K868CPE

4G LTE Wireless Broadband Router

User Guide

Version 1.3

CONTENTS

CHAPTER 1: INTRODUCTION

Introduction to your Router

Congratulations on your purchase of the TD0551B-EU (4G LTE Wireless Broadband Router). This router is a compact and advanced broadband router that offers flexible Internet connection, embedded 4G LTE interfaces, for home, SOHO, and office users to enjoy high-speed, high-level security Internet connection via cellular wireless. With an integrated 802.11ac wireless access point and 4-port Gigabit Ethernet LAN, this router enables faster wireless speed and LAN connection 10 times faster than regular 10/100Mbps Ethernet LAN. TD0551B-EU provides a unique Management Center enabling users to monitor 4G LTE signal strength, bandwidth, usage data statistics, and many more. Users can choose the most economical rate of VoLTE calls provided by different providers.

Wireless Mobility and Security With 4G&WiFi external antenna, this router delivers up to 3 times the wireless coverage of a 802.11b/g/n network device, so that wireless access is available everywhere in the house or office. TD0551B-EU also supports the Wi-Fi Protected Setup (WPS) standard and allows users to establish a secure wireless network just by pressing a button. 2.4GHz & 5GHz SSIDs allow users to access different networks through a single access point.

Internet Protocol version 6 (IPv6) is a version of the Internet Protocol that is designed to succeed IPv4. IPv6 has a vastly larger address space than IPv4. The router is already supporting IPv6, you can use it in IPv6 environment no need to change device. The dual-stack protocol implementation in an operating system is a fundamental IPv4-to-IPv6 transition technology. It implements IPv4 and IPv6 protocol stacks either independently or in a hybrid form. The hybrid form is commonly implemented in modern operating systems supporting IPv6.

Firmware Upgradeable Device can be upgraded to the latest firmware through the WEB based GUI.

Introduction Features & Specifications

- 4G LTE for high speed mobile broadband connectivity
- 4xGigabit Ethernet LAN
- IPv6 ready (IPv4/IPv6 dual stack)
- Dual SSIDs for 2.4GHz & 5GHz
- IEEE 802.11 b/g/n/ac compliant Wireless Access Point with Wi-Fi Protected Setup (WPS)
- Wi-Fi Protected Access (WPA-PSK/ WPA2-PSK)
- Firewall Security
- Voice over LTE compliant with Circuit Switch
- One RJ11 port for connecting to regular analog telephones
- Ideal for SOHO, office and home users

Network Protocols and Features

- IPv4, IPv6 or IPv4 / IPv6 Dual Stack
- NAT, static (v4/v6) routing
- DHCP
- DMZ
- SNTP, DNS proxy

Firewall

- Built-in NAT Firewall
- Stateful Packet Inspection (SPI)
- DoS attack prevention including Land Attack, Ping of Death, etc.
- Access control
- IP&MAC filter
- Password protection for system management
- VPN pass-through

Wireless LAN

- Compliant with IEEE 802.11 b/ g/ n/ac standards
- 2.4 GHz - 5GHz radio band for wireless
- 2.4GHz & 5GHz work at the same time
- WPS (Wi-Fi Protected Setup) for easy setup
- Wireless Security with WPA-PSK / WPA2-PSK support

VoLTE

- Support VoLTE and VoIP voice call services. To change the call mode select Voice > Phone Settings and chose the desired option from the dropdown menu.
- For best results, the “VoLTE” setting of network mode is recommended.

Management

- Web-based GUI for end user management (IPv4/IPv6)
- Firmware upgrades
- DHCP server / client / relay
- TR-069 for remote management (*Note: If you need to set the parameters ,please set it by the hidden URL: http://192.168.1.1/html/cwmpsettings.html*)

Hardware Specifications

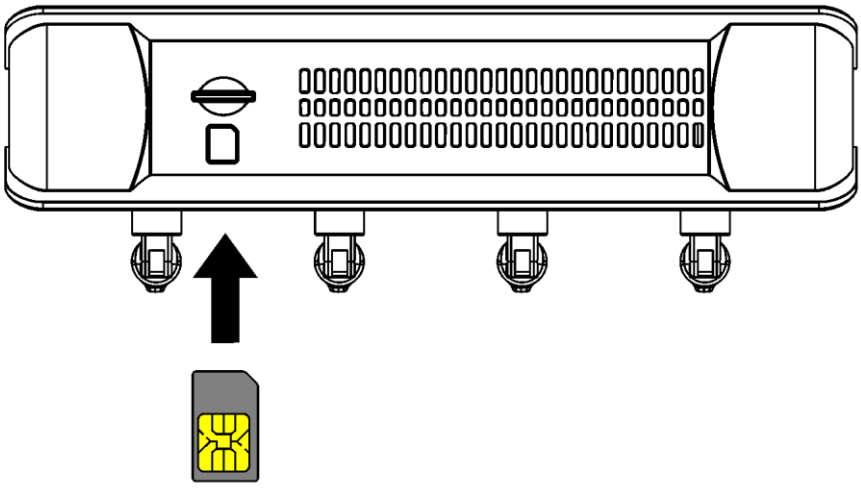
Physical interface

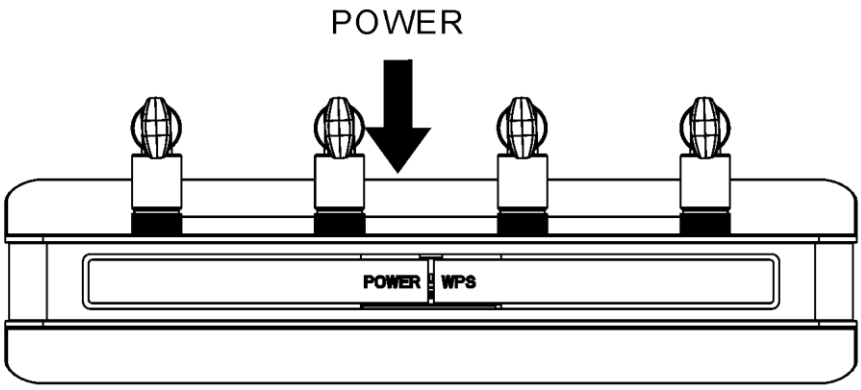
- 4G LTE antenna: 2 external + 2 internal
- WiFi antenna: 2 external
- SIM card slot: Standard SIM card (2FF) slot
- VoLTE phone port: 1 RJ-11 FXS phone port to connect with regular analog phone
- Ethernet: 4-port 10 / 100 / 1000Mbps auto-crossover (MDI / MDI-X) Switch
- Factory reset button
- WPS button
- AC/DC Power jack
- Power switch button
- USB Port: 1 USB port, debug only

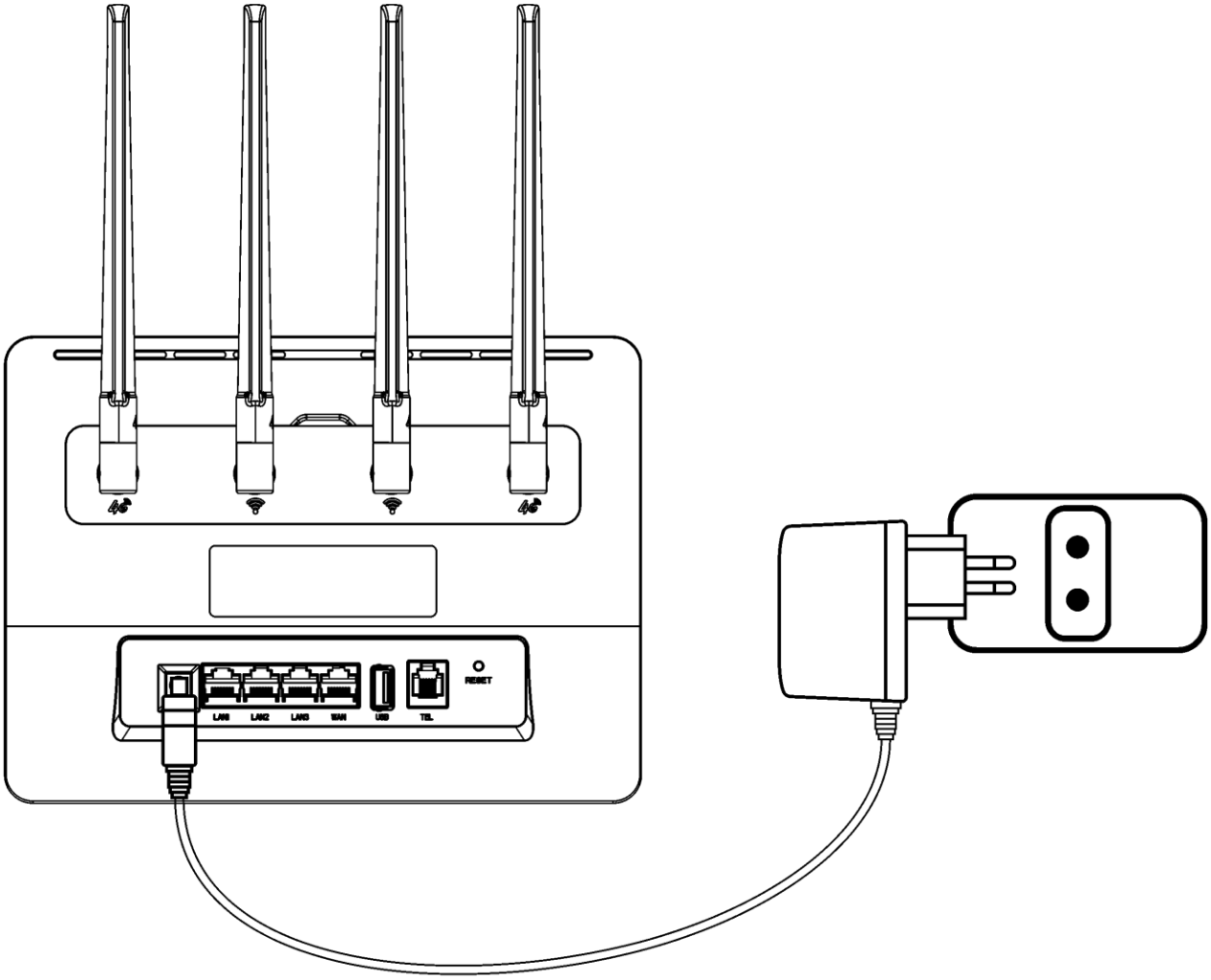
Application Diagrams

TD0551B-EU supports connect to the Internet via 4G LTE.

4G mobile network service using a SIM card

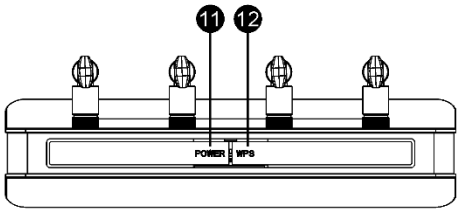


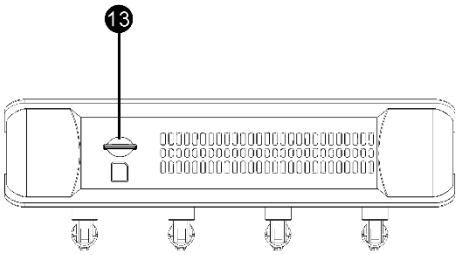


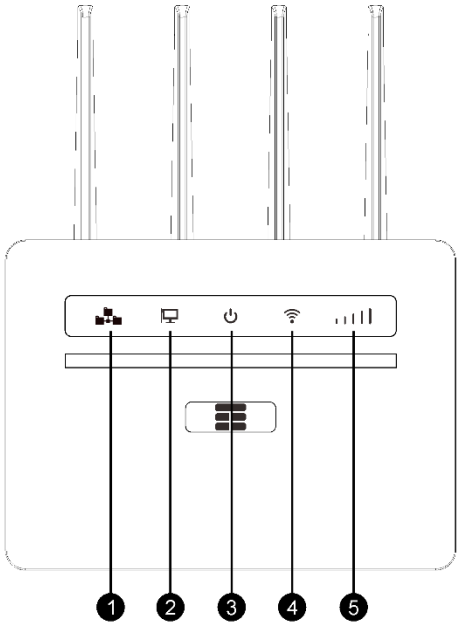

4G
4G
LAN1
LAN2
LAN3
WAN
USB
TEL
RESET

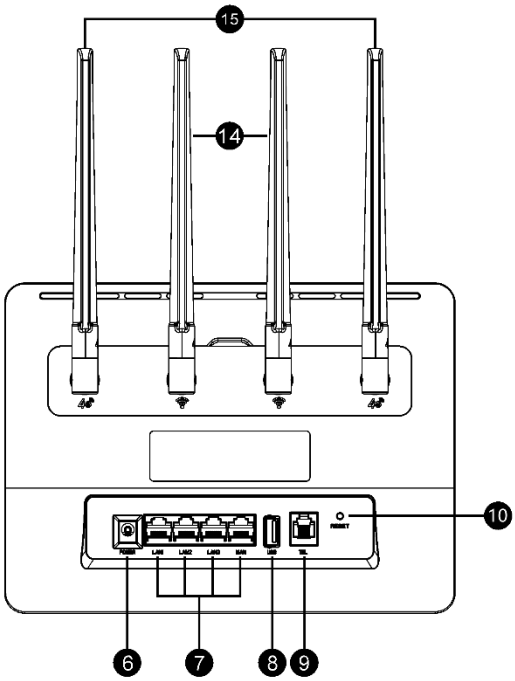
CHAPTER 2: PRODUCT OVERVIEW

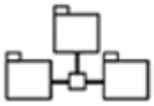
Appearance









LED	StatuS	Description
	Blue	Registered to 4G mobile network
	Red	No-SIM card or not registered on the network
	Blinking	Internet connection is setup and data transfer in progress
	Green	LAN ports are connected
	Blinking	Data transfer
	Blue	The device is powered ON
	Blue	Wifion and data transfer in progress
	Blinking	WPS connection set up in progress
	More signal bars	Stronger signal

