

- **Lease Time in Minutes** – assigns the amount of time in minutes that each device is assigned an IP address by the DHCP server when it connects to the network.

When the lease expires, the server determines if the computer has disconnected from the network. If it has, the server may reassign this IP address to a newly connected computer.

4. Click **Apply** to save changes.

DHCP Connection List

You can view a list of the connections currently assigned and recognized by the DHCP server.

To view a list of computers:

1. On the **IPv6 Address Distribution** page, click **Connection List**.
2. To define a new static connection with a fixed IP address, click **Add static connection**.
3. Enter the host name.
4. Enter the fixed IP address to be assigned.
5. Enter the MAC address of the network interface of the computer used with this DHCP static connection.
6. Click **Apply** to save changes.

NETWORK SETTINGS

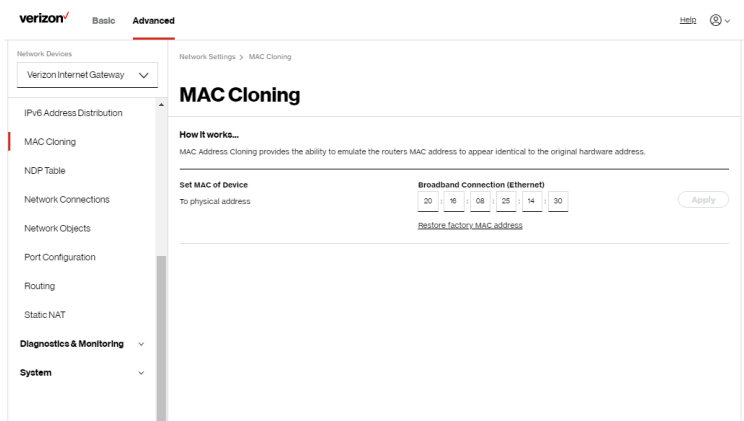
5.1g/ MAC CLONING

A MAC address is a hexadecimal code that identifies a device on a network. All networkable devices have a unique MAC address.

When replacing a network device on your Verizon Business Internet Gateway, you can simplify the installation process by copying the MAC address of the existing device to your Verizon Business Internet Gateway.

To copy the MAC address of the existing device:

1. Select **MAC Cloning** in the **Network Settings** section.



2. In the **To physical address** field, enter the MAC address of your new device.
3. To locate the MAC address, refer to the documentation from the device manufacturer.
4. Click **Apply** to save changes.

5.1h/ NDP TABLE

You can view the IPv6 and MAC addresses of each DHCP connection.

To view the IPv6 and MAC addresses for each device: select **NDP** (Neighbor Discovery Protocol) **Table** in the **Network Settings** section.

The screenshot shows the Verizon Business Internet Gateway Advanced settings page. The left sidebar contains a menu with options: Network Devices, Verizon Internet Gateway (selected), MAC Cloning, NDP Table (highlighted), Network Connections, Network Objects, Port Configuration, Routing, Static NAT, Diagnostics & Monitoring, and System. The main content area is titled 'NDP Table' and includes a 'Refresh' button. Below the title, a note states: 'The NDP Table below displays the IPv6 and MAC address of each DHCP connection.' A table follows with the following data:

IPv6 Address	MAC Address	State	#tr	Device
fe80::196a:296a:bdb9:1a27	48:5b:39:41:56:08	DELAY	NO	Network (Home/Office)

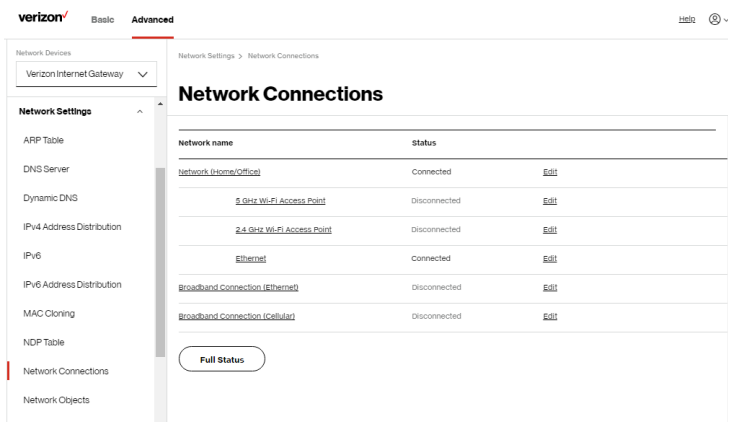
5.1i/ NETWORK CONNECTIONS

Caution: The settings described in this chapter should only be configured by experienced network technicians. Changes could adversely affect the operation of your Gateway and your local network.

To view the network connections:

1. From the **Advanced** menu, select **Network Settings** from the left pane and then click **Network Connections**.

NETWORK SETTINGS



2. To view and edit the details of a specific network connection, click the hyperlinked name or the action icon. The following sections detail the types of network connections that you can view.

NETWORK (HOME/OFFICE) CONNECTION

You can view the properties of your local network. This connection is used to combine several network interfaces under one virtual network. For example, you can create a home/office network connection for Ethernet and other network devices.

Note: When a network connection is disabled, the underlying devices formerly connected to it will not be able to obtain a new DHCP address from that Gateway network interface.

To view the connection:

1. On the **Network Connections** page, click the **Network (Home/Office)** connection link. The **Network (Home/ Office) Properties** page displays.

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Verizon Internet Gateway

Network Settings

- ARP Table
- DNS Server
- Dynamic DNS
- IPv4 Address Distribution
- IPv6
- IPv6 Address Distribution
- MAC Cloning
- NDP Table
- Network Connections
- Network Objects
- Port Configuration
- Routing

Network Settings > Network Connections > Network (Home/Office)

Network (Home/Office)

Settings Save

Important: Only advanced technical users should use this feature.

Name:	Network (Home/Office)
Status:	Connected
Network:	Network (Home/Office)
Underlying Device:	5 GHz Wi-Fi Access Point 2.4 GHz Wi-Fi Access Point Ethernet
Connection Type:	Bridge
MAC Address:	
IPv4 Address:	192.168.0.1

W/network/networkconnections/networksettings

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- IPv6 Address Distribution
- MAC Cloning
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- Network Objects
- Port Configuration
- Routing

Network Settings > Network Connections > Network (Home/Office)

Network (Home/Office)

Settings Save

IPv4 Address:	192.168.0.1
Subnet Mask:	255.255.255.0
IP Address Distribution:	DHCP Server
IPv6 LAN Prefix:	
IPv6 Address:	
Link Local Address:	
IPv6 Address Distribution:	Stateless
Received Packets:	0
Sent Packets:	0
Time Span:	0:00:00

2. To rename a network connection, enter the new network name in the **Name** field.
3. Click **Save** to save the changes.

NETWORK SETTINGS

CONFIGURING THE HOME/OFFICE NETWORK

To configure the network connection:

1. In the **Network (Home/Office)** properties page, click **Settings**. The configuration page displays.

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IPv6 Address Distribution

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Routing

Network Settings > Network Connections > Network (Home/Office)

Network (Home/Office)

Save Changes

Important: Only advanced technical users should use this feature.

General

Status: Connected

Connection Type: Network (Home/Office)

Physical Address:

MTU: Automatic 1500

IP Address: 192 168 0 1

Subnet Mask: 255 255 255 0

Bridge

Name	VLAN	Status
------	------	--------

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Routing

Network Settings > Network Connections > Network (Home/Office)

Network (Home/Office)

Save Changes

Bridge

Name	VLAN	Status	
☐ IP Passthrough	Disable	Disconnected	Edit
☒ 802.11n Wi-Fi Access Point	Disable	Disconnected	Edit
☒ 802.11ac Wi-Fi Access Point	Disable	Disconnected	Edit
☒ Ethernet	Disable	Connected	Edit

IP Address Distribution: DHCP Server

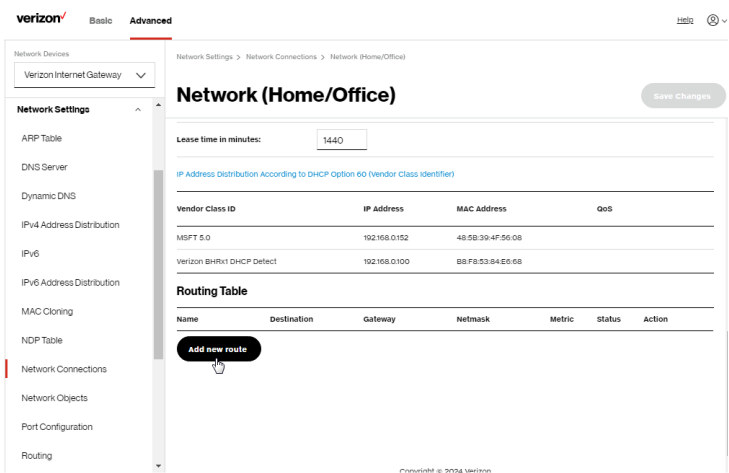
Start IP Address: 192 168 0 2

End IP Address: 192 168 0 254

WINS Server: 0 0 0 0

Lease time in minutes: 1440

IP Address Distribution According to DHCP Option 60 (Vendor Class Identifier)



2. Configure the following sections, as needed.

General

In the **General** section, verify the following information:

- **Status** – displays the connection status of the network.
- **Connection Type** – displays the type of connection interface.
- **Physical Address** – displays the physical address of the network card used for the network.
- **MTU** – displays the Maximum Transmission Unit (MTU) indicating the largest packet size permitted for internet transmissions:
 - **Automatic:** sets the MTU (Maximum Transmission Unit) at 1500.
 - **Automatic by DHCP:** sets the MTU according to the DHCP connection.
 - **Manual:** allows you to manually set the MTU.

