Mobile Broadband User Guide

Online help

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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 Broadband**.

1. Open a browser and enter **192.168.1.254** in the address bar.
2. Enter the user name and password and click **Log In**.

NOTE:

- The default user name and password are both **admin**.
- If the **Mobile Broadband** displays a message indicating low password strength, use a stronger password.

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  : Downloading data : Uploading and downloading data simultaneously : A dial-up connection has been set up, but no data is being transmitted.

Item	Status
WLAN	 : WLAN enabled. : WLAN disabled.
Signal	 : These icons indicate the signal strength from weak to strong.
Ethernet	 : The **Mobile Broadband** is connecting to an Ethernet network.  : An Ethernet connection is detected.
Update	 : 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**.

3. 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.

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

NOTE:

- 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.
3. Click **Apply**.

Setting the Operator's Network

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

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**.

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** .
2. Click **Turn On**.

NOTE:

- 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.

1. Using a network cable, connect the **Mobile Broadband** to a router's WAN port or the Ethernet port on a wall.
2. 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.

1. Choose **Settings > WLAN > WLAN Basic Settings** .
2. View the default value of **SSID**.

NOTE:

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

NOTE:

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

5 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.

NOTE:

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

1. Click **Statistics**.
2. View the traffic data.

Clearing Traffic Statistics

This section describes how to clear the recorded traffic statistics.

1. Click **Statistics**.
2. 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.

1. Click **Statistics**.
2. Click **Data Plan**.
3. The **Data Plan** dialog box is displayed.
4. Set the monthly traffic statistics parameters.

NOTE:

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.

5. Click **Save**.

NOTE:

Click **Edit** to modify the monthly traffic statistics parameters.

6 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.

1. Click **Update** to check the current version information.

NOTE:

- 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.
3. Click **Update Now**. A **Downloading…** dialog is displayed, showing the download progress.
4. A **Confirm** dialog is displayed, indicating that the download succeeds.
5. 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**.

2. Click **Browse**.

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

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.

7 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”.

1. Choose **Sharing > Samba Server**.
2. Select **Enable Samba sharing**.

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.

NOTE:

The computer runs Windows 7.

3. Choose **Sharing > Samba Server**.
4. Select **Enable Samba sharing**.
5. Choose **Sharing > User Settings** .
6. Click **Add**.
7. 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

8. Choose **Start > Run** , enter \\ **192.168.1.254**, and press **Enter**.

8 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.

1. Choose **Sharing > User Settings** .
2. 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.

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.

7. Click **OK**.
8. Click **Apply**.

Changing User Rights

Change the user rights and accessible folders on this page.

1. Choose **Sharing > User Settings** .

2. Click **Edit**.
3. Enter the new user name or 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.

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.

7. Click **OK**.
8. Click **Apply**.

Removing a User

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

1. Choose **Sharing > User Settings** .
2. Click **Delete**.
3. From the displayed dialog box, click **OK**.
4. Click **Apply**.

9 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 **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**.

10 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.
4. Enter a new PIN and confirm the PIN.
5. Click **Apply**.

11 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.	a. Select **Auto** 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**.
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.
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**. **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.

1. Choose **Settings > Ethernet > Ethernet Status**.
2. 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**.
2. 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**.

NOTE:

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

12 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 WLAN
- **Disable**：Disable WLAN

3. 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. From the SSID list, choose the SSID you want to change, and click **Edit**.
3. In **SSID**, enter the SSID.
4. 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. From the SSID list, choose the SSID you want to change, and click **Edit**.
3. Set **SSID Broadcast**.

- **Enable**: to enable the SSID broadcast.
- **Disable**: to disable the SSID broadcast.

4. Click **Apply**.

NOTE:

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. From the SSID list, choose the SSID you want to change, and click **Edit**.
3. Select **Security mode**.

- **None(Open)**: No encryption. No security key is required when clients access the WLAN.

NOTE:

For daily use, it is recommended that you set a security key, to improve the security performance of a WLAN.

- **WEP**: This stands for Wired Equivalent Privacy.
- **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.

4. Enter a security key.

NOTE:

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

5. 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.
3. Click **Apply**.

Selecting a Channel

This section describes how to select a required channel.

1. Choose **Settings > WLAN > WLAN Advanced Settings** .
2. From **Channel**, select a desired channel.
3. Click **Apply**.

