User Manual

BandLuxe

E5812P Series

LTE Outdoor CPE

P/N: 65021100021 Rev.A

Table of Contents

Product Overview

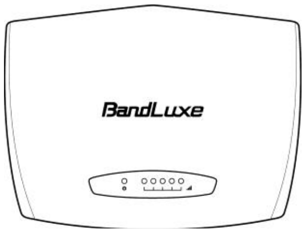
Congratulations on your purchase of this LTE outdoor CPE. With this LTE (Long Term Evolution) CPE (which is also known as 4G CPE), you can share high speed mobile broadband connectivity in a wide range of computing environment. Before you begin using the LTE outdoor CPE, read this chapter to familiarize yourself with the device.

Features

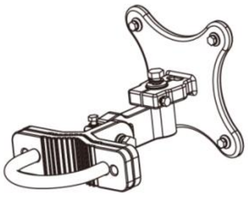
- Embedded high gain directional antenna
- IP66 protection against dust and water
- Easy configuration based on Web Interface
- Provide 10 – 30dB more coverage gain compared to indoor CPE
- Support Passive Power over Ethernet.
- Easy installation and use

Package Contents

The following items come with your package. If any of them is damaged or missing, please contact your retailer.

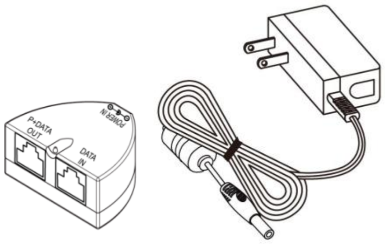


LTE Outdoor CPE

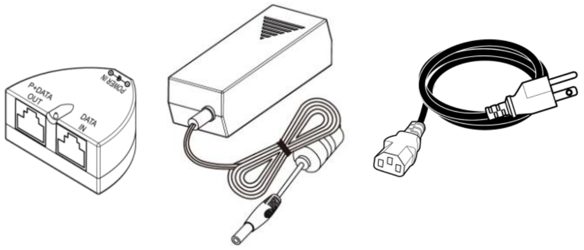


Mounting bracket

Optional:
Plug head water resistant kits (RJ-45)



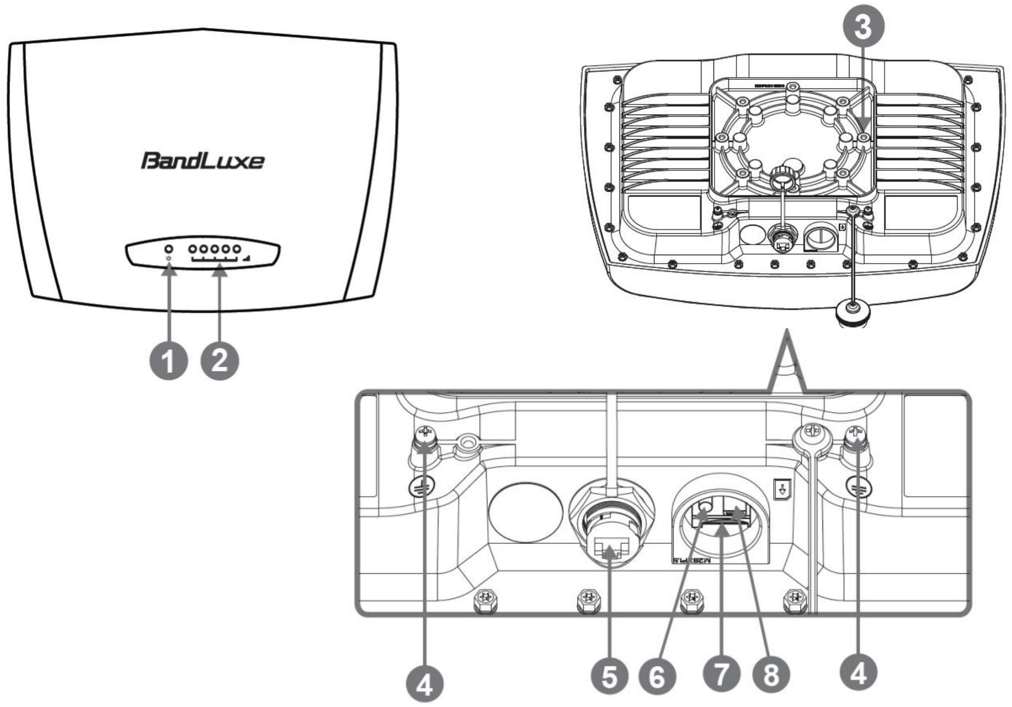
Passive PoE adapter (12V, E5812A series)



Passive PoE adapter (48V, E5812P series)

Note: The pictures are for reference only, actual items may slightly differ.

Hardware Overview



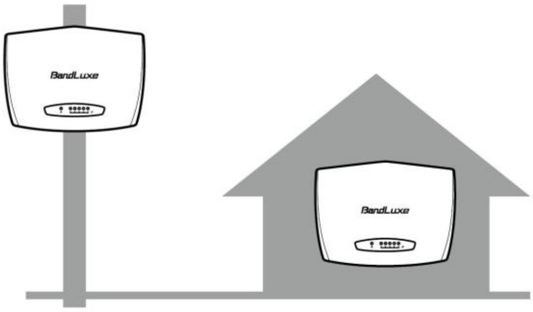
1	**Power**	Power LED will remain lit while power is applied.
2	**Signal strength**	Indicate receive signal strength. The Signal Strength LEDs are only used at the power on to assist the installation. The CPE will turn off all the Signal Strength LEDs after a timer expires from power on. Such design is to prevent the outdoor CPE becoming a potential target particularly at night. The default time is 60 minutes however, is user settable in the web GUI.
3	**Mount base**	Attach the mount bracket.
4	**Earth ground terminal**	Use a spring washer and an M4x8L screw to ground and protect CPE from lightning. See “Ground the CPE” on page 16 for more details.
5	**Ethernet port**	Connect to a computer/ Passive PoE using an Ethernet cable.
6	**Reset button**	❖ Short press to restart the device. ❖ Long press for 10 seconds to reset the settings to the factory default settings.
7	**SIM card slot**	Insert the SIM card.
8	**USB port**	For use by technicians use only.

Installation

Notice before installation

Choose a solid and safe place (Wall or Pole) for CPE installation

1. Choose the best location of the house and the orientation of the CPE to get the strongest signal reception from base station.
2. The ambient temperature for E5812A and E5812P series must be within:
   E5812A series: -10°C to 55°C
   E5812P series: -40°C to 55°C



NOTE

For lightning protection ground the CPE via Earth Ground Terminal and optimum reception, there are a few things you should consider before installation. Please see "Important Installation Considerations" on page 7 for more details.

Prepare two Ethernet cables

Be sure that one of the cables used is an outdoor grade CAT 5e (or above) Ethernet cable type and the length of the cables are adequate to reach the location of the CPE and indoor PPoE are.

Prepare wrenches

Prepare two adjustable wrenches or four combination wrenches. (size: 13mm x 2, 8mm x 1, and 19mm x 1)

Warning:

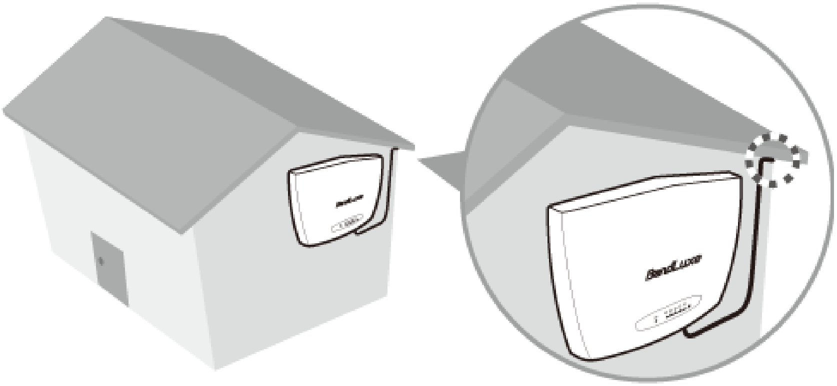
Do NOT start any traffic test (ex: throughput test and internet browsing) before the installer returns to the ground.

Important Installation Considerations

Before installing the outdoor CPE, consider the appropriate location, clearance, and device orientation.

Location and Cable wiring

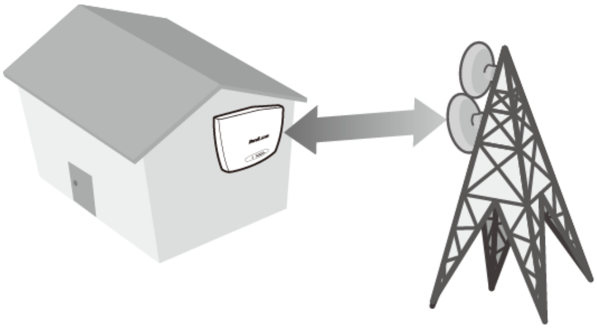
1. Consult your Service Provider to find the best location and angle for getting the strongest signal from the base station.
2. Do a walking test around the house to find the best spot with the strongest signal if you don't obtain related information from Service Provider.
3. Mount the CPE at the highest possible location with a clear view of the base station signal source. Buildings or other obstructions will affect the quality of the signal you receive.
4. Keep the best distance as possible from other devices that may cause interference.
5. Check if you can route the cable through the available ventilation holes to avoid unnecessary drilling and waterproofing the wall.



6. Disconnect the power cord first before mounting the CPE. Otherwise this may result in personal injury due to electric shock.

Mounting

1. Choose a solid wall/ground to mount the CPE.
2. Mount on a wall/pole that can sustain the CPE dimensions and weight.
3. Mount upright on a vertical surface.

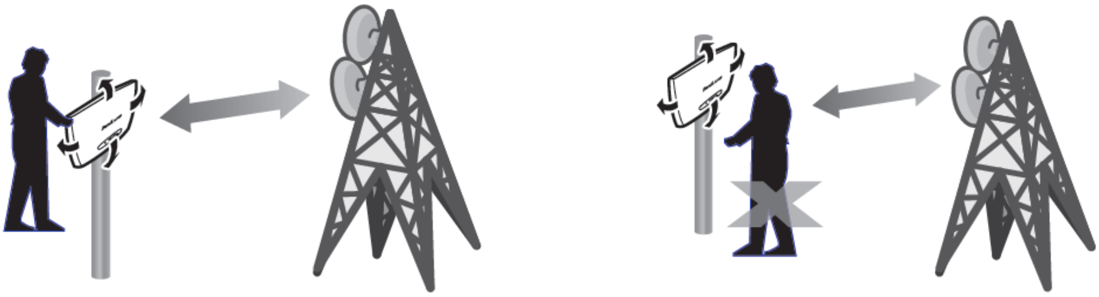


Position Adjustment

1. The CPE must be directed towards the nearest base station. By pointing the CPE in the proper direction ensures that you receive the strongest signal.
2. Fine tune the signal by adjusting the orientation horizontally or vertically to increase the CPE signal strength.
3. To verify the signal strength level:
   - Check the LEDs on the front panel - more lighted LEDs indicates stronger signal.
   - Access the web management and go to **Basic Mode > Status > Mobile Internet > Signal Quality** to view the Rx signal strength.

Warning:

- To receive stronger signal and to avoid possible RF radiation, please do **NOT** place your head or body in front of the CPE while you are positioning the CPE or checking the signal strength LEDs on the front panel.

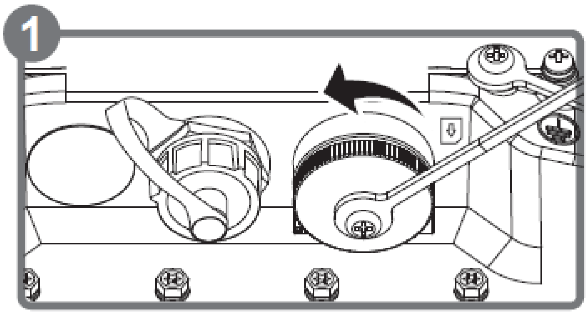


Install the SIM card

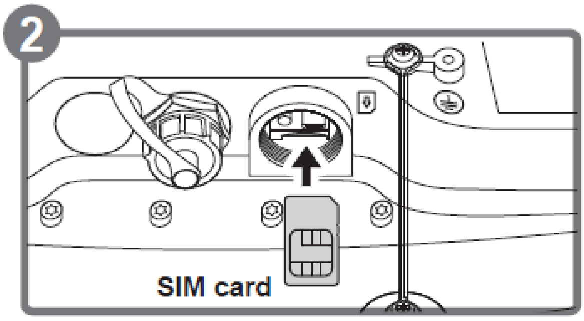
This CPE is specially designed for the 4G LTE network.

NOTE
Check the availability of service and plan rates of data connections with your network service provider.

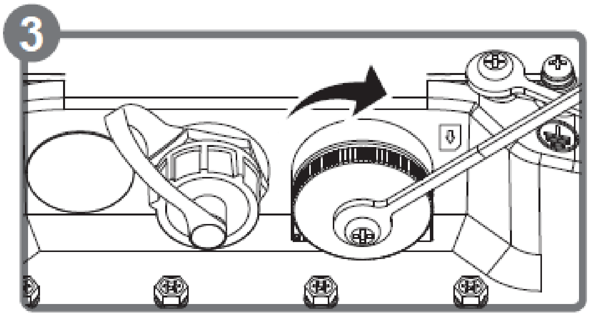
1. Unscrew the SIM card slot.



2. Insert a valid SIM card into the SIM card slot.
   Push it fully until it clicks into place.



3. Screw the cap back on **tightly**.



Remove the SIM card
Push to eject the SIM card from the slot.

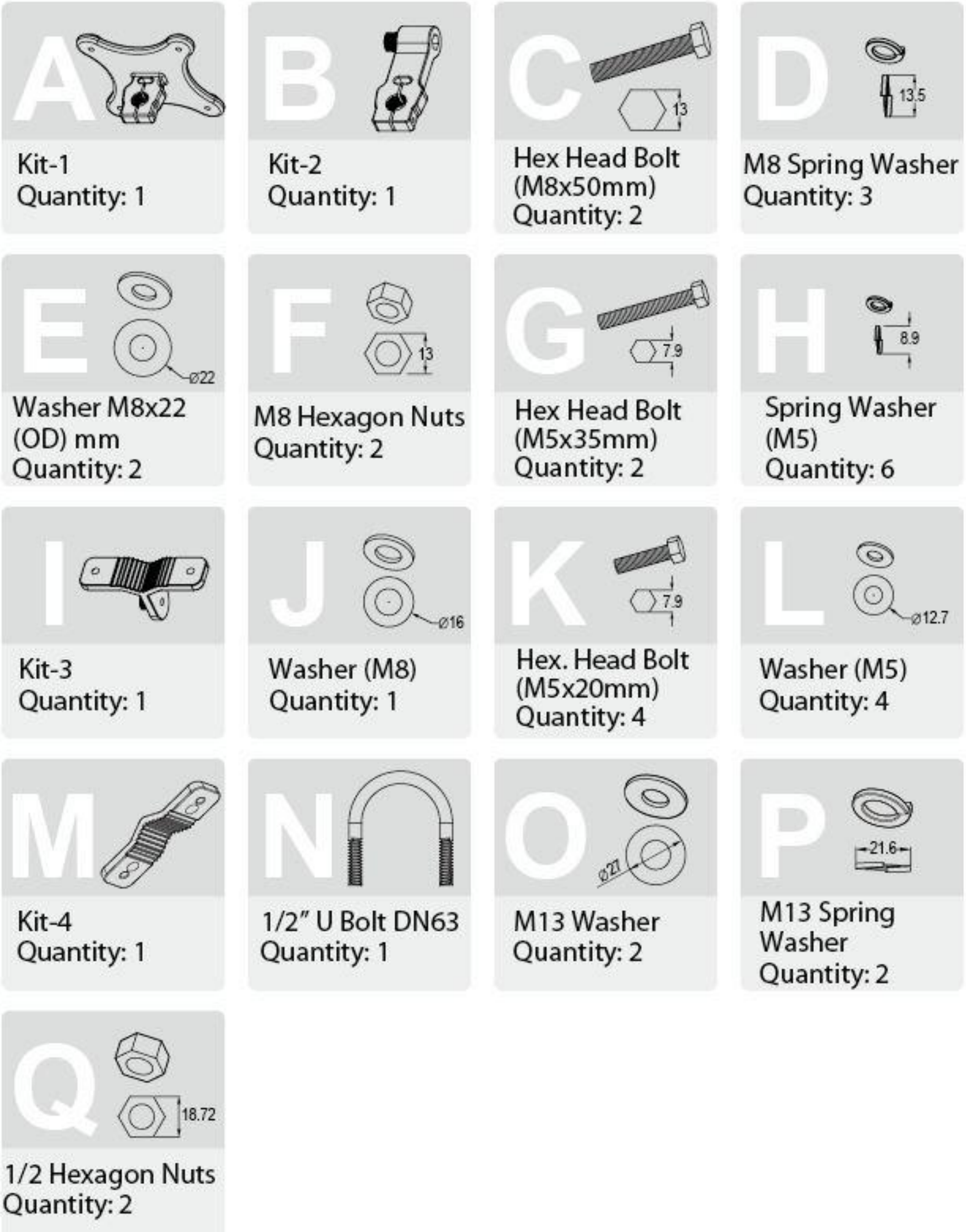
NOTE

- Once the SIM is reinserted, you must restart the CPE to read the SIM card properly.

Mounting and Installation

This CPE is weatherproof and designed for outdoor use. You can mount it to a wall or to a pole.

Mount Assembly package



A Kit-1 Quantity: 1

B Kit-2 Quantity: 1

C Hex Head Bolt (M8x50mm) Quantity: 2

D M8 Spring Washer Quantity: 3

E Washer M8x22 (OD) mm Quantity: 2

F M8 Hexagon Nuts Quantity: 2

G Hex Head Bolt (M5x35mm) Quantity: 2

H Spring Washer (M5) Quantity: 6

I Kit-3 Quantity: 1

J Washer (M8) Quantity: 1

K Hex. Head Bolt (M5x20mm) Quantity: 4

L Washer (M5) Quantity: 4

M Kit-4 Quantity: 1

N 1/2″ U Bolt DN63 Quantity: 1

O M13 Washer Quantity: 2

P M13 Spring Washer Quantity: 2

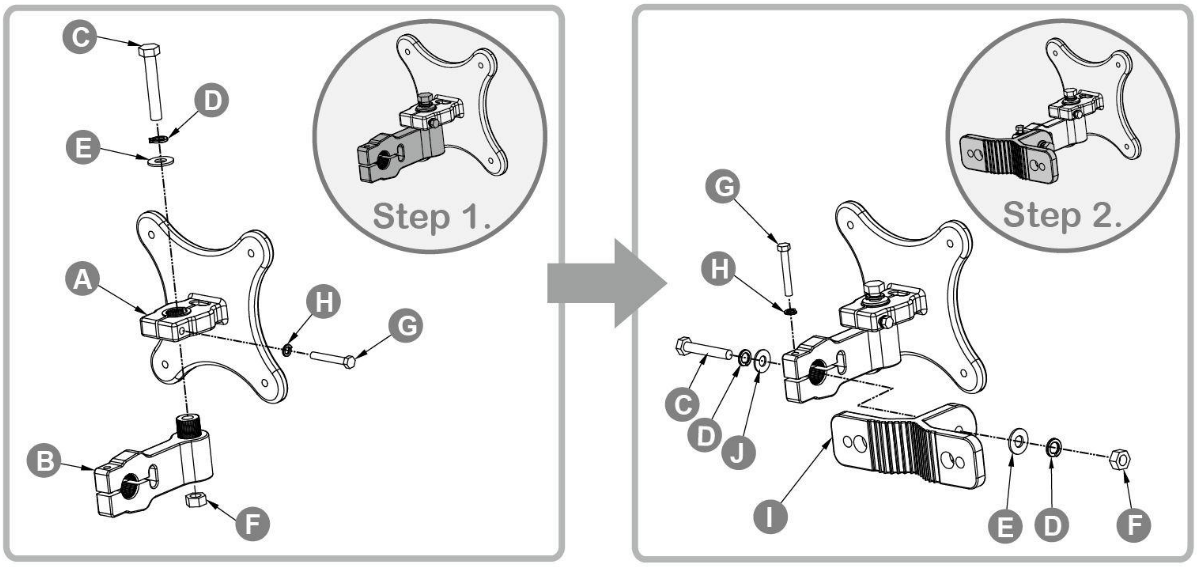
Q 1/2 Hexagon Nuts Quantity: 2

NOTE

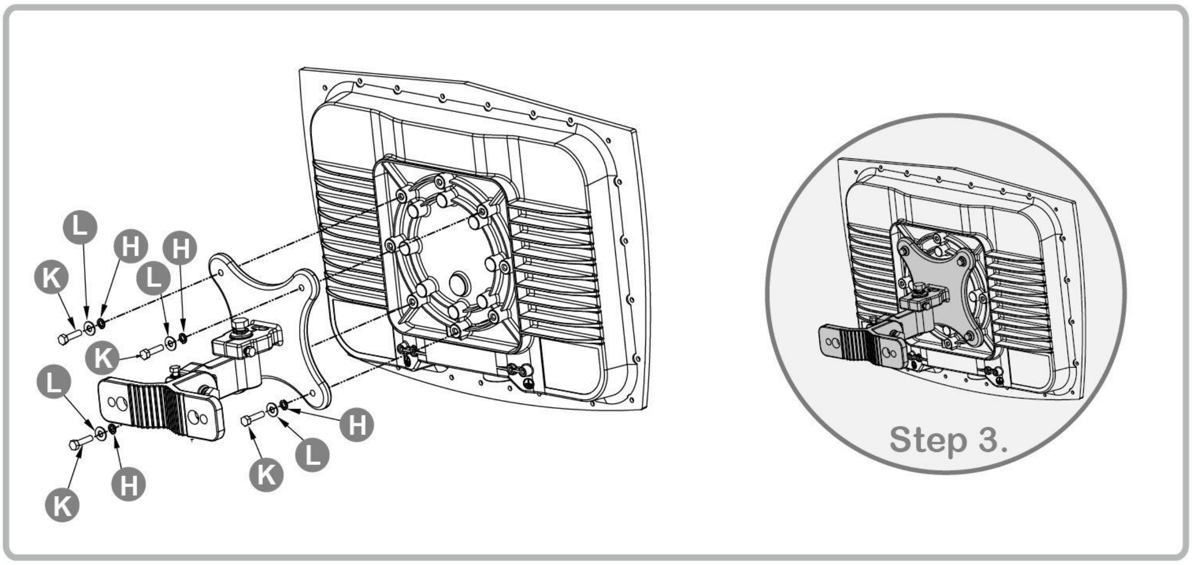
- The illustrations are for reference only, actual items may slightly differ.

Wall-mount Assembly

1. Align the mounting bracket on the wall. Using the bracket as mounting template, mark the positions to drill the holes.
2. Assemble the bracket as shown in the illustration.



