Passion for Wireless World

EFLINKM1002X User Manual

Confidential Material: This document contains information that is proprietary and confidential, reading and copying this document is prohibited without permission from AsiaTelco Technologies Co.

Index

1. About this Manual....5

2. Product Overview....5

3. Definition of buttons and OLED Screen....5

3.1 Buttons Definition....5

3.2 OLED Screen....5

4. Configuring the MiFi....5

4.1 Login....6

4.2 Quick setup....7

4.2.1 User settings....7

4.2.2 Internet Connection....7

4.2.3 Wireless Settings....9

4.2.4 Device Placement Guidelines....10

4.3 Dashboard....11

4.4 Internet....12

4.4.1 Internet Connection....13

4.4.2 Traffic Statistics....13

4.4.3 PIN Management....13

4.4.4 Manual Network....15

4.5 Home Network....16

4.5.1 DHCP settings....16

4.5.2 Connected Devices 17

4.5.3 Network Activity 18

4.5.4 Custom Firewall Rules 18

4.5.5 Port Filter 20

4.5.6 Port Forwarding 22

4.5.7 Firewall Settings 23

4.6 PhoneBook 24

4.7 SMS 25

4.7.1 Device Inbox 25

4.7.2 Device Outbox 26

4.7.3 SIM SMS 27

4.7.4 Drafts 27

4.7.5 SMS Settings 28

4.8 Wireless 28

4.8.1 Wireless Settings 29

4.8.2 Wireless Security Settings 30

4.8.3 WPS 30

4.8.4 Wireless MAC Filters 31

4.9 Router 32

4.9.1 User Management 33

4.9.2 Configuration Management..... 33

4.9.3 Software Upgrade 34

4.9.4 Reboot Router 35

4.9.5 Power Off Router 35

4.9.6 Time Setting 36

5. Revision History 36

1. About this Manual

The content of this User Manual has been made as accurate as possible. However, due to continual product improvements, specifications and other information are subject to change without notice.

2. Product Overview

Congratulations on your purchase of this product. This MiFi supports Band 38，Band40，Band 41; it can be operated on Linux, Windows and MAC system PC.

Insert a valid USIM card into MiFi, power on the device, then MiFi will attach to the LTE network automatically. It is recommend to read this manual before you start using this device in order to have a good experience.

The device support hotspot function. In hotspot mode , The highest measurement SAR values is 0.836W/Kg.

3. Definition of buttons and OLED Screen

3.1 Buttons Definition

Buttons Definition			
Button	**Location**	**Operation**	**Function**
Power	**Key 1**	Short Press	ON/OFF Screen
		Long Press（5S）	Power On/Off

Table 3-2-1 Buttons Definition

3.2 OLED Screen

Short press the power-key can open the screen. After light up the screen you can see the signal strength, the wireless icon, battery power, and the Operator.

Power on press the power-key, you can see the WIFI SSID and password.

4. Configuring the MiFi

Power on the MiFi, waiting for about 20 seconds, you can connect to the MiFi via WiFi（the default SSID name is WIFI-XXXXXX, X represents the last six digits of the MAC address, Password is the last eight digits of the IMEI）.

In the following sections, we will introduce you the main functions and the method of how to configure them.

4.1 Login

Open Web browser and enter 192.168.0.1, login window will pop-up. Input the following username and password.

Username/Password: admin.

Figure 4-1-1 Login

After successful login, you can see the “Welcome” page, here you can choose “Quick Setup” in order to set up the router step by step as the system guides （refer to chapter 4.2）, select “Skip” to enter the main interface of the router （refer to chapter 4.3）, there is also the quick setup option on the right side at the top of the page. Click the “Help” option near the “Quick Setup” to view an simple instruction of the router, click the “Log Out” option to logout.

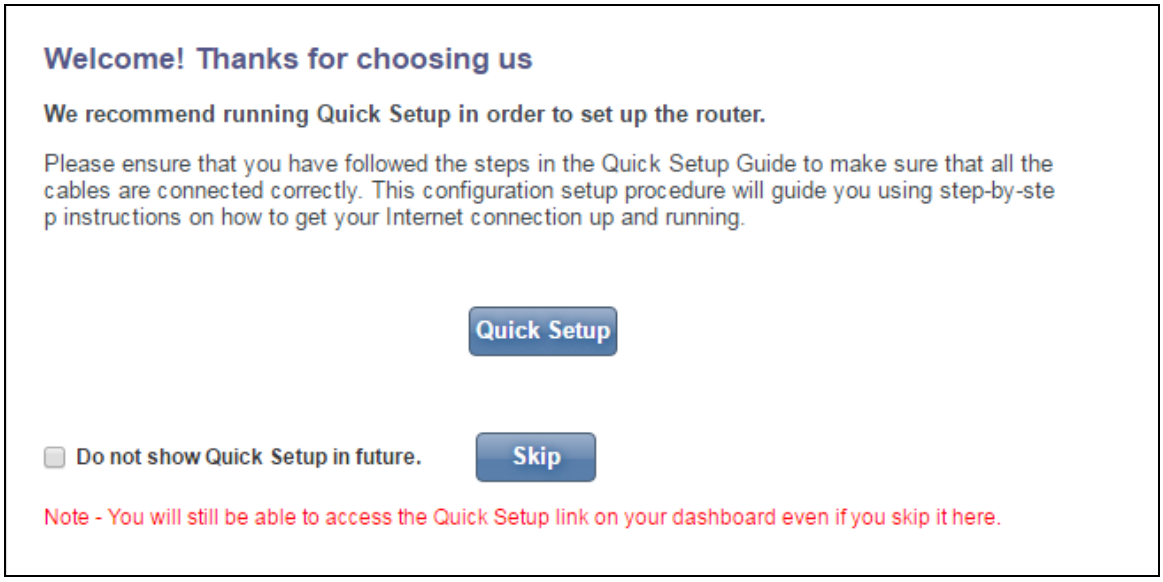


Figure 4-1-2 Quick Setup

4.2 Quick setup

4.2.1 User settings

From this page, you can modify the router's password, and then click "Next" to enter the "Internet Connection" setting page.

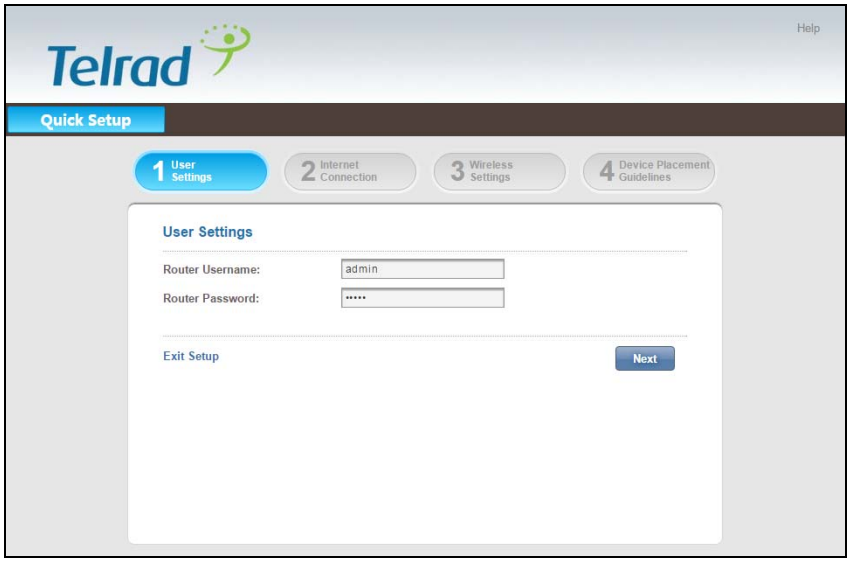


Figure 4-2-1-1 User Settings

4.2.2 Internet Connection

From this page, you can configure the Internet connection mode, refer to the following options:

- **My Internet Connection is ：**Cellular/Disabled. This feature must be enabled in order to set other options;
- **Network Mode：** 4G only, Auto;
- **Preferred Network Mode：** 4G Preferred（default）;
- **Connection Mode：** Auto（default）/Manual;
- **Auto APN:** Auto Configure APN（The option is checked in default）
- **Prohibit automatic dial-up in the roaming status：** Check the box to take effect;
- **MTU：** Set it as you like between 1000 and 1500, the default is 1500;
- **PDN1 Settings：** PDN1（The option is checked in default）->Default Bearer1 TFT Settings;

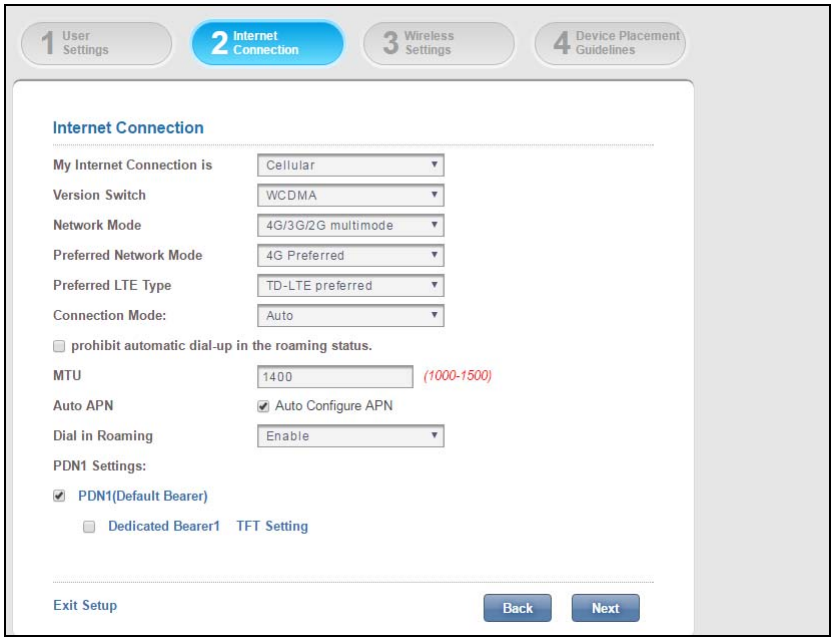


Figure 4-2-2-1 Internet Connection

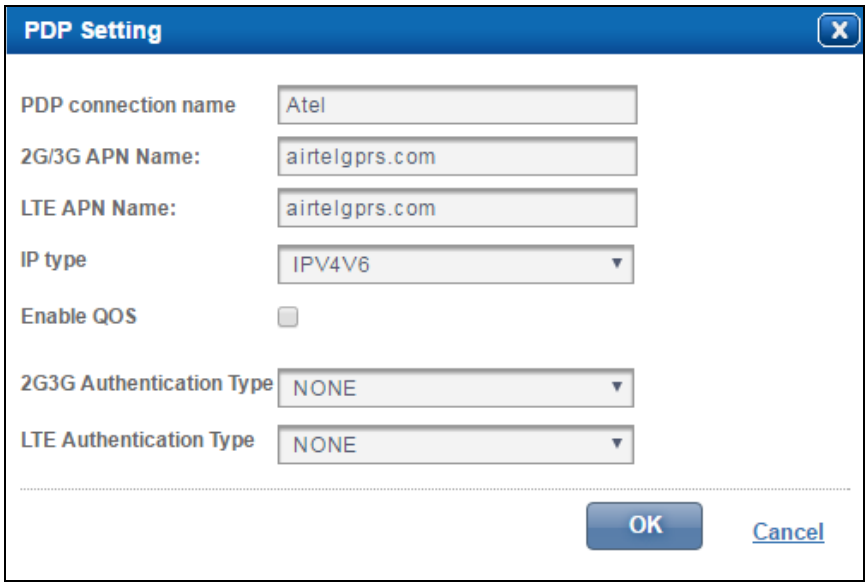


Figure 4-2-2-2 Default Primary PDP

4.2.3 Wireless Settings

After you finish configuring the Internet connection, Click "Next" to enter the wireless settings interface. Here, you can configure the wireless network settings, including the wireless network name, network status, and wireless security.

- **Network Name（SSID）：** You can modify it as you like, the default value is WIFI-XXXXXX, X represents the last six digits of the MAC address;
- **Network Visibility Status：** Visible（default）/Invisible;
- **Wireless Security：**WPA-WPA2 Mixed（default）, WPA2-PSK, WEP, WAPI-PSK, Disabled;
- **Password：** Default value is the last eight digits of the IMEI, can be modified, check the box of the “Unmask Password”, password will be clearly displayed;
- **WPA Cipher：**WPA-TKIP/WPA2-AES.

Figure 4-2-3-1 Wireless Settings

4.2.4 Device Placement Guidelines

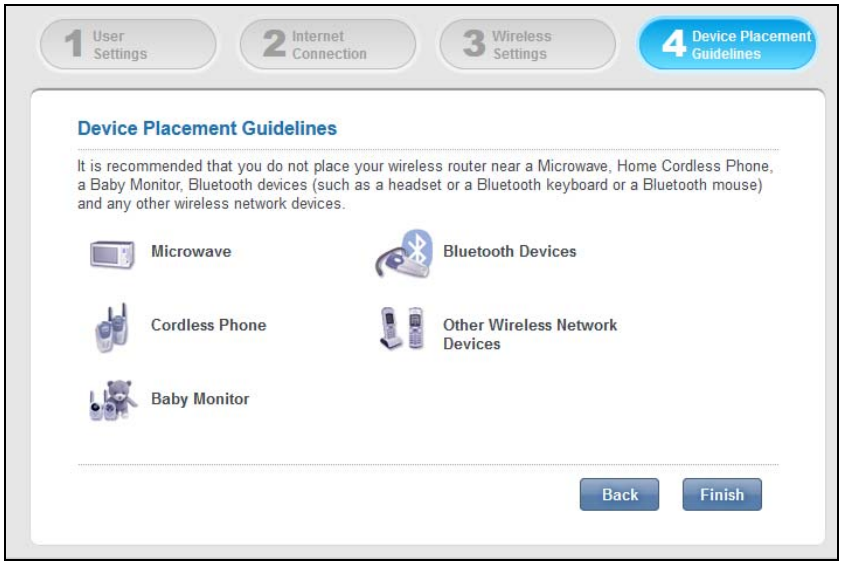


Figure 4-2-4-1 Device Placement Guidelines

Continue clicking "Next" to enter the “Device Placement Guidelines” page. It is recommended that you do not place your wireless router near a Microwave, Home Cordless Phone, a Baby Monitor, Bluetooth devices (such as a headset or a Bluetooth keyboard or a Bluetooth mouse) and any other wireless network devices. Click "Finish", you can see the “Please Wait” prompt, the settings would be saved automatically, and then the system turns to the dashboard page (Chapter 4.3).

- During the Quick Setup process, you can click "exit setup" to return to the main interface of the route;

4.3 Dashboard

The main interface includes seven sections: Dashboard, Internet, Home Network, Wireless and Router. You can manage the router configuration through the menu page, and modify the parameters according to your needs. From "Dashboard" page, you can learn Cellular Connection, router information, software information, home network and so on.

