4G Wireless Data Terminal

User Manual

1. Product Manual Overview

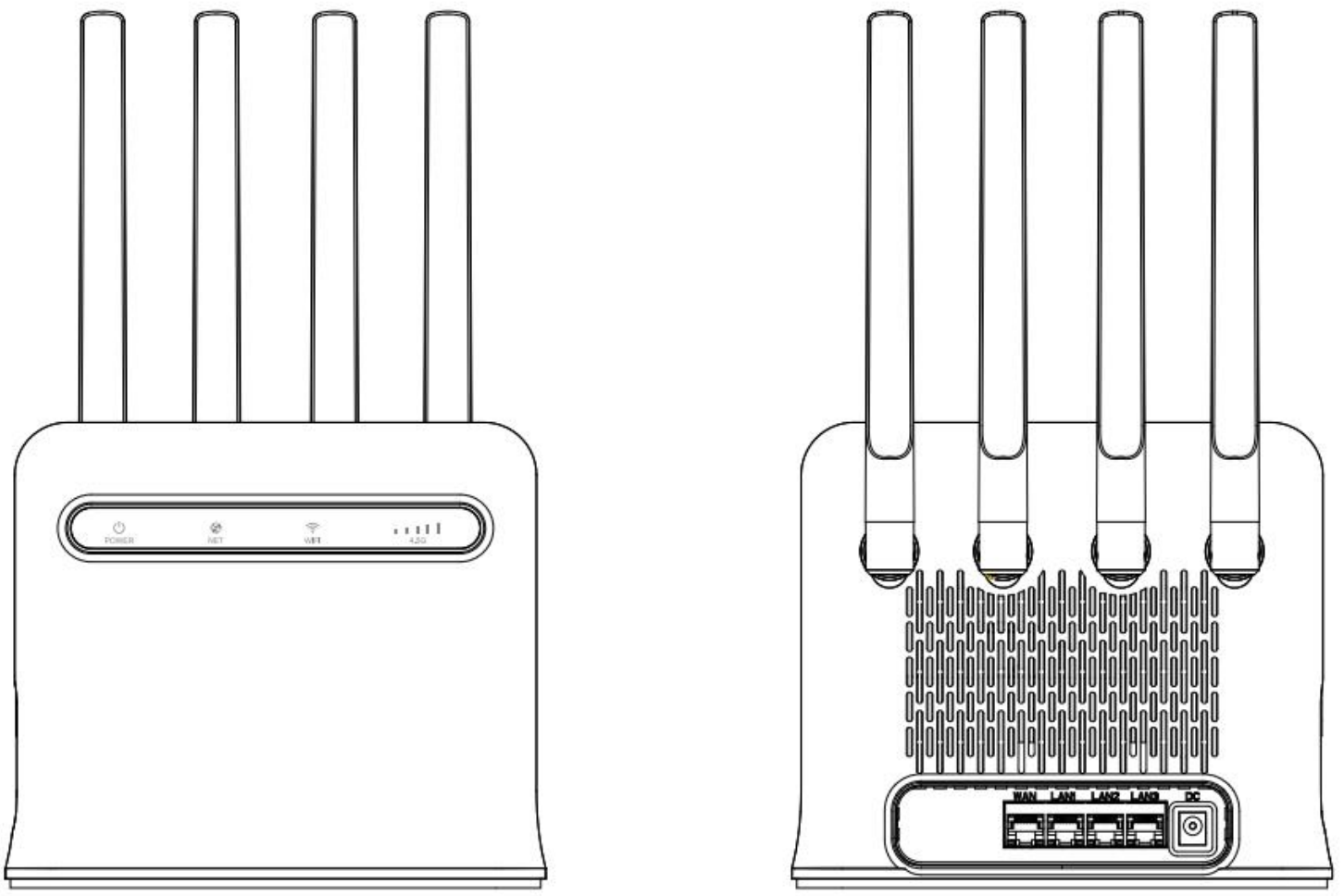
This is a CPE of 4G Wireless Data Terminal CAT12 cloud card solution.

1.1 User Book Graphic Instructions

Graphic Format	Description
< >	The button that represents the page.
""	Represents information such as name or password.

2. Description of Product Appearance Information

2.1 Product Appearance



2.2 Port Description

Figure 2-1 description of the port

Name	Instructions
RST	Reset key (hold down for 8 seconds to restore the system to factory Settings)
POW	Power button
WPS	WPS keys

SIM	1 * SIM slot/press type
WAN/LAN	1 * WAN port (switchable LAN port)
LAN	3 * LAN port
DC	1 * Power interface (12V/2A)
External antenna	4 * CAT12 4G antenna interface

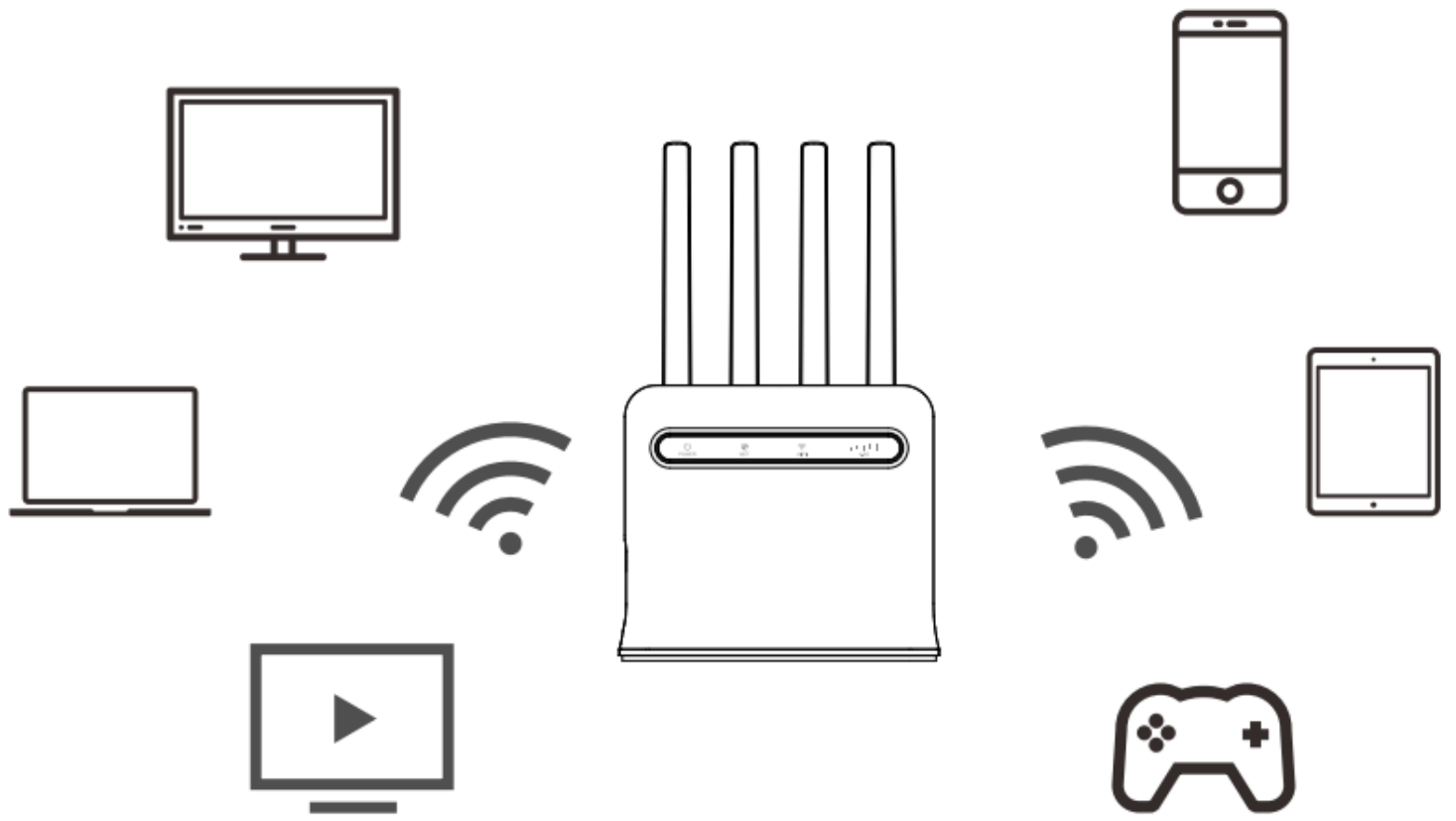
2.3 Light Position Description

Name	Status	Description
POW Light	Green Light Off	Device not powered on
	Green Light On	Device powered on
NET Light	Green Light Off	No data connection
	Green Light On	Data connection
SMS/WPS Light	Off Green Light	Wireless Off
	Green Light On	Wireless On
	Green Light flashing slowly （1s：1s=On：Off）2MIN	WPS button pressed

4.5G Light		RSRP (dBm)					
		<-115	[-115,-110)	[-110,-105)	[-105,-95)	[-95,-85)	>=-85
SINR (dB)	<-3	0	1	1	1	1	1
	[-3,1)	0	1	1	2	2	2
	[1, 4, 6)	0	1	2	3	3	3
	[7, 9, 13)	0	1	2	3	4	4
	>=13dB	0	1	2	3	4	5
Button reset	Press the reset button for 5S, and 4.5G lights 1, 2, 3, 4, and 5 will be on simultaneously Green light flashing fast (0.1s: 0.1s=On: Off)						

3.Equipment Quick Installation Guide

3.1 Overall Diagram of Equipment Networking



3.2 Operating Environment Requirements

Operating temperature	0 ℃ ~ 55 ℃
Storage temperature	- 20 ℃ ~ 85 ℃
Operating humidity	5% to 95% (No condensation)

4. Equipment Management

Note: The following operations are performed without accessing the external network. If the device is already connected to an external network, remove the external network cable and follow the steps below.

4.1 Connect and Log in to the Device Management Page

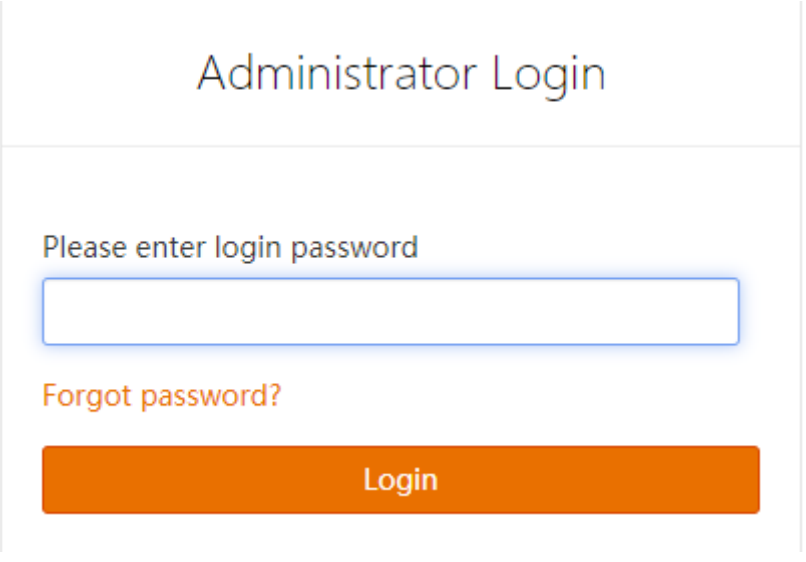
1. Use a network cable to connect the device's LAN port and the computer's network port separately.

2. After waiting for more than ten seconds, the computer will automatically obtains the address.

3. Open the browser page, enter the gateway address of the device "192.168.1.1" in the address bar of the browser page (the gateway address of the device is marked on the label on the back of the device, the default address is 192.168.1.1) to jump to the page.

4. After successful page jump, the login interface of the device will be displayed, please enter the password "admin" in the page according to the prompt (the password is marked on the label on the back of the device, the initial password is admin by default), and then click < Login > button.

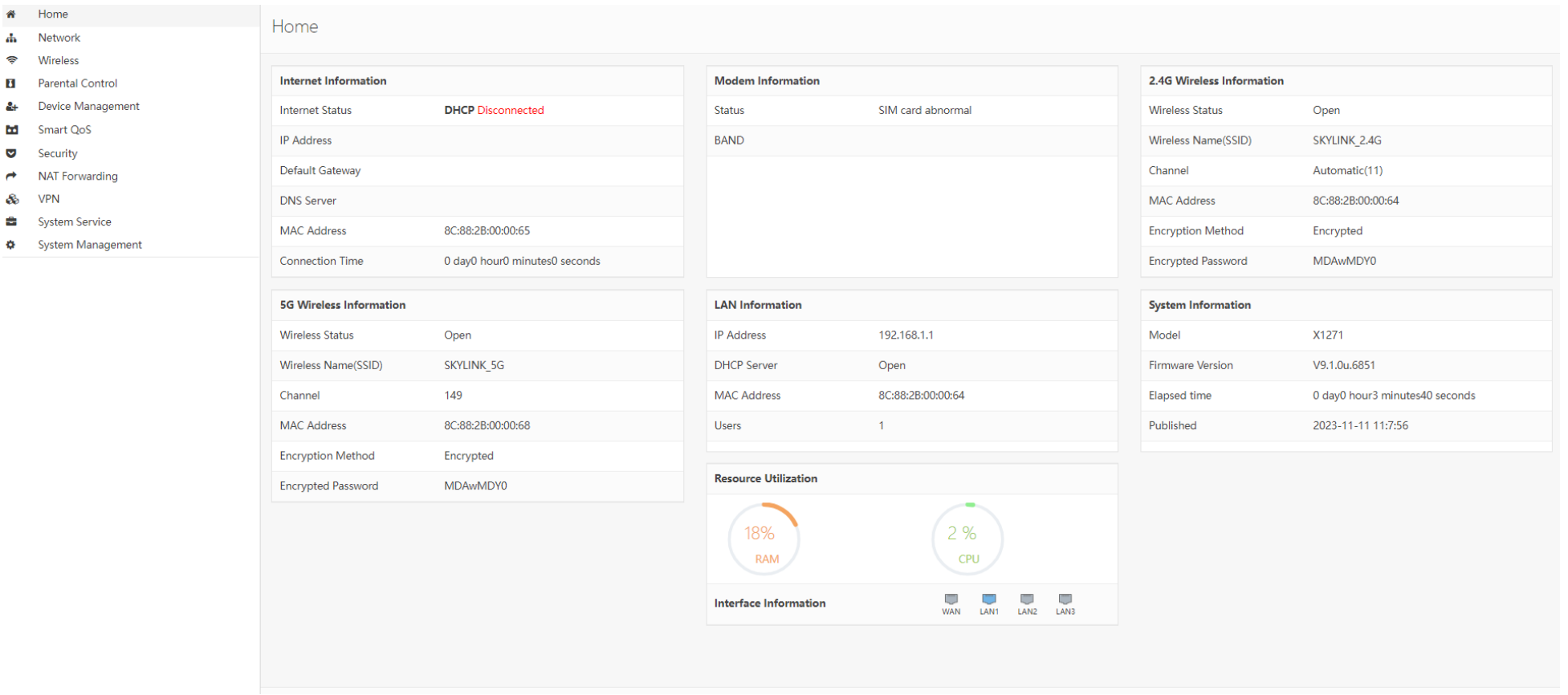
5. After successfully logging in to the device management interface, you can view the basic information of the device and manage the operation of the device.

