NETGEAR®

User Manual

Nighthawk M6 Pro WiFi 6E 5G Mobile Router

Models

MR6500

MR6110

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Compliance

FCC regulations restrict operation of this device to indoor use only when it is operating in the 6 GHz band (5.92-7.125GHz). The operation of 6 GHz band devices is prohibited on oil platforms, cars, trains, boats, and aircraft, except that operation of this device is permitted in large aircraft while flying above 10,000 feet. Operation of transmitters in the 5.925-7.125 GHz band is prohibited for control of or communications with unmanned aircraft systems.

FCC regulations restrict the operation of this device in the 5.925-7.125 GHz band to indoor use only.

6 GHz is available only when the device is powered by AC adapter connected to AC mains.

The device cannot be used outdoors on 6 GHz, as required by FCC/IC rules.

When using external antenna, their net gain (antenna + cable loss) must be less than what is specified below as required by FCC.

Table 1. LTE transmission

Frequency (Mhz)	Bands	Ext Ant Gain (dBi)	
1850-1919	2	4	
1710-1755	4	4	
824-849	5	4	
2500-2570	7	4	
698-716	12	4	
788-798	14	4	
2305-2315	30	1.05	
3550-3700	48	0.17	
1710-1780	66	4	

Table 2. NR transmission

Frequency (Mhz)	Bands	Ext Ant Gain (dBi)	
1850-1919	n2	4	
824-849	n5	4	
698-716	n12	4	

Table 2. NR transmission (Continued)

Frequency (Mhz)	Bands	Ext Ant Gain (dBi)	
788-798	n14	4	
2305-2315	n30	1.05	
1710-1780	66	4	
3300-3550 3700-4200	n77	6	

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1

Get started

This chapter provides an overview of mobile router features, and instructions for how to set up your mobile router and connect to the Internet. The chapter covers the following topics:

- Meet your mobile router
- Set up your mobile router
- Recharge the battery
- Connect to the internet
- Replace a SIM card
- Home screen
- Powering off/resetting the device
- Security credentials
- Connect to the mobile router with tethering
- Customize the mobile router settings
- Log in to your mobile router web page

NOTE: The mobile router automatically checks for new software or firmware updates periodically. If an update becomes available, the mobile router displays an alert. You can also check for updates manually without receiving an alert.

Meet your mobile router

Figure 1. Mobile router dashboard

The mobile router comes with a USB-C charging cable.

The connectors include a USB Type-C connector, an RJ45 ethernet port, and two TS-9 external antenna connectors.

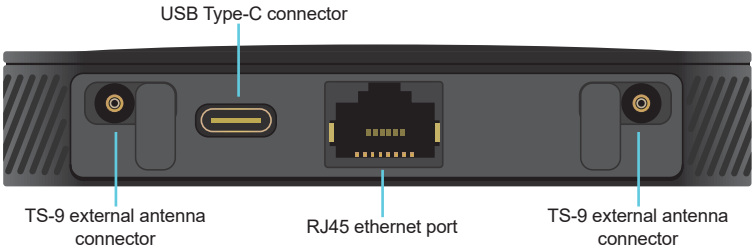
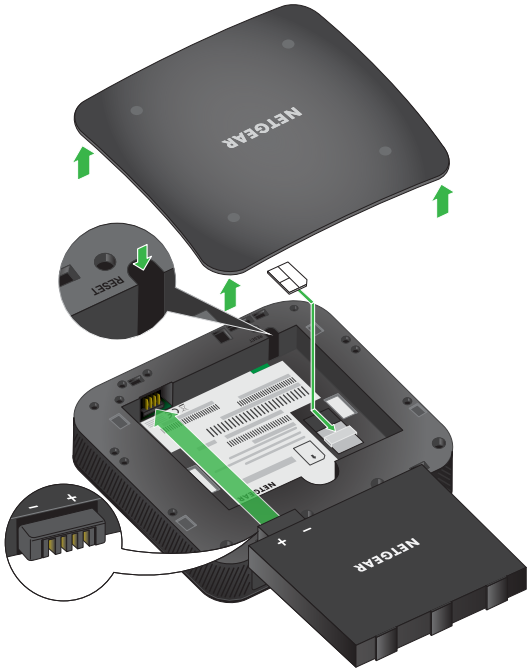


Figure 2. Mobile router connectors

Set up your mobile router

To set up your mobile router:

1. Insert the battery.



2. Install the back cover.
3. Firmly close the back cover.
4. Tap **Power** to power on the mobile router.
   The Home screen appears.

Familiarize yourself with its LCD screen, icons, buttons, and connectors.

Figure 3. Mobile router LCD and buttons

Also, familiarize yourself with the mobile router dashboard.

Recharge the battery

Your battery comes partially charged.

To recharge your battery:

1. Connect the USB-C charging cable to your mobile router.

2. Connect the other end of the cable to the USB port on your computer or to the USB charger.

Connect to the internet

Disposition: / Status:

The Lock screen and how to navigate from it needs to go somewhere. Later in this topic might be the best place to put it

When you turn on your mobile router, it automatically connects to the network in your area. Connect your device to the mobile router WiFi network to access the Internet.

To connect to the Internet:

1. Tap **Power** to turn on the mobile router.

   The device powers up and the Power Off/Restart menu appears.

2. On your laptop or WiFi device, open your WiFi network connection manager.
3. Connect your device to the router with the WiFi name and password.

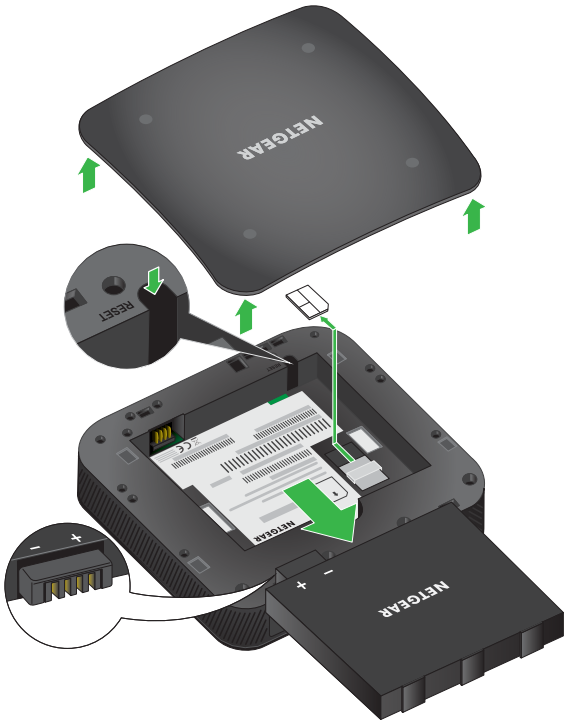
Replace a SIM card

In some circumstances you might need to replace the SIM card.

To replace a SIM card:

1. Remove the back cover by lifting the corners.

2. Remove the battery.



3. Slide out the SIM card.
4. Insert the replacement SIM card.
5. Insert the battery.

6. Install the back cover.

Home screen

You can use the home screen to view the mobile router's status, configure WiFi settings, view data usage details, and view system alerts.

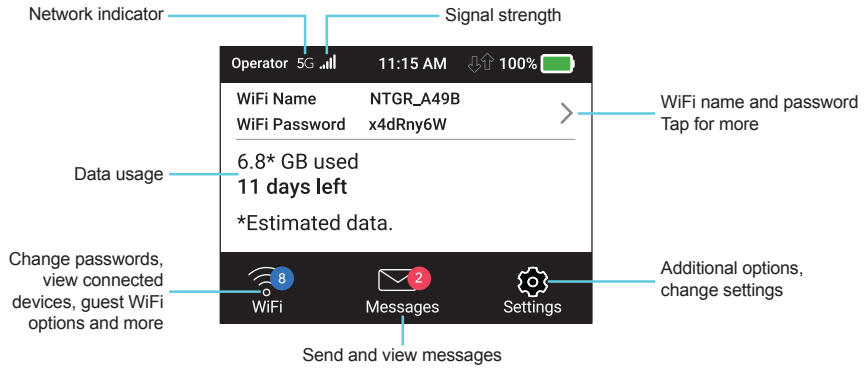


Figure 4. LCD screen display

NOTE: Deletion of message must be done on the mobile router Web UI.

Table 1. Icons

Icons	Description
	This indicates the strength of the mobile broadband network signal.
5G	Your 5G wireless device displays the following network indicator to let you know you are connected to the 5G network.
	This indicates the amount of charge in the battery.

Powering off/resetting the device

To power off or reset the device:

1. Hold down the **Power** button for 5 seconds.
   The Power Off/Reset menu appears and you are prompted to power off or reset the device.
2. Tap **Power Off** to power off the device, or choose **reset** to reset the device.