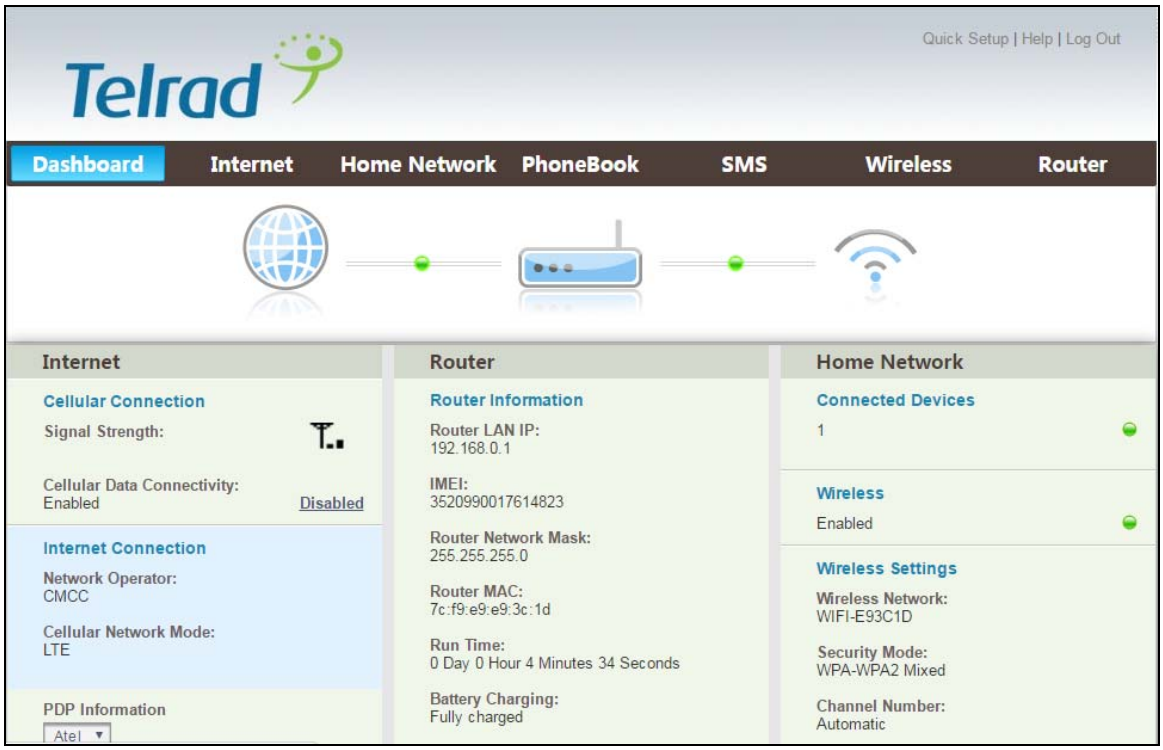


Figure 4-3-1 Dashboard

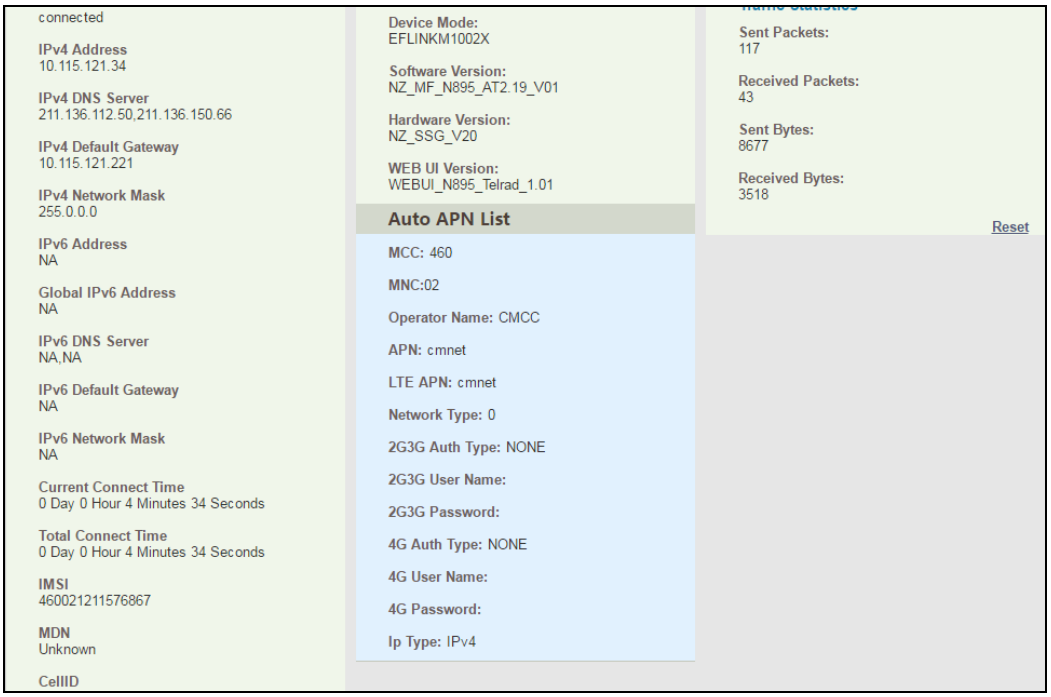


Figure 4-3-2 Dashboard

4.4 Internet

Click “Internet” option, the page redirects to the following page, including Internet Connection, Traffic Statistics, PIN Management and Manual Network.

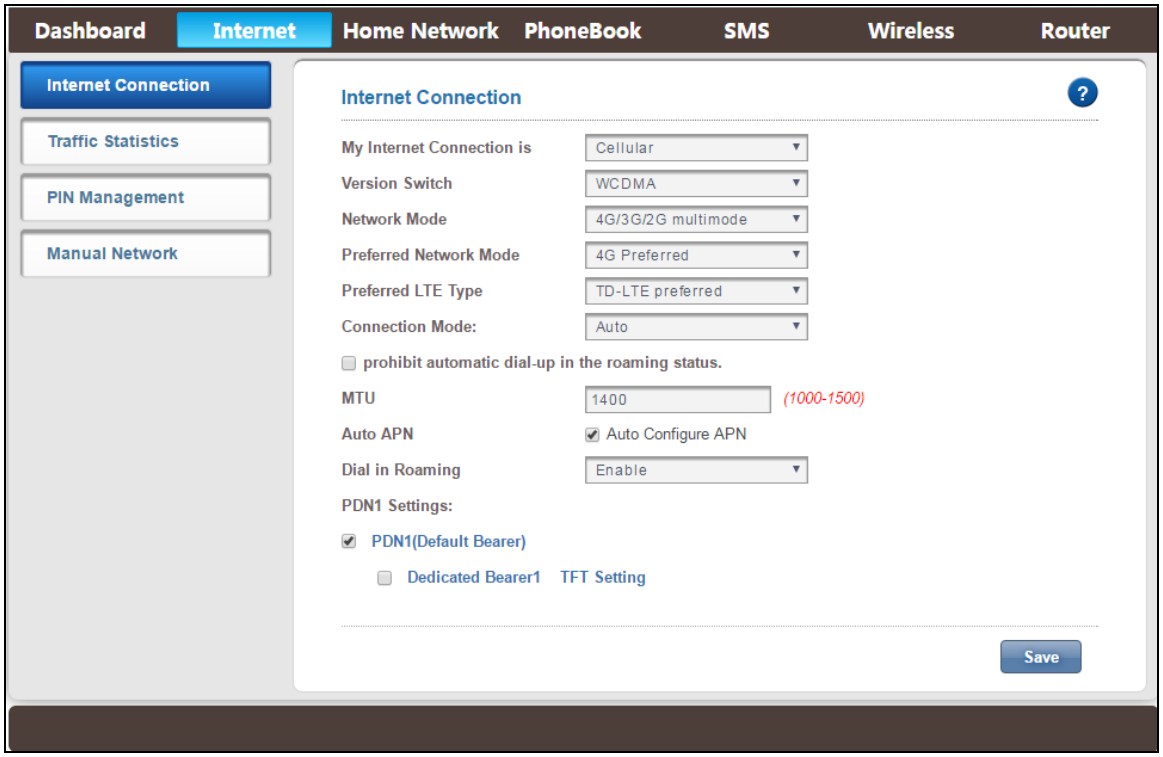


Figure 4-4-1 Internet

4.4.1 Internet Connection

Click on “Internet Connection”, you can configure the “Internet Connection” settings here (please refer to chapter 4.2.2), you should click “Save” to save all changes.

4.4.2 Traffic Statistics

Traffic Statistics displays the number of packets sent by your router.

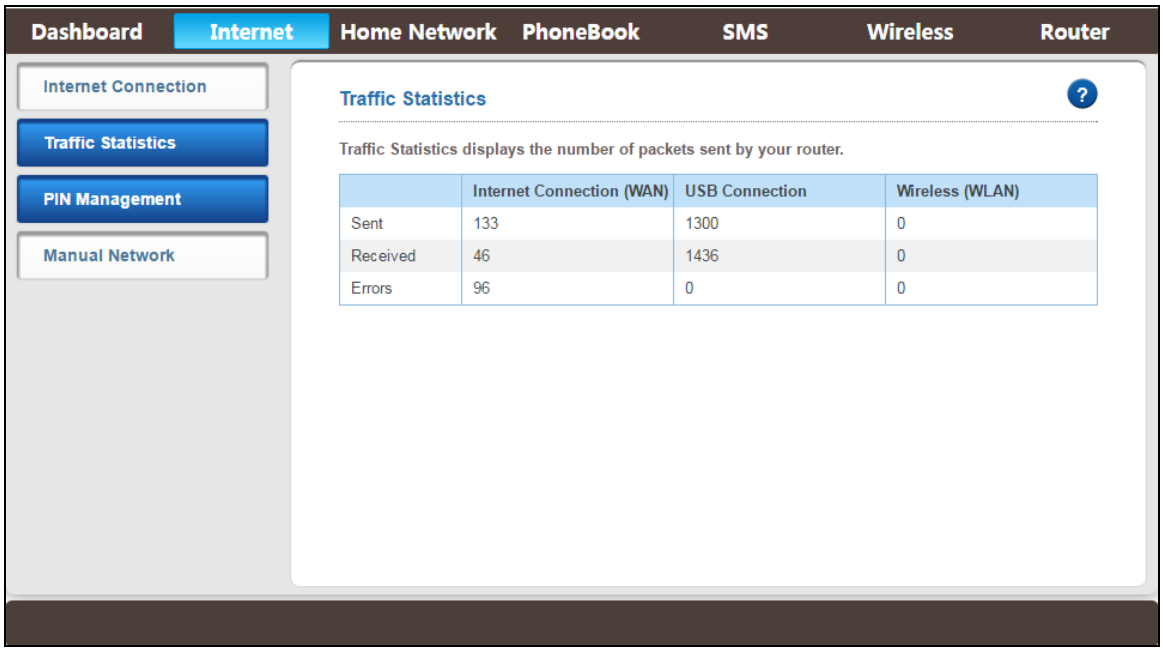


Figure 4-4-2-1 Traffic Statistics

4.4.3 PIN Management

Click “PIN Management” to turn to the PIN management interface. The default PIN code is empty and disabled enter any 4-8 digits in the dialog, and then click “Enable PIN” to enable the PIN function (Figure 4-4-3-2). After enabled the PIN code, you can enter the current right PIN code to disable the PIN function or change the PIN code, only 3 times failure attempt is allowed, if not, the system would ask you to input the PUK code, you can try it for 10 times. If you failed finally, the USIM card would be locked and invalid.