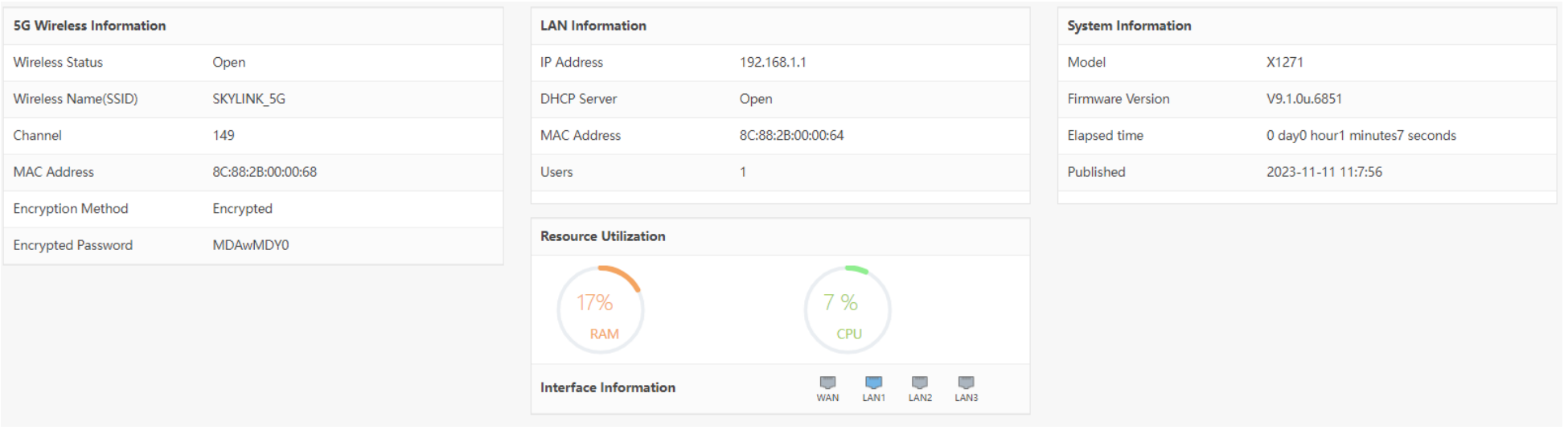


5. Introduction to Basic Functions

5.1 System Status

The system interface can intuitively display all the current status information of the device, and the unique module popup interface can clearly and accurately display more setting information.



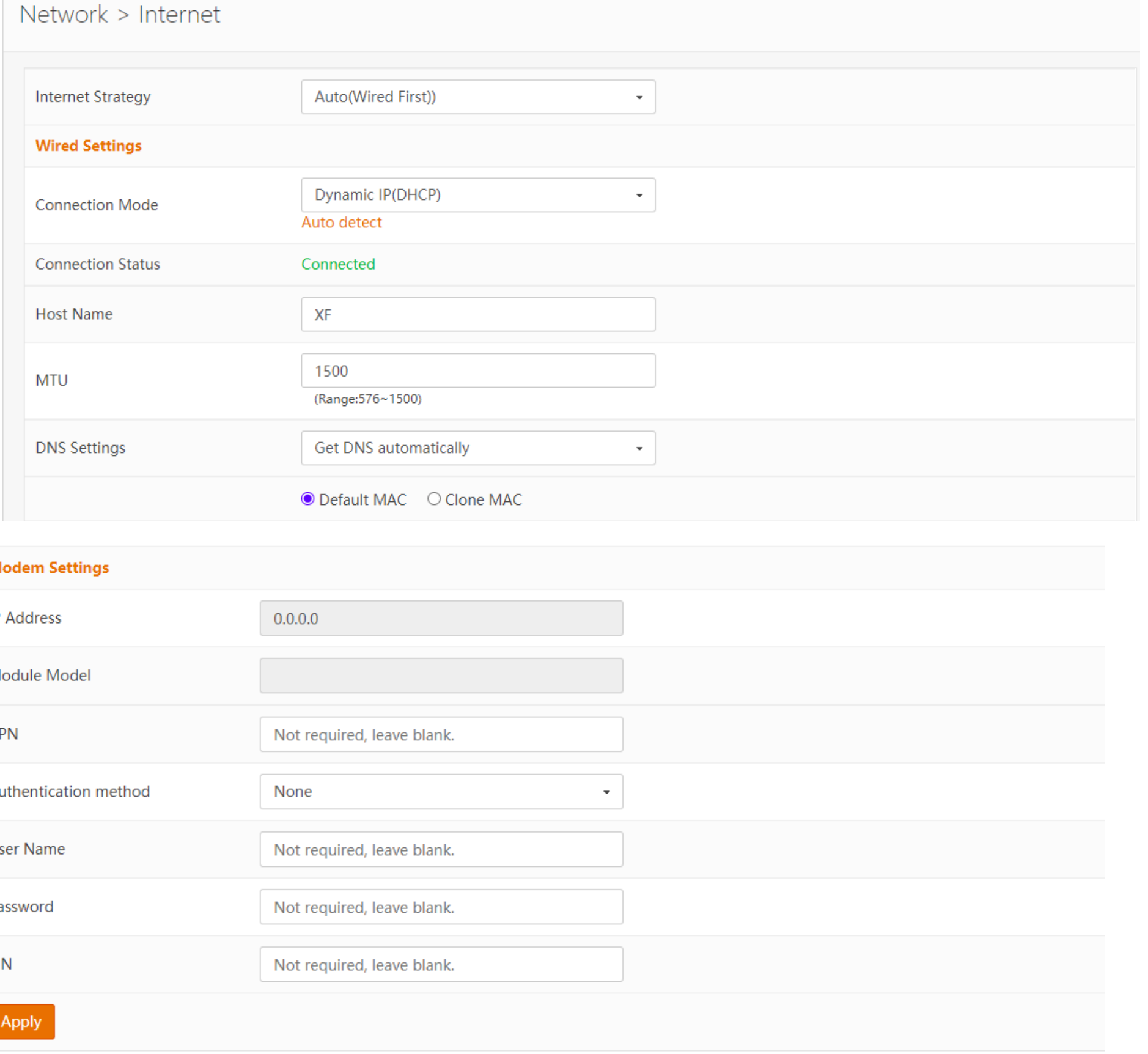


- System information: Automatically displays the operating days and the current software version and model;
- LAN information: Displays the address of the LAN port and the number of users;
- Resource usage information: Displays CPU and Memory usage status, and interface information;
- 2.4G/5G wireless information: Display 2.4G/5G wireless status and name, password, channel;
- Modem information: Display APN connection status and signal strength;
- Routing information: Displays route status, number of static and policy route connections.

5.2 Network Settings

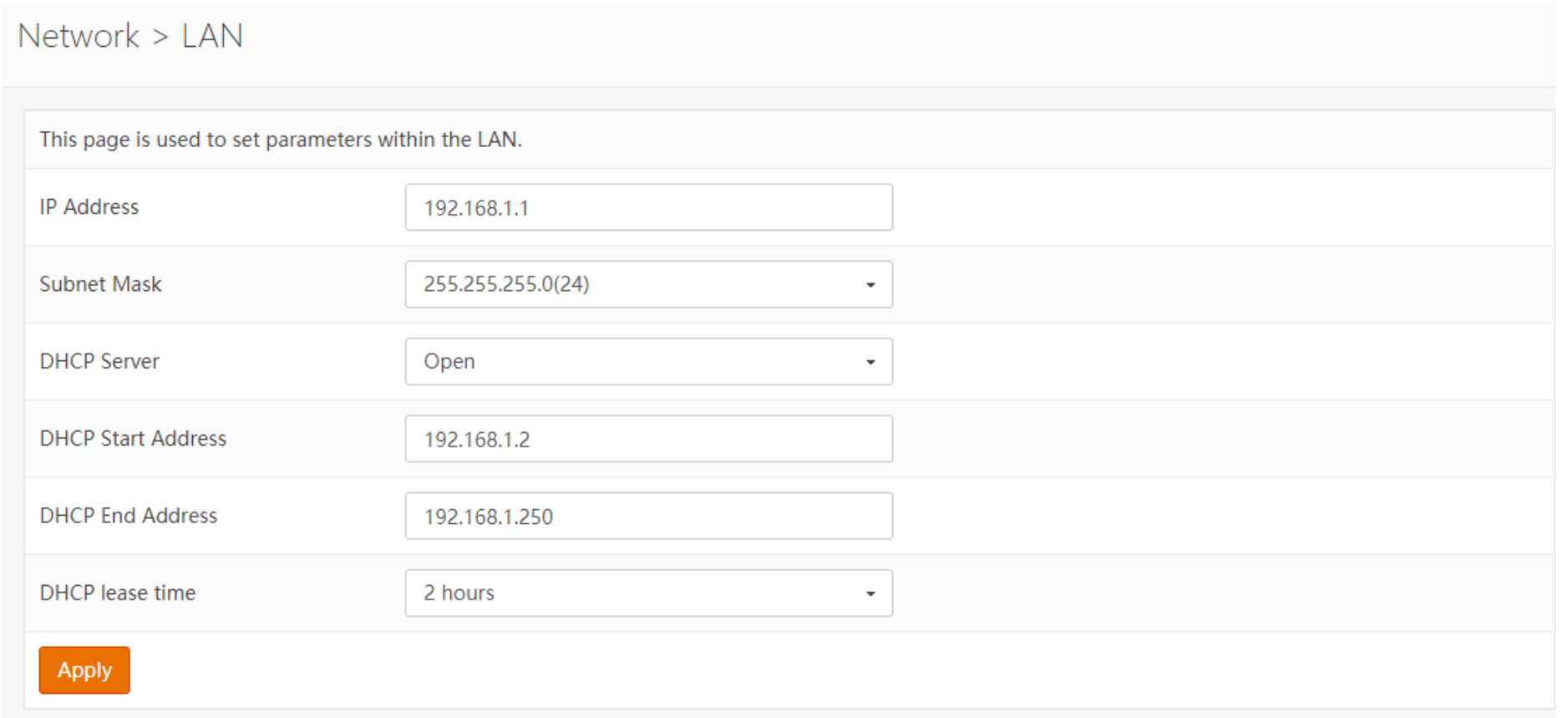
5.2.1 Internet Settings

Can be used to set Internet access policy, connection mode, host name, MTU, DNS settings, APN, authentication mode, user name, password, PIN code.



