Mobile Broadband User Guide	
Online help	
Huawei Proprietary and Cor	ofidential

Online Help

Online Help Contents

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1

Logging In to the Management Page

Log in to the management page where you can set the parameters of the **Mobile**Broadhand

- 1. Open a browser and enter **192.168.8.1** in the address bar.
- 2. Enter the user name and password and click Log In.

MOTE:

If the **Mobile Broadband** displays a message indicating low password strength, use a stronger password. For details, see "Changing the Password".

Online Help 2 Status Icons

2

Status Icons

Using the status icons, you can discern the operating status of the Mobile Broadband.

The following table describes the icons displayed in the upper right corner of the **Mobile Broadband** user interface.

Item	Status		
SIM/USIM/UIM card	: The SIM/USIM/UIM card is faulty; PIN/PUK is not verified.		
	□NOTE:		
	 Contact your service provider to check whether a SIM/USIM/UIM card is required. The SIM/USIM/UIM card is provided by your service provider. To find out more about the card, contact your service provider. 		
Internet	↑↓: Uploading data		
	î↓: Downloading data		
	: Uploading and downloading data simultaneously		
	A dial-up connection has been set up, but no data is being transmitted.		
WLAN	: WLAN enabled.		
	. W L/AIN disabled.		
Signal	:tll :tll :tll :tll :tll :tll :tll :tll		

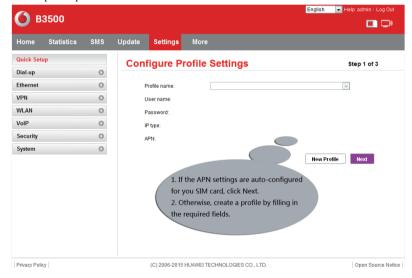
Online Help 2 Status Icons

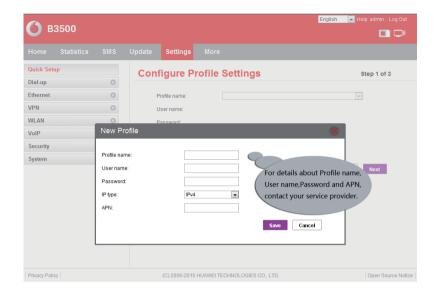
Item	Status		
	from weak to strong.		
SMS	☑: New messages.☑: Your local inbox is full.		
Ethernet	: The Mobile Broadband is connecting to an Ethernet network. : An Ethernet connection is detected.		
Update	E: Update available.		

3 Quick Setup

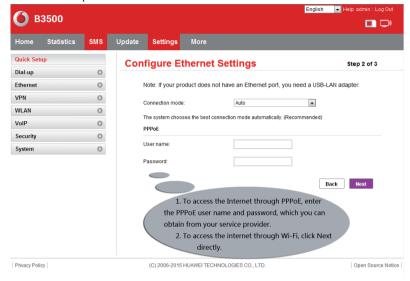
You can use **Quick Setup** to configure and maintain the settings of the **Mobile Broadband**

- 1. Choose **Settings > Quick Setup** to access the quick setup wizard.
- 2. Follow the instructions to set parameters.
- Set profile parameters.

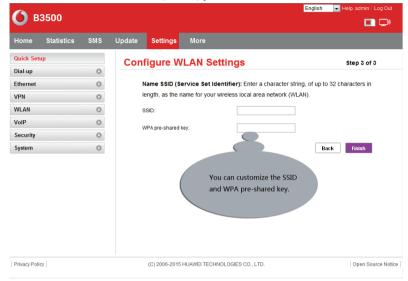




Set Ethernet parameters.



Set wireless local area network (WLAN) parameters.



NOTE:

Multiple SSIDs can be enabled simultaneously on the **Mobile Broadband**. Select one of the SSIDs to connect your device to the **Mobile Broadband**.

Click Finish.

4

Connection

To use the **Mobile Broadband** to access the Internet, you must create a network profile or set the default network profile and operator's network.

Creating a Network Profile

If you are using the **Mobile Broadband** for the first time, you must create a network profile to access the Internet.

- Choose Settings > Dial-up > Profile Management.
- 2. Click New Profile.
- 3. Set the profile-associated parameters.

MOTE:

- The value of Profile name can contain a maximum of 20 characters, including the following: 0-9, a-z, A-Z, blank space, and ! #\$()*-./=@[]
 ^_ {} ~ [,; \% + ?
- Contact your service provider for detailed parameter settings.
- 4 Click Save

Setting the Default Network Profile

After you set the default profile, the **Mobile Broadband** accesses the Internet via the default operator's network.

- 1. Choose Settings > Dial-up > Profile Management.
- 2. From the **Profile name** drop-down list, select a network profile.
- Click Apply.

Setting the Operator's Network

After configuring the settings, the Mobile Broadband can quickly find networks.

Selecting the Operator's Network Type

Select your operator's network type to find and log in to the network quickly.

For details about your network type, contact your operator.

- Choose Settings > Dial-up > Network Settings.
- From Preferred mode, select a mode.
- 3. Click Apply.

Searching for and Registering with a Network

The **Mobile Broadband** supports both automatic and manual network registration.

- 1. Choose Settings > Dial-up > Network Settings.
- 2. From Mode, select a mode.
- Auto: The Mobile Broadband searches for an available network and registers with the network automatically.
- Manual: You need to search for an available network and register with it manually.
- 3. Register with a network.
- In Auto mode, click Apply.
- In Manual mode, select one of the networks found and click OK.

Setting the DNS

This page provides you to set the DNS Sever manually. To set the DNS, perform the following steps.

- 1. Choose Settings > Dial-up > DNS Settings.
- 2. Set Manual DNS to Enable.
- 3. Set DNS parameters.
- Click Apply.

Accessing the Internet Using the Cellular Data Network

Use the following method to connect the Mobile Broadband to the Internet.

- 1. Choose **Settings > Dial-up > Mobile Connection**.
- Click Turn On.
- Connect to the Internet.

MOTE:

- By default, Mobile Broadband connect to the Internet automatically.
- You can enable or disable the data roaming function.

Accessing the Internet Using an Ethernet Connection

Configure Ethernet connection settings the first time the **Mobile Broadband** connects to the Internet using an Ethernet connection.

- Using a network cable, connect the Mobile Broadband to a router's WAN port or the Ethernet port on a wall.
- Set Ethernet parameters according to "Setting Up the Ethernet Connection Mode".

Connecting Clients to the Mobile Broadband over a WLAN

After WLAN is enabled on the **Mobile Broadband**, clients can connect to the **Mobile Broadband** and access the Internet using it.

The **Mobile Broadband** is connected to the Internet.

- Choose Settings > WLAN > WLAN Basic Settings.
- View the default value of SSID.

MOTE:

 You can change SSID to ensure the WLAN security. For details, see "Changing the SSID". To further improve the WLAN security, you can set a security key for the WLAN. For details, see "Setting the WLAN Key".

