ZYXEL

Your Networking Ally

User's Guide

LTE2566-M634

4G LTE-A Portable Router

Default Login Details

LAN IP Address	http: //192.168.1.1
Username	admin
Password	1234
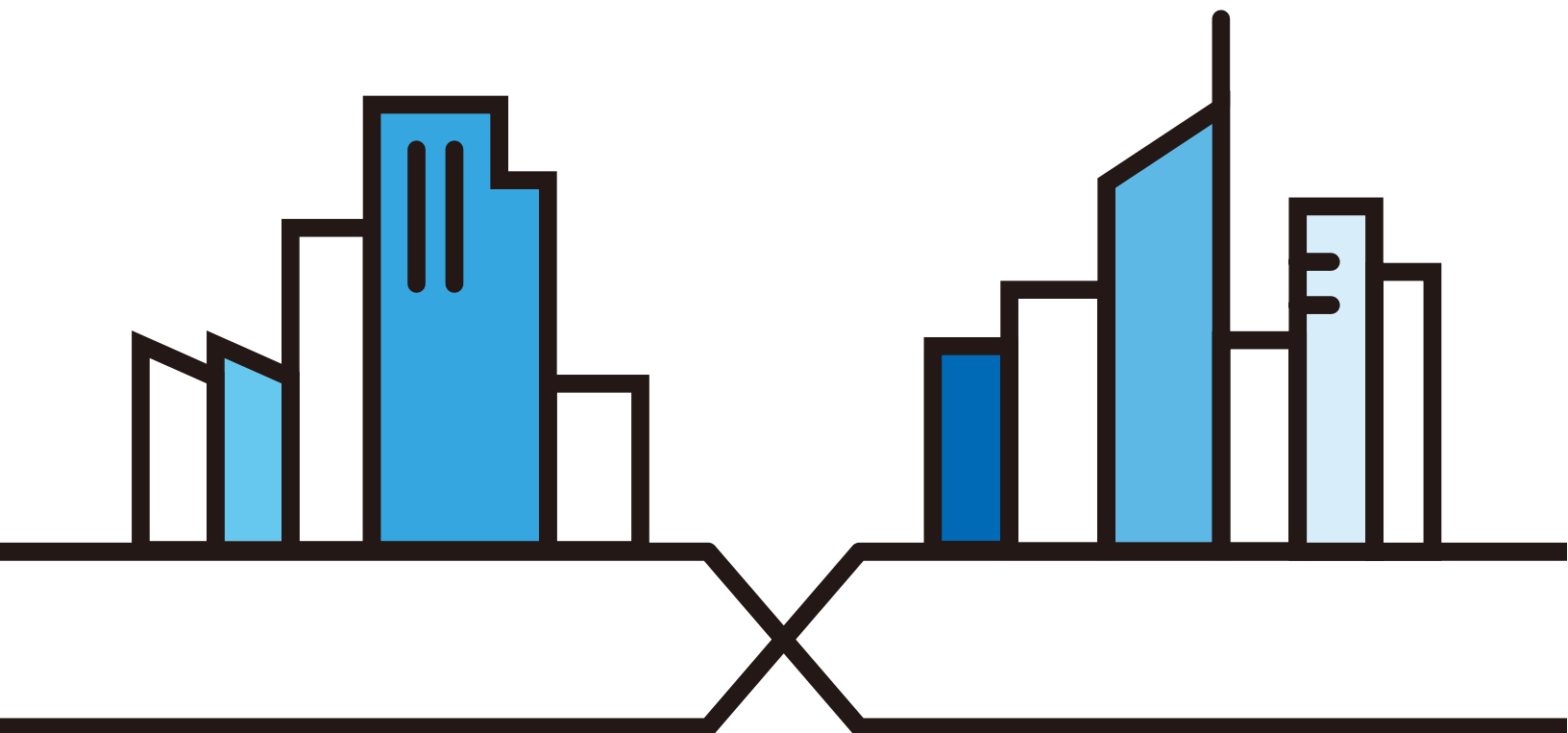
IMPORTANT!

READ CAREFULLY BEFORE USE.

KEEP THIS GUIDE FOR FUTURE REFERENCE.

Screenshots and graphics in this book may differ slightly from your product due to differences in your product firmware. Every effort has been made to ensure that the information in this manual is accurate.

Related Documentation

- Quick Start Guide

  The Quick Start Guide shows how to connect and install the LTE2566-M634.

- More Information

  Go to **support.zyxel.com** to find other information on the LTE2566-M634.

Contents Overview

Table of Contents

Document Conventions

Warnings and Notes

These are how warnings and notes are shown in this guide.

Warnings tell you about things that could harm you or your device.

Note: Notes tell you other important information (for example, other things you may need to configure or helpful tips) or recommendations.

Syntax Conventions

- Product labels, screen names, field labels and field choices are all in **bold** font.
- A right angle bracket (>) within a screen name denotes a mouse click. For example, **Configuration > Network > NAT > Port Trigger** means you first click **Configuration** in the navigation panel, then **Network,** then the **NAT** sub menu and finally the **Port Trigger** tab to get to that screen.

Icons Used in Figures

Figures in this user guide may use the following generic icons. The LTE2566-M634 icon is not an exact representation of your device.

LTE2566-M634	Generic Router	Switch
Server	Firewall	Smartphone
Tablet	Antenna Tower	Home
Outdoors	Printer	

CHAPTER 1
Get to Know Your
LTE2566-M634

1.1 Overview

Your LTE2566-M634 (**A**) is a 4G LTE router that allows you to share Internet Access via WiFi anytime. The LTE2566-M634 supports 4G/3G multi-mode and complies with the IEEE 802.11a/b/g/n/ac standards. It can provide data rates of up to 300Mbps to up to 32 simultaneous WiFi clients. The LTE2566-M634's slim design is easy to use anywhere anytime and leaves your smartphone's bandwidth and battery free for other purposes.
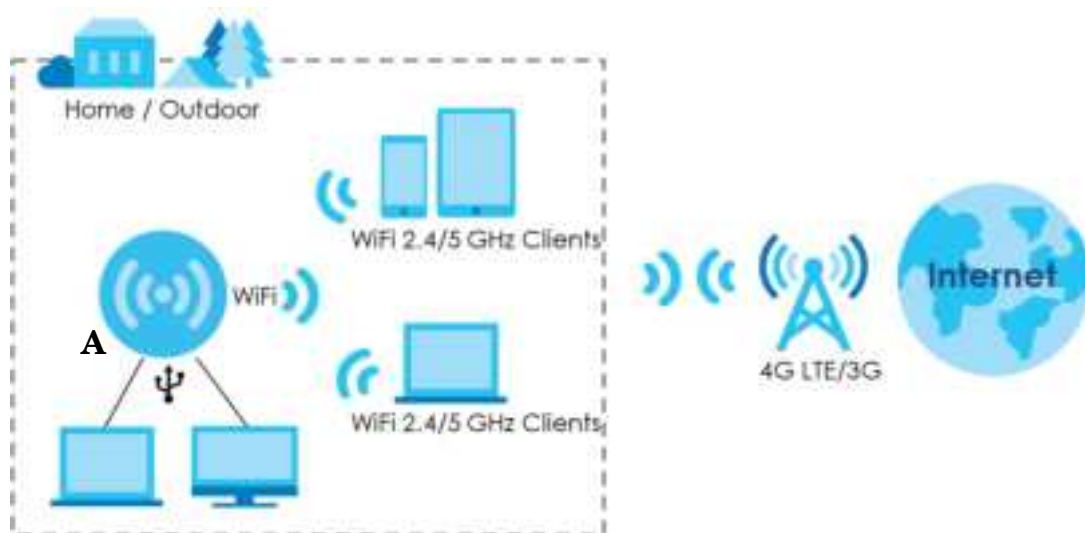
1.2 Applications

You can have the following networks with the LTE2566-M634:

- **Wireless LAN (WiFi):** Wireless clients can connect to the LTE2566-M634 using the network's **SSID** and **Password**. For WPS-compatible devices you can create an instant network connection using WPS (WiFi Protected Security).

- **WAN**: Connect to a mobile network for Internet access.

1.3 Ways to Manage the LTE2566-M634

• **Navigation Buttons**

You can use the navigation buttons along with the LCD interface to manage the LTE2566-M634.

• **Web Configurator**

The Web Configurator is recommended for everyday management by using a supported web browser.

1.4 Hardware Description

The following images show the front and side panels of the LTE2566-M634.

Figure 1 Front Panel

You can use the center, right, and left buttons to navigate the LCD screen.

• Press the center button to select the **Menu** button on the LCD and go to the **Menu** screen.

Figure 2   Menu Button

- The **Menu** screen appears. Press the left or right button to scroll up and down and then press the center button to select an option.

Figure 3   Menu Screen

Figure 4   Left Panel

Figure 5   Right Panel
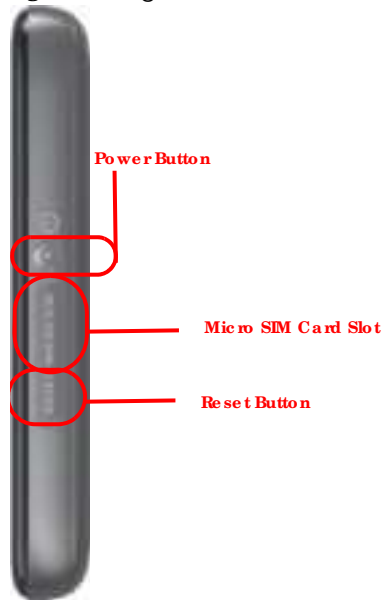
1.4.1 Power Button

Use the power button on the side panel to turn the LTE2566-M634 on or off. To turn on, press the power button for 3 seconds until the LCD screen displays **ZYXEL**.

Power Off

To turn the LTE2566-M634 off, press the power button once to wake up the LCD, then press for 3 seconds and release it when the LCD screen displays **Shut down.**

1.4.2 Hardware Connections

See your Quick Start Guide for more information about hardware installation.

1.4.3 Reset the LTE2566-M634

Remove the SIM card cover. Use a SIM ejector pin or a paper clip to press the reset button and release it when the LCD screen displays **Reset**.

This resets the LTE2566-M634 to the factory default configuration. This means that you will lose all configurations that you had previously, such as WiFi SSID and password.

1.5 LCD Screens

This section describes the labels or icons displayed on the LCD screen of your LTE2566-M634. When the LTE2566-M634 first turns on the following example screen displays.

Figure 6   LCD Home Screen

The following table describes the labels in this screen.

Table 1   LTE2566-M634's LCD Home Screen
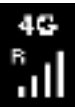
LABEL	DESCRIPTION

	This displays the type of network your LTE2566-M634 is connected to and its signal strength. Your network can be either **3G** or **4G**.
	
	  This displays if the SIM card could not be detected by the LTE2566-M634.
	
	  This displays if the SIM card's data plan cannot be used in another country.
	
	  This displays when the LTE2566-M634 cannot access the SIM card because it is locked.

	This displays when the LTE2566-M634 is receiving/transmitting data to/from the Internet.
	This displays the WiFi network status. The number indicates how many clients are currently connected to the LTE2566-M634.

Table 1   LTE2566-M634's LCD Home Screen (continued)

LABEL	DESCRIPTION
✉	This displays when the LTE2566-M634 receives an SMS (Short Message Service) message.
[battery icon]	This icon shows the LTE2566-M634 battery life.
Service provider	This shows your LTE2566-M634's Internet Service Provider.
[up/down arrows 10.2 mbps / 36.2 mbps]	This displays the LTE2566-M634's speed when receiving/transmitting data to/from the Internet.

1.5.1 LCD Menu Screen

Press the center button to select the **Menu** button on the LCD. The LCD Menu screen appears. Press the left or right button to scroll up and down and then press the center button to select an option.

Figure 7

The following table describes the labels in the Menu screen.

Table 2   LCD Menu Screen

LABEL	DESCRIPTION
Network Connection	Use **Network Connection** to see your network status and to connect to a 3G/4G network.
Data Usage	Use **Data Usage** to activate data control on the LTE2566-M634.
WiFi Setting	Use **WiFi Setting** to enable 2.4GHz / 5GHz WiFi.
SSID & Password	Use **SSID & Password** to allow a client device to find this SSID and enter the Password to connect wirelessly to the LTE2566-M634.
WPS	If your client supports WPS, use **WPS** to connect wirelessly to the LTE2566-M634.
SMS	Use **SMS** to check SMS messages.
About	Use **About** to see the LTE2566-M634 hardware/firmware information.

1.5.2 Network Connection

To show the network status and connect to the network service, press the left or right button to navigate to **Network Connection** and the center button to select it.

Figure 8 Network Connection Screen

The following table describes the labels in this screen.

Table 3   Network Connection Screen

LABEL	DESCRIPTION
Status	This displays the network status of the LTE2566-M634.
Operator	This displays the service provider's name of your 3G/4G network (WAN).
Mode	This displays the current mode of your LTE2566-M634 (**4G or 3G**).
Wan IP	This displays the current IP address of the LTE2566-M634 in the WAN.
DNS IP	This displays the DNS server address assigned to the LTE2566-M634.
Connect/Disconnect	Click this button to enable/disable WAN network services.
Menu	Click this button to return to the **Menu** list.

1.5.3 Data Usage

To show the amount of data usage on the WAN, press the left or right button to go to **Data Usage** and the center button to select it. The following screen displays.

Figure 9 Data Usage Screen
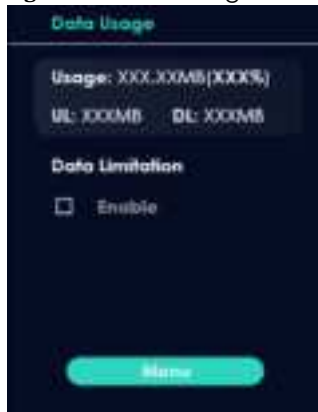
The following table describes the labels in this screen.

Table 4   Data Usage Screen

LABEL	DESCRIPTION
Usage	This displays the mobile data used in total by your LTE2566-M634 in Kilobytes (KB), Megabytes (MB), or Gigabytes (GB).
UL	This displays the amount of data in KB/MB/GB currently uploaded by the LTE2566-M634.
DL	This displays the amount of data in KB/MB/GB currently downloaded by the LTE2566-M634.
Data Limitation	Use the Web Configurator to set a data cap which prevents you from using a certain amount of data. Click to **Enable** notification on the LCD when 80% and 100% of data usage is reached. For example, you can set the limit at 100 MB. The LCD will display **Data Usage Reach 80% Limit** when 80% of data usage is reached. Once you reach that limit, the LCD will display **! Data Usage Reach 100% Limit** and your cellular data will turn off. To continue using data after the limit is reached, click **Enable** to disable data limitation.
Menu	Click this button to return to the **Menu** list.

Note: You can only use Web Configurator to select the date of the month on which the LTE2566-M634 restarts calculating the amount of data used every month. See Section 7.6 on page 56 for more information.

1.5.4 WiFi Setting

To enable the WiFi clients (up to 32) to connect to the 2.4GHz / 5GHz WiFi band, press the left or right button to go to **WiFi Setting** and the center button to select it. The following screen displays.

Figure 10   WiFi Setting Screen
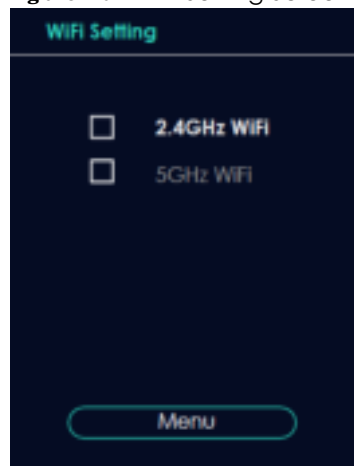
The following table describes the labels in this screen.

Table 5   WiFi Setting Screen

LABEL	DESCRIPTION
2.4GHz WiFi	Click **2.4GHz WiFi** to enable WiFi clients to connect to the 2.4GHz WiFi band.
5GHz WiFi	Click **5GHz WiFi** to enable WiFi clients to connect to the 5GHz WiFi band.
Menu	Click this button to return to the **Menu** list.

1.5.5 SSID & Password Setting

To find the **SSID** and **Password** to enable WiFi clients to connect wirelessly to the LTE2566-M634:

1   Press the navigation buttons to go to **SSID & Password.**

2   Press the center button to show **2.4GHz Wi-Fi SSID** and **Password**.

3   Press the center button to show **5GHz Wi-Fi SSID** and **Password**.

The following screens display. From another device, find this **SSID** and enter the **Password** to connect wirelessly to the LTE2566-M634. Alternatively, use the QR code to scan the SSID and Password.

Figure 11   2.4GHz/5GHz Wi-Fi SSID & Password Screens

1.5.6 WPS

Your LTE2566-M634 supports WiFi Protected Setup (WPS), which is an easy way to set up a secure WiFi network. WPS is an industry standard specification, defined by the WiFi Alliance.

WPS allows you to quickly set up a WiFi network with strong security, without having to configure security settings manually. Each WPS connection works between two devices. Both devices must support WPS (check each device's documentation to make sure). When WPS is activated on a device, it has two minutes to find another device that also has WPS activated. Then, the two devices connect and set up a secure network by themselves.

You can use the LCD of the LTE2566-M634 to activate WPS in order to quickly set up a WiFi network with strong security.

1   Press the power button to turn on the LCD.

2 Press the center button that corresponds to the **Menu** button on the LCD.

3 Press the left or right button to select **WPS** and then press the center button.

Figure 12 WPS Screen

Figure 13 2.4GHz / 5GHz WPS

4 Use the left or right button to choose **2.4GHz WPS** or **5GHz WPS** and then press the center button to select it. The 120-second counter starts.

5 Press the WPS button on another WPS-enabled device within range of the LTE2566-M634.

Note: You must activate WPS on the LTE2566-M634 and on another device within 2 minutes of each other.

1.5.7 Viewing SMS

SMS (Short Message Service) allows you to view the text messages that the LTE2566-M634 received from mobile devices or the service provider.

When the SMS box is full the LTE2566-M634 will begin to store text messages in the SIM card. When the SIM card is full, the LTE2566-M634 will stop storing new SMS messages.

Press the left or right button to go to **SMS** and the center button to select it. The following screen displays.

Figure 14 SMS Screen

Use the left, right, and center buttons to select an unread SMS .

1 Use the center button to select **Check** and view the SMS content.

2 Select **Cancel** to return to the SMS list.

3 Select **Menu** to return to the **Menu** list.

Figure 15 Select an SMS

After reading an SMS message, press the center button to return to the SMS list.

Note: It is highly recommended to delete a read SMS to prevent the SMS box from getting full. You can only delete SMS messages using the Web Configurator.

1.5.8 About Screen

To show the LTE2566-M634's hardware/firmware information, press the left or right button to go to **About** and the center button to select it.

The following table describes the labels in this screen.

Table 6   About Screen

LABEL	DESCRIPTION
Web	This displays **http://192.168.1.1**. Launch your web browser and go to **http://192.168.1.1** to access the Web Configurator.
Firmware	This displays the present firmware version of your LTE2566-M634.
SN	This displays the serial number issued by the manufacturer for your LTE2566-M634.
IMEI	This displays the International Mobile Equipment Number (IMEI) which is the serial number of the built-in 3G/4G module. IMEI is a unique 15-digit number used to identify a mobile device.
IMSI	This displays the International Mobile Subscriber Identity (IMSI) of the installed SIM card. An IMSI is a unique ID used to identify a mobile subscriber in a mobile network.
MAC	This displays the MAC address of the LTE2566-M634.
Main	Click this button to return to the **Menu** list.

Note: The LCD screen turns off after 45 seconds if it is idle. Press the power button once to turn the LCD screen on again.

PART I
User's Guide

CHAPTER 2
Web Configurator

2.1 Introduction

The Web Configurator is an HTML-based management interface that allows easy LTE2566-M634 setup and management via Internet browser. Use a browser that supports HTML5, such as an Internet Explorer 11, Mozilla Firefox, or Google Chrome. The recommended screen resolution is 1920 by 1080 pixels.

In order to use the Web Configurator you need to allow:

- JavaScript (enabled by default).

2.2 Accessing the Web Configurator

1 Use the included USB cable to connect your LTE2566-M634 to a computer (refer to the Quick Start Guide).

2 Make sure your computer has an IP address in the same subnet as the LTE2566-M634. Your computer should have an IP address from 192.168.1.2 to 192.168.1.254. See your computer help or refer to .

3 Launch your web browser. Go to http://192.168.1.1.

4 A login screen displays. To access the administrative Web Configurator and manage the LTE2566-M634, type the default username **admin** and password **1234** in the login screen and click **Login**. If you have changed the password, enter your password and click **Login**.
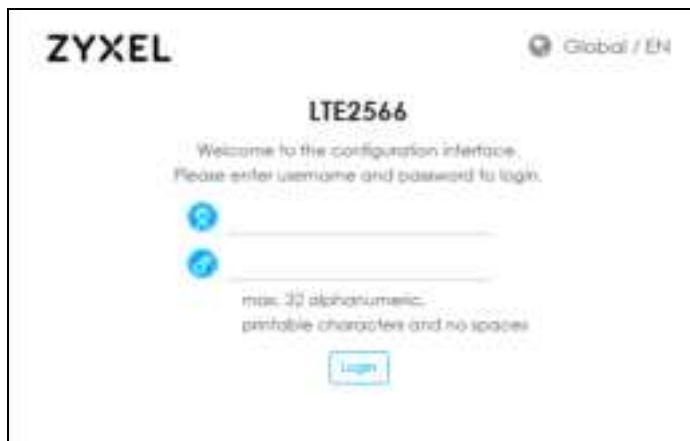
5 The following screen displays if you have not changed your password yet. Enter a new password, retype it to confirm, and click **OK**.

6   After changing your password you are automatically logged out. Log in again with your new password. The **Status** screen appears. Use this screen to view your device's information and status, your mobile connection status and Internet traffic details.

2.3 Navigating the Web Configurator

The following section summarizes how to navigate the Web Configurator starting from the **Status** screen.

Figure 16 The Web Configurator's Main Screen

- **A** - Title Bar
- **B** - Navigation Panel: Main Menus
- **C** - Navigation Panel: Sub-Menus
- **D** - Main Window

2.3.1 Title Bar

The title bar provides some useful links that always appear over the screens below, regardless of how deep into the Web Configurator you navigate.

Figure 17 Title Bar
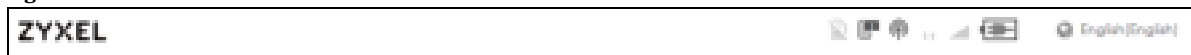
The icons provide the following functions.

Table 7   Title Bar: Web Configurator Icons

LABEL	DESCRIPTION
SIM	This shows whether a SIM card is inserted in the LTE2566-M634. The icon shows if there is no SIM card inserted.
Connected Devices	This displays the number of devices currently connected to the LTE2566-M634.
WiFi	This shows whether the LTE2566-M634's WiFi network is active.
	This displays when the LTE2566-M634 is receiving/transmitting data to/from the Internet.
Signal Strength	This shows the current signal strength to the mobile network. The icon is grayed out if the mobile data connection is not up.

Table 7   Title Bar: Web Configurator Icons (continued)

LABEL	DESCRIPTION
Roaming	This shows an **R** when the LTE2566-M634 is connected to another service provider's mobile network using roaming.
Battery	The icon shows the battery status.
Language	Choose your language from the drop-down list on the upper right corner of the title bar.

2.3.2 The Main Window

The main window displays information and configuration fields. It is discussed in the rest of this document.

After you log in the **Status** screen is displayed. See for more information about the Status screen.

2.3.3 Navigation Panel: Main Menus

Use the menu items in the navigation panel: main menus to open screens to configure LTE2566-M634 features.

Figure 18   Navigation Panel: Main Menus

2.3.4 Navigation Panel: Sub-Menus

Use plus and minus signs to expand and collapse the sub-menus in the navigation panel: sub-menus. The following sections introduce the LTE2566-M634's navigation panel menus and their screens.

Figure 19   Navigation Panel: Sub-Menus
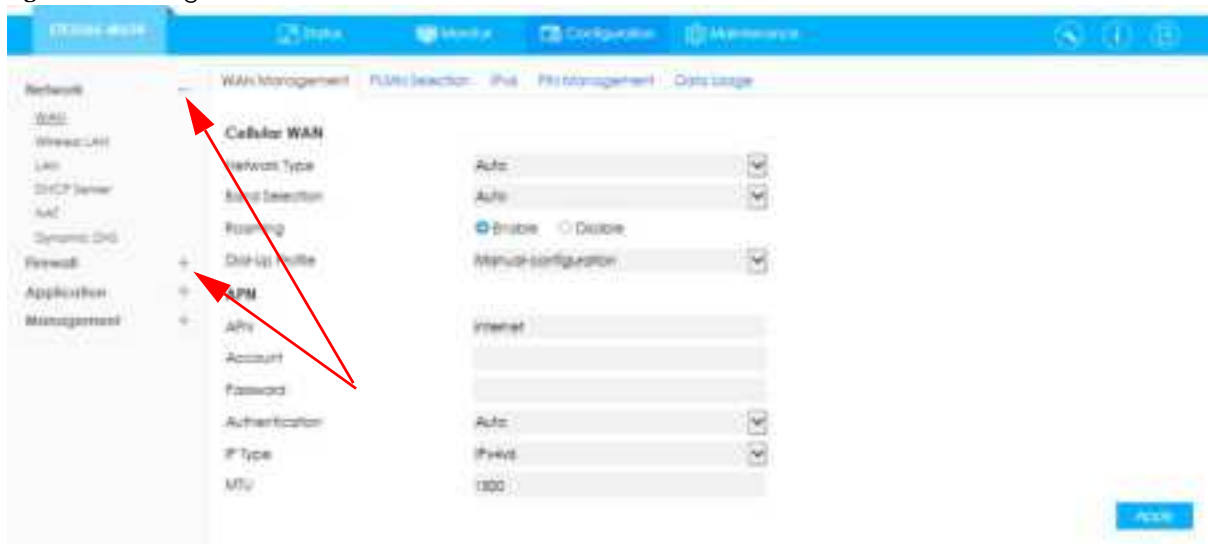
The following table describe each menu item and icons.

Table 8   Navigation Panel Summary

LINK	TAB	DESCRIPTION
Status		Use this screen to view the network status of the LTE2566-M634 and devices connected to it.
Monitor		
Log	View Log	Use this screen to view the LTE2566-M634 system logs.
DHCP Table	DHCP Table	Use this screen to obtain an IP address for a device in the LTE2566-M634's LAN.
ARP Table	ARP Table	Use this screen to view the IP-to-MAC address mappings. It also shows the MAC address mapped to a static (manually configured) IP address.
Packet Statistics	Packet Statistics	Use this screen to view port status and packet specific statistics.
LTE Modem	LTE Modem Status	Use this screen to view information on your ISP, and your SIM status.
Configuration		
Network		
WAN	WAN Management	This screen allows you to configure ISP parameters, WAN IP address assignment, and DNS servers.
	PLMN Selection	Use this screen to view available Public Land Mobile Networks (PLMNs) and select a preferred network.
	IPv6	Use this screen to configure the LTE2566-M634's IPv6 settings.
	PIN Management	Use this screen to enable PIN code authentication and enter the PIN code.
	DATA Usage	Specify limiting the amount of the package data and view the LTE2566-M634's traffic statistics.
Wireless LAN	General	Use this screen to enable the wireless LAN and configure wireless LAN and wireless security settings.
	Guest AP	Use this screen to configure multiple BSSs on the LTE2566-M634.
	MAC Filter	Use the MAC filter screen to allow or deny wireless stations based on their MAC addresses from connecting to the LTE2566-M634.
	Advanced	This screen allows you to configure advanced wireless LAN settings.
	WPS Setup	Use this screen to configure the WPS settings.
	WPS Station	Use this screen to add a wireless station using WPS.
LAN	IP	Use this screen to configure LAN IP address and subnet mask.
DHCP Server	General	Use this screen to enable the LTE2566-M634's DHCP server.
	Advanced	Use this screen to assign IP addresses to specific individual computers based on their MAC addresses and to have DNS servers assigned by the DHCP server.
	Client List	Use this screen to view information related to your DHCP status.
NAT	Port Forwarding	Use this screen to configure servers behind the LTE2566-M634 and forward incoming service requests to the server(s) on your local network.
	Port Trigger	Use this screen to change your LTE2566-M634's port triggering settings.
	ALG	Use this screen to enable or disable SIP (VoIP) ALG (Application Layer Gateway) in the LTE2566-M634.
	DMZ	Use this screen to configure a default server.
Dynamic DNS	Dynamic DNS	Use this screen to set up dynamic DNS.
Firewall		

Table 8   Navigation Panel Summary (continued)

LINK	TAB	DESCRIPTION
General	Firewall Setup	Use this screen to activate/deactivate the firewall.
ICMP	ICMP Protection	Use this screen to enable WAN and LAN ping respond.
IPv4 Port Filter	IPv4 Port Filter	Use this screen to configure IPv4/Port filtering rules.
URL Filter	URL Filter	Use this screen to configure URL filtering rules.
Application		
SMS	SMS summary	Use this screen to view the SIM card's SMS inbox and send short messages.
	New SMS	Use this screen to send messages using the LTE2566-M634.
	SMS Inbox List	Use this screen to view messages received on the LTE2566-M634.
	SMS Draft Box	Use this screen to view messages not yet sent from the LTE2566-M634.
	SMS Outbox List	Use this screen to view messages sent from the LTE2566-M634.
USSD	USSD	Use this screen to send USSD (Unstructured Supplementary Service Data) messages on the LTE2566-M634.
Phonebook	Phonebook	Use this screen to enter the phone number to which you want to send a text message.
	Groups	Use this screen to manage your phonebook on the LTE2566-M634.
Management		
MGMT Interface	Local MGMT	Use this screen to specify from which zones you can access the LTE2566-M634 using HTTP or HTTPS.
	Remote MGMT	Use this screen to enable specific traffic directions for network services.
UPnP	UPnP	Use this screen to enable UPnP on the LTE2566-M634.
TR-069	TR-069	Use this screen to configure your LTE2566-M634 to be managed by an ACS.
Maintenance		
General	General	Use this screen to view and change administrative settings such as system and domain names.
User Account	User Account	Use this screen to change the user name and password of your LTE2566-M634.
Time	Time Setting	Use this screen to change your LTE2566-M634's time and date.
Power Saving	Power Saving	Use this screen to configure the LTE2566-M634 sleep mode.
	LCD Display	Use this screen to change the LTE2566-M634 display timeout setting.
Firmware Upgrade	Firmware Upgrade	Use this screen to upload firmware to your LTE2566-M634.
Backup/Restore	Backup/Restore	Use this screen to backup and restore the configuration or reset the factory defaults to your LTE2566-M634.
Reboot	System Reboot	This screen allows you to reboot the LTE2566-M634 without turning the power off.
Reset	System Reset	Use this screen to reset the LTE2566-M634 and return it to factory default settings.
Wizard		Click this to access the Wizard and configure the LTE2566-M634's basic settings.
Information		Click this to access Zyxel's homepage.
Logout		Click this to log out from the LTE2566-M634's Web Configurator.

C HAPTER 3
Setup Wizard

3.1 Overview

This chapter provides information on the wizard setup screens in the Web Configurator.

The Web Configurator's wizard helps you configure your device to access the Internet and change the wireless LAN settings. Refer to your ISP for your Internet account information. Leave a field blank if you do not have that information.

3.2 Accessing the Wizard

1 Launch your web browser and type "http://192.168.1.1" as the website address. Type "admin" (default) as the user name, "1234" (default) as the password and click **Login**.

2 Click the **Wizard** icon in the navigation panel of the Web Configurator to open the Wizard screen.

Figure 20   Title Bar: Wizard Icon

3.3 Wizard Setup

1 The first Wizard screen displays the **Setup Time Zone** screen. Select the location of the LTE2566-M634 from the drop-down menu and click **Next**.

Figure 21 Wizard: Setup Time Zone

2   The **Internet Configuration** screen appears. Use this screen to configure the APN (Access Point Name) provided by your ISP (Internet Service Provider). Select **Auto-Detection** so the LTE2566-M634 can get the connection parameters automatically. Select **Manual-Configuration** to enter a connection profile provided by your ISP. Click **Next**.

Figure 22 Wizard: Internet Configuration

3   The Data Usage screen appears. Select **Enable** to activate a limiting amount of package data. Enter the Maximum allowance of data and set up notifications for when you reach it. Click **Next**.

Figure 23 Wizard: Data Usage

4 Use this screen to enable or disable the LTE2566-M634's 2.4G wireless LAN, and enter the wireless network name (SSID). Select a channel or use **Auto** to have the LTE2566-M634 automatically determine a channel to use. Click **Next**.

Figure 24 Wizard: Wireless settings-Setup - 2.4G

5 Use this screen to enable or disable the LTE2566-M634's 5G wireless LAN, and enter the wireless network name (SSID). Select a channel or use **Auto** to have the LTE2566-M634 automatically determine a channel to use. Click **Next**.

Figure 25 Wizard: Wireless settings-Setup - 5G

6 For **Wireless setting- Setup - 2.4G**, select **WPA2-PSK** and enter a pre-shared key from 8 to 63 case-sensitive characters, including special characters and numbers for data encryption. The 2.4G wireless clients which want to associate with this wireless network must have the same wireless security settings. Otherwise, select **OPEN** to allow any client to associate with this network without any data encryption or authentication. Click **Next**.

Figure 26 Wizard: Security Setup - 2.4G

7 For **Wireless setting- Setup - 5G**, select **WPA2-PSK** and enter a pre-shared key from 8 to 63 case-sensitive characters, including special characters and numbers for data encryption. The 5G wireless clients which want to associate with this wireless network must have the same wireless security settings. Otherwise, select **OPEN** to allow any client to associate with this network without any data encryption or authentication. Click **Apply** to save your settings. Otherwise, click **Back** to go back to the previous screens. You are now ready to access the Internet and allow wireless clients to connect to your LTE2566-M634. For more information about Wireless LAN see Section 8.2 on page 60.

Figure 27 Wizard: Security Setup - 5G

CHAPTER 4
Tutorials

4.1 Overview

This chapter shows you how to use the LTE2566-M634's various features using the Web Configurator.

- Set Up Your WiFi Network
- Connect to the LTE2566-M634 WiFi Network
- Set Up a Wireless Network Using WPS
- Configure Data Usage and Statistics

4.2 Set Up Your WiFi Network

You can change the LTE2566-M634's WiFi network name and password. It is recommended you change your password regularly for your own security. Use a password that is not easy to guess and that consists of different types of characters, such as numbers and letters.