Ports		Description
6	**Power Input**	DC adapter
7	**LAN ports**	10 / 100 / 1000Mbps automatic adapt
8	**USB port**	For debugging only
9	**Telephone port**	RJ11 port for connecting to regular analog telephone
10	**Reset button**	Press for 3 seconds or above to restore to factory settings
11	**Power button**	Press within 3 seconds to power on/off the device
12	**WPS button**	To enable WPS function
13	**Standard SIM card slot**	2FF Standard SIM slot
14	**WIFI External antennas**	2*WiFi external antennas to improve the WiFi performance
15	**4G External antennas**	2* Wireless external antennas to improve the WAN performance

CHAPTER 3: DEVICE CONFIGURATION

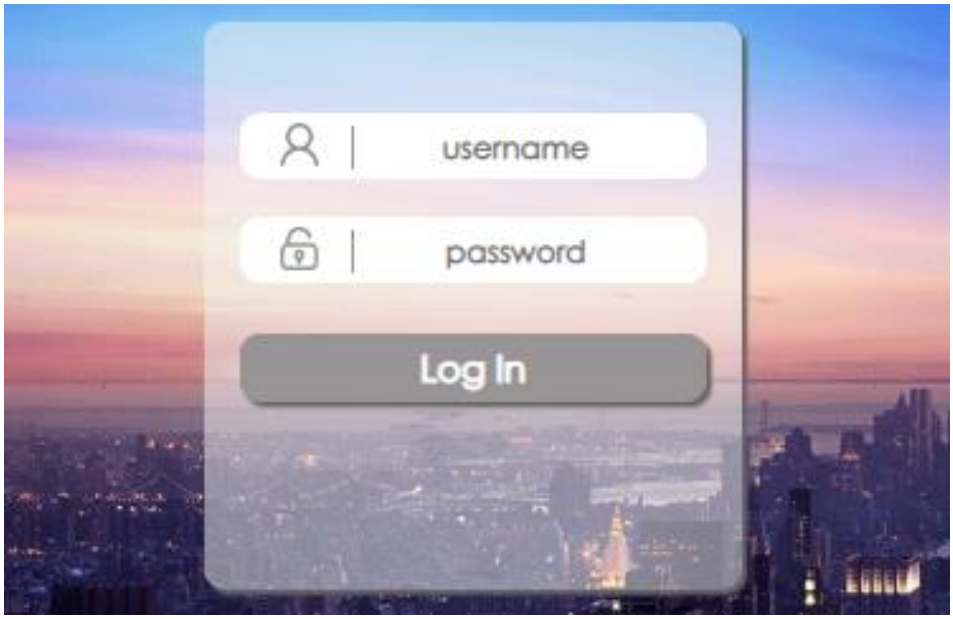
Login to your Device

Open web browser, enter the IP address of your router which by default is **http://192.168.1.1** and click **"Go"**, password window prompt appears.

The default username/password is **admin/admin**.

You also can refer to the label of router for the default IP address and username/password.

It is strongly suggested to change the default login password of WebUI to prevent unauthorized users from changing the router's settings.



Once you have logged on, you can see the Home page for the router.

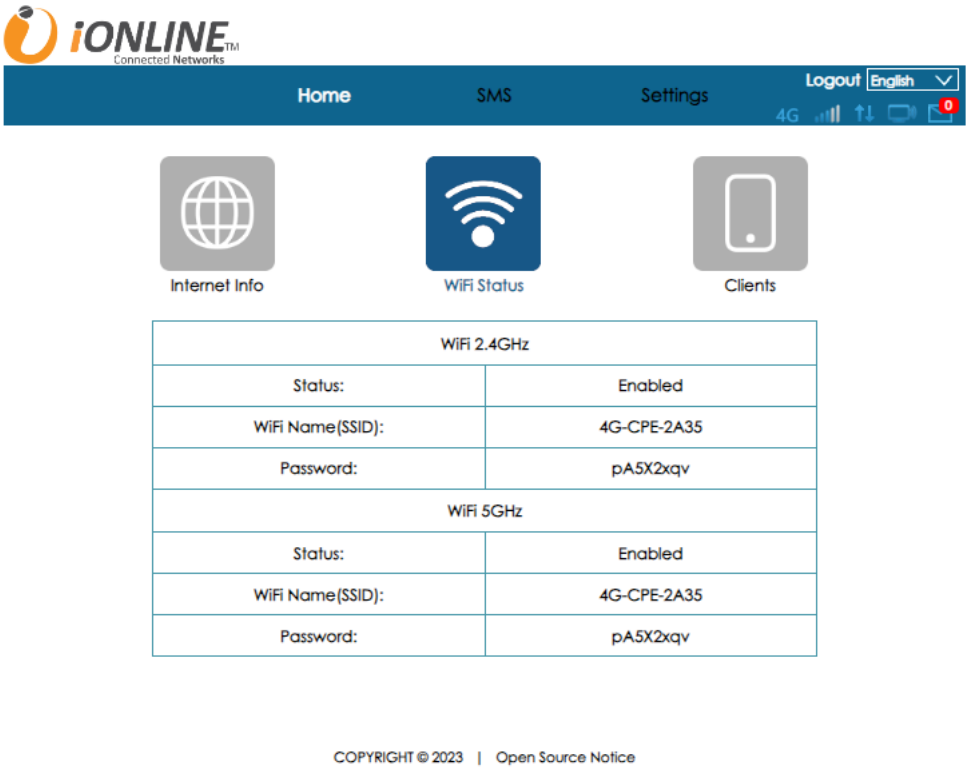
Please see the relevant sections of this manual for detailed instructions.

Home Page

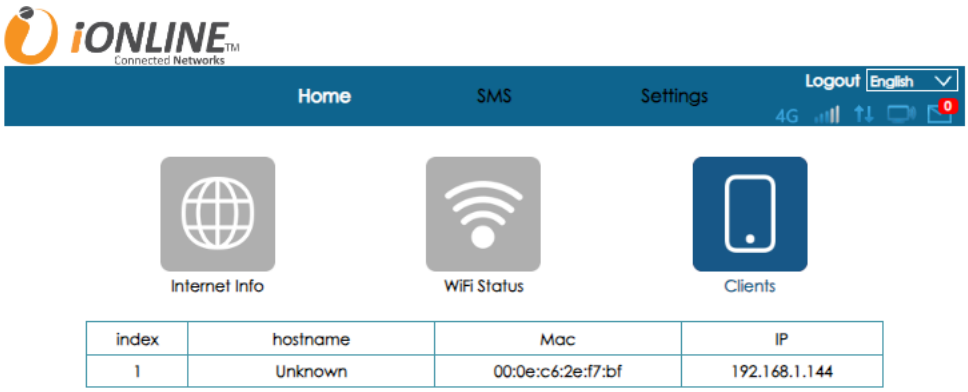
In this section you can click on the three items in the diagram for more information.

Internet Status: you can check the internet Status by clicking the icon  , the internet mode, network status, connection type, connection time and other related parameters will be displayed.

WiFi Status: you can check the WiFi information of the router by clicking the icon  , the 2.4GHz & 5GHz WiFi status, SSID and password will be displayed.

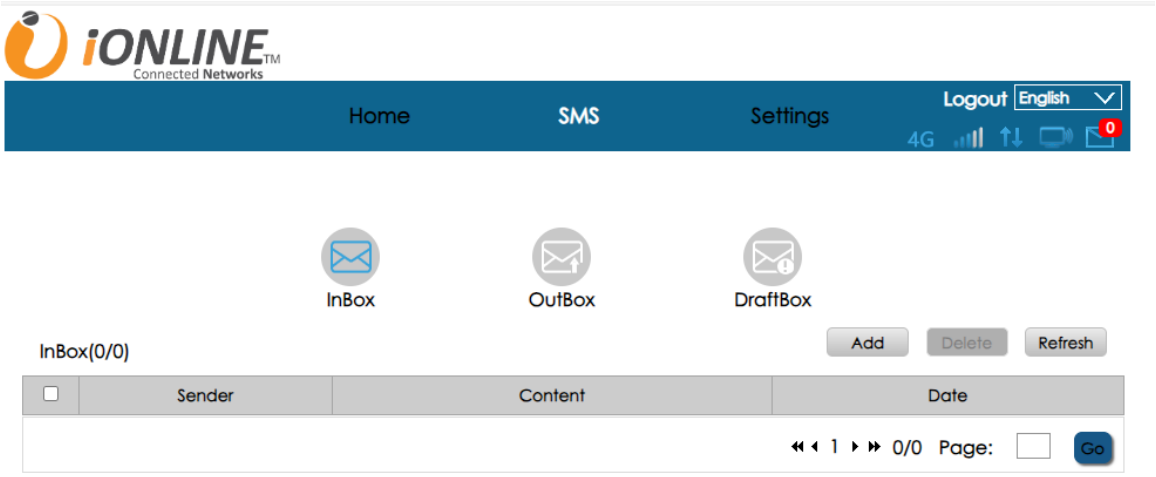


Connected Clients: you can check the connected client information by clicking the icon  , the connected client's device name, IP address and Mac address will be displayed.



SMS

In this section, you can check InBox for all the received messages, OutBox for all the sent messages and DraftBox as well.



Settings

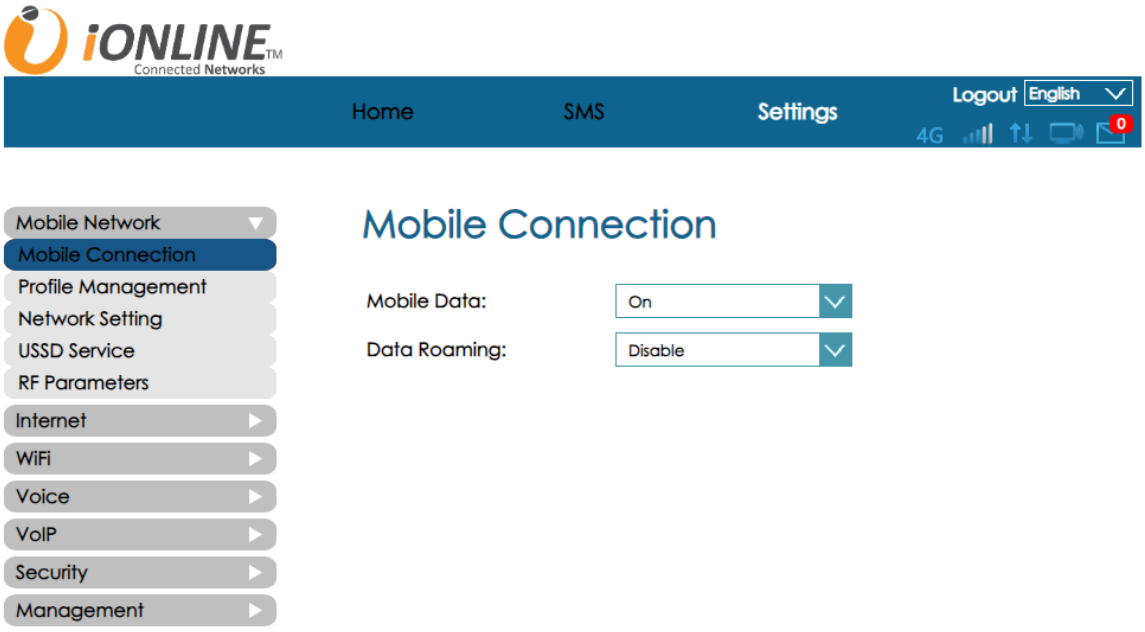
Mobile Network

Mobile Connection

In this section, you can configure your mobile data connection and data roaming switch.

Mobile Data: To On/Off Mobile connection.