Security credentials

Three passwords are associated with the mobile router:

- **WiFi password**. Use this to connect your computer or WiFi device to your mobile router network. This character string is unique to your device. It displays on the main mobile router touch screen. If the screen is blank (a power-saving feature), press and quickly release the Power button. The default WiFi password is also printed on a label under the battery.
  For information about changing WiFi passwords, see Change WiFi encryption settings on page 37.

- **Web admin login password**. Use this to log in to the mobile router web page as an administrator. You must log in as an administrator to use certain features and to make changes to your mobile router settings. The default login password is printed on a label under the battery. The password should be changed after installation by the user, and can be 5–31 characters in length.

Connect to the mobile router with tethering

You can connect a computer to the mobile router using the USB-C cable instead of connecting with WiFi. This kind of cable connection is called tethering.

NOTE: The computer's operating system detects the Nighthawk M5 5G WiFi 6 Mobile Router the first time you use the USB-C cable to connect the computer to the mobile router.

To install drivers on computers running Windows:

1. Ensure that the mobile router is powered off.

2. Connect the mobile router to your computer using the USB cable.

The mobile router automatically powers on.

NOTE: Make sure that your computer has access to Internet when you first use the tethering feature because your computer might need to access the Internet in order to download the required software driver.

After the driver is installed, you can visit the mobile router web page to customize your mobile router's advanced settings. This is an optional step.

Customize the mobile router settings

You can personalize the mobile router and change its settings on the web page.

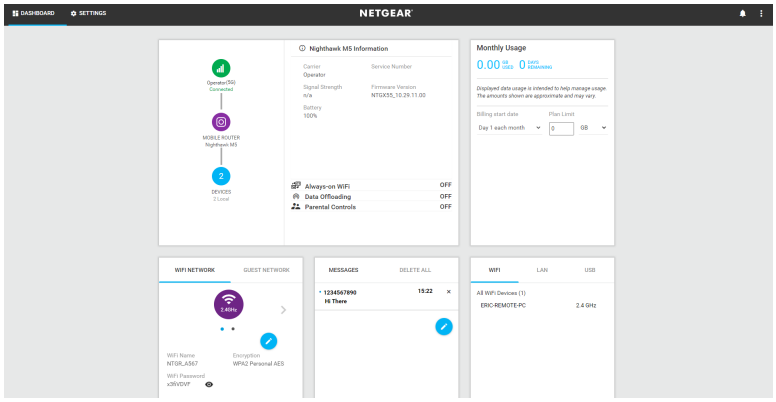
To log in to your mobile router web page:

1. From a computer or WiFi device that is connected to the mobile router, launch a web browser.
2. Enter **http://192.168.1.1**.

   The mobile router web page displays.

3. Enter the administrator login password.

The default password is printed on the product label. The password is case-sensitive.

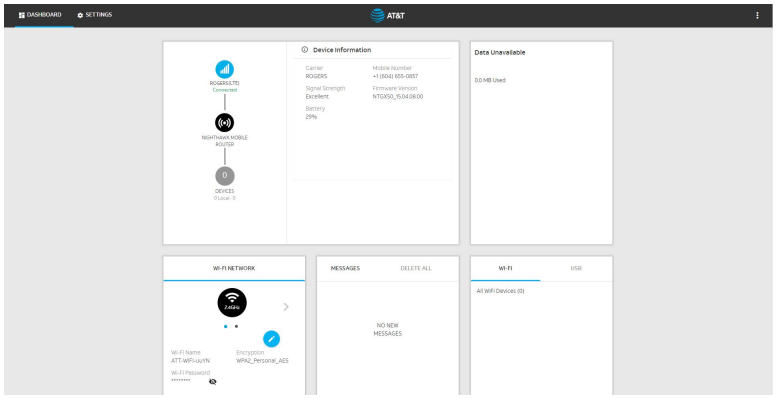


Log in to your mobile router web page

Your mobile router comes configured and ready to use as is. You can use the mobile router web page to manage advanced settings.

To log in to your mobile router web page:

1. From the computer or WiFi device that is connected to the mobile router, launch a web browser.
2. Enter **http://192.168.1.1**.
   The mobile router web page displays.
3. Enter the administrator login password.
   The default password is printed on the product label. The password is case-sensitive.



2

Use Your Mobile Router

This chapter explains how to use your mobile router. The chapter covers the following topics:

- View data usage on the mobile router web page
- View messages from the mobile router
- Send SMS messages from the mobile router
- View messages from the mobile router web page
- Send SMS messages from the mobile router web page
- Delete a message from the mobile router
- Delete a message from the mobile router web page
- View alerts from the mobile router
- View alerts from the mobile router web page
- Turn on dual-band WiFi from the mobile router web page
- Turn on dual-band WiFi from the mobile router
- Manage your broadband network connection
- Connect to WiFi
- Manage WiFi
- Manage WiFi security

View data usage on the mobile router web page

To view data usage information on the mobile router web page:

1. From a computer or WiFi device that is connected to the mobile router, launch a web browser.
2. Enter **http://192.168.1.1**.

   The mobile router web page displays.

3. Enter the administrator login password.

   The default password is printed on the product label. The password is case-sensitive.

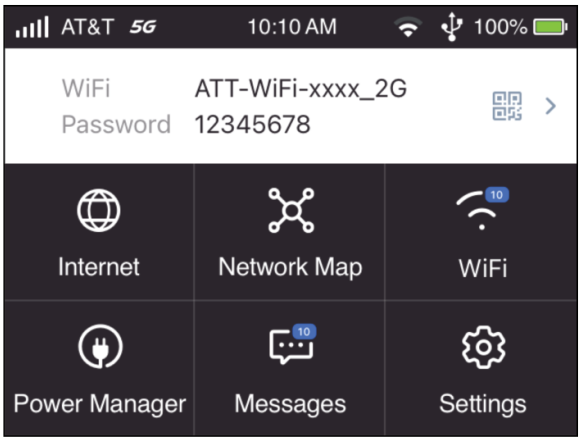
   The mobile router web page displays the data usage for the current billing cycle and for the current broadband session.

View messages from the mobile router

You can tell from your mobile router display if you have unviewed messages, and you can view them directly from there.

This router display indicates you have an unread message.

NOTE: Although you can view messages directly on the mobile router, use the mobile router's web page to delete them.



To view messages from the mobile router display:

1. Tap **Power** to wake the mobile router.
2. Tap **Messages**.
   The **Messages** screen displays.
3. Tap the message to read the full text.

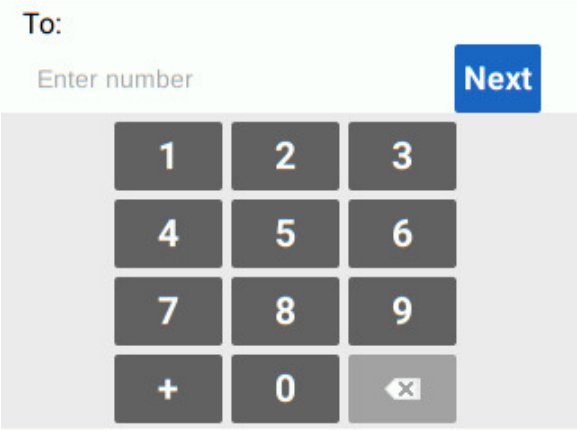
> **NOTE:** If you are logged in as an administrator, the **Messages** option on the side menu indicates unread network messages. You can view SMS messages from your network service provider on the mobile router web page.

Send SMS messages from the mobile router

You can send SMS messages from the mobile router.

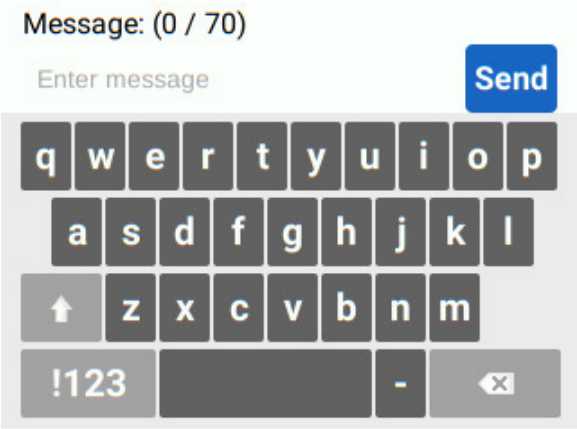
To send SMS messages from the mobile router:

1. Tap **Power** to wake the mobile router.
2. Tap **Messages**.
   The **Messages** screen displays and indicates if there are any SMS messages.
3. Tap **Compose**.
   A numeric keypad for for entering the phone number displays.