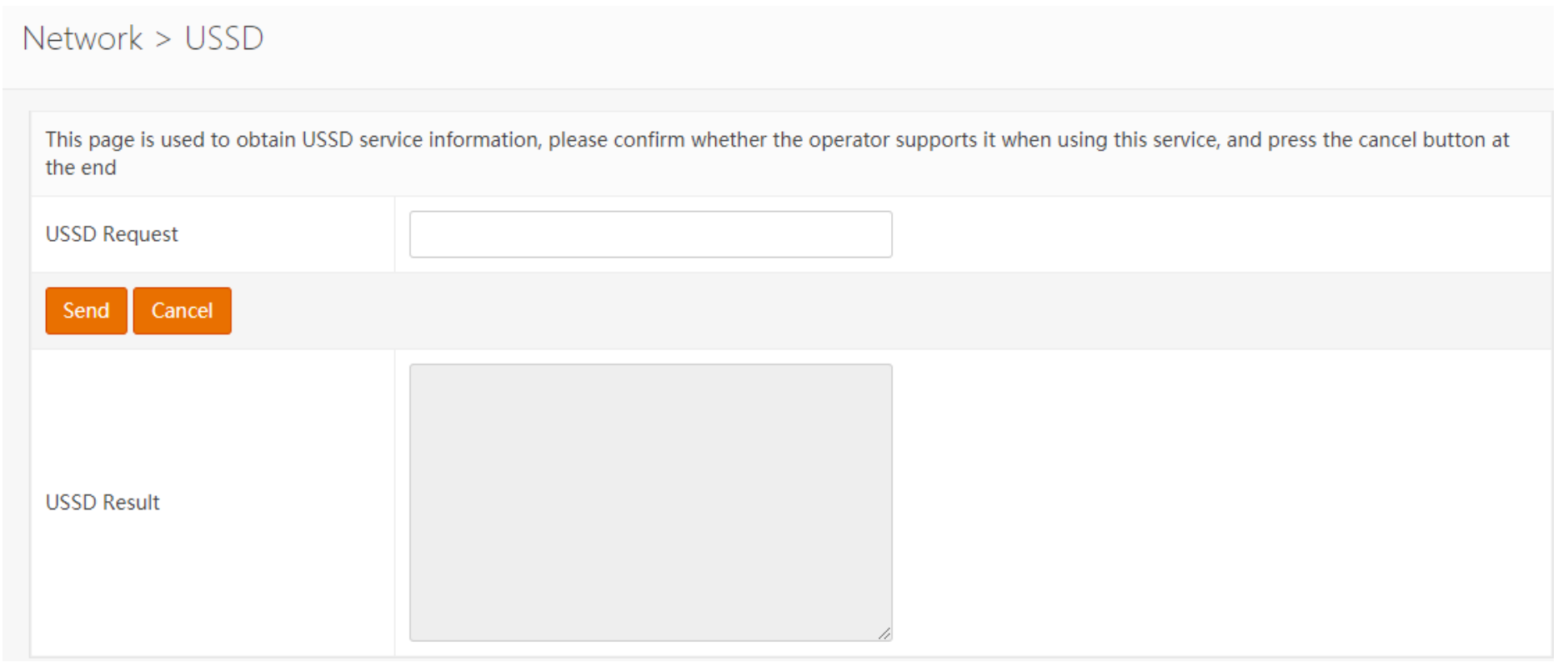
5.2.2 LAN Settings

Can be used to set the LAN port IP address and DHCP address.



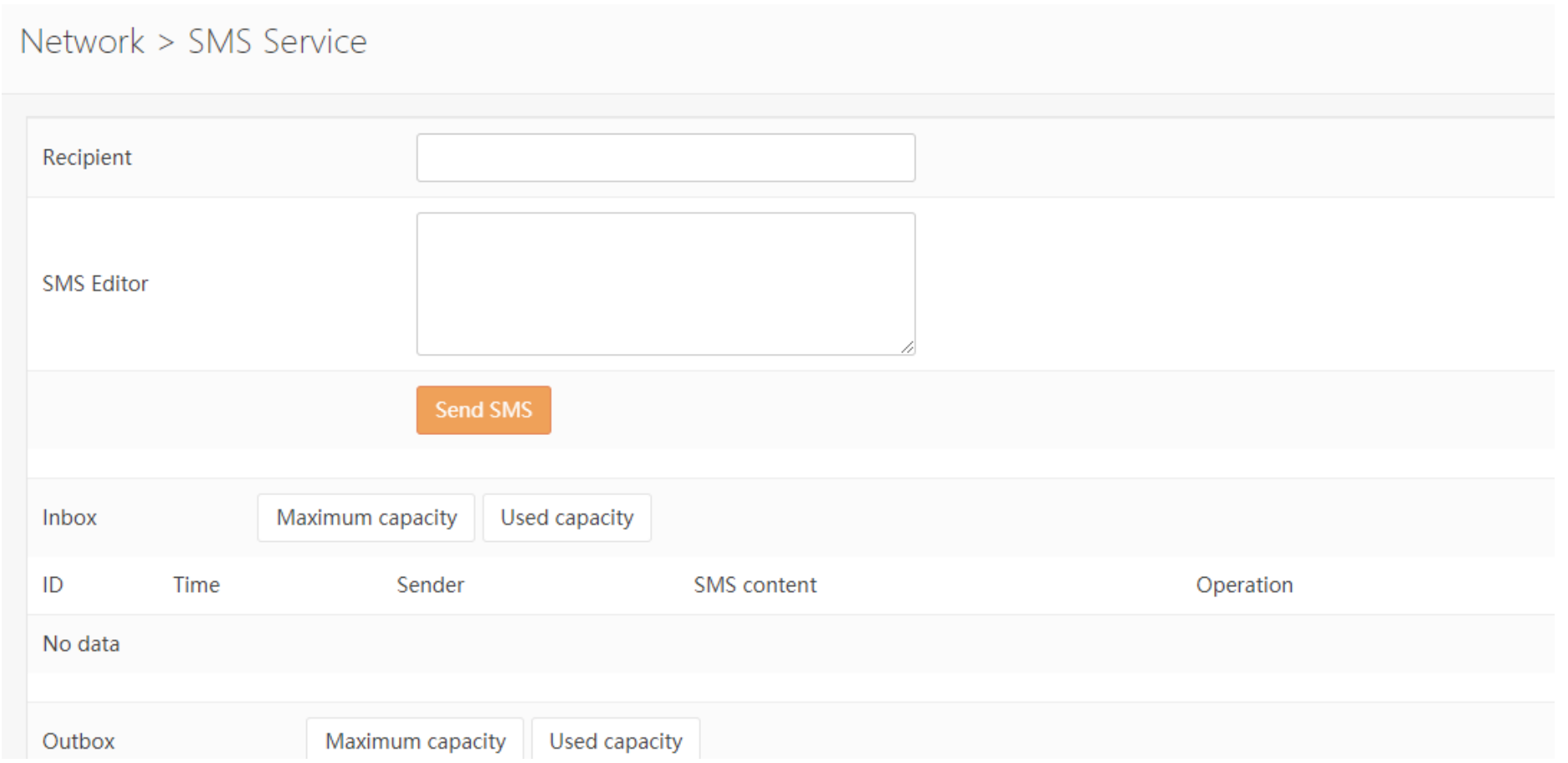
5.2.3 USSD

To obtain USSD service information, please check whether the operator supports it when using the service and press the cancel button at the end of the service.



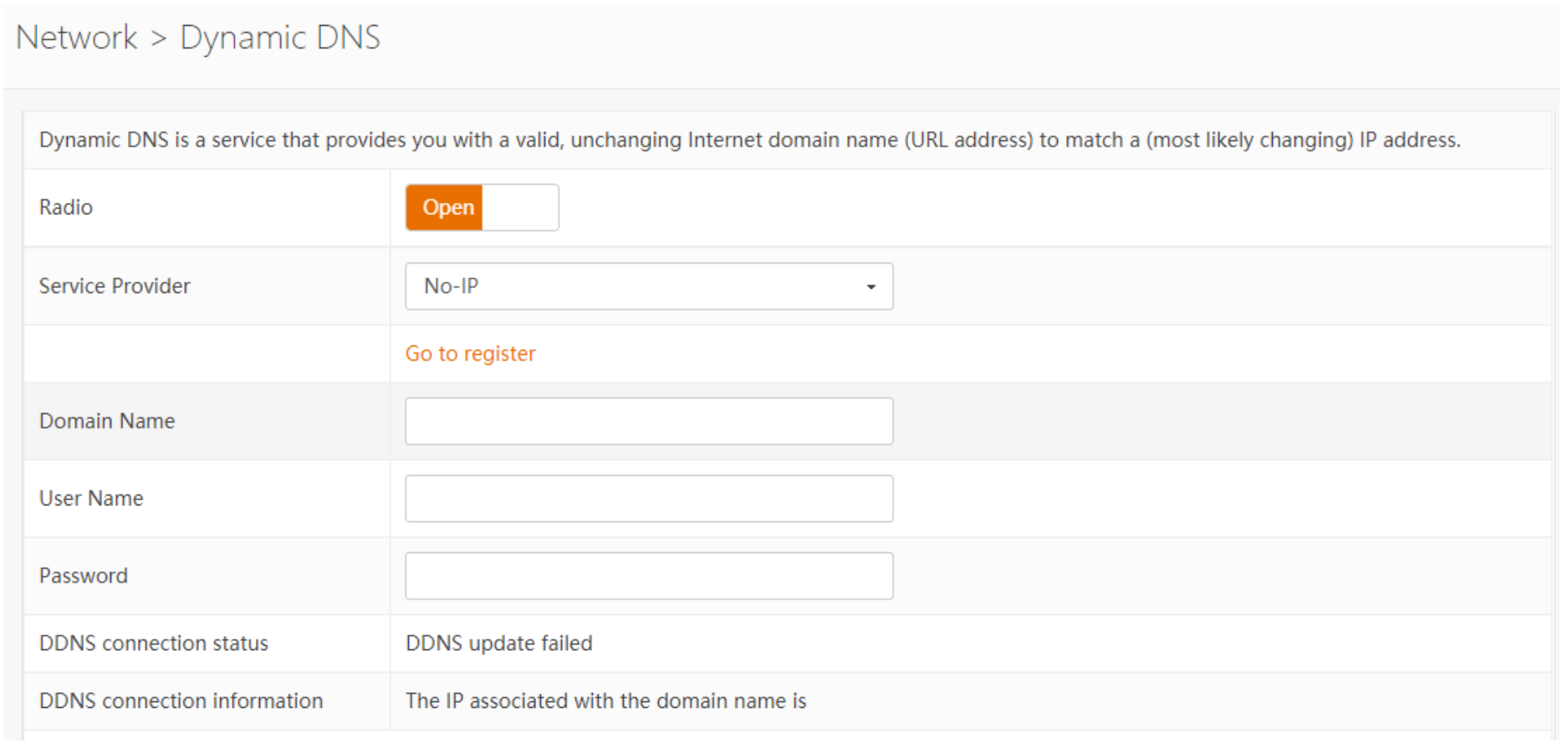
5.2.4 SMS Service

You can send emails to others and record the contents of sending and receiving.



5.2.5 DDNS Settings

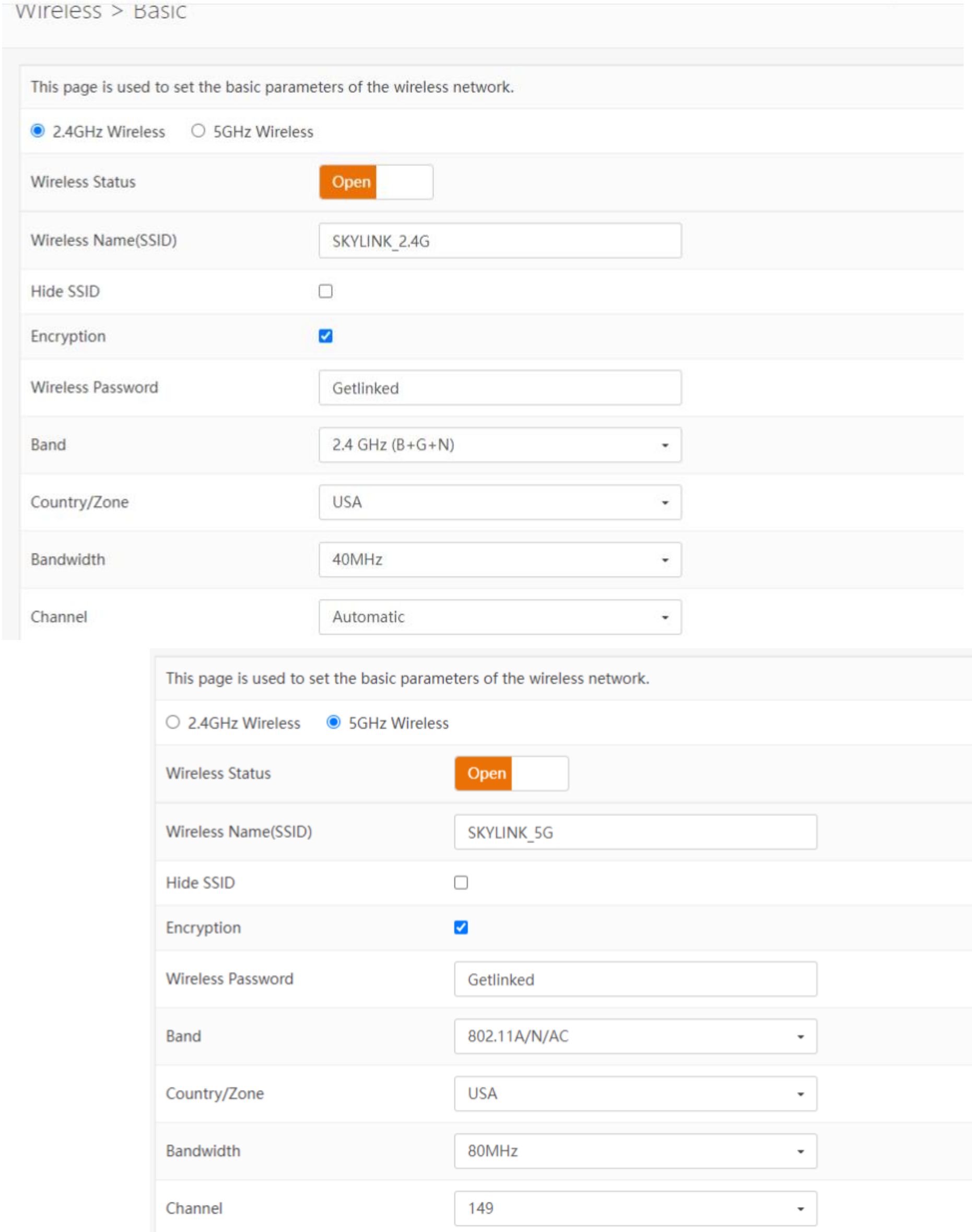
This mode is turned off by default, and when turned on, provides a valid, unchanging Internet domain name (URL address) to match a (likely ever-changing) IP address.