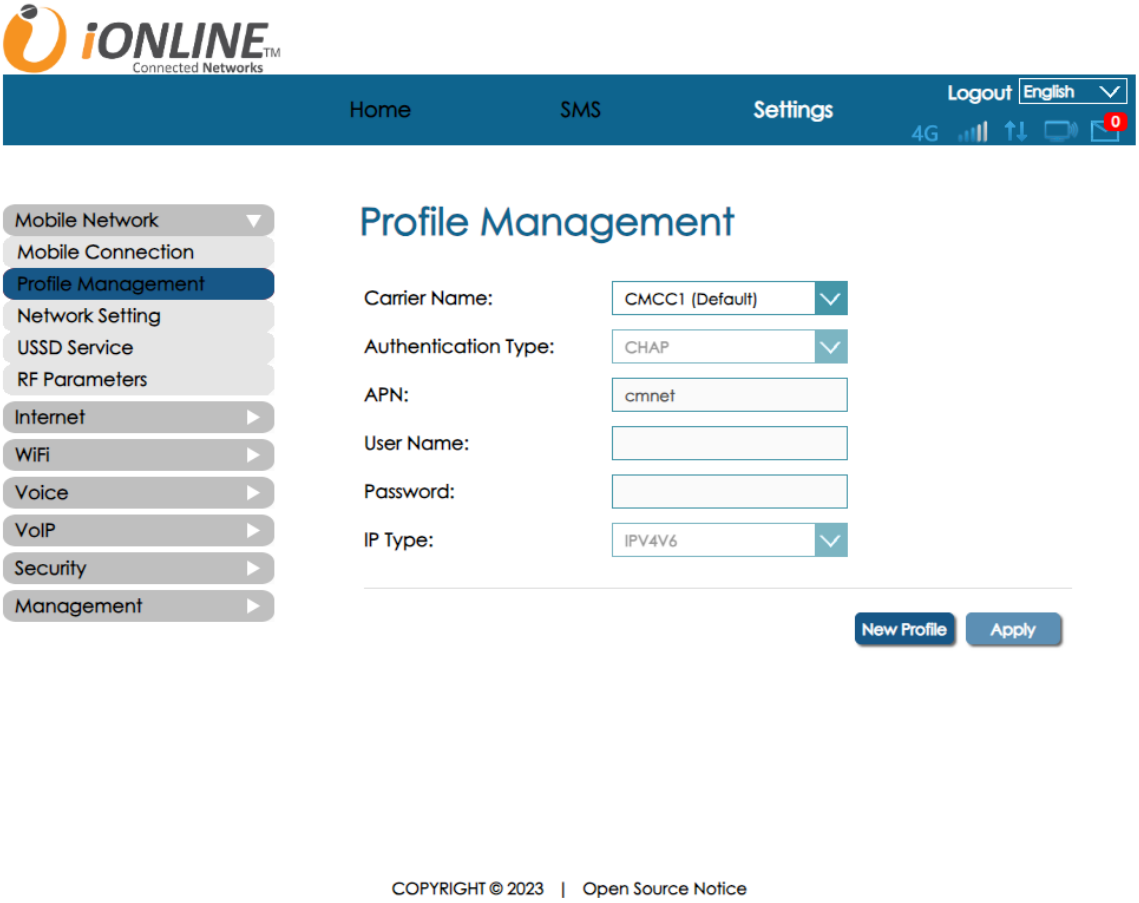
Data Roaming: To Enable/Disable Roaming connection.



Profile Management

In this section, you can configure your APN settings. If you are unsure of your APN Settings, please contact your carrier.

Notes: The CPE supports APN automatically match function, which means you do not need to edit APN settings for most of cases.

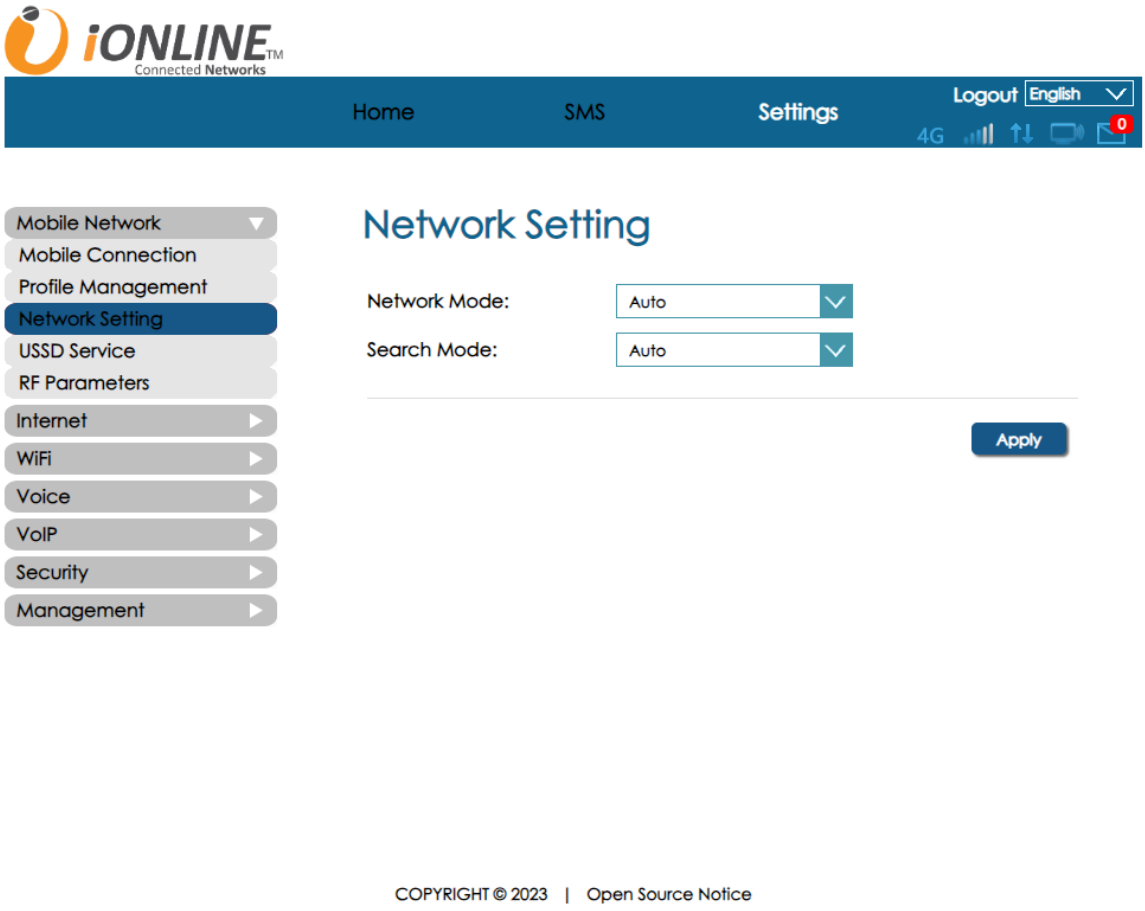


Network Setting

In this section, you can configure network search settings. Select “Auto” if you don't know the network type.

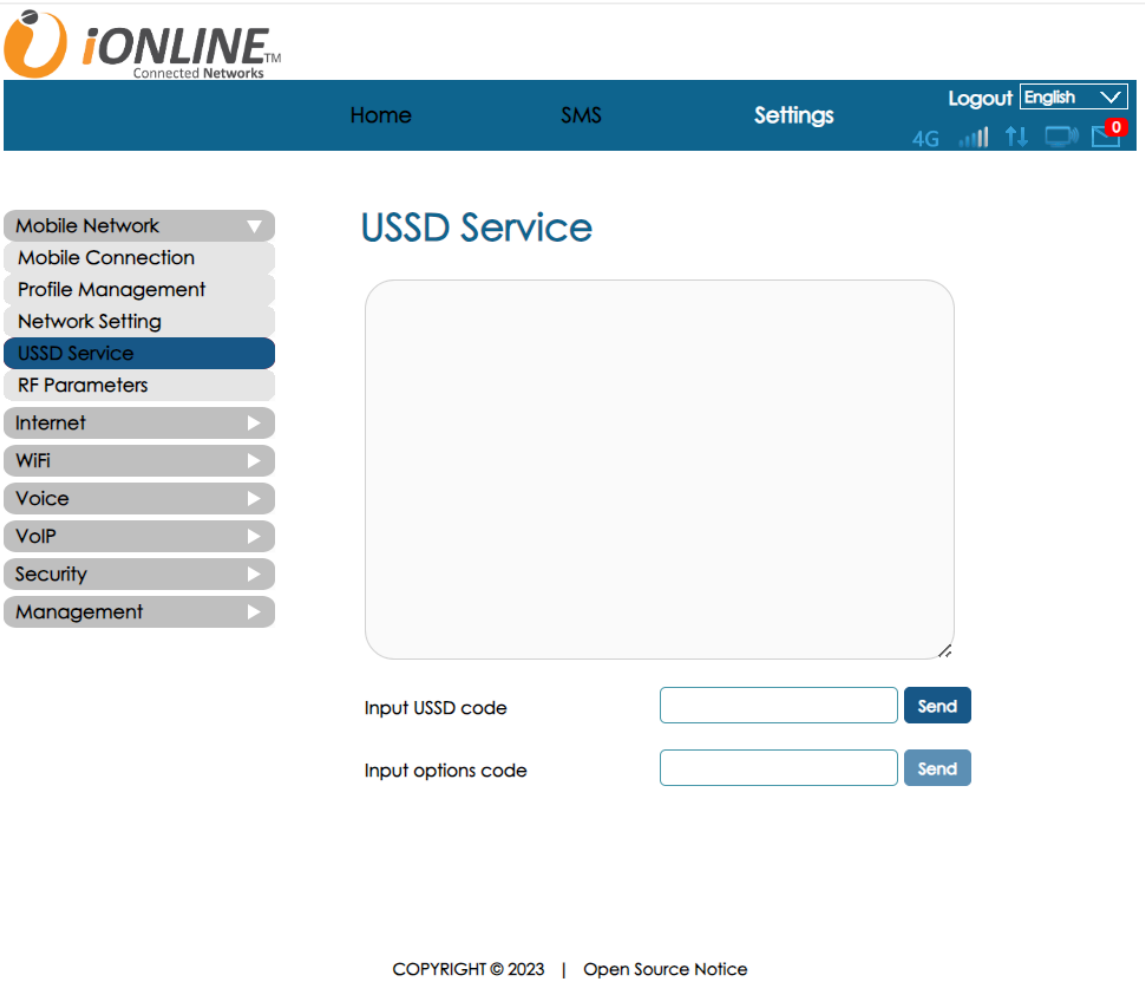
Network Mode: Auto/3G Only/4G Only.

Search Mode: Auto/Manual, it is suggested to set as Auto.



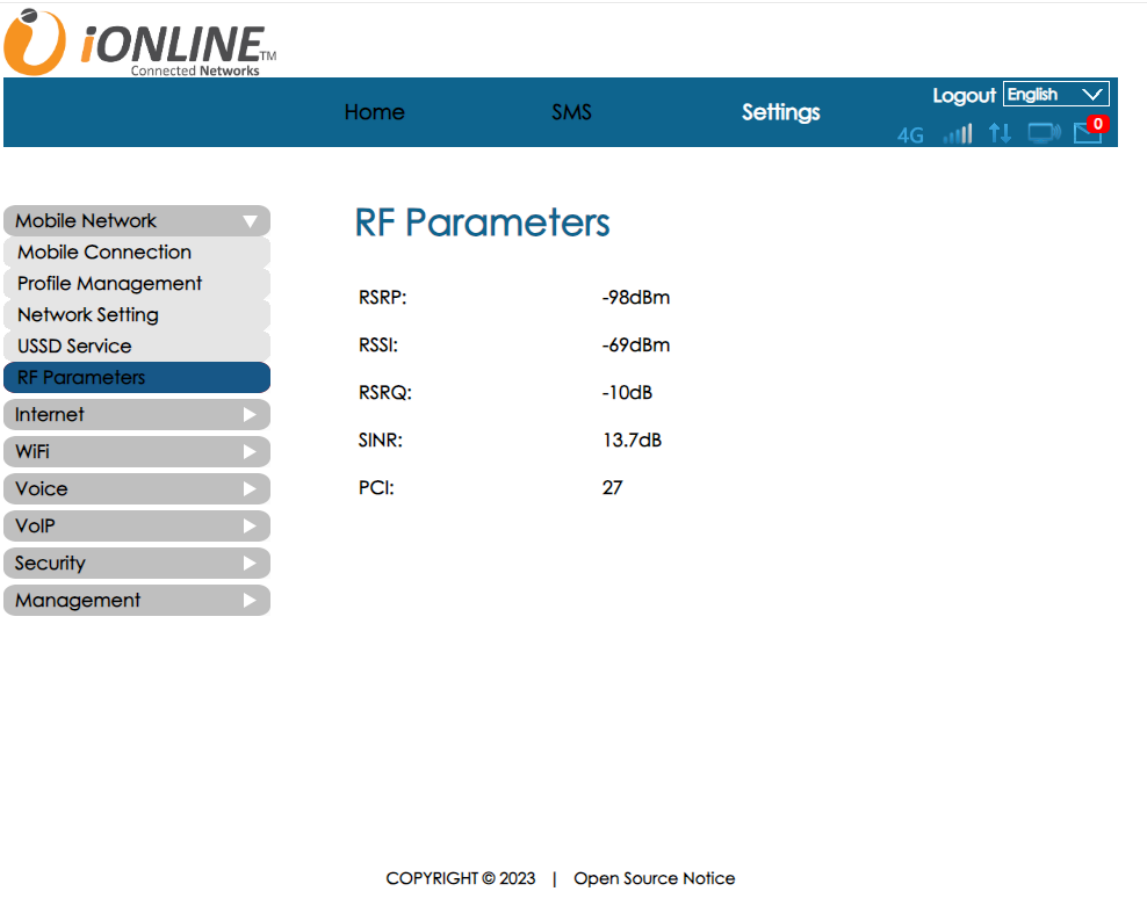
USSD Service

In this section, you can set USSD code. Click “Send” you will get response information from Internet.



RF Parameters

In this section, you can easily check the basic RF information. Please contact your ISP for more information.