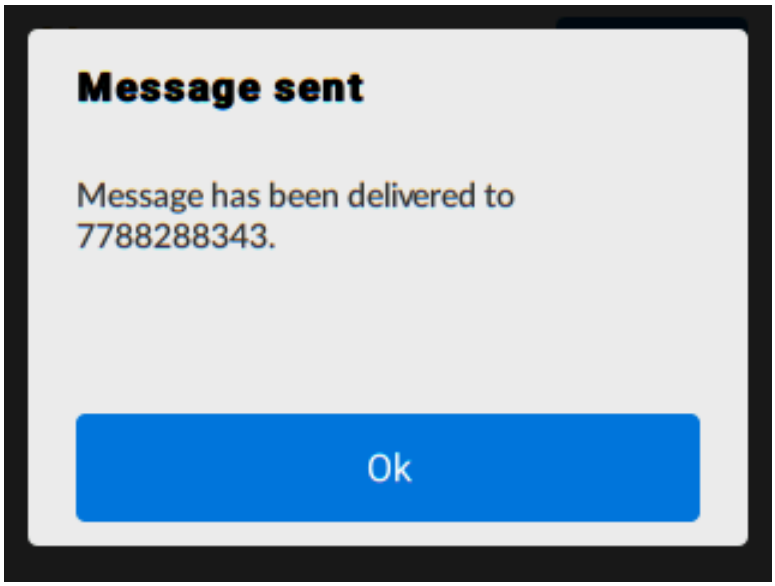


4. Use the keypad to type the phone number to which the message will be sent.
   As you enter digits, the phone number appears in the **To:** field.
5. Tap **Next**.

A keypad for entering the message appears.



6. Type a message and tap **Send**.
   The Message Sent message appears and indicates that the message was sent.



View messages from the mobile router web page

To view messages from the mobile router web page:

1. From a computer or WiFi device that is connected to the mobile router, launch a web browser.

2. Enter **http://192.168.1.1**.

   The mobile router web page displays.

3. Enter the administrator login password.

   The default password is printed on the product label. The password is case-sensitive.

   The home page displays.

4. Select **Messages**.

   A list of messages displays, showing the first portion of the text.

5. Click a message to read the full text.

Send SMS messages from the mobile router web page

You can can send SMS messages from the mobile web page.

To send an SMS message from the mobile router Web page:

1. From a computer or WiFi device that is connected to the mobile router, launch a web browser.
2. Enter **http://192.168.1.1**.

   The mobile router web page displays.

3. Enter the administrator login password.

   The default password is printed on the product label. The password is case-sensitive.

   The home page displays.

4. Tap the Pencil icon.

   The Messages page appears. Any new messages are shown.

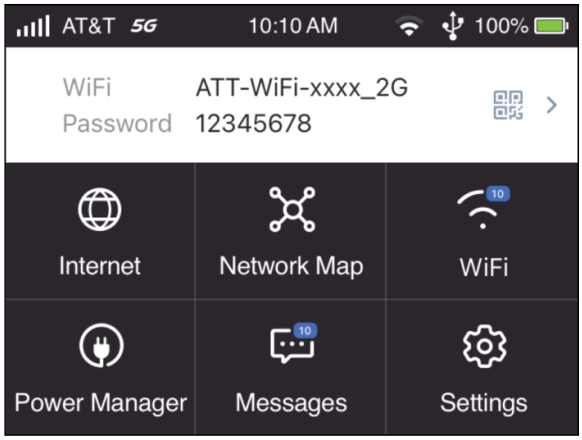
5. In the **Recipient Number** field, type the phone number to which to send the message.
6. In the message box, type the message you want to send.
7. Click the **Send** button.
   The SMS message is sent.

Delete a message from the mobile router

You can delete messages from your mobile router display.

To delete messages from the mobile router display:

1. Press **Power** to wake the mobile router.



2. Tap **Messages**.
   The **Messages** screen displays.
3. Select the message to delete.
4. Tap **Delete**.
   The message is deleted.

Delete a message from the mobile router web page

To delete a message from the mobile router web page:

1. From a computer or WiFi device that is connected to the mobile router, launch a web browser.
2. Enter **http://192.168.1.1**.

   The mobile router web page displays.
3. Enter the administrator login password.

   The default password is printed on the product label. The password is case-sensitive.

The home page displays.

4. Select **Messages**.

   A list of messages displays, showing the first portion of the text.

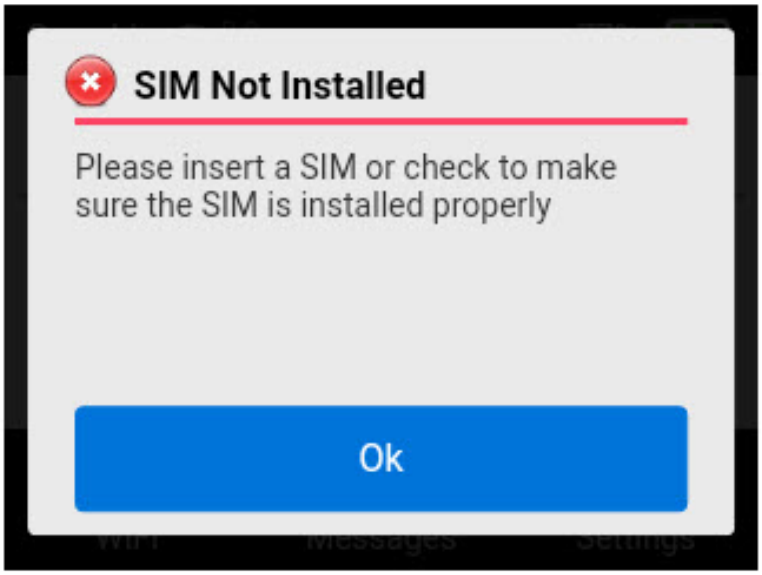
5. Select the message and click the **Delete** button.

   The message is deleted.

View alerts from the mobile router

When you unlock the device screen, the device displays any current alerts.

1. Unlock the device.
   Any current alerts are shown on the display. For example, if no SIM card is installed, the following alert appears:



2. Use the arrow keys to cycle through the alerts and view each alert.
   After you have viewed the alerts, the dashboard appears.

View alerts from the mobile router web page

Your mobile router displays alerts to advise you of device status changes. When there are outstanding alerts, the alerts displays on the screen. Alerts remain as long as the

issues that cause them are active. When the issues are resolved, the alerts are removed automatically.

To view alerts from the mobile router web page:

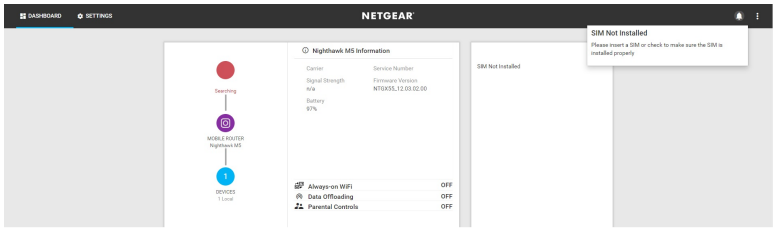
1. From a computer or WiFi device that is connected to the mobile router, launch a web browser.
2. Enter **http://192.168.1.1**.

   The mobile router web page displays.

3. Enter the administrator login password.

   The default password is printed on the product label. The password is case-sensitive.

   Any current alerts are shown on the display. For example, if no SIM card is installed, the following alert appears:



   Follow the instructions in each alert to address the conditions that caused it to display.

Turn on dual-band WiFi from the mobile router web page

The mobile router can broadcast WiFi signals in the 2.4 GHz and 5 GHz WiFi bands. Note that the overall throughput speed could decrease when WiFi dual-band is enabled.

To turn on dual-band WiFi from the mobile router web page:

1. From a computer or WiFi device that is connected to the mobile router, launch a web browser.
2. Enter **http://192.168.1.1**.

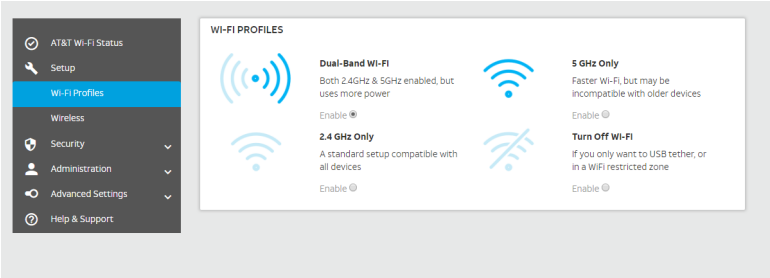
   The mobile router web page displays.

3. Enter the administrator login password.

The default password is printed on the product label. The password is case-sensitive.

The home page displays.

4. Select **WiFi > Options**.



5. Select **Dual-Band WiFi**.

   The Save and Cancel buttons display at the bottom of the page.

6. Click the **Save** button.

   A message displays telling you that to save this change, your device must restart WiFi connections.