5.3 Wireless Settings

5.3.1 Basic Settings

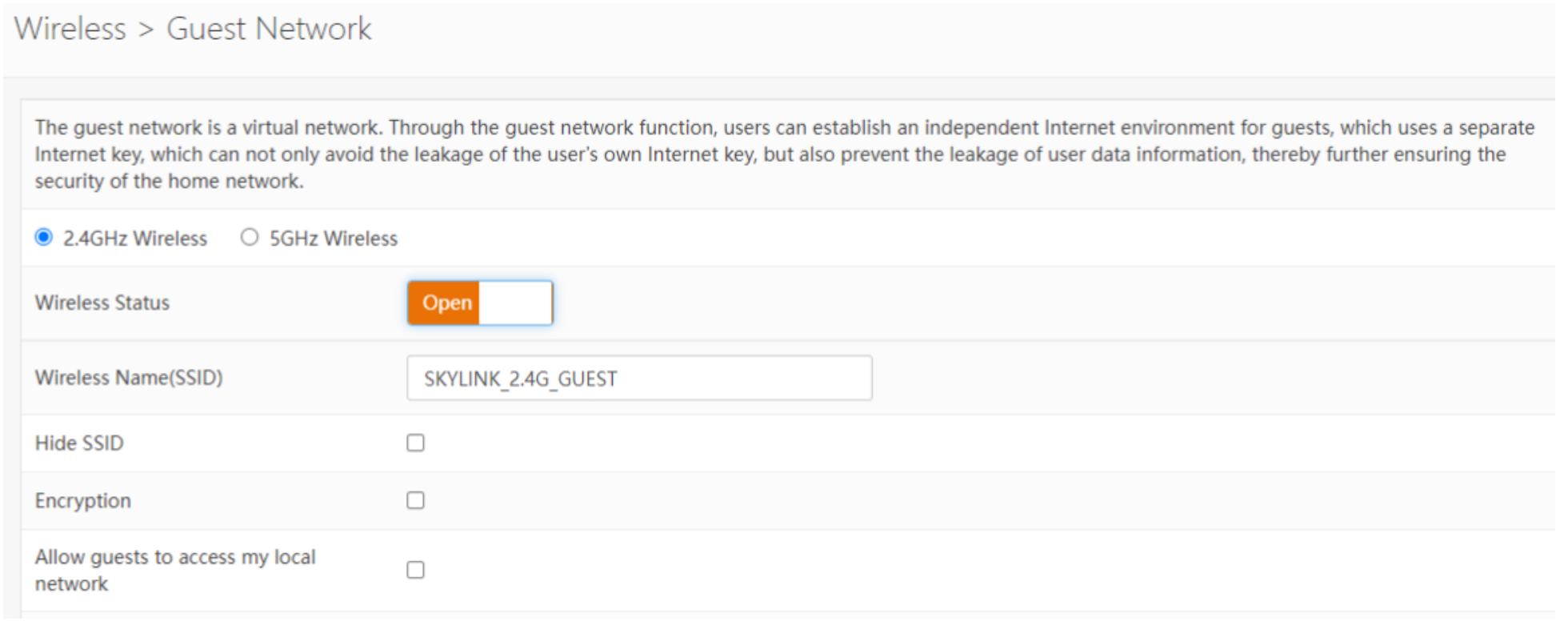
In this mode, the basic information of 2.4G/5G wireless network can be set (for example: Wireless Name, Password, Frequency Band, Bandwidth, Channel, Country/Region).

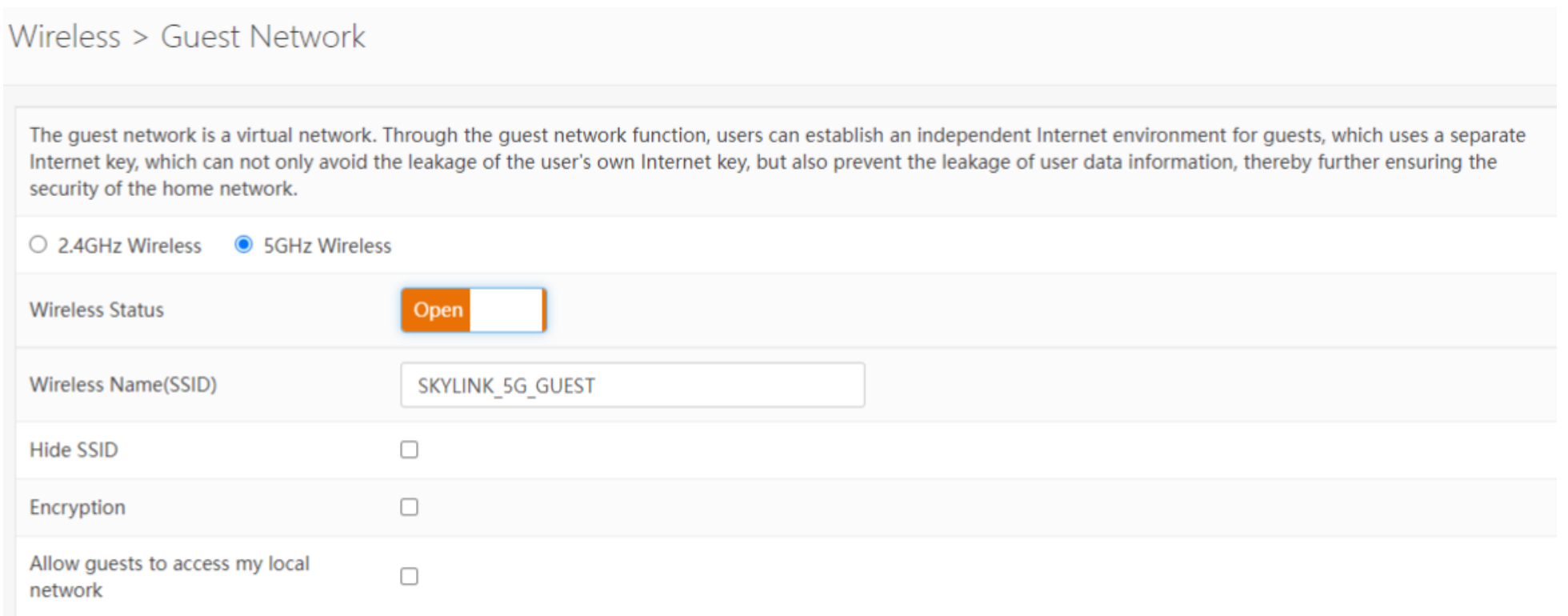


5.3.2 Guest Network

This mode is off by default, but when it is on, you can set up the 2.4G/5G wireless network separately. With the guest network function, users can set up an independent Internet environment for guests, which uses a separate Internet key. This not only

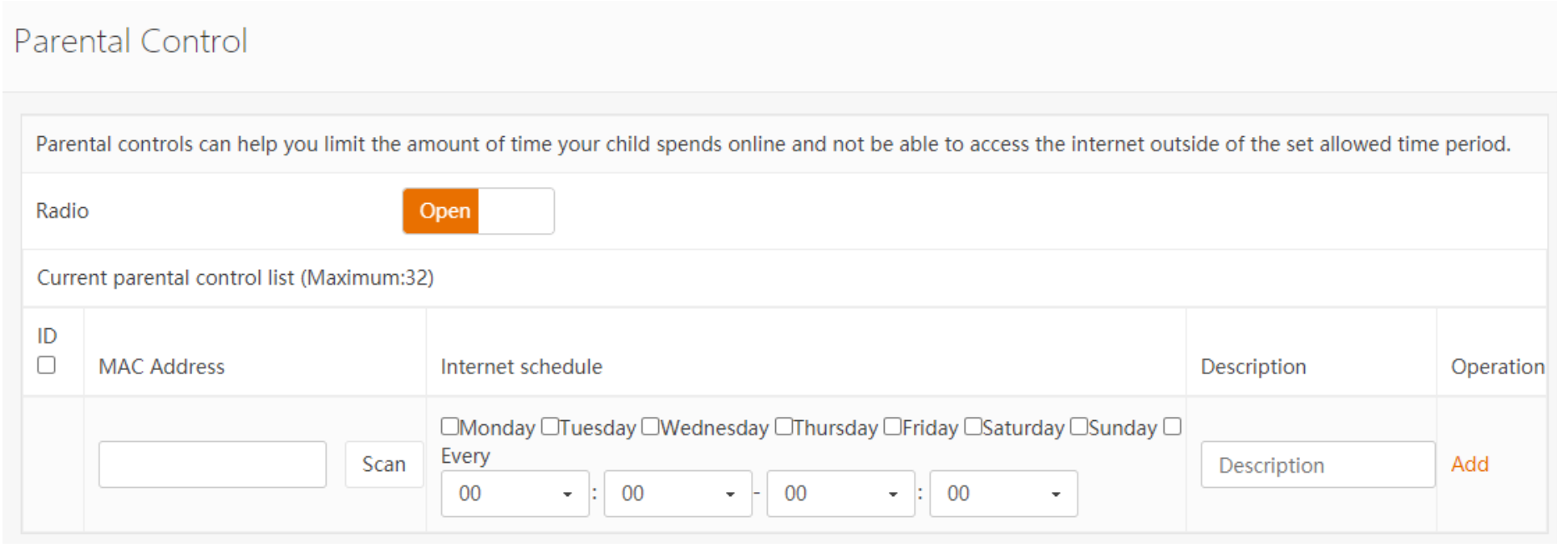
prevents the leakage of the user's own Internet key, but also prevents the leakage of user data information, thus further ensuring the security of the home network.





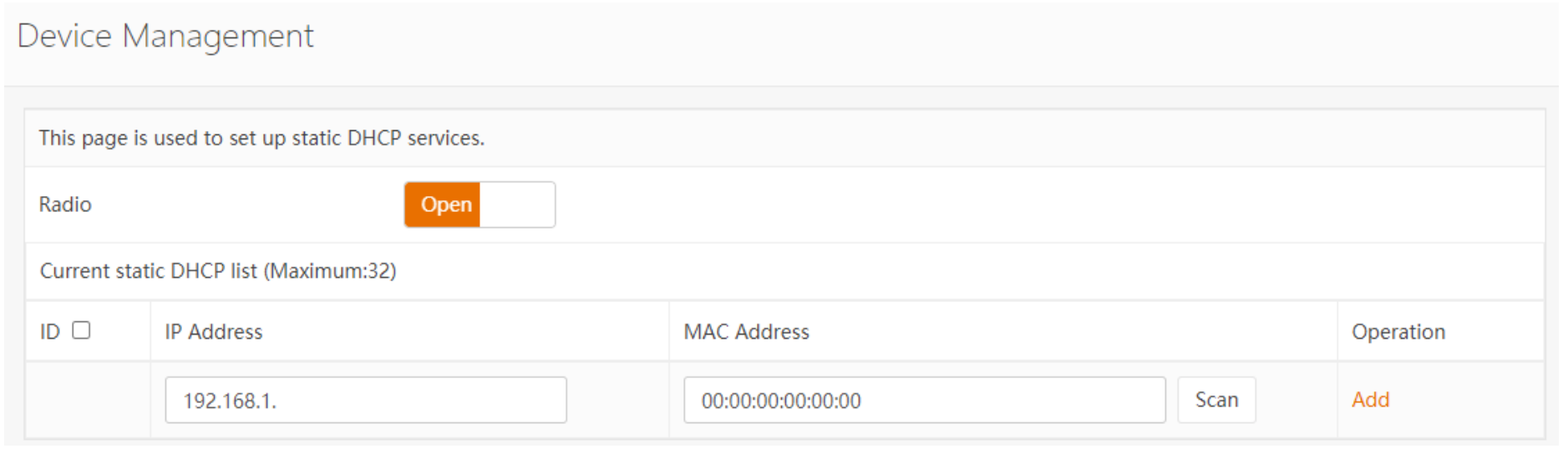
5.4 Parental Control

This mode is off by default, and when it is on ,it helps you to limit your child’s online time by not being able to access the Internet outside of the set allowable online time.



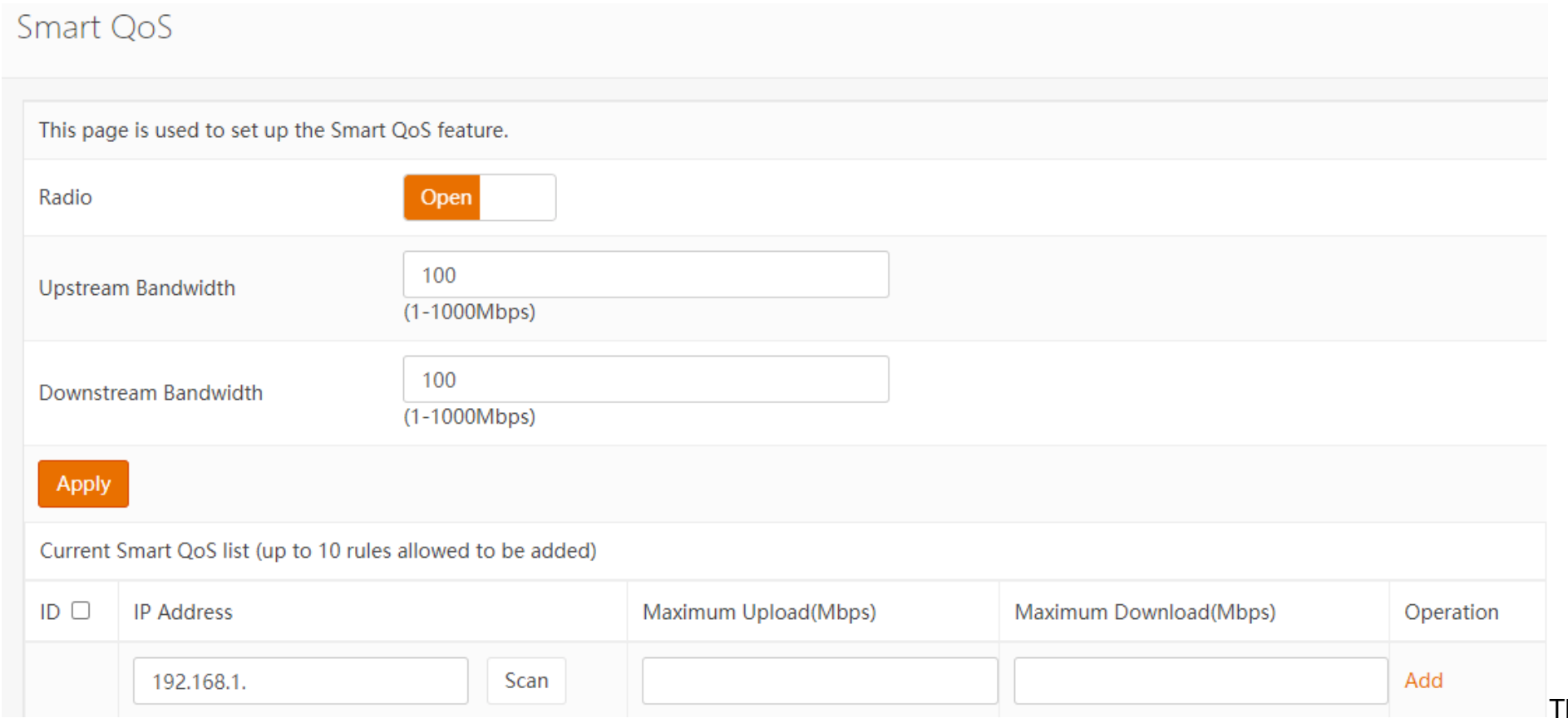
5.5 Device Management

This function is turned off by default and can be used to set up static DHCP services when enabled.