3. Attach the bracket to the back of the CPE.

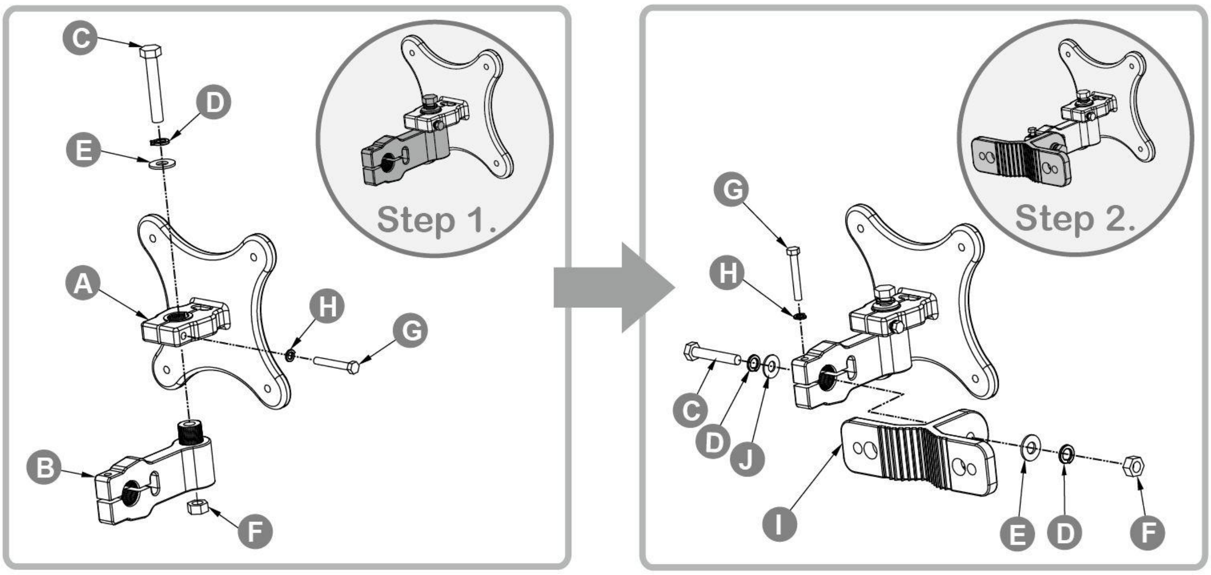


4. Hang the CPE to the wall and secure the bracket using the designated screws and washers.

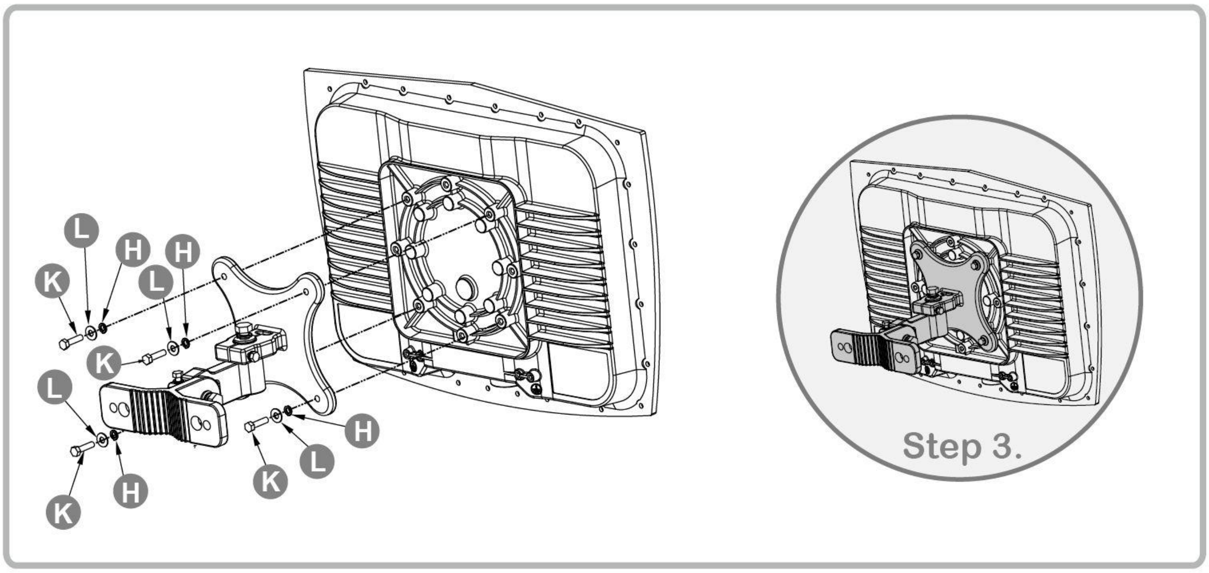
Pole-mount Assembly

To mount the CPE to a pole, follow the steps below:

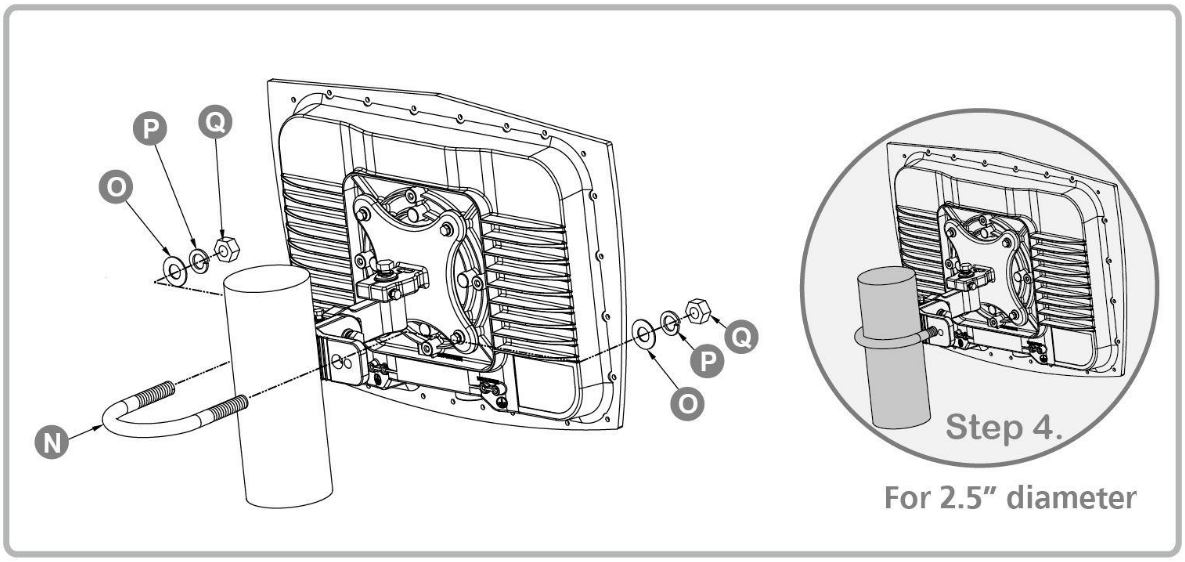
1. Assemble part of the mounting bracket as shown in the illustration.
2. Assemble the mounting bracket as shown in the illustration.

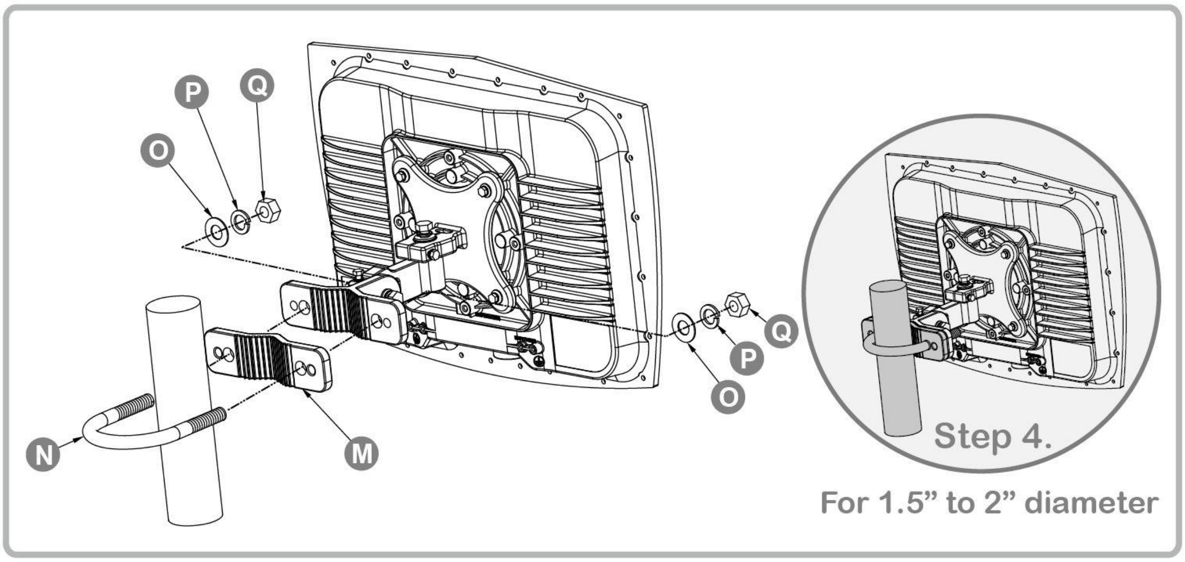


3. Attach the bracket to the back of the CPE.



4. Align a pole on the bracket and assemble the pole bracket as shown.

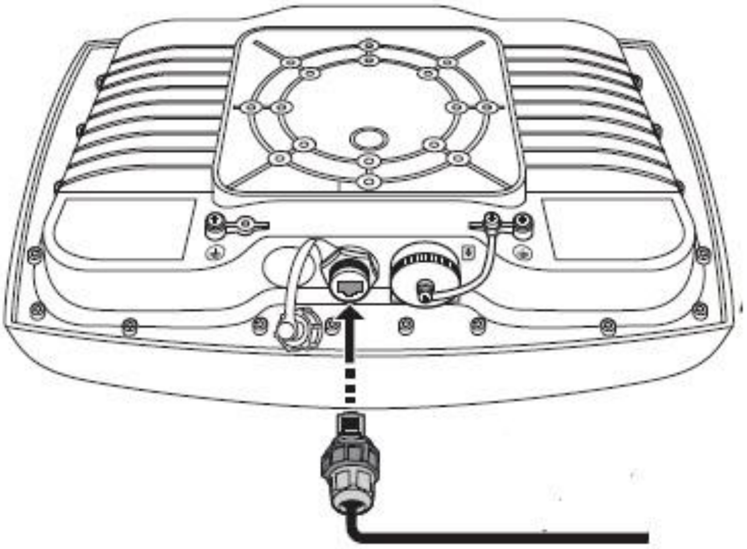




5. Adjust the CPE position to an appropriate direction and secure the pole bracket using the designated screws and washers.

Insert the Ethernet Cable

Unscrew the Ethernet port and insert one end of the Ethernet cable into the CPE port.

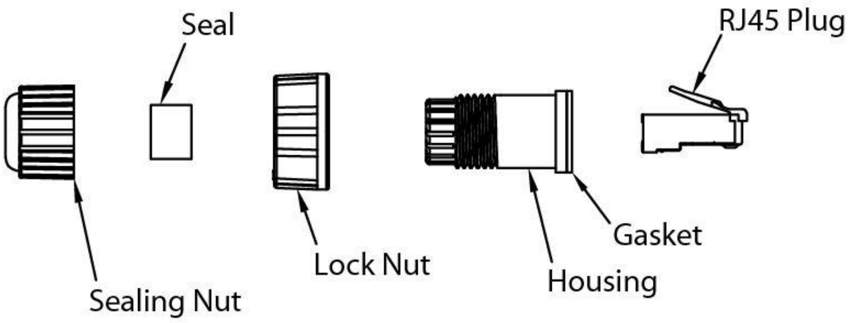


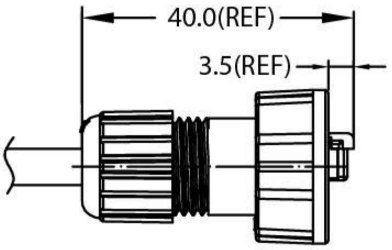
Note:

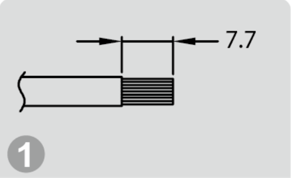
- To have best protection against dust and water, Ethernet cable MUST be plugged with water-proof RJ-45 jack.

Assemble the Optional Water-Proof RJ-45 Jack

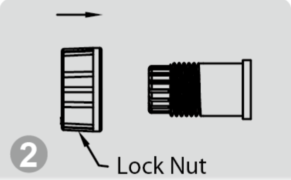
1. Unpack the RJ-45 water resistant kit.
2. Assemble one end of the Ethernet cable as shown in the illustration.



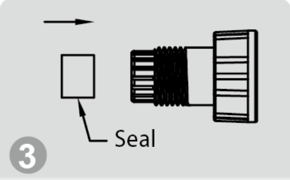




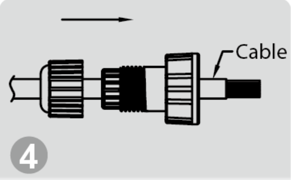
Strip Cable Sheath Recommended Wire Gauge: 24AWG



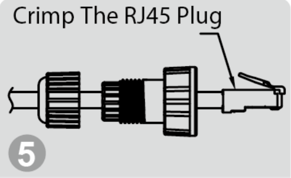
Insert The Lock Nut Into The Housing.



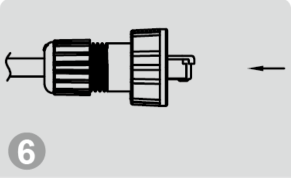
Insert The Seal At The Back End Of The Housing.



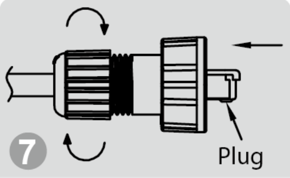
Insert The Cable All The Through.



Crimp The RJ45 Plug



1 Insert The Plug Into The Hohsing And Keep The Plug Close To Housing.



1. First Tighten Lock Nut
2. Then Screw Sealing Nut Torque Value Is 6~8Kgf/cm

NOTE

- The Ethernet cable is not included in the package.

Ground the CPE

For safety use, use the earth ground terminal to ground the CPE housing before making any connections.

You need the following:

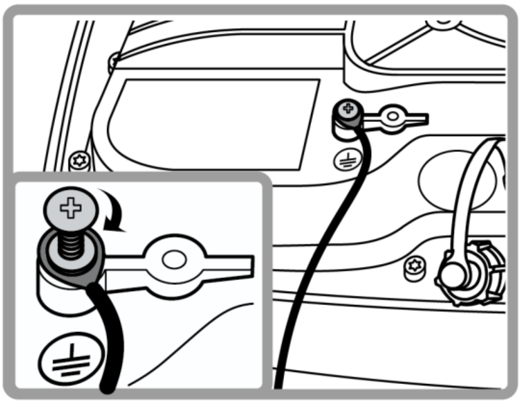
- Spring washer
- M 4x8 L screw

NOTE

- The spring washer and M4x8L screw are not included in your package.

To ground the CPE:

1. Insert the washer to the M4x8L screw.
2. Attach the screw halfway into the earth ground terminal.
3. Insert the grounding cable under the washer.
4. Tighten the screw.

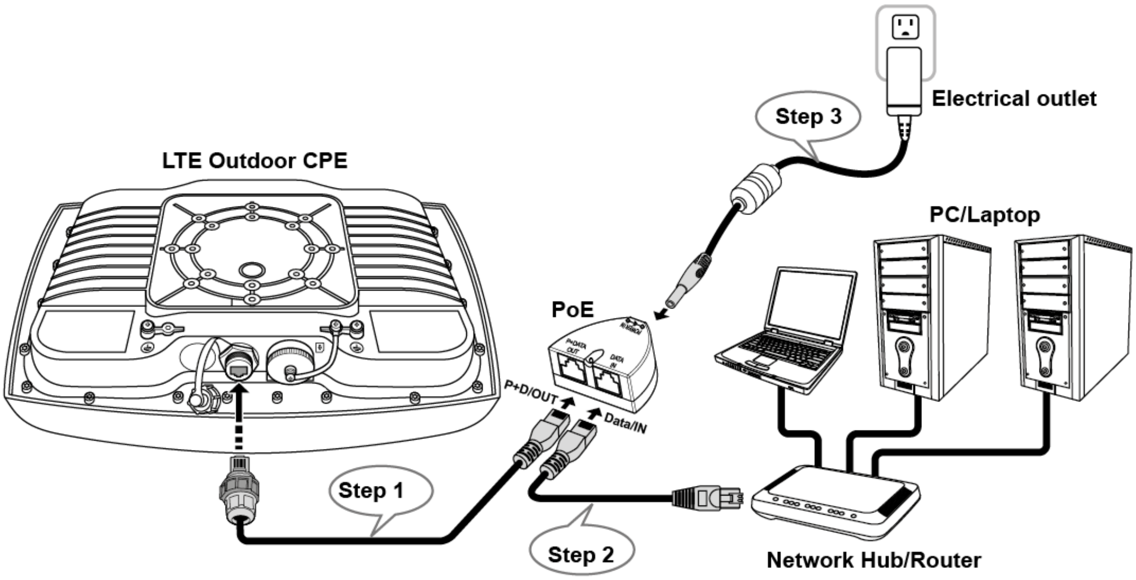


Connect to Computers

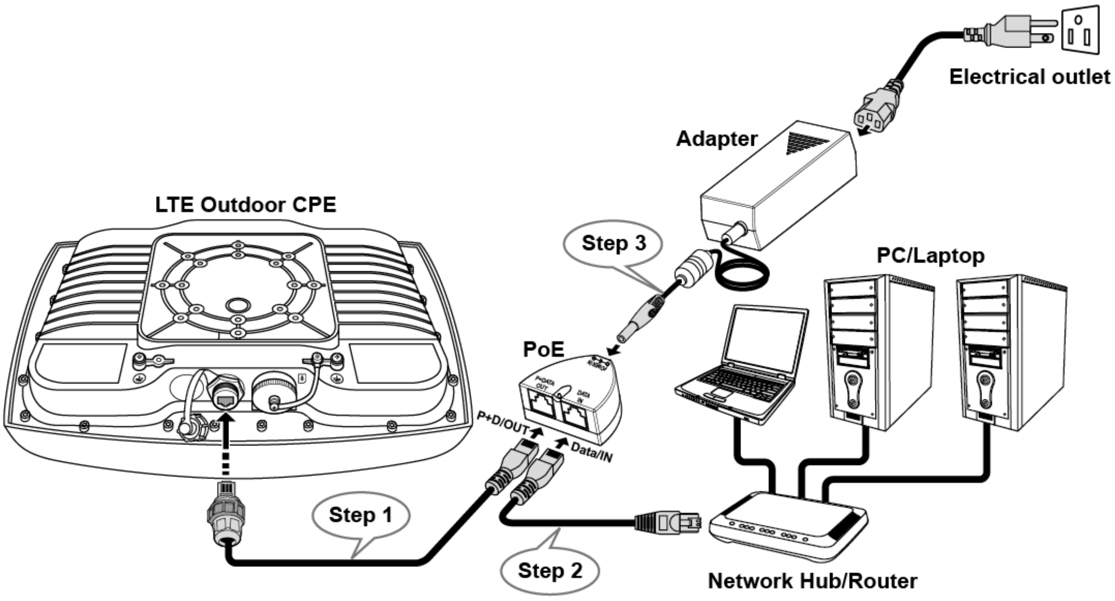
To use the Internet connection and configure the CPE settings, you must connect your CPE to a computer.

Prepare two Ethernet cables for connection.

1. Insert the other end of the Ethernet cable to “P+D OUT” port of the PoE adapter.
2. Connect another Ethernet cable to a Network Hub/Router or directly to PC/Laptop via PoE adapter (“Data/IN” port).
3. Plug the PoE adapter to an electrical outlet.



Using Passive PoE adapter (E580A series)



Using Passive PoE adapter (E580P series)

Adjust the CPE position

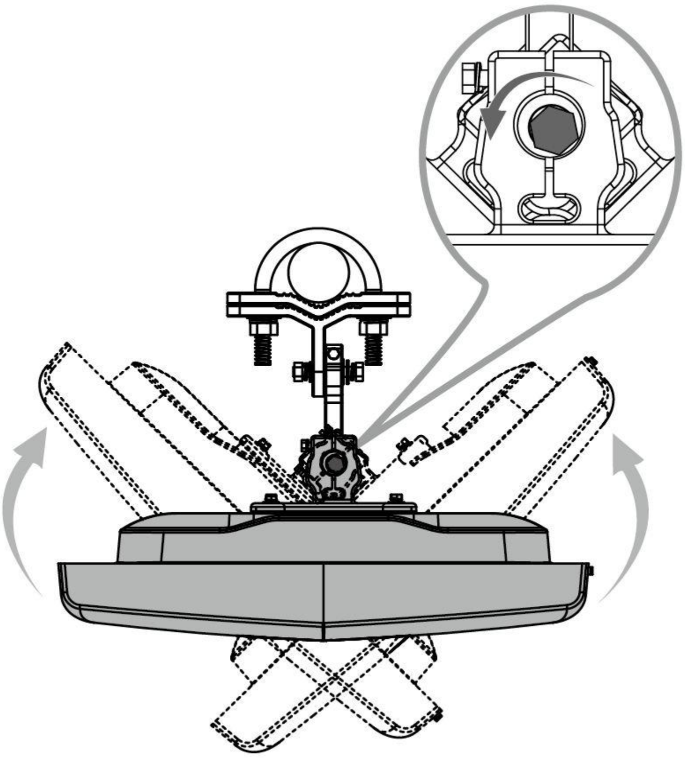
To get a better reception, fine tune the CPE orientation (horizontally or vertically) to have the best signal strength shown from LED or other test equipment.

Note:

- LEDs (on the front panel) indicate signal strength.

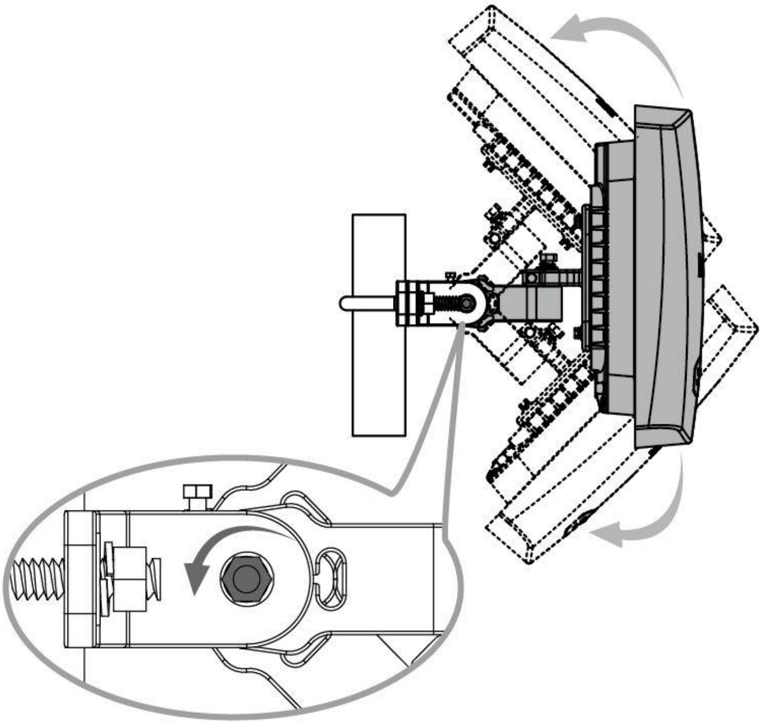
Horizontal angle adjustment

1. Loose the top knob using the wrench as shown.
2. Swivel the device to the left or right to face the direction of the base station.
3. Secure the knob using the wrench after the position is fixed.



Vertical angle adjustment

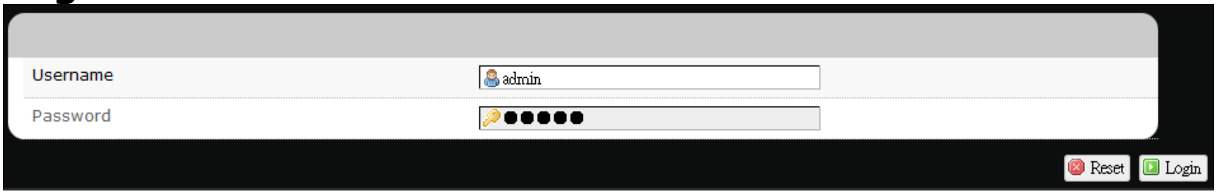
1. Loose the side knob using the wrench as shown.
2. Adjust the device position up or down to face the direction of the base station.
3. Secure the knob using the wrench after the position is fixed.



Using Web-based Management

This chapter will guide you on how to configure your CPE via the web-based utility.

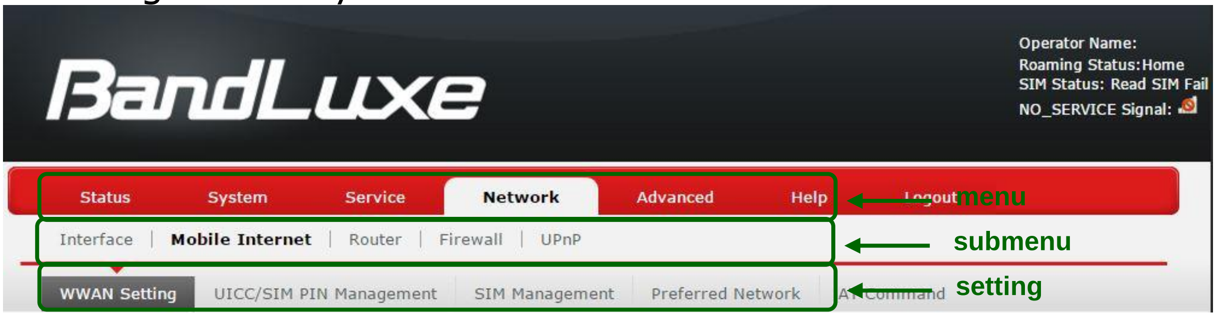
Login



Username: admin

Password: ●●●●●●

1. Launch a web browser.
2. On the address bar, enter http://192.168.1.1, then press **Enter**.
3. On the opening screen, enter the username (**admin**) and password (**admin**).
4. Click **Login** to login to the main screen.
5. Click one of the menu, submenu, and/or setting tabs to configure the system.