1 Go to the **Configuration > Wiireless lAN > General** screen to configure the LTE2566-M634 WiFi network settings. After changing the WiFi settings click **Apply** to save your changes.
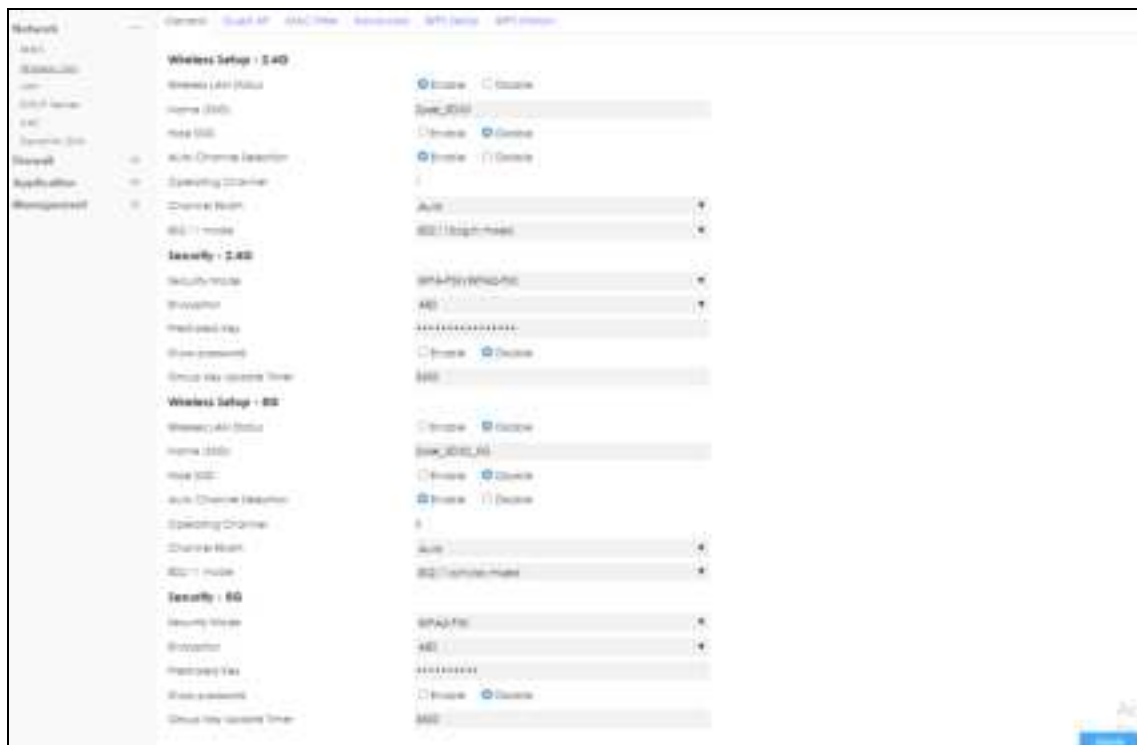
2 When your changes are applied you will be disconnected from the LTE2566-M634. Connect to the LTE2566-M634's WiFi network once again with the new WiFi settings.

4.3 Connect to the LTE2566-M634 WiFi Network

In this example, you have changed the LTE2566-M634's wireless settings in the wizard to the following settings.

SSID	SSID_Example3
Channel	6
Security	WPA2-PSK
	(Pre-Shared Key: ThisismyWPA-PSKpre-sharedkey)

Note: In this example, we use a Windows 7 laptop that has a built-in wireless adapter as the wireless client.

1 The LTE2566-M634 supports IEEE 802.11 a/b/g/n/ac wireless clients. Make sure that your notebook or computer's wireless adapter supports one of these standards.

2 Click the WiFi icon in your computer's system tray.
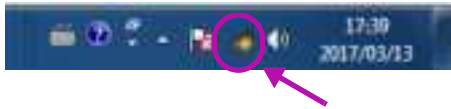
3 The **Wireless Network Connection** screen displays. Click the refresh button to update the list of the available wireless APs within range.

4 Select **SSID_Example3** and click **Connect**.

5 The following screen displays if WPS is enabled on the LTE2566-M634 but you didn't press the WPS button. Click **Connect using a security key instead**.

6 Type the security key in the following screen. Click **OK**.

7 Check the status of your wireless connection in the screen below.

8 If the wireless client keeps trying to connect to or acquiring an IP address from the LTE2566-M634, make sure you entered the correct security key.

If the connection has limited or no connectivity, make sure the DHCP server is enabled on the LTE2566-M634.

If your connection is successful, open your Internet browser and enter http://www.zyxel.com or the URL of any other web site in the address bar. If you are able to access the web site, your wireless connection is successfully configured.

4.4 Set Up a Wireless Network Using WPS

This section gives you an example of how to set up wireless network using WPS. This example uses the LTE2566-M634 as the AP and a WPS-enabled Android smartphone as the wireless client.

The Push Button Configuration (PBC) is a WPS method for creating a secure connection. PBC creates a secure wireless network simply by pressing a button.

Follow these steps to successfully connect your WPS compatible device with the LTE2566-M634.

1 Make sure that your LTE2566-M634 is turned on. Make sure the wireless LAN is turned on, and that the LTE2566-M634 is placed within range of the device you want to connect.

2 Press the WPS button for 1 second on the LTE2566-M634's side panel.

3 Go to your phone settings and turn on WiFi. Open the WiFi networks list and tap WPS Push Button or the WPS icon ( ).

Note: It does not matter which button is pressed first. You must press the second button within two minutes of pressing the first one.

The LTE2566-M634 sends the proper configuration settings to the wireless client. This may take up to two minutes. Then the wireless client is able to communicate with the LTE2566-M634 securely.

The following figure shows you an example to set up wireless network and security by pressing a button on both LTE2566-M634 and wireless client (the Android smartphone in this example).

Figure 28   Example WPS Process: PBC Method
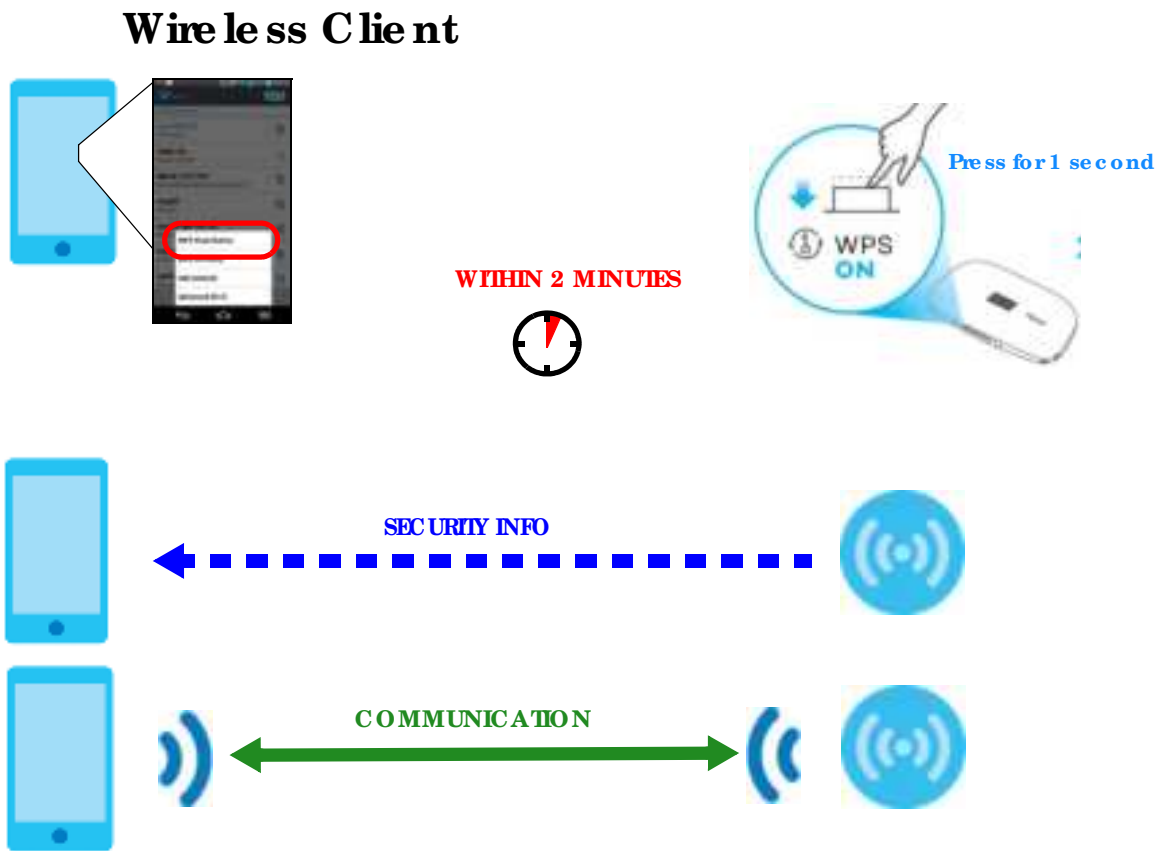
4.5 Configure Data Usage and Statistics

This tutorial shows you how to set up a limited allowance of data.

Dani traveled to a foreign country with her two friends. They purchased a SIM card with a limited data package plan of 15GB that will help them with directions and entertainment during their trip. Dani brought her LTE2566-M634 to share Internet wherever they go during their stay, whilst saving their phone's battery for pictures and more. They cannot go over the purchased data package plan, because it will result in additional costs for them. To control this Dani can set up a data usage limit in the LTE2566-M634, and notifications that will let them know when they are reaching the limit.

Go to **Configuration > Network > Data Usage** screen. Click **Enable** to set up a maximum allowance for data to 1.2GB in the **Total allowance** field. Set up a notification for when 80% of the limit is reached. Click **Apply** to save your changes.
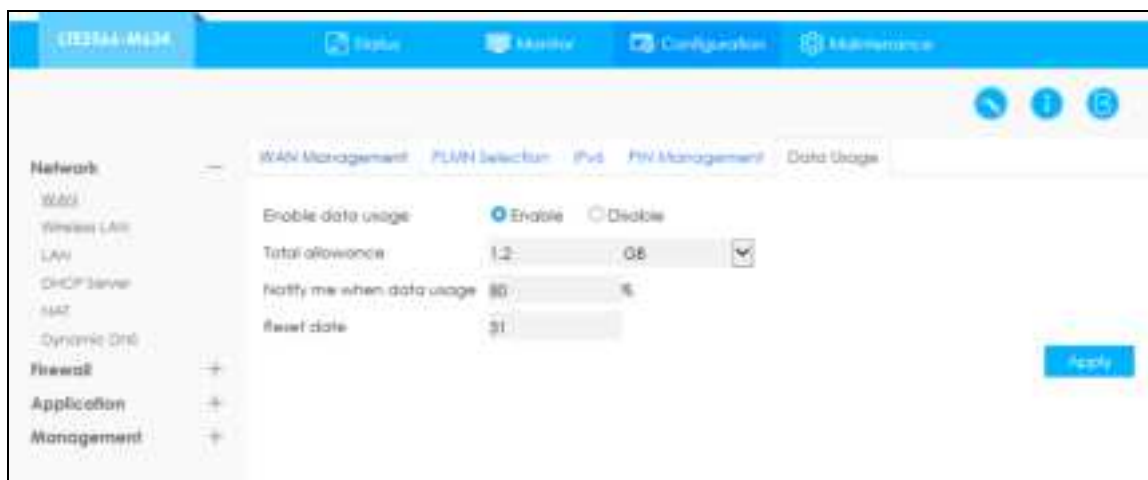
PART II

Technical Reference

CHAPTER 5
Status

5.1 Overview

Use the **Status** screen to check status information about the LTE2566-M634.

5.2 Status

This screen is the first thing you see when you log into the LTE2566-M634. It also appears every time you click the **Status** icon in the navigation panel. The **Status** screen displays the LTE2566-M634's connection mode, wireless LAN information and traffic statistics.

Figure 29 Status
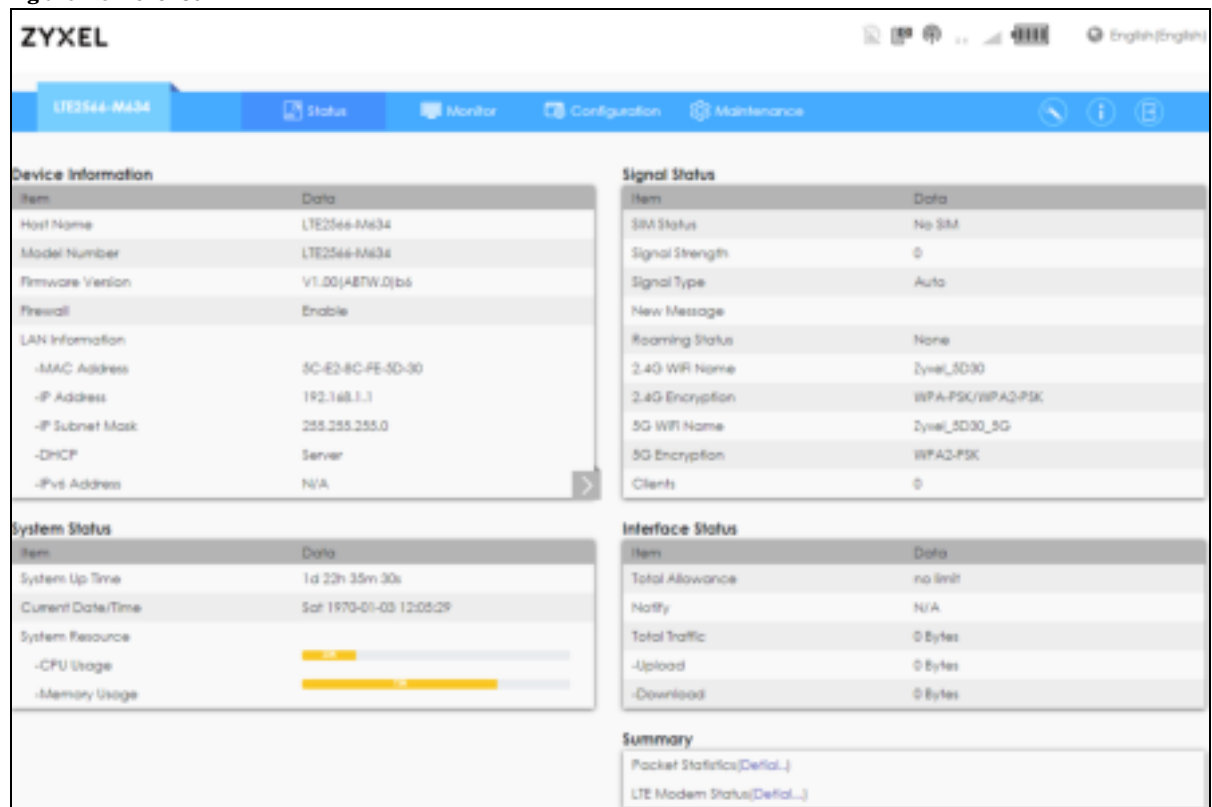
The following table describes the labels in this screen.

Table 9   Home

LABEL	DESCRIPTION
Device Information	
Host Name	This field displays the LTE2566-M634 system name. It is used for identification.
Model Number	This shows the model number of your Zyxel device.
Firmware Version	This is the current version of the firmware inside the LTE2566-M634.
Firewall	This shows **Enable** when the firewall is activated. Otherwise, it shows **Disable**.
WAN Information (These fields display when you have a WAN Connection) To change from **WAN information** to **LAN Information** click the gray arrow ▢.	
MAC Address	This shows the WAN Ethernet adapter MAC address of your device.
IP Address	This field displays the current IPv4 address of the LTE2566-M634 in the WAN.
IP Subnet Mask	This field displays the current subnet mask in the WAN.
Default Gateway	This shows the WAN port's gateway IP address.
Operation Band	This field displays the frequency band on which your ISP is operating.
LAN Information To change from **LAN information** to **WAN Information** click the gray arrow ▢.	
MAC Address	This shows the LAN MAC (Media Access Control) Address of your LTE2566-M634.
IP Address	This is the current IPv4 address of the LTE2566-M634 in the LAN.
IP Subnet Mask	This is the current subnet mask in the LAN.
DHCP	This field displays what DHCP services the Device is providing to the LAN. Choices are: **Server** - The Device is a DHCP server in the LAN. It assigns IP addresses to other devices in the LAN. **None** - The Device is not providing any DHCP services to the LAN.
IPv6 Address	This is the current IPv6 address of the LTE2566-M634 in the LAN.
System Status	
System Up Time	This field displays how long the LTE2566-M634 has been running since it last started up. The Device starts up when you plug it in, when you restart it (**Maintenance > Reboot**), or when you reset it.
Current Date/Time	This field displays the current date and time in the Device. You can change this in **Maintenance > Time**.
System Resource	
CPU Usage	This field displays what percentage of the LTE2566-M634's processing ability is currently used. When this percentage is close to 100%, the LTE2566-M634 is running at full load, and the throughput is not going to improve anymore.
Memory Usage	This field displays what percentage of the Device's memory is currently used. Usually, this percentage should not increase much. If memory usage does get close to 100%, the LTE2566-M634 is probably becoming unstable, and you should restart the device.
Signal Status	
SIM Status	This displays the status of the attached SIM card. **No SIM** displays if there is no SIM card inserted.
Signal Strength	This displays the current signal strength to the mobile network.
Signal Type	This shows the type of the mobile network (LTE and 3G) to which the LTE2566-M634 is connecting.
New Message	This displays the number of new messages received in your SIM card.

Table 9   Home (continued)

LABEL	DESCRIPTION
Roaming Status	This displays whether the LTE2566-M634 is connected to another service provider's mobile network using roaming.
2.4 WiFi Name	This displays a descriptive name used to identify the LTE2566-M634 in the 2.4G wireless LAN.
2.4G Encryption	This displays the level of 2.4G wireless security the LTE2566-M634 is using.
5G WiFi Name	This displays a descriptive name used to identify the LTE2566-M634 in the 5G wireless LAN.
5G Encryption	This displays the level of 5G wireless security the LTE2566-M634 is using.
Clients	This displays the total number of devices connected to the LTE2566-M634.
Interface Status	
Total Allowance	This displays the total limiting amount of data that can be used by the LTE2566-M634.
Notify	
Total Traffic	This displays the total traffic flow transmitting from/to the LTE2566-M634.
Upload	This displays the number of transmitted packets on the LTE2566-M634.
Download	This displays the number of received packets on the LTE2566-M634.
Summary	
Packet Statistics	Click **Detail...** to access the **Monitor > Packet Statistics** screen, and view port status and packet specific statistics.
LTE Modem Status	Click **Detail...** to access the **Monitor > LTE Modem Status** screen, and view information on your ISP, and your SIM status.

CHAPTER 6
Monitor

6.1 Overview

This chapter discusses read-only information related to the device state of the LTE2566-M634.

To access the **Monitor** screens, click [Monitor] after login.

You can also click the links in the Summary table of the **Status** screen to view the packets sent/received as well as the status of your WAN connection.

6.1.1 What You Can Do in this Chapter

- Use the **Log** screen to see the logs for the activity on the LTE2566-M634 (Section 6.2 on page 44).
- Use the **DHCP Table** screen to view information related to your DHCP status (Section 6.3 on page 45).
- Use the **ARP Table** screen to view the mappings of IP and MAC addresses. (Section 6.4 on page 46).
- Use the **Packet Statistics** screen to view port status, packet specific statistics, the "system up time" and so on (Section 6.5 on page 47).
- Use the **LTE Modem Status** screen to view the detailed information about the LTE module, cellular interface, and SIM card. You can also check the LTE connection status (Section 6.6 on page 47).

6.2 The Log Screen

The Web Configurator allows you to look at all of the LTE2566-M634's logs in one location.

Use the **Log** screen to see the logged messages for the LTE2566-M634. The log wraps around and deletes the old entries after it fills. Click **Refresh** to renew the log screen. Click **Clear Log** to delete all the logs.

Figure 30   Log
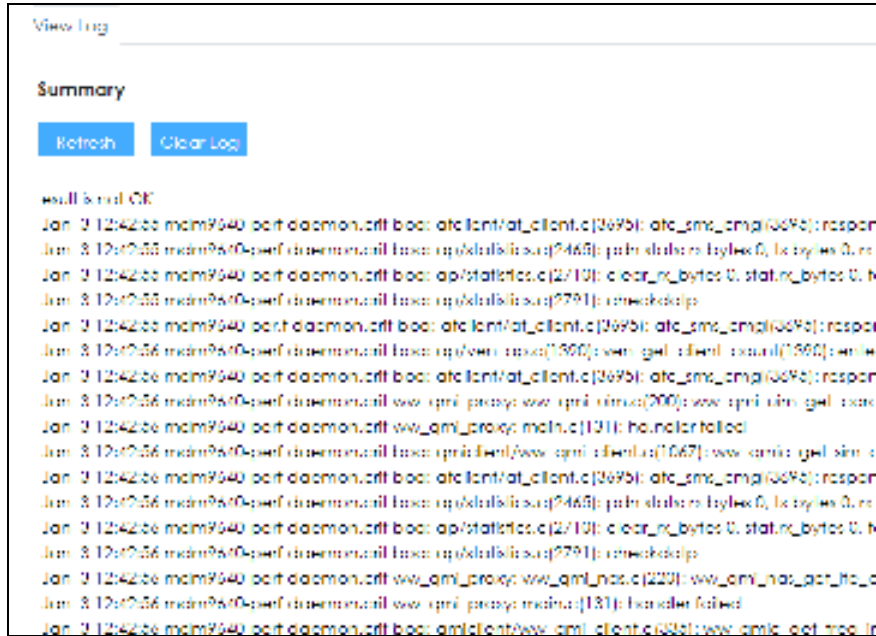
6.3 DHCP Table

DHCP (Dynamic Host Configuration Protocol, RFC 2131 and RFC 2132) allows individual clients to obtain TCP/IP configuration at start-up from a server. You can configure the LTE2566-M634's LAN as a DHCP server or disable it. When configured as a server, the LTE2566-M634 provides the TCP/IP configuration for the clients. If DHCP service is disabled, you must have another DHCP server on that network, or else the device must be manually configured.

Click **Monitor > DHCP Table**. Read-only information here relates to your DHCP status. The DHCP table shows current DHCP client information (including **MAC Address** and **IP Address**) of all network clients using the LTE2566-M634's DHCP server.

Figure 31   Monitor > DHCP Table

The following table describes the labels in this screen.

Table 10   Monitor > DHCP Table

LABEL	DESCRIPTION
#	This is the index number of the host device.
Host Name	This field displays the device host name.
IP Address	This field displays the IP address relative to the # field listed above.
MAC Address	This field shows the MAC address of the device with the name in the **Host Name** field. Every Ethernet device has a unique MAC (Media Access Control) address which uniquely identifies a device. The MAC address is assigned at the factory and consists of six pairs of hexadecimal characters, for example, 00:A0:C5:00:00:02.
Reserve	Select this if you want to reserve the IP address for this specific MAC address.
Refresh	Click **Refresh** to update this screen.
Apply	Click **Apply** to save your changes back to the LTE2566-M634.

6.4 ARP Table

Address Resolution Protocol (ARP) is a protocol for mapping an Internet Protocol address (IP address) to a physical machine address, also known as a Media Access Control or MAC address, on the local area network.

Use the ARP table to view IP-to-MAC address mapping(s).

Figure 32   Monitor > ARP Table

The following table describes the labels in this screen.

Table 11   Monitor > ARP Table

LABEL	DESCRIPTION
#	This is the index number of the entry.
IP Address	This is the learned IPv4 or IPv6 IP address of a device connected to a port.
MAC Address	This is the MAC address of the device with the listed IP address.

Table 11   Monitor > ARP Table (continued)

LABEL	DESCRIPTION
Device	This is the type of interface used by the device. • **br0** indicates a LAN interface where 0 represents LAN1 or LAN2. • **WAN** indicates a connection via mobile network (4G or 3G). • **WLAN** indicates a connection via WiFi network. • **RNDIS** indicates a connection via USB.
State	This column shows the current status of the connection.

6.5 Packet Statistics

Click **Monitor > Packet Statistics** or the **Packet Statistics (Details...)** hyperlink in the **Status** screen. Read-only information here includes port status and packet specific statistics.

Figure 33   Monitor > Packet Statistics

The following table describes the labels in this screen.

Table 12   Monitor > Packet Statistics

LABEL	DESCRIPTION
#	This is the index number of the entry.
Port	This is the LTE2566-M634's interface type.
TxPkts	This is the number of transmitted packets on this port.
RxPkts	This is the number of received packets on this port.
Collisions	This is the number of collisions on this port.

6.6 LTE Modem Status

Click **Monitor > LTE Modem Status** or the **LTE Modem Status (Details...)** hyperlink in the **Status** screen. Use this screen to view the detailed information about the modem, SIM card status, and details. You can also check the LTE connection status.

Figure 34   Monitor > LTE Modem Status

The following table describes the labels in this screen.

Table 13   Monitor > LTE Modem Status

LABEL	DESCRIPTION
Modem Information	
Module Name	This displays the name of the built-in LTE module.
IMEI/MEID	This displays the International Mobile Equipment Number (IMEI) or Mobile Equipment Identifier (MEID), which is the serial number of the built-in LTE module. It is a unique 15-digit number used to identify a mobile device.
HW Version	This displays the hardware version of the built-in LTE module.
FW Version	This displays the firmware version of the built-in LTE module.
SIM Status	
SIM	This displays the status of the inserted SIM card. **No SIM** displays if there is no SIM card inserted.
PIN Code Status	This displays the status of PIN code authentication.
PIN Code Remaining Times	This displays how many times you can enter the PIN code.
PUK Code Remaining Times	This displays how many times you can enter the PUK code.
Service Information	
Operator	This displays the name of the service provider.
Cell Broadcast	This displays whether the one-to-many messaging service is available.
MCC	This displays the Mobile Country Code (MCC), which is used to identify the country of a mobile subscriber.

Table 13   Monitor > LTE Modem Status (continued)

LABEL	DESCRIPTION
MNC	This displays the Mobile Network Code (MNC), which is used in combination with MCC to identify the public land mobile network (PLMN) of a mobile subscriber.
LAC	This displays the 2-octet Location Area Code (LAC), which is used to identify a location area within a PLMN.
TAC	This displays the Tracking Area Code (TAC), which is to identify a tracking area within a PLMN.
RSSI	This displays the received signal strength indicator (RSSI), that is, the received signal strength in dBm.
Cell ID	This displays the ID of a cell at the physical layer.
Cell ID(SCC)	This displays the ID of a cell at the physical layer (Secondary Component Carrier).
Operation Band	This displays the network type and the frequency band used by the mobile network to which the LTE2566-M634 is connecting.
Operation Band(SCC)	This displays the network type and the frequency band used by the mobile network to which the LTE2566-M634 is connecting (Secondary Component Carrier).
Service Type	This displays the type of the mobile network to which the LTE2566-M634 is connecting.
EARFCN(SCC)	This displays E-UTRA Absolute Radio Frequency Channel Number of the Secondary Component Carrier.
CS Register Status	This displays the Circuit Switched network registration status.
Eclo	This displays the ratio (in dB) of the received energy per chip and the interference level.
PS Register Status	This displays the packet switched network registration status.
PS Attached Status	This displays the Packet switched Domain Attachment status.
Roaming Status	This displays whether the LTE2566-M634 is connected to another service provider's mobile network using roaming.
IMSI	This displays the International Mobile Subscriber Identity (IMSI) stored in the SIM (Subscriber Identity Module) card. The SIM card is installed in a mobile device and used for authenticating a customer to the carrier network. IMSI is a unique 15-digit number used to identify a user on a network.
SMSC	This displays the number for Short Message Service Center (SMSC), which stores, forwards and delivers SMS text message.
MSISDN	This displays the MSISDN (Mobile Subscriber ISDN) number, a phone number assigned to a mobile subscriber to call a mobile device.
RSRP	This displays the Reference Signal Receive Power (RSRP), which is the average received power of all Resource Elements (RE) that carry cell-specific Reference Signals (RS) within the specified bandwidth.
RSRQ	This displays the Reference Signal Received Quality (RSRQ), which is the ratio of RSRP to the E-UTRA carrier RSSI and indicates the quality of the received reference signal.
SINR	This displays the Signal to Interference plus Noise Ratio (SINR). A negative value means more noise than signal.
PLMN	This displays the Public Land Mobile Network (PLMN) code of the mobile network.
MIMO	This displays the MIMO (Multi-input Multi-output) technology supported by the LTE2566-M634, such as 1T2R (1 Transmit and 2 Receive paths/antennas) or TM1-TM4 (Transmission Mode 4).
Support Band List	This displays the frequency bands that are supported by the LTE2566-M634.

CHAPTER 7
WAN

7.1 Overview

This chapter discusses the LTE2566-M634's **WAN** screens. Use these screens to configure your LTE2566-M634 for Internet access.

A WAN (Wide Area Network) connection is an outside connection to another network or the Internet. It connects your private networks such as a LAN (Local Area Network) and other networks, so that a device in one location can communicate with devices in other locations.

3G and 4G standards for the sending and receiving of voice, video, and data in a mobile environment. You can insert a 4G SIM card and set the LTE2566-M634 to use this 3G/4G connection as your WAN.

Figure 35 LAN/Wireless LAN and Wireless WAN
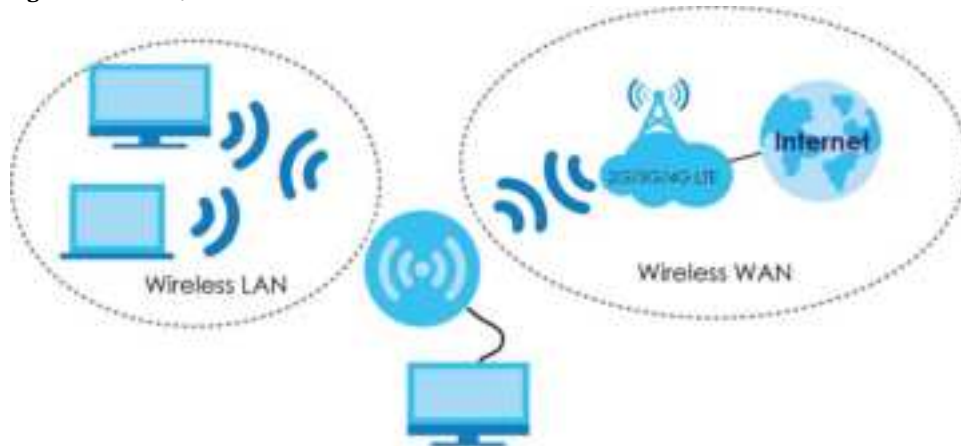
7.1.1 What You Can Do in this Chapter

- Use the **WAN Management** screen to configure the WAN settings on the LTE2566-M634 for Internet access (Section 7.2 on page 52).
- Use the **PLMN Selection** screen to specify the type of the mobile network to which the LTE2566-M634 is connected and how you want the LTE2566-M634 to connect to an available mobile network (Section 7.3 on page 54).
- Use the **IPv6** screen to configure the LTE2566-M634's IPv6 settings (Section 7.4 on page 55).
- Use the **PIN Management** screen to enable or disable PIN code authentication (Section 7.5 on page 55).
- Use the **Data Usage** screen to specify limiting the amount of the package data and view the LTE2566-M634's traffic statistics (Section 7.6 on page 56).

7.1.2 What You Need To Know

The information in this section can help you configure the screens for your WAN connection, as well as enable/disable some advanced features of your LTE2566-M634.

3G

3G (Third Generation) is a digital, packet-switched wireless technology. Bandwidth usage is optimized as multiple users share the same channel and bandwidth is only allocated to users when they send data. It allows fast transfer of voice and non-voice data and provides broadband Internet access to mobile devices.

4G

4G is the fourth generation of the mobile telecommunications technology and a successor of 3G. Both the WiMAX and Long Term Evolution (LTE) standards are the 4G candidate systems. 4G only supports all-IP-based packet-switched telephony services and is required to offer gigabit speed access.

DNS Server Address Assignment

Use Domain Name System (DNS) to map a domain name to its corresponding IP address and vice versa, for instance, the IP address of www.zyxel.com is 204.217.0.2. The DNS server is extremely important because without it, you must know the IP address of a computer before you can access it.

The LTE2566-M634 can get the DNS server addresses in the following ways.

1   The ISP tells you the DNS server addresses, usually in the form of an information sheet, when you sign up. If your ISP gives you DNS server addresses, manually enter them in the IPv6 DNS server fields.

2   If your ISP dynamically assigns the DNS server IP addresses (along with the LTE2566-M634's WAN IP address), set the DNS server fields to get the DNS server address from the ISP.

IPv6 Introduction

IPv6 (Internet Protocol version 6), is designed to enhance IP address size and features. The increase in IPv6 address size to 128 bits (from the 32-bit IPv4 address) allows up to 3.4×10^{38} IP addresses. The LTE2566-M634 can use IPv4/IPv6 dual stack to connect to IPv4 and IPv6 networks, and supports IPv6 rapid deployment (6RD).

IPv6 Addressing

The 128-bit IPv6 address is written as eight 16-bit hexadecimal blocks separated by colons (:). This is an example IPv6 address `2001:0db8:1a2b:0015:0000:0000:1a2f:0000`.

IPv6 addresses can be abbreviated in two ways:

• Leading zeros in a block can be omitted. So `2001:0db8:1a2b:0015:0000:0000:1a2f:0000` can be written as `2001:db8:1a2b:15:0:0:1a2f:0`.

- Any number of consecutive blocks of zeros can be replaced by a double colon. A double colon can only appear once in an IPv6 address. So `2001:0db8:0000:0000:1a2f:0000:0000:0015` can be written as `2001:0db8::1a2f:0000:0000:0015`, `2001:0db8:0000:0000:1a2f::0015`, `2001:db8::1a2f:0:0:15` or `2001:db8:0:0:1a2f::15`.

IPv6 Prefix and Prefix Length

Similar to an IPv4 subnet mask, IPv6 uses an address prefix to represent the network address. An IPv6 prefix length specifies how many most significant bits (start from the left) in the address compose the network address. The prefix length is written as "/x" where x is a number. For example,

        2001:db8:1a2b:15::1a2f:0/32

means that the first 32 bits (`2001:db8`) is the subnet prefix.

IPv6 Subnet Masking

Both an IPv6 address and IPv6 subnet mask compose of 128-bit binary digits, which are divided into eight 16-bit blocks and written in hexadecimal notation. Hexadecimal uses four bits for each character (1 ~ 10, A ~ F). Each block's 16 bits are then represented by four hexadecimal characters. For example, FFFF:FFFF:FFFF:FFFF:FC00:0000:0000:0000.

7.2 WAN Management

Use this screen to change your LTE2566-M634's Internet access settings. Click **Configuration > Network > WAN> WAN Management**. The screen appears as shown next.