5.6 Smart QoS

This function is turned off by default, when it is on, you can intelligently speed limit rules in the list. Supports Quality of Service (QoS), and intelligent QoS bandwidth management based on services and IP network segment.

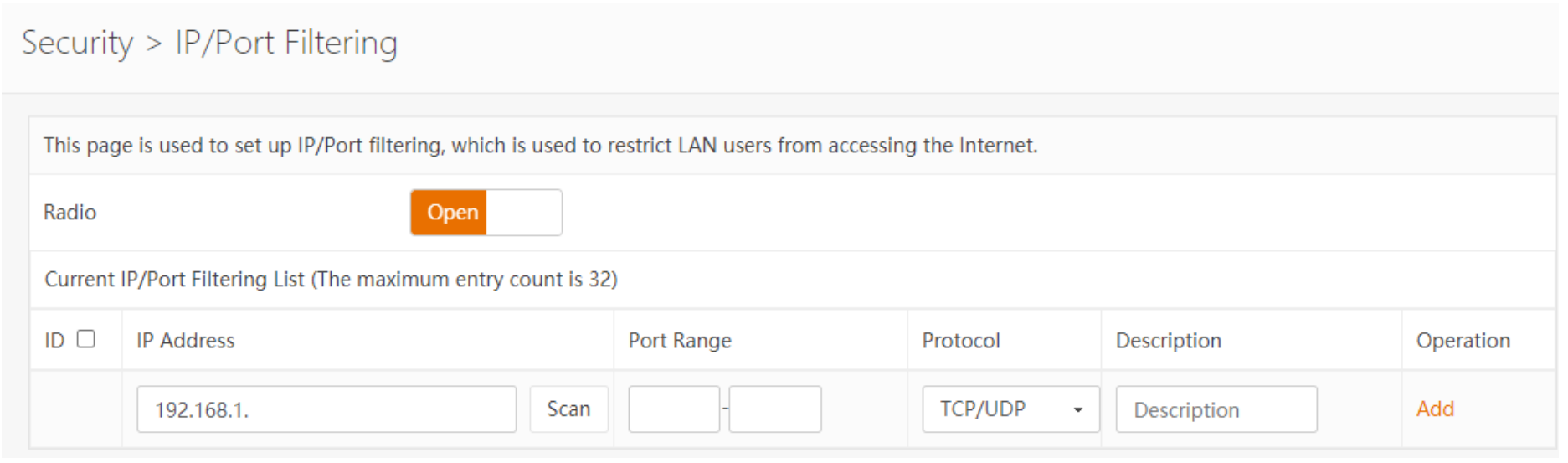

Smart QoS
This page is used to set up the Smart QoS feature.
Radio
Open
Upstream Bandwidth
100
(1-1000Mbps)
Downstream Bandwidth
100
(1-1000Mbps)
Apply
Current Smart QoS list (up to 10 rules allowed to be added)
ID
IP Address
Maximum Upload(Mbps)
Maximum Download(Mbps)
Operation
192.168.1.
Scan
Add

This

5.7 Security Settings

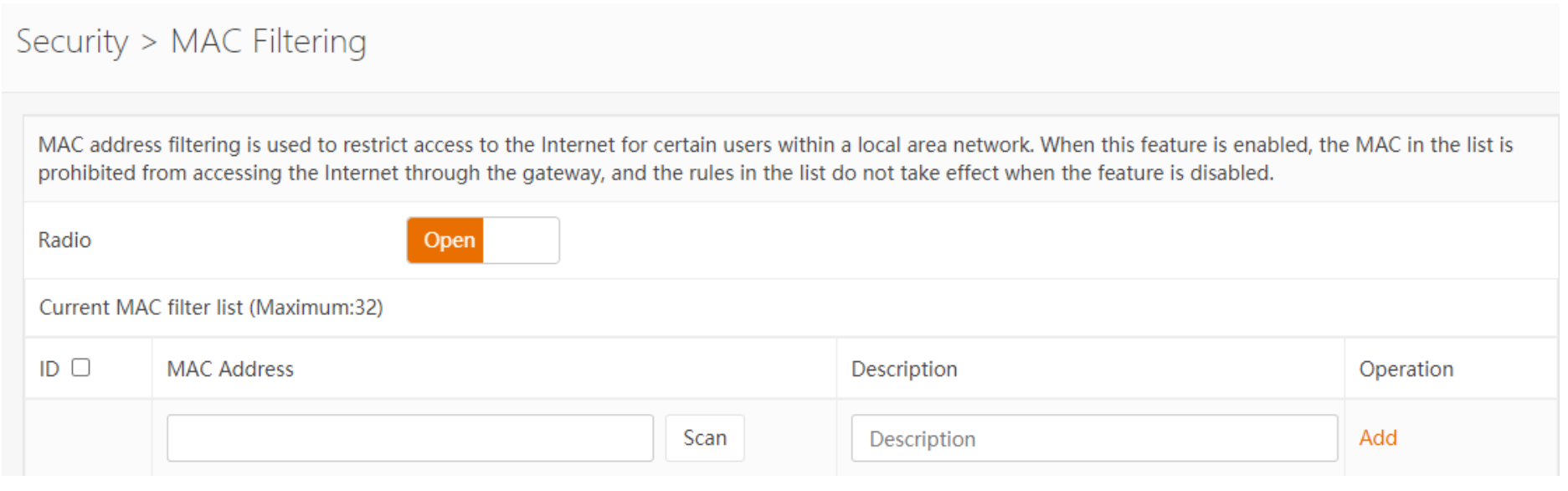
5.7.1 IP/Port Filtering

This function is turned off by default, when it is on, you can set up IP/Oort filtering, it is used to restrict LAN users from accessing the Internet.



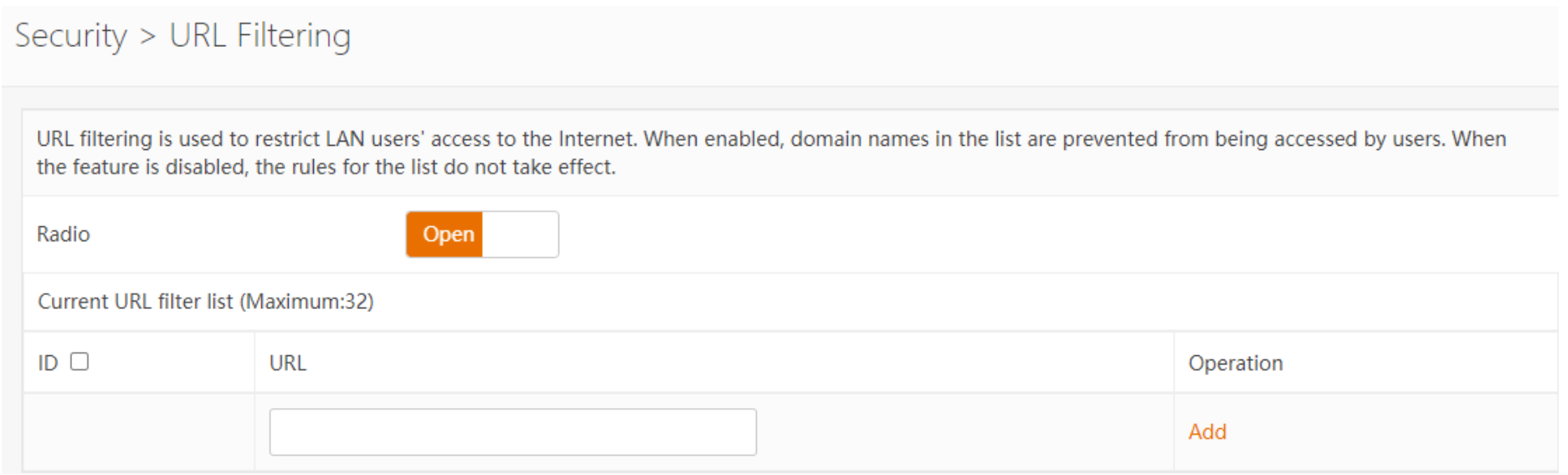
5.7.2 MAC Filtering

This function is turned off by default, when it is on, it is used to restrict access to the Internet by certain users on the LAN. The MACs in the list will be prohibited from accessing the Internet through the gateway when the function is enabled, and the rules in the list will not take effect when the function is disabled.



5.7.3 URL Filtering

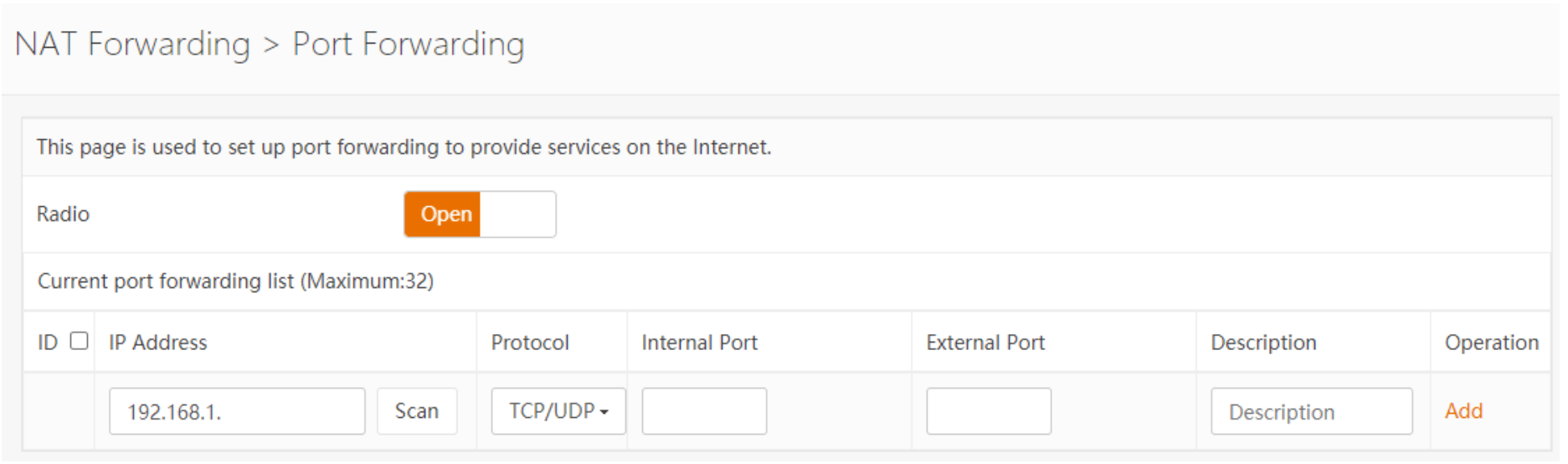
This function is disabled by default, when it is on, it is used to restrict LAN users from accessing the Internet. Enabling this feature will prohibit the domains in the list from being accessed by users. The rules of the list do not take effect when this feature is disabled.