NETWORK SETTINGS

- **IP address** and **Subnet Mask**: the network connection uses a permanent or static **IP address** and **Subnet Mask** address, provided by Verizon or experienced network technician.
- **Bridge**

In the **Bridge** section of the **Network (Home/Office)** properties, you can configure the various LAN interfaces.

***Caution:** Do not change these settings unless specifically instructed to by Verizon. Changes could adversely affect the operation of your Gateway and your local network.*

Verify the following information:

- **IP Passthrough** – select to disable Wi-Fi and routing capabilities of the Gateway. May be necessary if connecting 3rd party routers to the Gateway and disabling the IP Passthrough mode into the device.
 - **Status** – displays the connection status of a specific network connection.
 - **Action** – contains an **Edit** hyperlink that, when clicked, generates the next level configuration page for the specific network connection or network device.
- **IP Address Distribution**

The **IP Address Distribution** section is used to configure the Dynamic Host Configuration Protocol (DHCP) server parameters of your Gateway.

Once enabled and configured, the DHCP server automatically assigns IP addresses to any network devices which are set to obtain their IP address dynamically.

If DHCP Server is enabled on your Gateway, configure the network devices as DHCP Clients. There are 2 basic options in this section: **Disabled** and **DHCP Server**.

To set up the Gateway's network bridge to function as a DHCP server:

1. In the **IP Address Distribution** section, select the **DHCP server**. Once enabled, the DHCP server provides automatic IP assignments (also referred to as IP leases) based on the preset IP range defined below.
 - **Start IP Address** – Enter the first IP address in the IP range that the Gateway will automatically begin assigning IP addresses from. Since your Gateway's IP address is 192.168.0.1, the default Start IP Address is 192.168.0.2.
 - **End IP Address** – Enter the last IP address in the IP range that the Gateway will automatically stop the IP address allocation at. The maximum end IP address range that can be entered is 192.168.0.254.
 2. If Windows Internet Naming Service (WINS) is being used, enter the **WINS Server** address.
 3. In the **Lease time in minutes** field, enter the amount of time a network device is allowed to connect to the Gateway with its currently issued dynamic IP address.
- **IP Address Distribution According to DHCP option 60 (vendor class Identifier)**

DHCP vendor class is related to DHCP option 60 configuration within the Gateway. Adding option 60 configurations allows a particular vendor to get a lease from a specified pool of addresses.

NETWORK SETTINGS

Routing Table

You can configure your Gateway to use static or dynamic routing.

- **Static routing** – specifies a fixed routing path to neighboring destinations based on predetermined metrics.
- **Dynamic routing** – automatically adjusts how packets travel on the network. The path determination is based on network/device reachability and the status of the network being traveled.

To configure routing:

1. In the **Routing Table** section, click the **Add new route** button to display and modify the new route configuration page.

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Port Configuration

Routing

Network Settings > Network Connections > Network (Home/Office) > Route Settings

Route Settings

Routing Entry: IPv4

Name: IPv4

Destination: 0 0 0 0

Netmask: 0 0 0 0

Gateway: 0 0 0 0

Metric: 1

Apply

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2. To save your changes click **Apply**.

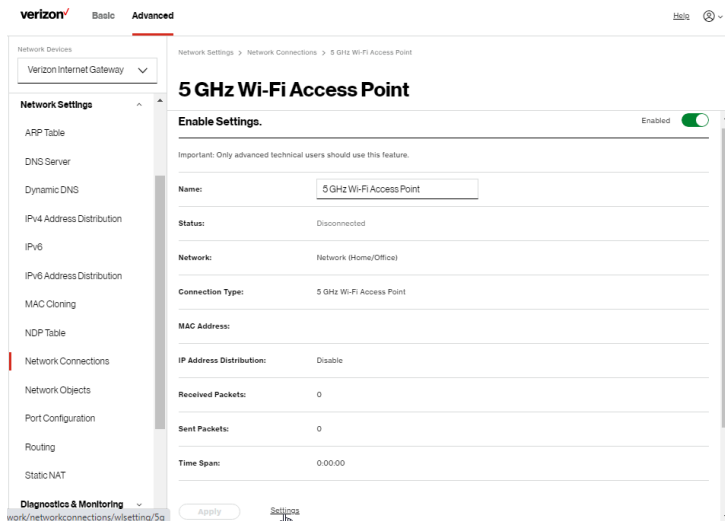
Wi-Fi ACCESS POINT CONNECTION

A Wi-Fi Access Point network connection allows Wi-Fi devices to connect to the local area network (LAN) using the 2.4 GHz or 5 GHz Wi-Fi network.

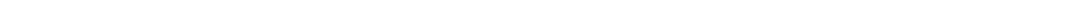
Note: Once disabled, all Wi-Fi devices connected to that Wi-Fi network will be disconnected from the LAN network and internet.

To view the connection settings:

1. From the **Advanced** menu, select **Network Settings** from the left pane and then click **Network Connections**.
2. To access the connection settings pages, click on the link of the Wi-Fi Access Point connections listed under **Network name** on the **Network Connections** page.



NETWORK SETTINGS

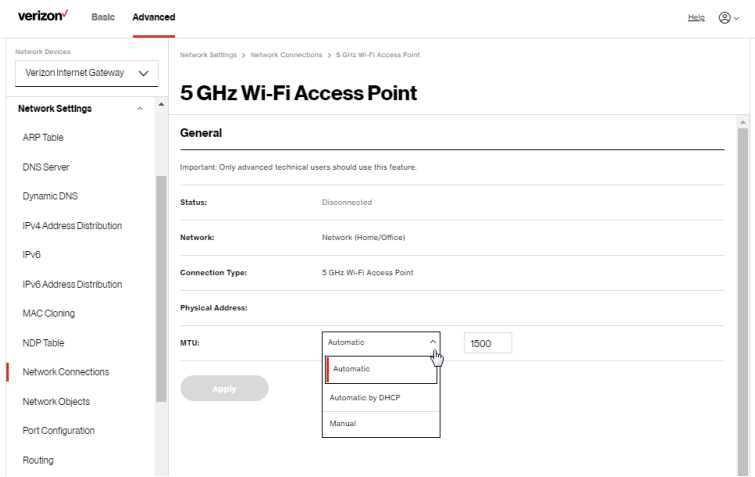


- 3. From the connection's **Enable Settings** page, to enable or disable the connection, move the selector to **on** or **off**.
- 4. To rename the connection, enter a name in the **Name** field.
- 5. Click **Apply** to save the changes.
- 6. Reboot your Gateway.

CONFIGURING WI-FI ACCESS POINT PROPERTIES

To configure the connection:

- 1. On the bottom of the Access Point's specific **Enable Settings** page, click **Settings**. The configuration page displays.



2. Verify the following information:

General

- **Status** - displays the connection status of the network.
- **Network** – displays the type of network connection.
- **Connection Type** – displays the type of connection interface.
- **Physical Address** – displays the physical address of the network card used for the network.
- **MTU** - specifies the largest packet size permitted for internet transmissions:
 - **Automatic**: set the MTU (Maximum Transmission Unit) at 1500.
 - **Automatic by DHCP**: sets the MTU according to the DHCP connection.
 - **Manual**: allows you to manually set the MTU.

3. Click **Apply** to save changes.

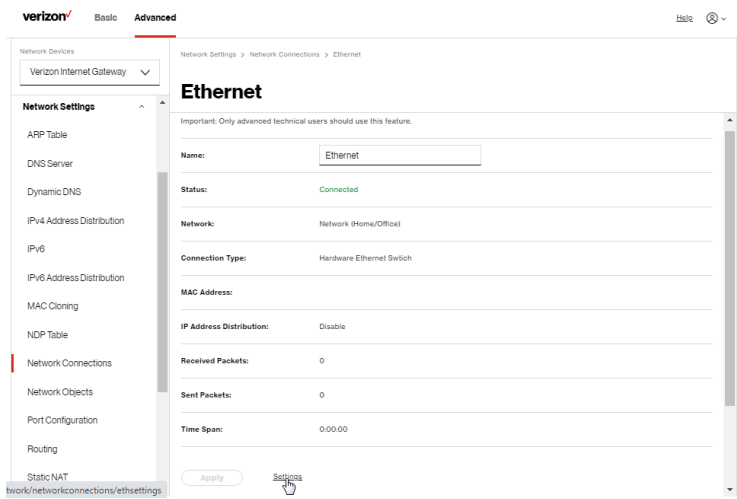
ETHERNET CONNECTION

You can view the properties of your Ethernet LAN connection using an Ethernet cable inserted into one of your Gateway's Ethernet LAN ports.

To view the connection settings:

1. To access the **Ethernet** properties page, click the **Ethernet** link listed under **Network name** on the **Network Connections** page.