 To facilitate connections from clients, enable SSID Broadcast. For details, see "Enabling or Disabling the SSID Broadcast".

3 Enter SSID on clients

After connecting to the **Mobile Broadband**, clients can access the Internet using the **Mobile Broadband**

Viewing the Clients Connected

Check the number of clients connected to the **Mobile Broadband** and their details.

- 1 Click Statistics
- 2. Under Connected WLAN clients, view the clients connected to the Mobile Broadband

Adding a Client to the Blacklist

On the **Mobile Broadband**'s web management page, you can add unwanted clients connected to the **Mobile Broadband** to the blacklist to better secure the Wi-Fi network.

- 1 Click Statistics
- Under Connected WLAN clients, check the information about clients connected to the Mobile Broadband.
- Find the client you want to add to the blacklist, and click Block to display the Confirm dialog box.
- Click OK.

MOTE:

- Under Blacklist, view all clients on the blacklist.
- To remove a client from the blacklist, click Delete under Blacklist.

Online Help 5 VPN

5 VPN

Virtual Private Network is a technology for building a private network on a public network. It adopts security measures, such as encryption and identity authentication, to ensure the privacy and security of your communication data. For example, you can use VPN to access your company's intranet from home by connecting to your company's VPN server.

Checking the VPN Status

The Mobile Broadband enables you to check the VPN connection status.

- 1. Choose Settings > VPN > VPN Status.
- 2. You can then check the VPN connection status and other parameters.

Setting VPN Parameters

After you set the VPN parameters on the **Mobile Broadband**, you can use VPN to access your company's intranet from your device, such as a laptop.

- 1. Choose Settings > VPN > VPN Settings.
- 2. In the Connection Type drop-down list, choose L2TP VPN client.
- 3. Set the VPN parameters.

Parameter	Description		
LNS address	IP address of the Layer 2 Tunneling Protocol (L2TP) network server. L2TP is a virtual tunneling protocol used in virtual private networks. If you are connecting to a VPN server that adopts the L2TP, contact your VPN server provider for settings of LNS address, Tunnel password, PPP user name, and PPP password.		

Online Help 5 VPN

Parameter	Description		
Host Name	Provided by your VPN server provider.		
Tunnel password	Provided by your VPN server provider.		
Handshake interval (s)	After a VPN connection is set up, the Mobile Broadband will send status reports to the VPN server at this interval. If the VPN server does not receive the status report for an extended period of time, the VPN connection will terminate.		
PPP user name	Provided by your VPN server provider.		
PPP password	Provided by your VPN server provider.		
Authentication	Choose a Point-to-Point Protocol authentication method: CHAP: Challenge Handshake Authentication Protocol (CHAP) is a method of periodically verifying the identity of the peer using a 3-way handshake. During the establishment of a link, the authenticator sends a "challenge" message to the peer. The peer responds with a value calculated using a "one-way hash" function. The authenticator checks the response against its own calculation of the expected hash value. If the values match, the authentication is acknowledged. CHAP provides protection against playback attack. PAP: Password Authentication Protocol (PAP) is a method of using explicit user name and password to verify the identity of a user who attempts to log in to a PPP server. PAP is the authentication methods for most common services, such as bank cards, email accounts, and ADSL devices. It is recommended that you choose PAP.		

Online Help 6 Traffic Statistics

6

Traffic Statistics

The traffic statistics function records the network traffic and duration of the current connection as well as that since you last restored the **Mobile Broadband** to its default settings.

Viewing Traffic Statistics

Traffic statistics provide the network connection duration and traffic generated.

MOTE:

Traffic statistics are provided for your reference only. Accurate traffic records can be obtained from the bill provided by your operator.

- Click Statistics.
- View the traffic data

Clearing Traffic Statistics

This section describes how to clear the recorded traffic statistics.

- Click Statistics.
- Click Clear History to display the Confirm dialog box.
- 3 Click OK

Setting the Monthly Traffic Statistics Function

You can set the monthly traffic statistics function and view the network traffic of the current month.

- Click Statistics.
- 2 Click Data Plan

The **Data Plan** dialog box is displayed.

Online Help 6 Traffic Statistics

3. Set the monthly traffic statistics parameters.

MOTE:

If your traffic usage in the current month exceeds **Threshold** of **Monthly data plan**, the bar color on the **Statistics** page changes. Pay attention to your traffic usage to avoid incurring high data costs.

4. Click Save.

MOTE:

Click Edit to modify the monthly traffic statistics parameters.

Online Help 7 Text Messaging

7

Text Messaging

The **Mobile Broadband** allows you to create, send, view, import, and delete text messages.

Creating and Sending a Message

The **Mobile Broadband** allows you to create and send text messages.

- Click SMS.
- 2. Click New Message.
- 3. Enter a recipient number.

NOTE:

The **Mobile Broadband** enables you to send a message to multiple recipients, whose numbers need to be separated by a semicolon (;).

4. Enter the content of the text message.

NOTE:

The **Mobile Broadband** supports long text messages. When the message you compose exceeds the maximum number of characters allowed for one message, it is split into multiple messages before sending. One long message can be split into up to four messages.

5 Click Send

Viewing Messages

You can view received, sent, or draft messages.

- Inbox: stores messages received.
- Drafts: stores draft messages and messages that failed to be sent.

Online Help 7 Text Messaging

- messages that have been read.
- unread messages.
- . Click SMS.
- 2. Click the message to view its content.

MOTE:

To reply to or forward a message, click the message, then Reply or Forward.

Importing Text Messages

You can import text messages from a SIM card to the Mobile Broadband.

- Click SMS.
- Click Import.

Deleting Text Messages

This section describes how to delete text messages.

- Click SMS.
- 2. Find the message you want to view.
- · Click the arrows in the lower right corner to turn pages.
 - Go to the first page.
 - Go to the previous page.
 - Go to the next page.
 - Go to the last page.
- To go to a specific page, enter the page number in the Page field, and click Go.
- Mark the messages you want to delete, and click Delete.

Online Help 7 Text Messaging

NOTE:

You can unmark any marked message.

Configuring the SMS

Configure Short Message Service (SMS) settings.

- 1. Choose SMS > SMS Settings.
- 2. Set SMS parameters.

Turn on or off the **SMS report** function.

3. Click **Apply** to save the settings.

Online Help 8 Update

8

Update

This section describes how to update the **Mobile Broadband** application to its latest version.

Online Update

The **Mobile Broadband** provides the online update function.

Click Update to check the current version information.

MOTE:

- During your update, do not close the browser or unplug the Mobile Broadband.
- When detecting a new version and being updated, the Mobile Broadband reports the International Mobile Equipment Identity (IMEI) encrypted by RSA to the online update server.
- 2. Click Check for updates. The Mobile Broadband will detect the latest version.
- Click Update Now. A Downloading... dialog is displayed, showing the download progress.
 - A Confirm dialog is displayed, indicating that the download succeeds.
- Click OK.