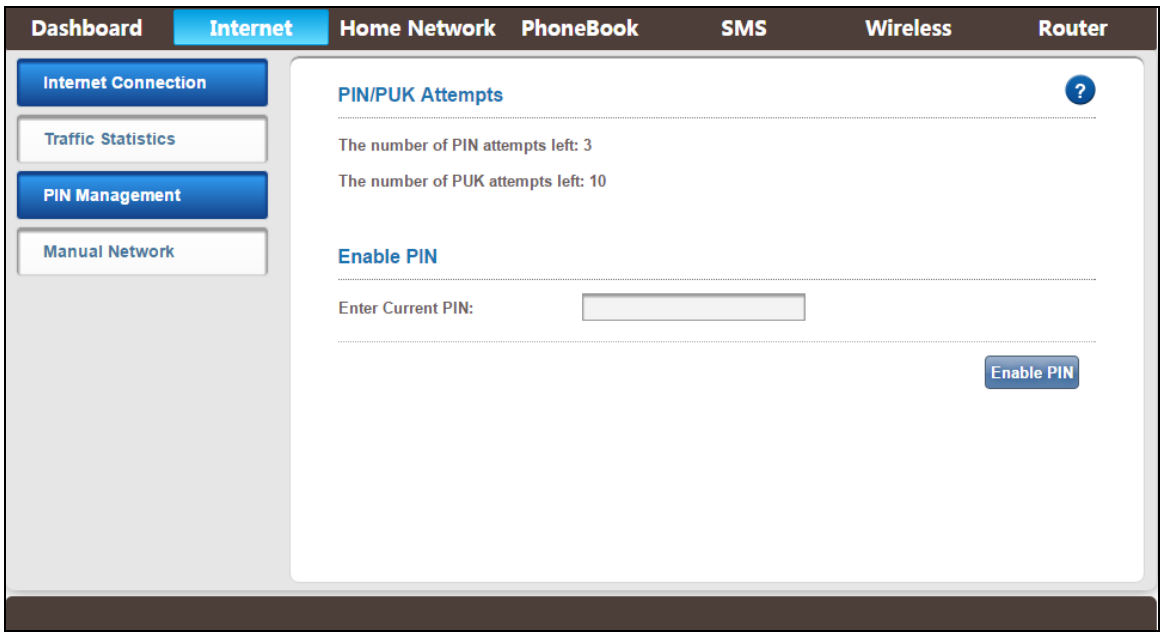


Figure 4-4-3-1 PIN Management

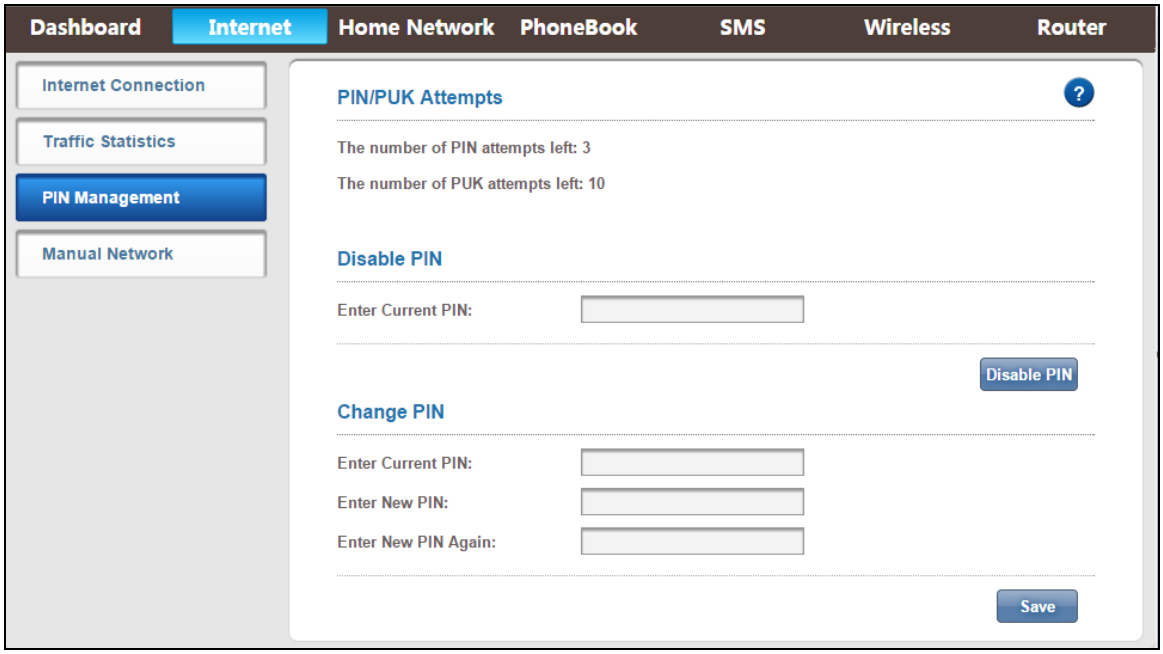


Figure 4-4-3-2 PIN Enabled

4.4.4 Manual Network

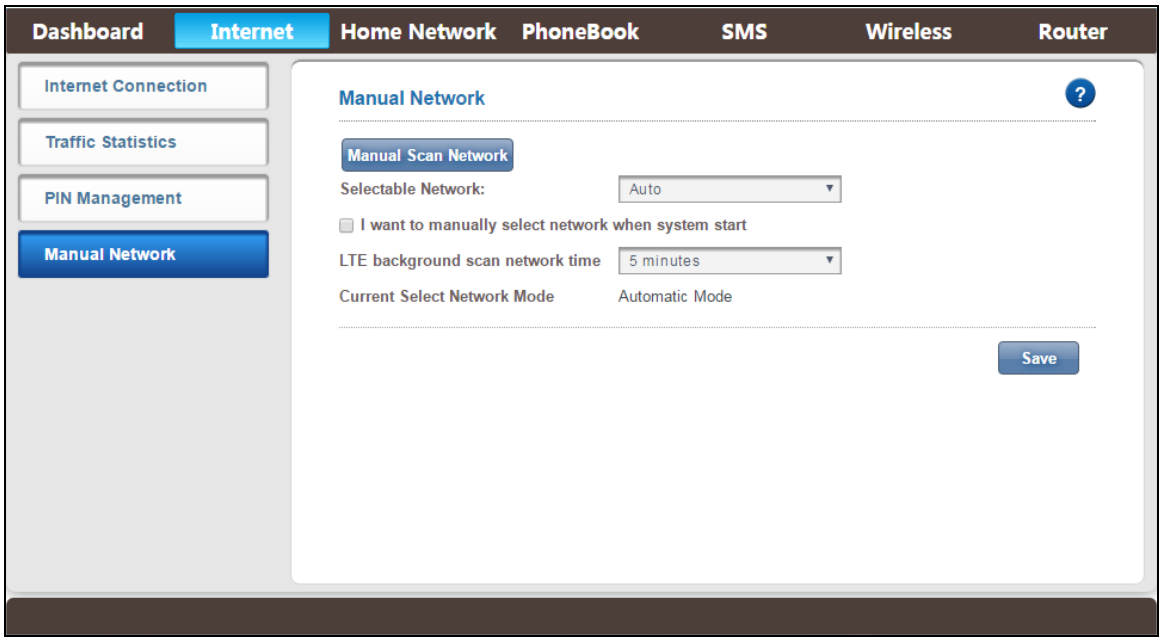


Figure 4-4-4-1 Manual Network

Click "Manual Network", you can see the manual network page. You can set the scan network mode, LTE background scan network time, click "Save" to take effect.

- **Manual Network:** Click the "Manual Scan Network" button, it would take you more than 1min to scan the PLMN, you can choose the PLMN you want to attach in the PLMN list, if failed, the prompt said timeout would be pop-up. Check the "Disconnect network before manual scan network" option, the network would be disconnected before scanning the PLMN.
- **Selectable Network：** Auto(default)；
- **Manually select network when system start：** Check "I want to manually select network when system start" to take effect;
- **LTE background scan network time：** 5minutes（default）, 30 seconds, 1 minutes, 3 minutes, 10 minutes, 15 minutes, 30 minutes, 60 minutes, Immediate, Disabled.

4.5 Home Network

The "Home Network" page includes DHCP Settings, Connected Devices, Network Activity, Custom Firewall Rules, Port Filter, Port Forwarding and Firewall Settings.

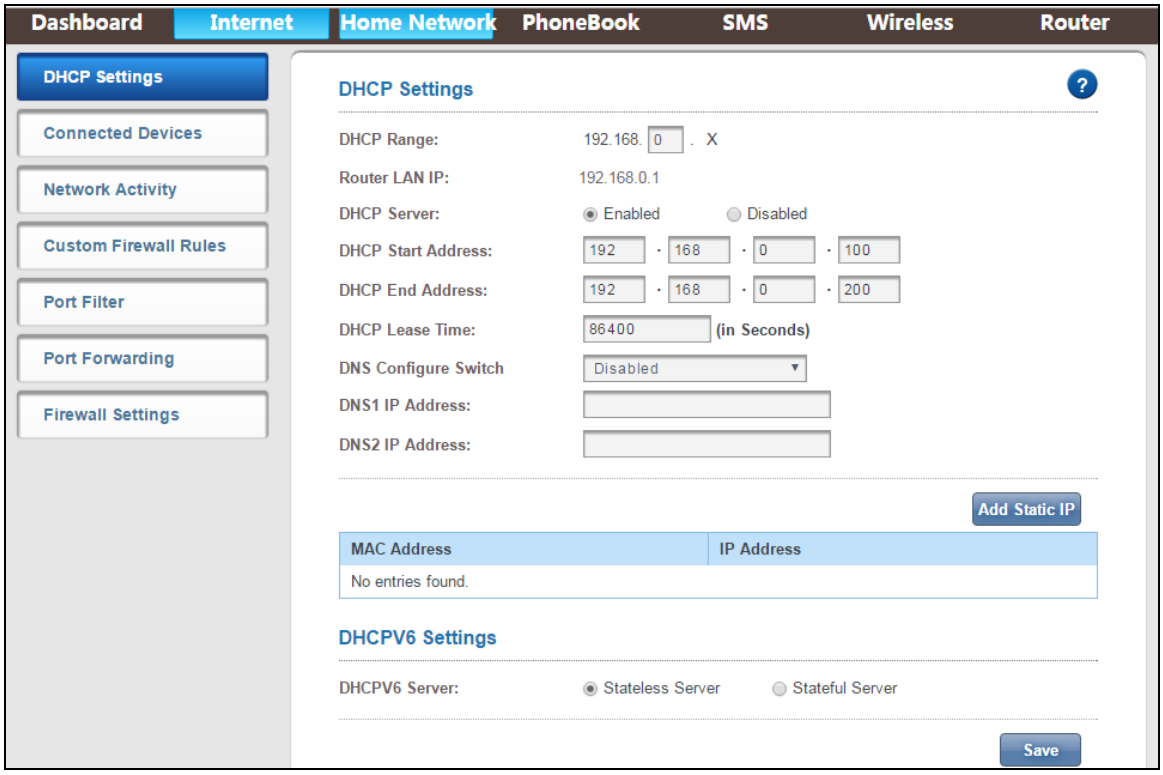


Figure 4-5-1 Home Network

4.5.1 DHCP settings

Clicking on the header of the "DHCP Settings" tab will take you to the "DHCP Settings" header page. There displays DHCP Settings and the IP address that allows you to define. DHCP can dynamically assign IP address to make sure that each network device can assigned to a different address. Click "Save" to take effect.

- **DHCP Server：** Enabled (default)/Disabled. You can configure the following settings only when DHCP server is enabled;
- **DHCP Start and End Address：** Define an address range from start IP address to the end IP address, DHCP server assigns the IP address in the range to the users;

- **Add Static IP：** Bind IP and MAC, the rules will display in the list, you can delete or continue adding the rules;
- **DHCPV6 Server：** Stateless Server（default）/ Stateful Server.

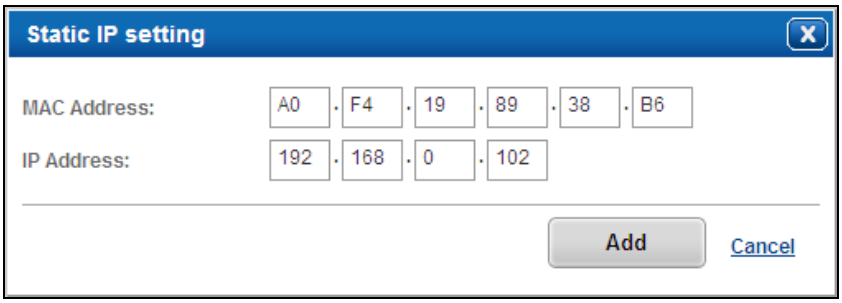


Figure 4-5-1-1 Add Static IP

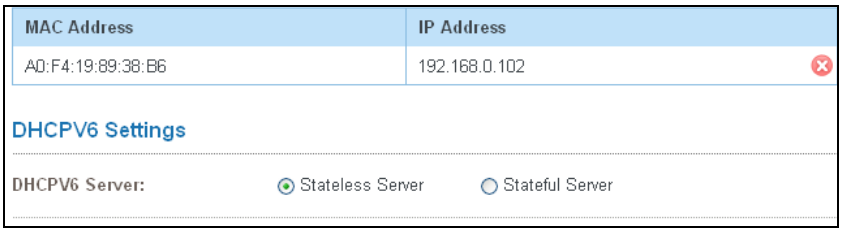


Figure 4-5-1-2 Static IP list

4.5.2 Connected Devices

From the "Connected Devices" page, you can see the users' Name, Status, IP Address, MAC Address, Connection and Connected time.

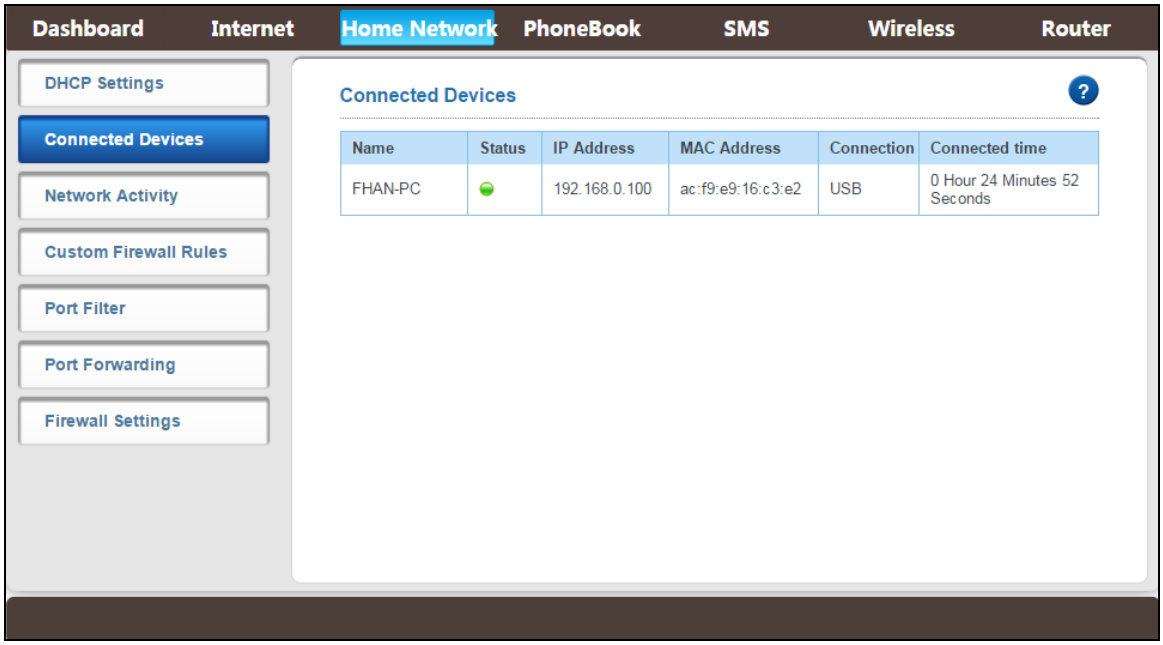


Figure 4-5-2-1 Connected Devices

4.5.3 Network Activity

From the "Network Activity" page, you can know the access logs and the WiFi client access logs.

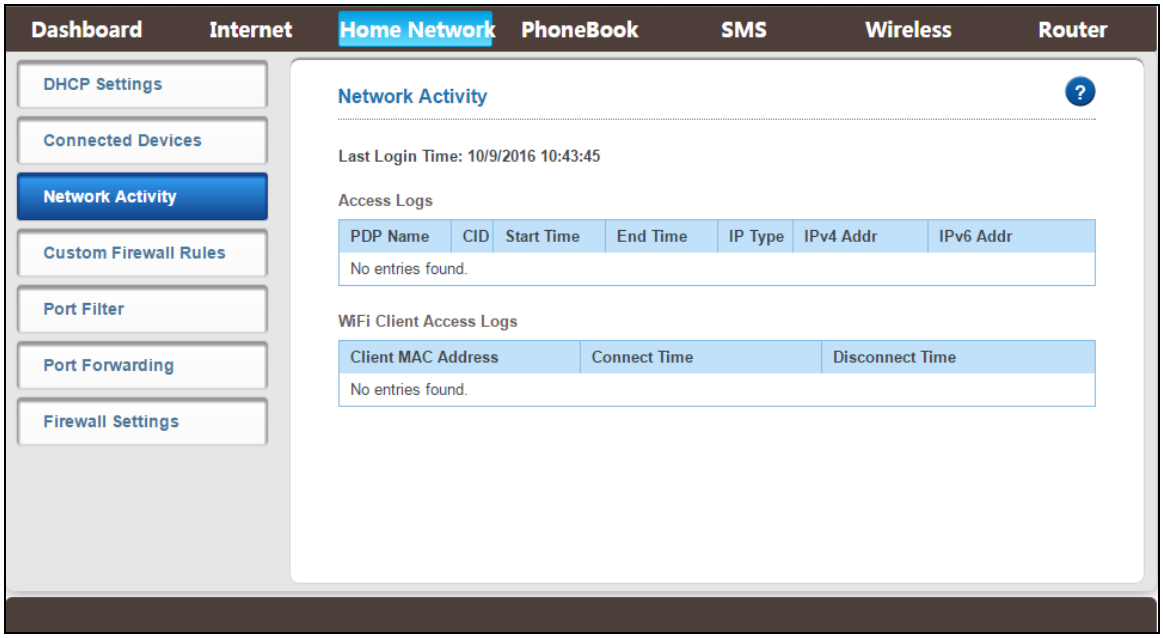


Figure 4-5-3-1 Network Activity

4.5.4 Custom Firewall Rules

The custom firewall rules can be used to block the network traffic the using source IP address, source ports, destination IP address, destination ports or any combination of these parameters. The default IP filter mode is deny, it means the packets that match the rules would be denied, then the user can't access Internet network.