NETWORK SETTINGS

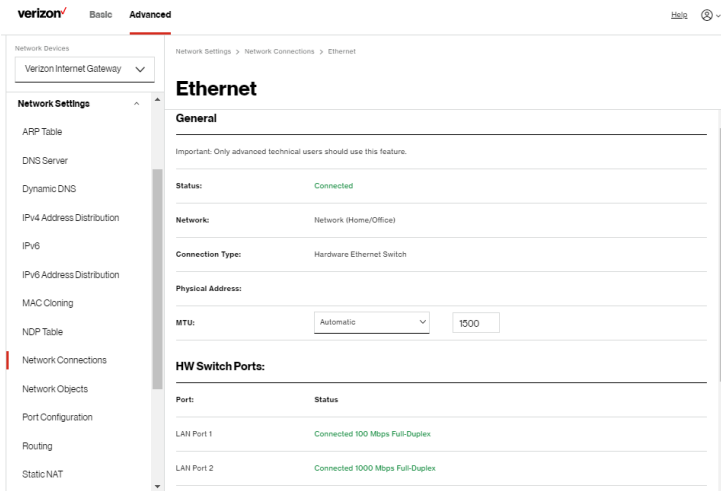


2. To rename the network connection, enter the new name in the **Name** field.
3. Click **Apply** to save changes.

CONFIGURING ETHERNET PROPERTIES

To configure the connection:

1. In the **Ethernet** page, click **Settings**. The configuration page displays.



2. Verify the following information:

General

- **Status** – displays the connection status of the network.
- **Network** – displays the type name of network connection.
- **Connection Type** – displays as **Hardware Ethernet Switch**.
- **Physical Address** – displays the physical address of the network card used for the network.
- **MTU** - specifies the largest packet size permitted for transmissions:
 - **Automatic**: sets the MTU (Maximum Transmission Unit at 1500).
 - **Automatic by DHCP**: sets the MTU according to the DHCP connection.
 - **Manual**: allows you to manually set the MTU.

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- **HW Switch Ports** – displays the status of each LAN port.

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

BROADBAND CONNECTION (CELLULAR)

You can view the properties of your broadband connection (your connection to the internet).

To view the connection settings:

1. In the **Network Connections** page, click the **Broadband Connection (Cellular)**.

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Static NAT

Network Settings > Network Connections > Broadband Connection (Cellular)

Broadband Connection (Cellular)

Enable Settings. 

Important: Only advanced technical users should use this feature.

Name:

Broadband Connection (Cellular)

Status:

Disconnected

Network:

Broadband Connection

Connection Type:

Disconnected

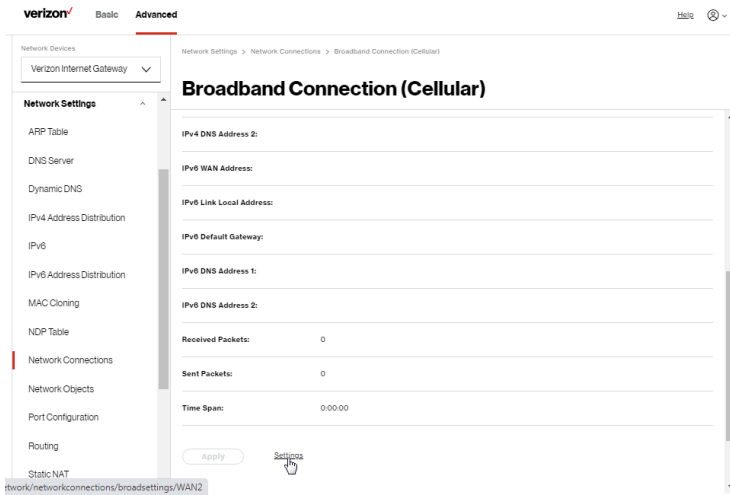
IPv4 WAN Address:

Subnet Mask:

Default Gateway:

IPv4 DNS Address 1:

IPv4 DNS Address 2:



2. From the connection's **Enable Settings** page, to enable or disable the connection, move the selector to **on** or **off**.
3. To rename the network connection, enter the new name in the **Name** field.
4. Click **Apply** to save changes.

CONFIGURING THE BROADBAND CONNECTION

To configure the connection:

1. On the bottom of the **Broadband Connection (Cellular)** page, click **Settings**. The configuration page displays.

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Static NAT

Network Settings > Network Connections > Network Connection Broadband Settings

Broadband Connection (Cellular) Settings

General

Important: Only advanced technical users should use this feature.

Status:Disconnected

Network:Broadband Connection (Cellular)

Connection Type:Disconnected

MTU:

Automatic

1500

Internet APN:V5GA01INTERNET

WAN IP Address

Internet Protocol:

Obtain IPv4 Address Automatically

☐ Override Subnet Mask:

0000

DHCP Lease:

Release

Renew

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Network Settings > Network Connections > Network Connection Broadband Settings

Broadband Connection (Cellular) Settings

Internet Protocol:

Obtain IPv4 Address Automatically

☐ Override Subnet Mask:

0000

DHCP Lease:

Release

Renew

Expires In:

IPv4 DNS:

Obtain IPv4 DNS Address Automatically

Internet Connection Firewall:☒ Enable

This feature provides the ability to change the default firewall setting on this interface. We highly recommend that you do not change the default setting.

Apply

2. Configure the following settings, as needed.

General

Verify the following information:

- **Status** – displays the connection status of the network.
- **Network** – displays the type of network connection.
- **Connection Type** – displays the type of connection interface.
- **MTU** – specifies the largest packet size permitted for internet transmissions:
 - **Automatic**: sets the MTU (Maximum Transmission Unit at 1500).
 - **Automatic by DHCP**: sets the MTU according to the DHCP connection.
 - **Manual**: allows you to manually set the MTU.
- **Internet APN** (Access Point Name) – you may input APN information for your private network.

WAN IP Address

- In the **Internet Protocol** section of **WAN IP Address**, specify one of the following:
 - **No IPv4 Address**: the connection has no IP address. This is useful if the connection operates under a bridge.
 - **Obtain an IPv4 Address Automatically**: the network connection is required by your service provider to obtain an IP address automatically. The server assigning the IP address also assigns a subnet mask address, which can be overridden by entering another subnet mask address.

NETWORK SETTINGS

- **Use the Following IP Address:** the network connection uses a permanent or static **IP address** and **Subnet Mask** address, provided by your service provider or experienced network technician.
 - To override the subnet mask, select the **Override Subnet Mask** check box, then enter the new subnet mask.
 - Click **Release/Renew** in the **DHCP Lease** field to drop/get an IP address from the DHCP server.
 - In the **Expires In** field, enter the amount of time a network device is allowed to connect to the Verizon Business Internet Gateway with its currently issued dynamic IP address.
 - **IPv4 DNS** - selects **Obtain IPv4 DNS Address Dynamically** for using Dynamic DNS. Each time the public IP address changes, the DNS database is automatically updated with the new IPv4 address. In this way, even though the IP address changes often, the domain name remains constant and accessible.
 - **Internet Connection Firewall** - allows you to enable or disable the firewall configuration on this interface.
3. Click **Apply** to save changes.

5.1j/ NETWORK OBJECTS

Network objects define a group, such as a group of computers, on your Gateway network by MAC address, IP address, and/or host name. The defined group becomes a network object. You can apply settings, such as configuring system rules, to all devices defined in the network object.

For example, instead of setting the same website filtering configuration individually to five computers one at a time, you can define the computers as a network object. Website filtering can then be simultaneously applied to all the computers.

You can use network objects to apply security rules based on host names, instead of IP addresses. This is useful since IP addresses change from time to time. In addition, you can define network objects according to MAC address to make the rule application more persistent against network configuration settings.

To define a network object:

1. From the **Advanced** menu, select **Network Settings**.
2. Select **Network Objects** in the **Network Settings** section.

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Network Settings > Network Objects

Network Objects

Apply Changes

A Network Object is a set of host names, IP addresses, or MAC addresses. Security rules can be applied to a distinct LAN subnet using Network Objects.

Create an Object

Object Name: Global Object

Object Type: Select (dropdown menu showing 'Global Object' and 'IP Address' selected)

Object List

Object Name	Object Type	Value
192.168.0.100	IP Address	192.168.0.100

Test Add Edit Remove

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3. To define a network object, enter a name for the network object in the **Objects Name** field.
4. Select and configure the type of network object as IP address, IP subnet, IP range, MAC address, host name, or DHCP option, and click **Add**.
5. The network object displays in the **Objects List** section.
6. Repeat the above steps to create additional network objects.
7. When complete, click **Apply Changes** to save changes.

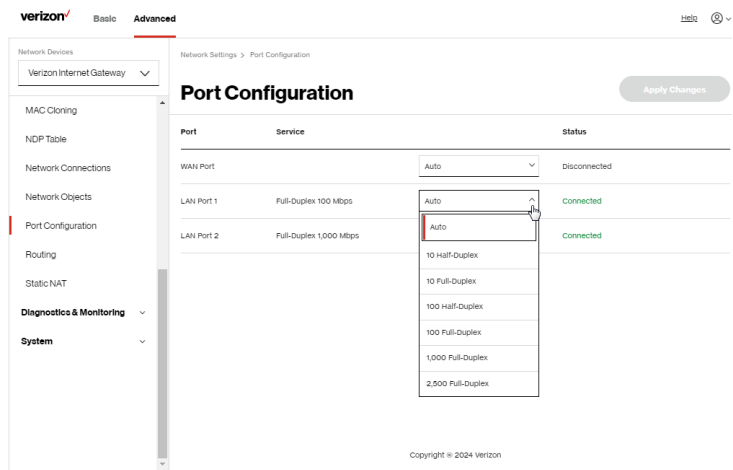
NETWORK SETTINGS

5.1k/ PORT CONFIGURATION

Ethernet port configuration allows you to set up the Ethernet ports as either full- or half-duplex ports, at either 10 Mbps, 100 Mbps, or 1000 Mbps.