Updating Locally

Before performing a local update of the **Mobile Broadband** application, save the update package to your computer.

- 1. Choose Update > Local Update.
- Click Browse.

In the displayed dialog box, select the update package saved to your computer.

Online Help 8 Update

- 3. Click Open.
- 4. Click Update.

NOTE:

During the update, do not disconnect the **Mobile Broadband** from its power supply or your computer.

5. Click OK.

When the update is complete, the **Mobile Broadband** automatically restarts with the new version installed

9

Sharing Files Using Samba

The Samba Service allows computers running different operating system to access files in the USB storage device connected to **Mobile Broadband**.

Before you use the Samba Service, set the user rights and accessible folders. For details, see "Setting User Rights".

- Choose More > Sharing > Samba Server.
- Select Enable Samba sharing.

Example:

A USB storage device connected to **Mobile Broadband** contains photos, videos, and audio clips. User A wants to edit the photos, while user B wants to copy the videos. Due to security reasons, user A must be prevented from copying the videos, and user B must be prevented from viewing the photos. In this scenario, you can use Samba to set different folder access rights for different users.

MOTE:

The computer runs Windows 7.

- 1. Choose More > Sharing > Samba Server.
- 2. Select Enable Samba sharing.
- 3. Choose More > Sharing > User Settings.
- 4. Click Add.
- 5. Set the read/write and folder access rights for users A and B.

User name	Password	Confirm password	Rights	Directory
admin1	admin123	admin123	Read/Write	The folder where the photos are saved
admin2	admin234	admin234	Read only	The folder where the videos are saved

6. Choose Start > Run, enter \\ 192.168.8.1, and press Enter.

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Sharing USB Printers Using Samba

Mobile Broadband's Samba Service allows computers to share USB printers. Computers running Windows, MAC, or Linux within the same network segment as Mobile Broadband can access the USB printers connected to Mobile Broadband.

Before you use the Samba Service, set up a Samba account. For details, see "Setting User Rights".

- Choose More > Sharing > Samba Server.
- Select Enable Samba sharing.
 Mobile Broadband searches for and lists all connected USB printers.
- 3. Choose Start > Run, enter \\ 192.168.8.1, and press Enter.

MOTE:

The computer is running Windows 7.

4. From the computer, double-click a USB printer and follow the onscreen instructions to install the printer driver.

MOTE:

The printer driver only needs to be installed once.

5. (Optional) Open a document and print it out using the USB printer.

Online Help 11 User Management

11

User Management

User Settings lets you manage user rights, preventing the shared files from being accessed by unauthorized parties.

Setting User Rights

Users will be able to access a USB storage device only after you set the read/write and folder access rights for them.

- Choose More > Sharing > User Settings.
- Click Add.
- 3. Enter the user name and password.
- 4. Enter the password again.
- 5. Set Rights.
- Read only: shared files can only be viewed.
- **Read/Write**: shared files can be viewed and modified.
- Set Directory.
- All: all files stored in the USB storage device can be accessed.
- Custom: certain specified files in the USB storage device can be accessed. Click Select and select folders in the displayed Select Folder dialog box.
- 7 Click OK

Changing User Rights

Change the user rights and accessible folders on this page.

- 1. Choose More > Sharing > User Settings.
- Click Edit
- 3. Enter the new user name or password.

Online Help 11 User Management

- 4. Enter the password again.
- 5. Set Rights.
- Read only: shared files can only be viewed.
- Read/Write: shared files can be viewed and modified.
- 6. Set Directory.
- All: all files stored in the USB storage device can be accessed.
- Custom: certain specified files in the USB storage device can be accessed. Click Select and select folders in the displayed Select Folder dialog box.
- Click OK.

Removing a User

After you remove a user, that user can no longer view or manage files in the USB storage device.

- 1. Choose More > Sharing > User Settings.
- Click Delete.
- 3. From the displayed dialog box, click **OK**.

12

Sharing Files Using the DLNA Function

After the DLNA is enabled, you can access the media files shared from a mobile storage device (such as an SD card) that is connected to the **Mobile Broadband** over another device that supports the DLNA.

- 1. Choose More > Sharing > DLNA.
- 2. Select **Enable** to enable the DLNA function.
- 3. Click **Select**. In the displayed **Select Folder** dialog box, specify the file sharing path.
- 4. Click **OK** to close the dialog box.
- 5. Click Apply.

□ NOTE:

If you want to share all files in the mobile storage device, set the **Directory** to **All**.

Online Help 13 PIN Management

13

PIN Management

PIN Management provides PIN security settings to prevent unauthorized use of the SIM, USIM, or UIM card.

Turning On or Off PIN Verification

If PIN verification is turned on, you need to enter the PIN only when the **Mobile Broadband** is turned on. If PIN verification is turned off, no PIN is required.

- If a PIN is required, enter the correct PIN.
- If you enter your PIN incorrectly three times consecutively, the SIM/USIM/UIM card is locked and you must enter the PIN unlock key (PUK).
- If you enter the PUK incorrectly ten times consecutively, the SIM/USIM/UIM card is locked permanently. If you cannot enter the correct PIN or PUK, network-associated functions are unavailable.
- The PIN and the PUK are provided with the SIM/USIM/UIM card. If you did not receive them or have forgotten them, contact the operator.
- 1. Choose Settings > Security > PIN Management.
- 2. From PIN operation, select:
- Enable: to turn on PIN verification.
- **Disable**: to turn off PIN verification.
- 3. Enter the correct PIN.
- 4. Click Apply.

Changing the PIN

If PIN verification is turned on, you can change the PIN.

- 1. Choose Settings > Security > PIN Management.
- 2. From PIN operation, select Modify.
- 3. Enter the current PIN.

Online Help 13 PIN Management

- 4. Enter a new PIN and confirm the PIN.
- 5. Click Apply.

Online Help 14 Ethernet Settings

14

Ethernet Settings

Setting Up the Ethernet Connection Mode

This section describes how to set up the Ethernet connection mode and parameters.

- 1. Choose Settings > Ethernet > Ethernet Settings.
- 2. Set the Mobile Broadband's connection parameters according to the following table.

Application Scenario	Configuration Method		
The Mobile Broadband selects the best network access mode based on the network environment.	Select Auto from the Connection mode drop-down list. Set Point-to-Point Protocol over Ethernet (PPPoE) and dynamic IP parameters. For details, see PPPoE Dial-up Settings and Dynamic IP Settings.		
Access the Internet using a PPPoE dial-up connection or a dynamic IP address.	 a. Select PPPoE + Dynamic IP from the Connection mode drop-down list. b. Set Point-to-Point Protocol over Ethernet (PPPoE) and dynamic IP parameters. For details, see PPPoE Dial-up Settings and Dynamic IP Settings. 		
You have the user name and password provided by your network service provider for the PPPoE dial-up connection.	 a. Select PPPoE from the Connection mode drop-down list. b. Enter the user name and password provided by your network service provider. c. Set the MTU. 		