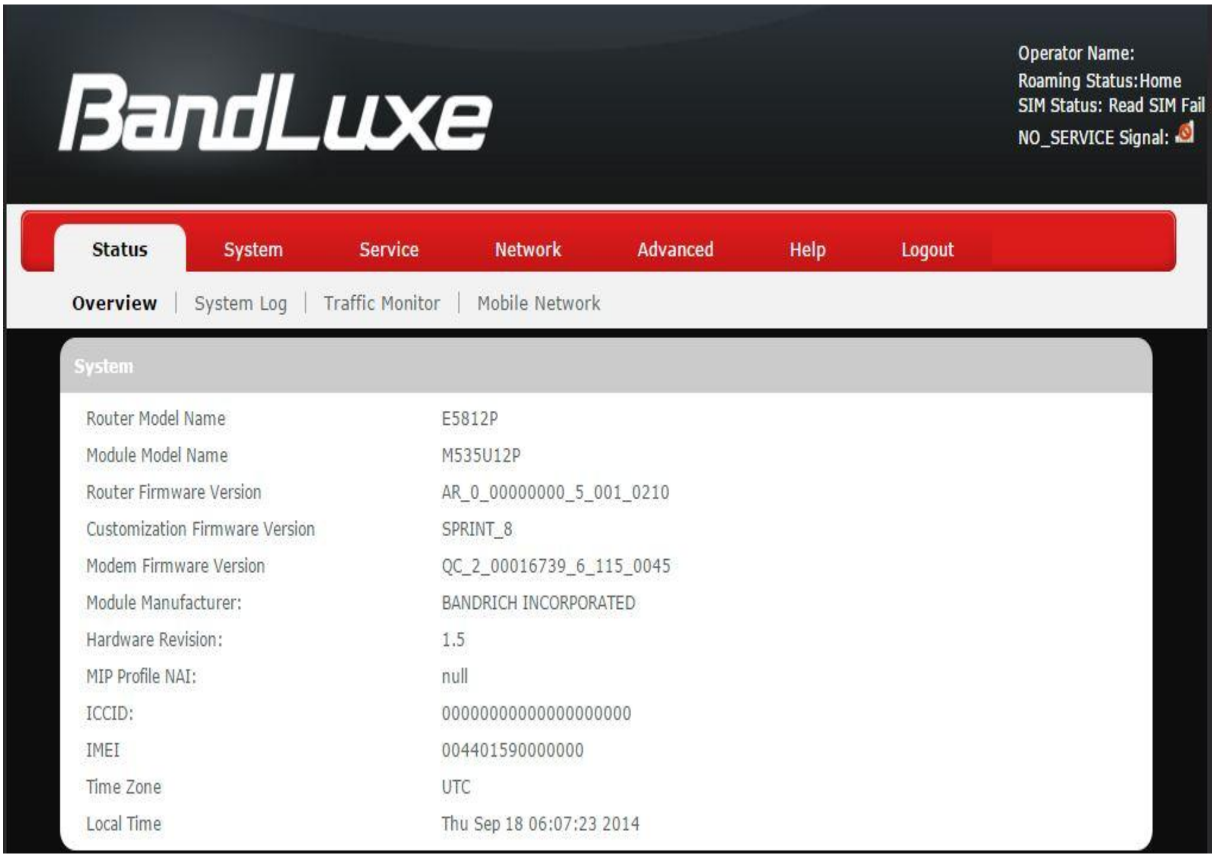


Operator Name:
Roaming Status:Home
SIM Status: Read SIM Fail
NO_SERVICE Signal:

Status

This menu displays various statuses of the router. The associated submenu items are: **Overview**, **System Log**, **Traffic Monitor**, and **Mobile Internet**.

Overview



Operator Name:
Roaming Status:Home
SIM Status: Read SIM Fail
NO_SERVICE Signal:

System

Router Model Name	E5812P
Module Model Name	M535U12P
Router Firmware Version	AR_0_00000000_5_001_0210
Customization Firmware Version	SPRINT_8
Modem Firmware Version	QC_2_00016739_6_115_0045
Module Manufacturer:	BANDRICH INCORPORATED
Hardware Revision:	1.5
MIP Profile NAI:	null
ICCID:	00000000000000000000
IMEI	004401590000000
Time Zone	UTC
Local Time	Thu Sep 18 06:07:23 2014

The **Overview** submenu renders complete statistics for the router.

System

Displays system information: router model name, router firmware version, modem firmware version, phone number (MDN), ICCID, MIN (MSID), PRL version, IMEI, MEID, and local time.

Network

Displays current network connection information of IPv4 WAN and/or IPv6 WAN: type of network assignment (e.g. DHCP), network address, netmask, gateway, DNS addresses 1 & 2, and time connected since the establishment of the current mobile internet connection.

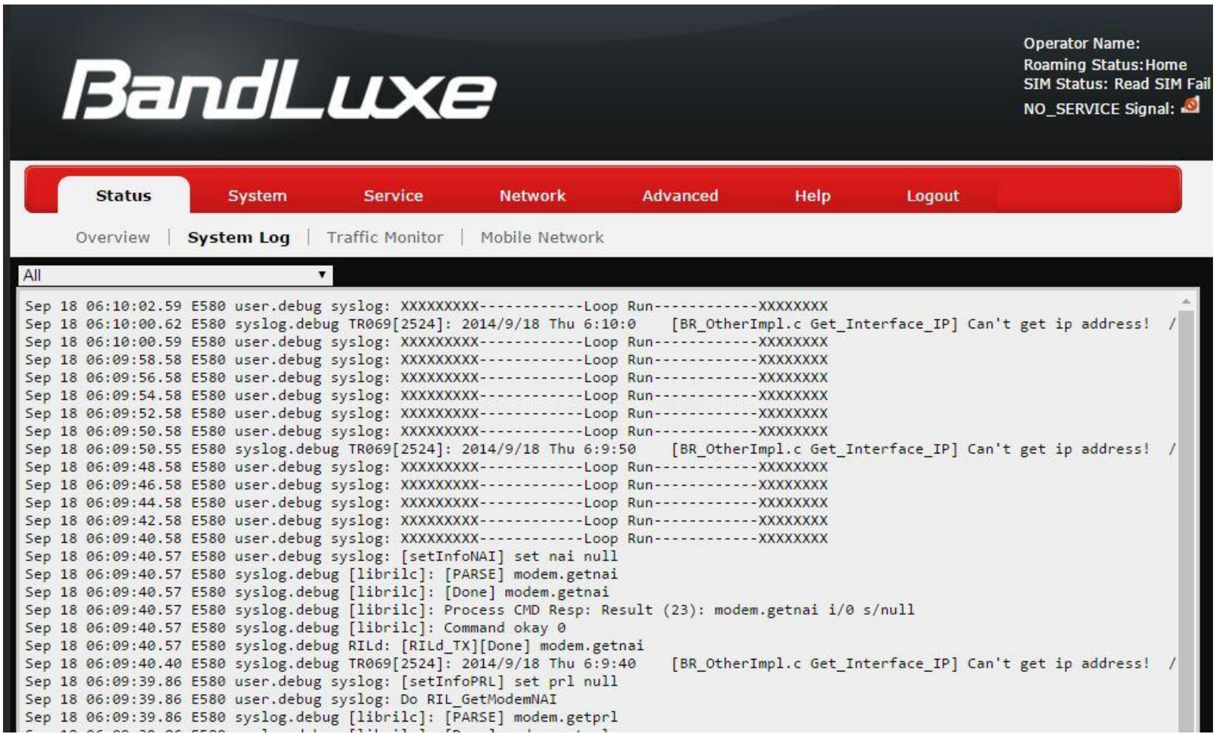
DHCP Leases

Display DHCP lease information for each client: hostname, IPv4 address, MAC address, and lease time remaining.

Local Network

Displays local network information: local MAC address, router IP address, subnet mask, DHCP server, DHCP server change, start IP address, IP and address range

System Log

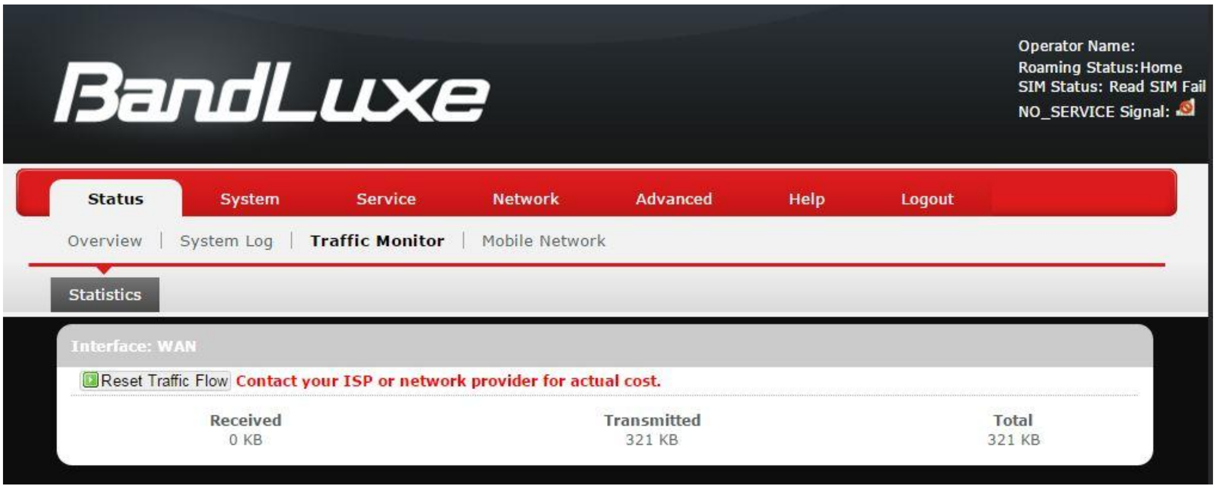


Operator Name:
Roaming Status:Home
SIM Status: Read SIM Fail
NO_SERVICE Signal:

```
Sep 18 06:10:02.59 E580 user.debug syslog: XXXXXXXXX------------Loop Run------------XXXXXXXX
Sep 18 06:10:00.62 E580 syslog.debug TR069[2524]: 2014/9/18 Thu 6:10:0    [BR_OtherImpl.c Get_Interface_IP] Can't get ip address!  /
Sep 18 06:10:00.59 E580 user.debug syslog: XXXXXXXXX------------Loop Run------------XXXXXXXX
Sep 18 06:09:58.58 E580 user.debug syslog: XXXXXXXXX------------Loop Run------------XXXXXXXX
Sep 18 06:09:56.58 E580 user.debug syslog: XXXXXXXXX------------Loop Run------------XXXXXXXX
Sep 18 06:09:54.58 E580 user.debug syslog: XXXXXXXXX------------Loop Run------------XXXXXXXX
Sep 18 06:09:52.58 E580 user.debug syslog: XXXXXXXXX------------Loop Run------------XXXXXXXX
Sep 18 06:09:50.58 E580 user.debug syslog: XXXXXXXXX------------Loop Run------------XXXXXXXX
Sep 18 06:09:50.55 E580 syslog.debug TR069[2524]: 2014/9/18 Thu 6:9:50    [BR_OtherImpl.c Get_Interface_IP] Can't get ip address!  /
Sep 18 06:09:48.58 E580 user.debug syslog: XXXXXXXXX------------Loop Run------------XXXXXXXX
Sep 18 06:09:46.58 E580 user.debug syslog: XXXXXXXXX------------Loop Run------------XXXXXXXX
Sep 18 06:09:44.58 E580 user.debug syslog: XXXXXXXXX------------Loop Run------------XXXXXXXX
Sep 18 06:09:42.58 E580 user.debug syslog: XXXXXXXXX------------Loop Run------------XXXXXXXX
Sep 18 06:09:40.58 E580 user.debug syslog: XXXXXXXXX------------Loop Run------------XXXXXXXX
Sep 18 06:09:40.57 E580 user.debug syslog: [setInfoNAI] set nai null
Sep 18 06:09:40.57 E580 syslog.debug [librilc]: [PARSE] modem.getnai
Sep 18 06:09:40.57 E580 syslog.debug [librilc]: [Done] modem.getnai
Sep 18 06:09:40.57 E580 syslog.debug [librilc]: Process CMD Resp: Result (23): modem.getnai i/0 s/null
Sep 18 06:09:40.57 E580 syslog.debug [librilc]: Command okay 0
Sep 18 06:09:40.57 E580 syslog.debug RILd: [RILd_TX][Done] modem.getnai
Sep 18 06:09:40.40 E580 syslog.debug TR069[2524]: 2014/9/18 Thu 6:9:40    [BR_OtherImpl.c Get_Interface_IP] Can't get ip address!  /
Sep 18 06:09:39.86 E580 user.debug syslog: [setInfoPRL] set prl null
Sep 18 06:09:39.86 E580 user.debug syslog: Do RIL_GetModemNAI
Sep 18 06:09:39.86 E580 syslog.debug [librilc]: [PARSE] modem.getprl
```

The **System Log** submenu tracks system activities after power on.

Traffic Monitor



Contact your ISP or network provider for actual cost.

Received	Transmitted	Total
0 KB	321 KB	321 KB

The **Traffic Monitor** submenu displays analysis of the router’s network traffic history.

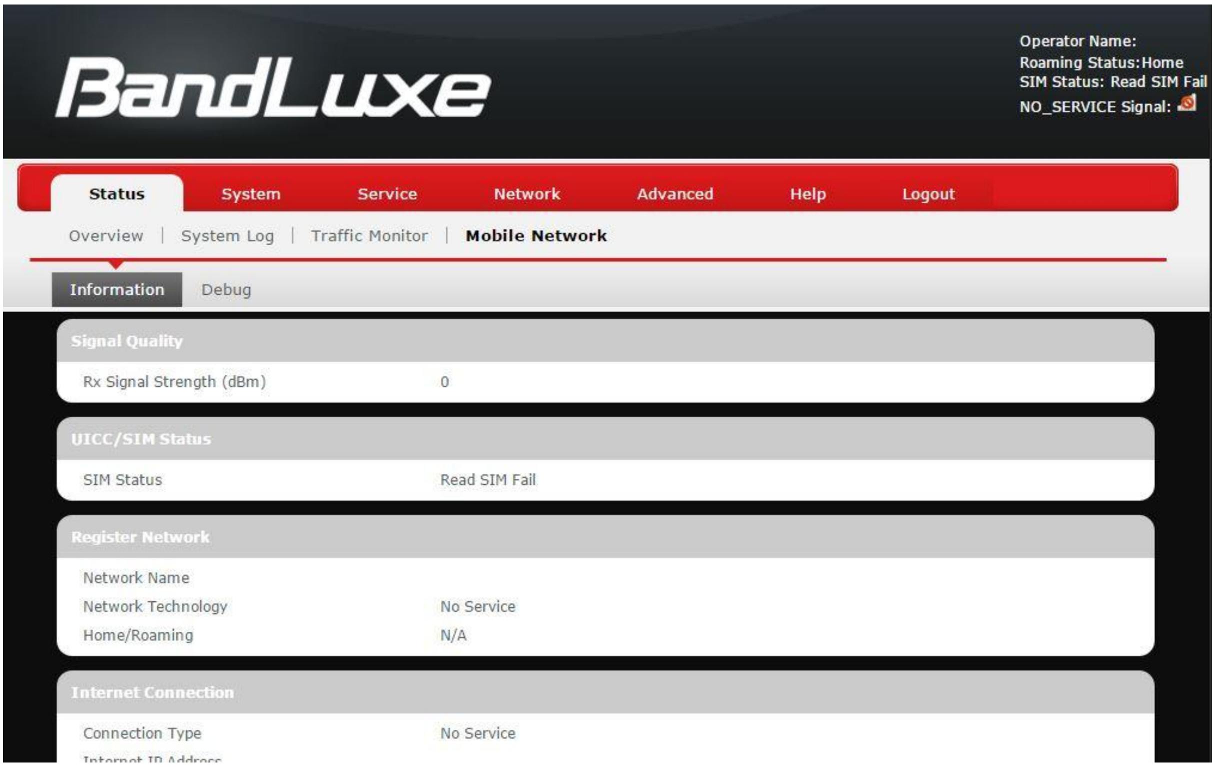
Configuration

VnStat Traffic Monitor configurations can be made here.

a) *Monitor selected devices: Click the checkbox to enable/disable network monitoring of the displayed interface(s).*

b) *Rest Traffic Flow: Click to discard previous network history log and start anew.*

Mobile Network



Operator Name:
Roaming Status:Home
SIM Status: Read SIM Fail
NO_SERVICE Signal:

Signal Quality

Rx Signal Strength (dBm)	0

UICC/SIM Status

SIM Status	Read SIM Fail

Register Network

Network Name	
Network Technology	No Service
Home/Roaming	N/A

Internet Connection

Connection Type	No Service
Internet IP Address	

The **Mobile Network** submenu displays mobile internet statistics.

Signal Quality

Displays signal strength of current mobile internet connection in dBm.

U/SIM Status

Displays current SIM card status:

a) *Read SIM Fail* – No valid SIM card is inserted

b) *PIN Disable(Verified)* – PIN protection is disabled while the SIM card status is verified; mobile internet service is available with this status.

c) *PIN Enable(No Verified/Retries:#)* – PIN protection is enabled while the SIM card verification is pending (whereas # is the number of allowed PIN verifications remaining before SIM lock occurs).

d) *PIN Enable(Verified)* – PIN protection is enabled while the SIM card status is verified; mobile internet service is available with this status.

Registered Network

a) Network Name – name of your mobile internet service provider

b) Network Technology – mobile internet communication signal type.

Examples are Auto and LTE (4G).

c) Home/Roaming – displays current network roaming status:
Home indicates mobile internet connection to the home location where the SIM card service is registered. Roaming indicates the extended mobile internet connection service in a location different from the home location where the SIM card service is registered. An example of roaming is when you travel abroad.

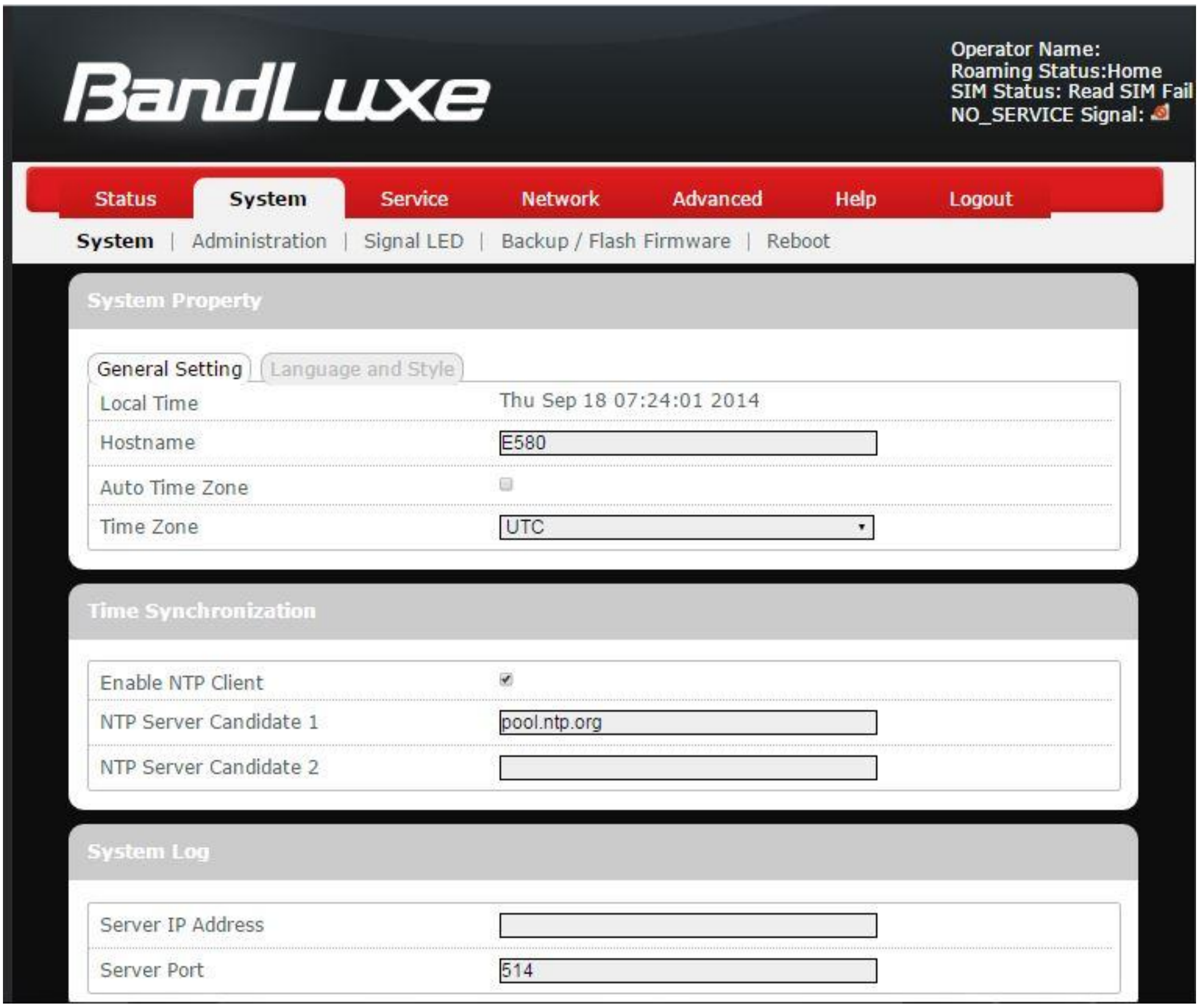
Internet Connection

Displays information of current internet connection:
Connection Type, Internet IP Address, Gateway, and DNS 1/2.

System

This menu is for system information and configurations.

System


BandLuxe
Status
System
Service
Network
Advanced
Help
Logout
System | Administration | Signal LED | Backup / Flash Firmware | Reboot

Operator Name:
Roaming Status:Home
SIM Status: Read SIM Fail
NO_SERVICE Signal:

System Property

General Setting | Language and Style

Local Time	Thu Sep 18 07:24:01 2014
Hostname	E580
Auto Time Zone	□
Time Zone	UTC ▾

Time Synchronization

Enable NTP Client	☑
NTP Server Candidate 1	pool.ntp.org
NTP Server Candidate 2	

System Log

Server IP Address	
Server Port	514

System Property

Click either the “General Settings” or “Language and Style” tab to configure their respective settings.

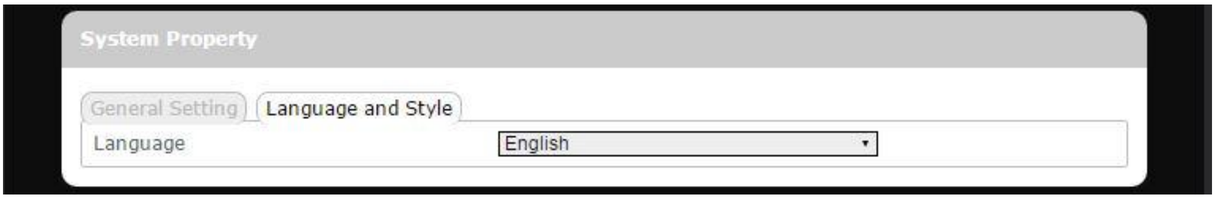
General Settings

Local Time – displays current local time. To synchronize local time with the browser, click Sync with browser.

Hostname – enter the desired hostname in this check field.

Time Zone – sets the time zone associated with this router. Click on ▾ and select the desired region.

Language and Style



System Property

General Setting | Language and Style

Language: English

Language – sets the desired display language and style of the router. Click ▾ and select the desired display language and style.