To configure the ports:

1. Select **Port Configuration** in the **Network Settings** section.



2. To emulate the speed and duplex configuration of the port with which it's communicating, select **Auto** or select the port speed and duplicity.
3. Click **Apply Changes** to save changes.

5.1/ ROUTING

You can view the routing and IP address distribution rules as well as add, edit, or delete the rules.

Routing Table

To view the rules:

1. Select **Routing** in the **Network Settings** section.

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Network Settings > Routing

Routing

Apply Changes

This page provides the ability to add, edit, or delete routing rules.

Name	Destination	Gateway	Netmask	Metric	Status
New Route					

Internet Group Management Protocol (IGMP)

- ☒ Enable Ethernet
- ☒ Enable 2.4 GHz Wi-Fi
- ☒ Enable 5 GHz Wi-Fi

2. To add a new Route, click **New Route**.

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Network Settings > Routing > Route Settings

Route Settings

Routing Entry: IPv4

Name: IPv4

Destination: 0 0 0 0

Netmask: 0 0 0 0

Gateway: 0 0 0 0

Metric: 1

Apply

NETWORK SETTINGS

3. Specify the following parameters:
 - **Routing Entry** – select the IP address type.
 - **Name** – the network connection type.
 - **Destination** – enter the destination IP of the destination host, subnet address, network address, or default route. The destination for a default route is 0.0.0.0.
 - **Netmask** – enter the network mask. This is used in conjunction with the destination to determine when a route is used.
 - **Gateway** – enter the IP address of your Gateway.
 - **Metric** – enter a measurement preference of the route. Typically, the lowest metric is the most preferred route. If multiple routes exist to a specific destination network, the route with the lowest metric is used.
4. Click **Apply** and **Apply Changes** to save changes.

Internet Group Management Protocol (IGMP)

IGMP allows for managing a single upstream interface and multiple downstream interfaces of the IGMP/MLD (Multicast Listener Discovery)-based forwarding. This function enables the system to send IGMP host messages on behalf of hosts that the system discovers through standard IGMP interfaces. Also, IGMP snooping allows an Ethernet switch to “listen in” on the IGMP conversation between hosts and routers, while IGMP querier will send out periodic IGMP queries.

To enable this function:

1. Choose the IGMP interfaces by clicking on the check boxes on the screen.
2. Click **Apply Changes** to save changes.

5.1m/ STATIC NAT

Static NAT allows devices located behind a firewall that is configured with private IP addresses to appear to have public IP addresses to the internet. This allows an internal host, such as a web server, to have an unregistered (private) IP address and still be accessible over the internet.

To configure static NAT:

1. Select **Static NAT** in the **Network Settings** section.

The screenshot shows the Verizon Business Internet Gateway configuration interface. The left sidebar contains a navigation menu with categories like Network Devices, Network Connections, Network Objects, Port Configuration, Routing, Static NAT, Diagnostic & Monitoring, and System. The main content area is titled 'Static NAT' and includes a 'Create Rule' section. In the 'Create Rule' section, there is a 'Device' dropdown menu currently showing '192.168.0.152 - A040025-NB2'. To the right of the dropdown is a 'Public IP Address' field consisting of four input boxes. Below the 'Device' dropdown is an 'Add' button. To the right of the 'Add' button is a checkbox labeled 'Add another entry'. Below the 'Create Rule' section is a 'Rules List' table with columns: ID, Network Device, Public IP Address, and Port Forward. The table is currently empty. At the bottom right of the page, there is a copyright notice: 'Copyright © 2024 Verizon'.

2. To create a static NAT, select a source address in the **Device** field.
3. Enter the **Public IP Address**.
4. If using port forwarding, select the **Enabled Port forward** check box.
5. Click **Add**. The rule displays in the **Rules List** section.
6. Click **Apply Changes** to save changes.
7. Click **Add another entry** and repeat these steps to add additional static IP addresses.

DIAGNOSTICS & MONITORING

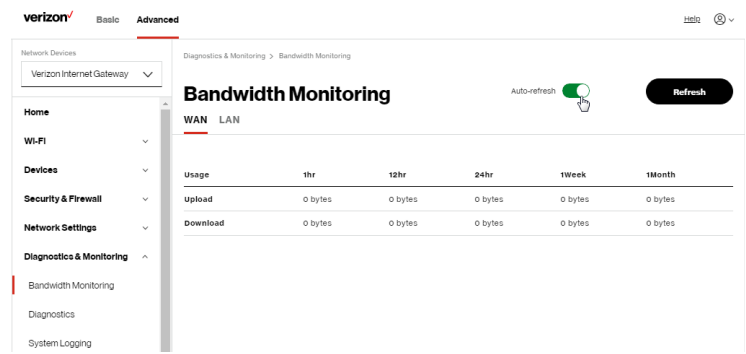
5.2/ DIAGNOSTICS & MONITORING

5.2a/ BANDWIDTH MONITORING

You can view and monitor the recorded bandwidth usage measured in bytes.

To view the bandwidth:

1. From the **Advanced** menu, select **Diagnostics & Monitoring**.
2. In the **Diagnostics & Monitoring** section, select **Bandwidth Monitoring**.



3. To refresh the page, click **Refresh**.
4. To continuously refresh the page, click **Auto-refresh on**.

5.2b/ DIAGNOSTICS

You can use diagnostics to test network connectivity.

To diagnose network connectivity:

1. Select **Diagnostics** in the **Diagnostics & Monitoring** section.
2. To ping an IP address, enter the IP address or domain name in the **Destination** field and click **Go**.

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Diagnostics & Monitoring > Diagnostics

Diagnostics

How it works...
Diagnostics can assist in testing network connectivity. This feature pings (ICMP echo) an IP address and displays the results, such as the number of packets transmitted and received, round trip time, and success status.

IPv4 Ping (ICMP Echo)

Destination Go

Number of pings

Status

IPv6 Ping (ICMP Echo)

Destination Go

Number of pings

Status

The diagnostics will display the number of pings, status, packets sent, and round trip time.

If no diagnostic status displays, click refresh in your web browser.

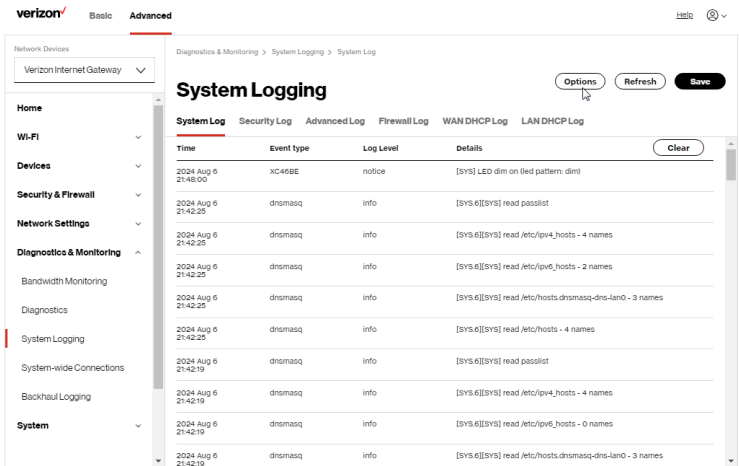
5.2c/ SYSTEM LOGGING

System logging provides a view of the most recent activity of your Gateway. In addition, you can view additional logs, such as the security, advanced, firewall, WAN link and LAN DHCP.

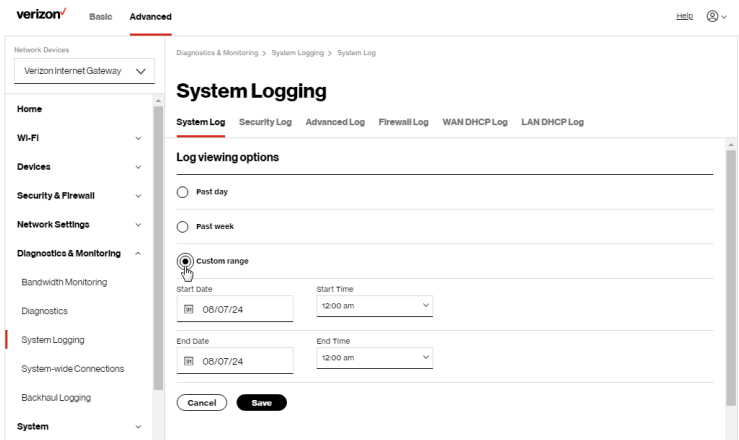
To view the system log:

1. Select **System Logging** in the **Diagnostics & Monitoring** section.

DIAGNOSTICS & MONITORING



2. To view a specific time of log event, click on the **Options** button.



3. Select your preferred logging time.

4. Click **Save** to save changes.

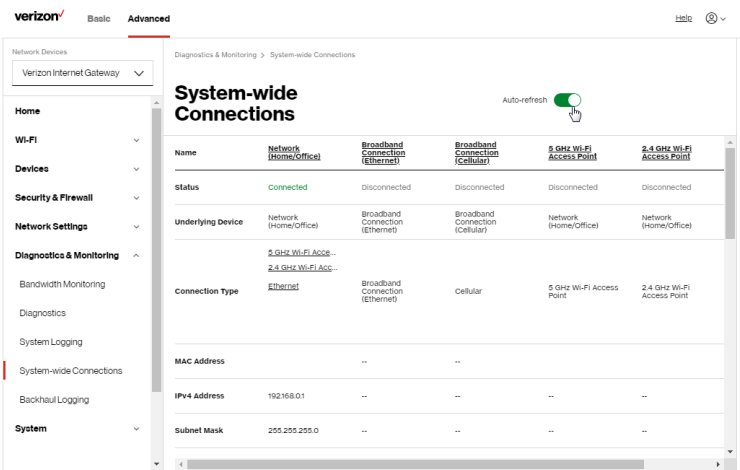
- 5. To view a specific type of log event such as Security Log, WAN Log, etc., click the appropriate link in the menu on the top.
- 6. To update the data, click **Refresh**.