Online Help 14 Ethernet Settings

The computer IP address is automatically assigned by the network service provider.	 a. Select Dynamic IP from the Connection mode drop-down list. b. Select the Set DNS server manually check box, Enter Primary DNS server and Secondary DNS server. III NOTE: This step is optional. By default, the Mobile Broadband automatically obtains the Domain Name Server (DNS) address. c. Set the MTU.
You have the network parameters, such as a fixed IP address, subnet mask, gateway IP address, and domain name server (DNS) address, provided by your network service provider.	 a. Select Static IP from the Connection mode drop-down list. b. Enter the IP address, subnet mask, gateway address, DNS address (optional), provided by your network service provider. c. Set the MTU.
The client is connected with a network cable, but no Ethernet connection is available.	Select LAN only from the Connection mode drop-down list. NOTE: You can also unplug the network cable and access the Internet using the cellular data network.

3. Click Apply.

Viewing Ethernet Connection Information

This section describes how to view Ethernet connection information.

Online Help 14 Ethernet Settings

- Choose Settings > Ethernet > Ethernet Status.
- View Ethernet connection information.

MAC Address Clone

Using the Media Access Control (MAC) address clone function, multiple clients can concurrently connect to the **Mobile Broadband** to access the Internet.

- 1. Choose Settings > Ethernet > MAC Clone.
- Click Clone to set the MAC address of the Mobile Broadband Ethernet port to that of your computer, or enter the MAC address to be cloned in the MAC address field.
- 3. Click Apply.

MOTE:

Click **Reset** to restore the MAC address of the Ethernet port to its default value.

15 WLAN Settings

Enabling or Disabling WLAN

This section describes how to enable or disable **Mobile Broadband**'s WLAN.

- 1. Choose Settings > WLAN > WLAN Basic Settings.
- 2. From WLAN module, select:
- Enable: Enable WLANDisable: Disable WLAN
- Click Apply.

Setting the SSID of the WLAN

The service set identifier (SSID) is a name that identifies a wireless local area network (WLAN). A wireless client (for example, a computer) can communicate with the **Mobile Broadband** properly only when they are using the same SSID. To ensure the WLAN security, do not use the default SSID. You can define an SSID as required.

Changing the SSID

This section describes how to change the service set identifier (SSID).

- 1. Choose Settings > WLAN > WLAN Basic Settings.
- 2. In **SSID**, enter the SSID.
- Click Apply.

Enabling or Disabling the SSID Broadcast

If the service set identifier (SSID) broadcast function is enabled, the **Mobile Broadband** broadcasts the SSID of the wireless local area network (WLAN) facilitating clients' access to the WLAN. The disadvantage is that unauthorized clients can also access the WLAN. If the SSID broadcast is disabled, the **Mobile Broadband** does not broadcast the

SSID of the WLAN. So the SSID must be entered manually and correctly from a client before the client accesses the WLAN. This improves the security of the WLAN.

- 1. Choose Settings > WLAN > WLAN Basic Settings.
- 2 Set SSID Broadcast
- Enable: to enable the SSID broadcast
- **Disable**: to disable the SSID broadcast.
- 3. Click Apply.

MOTE:

During the process of setting up the WLAN, you can set the SSID broadcast to **Enable** to facilitate the access from clients. After the WLAN is set up, set the SSID broadcast to **Disable** to improve the security of the WLAN.

Setting the WLAN Key

To improve the security of the wireless local area network (WLAN), set a security key for the WLAN.

- 1. Choose Settings > WLAN > WLAN Basic Settings.
- 2. Select Security mode.
- WPA2-PSK: This is the second version of WPA-PSK and is more secure than WPA-PSK.
- WPA/WPA2-PSK: Both WPA-PSK and WPA2-PSK encryption modes are supported. Clients can access the WLAN in WPA-PSK or WPA2-PSK mode.
- 3. Enter a security key.

□ NOTE:

Select **Show password** to view the security key that you have entered.

4. Click Apply.

Setting a WPA Security Key for the WLAN

- 1. From Security mode, select WPA2-PSK.
- 2. In WPA pre-shared key, enter the security key. For example, 12345678.
- Click Apply.

Selecting a Channel

This section describes how to select a channel.

- 1. Choose Settings > WLAN > WLAN Advanced Settings.
- 2. Select a channel from the **Channel** drop-down list box.
- 3. Click Apply.

□ NOTE:

If you do not know which channel to select, select **Auto**. The **Mobile Broadband** will then automatically select a channel.

WPS

The Wi-Fi Protected Setup (WPS) is a standard used to set up wireless connections in an easy and secure way. Traditionally speaking, to set up a wireless connection, you have to set a WLAN name (SSID) and key for the **Mobile Broadband**, and enter the key on the client. WPS automatically configures an SSID and key for the **Mobile Broadband** and client. You can conveniently and securely connect your client to the WLAN without having to remember the SSID and key.

Connecting a Client to the Mobile Broadband Through PIN

In Personal Information Number (PIN) mode, you can securely connect a client to the **Mobile Broadband**'s WLAN by simply entering the client's PIN on the **Mobile Broadband**'s web management page. You can then access the Internet through the **Mobile Broadband**.

 Set the client's WPS connection method to PIN, and record the PIN displayed on the client.

NOTE:

For details about operations on the client, see the client's user guide.

On the Mobile Broadband's web management page, choose Settings > WLAN > WPS Settings.

MOTE:

By default, WPS is set to On. If WPS is set to Off, WPS connection mode cannot be set

- 3. Choose Enter device PIN.
- 4 Enter the client's PIN in the **PIN** text box
- 5. Click Mobile Connection.

Connecting a Client to the Mobile Broadband Through PBC

In Push Button Configuration (PBC) mode, you can connect a client to the **Mobile Broadband**'s WLAN simply by pushing the WPS button. You can then access the Internet through the **Mobile Broadband**.

 On the Mobile Broadband's web management page, choose Settings > WLAN > WPS Settings.

MOTE:

By default, WPS is set to On. If WPS is set to Off, the WPS connection mode cannot be set

- Choose PBC.
- Press the WPS button on the client.
- 4. Click **Mobile Connection** on the **Mobile Broadband**'s web management page.

MOTE:

- For details about operations on the client, see the client's user guide.
- Click Mobile Connection on the Mobile Broadband's web management page within 2 minutes after you press the WPS button on the client.

Setting WLAN MAC Filtering

You can control and manage the clients that access the wireless local area network (WLAN) to improve the security performance of the WLAN.

- 1. Choose Settings > WLAN > WLAN MAC Filter.
- 2. From WLAN MAC Filter, select a Media Access Control (MAC) filtering mode.