Figure 36   Configuration > Network > WAN > WAN Management

The following table describes the labels in this screen.

Table 14   Configuration > Network > WAN > WAN Management

LABEL	DESCRIPTION
Cellular WAN	
Network Type	Select the type of the network (**4G** or **3G**) to which you want the LTE2566-M634 to connect. Otherwise, select **Auto** to have the LTE2566-M634 connect to an available network using the default settings on the SIM card. If the currently registered mobile network is not available or the mobile network's signal strength is too low, the LTE2566-M634 switches to another available mobile network.
Band Selection	Select **Manual** to select the frequency bands the LTE2566-M634 uses to connect to the mobile network. Otherwise, select **Auto** to have the LTE2566-M634 connect to any available frequency band using the default settings.
Roaming	3G/4G roaming is to use your mobile device in an area which is not covered by your service provider. Enable roaming to ensure that your LTE2566-M634 is kept connected to the Internet when you are traveling outside the geographical coverage area of the network to which you are registered.
Dial-Up Profile	Select **Auto-Detection** to have the LTE2566-M634 use the inserted SIM card's default settings to connect to any available mobile network.
	Select **Manual-configuration** and enter the information provided by your service provider to connect to the service provider's mobile network.
APN	
APN	Connections with different APNs (Access Point Names) may provide different services (such as Internet access or MMS (Multi-Media Messaging Service)) and charge method.
	The corresponding APN automatically displays when you select a pre-defined service provider.
	If you select **Manual** in the **Dial-Up Profile** field, manually enter the APN provided by your service provider. You can enter up to 32 ASCII printable characters. Spaces are allowed.
Account	Type the user name (of up to 64 ASCII printable characters) given to you by your service provider.
Password	Type the password (of up to 64 ASCII printable characters) associated with the user name above.
Authentication	The LTE2566-M634 supports PAP (Password Authentication Protocol) and CHAP (Challenge Handshake Authentication Protocol). CHAP is more secure than PAP; however, PAP is readily available on more platforms
	Select an authentication protocol (**PAP**, or **CHAP**) used by the service provider. Otherwise, select **Auto** to have the LTE2566-M634 accept either CHAP or PAP.
IP Type	Select **IPv4** if you want the LTE2566-M634 to run IPv4 only.
	Select **IPv6** if you want the LTE2566-M634 to run IPv6 only.
	Select **IPv4v6** to allow the LTE2566-M634 to run IPv4 and IPv6 at the same time.
MTU	Enter the MTU (Maximum Transmission Unit) of each data packet, in bytes, that can move through the WAN connection.

7.3 PLMN Selection

This screen allows you to view available Public Land Mobile Networks (PLMNs) and select your preferred network when the LTE2566-M634 is outside the geographical coverage area of the network to which you are registered and roaming is enabled.

Click **Configuration > Network > WAN > PLMN Selection**. The screen appears as shown next.

Figure 37   Configuration > Network > WAN > PLMN Selection

The following table describes the labels in this screen

Table 15   Configuration > Network > WAN > PLMN Selection

LABEL	DESCRIPTION
PLMN Selection	
Method	Click from the drop-down menu to choose PLMN method. Select **Auto** to have the LTE2566-M634 automatically connect to the first available mobile network. Select **Manual** to manually select a preferred network.
Name	This shows the ISP name.
Status	This displays **Current** to display the PLMN to which your LTE2566-M634 is currently connected.
	This displays **Available** to display other PLMNs available by your ISP. Go to the screen to connect to another available PLMN.
	This displays **Forbidden** to display PLMNs available by other ISPs. To connect to one of these networks you need a working SIM card of the ISP shown.
Type	This shows the type of network the ISP provides.
PLMN	This shows the PLMN number.
Select	Click **Select** to have the LTE2566-M634 establish a connection to the selected mobile network.
Scan	Click **Scan** so the LTE2566-M634 can search for PLMNs in the area. You need a working SIM card to be able to scan for PLMNs.

7.4 IPv6

Use this screen to configure the LTE2566-M634's IPv6 settings. Click **Configuration > Network > WAN > IPv6** from the **Configuration** menu. The screen appears as shown next.

Figure 38   Configuration > Network > WAN > IPv6

The following table describes the labels in this screen.

Table 16   Configuration > Network > WAN > IPv6

LABEL	DESCRIPTION
IPv6	Select **Enable** to allow the LTE2566-M634 to run IPv6. Otherwise, select **Disable**.
DNS Setting	Select **Auto** to have the LTE2566-M634 get the IPv6 DNS server addresses from the ISP automatically. Select **Manual** to have the LTE2566-M634 use the IPv6 DNS server addresses you configure manually.
LAN IPv6 Address	Enter the IPv6 address for the LTE2566-M634 LAN interface in this field.
LAN IPv6 Link-Local Address	This shows the IPv6 Link-local address in the LAN side. This is used by LTE2566-M634 when communicating with neighboring devices on the same link. It allows IPv6-capable devices to communicate with each other in the LAN side.

7.5 PIN Management

Use this screen to enable PIN code authentication. Click **Configuration > Network > WAN > PIN Management**. The screen appears as shown next.

Figure 39 Configuration > Network > WAN > PIN Management

The following table describes the labels in this screen.

Table 17 Configuration > Network > WAN > PIN Management

LABEL	DESCRIPTION
PIN Operation	Select **Enable PIN** to enter the PIN code every time the LTE2566-M634 reboots. To turn off PIN code authentication enter the PIN code and click **Disable**.
PIN Code	If you select **Enable**, enter a 4-digit PIN code (0000 for example) provided by your ISP for the inserted SIM card.
Apply	Click **Apply** to save your changes back to the LTE2566-M634

7.6 Data Usage

This screen allows you to enable mobile data usage control and set a monthly data limit. Click **Configuration > Network > WAN > Data Usage**. The screen appears as shown next.

Figure 40 Configuration > Network > WAN > Data Usage

The following table describes the labels in this screen.

Table 18 Configuration > Network > WAN > Data Usage

LABEL	DESCRIPTION
Enable Data Usage	Select **Enable** to activate a limiting amount of data.
Total Allowance	Specify the amount of data that can be transmitted via the mobile connection.

Table 18   Configuration > Network > WAN > Data Usage

LABEL	DESCRIPTION
Notify me when data usage	Specify the percentage of data usage the LTE2566-M634 has to reach to send a notification.
Reset Date	Select the date of the month on which the LTE2566-M634 restarts calculating the amount of data per month. Note: If the date you selected is not available in a month, such as 30th or 31th of February, the LTE2566-M634 resets the statistics on the first day of the next month.
Apply	Click **Apply** to save your changes back to the LTE2566-M634.

CHAPTER 8
WLAN

8.1 Overview

This chapter discusses how to configure the wireless network settings in your LTE2566-M634.

The following figure provides an example of a wireless network.

Figure 41   Example of a Wireless Network
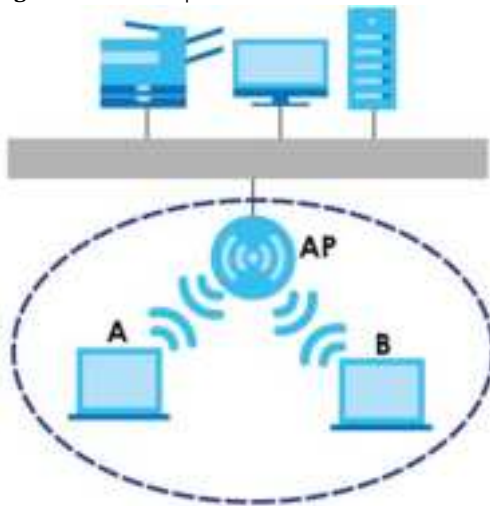
The wireless network is the part in the blue circle. In this wireless network, devices **A** and **B** are called wireless clients. The wireless clients use the access point (AP) to interact with other devices (such as the printer) or with the Internet. Your LTE2566-M634 is the AP.

8.1.1 What You Can Do in this Chapter

- Use the **General** screen to enable the wireless LAN, enter the SSID and select the wireless security mode (Section 8.2 on page 60).
- Use the **Guest AP** screen to set up multiple wireless networks on your LTE2566-M634 (Section 8.4 on page 66).
- Use the **MAC Filter** screen to deny wireless clients based on their MAC addresses from connecting to the LTE2566-M634 (Section 8.5 on page 67).
- Use the **Advanced** screen to allow intra-BSS networking and set the RTS/CTS Threshold (Section 8.6 on page 68).
- Use the **WPS SetUp** screen to activate WPS via PBC or PIN configuration (Section 8.7 on page 69).
- Use the **WPS Station** screen to add a wireless station using WPS (Section 8.8 on page 70).

8.1.2 What You Need to Know

Every wireless network must follow these basic guidelines.

- Every wireless client in the same wireless network must use the same SSID.

   The SSID is the name of the wireless network. It stands for Service Set IDentity.

- If two wireless networks overlap, they should use different channels.

   Like radio stations or television channels, each wireless network uses a specific channel, or frequency, to send and receive information.

- Every wireless client in the same wireless network must use security compatible with the AP.

   Security stops unauthorized devices from using the wireless network. It can also protect the information that is sent in the wireless network.

Wireless Security Overview

The following sections introduce different types of wireless security you can set up in the wireless network.

SSID

Normally, the AP acts like a beacon and regularly broadcasts the SSID in the area. You can hide the SSID instead, in which case the AP does not broadcast the SSID. In addition, you should change the default SSID to something that is difficult to guess.

This type of security is fairly weak, however, because there are ways for unauthorized devices to get the SSID. In addition, unauthorized devices can still see the information that is sent in the wireless network.

MAC Address Filter

Every wireless client has a unique identification number, called a MAC address.[1] A MAC address is usually written using twelve hexadecimal characters[2]; for example, 00A0C5000002 or 00:A0:C5:00:00:02. To get the MAC address for each wireless client, see the appropriate User's Guide or other documentation.

You can use the MAC address filter to tell the AP which wireless clients are allowed or not allowed to use the wireless network. If a wireless client is allowed to use the wireless network, it still has to have the correct settings (SSID, channel, and security). If a wireless client is not allowed to use the wireless network, it does not matter if it has the correct settings.

This type of security does not protect the information that is sent in the wireless network. Furthermore, there are ways for unauthorized devices to get the MAC address of an authorized wireless client. Then, they can use that MAC address to use the wireless network.

WPS

WiFi Protected Setup (WPS) is an industry standard specification, defined by the WiFi Alliance. WPS allows you to quickly set up a wireless network with strong security, without having to configure security

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1. Some wireless devices, such as scanners, can detect wireless networks but cannot use wireless networks. These kinds of wireless devices might not have MAC addresses.
2. Hexadecimal characters are 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, A, B, C, D, E, and F.

settings manually. Depending on the devices in your network, you can either press a button (on the device itself, or in its configuration utility) or enter a PIN (Personal Identification Number) in the devices. Then, they connect and set up a secure network by themselves. See how to set up a secure wireless network using WPS in the Section 4.2 on page 32.

8.2 The General Screen

Use this screen to enable the wireless LAN, enter the SSID and select the wireless security mode.

Note: If you are configuring the LTE2566-M634 from a device connected to the wireless LAN and you change the LTE2566-M634's SSID, channel or security settings, you will lose your wireless connection when you press **Apply** to confirm. You must then change the wireless settings of your device to match the LTE2566-M634's new settings.

To access this screen, click **Configuration > Network > Wireless LAN > General**.

Figure 42   Configuration > Network > Wireless LAN> General

The following table describes the labels in this screen.

Table 19   Configuration > Network > Wireless LAN > General

LABEL	DESCRIPTION
Wireless Setup - 2.4G / Wireless Setup - 5G	
Wireless LAN Status	Select **Enable** to activate the 2.4G / 5G wireless LAN. Select **Disable** to turn it off. You can also enable or disable the 2.4G/5G wireless LANs by using the WLAN/WPS button located on the side panel of the LTE2566-M634.
Name (SSID)	The SSID (Service Set IDentity) identifies the Service Set with which a wireless client is associated. Enter a descriptive name (up to 32 printable characters found on a typical English language keyboard) for the wireless LAN.
Hide SSID	Select this check box to hide the SSID in the outgoing beacon frame so a station cannot obtain the SSID through scanning using a site survey tool.

Table 19   Configuration > Network > Wireless LAN > General (continued)

LABEL	DESCRIPTION
Channel Selection	Set the operating frequency/channel depending on your particular region.
	Select a channel from the drop-down list box. The options vary depending on the frequency band and the country you are in.
	Refer to the Connection Wizard chapter for more information on channels. This option is only available if **Auto Channel Selection** is disabled.
Auto Channel Selection	Select this check box for the LTE2566-M634 to automatically choose the channel with the least interference. De-select this check box if you wish to manually select the channel using the **Channel Selection** field.
Operating Channel	This displays the operating frequency/channel depending on your particular region.
Channel Width	Select the wireless channel width used by LTE2566-M634.
	A standard 20 MHz channel(**HT20**) offers transfer speeds of up to 144 Mbps (2.4G) or 217 Mbps (5G) whereas a 40 MHz channel(**HT40**) uses two standard channels and offers speeds of up to 300 Mbps (2.4G) or 450 Mbps (5G). An IEEE 802.11ac-specific 80 MHz channel (**HT80**) offers speeds of up to 1.3 Gbps.
	Because not all devices support 40 MHz and/or 80 MHz channels, select **Auto** to allow the LTE2566-M634 to adjust the channel bandwidth automatically.
	HT40 (channel bonding or dual channel) bonds two adjacent radio channels to increase throughput. A **HT80** channel consists of two adjacent 40 MHz channels. The wireless clients must also support **HT40** or **HT80**. It is often better to use the 20 MHz setting in a location where the environment hinders the wireless signal.
	Select **HT20** if you want to lessen radio interference with other wireless devices in your neighborhood or the wireless clients do not support channel bonding.
802.11 mode	In Wireless Setup for 2.4G network you can select from the following:
	• **802.11b Only**: allows either IEEE 802.11b compliant WLAN devices to associate with the LTE2566-M634. In this mode, all wireless devices can only transmit at the data rates supported by IEEE 802.11b.
	• **802.11b/g Mixed**: allows either IEEE 802.11b or IEEE 802.11g compliant WLAN devices to associate with the LTE2566-M634. The LTE2566-M634 adjusts the transmission rate automatically according to the wireless standard supported by the wireless devices.
	• **802.11b/g/n Mixed**: allows IEEE802.11b, IEEE802.11g and IEEE802.11n compliant WLAN devices to associate with the LTE2566-M634. The transmission rate of your LTE2566-M634 might be reduced.
	In Wireless Setup for 5G network you can select from the following:
	• **802.11a Only**: allows only IEEE 802.11a compliant WLAN devices to associate with the LTE2566-M634.
	• **802.11a/n Mixed**: allows both IEEE802.11n and IEEE802.11a compliant WLAN devices to associate with the LTE2566-M634. The transmission rate of your LTE2566-M634 might be reduced.
	• **802.11a/n/ac Mixed**: allows both IEEE802.11a, IEEE802.11n and IEEE802.11ac compliant WLAN devices to associate with the LTE2566-M634. The transmission rate of your LTE2566-M634 might be reduced.
Security - 2.4G / Security - 5G	
Security Mode	Select **WPA2-PSK** or **WPA-PSK/WPA2-PSK** to add security on this wireless network. The wireless clients which want to associate to this network must have same wireless security settings as this device. After you select to use a security, additional options appears in this screen. See Section 8.3 on page 63 for detailed information on different security modes. Or you can select **Open** to allow any client to associate this network without authentication.
	Note: If the WPS function is enabled (default), only **Open** and **WPA2-PSK** are available in this field.
Apply	Click **Apply** to save your changes back to the LTE2566-M634.

See the rest of this chapter for information on the other labels in this screen.

8.3 Wireless Security

The screen varies depending on what you select in the **Security Mode** field.

8.3.1 No Security

Select **Open** to allow wireless clients to communicate with the access points without any data encryption.

Note: If you do not enable any wireless security on your LTE2566-M634, your network is accessible to any wireless networking device that is within range.

Figure 43   Configuration > Network > Wireless LAN > General: No Security
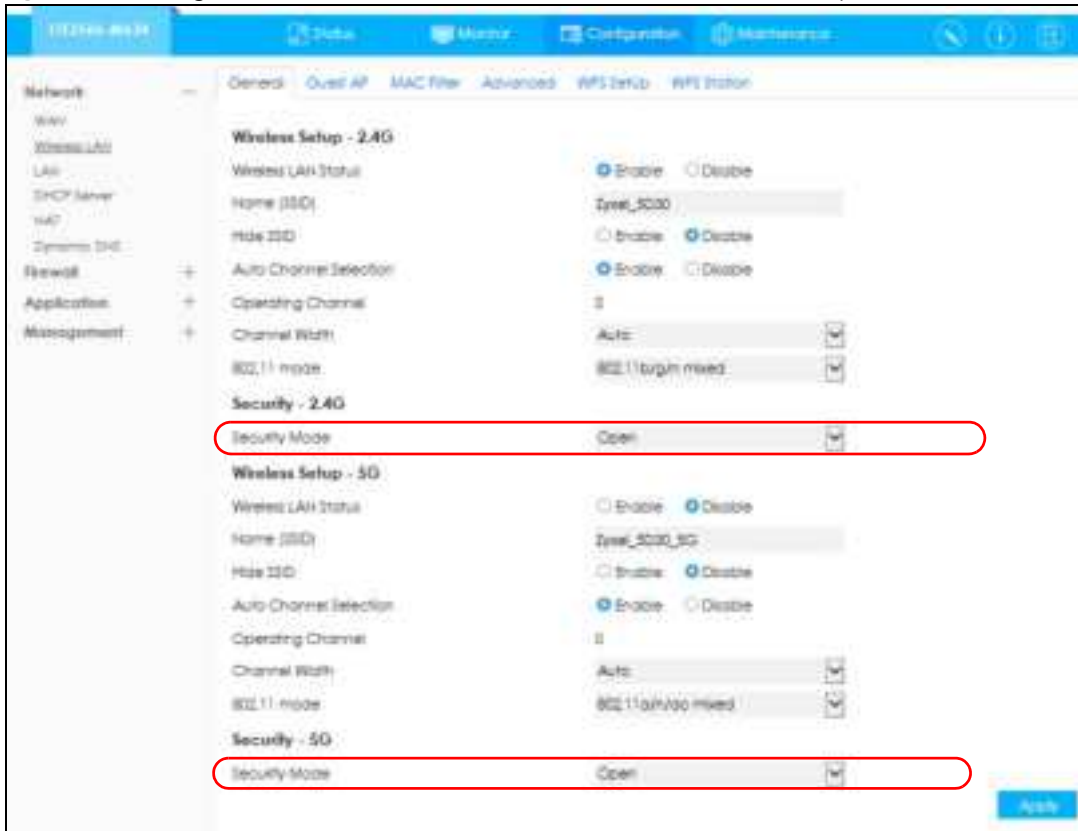
8.3.2 WPA2-PSK

Select **WPA2-PSK** from the **Security Mode** list.
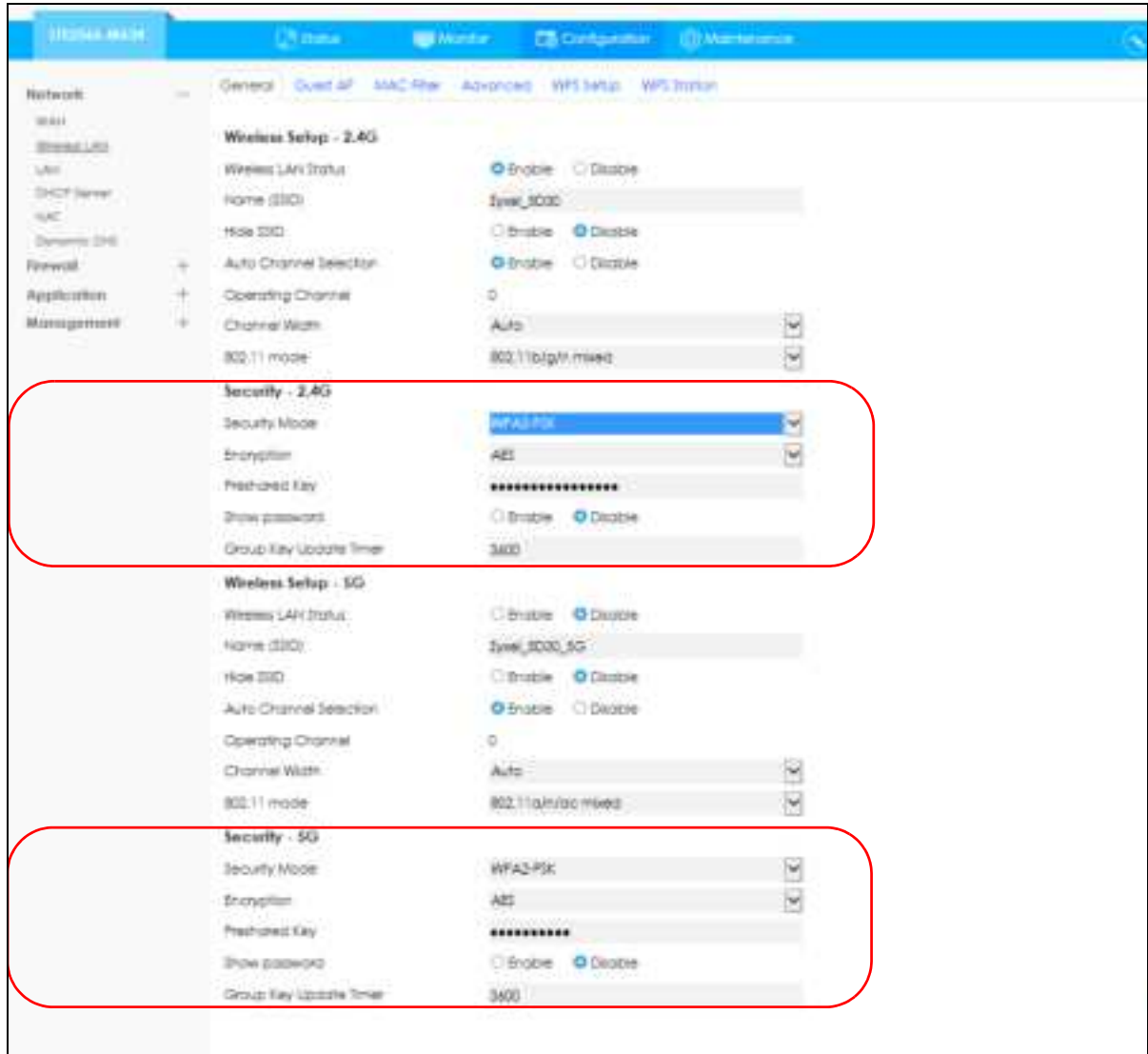
The following table describes the labels in this screen.

Table 20   Configuration > Network > Wireless LAN > General: WPA2-PSK

LABEL	DESCRIPTION
Security Mode	Select **WPA2-PSK** to enable data encryption.
Encryption	Select the encryption type of data encryption.
	Select **AES** if your wireless clients can all use **AES**.
	Select **TKIP / AES** to allow the wireless clients to use either **TKIP** or **AES**.
Preshared Key	**WPA2-PSK** uses a simple common password for authentication.
	Type a pre-shared key from 8 to 63 case-sensitive keyboard characters.
Group Key Update Timer	The **Group Key Update Timer** is the rate at which the AP sends a new group key out to all clients.
	The default is **3600** seconds (60 minutes).
Apply	Click **Apply** to save your changes back to the LTE2566-M634.

8.3.3 WPA-PSK/ WPA2-PSK

Select **WPA-PSK/ WPA2-PSK** from the **Security Mode** list.

Note: WPA or WPA2 is not available if you enable WPS before you configure WPA or WPA2 in the **Wireless LAN > General** screen.

Figure 45   Configuration > Network > Wireless LAN > General: WPA-PSK / WPA2-PSK
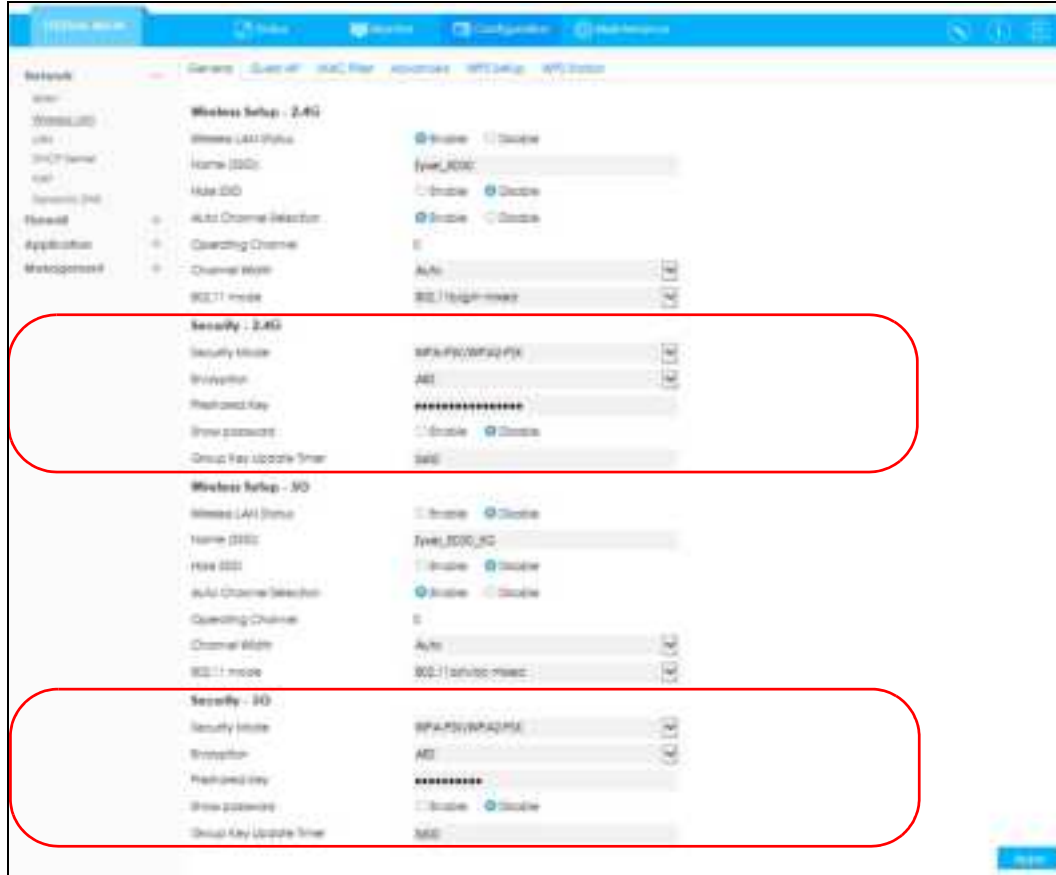
The following table describes the labels in this screen.

Table 21   Configuration > Network > Wireless LAN > General: WPA -PSK / WPA2-PSK

LABEL	DESCRIPTION
Security Mode	Select **WPA-PSK/ WPA2-PSK** to enable data encryption.
Encryption	Select the encryption type of data encryption. Select **AES** if your wireless clients can all use **AES**. Select **TKIP/ AES** to allow the wireless clients to use either **TKIP** or **AES**.
Preshared Key	**WPA-PSK/ WPA2-PSK** uses a simple common password for authentication. Type a preshared key from 8 to 63 case-sensitive keyboard characters.
Group Key Update Timer	The **Group Key Update Timer** is the rate at which the AP sends a new group key out to all clients. The default is **3600** seconds (60 minutes).
Apply	Click **Apply** to save your changes back to the LTE2566-M634.

8.4 Guest AP

This screen allows you to enable and configure multiple wireless networks and guest wireless network settings on the LTE2566-M634.

You can configure up to four SSIDs to enable multiple BSSs (Basic Service Sets) on the LTE2566-M634. This allows you to use one access point to provide several BSSs simultaneously. You can then assign varying security types to different SSIDs. Wireless clients can use different SSIDs to associate with the same access point.

Click **Configuration > Network > Wireless LAN > Guest AP**. The following screen displays.

Figure 46 Configuration > Network > Wireless LAN > Guest AP

The following table describes the labels in this screen.

Table 22   Configuration > Network > Wireless LAN > Guest AP

LABEL	DESCRIPTION
Active	Select this to activate the SSID profile.
Name (SSID)	The SSID (Service Set IDentity) identifies the Service Set with which a wireless client is associated. Enter a descriptive name (up to 32 printable characters found on a typical English language keyboard) for the wireless LAN.
Hide SSID	Select this check box to hide the SSID in the outgoing beacon frame so a station cannot obtain the SSID through scanning using a site survey tool.

Table 22   Configuration > Network > Wireless LAN > Guest AP (continued)

LABEL	DESCRIPTION
Intra-BSS Traffic	A Basic Service Set (BSS) exists when all communications between wireless clients or between a wireless client and a wired network client go through one access point (AP). Intra-BSS traffic is traffic between wireless clients in the BSS. When Intra-BSS is enabled, wireless clients can access the wired network and communicate with each other. When Intra-BSS is disabled, wireless clients can still access the wired network but cannot communicate with each other.
Management Allowance	Select **Disable** so guest users cannot log into the Web Configurator (http:// 192.168.1.1) to change the LTE2566-M634 settings. Otherwise, select **Enable**.
Security Mode	Select **WPA2-PSK** or **WPA-PSK / WPA2-PSK** to add security on this wireless network. The wireless clients which want to associate to this network must have same wireless security settings as this device. After you select to use a security, additional options appears in this screen. See Section 8.3 on page 63 for detailed information on different security modes. Or you can select **Open** to allow any client to associate this network without authentication. Note: If the WPS function is enabled (default), only **Open** and **WPA2-PSK** are available in this field.
Encryption	Select the encryption type of data encryption. Select **AES** if your wireless clients can all use **AES**. Select **TKIP / AES** to allow the wireless clients to use either **TKIP** or **AES**.
Preshared Key	Type a password the wireless stations need to enter to connect to the wireless network.
Group Key Update Timer	The WPA Group Key Update Timer is the rate at which the AP (if using WPA-PSK key management) or RADIUS server (if using WPA key management) sends a new group key out to all clients. The re-keying process is the WPA equivalent of automatically changing the WEP key for an AP and all stations in a WLAN on a periodic basis. Setting of the WPA Group Key Update Timer is also supported in WPA-PSK mode. The default setting is 3600 seconds (60 minutes).
Apply	Click **Apply** to save your changes back to the LTE2566-M634.

8.5 The MAC Filter Screen

This screen allows you to configure the LTE2566-M634 to exclude specific devices from accessing the LTE2566-M634 (**Deny listed stations**). Every Ethernet device has a unique MAC (Media Access Control) address. The MAC address is assigned at the factory and consists of six pairs of hexadecimal characters, for example, 00:A0:C5:00:00:02. You need to know the MAC addresses of the devices to configure this screen.

Use this screen to view your LTE2566-M634's MAC filter settings and add new MAC filter rules. Click **Configuration > Network > Wireless LAN > MAC Filter**. The screen appears as shown.

Configuration > Network > Wireless LAN > MAC Filter

The following table describes the labels in this screen.

Table 23   Configuration > Network > Wireless LAN > MAC Filter

LABEL	DESCRIPTION
MAC Address Filter Mode	Define the filter action for the list of MAC addresses in the MAC Filter table.
	Select **Allow listed stations** to permit access to the LTE2566-M634, MAC addresses not listed will be denied access to the LTE2566-M634.
	Select **Deny listed stations** to block access to the LTE Device, MAC addresses not listed will be allowed to access the LTE2566-M634.
	Select **Disable** to turn MAC filtering off on the LTE2566-M634.
#	This field displays the index number of the MAC address entry.
Active	Select the check box to activate so the MAC Filter applies to this wireless device.
Name	Enter a descriptive name for the wireless device that are allowed or denied access to the LTE2566-M634.
MAC Address	This field displays the MAC addresses of the wireless devices that are allowed or denied access to the LTE2566-M634.
	Click **Add** to enter or change the MAC address of the wireless devices that are allowed or denied access to the LTE2566-M634 in this field. Enter the MAC addresses in a valid MAC address format, that is, six hexadecimal character pairs, for example, 12:34:56:78:9a:bc.
Delete	Click **Delete** to remove the MAC address entry.
Apply	Click **Apply** to save your changes back to the LTE2566-M634.

8.6 Wireless LAN Advanced Settings

Use this screen to allow wireless advanced features, such as the output power, RTS/CTS Threshold settings.

Click **Configuration > Network > Wireless LAN > Advanced**. The screen appears as shown.

Configuration > Network > Wireless LAN > Advanced

The following table describes the labels in this screen.

Table 24   Configuration > Network > Wireless LAN > Advanced

LABEL	DESCRIPTION
Wireless Advanced Setup - 2.4G / Wireless Advanced Setup - 5G	
RTS/CTS Threshold	Data with its frame size larger than this value will perform the RTS (Request To Send)/ CTS (Clear To Send) handshake. This field is not configurable and the LTE2566-M634 automatically changes to use the maximum value if you select **802.11a**, **802.11b**, **802.11a/n Mixed**, **802.11b/g Mixed**, **802.11b/g/n Mixed**, or **802.11a/n/ac Mixed** in the **Wireless LAN > General** screen.
Fragmentation Threshold	The threshold (number of bytes) for the fragmentation boundary for directed messages. It is the maximum data fragment size that can be sent. This field is not configurable and the LTE2566-M634 automatically changes to use the maximum value if you select **802.11a**, **802.11b**, **802.11a/n Mixed**, **802.11b/g Mixed**, **802.11b/g/n Mixed**, or **802.11a/n/ac Mixed** in the **Wireless LAN > General** screen.
Green AP	Select **Enable** to reduce the power consumption by adjusting the output power. The LTE2566-M634 reduces the output power of the transmitter from about 260mA to 188mA when there is no IEEE 802.11 wireless clients associated with the LTE2566-M634 wireless network.
Tx Power	Set the output power of the LTE2566-M634 in this field. If there is a high density of APs in an area, decrease the output power of the LTE2566-M634 to reduce interference with other APs. Select one of the following **100%**, **90%**, **75%**, **50%**, **25%** or **10%**.
Beacon Interval	When a wirelessly networked device sends a beacon, it includes with it a beacon interval. This specifies the time period before the device sends the beacon again. The interval tells receiving devices on the network how long they can wait in low-power mode before waking up to handle the beacon. A high value helps save current consumption of the access point.
Apply	Click **Apply** to save your changes back to the LTE2566-M634.

8.7 The WPS SetUp Screen

Use this screen to configure WiFi Protected Setup (WPS) on your LTE2566-M634.

WPS allows you to quickly set up a wireless network with strong security, without having to configure security settings manually. Set up each WPS connection between two devices. Both devices must support WPS.