5.2d/ **SYSTEM-WIDE CONNECTIONS**

You can view a summary of the monitored data collected for your Gateway.

To view your Gateway’s full system status and traffic monitoring data:

- 1. Select **System-wide Connections** in the **Diagnostics & Monitoring** section.



DIAGNOSTICS & MONITORING

verizon

BasicAdvanced

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Network Settings

Diagnostics & Monitoring

Bandwidth Monitoring

Diagnostics

System Logging

System-wide Connections

Backhaul Logging

System

Diagnostics & Monitoring > System-wide Connections

System-wide Connections

Auto-refresh

IPv4 Default Gateway	192.168.0.1	--	--	--	--
IPv4 DNS Address 1	--	--	--	--	--
IPv4 DNS Address 2	--	--	--	--	--
IPv4 Address Distribution	DHCP Server	Disable	Disable	Disable	Disable
IPv6 Prefix	--	--	--	--	--
IPv6 Address	--	--	--	--	--
IPv6 Link-Local Address	--	--	--	--	--
IPv6 Default Gateway	--	--	--	--	--
IPv6 DNS Address 1	--	--	--	--	--
IPv6 DNS	--	--	--	--	--

verizon

BasicAdvanced

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System-wide Connections

Backhaul Logging

System

Diagnostics & Monitoring > System-wide Connections

System-wide Connections

Auto-refresh

IPv6 DNS Address 2	--	--	--	--	--
IPv6 Address Distribution	Stateless	Disable	Disable	Disable	Disable
Recv Packets	0	0	0	0	0
Sent Packets	0	0	0	0	0
Recv Bytes	0	0	0	0	0
Sent Bytes	0	0	0	0	0
Recv Errors	0	0	0	0	0
Recv Drops	0	0	0	0	0
Time Span	0:00:00	0:00:00	0:00:00	0:00:00	0:00:00

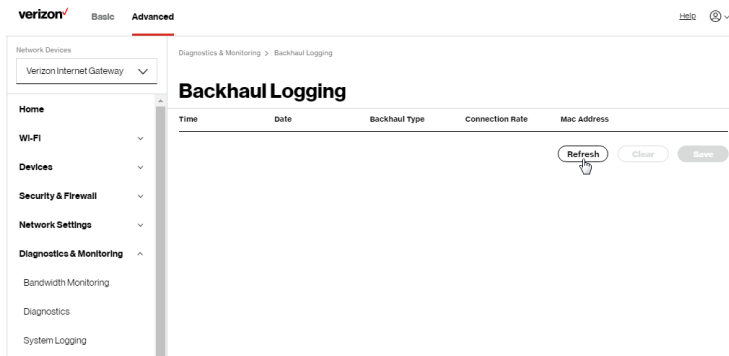
2. To modify the connection properties, click the individual connection links.
3. To continuously refresh the page, click **Auto-refresh on**.

5.2e/ BACKHAUL LOGGING

You can view a summary of the BHM (backhaul modes: Ethernet and Wi-Fi) status of your network.

To view the backhaul modes log:

1. Select **Backhaul Logging** in the **Diagnostics & Monitoring** section.



2. To refresh the page, click **Refresh**.
3. To delete the log information, click **Clear**.
4. To save the log information, click **Save**.

SYSTEM

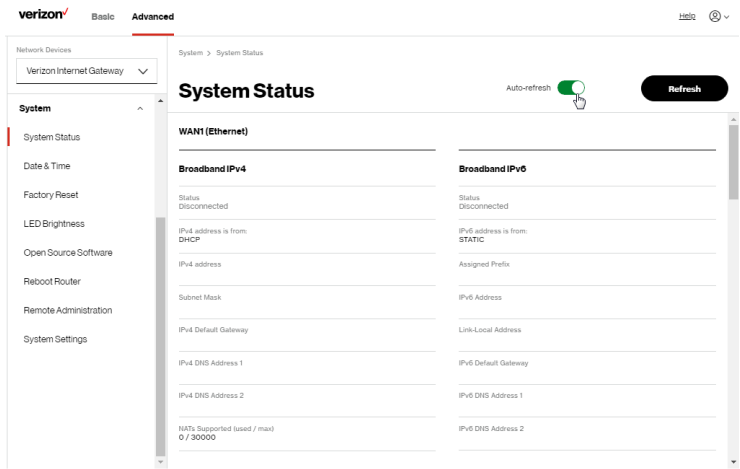
5.3/ SYSTEM

5.3a/ SYSTEM STATUS

To view the status:

1. From the **Advanced** menu, select **System**.
2. You can quickly view your Gateway's status by selecting **System Status** in the **System** section.
3. To refresh the page, click **Refresh**.
4. To continuously refresh the page, click **Auto-refresh on**.
5. To check for the latest firmware version of your Gateway, click **Check for updates**.

This section displays the status of your Gateway's local network (LAN) and internet connection (WAN), firmware and hardware version numbers, MAC Address, IP settings of Verizon Business Internet Gateway and extender(s) (if connected).



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BasicAdvanced

100%

Network Devices

Verizon Internet Gateway

System

System Status

Date & Time

Factory Reset

LED Brightness

Open Source Software

Reboot Router

Remote Administration

System Settings

System > System Status

System Status

Auto-refresh 

Refresh

WAN2 (Cellular)

Broadband IPv4

Status
Disconnected

IPv4 address is from:
Cellular Modem

IPv4 address

Subnet Mask

IPv4 Default Gateway

IPv4 DNS Address 1

IPv4 DNS Address 2

IPv4v6 Supported (used / max)
1 / 30000

Broadband IPv6

Status
Disconnected

IPv6 address is from:
Cellular Modem

Assigned Prefix

IPv6 Address

Link-Local Address

IPv6 Default Gateway

IPv6 DNS Address 1

IPv6 DNS Address 2

verizon

BasicAdvanced

100%

Network Devices

Verizon Internet Gateway

System

System Status

Date & Time

Factory Reset

LED Brightness

Open Source Software

Reboot Router

Remote Administration

System Settings

System > System Status

System Status

Auto-refresh 

Refresh

Modem

Firmware Version:
MDU1XPRG52.MD800.MPV60.P3

Mobile Number
-

IMEI
35146874N90443

ICCID
-

Sim Status
Absent

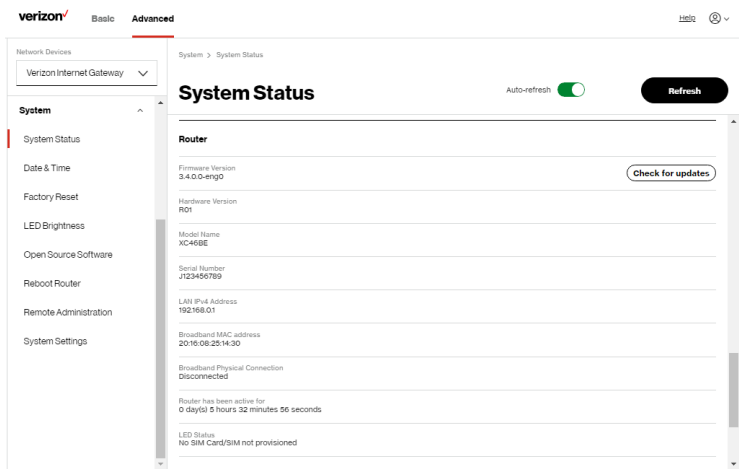
Roaming Status
-

4G LTE Signal Strength
-

5G Signal Strength
-

Router

SYSTEM

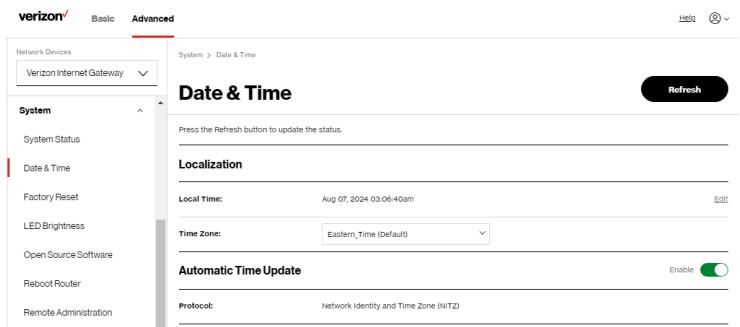


5.3b/ DATE & TIME SETTINGS

You can set the time zone and enable automatic time updates.