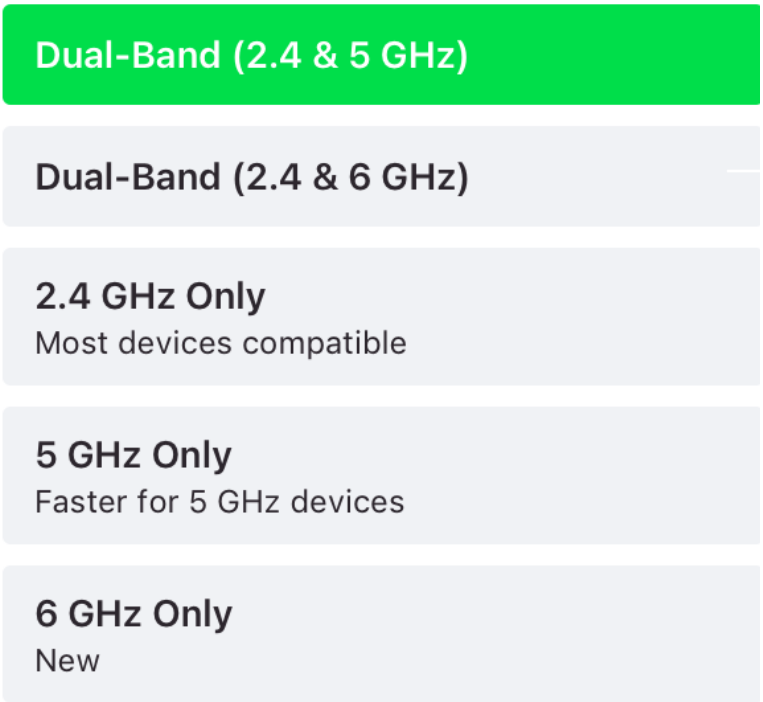
Turn on dual-band WiFi from the mobile router

The mobile router can broadcast WiFi signals in the 2.4 GHz and 5 GHz WiFi bands. Note that the overall throughput speed could decrease when WiFi dual-band is enabled.

To turn on dual-band WiFi from the mobile router web page:

1. Tap **Power** to wake the device.
2. Tap **WiFi**.
   The WiFi screen displays.
3. Tap **Band**.

The Band screen displays.



4. Tap **Dual-Band WiFi**.
5. Tap **OK**.

   Your settings are saved.

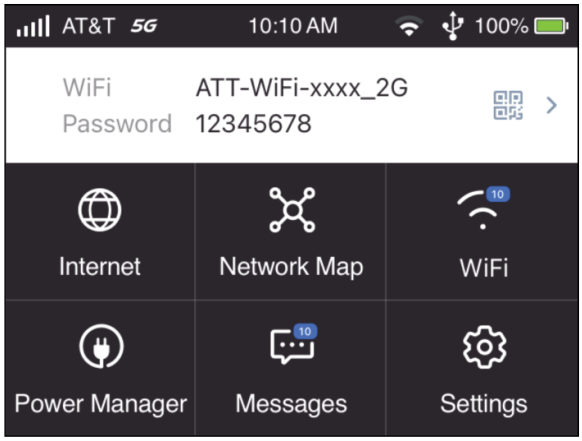
Manage your broadband network connection

You can view the mobile broadband network status, turn domestic data on and off, and turn international roaming on and off.

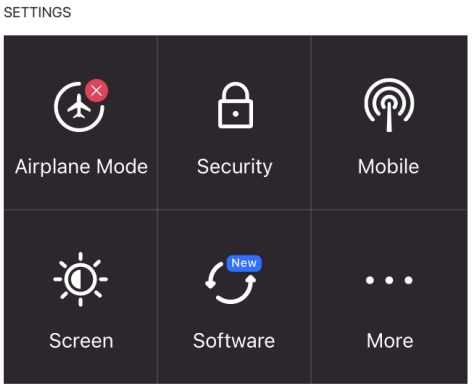
View mobile broadband network status from the mobile router

To view network status from the mobile router:

1. To wake the device, tap **Power**.



2. Tap **Settings**.



3. Tap **Mobile**
4. Tap **Band**.
   The Broadband screen displays the network status.
5. To view details about the network status, tap **Status**.
   The Network Status screen displays.

View mobile broadband network status from the mobile router web page

To view network status from the mobile router web page:

1. From a computer or WiFi device that is connected to the mobile router, launch a web browser.
2. Enter **http://192.168.1.1**.

   The mobile router web page displays.
3. Enter the administrator login password.

   The default password is printed on the product label. The password is case-sensitive.

   The home page displays.
4. Select **Settings > Network**.

   The Status page displays.
5. View the Network Status section.

Turn domestic data off from the mobile router web page

NOTE: You can turn domestic data off, but not on from the web page.

To turn domestic data off from the mobile router:

1. From a computer or WiFi device that is connected to the mobile router, launch a web browser.
2. Enter **http://192.168.1.1**.

   The mobile router web page displays.
3. Enter the administrator login password.

   The default password is printed on the product label. The password is case-sensitive.

   The home page displays.
4. Select **Settings > Advanced Settings > Cellular**.
   The preferences page displays.

5. Uncheck the **Data** check box.

   The Save and Cancel buttons display at the bottom of the page.

6. Click the **Save** button.

   Your settings are saved.

Turn international roaming on and off from the mobile router web page

Before you turn on international roaming, make sure that you are aware of any extra charges for data that you might incur.

To turn international roaming on and off:

1. From a computer or WiFi device that is connected to the mobile router, launch a web browser.
2. Enter **http://192.168.1.1**.

   The mobile router web page displays.

3. Enter the administrator login password.

   The default password is printed on the product label. The password is case-sensitive.

   The home page displays.

4. Select **Settings > Advanced Settings > Cellular**.
   The preferences page displays.
5. Uncheck the **Roaming Data** check box.

   The Save and Cancel buttons display at the bottom of the page.

6. Select the **Save** button.

   Your settings are saved.

Connect to WiFi

You can connect up to 32 devices (such as smartphones, laptops, tablets, digital cameras, printers, gaming consoles, and digital picture frames) to your mobile router network.

For information about setting connections for WiFi networks, see View Mobile Broadband Network Status From the Mobile Router on page ?.

To connect using the WiFi password:

1. On the WiFi device, view the list of available WiFi networks.
2. Connect to the network that corresponds to your mobile router network as displayed on the LCD screen.
3. When prompted, enter the WiFi password for your mobile router network.

   The WiFi password displays on the mobile router LCD screen. If the screen is turned off, press and quickly release the **Power** button to wake the mobile router.

Manage WiFi

Advanced users can set up the WiFi radio of the mobile router to meet their WiFi needs by customizing settings on the mobile router web page.

On the mobile router web page, the following WiFi profiles are available:

- **Default**, **Dual-Band**. Supports two separate WiFi networks simultaneously using both a 2.4- and 5-GHz frequency band.
- **2.4 GHz only**. Share your main WiFi with 2.4 GHz devices that you trust.
- **5 GHz Only**. Share your main WiFi with 5 GHz devices that you trust
- **6 GHz Only**. Share your main WiFi with 6 GHz devices that you trust
- **Turn Off WiFi**. Turn off WiFi.

By default, Dual-Band is enabled. If your place of business does not allow WiFi or for any other reason you want to disable WiFi and use the mobile router only in tethered mode, the mobile router gives you that option.

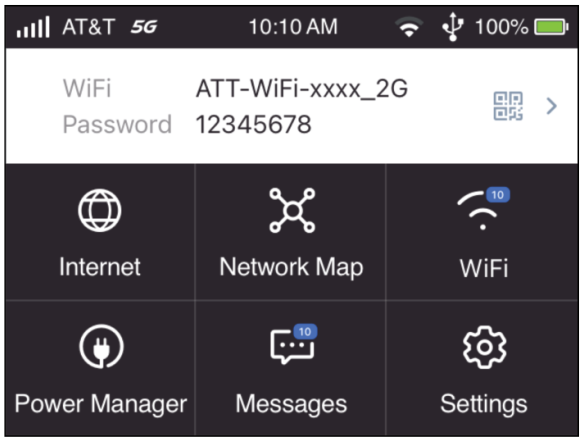
NOTE: Whenever you change WiFi settings, any devices connected to the mobile router are disconnected and might need to be reconnected.

Turn on 5 GHz WiFi from the mobile router

When all of your devices support 5 GHz WiFi, use 5 GHz WiFi for faster downloads.

To turn 5 GHz WiFi on and off from the mobile router:

1. Tap **Power** to wake the device.



2. Tap **WiFi**.
   The WiFi screen displays.
3. Tap **Band**.
   The WiFi Band screen displays.
4. Tap **5 GHz**.
   A message displays to tell you that changing the WiFi info temporarily causes connectivity loss.
5. Tap **OK**.
   Your settings are saved.