Note: To use the WPS feature, make sure you have wireless enabled in the **Configuration > Network > Wireless LAN** > **WPS SetUp** screen.

Note: If you want to use the WPS feature set the security type to **WPA Personal**.

Click **Configuration > Network > Wireless LAN > WPS SetUp**. The following screen displays.

Figure 49 Configuration > Network >Wireless LAN > WPS SetUp

The following table describes the labels in this screen.

Table 25 Configuration > Network >Wireless LAN > WPS SetUp

LABEL	DESCRIPTION
PIN Code	Click **Enable** to activate WPS on the LTE2566-M634.
PIN Number	This field is available only when you set **PIN Code** to **Enable**.
	Select this option and enter the PIN of the device that you are setting up a WPS connection with and click **Apply** to authenticate and add the wireless device to your wireless network.
	You can find the PIN either on the outside of the device, or by checking the device's settings.
	Note: You must also activate WPS on that device within two minutes to have it present its PIN to the LTE2566-M634.

8.8 WPS Station

Use this screen when you want to add a wireless station using WPS. To open this screen, click **Configuration > Network** > **Wireless LAN** > **WPS Station** tab.

Note: After you click **Push Button** on this screen, you have to press a similar button in the wireless station utility within 2 minutes. To add the second wireless station, you have to press these buttons on both device and the wireless station again after the first 2 minutes.

Configuration > Network > Wireless LAN > WPS Station

The following table describes the labels in this screen.

Table 26   Configuration > Network > Wireless LAN > WPS Station

LABEL	DESCRIPTION
WPS Station Setup - 2.4G / WPS Station Setup - 5G	
Push Button	Use this button when you use the PBC (Push Button Configuration) method to configure wireless station's wireless settings.
	Click this to start WPS-aware wireless station scanning and the wireless security information synchronization.
Or input station's PIN number	Use this button when you use the PIN Configuration method to configure wireless station's wireless settings.
	Type the same PIN number generated in the wireless station's utility. Then click **Start** to associate to each other and perform the wireless security information synchronization.

CHAPTER 9
LAN

9.1 Overview

This chapter describes how to configure LAN settings.

A Local Area Network (LAN) is a shared communication system to which many devices are attached. A LAN is a network limited to the immediate area, such as the same building or a floor of a building.

Figure 51 LAN Example
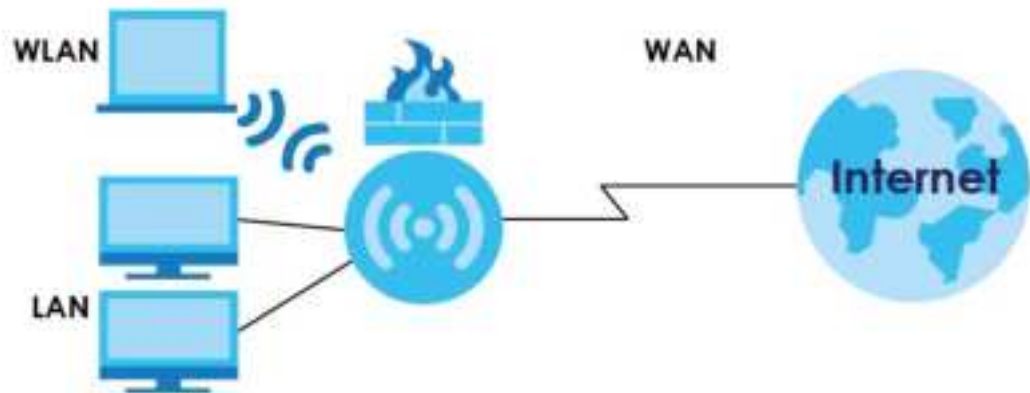
The LAN screens can help you configure and manage IP address, and partition your physical network into logical networks.

9.1.1 What You Can Do

• Use the **IP** screen to change the IP address for your LTE2566-M634 (Section 9.2 on page 73).

9.1.2 What You Need To Know

There are two separate IP networks, one inside the LAN network and the other outside the WAN network as shown next.

Figure 52 LAN and WAN IP Addresses
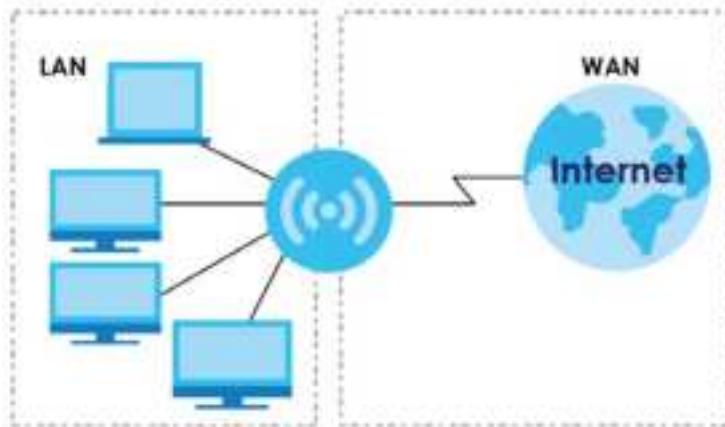
The LAN parameters of the LTE2566-M634 are preset in the factory with the following values:

• IP address of 192.168.1.1 with subnet mask of 255.255.255.0 (24 bits).

These parameters should work for the majority of installations. If your ISP gives you explicit DNS server address(es), read the embedded Web Configurator help regarding what fields need to be configured.

9.2 LAN IP

Use this screen to change the IP address for your LTE2566-M634. Click **Configuration > Network > LAN**. The screen appears as shown next.

Figure 53 Configuration > Network > LAN> IP

The following table describes the labels in this screen.

Table 27 Configuration > Network > LAN

LABEL	DESCRIPTION
IP Address	Type the IP address of your LTE2566-M634 in dotted decimal notation.
IP Subnet Mask	Type the subnet mask of this interface in dotted decimal notation. The subnet mask indicates what part of the IP address is the same for all computers in the network.
Apply	Click **Apply** to save your changes back to the LTE2566-M634.

CHAPTER 10
NAT

10.1 Overview

NAT (Network Address Translation - NAT, RFC 1631) is the translation of the IP address of a host in a packet. For example, the source address of an outgoing packet, used within one network is changed to a different IP address known within another network.

The figure below is a simple illustration of a NAT network. You want to assign ports 21-25 to one FTP, Telnet and SMTP server (**A** in the example), port 80 to another (**B** in the example) and assign a default server IP address of 192.168.1.35 to a third (**C** in the example).

You assign the LAN IP addresses to the devices (**A** to **D**) connected to your LTE2566-M634. The ISP assigns the WAN IP address. The NAT network appears as a single host on the Internet. All traffic coming from **A** to **D** going out to the Internet use the IP address of the LTE2566-M634, which is 192.168.1.1.

Figure 54   NAT Example
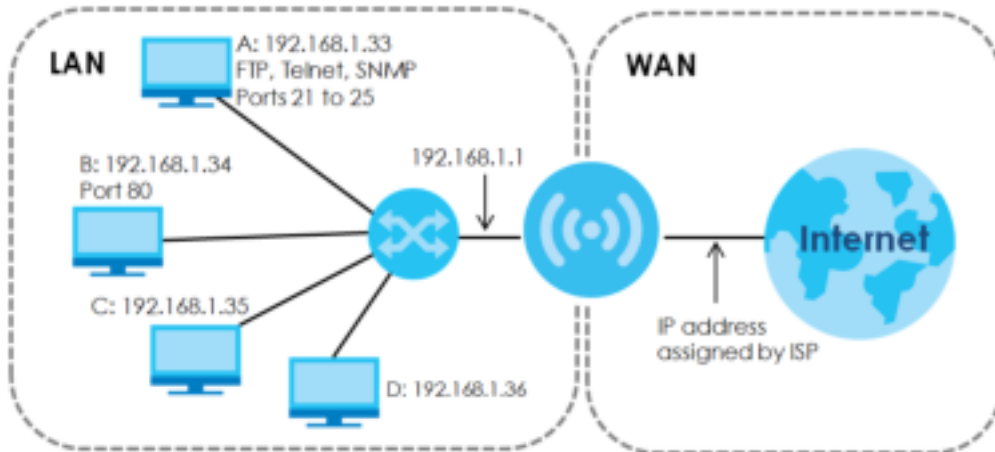
Note: You must create a firewall rule in addition to setting up NAT, to allow traffic from the WAN to be forwarded through the LTE2566-M634.

10.1.1 What You Can Do

- Use the **Port Forwarding** screen to set a default server and change your LTE2566-M634's port forwarding settings to forward incoming service requests to the server(s) on your local network (Section 10.2 on page 76).
- Use the **Port Trigger** screen to change your LTE2566-M634's trigger port settings (Section 10.3 on page 78).
- Use the **ALG** screen to enable or disable SIP (VoIP) ALG (Application Layer Gateway) in the LTE2566-M634 (Section 10.4 on page 78).

10.1.2 What You Need to Know

Inside/Outside

Inside/outside denotes where a host is located relative to the LTE2566-M634, for example, the computers of your subscribers are the inside hosts, while the web servers on the Internet are the outside hosts.

Global/Local

Global/local denotes the IP address of a host in a packet as the packet traverses a router, for example, the local address refers to the IP address of a host when the packet is in the local network, while the global address refers to the IP address of the host when the same packet is traveling in the WAN side.

NAT

In the simplest form, NAT changes the source IP address in a packet received from a subscriber (the inside local address) to another (the inside global address) before forwarding the packet to the WAN side. When the response comes back, NAT translates the destination address (the inside global address) back to the inside local address before forwarding it to the original inside host.

NAT Types

This section discusses the following NAT types that are implemented on the LTE2566-M634.

- **Full Cone:** In full cone NAT, the NAT router maps all outgoing packets from an internal IP address and port to a single IP address and port on the external network. The NAT router also maps packets coming to that external IP address and port to the internal IP address and port.

- **Address Restricted or Restricted Cone:** As in full cone NAT, a restricted cone NAT router maps all outgoing packets from an internal IP address and port to a single IP address and port on the external network. The difference from full cone NAT is in how the restricted cone NAT router handles packets coming in from the external network.

- **Port Restricted:** Port restricted cone NAT maps all outgoing packets from an internal IP address and port to a single IP address and port on the external network.

- **Symmetric:** The full, restricted and port restricted cone NAT types use the same mapping for an outgoing packet's source address regardless of the destination IP address and port. In symmetric NAT, the mapping of an outgoing packet's source address to a source address in another network is different for each different destination IP address and port.

The following table summarizes how these NAT types handle outgoing and incoming packets.

Table 28   NAT Types

	FULL CONE	ADDRESS RESTRICTED	PORT RESTRICTED	SYMMETRIC
Incoming Packets	Any external host can send packets to the mapped external IP address and port.	Only external hosts with an IP address to which the internal host has already sent a packet can send packets to the mapped external IP address and port.	Only external hosts with an IP address and port to which the internal host has already sent a packet can send packets to the mapped external IP address and port.	A host on the external network can only send packets to the specific mapped external IP address and port that the NAT router used in sending a packet to the external host's IP address and port.
Outgoing Packets	The NAT router maps the internal IP address and port of all outgoing packets to a single IP address and port on the external network.			The NAT router maps the internal IP address and port of each outgoing packet to a different external IP address and port for each different destination IP address and port.

10.2 Port Forwarding

Use this screen to forward incoming service requests to the server(s) on your local network and set a default server. You may enter a single port number or a range of port numbers to be forwarded, and the local IP address of the desired server. The port number identifies a service; for example, web service is on port 80 and FTP on port 21. In some cases, such as for unknown services or where one server can support more than one service (for example both FTP and web service), it might be better to specify a range of port numbers.

In addition to the servers for specified services, NAT supports a default server. A service request that does not have a server explicitly designated for it is forwarded to the default server. If the default is not defined, the service request is simply discarded.

Note: Many residential broadband ISP accounts do not allow you to run any server processes (such as a Web or FTP server) from your location. Your ISP may periodically check for servers and may suspend your account if it discovers any active services at your location. If you are unsure, refer to your ISP.

Port forwarding allows you to define the local servers to which the incoming services will be forwarded. To change your LTE2566-M634's port forwarding settings, click **Configuration > Network > NAT** > **Port Forwarding**. The screen appears as shown.

Configuration > Network > NAT > Port Forwarding

The following table describes the labels in this screen.

Table 29   Configuration > Network > NAT > Port Forwarding

LABEL	DESCRIPTION
Service Name	Select **User define** and type a name (of up to 31 printable characters) to identify this rule in the first field next to **Service Name**. Otherwise, select a predefined service in the second field next to **Service Name**. The predefined service name and port number(s) will display in the **Service Name** and **Port Range** fields.
Service Protocol	Select the transport layer protocol supported by this virtual server. Choices are **TCP**, **UDP**, or **TCP_UDP**. If you have chosen a pre-defined service in the **Service Name** field, the protocol will be configured automatically
Port Range	Type a port number(s) to define the service to be forwarded to the specified server. To specify a range of ports, enter the first number and the last number of the range.
Translation Port Range	Enter a port number to which you want the incoming ports translated. For a range of ports, enter the first number and the last number of the range.
Server IP Address	Enter the inside IP address of the virtual server here and click **Add** to add it in the port forwarding summary table.
#	This is the number of an individual port forwarding server entry.
Service Name	This field displays a name to identify this rule.
Service Protocol	This is the transport layer protocol used for the service.
Port Range	This field displays the port number(s).
Translation Port Range	This field displays the internal port number(s) that identifies the service.
Server IP Address	Type the IP address of the server on your LAN that receives packets from the port(s) specified in the **Port Range** field.
Modify	Click the **Edit** icon to open the edit screen where you can modify an existing rule. Click the **Delete** icon to remove a rule.
Add	Click **Add** to save your changes back to the LTE2566-M634.

10.3 Port Trigger

To change your LTE2566-M634's trigger port settings, click **Configuration > Network > NAT> Port Trigger**. The screen appears as shown.

Note: Only one LAN computer can use a trigger port (range) at a time.

Figure 56   Configuration > Network > NAT > Port Trigger
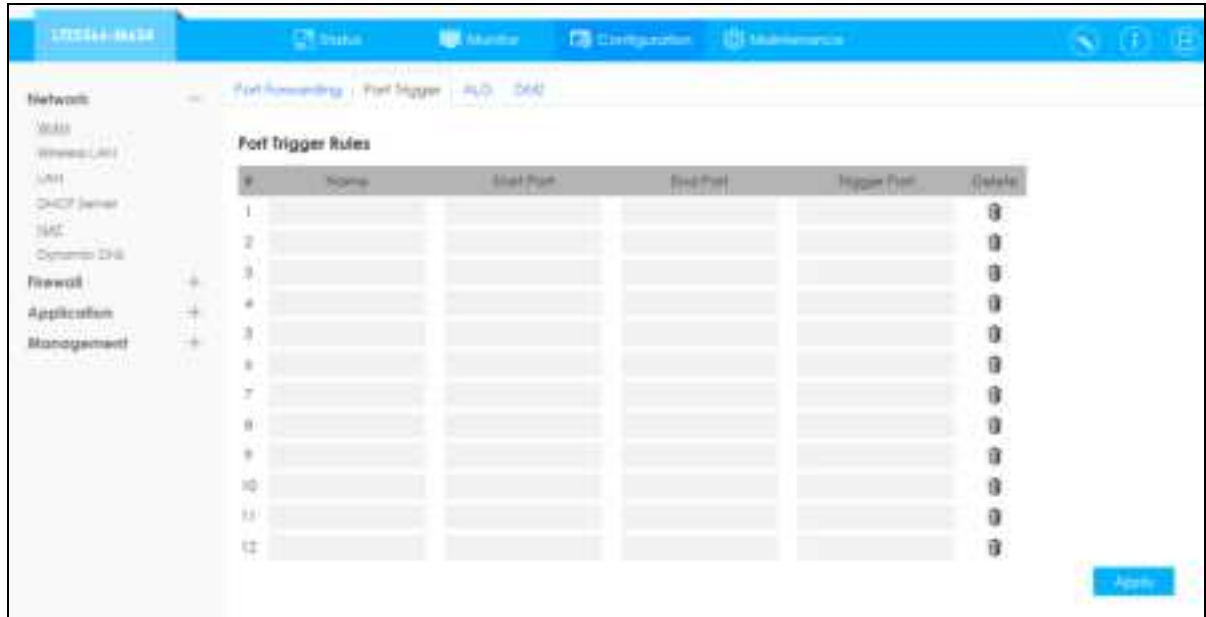
The following table describes the labels in this screen.

Table 30   Configuration > Network > NAT > Port Trigger

LABEL	DESCRIPTION
#	This is the rule index number (read-only).
Name	Type a unique name (up to 15 characters) for identification purposes. All characters are permitted - including spaces.
Start Port	Type a port number or the starting port number in a range of port numbers.
End Port	Type a port number or the ending port number in a range of port numbers.
Trigger Port	The trigger port is a port that causes (or triggers) the LTE2566-M634 to record the IP address of the LAN computer that sent the traffic to a server on the WAN.
Delete	Click **Delete** to remove the trigger port rule.
Apply	Click **Apply** to save your changes back to the LTE2566-M634.

10.4 ALG

Some NAT routers may include a SIP Application Layer Gateway (ALG). A SIP ALG allows SIP calls to pass through NAT by examining and translating IP addresses embedded in the data stream. When the LTE2566-M634 registers with the SIP register server, the SIP ALG translates the LTE2566-M634's private IP address inside the SIP data stream to a public IP address. You do not need to use STUN or an outbound proxy if your LTE2566-M634 is behind a SIP ALG.

To enable and disable the SIP ALG in the LTE2566-M634, click **Configuration > Network > NAT> ALG**. The screen appears as shown.

Figure 57 Configuration > Network > NAT > ALG
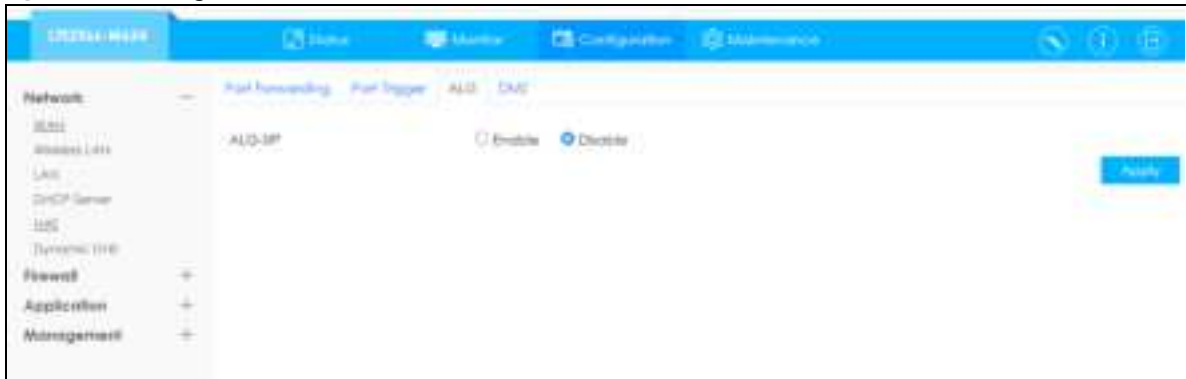
The following table describes the labels in this screen.

Table 31 Configuration > Network > NAT > ALG

LABEL	DESCRIPTION
ALG-SIP	Select **Enable** to make sure SIP (VoIP) works correctly with port-forwarding and address-mapping rules. Otherwise, select **Disable** to turn off the SIP ALG.
Apply	Click **Apply** to save your changes back to the LTE2566-M634.

10.5 Technical Reference

The following section contains additional technical information about the LTE2566-M634 features described in this chapter.

10.5.1 NAT Port Forwarding: Services and Port Numbers

A port forwarding set is a list of inside (behind NAT on the LAN) servers, for example, web or FTP, that you can make accessible to the outside world even though NAT makes your whole inside network appear as a single machine to the outside world.

Use the **Port Forwarding** screen to forward incoming service requests to the server(s) on your local network. You may enter a single port number or a range of port numbers to be forwarded, and the local IP address of the desired server. The port number identifies a service; for example, web service is on port 80 and FTP on port 21. In some cases, such as for unknown services or where one server can support more than one service (for example both FTP and web service), it might be better to specify a range of port numbers.

In addition to the servers for specified services, NAT supports a default server. A service request that does not have a server explicitly designated for it is forwarded to the default server. If the default is not defined, the service request is simply discarded.

Note: Many residential broadband ISP accounts do not allow you to run any server processes (such as a Web or FTP server) from your location. Your ISP may periodically check for servers and may suspend your account if it discovers any active services at your location. If you are unsure, refer to your ISP.

10.5.2 NAT Port Forwarding Example

Let's say you want to assign ports 21-25 to one FTP, Telnet and SMTP server (**A** in the example), port 80 to another (**B** in the example) and assign a default server IP address of 192.168.1.35 to a third (**C** in the example). You assign the LAN IP addresses and the ISP assigns the WAN IP address. The NAT network appears as a single host on the Internet.

Figure 58   Multiple Servers Behind NAT Example
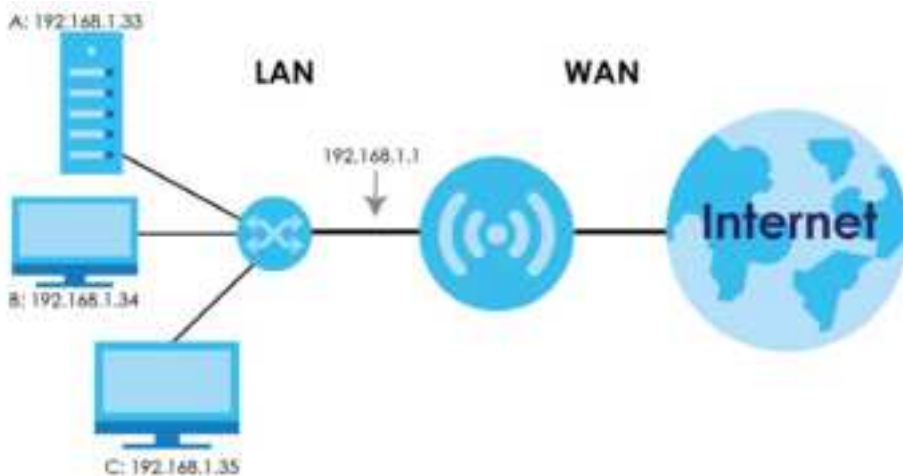
10.5.3 Trigger Port Forwarding

Some services use a dedicated range of ports on the client side and a dedicated range of ports on the server side. With regular port forwarding you set a forwarding port in NAT to forward a service (coming in from the server on the WAN) to the IP address of a computer on the client side (LAN). The problem is that port forwarding only forwards a service to a single LAN IP address. In order to use the same service on a different LAN computer, you have to manually replace the LAN computer's IP address in the forwarding port with another LAN computer's IP address.

Trigger port forwarding solves this problem by allowing computers on the LAN to dynamically take turns using the service. The LTE2566-M634 records the IP address of a LAN computer that sends traffic to the WAN to request a service with a specific port number and protocol (a "trigger" port). When the LTE2566-M634's WAN port receives a response with a specific port number and protocol ("incoming" port), the LTE2566-M634 forwards the traffic to the LAN IP address of the computer that sent the request. After that computer's connection for that service closes, another computer on the LAN can use the service in the same manner. This way you do not need to configure a new IP address each time you want a different LAN computer to use the application.

10.5.4 Trigger Port Forwarding Example

The following is an example of trigger port forwarding.

Figure 59   Trigger Port Forwarding Process: Example
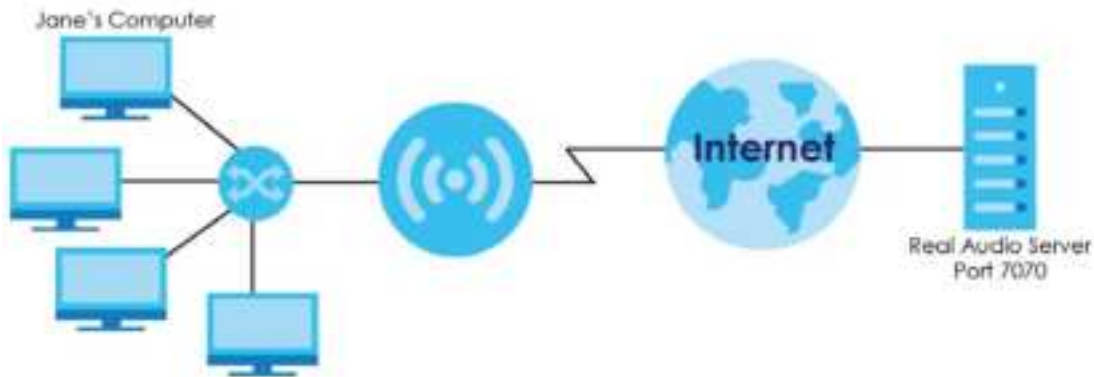
1   Jane requests a file from the Real Audio server (port 7070).

2   Port 7070 is a "trigger" port and causes the LTE2566-M634 to record Jane's computer IP address. The LTE2566-M634 associates Jane's computer IP address with the "incoming" port range of 6970-7170.

3   The Real Audio server responds using a port number ranging between 6970-7170.

4   The LTE2566-M634 forwards the traffic to Jane's computer IP address.

5   Only Jane can connect to the Real Audio server until the connection is closed or times out. The LTE2566-M634 times out in three minutes with UDP (User Datagram Protocol), or two hours with TCP/IP (Transfer Control Protocol/Internet Protocol).

10.5.5 Two Points To Remember About Trigger Ports

1   Trigger events only happen on data that is coming from inside the LTE2566-M634 and going to the outside.

2   If an application needs a continuous data stream, that port (range) will be tied up so that another computer on the LAN cannot trigger it.

CHAPTER 11
DHCP Server

11.1 Overview

DHCP (Dynamic Host Configuration Protocol, RFC 2131 and RFC 2132) allows individual clients to obtain TCP/IP configuration at start-up from a server. You can configure the LTE2566-M634's WLAN as a DHCP server or disable it. When configured as a server, the LTE2566-M634 provides the TCP/IP configuration for the clients. If DHCP service is disabled, you must have another DHCP server on your LAN, or else the computer must be manually configured.

11.1.1 What You Can Do

- Use the **General** screen to enable the DHCP server (Section 11.2 on page 82).
- Use the **Advanced** screen to assign IP addresses on the LAN to specific individual computers based on their MAC addresses (Section 11.3 on page 84).
- Use the **Client List** screen to view the current DHCP client information (Section 11.4 on page 84).

11.1.2 What You Need To Know

The following terms and concepts may help as you read through this chapter.

MAC Addresses

Every Ethernet device has a unique MAC (Media Access Control) address. The MAC address is assigned at the factory and consists of six pairs of hexadecimal characters, for example, 00:A0:C5:00:00:02. Find out the MAC addresses of your network devices if you intend to add them to the **DHCP Client List** screen.

IP Pool Setup

The LTE2566-M634 is pre-configured with a pool of 32 IP addresses starting from 192.168.1.33 to 192.168.1.64. This configuration leaves 31 IP addresses (excluding the LTE2566-M634 itself) in the lower range (192.168.1.2 to 192.168.1.32) for other server computers, for instance, servers for mail, FTP, TFTP, web, etc., that you may have.

11.2 DHCP Server General Settings

The LTE2566-M634 has built-in DHCP server capability that assigns IP addresses to systems that support DHCP client capability. Use this screen to enable the DHCP server. Click **Configuration > Network** > **DHCP Server.** The following screen displays.

Figure 60 Configuration > Network > DHCP Server > General

The following table describes the labels in this screen.

Table 32   Configuration > Network > DHCP Server > General

LABEL	DESCRIPTION
DHCP Server	Select **Enable** to activate DHCP for LAN.
	DHCP (Dynamic Host Configuration Protocol, RFC 2131 and RFC 2132) allows individual clients (computers) to obtain TCP/IP configuration at startup from a server. Enable the DHCP server unless your ISP instructs you to do otherwise. Select **Disable** to stop the LTE2566-M634 acting as a DHCP server. When configured as a server, the LTE2566-M634 provides TCP/IP configuration for the clients. If not, DHCP service is disabled and you must have another DHCP server on your LAN, or else the computers must be manually configured. When set as a server, fill in the following four fields.
IP Pool Starting Address	This field specifies the first of the contiguous addresses in the IP address pool for LAN.
Pool Size	This field specifies the size, or count of the IP address pool for LAN.
Lease Time	This is the period of time DHCP-assigned addresses is used. DHCP automatically assigns IP addresses to clients when they log in. DHCP centralizes IP address management on central computers that run the DHCP server program. DHCP leases addresses, for a period of time, which means that past addresses are "recycled" and made available for future reassignment to other systems.
Guest DHCP Server	Select **Enable** to activate DHCP for the VLAN group.
DHCP Server IP Address	Enter the LAN IP address you want to assign to your LTE2566-M634 in this VLAN group.
IP Pool Starting Address	Specify the first of the contiguous addresses in the IP address pool for LAN.
Pool Size	Specify the size, or count of the IP address pool for LAN.
Apply	Click **Apply** to save your changes back to the LTE2566-M634.

11.3 Advanced DHCP Server Setting

This screen allows you to assign IP addresses on the LAN to specific individual computers based on their MAC addresses. You can also use this screen to configure the DNS server information that the LTE2566-M634 sends to the DHCP clients.

To change your LTE2566-M634's static DHCP settings, click **Configuration > Network > DHCP Server > Advanced**. The following screen displays.

Figure 61   Configuration > Network > DHCP Server > Advanced

The following table describes the labels in this screen.

Table 33   Configuration > Network > DHCP Server > Advanced

LABEL	DESCRIPTION
Static DHCP Table	
#	This is the index number of the static IP table entry (row).
IP Address	Type the LAN IP address of a computer on your LAN.
MAC Address	Type the MAC address (with colons) of a computer on your LAN.

11.4 DHCP Client List

The DHCP table shows current DHCP client information (including IP address, Host Name and MAC address) of network clients using the LTE2566-M634's DHCP servers.

Configure this screen to always assign an IP address to a MAC address (and host name). Click **Configuration > Network > DHCP Server > Client List**.

Note: You can also view a read-only client list by clicking **Monitor > DHCP Server**.

Figure 62 Configuration > Network > DHCP Server > Client List
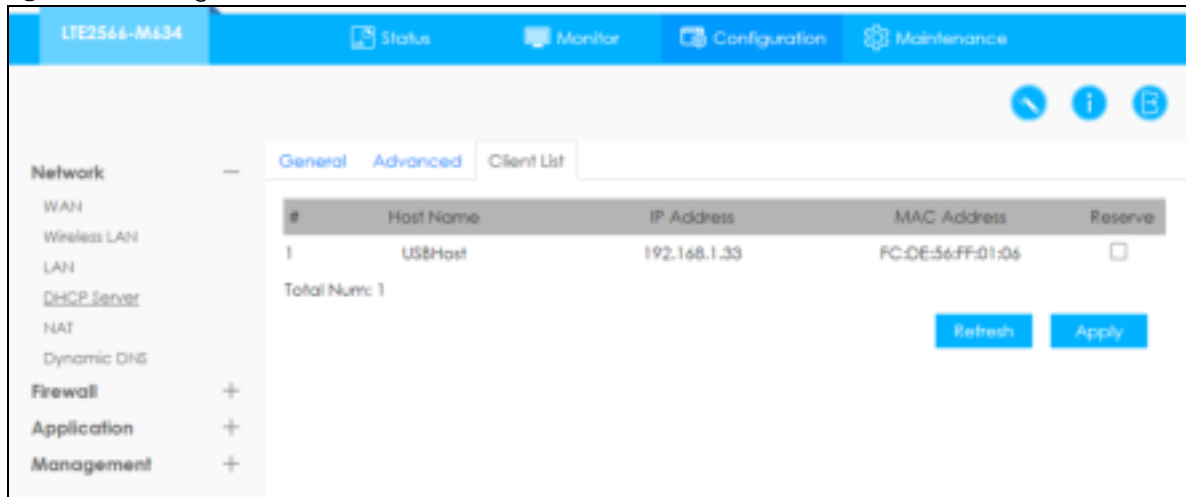
The following table describes the labels in this screen.
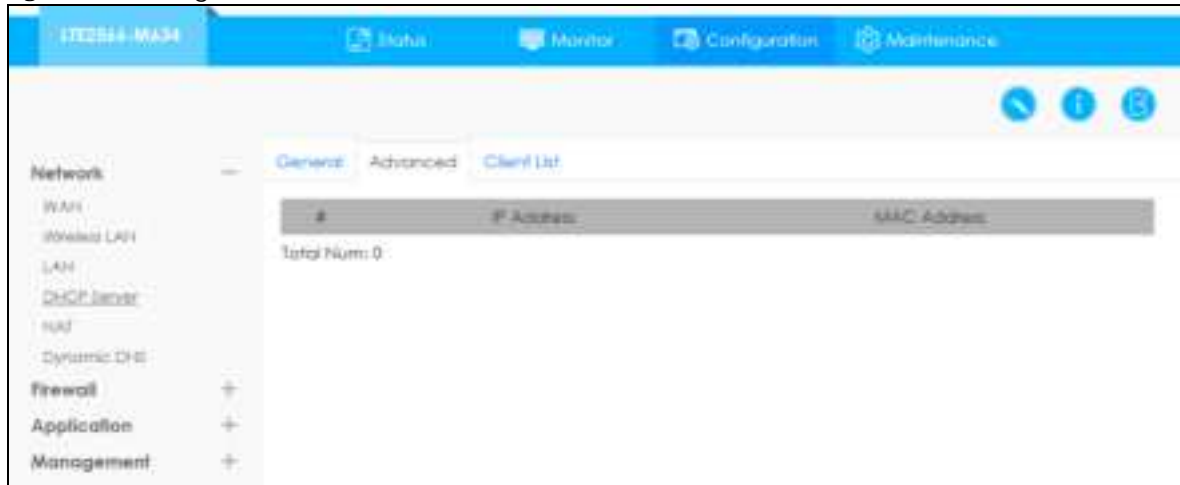
Table 34   Configuration > Network > DHCP Server > Client List

LABEL	DESCRIPTION
#	This is the index number of the host computer.
Host Name	This field displays the computer host name.
IP Address	This field displays the IP address relative to the # field listed above.
MAC Address	This field shows the MAC address of the computer with the name in the **Host Name** field. Every Ethernet device has a unique MAC (Media Access Control) address which uniquely identifies a device. The MAC address is assigned at the factory and consists of six pairs of hexadecimal characters, for example, 00:A0:C5:00:00:02.
Reserve	Select this if you want to reserve the IP address for this specific MAC address.
Refresh	Click this button to update the screen.
Apply	Click **Apply** to save your changes back to the LTE2566-M634.