5.8 NAT Forwarding

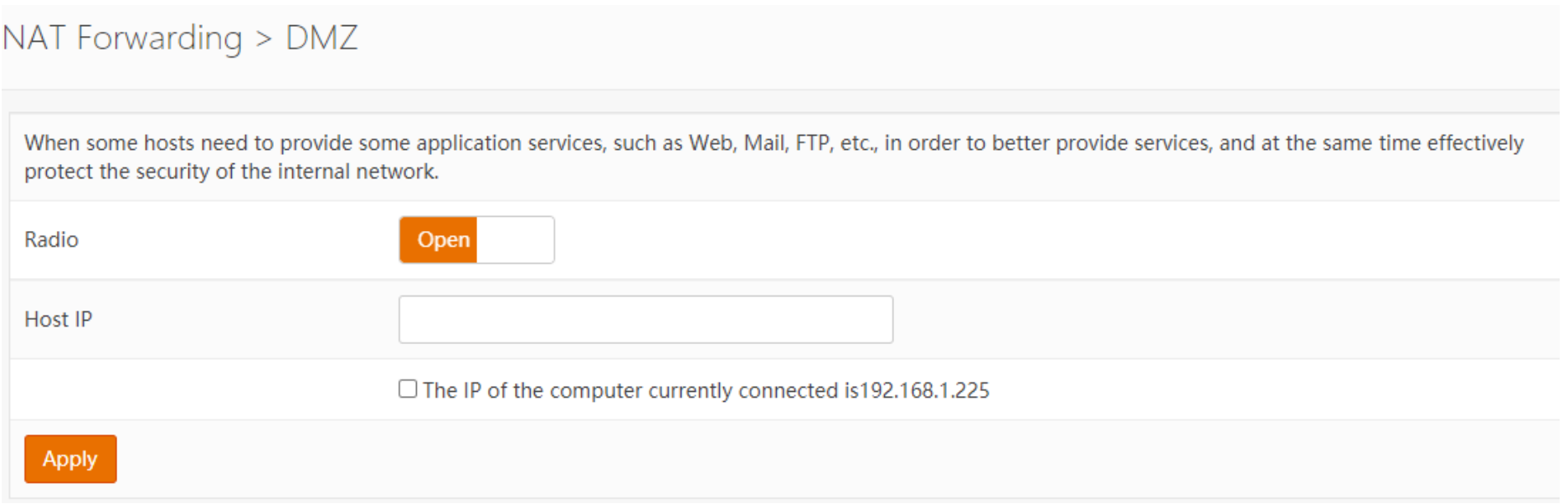
5.8.1 Port Forwarding

This function is turned off by default, but when it is turned on, port forwarding is set up to provide services over the Internet.



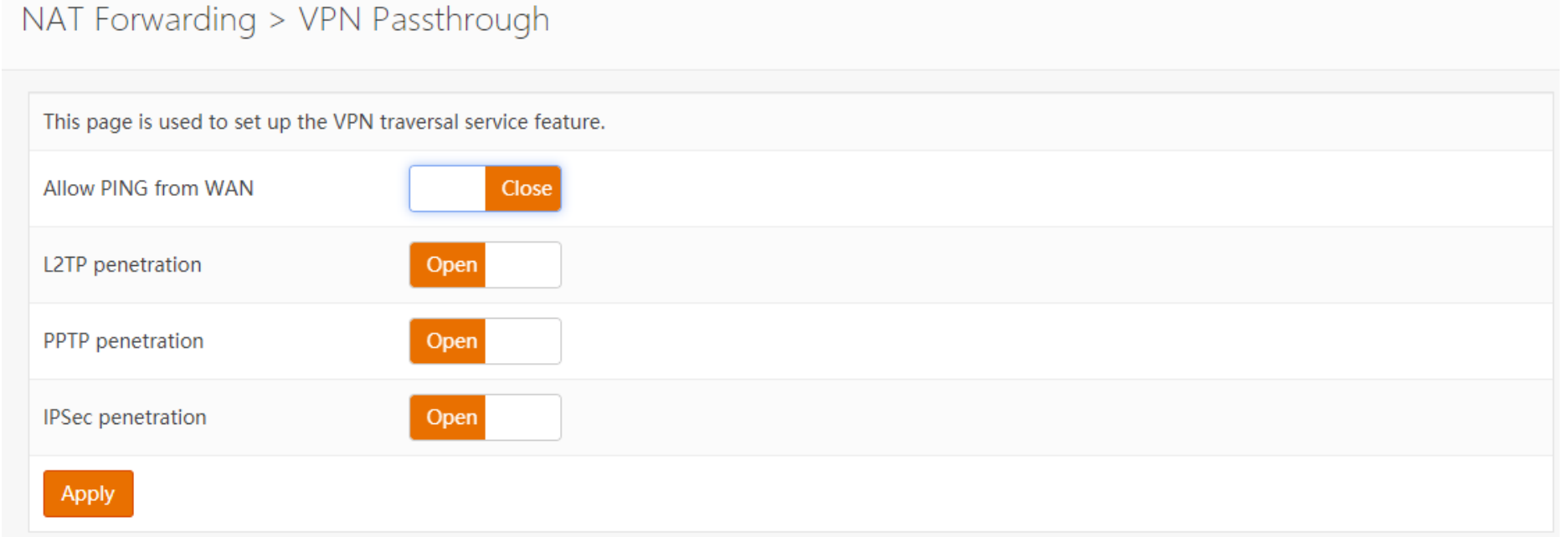
5.8.2 DMZ

This function is turned off by default, but when it is turned on, it protects you from direct exposure to external networks and attacks.



5.8.3 VPN Penetration

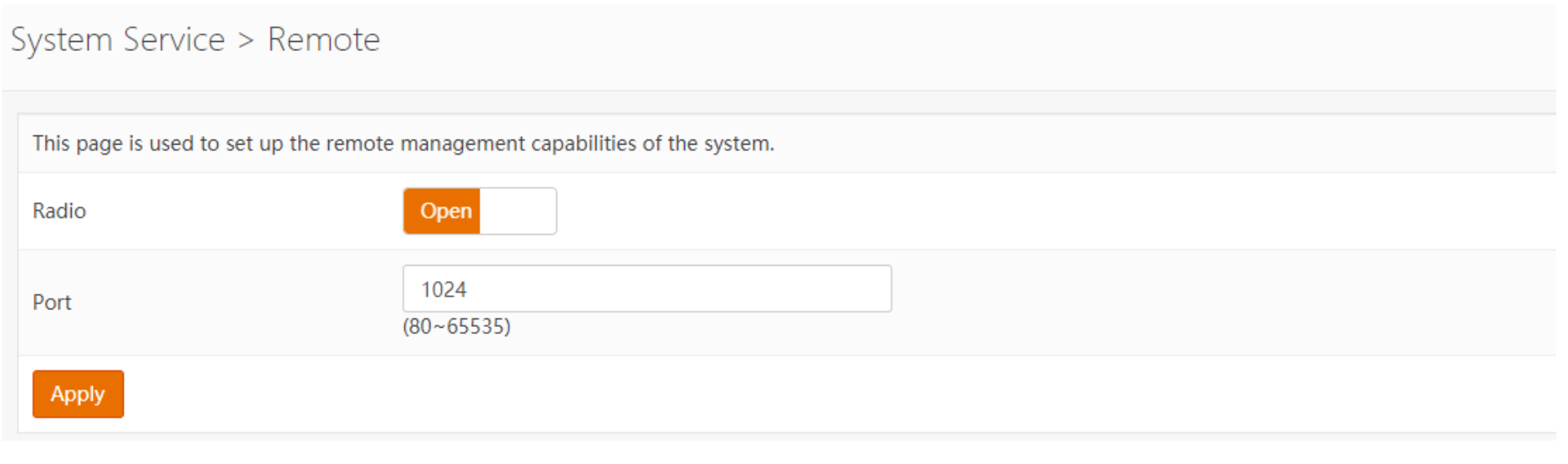
Used to set up VPN penetration service functions.



5.9 System Services

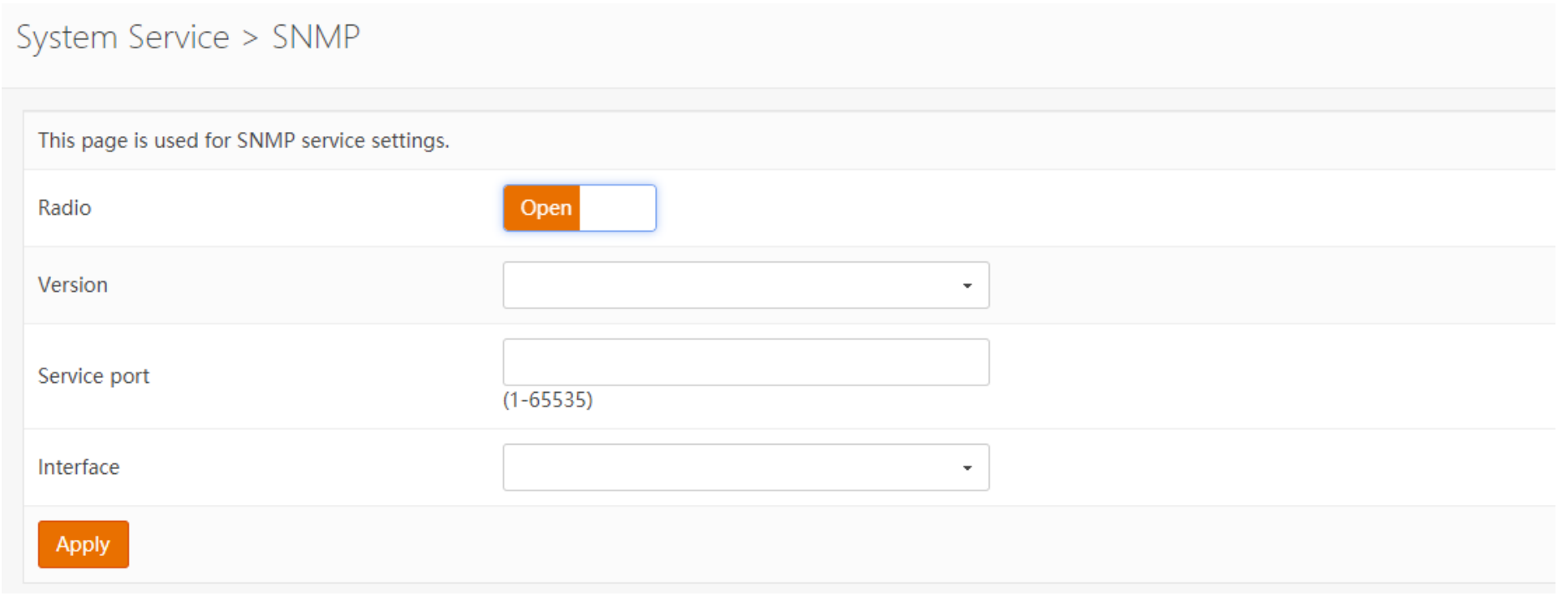
5.9.1 Remote Management

Used to set up the remote management function of the system, turned off by default.



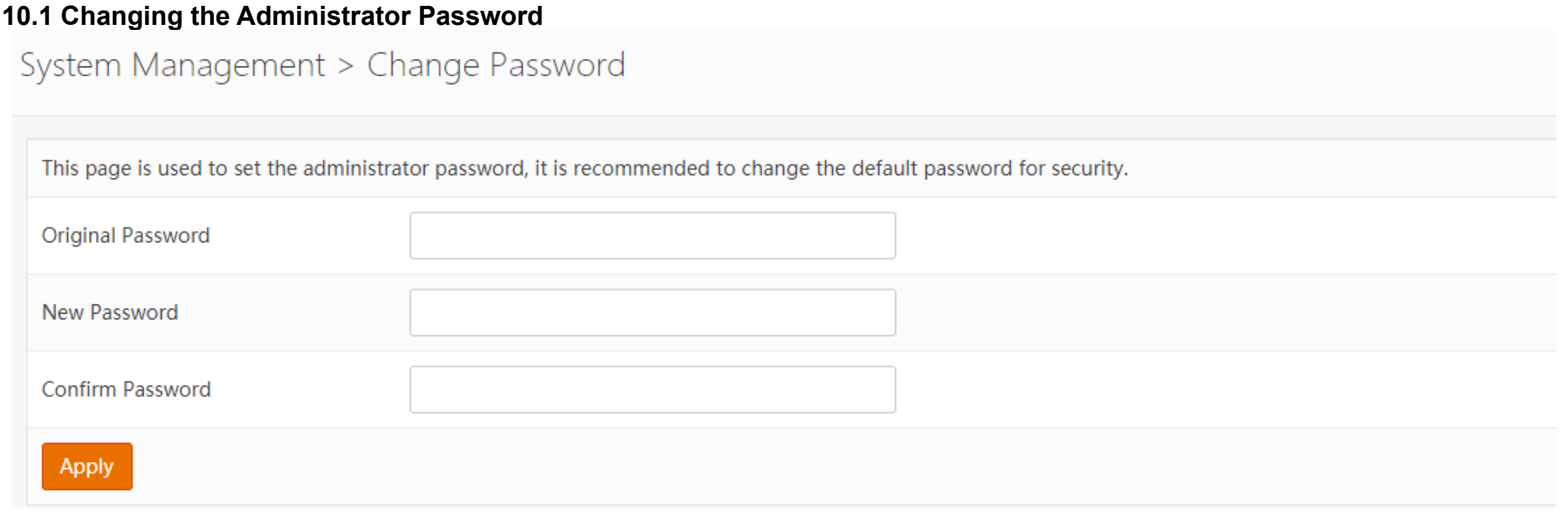
5.9.2 SNMP

Used to set up the SNMP service, turned off by default.