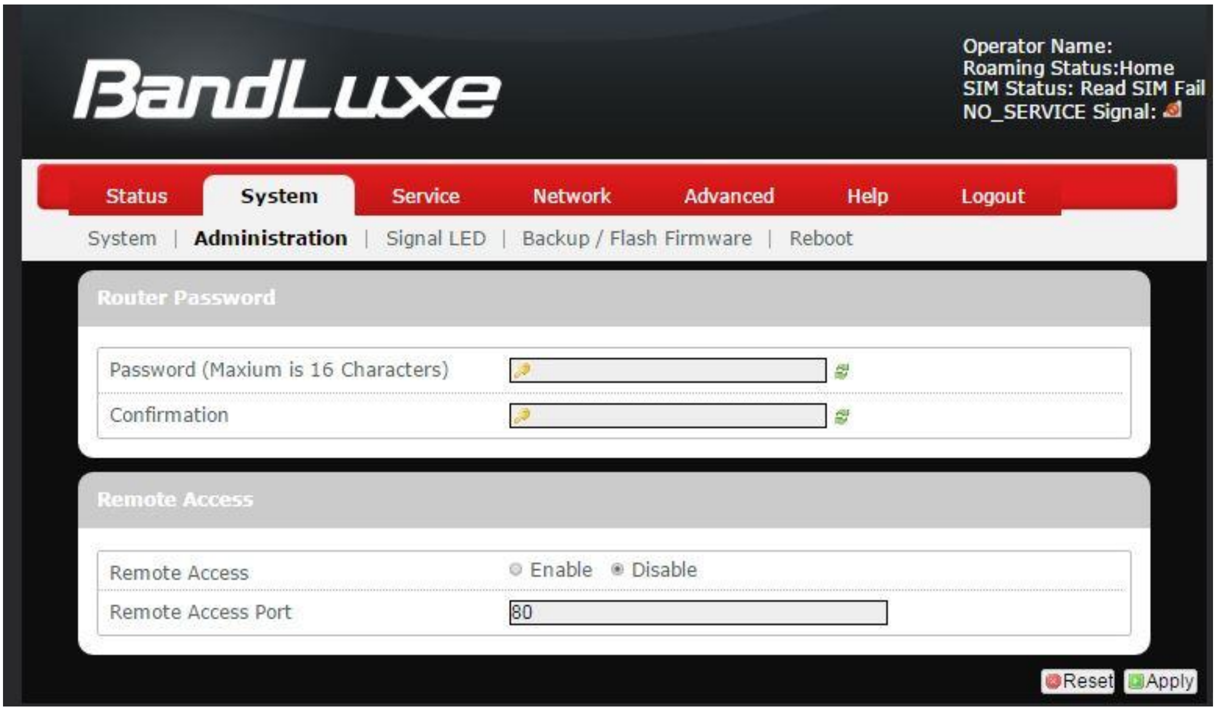
Time Synchronization

Enable NTP client: click the checkbox to enable/disable. With this option enabled, two more options will appear– "Provide NTP server" and "NTP server candidates".
NTP server candidates 1/2: enter the desired server candidates here.

Remote System Log

Server IP address: displays IP address of the server.
Server port: displays port number of the server.

Administration



Operator Name:
Roaming Status:Home
SIM Status: Read SIM Fail
NO_SERVICE Signal:

Router Password

Password (Maxium is 16 Characters)

Confirmation

Remote Access

Remote Access ○ Enable ● Disable

Remote Access Port 80

BandLuxe
Status
System
Service
Network
Advanced
Help
Logout
System | Administration | Signal LED | Backup / Flash Firmware | Reboot
Reset
Apply

Router Password

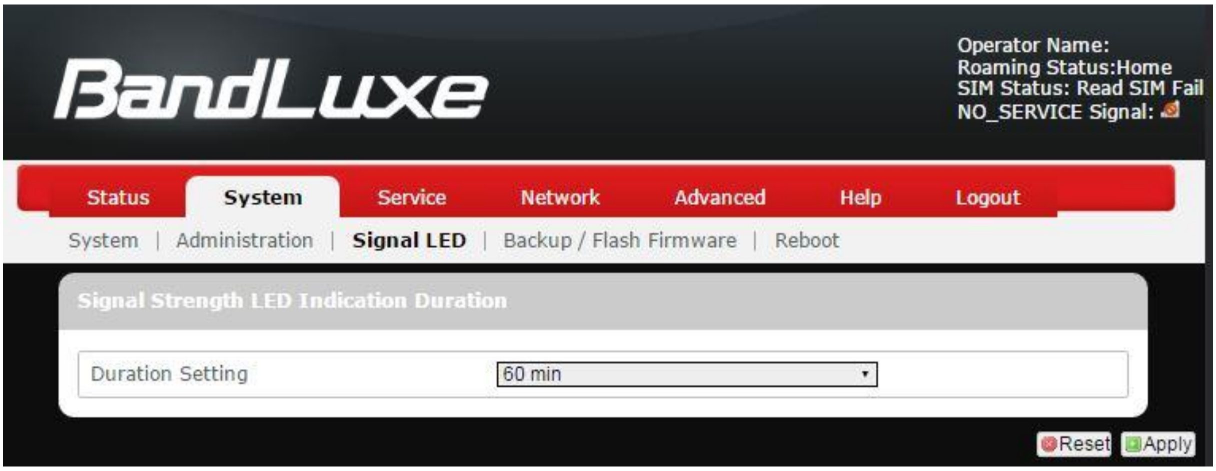
Login password of the router can be changed here. Enter new password in the ‘Password’ field, and enter the same password once again in the ‘Confirmation’ field.

Remote Access

This field specifies whether or not to allow remote access of this router.

After changing password and/or specifying remote access, click Apply . The screen will display a confirmation message after successful password change.

Signal LED


BandLuxe
Status
System
Service
Network
Advanced
Help
Logout
System | Administration | Signal LED | Backup / Flash Firmware | Reboot
Reset
Apply

Operator Name:
Roaming Status:Home
SIM Status: Read SIM Fail
NO_SERVICE Signal:

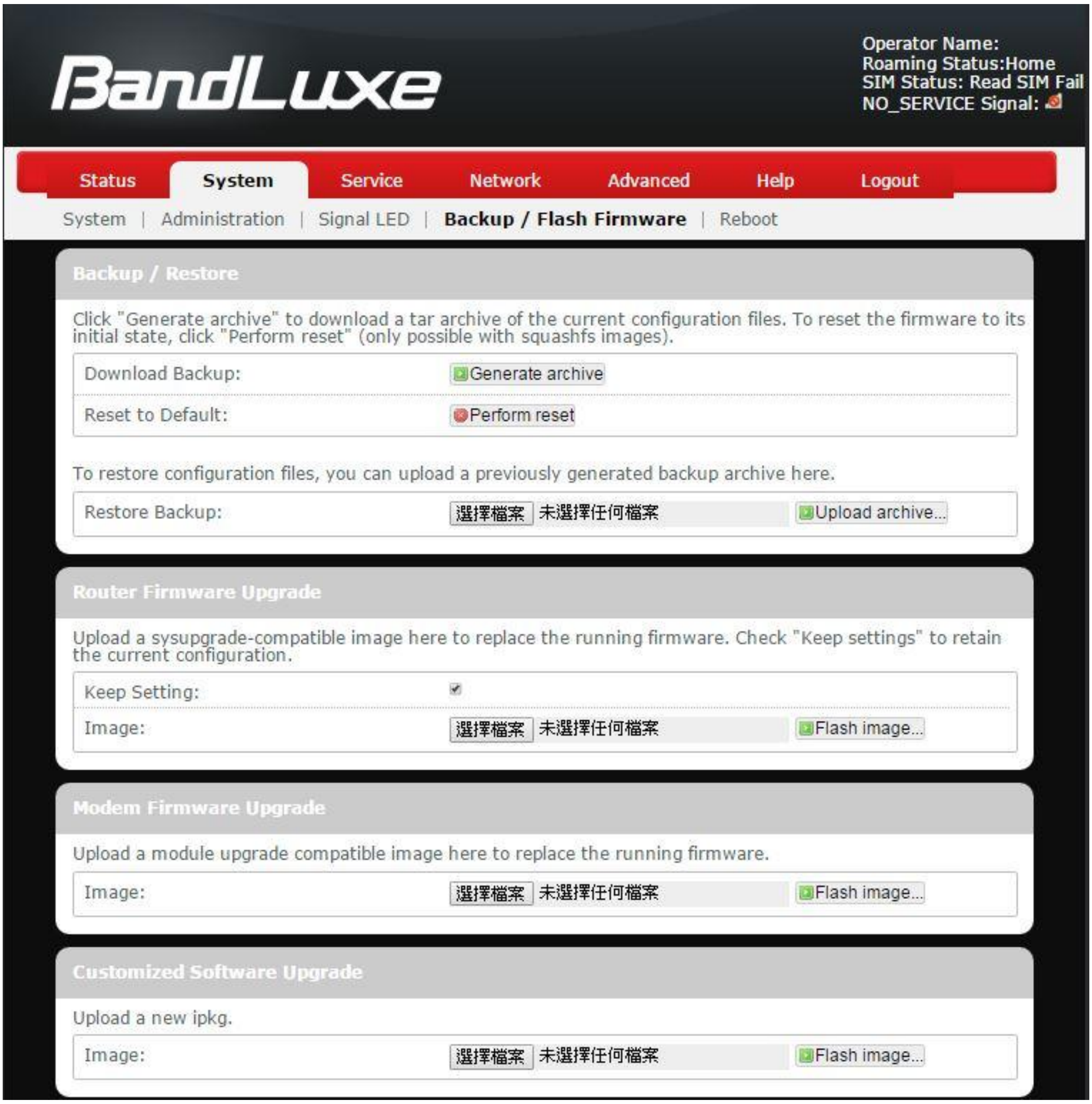
Signal Strength LED Indication Duration

Duration Setting: 60 min

Signal Strength LED Indication Duration

Duration Setting: specifies how long the signal strength LED will remain ON after establishing mobile internet connection. This setting is useful for power-saving and security purposes. The options are **5/10/30/60 minutes** or **Permanent Open**.

Backup / Flash Firmware



BandLuxe

Operator Name:
Roaming Status:Home
SIM Status: Read SIM Fail
NO_SERVICE Signal:

Status
System
Service
Network
Advanced
Help
Logout
System | Administration | Signal LED | Backup / Flash Firmware | Reboot

Backup / Restore

Click "Generate archive" to download a tar archive of the current configuration files. To reset the firmware to its initial state, click "Perform reset" (only possible with squashfs images).

Download Backup:	Generate archive
Reset to Default:	Perform reset

To restore configuration files, you can upload a previously generated backup archive here.

Restore Backup:	選擇檔案 未選擇任何檔案	Upload archive...

Router Firmware Upgrade

Upload a sysupgrade-compatible image here to replace the running firmware. Check "Keep settings" to retain the current configuration.

Keep Setting:	☑	
Image:	選擇檔案 未選擇任何檔案	Flash image...

Modem Firmware Upgrade

Upload a module upgrade compatible image here to replace the running firmware.

Image:	選擇檔案 未選擇任何檔案	Flash image...

Customized Software Upgrade

Upload a new ipkg.

Image:	選擇檔案 未選擇任何檔案	Flash image...

Backup / Restore

Download backup

Here you can backup all current settings of the router to a TAR archive file on your computer or mobile device. Just click Generate archive . A dialog window will prompt you to open or save the archive file. Depending on the browser that you are using, the TAR file may be saved in the system download folder or a location of your choice.

Reset to defaults

Here you can restore the router to its original factory settings. Just click Perform reset, and a dialog message will appear to indicate the factory reset process. After completion of the reset process, the router will automatically reboot and return to its initial login prompt.

Restore backup

Here you can restore router settings previously saved as a TAR archive file on your computer or mobile device. Just click Browse... to find and select the previously saved TAR archive file, and then click ‘Open’. Confirm that the TAR filename appears beside the Browse... button Browse... backup-Bandrich-R550-2013-07-15.tar.gz and click Upload archive.... The system will reboot after completion of backup restoration.

Flash new firmware image

This option allows you to upgrade this router with the updated firmware image. Just click Browse... to find and select the firmware image file, and then click ‘Open’. Confirm that the firmware filename appears beside the Browse... button and click Flash image.... The system will reboot after successful upgrade.

Flash new module firmware image

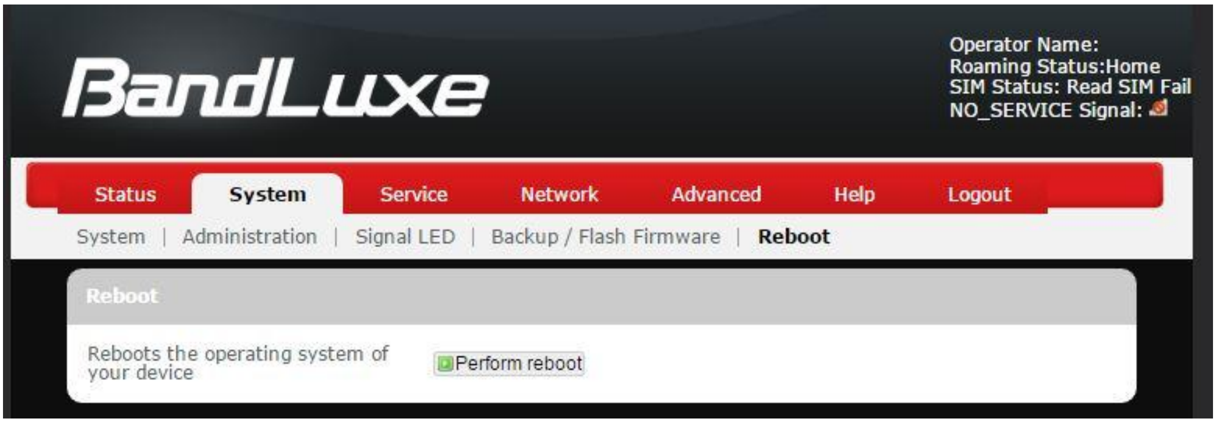
This option allows you to upgrade this router with the updated module firmware image. Just click Browse... to find and select the firmware package file, and then click ‘Open’. Confirm that the firmware filename appears beside the Browse... button and click Flash image.... The system will reboot after successful upgrade.

Flash new ipkg package

This option allows you to upgrade this router with the updated IPKG package. Just click Browse... to find and select the IPKG package file, and then click ‘Open’. Confirm that the IPKG package filename appears beside the Browse... button and click Flash image.... The system will reboot after successful upgrade.

Warning: Upgrading firmware may take a few minutes; do not turn off the power or press the Reset button during upgrade.

Reboot


BandLuxe
Status
System
Service
Network
Advanced
Help
Logout
System | Administration | Signal LED | Backup / Flash Firmware | Reboot
Perform reboot

Operator Name:
Roaming Status:Home
SIM Status: Read SIM Fail
NO_SERVICE Signal:

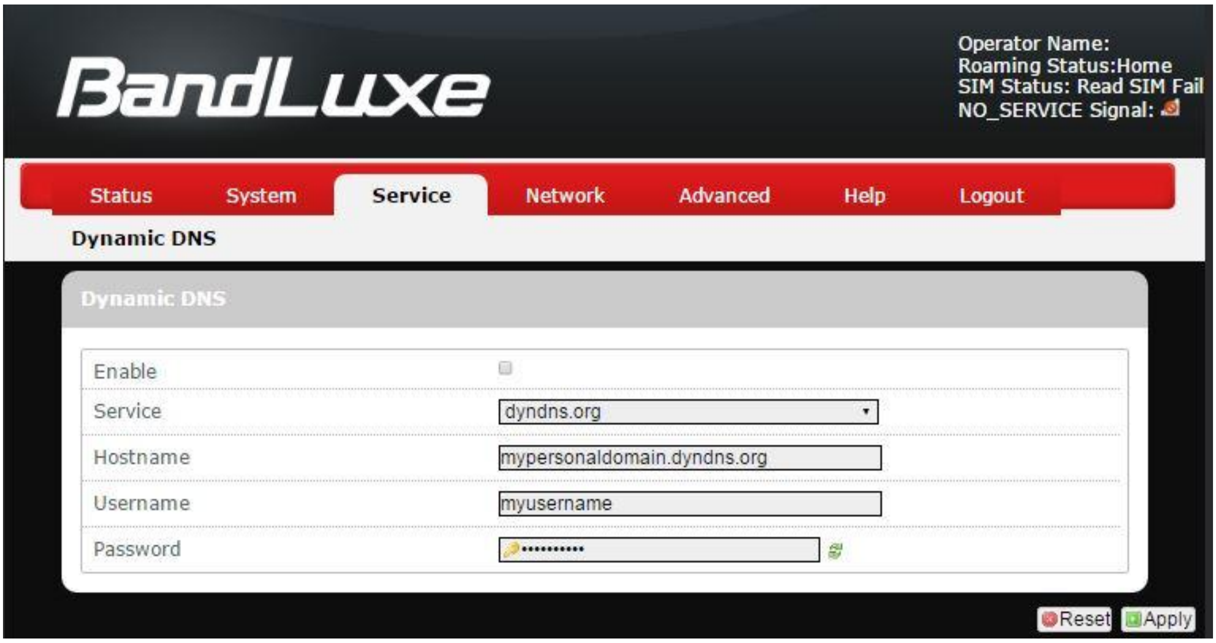
Reboot

Reboots the operating system of your device

Click ‘Perform reboot’ to restart the router.

Services

Dynamic DNS



Operator Name:
Roaming Status:Home
SIM Status: Read SIM Fail
NO_SERVICE Signal:

Dynamic DNS

Dynamic DNS

Enable	□
Service	dyndns.org ▾
Hostname	mypersonaldomain.dyndns.org
Username	myusername
Password	••••••••••

The **Services** menu hosts configuration options for DDNS (Dynamic Domain Name Service), which is a system that allows the domain name data held in a name server to be updated in real time. It allows an Internet domain name to be assigned to a computer with a varying (dynamic) IP address. Before you can use this feature, you need to sign up for DDNS with a DDNS provider, www.dyndns.org or www.TZO.com.

Enable: Check or un-check this box to enable or disable DDNS.

Service: Specifies the DDNS service URL. From the drop-down list, click ▾ and select an URL from the list.

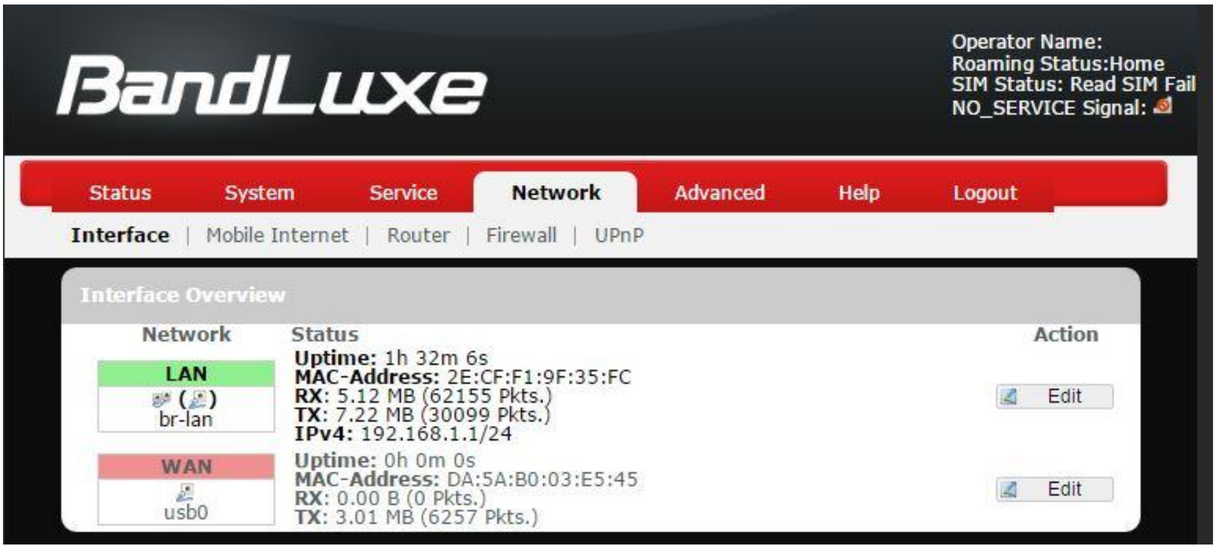
Hostname: Enter the hostname for your DDNS account.

Username: Enter the username for your DDNS account.

Password: Enter the password for your DDNS account.

Network

Interfaces



Operator Name:
Roaming Status:Home
SIM Status: Read SIM Fail
NO_SERVICE Signal:

Interface Overview

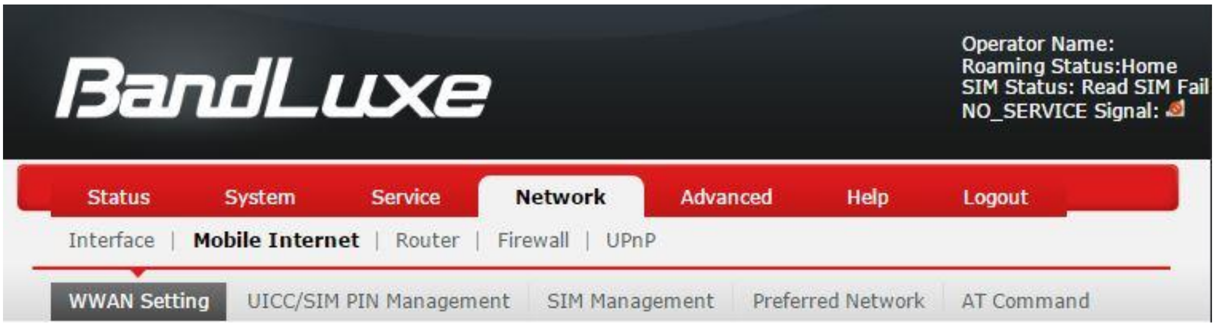
Network	Status	Action
LAN br-lan	**Uptime:** 1h 32m 6s **MAC-Address:** 2E:CF:F1:9F:35:FC **RX:** 5.12 MB (62155 Pkts.) **TX:** 7.22 MB (30099 Pkts.) **IPv4:** 192.168.1.1/24	Edit
WAN usb0	**Uptime:** 0h 0m 0s **MAC-Address:** DA:5A:B0:03:E5:45 **RX:** 0.00 B (0 Pkts.) **TX:** 3.01 MB (6257 Pkts.)	Edit

The **Interfaces** submenu allows interface configurations of different networks connected to this router. The configuration items are the same for each network with different default settings.

Interface Overview

Here you can see the brief network status summary for LAN (local area network) and WAN (wide area network). To configure LAN or WAN interfaces, click the appropriate **Edit** button for more details.