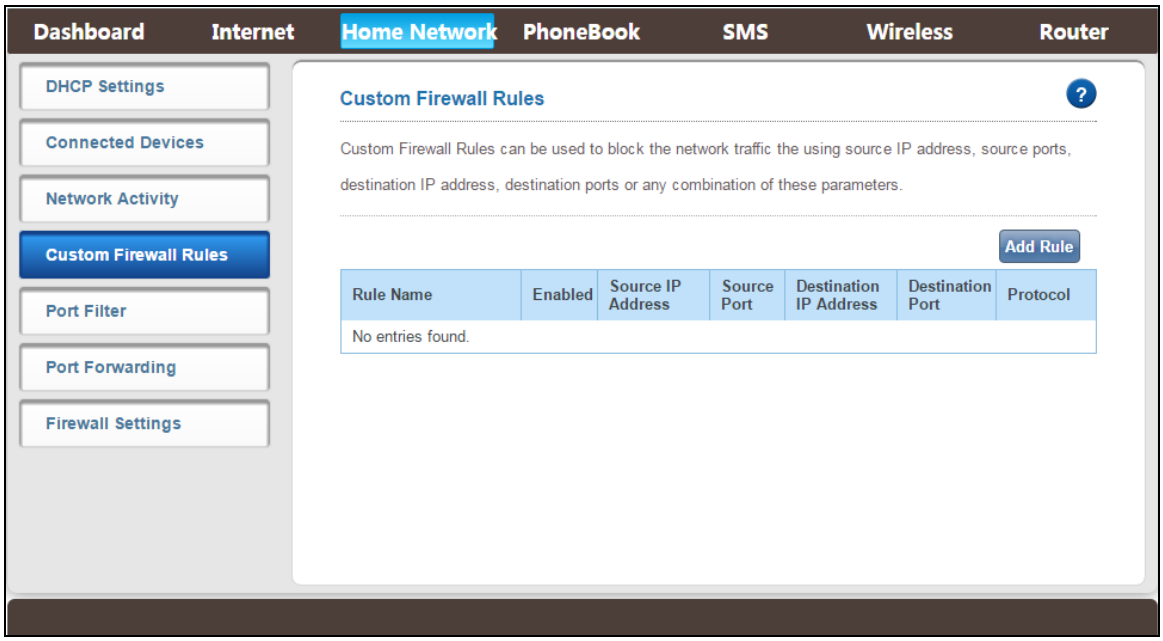


Figure 4-5-4-1 Custom Firewall Rules Page

Click "Add Rule" to set the custom firewall rules.

There will be the detail rules displayed in the list, you can delete or continue adding them.

- **Rule name：** Custom, ex.:123;
- **Status：** Enabled（default, correspond IP filter mode is Deny）/Disabled;
- **Source IP Address：** The user's IP address that need to be set the rules, ex:192.168.0.110;
- **Source Port：** 1-65535;
- **Destination IP Address：** The destination IP address to be filtered（website or Internet IP）;
- **Destination Port：** The port of the destination IP Address;
- **Protocol：** Include TCP, UDP, BOTH.

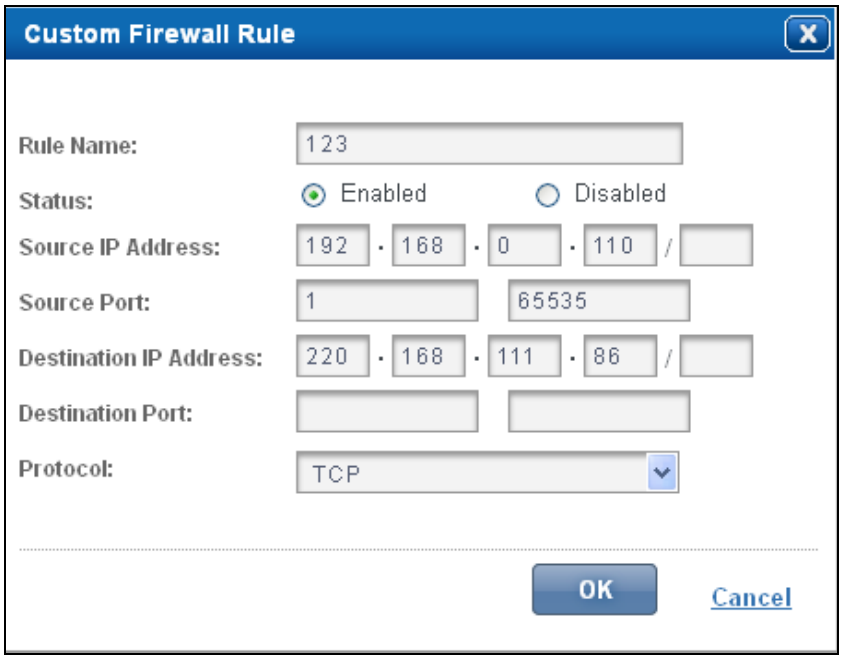


Figure 4-5-4-2 Add Rule

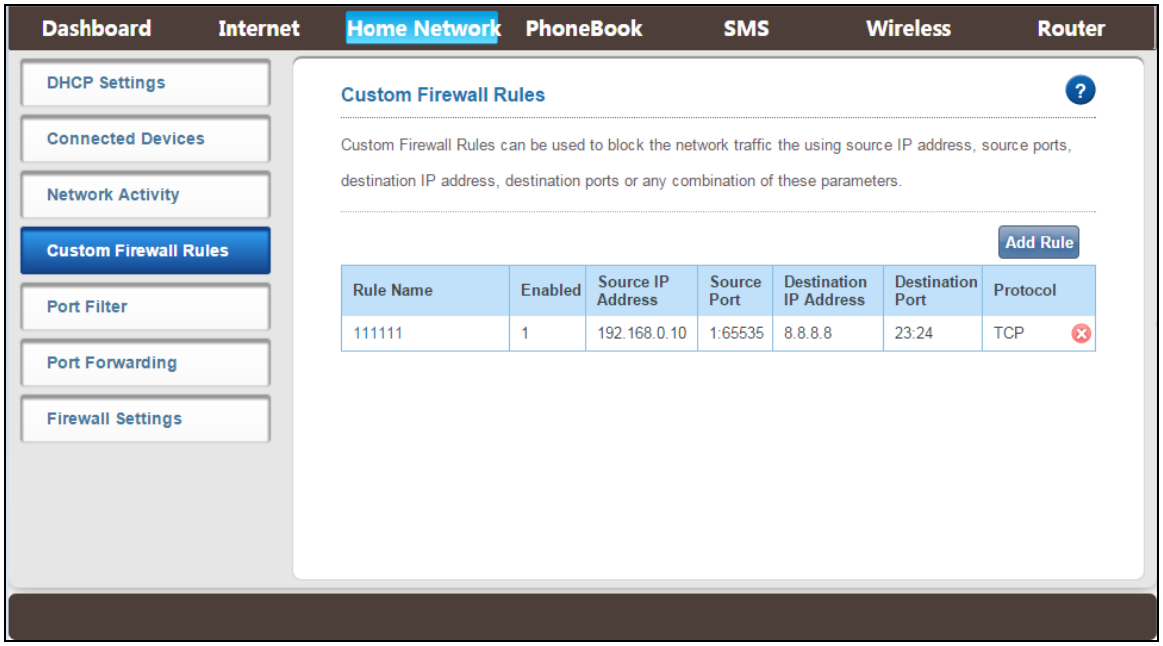


Figure 4-5-4-3 Custom Firewall Rules

4.5.5 Port Filter

Click on “Port Filter” tab will take you to the “Port Filter” page. From this page, you can configure Trigger Port Range & Response Port Range to achieve Port Filter purpose. Default mode is disabled, click “Enabled” then you can click “Add Rule” button to set port filter rules. (Figure 4-5-6-2). After the setup is completed, the rule details will be displayed in the list; you can delete or continue adding the rules.

Port filtering open or close some ports, allowing users to use internal or partial ban on the use of Internet services

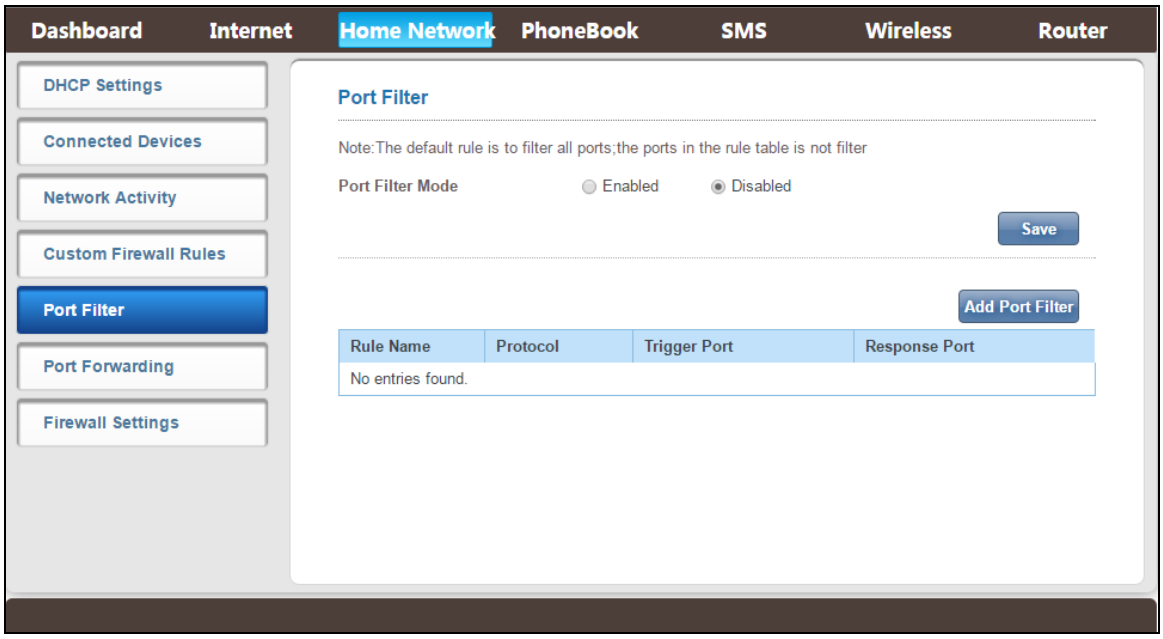


Figure 4-5-5-1 Port Filter

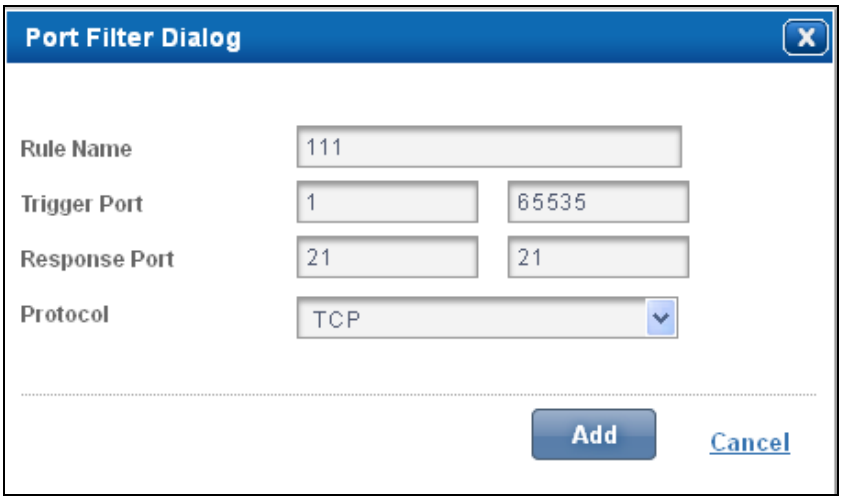


Figure 4-5-5-2 Port Filter

- **Rule Name：** Custom, ex:1234;
- **Trigger Port：** You can enter a range of service ports (the format is XXX-YYY; XXX is the start port and YYY is the end port).
- **Response Port：** The port needs to be filtered in the range of (XXX-YYY),
- **Protocol：** The protocol used for this application, TCP, UDP, or TCP&UDP.

4.5.6 Port Forwarding

Click on "Port Forwarding" tab will take you to the "Port Forwarding" page. From this page, you can configure IP Address, Port Range to achieve Port Forwarding purpose. Default mode is disabled, click "Enabled" then you can click "Add Rule" button to set port forwarding rules. After the setup is completed, the rule details will be displayed in the list; you can delete or continue adding the rules.

This function will allow you to route external (Internet) calls for services such as a web server, FTP server, or other applications through your Router to your internal network. Since your internal computers are protected by a firewall, computers outside your network (over the Internet) cannot get to them because they cannot be "seen."

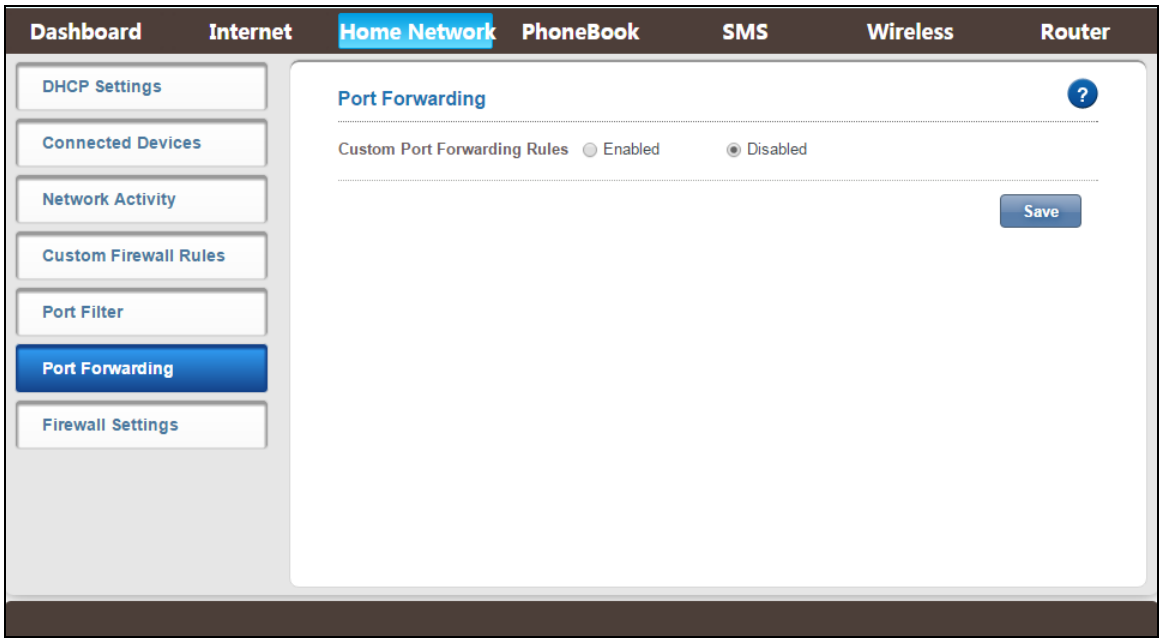


Figure 4-5-6-1 Port Forwarding

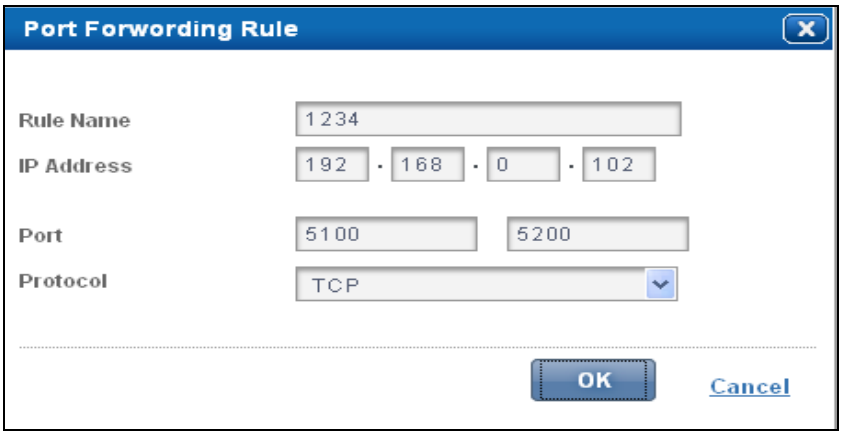


Figure 4-5-6-2 Port Forwarding Rule

- **Rule Name：** Custom, ex:1234;
- **IP Address：** The IP address of the PC running the service application.
- **Port：** You can enter a range of service ports(the format is XXX-YYY; XXX is the start port and YYY is the end port).
- **Protocol:** The protocol used for this application, TCP, UDP, or TCP&UDP.