To configure the settings:

1. From the **Advanced** menu, select **System**.
2. Select **Date & Time** in the **System** section.



3. In the **Localization** section, click **Edit** to change date and time settings.
4. Select the local time zone. Your Gateway automatically detects daylight saving times for selected time zone.
5. In the **Automatic Time Update** section, click **Enable on** to perform an automatic time update.
6. To refresh the page, click **Refresh**.

5.3c/ FACTORY RESET

You can use this functionality to save and load configuration files. These files are used to backup and restore the current configuration of your Gateway.

Only configuration files saved on a specific Verizon Business Internet Gateway can be applied to that Verizon Business Internet Gateway. You cannot transfer configuration files between Gateways.

***Warning:** Manually editing a configuration file can cause your Gateway to malfunction or become completely inoperable.*

Restore Options

You can restore your configuration settings to your Gateway factory default settings. Restoring the default settings erases the current configuration, including user defined settings and network connections. All connected DHCP clients must request new IP addresses. Your Gateway must restart.

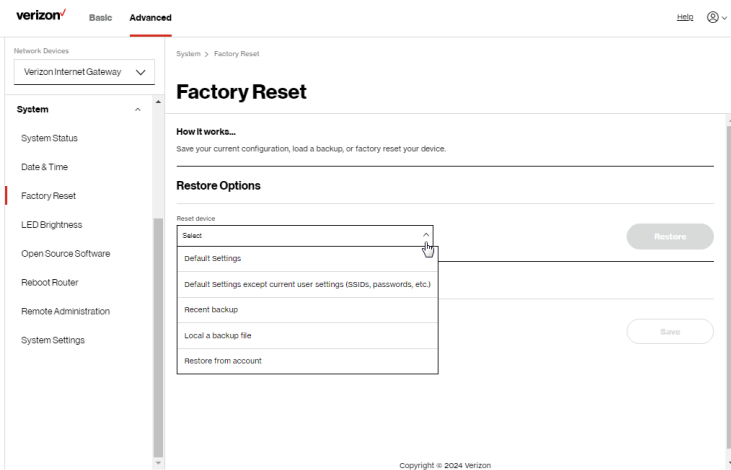
Prior to restoring the factory defaults, you may want to save your current configuration to a file. This allows you to reapply your current settings and parameters to the default settings, as needed.

SYSTEM

***Note:** When restoring defaults, the setting and parameters of your Gateway are restored to their default values. This includes the administrator password. A user-specified password will no longer be valid.*

To restore your Gateway's factory default settings:

1. Click **Factory Reset** in the **System** section.
2. Select **Default Settings** or **Default Settings except current user settings**.
 - **Default Settings** – will erase all router settings including user settings for SSID and Passwords.
 - **Default Settings except current user settings** – will erase all router settings but will retain the user settings for SSID and passwords.



3. Click the **Restore** button. The factory default settings are applied and your Gateway restarts. Once complete, the Login page for the First Time Easy Setup Wizard displays.

To load the configuration file:

1. Select **Factory Reset** in the **System** section.
2. To load a previously saved configuration file, select **Recent backup** or **Load a backup file** then click **choose file**.
3. Browse to the location of the file, and click the **Restore** button to begin the configuration uploading process.
4. Accessing the **My Verizon** account also allows you to restore the previously saved settings. Select **Restore from account** and use **My Verizon** account to restore the saved settings to the Gateway.
5. Click the **Restore** button. Your Gateway will automatically restart with that configuration.

Save Options

To save the configuration file:

1. From the **Advanced** menu, select **System**.
2. Select **Factory Reset** in the **System** section.

The screenshot shows the Verizon Business Internet Gateway setup interface. The top navigation bar includes the Verizon logo, 'Basic', and 'Advanced' tabs. The left sidebar lists 'Network Devices' (with 'Verizon Internet Gateway' selected) and 'System' (with sub-items: System Status, Date & Time, Factory Reset, LED Brightness, Open Source Software, Reboot Router, Remote Administration, and System Settings). The main content area is titled 'System > Factory Reset'. It features a 'Factory Reset' heading, a 'How it works...' section, and a 'Restore Options' section with a 'Reset device' dropdown menu and a 'Restore' button. Below this is a 'Save Options' section with a 'Saved configurations' dropdown menu and a 'Save' button. A mouse cursor is pointing at the 'Router' option in the 'Saved configurations' dropdown.

SYSTEM

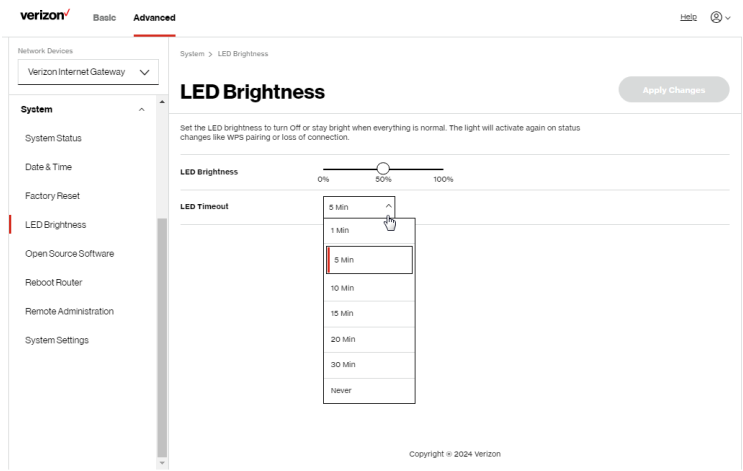
3. Select **Router** or **Backup file** to save the current configuration, then click **Save** button.
4. If you select **Backup file**, the configuration file is saved to you web browser's download folder.
5. Click **Save** button to begin the configuration backup process.

5.3d/ LED BRIGHTNESS

The Verizon Business Internet Gateway allows you to set the LED brightness to turn Off (0%) or stay bright (50% or 100%) using the user interface.

To control the LED brightness:

1. Select **LED Brightness** in the **System** section.



2. Slide the bar to adjust the brightness of the LED.
3. Select your preferred timeout period (in minutes) from the dropdown list for the LED dimming setting. The Status LED will automatically turn off after the timeout period.

4. Click **Apply Changes** to save changes.

***Note:** The light will activate again on status changes like WPS pairing or loss of connection.*

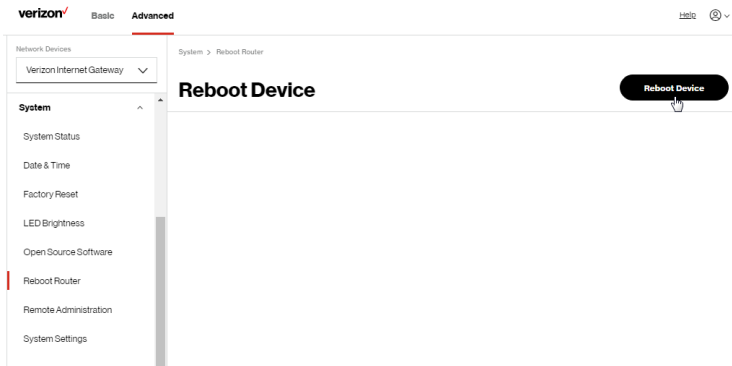
5.3e/ REBOOT VERIZON BUSINESS INTERNET GATEWAY

***Warning:** Only select Reboot Router if instructed to do so by Verizon support.*

You can reboot your Gateway using the Reboot Router feature. Refer to 1.1a/ Reset PIN Hole for factory reset function.

To reboot your Gateway using the user interface:

1. Select **Reboot Router** in the **System** section.



2. To reboot, click **Reboot Device**. Your Gateway will reboot. This may take up to a minute.
3. To access your Gateway user interface, refresh your web browser.
4. After the Status LED on the top panel turns solid white, you will automatically be sent to the web browser login page.

SYSTEM

5.3f/ REMOTE ADMINISTRATION

Caution: Enabling Remote Administration places your Gateway network at risk from outside attacks.

You can access and control your Gateway not only from within the local network, but also from the internet using **Remote Administration**.

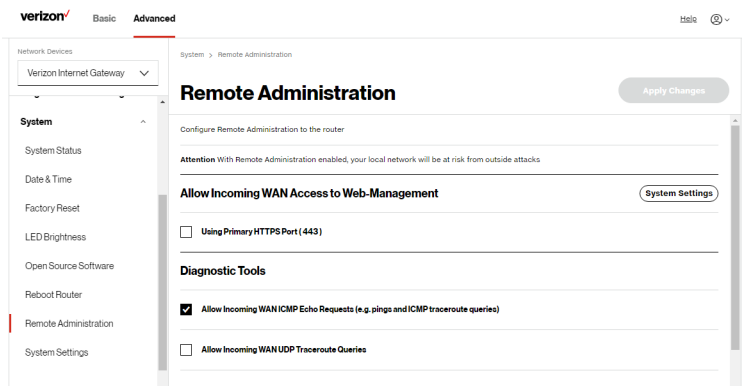
You can allow incoming access to the following:

- **Allow Incoming WAN Access to Web-Management** - used to obtain access to your Gateway’s UI and gain access to all settings and parameters through a web browser.
- **Diagnostic Tools** - used for troubleshooting and remote system management by a user or Verizon.