Turn on 5 GHz WiFi from the mobile router web page

When all of your devices support 5 GHz WiFi, use 5 GHz WiFi for faster downloads.

To turn on 5 GHz WiFi from the mobile router web page:

1. From a computer or WiFi device that is connected to the mobile router, launch a web browser.
2. Enter **http://192.168.1.1**.

   The mobile router web page displays.
3. Enter the administrator login password.

   The default password is printed on the product label. The password is case-sensitive.

   The home page displays.

4. Select **Settings > Setup >WiFi Profiles** .
   The WiFi Options page displays.
5. Select **5GHz Only**.

   The Save and Cancel buttons display at the bottom of the page.
6. Click the **Apply** button.

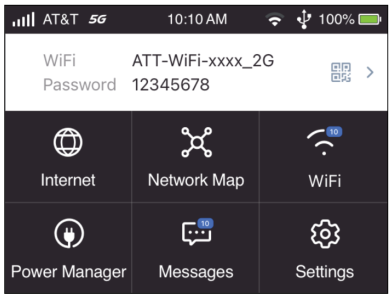
   A message displays telling you that to save this change, your device must restart WiFi connections.
7. Click the **Continue** button.

   Your settings are saved.

Specify WiFi settings from the mobile router

To specify the WiFi settings from the mobile router:

1. Tap **Power** to wake the device.



2. To turn the WiFi signal on or off:
   a. Tap **WiFi**.
      The WiFi screen displays.
   b. Tap **Options**.
      The WiFi Options screen displays.
   c. Tap the **WiFi** field.
   d. To toggle the WiFi radio, tap **WiFi On/Off**.
      A message displays to tell you that changing the WiFi info temporarily causes connectivity loss.
   e. Tap **OK**.
      Your settings are saved.

3. To power down the WiFi radio after a set period of inactivity:
   a. Tap **WiFi** .
      The WiFi Options screen displays.
   b. Tap **Options**.
      The WiFi Options screen displays.
   c. Tap the **WiFi Standby** field to modify the standby timer.
      The WiFi Standby screen displays.
   d. Tap the setting for the selection that you want.
      The Changes Saved screen appears.
   e. Tap **OK** to continue.
      Your settings are saved.

   Use the mobile router web page to set up a profile that is more detailed than the basic profiles offered on the mobile router.

Change WiFi settings from the mobile router web page

To select a WiFi profile or create a custom profile on the mobile router web page:

1. From a computer or WiFi device that is connected to the mobile router, launch a web browser.
2. Enter **http://192.168.1.1**.

   The mobile router web page displays.
3. Enter the administrator login password.

   The default password is printed on the product label. The password is case-sensitive.

   The home page displays.
4. Select **Settings > Setup > Wireless**.
5. Click the WiFi network to select it.
6. To allow the WiFi information to be displayed on the mobile router home screen, leave the WiFi Info on Home check box selected.
7. Click the **Apply** button.

   A message displays to tell you that changing the WiFi info will temporarily cause connectivity loss.

Your settings are saved.

Manage WiFi security

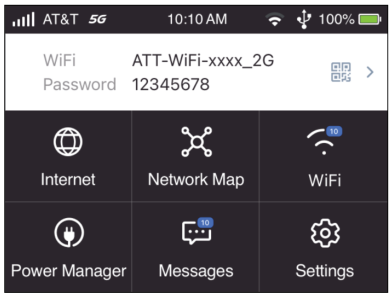
NOTE: When you change the WiFi settings, the mobile router resets. Any devices connected to the mobile router are disconnected when the mobile router resets.

Change WiFi network name and password from the mobile router

The WiFi network name identifies your WiFi network and is visible to other WiFi-enabled devices.

To change the network name and password from the mobile router.

1. Press the **Power** button to wake the device.



2. Tap **WiFi**.
   The WiFi screen displays.
3. Tap **Main WiFi**.
   The settings screen for the network displays.
4. Tap the **Pencil** (Edit) icon beside the name or password.
   A message displays telling you that currently connected devices must re-authenticate to the network with the updated information.
5. Tap **Continue**.
   The message closes.
6. Enter the new WiFi name and password.
7. Tap **Done**.
   Your settings are saved.

Change WiFi network names and passwords from the mobile router web page

The WiFi network name identifies your WiFi network and is visible to other WiFi-enabled devices.

To change network name and password from the mobile router web page:

1. From a computer or WiFi device that is connected to the mobile router, launch a web browser.
2. Enter **http://192.168.1.1**.

   The mobile router web page displays.
3. Enter the administrator login password.

   The default password is printed on the product label. The password is case-sensitive.

   The home page displays.
4. Select **Settings > Setup > Wireless**.
   The WiFi connect page displays.
5. Change the **WiFi Name** and **WiFi Password** fields as desired.
6. Click the **Continue** button.

   A message displays telling you that to save this change, your device must restart WiFi connections.
7. Click the **Continue** button.

   Your settings are saved.

   All devices that were connected must reconnect with the new name and password.

Change WiFi encryption settings

For information about WiFi security, see Security credentials on page 16.

To change the type of security used for main WiFi:

1. From a computer or WiFi device that is connected to the mobile router, launch a web browser.
2. Enter **http://192.168.1.1**.

The mobile router web page displays.

3. Enter the administrator login password.

   The default password is printed on the product label. The password is case-sensitive.

   The home page displays.

4. Select **Settings > Setup > Wireless**.
   The wireless settings display.

5. In the Encryption menu for main WiFi or guest WiFi, select a security option:

   - **WPA2 Personal AES**. Strong security supported by newer WiFi devices, the default.
   - **None**. Anyone can access your WiFi network without a password and you are responsible for charges incurred. Best practice is not to select this option.

   The Apply and Discard buttons display at the bottom of the page.

6. Click **Apply and Discard**.
   A message displays telling you that to save this change, your device must restart WiFi connections.

7. Click **Continue**.
   Your settings are saved.

8. Reconnect your WiFi devices, if necessary, using the new WiFi credentials.

3

Manage Security

For information about WiFi security settings, see Manage WiFi security on page 36.

The chapter covers the following topics:

- Change the mobile router web page login settings
- View connected devices from the mobile router web page
- Activate SIM security

Change the mobile router web page login settings

You can change the host name for the mobile router web page. You can also change the password to access the mobile router web page.

To change the login settings for the mobile router web page:

1. From a computer or WiFi device that is connected to the mobile router, launch a web browser.
2. Enter **http://192.168.1.1**.

   The mobile router web page displays.
3. Enter the administrator login password.

   The default password is printed on the product label. The password is case-sensitive.

   The home page displays.
4. Select **Settings > Administration > Set Password**.
   The password settings are displayed.
5. In the **Set Password** field, change the password used to log in as an administrator.

   Best practice is to set a more secure password.

   Enter a maximum of 31 characters.
6. Click the **Apply** button.

   Your settings are saved.

View connected devices from the mobile router web page

To view the connected devices from the mobile router web page:

1. From a computer or WiFi device that is connected to the mobile router, launch a web browser.

2. Enter **http://192.168.1.1:8080/**.

   The mobile router web page displays.

3. Enter the administrator login password.

   The default password is **attadmin**. The password is case-sensitive.

   The home page displays.

Activate SIM security

You can create another level of security by configuring a PIN that you must enter before you can manage the network connection or view SMS messages.

To activate SIM security:

1. From a computer or WiFi device that is connected to the mobile router, launch a web browser.
2. Enter **http://192.168.1.1**.

   The mobile router web page displays.

3. Enter the administrator login password.

   The default password is printed on the product label. The password is case-sensitive.

   The home page displays.

4. Select **Settings > Security > SIM Security**.

   The SIM Security page displays.

5. Click the **Activate** button.
6. Enter your PIN and click the **Apply** button.

   If you enter an incorrect PIN three times, the SIM is blocked. If the SIM is blocked, contact your network service provider to receive a PUK number to unblock the SIM.

4

Maintain Your Mobile Router

The chapter covers the following topics:

- Extend battery life
- View details about your device from the mobile router
- View details about your device from the mobile router web page
- Add and select access point names (APN)
- Enable DMZ
- Update mobile router software and firmware

Extend battery life

The mobile router, by default, is configured to optimize battery life. The following factors affect battery life:

- Screen brightness.
- Standby time.
- Data throughput.
- Mobile broadband signal strength (the better the signal, the longer the battery life).
- WiFi range.

To extend the battery life, use any of the following methods:

- Adjust WiFi settings.
- Adjust display settings.
- Use tethered USB.

Adjust WiFi settings to optimize battery life

Set the standby timer to a shorter period to minimize the wait time when no devices are connected to either WiFi network before going into standby mode (the WiFi radios turn off).