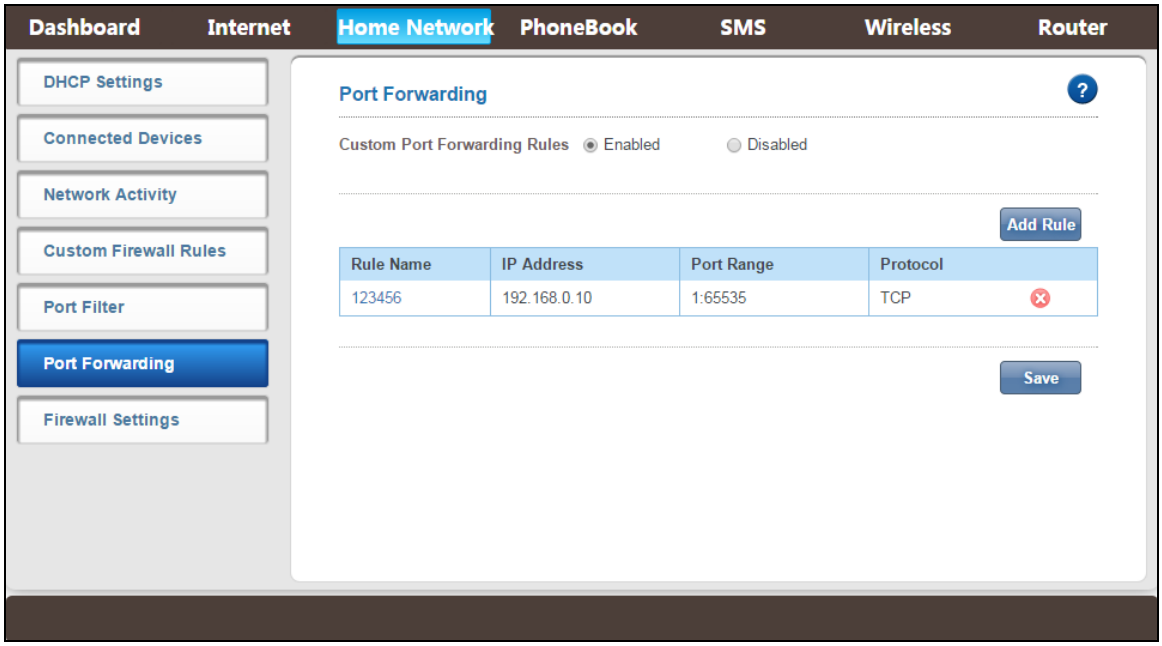


Figure 4-5-6-3 The Port Forwarding rule list

4.5.7 Firewall Settings

From the "Firewall Settings" page, you can Enable the Firewall Protection, contents IPSec Passthrough, PPTP Passthrough and L2TP Passthrough.

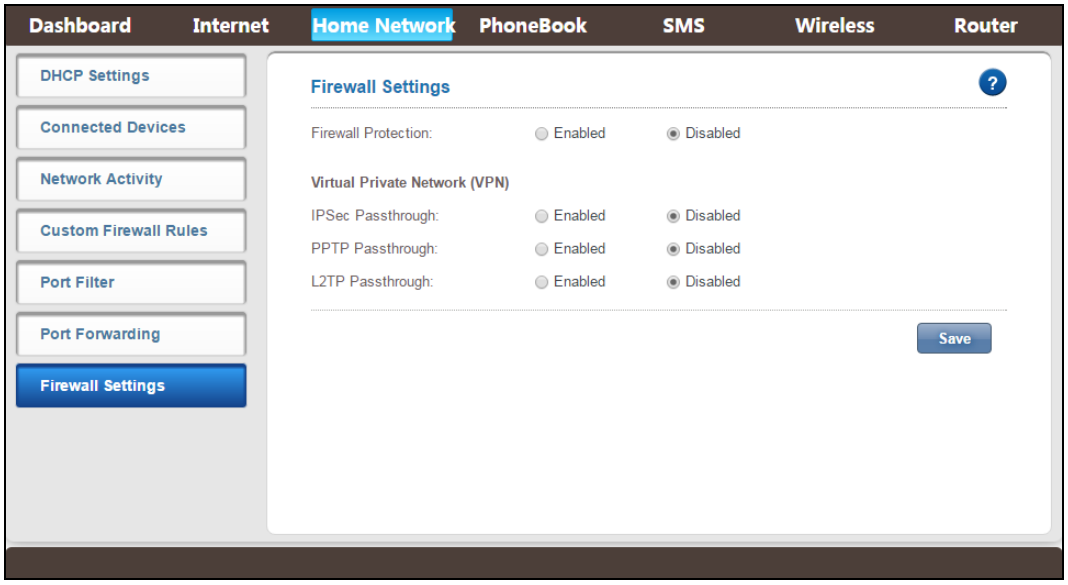


Figure 4-5-7-1 Network Activity

4.6 PhoneBook

You can create, delete phone book. Include ALL, Common, Family, Friends and Colleagues.

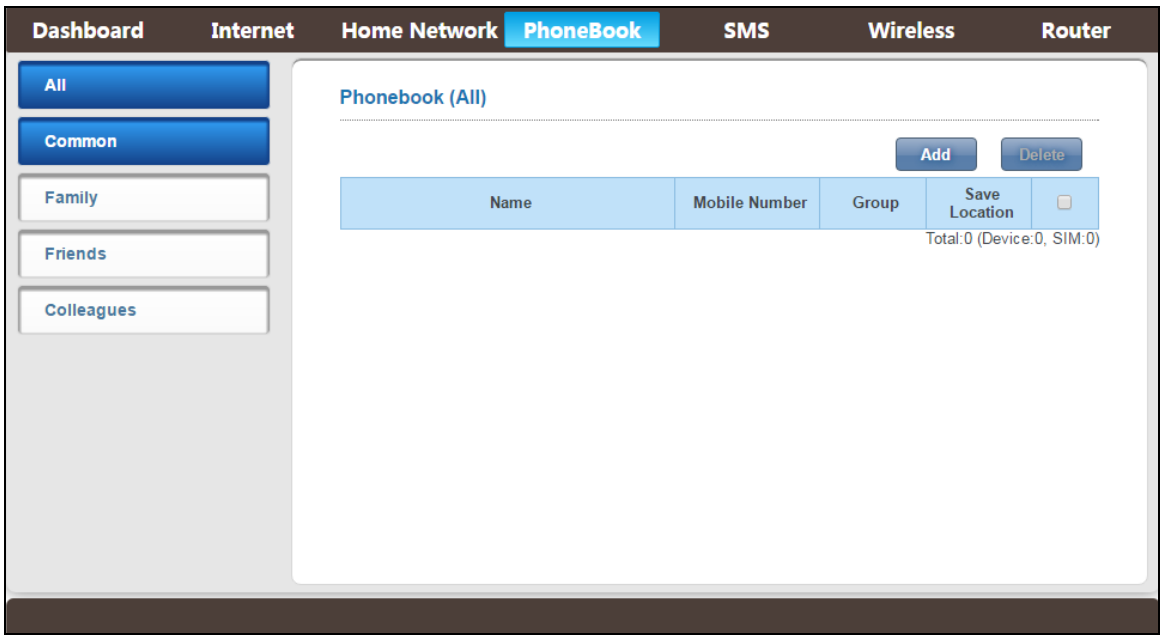


Figure 4-6-1 PhoneBook

- **Add：** Click "Add" to enter Add new Phonebook page.
- **Delete:** Click "Delete" to delete the selected records.

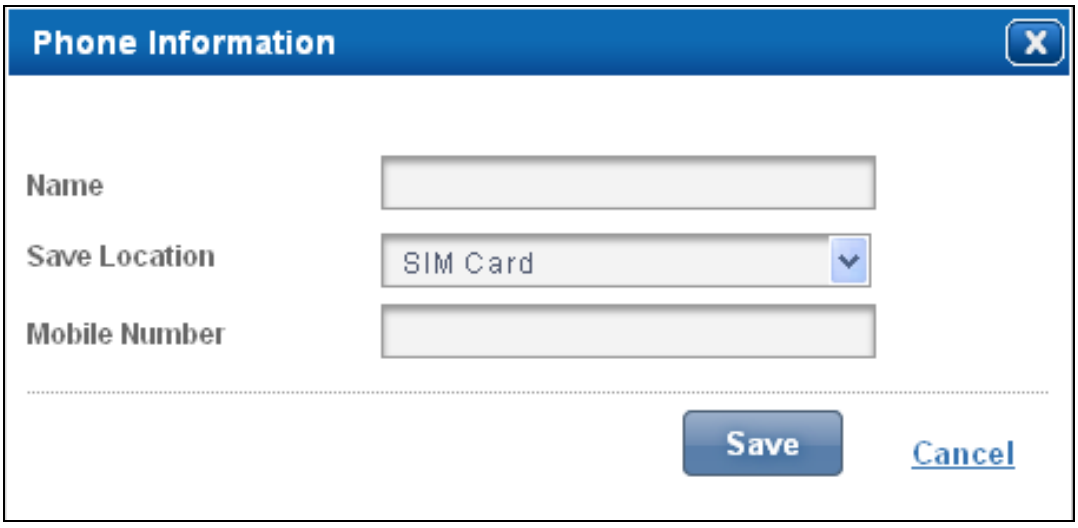


Figure 4-6-2 PhoneBook

4.7 SMS

4.7.1 Device Inbox

In this page you can add, read, delete, copy& move messages in the Device Inbox.

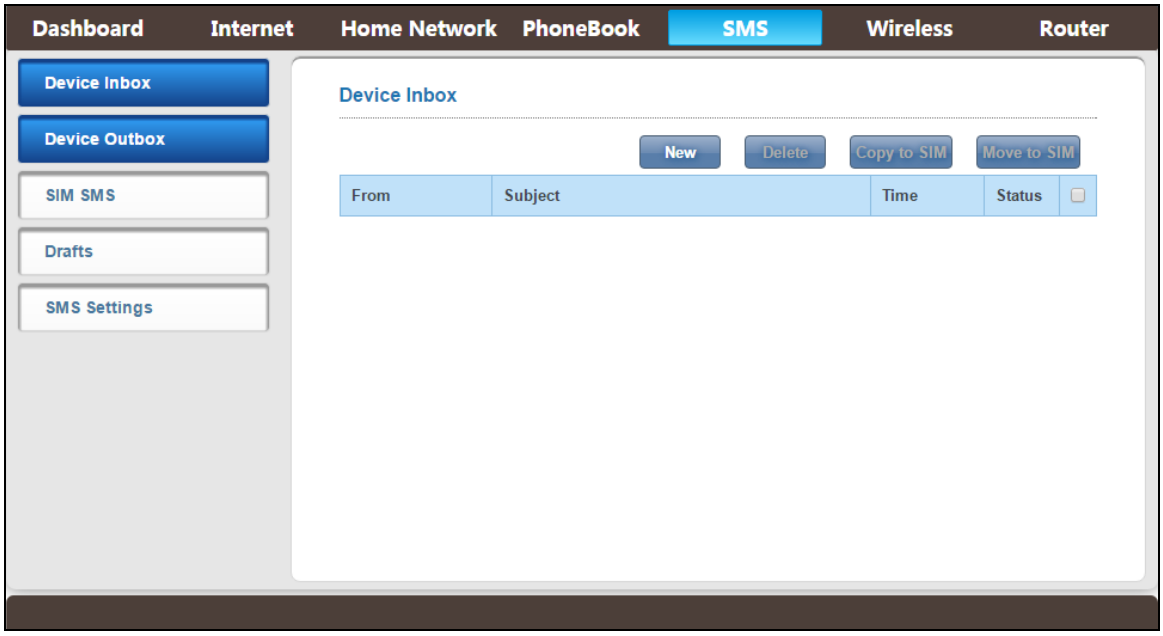


Figure 4-7-1-1 Message

- **New:** Click “New” to enter message page
- **Delete:** Click ”Delete” to Delete the selected records
- **Copy to SIM:** Click ”Copy to SIM” to Copy the selected records to SIM
- **Move to SIM:** Click ”Move to SIM” to Move the selected records to SIM

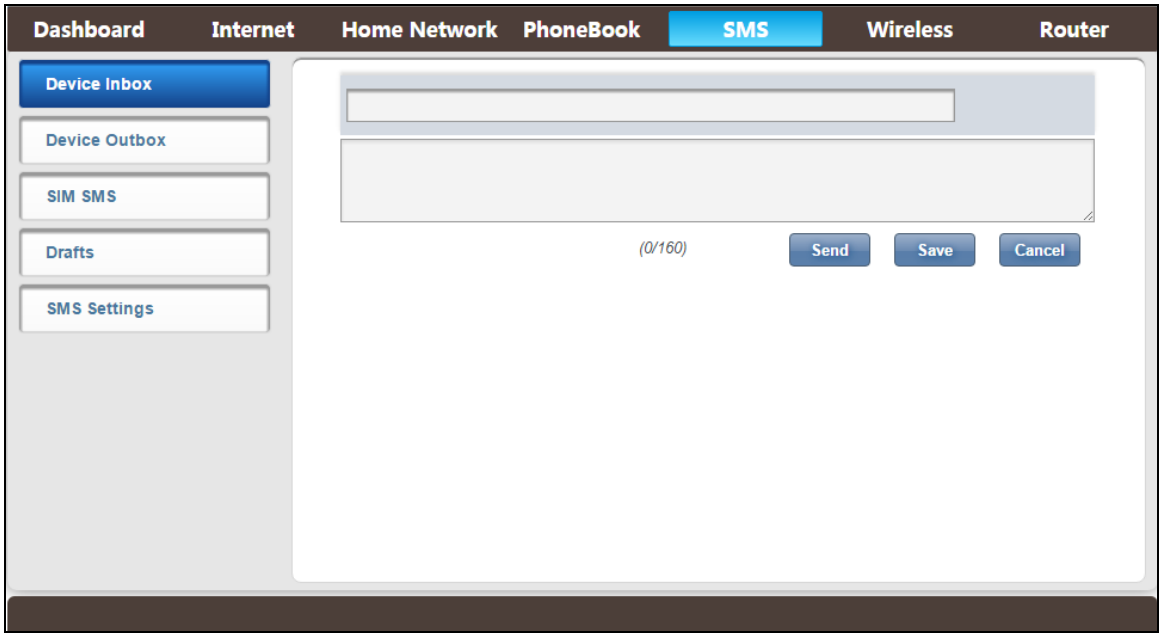


Figure 4-7-1-2 Message

4.7.2 Device Outbox

In this page you can add, delete, message in the Device Outbox.

