address**	The IP address of NMS Controller
• **Authorization Status**	Indicates the authorization status of the switch to NMS Controller

The CloudViewer Server – Internet screens in Figure 4-26 appear.

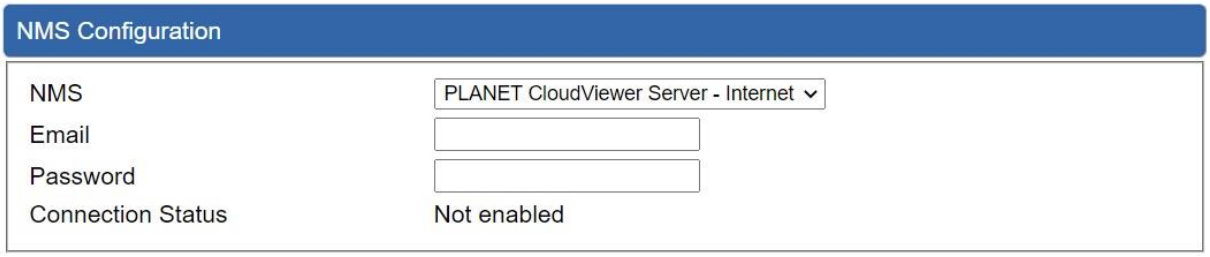


Figure 4-26 CloudViewer Server – Internet Configuration Page

Object	Description
• **Email**	The email registered on CloudViewer Server
• **Password**	The password of your CloudViewer account
• **Connection Status**	Indicates the status of connecting CloudViewer Server

4.4.13 Remote Syslog

This page provides remote syslog setting as shown below.

Figure : Connection Status

Object	Description
• **Enable**	Controls whether remote syslog is enabled
• **Syslog Server IP**	Indicates the IPv4 host address of syslog server
• **Port Destination**	Configure port for remote syslog

4.4.14 Event Log

This page provides Event Log as shown below.

Event Log

1

No.	Date Time	Uptime	Message
1	2022-12-01 16:21:07	0d 00:00:08	Wireless configure change
2	2022-12-01 16:21:07	0d 00:00:08	Network configure change
3	2022-11-30 18:36:28	0d 00:12:57	Web configure change
4	2022-11-30 18:36:16	0d 00:12:45	RADIUS configure change
5	2022-11-30 18:36:14	0d 00:12:43	LTE/NR configure change
6	2022-11-30 18:36:14	0d 00:12:43	Network configure change
7	2022-11-30 18:36:14	0d 00:12:43	Wireless configure change
8	2022-11-30 18:36:14	0d 00:12:43	Firewall configure change
9	2022-11-30 18:36:14	0d 00:12:43	Network configure change
10	2022-11-30 18:36:14	0d 00:12:43	DHCP configure change
11	2022-11-30 18:36:14	0d 00:12:43	Network configure change
12	2022-11-30 18:36:14	0d 00:12:43	Network configure change
13	2022-11-30 18:36:14	0d 00:12:43	System configure change
14	2022-11-30 18:23:50	0d 00:00:19	UPnP configure change
15	2022-11-30 18:23:47	0d 00:00:16	Wireless configure change
16	2022-11-30 18:23:47	0d 00:00:16	Network configure change
17	2022-11-30 18:23:46	0d 00:00:16	Web configure change

Clear All Event Logs

4.5 Network

The Network function provides WAN, LAN and network configuration of the router as shown in Figure 4-27.

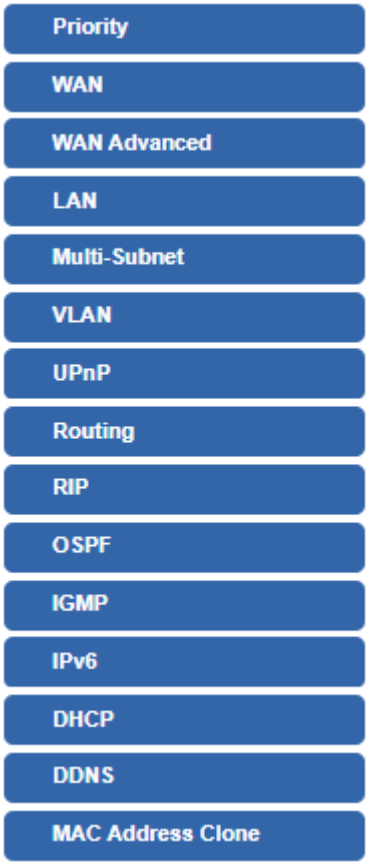


Figure 4-27: Network Menu

Object	Description
Priority	Allows setting WAN Priority interface.
WAN	Allows setting WAN interface.
WAN Advanced	Allows setting WAN Advanced settings.
LAN	Allows setting LAN interface.
Multi-Subnet	Allows setting Multi-Subnet1 ~ Subnet4 interface.
VLAN	Disable or enable the VLAN function. The default configuration is disabled.
UPnP	Disable or enable the UPnP function. The default configuration is disabled.

Routing	Allows setting Route.
RIP	Disable or enable the RIP function. The default configuration is disabled.
OSPF	Disable or enable the OSPF function. The default configuration is disabled.
IGMP	Disable or enable the IGMP function. The default configuration is disabled.
IPv6	Allows setting IPv6 WAN interface.
DHCP	Allows setting DHCP Server.
DDNS	Allows setting DDNS and PLANET DDNS.
MAC Address Clone	Allows setting WAN MAC Address Clone.

4.5.1 Priority

This page provides WAN priority setting as shown below.

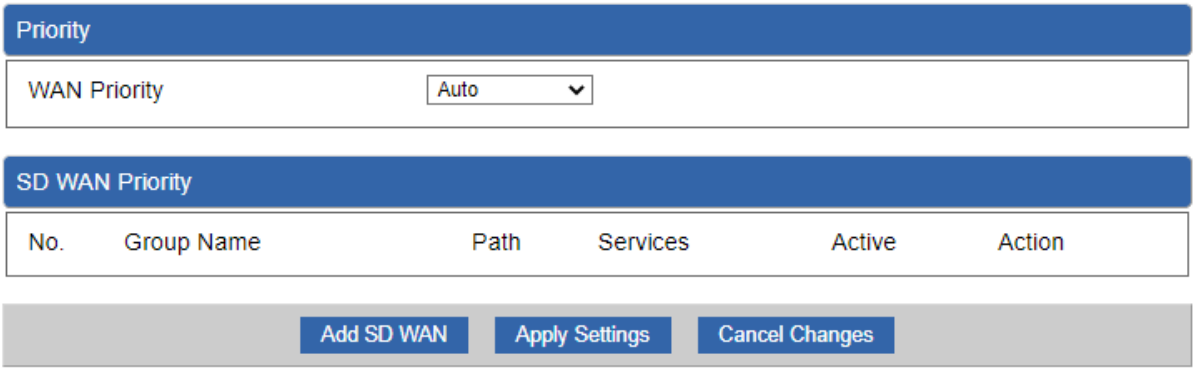


Figure: Priority

Object	Description
WAN Priority	■ Auto: WAN Ethernet is first priority and second priority is NR/LTE. The default is auto. ■ LTE/NR Only: The priority is only LTE/NR ■ ETH Only: The priority is only Ethernet. ■ LTE/NR First: LTE/NR is first priority and second priority is Ethernet

Object	Description
Active	■ Enable / Disable the Active
Group Name	■ Setting the Group Name.
Path	■ Setting the SD-WAN To / To SD-WAN
Service Port or Group	■ Setting the Service Port or Group Border Gateway Protocol

4.5.2 WAN

This page is used to configure the parameters for Internet network which connects to the WAN port of the router as shown in Figure 4-28. Here you may select the access method by clicking the item value of WAN access type.

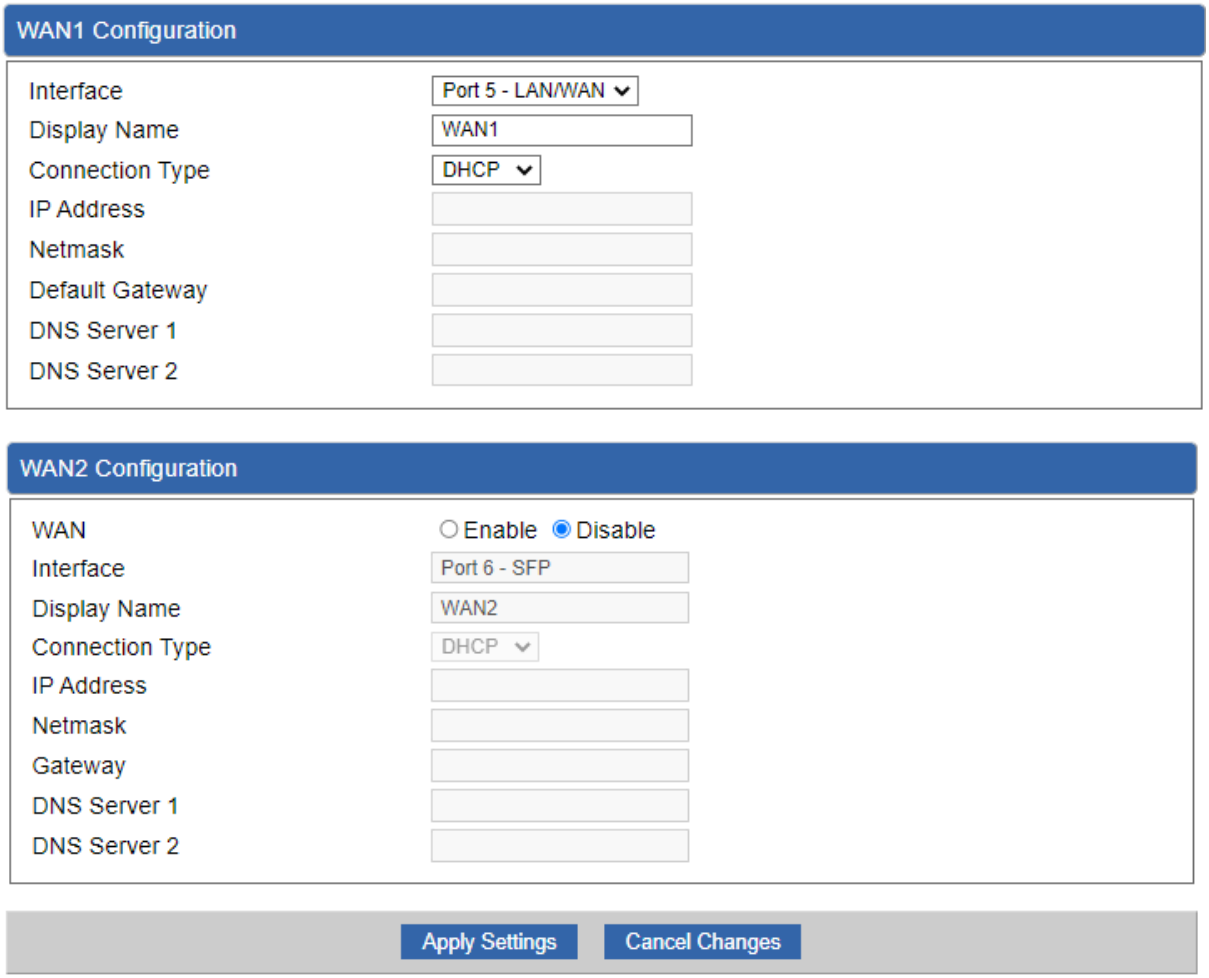


Figure 4-28: WAN

Object	Description	
WAN Access Type	Please select the corresponding WAN Access Type for the Internet, and fill out the correct parameters from your local ISP in the fields which appear below.	
	Static	Select Static IP Address if all the Internet ports' IP information is provided to you by your ISP (Internet Service Provider). You will need to enter the IP address, Netmask, Gateway, and DNS Server provided to you by your ISP. Each IP address entered in the fields must be in the appropriate IP form, which are four octets separated by a dot (x.x.x.x). The router will not accept the IP address if it is not in this format. **IP Address** Enter the IP address assigned by your ISP. **Netmask** Enter the Subnet Mask assigned by your ISP. **Gateway** Enter the Gateway assigned by your ISP. **DNS Server** The DNS server information will be supplied by your ISP.
	DHCP	Select DHCP Client to obtain IP Address information automatically from your ISP.

Note	WAN IP, whether obtained automatically or specified manually, should NOT be on the same IP net segment as the LAN IP; otherwise, the router will not work properly. In case of emergency, press the hardware-based "Reset" button.

4.5.3 WAN Advanced

This page is used to configure the advanced parameters for Internet area network which connects to the WAN port of your router as shown in Figure 4-29. Here you may change the setting for Load Balance Weight, Detect Interval, Detect Link Up Threshold, etc.

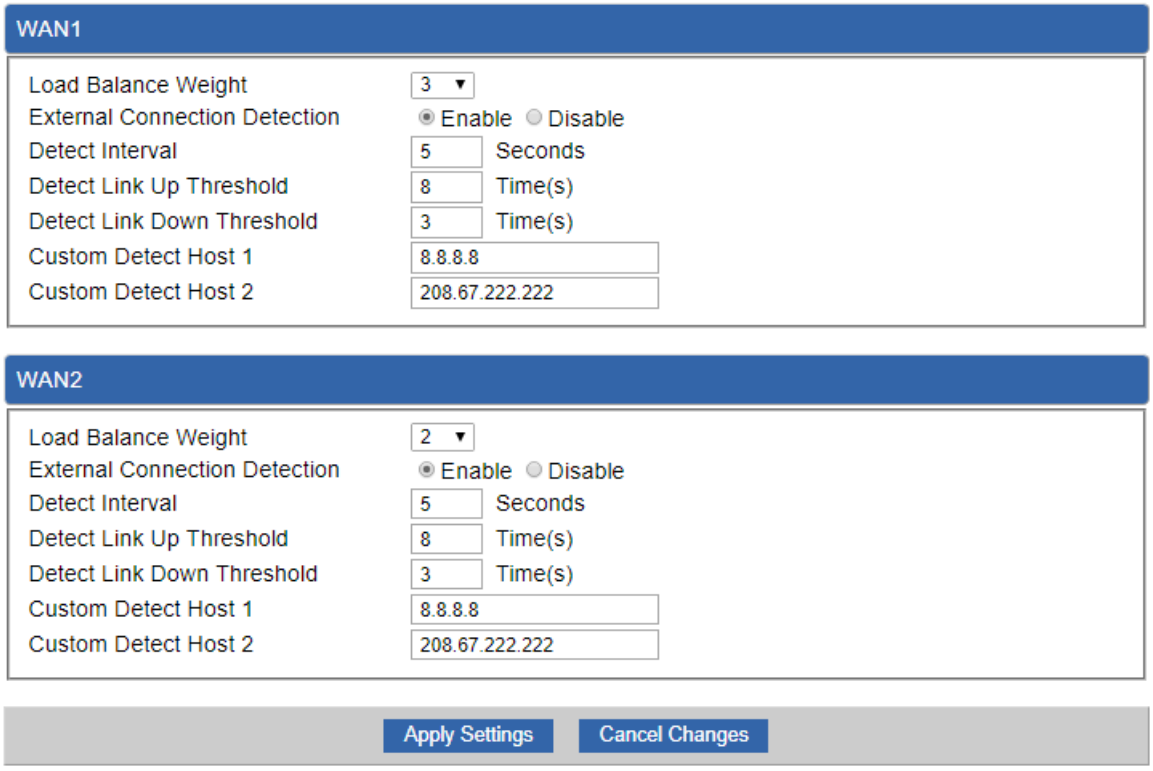


Figure 4-29: LAN Setup

Object	Description
Load Balance Weight	Load Balance Weight allows you to set a relative weight (from 1 - 10) for each WAN port.
External Connection Detection	Enable to detect the status of WAN connection.
Detect Interval	Set the detect interval as you need. The recommended value is 5 (default).
Detect Link Up Threshold	Set the times for detecting link up. The recommended value is 8 (default).
Detect Link Down Threshold	Set the times for detecting link down. The recommended value is 3 (default).
Custom Detect Host	The host is used to check whether the internet connection is alive or not.

4.5.4 LAN

This page is used to configure the parameters for local area network which connects to the LAN port of your router as shown in Figure 4-30. Here you may change the settings for IP address, subnet mask, DHCP, etc.

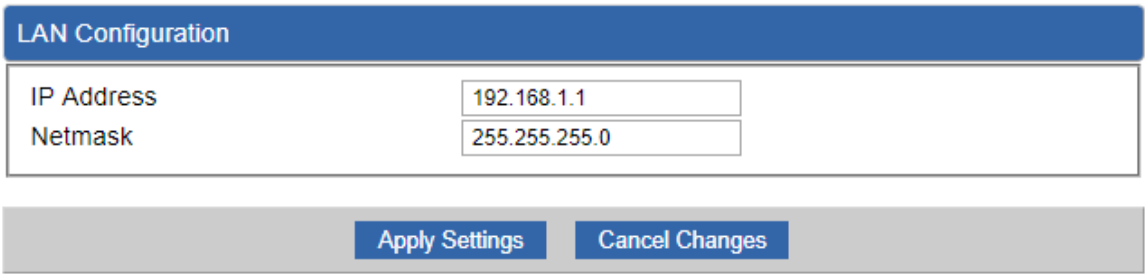


Figure 4-30: LAN Setup

Object	Description
IP Address	The LAN IP address of the router and default is **192.168.1.1**.
Net Mask	Default is **255.255.255.0**.

4.5.5 Multi-Subnet

Multi-Subnet Configuration

Name	Network		DHCP Server
LAN Subnet 1	IP Address	192.168.1.1	V
	Netmask	255.255.255.0	
LAN Subnet 2	IP Address	192.168.3.1	☑
	Netmask	255.255.255.0	
LAN Subnet 3	IP Address	192.168.5.1	☑
	Netmask	255.255.255.0	
LAN Subnet 4	IP Address	192.168.7.1	☑
	Netmask	255.255.255.0	

Apply Settings Cancel Changes

4.5.6 VLAN

Please refer to the following sections for the details as shown below.

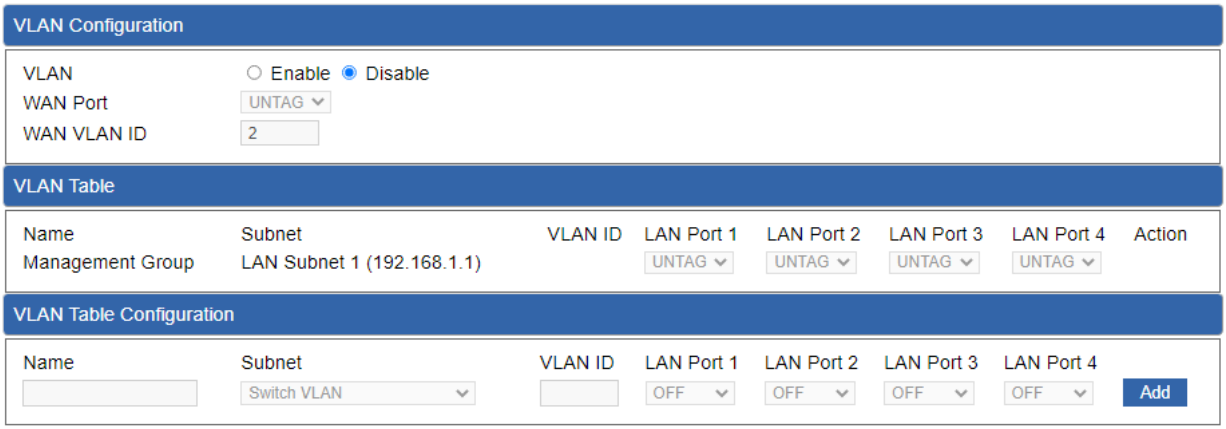


Figure: VLAN Configuration

4.5.7 UPnP

Please refer to the following sections for the details as shown below.