- Disable: to disable the function of filtering MAC addresses.
- Allow: If the MAC address of a client is listed in MAC Address, the client is allowed to connect to the Mobile Broadband over the WLAN
- Deny: If the MAC address of a client is listed in MAC Address, the client is
 prohibited from connecting to the Mobile Broadband over the WLAN.
- 3. In MAC Address, enter the MAC addresses of the clients to be controlled.
- Click Apply.

Allowing Specified Clients to Access the WLAN

- Click Statistics. From the MAC Address column under Connected WLAN clients, find the MAC addresses of clients whose access to the WLAN is allowed. For example, 40:4D:8E:6D:80:7D.
- Choose Settings > WLAN > WLAN MAC Filter. From WLAN MAC Filter, select Allow.
- 3. In MAC Address, enter 40:4D:8E:6D:80:7D.
- 4. Click Apply.

Specifying the WLAN Bandwidth

The wireless local area network (WLAN) bandwidth is the transmission frequency bandwidth of the **Mobile Broadband**. A greater transmission frequency bandwidth indicates a faster data transmission speed and lower penetrability.

- 1. Choose Settings > WLAN > WLAN Advanced Settings.
- 2. Select the desired WLAN bandwidth from the Wi-Fi bandwidth drop-down list box.
- Auto: The Mobile Broadband selects the most appropriate bandwidth based on the
 actual network situation.
- 20M: This option indicates 20 MHz, corresponds to the bandwidth of 65 Mbit/s, and produces good penetrability and long transmission distance.
- 3. Click Apply.

Online Help 16 DHCP Settings

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DHCP Settings

Enabling the DHCP Server

If the Dynamic Host Configuration Protocol (DHCP) server is enabled, the **Mobile Broadband** allocates IP addresses to clients connected to it.

- DHCP IP range and DHCP lease time (s) are available to be set only when the DHCP server is enabled.
- After the DHCP server is enabled, enable the function to automatically obtain an IP address and a DNS server address from clients.
- Choose Settings > System > DHCP.
- 2. In IP address, enter the two last digits of the Mobile Broadband's IP address.
- 3. Select **Enable** to enable the DHCP server.
- 4. In **DHCP IP range**, enter the last digit of the start IP address and the end IP address.
- 5. In **DHCP lease time (s)**, enter a lease time.
- 6. Click Apply.

Disabling the DHCP Server

If the Dynamic Host Configuration Protocol (DHCP) server is disabled, the **Mobile Broadband** does not allocate IP addresses to clients connected to it and IP addresses must be entered from each client.

- Choose Settings > System > DHCP.
- 2. Select Disable to disable the DHCP server.
- 3. Click Apply.

Configuring DHCP Clients

If the Dynamic Host Configuration Protocol (DHCP) server is enabled, certain settings must be configured on clients.

Online Help 16 DHCP Settings

The following describe how to configure DHCP settings on a computer running Windows 7 as an example.

- 1. Choose Start > Control Panel.
- 2. From the **Viewed by** drop-down list, choose **Category**.
- 3. Choose Network and Internet > Network and Sharing Center > Change adapter settings > Wireless Network Connection.
- 4. Right click the network icon that you want to configure and choose **Properties**.
- On the Networking tab page, choose Internet Protocol Version 6 (TCP/IPv6) or Internet Protocol Version 4 (TCP/IPv4), and then click Properties.
- 6. On the Internet Protocol 6 (TCP/IPv6) Properties dialog box, select Obtain an IPv6 address automatically and Obtain DNS server address automatically. Or on the Internet Protocol 4 (TCP/IPv4) Properties dialog box, select Obtain an IP address automatically and Obtain DNS server address automatically.
- 7 Click OK

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VolP

The **Mobile Broadband** supports voice services based on the Session Initiation Protocol (SIP) and voice calls between the Internet and Public Switched Telephone Network (PSTN).

Configuring an SIP Server

Configure parameters for the SIP registration and agent servers according to the instructions on this page.

- Choose Settings > VoIP > SIP Server.
- In Proxy server address, enter the IP address or domain name provided by your service provider.
- 3. In **Proxy server port**, enter the port provided by your service provider.
- In Registration server address, enter the IP address or domain name of the registration server provided by your service provider.
- In Registration server port, enter the port of the registration server provided by your service provider.
- 6. In SIP server domain name, enter the domain name of the SIP server.

NOTE:

If **Secondary server** is selected, follow the preceding steps to configure the parameters for it.

7. Click Apply.

Managing SIP Accounts

The **Mobile Broadband** lets you add, modify, or delete your SIP accounts and view their registration status.

Adding an SIP Account

Add an SIP account according to the instructions on this page.

Before you configure an SIP account, configure the SIP server. For details, see "Configuring an SIP Server".

- 1. Choose Settings > VoIP > SIP Account.
- Click Add.
- 3. In **SIP** Account, enter the account number provided by your service provider.
- In User name and Password, enter your user name and password provided by your service provider for voice services.
- Click OK.

Modifying an SIP Account

Modify an SIP account according to the instructions on this page.

- 1. Choose **Settings** > **VoIP** > **SIP Account**.
- 2. Click Edit.
- 3. In **SIP Account**, modify the account number.
- In User name and Password, modify your user name and password for voice services.
- Click OK.

Deleting an SIP Account

Delete a SIP account according to the instructions on this page.

- 1. Choose **Settings > VoIP > SIP Account**.
- Click Delete.
- 3. From the displayed dialog box, click **OK**.

Checking the SIP Account Registration Status

Check your SIP accounts and their registration status according to the instructions on this page.

- Choose Settings > VoIP > SIP Account.
- 2. In **Registration Status**, view the registration status of all your SIP accounts.

Managing Speed-Dial Numbers

Assign short and easy-to-remember speed-dial numbers for your contacts. You can then simply dial the speed-dial number instead of entering the entire number. The Mobile Broadband lets you add, modify, or delete your speed-dial numbers.

Adding a Speed-Dial Number

Add a speed-dial number according to the instructions on this page.

- Choose Settings > VoIP > Speed Dial.
- Click Add.
- 3. In **Speed Dial Number**, enter a number easy to remember.
- 4. In **Actual Number**, enter the actual number.
- 5. In **Description**, enter a description for the speed-dial number.
- 6. Click OK.
- 7. Click Apply.

Modifying a Speed-Dial Number

Modify a speed-dial number according to the instructions on this page.

- Choose Settings > VoIP > Speed Dial.
- Click Edit.
- 3. In **Speed Dial Number**, modify a speed-dial number.
- 4. In **Actual Number**, modify the actual number.
- 5. In **Description**, change the description.
- Click OK.
- 7. Click Apply.

Deleting a Speed-Dial Number

Delete a speed-dial number according to the instructions on this page.

- 1. Choose **Settings > VoIP > Speed Dial**.
- Click Delete.
- 3. From the displayed dialog box, click **OK**.

Configuring Advanced SIP Settings

This topic describes how to configure advanced SIP settings. It is recommended that you retain the default settings.