NOTE:

- Different countries use different channels.
- If you do not know which channel to select, select **Auto**. The **Mobile Broadband** will search for a channel automatically.

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**.

1. 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.

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

1. On the **Mobile Broadband**'s web management page, choose **Settings > WLAN > WPS Settings** .
2. Choose **PBC**.
3. Press the WPS button on the client.
4. Click **Mobile Connection** on the **Mobile Broadband**'s web management page.

NOTE:

- 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.

Connecting a Client to the Mobile Broadband Through AP PIN

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

1. On the **Mobile Broadband**'s web management page, choose **Settings > WLAN > WPS Settings** .
2. Obtain the **Mobile Broadband**'s PIN using either of the following methods:

- Click **Generate PIN** to obtain the randomly generated PIN.
- Click **Reset PIN** to obtain the initial PIN.

3. Set the client's WPS connection mode to AP PIN, and enter the **Mobile Broadband**'s PIN on the client.

NOTE:

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

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.
4. Click **Apply**.

Allowing Specified Clients to Access the WLAN

1. 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.

2. 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.
- **20 MHz**: This option indicates 20 MHz, corresponds to the bandwidth of 65 Mbit/s, and produces good penetrability and long transmission distance.
- **40 MHz**: This option indicates 40 MHz, corresponds to the bandwidth of 135 Mbit/s, and produces good penetrability and long transmission distance.

3. Click **Apply**.

13 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.

1. 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.

1. 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.

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**.
5. 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**.

14 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.

1. Choose **Settings > Security > Firewall Switch**.
2. Select **Enable firewall** to enable the firewall or clear it to disable the firewall.

NOTE:

Other parameters are available only if you select **Enable firewall**.

3. Select **Enable IP address filter** to enable the function of filtering IP addresses.
4. Select **Disable WAN port ping** to disable the ping function.
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 in the Transmission Control Protocol and the Internet Protocol (TCP/IP).

Protocol	Default Port	Service Provided
HTTP	80	Browse Web pages.
SMTP	25	Send emails.
POP3	110	Receive emails.
FTP	21	Transmit files.
Telnet	23	Log in to remote computers.

NOTE:

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

NOTE:

- **Edit**: to edit an item.
- **Delete**: to delete an item.
- 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**. **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**. **NOTE:** 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.

NOTE:

- **Edit**: to edit an item.
- **Delete**: to delete an item.

4. 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	**TCP**	**On**

2. Choose **Settings > System > Device Information** , view the wide area network (WAN) IP address of the **Mobile Broadband**. For example 10.2.1.123.
3. 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.

NOTE:

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

NOTE:

- **Edit**: to edit an item.
- **Delete**: to delete an item.

4. 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	**TCP**	**TCP**	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**.
2. 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.

NOTE:

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

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** .
2. Select:

- **Enable**: to enable the UPnP service.
- **Disable**: to disable the UPnP service.

3. 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 are generally adopted by gateways with higher security.

3. Click **Apply**.

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**.
5. Click **Apply**.

To share large files or videos with Internet users:

6. 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/.
7. Choose **Settings > Security > DDNS** .

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

8. Click **OK**.
9. Click **Apply**.
10. 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**.

3. In the **MAC Address** text box, enter the MAC address of the client you want to filter.
4. Click **Apply**.

15 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.

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.

NOTE:

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

4. 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**.

1. Choose **Settings > System > Reboot**.
2. 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.
3. In the **Target IP or domain** text box, enter the IP address or domain name, for example www.google.com.
4. 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.

6. 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.
3. 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.

16 FAQs

Clients Cannot Access the Internet Properly

1. Check that clients are connected to the **Mobile Broadband** properly.

- 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.

2. Check that the network mode meets the requirement of the local service provider. For details, see “Setting the Operator's Network”.
3. 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”.
4. 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”.
5. Check that the network adapters of the clients are working properly.
6. Contact your service provider if the problem persists.

Clients Cannot Access the WLAN Properly

1. 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.

3. 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: **192.168.1.254**.

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.

1. 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.
2. 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”.
5. 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?

1. 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.
3. 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?

1. Check that the **Mobile Broadband** is in an area with good reception. For details, contact your Internet service provider.
2. 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?

1. Check that the **Mobile Broadband** is in an area with good reception. For details, contact your Internet service provider.
2. 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.

17 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
TCP	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