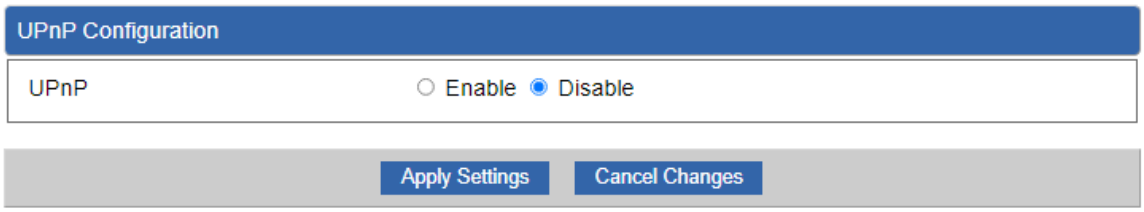


Figure: VLAN Configuration

4.5.8 Routing

Please refer to the following sections for the details as shown in Figures 4-31 and 32.

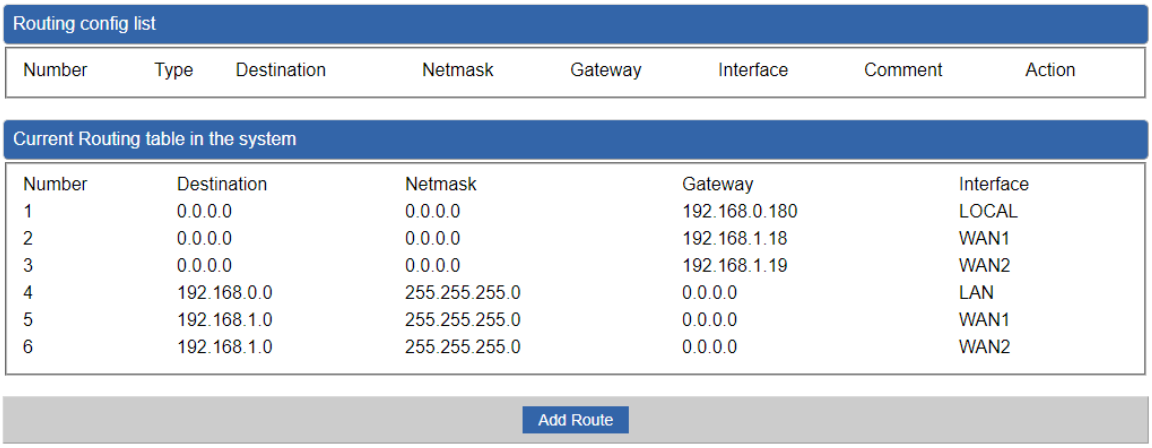


Figure 4-31: Routing table

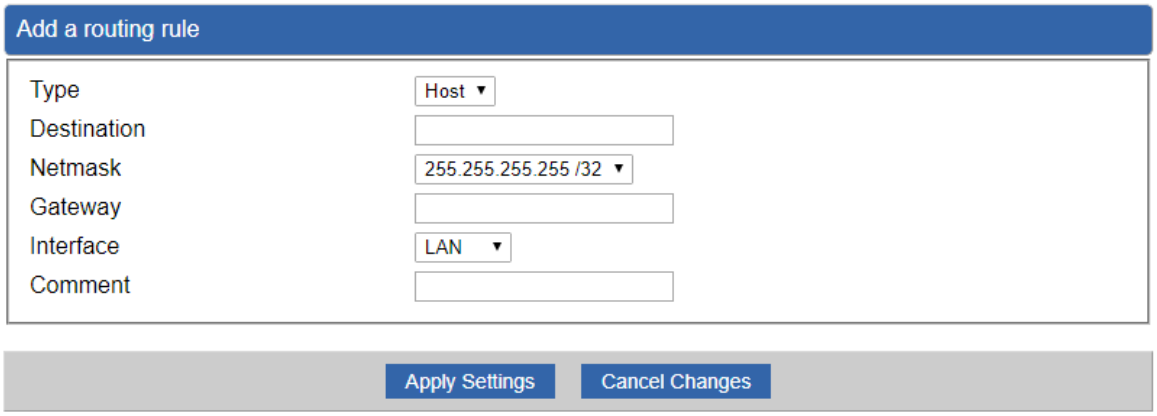


Figure 4-32: Routing setup

Routing tables contain a list of IP addresses. Each IP address identifies a remote router (or other network gateway) that the local router is configured to recognize. For each IP address, the routing table additionally stores a network mask and other data specify the destination IP address ranges that remote device will accept.

Object	Description
Type	There are two types: Host and Net. When the Net type is selected, user does not need to input the Gateway.
Destination	The network or host IP address desired to access.
Net Mask	The subnet mask of destination IP.

Object	Description
Gateway	The gateway is the router or host's IP address to which packet was sent. It must be the same network segment with the WAN or LAN port.
Interface	Select the interface that the IP packet must use to transmit out of the router when this route is used.
Comment	Enter any words for recognition.

4.5.9 RIP

Please refer to the following sections for the details as shown below.

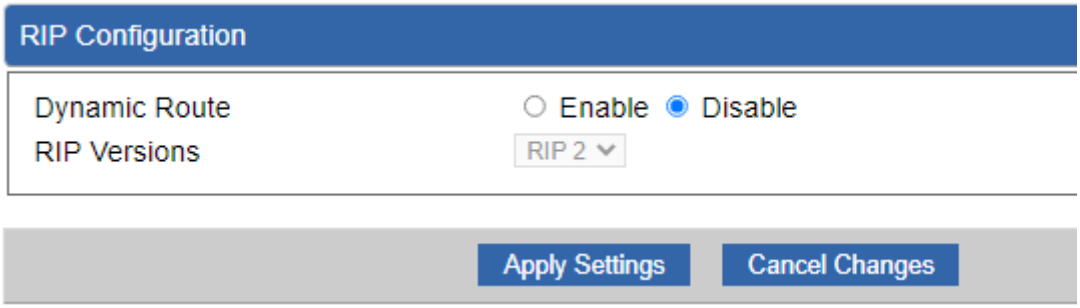


Figure: OSPF Configuration table

4.5.10 OSPF

Please refer to the following sections for the details as shown below.

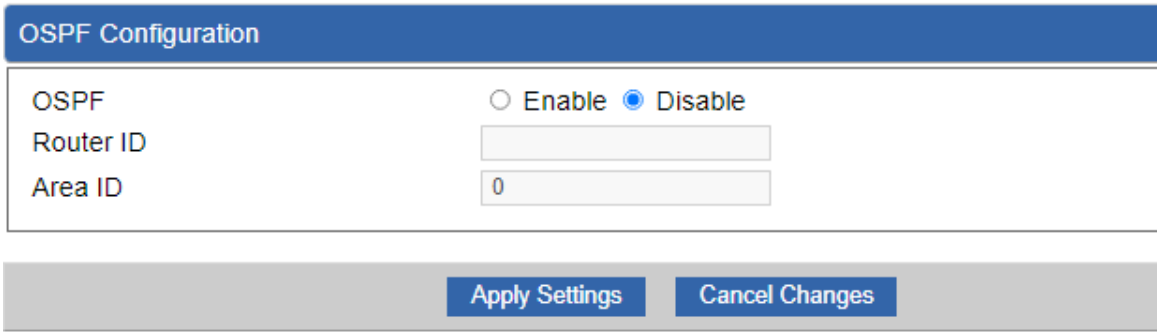


Figure: Routing table

4.5.11 IGMP

Please refer to the following sections for the details as shown below.

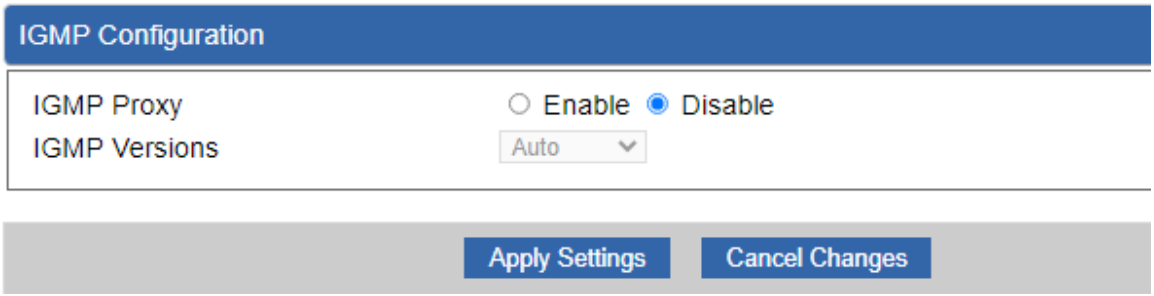


Figure: Routing table

4.5.12 IPv6

This page is used to configure parameter for IPv6 internet network which connects to WAN port of the router as shown in Figure 4-33. It allows you to enable IPv6 function and set up the parameters of the router's WAN. In this setting you may change WAN connection type and other settings.

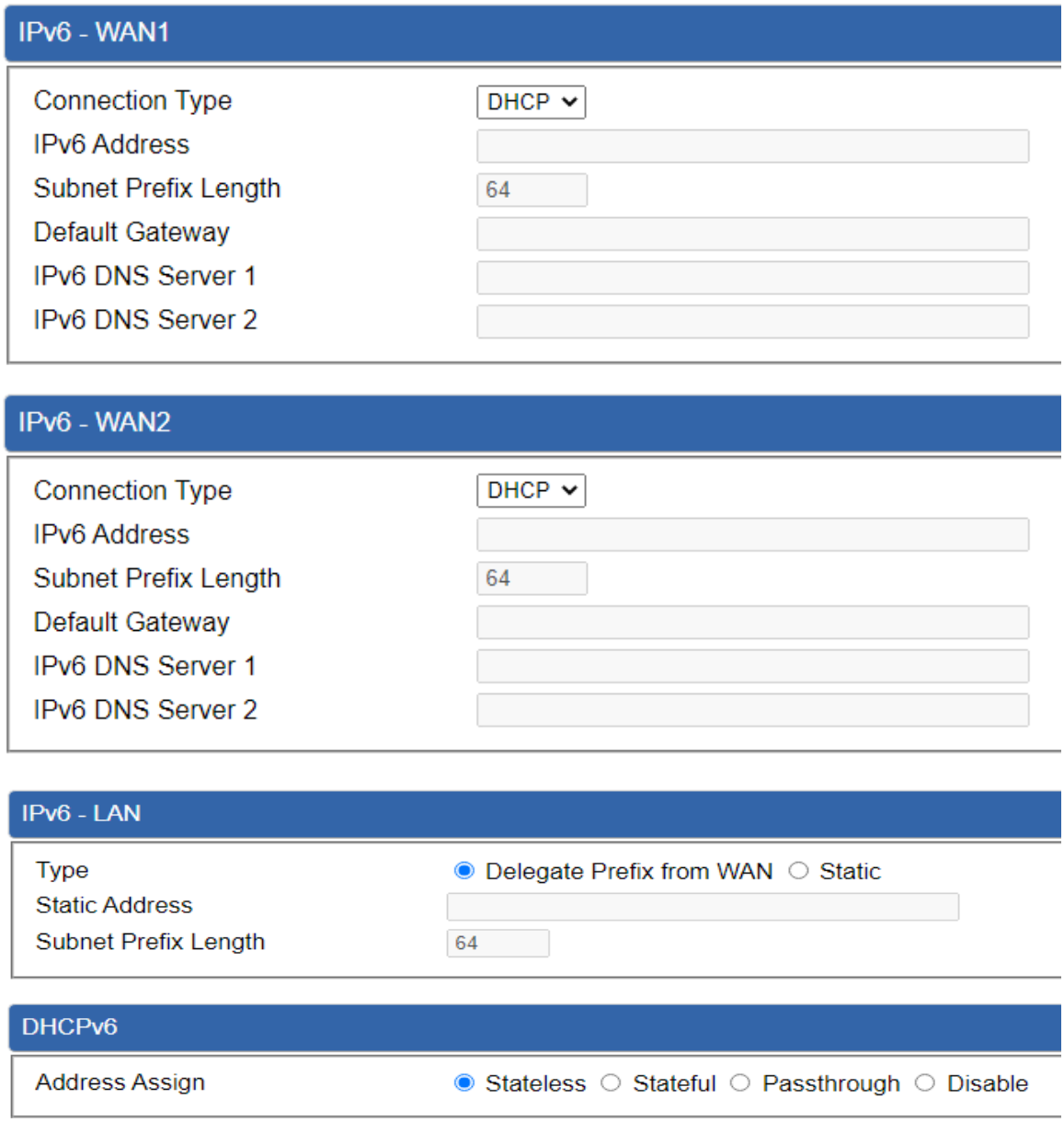


Figure 4-33: IPv6 WAN setup

Object	Description
Connection Type	Select IPv6 WAN type either by using DHCP or Static.
IPv6 Address	Enter the WAN IPv6 address.
Subnet Prefix Length	Enter the subnet prefix length.
Default Gateway	Enter the default gateway of the WAN port.

4.5.13 DHCP

The DHCP service allows you to control the IP address configuration of all your network devices. When a client (host or other device such as networked printer, etc.) joins your network it will automatically get a valid IP address from a range of addresses and other settings from the DHCP service. The client must be configured to use DHCP; this is something called "automatic network configuration" and is often the default setting. The setup is shown in Figure 4-34.

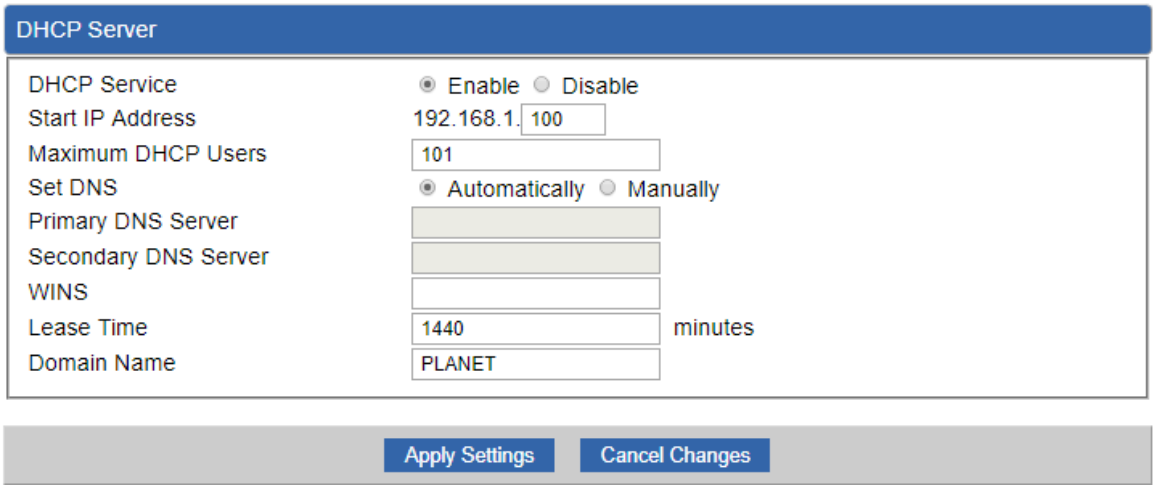


Figure 4-34: DHCP

Object	Description
DHCP Service	By default, the DHCP Server is enabled, meaning the router will assign IP addresses to the DHCP clients automatically. If user needs to disable the function, please set it as disable.
Start IP Address	By default, the start IP address is 192.168.1.100. Please do not set it to the same IP address of the router.
Maximum DHCP Users	By default, the maximum DHCP users are 101, meaning the router will provide DHCP client with IP address from 192.168.1.100 to 192.168.1.200 when the start IP address is 192.168.1.100.
Set DNS	By default, it is set as Automatically, and the DNS server is the router's LAN IP address. If user needs to use specific DNS server, please set it as Manually, and then input a specific DNS server.
Primary/Secondary DNS Server	Input a specific DNS server.

Object	Description
WINS	Input a WINS server if needed.
Lease Time	Set the time for using one assigned IP. After the lease time, the DHCP client will need to get new IP addresses from the router. Default is 1440 minutes.
Domain Name	Input a domain name for the router. Default is Planet.

4.5.14 DDNS

The router offers the DDNS (Dynamic Domain Name System) feature, which allows the hosting of a website, FTP server, or e-mail server with a fixed domain name (named by yourself) and a dynamic IP address, and then your friends can connect to your server by entering your domain name no matter what your IP address is. Before using this feature, you need to sign up for DDNS service providers such as **PLANET DDNS (**https://www.planetddns.com**)** and set up the domain name of your choice.

PLANET DDNS website provides a free DDNS (Dynamic Domain Name Server) service for PLANET devices. Whether the IP address used on your PLANET device supporting DDNS service is fixed or dynamic, you can easily connect the devices anywhere on the Internet with a meaningful or easy-to-remember name you gave. PLANET DDNS provides two types of DDNS services. One is **PLANET DDNS** and the other is **PLANET Easy DDNS** as shown in Figure 4-35.

PLANET DDNS

For example, you've just installed a PLANET IP camera with dynamic IP like 210.66.155.93 in the network. You can name this device as “Mycam1” and register a domain as Mycam1.planetddns.com at PLANET DDNS (https://www.planetddns.com). Thus, you don't need to memorize the exact IP address but just the URL link: Mycam1.planetddns.com.

PLANET Easy DDNS

PLANET Easy DDNS is an easy way to help user to get your Domain Name with just one click. You can just log in to the Web Management Interface of your devices, say, your router, and check the DDNS menu and just enable it. You don’t need to go to https://www.planetddns.com to apply for a new account. Once you enabled the Easy DDNS, your PLANET Network Device will use the format PLxxxxxx where xxxxxx is the last 6 characters of your MAC address that can be found on the Web page or bottom label of the device. (For example, if the router’s MAC address is A8-F7-E0-81-96-C9, it will be converted into pt8196c9.planetddns.com)

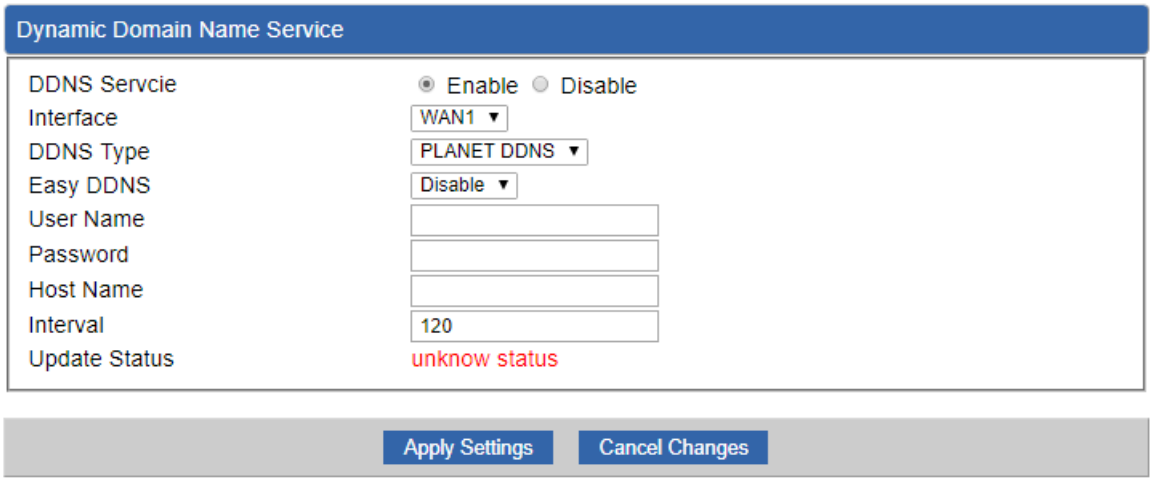


Figure 4-35: PLANET DDNS

Object	Description
DDNS Service	By default, the DDNS service is disabled. If user needs to enable the function, please set it as enable.
Interface	User is able to select the interface for DDNS service. By default, the interface is WAN 1.
DDNS Type	There are three options: 1. PLANET DDNS: Activate PLANET DDNS service. 2. DynDNS: Activate DynDNS service. 3. NOIP: Activate NOIP service. Note that please first register with the DDNS service and set up the domain name of your choice to begin using it.
Easy DDNS	When the PLANET DDNS service is activated, user is able to select to enable or disable Easy DDNS. When this function is enabled, DDNS hostname will appear automatically. User doesn't have to go to https://www.planetddns.com to apply for a new account.
User Name	The user name is used to log into DDNS service.
Password	The password is used to log into DDNS service.
Host Name	The host name is registered with your DDNS provider.
Interval	Set the update interval of the DDNS function.
Update Status	Show the connection status of the DDNS function.