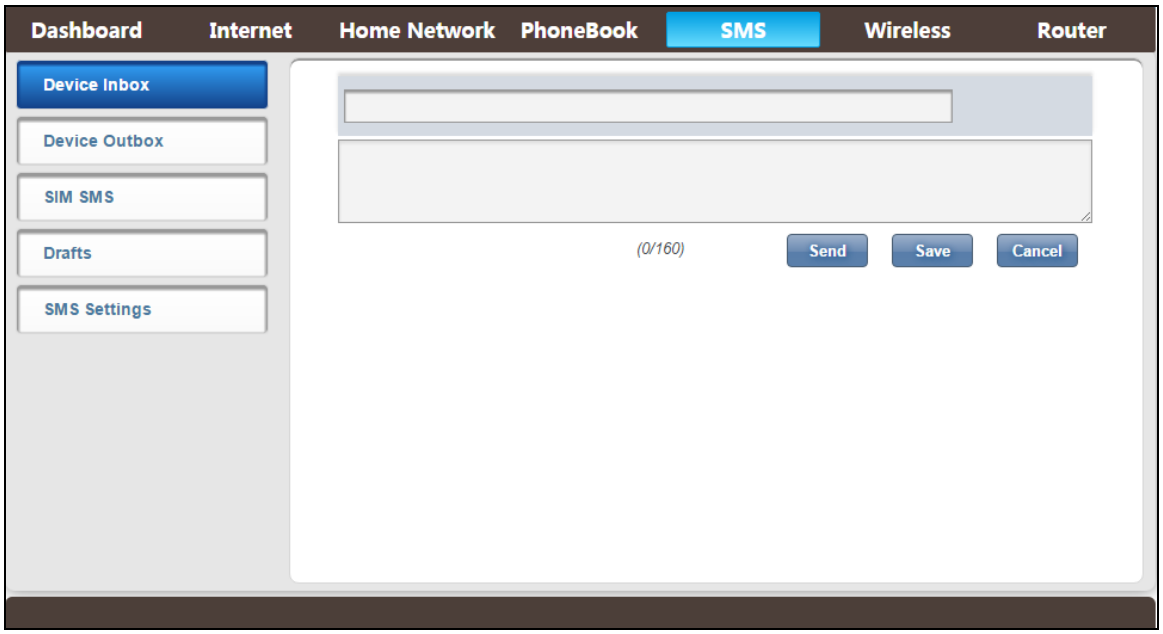


Figure 4-7-2-1 Message

- **New:** Click "New" to enter message page
- **Delete:** Click "Delete" to Delete the selected records

4.7.3 SIM SMS

In this page you can add, read, delete, copy& move messages in the SIM.

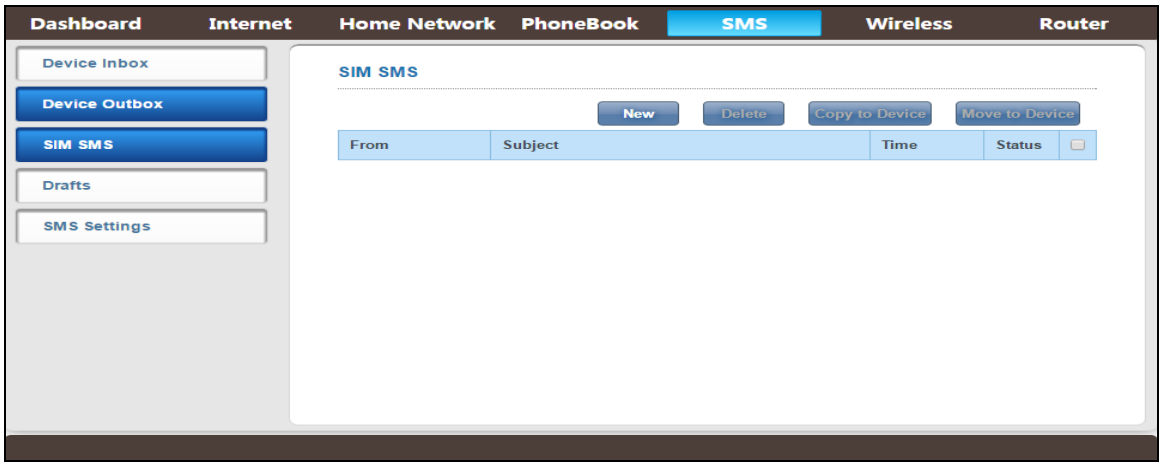


Figure 4-7-3-1 Message

- **New:** Click “New” to enter message page
- **Delete:** Click ”Delete” to Delete the selected records
- **Copy to SIM:** Click ”Copy to Device” to Copy the selected records to Device
- **Move to SIM:** Click ”Move to Device” to Move the selected records to Device

4.7.4 Drafts

In this page you can add, delete message in the Drafts

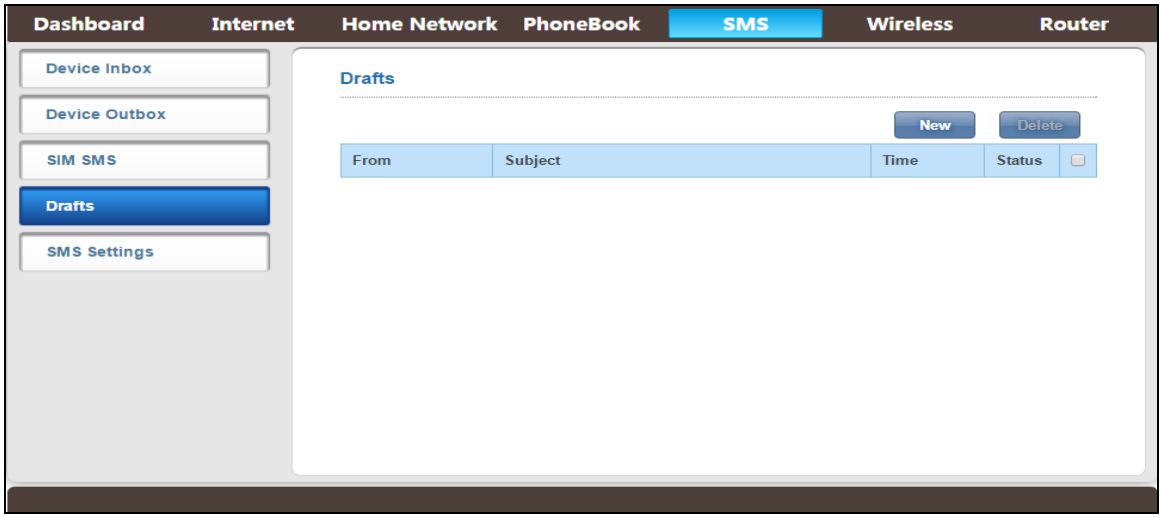


Figure 4-7-4-1 Message

- **New:** Click "New" to enter message page
- **Delete:** Click "Delete" to Delete the selected records

4.7.5 SMS Settings

This page includes SMS Save Location, SMS Over Mode, Center Number; you can configure the basic SMS settings.

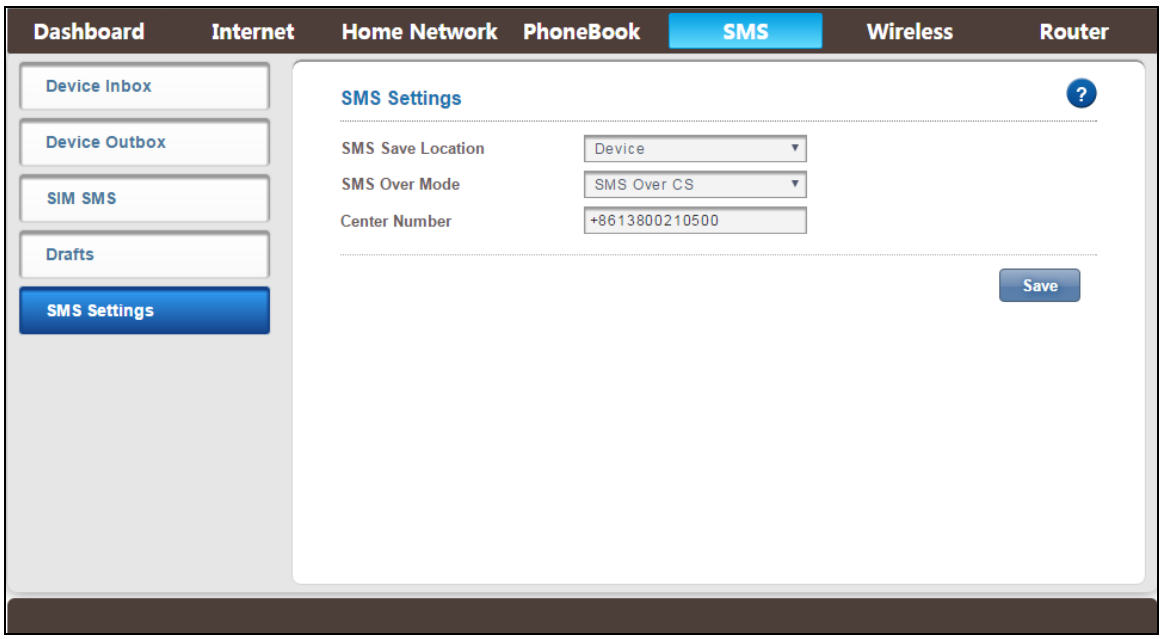


Figure 4-7-5-1 Message

- **SMS Save Location：** Device(default)/SIM Cards
- **SMS Over Mode：** SMS Over CS（default）, SMS Over PS;
- **Center Number:** Will show different operators SMS center number

4.8 Wireless

This page includes Wireless Settings, Wireless Security, WPS and Wireless MAC Filters; you can configure the basic wireless settings.

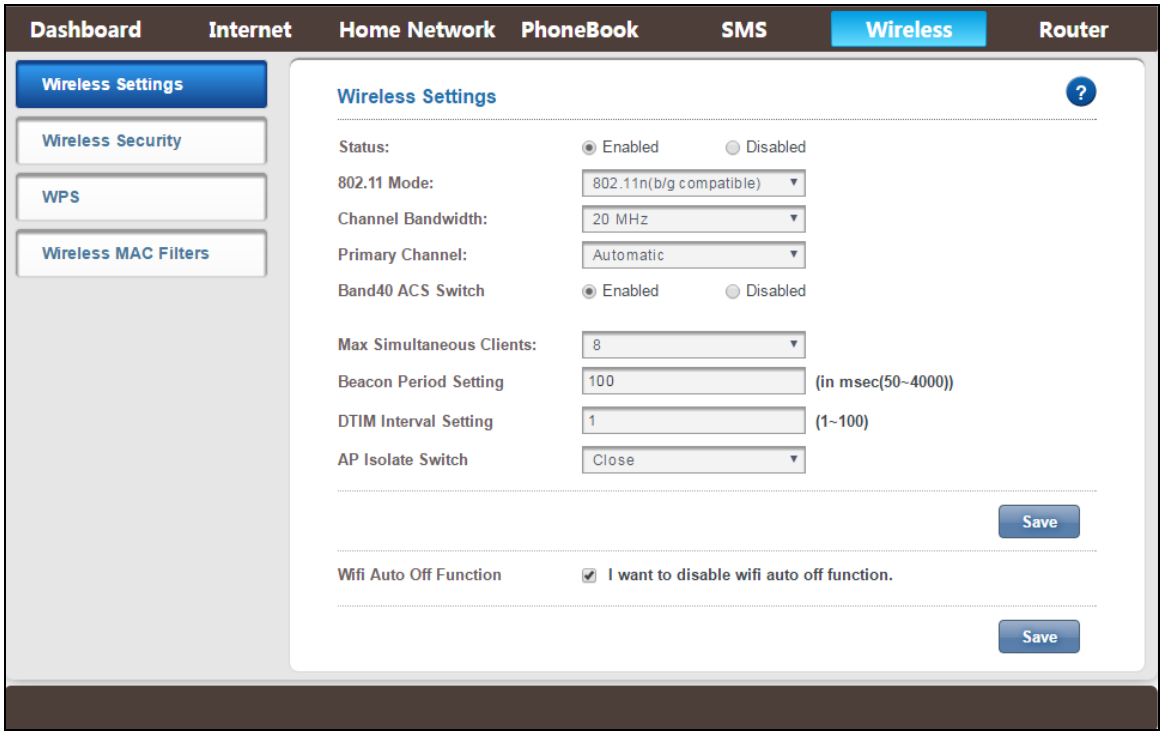


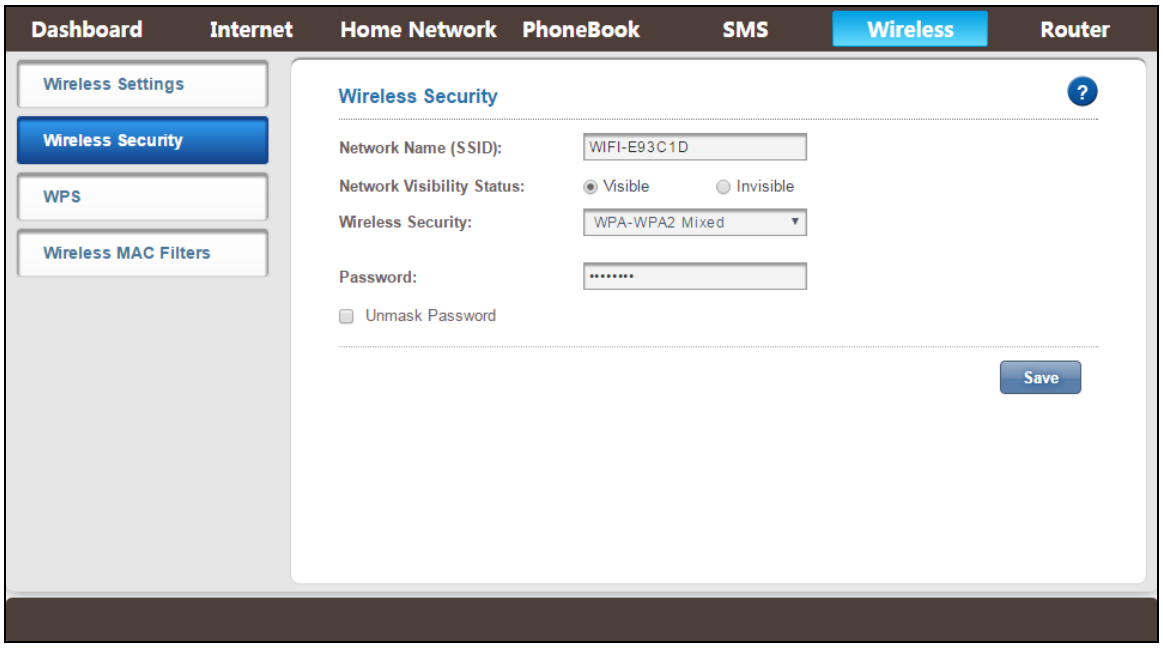
Figure 4-8 Wireless Settings

4.8.1 Wireless Settings

In this page, you can configure basic wireless settings. Click "Save" to take effect.