- 1. Choose Settings > VoIP > Advanced SIP Settings.
- In Registration timeout (seconds), enter the timeout duration for SIP account registrations.
- 3. In **Session timeout (seconds)**, enter the timeout duration for server sessions.
- In Minimum session timeout (seconds), enter the minimum timeout duration for server sessions.
- 5. Set PRACK signaling.
- Click Apply.

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Security Settings

Enabling or Disabling the Firewall

The **Mobile Broadband** supports the firewall function to control the transmission of data streams and protect your local area network from unauthorized access.

- Choose Settings > Security > Firewall Switch.
- 2. Select Enable IP address filter to enable the function of filtering IP addresses.
- 3. Select **Disable WAN port ping** to disable the ping function.
- 4. Select **Enable domain name filter** to enable the function of filtering URLs.
- 5. Select **Enable MAC filter** to enable the MAC filtering function.
- 6. Click Apply.

Setting LAN IP Filtering

The function to filter IP addresses in the local area network (LAN) can be used to restrict the access to specific Internet services from specified clients in the LAN

The IP address filtering function is enabled. For details, see "Enabling or Disabling the Firewall".

The following table lists common protocols at the Application Layer of (TCP/IP).

Protocol	Default Port	Service Provided	
НТТР	80	Browse Web pages.	
SMTP	25	Send emails.	
POP3	110	Receive emails.	

Protocol	Default Port	Service Provided	
FTP	21	Transmit files.	
Telnet	23	Log in to remote computers.	

MOTE:

For details about the ports used for specific services, contact the relevant service providers

- 1. Choose Settings > Security > LAN IP Filter.
- 2. Click **Add** and set the parameters.
- Click **OK** to save the settings.

MOTE:

- · Click Edit to edit an item
- · Click Delete to delete an item.
- 4. Click **Apply** for the settings to take effect.

Blocking a Client from Accessing a Specified Website

To block the client whose IP address is 192.168.1.101 in the wireless local area network (WLAN) from accessing www.abc.com, do the following:

- 1. Choose Settings > Security > LAN IP Filter.
- 2. Click **Add** and set the parameters.

LAN IP Address	Enter 192.168.1.101.
	□ NOTE:
	You can view the IP addresses of clients connected to the Mobile Broadband on the Statistics page under Connected WLAN clients .

LAN Port	Enter 80.		
WAN IP Address	 a. From the operating system, choose Start > Run. b. Enter cmd and press Enter. c. In the displayed command-line interface, enter ping www.abc.com and press Enter. d. View the IP address of www.abc.com. For example, it is 1.2.3.4. e. In the text box for WAN IP Address on the relevant page of the Mobile Broadband, enter 1.2.3.4. In NOTE: The Windows 7 operating system is used in this example to describe how to obtain wide area network (WAN) IP addresses. 		
WAN Port	Enter 80.		
Protocol	Select TCP/UDP. If you do not know the protocol, select TCP/UDP. The Mobile Broadband will automatically select an appropriate protocol.		
Status	Select On.		
Options	Click OK.		

3. Click **Apply** for the settings to take effect.

Configuring a Virtual Server

The **Mobile Broadband** supports the virtual server to enable external users to use the services provided in the local area network (LAN) using the Hypertext Transfer Protocol (HTTP), File Transfer Protocol (FTP), and other protocols.

- 1. Choose Settings > Security > Virtual Server.
- 2. Click **Add** and set the parameters.
- 3. Click **OK** to save the settings.

MOTE:

· Edit: to edit an item.

• Delete: to delete an item.

Click Apply for the settings to take effect.

Configuring an FTP Server

To enable a client whose IP address is 192.168.8.101 to provide FTP services and be accessed by external users, do the following:

1. Configure a virtual server.

Name	WAN Port	LAN IP Address	LAN Port	Protocol	Status
My FTP server	21	192.168.8.101	21	ТСР	On

- Choose Settings > System > Device Information, view the wide area network (WAN) IP address of the Mobile Broadband. For example 10.2.1.123.
- In the browser of an external user, enter the FTP server address (ftp://10.2.1.123) and access the FTP services provided by the client whose IP address is 192.168.8.101.

MOTE:

By default, the FTP service port is 21. If this port is changed (for example, it is changed to 8021), the external user must enter **ftp://10.2.1.123:8021** to access the FTP server.

Configuring a Special Application

The **Mobile Broadband** supports the function to use a special application to configure dynamic port forwarding. Certain applications in the local area network (LAN) must use a specified port of the firewall to access remote applications. To set up a Transmission Control Protocol and User Datagram Protocol (TCP/UDP) connection between an application in the LAN and a remote application, the firewall uses this port forwarding function to open the required port.

- 1. Choose Settings > Security > Special Applications.
- 2. Click Add and set the parameters.
- Click **OK** to save the settings.

MOTE:

• Edit: to edit an item.

• Delete: to delete an item.

Click Apply for the settings to take effect.

Example of the Configuration of a Special Application

A client in the LAN uses TCP to access the MSN game server through port 47624. When the game starts, the game server uses TCP and port 2400 to set up a connection to the client that tries to access the server. In this case, you must configure dynamic port forwarding, because the game conflicts with the following default firewall rules:

- · The firewall blocks external data input.
- The game server can send a connection request to the external IP address of the Mobile Broadband but cannot send the request to the LAN client that tries to access the game server, because the IP addresses of clients are not open to external devices.

To solve this problem, you must define a set of port forwarding rules. When the client in the LAN sends data to TCP port 47624, the rules allow data input from TCP port 2400. Then data from the game server can be received from and transmitted to the LAN client that sends data to TCP port 47624.

Name	Status	Trigger Port	Trigger Protocol	Open Protocol	Open Port
MSN Gaming Zone	On	47624	ТСР	ТСР	2400

NOTE:

For details about **Trigger Port**, **Open Port**, **Trigger Protocol**, and **Open Protocol**, contact your service provider.

Setting the DMZ

If external users cannot access certain network services provided by the local area network (LAN), use the DMZ function provided by the **Mobile Broadband** to set the client that provides the required network services as the DMZ host; external users can then access these services properly. DMZ is an acronym for the demilitarized zone in networks.

DMZ users are not protected by the firewall and may be easily attacked. In addition, the security of other users in the LAN is compromised.

- 1. Choose Settings > Security > DMZ Settings.
- Select:
- Enable: to enable the DMZ function.
- **Disable**: to disable the DMZ function.
- 3. In **DMZ IP address**, enter the IP address of the client to be set as the DMZ host.

MOTE:

One client can be set as the DMZ host at a time.

Click Apply.

Setting the SIP ALG

The Session Initiation Protocol (SIP) is a control protocol at the Application Layer. It is used to initiate, change, or end a session. An application-level gateway (ALG) is a specific application of SIP and is used to check the status of data packages. To complete a SIP application, enable the SIP ALG.