4.5.15 MAC Address Clone

Clone or change the MAC address of the WAN interface. The setup is shown in Figure 4-36.

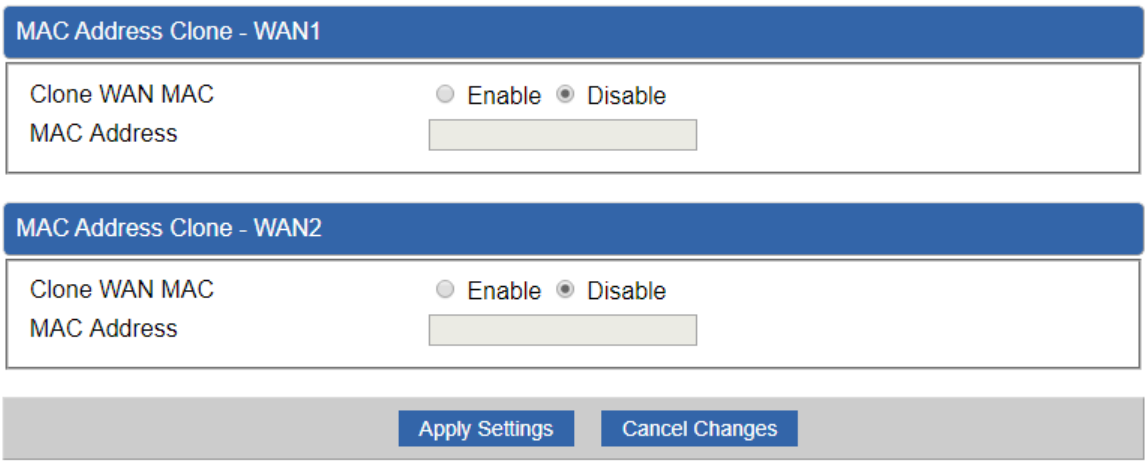


Figure 4-36: MAC Address Clone

Object	Description
Clone WAN MAC	Set the function as enable or disable.
MAC Address	Input a MAC Address, such as A8:F7:E0:00:06:62.

4.6 Cellular

The Cellular menu provides LTE/NR related functions as shown in Figure 4-6-1. Please refer to the following sections for the details.

Figure 4-6-1: Cellular menu

Object	Description
LTE/NR Configuration	Allows setting LTE/NR configuration.
LTE/NR Advanced	Allows setting SIM configuration.
LTE/NR Status	Display the status of cellular.
LTE/NR Statistics	Display the statistics of cellular.
GPS	Display the location of cellular gateway.
SMS	Allows setting SMS configuration for alarm notification.

4.6.1 LTE/NR Configuration

This page provides LTE/NR configuration as shown in Figure 4-6-2.

Figure 4-6-2: LTE/NR configuration

Object	Description
LTE/NR Config	Indicates what kind of LTE will be used. Possible modes are: ■ **Auto**: Automatically connect the possible band. ■ **4G&5G Only**: Connect to 4G or 5G network only. ■ **5G Only**: Connect to 5G network only. ■ **4G Only**: Connect to 4G network only. ■ **3G Only**: Connect to 3G network only. ■ **2G Only**: Connect to 2G network only.
MTU	Maximum transfer unit; default is **1500**.

4.6.2 LTE/NR Advanced

This page provides LTE/NR advanced configuration as shown in Figure 4-6-3.

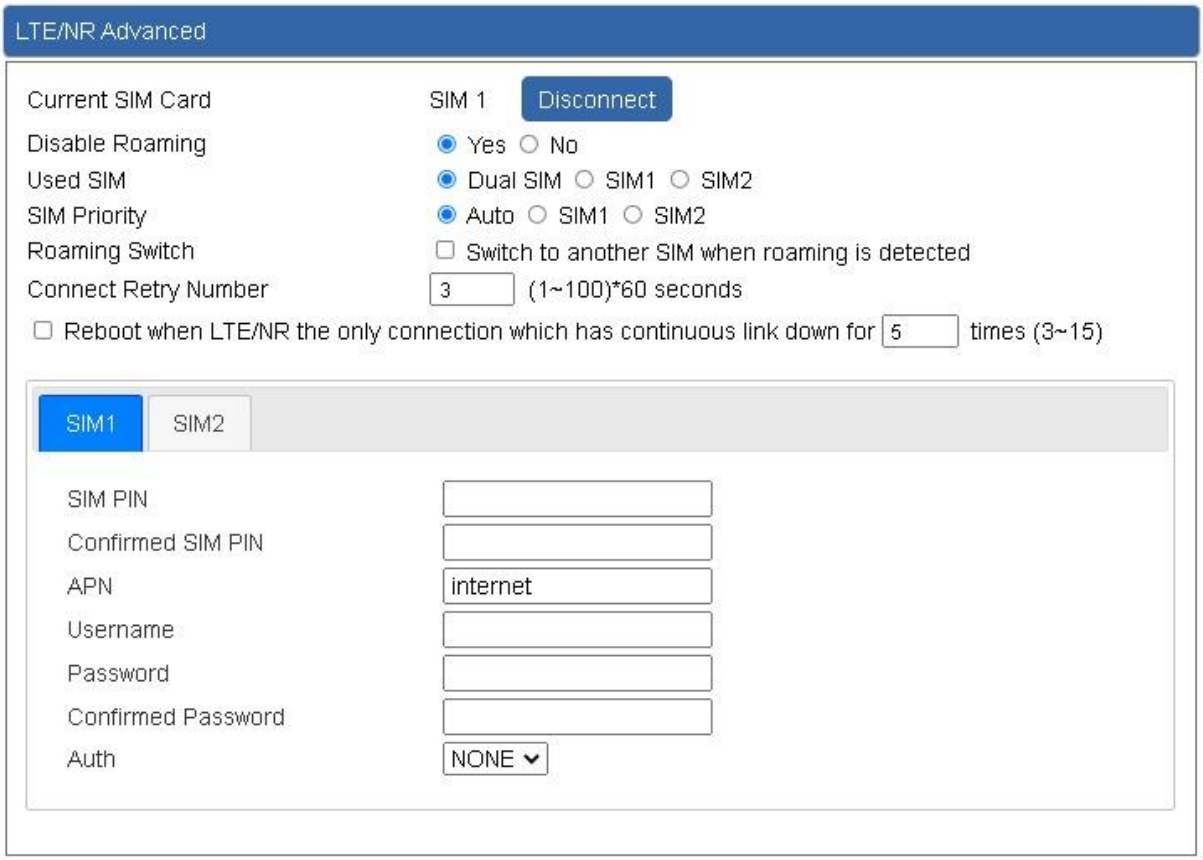


Figure 4-6-3: LTE/NR advanced

Object	Description
Current SIM Card	Display which SIM slot is using.
Disable Roaming	■ **Disable:** SIM gets connection even it is in roaming state. ■ **Enable:** SIM would not get connection when in roaming state.
Used SIM	Configure which SIM card or dual SIM cards is used.
SIM Priority	Configure priority of SIM card
Roaming Switch	Switch to another SIM when roaming is detected. System will switch to SIM slot when current SIM is in roaming state and the other SIM slot is in READY state.

Object	Description
SIM PIN	Configure PIN code to unlock SIM PIN.
Confirmed SIM PIN	Confirm PIN code.
APN	APN can be input by user or the system..
Username	The username can be input by user or the system.
Password	The password can be input by user or the system.
Confirm Password	Fill in your changed password.
Auth	Configure authentication ■ **None** ■ **PAP** ■ **CHAP**

4.6.3 LTE/NR Status

This page displays LTE/NR status as shown in Figure 4-6-4.

LTE/NR Status

SIM Card	SIM1	SIM2
SIM Status	Ready	Not Inserted
Operator	Far EasTone	
IMEI	864284040201845	
IMSI	466011900610669	
Phone Number		
Band	EUTRAN-BAND7	
EARFCN	3250	
PLMN	46601	
IP Address		
Netmask		
Default Gateway		
Running Time	2 days, 07:24:07	
Roaming	No	

Figure 4-6-4: LTE/NR status

4.6.4 LTE/NR Statistics

This page displays LTE/NR status as shown in Figure 4-6-5.

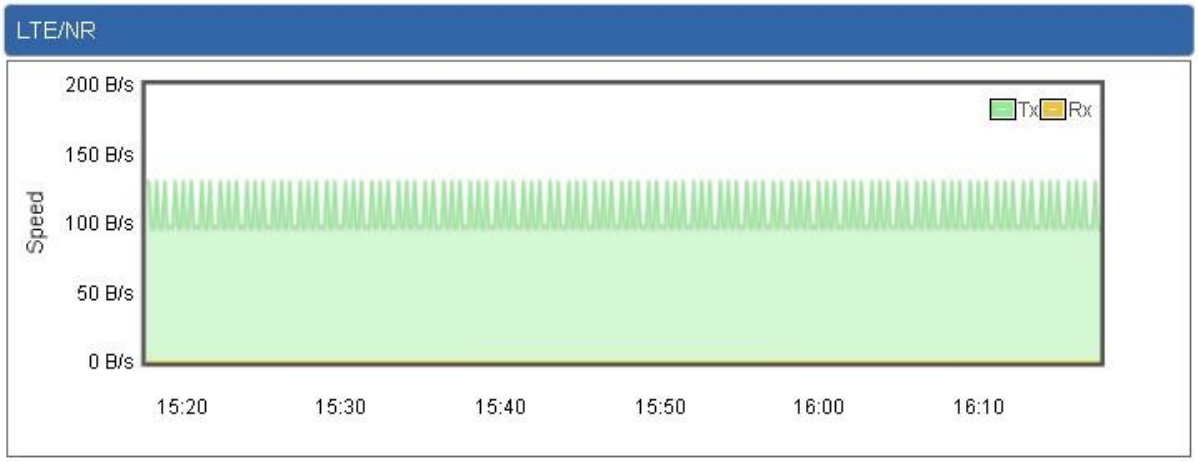


Figure 4-6-5: LTE/NR statistics

4.6.5 GPS

This page displays GPS status as shown in Figure 4-6-6.

Figure 4-6-6: GPS

4.6.6 SMS

This page provides SMS configuration as shown in Figure 4-6-7.

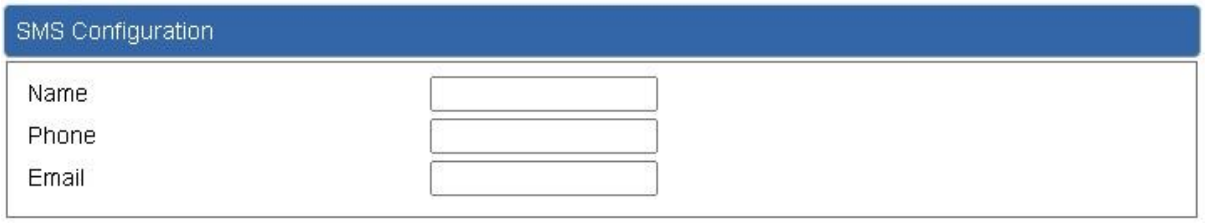


Figure 4-6-7: SMS

Object	Description
Name	Configure user's name
Phone	Configure user's phone number
Email	Configure user's email

4.7 Security

The Security menu provides Firewall, Access Filtering and other functions as shown in Figure 4-37. Please refer to the following sections for the details.

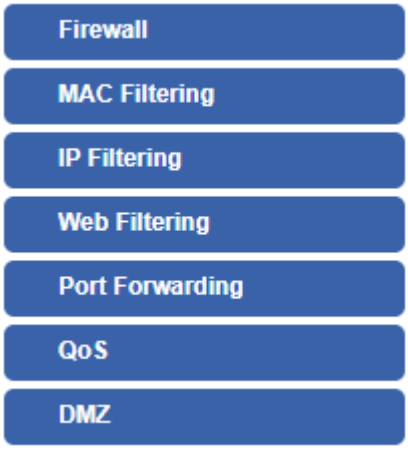


Figure 4-37: Security menu

Object	Description
Firewall	Allows setting DoS (Denial of Service) protection as enable.
MAC Filtering	Allows setting MAC Filtering.
IP Filtering	Allows setting IP Filtering.
Web Filtering	Allows setting Web Filtering.
Port Range Forwarding	Allows setting Port Forwarding.
QoS	Allows setting QoS.
DMZ	Allows setting DMZ.

4.7.1 Firewall

A "Denial-of-Service" (DoS) attack is characterized by an explicit attempt by hackers to prevent legitimate users of a service from using that service. The router can prevent specific DoS attacks as shown in Figure 4-38.

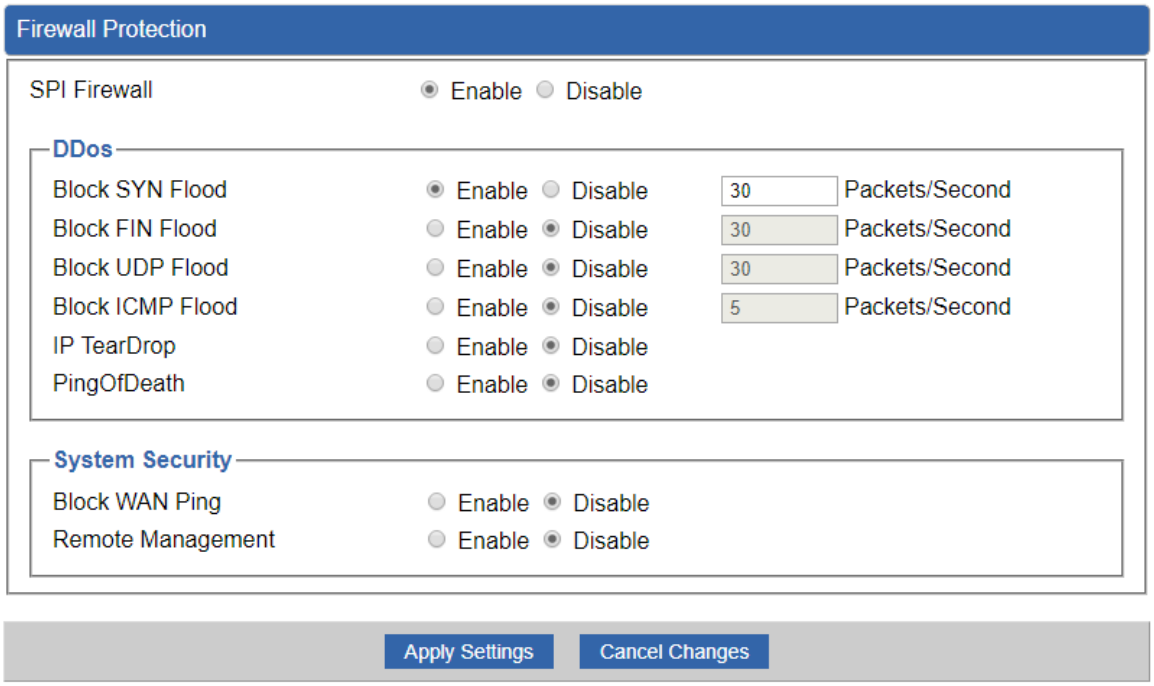


Figure 4-38: Firewall

Object	Description
SPI Firewall	The SPI Firewall prevents attack and improper access to network resources. The default configuration is enabled.
Block SYN Flood	SYN Flood is a popular attack way. DoS and DDoS are TCP protocols. Hackers like using this method to make a fake connection that involves the CPU, memory, and so on. The default configuration is enabled.
Block FIN Flood	If the function is enabled, when the number of the current FIN packets is beyond the set value, the router will start the blocking function immediately. The default configuration is disabled.
Block UDP Flood	If the function is enabled, when the number of the current UPD-FLOOD packets is beyond the set value, the router will start the blocking function immediately. The default configuration is disabled.
Block ICMP Flood	ICMP is kind of a pack of TCP/IP; its important function is to transfer simple signal on the Internet. There are two normal attack ways which hackers like to use, Ping of Death and Smurf attack. The default configuration is disabled.
IP TearDrop	If the function is enabled, the router will block Teardrop attack that is targeting on TCP/IP fragmentation reassembly codes.
Ping Of Death	If the function is enabled, the router will block Ping of Death attack that aims to disrupt a targeted machine by sending a packet larger than the maximum allowable size causing the target machine to freeze or crash.
Block WAN Ping	Enable the function to allow the Ping access from the Internet network. The default configuration is disabled.
Remote Management	Enable the function to allow the web server access of the router from the Internet network. The default configuration is disabled.

4.7.2 MAC Filtering

Entries in this table are used to restrict certain types of data packets from your local network or Internet through the router. Use of such filters can be helpful in securing or restricting your local network as shown in Figure 4-39.