5.10 System Administration

5.10.1 Changing the Administrator Password

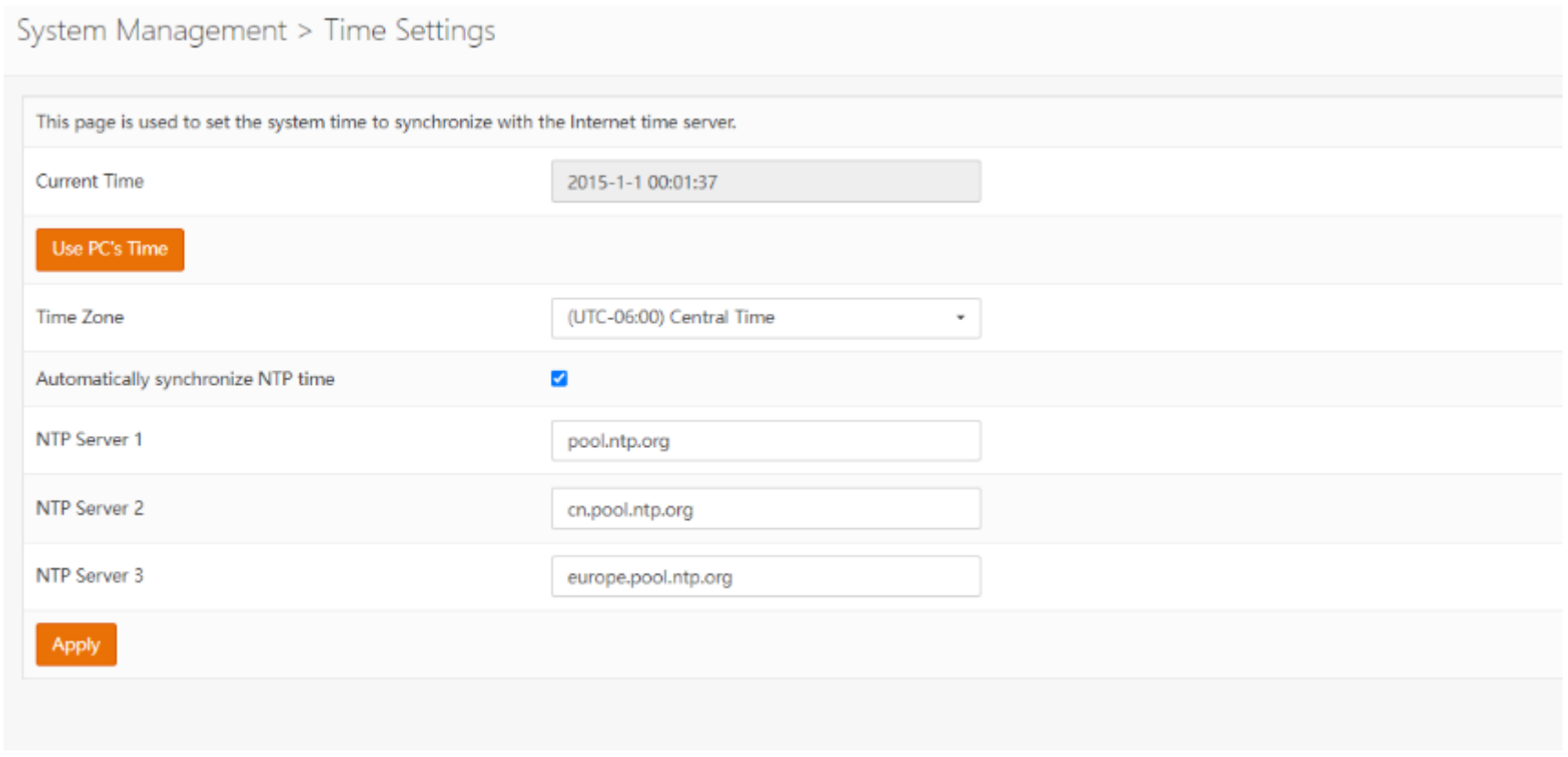


● **Old password:** The default password of the device is “admin”, which is marked on the label on the back of the device. The password can be changed to a maximum of 32 characters (that is, 32-bit English characters, digits, and special characters).

● **New password:** The password can be changed to a maximum of 32 characters (that is, 32-bit English characters, digits, and special characters).

● **Confirm password:** Enter the new password once to confirm the success.

5.10.2 Time Settings



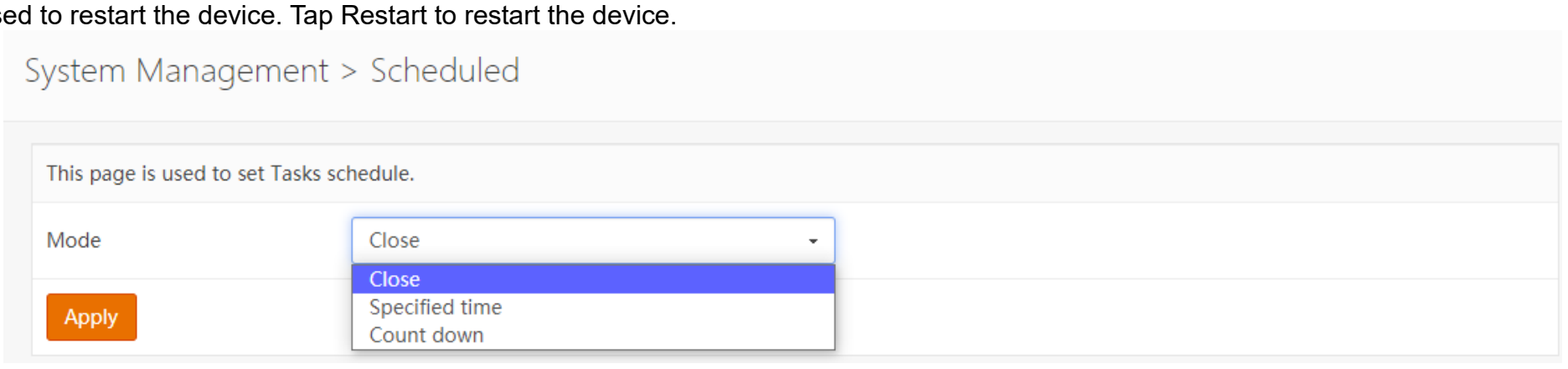
● **Select time zone:** 24 time zone options are supported from -12 to +12, and users can set the time according to the local time.

● **Automatically synchronize NTP time:** After this option is selected, the device automatically synchronizes time based on the NTP server address. If this option is not selected, the device automatically starts time based on the current time. It is generally not recommended to deselect this option.

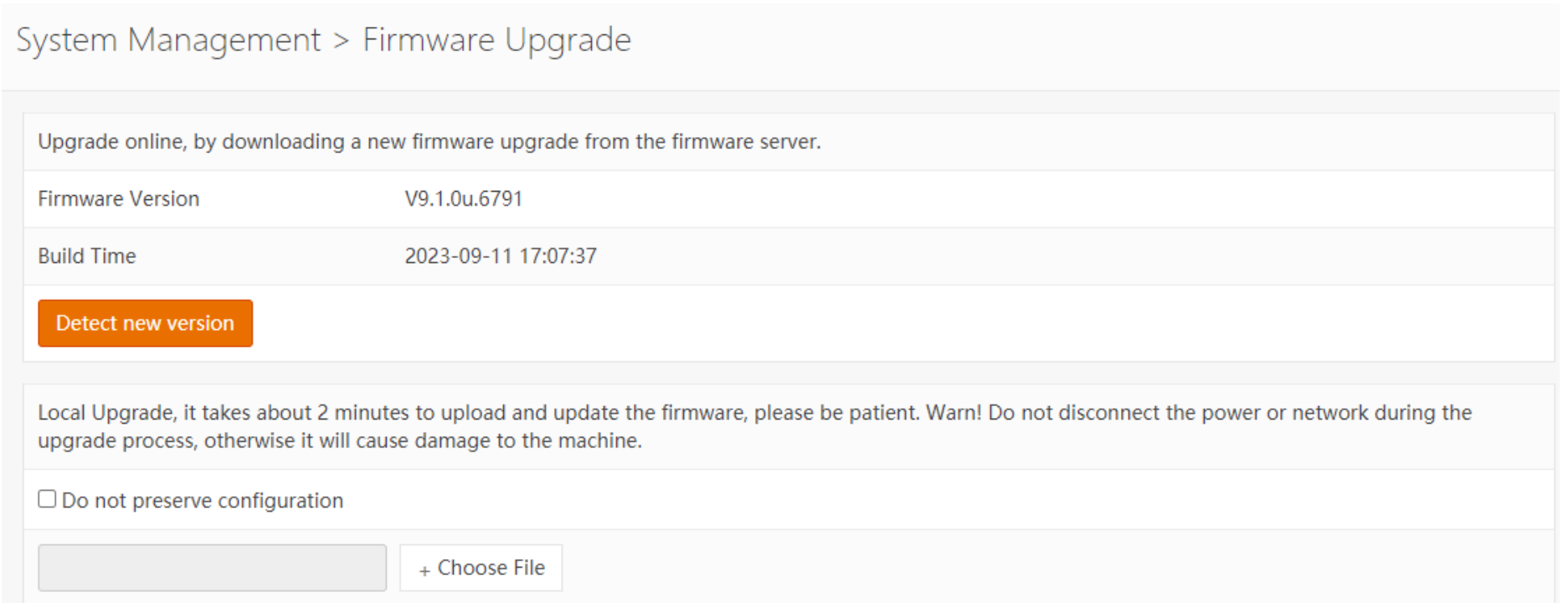
● **NTP server:** The IP addresses of the three servers are automatically updated at the same time and it is generally not recommended to change them.

5.10.3 Scheduled Restart

Used to restart the device. Tap Restart to restart the device.



5.10.4 Firmware Upgrade

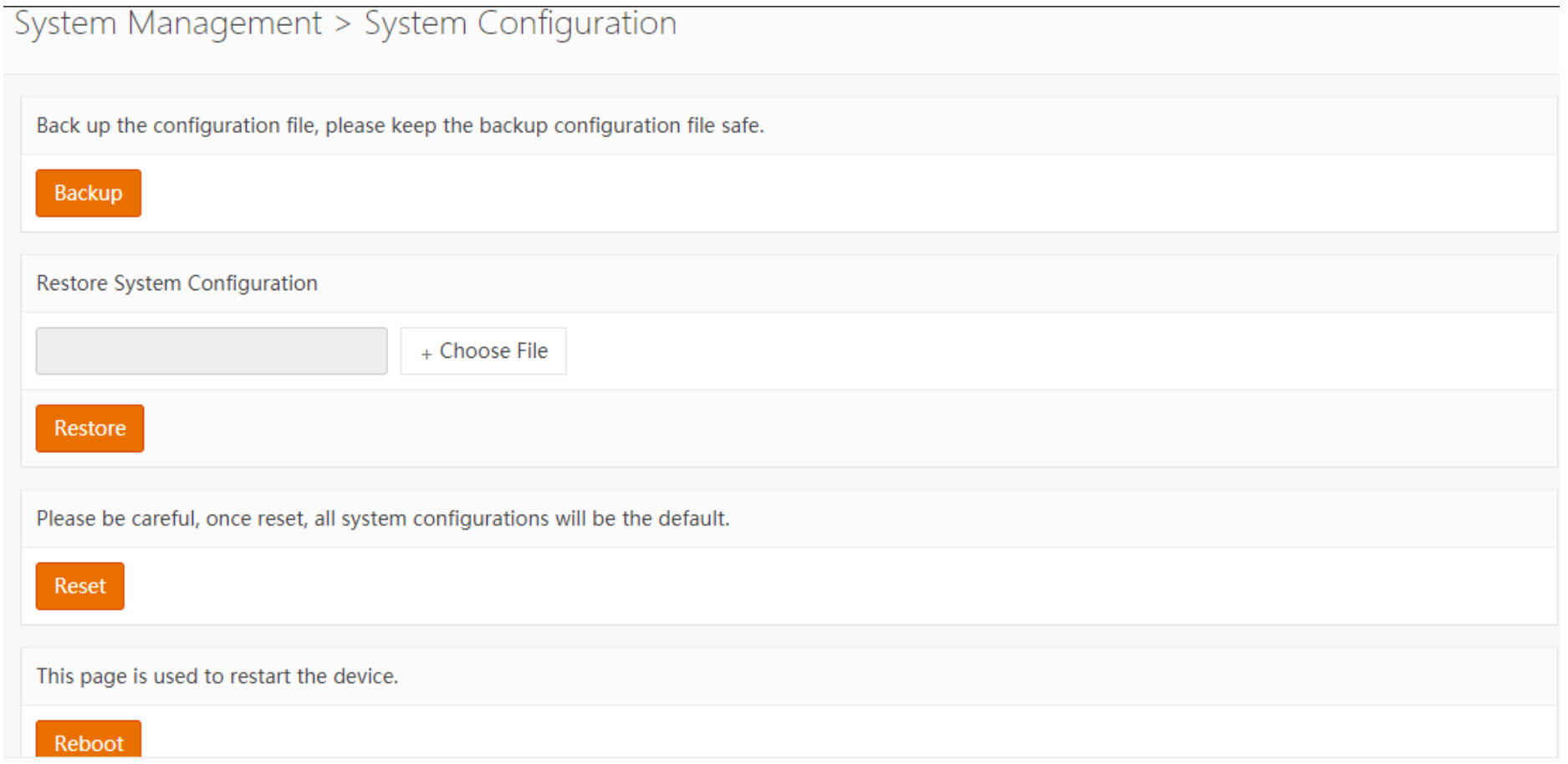


● **Firmware version:** Automatically displays the current version number. When the device is connected to the network, click the < Detect New Version > button, and the device will automatically detect if there is a new version that can be upgraded. If there is a new version, the page prompts if there is a new version and whether it needs to be upgraded, and a < Upgrade > button appears.

● **Do not retain the configuration**: This function is used with the firmware upgrade function. If this function is selected, the original configuration of the device will be cleared after the firmware upgrade is successful.

● **Select file:** Support page to manually upgrade the firmware, the user can choose the different version of firmware with the device to upgrade by themselves.