- 1. Choose Settings > Security > SIP ALG Settings.
- 2. Select Enable SIP ALG to enable the SIP ALG.
- 3. In **SIP port**, enter the SIP port number provided by your service provider.
- 4. Click Apply.

Setting the UPnP

The Universal Plug and Play (UPnP) service realizes intelligent connection between two UPnP devices using port forwarding. UPnP devices can obtain IP addresses automatically and access the Internet dynamically.

- 1. Choose Settings > Security > UPnP Settings.
- Select:
- Enable: to enable the UPnP service.
- **Disable**: to disable the UPnP service.
- Click Apply.

Configuring NAT

Network address translation is the process of modifying source and destination IP addresses when IP packets are transmitted across a router or firewall. The purpose of this process is to translate internal (private) IP addresses into external (public) IP addresses to provide a solution to the impending exhaustion of IP addresses. **Mobile Broadband** supports port-restricted cone NAT and symmetric NAT. You can configure the NAT settings as required.

- 1. Choose Settings > Security > NAT Settings.
- 2. Select from the following options:

Cone: to enable port-restricted cone NAT. This type of NAT are more compatible
with applications (including applications on game devices), although it provides
lower security.

- Symmetric: to enable symmetric NAT. This type of NAT is generally adopted by gateways with higher security.
- Click Apply.

Filtering Specified Websites

The **Mobile Broadband** enables you to specify and filter websites.

- 1. Choose Settings > Security > Domain Name Filter.
- 2 Click Add
- 3. In **Domain Name**, enter the address of the website you want to filter.
- 4. From the **Status** drop-down list, choose **On**.
- Click OK.
- 6. Click Apply for the settings to take effect.

Setting the DDNS

The Dynamic Domain Name Server (DDNS) is a system that associates a network address with a dynamic IP address. After you configure the DDNS, the **Mobile Broadband** sends the dynamic IP address of a computer to the DDNS. The DDNS then associates the updated IP address with the specified network address so that Internet users can use this network address to access the resources that you provide.

- 1. Choose **Settings > Security > DDNS**.
- 2 Click Add
- 3. Set DDNS parameters.

□ NOTE:

The user name and password must be registered on the website of the DDNS service provider.

4 Click OK

Example:

To share large files or videos with Internet users:

 Register a DDNS user name and password on a DDNS service provider. For example, register an account with both the user name and password as admin on http://www.dyndns.org/.

2. Choose Settings > Security > DDNS.

Service Provider	Status	Domain Name	User name	Password
DynDNS.org	On	www.abc.com	admin	admin

- Click OK.
- Internet users will then be able to access your resources by accessing www.abc.com from their browsers.

Filtering Specified Devices

The MAC filtering function of the **Mobile Broadband** can filter specified devices on the **Mobile Broadband** local area network (LAN) so these devices are prevented from accessing the Internet or other devices on the same LAN.

- 1. Choose Settings > Security > MAC Filter.
- 2. Select an MAC filtering mode from the **Filtering mode:** drop-down list box.
- Disable: Disable the MAC filtering function.
- Allow: If the MAC address of a client is in the MAC Address list, the client is allowed to connect to the Mobile Broadband.
- Deny: If the MAC address of a client is in the MAC Address list, the client is not allowed to connect to the Mobile Broadband.
- In the MAC Address text box, enter the MAC address of the client you want to filter.
- 4. Click Apply.

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System Management

Viewing Mobile Broadband Information

This section describes how to view the information about the **Mobile Broadband**.

- 1. Choose Settings > System > Device Information.
- 2. View Mobile Broadband information.

Switching Between Languages

This section describes how to switch between the **Mobile Broadband**'s user interface languages.

- 1. Click the drop-down list in upper right corner of the page.
- 2. From the language drop-down list, select the desired language.

Changing the Password

To prevent unauthorized access to the management page, change the login password.

- 1. Choose Settings > System > Modify Password.
- 2. Enter the current password.
- 3. Enter a new password and confirm it.

MOTE:

The password can contain a maximum of 15 characters, including numbers, letters (upper or lower case), space, and the following symbols: $! # $ () * - . /= @ []^_ ` { } \sim |$

Click Apply.

Restoring Default Settings

After you restore the **Mobile Broadband** to its default settings, your personal information will be deleted, and parameters will be restored to their default values.

- 1. Choose Settings > System > Restore Defaults.
- 2 Click Restore

Rebooting the Mobile Broadband

This section describes how to reboot the **Mobile Broadband**.

- Choose Settings > System > Reboot.
- Click Reboot.

Diagnosing Network Connection Exceptions

If the **Mobile Broadband** cannot connect to the Internet, use the diagnostics tools to identify the possible causes.

Performing a Ping Test

If the **Mobile Broadband** cannot connect to the Internet, perform a ping test to identify the possible causes.

- 1. Choose Settings > System > Diagnosis.
- 2. Select Ping from the Diagnosis method drop-down list box.
- In the Target IP or domain text box, enter the IP address or domain name, for example www.google.com.
- Set Packet size and Timeout period.
- 5. Select or deselect **Do not fragment**.

NOTE:

Select **Do not fragment** if you set **Packet size** to a value greater than its default value.

Click Apply.

The diagnostics results are displayed in the **Result** area on the bottom of the page.

Performing a Traceroute Test

If the **Mobile Broadband** cannot connect to the Internet, perform a traceroute test to identify the possible causes.

- 1. Choose Settings > System > Diagnosis.
- 2. Select **Traceroute** from the **Diagnosis method** drop-down list box.
- In the Target IP or domain text box, enter the IP address or domain name, for example www.google.com.
- 4. Set Maximum hops and Timeout period.
- 5. Click Apply.

The diagnostics results are displayed in the **Result** area on the bottom of the page.

Remotely Managing the Mobile Broadband

TR-069 is the protocol used for communication between the **Mobile Broadband** and the auto-configuration server (ACS). Your operator can use the ACS to remotely manage the network settings of the **Mobile Broadband**. This helps your operator overcome the difficulties in managing the **Mobile Broadband**, reduce maintenance costs, and improve the efficiency in solving problems. If your operator enables the TR-069 automatic service provision function, ACS parameters are set on the **Mobile Broadband**, and required parameters are set on the ACS, this function will automatically set the network parameters, and the ACS will automatically send the network settings to the **Mobile Broadband**.

- 1. Choose Settings > System > TR-069 Settings.
- 2. Set Periodic notification.
- **Enable**: Enable the service of periodically sending packets using TR-069.
- Disable: Disable the service of periodically sending packets using TR-069.
- 3. Set Notification interval.

MOTE:

- If you set Periodic notification to Disable, the Notification interval parameter is dimmed and unavailable.
- If you set Periodic notification to Enable, the Mobile Broadband sends
 packets to the ACS at an interval specified by Notification interval.
- In the ACS URL text box, enter the URL of the ACS.