Internet

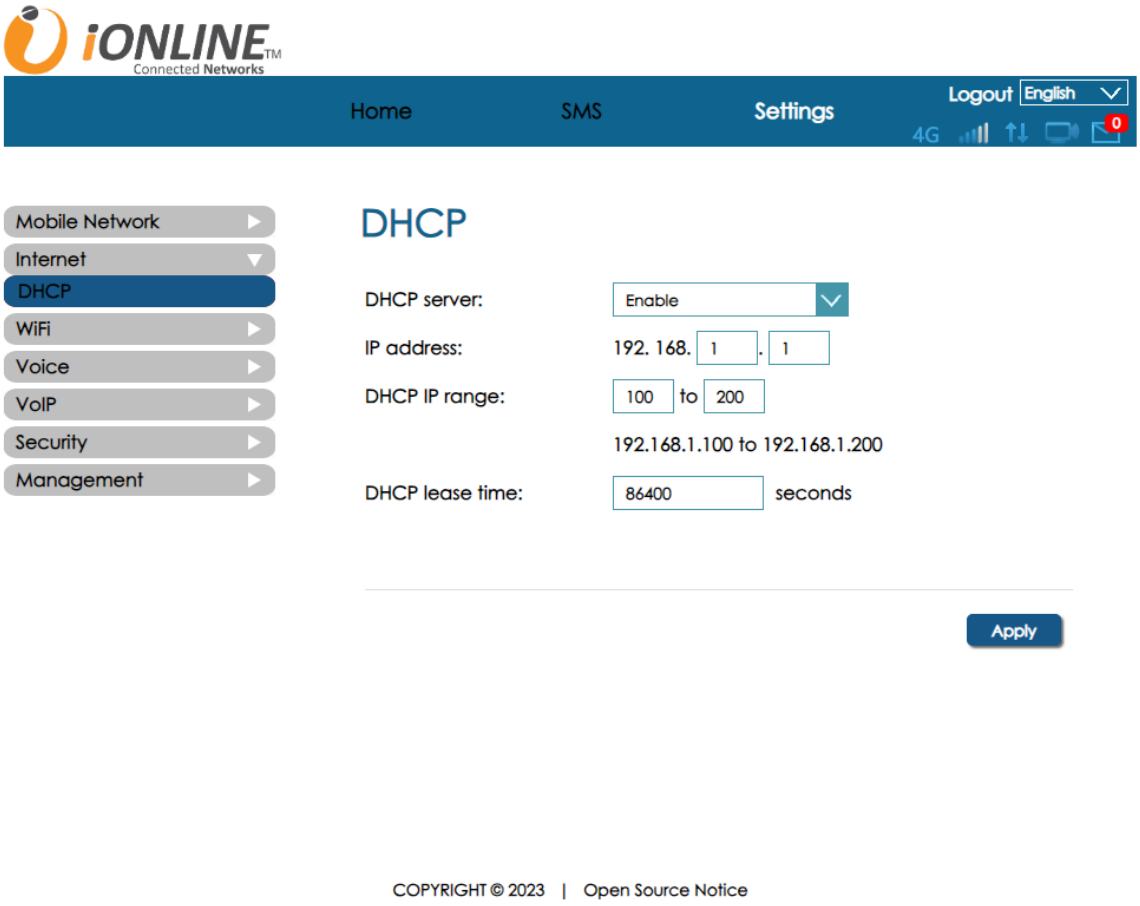
DHCP

In this section you can configure the DHCP settings.

Default value:

1. DHCP server is enabled.
2. Gateway IP address: 192.168.1.1.
3. DHCP IP Range: 192.168.1.100 to 192.168.1.200, which means IP pool counts 100.
4. DHCP lease time: 24 hours (86400 seconds).

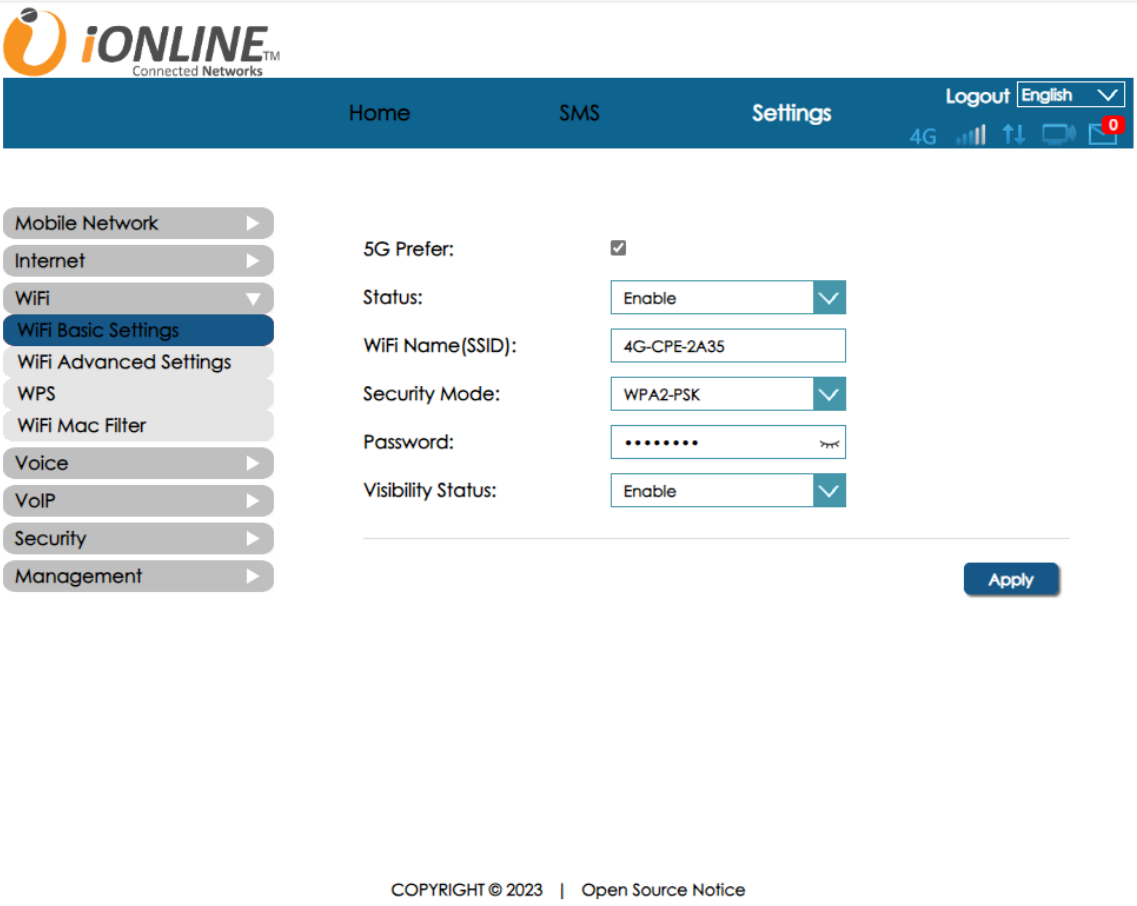
Click **“Apply”** after configuring the new settings.



WLAN

WIFI Basic Settings

In this section you can configure the WiFi settings. Please note that any changes made in this section may need to restart your WiFi to activate.

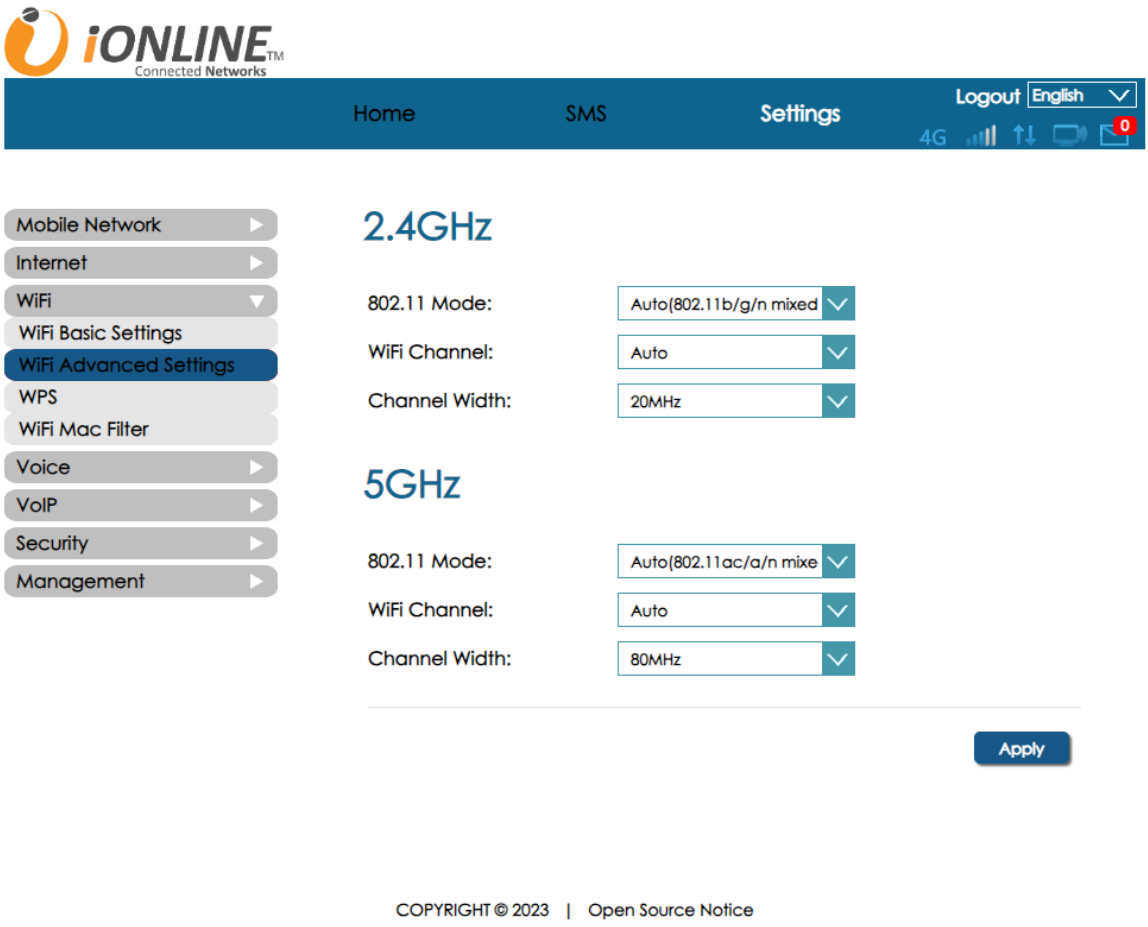


WIFI Advanced Settings

In this section, you can configure WiFi advance settings. Please note that any changes made in this section may need to restart your WiFi to activate.

If you are unsure of Wi-Fi channel and channel width, it is suggested to set as **Auto**.

Click **“Apply”** after configuring the new settings.

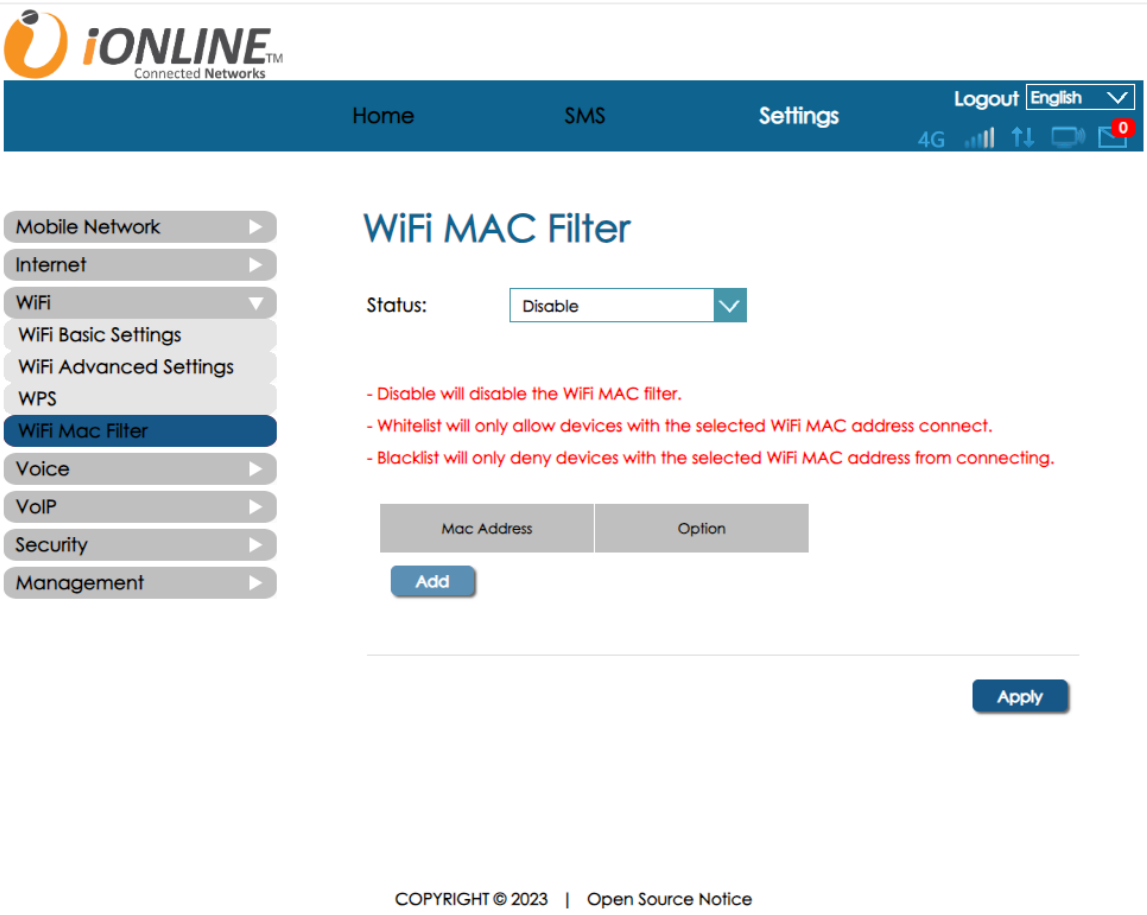


WPS

In this section, you can configure WPS switch. WPS can connect quickly without WiFi password.