NOTE: When you change the WiFi settings, any devices connected to the mobile router are disconnected and might need to be reconnected.

You can set the following WiFi options to optimize battery life:

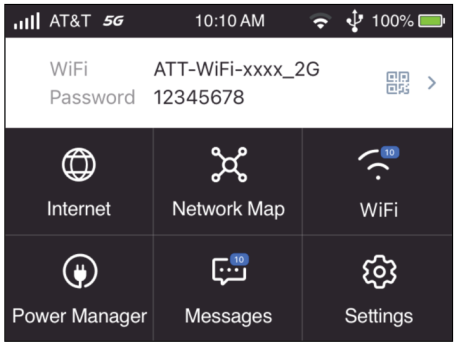
- Adjust the display settings. See Set the display to increase battery life from the mobile router web page on page 45.
- Set the WiFi standby to 5 minutes.

Set the display to increase battery life from the mobile router

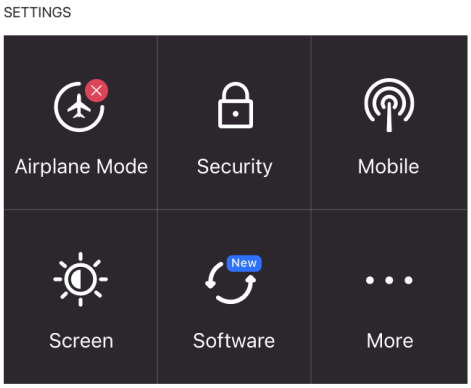
Dim the screen to reduce the LCD screen's brightness level. Set the screen time-out to a shorter period to reduce the amount of time the mobile router waits without the LCD screen being touched before the screen turns blank.

To change the screen brightness from the mobile router:

1. Tap **Power** to wake the device.



2. Tap **Settings**.



3. Tap **Screen**.
   The settings screen for the network displays.
4. Slide the **Screen Brightness** slider to the brightness that you want.
   Your settings are saved.
5. Tap **Screen Timeout**.
   The Screen Timeout screen displays.
6. Tap the field for the selection that you want.
   Your settings are saved.

Set the display to increase battery life from the mobile router web page

Dim the screen to reduce the LCD screen's brightness level. Set the screen time-out to a shorter period to reduce the amount of time the mobile router waits without the LCD screen being touched before the screen turns blank.

To adjust display settings to increase battery life from the mobile router web page:

1. From a computer or WiFi device that is connected to the mobile router, launch a web browser.
2. Enter **http://192.168.1.1**.

   The mobile router web page displays.
3. Enter the administrator login password.

   The default password is printed on the product label. The password is case-sensitive.

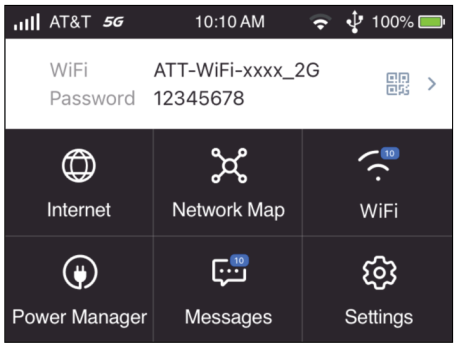
   The home page displays.
4. Select **Settings > Advanced Settings > Device**.
   The device settings page opens.
5. Adjust any of these settings:
   - **Screen Brightness** . From the menu, select the screen brightness level.
   - **Screen Timeout** . From the menu, select a shorter time period.
6. Click the **Accept** button.

   Your settings are saved.

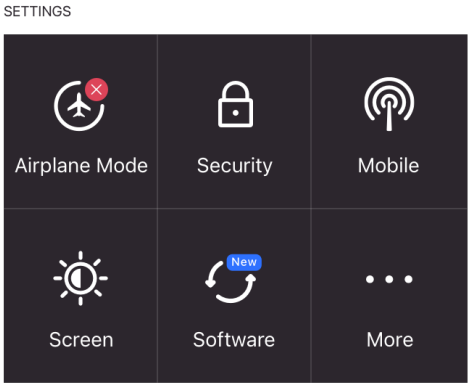
View details about your device from the mobile router

You can view details about your device such as the model number, software version, and IMEI (International Mobile Station Equipment Identity).

1. Tap **Power** to wake the device.



2. Tap **Settings**.



3. Tap **More**.
   The settings screen for the network displays.
4. Tap **More**.
   The additional settings screen displays.
5. Tap **Device Information**.
   The Device Information screen displays.

View details about your device from the mobile router web page

You can view details about your device such as the model number, software version, and IMEI (International Mobile Station Equipment Identity).

To view details about your device from the mobile router web page:

1. From a computer or WiFi device that is connected to the mobile router, launch a web browser.
2. Enter **http://192.168.1.1**.
   The mobile router web page displays.
3. Enter the administrator login password.

   The default password is printed on the product label. The password is case-sensitive.

   The home page displays.
4. Select **Settings > Account**.
   The About page displays details for your mobile router.

Add and select access point names (APN)

Your mobile router comes preconfigured with the access point name (APN) for your network service provider. You can add additional APNs and select among the configured APN for use by the mobile router. The mobile router checks the APN to determine the type of network connection to establish.

Add an APN for another network

To add an APN for another network:

1. From a computer or WiFi device that is connected to the mobile router, launch a web browser.
2. Enter **http://192.168.1.1**.
   The mobile router web page displays.
3. Enter the administrator login password.

   The default password is printed on the product label. The password is case-sensitive.

The home page displays.

4. Select **Settings > Advanced Settings > Cellular**.
   The Add APN screen displays.
5. Click the **Add** button.
   The APN page displays.
6. Specify the APN name.
   The APN name is a label for display in the UI.
7. Specify the APN
   This step specifies the APN as defined by the carrier
8. Change the PDP (data protocol), if necessary:
   - **IPV4**
   - **IPV6**
   - **IPV4V6**
9. Change the PDP roaming protocol, if necessary:
   - **None**
   - **IPV4**
   - **IPV6**
   - **IPV4V6**

   NOTE: PDP roaming protocol is the IP protocol used while you are roaming (for example when you are traveling and the roaming network does not support IPv6).

10. Select the network authentication mode:
    - **None**
    - **PAP**
    - **CHAP**
    - **PAP or CHAP**
11. Enter the name and password, if they are required for the network.
12. Click the **ADD** button.

    The entry is added to the table.

Select an APN to use

To select an APN to use:

1. From a computer or WiFi device that is connected to the mobile router, launch a web browser.
2. Enter **http://192.168.1.1**.
   The mobile router web page displays.
3. Enter the administrator login password.

   The default password is printed on the product label. The password is case-sensitive.

   The home page displays.
4. Select **Settings > Advanced Settings > Cellular**.
   The APN page displays.
5. Select the **Active** radio button next to the APN entry.

   The APN is selected.

Remove an APN entry

To remove an APN entry:

1. From a computer or WiFi device that is connected to the mobile router, launch a web browser.
2. Enter **http://192.168.1.1**.
   The mobile router web page displays.
3. Enter the administrator login password.

   The default password is printed on the product label. The password is case-sensitive.

   The home page displays.
4. Select **Settings > Advanced Settings > Cellular**.
   The APN page displays.
5. Select the box to the left of the APN.
6. Click the **Delete** button.

   The APN is removed.

Enable DMZ

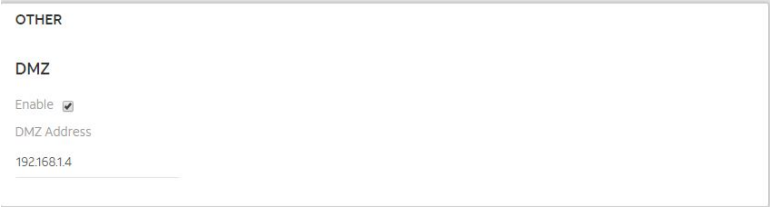
In a demilitarized zone (DMZ) network configuration, a computer runs outside the firewall in the DMZ. This computer intercepts incoming Internet traffic, providing an extra layer of protection for the rest of the network, and sending all incoming data to a particular IP address.

To enable the DMZ and designate a computer to screen incoming traffic:

1. From a computer or WiFi device that is connected to the mobile router, launch a web browser.
2. Enter **http://192.168.1.1**.
   The mobile router web page displays.
3. Enter the administrator login password.

   The default password is printed on the product label. The password is case-sensitive.

   The home page displays.
4. Select **Settings > Advanced Settings > Other**.
   The mobile router page displays.
5. Scroll down to display the DMZ section.



6. Check the **Enable** check box.
7. In the **DMZ Address** field, enter the IP address of the computer to which you want all data sent.
   If the mobile router is tethered using a USB cable, this address is 192.168.1.4. If the mobile router is connected using WiFi, the first WiFi client's IP address is usually 192.168.1.XX.
8. Click the **Apply** button.