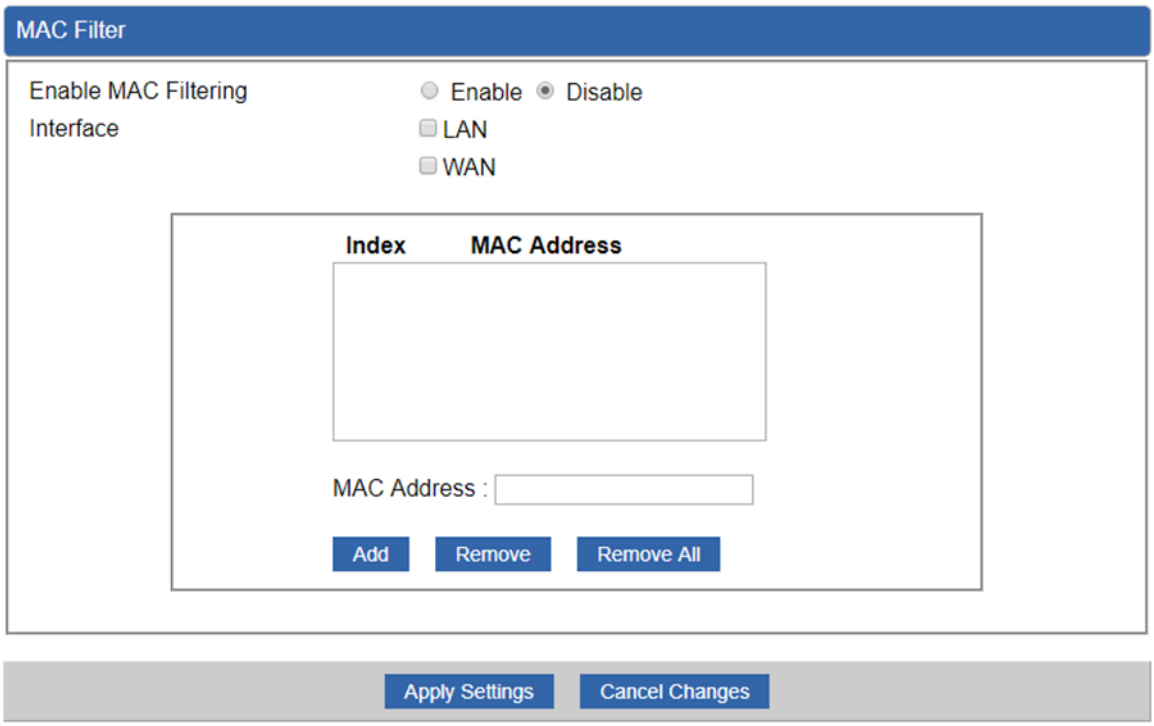


Figure 4-39: MAC Filtering

Object	Description
Enable MAC Filtering	Set the function as enable or disable. When the function is enabled, the router will block traffic of the MAC address on the list.
Interface	Select the function works on LAN, WAN or both. If you want to block a LAN device's MAC address, please select LAN, vice versa.
MAC Address	Input a MAC address you want to control, such as A8:F7:E0:00:06:62.
Add	When you input a MAC address, please click the "Add" button to add it into the list.
Remove	If you want to remove a MAC address from the list, please click on the MAC address, and then click the "Remove" button to remove it.
Remove All	If you want to remove all MAC addresses from the list, please click the "Remove All" button to remove all.

4.7.3 IP Filtering

IP Filtering is used to deny LAN users from accessing the public IP address on internet as shown in Figure 4-40. To begin blocking access to an IP address, enable IP Filtering and enter the IP address of the web site you wish to block.

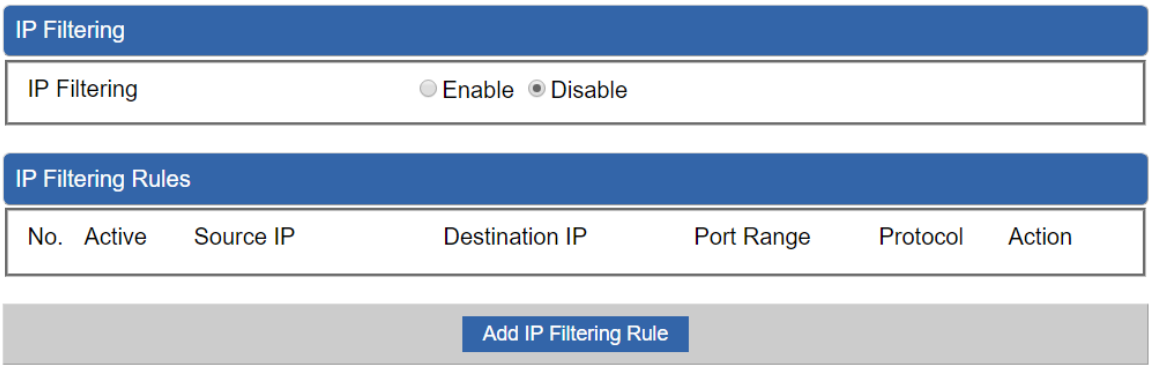


Figure 4-40: IP Filtering

Object	Description
IP Filtering	Set the function as enable or disable.
Add IP Filtering Rule	Go to the Add Filtering Rule page to add a new rule.

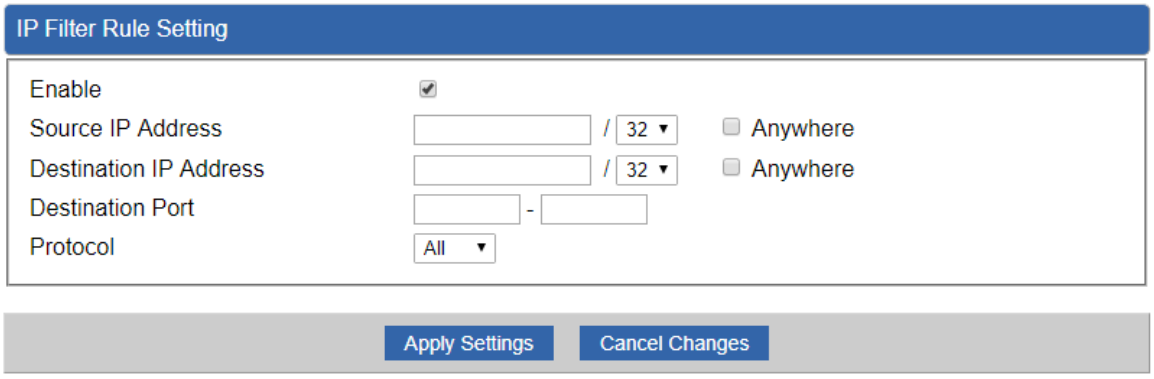


Figure 4-41: IP Filter Rule Setting

Object	Description
Enable	Set the rule as enable or disable.
Source IP Address	Input the IP address of LAN user (such as PC or laptop) which you want to control.
Anywhere (of source IP Address)	Check the box if you want to control all LAN users.

Object	Description
Destination IP Address	Input the IP address of web site which you want to block.
Anywhere (of destination IP Address)	Check the box if you want to control all web sites, meaning the LAN user can't visit any web site.
Destination Port	Input the port of destination IP Address which you want to block. Leave it as blank if you want to block all ports of the web site.
Protocol	Select the protocol type (TCP, UDP or all). If you are unsure, please leave it to all the default protocols.

4.7.4 Web Filtering

Web filtering is used to deny LAN users from accessing the internet as shown in Figure 4-42. Block those URLs which contain keywords listed below.

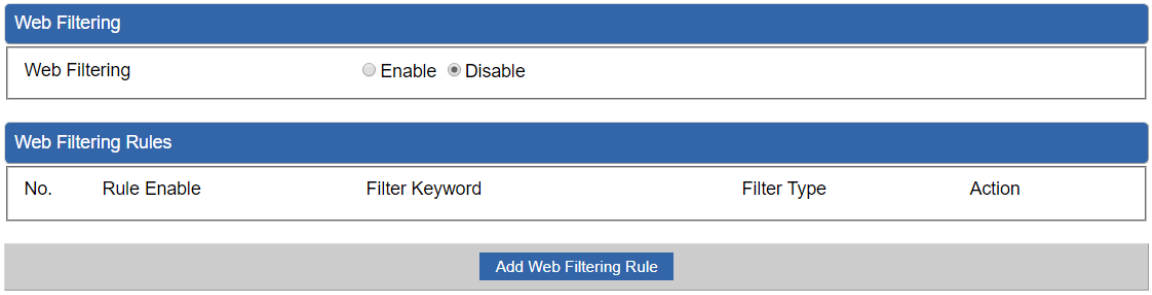


Figure 4-42: Web Filtering

Object	Description
Web Filtering	Set the function as enable or disable.
Add Web Filtering Rule	Go to the Add Web Filtering Rule page to add a new rule.

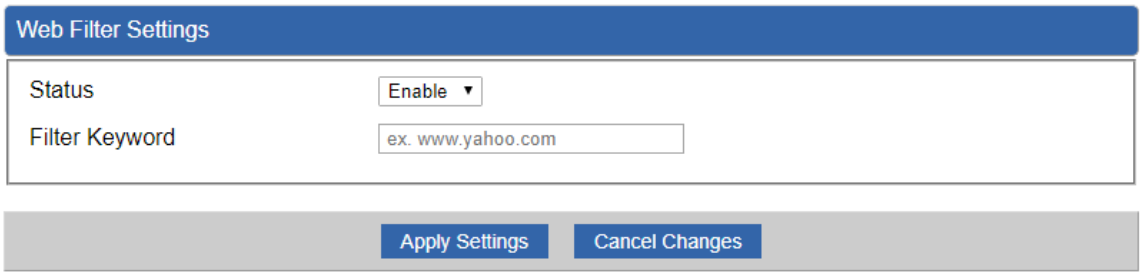


Figure 4-43: Web Filtering Rule Setting

Object	Description
Status	Set the rule as enable or disable.
Filter Keyword	Input the URL address that you want to filter, such as www.yahoo.com.

4.7.5 Port Forwarding

Entries in this table allow you to automatically redirect common network services to a specific machine behind the NAT firewall as shown in Figure 4-44. These settings are only necessary if you wish to host some sort of server like a web server or mail server on the private local network behind your Router's NAT firewall.

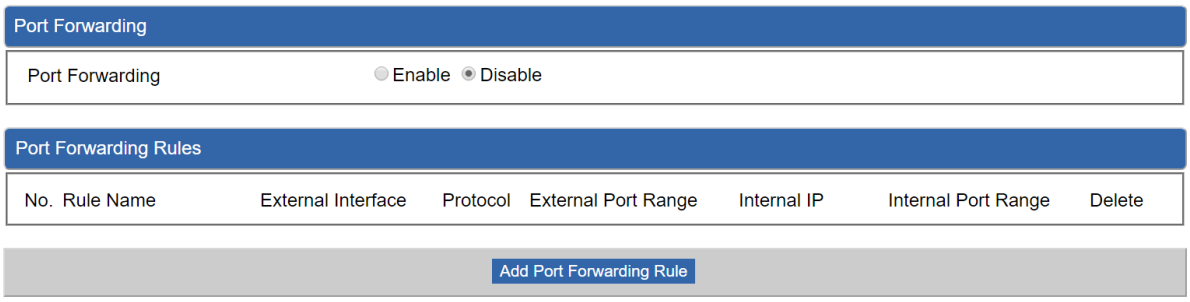


Figure 4-44: Port Forwarding

Object	Description
Port Forwarding	Set the function as enable or disable.
Add Port Forwarding Rule	Go to the Add Port Forwarding Rule page to add a new rule.

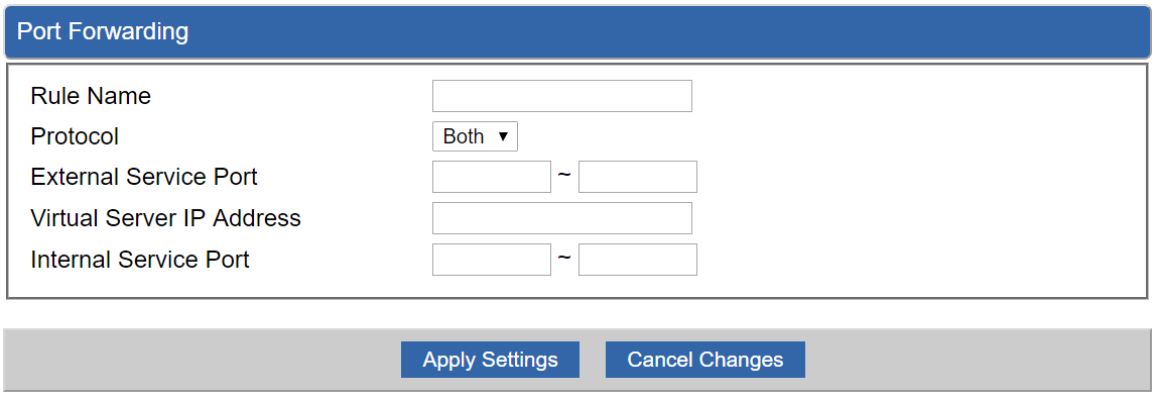


Figure 4-45: Port Forwarding Rule Setting

Object	Description
Rule Name	Enter any words for recognition.
Protocol	Select the protocol type (TCP, UDP or both). If you are unsure, please leave it to both the default protocols.
External Service Port	Enter the external ports you want to control. For TCP and UDP services, enter the beginning of the range of port numbers used by

Object	Description
	the service. If the service uses a single port number, enter it in both the start and finish fields.
Virtual Server IP Address	Enter the local IP address.
Internal Service Port	Enter local ports you want to control. For TCP and UDP Services, enter the beginning of the range of port numbers used by the service. If the service uses a single port number, enter it in both the start and finish fields.

4.7.6 QoS

Please refer to the following sections for the details as shown below.

QoS - WAN1

Quality of Service	○ Enable ◉ Disable
Upstream	0 Kbps
Downstream	0 Kbps

QoS - WAN2

Quality of Service	○ Enable ◉ Disable
Upstream	0 Kbps
Downstream	0 Kbps

Upstream Bandwidth

Priority	Maximum Bandwidth	Bandwidth Value
Premium	100 %	WAN1 0 Kbps WAN2 0 Kbps
Express	100 %	WAN1 0 Kbps WAN2 0 Kbps
Standard	100 %	WAN1 0 Kbps WAN2 0 Kbps
Bulks	100 %	WAN1 0 Kbps WAN2 0 Kbps

Downstream Bandwidth

Priority	Maximum Bandwidth	Bandwidth Value
Premium	100 %	WAN1 0 Kbps WAN2 0 Kbps
Express	100 %	WAN1 0 Kbps WAN2 0 Kbps
Standard	100 %	WAN1 0 Kbps WAN2 0 Kbps
Bulks	100 %	WAN1 0 Kbps WAN2 0 Kbps

Service Priority

Protocol	Description	Priority	Action
AOL(TCP:5190)	AOL Instant Messenger protocol	Premium	Add

Network Priority

Source Network	Protocol	Destination Port Range	Priority	Action
/	ALL	--	Premium	Add

4.7.7 DMZ

A Demilitarized Zone is used to provide Internet services without sacrificing unauthorized access to its local private network as shown in Figure 4-46.Typically, the DMZ host contains devices accessible to Internet traffic, such as Web (HTTP) servers, FTP servers, SMTP (e-mail) servers and DNS servers.

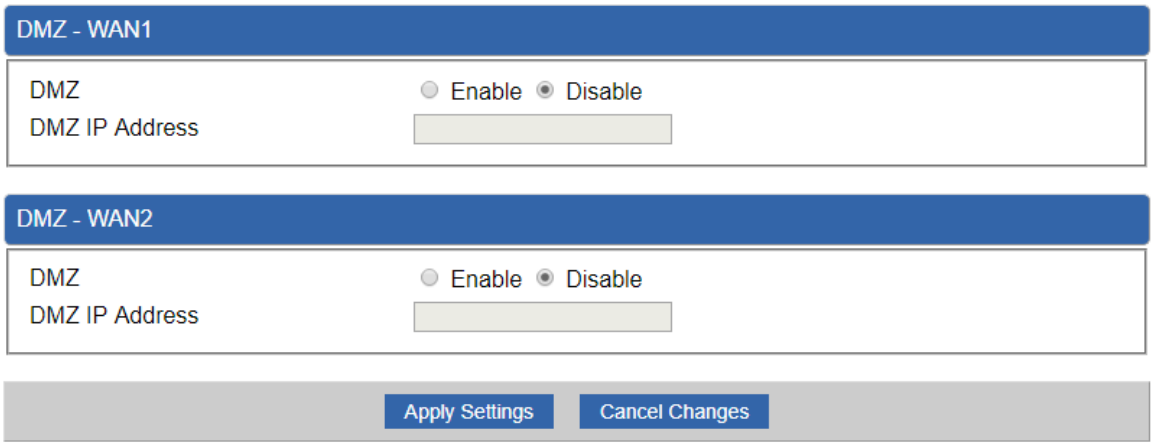


Figure 4-46: DMZ

Object	Description
DMZ	Set the function as enable or disable. If the DMZ function is enabled, it means that you set up DMZ at a particular computer to be exposed to the Internet so that some applications/software, especially Internet/online game can have two way connections.
DMZ IP Address	Enter the IP address of a particular host in your LAN which will receive all the packets originally going to the WAN port/Public IP address above.

4.8 VPN

To obtain a private and secure network link, the router is capable of establishing VPN connections. When used in combination with remote client authentication, it links the business' remote sites and users, conveniently providing the enterprise with an encrypted network communication method. By allowing the enterprise to utilize the Internet as a means of transferring data across the network, it forms one of the most effective and secure options for enterprises to adopt in comparison to other methods.

The Maintenance menu provides the following features for managing the system as Figure 4-47 is shown below:

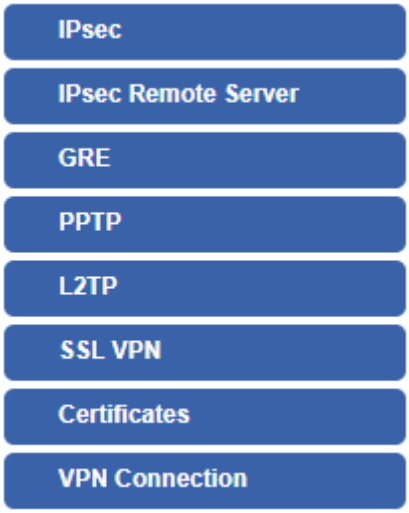


Figure 4-47: VPN Menu

Object	Description
IPsec	Allows setting IPsec function.
IPsec Remote Server	Disable or enable the IPsec Remote Server function. The default configuration is disabled.
GRE	Allows setting GRE function.
PPTP	Allows setting PPTP function.
L2TP	Allows setting L2TP function.
SSL VPN	Allows setting SSL VPN function.
Certificates	Download System CA Certificate
VPN Connection	Allows checking VPN Connection Status.

4.8.1 IPSec

IPSec (IP Security) is a generic standardized VPN solution. IPSec must be implemented in the IP stack which is part of the kernel. Since IPSec is a standardized protocol, it is compatible with most vendors that implement IPSec. It allows users to have an encrypted network session by standard **IKE** (Internet Key Exchange). We strongly encourage you to use IPSec only if you need to because of interoperability purposes. When IPSec lifetime is specified, the device can randomly refresh and identify forged IKE's during the IPSec lifetime.

This page allows you to modify the user name and passwords as shown in Figure 4-48.

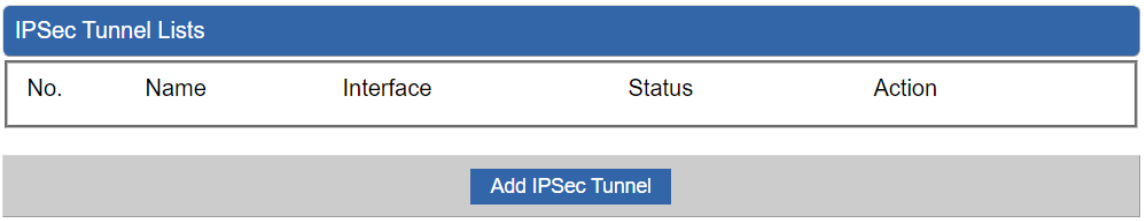


Figure 4-48: IPSec

Object	Description
Add IPSec Tunnel	Go to the Add IPSec Tunnel page to add a new tunnel.