In the ACS user name and ACS password text boxes, enter the ACS user name and password respectively.

MOTE:

- Obtain the values of ACS URL, ACS user name, and ACS password from your operator.
- To access the ACS, the Mobile Broadband must provide the values of ACS user name and ACS password for the ACS. The values must be the same as those set on the ACS.
- Click Apply.

Setting the Antenna Type

This topic describes how to set the antenna type.

- 1. Choose Settings > System > Antenna Settings.
- 2. Select the antenna type from the drop-down list.
- 3. Click Apply.

20 FAQs

Clients Cannot Access the Internet Properly

- 1. Check that clients are connected to the **Mobile Broadband** properly.
- 2. Check that the **Mobile Broadband** is powered on properly.
- Check that the Mobile Broadband is in a location covered by communication networks and that the signal strength is strong.
- Check that the network mode meets the requirement of the local service provider. For details, see "Setting the Operator's Network".
- 5. When the Mobile Broadband is used for Internet access, the Point-to-Point Protocol (PPP) user name and password must be set correctly. Check that the PPP user name and password are correct. For details, see "Creating a Network Profile".
- If the Dynamic Host Configuration Protocol (DHCP) service is not enabled and the clients are set to obtain IP addresses dynamically, the clients cannot access the Internet. In this case, enable the DHCP service. For details, see "DHCP Settings".
- 7. Check that the network adapters of the clients are working properly.
- 8. Contact your service provider if the problem persists.

Clients Cannot Access the WLAN Properly

- Check whether there are potential interference sources or shielding objects near the Mobile Broadband. If any, adjust the placement of the Mobile Broadband.
- 2. Check and record the settings of the following parameters on the clients and the Mobile Broadband: SSID, Encryption mode, and security key. The service set identifier (SSID) of the clients must be set to ANY or be same as that set on the Mobile Broadband. The encryption mode and the security key on the clients must match those set on the Mobile Broadband. Otherwise, change the settings on the clients.
- If the Media Access Control (MAC) address filtering in the wireless local area network (WLAN) is enabled on the **Mobile Broadband**, check that the MAC addresses of the clients are not in the **Deny** list. For details, see "Setting WLAN MAC Filtering".

Login IP Address for the Management Page Is Forgotten

- 1. Restore the default settings.
- 2. Enter the following default login IP address: 192.168.8.1.

WLAN Key Is Forgotten

- Log in to the management page and obtain the current WLAN key. For details, see "Setting the WLAN Key".
- Restore the default settings. Check the relevant label on the Mobile Broadband to
 obtain the default WLAN key.

Multi-Network IP Address Conflict Occurs

When multiple types of Internet connections are used simultaneously on the client, such as physical network adapter and Wi-Fi, inserting the **Mobile Broadband** into the client may result in IP address conflict across multiple networks.

Solution: Disable other network devices or disconnect other Internet connections from the client, and then restart **Mobile Broadband**.

All Website Addresses Entered in the Browser Are Redirected to the Mobile Broadband 's Homepage

When the **Mobile Broadband** is inserted to a client where other network adapters exist, all websites entered in the browser will be redirected to the **Mobile Broadband** 's homepage.

Check whether the **Mobile Broadband** is accessing the Internet using dial-up connection.

- If yes, you do not need to address the problem, because in this case all website
 addresses will be redirected to the Mobile Broadband's homepage.
- If not, remove the **Mobile Broadband**, or set up a dial-up connection.

PPPoE Dialing or Connection Failure

- 1. Check that the network cable is properly connected.
- Make sure that the Ethernet connection mode is correct (automatic mode is recommended).
- 3. Make sure that the user name and password are correct (case sensitive), especially differentiating between the letter o and the digit 0. Enter your user name and password to perform the point-to-point protocol over Ethernet (PPPoE) dialing test. If the test fails, contact your Internet service provider (ISP) to check whether the user name and password are correct.
- 4. Note that your ISP may have associated your network adapter or router's physical address (MAC address) to the services provided by your ISP when configuring broadband services for you. For details, see "MAC Address Clone".
- Check whether the Ethernet network is disconnected. For example, whether the network cable is unplugged during Internet access. If yes, perform the dialup procedure again in 5 to 10 minutes.

What Can I Do If the Network Connection Is Frequently Interrupted?

- Check the network signal strength. If the signal is weak, move the Mobile Broadband somewhere with better reception.
- 2. Visit other websites to check whether the issue lies within a particular site.
- 3. Close all other applications that require network connections.
- 4. Contact your Internet service provider if the problem persists.

What Can I Do If I Cannot Open Web Pages After a Network Connection Is Set Up?

- 1. Re-set up a dial-up Internet connection.
- 2. Check that the computer is not infected with viruses.
- Check that the APN user name and password in the profile management settings are correct. For details, contact your Internet service provider.
- 4. Check that network connection has not been blocked by a firewall.
- 5. Restart your computer, and re-set up a dial-up Internet connection.

What Can I Do If the Icons That Indicate No Signals and No Service Are Displayed?

- Check that the Mobile Broadband is in an area with good reception. For details, contact your Internet service provider.
- Check that you have subscribed to network services for your SIM, USIM, or UIM card, and that there is no outstanding balance. For details, contact your Internet service provider.

What Can I Do If the Network Access Rate Is Low?

- Check that the Mobile Broadband is in an area with good reception. For details, contact your Internet service provider.
- Check the network standard used by the Mobile Broadband. The available network access rate varies by the network standard. For details, contact your Internet service provider.

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Acronyms and Abbreviations

2G	second generation
3G	third generation
4G	4th generation
ALG	application-level gateway
APN	access point name
DDNS	Dynamic Domain Name Server
DHCP	Dynamic Host Configuration Protocol
DMZ	demilitarized zone in networks
DNS	Domain Name Server
EDGE	Enhanced Data Rates for GSM Evolution
GPRS	General Packet Radio Service

GSM	Global System for Mobile Communications
HSDPA	High-Speed Downlink Packet Access
HSPA	High Speed Packet Access
HSUPA	High-Speed Uplink Packet Access
IMEI	international mobile equipment identity
IMSI	international mobile subscriber identity
IP	Internet Protocol
LAN	Local Area Network
LTE	Long Term Evolution
MAC	Media Access Control
MTU	Maximum Transmission Unit
PPPoE	Point-to-Point Protocol over Ethernet
PIN	personal identification number
PUK	PIN Unlock Key

SIP	Session Initiation Protocol
SIM	subscriber identity module
SSID	service set identifier
ТСР	Transmission Control Protocol
UDP	User Datagram Protocol
UMTS	Universal Mobile Telecommunications System
UPnP	Universal Plug and Play
USSD	Unstructured Supplementary Services Data
WAN	wide area network
WCDMA	Wideband Code Division Multiple Access
WLAN	wireless local area network
Wi-Fi	Wireless Fidelity
WPS	Wi-Fi Protected Setup