Remote administration access of Web Management may be used to modify or disable firewall settings. Web Management services should be activated only when absolutely necessary.

To enable remote administration:

1. Select **Remote Administration** in the **System** section.



2. To enable access, select the check box.
3. To remove access, clear the check box.
4. Click **Apply Changes** to save changes.

5.3g/ SYSTEM SETTINGS

You can configure various system and management parameters.

To configure system settings:

1. Select **System Settings** in the **System** section.

The screenshot shows the Verizon Business Internet Gateway web interface. The top navigation bar includes the Verizon logo, 'Basic', and 'Advanced' tabs. The 'Advanced' tab is selected. Below the navigation bar, there's a breadcrumb trail: 'System > System Settings'. The main content area is titled 'System Settings' and features an 'Apply Changes' button. The left sidebar contains a 'Diagnostics & Monitoring' section with a 'System' subsection. The 'System' subsection lists several options: 'System Status', 'Date & Time', 'Factory Reset', 'LED Brightness', 'Open Source Software', 'Reboot Router', 'Remote Administration', and 'System Settings' (which is highlighted with a red bar). The main content area is divided into three sections: 'Router Status', 'User Settings', and 'Router'. The 'Router Status' section includes fields for 'Router's Hostname' (set to 'DRAGON'), 'Local Domain' (set to 'mynetworksettings.com'), and 'Location' (set to 'Other'). The 'User Settings' section includes a 'User name' field (set to 'Admin'), a 'Set new password' field (with a 'minimum 8 characters' note), a 'Retype new password' field, and an 'Unsuccessful Login Attempts' field (set to '10' with a 'maximum attempts' note). The 'Router' section is currently empty.

SYSTEM

The screenshot shows the 'System Settings' page of a Verizon Business Gateway. The interface includes a top navigation bar with 'Basic' and 'Advanced' tabs, and a left sidebar with a 'Diagnostics & Monitoring' section containing links to 'System', 'System Status', 'Date & Time', 'Factory Reset', 'LED Brightness', 'Open Source Software', 'Reboot Router', 'Remote Administration', and 'System Settings'. The main content area is titled 'System Settings' and contains several configuration options: 'Automatic Refresh of System Monitoring Web Pages' (unchecked), 'Prompt for Password When Accessing via LAN' (checked), 'Warn User Before Configuration Changes' (checked), 'Session lifetime' (600 seconds), 'Number of concurrent sessions that can be logged into the router' (10), 'Remote Administration' section with 'Primary HTTPS Management Port' (443), 'System Logging' (disabled), 'Remote System Notify Level' (None), 'Remote Security Notify Level' (None), and 'DHCP Timeout' (90 seconds). An 'Apply Changes' button is located in the top right corner.

2. In the **Router Status** section, configure the following:
 - **Router's Hostname** – enter the host name of your Verizon Business Internet Gateway.
 - **Local Domain** – view the local domain of the network.
 - **Location** – select your current location of the Gateway from the dropdown list.
3. In the **User Settings** section, you can view the administration user that can currently access your Wi-Fi network. In addition, you can modify the login password and manage the number of unsuccessful login attempts the administration user can enter before your Gateway temporarily denies all further login attempts by the user.
4. In the **Router** section, configure the following by selecting the check box:
 - **Automatic Refresh of System Monitoring Web Pages** – activates the automatic refresh of system monitoring web pages.

- **Prompt for Password when Accessing via LAN** – causes your Gateway to ask for a password when trying to connect to the network.
 - **Warn User Before Configuration Changes** – activates user warnings before network configuration changes take effect.
 - In the **Session Lifetime** field, specify the length of time required before re-entering the login password after your Gateway has been inactive.
 - In the **Number of concurrent sessions that can be logged into the router** field, select the number of users that can access your Gateway at the same time.
5. In the **Remote Administration** section, configure the following:
- Enter the **Primary HTTP Management Port**.
Refer to 5.3f Remote Administration for using this feature.
 - In the **System Logging** section move the selector to **on** to activate system logging.
 - **Remote System Notify Level** – specify the type of information, such as none, error, warning, and information, received for remote system logging.
 - **Remote Security Notify Level** – specify the type of information, such as none, error, warning, and information, received for remote network security logging.
 - In the **DHCP Timeout** section, specify the DHCP timeout.
6. Click **Apply Changes** to save changes.

06 /

TROUBLE SHOOTING

6.0 Troubleshooting Tips

6.1 Frequently Asked Questions

This chapter lists solutions for issues that may be encountered while using your Verizon Business Internet Gateway as well as frequently asked questions.

Although the majority of internet connectivity is automatic and transparent, if an issue does occur accessing the internet (e.g. complete loss of connectivity, inability to access services, etc.), you may need to take additional steps to resolve the problem.

TROUBLESHOOTING TIPS

Note: The advanced settings should only be configured by experienced network technicians to avoid adversely affecting the operation of your Gateway and your local network.

6.0/ TROUBLESHOOTING TIPS

6.0a/ IF YOU ARE UNABLE TO CONNECT TO THE INTERNET:

- The first thing to check is whether the battery of your Verizon Business Internet Gateway is completely depleted. If the battery is depleted, charge the Gateway by plugging the provided power cord to the power supply.
- Be sure your Gateway is powered on and is connected to the internet. Check the Status LED on the top of the Gateway. Be sure to refer to the “1.1c/ LEDs” on page 7 to determine status of the Gateway.
- If the prior tips do not resolve your connection issue, try power cycling the Gateway by unplugging the power cord from the power supply and wait 2 minutes. During the 2 min. wait period, also power cycle the network device (e.g. the computer, tablet, etc.) and then plug the power cable back into the Gateway. After 3-5 minutes, recheck the Status LED and try again to access the internet.
- If rebooting your Gateway does not resolve your connection issue, try resetting the Gateway back to its factory default state by manually pressing the reset PIN hole on the rear panel of the Gateway for 3+ seconds (the Status LED should go off) to begin resetting your Gateway. Your Gateway will perform a factory reset and return the Gateway to default settings. The Gateway will return to service in 3-5 minutes depending on your network connection. Check Status LED and if it is solid white, try again to access the internet.

6.0b/ IF YOU ARE UNABLE TO CONNECT TO YOUR VERIZON BUSINESS INTERNET GATEWAY USING WI-FI:

- Be sure your Wi-Fi device is within range of your Gateway; move it closer to see if your connection improves.
- Check your network device's Wi-Fi settings to be sure your device's Wi-Fi is on (enabled) and that you have the correct Wi-Fi network and password (if using a Wi-Fi password) as configured on your Gateway.
- Be sure you are connecting to the correct Wi-Fi network; check to be sure you are using your Gateway's SSID. In some cases, if using a Wi-Fi password, you may need to enter the Wi-Fi password into your network device again to be sure your device accepts the password.
- Check to be sure you are running the latest software for your network device.
- Try turning your network device's Wi-Fi off and on, and try to connect.
- If you have made any changes in your network settings and turning your network device's Wi-Fi off and on does not help, try to restart your network device.
- You may need to turn the Wi-Fi settings from on to off, and back to on again and apply the changes.
- If you are still unable to access your Gateway, you may need to try connecting to the Gateway using another network device. If the issue goes away with another network device, the issue is likely with that individual network device's configuration.

6.0c/ ACCESSING YOUR VERIZON BUSINESS INTERNET GATEWAY IF YOU ARE LOCKED OUT

- If your Gateway connection is lost while making configuration changes, a setting that locks access to Gateway's UI may have inadvertently been activated.

TROUBLESHOOTING TIPS

The common ways to lock access to your Gateway are:

- Scheduler - If a schedule has been created that applies to the computer over the connection being used, your Gateway will not be accessible during the times set in the schedule.
- Access Control - If the access control setting for the computer is set to block the computer, access to your Gateway is denied.

To gain access, restore the default settings to your Gateway.

6.0d/ RESTORING YOUR VERIZON BUSINESS INTERNET GATEWAY'S DEFAULT SETTINGS

There are two ways to restore the default settings of your Gateway. It is important to note that after performing either procedure, all previously save settings on your Gateway will be lost.

For additional information regarding the Restore Defaults feature, refer to section 5.3c/ Factory Reset/Restore Options.

- Using the tip of a paperclip or similar object, press and hold the reset PIN hole on the rear of your Gateway for over three seconds.
- Access the UI and navigate to the Advanced Settings page. Select the 5.3c/ Factory Reset option. After saving your configuration, if desired, click the Factory Default radio button. For additional details, refer to the 5.3c/ Factory Reset/Restore Options section of this guide.

***Note:** If you reset or reboot your Gateway, you may also need to disconnect your Gateway's power supply for a few minutes (3 or more) and then reconnect the power cable.*

6.0e/ LAN CONNECTION FAILURE

To troubleshoot a LAN connection failure:

- Verify your Gateway is properly installed, LAN connections are correct, and that the Gateway and communicating network devices are all powered on.
- Confirm that the computer and your Gateway are both on the same network segment.

If unsure, let the computer get the IP address automatically by initiating the DHCP function, then verify the computer is using an IP address within the default range of 192.168.0.2 through 192.168.0.254. If the computer is not using an IP address within the correct IP range, it will not connect to your Gateway.

- Verify the subnet mask address is set to 255.255.255.0.