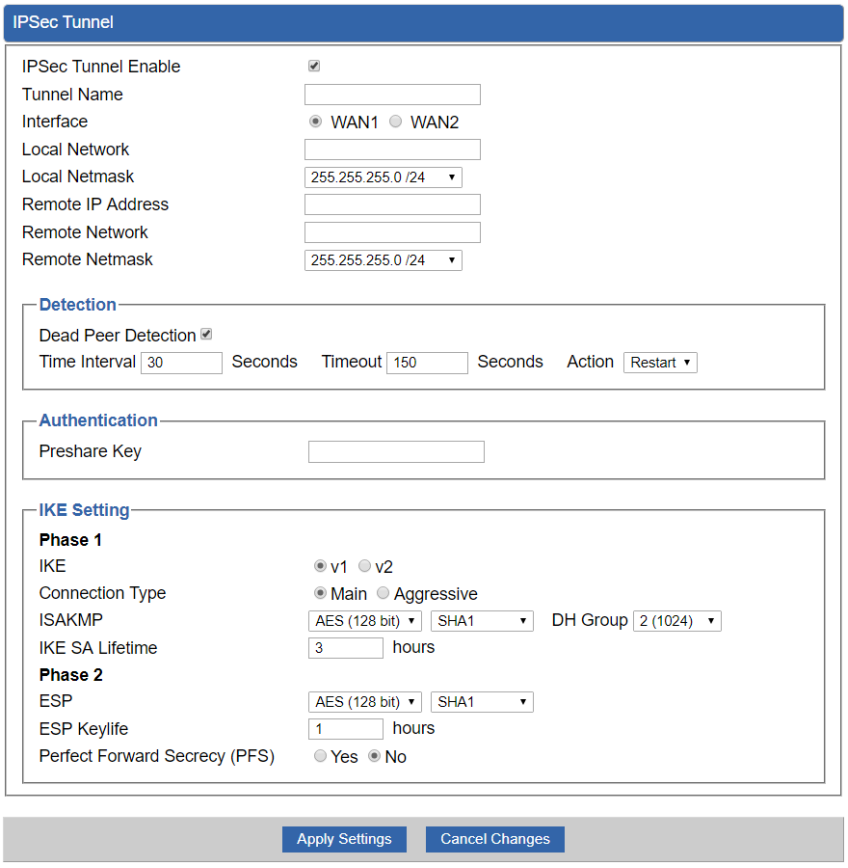


Figure 4-49: IPSec Tunnel

Object	Description
IPSec Tunnel Enable	Check the box to enable the function.
Tunnel Name	Enter any words for recognition.
Interface	This is only available for host-to-host connections and it specifies to which interface the host is connecting. 1. WAN 1. 2. WAN 2.
Local Network	The local subnet in CIDR notation. For instance, "192.168.1.0”.
Local Netmask	The netmask of this router.
Remote IP Address	Input the IP address of the remote host. For instance, "210.66.1.10”.
Remote Network	The remote subnet in CIDR notation. For instance, "210.66.1.0”.
Remote Netmask	The netmask of the remote host.
Dead Peer Detection	Set up the detection time of **DPD** (Dead Peer Detection). By default, the DPD detection’s gap is 30 seconds; if is over 150 seconds, the line is broken. When VPN detects an opposite party’s reaction time, the function will take one of the actions: “Hold” means the system will retain IPSec SA. "Clear" means the tunnel is clear and waits for the new sessions. "Restart" will delete the IPSec SA and reset VPN tunnel.
Preshare Key	Enter a pass phrase to be used to authenticate the other side of the tunnel. Should be the same as the remote host.
IKE	Select the IKE (Internet Key Exchange) version.
Connection Type	1. Main. 2. Aggressive.
ISAKMP	It provides the way to create the SA between two PCs. The SA can access the encoding between two PCs, and the IT administrator can assign to which key size or Preshare Key and algorithm to use. The SA comes in many connection ways. 1. **AES**: if a 128-bit, 192-bit and 256-bit key is used, AES is a commonly seen and adopted nowadays. 2. **3DES**: Triple DES is a block cipher formed from the DES cipher by using it three times. It can achieve an algorithm up to 168 bits.

	3. **SHA1**: The SHA1 is a revision of SHA. It has improved the shortcomings of SHA. By producing summary hash values, it can achieve an algorithm up to 160 bits. 4. **SHA2**: Either 256, 384 or 512 can be chosen 5. **MD5 Algorithm**: MD5 processes a variably long message into a fixed-length output of 128 bits. 6. **DH Group**: Either 1, 2, 5, 14, 15, 16, 17, or 18 can be chosen.
IKE SA Lifetime	You can specify how long IKE packets are valid.
ESP	It offers AES, 3 DES, SHA 1, SHA2, and MD5. 1. **AES**: If a 128-bit, 192-bit and 256-bit key is used, AES is a commonly seen and adopted nowadays. 2. **3DES**: Triple DES is a block cipher formed from the DES cipher by using it three times. It can achieve an algorithm up to 168 bits. 3. **SHA1:** The SHA1 is a revision of SHA. It has improved the shortcomings of SHA. By producing summary hash values, it can achieve an algorithm up to 160 bits. 4. **SHA2**: Either 256, 384 or 512 can be chosen. 5. **MD5 Algorithm**: MD5 processes a variably long message into a fixed-length output of 128 bits.
ESP Keylife	You can specify how long ESP packets are valid.
Perfect Forward Secrecy (PFS)	Set the function as enable or disable.

4.8.2 GRE

This section assists you in setting the GRE Tunnel as shown in Figure 4-50.

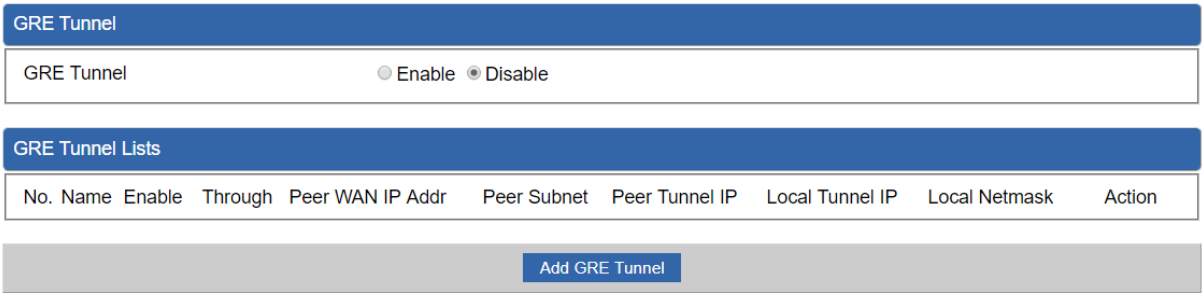


Figure 4-50: GRE

Object	Description
GRE Tunnel	Set the function as enable or disable.
Add GRE Tunnel	Go to the Add GRE Tunnel page to add a new tunnel.

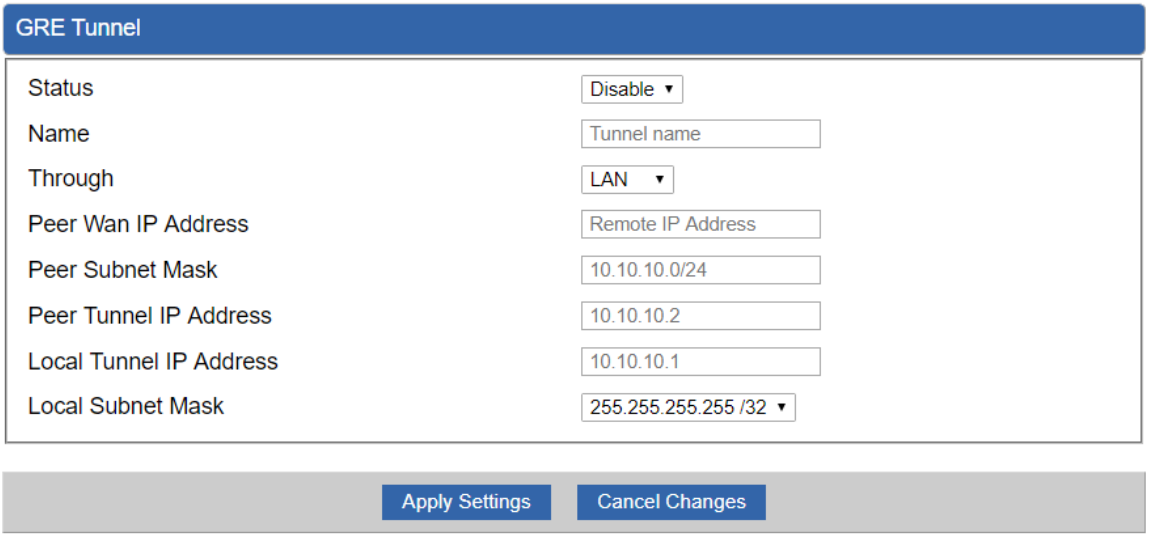


Figure 4-51: GRE Tunnel

Object	Description
Active	Check the box to enable the function.
Tunnel Name	Enter any words for recognition.
Through	This is only available for host-to-host connections and specifies to which interface the host is connecting.

	1. LAN. 2. WAN 1. 3. WAN 2.
Peer WAN IP Address	Input the IP address of the remote host. For instance, "210.66.1.10”.
Peer Netmask	The remote subnet in CIDR notation. For instance, "210.66.1.0/24”.
Peer Tunnel IP Address	Input the Tunnel IP address of remote host.
Local Tunnel IP Address	Input the Tunnel IP address of remote host.
Local Netmask	Input the Tunnel IP address of the router.

4.8.3 PPTP Server

Use the IP address and the scope option needs to match the far end of the PPTP server; its goal is to use the PPTP channel technology, and establish Site-to-Site VPN where the channel can have equally good results from different methods with IPSec. The PPTP server is shown in Figure 4-52.

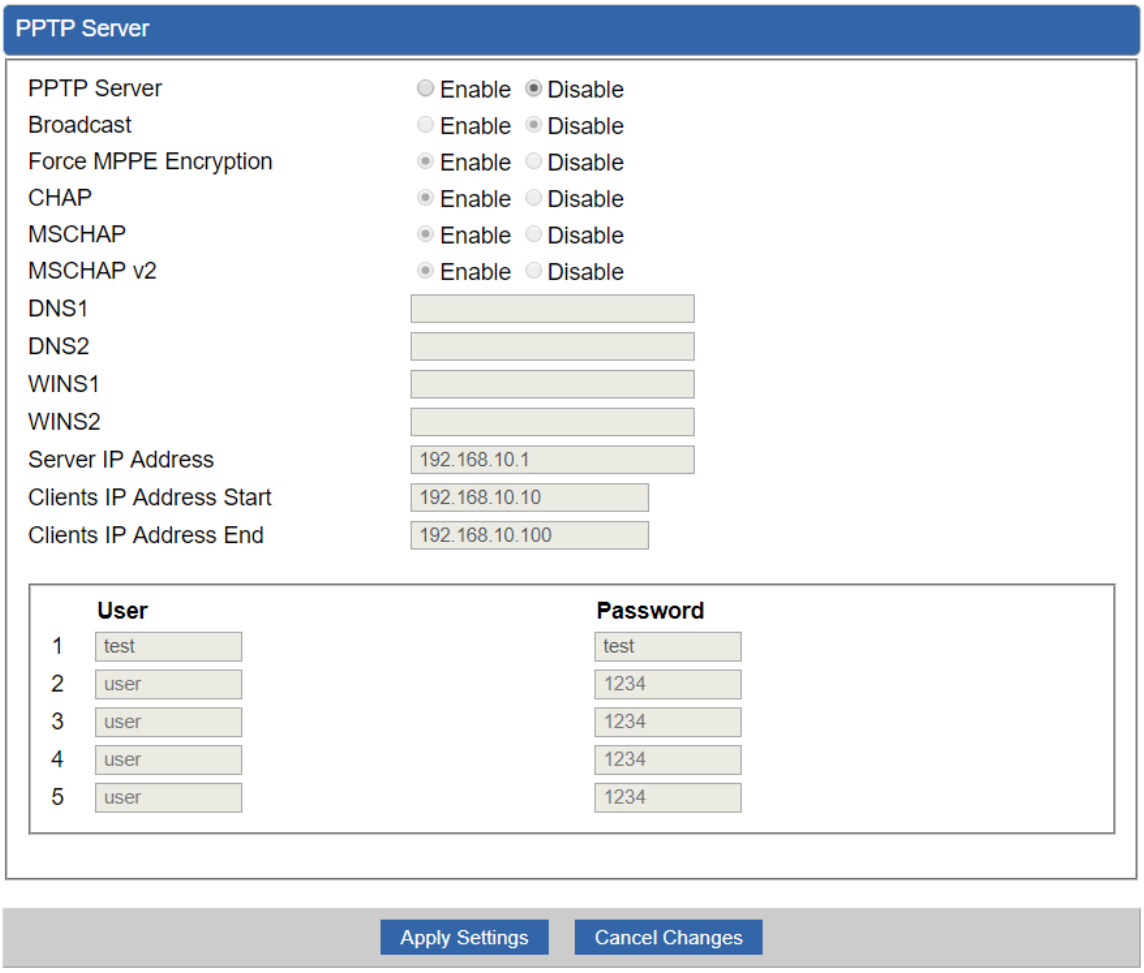


Figure 4-52: PPTP server

Object	Description
PPTP Server	Set the function as enable or disable.
Broadcast	Enter any words for recognition.
Force MPPE Encryption	Set the encryption as enable or disable.
CHAP	Set the authentication as enable or disable.
MSCHAP	Set the authentication as enable or disable.

MSCHAP v2	Set the authentication as enable or disable.
DNS	When the PPTP client connects to the PPTP server, it will assign the DNS server IP address to client.
WINS	When the PPTP client connects to the PPTP server, it will assign the WINS server IP address to client.
Server IP Address	Input the IP address of the PPTP Server. For instance, "192.168.10.1”.
Clients IP Address (Start/End)	When the VPN connection is established, the VPN client will get IP address from the VPN Server. Please set the range of IP Address. For instance, the start IP address is "192.168.10.10”, and the end IP address is "192.168.10.100”.
User and Password	Create the username and password for the VPN client.

4.8.4 L2TP Server

This section assists you in setting the L2TP Server as shown in Figure 4-53.

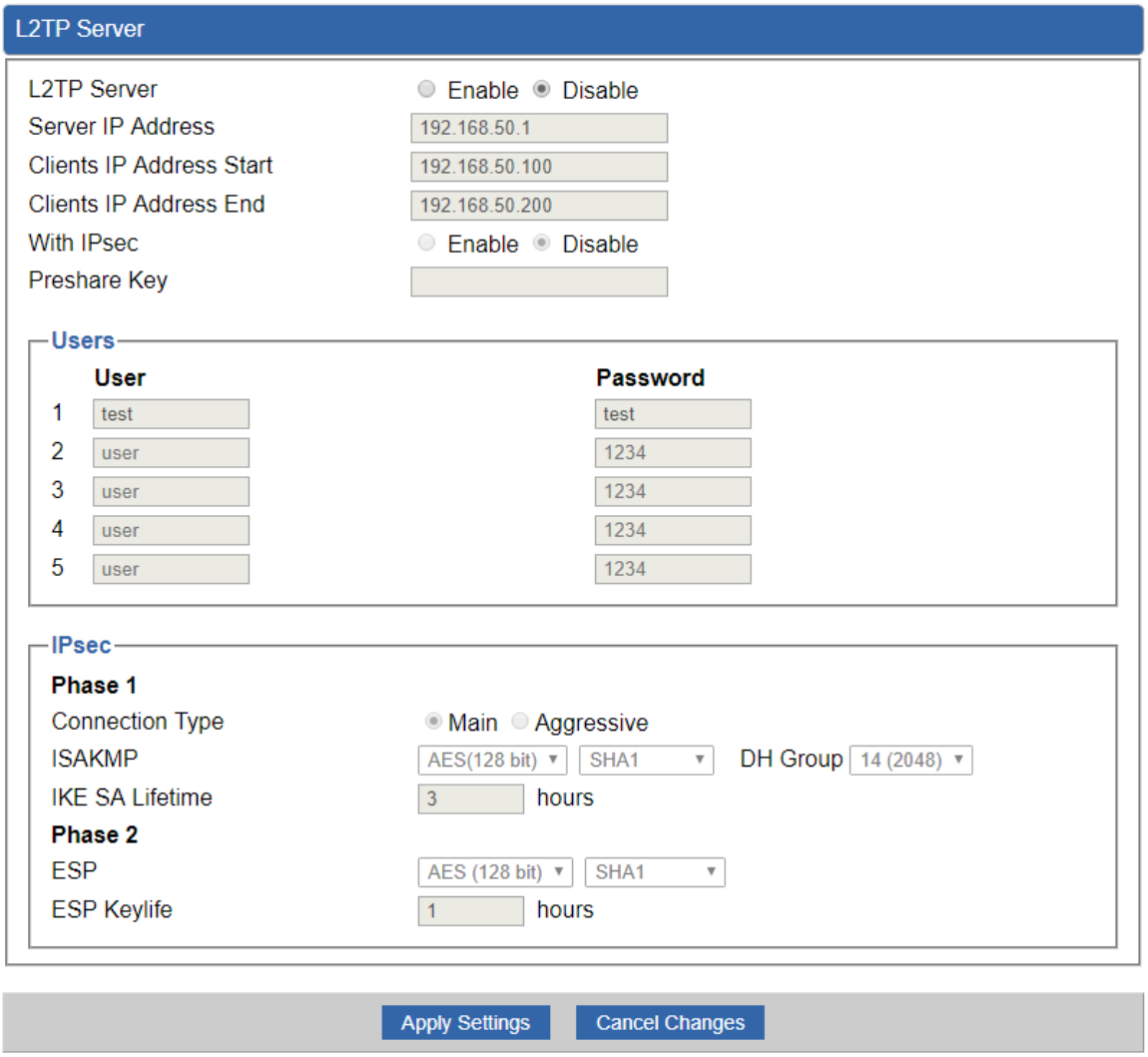


Figure 4-53: L2TP Server

Object	Description
L2TP Server	Set the function as enable or disable.
Server IP Address	Input the IP address of the L2TP Server. For instance, "192.168.50.1”.
Clients IP Address (Start/End)	When the VPN connection is established, the VPN client will get IP address from the VPN Server. Please set the range of IP Address. For instance, the start IP address is "192.168.50.100”, and the end IP address is "192.168.50.200”.
With IPsec	Set the function as enable to make the L2TP work with IPsec encryption.

Object	Description
Preshare Key	Enter a pass phrase.
User and Password	Create the username and password for the VPN client.
Connection Type	1. Main. 2. Aggressive.
ISAKMP	It provides the way to create the SA between two PCs. The SA can access the encoding between two PCs, and the IT administrator can assign to which key size or Preshare Key and algorithm to use. The SA comes in many connection ways. 1. AES: If a 128-bit, 192-bit and 256-bit key is used, AES is a commonly seen and adopted nowadays. 2. 3DES: Triple DES is a block cipher formed from the DES cipher by using it three times. It can achieve an algorithm up to 168 bits. 3. SHA1: The SHA1 is a revision of SHA. It has improved the shortcomings of SHA. By producing summary hash values, it can achieve an algorithm up to 160 bits. 4. SHA2: Either 256, 384 or 512 can be chosen. 5. MD5 Algorithm: MD5 processes a variably long message into a fixed-length output of 128 bits. 6. DH Group: Either 1, 2, 5, 14, 15, 16, 17, or 18 can be chosen.
IKE SA Lifetime	You can specify how long IKE packets are valid.
ESP	It offers AES, 3 DES, SHA 1, SHA2, and MD5. 1. AES: If a 128-bit, 192-bit and 256-bit key is used, AES is a commonly seen and adopted nowadays. 2. 3DES: Triple DES is a block cipher formed from the DES cipher by using it three times. It can achieve an algorithm up to 168 bits. 3. SHA1: The SHA1 is a revision of SHA. It has improved the shortcomings of SHA. By producing summary hash values, it can achieve an algorithm up to 160 bits. 4. SHA2: Either 256, 384 or 512 can be chosen. 5. MD5 Algorithm: MD5 processes a variably long message into a fixed-length output of 128 bits.
ESP Keylife	You can specify how long ESP packets are valid.