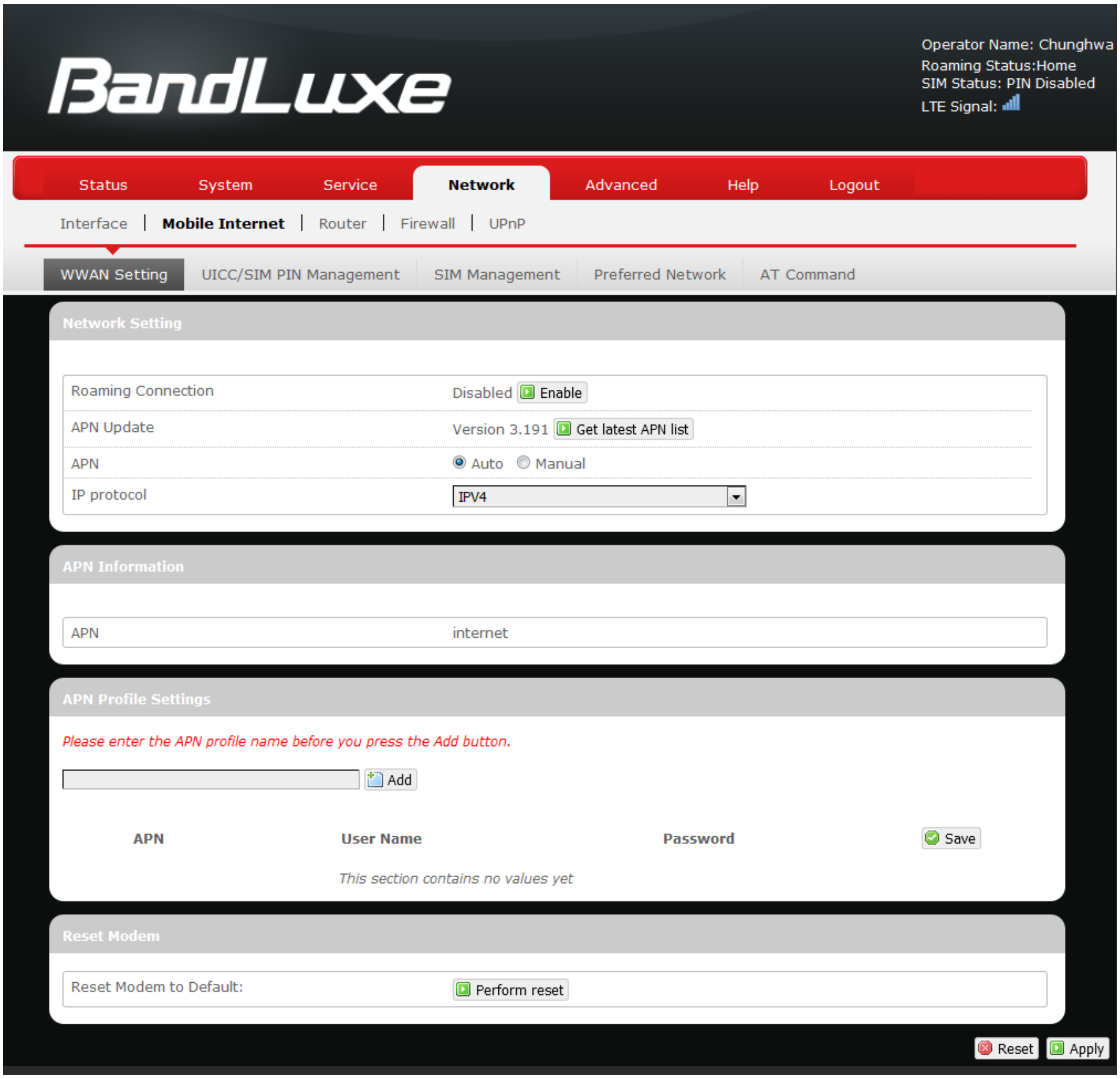
Mobile Internet



Operator Name:
Roaming Status:Home
SIM Status: Read SIM Fail
NO_SERVICE Signal:

The **Mobile Internet** submenu is for setup and adjustment of mobile internet connection and furthermore has four setting tabs: **WWAN Setting**, **U/SIM PIN Management**, **SIM Management**, and **Preferred Network**.

WWAN Setting



Operator Name: Chunghwa
Roaming Status:Home
SIM Status: PIN Disabled
LTE Signal:

Network Setting

Roaming Connection	Disabled
APN Update	Version 3.191
APN	● Auto ○ Manual
IP protocol	IPV4

APN Information

APN	internet

APN Profile Settings

Please enter the APN profile name before you press the Add button.

APN	User Name	Password

This section contains no values yet

Reset Modem

Reset Modem to Default:

Network Settings

Roaming Connection: Enables or disables current roaming setting.

APN Update: Displays the current APN (Access Point Name) version. To get the latest version of APN, click Get latest APN list

APN: ‘Auto’ – Uses automatic APN profile settings for network; this is the default APN setting
‘Manual’ – Allows the manual choice of APN Profile Settings for network.

Profile Selection: This item appears when APN is set to ‘Manual’.

Auto APN Information

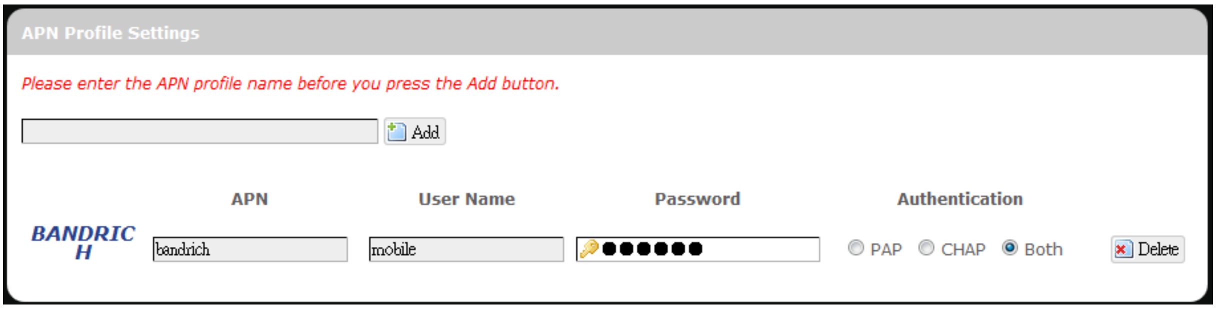
This section displays automatic Access Point Name information.

APN Profile Settings

For Advanced Users

This section allows you to establish your own Access Point Name profile settings.

To establish a new APN profile, type in a new APN profile name in the text box and click Add.



APN Profile Settings

Please enter the APN profile name before you press the Add button.

Add

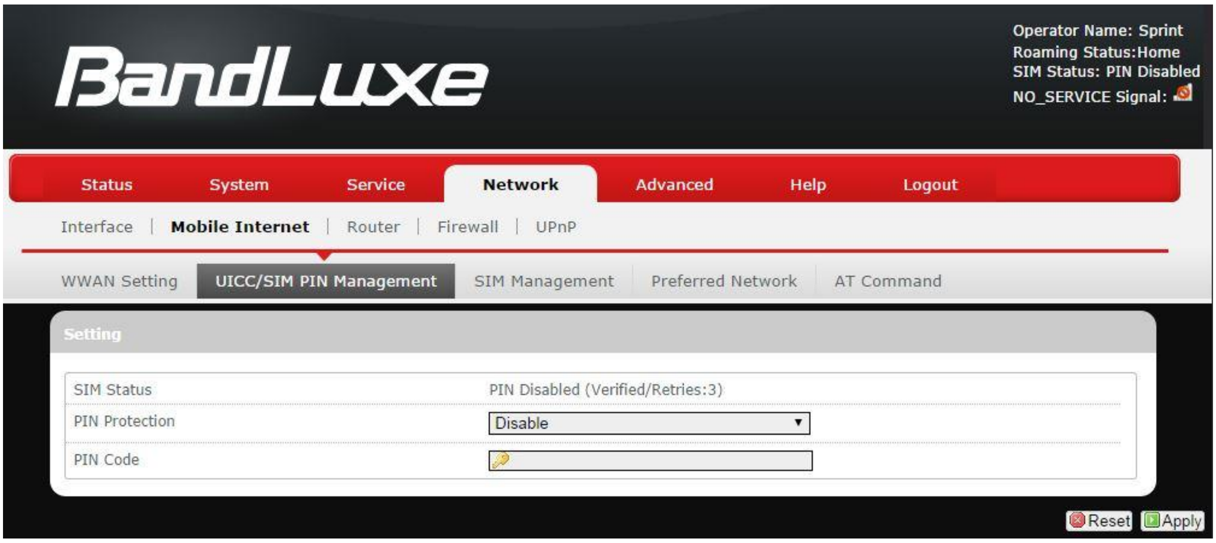
	APN	User Name	Password	Authentication	
BANDRICH	bandrich	mobile	●●●●●●●	○ PAP ○ CHAP ● Both	Delete

Enter the APN, username, and password. Click Apply.

Reset Modem

Click **Perform reset** to reset this router to its factory default settings.

UICC/SIM PIN Management

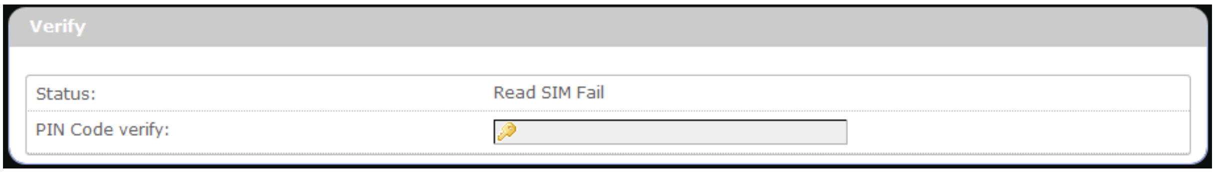


SIM Status	PIN Disabled (Verified/Retries:3)
PIN Protection	Disable
PIN Code	

This submenu features configurable items are dependent on the router's mobile internet status, as detailed below.

Scenario 1: No mobile internet service

Without a valid SIM card inserted into the router, the Verify dialog will show the following SIM card status:

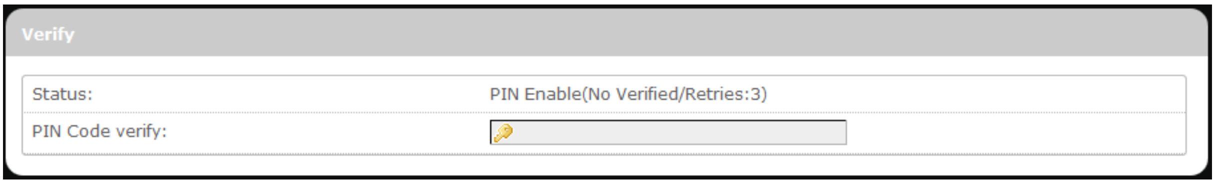


Status:	Read SIM Fail
PIN Code verify:	

Here the Verify dialog shows SIM status as "Read SIM Fail", meaning that no valid SIM card is inserted.

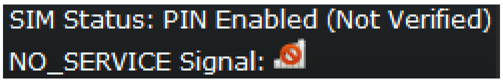
Scenario 2: Mobile internet service pending

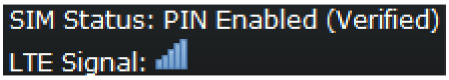
If a valid SIM card is inserted into the router requiring PIN code verification, the Verify dialog will show the following SIM card status:



Status:	PIN Enable(No Verified/Retries:3)
PIN Code verify:	

Here the Verify dialog shows the SIM status as "No Verified/Retries:3", meaning that a valid SIM card is inserted with PIN code verification pending. Enter your SIM card verification code in the text box of "PIN Code verify:", and then click Verify. Once the PIN code verification is finished, the router is ready to use the SIM card's associated mobile internet access, and the top right status area will be updated accordingly.


SIM Status: PIN Enabled (Not Verified)
NO_SERVICE Signal:


SIM Status: PIN Enabled (Verified)
LTE Signal:

Operator Name: Displays the name of the internet service provider

WiFi SSID 1 Counter: Shows number of clients currently connected to WiFi SSID 1 network

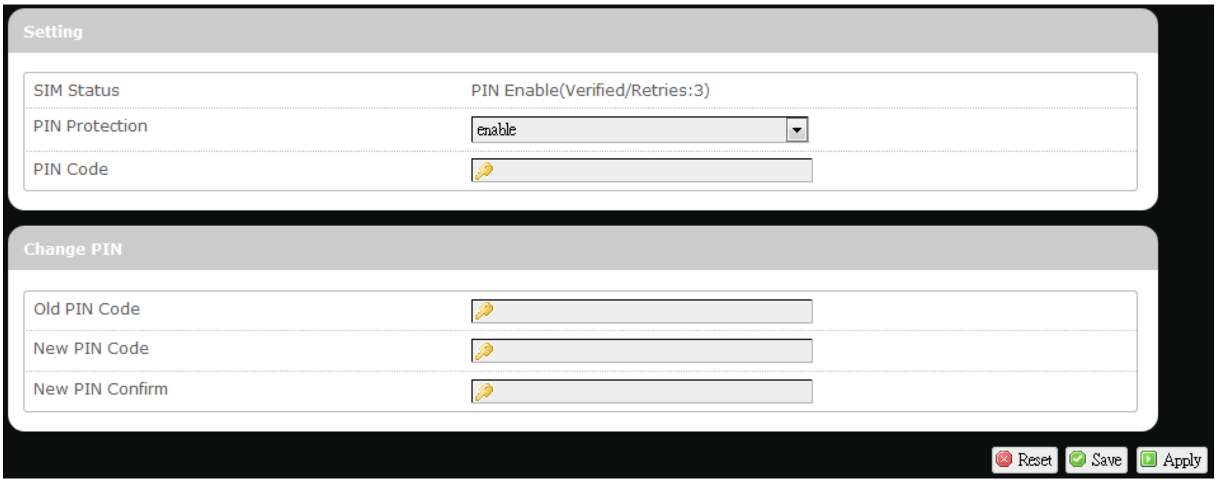
WiFi SSID 2 Counter: Shows number of clients currently connected to WiFi SSID 2 network

Roaming Status: Displays current roaming status

(Carrier) Signal: Displays strength of the indicated signal type (Carrier)
For example:
1. Without mobile internet connection, the display will be LTE Signal: (no carrier, no signal).
2. If LTE (4G) mobile internet connection is established, the display will be LTE Signal: .

Scenario 3: Mobile internet service enabled

If a valid SIM card is inserted into the router with PIN code verified, the configuration dialog will be 'Setting' and/or "Change PIN" to allow further SIM card management (click Apply after making changes):


Setting

SIM Status	PIN Enable(Verified/Retries:3)
PIN Protection	enable
PIN Code	

Change PIN

Old PIN Code	
New PIN Code	
New PIN Confirm	

Setting

SIM Status: Shows current SIM card status.
"*PIN Enable*" means that the SIM card is enabled for mobile internet access.
"*PIN Disable(Verified/Retries:#)*" means that the SIM card is enabled for mobile internet access without requiring PIN code verification. Note that if PIN

protection is re-enabled, # is the number of allowed PIN verifications remaining before SIM lock occurs.

PIN Protection: Enables or disables the PIN protection by clicking ▼ and making the appropriate choice from the drop-down list.

PIN Code If PIN protection is enabled, you need to enter PIN code in this text box for making changes in this ‘Setting’ dialog.

Change PIN

This option is configurable only if PIN Protection is enabled.

Here you can change the PIN code for enhanced SIM card security.

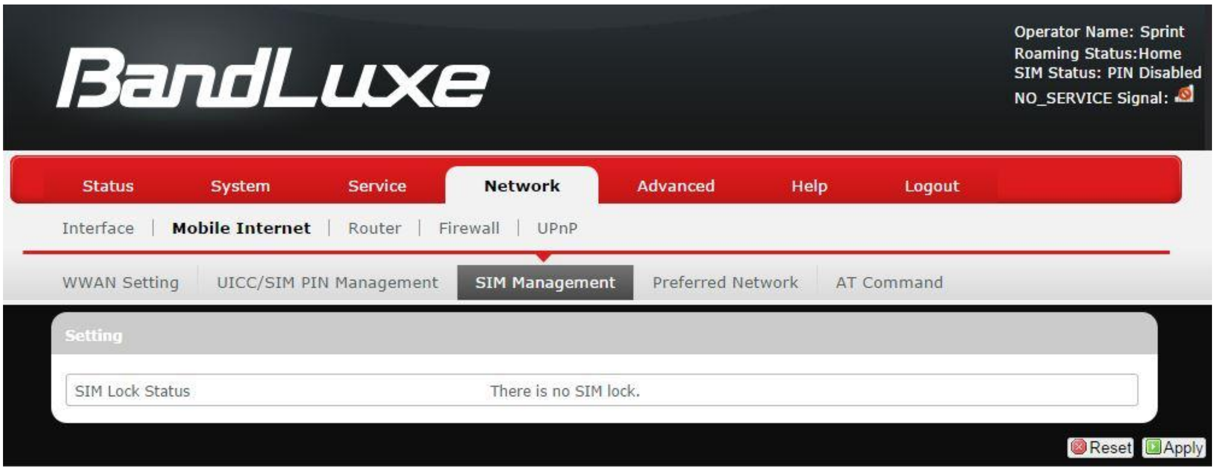
Old PIN Code: Enter the old PIN code.

New PIN code: Enter the new PIN code.

New PIN code confirm: Enter the same new PIN code again for PIN code confirmation.

Click ▶ Apply after making changes in ‘Setting’ and/or “Change PIN”.

SIM Management



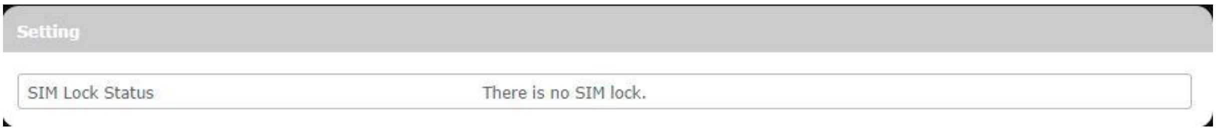
Operator Name: Sprint
Roaming Status:Home
SIM Status: PIN Disabled
NO_SERVICE Signal:

SIM Lock Status: There is no SIM lock.

Here you can see the current SIM lock status.

Scenario 1: SIM lock absent

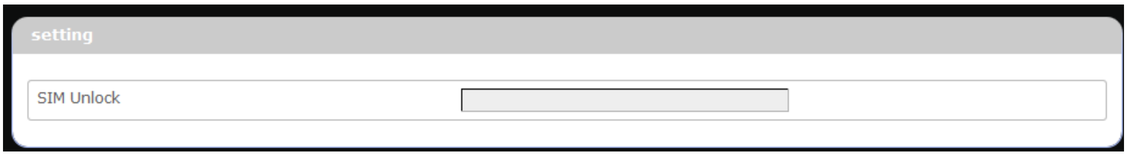
"There is no SIM lock" means that the SIM card is unlocked.



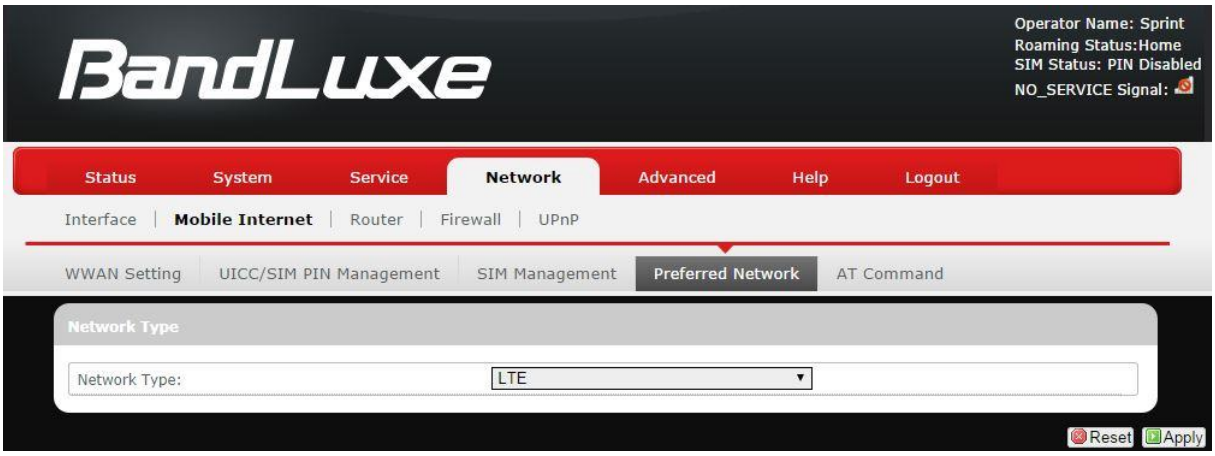
SIM Lock Status: There is no SIM lock.

Scenario 2: SIM lock present

If your SIM card is locked for some reason, here you can also enter the SIM unlock code to unlock it. After entering the SIM unlock code in the text box "SIM Unlock", click Apply.



Preferred Network



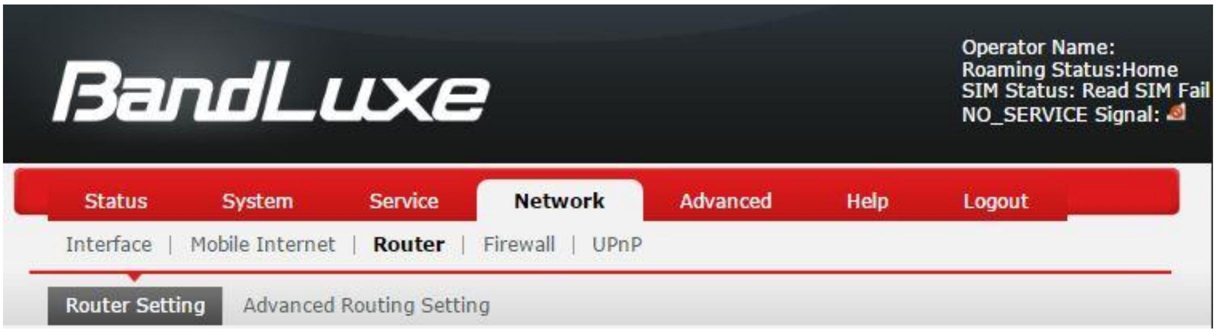
Operator Name: Sprint
Roaming Status:Home
SIM Status: PIN Disabled
NO_SERVICE Signal:

Network Type: LTE

Here you can select the preferred mobile network type by clicking ▼ and making a choice from the drop-down list. The default choice is *Auto*. Other available choice examples are *LTE* (4G).

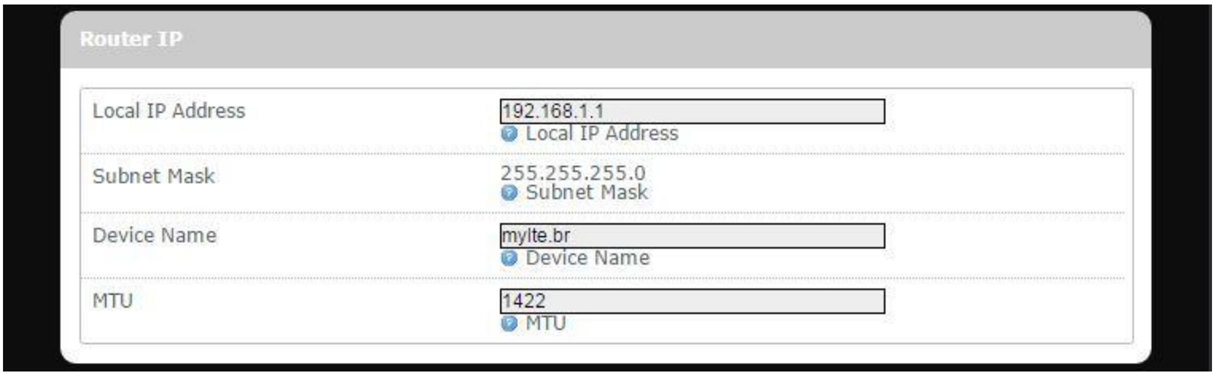
Router

Router Settings



Operator Name:
Roaming Status:Home
SIM Status: Read SIM Fail
NO_SERVICE Signal:

Router IP



Local IP Address	192.168.1.1 Local IP Address
Subnet Mask	255.255.255.0 Subnet Mask
Device Name	mylte.br Device Name
MTU	1422 MTU

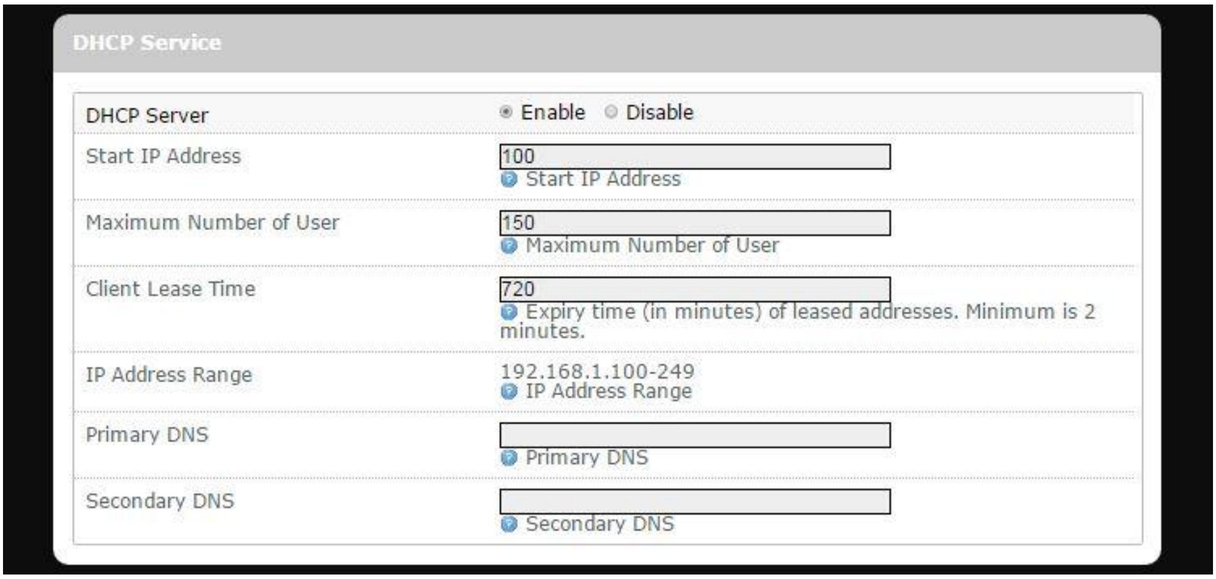
Local IP Address: The default local IP address of this router is 192.168.1.1. If this address conflicts with another local network device, you can enter another local IP address here.