WIFI MAC Filter

In this section, you can configure WiFi MAC filter. That allows you to include or exclude computers and devices based on their MAC address.



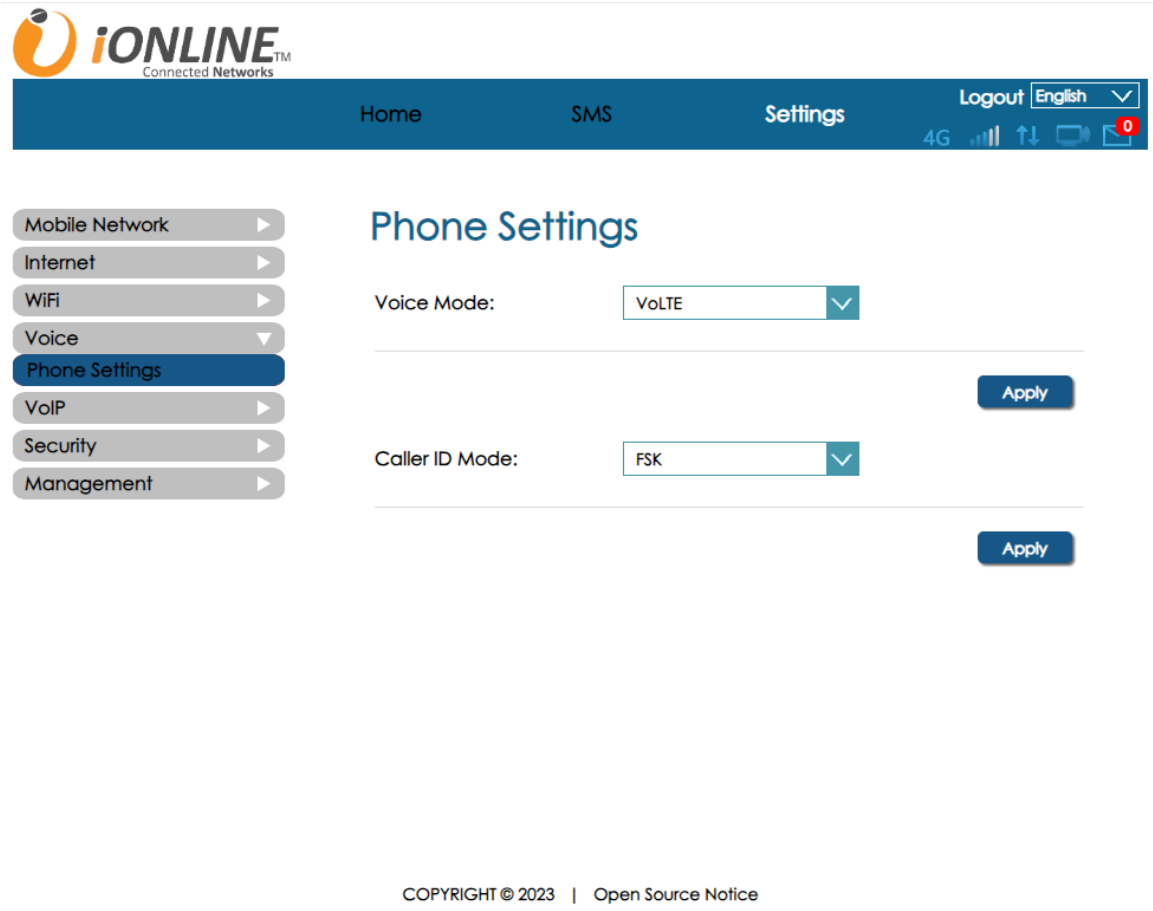
Voice

Phone Settings

In this section you can configure the phone connection type.

CPE implements the VoLTE as prefer setting, if you are unsure whether your SIM card supports VoLTE, please contact your carrier provider.

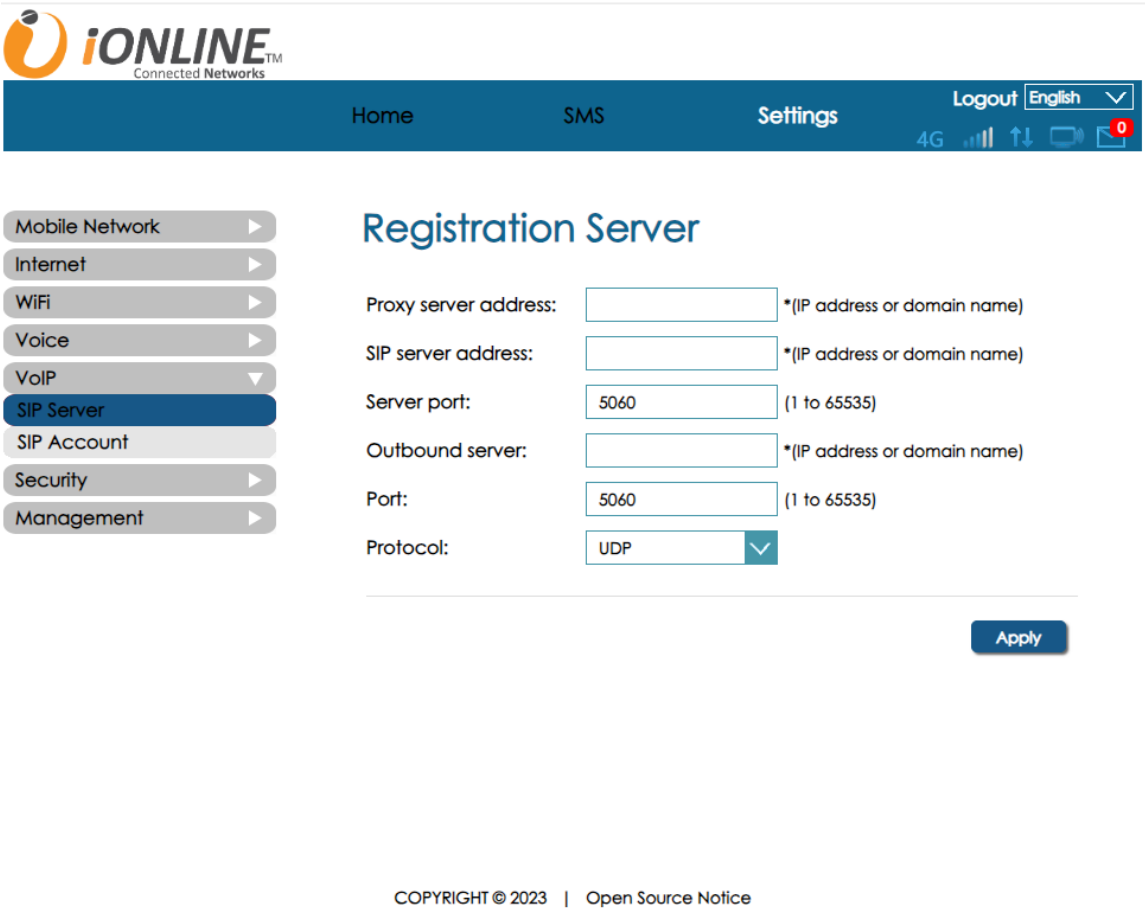
After selecting from these three options: “VoLTE”, “VoIP” and “CS Only”. Please click **“Apply”** to activate.



VoIP

SIP Server

In this section, you can configure the proxy server and registration server. The local server SIP port must be different from the registration server port.



SIP Account

In this section, you can configure SIP Account. After clicking “Add” you can set “User mane” “Password” “Registration status” “Options”. Please note that the user name and password of the SIP Account must be the same as the registration server.

Security

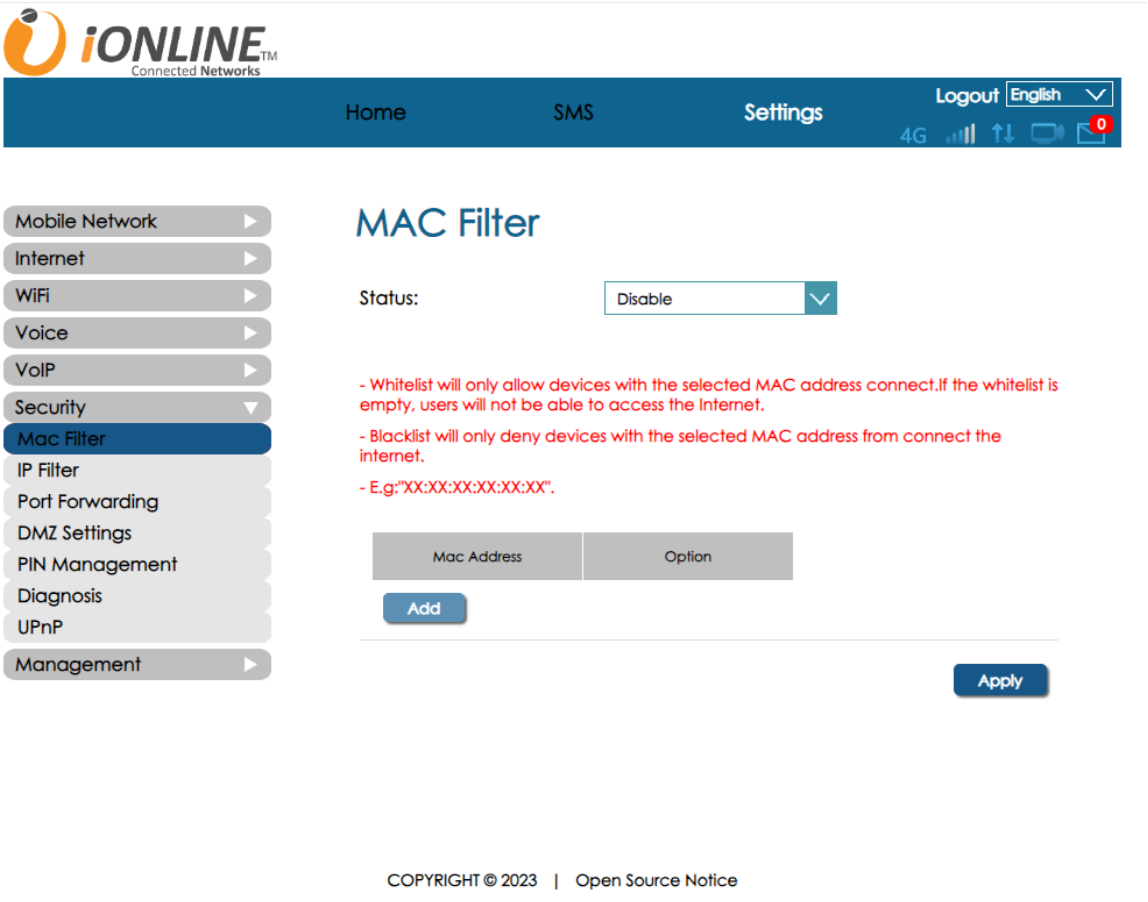
Mac Filter

MAC address filtering is a feature for IPv4 addresses that allows you to include or exclude computers and devices based on their MAC address. Every Ethernet device has a unique MAC (Media Access Control) address. The MAC address is assigned at the factory and consists of six pairs of hexadecimal characters, for example, 00:DS:GG:22:35:01.

You need to know the MAC address of the devices you wish to filter.
You can choose “Disable” or “Whitelist” or “Blacklist”, both can be implemented for Mac filter logic.

Whitelist: will only allow devices with the selected MAC address connect.

Blacklist: will only deny devices with the selected MAC address from connecting.