4.8.5 SSL VPN

This section assists you in setting the SSL Server as shown in Figure 4-54.

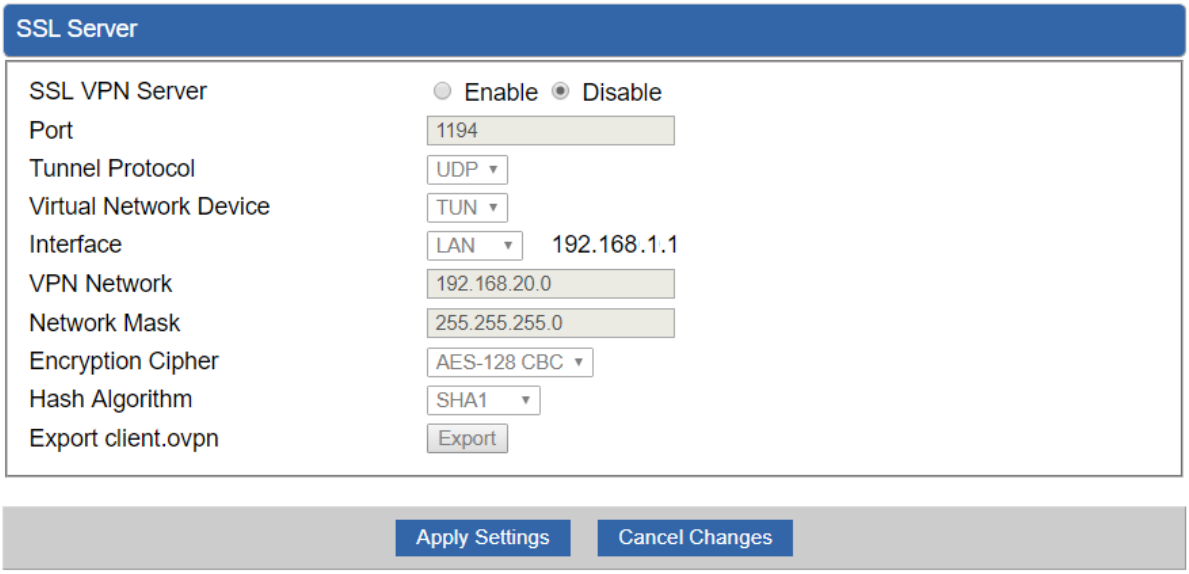


Figure 4-54: SSL Server

Object	Description
SSL VPN Server	Set the function as enable or disable.
Port	Set a port for the SSL Service. Default port is 1194.
Tunnel Protocol	Set the protocol as TCP or UDP.
Virtual Network Device	Set the Virtual Network Device as TUN or TAP.
Interface	User is able to select the interface for SSL service usage.
VPN Network	The VPN subnet in CIDR notation. For instance, "192.168.20.0".
Network Mask	The netmask of the VPN.
Encryption Cipher	There are four encryption types: None, AES-128 CBC, AES-192 CBC or AES-256 CBC.
Hash Algorithm	There are five types of Hash Algorithm: None, SHA1, SHA1, SHA512 or MD5.
Export client.ovpn	Export a configuration for the SSL client. User is able to upload it to VPN client (such as Open VPN software).

4.8.6 VPN Connection

This page shows the VPN connection status as shown in Figure 4-55.

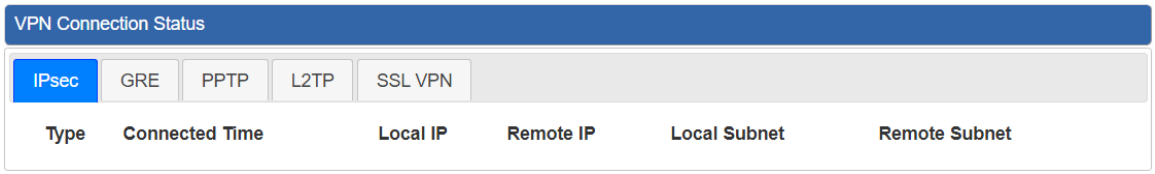


Figure 4-55: VPN Connection Status

Object	Description
VPN Connection Status	Click the IPSec/GRE/…/SSL VPN bookmark to check the current connection status.

4.9 AP Control

The AP Control menu provides the following features for managing the system as Figure 4-56 is shown below:

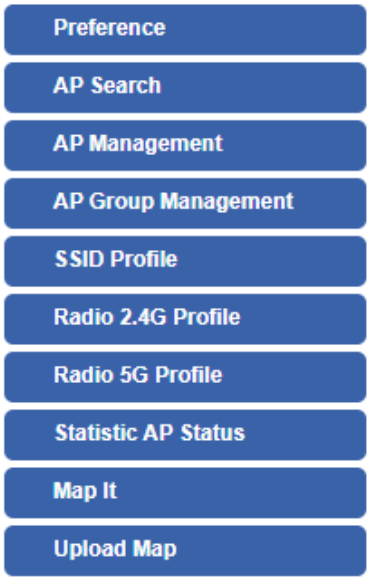
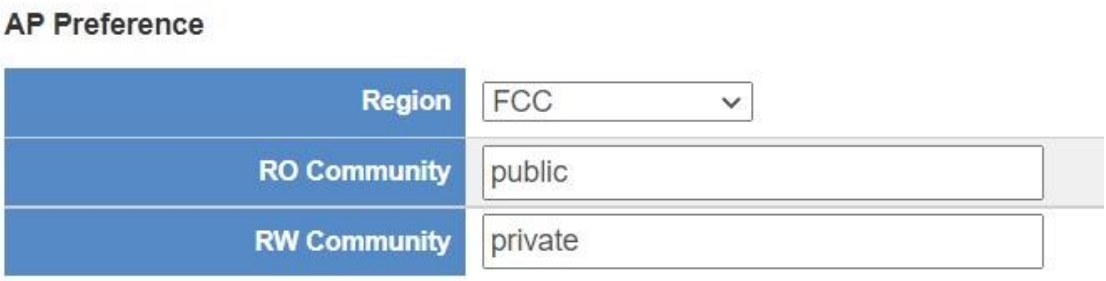


Figure 4-56: AP Control Menu

Object	Description
Preference	Edit region, RO community, RW community
AP Search	Search APs in the same domain
AP Management	Config APs IP Address, Subnet Mask, SSID and Radio Profiles
AP Group Management	Grouping same model AP
SSID Profile	Setup SSID Profile
Radio 2.4G Profile	Setup Radio 2.4G Profiles
Radio 5G Profile	Setup Radio 5G Profiles
Statistics AP Status	Show the status of managed APs
Statistics Active Clients	Show the status of active clients
Map It	Edit the map of AP location and coverage
Upload Map	Search APs in the same domain

4.9.1 Preference

On this page, you can choose the device region of FCC or ETSI. Then edit RO community and RW community for public or private use. Select Apply or Reset.



Note: Device of FCC and device of ETIS cannot be shown at the same time.

4.9.2 AP Search

On this page, you can add new APs to your AP Control System.

Follow the steps:

Step 1. Press the Search button to discover PLANET devices.

Step 2. Wait for a while and the choose which AP you want to add to.

Step 3. Press the Apply button to finish addition.

Note: When using AP Search, The APs IP Address must be the same as WS-Series Switch IP domain.

4.9.3 AP Management

On this page, you can manage your APs, including checking AP online status, configuring AP (IP address, Mask, SSID and Radio profile), rebooting AP, firmware update, and deleting AP in the AP Control system.

Status

Object	Description
	Connection status: online, offline, Wi-Fi disabled
	In progress: action in progress
	Finished/Successful: action finished and successful.
	Failed: action failed.

Action

Object	Description
	Setting: edit setting and allocate profile to AP
	Link: link to the AP's web page
	Firmware Update: Upgrade AP's firmware
	Reboot: Reboot the AP
	Delete: Delete the AP from the control list LED Control: Control the AP's LED.

	Mouse-click in a sequential order: LED blink-> LED off-> LED on

Note:

1. To configure multiple APs one at a time, select multiple APs and then choose one of the action icons on the top of the page. The "Link" action is not allowed for multiple APs.

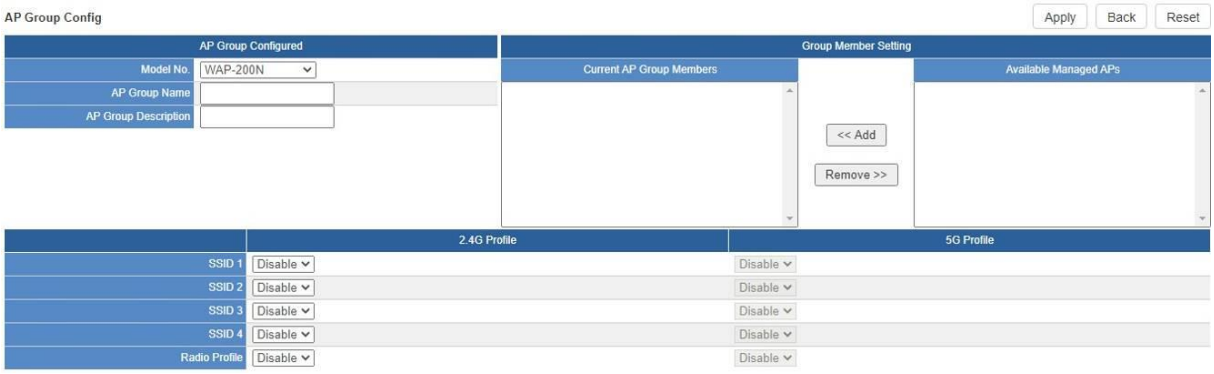
2. When setting up of AP is done, you need to press the Apply button to complete the setup.

4.9.4 AP Group Management

On the AP Group Management page, you can create AP group and control one or more AP groups.

Action:

Object	Description
	Add new group: Click it to add an AP group
	Delete selected item: Click it to delete the selected AP group



Create Group:

1. Select AP Model No. you want to Add
2. Type AP Group Name and AP Group Description.
3. Select AP you want to add in group member setting area and press the Add button.
4. Select AP Group SSID profile and Radio Profile.
5. Press the Apply button to finish the job..

Note:

To do profile provisioning to multiple AP groups one at a time, select multiple AP groups, and then click the “Apply” button.

The "Link" action is not allowed for multiple APs or AP group.

4.9.5 SSID Profile

On the SSID profile configuration page, enter the value that you preferred and then click “Apply” to save the profile

Action:

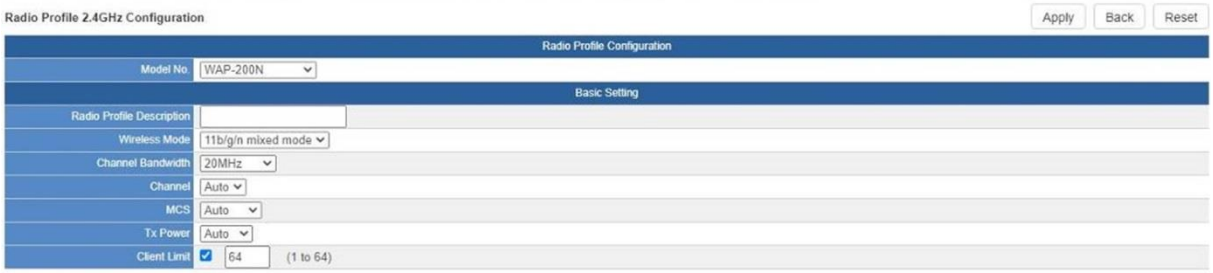
Object	Description
	Add new profile: Click it to add a new profile.
	Delete selected item: Click it to delete the selected profile.
	Edit: Click it to edit the profile.
	Delete: Click it to delete the single profile.

4.9.6 Radio 2.4G Profile

On the Radio profile configuration page, enter the value that you preferred and then click “Apply” to save the profile.

Action:

Object	Description
	Add new profile: Click it to add a new profile.
	Delete selected item: Click it to delete the selected profile.
	Edit: Click it to edit the profile.
	Delete: Click it to delete the single profile.



Note:

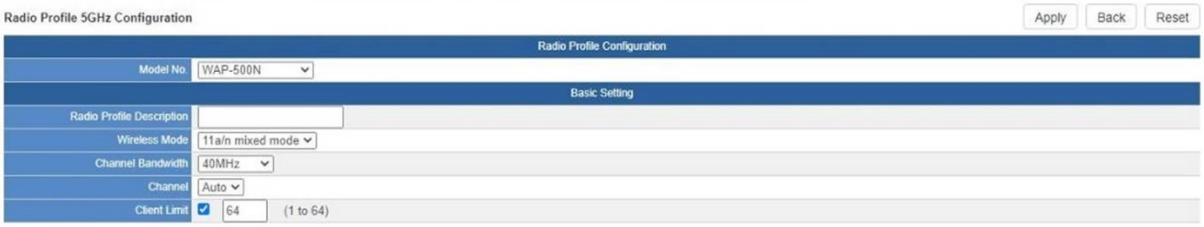
1. Strongly suggest you to keep the values as default except the fields like Channel, Network Mode, Channel Bandwidth, Tx Power, IAPP, and Tx/Rx to prevent any unexpected error or impact on the performance.
2. WMM Capable is not allowed to be disabled.

4.9.7 Radio 5G Profile

On the Radio profile configuration page, enter the value that you preferred and then click “Apply” to save the profile.

Action:

Object	Description
	Add new profile: Click it to add a new profile.
	Delete selected item: Click it to delete the selected profile.
	Edit: Click it to edit the profile.
	Delete: Click it to delete the single profile.



Note:

1. Strongly suggest you to keep the values as default except the fields like Channel, Network Mode, Channel Bandwidth, Tx Power, IAPP, and Tx/Rx to prevent any unexpected error or impact on the performance.
2. WMM Capable is not allowed to be disabled.

4.9.8 Statistics AP Status

On this page, you can observe the current configuration of all managed APs.

Num.	Status	MAC Address	IP Address	Model No.	Name	firmware	AP Group	2.4GHz SSID Profile	5GHz SSID Profile	2.4GHz Radio Profile	5GHz Radio Profile
1		a8:f7:e0:46:2e:38	192.168.0.102	WDAP-C7200E		WDAP-C7200E-AP-FCC-V3.0-Build20200321122005					
2		a8:f7:e0:3c:5f:ab	192.168.0.101	WNAP-C3220E		WNAP-C3220E-AP-FCC-V3.0-Build20200422115453			N/A		N/A

Filter: You can filter the AP list by entering the keyword in the field next to the magnifier icon. The keyword should be in any context that belongs to the fields of this page.

4.9.9 Statistics Active Clients

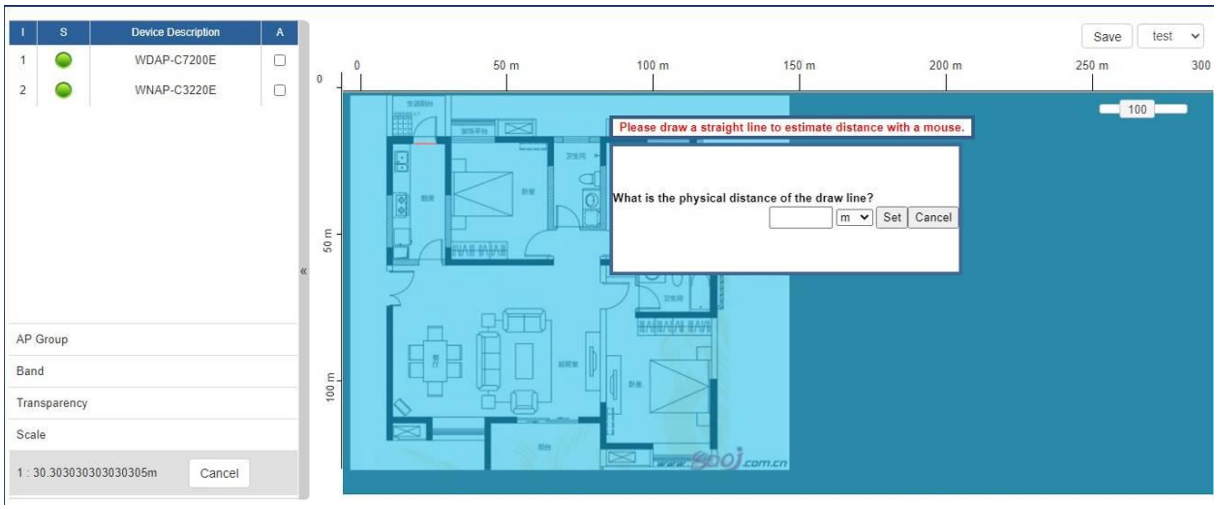
On this page, you can observe the statuses of all associated clients including traffic statistics, transmission speed and RSSI signal strength.

Num.	Client MAC Address	AP MAC Address	AP SSID	Band	Tx (KB)	Rx (KB)	Speed (Mbps)	RSSI (dBm)
1	00:00:00:00:00:00	a8:f7:e0:46:2e:38	SSIDtest_2.4G	2.4GHz	0	0	0	0

Filter: You can filter the search result by entering the keywords in the field next to the magnifier icon. The keywords include MAC Address, IP Address, SSID and Band.

4.9.10 Map It

On this page you can add managed APs to the actual position against the floor map. This is convenient to user to view and adjust the actual deployment by reference to its real transmission power and channel allocation.

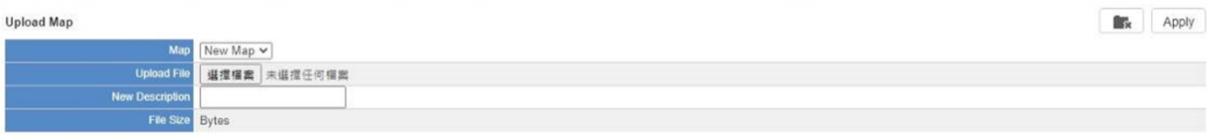


1. Click “Scale” to start to reset the map scale.
2. Press the set button to draw a line on the map. Fill its physical distance in the blank and press Set or Cancel. For example, in the graph below, set the door width to 0.8 m

Note: You need to upload map image first before managed APs can be placed in their the actual position.

4.9.11 Upload Map

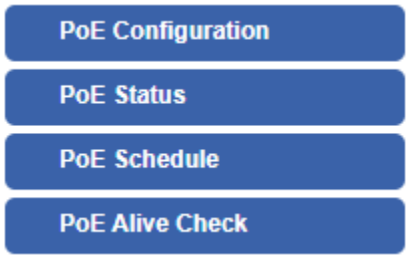
On this page, the system allows you to upload your floor map to the system.



Note: The system allows user to upload up to 10 floor maps.