Subnet Mask: Displays current Subnet Mask

Device Name: The current device name is displayed in gray color. The device name can be changed by typing in the new device name in this text box.

MTU: The current MTU (maximum transmission unit with default value of 1500 bytes) is displayed in gray color. The MTU can be changed by typing in the new MTU value in this text box.

DHCP Service



DHCP Service

DHCP Server	● Enable ○ Disable
Start IP Address	100 Start IP Address
Maximum Number of User	150 Maximum Number of User
Client Lease Time	720 Expiry time (in minutes) of leased addresses. Minimum is 2 minutes.
IP Address Range	192.168.1.100-249 IP Address Range
Primary DNS	 Primary DNS
Secondary DNS	 Secondary DNS

DHCP Server: Enables or disables the DHCP Server feature.

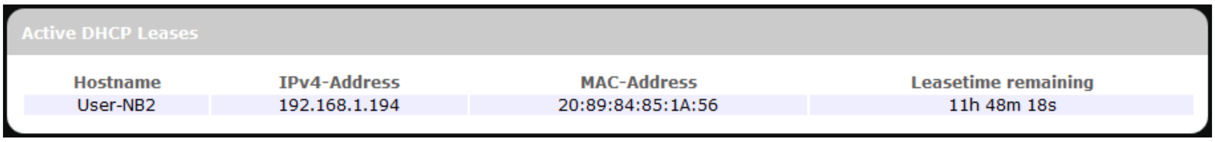
Start IP Address: Specifies the starting number of the last 3 digits of assigned client IP address. For example, the default value of **100** means that the first assigned client IP address will be 192.168.1.**100**; the next assigned client IP address will be 192.168.1.**101**; and so on…

Maximum Number of Users: Specifies maximum number of users for this router. The default setting is 150 users.

Client Lease Time: Specifies the amount of lease time allocated to clients of this router, i.e. the expiry time of leased addresses. Use ‘h’ to indicate hours or use ‘m’ to indicate

	minutes.
IP Address Range:	Displays assignable local IP address range of this router
Primary DNS:	If needed, specify the primary Domain Name System here.
Secondary DNS:	If needed, specify the secondary Domain Name System here.

Active DHCP Leases

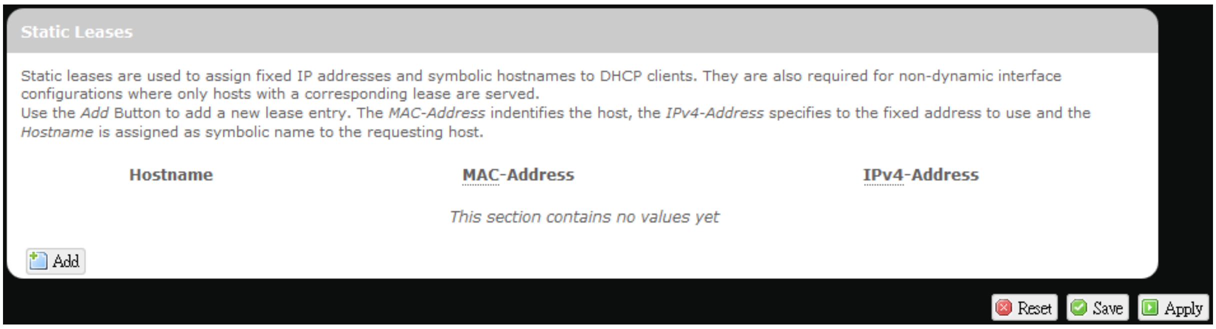


Active DHCP Leases

Hostname	IPv4-Address	MAC-Address	Leasetime remaining
User-NB2	192.168.1.194	20:89:84:85:1A:56	11h 48m 18s

This section displays active DHCP lease information for each client: **Hostname, IPv4 address**, **MAC address**, and **Lease time remaining**.

Static Leases



Static Leases

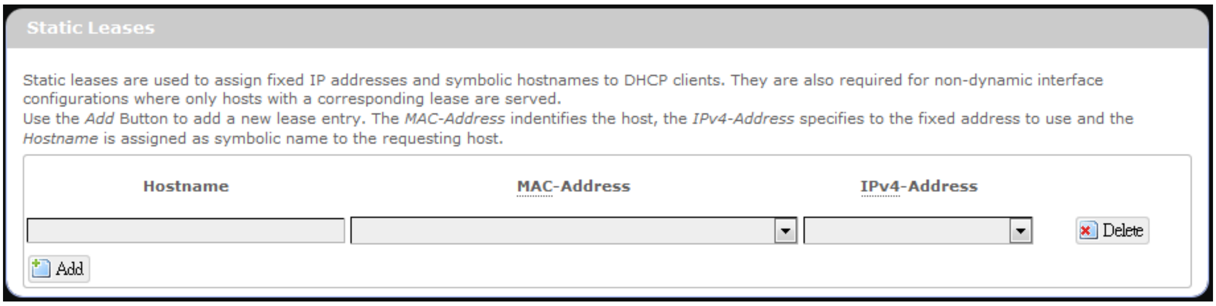
Static leases are used to assign fixed IP addresses and symbolic hostnames to DHCP clients. They are also required for non-dynamic interface configurations where only hosts with a corresponding lease are served.
Use the *Add* Button to add a new lease entry. The *MAC-Address* indentifies the host, the *IPv4-Address* specifies to the fixed address to use and the *Hostname* is assigned as symbolic name to the requesting host.

Hostname	MAC-Address	IPv4-Address

This section contains no values yet

This option allows fixed IP address and symbolic hostname assignments for DHCP clients.

To add a static lease, first click Add.



Static Leases

Static leases are used to assign fixed IP addresses and symbolic hostnames to DHCP clients. They are also required for non-dynamic interface configurations where only hosts with a corresponding lease are served.
Use the *Add* Button to add a new lease entry. The *MAC-Address* indentifies the host, the *IPv4-Address* specifies to the fixed address to use and the *Hostname* is assigned as symbolic name to the requesting host.

Hostname	MAC-Address	IPv4-Address

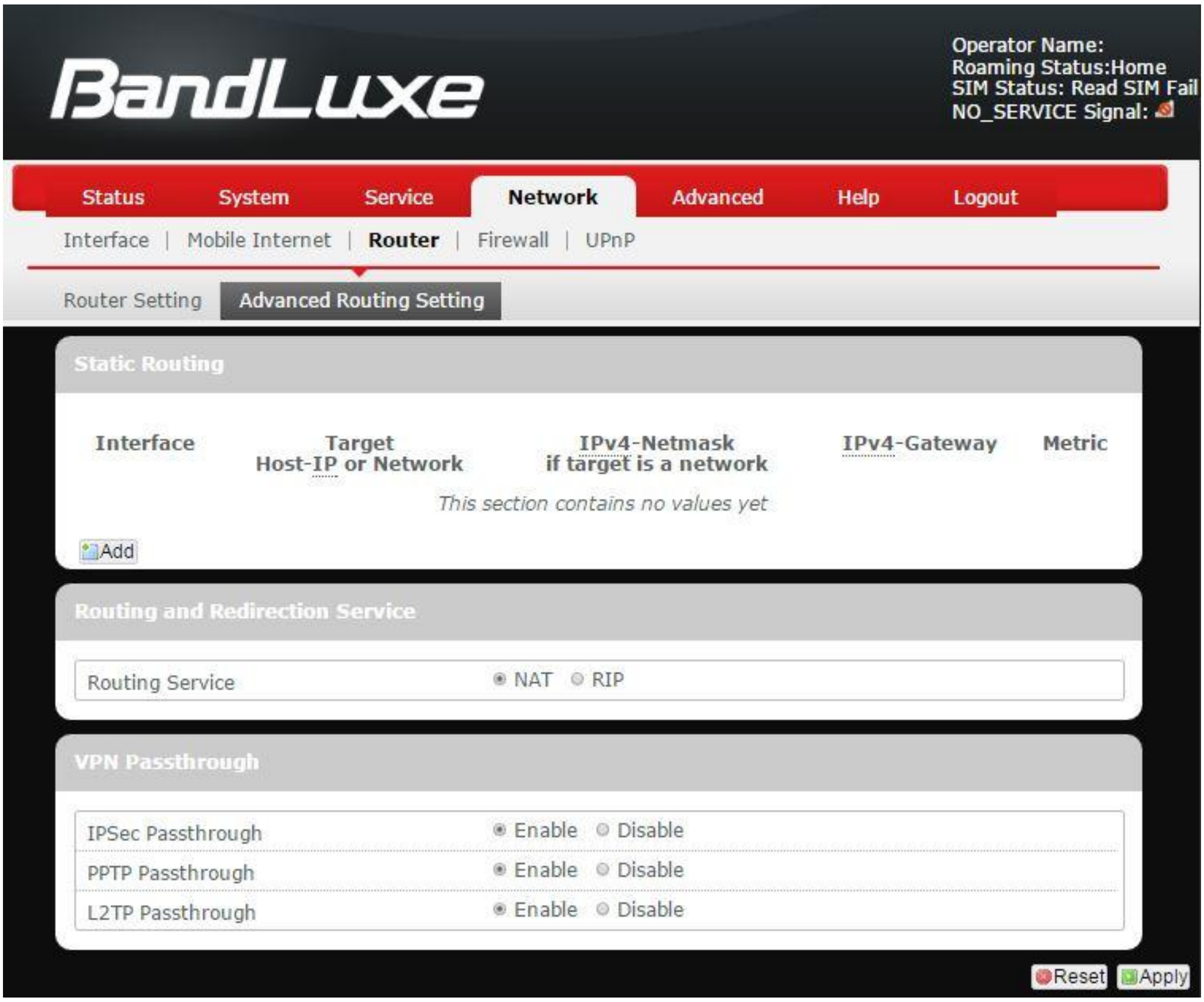
Enter the desired hostname. Choose the desired MAC address and IPv4-Address (click ▾ and select an rule from the drop-down list; if “--Custom--" is selected, the drop-down list will change to a text box to allow you to enter your custom address).

The MAC address is for host identification, whereas the IPv4 address specifies the fixed address for static lease.

To remove any unwanted static lease, just click the corresponding ☒ Delete button.

Click Apply after making any changes.

Advanced Routing settings



Operator Name:
Roaming Status:Home
SIM Status: Read SIM Fail
NO_SERVICE Signal:

Static Routing

Interface	Target Host-IP or Network	IPv4-Netmask if target is a network	IPv4-Gateway	Metric

This section contains no values yet

Routing and Redirection Service

Routing Service	● NAT ○ RIP

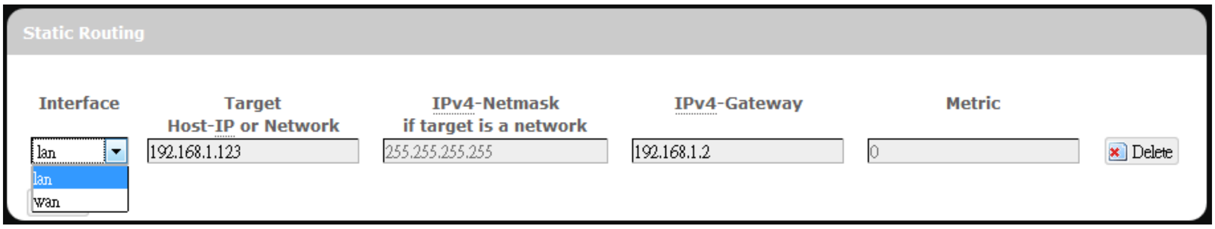
VPN Passthrough

IPSec Passthrough	● Enable ○ Disable
PPTP Passthrough	● Enable ○ Disable
L2TP Passthrough	● Enable ○ Disable

Static Routing

This option allows fixed network routing path assignment (as opposed to the initial adaptive routing).

To add a static network routing path, click Add. To remove any unwanted static network routing path, click the corresponding ☒ Delete button. Click Apply after making any changes.



Static Routing

Interface	Target Host-IP or Network	IPv4-Netmask if target is a network	IPv4-Gateway	Metric	
lan ▼ lan wan	192.168.1.123	255.255.255.255	192.168.1.2	0	☒ Delete

Interface: Click ▼ and choose ‘lan’ (local area network) or ‘wan’ (wide area network).

Target: Enter the target host IP or network address here.

IPv4-Netmask: Displays the IPv4-Netmask address (the default is 255.255.255.255). A custom IPv4-Netmask can also be specified here.

IPv4-Gateway: If needed, a custom IPv4-Gateway address can be specified here.

Metric: Specifies the network path priority number (usually associated with the network path’s administrative distance). The lower the metric number, the higher priority of this static route in the network routing protocol.

The default value is 0 (highest priority). A different metric number can also be specified here.

Note: If contents in the text box is invalid, a ⊗ will appear on the right side of the text box, and the text color changes to red. For example, the following demonstrates an invalid target Host-IP or Network address: 123.456.789.012 ⊗

Routing and Redirection Service

This option enables or disables Network Address Translation (NAT) service, which is a standard that allows multiple computers on a private network to share a single IP address.

VPN Passthrough

A Virtual Private Network (VPN) is a type of secured private network connection, built upon publicly-accessible infrastructure such as the

Internet. They usually provide connectivity to various devices behind a gateway or firewall.

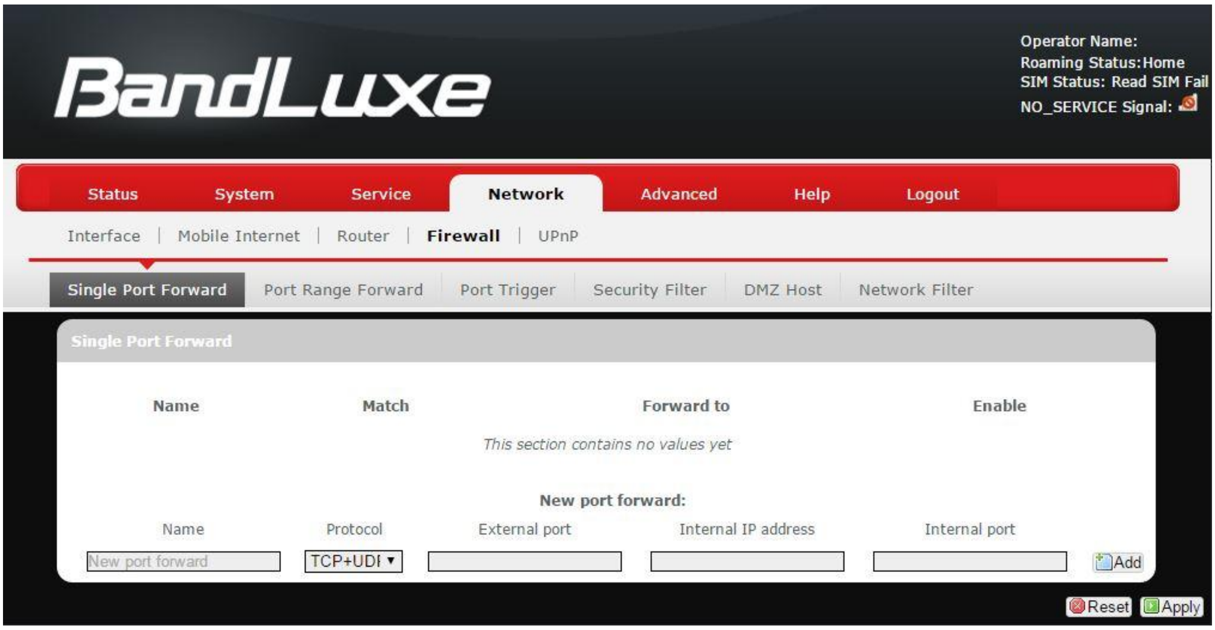
IPSec Passthrough: IP Security (IPSec) provides authentication and encryption. Since it is mainly a Layer 3 technology, it can secure all data on the network. To allow IPSec tunnels to pass through the Router, click ‘Enabled’.

PPTP Passthrough: Point-to-Point Tunneling Protocol (PPTP) allows you to establish a connection to an enterprise network. To allow PPTP tunnels to pass through the Router, click Enabled.

L2TP Passthrough: Layer 2 Tunneling Protocol (L2TP) is an extension of the Point-to-Point Tunneling Protocol and is also used to establish virtual private networks. To allow L2TP tunnels to pass through the Router, click Enabled.

Firewall

Single Port Forward



Operator Name:
Roaming Status:Home
SIM Status: Read SIM Fail
NO_SERVICE Signal:

Single Port Forward

Name	Match	Forward to	Enable

This section contains no values yet

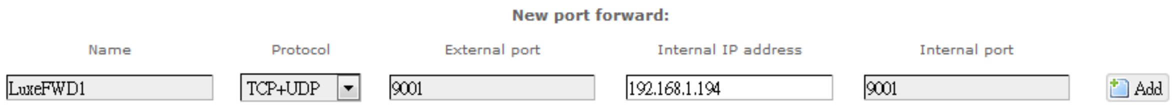
New port forward:

Name	Protocol	External port	Internal IP address	Internal port
New port forward	TCP+UDI ▾			

Single Port Forward

Port Forwarding allows you to set up public services on your network, such as web servers, ftp servers, e-mail servers, and other specialized Internet applications.

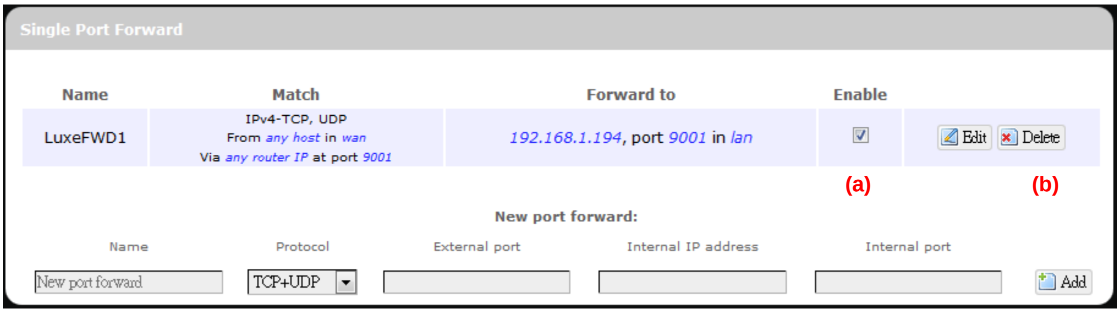
To forward a single port:



New port forward:

Name	Protocol	External port	Internal IP address	Internal port	
LuxeFWD1	TCP+UDP ▼	9001	192.168.1.194	9001	Add

1. **Name**: enter an application name for this port forwarding rule.
2. **Protocol**: click ▼ and select a protocol from the drop down list – *TCP+UDP* (default), *TCP*, *UDP*, or *Other…*
3. **External port**: enter the port number of the external port used by the server or Internet application. Afterward, this port number will be echoed to the text box of "Internal port".
4. **Internal IP address**: click ▼ and select an IP address from drop-down list, or select "--custom--" and enter IP address in text box.
5. **Internal port**: this text box will automatically receive port number entered in the text box of "External port", or you can enter your own port number in the same text box.
6. Click Add. The port forwarding rule you have just entered will be added to the Port Forwards list.



Single Port Forward

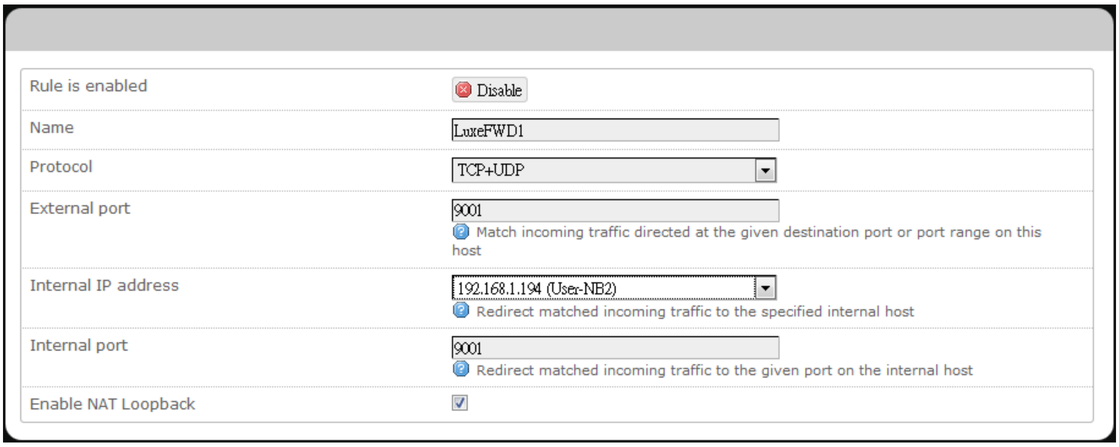
Name	Match	Forward to	Enable	
LuxeFWD1	IPv4-TCP, UDP From any host in wan Via any router IP at port 9001	192.168.1.194, port 9001 in lan	☑	Edit Delete

New port forward:

Name	Protocol	External port	Internal IP address	Internal port	
New port forward	TCP+UDP ▼				Add

In the status area, A ■ may appear next to "Operator Name" to indicate configuration changes temporarily stored in the router.

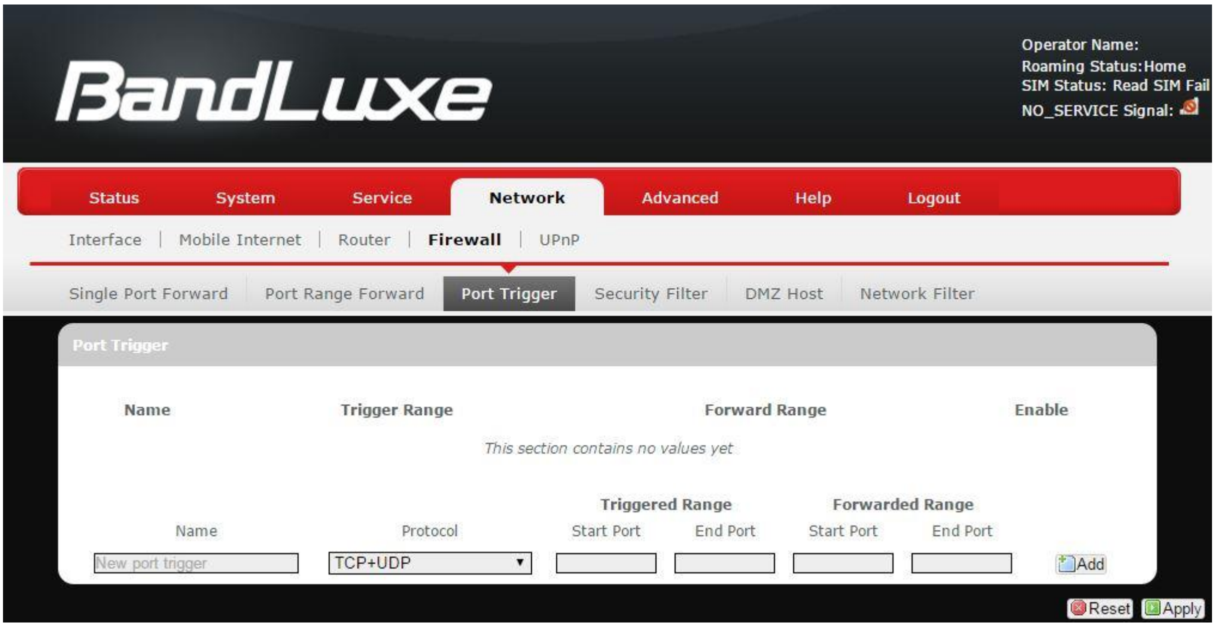
7. More rules can be added to the Port Forwards list by repeating Steps 1-6.
8. (a)To enable or disable a Port Forwards list rule, click its check box under 'Enable'.
   (b) To remove any Port Forwards rule, click its corresponding Delete button.
9. To edit a particular Port Forwards rule in detail, click its corresponding Edit button, and the rule's associated configuration page (much more flexible and detailed than express settings in Steps 1-6) will appear. After making any changes, click Save & Apply. Finally click Back to Overview to exit this configuration page.