   Your settings are saved.

Update mobile router software and firmware

The mobile router automatically checks for new software or firmware updates periodically. If an update becomes available, the mobile router displays an alert. You can also check for updates manually without receiving an alert.

Update mobile router software and firmware in response to an Update Available alert

To update the mobile router software or firmware in response to an Update Available alert:

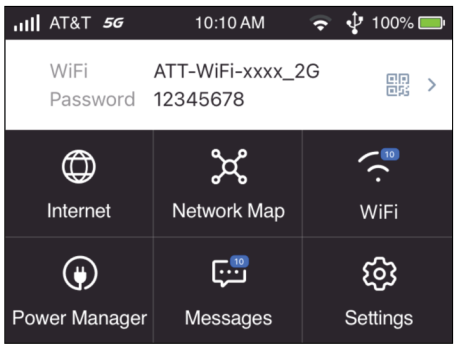
1. To wake the device, tap **Power**.
   The home screen displays and shows the alert.
2. Tap **Install/Update**.

   The update process starts.

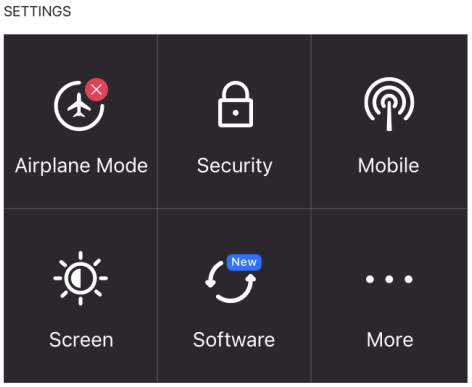
   After the update install completes, the mobile router reboots.

Check for software updates from the mobile router

1. Tap **Power** to wake the device.



2. Tap **Settings**.



3. Tap the **Software** button.
   The Software Update screen displays.
4. Tap the **Check for updates now** button.
   The screen refreshes showing any available update.
5. Do one of the following:
   - If an upgrade is available and you want to install it, tap the **Update now** button to install the update.
   - To postpone the update, tap **Postpone**.

   If you tap Update now, the update proceeds.

   If you tap **Postpone** a message appears indicating the update will be postponed for 4 hours. You can then click **OK** to accept the postponed update.

   When the wait period is complete, after you are prompted to continue the update, tap **Continue Update**.

   If the battery is low, a message appears indicating that the battery is low.
6. To continue, connect the device to the charge and tap **OK**.
   After the update install completes, the mobile router reboots.

5

Frequently Asked Questions

This chapter provides answers to possible questions about your mobile router:

- Connect and disconnect devices and access the Internet
- General Questions

Connect and disconnect devices and access the Internet

Review these topics for answers to questions about connecting and disconnecting devices and accessing the Internet.

What do I do if I can't connect a device to the mobile router?

If you are experiencing problems connecting to the mobile router, try the following suggestions:

- Turn off your mobile router and take the battery out, wait 10 seconds, put the battery back in, and turn your mobile router on.
- Restart your computer or Wifi device.
- Turn off or temporarily disable any security programs or firewalls.
- If possible, try using another computer or WiFi device to connect to your mobile router. If you can, then the problem is with the device that cannot connect, not the mobile router.

What do I do if I can't access the Internet?

If you are connected to the mobile router but cannot connect to the Internet, try the following suggestions:

- Check the display status on the mobile router's LCD screen.
- Make sure that network coverage is available in your area.
- Make sure that your micro SIM card is active and enabled with data services.
- Wait one to two minutes for the mobile router to initialize.
- Check the device information screen to make sure the SIM information is displayed (to ensure the MHS sees the SIM).
- Confirm that your account is activated and that no other Internet connections are active.
- Switch your mobile router off and on and restart your computer or WiFi device.

How do I disconnect from the mobile broadband network?

Turning off domestic data and international roaming disconnects your mobile router from the mobile broadband network. For more information, see Turn domestic data off from the mobile router web page on page 30.

How do I find out how many devices are connected to my mobile hotspot's WiFi networks?

The number next to the **WiFi** button on the mobile router's LCD home screen is the number of users (or devices) connected to your WiFi network. When you log in to the mobile router web page, the number of connected devices displays on the home page.

What do I do if the No Signal icon displays?

If the No Signal icon (⊘) displays, make sure that you are in your network service provider's coverage area.

Why can't my device access the mobile router web page when connected to a VPN?

To directly access the mobile router web page hosted on the device, enter the address **http://192.168.1.1** in your browser.

Why can't my mobile router connect to a computer running Windows Vista?

A known issue exists whereby computers running Microsoft Windows Vista cannot obtain an IP address from certain routers. More information and a fix are available at http://support.microsoft.com/kb/928233, or visit the Microsoft support website and search for knowledge base article 928233.

What do I do if my mobile router doesn't connect to my service provider's network?

If your mobile router does not connect to your service provider's mobile broadband network, try the following suggestions:

- Make sure that your micro SIM account is active. To check micro SIM status, contact your wireless service provider.
- If you use a prepaid micro SIM card, make sure that the account balance is positive.
- If your mobile router still does not connect, you might need to create or update the default connection profile.

To check the default connection profile settings:

1. From a computer or WiFi device that is connected to the mobile router, launch a web browser.
2. Enter **http://192.168.1.1**.

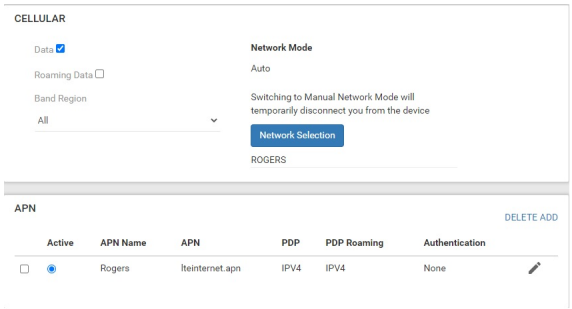
   The mobile router web page displays.

3. Enter the mobile router password.

   The default password is printed on the product label. The password is case-sensitive.

   The home page displays.

4. Select **Settings > Advanced Settings > Cellular**.



5. Review ISP settings.

How do I go back to the mobile hotspot web page?

To view the mobile router web page:

1. From a computer or WiFi device that is connected to the mobile router, launch a web browser.
2. Enter **http://192.168.1.1**.

   The mobile router web page displays.

3. Enter the administrator login password.

   The default password is printed on the product label. The password is case-sensitive.

   The mobile router web page displays.

What do I do if I forget my admin login password?

The default admin login password is printed on the product label, and the mobile router web page URL is **http://192.168.1.1**.

If you changed the admin login password and can't remember the password that you created, you must reset the mobile router back to factory defaults. See Reset the mobile router on page 63.

General Questions

Review these topics for answers to general questions about the mobile router.

Why isn't my battery charging?

If you are in a low-coverage area, are transferring a lot of data, or left the mobile router in a hot location, the internal temperature of the mobile router can rise above 45°C. In these conditions, the battery cannot be charged due to safety limits with lithium-ion battery technology.

Check to ensure that the USB cable and the AC wall charger are connected securely and are working correctly.

If the device is left charging for over seven consecutive days, the device automatically enters a battery longevity mode to enhance the life of the battery. During this state, the device stops charging and allows the battery level to drop to and maintain at

approximately 75 percent. The next time the device is plugged into a charger, it resumes charging.

Why is the Signal Strength indicator always low?

Your mobile router's reception is poor. Try moving it to a location with a clear view of the sky (for example, near a window).

Why is the download or upload speed slow?

Data transfer speed depends on signal strength and interfering radio sources like electrical generators or other mobile router WiFi devices. Review the following possibilities:

- Check your signal strength and network type (for example, 5G is generally faster than 4G).
- Check WiFi interference by powering the mobile router off and on to find a better WiFi channel.
- Change the WiFi band from 2.4 GHz to 5 GHz.

The LCD screen is not lit. How do I know if the mobile router is still powered on?

The LCD screen dims to save energy. The LED continues to blink slowly to indicate that the mobile router is still powered on. To wake the mobile router, tap **Power**.

How do I find my computer's IP address?

The steps for finding your computer's IP address depend on the operating system. If your device runs an operating system not listed here, see the appropriate operating system documentation.

Find the IP address on a Windows 10 device

To find the IP address on a Windows 7 or Windows 10 device:

1. Open the command prompt window:
   a. Select **Start > Run**.
   b. Enter **cmd** or **command** and click the **OK** button.
2. At the command prompt, enter **ipconfig** and press **Enter**.
3. Write down the IP address for the entry that relates to the WiFi network connection.

The IP address might be listed under IPv4 Address or something similar.