4.10 Power over Ethernet

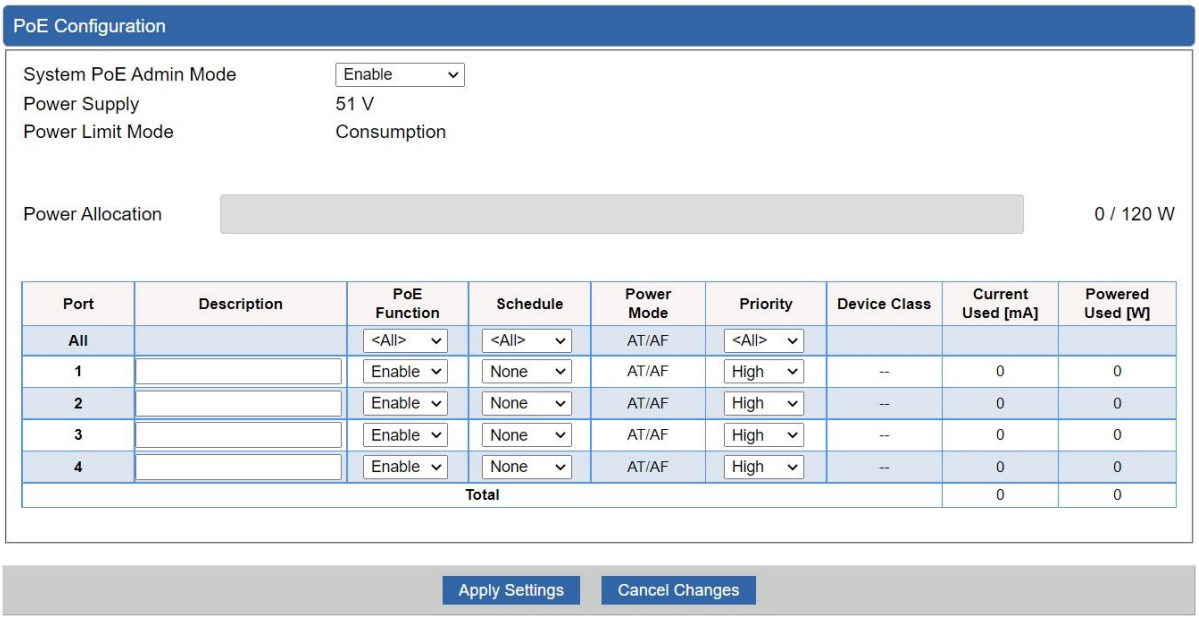
The PoE menu provides the following features for managing the system.



Object	Description
PoE Configuration	Allows to centralize management of PoE power for PDs.
PoE Status	Displays the current PoE usage.
PoE Schedule	Allows centralizing management of PoE power for providing schedule.
PD Alive Check	Allows centralizing management of PoE power for checking PDs alive.

4.10.1 PoE Configuration

This section allows the user to inspect and configure the current PoE configuration setting.

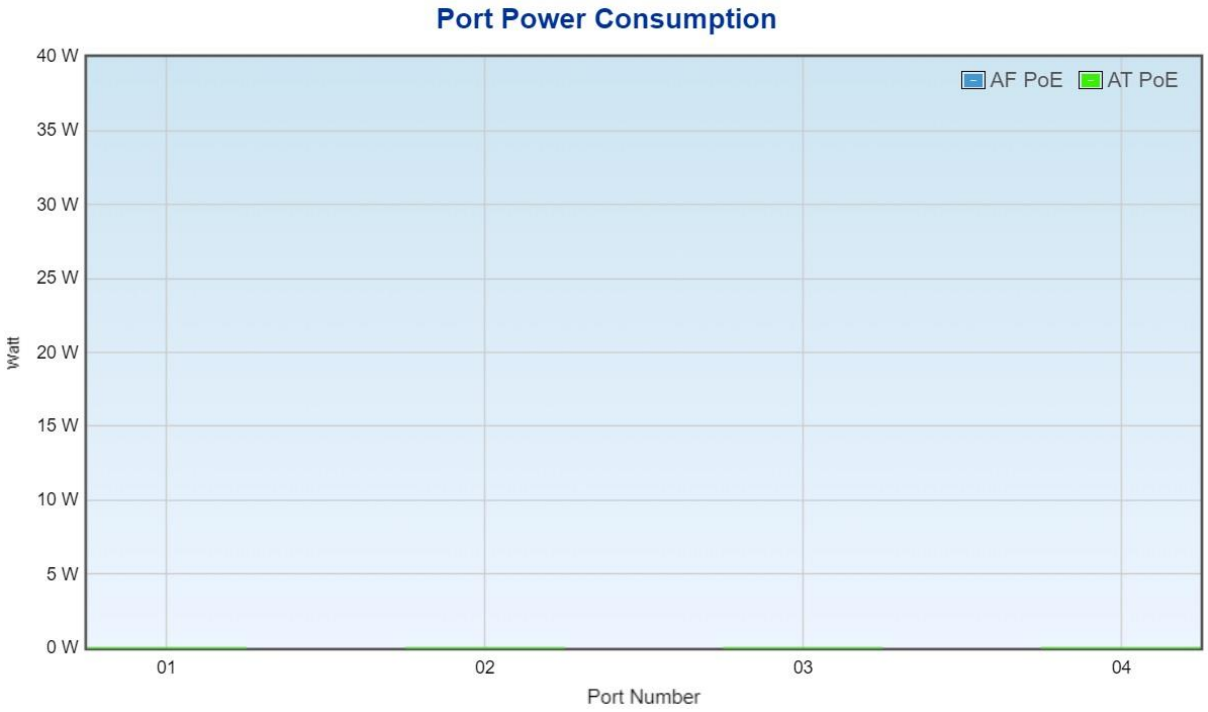


Object	Description
• **System PoE Admin Mode**	Allows user to enable or disable PoE function. It will cause all of PoE ports to supply or not to supply power.
• **PoE Function**	There are three modes for PoE mode. ■ **Enable**: enable PoE function.. ■ **Disable**: disable PoE function. ■ **Schedule: enable PoE function in schedule mode.**
• **Schedule**	Indicates the scheduled profile mode. Possible profiles are: ■ **Profile1** ■ **Profile2** ■ **Profile3** ■ **Profile4**
• **Priority**	The Priority represents PoE ports priority. There are three levels of power priority named **Low**, **High** and **Critical**. The priority is used in case the total power consumption is over the total power budget. In this case, the port with the lowest priority will be turned off, and power for the port of higher priority will be offered.

• **Device Class**	Displays the class of the PD attached to the port, as established by the classification process. Class 0 is the default for PDs. The PD is powered based on PoE Class level if the system is working in Classification mode. The PD will return to Class 0 to 4 in accordance with the maximum power
• **Current Used [mA]**	The **Power Used** shows how much current the PD currently is using.
• **Powered Used [W]**	The **Power Used** shows how much power the PD currently is using.

4.10.2 PoE Status

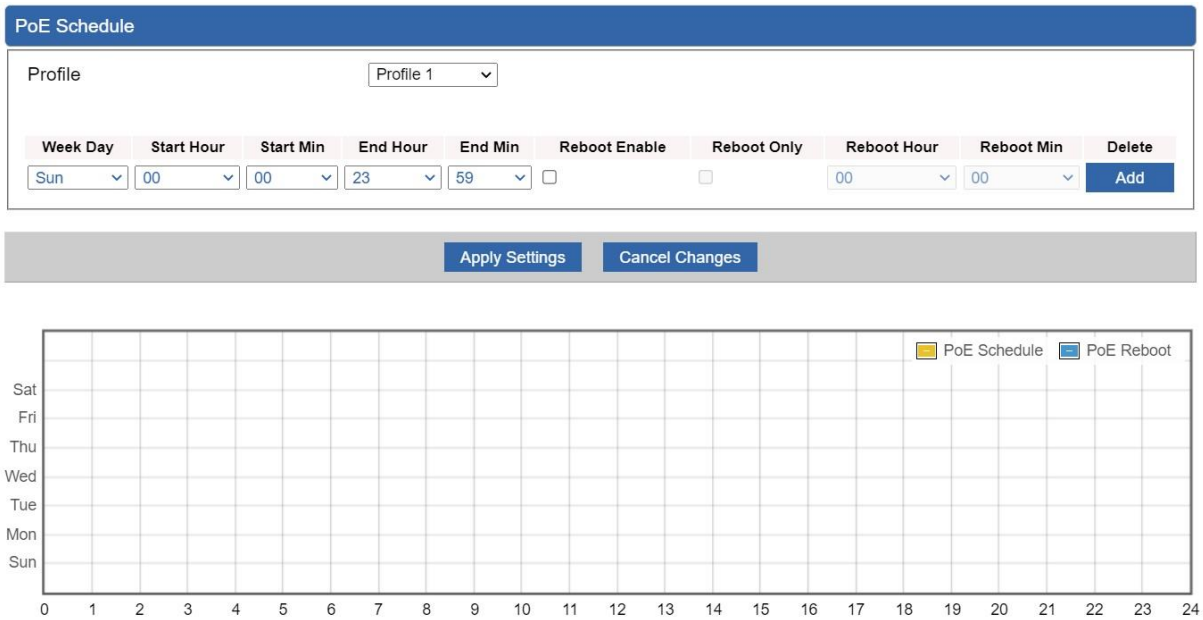
This section provides per port PoE status.



4.10.3 PoE Schedule

This page allows the user to define PoE schedule and scheduled power recycling.

Please press the **Add New Rule** button to start setting PoE Schedule function. You have to set PoE schedule to profile and then go back to PoE Port Configuration, and select "**Schedule**" mode from per port "**PoE Mode**" option to enable you to indicate which schedule profile could be applied to the PoE port.



Object	Description
• **Profile**	Set the schedule profile mode. Possible profiles are: **Profile1** **Profile2** **Profile3** **Profile4**
• **Week Day**	Allows user to set week day for defining PoE function by enabling it on the day.
• **Start Hour**	Allows user to set what hour PoE function does by enabling it.
• **Start Min**	Allows user to set what minute PoE function does by enabling it.
• **End Hour**	Allows user to set what hour PoE function does by disabling it.
• **End Min**	Allows user to set what minute PoE function does by disabling it.

• **Reboot Enable**	Allows user to enable or disable the whole PoE port reboot by PoE reboot schedule. Please note that if you want PoE schedule and PoE reboot schedule to work at the same time, please use this function, and don't use **Reboot Only** function. This function offers administrator to reboot PoE device at an indicated time if administrator has this kind of requirement.
• **Reboot Only**	Allows user to reboot PoE function by PoE reboot schedule. Please note that if administrator enables this function, PoE schedule will not set time to profile. This function is just for PoE port to reset at an indicated time.
• **Reboot Hour**	Allows user to set what hour PoE reboots. This function is only for PoE reboot schedule.
• **Reboot Min**	Allows user to set what minute PoE reboots. This function is only for PoE reboot schedule.

4.10.4 PD Alive Check

The VPN Router can be configured to monitor connected PD's status in real-time via ping action. Once the PD stops working and without response, the PoE Switch is going to restart PoE port power, and bring the PD back to work. It will greatly enhance the reliability and reduces administrator management burden.

PoE Alive Configuration

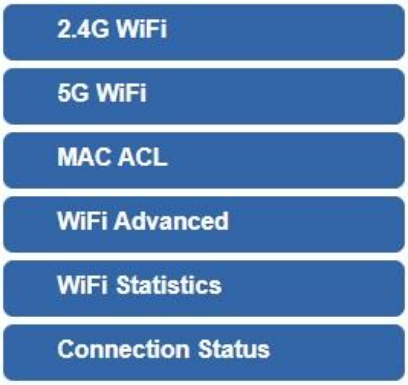
Port	Mode	Remote PD IP Address	Interval Time(10~300s)	Retry Count(1~5)	Action	Reboot Time (30~180s)
All	<All>			<All>	<All>	
1	Disable	192.168.1.10	10	1	None	30
2	Disable	192.168.1.11	10	1	None	30
3	Disable	192.168.1.12	10	1	None	30
4	Disable	192.168.1.13	10	1	None	30

Object	Description
• **Mode**	Allows user to enable or disable per port PD Alive Check function. By default, all ports are disabled.
• **Remote PD IP Address**	This column allows user to set PoE device IP address for system making ping to the PoE device. Please note that the PD's IP address must be set to the same network segment with the PoE Switch.
• **Interval Time (10~300s)**	This column allows user to set how long system should issue a ping request to PD for detecting whether PD is alive or dead. Interval time range is from 10 seconds to 300 seconds.
• **Retry Count (1~5)**	This column allows user to set the number of times system retries ping to PD. For example, if we set count 2, it means that if system retries ping to the PD and the PD doesn't response continuously, the PoE port will be reset.
• **Action**	Allows user to set which action will be applied if the PD is without any response. The PoE Switch Series offers the following 3 actions: ■ **PD Reboot:** It means system will reset the PoE port that is connected to the PD. ■ **PD Reboot & Alarm:** It means system will reset the PoE port and issue an alarm message via Syslog. ■ **Alarm:** It means system will issue an alarm message via

	Syslog.
• **Reboot Time (30~180s)**	This column allows user to set the PoE device rebooting time as there are so many kinds of PoE devices on the market and they have a different rebooting time. The PD Alive-check is not a defining standard, so the PoE device on the market doesn't report reboot done information to the PoE Switch. Thus, user has to make sure how long the PD will take to finish booting, and then set the time value to this column. System is going to check the PD again according to the reboot time. If you are not sure of the precise booting time, we suggest you set it longer.

4.11 Wireless

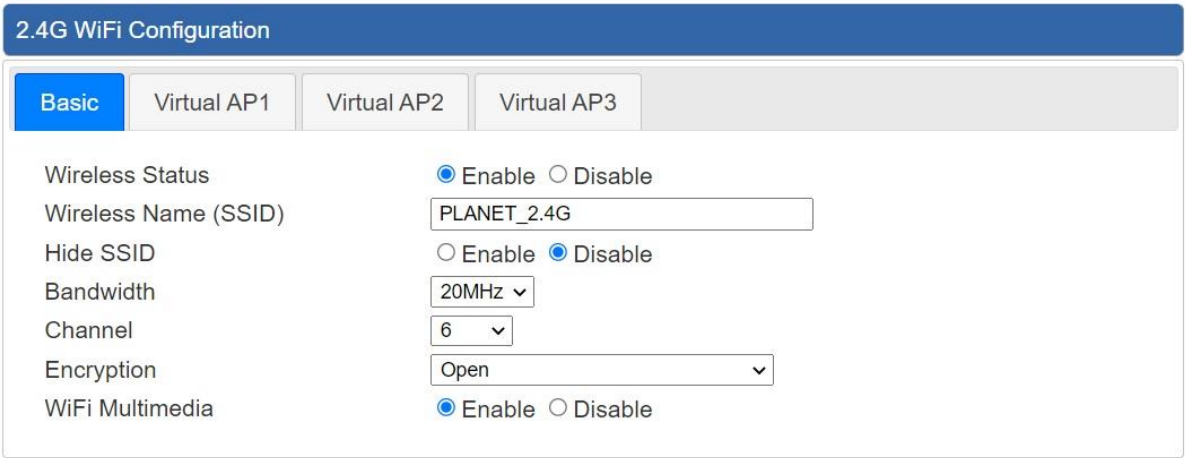
The Wireless menu provides the following features for managing the system



Object	Description
2.4G Wi-Fi	Allow to configure 2.4G Wi-Fi.
5G Wi-Fi	Allow to configure 5G Wi-Fi.
MAC ACL	Allow to configure MAC ACL.
Wi-Fi Advanced	Allow to configure advanced setting of Wi-Fi.
Wi-Fi Statistics	Display the statistics of Wi-Fi traffic.
Connection Status	Display the connection status.

4.11.1 2.4G Wi-Fi

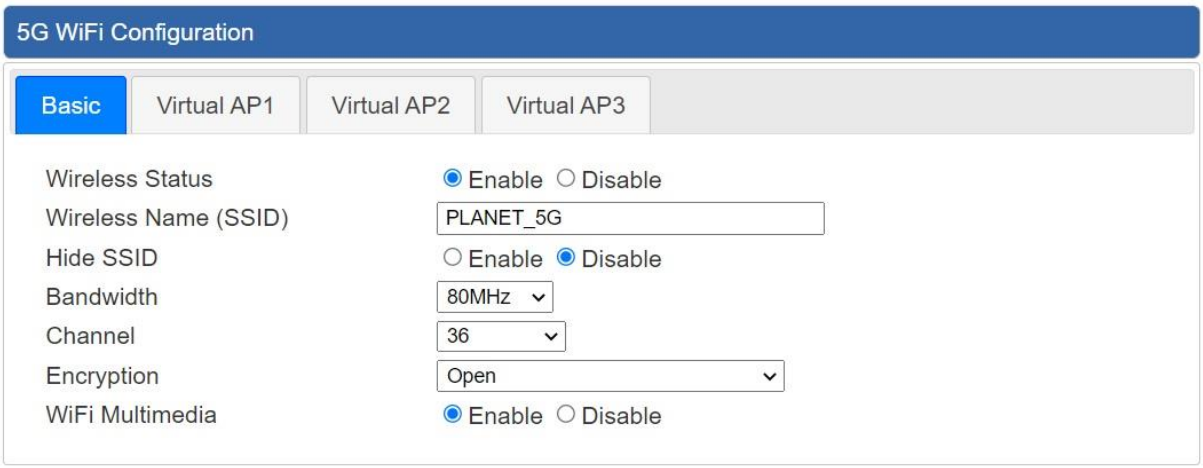
This page allows the user to define 2.4G Wi-Fi.



Object	Description
Wireless Status	Allows user to enable or disable 2.4G Wi-Fi
Wireless Name (SSID)	It is the wireless network name. The default 2.4G SSID is "PLANET_2.4G"
Hide SSID	Allows user to enable or disable SSID
Bandwidth	Select the operating channel width, "**20MHz**" or "**40MHz**"
Channel	It shows the channel of the CPE. Default 2.4GHz is channel 6.
Encryption	Select the wireless encryption. The default is "**Open**"
Wi-Fi Multimedia	Enable/Disable WMM (Wi-Fi Multimedia) function

4.11.2 5G Wi-Fi

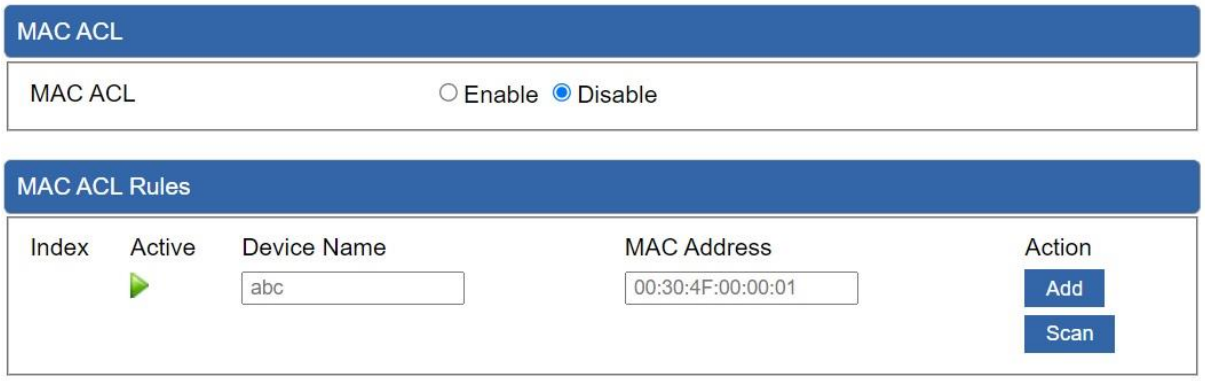
This page allows the user to define 5G Wi-Fi.