CHAPTER 12
DDNS

12.1 Overview

Dynamic Domain Name Service (DDNS) services let you use a fixed domain name with a dynamic IP address. Users can always use the same domain name instead of a different dynamic IP address that changes each time to connect to the LTE2566-M634 or a server in your network.

Note: The LTE2566-M634 must have a public global IP address and you should have your registered DDNS account information on hand.

12.2 General Settings

To change your LTE2566-M634's DDNS, click **Configuration** > **Network > Dynamic DNS**. The screen appears as shown.

Figure 63   Configuration > Network > Dynamic DNS

The following table describes the labels in this screen.

Table 35   Configuration > Network > Dynamic DNS

LABEL	DESCRIPTION
IPv4 Dynamic DNS Setup	
Dynamic DNS	Select **Enable** to use dynamic DNS. Select **Disable** to turn this feature off.
Service Provider	Select the name of your Dynamic DNS service provider.

Table 35   Configuration > Network > Dynamic DNS (continued)

LABEL	DESCRIPTION
Host Name	The host name is the domain name that the DDNS service will map to your dynamic global IP address. Type the host name fully qualified, for example, "yourhost.mydomain.net". You can specify up to two host names in the field separated by a comma (",").
Username	Enter your user name.
Password	Enter the password assigned to you.
Apply	Click **Apply** to save your changes back to the LTE2566-M634.

CHAPTER 13
Firewall

13.1 Overview

Use these screens to enable and configure the firewall that protects your LTE2566-M634 and your LAN from unwanted or malicious traffic.

Enable the firewall to protect your LAN devices from attacks by hackers on the Internet and control access between the LAN and WAN. By default the firewall:

• allows traffic that originates from your LAN devices to go to all of the networks.
• blocks traffic that originates on the other networks from going to the LAN.

The following figure illustrates the default firewall action. User **A** can initiate an IM (Instant Messaging) session from the LAN to the WAN (1). Return traffic for this session is also allowed (2). However other traffic initiated from the WAN is blocked (3 and 4).

Figure 64 Default Firewall Action
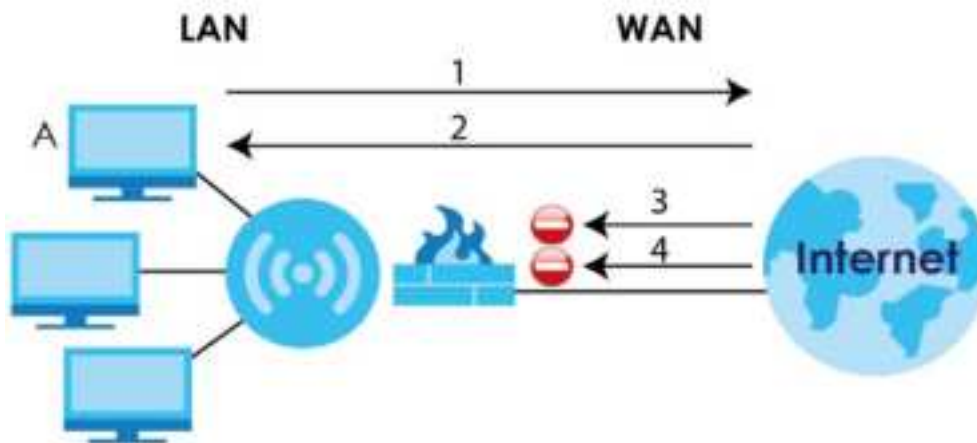
13.1.1 What You Can Do

• Use the **General** screen to enable or disable the LTE2566-M634's firewall ().

13.1.2 What You Need To Know

The following terms and concepts may help as you read through this chapter.

About the LTE2566-M634 Firewall

The LTE2566-M634's firewall feature physically separates the LAN and the WAN and acts as a secure gateway for all data passing between the networks.

It is a stateful inspection firewall and is designed to protect against Denial of Service attacks when activated (click the **General** tab under **Firewall** and then click the **Enable** check box). The LTE2566-M634's purpose is to allow a private Local Area Network (LAN) to be securely connected to the Internet. The LTE2566-M634 can be used to prevent theft, destruction and modification of data, as well as log events, which may be important to the security of your network.

The LTE2566-M634 is installed between the LAN and a broadband modem connecting to the Internet. This allows it to act as a secure gateway for all data passing between the Internet and the LAN.

The LAN (Local Area Network) connects to a network of computers, which needs security from the outside world. These computers will have access to Internet services such as e-mail, FTP and the World Wide Web. However, "inbound access" is not allowed (by default) unless the remote host is authorized to use a specific service.

Guidelines For Enhancing Security With Your Firewall

1 Change the default password via Web Configurator.

2 Think about access control before you connect to the network in any way, including attaching a modem to the port.

3 Limit who can access your LTE2566-M634.

4 Don't enable any local service (such as NTP) that you don't use. Any enabled service could present a potential security risk. A determined hacker might be able to find creative ways to misuse the enabled services to access the firewall or the network.

5 For local services that are enabled, protect against misuse. Protect by configuring the services to communicate only with specific peers, and protect by configuring rules to block packets for the services at specific interfaces.

6 Protect against IP spoofing by making sure the firewall is active.

7 Keep the firewall in a secured (locked) room.

13.2 General Setting

Use this screen to enable or disable the LTE2566-M634's firewall, and set up firewall logs. Click **Configuration > Firewall** to open the **General** screen.

Figure 65 Configuration > Firewall > General
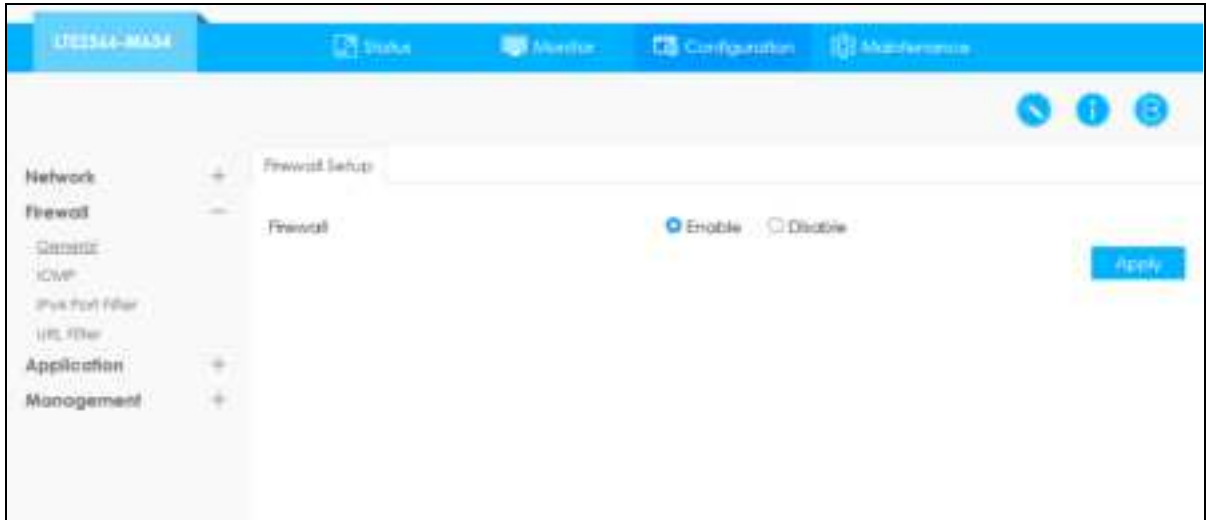
The following table describes the labels in this screen.

Table 36   Configuration > Firewall > General

LABEL	DESCRIPTION
Firewall Setup	Select **Enable** to activate the firewall. The LTE2566-M634 performs access control when the firewall is activated.
Apply	Click **Apply** to save the settings.

13.3 The ICMP Protection

If an outside user attempts to probe an unsupported port on LTE2566-M634, an ICMP response packet is automatically returned. This allows the outside user to know LTE2566-M634 exists. Use this screen to prevent the ICMP response packet from being sent. This keeps outsiders from discovering your LTE2566-M634 when unsupported ports are probed.

Figure 66 Configuration > Firewall > ICMP > ICMP Protection

The following table describes the labels in this screen.

Table 37   Configuration > Firewall > ICMP

LABEL	DESCRIPTION
ICMP Protection	Internet Control Message Protocol is a message control and error-reporting protocol between a host server and a gateway to the Internet. ICMP uses Internet Protocol (IP) datagrams, but the messages are processed by the TCP/IP software and directly apparent to the application user. Select **Ping from LAN** to reply to incoming LAN Ping requests. Select **Ping from WAN** to reply to incoming WAN Ping requests. Otherwise select both **Ping from LAN** & **WAN** to reply to all incoming LAN and WAN Ping requests.
Apply	Click **Apply** to save the settings.

CHAPTER 14
URL Filtering

14.1 Overview

This chapter shows you how to configure URL filtering. URL filtering is the ability to block certain web features and specific URLs.

Keyword Blocking URL Checking

The LTE2566-M634 checks the URL's domain name (or IP address) and file path separately when performing keyword blocking.

The URL's domain name or IP address is the characters that come before the first slash in the URL. For example, with the URL www.zyxel.com.tw/news/pressroom.php, the domain name is www.zyxel.com.tw.

The file path is the characters that come after the first slash in the URL. For example, with the URL www.zyxel.com.tw/news/pressroom.php, the file path is news/pressroom.php.

Since the LTE2566-M634 checks the URL's domain name (or IP address) and file path separately, it will not find items that go across the two. For example, with the URL www.zyxel.com.tw/news/pressroom.php, the LTE2566-M634 would find "tw" in the domain name (www.zyxel.com.tw). It would also find "news" in the file path (news/pressroom.php) but it would not find "tw/news".

14.2 URL Filter

Use this screen to restrict web features, and designate a trusted computer. You can also use this screen to configure URL filtering settings to block the users on your network from accessing certain web sites. Click **Configuration > Firewall** > **URL Filter** to open the **URL Filter** screen.

Figure 67 Configuration > Firewall > URL Filter
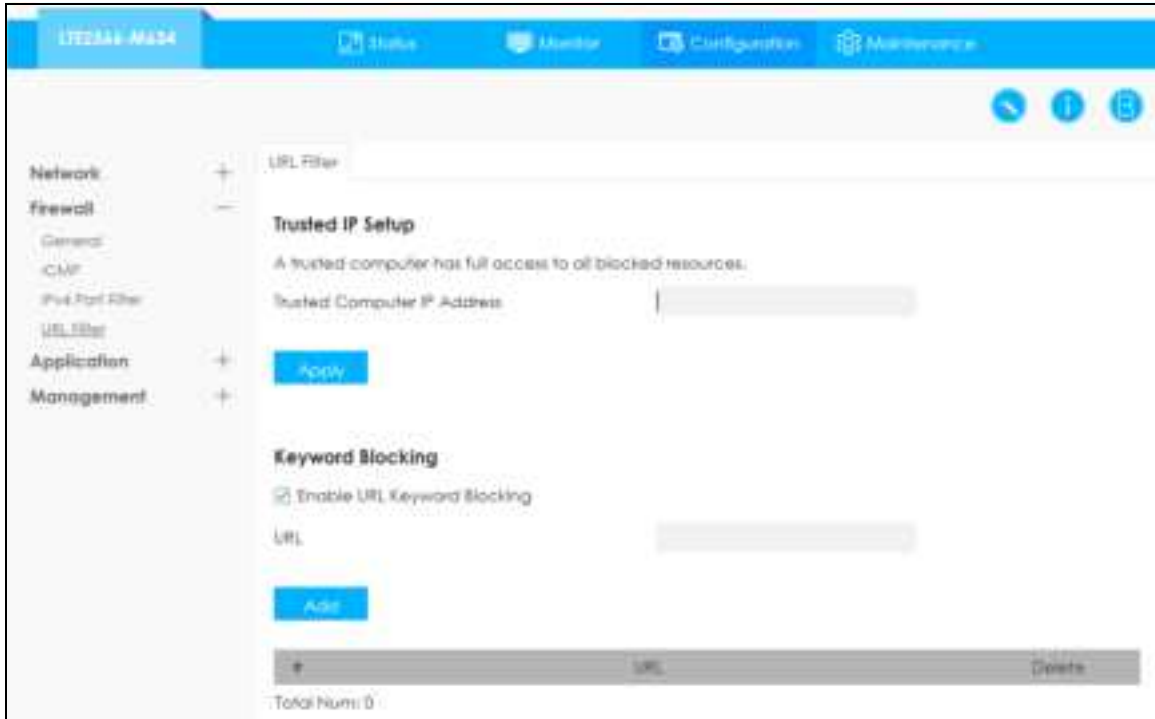
The following table describes the labels in this screen.

Table 38   Configuration > Firewall > URL Filter

LABEL	DESCRIPTION
Trusted Computer IP Address	To enable this feature, type an IP address of any one of the computers in your network that you want to have as a trusted computer. This allows the trusted computer to have full access to all features that are configured to be blocked by content filtering. Leave this field blank to have no trusted computers.
Apply	Click **Apply** to save your settings.
Enable URL Keyword Blocking	The LTE2566-M634 can block Web sites with URLs that contain certain keywords in the domain name or IP address. For example, if the keyword "bad" was enabled, all sites containing this keyword in the domain name or IP address will be blocked, e.g., URL http://www.website.com/bad.html would be blocked. Select this check box to enable this feature.
URL	Type a keyword in this field. You may use any character (up to 64 characters). Wildcards are not allowed. You can also enter a numerical IP address.
Add	Click **Add** after you have typed a keyword. Repeat this procedure to add other keywords. Up to 64 keywords are allowed. When you try to access a web page containing a keyword, you will get a message telling you that the content filter is blocking this request.

CHAPTER 15
IPv4 Filter

15.1 Overview

This chapter shows you how to enable and create IPv4 firewall rules to block unwanted IPv4 traffic.

15.2 IPv4 Firewall

Click **Configuration** > **Firewall** > **IPv4 Filter**. The **Service** screen appears as shown.

Figure 68   Configuration > Firewall > IPv4 Filter

The following table describes the labels in this screen.

Table 39   Configuration > Firewall > IPv4 Filter

LABEL	DESCRIPTION
Firewall Rule	Click **Enable** to activate the firewall rules that you define. Otherwise, click **Disable**.
Black List / White List	Select **Allow** to allow communication only if traffic matches the firewall rules. Select **Deny** to deny communication only if traffic matches the firewall rules.
Apply	Click **Apply** to save your settings.
MAC Address	Enter the MAC address of the computer for which the firewall rule applies.
Source IP	Enter the IPv4 address of the computer that initializes traffic for the application or service. The LTE2566-M634 applies the firewall rule to traffic initiating from this computer.
Source Port	Enter the port number/range of the source that defines the traffic type, for example TCP port 80 defines web traffic.
Protocol	Select the protocol (**TCP**, **UDP**, **TCP+UDP** or **ICMP**) used to transport the packets for which you want to apply the firewall rule.
Add	Click **Add** to save the firewall rule.

C HAPTER 1 6
SMS

16.1 Overview

This chapter shows you how to view the text messages.

SMS (Short Message Service) allows you to send and view the text messages that the LTE2566-M634 received from mobile devices or the service provider.

16.1.1 What You Can Do in this Chapter

- Use the **SMS summary** screen to select SMS storage location (Section 16.2 on page 96).
- Use the **New SMS** screen to send new messages (Section 16.3 on page 97).
- Use the **SMS Inbox List** screen to view messages received on the LTE2566-M634 (Section 16.4 on page 98).
- Use the **SMS Draft Box** screen to view messages not yet sent from the LTE2566-M634 (Section 16.5 on page 98).
- Use the **SMS Outbox List** screen to view messages sent from the LTE2566-M634 (Section 16.6 on page 99).
- Use the **USSD** screen to request services to the Internet service provider (Section 16.7 on page 100).
- Use the **Phonebook** screen to mange the phonebook of the LTE2566-M634 (Section 16.8 on page 101).

16.2 SMS Summary

Use these screens to configure the LTE2566-M634 SMS settings.

16.2.1 Set SMS Storage Location

Click **Configuration > Application > SMS > SMS Summary** to open the following screen. Use this screen to select the SMS storage location. Select **Local** from the drop-down menu to store SMS in the LTE2566-M634 internal memory. Select **SIM** to store SMS in the inserted SIM card. Click **Apply** to apply your changes.

Figure 69   Configuration > Application > SMS > SMS Summary
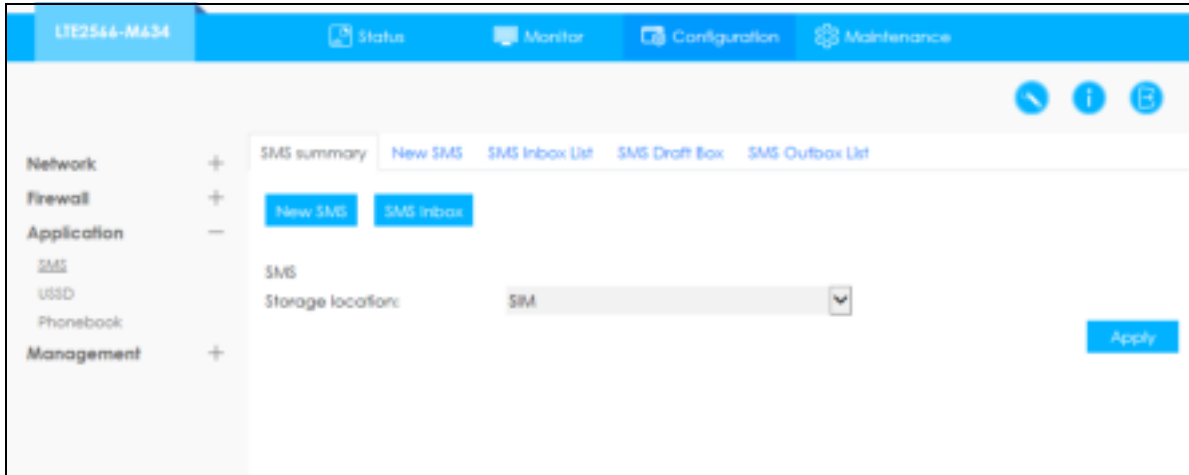
16.3 New SMS

Use this screen to send messages using the LTE2566-M634. To access this screen, click **Configuration > Application > SMS > New SMS**.

Type a phone number in the **Receivers** field and enter the message content in **Message**. You can type up to 160 characters in one message. If the message exceeds 160 characters, more than one SMS will be sent. You can select a receiver from the drop-down menu of **Receivers** and click **Send** to send the message. Click **Save to Drafts** to store the message as a draft.

Figure 70   Configuration >Application > SMS > New SMS
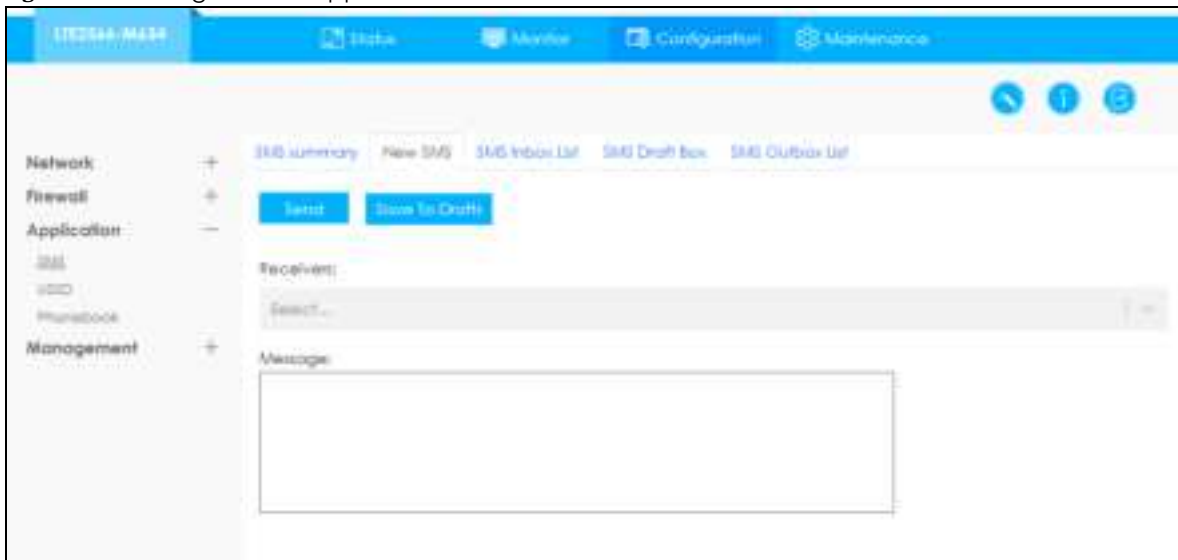
16.4 SMS Inbox List

Use this screen to view messages received by the LTE2566-M634. To access this screen, click **Configuration > Application > SMS > SMS Inbox List**.

Click the **SMS Inbox List** tab to view the inbox messages stored in the LTE2566-M634.

Note: You can store an approximate total of 500 messages, which includes Inbox, Outbox, and Draft box altogether.

Figure 71   Configuration > Application > SMS > SMS Inbox List
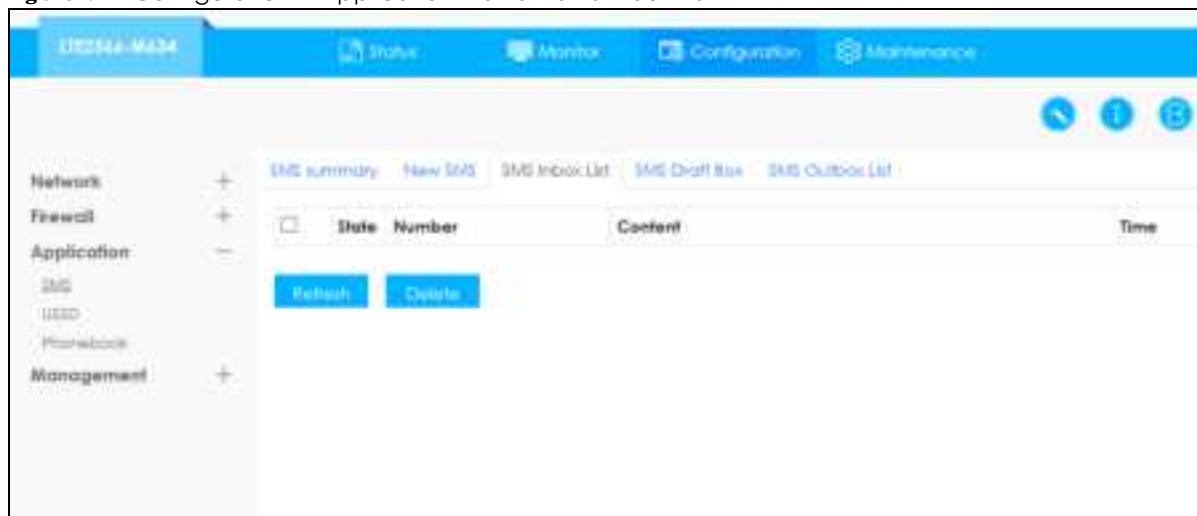
The following table describes the labels in this screen.

Table 40   Configuration > Application > SMS > SMS Inbox List

LABEL	DESCRIPTION
Check Box	Use the check box to select one or more rows.
State	This field displays whether the message was **Read**, is **Unread** or is a **Draft**.
Number	This field displays the phone number from which the message is sent.
Content	This field displays the content of the message.
Time	This field displays the date and time the message was received.
Refresh	Click **Refresh** to update the list.
Delete	Click **Delete** to remove the message record.

16.5 SMS Draft Box

Use this screen to view messages not yet sent from the LTE2566-M634. To access this screen, click **Configuration > Application > SMS > SMS Draft Box**.

Note: Click the **SMS Draft Box** tab to view the Inbox messages stored in the LTE2566-M634. You can store an approximate total of 500 messages, which includes Inbox, Outbox, and Draft box altogether.

Figure 72 Configuration > Application > SMS > SMS Draft Box

The following table describes the labels in this screen.

Table 41   Configuration > Application > SMS > SMS Draft Box

LABEL	DESCRIPTION
Check Box	Use the check box to select one or more rows.
State	This field displays whether the message was **Read**, is **Unread** or is a **Draft**.
Number	This field displays the phone number the message is sent to.
Message	This field displays the content of the message.
Time	This field displays the date and time the message was sent.
Refresh	Click **Refresh** to update the list.
Delete	Click **Delete** to remove the message record.

## 16.6 SMS Outbox List

Use this screen to view messages sent from the LTE2566-M634. To access this screen, click **Configuration > Application > SMS > SMS Outbox List**.

Note: Click the **SMS Outbox List** tab to view the Inbox messages stored in the LTE2566-M634. You can store an approximate total of 500 messages, which includes Inbox, Outbox, and Draft box altogether.

Configuration > Application > SMS > SMS Outbox List
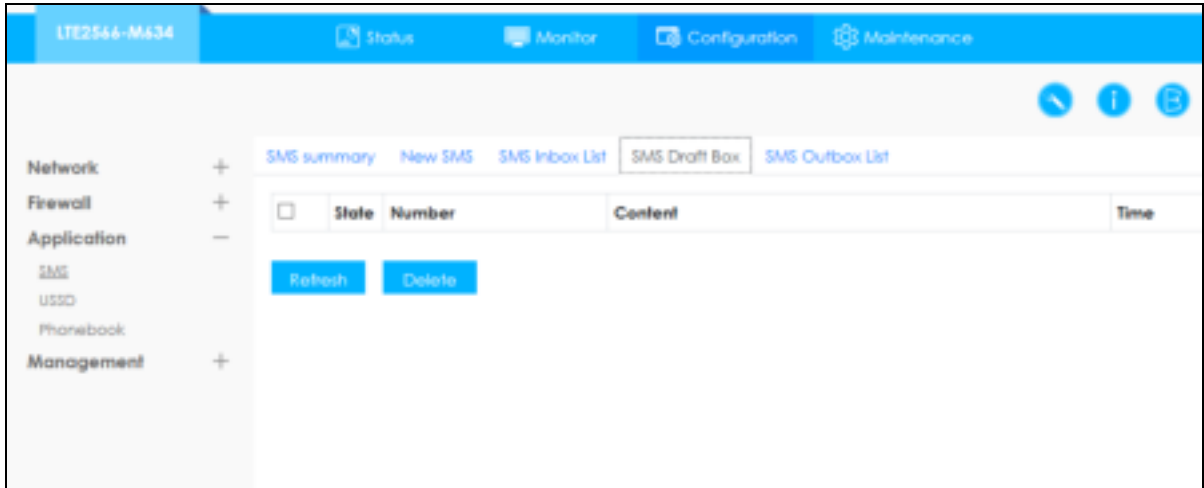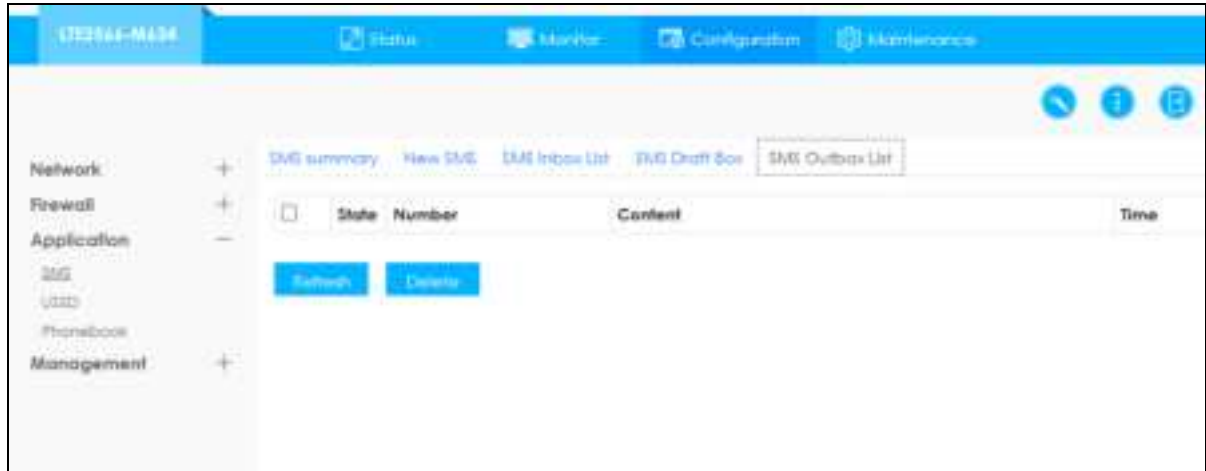

The following table describes the labels in this screen.

Table 42   Configuration > Application > SMS > SMS Outbox List

LABEL	DESCRIPTION
Check Box	Use the check box to select one or more rows.
State	This field displays whether the message was **Read**, is **Unread** or is a **Draft**.
Number	This field displays the phone number the message is sent to.
Content	This field displays the content of the message.
Time	This field displays the date and time the message was sent.
Refresh	Click **Refresh** to update the list.
Delete	Click **Delete** to remove the message record.

16.7 The USSD Screen

Use this screen to enter an Unstructured Supplementary Service Data (USSD) code. You can enter up to 182 alphanumeric characters in an USSD message. The LTE2566-M634 sends this code to request different services or features to the Internet service provider. Click **Configuration > Application > USSD**. Enter the code and click **Send**.

Figure 73 Configuration > Application > USSD
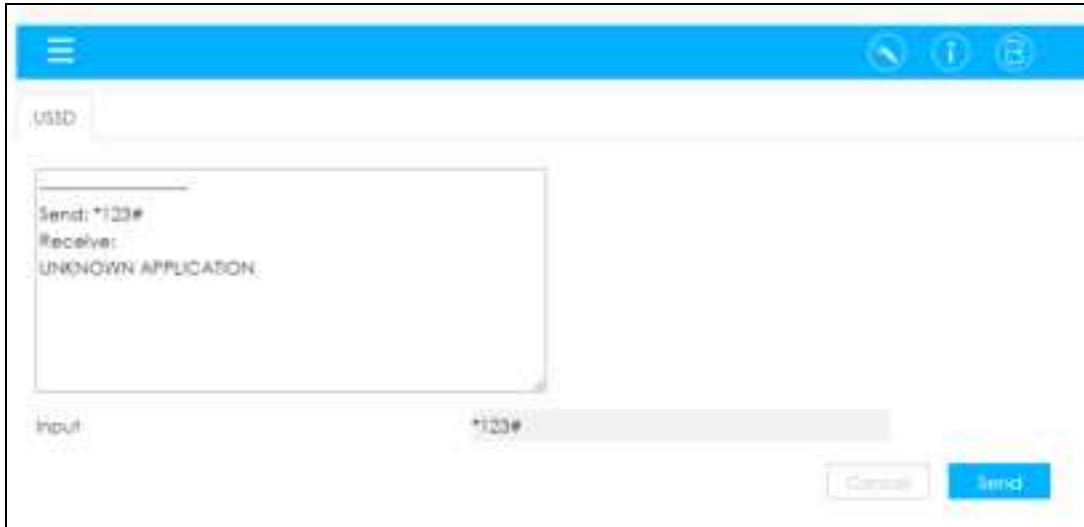
16.8 Phonebook

Use these screen to configure **Phonebook** users and groups. After configuring, you can send SMS messages to **Phonebook** users. You cannot send SMS messages to **Phonebook** groups at the time of writing.

16.8.1 The Phonebook Screen

Use this screen to manage your phonebook on the LTE2566-M634. To access this screen, click **Configuration > Application > Phonebook > Phonebook**.

Figure 74 Configuration > Application > Phonebook > Phonebook
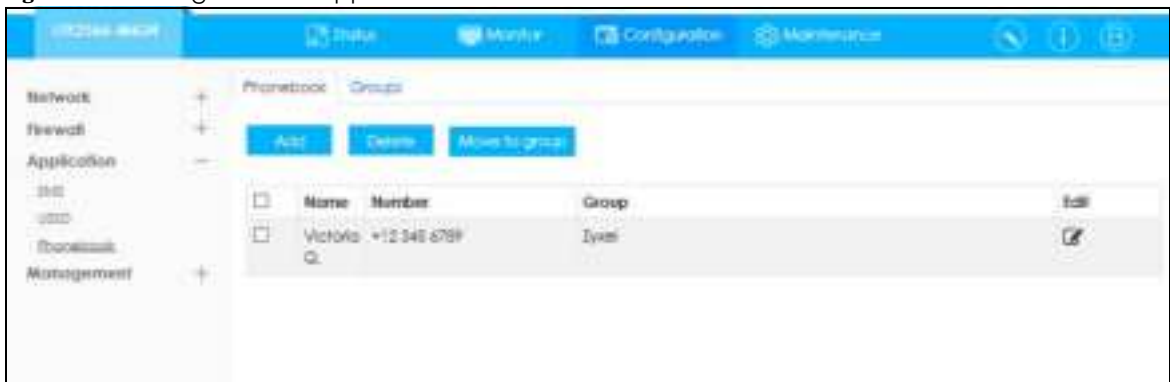
The following table describes the labels in this screen.

Table 43 Configuration > Application > Phonebook > Phonebook

LABEL	DESCRIPTION
Check Box	Use the check box to select one or more rows.
Name	This field displays the name of the contact. Click **Add** to add a new contact. You can enter up to 20 characters, including spaces, alphanumeric characters and special characters, such as "@" and "#."

Table 43   Configuration > Application > Phonebook > Phonebook

LABEL	DESCRIPTION
Number	This field displays the phone number of the contact. You can enter up to 20 characters, including numbers and special characters. For example, you can use "+" for different regions.
Group	This field displays the name of the group. You can enter up to 20 characters, including spaces, alphanumeric characters and special characters, such as "@" and "#."
Edit	Click the **Edit** icon to change the name, the phone number or the group the contact belongs to. And then click **YES** to save the changes.
Add	Click **Add** to add the name or number of the new contact to the phonebook.
Delete	Select a contact by selecting the check box of a row and then click **Delete** to remove it.
Move to Group	Select a contact by selecting the check box of a row and then click **Move to Group** to move it to a selected group.

16.8.2 The Groups Screen

To access this screen, click **Configuration > Application > Phonebook > Groups**.

Note: You can use **Groups** to manage the contacts in your phonebook but you cannot send an SMS text message to a group at the time of writing.

Figure 75   Configuration > Application > Phonebook > Groups

The following table describes the labels in this screen.

Table 44   Configuration > Application > Phonebook > Groups

LABEL	DESCRIPTION
Name	This field displays the name of the group.
Count	This field displays the number of the contacts in this group.
Add	Click **Add** to add a new group to the phonebook.
Delete	Select a group by selecting the check box of a row and then click **Delete** to remove it.