Rule is enabled	Disable
Name	LuxeFWD1
Protocol	TCP+UDP
External port	9001 Match incoming traffic directed at the given destination port or port range on this host
Internal IP address	192.168.1.194 (User-NB2) Redirect matched incoming traffic to the specified internal host
Internal port	9001 Redirect matched incoming traffic to the given port on the internal host
Enable NAT Loopback	☑

Note:	Numerical and text values shown in the illustrative examples are for demonstration purposes only and are not for actual operation.

Port Trigger



Operator Name:
Roaming Status:Home
SIM Status: Read SIM Fail
NO_SERVICE Signal:

Port Trigger

Name	Trigger Range	Forward Range	Enable

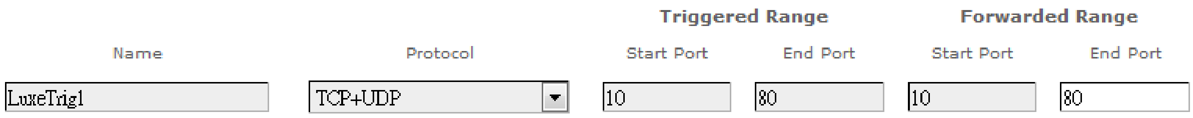
This section contains no values yet

		Triggered Range		Forwarded Range	
Name	Protocol	Start Port	End Port	Start Port	End Port
New port trigger	TCP+UDP				

Port Trigger

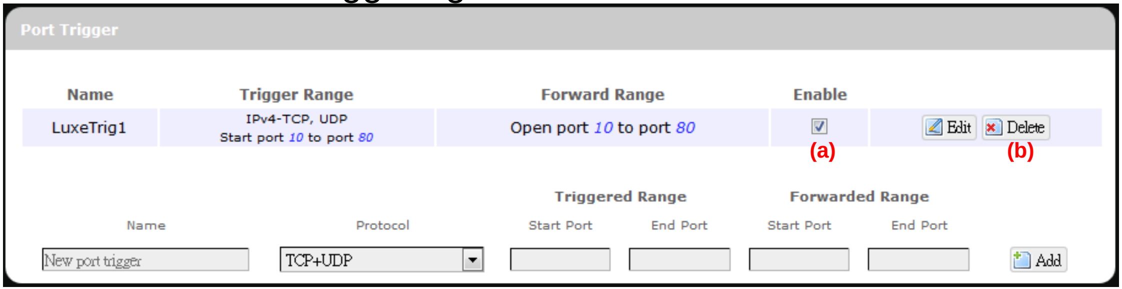
Port Triggering allows the Router to watch outgoing data for specific port numbers. The Router remembers the IP address of the computer that sends the matching data, so that when the requested data returns through the Router, the data is pulled back to the proper computer by way of IP address and port mapping rules.

To add a new Port Triggering rule:



Name	Protocol	Triggered Range		Forwarded Range	
		Start Port	End Port	Start Port	End Port
LuxeTrig1	TCP+UDP ▾	10	80	10	80

1. **Name**: enter an application name for this port triggering rule.
2. **Protocol**: click ▾ and select a protocol from the drop down list – *TCP+UDP* (default), *TCP*, *UDP*, or *Other…*
3. **Triggered Range**: enter the **Start Port** and **End Port** for the triggered port number range of the Internet application (please check its documentation for the port number(s) needed).
4. **Forwarded Range**: enter the **Start Port** and **End Port** for the forwarded port number range of the Internet application (please check its documentation for the port number(s) needed).
5. Click Add. The port triggering rule you have just entered will be added to the Port Triggering list.

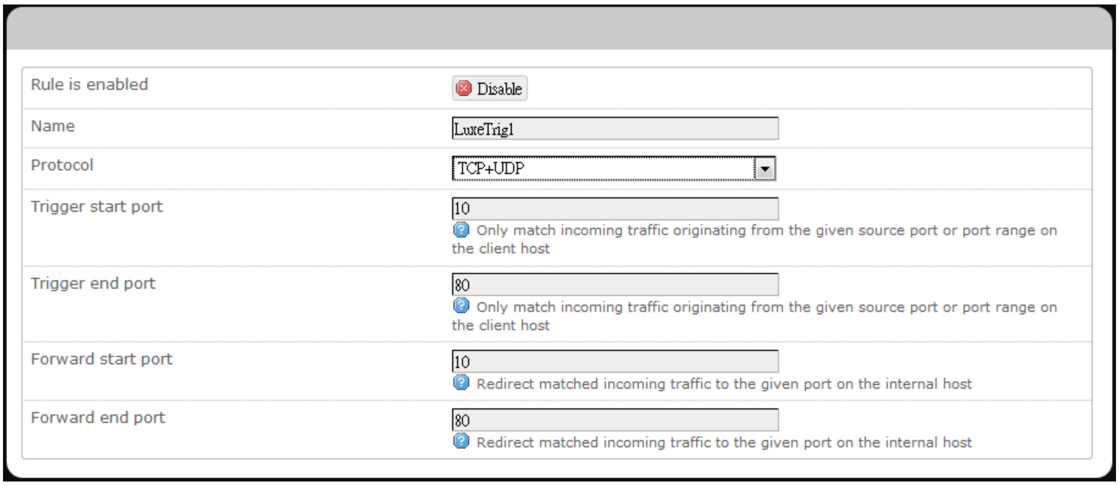
   

   Port Trigger

Name	Trigger Range	Forward Range	Enable	
LuxeTrig1	IPv4-TCP, UDP Start port *10* to port *80*	Open port *10* to port *80*	☑ (a)	Edit Delete (b)

Name	Protocol	Triggered Range		Forwarded Range		
		Start Port	End Port	Start Port	End Port	
New port trigger	TCP+UDP ▾					Add

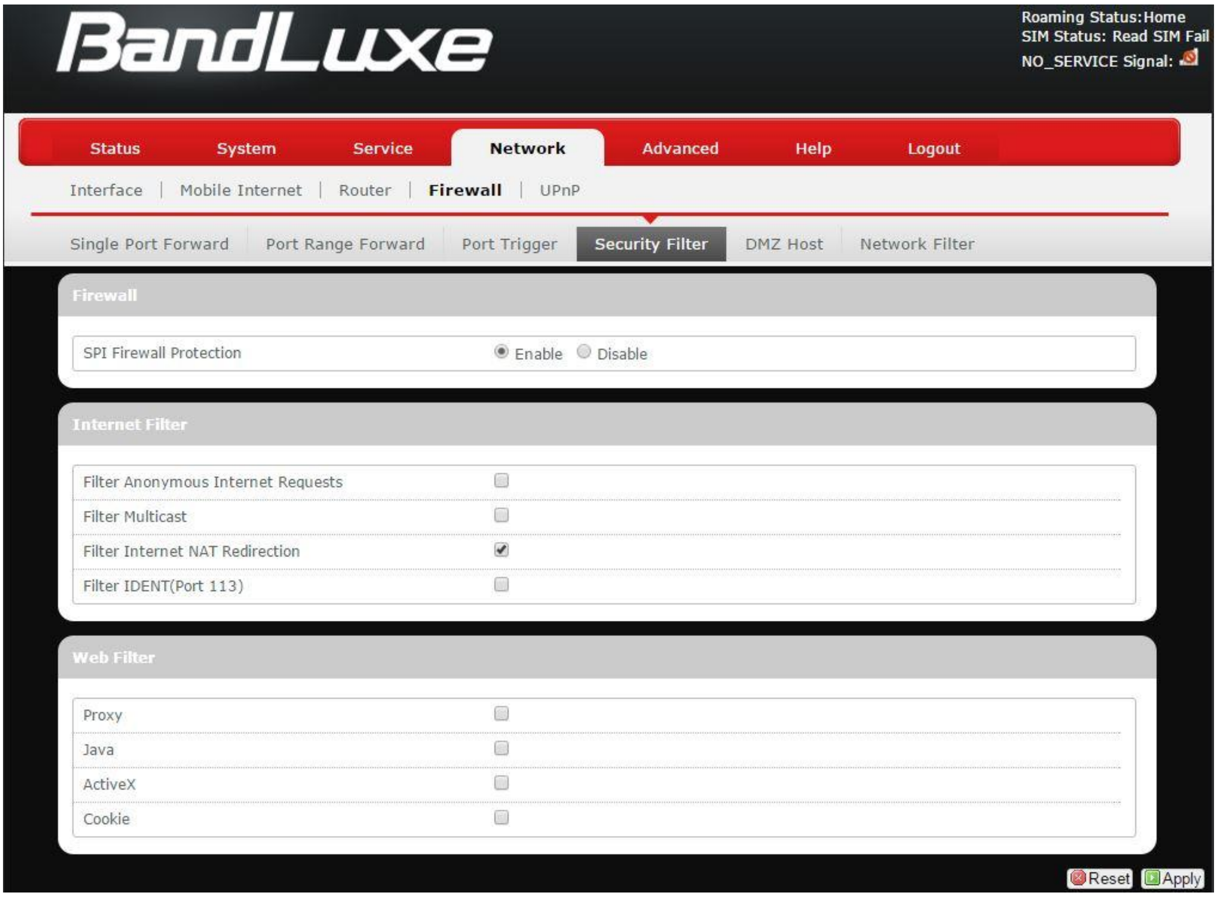
   In the status area, A ■ may appear next to “Operator Name” to indicate configuration changes stored in the router.
6. More rules can be added to the Port Triggering list by repeating Steps 1-5.
7. (a) To enable or disable a Port Forwards list rule, click its check box under ‘Enable’.
   (b) To remove any Port Triggering rule, click its corresponding Delete button.
8. To edit a particular Port Triggering rule in detail, click its corresponding Edit button, and the rule’s associated configuration page (more flexible and detailed than express settings in Steps 1-4) will appear. After making any changes, click Apply. Finally click Back to Overview to exit this configuration page.



Rule is enabled	Disable
Name	LuxeTrig1
Protocol	TCP+UDP
Trigger start port	10 Only match incoming traffic originating from the given source port or port range on the client host
Trigger end port	80 Only match incoming traffic originating from the given source port or port range on the client host
Forward start port	10 Redirect matched incoming traffic to the given port on the internal host
Forward end port	80 Redirect matched incoming traffic to the given port on the internal host

Note: Numerical and text values shown in the illustrative examples are for demonstration purposes only and are not for actual operation.

Security Filter



Firewall

SPI Firewall Protection	● Enable ○ Disable

Internet Filter

Filter Anonymous Internet Requests	□
Filter Multicast	□
Filter Internet NAT Redirection	☑
Filter IDENT(Port 113)	□

Web Filter

Proxy	□
Java	□
ActiveX	□
Cookie	□

Here you can make Firewall, Internet Filter, and Web Filters adjustments for network security.

Firewall

SPI Firewall Protection: Enable or Disable Stateful Packet Inspection (SPI) feature of the firewall. The default setting is ‘Enable’.

Internet Filter

Filter Anonymous Internet Requests: This filter blocks anonymous internet requests from outside network. The default setting is ‘disabled’.

Filter Multicast: Multicasting allows for multiple transmissions to specific recipients at the same time, i.e. the Router allows IP multicast packets to be forwarded to the appropriate computers.

To allow multicasting, disable “Filter Multicast” (this is the default setting).

To block multicasting, enable “Filter Multicast”.

Filter Internet NAT Redirection: This filter blocks local resource access via NAT (Network Address Translation) redirection (i.e. external address) from other local computers. The default setting is ‘enabled’.

Filter IDENT (Port113): This feature keeps Port 113 from being scanned by devices outside of your local network. The default setting is ‘disabled’.

Web Filters

Using the Web Filters feature, you may enable up to four specific filtering methods.

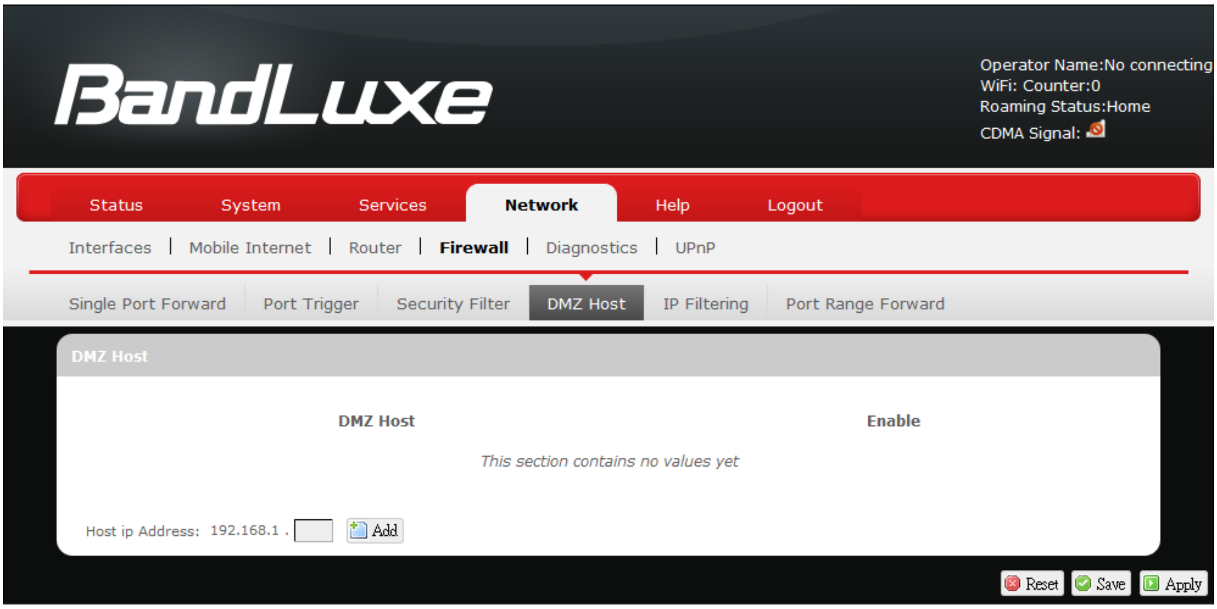
Proxy: Use of WAN proxy servers may compromise the Router's security. Select this option to disable access to any WAN proxy servers.

Java: Java is a programming language for websites. Select this option to disable Java. If you disable Java, you run the risk of not having access to Internet sites created using this programming language.

ActiveX: ActiveX is a programming language for websites. Select this option to disable ActiveX. If you disable ActiveX, you run the risk of not having access to Internet sites created using this programming language.

Cookies: A cookie is data stored on your PC and used by Internet sites when you interact with them. Select this option to disable cookies.

DMZ Host



DMZ Host

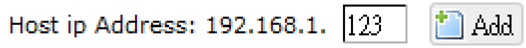
DMZ Host	Enable

This section contains no values yet

Host ip Address: 192.168.1 . Add

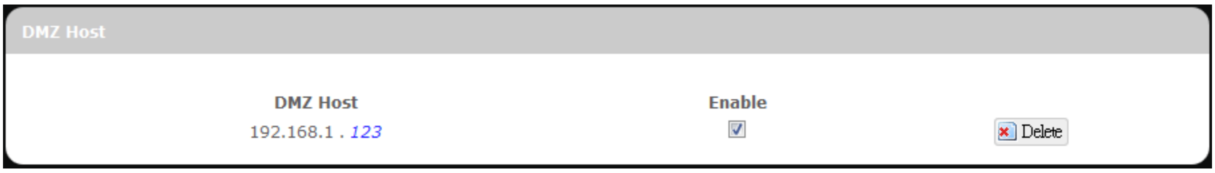
When a firewall is used, it is sometimes necessary to place some clients (for example Internet games, video conferencing, or VPN connections) outside of the firewall while leaving the others protected. You can do this using a Demilitarized Zone (DMZ). This DMZ Host feature allows you to specify the IP address of the computers that are placed outside the firewall of your network.

In the text box, enter the last 3 digits of the DMZ host address (the prefix is 192.168.1 for this router), and then click Add.



Host ip Address: 192.168.1. 123 Add

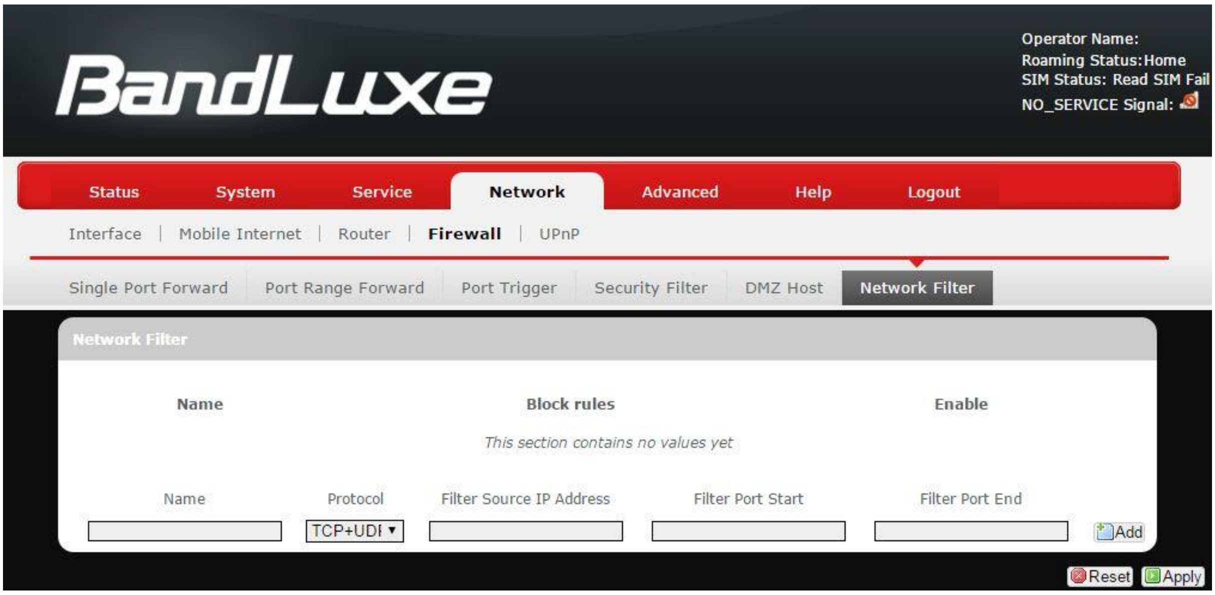
The host IP address will be added to the DMZ Host list, which can be further disabled or enabled by clicking the ‘Enable’ checkbox. To remove this DMZ Host, click Delete. After setting up the DMZ host, click Save & Apply.



DMZ Host

DMZ Host	Enable	
192.168.1 . *123*	☑	Delete

Network Filter



Network Filter

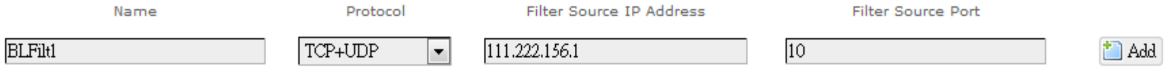
Name	Block rules	Enable
	This section contains no values yet	

Name	Protocol	Filter Source IP Address	Filter Port Start	Filter Port End	
	TCP+UDI ▾				Add

Network Filter

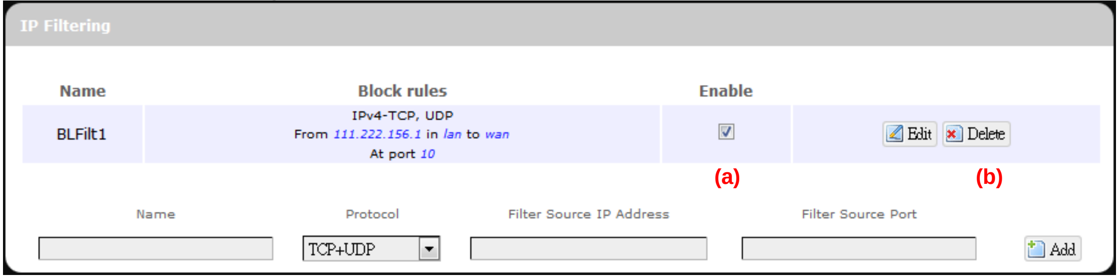
IP Filtering allows the Router to discard data from certain IP addresses.

To add a new IP filtering rule:



Name	Protocol	Filter Source IP Address	Filter Source Port	
BLFilt1	TCP+UDP ▾	111.222.156.1	10	Add

1. **Name**: enter an application name for this IP filtering rule.
2. **Protocol**: click ▾ and select a protocol from the drop down list – *TCP+UDP* (default), *TCP*, *UDP*, or *Other…*
3. **Filter Source IP Address**: enter the source IP address to be filtered. The text color will turn red with ☒ on the right for any invalid IP address entered (e.g. 192.168.234.| ☒). When the IP address entered becomes valid, the text color changes back to black without ☒ on the right (e.g. 192.168.234.5).
4. **Filter Source Port**: enter the source port number to be filtered.
5. Click Add. The IP filtering rule you have just entered will be added to the IP Filtering list.



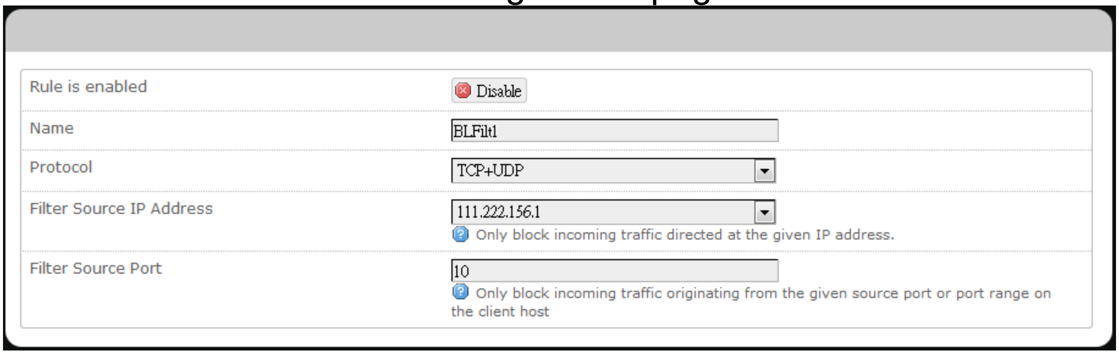
IP Filtering

Name	Block rules	Enable	
BLFilt1	IPv4-TCP, UDP From *111.222.156.1* in *lan* to *wan* At port *10*	☑	Edit Delete
		(a)	(b)

Name	Protocol	Filter Source IP Address	Filter Source Port	
	TCP+UDP ▾			Add

In the status area, A ■ may appear next to “Operator Name” to indicate configuration changes stored in the router.

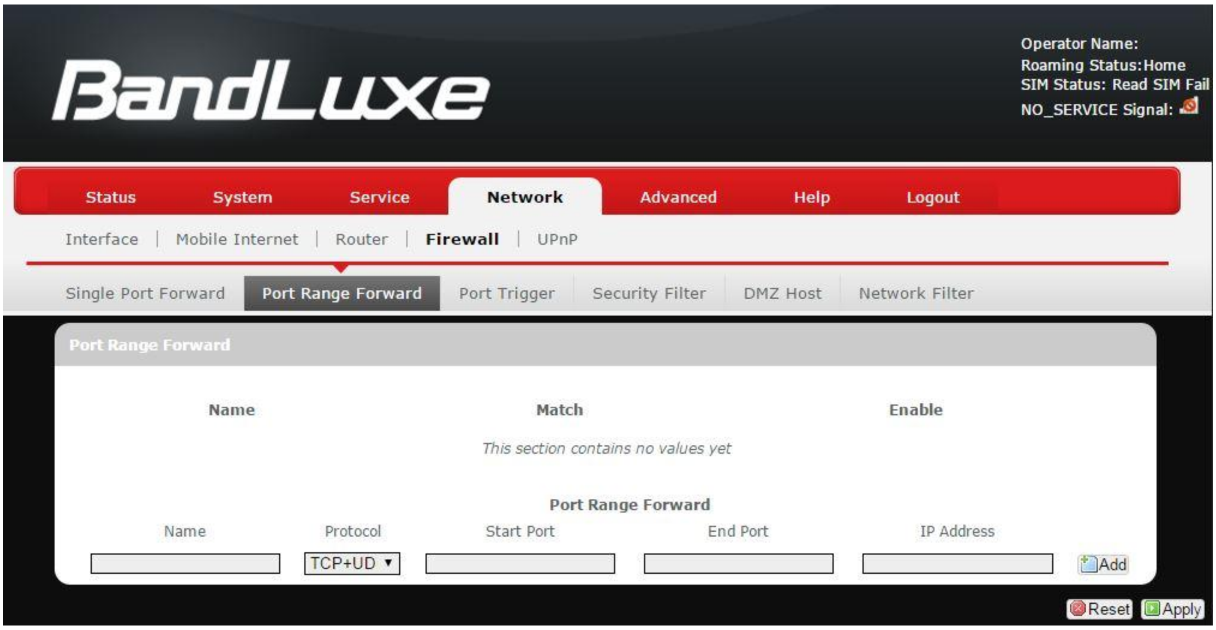
6. More rules can be added to the IP filtering list by repeating Steps 1-5.
7. (a) To enable or disable an IP filtering list rule, click its check box under ‘Enable’.
   (b) To remove any Port Triggering rule, click its corresponding Delete button.
8. To edit a particular IP filtering rule in detail, click its corresponding Edit button, and the rule’s associated configuration page (more flexible and detailed than express settings in Steps 1-4) will appear. After making any changes, click Save & Apply. Finally click Back to Overview to exit this configuration page.