Find the IP address on a Mac OS X device

To find the IP address on a Mac OS X device:

1. From the Apple menu, select **System Preferences > Network**.
2. Select the WiFi adapter.

   The IP address is displayed in the right pane.

Find the IP address on devices running other operating systems

To find the IP address on devices running other operating systems:

Refer to the user documentation for your operating system or computer.

How do I find a device's MAC address?

You must know the MAC address for a device when you are doing the following:

- Assigning an IP address based on a MAC address (when using DHCP)
- Allowing or denying devices access to your WiFi network (MAC filtering)

Tip: To display a list of connected devices, including the MAC address of each device, go to the mobile router web page and log in as an administrator. The connected devices list appears on the left side of the home page. Click the device links to display IP and MAC addresses.

The steps for finding a device's MAC address depend on the operating system. If your device runs an operating system not listed in the following procedures, see the appropriate operating system documentation.

Find the MAC address on a Windows 10 device

To find the MAC address on a Windows 10 device:

1. Open the command prompt window:
   a. Select **Start > Run**.
   b. Enter **cmd** or **command** and click the **OK** button.
2. At the command prompt, enter **ipconfig /all** and press **Enter**.
3. Write down the physical address for the entry that relates to the WiFi network connection.

It appears as a series of numbers and letters. This is the MAC address of your WiFi adapter.

Find the MAC address on a Mac OS X device

To find the MAC address on a Mac OS X device:

1. From the Apple menu, select **System Preferences > Network**.
2. Select the WiFi adapter that is connecting to the routing hardware.
3. Select **Advanced**.
4. Select **Ethernet**.

   The Ethernet ID is displayed. This is the same as the MAC address.

What do I do if the WiFi network name doesn't appear in the list of networks?

If you do not see the mobile router's WiFi networks from your WiFi-enabled device, try these suggestions:

- Refresh the list of networks.
- If the LCD screen is dark, the WiFi radio might be asleep. Tap **Power** to wake the mobile router.
- Check the WiFi band settings and consider using the 2.4 GHz band for increased compatibility with client devices.

6

Troubleshooting

This chapter provides suggestions for troubleshooting problems that might arise when you are using your mobile router. The chapter covers the following topics:

- View alerts
- Reset the mobile router

View alerts

Your mobile router displays alerts to advise you of device status changes. See View messages from the mobile router web page on page 22.

SIM Not Installed

Ensure that the micro SIM card is installed correctly. For information about replacing a SIM, see Replace a SIM card on page 13.

SIM Error – Check SIM

Ensure that your network service provider's micro SIM card is inserted in the mobile router. If a problem still exists, contact customer service. The micro SIM card might be damaged and need replacing.

SIM Locked

You can unlock the SIM.

To unlock the micro SIM card from the mobile router web page:

1. Contact customer service for the PIN to unlock the micro SIM card.
2. From a computer or WiFi device that is connected to the mobile router, launch a web browser.
3. Enter **http://192.168.1.1**.

   The mobile router web page displays.

4. Enter the administrator login password.

   The default password is printed on the product label. The password is case-sensitive.

   The home page displays.

5. Enter the micro SIM PIN when prompted.
6. Click the **Save** button.

   Your settings are saved.

Temperature-related alerts

The mobile router is designed to work over a wide temperature range (for more information, see Environmental Specifications on page ?.). The mobile router shuts down automatically if it goes out of the supported temperature range.

Move the device to an area where the temperature is more suitable and, if the mobile router is too warm, make sure that the area is well ventilated and air can circulate around the device.

NOTE: The battery might not recharge if the mobile router is outside the operating temperature range.

Reset the mobile router

You can reset the mobile router to the factory settings. This is useful if you forgot your admin login password for the mobile router web page.

If you reset the mobile router, all of your customizations are lost. If you want to keep them, save them before doing the reset and restore them afterward. See Back Up and Restore Mobile Router Settings on page ?.

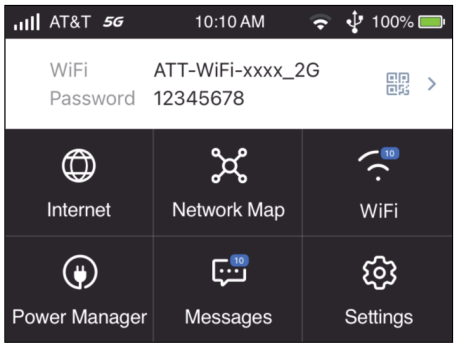
NOTE: When you reset the mobile router, any currently connected devices lose access and must be reconnected after the mobile router restarts.

Reset the mobile router from the mobile router

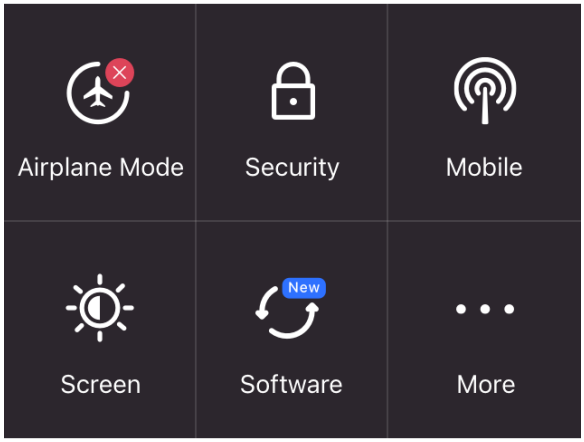
Start with the mobile router turned on.

To reset the mobile router directly from the mobile router:

1. Tap **Power** to wake the device.



2. Tap **Settings**.



3. Tap **More**.
   The additional settings screen displays.
4. Tap **Factory Reset**.
   A message displays telling you that devices currently connected will lose Internet access.
5. Tap **Yes**.
   The mobile router resets to its factory settings.

Reset the mobile router from the mobile router web page

To reset the mobile router to its factory settings:

1. From a computer or WiFi device that is connected to the mobile router, launch a web browser.
2. Enter **http://192.168.1.1**.

   The mobile router web page displays.
3. Enter the administrator login password.

   The default password is printed on the product label. The password is case-sensitive.

   The home page displays.
4. Select **Settings > Administrator > Factory Reset**.
   The Factory Reset page displays.
5. Click the **Reset Defaults** button.

A message displays telling you that devices currently connected will lose Internet access.

6. Click the **Yes** button.

   The mobile router returns to its factory settings.

7

Specifications

This appendix covers the following topics:

- Battery specifications
- MR6500 display specifications
- MR6110 display specifications
- Mechanical specifications
- MR6500 mobile band specifications
- MR6110 mobile band specifications
- Package contents
- Port specifications
- Security specifications
- WiFi specifications
- Environmental specifications

Battery specifications

Battery specifications:

- Removable Li-ion battery
- Up to 13 hours of continuous usage

NOTE: 13+ hour battery life is achieved by the following heaviest case: stream YouTube for 1 hour, followed by 30 minutes of idle time, and then repeat for over 13 hours.

MR6500 display specifications

The MR6500 Mobile Router includes a 2.8 in. LCD touch screen.

MR6110 display specifications

The MR6100 Mobile Router includes a 2.4 in. LCD touch screen.

Mechanical specifications

Table 2. Physical dimensions

Parameter	Dimension
Weight	256 g (8.64 oz) with battery
Length	105 mm (4.15 in.)
Width	105 mm (4.15 in.)
Thickness	21.5 mm (0.84 in.)

MR6500 mobile band specifications

Table 3. Mobile Bands

Technology	Band
4G/LTE bands	1, 2, 3, 4, 5, 7, 12, 14, 29, 30, 46, 48, 66
5G NR bands (FR1)	n2, n5, n12, n14, n30, n66, n77
5G NR band (FR2)	n260

MR6110 mobile band specifications

Table 4. Mobile Bands

Technology	Band
4G/LTE bands	1, 2, 3, 4, 5, 7, 12, 14, 29, 30, 46, 48, 66
5G NR bands (FR1)	n2, n5, n12, n14, n30, n66, n77

Package contents

Your Nighthawk M6 Pro WiFi 6E 5G Mobile Router package includes the following:

- Nighthawk M6 Pro WiFi 6E 5G Mobule Router
- Removable lithium ion battery
- AC charger
- USB Type-C cable
- Quick Start Guide
- Safety leaflet

Port specifications

The mobile router provides one USB 3.2 Type-C port.

Security specifications

Supported security features:

- WiFi security encryption
- VPN pass-through
- NAT firewall
- Password protected administration UI

WiFi specifications

WiFi support:

- WiFi 802.11a/b/g/n/ac/ax, 2x2 MIMO
- 2.4/5/6 GHz Standalone

Environmental specifications

Table 5. Recommended operating and storage temperatures

Environment	Temperature
Operating temperature	0°C to 35°C (32 F to 95°F)
Storage temperature	–10°C to +60°C (14°F to 140°F)