- **Status**：Enabled(default)/Disabled;
- **802.11 Mode**：802.11n(b/g compatible)（default）, 802.11 b/g;
- **Channel Bandwidth**：Automatic（20/40 MHz）, 40MHz, 20MHz（default）;
- **Primary Channel**： Support Channel 1~13, 2412MHz~2472MHz, 5MHz as a channel interval;
- **Secondary Channel**：Below(default), Above
- **Maximum Simultaneous Clients**：1~8;
- **Beacon Period Setting:** 50~4000,default is 100
- **DTIM Interval Setting:** 1~100,default is 1
- **AP Isolate Switch:** Close(default)/ Open
- **WiFi Auto Off Function**： Enable/Disabled(default).

4.8.2 Wireless Security Settings



Wireless Security Settings, refer to chapter 4.2.3.

4.8.3 WPS

On this page, you can modify WPS settings. This feature can make your wireless client within a few minutes automatically synchronized with the AP settings and connect via WiFi.

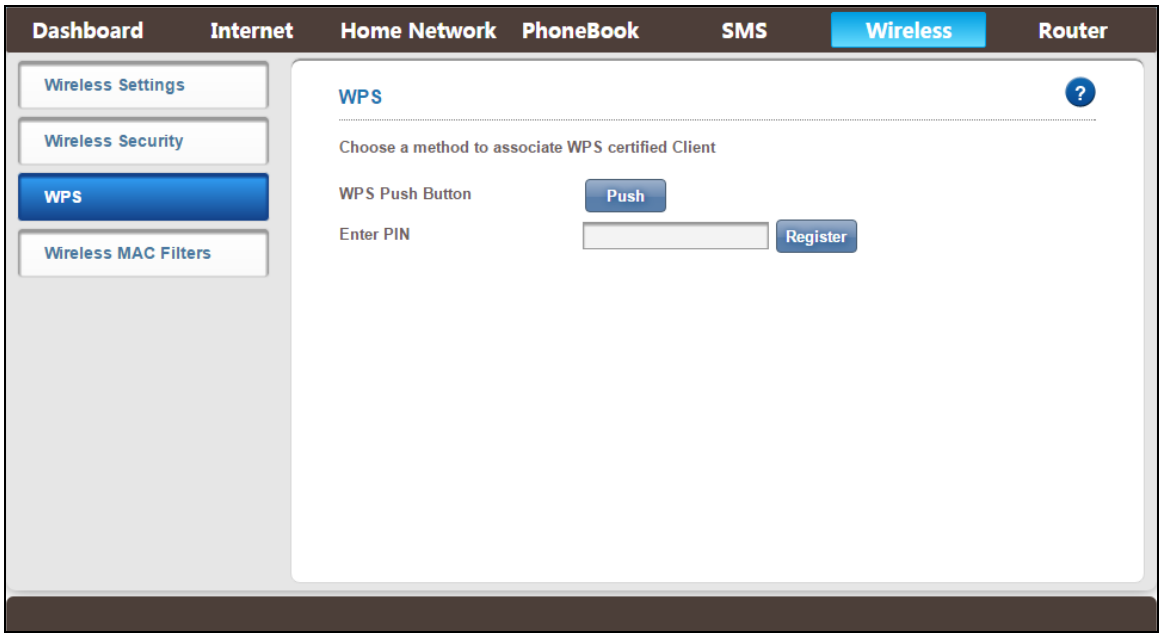


Figure 4-8-3-1 WPS

- **Push:** Click "Push" to Connected WPS's PBS, Then Mifi and wireless client will

automatically complete the interaction and connect via WiFi if these two devices can match with each other.

- **Enter PIN：** Input the PIN code which got from wireless client and click "Apply" on this "WPS" configuration page.

4.8.4 Wireless MAC Filters

This function is a powerful security feature that allows you to specify which wireless clients are not allowed. Default is disabled, click "Enabled" and then you can add MAC Filter rules.

Mode Settings： Allow/Deny, default is deny. It means that the clients in the list unable to access the MiFi. You can change it to "Allow" and then click "Save" . The Wireless Client MAC Address which you set will display in the list. You can click the red "x" mark to delete the MAC address and click "Add" button to set new MAC address.

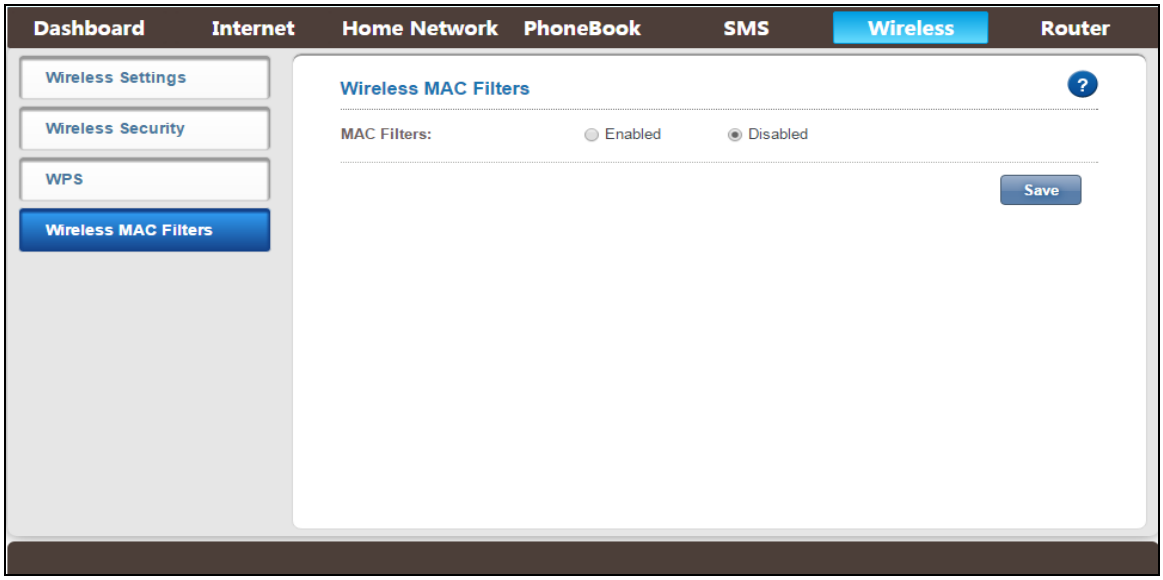


Figure 4-8-4-1 Wireless MAC Filters

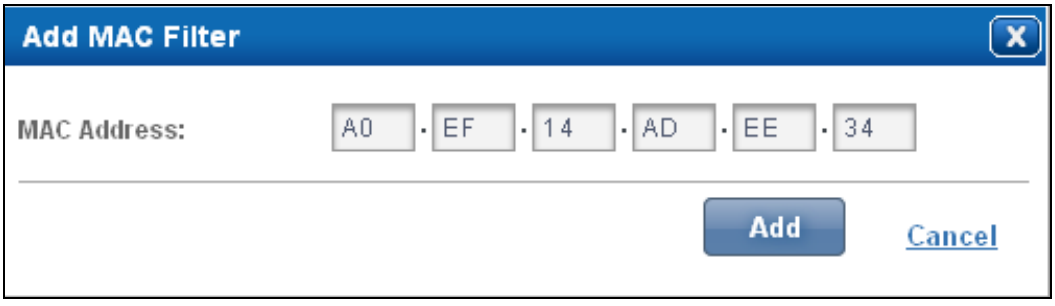
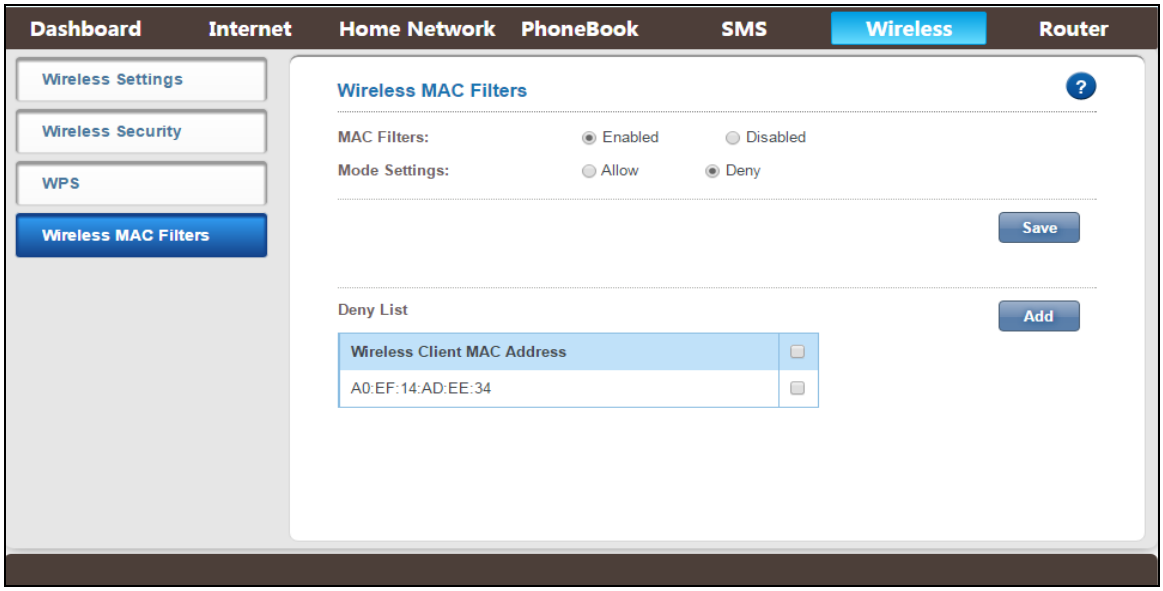


Figure 4-8-4-2 Add MAC Filter



Filter 4-8-4-3 The MAC Filters

4.9 Router

From this page, you can see User Management, Configuration Management, Software Upgrade, Reboot Router, Power Off Router and Time Setting.

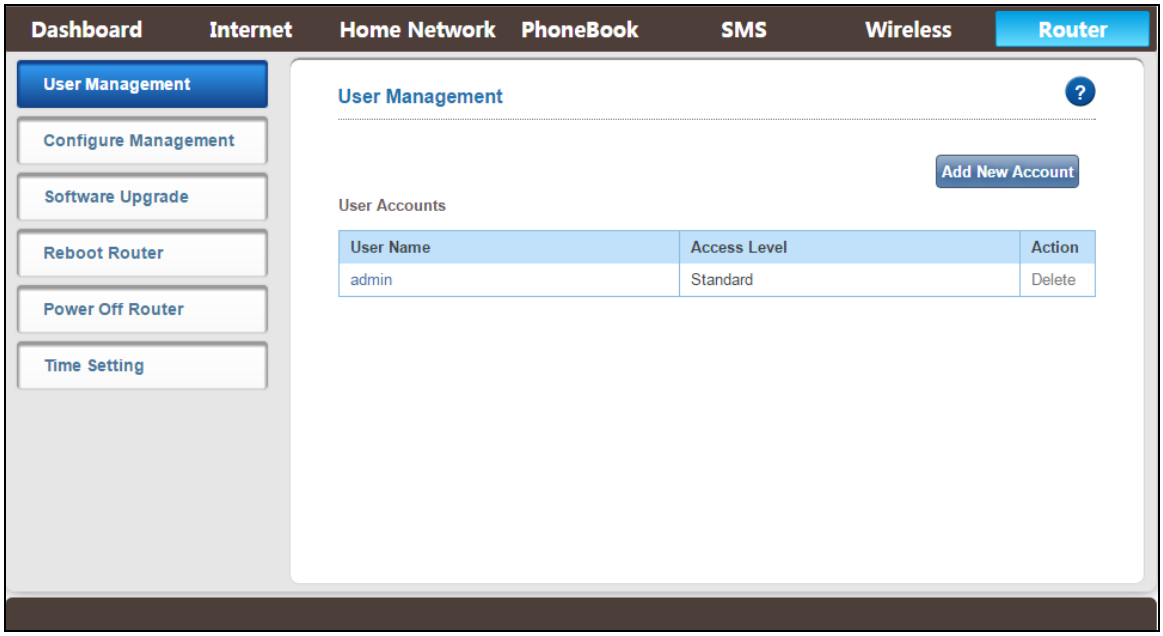


Figure 4-9 Router

4.9.1 User Management

On the "User Management" page, you can create, delete new account, click "Save" to take effect. The system shows the new account.