Rule is enabled	Disable
Name	BLFilt1
Protocol	TCP+UDP
Filter Source IP Address	111.222.156.1 Only block incoming traffic directed at the given IP address.
Filter Source Port	10 Only block incoming traffic originating from the given source port or port range on the client host

Note:	Numerical and text values shown in the illustrative examples are for demonstration purposes only and are not for actual operation.

Port Range Forward



BandLuxe
Operator Name:
Roaming Status:Home
SIM Status: Read SIM Fail
NO_SERVICE Signal:
Status | System | Service | Network | Advanced | Help | Logout
Interface | Mobile Internet | Router | Firewall | UPnP
Single Port Forward | Port Range Forward | Port Trigger | Security Filter | DMZ Host | Network Filter
Port Range Forward
Reset
Apply

Name	Match	Enable

This section contains no values yet

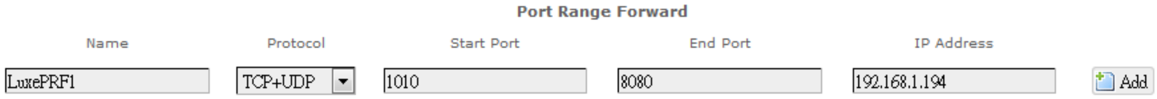
Port Range Forward

Name	Protocol	Start Port	End Port	IP Address	
	TCP+UD ▾				Add

Port Range Forward

Port Range Forward allows you to set up public services on your network, such as web servers, ftp servers, e-mail servers, and other specialized Internet applications.

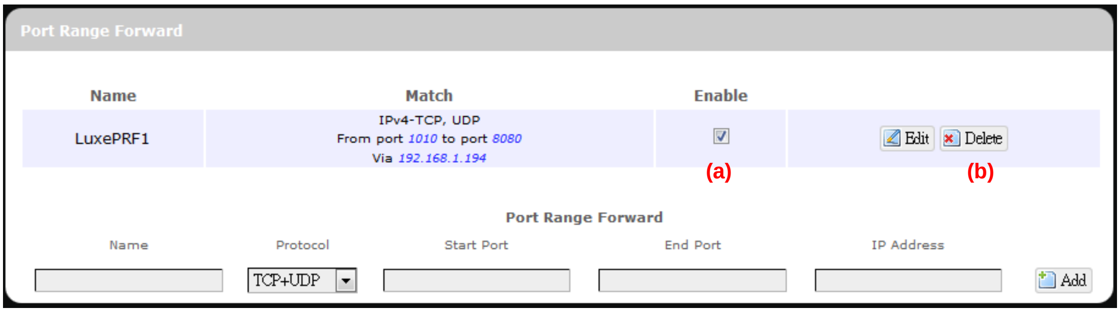
To forward a port range:



Port Range Forward

Name	Protocol	Start Port	End Port	IP Address	
LuxePRF1	TCP+UDP ▾	1010	8080	192.168.1.194	Add

1. **Name**: enter an application name for this port range forwarding rule.
2. **Protocol**: click ▼ and select a protocol from the drop down list – *TCP+UDP* (default), *TCP*, *UDP*, or *Other…*
3. **Port Range Forward**: specify the range of port forwarding by entering the **Start Port** number and the **End Port** number.
4. **IP address**: enter the IP address of the PC running the specific application.
5. Click Add. The port range forwarding rule you have just entered will be added to the Port Range Forward list.



Port Range Forward

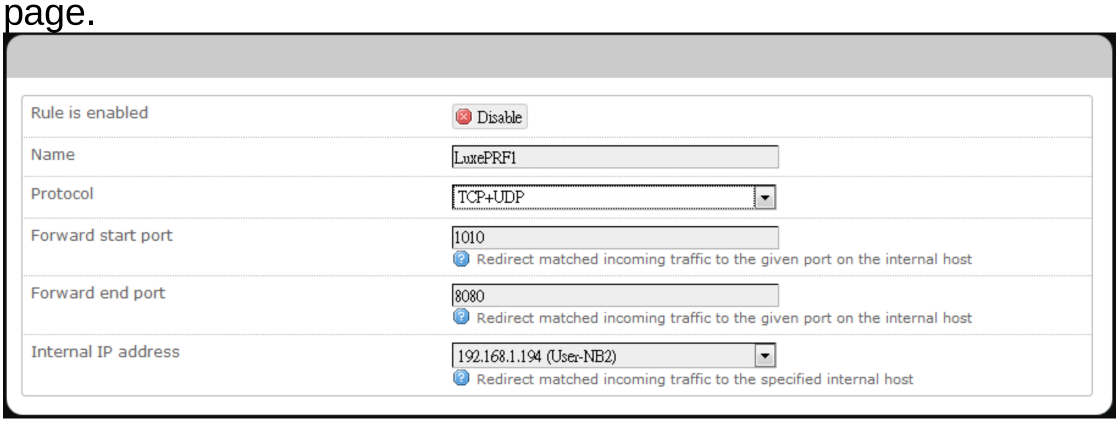
Name	Match	Enable	
LuxePRF1	IPv4-TCP, UDP From port 1010 to port 8080 Via 192.168.1.194	☑	Edit Delete

Port Range Forward

Name	Protocol	Start Port	End Port	IP Address	
	TCP+UDP ▾				Add

In the status area, A ■ may appear next to "Operator Name" to indicate configuration changes temporarily stored in the router.

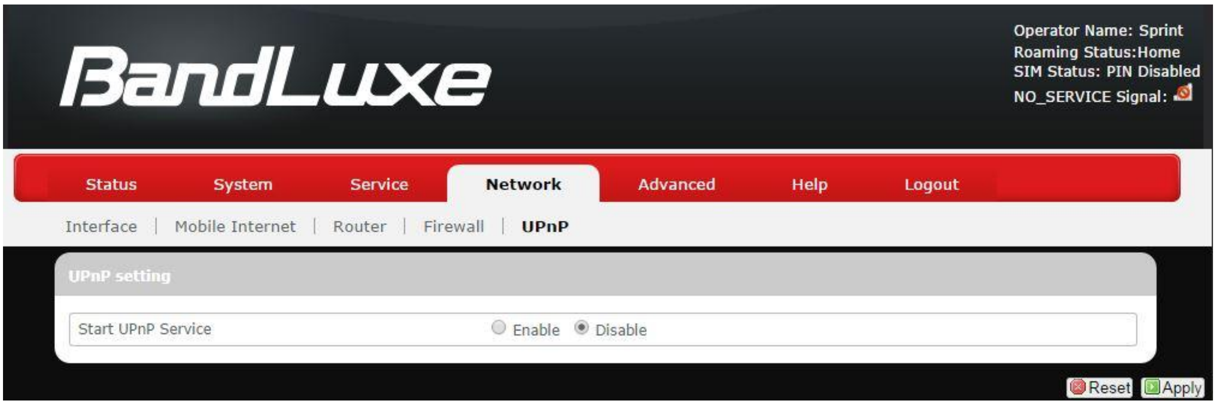
6. More rules can be added to the Port Range Forward list by repeating Steps 1-5.
7. (a) To enable or disable a Port Forwards list rule, click its check box under 'Enable'.
   (b) To remove any Port Forwards rule, click its corresponding Delete button.
8. To edit a particular Port Forwards rule in detail, click its corresponding Edit button, and the rule's associated configuration page (more flexible and detailed than express settings in Steps 1-4) will appear. After making any changes, click Save & Apply. Finally click Back to Overview to exit this configuration page.



Rule is enabled	Disable
Name	LuxePRF1
Protocol	TCP+UDP ▾
Forward start port	1010 Redirect matched incoming traffic to the given port on the internal host
Forward end port	8080 Redirect matched incoming traffic to the given port on the internal host
Internal IP address	192.168.1.194 (User-NB2) ▾ Redirect matched incoming traffic to the specified internal host

Note: Numerical and text values shown in the illustrative examples are for demonstration purposes only and are not for actual operation.

UPNP



Operator Name: Sprint
Roaming Status:Home
SIM Status: PIN Disabled
NO_SERVICE Signal:

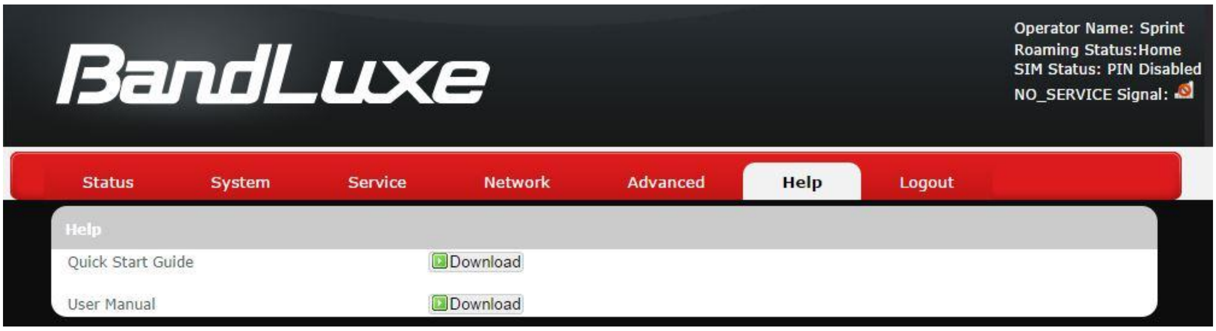
Start UPnP Service ○ Enable ● Disable

Universal Plug and Play – Allows wired and wireless network devices to discover each other and establish network services.

UPnP Settings

Here you can ‘Enable’ or ‘Disable’ the UPnP service.

Help



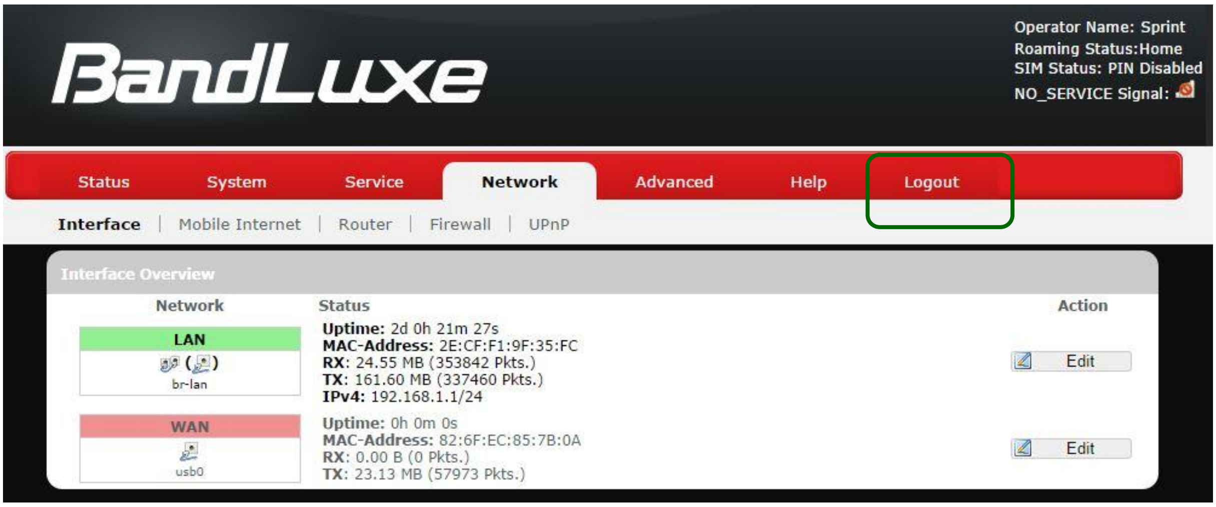
Operator Name: Sprint
Roaming Status:Home
SIM Status: PIN Disabled
NO_SERVICE Signal:

Quick Start Guide Download

User Manual Download

Click the appropriate download link to download the latest Quick Start Guide or User Manual of this product.

Logout



Operator Name: Sprint
Roaming Status:Home
SIM Status: PIN Disabled
NO_SERVICE Signal:

Network	Status	Action
LAN br-lan	**Uptime:** 2d 0h 21m 27s **MAC-Address:** 2E:CF:F1:9F:35:FC **RX:** 24.55 MB (353842 Pkts.) **TX:** 161.60 MB (337460 Pkts.) **IPv4:** 192.168.1.1/24	Edit
WAN usb0	**Uptime:** 0h 0m 0s **MAC-Address:** 82:6F:EC:85:7B:0A **RX:** 0.00 B (0 Pkts.) **TX:** 23.13 MB (57973 Pkts.)	Edit

Exits the web configuration interface and re-directs to login prompt.

Note: After a period of inactivity, automatic logout will occur. After clicking any menu item, the login prompt will appear as re-login is needed to continue using the web configuration interface.

Appendix A: FAQ

This chapter contains a list of frequently asked questions when you set up your CPE configuration.

Q: What and how to find my computer IP address?

A: IP address is the identifier for a computer or device on a TCP/IP network. Networks using the TCP/IP protocol route messages based on the IP address of the destination. The format of an IP address is a 32-bit numeric address written as four numbers separated by periods. Each number can be zero to 255.

For example, 192.168.168.254 could be an IP address.

To find your computer IP address,

➥ In Windows, click ***Start > Run*** to launch the **Command** program.

➥ Type "ipconfig", then press the **Enter** button.

➥ Your computer IP address is listed on the *IP Address*.

Q: What is Long Term Evolution (LTE)?

A: LTE is a 4th generation (4G) mobile broadband standard and is the successor to the 3G technologies CDMA/GSM/UMTS. The service is typically much faster on both uplink/download speeds.

Q: What is a firewall?

A: A firewall is a set of related programs that protects the resources of a private network from users from other networks.

Q: What is Network Address Translation (NAT)?

A: Network Address Translation (NAT) is the process where a network device, usually a firewall, assigns a public address to a computer (or group of computers) inside a private network.

Q: What is Universal Plug and Play (UPnP)?

A: UPnP is an open networking architecture that consists of services, devices, and control points. The ultimate goal is to allow data communication among all UPnP devices regardless of media, operating system, programming language, and wired/wireless connection.

Appendix B: Specifications

Note: Specifications are subject to change without notice.

Physical	
Cellular Modem	Embedded, 3GPP Rel 9, LTE FDD
Dimensions	423.5 (L) x 309.5 (W) x 104 (H) mm
Weight	3.7kg
Water resistant IP code	IP66
Interface	
Ethernet Port	RJ45 x 1, with power riding on Ethernet cable
SIM Card	Embedded SIM supported
Reset Button	Reset to factory default setting
LED Indicator	Signal strength indicators: LED x 5 Power indicator : LED x1 LED light up timer: 5 min/15 min/30 min (default)/60 min
Connectivity and Data Speed	
LTE Bandwidth	Up to 20 MHz
LTE Data Rate	FDD: Downlink up to 100 Mbps, Uplink up to 50 Mbps
Antenna	
Antenna Type	Embedded high gain directional antenna
Antenna Gain	Band 2: 6dBi,Band 4: 5dBi,Band 5: 5dBi,Band 12: 8.5dBi
Cellular Main Antenna	Yes
Cellular Diversity Antenna	Yes
LTE MIMO	Downlink 2x2, 4x2 SU-MIMO
Router Features	
Security	Multiple VPN pass-through (IPSec, PPTP, L2TP), Stateless and SPI Firewall

NAT-NAPT	Single Port Forwarding, Port Range Forwarding, Port Range Triggering, Port Filtering, IP Filtering, DMZ, UPnP
DNS	DNS Agent, DDNS
Other features	IPv4 and IPv6, TCP, UDP, ICMP, ARP, DHCP Server/Client, DHCP Reservation, HTTP/HTTPs, NTP, ALGs
Software Features	
CPE Operation Mode	Router mode and Bridge mode
Connection Status in Web GUI	Network name, Signal strength, Roaming indication, Radio technology, Connection status, Connection time, Connection Statistics.
Connection management	Connection on demand, Auto Connection, Auto APN matching with USIM, APN database update through browser-based GUI, APN profile, PIN management, Preferred radio network type selection
Support FW version upgrade	Yes
Device Management	TR-069, Remote GUI Log-in
System Protection	Two types of user account: User and Operator. Evey user account has his own password protected mechanism
Browser-based Admistration GUI	Browser supported: IE, Firefox, Safari, Chrome
Browser-based Admistration GUI Multi-Language Support	English
Power Input	
Passive Power over Ethernet (PoE)	48V/18V Passive PoE input power
Accessories	
Passive Power over Ethernet Adapter	RJ-45x2 (Data In x 1, Data & Power Out x 1)
	E5812(P) series 48V/1A, E5812(A) series 18V/1A
Mounting Bracket	Fixture (match to the back design) and screws to mount on pole and wall. Left-right and Up-down rotatable

RJ-45 head water resistant kit (Optional)	To be provided at request
30-meter Ethernet cable (Optional)	Outdoor grade Ethernet cable with water-proof RJ-45 head at one end
15-meter Ethernet cable (Optional)	Outdoor grade Ethernet cable with water-proof RJ-45 head at one end
Environment	
Operation Temperature (Excluding Power adaptor)	-40^{o}C to 65^{o}C (-40^{o}F to 149^{o}F)
Power Adaptor Operation Temperature	0^{o}C to 40^{o}C (32^{o}F to 104^{o}F)
Storage Temperature	-40^{o}C to 70^{o}C (-40^{o}F to 158^{o}F)
Operating Humidity	10% to 80% Non-Condensing
Storage Humidity	5% to 90% Non-Condensing
Certification and Conformance	
	FCC
	RoHS

Appendix C: Important Safety Information and Glossary

Europe – EU Declaration of Conformity

European Union Notice
Products with CE marking comply with the R&TTE Directive (99/5/EC), the EMC Directive (2004/108/EC), and the Low Voltage Directive (2006/95/EC) issued by the Commission of the European Community.
Compliance with these directives implies conformity to the following European Norms (in parentheses are the equivalent international standards).

EN 60950-1 (IEC 60950-1)
Safety of Information Technology Equipment.

EN 300 328
Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband Transmission systems; data transmission equipment operating in the 2.4 GHz ISM band and using spread spectrum modulation techniques.

EN 301 489-24
Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 24: Specific conditions for IMT-2000 CDMA direct spread (UTRA) for mobile and portable (UE) radio and ancillary equipment.

ETSI EN 301 511
Global system for mobile communications (GSM); Harmonised EN for mobile stations in the GSM 900 and GSM 1800 bands, covering essential requirements of article 3.2 of the R&TTE directive (1995/5/EC).

ETSI EN 301 489-1
Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements.

ETSI EN 301 489-7
Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 7: Specific conditions for mobile and portable radio and ancillary equipment of digital cellular radio telecommunications systems (GSM and DCS).

ETSI EN 301 489-17
Electromagnetic compatibility and Radio spectrum Matters (ERM);
Electromagnetic Compatibility (EMC) standard for radio equipment and services;
Part 17: Specific conditions for 2.4 GHz wideband transmission systems.

ETSI EN 301 908-1 & -2
Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third Generation cellular networks; Part 1: Harmonised EN for IMT-2000, introduction and common requirements, covering essential requirements of article 3.2 of the R&TTE Directive.

EN 50385
Product standard to demonstrate the compliance of radio base stations and fixed terminal stations for wireless telecommunication systems with the basic restrictions or the reference levels related to human exposure to radio frequency electromagnetic fields (110 MHz - 40 GHz) - General public.

Federal Communication Commission Interference Statement

15.21
You are cautioned that changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

15.105(b)

Federal Communications Commission (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 of the device.

FCC RF Radiation Exposure Statement:
This equipment complies with radio frequency (RF) exposure limits adopted by the Federal Communications Commission for an uncontrolled environment.
This equipment should operate with minimum distance 20 cm between the radiator & your body.

2G: Second-generation mobile networking technology. Represents a switchover from analog to digital; most 2G networks use GSM.

3G: Third-generation mobile networking technology that enables simultaneous transfer of voice and non-voice data; most 3G networks use WCDMA.

3.5G: A more recent standard of mobile networking technology; generally uses HSDPA.

3.75G: A more recent standard of mobile networking technology; generally uses HSUPA.

4G: A more recent standard of mobile networking technology; generally uses LTE.

APN (Access Point Name/Network): Provides GPRS routing information. Consists of:

Network ID: Identifies the external service requested by a GPRS user.

Mobile network operator ID: Specifies routing information.

ARFCN (Absolute Radio Frequency Channel Number): The specific ID numbers for all radio channels used in cellular mobile communications.

bps (bits per second): How data flow is measured.

CHAP (Challenge Handshake Authentication Protocol): CHAP identifiers are changed frequently and authentication can be requested by the server at any time.

DNS (Domain Name System): Helps route network traffic by making the addressing process more user-friendly.

DHCP (Dynamic Host Configuration Protocol): How devices obtain IP addresses from a server.

DUN (Dial-Up Network): Windows component that enables online access via a modem.

EDGE (Enhanced Data GSM Environment/Enhanced Data for Global Evolution): Advanced GPRS that delivers multimedia and other data needing greater bandwidth at up to 237 kbps.

FOTA (Firmware Over The Air): A Mobile Software Management (MSM) technology that allows firmware of a mobile device to be wirelessly upgraded by its manufacturer.

GPRS (General Packet Radio Service): Delivers data in packets at up to 86 kbps.

GSM (Global System for Mobile Communications): The most popular cellular network, mostly operates in 850-900 or 1800-1900 MHz; the primary 2G system.

HSDPA (High Speed Downlink Packet Access): Advanced WCDMA that delivers downlink bandwidth intensive data at up to 7.2Mbps; typically associated with 3.5G.

HSUPA (High Speed Uplink Packet Access): Advanced WCDMA that delivers uplink bandwidth intensive data at up to 5.76Mbps; typically associated with 3.75G.

HSPA+ (High Speed Packet Access +): This is also known as HSPA Evolved, is the next step and is more focused on delivering data services enabling speeds of up to 42Mbps in the downlink and 11Mbps in the uplink.

IMEI (International Mobile Equipment Identity): A number unique to each GSM/UMTS device that can be used block network access by a stolen mobile device.

IP (Internet Protocol): Routes packets over a network.

Kbps (Kilobits per second): A data flow measure; 1024 bits/second.

LAN (Local Area Network): A data network with limited range but good bandwidth.

Mbps (Megabits per second): A data flow measure; 1,048,576 bits/second.

LTE (Long Term Evolution): High-speed mobile communication standard based on the GSM/EDGE and UMTS/HSPA network technologies. LTE provides downlink peak rates up to 300 Mbit/s and uplink peak rates up to 75 Mbit/s.

PAP (Password Authentication Protocol): The difference between PAP authentication and a manual or scripted login, is that PAP is not interactive. The username and password are entered in the client's dialing software and sent as one data package as soon as the modems have established a connection, rather than the server sending a login prompt and waiting for a response.

PPP (Point-to-Point Protocol): An internet connection method.

PIN (Personal Identity Number): Four to eight digital numbers SIM card security code; allows access to the carrier’s network.

Rx: Shorthand for Reception.

SIM (Subscriber Identity Module): A small card that contains key mobile device identification, subscription and contact information.

Tx: Shorthand for Transmission.

WCDMA (Wideband Code Division Multiple Access): Advanced EDGE that supports 384kbps data flow. Most 3G networks use this standard, the same as UMTS.