IP Filter

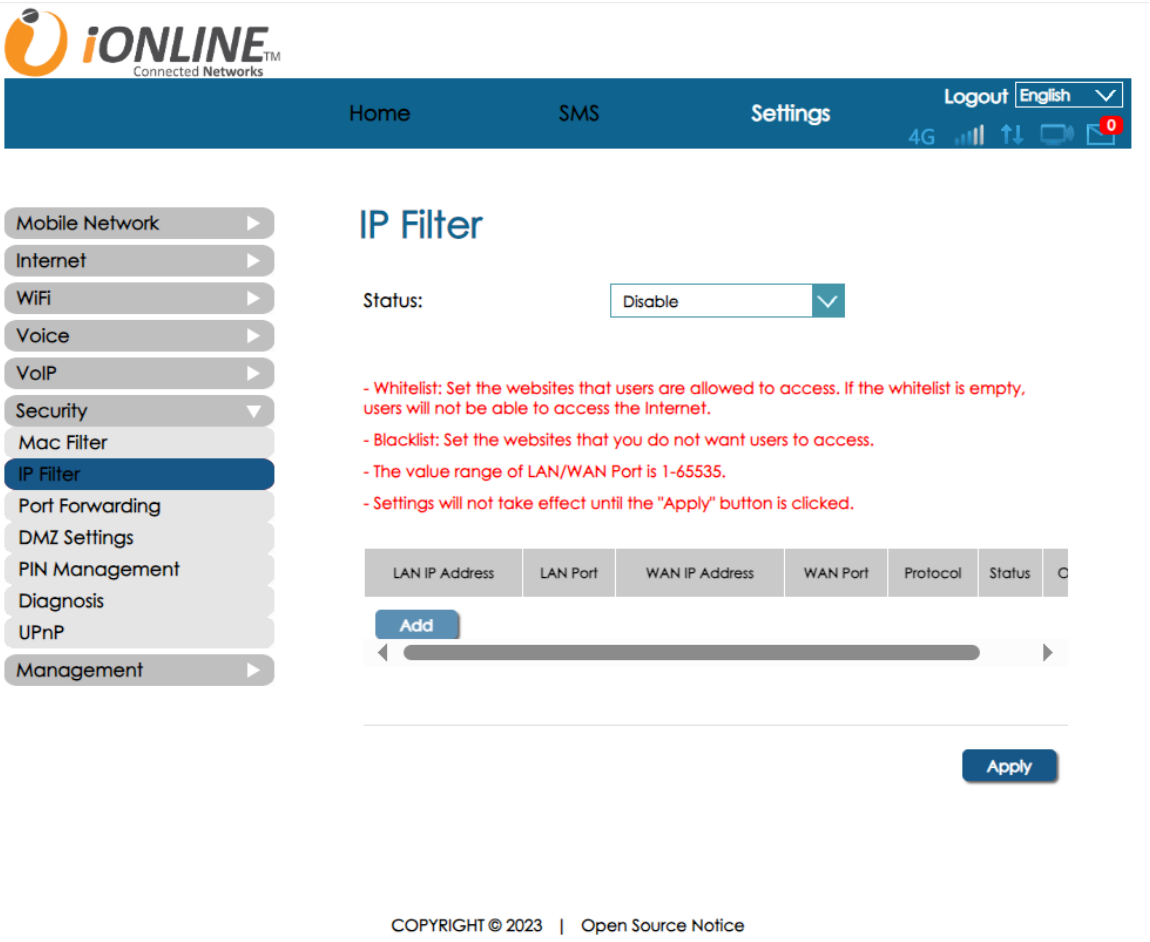
Similar to Mac Filter, You can filter by IP address, Protocol, Port number. IP Filtering configuring includes LAN IP address, LAN port, WAN IP address, WAN port and Protocol.

Whitelist: set the IP addresses that allowed to access.

Blacklist: set the IP addresses that not allowed to access.

The value range of LAN/WAN Port is 1-65535.

Settings will not take effect until the **“Apply”** button is clicked.



Port Forwarding

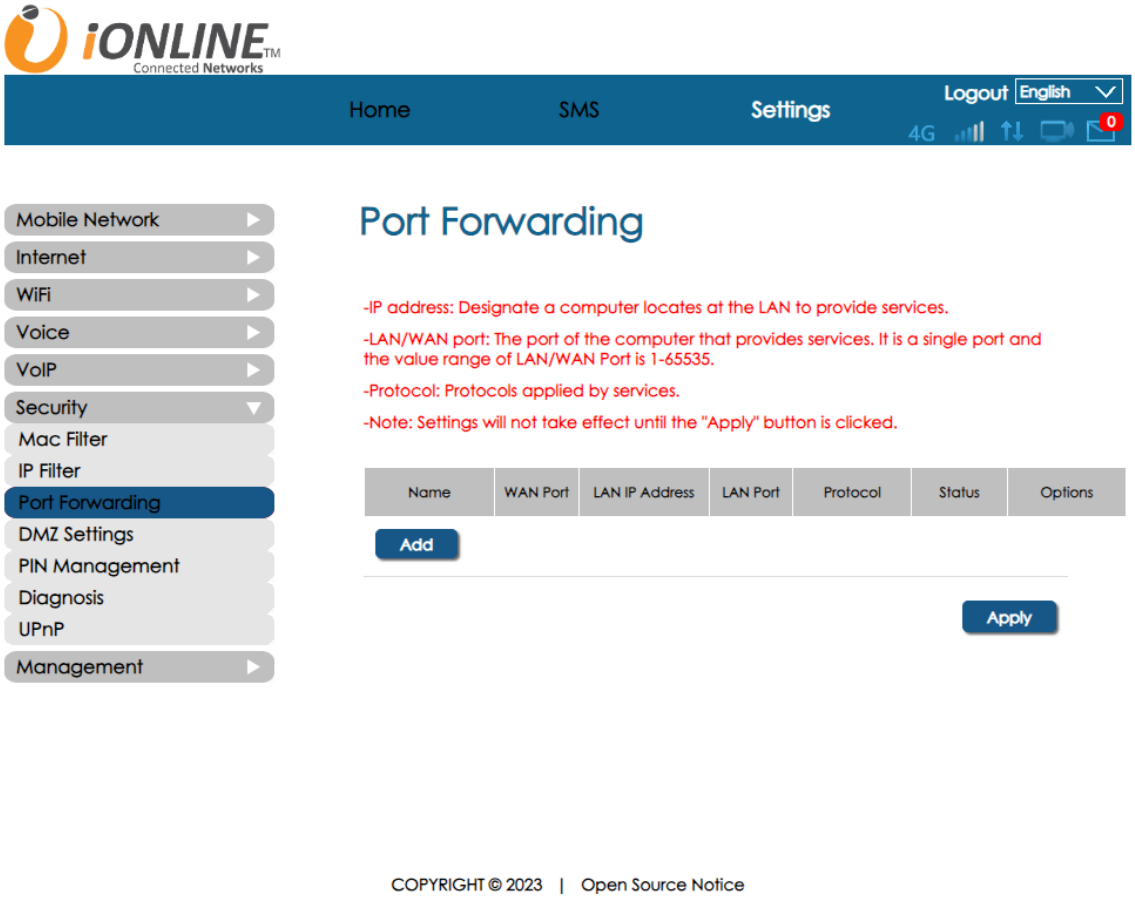
In this section you can enable external computers to access FTP or other services provided by the LAN.

IP address: Designate a computer locates at the LAN to provide services.

LAN/WAN port: The part of the computer that provides services. It is a single part and the value range of LAN/WAN Port is 1-65535.

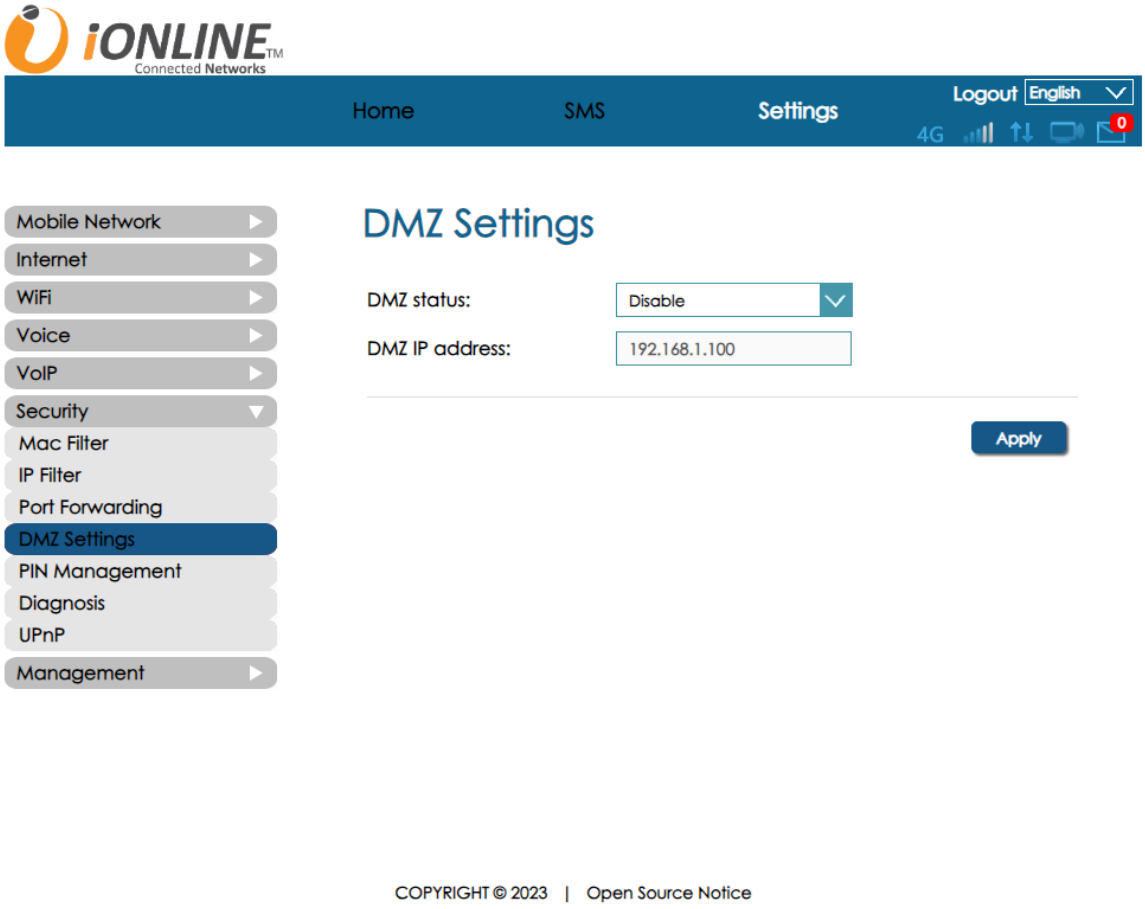
Protocol: Protocols applied by services.

Note: Settings will not take effect until the **“Apply”** button is clicked.



DMZ Settings

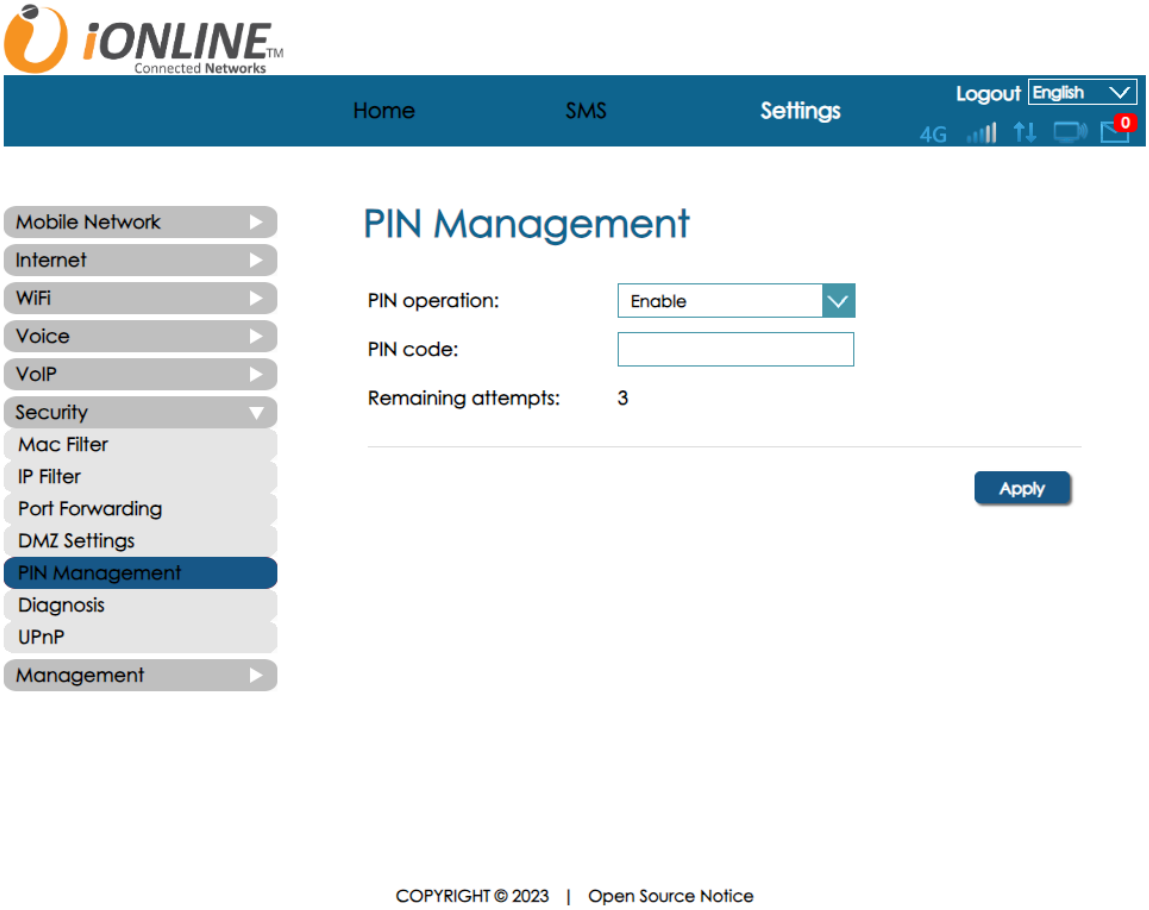
DMZ allows outside network to connect in and communicate with internal LAN devices via this WAN interface When setting a particular internal IP address as the DMZ Host, all incoming packets will be checked by the Firewall and NAT algorithms then passed to the DMZ host, when a packet received does not use a port number used by any other Virtual Server entries.



DMZ IP Address: Give a static IP address to the DMZ Host when Enabled button is checked. Be aware that this IP will be exposed to the WAN/Internet.