5.10.5 System Configuration



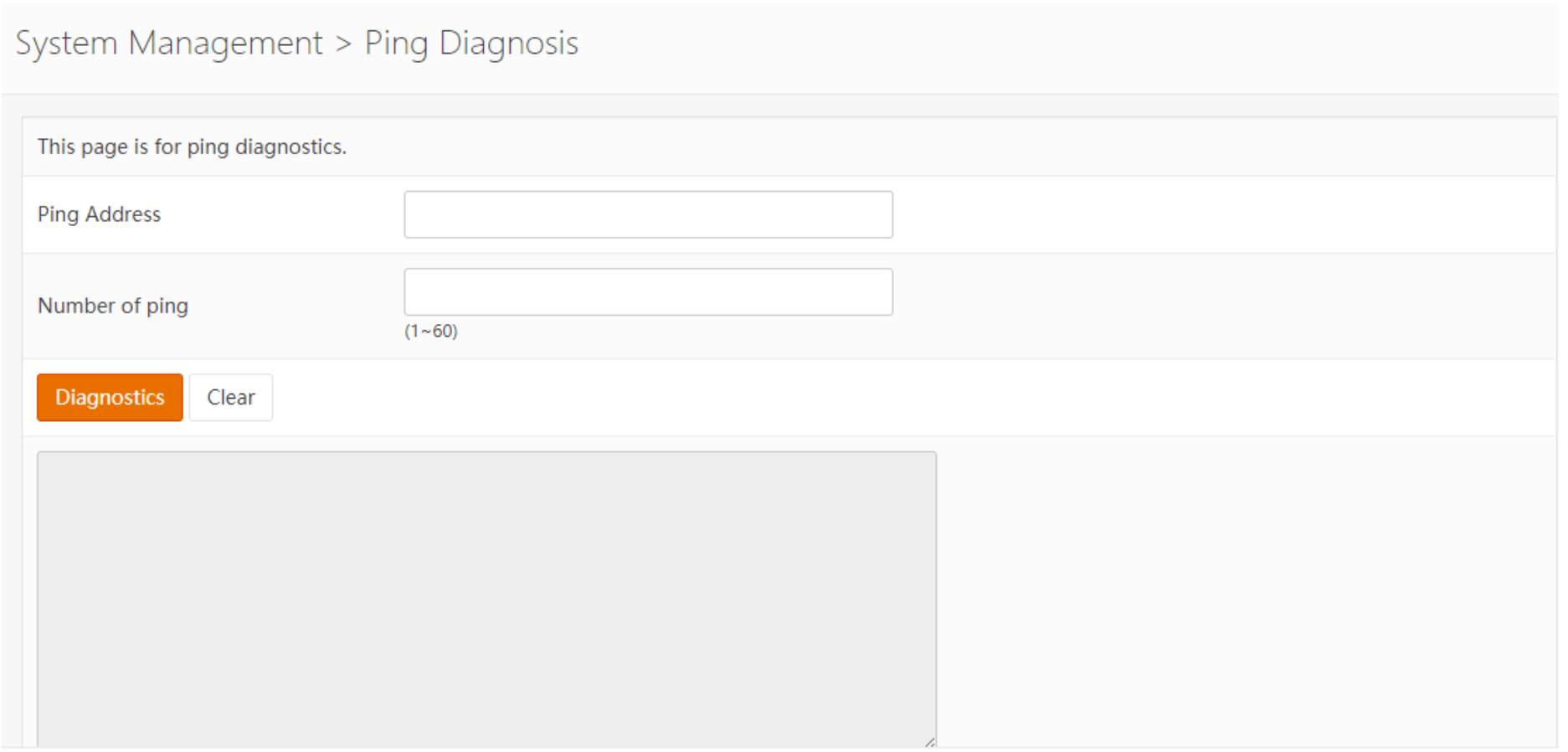
● **Backup configuration file:** Automatically saves the configuration of the current device into a file, which is convenient for later restoration to factory defaults.

● **Restore configuration file:** Select the saved configuration file or another configuration file to update. After the device is restarted, the device configuration automatically changes to the configuration status of the updated configuration file.

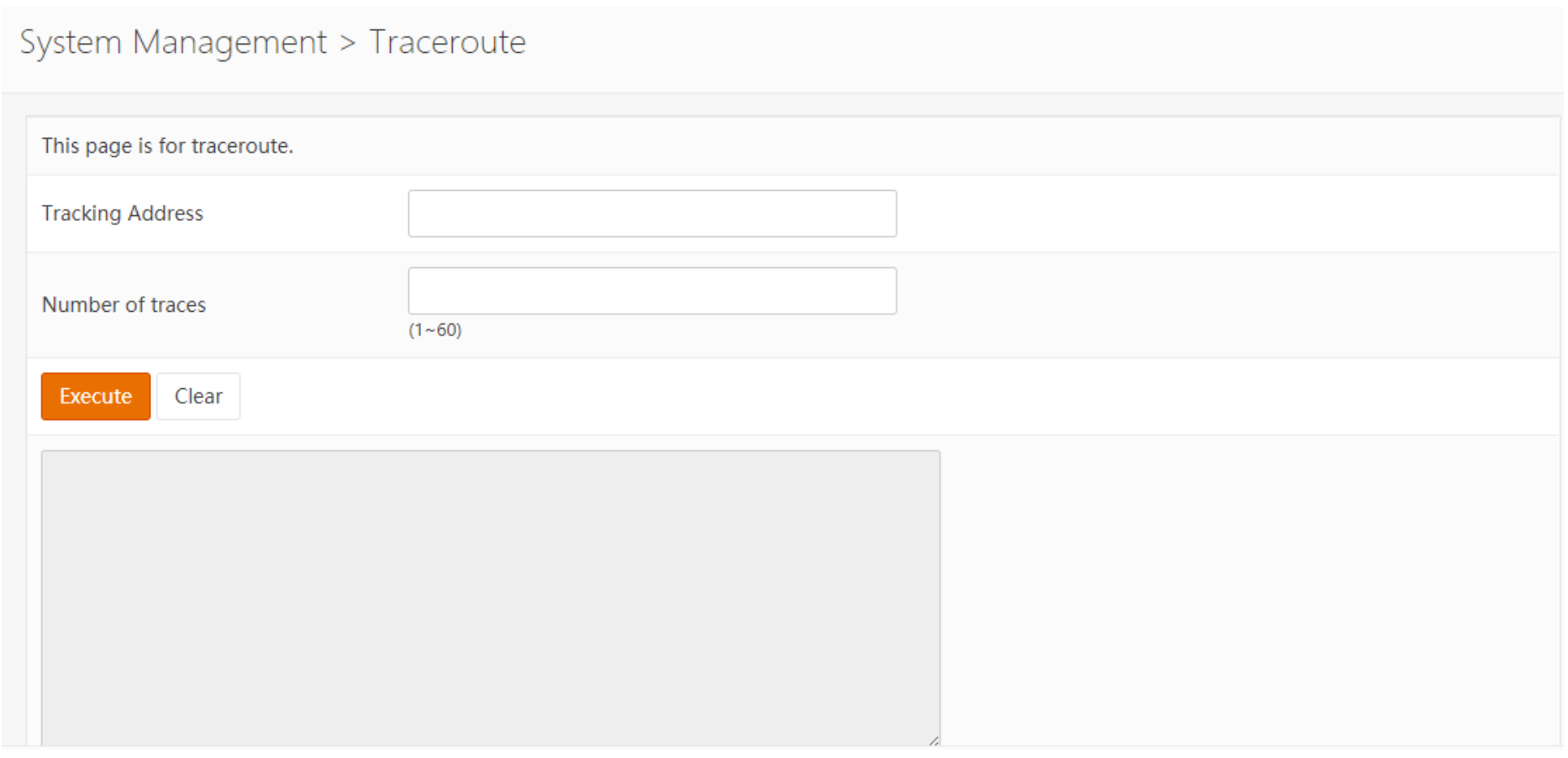
● **Reset system configuration:** Click the < Restore > button, and the device automatically clears all settings and restores to the original factory state.

5.10.6 Ping Diagnostics

Simply enter the address you want to ping and the number of bars you want to ping, and tap apply to perform ping diagnostics.



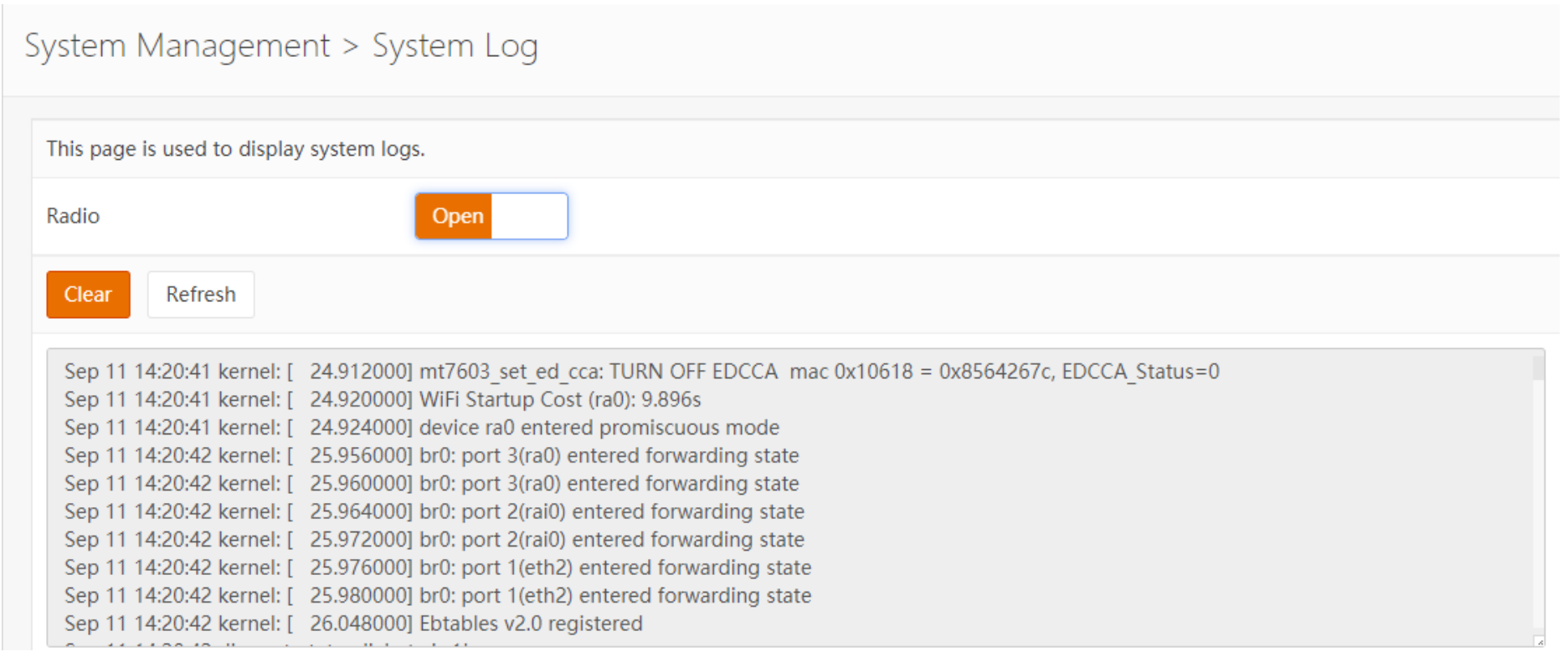
5.10.7 Route Tracing



Simply enter the address to be traced and the number of entries to be traced and click "Execute" to route the trace.

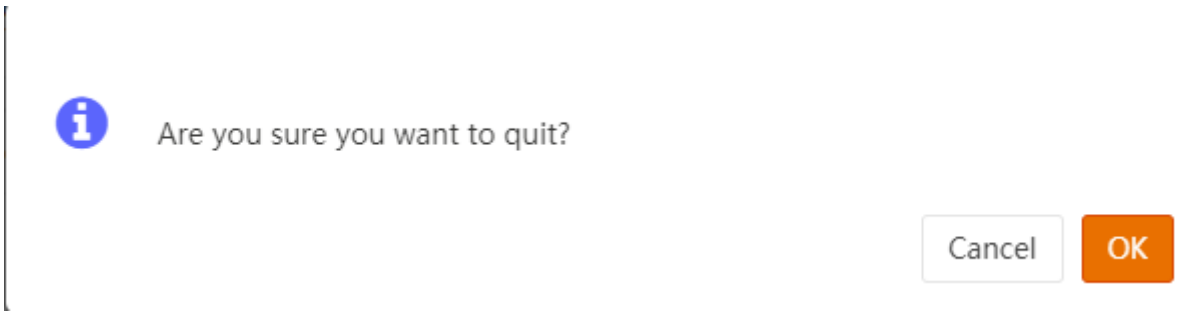
5.10.8 System Logs

This function is turned off by default and displays system logs when enabled.



5.10.9 Exit

Log out of the device background login.



6. Specifications

Chip configuration	**Flash/RAM**	Flash: 16MByter RAM: 128MByte
Machine port	**Keys**	1*Reset button, 1*WPS button, 1* Power button
	Module interface	M.2 (Standard M.2 base; Compatible with USB3.0 and 8111H Phy)
	SIM card holder	CAT12: Virtual cloud card + pluggable SIM (add SIM switch)
	Network Port	1 adaptive 10/100/1000Mbps WAN port (switchable LAN port) 3 adaptive 10/100/1000Mbps LAN ports
	Antenna	CAT 12 external antenna *4, WIFI antenna built-in (onboard) *2
	Power Supply	1*DC 12V/2A
Light bits	**Light position**	1*POW, 1*NET, 1*WIFI, 1*WAN, 1*LAN, 3*4.5G SIGNAL
Work environment	**Operating temperature**	0°C ~ 55°C
	Operating humidity	5% to 95% (no condensation)
	Storage temperature	-20°C ~ 85°C
Mechanical Properties	**Mounting method**	Desktop, stereo, etc.
	Size	186 * 159.3 * 49 mm
	Shell	Plastic case

FCC regulation

Part 15.21

Warning: Changes or modifications to this unit not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

Part 15.105

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

Part 15.19

This device complies with part 15 of the FCC Rules.

Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

MPE & SAR

FCC Radiation Exposure Statement

This equipment complied with FCC radiation exposure limits set forth for an uncontrolled

environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.