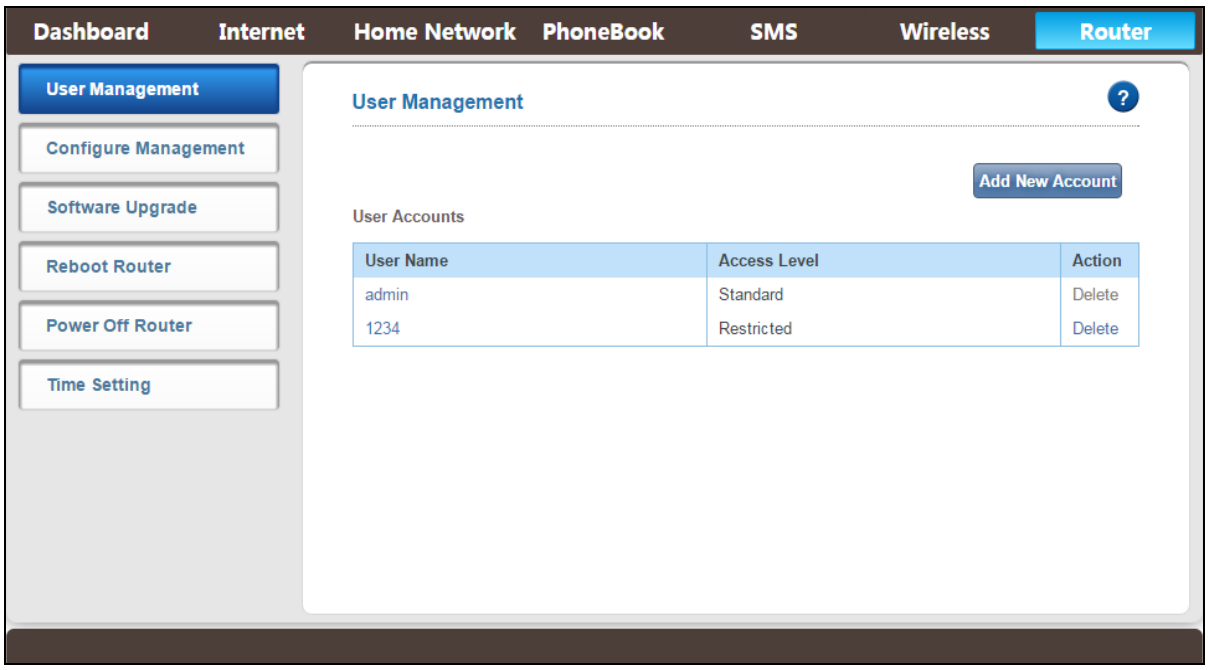


Figure 4-9-1 Router

4.9.2 Configuration Management

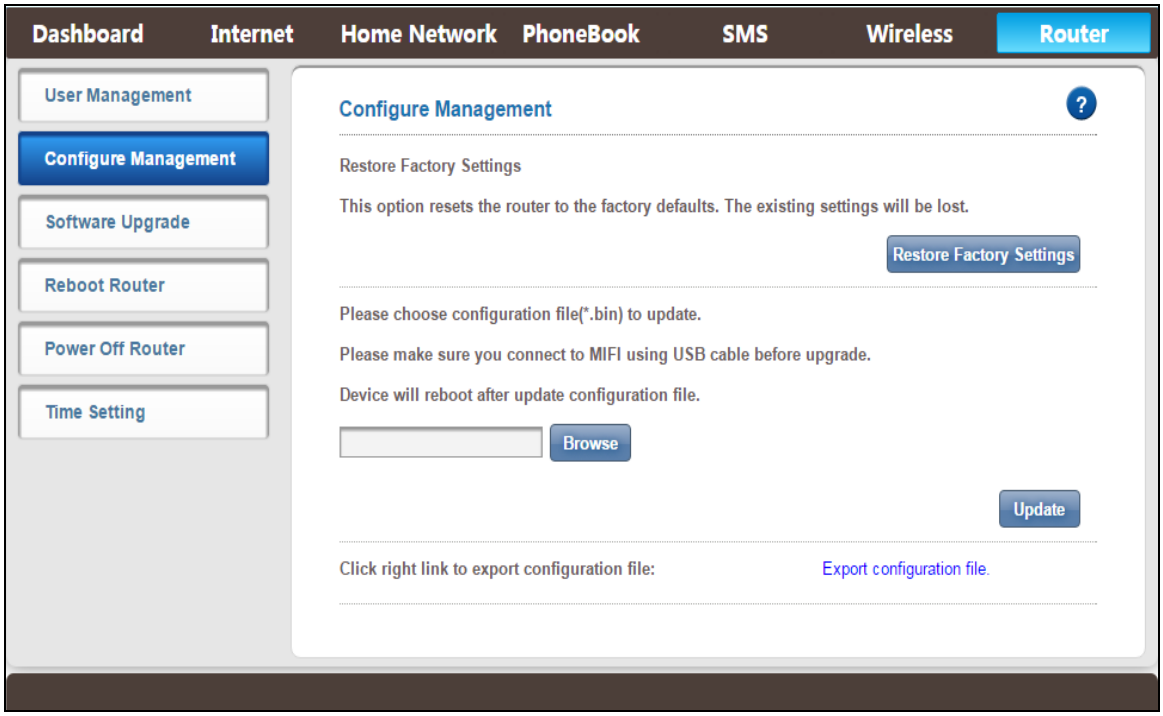


Figure 4-9-2-1 Configuration Management

This page includes Restore Factory Settings, Update Configuration file and Export Configuration file.

- **Restore Factory Settings：** The existing settings will be lost, all restored to the factory defaults;
- **Update Configuration file：** Connect PC and device with a USB cable, click "Brower" to select a Bin file, then begin to update the configuration file, the device will automatically reboot after updated completely.
- **Export Configuration file：** Click "Export Configuration file" to export the existing configuration and save.

4.9.3 Software Upgrade

From the software upgrade page, you can see the current software version and current software date. If you have a software upgrade file on your machine, you can use the "Upgrade" option to manually upgrade the router. Make sure you connect to MiFi using USB cable before upgrade. Click "Browse" to choose the upgrade file, then click "Upgrade" to begin to update. The upgrade process will take you 1~2 minutes and the MiFi will reboot automatically when the upgrade is completed.

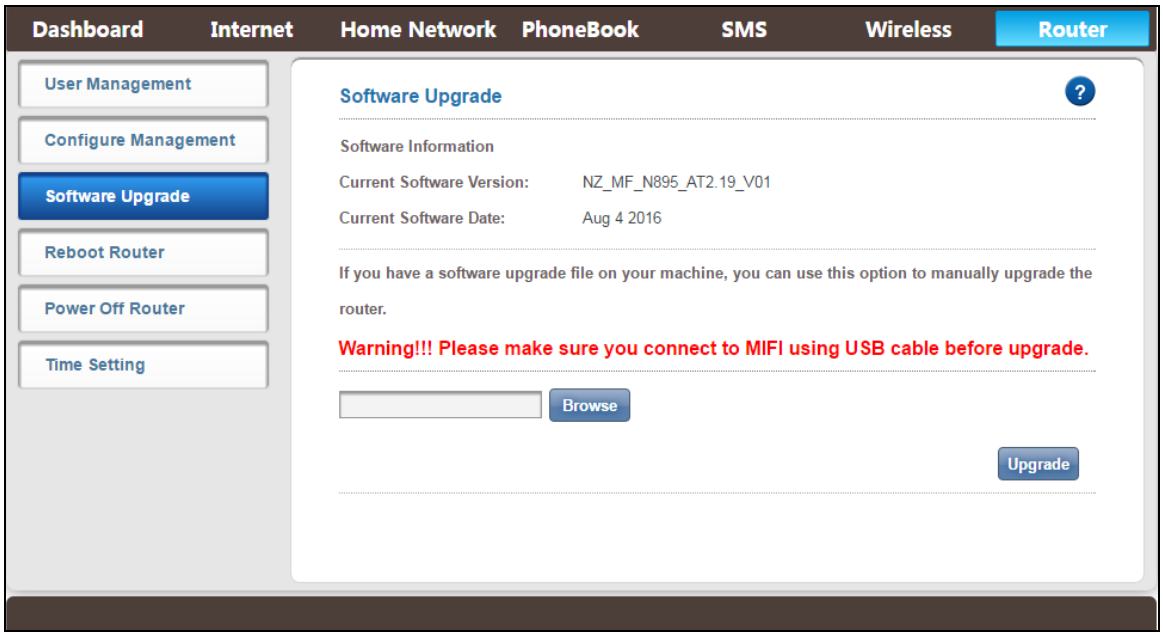


Figure 4-9-3-1 Software Upgrade

4.9.4 Reboot Router

Click the “Reboot Router” button, then the MiFi will reboot immediately. You can also restart it by the power key.

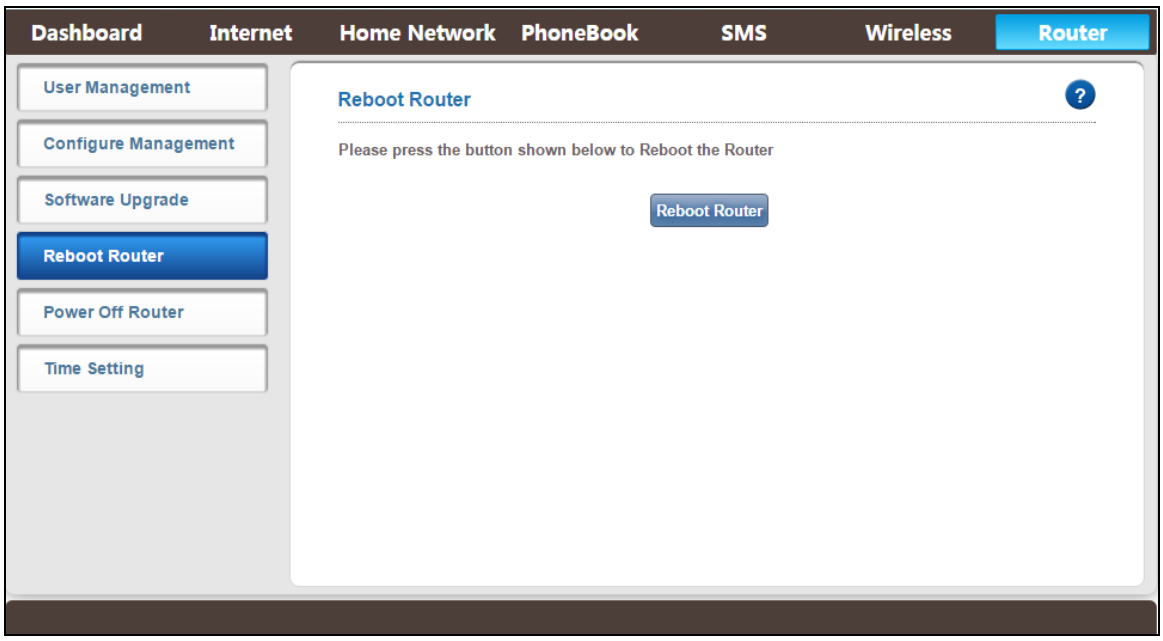


Figure 4-9-4-1 Reboot Router

4.9.5 Power Off Router

Click the “Power Off Router” button, then the MiFi will Power off immediately. You can also power off by the power key.

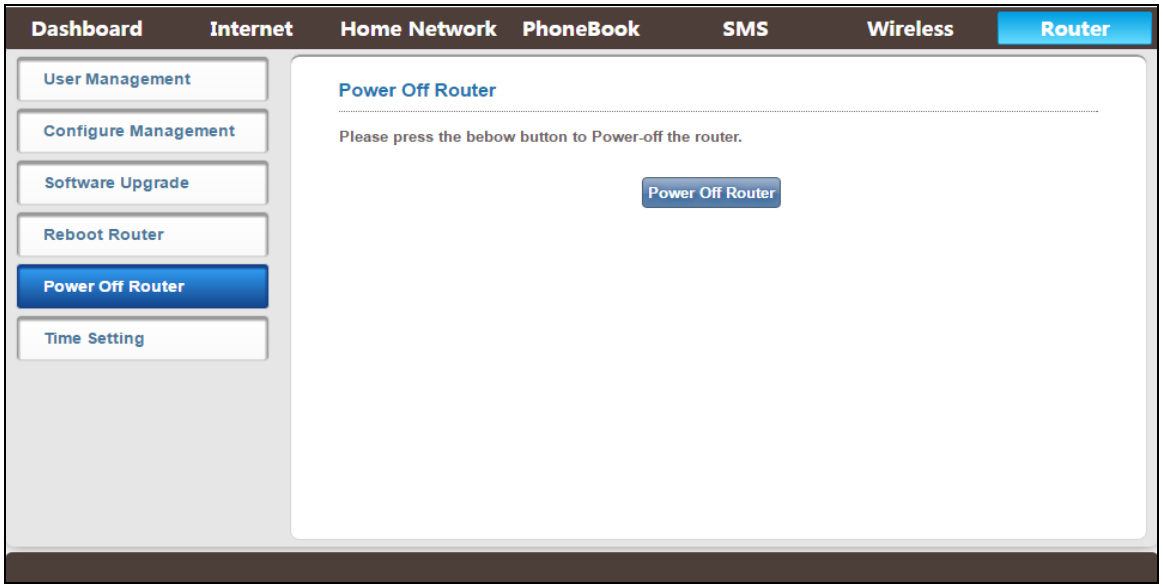


Figure 4-9-5-1 Power Off Router

4.9.6 Time Setting

From the "Time Setting" page, you can set the time of the device system, click "Save Current Time" to take effect.

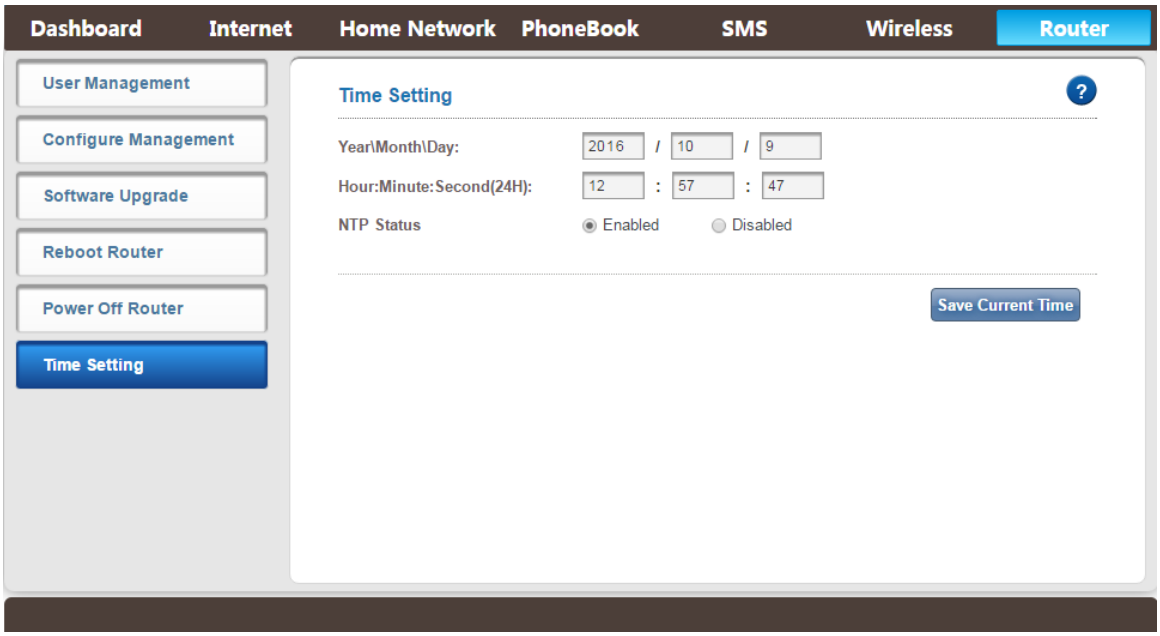


Figure 4-9-6-1 Time Setting

5. Revision History

Author	Revision	Changes	Date
Fhan	V1.0	Initial Draft	2016-10-09

FCC Statement

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

-- Reorient or relocate the receiving antenna.

-- Increase the separation between the equipment and receiver.

-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-- Consult the dealer or an experienced radio/TV technician for help.

This 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.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

SAR：

The radiated output power of this device is below the FCC radio frequency exposure limits. Nevertheless, the device should be used in such a manner that the potential for human contact is minimized during normal operation.

The exposure standard for wireless devices employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6 W/Kg. Tests for SAR are conducted using standard operating positions accepted by the FCC with the device transmitting at its highest certified power level in all tested frequency bands. Although the SAR is determined at the highest certified power level, the actual SAR level of the device while operating can be well below the maximum value. This is because the device is designed to operate at multiple power levels so as to use only the power required to reach the network. In general, the closer you are to a wireless base station antenna, the lower the power output. To avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna should be minimized.

Note: The device complies with RF specifications when the device used at 5mm far from your body.

The highest reported SAR values for body as below: Body:1.007W/Kg.