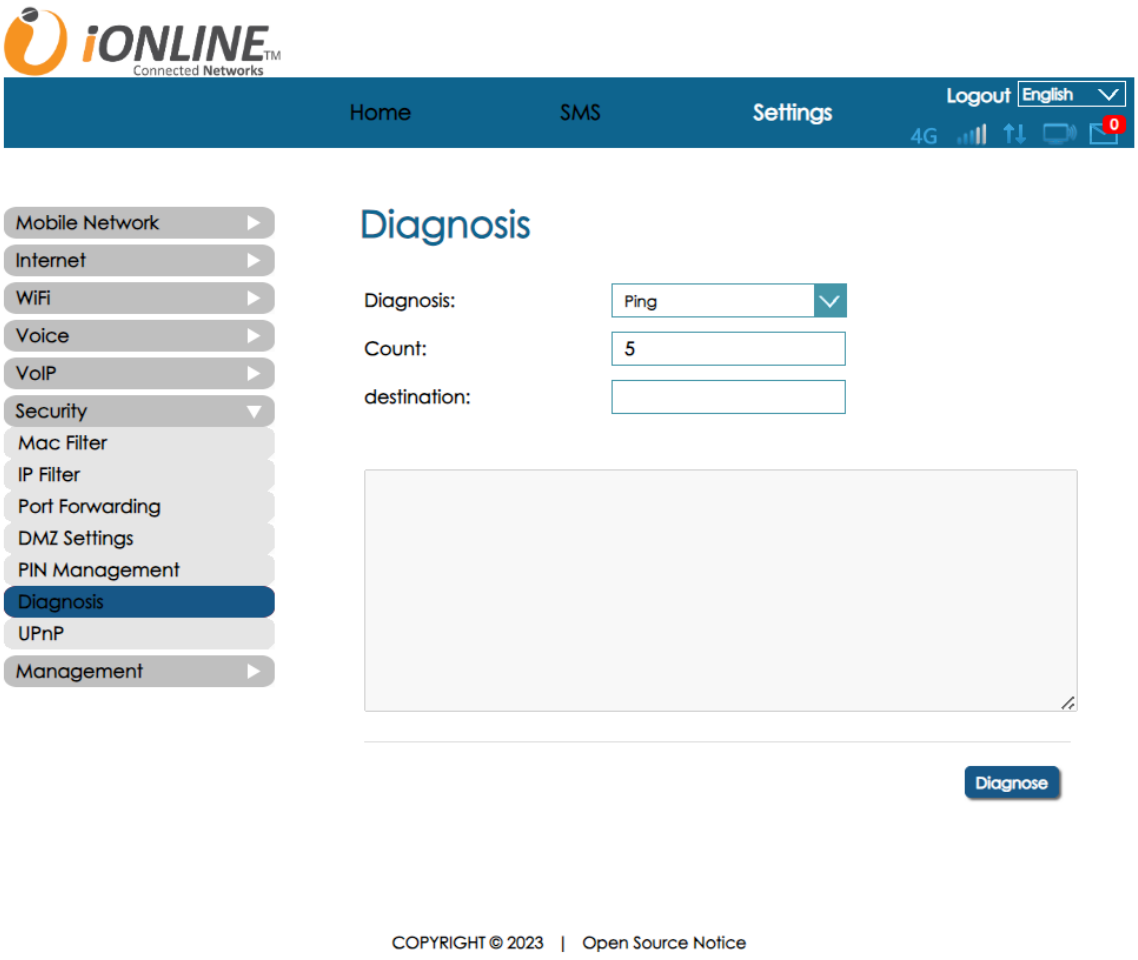
PIN Management

In this section, you can configure PIN code to make your device securer.



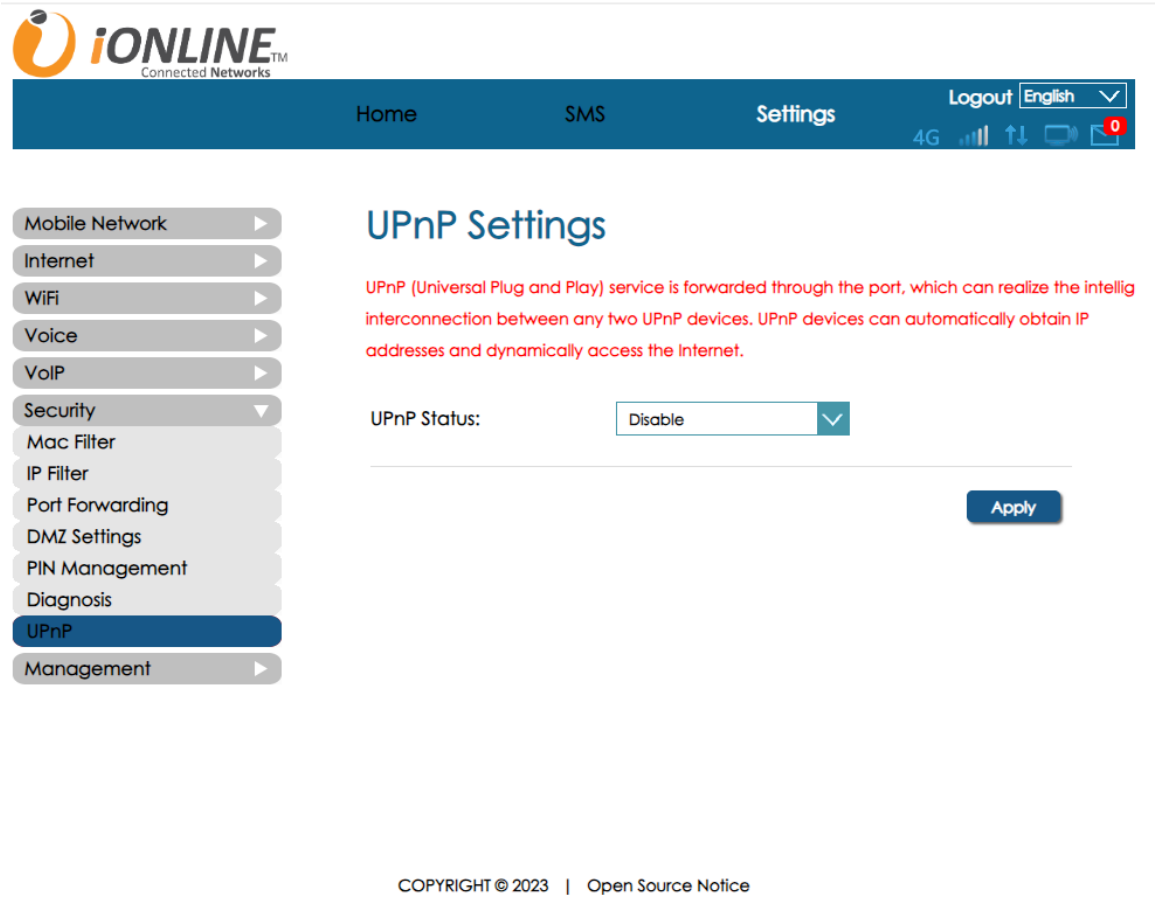
Diagnosis

This page gives you various diagnostics about Ping, Traceroute and DNS Lookup for IP connection.



UPnP

In this section, you can click “Apply” to configure the UPnP status. UPnP devices can automatically obtain IP address and dynamically access the Internet.



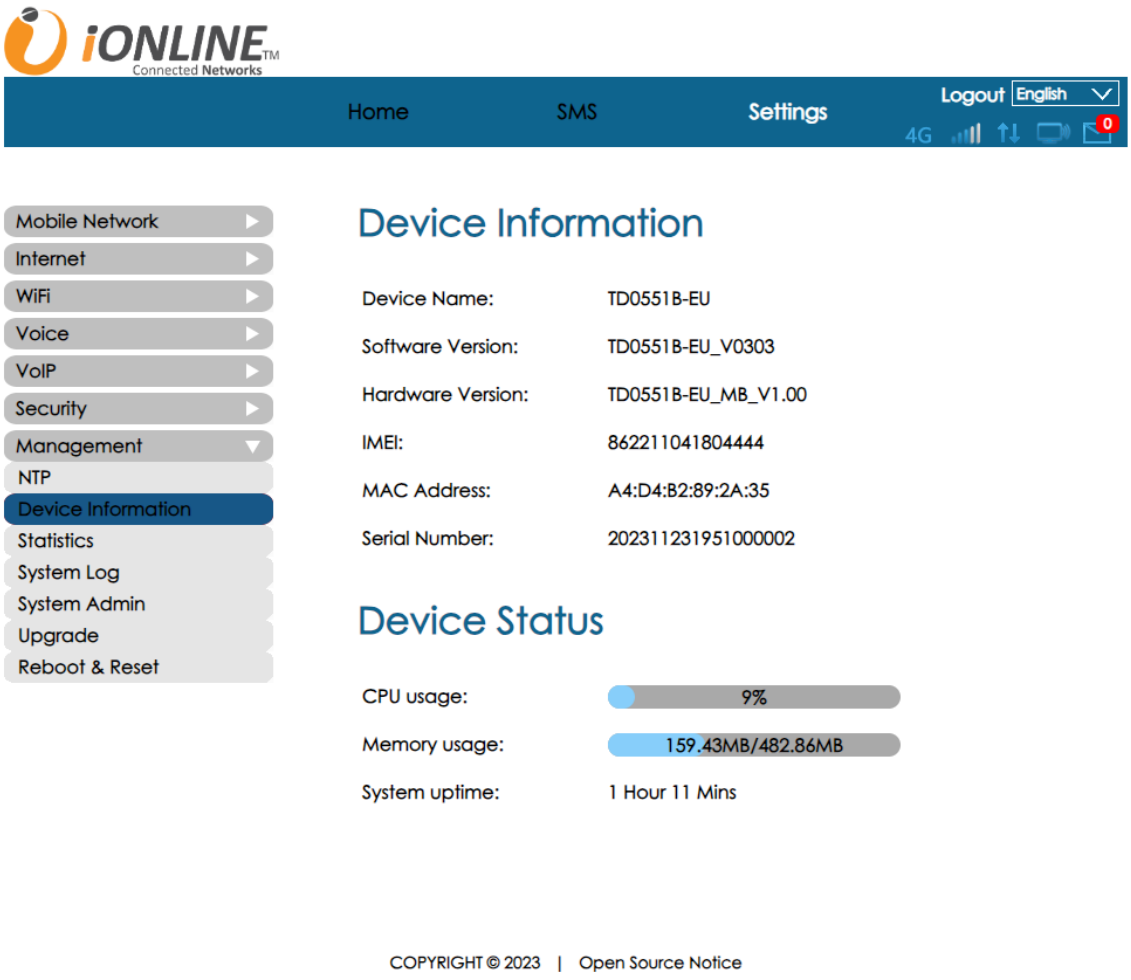
Management

NTP

In this section, you can configure network time, time server and time zone.

Device Information

In this section you can check the basic device information.



Device Name: Model name of the router.

Software Version: software version currently loaded in the router.

Hardware Version: hardware version currently loaded in the router.

IMEI: The unique identification number that is used to identify the 4G LTE module.

MAC Address: A unique number that identifies the router.

Serial Number: devise serial number.

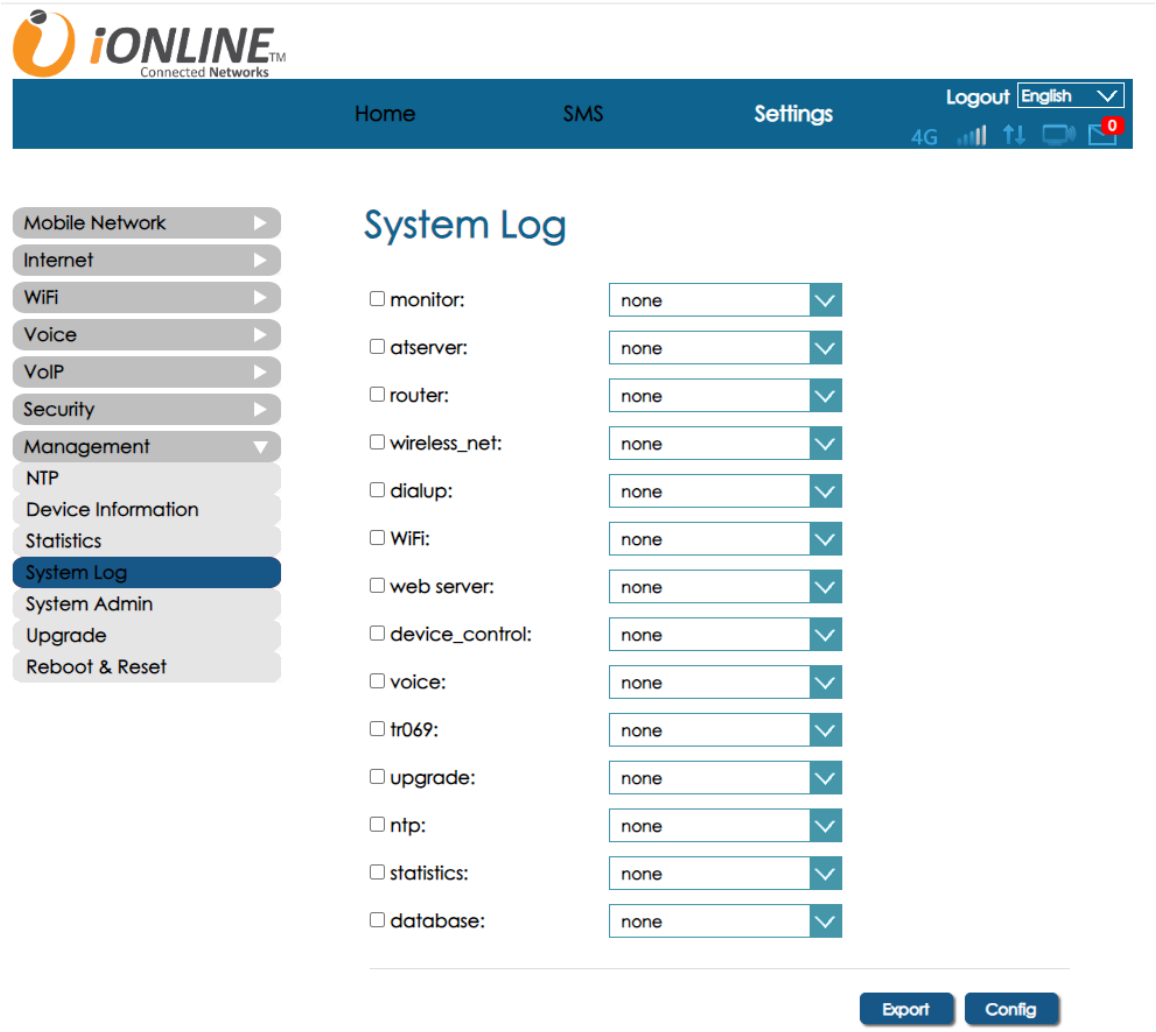
Statistics

In this section you can easily monitor your data usage. Please note that upload data, download data and total data usage will be reset when the Router is restored to factory settings.