CHAPTER 17
MGMT Interface

17.1 Overview

This chapter explains how to configure the LTE2566-M634 remote management. Remote Management allows you to manage your LTE2566-M634 from a remote location.

17.2 What You Can Do

- Use the **Local MGMT** screen to configure settings for HTTP or HTTPS access to the LTE2566-M634 (Section 17.4 on page 103).
- Use the **Remote MGMT** screen to configure through which interface(s) users can use which service(s) to manage the LTE2566-M634 (Section 17.5 on page 104).

17.3 What You Need To Know

Remote management over LAN or WAN will not work when:

- The IP address (Section 17.4 on page 103) does not match the client IP address. If it does not match, the LTE2566-M634 will disconnect the session immediately.
- There is a firewall rule that blocks it.

17.3.1 System Timeout

There is a default system management idle timeout of five minutes (three hundred seconds). The LTE2566-M634 automatically logs you out if the management session remains idle for longer than this timeout period. The management session does not time out when a statistics screen is polling. You can change the timeout period in the **Maintenance > General** screen.

17.4 Local MGMT

To change your LTE2566-M634's remote management settings, click **Configuration > Management > MGMT Interface** to open the **Local MGMT** screen.

Note: You must enable the remote management service in the **Configuration > Management > MGMT Interface > Local MGMT** screen for the settings in the **WWW** screen to take effect.

Configuration > Management > MGMT Interface > Local MGMT

The following table describes the labels in this screen.

Table 45   Configuration > Management > MGMT Interface > Local MGMT

LABEL	DESCRIPTION
HTTPS	
HTTPS	Select **Enable** to allow all LAN connections to access the LTE2566-M634 using HTTPS.
Port	This is the port number that the computer must use to access the LTE2566-M634.
HTTP	
HTTP	Select **Enable** to allow all LAN connections to access the LTE2566-M634 using HTTP.
Port	This is the port number that the computer must use to access the LTE2566-M634.
Apply	Click **Apply** to save your changes back to the LTE2566-M634.

17.5 Remote MGMT

Use this screen to configure through which IP address the LTE2566-M634 can be accessed. Click **Configuration > Management > MGMT Interface > Remote MGMT** to open the following screen.

Note: The firewall will be disabled when remote management is enabled. To activate the firewall, you'll need to create a new firewall rule to allow the remote management traffic to come in from the WAN side.
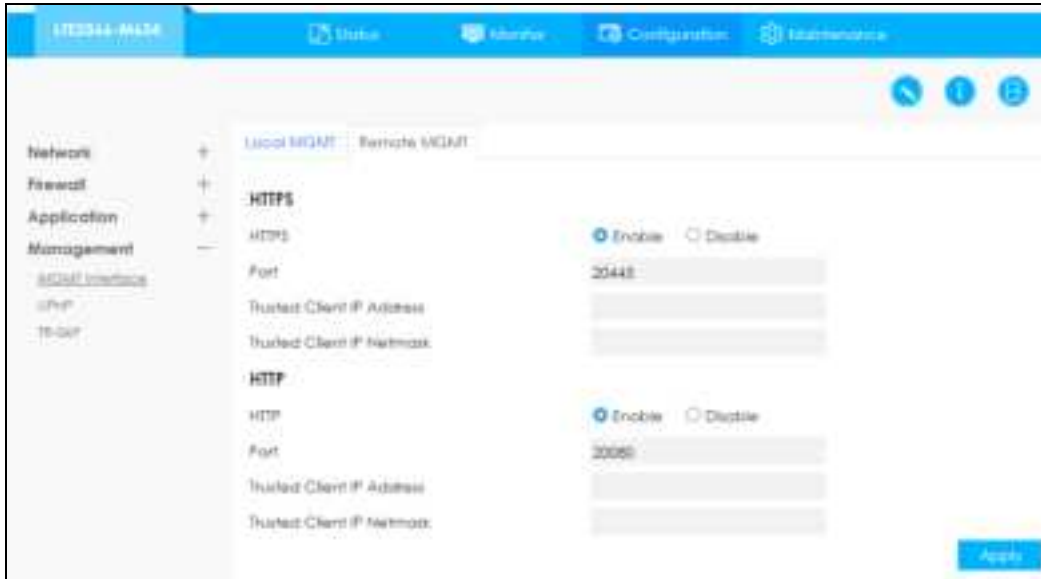
The following table describes the labels in this screen.

Table 46   Configuration > Management > MGMT Interface > Remote MGMT

LABEL	DESCRIPTION
HTTPS	
Enable	Select **Enable** to allow access to the LTE2566-M634 from the IP address and activate the HTTPS settings you've made in the **Local MGMT** screen.
Port	This is the port number that the computer must use to access the LTE2566-M634.
Trusted Client IP Address	This is the IP Address identifying the computer that can access the LTE2566-M634 using HTTPS service.
Trusted Client IP Netmask	This is the subnet mask of the computer that can access the LTE2566-M634 using HTTPS service.
HTTP	
Enable	Select **Enable** to allow the computer with the IP address that matches the IP address to access the LTE2566-M634 using HTTP service.
Port	This is the port number that the computer must use to access the LTE2566-M634.
Trusted Client IP Address	This is the IP Address identifying the computer that can access the LTE2566-M634 using HTTP service.
Trusted Client IP Netmask	This is the subnet mask of the computer that can access the LTE2566-M634 using HTTP service.
Apply	Click **Apply** to save your changes back to the LTE2566-M634.

CHAPTER 18
Universal Plug-and-Play (UPnP)

18.1 Overview

This chapter introduces the UPnP feature in the Web Configurator.

Universal Plug and Play (UPnP) is a distributed, open networking standard that uses TCP/IP for simple peer-to-peer network connectivity between devices. A UPnP device can dynamically join a network, obtain an IP address, convey its capabilities and learn about other devices on the network. In turn, a device can leave a network smoothly and automatically when it is no longer in use.

18.2 What You Need to Know

UPnP hardware is identified as an icon in the Network Connections folder (Windows 7). Each UPnP compatible device installed on your network will appear as a separate icon. Selecting the icon of a UPnP device will allow you to access the information and properties of that device.

18.2.1 NAT Traversal

UPnP NAT traversal automates the process of allowing an application to operate through NAT. UPnP network devices can automatically configure network addressing, announce their presence in the network to other UPnP devices and enable exchange of simple product and service descriptions. NAT traversal allows the following:

- Dynamic port mapping
- Learning public IP addresses
- Assigning lease times to mappings

Windows Messenger is an example of an application that supports NAT traversal and UPnP.

See the NAT chapter for more information on NAT.

18.2.2 Cautions With UPnP

The automated nature of NAT traversal applications in establishing their own services and opening firewall may present network security issues. Network information and configuration may also be obtained and modified by users in some network environments.

When a UPnP device joins a network, it announces its presence with a multicast message. For security reasons, the LTE2566-M634 allows multicast messages on the LAN only.

All UPnP-enabled devices may communicate freely with each other without additional configuration. Disable UPnP if this is not your intention.

18.3 UPnP Settings

Use this screen to enable UPnP on your LTE2566-M634.

Click **Configuration > Management > UPnP** to display the screen shown next.

Figure 78   Configuration > Management > UPnP
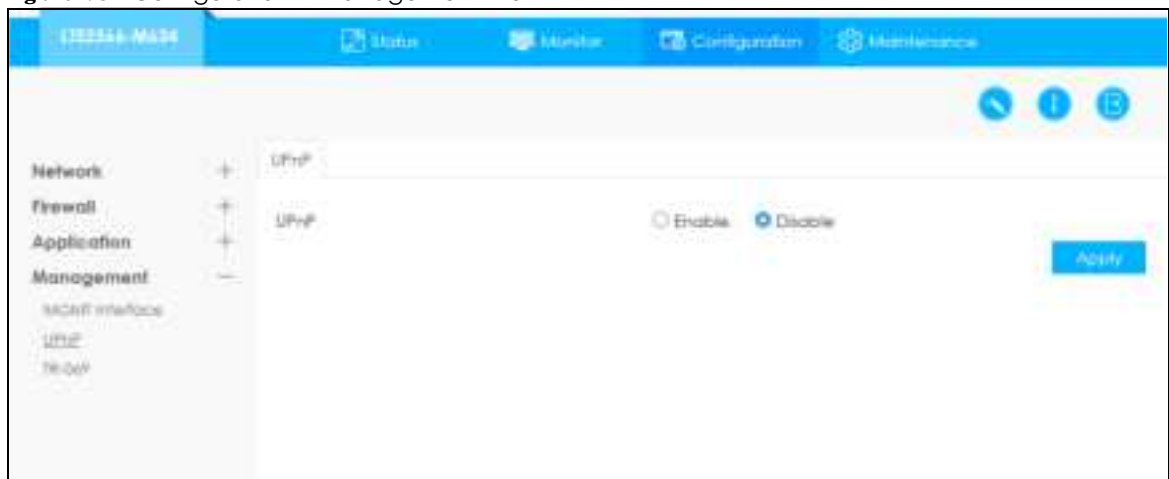
The following table describes the fields in this screen.

Table 47   Configuration > Management > UPnP

LABEL	DESCRIPTION
UPnP	Select **Enable** to activate UPnP. Be aware that anyone could use a UPnP application to open the Web Configurator's login screen without entering the LTE2566-M634's IP address (although you must still enter the password to access the Web Configurator).
Apply	Click **Apply** to save the setting to the LTE2566-M634.

18.4 Turn on UPnP in Windows 7 Example

This section shows you how to use the UPnP feature in Windows 7. UPnP server is installed in Windows 7. Activate UPnP on the LTE2566-M634 by clicking **Configuration > Management > UPnP**.

Make sure the computer is connected to the LTE2566-M634. Turn on your computer and the LTE2566-M634.

1   Click the start icon, **Control Panel** and then the **Network and Sharing Center.**

2 Click **Change Advanced Sharing Settings**.

3 Select **Turn on network discovery** and click **Save Changes**. Network discovery allows your computer to find other computers and devices on the network and other computers on the network to find your computer. This makes it easier to share files and printers.
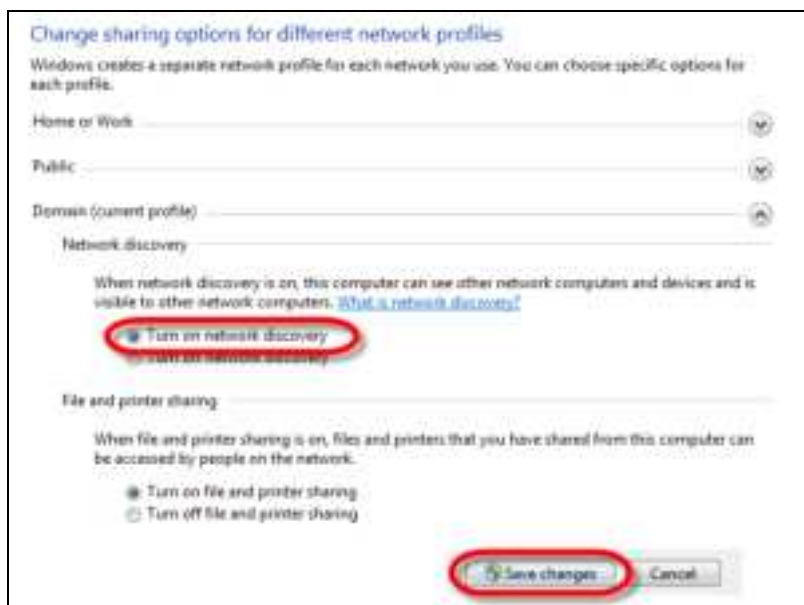
18.4.1 Auto-discover Your UPnP-enabled Network Device

Before you follow these steps, make sure you already have UPnP activated on the LTE2566-M634 and in your computer.

Make sure your computer is connected to the LTE2566-M634.

1   Open **Windows Explorer** and click **Network**.

2   Right-click the LTE2566-M634 icon and select **Properties**.

Figure 79   Network Connections
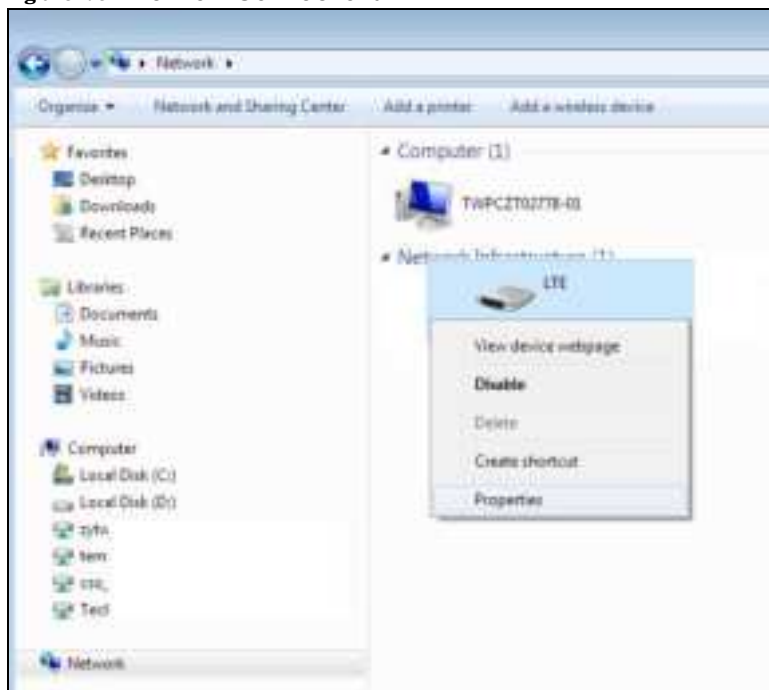
3 In the **Internet Connection Properties** window, click **Settings** to see port mappings.

Figure 80 Internet Connection Properties

4 You may edit or delete the port mappings or click **Add** to manually add port mappings.

Figure 81 Internet Connection Properties: Advanced Settings

Figure 82 Internet Connection Properties: Advanced Settings: Add

Note: When the UPnP-enabled device is disconnected from your computer, all port mappings will be deleted automatically.

5 Click **OK**. Check the network icon on the system tray to see your Internet connection status.

Figure 83 System Tray Icon

6 To see more details about your current Internet connection status, right click the network icon in the system tray and click **Open Network and Sharing Center**. Click **Local Area Network**.

Figure 84 Internet Connection Status
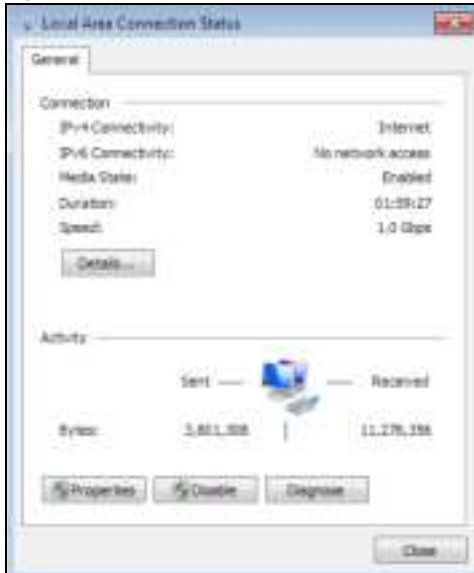
18.5 Turn on UPnP in Windows 10 Example

This section shows you how to use the UPnP feature in Windows 10. UPnP server is installed in Windows 10. Activate UPnP on the LTE2566-M634 by clicking **Network Setting > Home Networking > UPnP**.

Make sure the computer is connected to the LTE2566-M634. Turn on your computer and the LTE2566-M634.

1 Click the start icon, **Settings** and then **Network & Internet**.
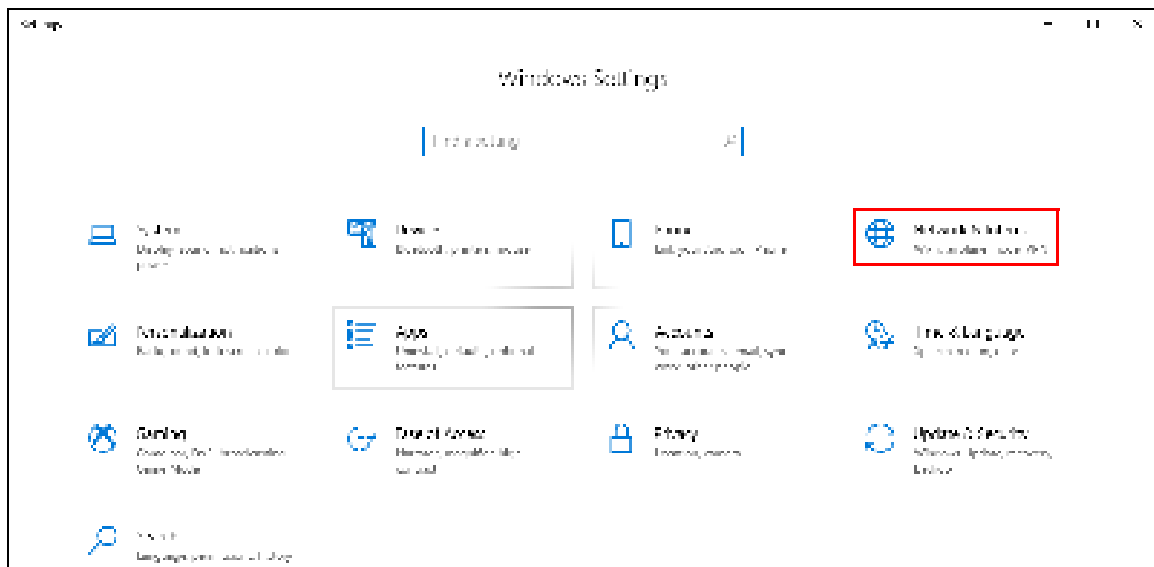
2 Click **Network and Sharing Center**.
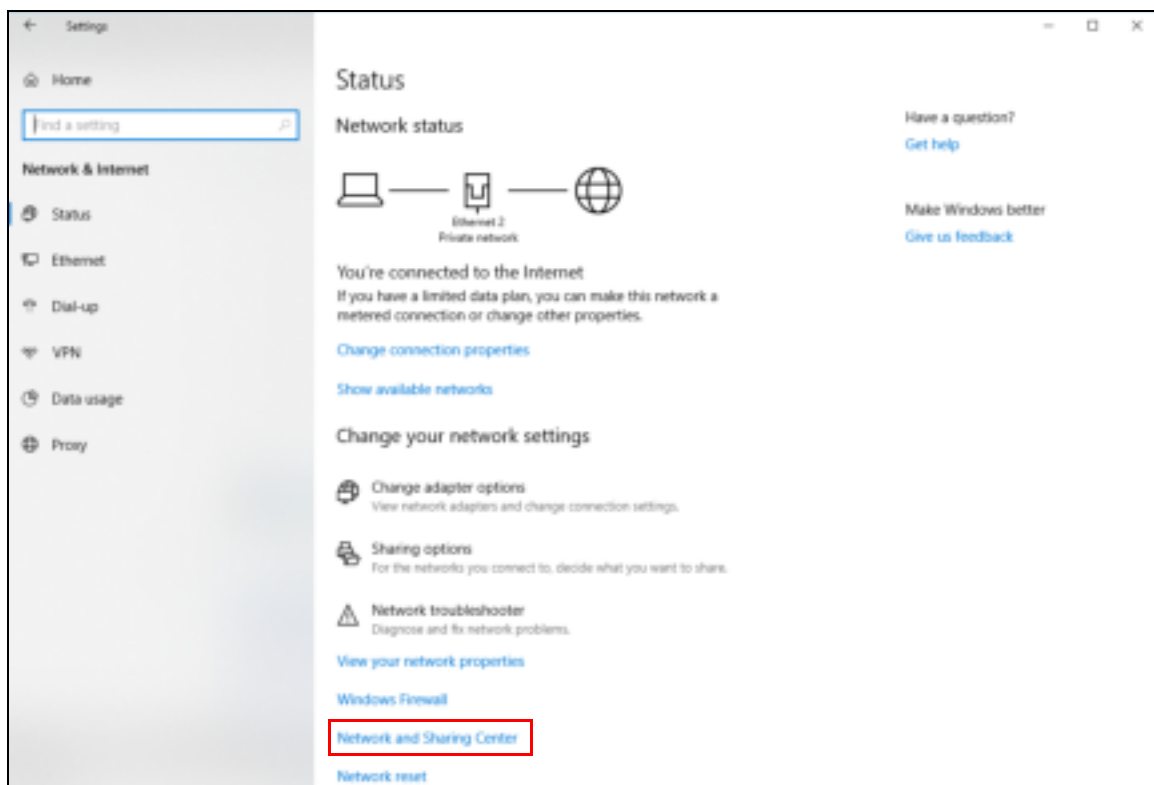
3 Click **Change advanced sharing settings**.
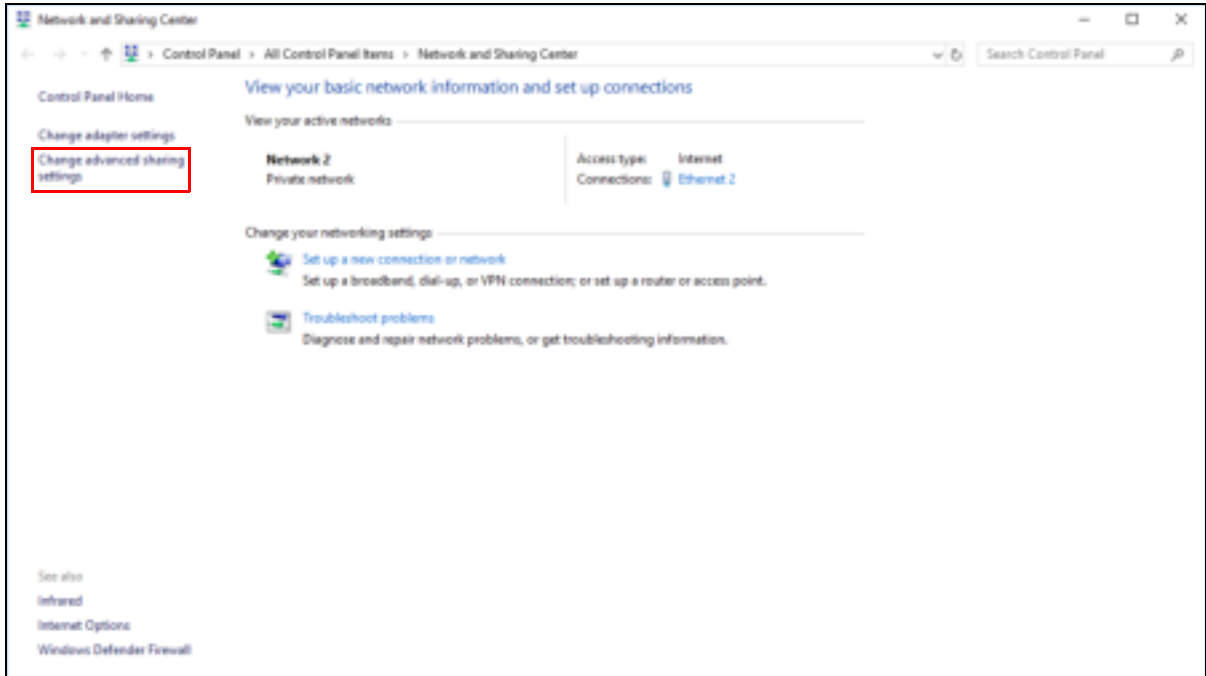
4 Under **Domain**, select **Turn on network discovery** and click **Save Changes**. Network discovery allows your computer to find other computers and devices on the network and other computers on the network to find your computer. This makes it easier to share files and printers.
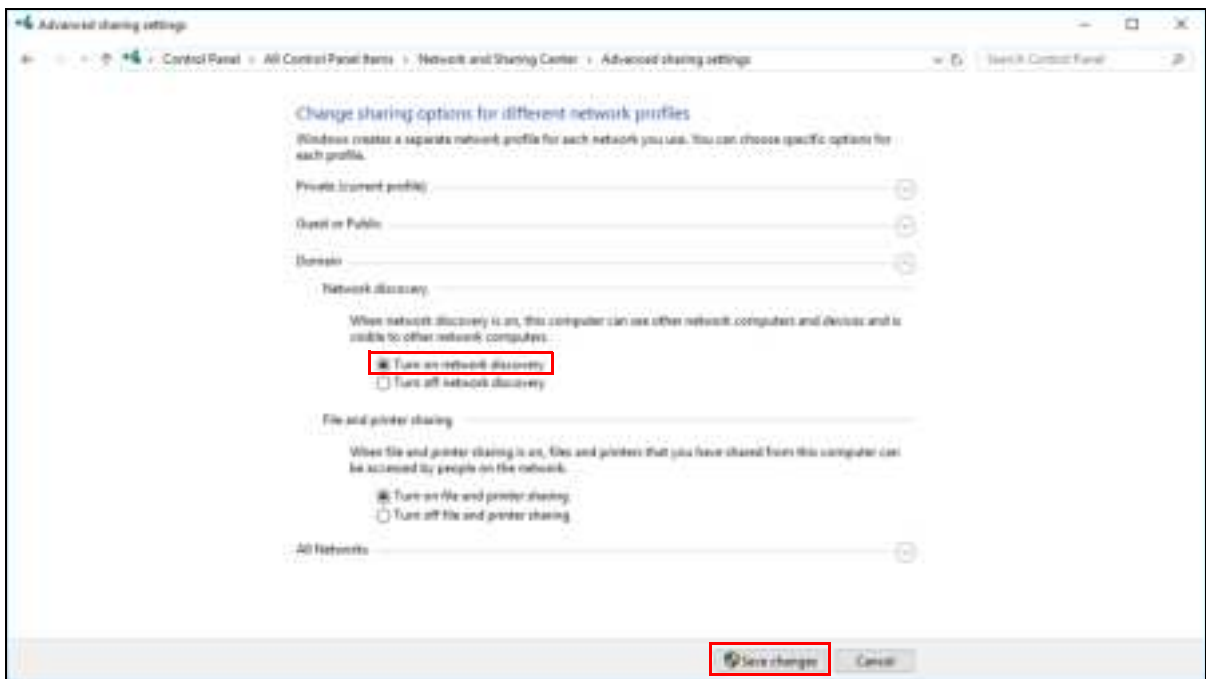

18.5.1 Auto-discover Your UPnP-enabled Network Device

Before you follow these steps, make sure you already have UPnP activated on the LTE2566-M634 and in your computer.

Make sure your computer is connected to the LTE2566-M634.

1 Open **File Explorer** and click **Network**.

2 Right-click the LTE2566-M634 icon and select **Properties**.

Figure 85 Network Connections
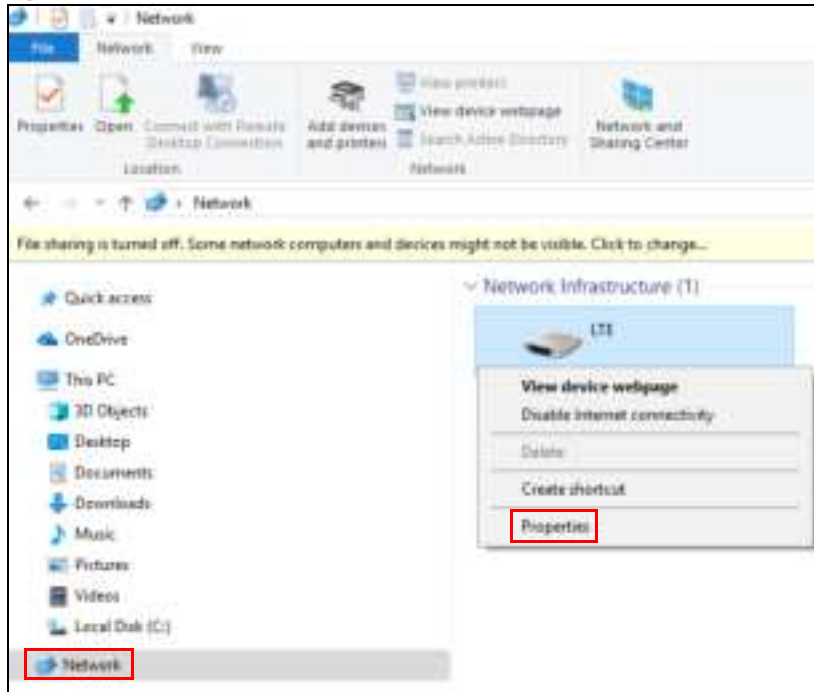
3 In the **Internet Connection Properties** window, click **Settings** to see port mappings.

Figure 86 Internet Connection Properties
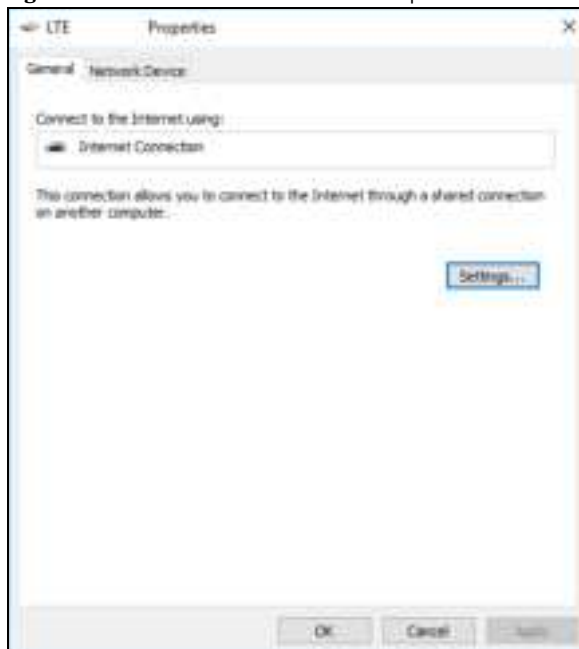
4 You may edit or delete the port mappings or click **Add** to manually add port mappings.

**Figure 87**   Internet Connection Properties: Advanced Settings
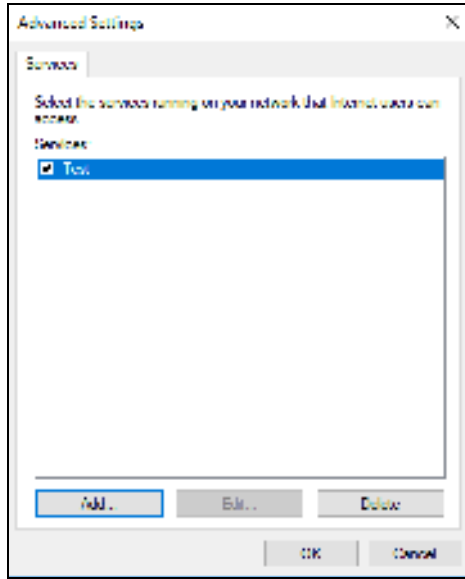
Figure 88   Internet Connection Properties: Advanced Settings: Add
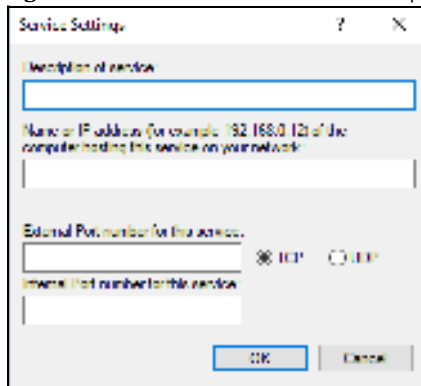
Note: When the UPnP-enabled device is disconnected from your computer, all port mappings will be deleted automatically.

5   Click **OK**. Check the network icon on the system tray to see your Internet connection status.

Figure 89   System Tray Icon
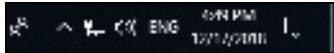
6   To see more details about your current Internet connection status, right click the network icon in the system tray and click **Open Network & Internet settings**. Click **Network and Sharing Center** and click the **Connections**.

Figure 90 Internet Connection Status
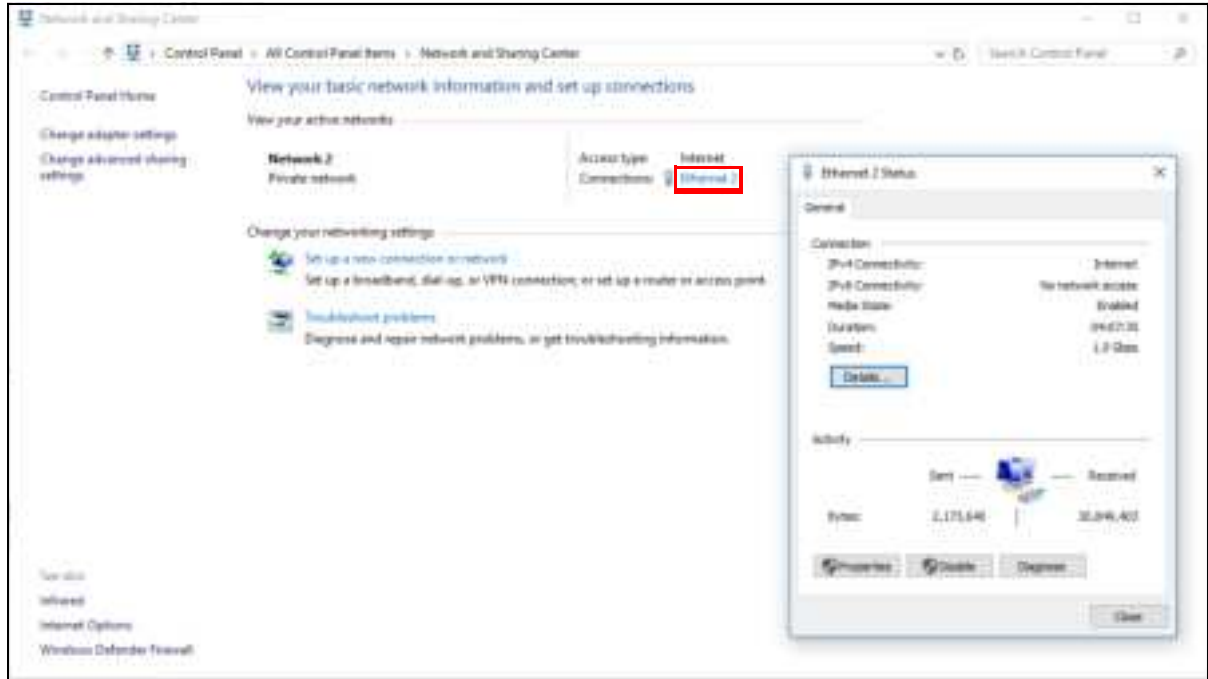
18.6 Web Configurator Easy Access in Windows 7

With UPnP, you can access the Web-based Configurator on the LTE2566-M634 without needing to find out the IP address of the LTE2566-M634 first. This comes helpful if you do not know the IP address of the LTE2566-M634.

Follow the steps below to access the Web Configurator.