Object	Description
Wireless Status	Allows user to enable or disable 5G Wi-Fi
Wireless Name (SSID)	It is the wireless network name. The default 5G SSID is "PLANET_5G"
Hide SSID	Allows user to enable or disable SSID
Bandwidth	Select the operating channel width, "**20MHz**" or "**40MHz**" or "**80MHz**"
Channel	It shows the channel of the CPE. Default 5GHz is channel 36.
Encryption	Select the wireless encryption. The default is "**Open**"
WiFi Multimedia	Enable/Disable WMM (Wi-Fi Multimedia) function

4.11.3 MAC ACL

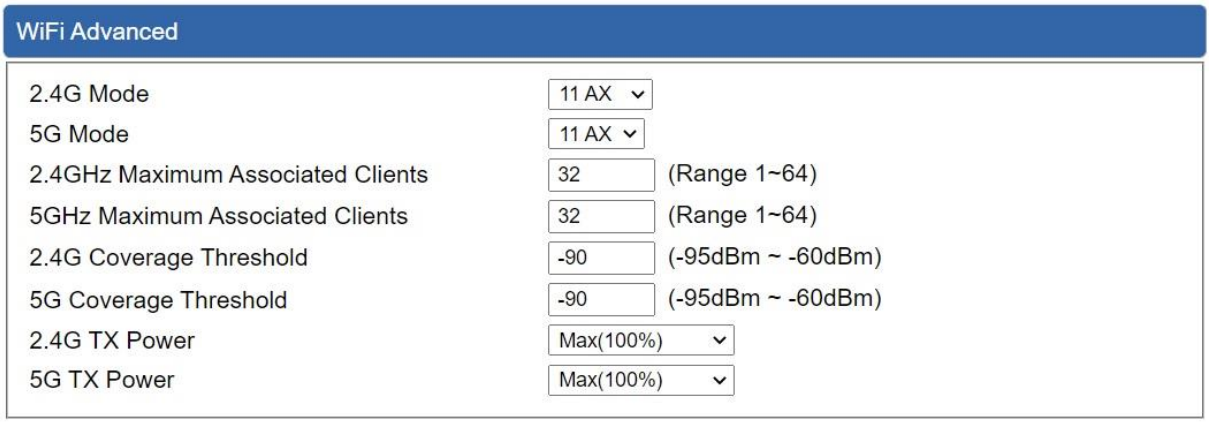
This page allows the user to define MAC ACL.



Object	Description
Active	Allows the devices to pass in the rule
Device Name	Set an allowed device name
MAC Address	Set an allowed device MAC address
Add	Press the "**Add**" button to add end-device that is scanned from wireless network and mark them
Scan	Connect to client list

4.11.4 Wi-Fi Advanced

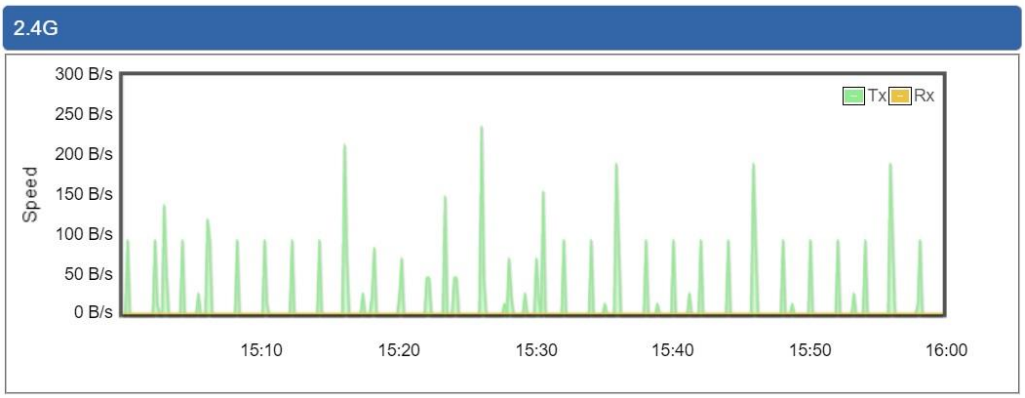
This page allows the user to define advanced setting of Wi-Fi.

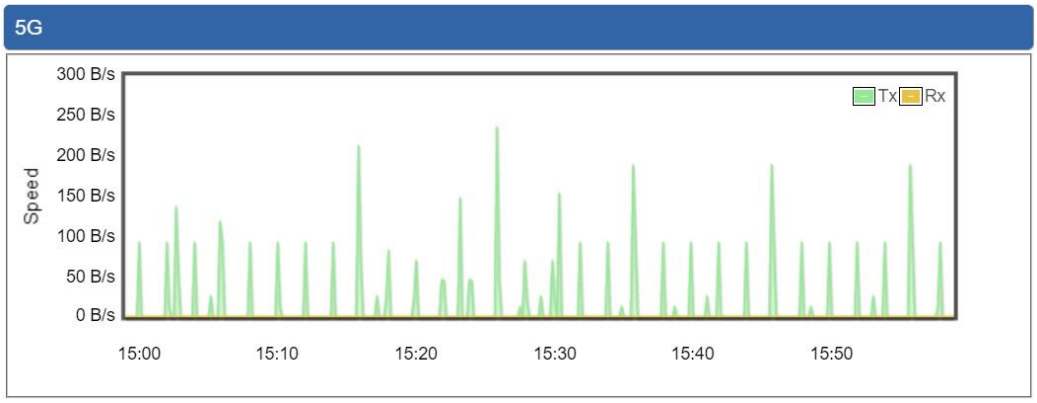


Object	Description
2.4G Mode	11AC: Select 802.11B/G or 802.11N/G 11AX: Select 802.11B/G or 802.11N/G or 802.11AX
5G Mode	11AC: Select 802.11A or 802.11AN or 802.11AC 11AX: Select 802.11A or 802.11AN or 802.11AC or 802.11AX
2.4GHz Maximum Associated Clients	The maximum users are 64
5GHz Maximum Associated Clients	The maximum users are 64
2.4G Coverage Threshold	The coverage threshold is to limit the weak signal of clients occupying session. The default is -90dBm
5G Coverage Threshold	The coverage threshold is to limit the weak signal of clients occupying session. The default is -90dBm
2.4G TX Power	The range of transmit power is **Max (100%)**, **Efficient (75%)**, **Enhanced (50%), Standard (25%)** or **Min (15%)**. In case of shortening the distance and the coverage of the wireless network, input a smaller value to reduce the radio transmission power
5G TX Power	The range of transmit power is **Max (100%)**, **Efficient (75%)**, **Enhanced (50%), Standard (25%)** or **Min (15%)**. In case of shortening the distance and the coverage of the wireless network, input a smaller value to reduce the radio transmission power

4.11.5 Wi-Fi Statistics

This page shows the statistics of Wi-Fi traffic.





4.11.6 Connection Status

This page shows the host names and MAC address of all the clients in your network

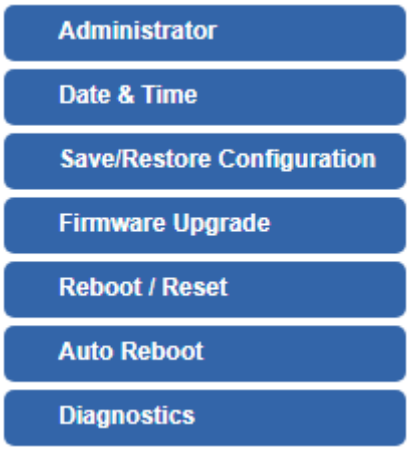
Client List

No.	Name	MAC Address	Signal	Connected Time

Object	Description
Name	Display the host name of connected clients.
MAC Address	Display the MAC address of connected clients.
Signal	Display the connected signal of connected clients.
Connected Time	Display the connected time of connected clients.

4.12 Maintenance

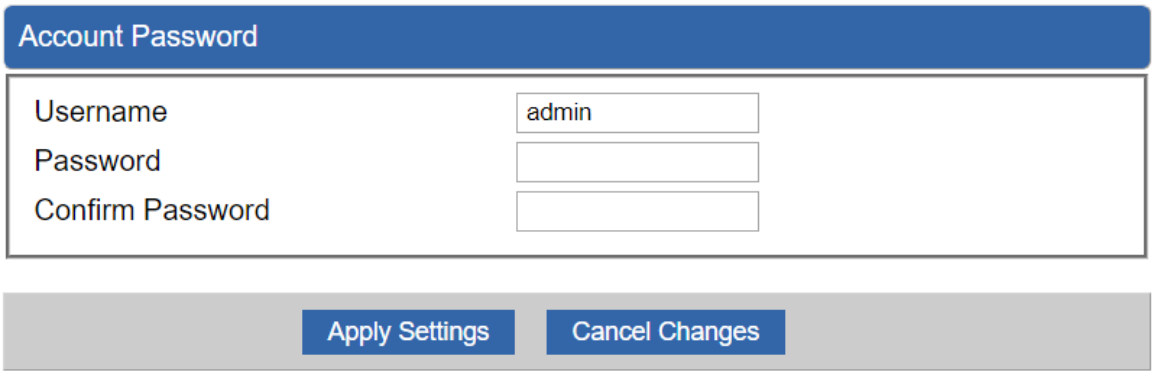
The Maintenance menu provides the following features for managing the system



Object	Description
Administrator	Allows changing the login username and password.
Date & Time	Allows setting Date & Time function.
Save/Restore Configuration	Export the router's configuration to local or USB sticker. Restore the router's configuration from local or USB sticker.
Firmware Upgrade	Upgrade the firmware from local or USB storage.
Reboot / Reset	Reboot or reset the system.
Auto Reboot	Allows setting auto-reboot schedule.
Diagnostics	Allows you to issue ICMP PING packets to troubleshoot IP.

4.12.1 Administrator

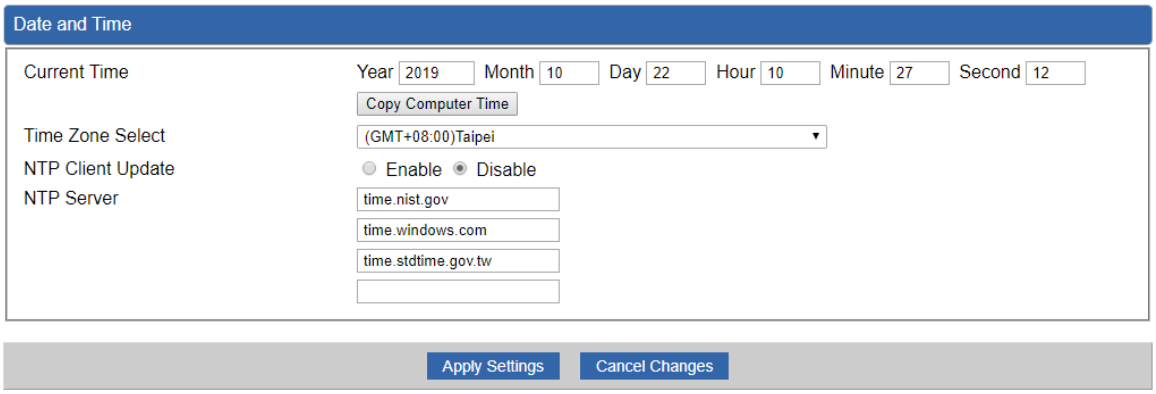
To ensure the router's security is secure, you will be asked for your password when you access the router's Web-based utility. The default user name and password are "**admin**". This page will allow you to modify the user name and passwords.



Object	Description
Username	Input a new username.
Password	Input a new password.
Confirm Password	Input password again.

4.12.2 Date and Time

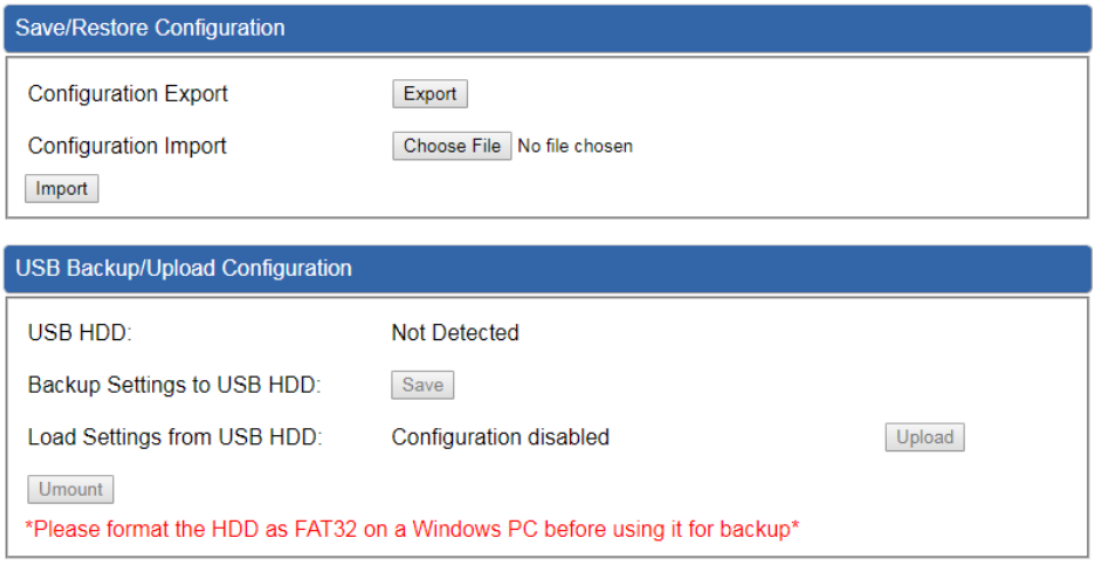
This section assists you in setting the system time of the router. You are able to either select to set the time and date manually or automatically obtain the GMT time from Internet as shown in Figure 4-49.



Object	Description
Current Time	Show the current time. User is able to set time and date manually.
Time Zone Select	Select the time zone of the country you are currently in. The router will set its time based on your selection.
NTP Client Update	Once this function is enabled, router will automatically update current time from NTP server.
NTP Server	User may use the default NTP sever or input NTP server manually.

4.12.3 Saving/Restoring Configuration

This page shows the status of the configuration. You may save the setting file to either USB storage or PC and load the setting file from USB storage or PC as Figure 4-50 is shown below:



■ Save Setting to PC

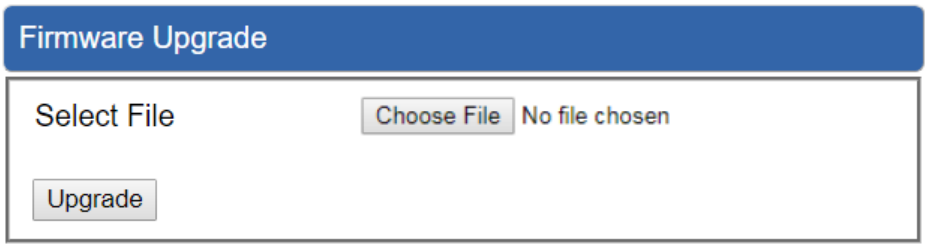
Object	Description
Configuration Export	Press the Export button to save setting file to PC.
Configuration Import	Press the Choose File button to select the setting file, and then press the Import button to upload setting file from PC.

■ Save Setting to USB Storage

Object	Description
USB Storage	The status of USB storage.
Backup Settings to USB Storage	Press the Save button to save setting file to USB storage.
Load Settings from USB Storage	Press the Upload button to upload setting file from USB storage.
Unmount	Before removing the USB storage from the router, please press the Umount button first.

4.12.4 Upgrading Firmware

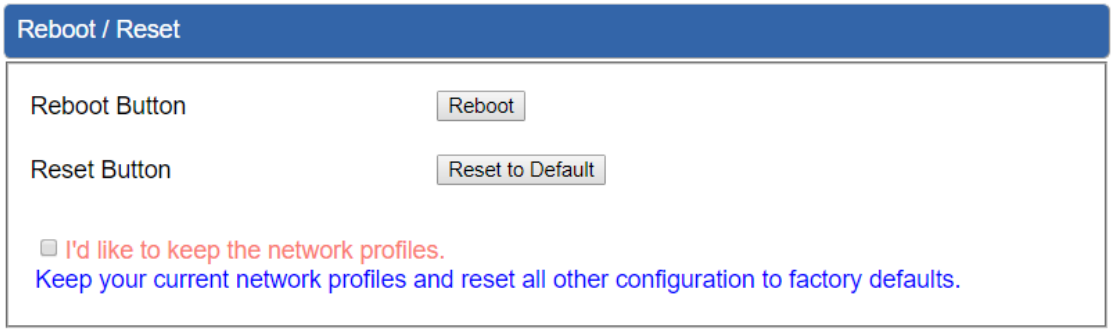
This page provides the firmware upgrade of the route.



Object	Description
Choose File	Press the button to select the firmware.
Upgrade	Press the button to upgrade firmware to system.

4.12.5 Reboot / Reset

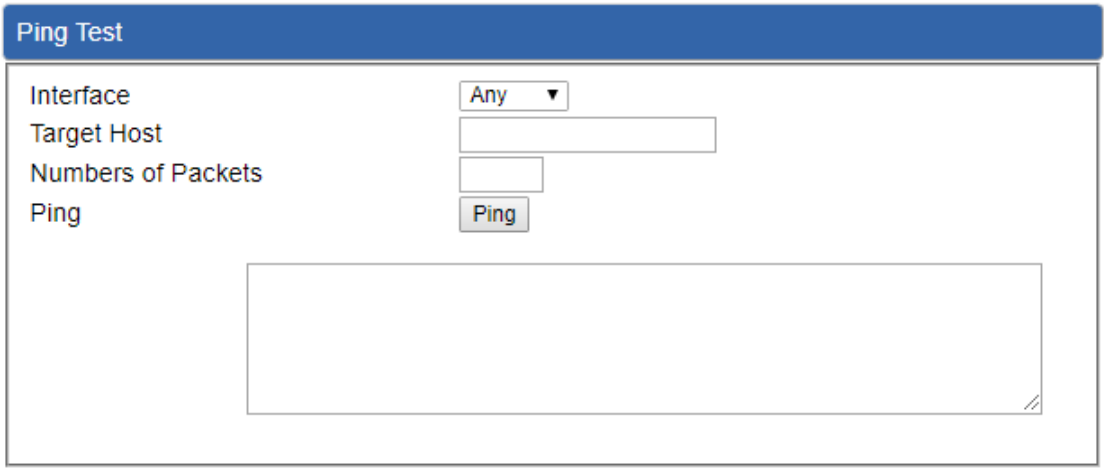
This page enables the device to be rebooted from a remote location. Once the Reboot button is pressed, users have to re-log in the Web interface as Figure 4-52 is shown below:



Object	Description
Reboot	Press the button to reboot system.
Reset	Press the button to restore all settings to factory default settings.
I'd like to keep the network profiles.	Check the box and then press the Reset to Default button to keep the current network profiles and reset all other configurations to factory defaults.

4.12.6 Diagnostics

The page allows you to issue ICMP PING packets to troubleshoot IP connectivity issues. After you press “Ping”, ICMP packets are transmitted, and the sequence number and roundtrip time are displayed upon reception of a reply. The page refreshes automatically until responses to all packets are received, or until a timeout occurs.



Object	Description
Interface	Select an interface of the router.
Target Host	The destination IP Address or domain.
Number of Packets	Set the number of packets that will be transmitted; the maximum is 100.
Ping	The time of ping.

Note

Be sure the target IP address is within the same network subnet of the router, or you have to set up the correct gateway IP address.

Appendix A: DDNS Application

Configuring PLANET DDNS steps:

Step 1: Visit DDNS provider's web site and register an account if you do not have one yet. For example, register an account at https://planetddns.com

Step 2: Enable DDNS option through accessing web page of the device.

Step 3: Input all DDNS settings.