Clear history: Click it to clear the history statistics.

System Log

In this section, you can configure and export the system log.

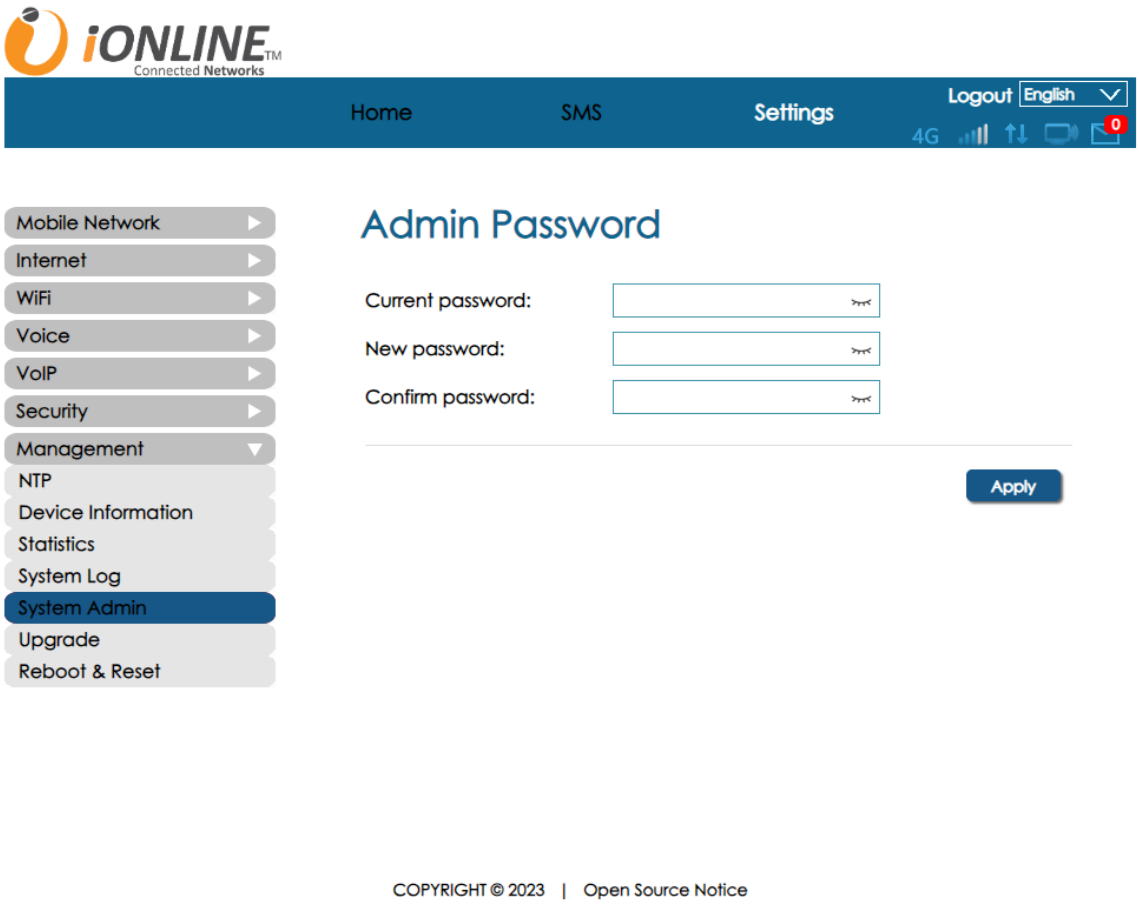


System Admin

The admin account can change all router settings.

Note: To keep your router secure, you should give the admin account a strong password.

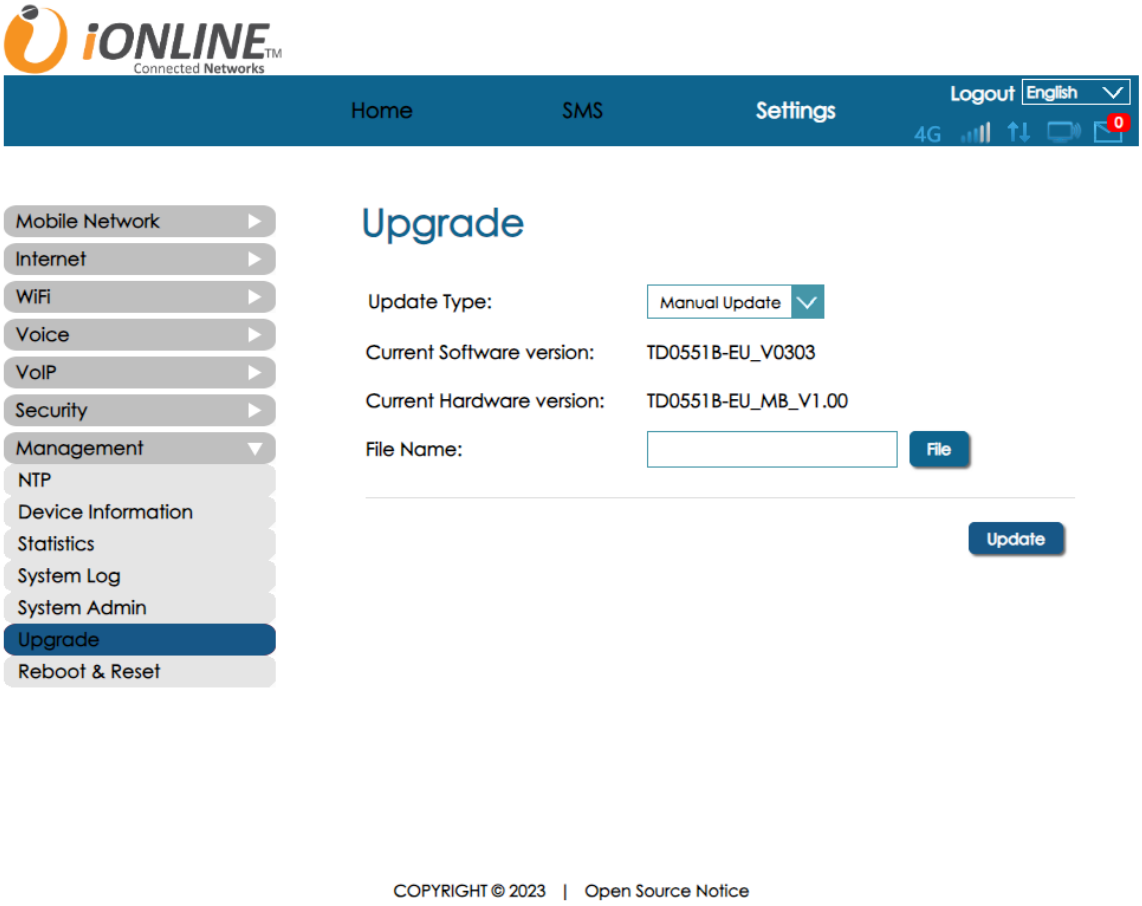
Apply: click it to make the new password effective.



Upgrade

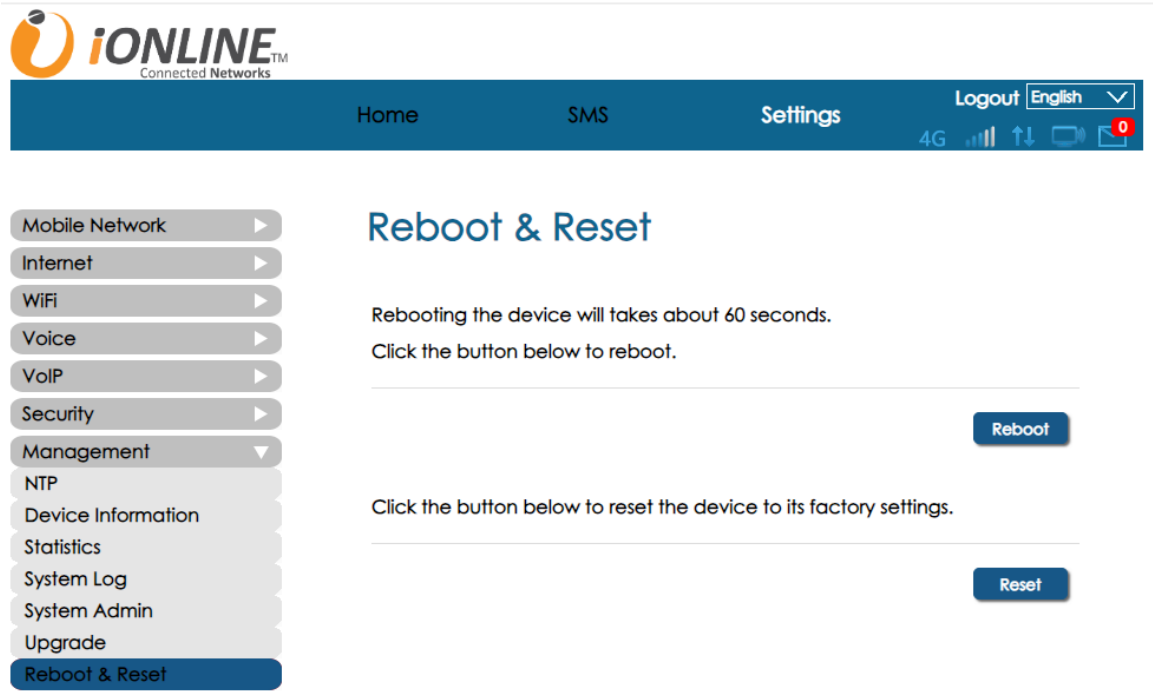
Your router can automatically detect firmware updates. In this section you can configure the update type for you router with Manual Update. And you can also check the software and hardware information.

Manual Update: you can update the router version via PC Local file. And click **“Update”** after selecting the update file.



Reboot & Reset

In this section you can reboot your router or reset it to factory settings.



Logout

Click Logout to logout from your router.

CHAPTER 4: TROUBLESHOOTING

When your router is not functioning properly, please refer to this chapter for simple trouble shooting before contacting your service provider. This can save you time and effort but if symptoms persist, consult your service provider.

1. **Restore the factory default**
   The “Reset” button, located on the back of the unit, is used in rare cases when the Router functions improperly. The device will restart with restored factory default settings.
   You can restore the factory settings by using “Reset” button. Press and hold “Reset” button for at least 3 seconds, and then release it. The LED indicators on the router will momentarily flash. The restore is complete when the router restarts automatically.

2. **Using WPS Button**
   Start WPS Push Button Connection (WPS PBC) on your computer or other Wi-Fi devices that you would like to connect to your router. Often there will be a button for this purpose in software that came with the device, or a physical “WPS,” “PBC,” or “Security” button on the device itself.
   Within two minutes, press the WPS button on your router. The connection will complete automatically.
   You can repeat this process for each WPS-enabled device you’d like to add to your network.

3. **Connectivity issues**
   Ensure your SIM card is inserted correctly and has an active data plan.
   Wireless technology is radio-based, which means connectivity and the throughput performance between devices decreases when the distance between devices increases. Other factors that will cause signal degradation (metal is generally the worst culprit) are obstructions such as walls and metal appliances. Note also that connection speed may decrease as you move farther away from the Router.
   In order to determine if wireless issues are related to range, we suggest temporarily moving the computer within 10 feet from the Router if possible.
   Changing the wireless channel—Depending on local wireless traffic and interference, switching the wireless channel of your network can improve performance and reliability.
   FCC Regulations
   FCC ID： 2APQU-K868CPE
   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.

(2) this device must accept any interference received, including interference that may cause undesired
operation.
Changes or modifications not expressly approved by the manufacturer responsible for compliance could void
the user's authority to operate the equipment.
This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to Part
15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in
a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not
installed and used in accordance with the instructions, may cause harmful interference to radio communications.
However, there is no guarantee that interference will not occur in a particular installation; if this equipment does
cause harmful interference to radio or television reception, which can be determined by turning the equipment
off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
• Reorient/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 isconnected.
• Consult the dealer or an experienced radio/TV technician for help.
RF Exposure Information

This device meets the government’s requirements for exposure to radio waves. This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government.
This device complies with FCC radiation exposure limits set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20 cm during normal operation
Caution:
Changes or modifications not expressly approved by the party responsible for compliance could void the
user‘s authority to operate the equipment.