1 Open **Windows Explorer**.

2 Click **Network**.

3   An icon with the description for each UPnP-enabled device displays under **Network Infrastructure**.

4   Right-click the icon for your LTE2566-M634 and select **View device webpage**. The Web Configurator login screen displays.

5   Right-click the icon for your LTE2566-M634 and select **Properties**. Click the **Network Device** tab. A window displays with information about the LTE2566-M634.

Figure 93   Network Connections: My Network Places: Properties: Example
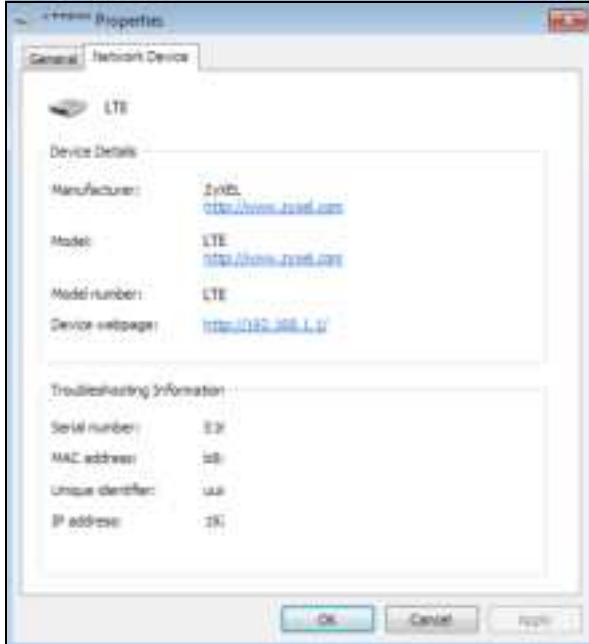
18.7 Web Configurator Easy Access in Windows 10

Follow the steps below to access the Web Configurator.

1   Open **File Explorer**.

2   Click **Network**.

Figure 94 Network Connections
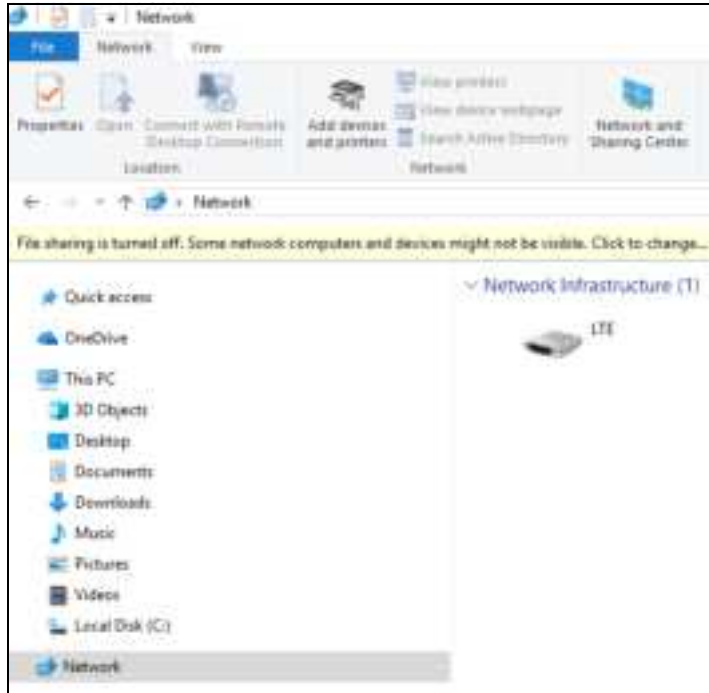
3 An icon with the description for each UPnP-enabled device displays under **Network Infrastructure**.

4 Right-click the icon for your LTE2566-M634 and select **View device webpage**. The Web Configurator login screen displays.

Figure 95 Network Connections: Network Infrastructure
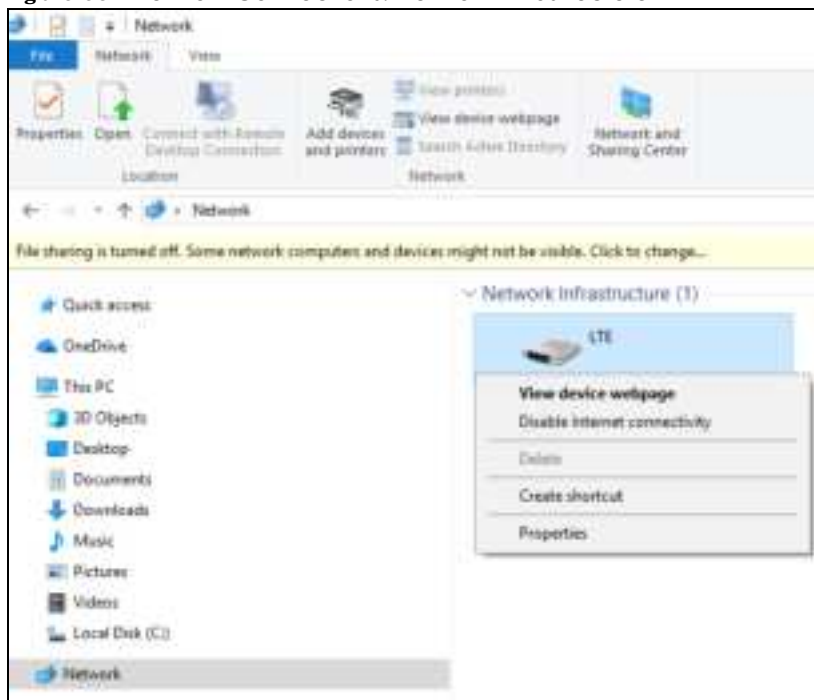
5 Right-click the icon for your LTE2566-M634 and select **Properties**. Click the **Network Device** tab. A window displays information about the LTE2566-M634.

Figure 96 Network Connections: Network Infrastructure: Properties: Example

CHAPTER 19
TR-069

19.1 Overview

This chapter explains how to configure the LTE2566-M634's TR-069 auto-configuration settings.

19.2 TR-069 Settings

TR-069 defines how Customer Premise Equipment (CPE), for example your LTE2566-M634, can be managed over the WAN by an Auto Configuration Server (ACS). TR-069 is based on sending Remote Procedure Calls (RPCs) between an ACS and a client device. RPCs are sent in Extensible Markup Language (XML) format over HTTP or HTTPS.

An administrator can use an ACS to remotely set up the LTE2566-M634, modify settings, perform firmware upgrades as well as monitor and diagnose the LTE2566-M634. You have to enable the device to be managed by the ACS and specify the ACS IP address or domain name and username and password.

Click **Configuration > Management > TR-069** to open the following screen. Use this screen to configure your LTE2566-M634 to be managed by an ACS.

Figure 97 Configuration > Management > TR-069

The following table describes the fields in this screen.

Table 48   Configuration > Management > TR-069

LABEL	DESCRIPTION
TR069	Select **Enable** to allow the LTE2566-M634 to be managed remotely by an ACS via TR-069. Otherwise, select **Disable**.
Inform	Select **Enable** for the LTE2566-M634 to send periodic inform via TR-069 on the WAN. Otherwise, select **Disable**.
Inform Interval	Enter the time interval (in seconds) at which the LTE2566-M634 sends information to the auto-configuration server.
ACS URL	Enter the URL or IP address of the auto-configuration server.
ACS Username	Enter the TR-069 user name for authentication with the auto-configuration server.
ACS Password	Enter the TR-069 password for authentication with the auto-configuration server.
Connection Request Port	Enter the port number for TR-069 connection requests.
Connection Request Username	Enter the connection request user name. When the ACS makes a connection request to the LTE2566-M634, this user name is used to authenticate the ACS.
Connection Request Password	Enter the connection request password. When the ACS makes a connection request to the LTE2566-M634, this password is used to authenticate the ACS.
Apply	Click **Apply** to save your changes.

CHAPTER 20
Maintenance

20.1 Overview

Use the system screens to configure general LTE2566-M634 settings.

20.1.1 What You Can Do in this Chapter

- Use the **General** screen to view basic information about the LTE2566-M634 and configure the web configurator's inactive time (Section 20.2 on page 123).

- Use the **User Account** screen to change the LTE2566-M634's system password (Section 20.3 on page 124).

- Use the **Time** screen to change the LTE2566-M634's time and date and configure daylight saving time (Section 20.4 on page 125).

- Use the **Power Saving** screen to enable the power saving settings in the LTE2566-M634 (Section 20.5 on page 127).

- Use the **Firmware Upgrade** screen to upload new firmware to your LTE2566-M634 (Section 20.7 on page 129).

- Use the **Backup/Restore** screen to reset your device settings back to the factory default, backup configuration, and restoring configuration (Section 20.8 on page 129).

- Use the **Reboot** screen to restart your LTE2566-M634 (Section 20.9 on page 131).

- Use the **Reset** screen to reset your device settings back to the factory default (Section 20.10 on page 131).

20.2 The General Screen

Use this screen to view basic information about the LTE2566-M634. To access this screen, click **Maintenance > General.**

Figure 98 Maintenance > General

The following table describes the labels in this screen.

Table 49   Maintenance > General

LABEL	DESCRIPTION
System Name	System Name is a unique name to identify the LTE2566-M634 in an Ethernet network.
Domain Name	Enter the domain name you want to give to the LTE2566-M634.
Administrator Inactivity timer	Type how many minutes a management session can be left idle before the session times out. The default is 300 seconds. After it times out you have to log in with your password again. Very long idle timeouts may have security risks. A value of "0" means a management session never times out, no matter how long it has been left idle (not recommended).
Apply	Click this button to save your changes back to the LTE2566-M634.

20.3 The User Account Screen

This screen allows you to change the LTE2566-M634's system password. It is strongly recommended that you change your LTE2566-M634's system password. To access this screen, click **Maintenance > User Account**.

The following table describes the labels in this screen.

Table 50   Maintenance > User Account > User Account

LABEL	DESCRIPTION
Username	Enter a descriptive name for the user account. The user name can be up to 15 alphanumeric characters (0-9, A-Z, a-z, -, _ with no spaces).
Old Password	Type the default password or the existing password you use to access the system in this field.
New Password	Type your new system password of between 4 and 24 characters. Note that as you type a password, the screen displays as dot (.) for each character you type.
Retype to Confirm	Type the new password again in this field.
Apply	Click **Apply** to save your changes back to the LTE2566-M634.

20.4 The Time Screen

For effective scheduling and logging, the LTE2566-M634 system time must be accurate. The LTE2566-M634 has a software mechanism to get the current time and date from an external server. To change your LTE2566-M634's time zone, click **Maintenance > Time**. The screen displays as shown. You can have the LTE2566-M634 get the date and time from a time server or change the IP address or URL of your time server.
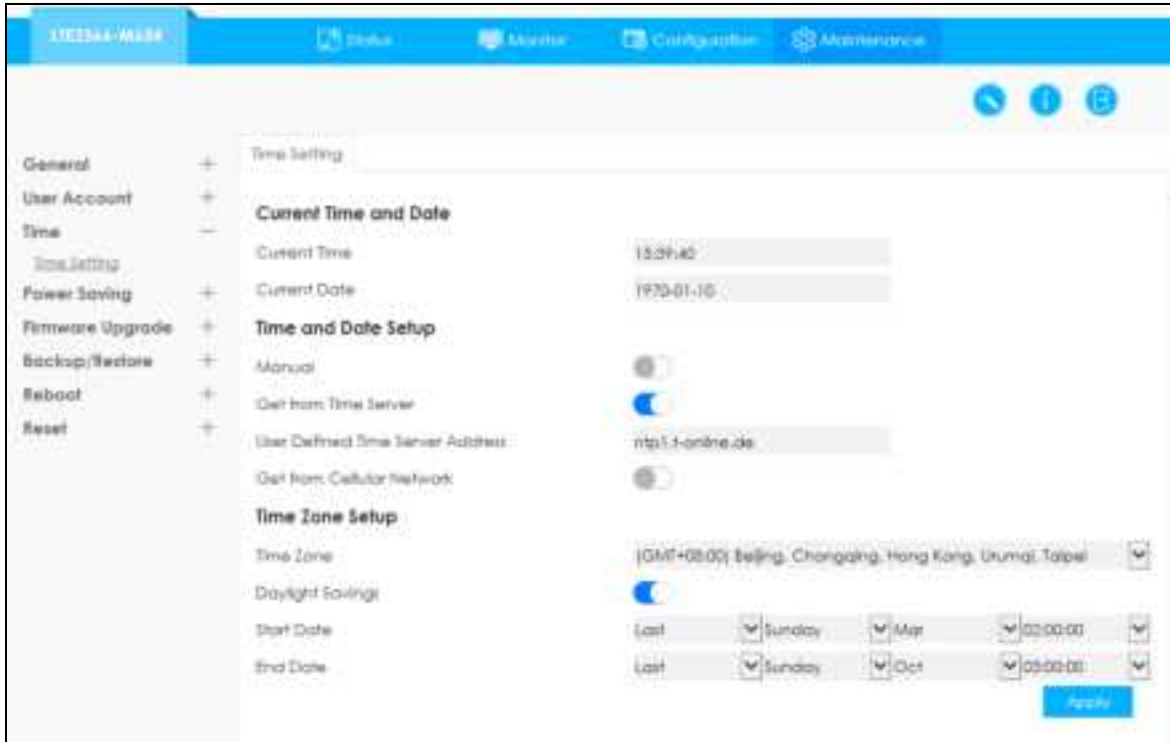
The following table describes the labels in this screen.

Table 51   Maintenance > Time > Time Setting

LABEL	DESCRIPTION
Current Time and Date	
Current Time	This field displays the time of your LTE2566-M634.
	Each time you reload this page, the LTE2566-M634 synchronizes the time with the time server.
Current Date	This field displays the date of your LTE2566-M634.
	Each time you reload this page, the LTE2566-M634 synchronizes the date with the time server.
Time and Date Setup	
Manual	Select this radio button to enter the time and date manually. If you configure a new time and date, Time Zone and Daylight Saving at the same time, the new time and date you entered has priority and the Time Zone and Daylight Saving settings do not affect it.
Get from Time Server	Select this radio button to have the LTE2566-M634 get the time and date from the time server you specified below.
User Defined Time Server Address	Select **User Defined Time Server Address** and enter the IP address or URL (up to 20 extended ASCII characters in length) of your time server. Check with your ISP/network administrator if you are unsure of this information.
Get from Cellular Network	Select this radio button to have the LTE2566-M634 get the time and date from the cellular network of the SIM card.
Time Zone Setup	
Time Zone	Choose the time zone of your location. This will set the time difference between your time zone and Greenwich Mean Time (GMT).

Table 51   Maintenance > Time > Time Setting

LABEL	DESCRIPTION
Daylight Savings	Daylight saving is a period from late spring to early fall when many countries set their clocks ahead of normal local time by one hour to give more daytime light in the evening.
	Select this option if you use Daylight Saving Time.
Start Date	Configure the day and time when Daylight Saving Time starts if you selected **Daylight Savings**. The **at** field uses the 24 hour format. Here are a couple of examples:
	Daylight Saving Time starts in most parts of the United States on the second Sunday of March. Each time zone in the United States starts using Daylight Saving Time at 2 A.M. local time. So in the United States you would select **Second**, **Sunday**, **March** and select **2** in the **at** field.
	Daylight Saving Time starts in the European Union on the last Sunday of March. All of the time zones in the European Union start using Daylight Saving Time at the same moment (1 A.M. GMT or UTC). So in the European Union you would select **Last**, **Sunday**, **March**. The time you select in the **at** field depends on your time zone. In Germany for instance, you would select 2 because Germany's time zone is one hour ahead of GMT or UTC (GMT+1).
End Date	Configure the day and time when Daylight Saving Time ends if you selected **Daylight Savings**. The **at** field uses the 24 hour format. Here are a couple of examples:
	Daylight Saving Time ends in the United States on the first Sunday of November. Each time zone in the United States stops using Daylight Saving Time at 2 A.M. local time. So in the United States you would select **First**, **Sunday**, **November** and select 2 in the **at** field.
	Daylight Saving Time ends in the European Union on the last Sunday of October. All of the time zones in the European Union stop using Daylight Saving Time at the same moment (1 A.M. GMT or UTC). So in the European Union you would select **Last**, **Sunday**, **October**. The time you select in the **at** field depends on your time zone. In Germany for instance, you would select 2 because Germany's time zone is one hour ahead of GMT or UTC (GMT+1).
Apply	Click **Apply** to save your changes back to the LTE2566-M634.

20.5 The Power Saving Screen

To access this screen, click **Maintenance > Power Saving**. Use this screen to enable and configure the power saving settings in the LTE2566-M634.

Select the number of minutes after which the LTE2566-M634 activates power saving and enters sleep mode. In **Power Saving** the LTE2566-M634 turns off its wireless connections to save battery power when the USB port is not connected, and there are no wireless clients associating with the LTE2566-M634.

Click **Apply** to save your changes.

Figure 101 Maintenance > Power Saving > Power Saving
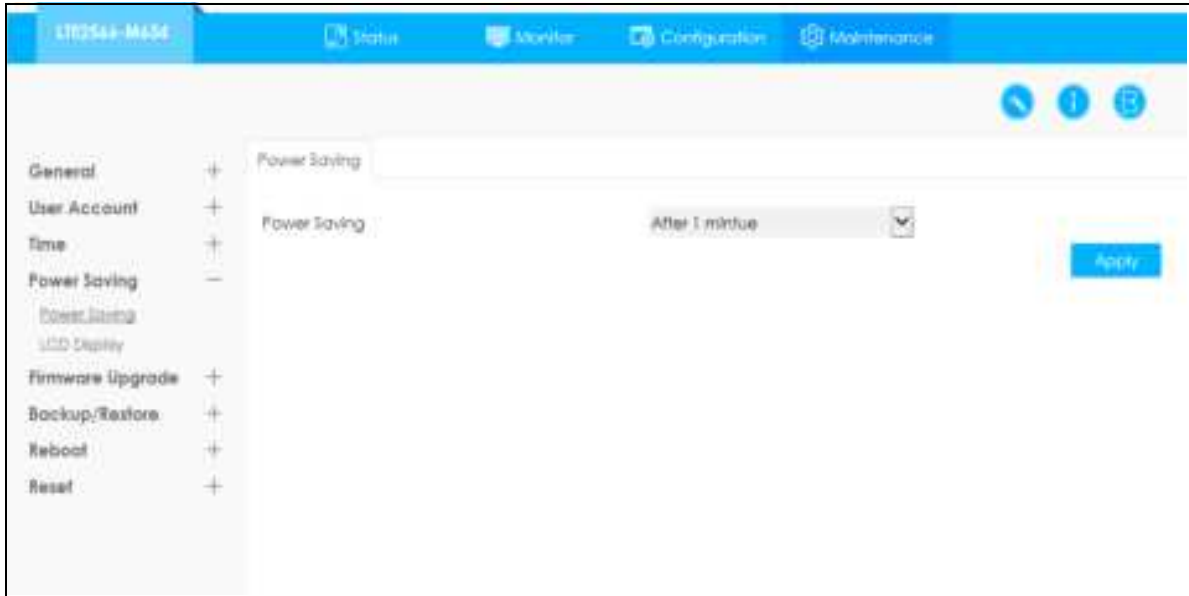
20.6 The LCD Display Screen

Use this screen to configure the length of inactive time before the LTE2566-M634 automatically turns off the LCD display. To access this screen, click **Maintenance > Power Saving > LCD Display**.

Enter the time in the **Display Timeout** field, then click **Apply** to save your changes.

Figure 102 Maintenance > Power Saving > LCD Display
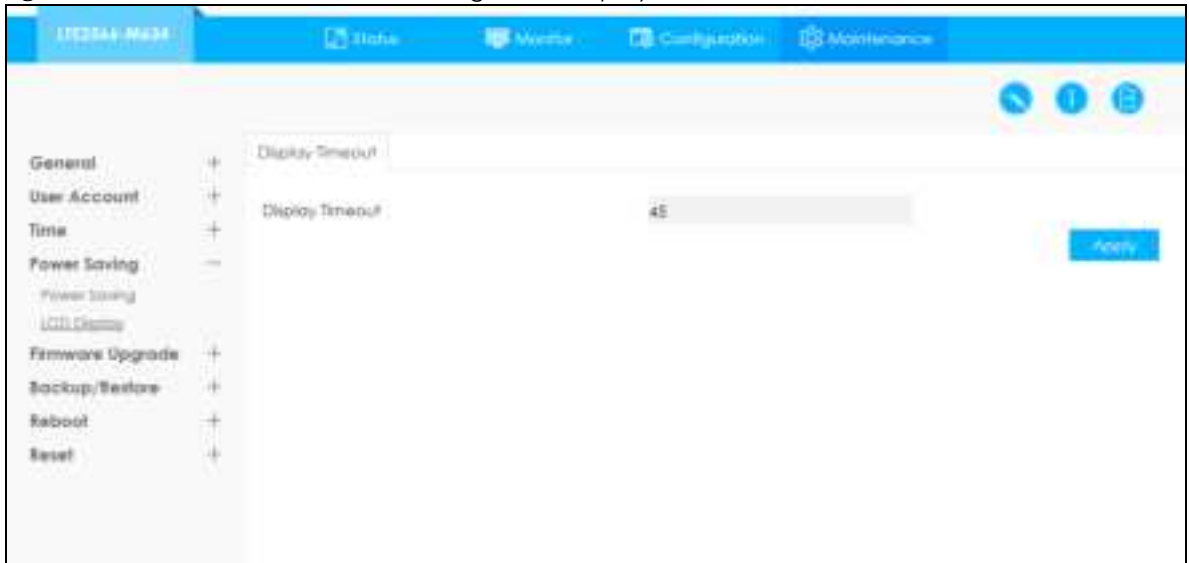
20.7 The Firmware Upgrade Screen

This screen allows you to upload new firmware to your LTE2566-M634. You can download new firmware releases from your nearest Zyxel FTP site (or www.zyxel.com) to use to upgrade your LTE2566-M634's performance.

Only use firmware for your device's specific model.

To access this screen, click **Maintenance > Firmware Upgrade**. This screen displays the current firmware version and status of the LTE2566-M634. Click **Browse** to find the location of the file. Remember that you must decompress compressed (.ZIP) files before you can upload them. Click **Upload** to begin the upload process.

The upload process uses HTTP (Hypertext Transfer Protocol) and may take up to two minutes. After a successful upload, the system will reboot.

Firmware Over the Air (FOTA) allows for timely and automatic firmware upgrades. You can click **Check** and see if any update is available.

Do NOT turn off the LTE2566-M634 while firmware upload is in progress!

Figure 103 Maintenance > Firmware Upgrade > Firmware Upgrade

20.8 Configuration Backup/Restore

Backup configuration allows you to back up (save) the LTE2566-M634's current configuration to a file on your computer. Once your LTE2566-M634 is configured and functioning properly, it is highly recommended that you back up your configuration file before making configuration changes. The backup configuration file will be useful in case you need to return to your previous settings.

Restore configuration allows you to upload a new or previously saved configuration file from your computer to your LTE2566-M634.

Click **Maintenance > Backup/Restore**. Information related to factory defaults, backup configuration, and restoring configuration appears as shown next.

Figure 104 Maintenance > Backup/Restore > Backup/Restore
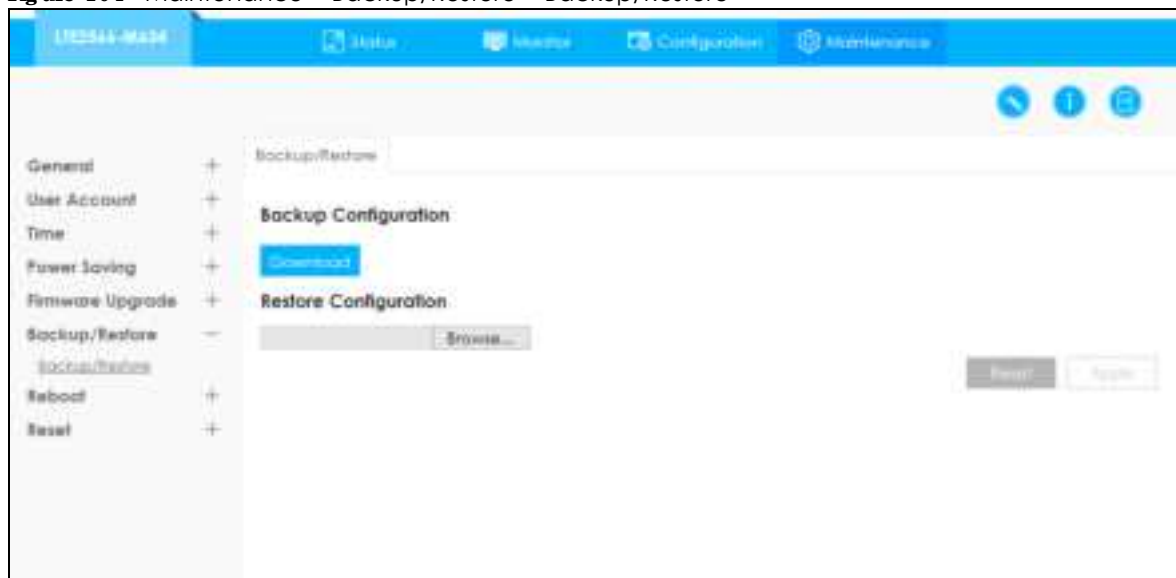
The following table describes the labels in this screen.

Table 52 Maintenance > Backup/Restore > Backup/Restore

LABEL	DESCRIPTION
Backup Configuration	
Download	Click **Download** to save the LTE2566-M634's current configuration to your computer.
Restore Configuration	
Browse	Click **Browse...** to find the file you want to upload. Remember that you must decompress compressed (.ZIP) files before you can upload them. Note: Do not turn off the LTE2566-M634 while configuration file upload is in progress. After you see a "configuration upload successful" screen, you must then wait one minute before logging into the LTE2566-M634 again. The LTE2566-M634 automatically restarts in this time causing a temporary network disconnect. If you see an error screen, click **Back** to return to the **Backup/Restore** screen.
Reset	Pressing the **Reset** button in this section clears all user-entered configuration information and returns the LTE2566-M634 to its factory defaults. You can also press the **RESET** button on the side panel to reset the factory defaults of your LTE2566-M634. Refer to the chapter about introducing the Web Configurator for more information on the **RESET** button. See Section 1.4.3 on page 15.
Apply	Click **Apply** to save your changes back to the LTE2566-M634.

Note: If you uploaded the default configuration file you may need to change the IP address of your computer to be in the same subnet as that of the default LTE2566-M634 IP address (192.168.1.1).

20.9 The Reboot Screen

Click **Maintenance > Reboot**, the following pop-up window appears. Use this screen to restart the LTE2566-M634. System restart allows you to reboot the LTE2566-M634 without turning the power off. Click **Reboot** to reboot the LTE2566-M634. Wait a few minutes until the login screen appears. If the login screen does not appear, type the IP address of the LTE2566-M634 in your Web browser.

Figure 105   Maintenance > Reboot > Reboot
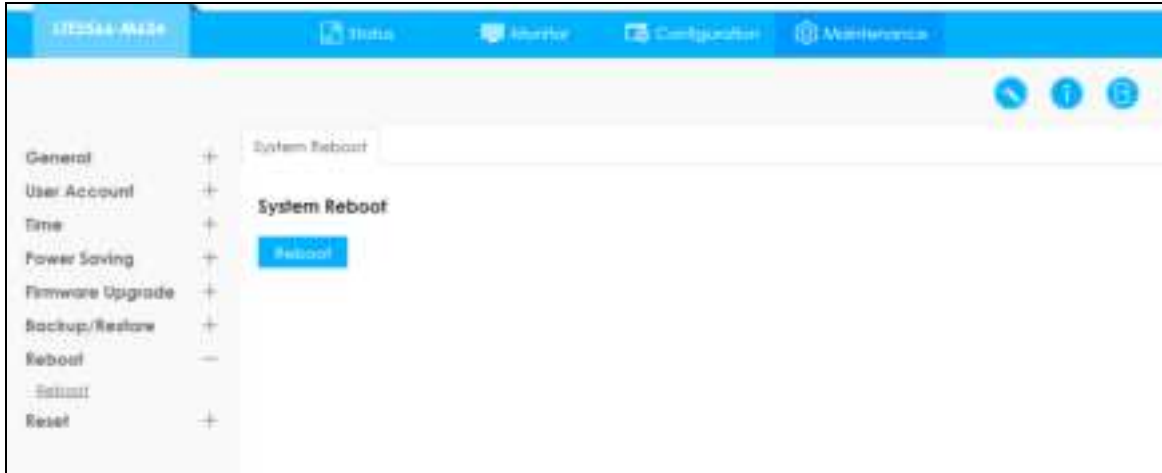
20.10 The Reset Screen

To access this screen, click **Maintenance > Reset**. The **Reset** screen allows you to reset your LTE2566-M634 back to the factory default settings.

Figure 106   Maintenance > Reset > Reset
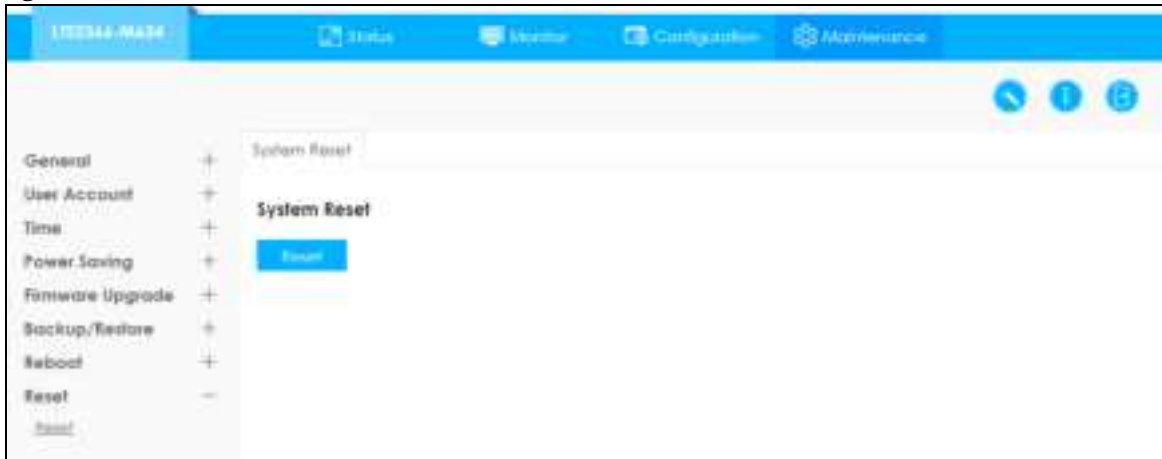
CHAPTER 21
Troubleshooting

21.1 Overview

Here are offers some suggestions to solve problems you might encounter. The potential problems are divided into the following categories.

- Power
- LTE2566-M634 Access and Login
- Internet Access
- IP Address Setup

21.2 Power

The LTE2566-M634 does not turn on. The LCD display is not on.

1 Make sure the built-in battery is charged. Press the power button to turn the LTE2566-M634 on. (Section 1.4.1 on page 14.)

2 If the problem continues, contact the vendor.

21.3 LTE2566-M634 Access and Login

I forgot the IP address for the LTE2566-M634.

1 The default IP address is 192.168.1.1.

2 If you changed the IP address and have forgotten it, you have to reset the device to its factory defaults. To reset your LTE2566-M634 press the power button and release it when the LCD screen displays **Reset**.

I cannot see or access the **Login** screen in the Web Configurator.

1 Make sure you are using the correct IP address.

- The default IP address is 192.168.1.1.

- If you changed the IP address, use the new IP address.

- If you changed the IP address and have forgotten it, see the troubleshooting suggestions for I forgot the IP address for the LTE2566-M634.

2 Make sure the LTE2566-M634 is correctly installed and turned on. See the Quick Start Guide and Section 1.4.1 on page 14.

3 Make sure your Internet browser does not block pop-up windows and has JavaScripts and Java enabled.

4 Make sure your computer is connected to the LTE2566-M634 and is in the same subnet as the LTE2566-M634.

5 Make sure the LTE2566-M634's WiFi LAN is enabled. You can enable or disable the LTE2566-M634's WiFi network using WiFi Setting on the LTE2566-M634. See Section 1.5.4 on page 18.

6 Reset the device to its factory defaults, and try to access the LTE2566-M634 with the default IP address. To reset your LTE2566-M634 press the **Reset** button and release it when the LCD screen displays **Reset**. See Section 1.4.3 on page 15.

7 Disconnect your computer from the LTE2566-M634 and then connect once again.

8 If the problem continues, contact the vendor.

I forgot the password of the Web Configurator.

1 The default user name is **admin**. The default password is **1234**.

2 If this does not work, you have to reset the device to its factory defaults. To reset your LTE2566-M634 press the **Reset** button and release it when the LCD screen displays **Reset**.

I can access the **Login** screen, but I cannot log in to the LTE2566-M634.

1 Make sure you have entered the user name and password correctly. The default user name is **admin** and the default password is **1234**. These fields are case-sensitive, so make sure [Caps Lock] is not on.

2 This can happen when you fail to log out properly from your last session. Try logging in again after five minutes.

3 Disconnect and connect to the LTE2566-M634 again.

4 If this does not work, you have to reset the device to its factory defaults. To reset your LTE2566-M634 press the **Reset** button and release it when the LCD screen displays **Reset**.

21.4 Internet Access

I cannot access the Internet through a 3G/4G wireless WAN connection.

1 Make sure you insert a 4G SIM card into the card slot before turning on the LTE2566-M634.

2 If your SIM card has a PIN code, connect to the Web Configurator (http://192.168.1.1) using the user name (Default: `admin`) and password (Default: `1234`) to unlock your SIM card.

3 Make sure your mobile access information (such as APN) is entered correctly. You can check this in the Web Configurator (http://192.168.1.1). The APN fields are case-sensitive, so make sure [Caps Lock] is not on. Check with your service provider for the correct APN if you do not have it.

4 Make sure your SIM card's account is valid and has an active data plan. Check your service contract or contact your service provider directly.

5 Make sure your data plan has not reached its limit.

6 If you are using a pre-paid SIM card, insert the SIM card on another mobile device to check if the SIM card still works. If the SIM card works without any problems on another mobile device, contact the vendor. Otherwise, contact your service provider.

7 Make sure you are in the ISP's coverage area.

8 If the problem continues, contact your ISP.

I cannot access the Internet anymore. I had access to the Internet (with the LTE2566-M634), but my Internet connection is not available anymore.

1 Reboot the LTE2566-M634.

2 Make sure the LTE2566-M634's WiFi network is enabled. You can enable LTE2566-M634's WiFi network on the LCD.

3 Make sure your SIM card's mobile data is enabled. Check this in the Web Configurator. (Section 7.6 on page 56).

4 If you have set a data limit, make sure you have not reached it yet. Check your data left in the Web Configurator.

5 If the problem continues, contact your ISP.

One of my clients cannot access the Internet anymore. They had access to the Internet (with the LTE2566-M634), but the Internet connection is not available anymore.

1 Make sure your client is not blocked. You can check this on the Web Configurator (See Section 8.5 on page 67).

2 Make sure your SIM card's mobile data is enabled. Check this on the Web Configurator (See Section 7.6 on page 56).

3 If you have set a data limit, make sure you have not reached it yet. You can check your data left in the Web Configurator.

4 Reboot the LTE2566-M634.

The Internet connection is slow or intermittent.

1 There might be a lot of traffic on the network. If the LTE2566-M634 is sending or receiving a lot of information, try closing some programs that use the Internet, especially peer-to-peer applications.

2 Check the signal strength on the LTE2566-M634 LCD screen. If the signal strength is low, try moving the LTE2566-M634 closer to the ISP's base station if possible, or try pointing it directly to the ISP's base station. Look around to see if there are any devices that might be interfering with the wireless network (for example, microwaves, other wireless networks, and so on).

3 Reboot the LTE2566-M634.

4 If the problem continues, contact the network administrator or vendor.

21.5 IP Address Setup

I need to set the computer's IP address to be in the same subnet as the LTE2566-M634.

1 In Windows 10, open the **Control Panel**.

2 Click **Network and Internet** (this field may be missing in your version) > **Network and Sharing Center**.
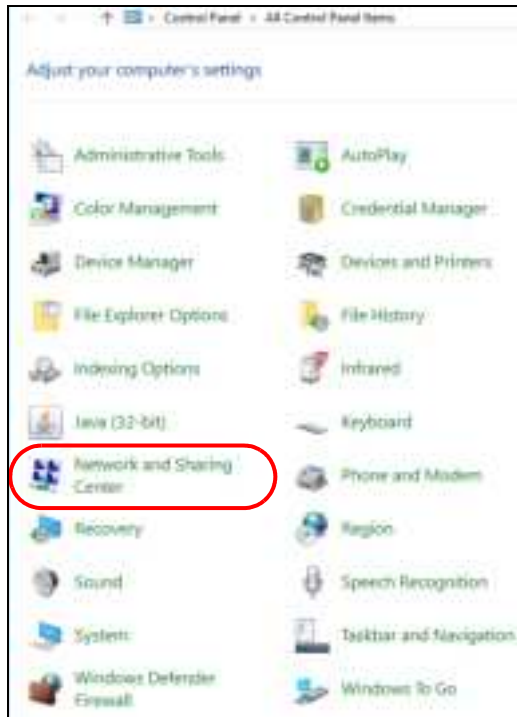
3 Click **Change adapter settings**.
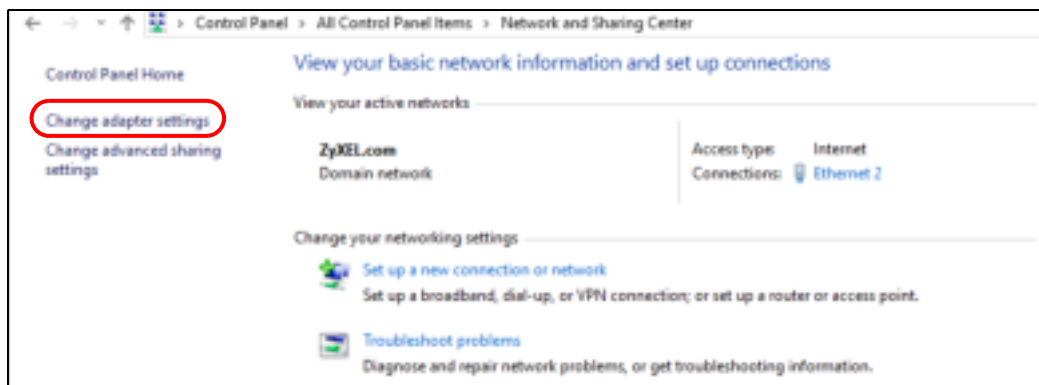
4 Right-click the **Ethernet** icon, and then select **Properties**

5 Click **Internet Protocol Version 4 (TCP/IPv4)** and then click **Properties**.
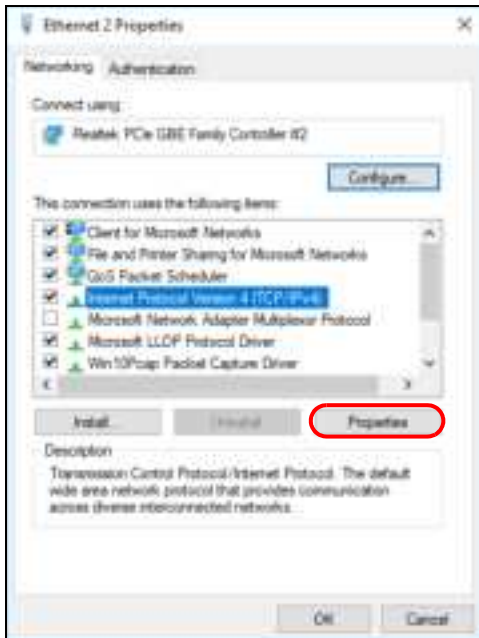
6 Select **Use the following IP address** and enter an **IP address** from **192.168.1.2** to **192.168.1.254**. The **Subnet mask** will be entered automatically.
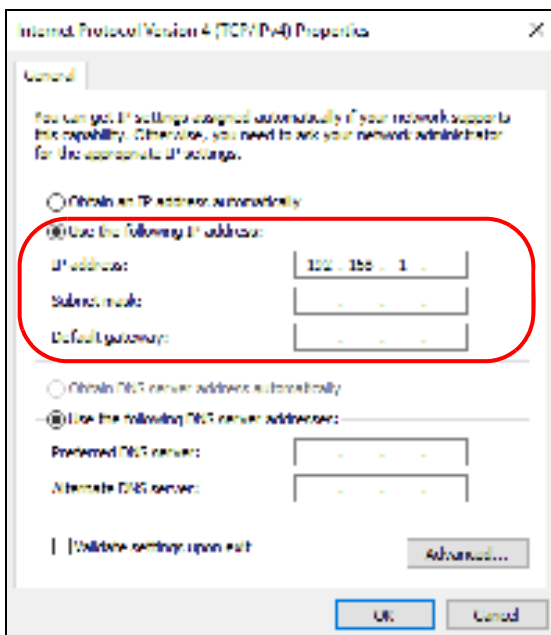
7 Click **OK** when you are done and close all windows.

21.6 WiFi Connections

I cannot access the LTE2566-M634.

---

1 Make sure WiFi is enabled on the LTE2566-M634. You can enable or disable the LTE2566-M634's WiFi network using the WiFi Setting on the LTE2566-M634. See Section 1.5.4 on page 18.

2 Make sure the WiFi adapter (installed on your computer) is IEEE 802.11 compatible and supports the same WiFi standard as the LTE2566-M634's active radio.

3 Make sure your device (with a WiFi adapter installed) is within the transmission range of the LTE2566-M634.

4 Make sure you are using the correct WiFi network name and password to connect to your LTE2566-M634. Check your WiFi network settings by reexamining the network name **Name (SSID)** and/or **Preshared Key** in the Web Configurator (Section 8.2 on page 60).

5 If you changed your network WiFi **Name (SSID)** and/or **Preshared Key** you will be automatically disconnected from the LTE2566-M634. Try reconnecting to the network wirelessly with the new network WiFi **Name (SSID)** and/or **Preshared Key**.

One of my clients cannot access the LTE2566-M634.

---

1 Make sure the WiFi LAN is enabled on the LTE2566-M634. You can enable or disable the LTE2566-M634's WiFi network using the WiFi Setting on the LTE2566-M634. See Section 1.5.4 on page 18.

2 Make sure the WiFi adapter (installed on your computer) is IEEE 802.11 compatible and supports the same WiFi standard as the LTE2566-M634's active radio.

3 Make sure your client's device (with a WiFi adapter installed) is within the transmission range of the LTE2566-M634.

4 Make sure your client is using the correct WiFi network name **Name (SSID)** and password **Preshared Key** to connect to your LTE2566-M634 (Section 8.2 on page 60).

21.7 Getting More Troubleshooting Help

Search for support information for your model at www.zyxel.com for more troubleshooting suggestions.

APPENDIX A
Customer Support

In the event of problems that cannot be solved by using this manual, you should contact your vendor. If you cannot contact your vendor, then contact a Zyxel office for the region in which you bought the device.

See *https://www.zyxel.com/homepage.shtml* and also *https://www.zyxel.com/about_zyxel/zyxel_worldwide.shtml* for the latest information.

Please have the following information ready when you contact an office.

Required Information

- Product model and serial number.
- Warranty Information.
- Date that you received your device.
- Brief description of the problem and the steps you took to solve it.

Corporate Headquarters (Worldwide)

Taiwan

- Zyxel Communications Corporation
- http://www.zyxel.com

Asia

China

- Zyxel Communications (Shanghai) Corp.
  Zyxel Communications (Beijing) Corp.
  Zyxel Communications (Tianjin) Corp.
- https://www.zyxel.com/cn/zh/

India

- Zyxel Technology India Pvt Ltd
- https://www.zyxel.com/in/en/

Kazakhstan

- Zyxel Kazakhstan
- https://www.zyxel.kz

Korea

- Zyxel Korea Corp.
- http://www.zyxel.kr

Malaysia

- Zyxel Malaysia Sdn Bhd.
- http://www.zyxel.com.my

Pakistan

- Zyxel Pakistan (Pvt.) Ltd.
- http://www.zyxel.com.pk

Philippines

- Zyxel Philippines
- http://www.zyxel.com.ph

Singapore

- Zyxel Singapore Pte Ltd.
- http://www.zyxel.com.sg

Taiwan

- Zyxel Communications Corporation
- https://www.zyxel.com/tw/zh/

Thailand

- Zyxel Thailand Co., Ltd
- https://www.zyxel.com/th/th/

Vietnam

- Zyxel Communications Corporation-Vietnam Office
- https://www.zyxel.com/vn/vi

Europe

Belarus

- Zyxel BY
- https://www.zyxel.by

Belgium

- Zyxel Communications B.V.
- https://www.zyxel.com/be/nl/

- https://www.zyxel.com/be/fr/

Bulgaria

- Zyxel България
- https://www.zyxel.com/bg/bg/

Czech Republic

- Zyxel Communications Czech s.r.o
- https://www.zyxel.com/cz/cs/

Denmark

- Zyxel Communications A/S
- https://www.zyxel.com/dk/da/

Estonia

- Zyxel Estonia
- https://www.zyxel.com/ee/et/

Finland

- Zyxel Communications
- https://www.zyxel.com/fi/fi/

France

- Zyxel France
- https://www.zyxel.fr

Germany

- Zyxel Deutschland GmbH
- https://www.zyxel.com/de/de/

Hungary

- Zyxel Hungary & SEE
- https://www.zyxel.com/hu/hu/

Italy

- Zyxel Communications Italy
- https://www.zyxel.com/it/it/

Latvia

- Zyxel Latvia
- https://www.zyxel.com/lv/lv/

Lithuania

- Zyxel Lithuania
- https://www.zyxel.com/lt/lt/

Netherlands

- Zyxel Benelux
- https://www.zyxel.com/nl/nl/

Norway

- Zyxel Communications
- https://www.zyxel.com/no/no/

Poland

- Zyxel Communications Poland
- https://www.zyxel.com/pl/pl/

Romania

- Zyxel Romania
- https://www.zyxel.com/ro/ro

Russia

- Zyxel Russia
- https://www.zyxel.com/ru/ru/

Slovakia

- Zyxel Communications Czech s.r.o. organizacna zlozka
- https://www.zyxel.com/sk/sk/

Spain

- Zyxel Communications ES Ltd
- https://www.zyxel.com/es/es/

Sweden

- Zyxel Communications
- https://www.zyxel.com/se/sv/

Switzerland

- Studerus AG
- https://www.zyxel.ch/de
- https://www.zyxel.ch/fr

Turkey

- Zyxel Turkey A.S.
- https://www.zyxel.com/tr/tr/

UK

- Zyxel Communications UK Ltd.
- https://www.zyxel.com/uk/en/

Ukraine

- Zyxel Ukraine
- http://www.ua.zyxel.com

South America

Argentina

- Zyxel Communications Corporation
- https://www.zyxel.com/co/es/

Brazil

- Zyxel Communications Brasil Ltda.
- https://www.zyxel.com/br/pt/

Colombia

- Zyxel Communications Corporation
- https://www.zyxel.com/co/es/

Ecuador

- Zyxel Communications Corporation
- https://www.zyxel.com/co/es/

South America

- Zyxel Communications Corporation
- https://www.zyxel.com/co/es/

Middle East

Israel

- Zyxel Communications Corporation
- http://il.zyxel.com/

Middle East

- Zyxel Communications Corporation
- https://www.zyxel.com/me/en/

North America

USA

- Zyxel Communications, Inc. - North America Headquarters
- https://www.zyxel.com/us/en/

Oceania

Australia

- Zyxel Communications Corporation
- https://www.zyxel.com/au/en/

Africa

South Africa

- Nology (Pty) Ltd.
- https://www.zyxel.com/za/en/

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Regulatory Notice and Statement

UNITED STATES of AMERICA

The following information applies if you use the product within USA area.

FCC EMC Statement

- The device complies with Part 15 of 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 device.
- This product has been tested and complies with the specifications 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 device generates, uses, and can radiate radio frequency energy and, if not installed and used according to 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 device does cause harmful interference to radio or television reception, which is found by turning the device 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 devices
    - Connect the equipment to an outlet other than the receiver's
    - Consult a dealer or an experienced radio/TV technician for assistance
    - Operation of this device is restricted to indoor use only

The following information applies if you use the product with RF function within USA area.

FCC Radiation Exposure Statement

- This device complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.
- This transmitter must be at least 20 cm from the user and must not be co-located or operating in conjunction with any other antenna or transmitter.

CANADA

The following information applies if you use the product within Canada area.

Industry Canada ICES Statement

CAN ICES-3 (B)/NMB-3(B)

Industry Canada RSS-GEN & RSS-247 statement

- This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

- This radio transmitter has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

If the product with 5G wireless function operating in 5150-5250 MHz and 5725-5850 MHz, the following attention must be paid,

- The device for operation in the band 5150-5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.
- For devices with detachable antenna(s), the maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the e.i.r.p. limits specified for point-to-point and non-point-to-point operation as appropriate; and
- The worst-case tilt angle(s) necessary to remain compliant with the e.i.r.p. elevation mask requirement set forth in Section 6.2.2(3) of RSS 247 shall be clearly indicated.

If the product with 5G wireless function operating in 5250-5350 MHz and 5470-5725 MHz , the following attention must be paid.

- For devices with detachable antenna(s), the maximum antenna gain permitted for devices in the bands 5250-5350 MHz and 5470-5725 MHz shall be such that the equipment still complies with the e.i.r.p. limit.
- Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.
- Le présent émetteur radio de modèle s'il fait partie du matériel de catégorieI) a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

Lorsque la fonction sans fil 5G fonctionnant en 5150-5250 MHz and 5725-5850 MHz est activée pour ce produit , il est nécessaire de porter une attention particulière aux choses suivantes

- Les dispositifs fonctionnant dans la bande 5150-5250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;
- Pour les dispositifs munis d'antennes amovibles, le gain maximal d'antenne permis (pour les dispositifs utilisant la bande de 5 725 à 5 850 MHz) doit être conforme à la limite de la p.i.r.e. spécifiée pour l'exploitation point à point et l'exploitation non point à point, selon le cas;
- Les pires angles d'inclinaison nécessaires pour rester conforme à l'exigence de la p.i.r.e. applicable au masque d'élévation, et énoncée à la section 6.2.2 3) du CNR-247, doivent être clairement indiqués.

Lorsque la fonction sans fil 5G fonctionnant en 5250-5350 MHz et 5470-5725 MHz est activée pour ce produit , il est nécessaire de porter une attention particulière aux choses suivantes.

- Pour les dispositifs munis d'antennes amovibles, le gain maximal d'antenne permis pour les dispositifs utilisant les bandes de 5 250 à 5 350 MHz et de 5 470 à 5 725 MHz doit être conforme à la limite de la p.i.r.e.

Industry Canada radiation exposure statement

This device complies with IC radiation exposure limits set forth for an uncontrolled environment. This device should be installed and operated with a minimum distance of 20 cm between the radiator and your body.

Déclaration d'exposition aux radiations:

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

EUROPEAN UNION

The following information applies if you use the product within the European Union.

Declaration of Conformity with Regard to EU Directive 2014/53/EU (Radio Equipment Directive, RED)

- Compliance information for wireless products relevant to the EU and other Countries following the EU Directive 2014/53/EU (RED). And this product may be used in all EU countries (and other countries following the EU Directive 2014/53/EU) without any limitation except for the countries mentioned below table:
- In the majority of the EU and other European countries, the 5GHz bands have been made available for the use of wireless local area networks (LANs). Later in this document you will find an overview of countries in which additional restrictions or requirements or both are applicable. The requirements for any country may evolve. Zyxel recommends that you check with the local authorities for the latest status of their national regulations for the 5GHz wireless LANs.
- If this device for operation in the band 5150-5350 MHz, it is for indoor use only.
- The maximum RF power operating for each band as follows:
- **WiFi**
  The band 2,400 to 2,438.5 MHz is 59.98 mW
  The band 5,150 to 5,350 MHz is 55.21 mW
  The band 5,470 to 5,725 MHz is 60.39 mW
- **WCDMA**
  The WCDMA Band I is 316.23 mW
  The WCDMA Band VIII: 235.5 mW

- **LTE**
  The LTE Band 1 is: 199.83 mW
  The LTE Band 3 is: 188.36 mW
  The LTE Band 7 is: 158.12 mW
  The LTE Band 8 is: 170.22 mW
  The LTE Band 20 is: 170.22 mW
  The LTE Band 28 is: 167.49 mW
  The LTE Band 38 is: 157.4 mW
  The LTE Band 40 is: 179.06 mW

Български (Bulgarian)	С настоящото Zyxel декларира, че това оборудване е в съответствие със съществените изисквания и другите приложими разпоредбите на Директива 2014/53/ЕС. **National Restrictions** • The Belgian Institute for Postal Services and Telecommunications (BIPT) must be notified of any outdoor wireless link having a range exceeding 300 meters. Please check http://www.bipt.be for more details. • Draadloze verbindingen voor buitengebruik en met een reikwijdte van meer dan 300 meter dienen aangemeld te worden bij het Belgisch Instituut voor postdiensten en telecommunicatie (BIPT). Zie http://www.bipt.be voor meer gegevens. • Les liaisons sans fil pour une utilisation en extérieur d'une distance supérieure à 300 mètres doivent être notifiées à l'Institut Belge des services Postaux et des Télécommunications (IBPT). Visitez http://www.ibpt.be pour de plus amples détails.
Español (Spanish)	Por medio de la presente Zyxel declara que el equipo cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 2014/53/UE.
Čeština (Czech)	Zyxel tímto prohlašuje, že tento zařízení je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 2014/53/EU.
Dansk (Danish)	Undertegnede Zyxel erklærer herved, at følgende udstyr udstyr overholder de væsentlige krav og øvrige relevante krav i direktiv 2014/53/EU. **National Restrictions** • In Denmark, the band 5150 - 5350 MHz is also allowed for outdoor usage. • I Danmark må frekvensbåndet 5150 - 5350 også anvendes udendørs.
Deutsch (German)	Hiermit erklärt Zyxel, dass sich das Gerät Ausstattung in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 2014/53/EU befindet.
Eesti keel (Estonian)	Käesolevaga kinnitab Zyxel seadme seadmed vastavust direktiivi 2014/53/EL põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
Ελληνικά (Greek)	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Zyxel ΔΗΛΩΝΕΙ ΟΤΙ εξοπλισμός ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 2014/53/ΕΕ.
English	Hereby, Zyxel declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU.
Français (French)	Par la présente Zyxel déclare que l'appareil équipements est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 2014/53/UE.
Hrvatski (Croatian)	Zyxel ovime izjavljuje da je radijska oprema tipa u skladu s Direktivom 2014/53/UE.
Íslenska (Icelandic)	Hér með lýsir, Zyxel því yfir að þessi búnaður er í samræmi við grunnkröfur og önnur viðeigandi ákvæði tilskipunar 2014/53/UE.
Italiano (Italian)	Con la presente Zyxel dichiara che questo attrezzatura è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 2014/53/UE. **National Restrictions** • This product meets the National Radio Interface and the requirements specified in the National Frequency Allocation Table for Italy. Unless this wireless LAN product is operating within the boundaries of the owner's property, its use requires a "general authorization." Please check http://www.sviluppoeconomico.gov.it/ for more details. • Questo prodotto è conforme alla specifiche di Interfaccia Radio Nazionali e rispetta il Piano Nazionale di ripartizione delle frequenze in Italia. Se non viene installato all 'interno del proprio fondo, l'utilizzo di prodotti Wireless LAN richiede una "Autorizzazione Generale". Consultare http://www.sviluppoeconomico.gov.it/ per maggiori dettagli.
Latviešu valoda (Latvian)	Ar šo Zyxel deklarē, ka iekārtas atbilst Direktīvas 2014/53/ES būtiskajām prasībām un citiem ar to saistītajiem noteikumiem. **National Restrictions** • The outdoor usage of the 2.4 GHz band requires an authorization from the Electronic Communications Office. Please check http://www.esd.lv for more details. • 2.4 GHz frekvenèu joslas izmantoðanai ârpus telpâm nepiecieðama atïauja no Elektronisko sakaru direkcijas. Vairâk informâcijas: http://www.esd.lv.
Lietuvių kalba (Lithuanian)	Šiuo Zyxel deklaruoja, kad šis įranga atitinka esminius reikalavimus ir kitas 2014/53/ES Direktyvos nuostatas.
Magyar (Hungarian)	Alulírott, Zyxel nyilatkozom, hogy a berendezés megfelel a vonatkozó alapvetõ követelményeknek és az 2014/53/EU irányelv egyéb elõírásainak.
Malti (Maltese)	Hawnhekk, Zyxel, jiddikjara li dan tagħmir jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 2014/53/UE.

Nederlands (Dutch)	Hierbij verklaart Zyxel dat het toestel uitrusting in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 2014/53/EU.
Polski (Polish)	Niniejszym Zyxel oświadcza, że sprzęt jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 2014/53/UE.
Português (Portuguese)	Zyxel declara que este equipamento está conforme com os requisitos essenciais e outras disposições da Directiva 2014/53/UE.
Română (Romanian)	Prin prezenta, Zyxel declară că acest echipament este în conformitate cu cerințele esențiale şi alte prevederi relevante ale Directivei 2014/53/UE.
Slovenčina (Slovak)	Zyxel týmto vyhlasuje, že zariadenia spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 2014/53/EÚ.
Slovenščina (Slovene)	Zyxel izjavlja, da je ta oprema v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 2014/53/EU.
Suomi (Finnish)	Zyxel vakuuttaa täten että laitteet tyyppinen laite on direktiivin 2014/53/EU oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Svenska (Swedish)	Härmed intygar Zyxel att denna utrustning står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 2014/53/EU.
Norsk (Norwegian)	Erklærer herved Zyxel at dette utstyret er I samsvar med de grunnleggende kravene og andre relevante bestemmelser I direktiv 2014/53/EU.

Notes:

1. Although Norway, Switzerland and Liechtenstein are not EU member states, the EU Directive 2014/53/EU has also been implemented in those countries.

2. The regulatory limits for maximum output power are specified in EIRP. The EIRP level (in dBm) of a device can be calculated by adding the gain of the antenna used (specified in dBi) to the output power available at the connector (specified in dBm).

List of national codes

COUNTRY	ISO 3166 2 LETTER CODE	COUNTRY	ISO 3166 2 LETTER CODE
Austria	AT	Liechtenstein	LI
Belgium	BE	Lithuania	LT
Bulgaria	BG	Luxembourg	LU
Croatia	HR	Malta	MT
Cyprus	CY	Netherlands	NL
Czech Republic	CZ	Norway	NO
Denmark	DK	Poland	PL
Estonia	EE	Portugal	PT
Finland	FI	Romania	RO
France	FR	Serbia	RS
Germany	DE	Slovakia	SK
Greece	GR	Slovenia	SI
Hungary	HU	Spain	ES
Iceland	IS	Switzerland	CH
Ireland	IE	Sweden	SE
Italy	IT	Turkey	TR
Latvia	LV	United Kingdom	GB

Safety Warnings

- Do not use this product near water, for example, in a wet basement or near a swimming pool.
- Do not expose your device to dampness, dust or corrosive liquids.
- Do not store things on the device.
- Do not obstruct the device ventilation slots as insufficient airflow may harm your device. For example, do not place the device in an enclosed space such as a box or on a very soft surface such as a bed or sofa.
- Do not install, use, or service this device during a thunderstorm. There is a remote risk of electric shock from lightning.
- Connect ONLY suitable accessories to the device.
- Do not open the device or unit. Opening or removing covers can expose you to dangerous high voltage points or other risks.
- Only qualified service personnel should service or disassemble this device. Please contact your vendor for further information.
- Make sure to connect the cables to the correct ports.
- Place connecting cables carefully so that no one will step on them or stumble over them.
- Always disconnect all cables from this device before servicing or disassembling.

- Do not remove the plug and connect it to a power outlet by itself; always attach the plug to the power adaptor first before connecting it to a power outlet.
- Do not allow anything to rest on the power adaptor or cord and do NOT place the product where anyone can walk on the power adaptor or cord.
- Please use the provided or designated connection cables/power cables/ adaptors. Connect it to the right supply voltage (for example, 110V AC in North America or 230V AC in Europe). If the power adaptor or cord is damaged, it might cause electrocution. Remove it from the device and the power source, repairing the power adapter or cord is prohibited. Contact your local vendor to order a new one.
- Do not use the device outside, and make sure all the connections are indoors. There is a remote risk of electric shock from lightning.
- CAUTION: Risk of explosion if battery is replaced by an incorrect type, dispose of used batteries according to the instruction. Dispose them at the applicable collection point for the recycling of electrical and electronic devices. For detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the store where you purchased the product.
- The following warning statements apply, where the disconnect device is not incorporated in the device or where the plug on the power supply cord is intended to serve as the disconnect device,

  - For permanently connected devices, a readily accessible disconnect device shall be incorporated external to the device;

  - For pluggable devices, the socket-outlet shall be installed near the device and shall be easily accessible.

Environment Statement

ErP (Energy-related Products)

Zyxel products put on the EU market in compliance with the requirement of the European Parliament and the Council published Directive 2009/125/EC establishing a framework for the setting of ecodesign requirements for energy-related products (recast), so called as "ErP Directive (Energy-related Products directive) as well as ecodesign requirement laid down in applicable implementing measures, power consumption has satisfied regulation requirements which are:

- Network standby power consumption < 8W, and/or
- Off mode power consumption < 0.5W, and/or
- Standby mode power consumption < 0.5W.

(Wireless setting, please refer to "Wireless" chapter for more detail.)

European Union - Disposal and Recycling Information

The symbol below means that according to local regulations your product and/or its battery shall be disposed of separately from domestic waste. If this product is end of life, take it to a recycling station designated by local authorities. At the time of disposal, the separate collection of your product and/or its battery will help save natural resources and ensure that the environment is sustainable development.

Die folgende Symbol bedeutet, dass Ihr Produkt und/oder seine Batterie gemäß den örtlichen Bestimmungen getrennt vom Hausmüll entsorgt werden muss. Wenden Sie sich an eine Recyclingstation, wenn dieses Produkt das Ende seiner Lebensdauer erreicht hat. Zum Zeitpunkt der Entsorgung wird die getrennte Sammlung von Produkt und/oder seiner Batterie dazu beitragen, natürliche Ressourcen zu sparen und die Umwelt und die menschliche Gesundheit zu schützen.

El símbolo de abajo indica que según las regulaciones locales, su producto y/o su batería deberán depositarse como basura separada de la doméstica. Cuando este producto alcance el final de su vida útil, llévelo a un punto limpio. Cuando llegue el momento de desechar el producto, la recogida por separado éste y/o su batería ayudará a salvar los recursos naturales y a proteger la salud humana y medioambiental.

Le symbole ci-dessous signifie que selon les réglementations locales votre produit et/ou sa batterie doivent être éliminés séparément des ordures ménagères. Lorsque ce produit atteint sa fin de vie, amenez-le à un centre de recyclage. Au moment de la mise au rebut, la collecte séparée de votre produit et/ou de sa batterie aidera à économiser les ressources naturelles et protéger l'environnement et la santé humaine.

Il simbolo sotto significa che secondo i regolamenti locali il vostro prodotto e/o batteria deve essere smaltito separatamente dai rifiuti domestici. Quando questo prodotto raggiunge la fine della vita di servizio portarlo a una stazione di riciclaggio. Al momento dello smaltimento, la raccolta separata del vostro prodotto e/o della sua batteria aiuta a risparmiare risorse naturali e a proteggere l'ambiente e la salute umana.

Symbolen innebär att enligt lokal lagstiftning ska produkten och/eller dess batteri kastas separat från hushållsavfallet. När den här produkten når slutet av sin livslängd ska du ta den till en återvinningsstation. Vid tiden för kasseringen bidrar du till en bättre miljö och mänsklig hälsa genom att göra dig av med den på ett återvinningsställe.

台灣

以下訊息僅適用於產品具有無線功能且銷售至台灣地區

- 第十二條 經型式認證合格之低功率射頻電機，非經許可，公司，商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。
- 第十四條 低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。
  前項合法通信，指依電信法規定作業之無線電通信。 低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。
- 無線資訊傳輸設備忍受合法通信之干擾且不得干擾合法通信；如造成干擾，應立即停用，俟無干擾之虞，始得繼續使用。
- 無線資訊傳設備的製造廠商應確保頻率穩定性，如依製造廠商使用手冊上所述正常操作，發射的信號應維持於操作頻帶中

以下訊息僅適用於產品操作於 5.25-5.35 秭赫頻帶內並銷售至台灣地區
- 在 5.25-5.35 秭赫頻帶內操作之無線資訊傳輸設備，限於室內使用。

以下訊息僅適用於產品屬於專業安裝並銷售至台灣地區
- 本器材須經專業工程人員安裝及設定，始得設置使用，且不得直接販售給一般消費者。

安全警告 - 為了您的安全，請先閱讀以下警告及指示：
- 請勿將此產品接近水、火焰或放置在高溫的環境。
- 避免設備接觸：
  - 任何液體 - 切勿讓設備接觸水、雨水、高濕度、污水腐蝕性的液體或其他水份。
  - 灰塵及污物 - 切勿接觸灰塵、污物、沙土、食物或其他不合適的材料。
- 雷雨天氣時，不要安裝，使用或維修此設備。有遭受電擊的風險。
- 切勿重摔或撞擊設備，並勿使用不正確的電源變壓器。
- 若接上不正確的電源變壓器會有爆炸的風險。
- 請勿隨意更換產品內的電池。
- 如果更換不正確之電池型式，會有爆炸的風險，請依製造商說明書處理使用過之電池。
- 請將廢電池丟棄在適當的電器或電子設備回收處。
- 請勿將設備解體。
- 請勿阻礙設備的散熱孔，空氣對流不足將會造成設備損害。
- 請插在正確的電壓供給插座 (如：北美 / 台灣電壓 110V AC，歐洲是 230V AC)。
- 假若電源變壓器或電源變壓器的纜線損壞，請從插座拔除，若您還繼續插電使用，會有觸電死亡的風險。
- 請勿試圖修理電源變壓器或電源變壓器的纜線，若有毀損，請直接聯絡您購買的店家，購買一個新的電源變壓器。
- 請勿將此設備安裝於室外，此設備僅適合放置於室內。
- 請勿隨一般垃圾丟棄。
- 請參閱產品背貼上的設備額定功率。
- 請參考產品型錄或是彩盒上的作業溫度。
- 產品沒有斷電裝置或者採用電源線的插頭視為斷電裝置的一部分，以下警語將適用：
  - 對永久連接之設備，在設備外部須安裝可觸及之斷電裝置；
  - 對插接式之設備，插座必須接近安裝之地點而且是易於觸及的。

About the Symbols

Various symbols are used in this product to ensure correct usage, to prevent danger to the user and others, and to prevent property damage. The meaning of these symbols are described below. It is important that you read these descriptions thoroughly and fully understand the contents.

Explanation of the Symbols

SYMBOL	EXPLANATION
$\sim$	Alternating current (AC): AC is an electric current in which the flow of electric charge periodically reverses direction.
--- ---	Direct current (DC): DC if the unidirectional flow or movement of electric charge carriers.
(earth/ground symbol)	Earth; ground: A wiring terminal intended for connection of a Protective Earthing Conductor.
(class II symbol)	Class II equipment: The method of protection against electric shock in the case of class II equipment is either double insulation or reinforced insulation.

Viewing Certifications

Go to http://www.zyxel.com to view this product's documentation and certifications.

Zyxel Limited Warranty

Zyxel warrants to the original end user (purchaser) that this product is free from any defects in material or workmanship for a specific period (the Warranty Period) from the date of purchase. The Warranty Period varies by region. Check with your vendor and/or the authorized Zyxel local distributor for details about the Warranty Period of this product. During the warranty period, and upon proof of purchase, should the product have indications of failure due to faulty workmanship and/or materials, Zyxel will, at its discretion, repair or replace the defective products or components without charge for either parts or labor, and to whatever extent it shall deem necessary to restore the product or components to proper operating condition. Any replacement will consist of a new or re-manufactured functionally equivalent product of equal or higher value, and will be solely at the discretion of Zyxel. This warranty shall not apply if the product has been modified, misused, tampered with, damaged by an act of God, or subjected to abnormal working conditions.

Note

Repair or replacement, as provided under this warranty, is the exclusive remedy of the purchaser. This warranty is in lieu of all other warranties, express or implied, including any implied warranty of merchantability or fitness for a particular use or purpose. Zyxel shall in no event be held liable for indirect or consequential damages of any kind to the purchaser.

To obtain the services of this warranty, contact your vendor. You may also refer to the warranty policy for the region in which you bought the device at http://www.zyxel.com/web/support_warranty_info.php.

Registration

Register your product online to receive e-mail notices of firmware upgrades and information at www.zyxel.com for global products, or at www.us.zyxel.com for North American products.

Open Source Licenses

This product may contains in part some free software distributed under GPL license terms and/or GPL like licenses. Open source licenses are provided with the firmware package. You can download the latest firmware at www.zyxel.com. If you cannot find it there, contact your vendor or Zyxel Technical Support at support@zyxel.com.tw.

To obtain the source code covered under those Licenses, please contact your vendor or Zyxel Technical Support at support@zyxel.com.