6.0f/ TIMEOUT ERROR OCCURS WHEN ENTERING THE URL OR IP ADDRESS

Verify the following:

- All computers are working properly.
- IP settings are correct.
- Your Gateway is on and connected properly.
- The Gateway settings are the same as the computer.

For connections experiencing lag or a slow response:

- Check for other devices on the network utilizing large portions of the bandwidth and if possible temporarily stop their current utilization and recheck the connection.
- If lag still exists, clear the cache on the computer and if still needed, unplug the Ethernet cable or disable the Wi-Fi connection to the computer

TROUBLESHOOTING TIPS

- experiencing the slow connection and then reconnect or enable the Wi-Fi connection and try the connection again.
- In rare cases you may also need to:*
- Unplug the Ethernet cable to your Gateway and restart the Gateway, wait 1-2 mins. and insert the Ethernet cable again.
 - Under limited circumstances you may use a port forwarding configuration on the Gateway, based on the application you are using (refer to the 5.0e/ Port Forwarding section or Verizon's support online help for more details).

6.0g/ LEDS AND WPS BUTTON

System LED

LED Mode	Status	LED Pattern
System Status (Power)		
Bootup	System booting	Soft blink white
	Firmware update	Fast blink white
Regular usage mode	Rest mode	Solid white
Wired WAN connectivity	In service	Solid blue
IP Passthrough mode	IPPT (IP Passthrough) enabled	Solid green
Other	Factory reset	Fast blink yellow
	Hardware error	Soft blink red
	No SIM card	Hard blink red
	No signal; not connected to Internet	Solid red

Wi-Fi LED

LED Mode	Status	LED Pattern
		
Regular usage mode	Passing signal	Solid white
	Setup complete	Solid white
	Not connected to Internet	Solid red
	Rest mode	Solid dim white
Pairing	Pairing WPS (in progress)	Hard blink blue
	WPS connection success	Fast blink blue
	WPS connection unsuccessful (time out)	Fast blink red
	WPS connection failure (interrupted)	Hard blink red
Other	Hardware error	Soft blink red

Signal Strength LEDs

LED Mode	Status	LED Pattern
Regular usage mode	Rest mode	50% dim white
3 bars ()	Excellent 5G or 4G coverage	Solid white

TROUBLESHOOTING TIPS

LED Mode	Status	LED Pattern
2 bars ()	Good 5G or 4G coverage	Solid white
1 bar ()	Weak 5G or 4G coverage	Solid white

The rear panel's WPS Button allows quick access to the Wi-Fi Protected Setup (WPS) feature and handset paging/pairing mode.

Battery LEDs

LED Mode	Status	LED Pattern
	More bars indicates more battery life	Solid white

6.0h/ REAR LIGHTED INDICATORS

Ethernet Port LED Mode	Status	Left LED	Right LED
Wired LAN connection * Threshold level can be decided based on port capability	Ethernet > 100M* Link	Off	Solid white
	Ethernet > 100M* Activity	Off	Blinking white
	Ethernet < 100M* Link	Solid yellow	Off
	Ethernet < 100M* Activity	Blinking yellow	Off
	No Ethernet connection	Off	Off

6.1/ FREQUENTLY ASKED QUESTIONS

6.1a/ I'VE RUN OUT OF ETHERNET PORTS ON MY VERIZON BUSINESS INTERNET GATEWAY. HOW DO I ADD MORE COMPUTERS OR DEVICES?

Plugging in an Ethernet hub or switch expands the number of ports on your Gateway.

- Run a straight-through Ethernet cable from the Uplink port of the new hub to the Gateway.

Use a crossover cable if there is no Uplink port/switch on your hub, to connect to the Gateway.

- Remove an existing device from the Ethernet port on your Gateway and use that port.

6.1b/ HOW DO I CHANGE THE PASSWORD ON MY GATEWAY UI?

To change the password:

1. On the main screen, select **Advanced**, then select **System Settings** in the **System** section.
2. In the **User Settings** section, set a new password.

6.1c/ IS THE WI-FI OPTION ON BY DEFAULT ON MY GATEWAY?

Yes, your Gateway's Wi-Fi option is activated out of the box.

6.1d/ IS THE WI-FI SECURITY ON BY DEFAULT WHEN THE WI-FI OPTION IS ACTIVATED?

Yes, with the unique WPA2 (Wi-Fi Protected Access II) key, also called the Wi-Fi Password, that is printed on the sticker on the bottom of your Gateway.

FREQUENTLY ASKED QUESTIONS

6.1e/ ARE THE GATEWAY'S ETHERNET PORTS AUTO-SENSING?

Yes. Either a straight-through or crossover Ethernet cable can be used.

6.1f/ CAN I USE AN OLDER WI-FI DEVICE TO CONNECT TO MY GATEWAY?

Yes, your Gateway can interface with 802.11b, g, n, ac or ax devices. The Gateway also can be setup to handle only n Wi-Fi cards, g Wi-Fi cards, b Wi-Fi cards, or any combination of the three.

6.1g/ CAN MY WI-FI SIGNAL PASS THROUGH FLOORS, WALLS, AND GLASS?

The physical environment surrounding your Gateway can have a varying effect on signal strength and quality. The denser the object, such as a concrete wall compared to a plaster wall, the greater the interference. Concrete or metal reinforced structures experience a higher degree of signal loss than those made of wood, plaster, or glass.

6.1h/ HOW DO I LOCATE THE IP ADDRESS THAT MY COMPUTER IS USING?

In Windows 8 or Windows 10, click the Windows button and select **Settings**, then click **Network & Internet** and **Status**. Click the **Properties** button for details of IP address.

On Mac OS X, open System Preferences and click the Network icon. The IP address displays near the top of the screen.

To find the IP address from the router GUI:

1. From the **Basic** menu, select **Devices** from the left pane.
2. Click the Settings icon to access the **Device Settings** page for that device to view detailed IP address information for the device.

6.1i/ I USED DHCP TO CONFIGURE MY NETWORK. DO I NEED TO RESTART MY COMPUTER TO REFRESH MY IP ADDRESS?

No. In Windows 8, Windows 10 and Mac OSX, unplug the Ethernet cable or Wi-Fi card, then plug it back in.

6.1j/ I CANNOT ACCESS MY GATEWAY UI. WHAT SHOULD I DO?

If you cannot access the UI, verify the computer connected to your Gateway is set up to dynamically receive an IP address.

6.1k/ I HAVE A FTP OR WEB SERVER ON MY NETWORK. HOW CAN I MAKE IT AVAILABLE TO USERS ON THE INTERNET?

For a web server, enable port forwarding for port 80 to the IP address of the server. Also, set up the web server to receive that port. Configuring the server to use a static IP address is recommended.

For a FTP server, enable port forwarding for port 21 to the IP address of the server. Also, set up the web server to receive that port. Configuring the server to use a static IP address is recommended.

6.1l/ HOW MANY COMPUTERS CAN BE CONNECTED THROUGH MY GATEWAY?

Your Gateway is capable of 254 connections, but we recommend having no more than 132 connections. As the number of connections increases, the available speed for each computer decreases.

07 /

SPECIFICATIONS

7.0 General Specifications

7.1 Connections

The specifications for your Verizon Business Internet Gateway are as follows.

This includes standards, cabling types and environmental parameters.

GENERAL SPECIFICATIONS

Note: The specifications listed in this chapter are subject to change without notice.

7.0/ GENERAL SPECIFICATIONS

Model Number:	XC46BE
Technical Standard:	3GPP Release 16 (DL CAT 19, UL CAT 18)
Frequency band:	LTE Band: B2,B5,B13,B48,B66, DL 4x4 MIMO, UL 1x1 SISO 5G Band: n2, n48, n66, n77: DL 4x4 MIMO, UL 2x2 MIMO; n5: DL 4x4 MIMO, UL 1x1 MIMO
Wi-Fi Standard:	802.11 a/b/g/n/ac/ax/be
Dimensions:	140 mm x 140 mm x 220.5 mm (L x W x H)
Weight:	1.15 Kg
Certifications:	FCC, UL
Operating Temperature:	5° C to 40° C (41° F to 104° F)
Storage Temperature:	-45° C to 70° C (-49° F to 158° F)
Operating Humidity:	5% to 90%
Storage Humidity:	5% to 95% (non-condensing)

7.1/ CONNECTIONS

DC Input:	source adapter: 12V/3.5A
Battery:	70.56Wh
RJ-45 Ethernet:	Two 1Gigabit LAN Ports One 2.5Gigabit WAN Port, PoE 802.bt (Secondary Power)

08 /

NOTICES

8.0 Regulatory Compliance Notices

8.1 Battery Safety Instructions

This chapter lists various compliance, modification notices and GPL, as well as Battery Safety Instructions.

REGULATORY COMPLIANCE NOTICES

8.0/ REGULATORY COMPLIANCE NOTICES

8.0a/ Federal Communication Commission Interference Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Operations in the 5.15-5.25GHz band are restricted to indoor usage only.

This device meets all the other requirements specified in Part 15E, Section 15.407 of the FCC Rules.

Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

8.0b/ UL Statement

This product is intended to be supplied by an UL certified Class II power supply or Class II DC source suitable for use at minimum Tma 40 degree C whose output meets ES1, PS2 and is rated 12VDC, 3.5A. If need further assistance, please visit <http://support.verizon.com/router> to find your nearest Verizon store or for 24/7 help with live chat and device-specific support.

The PoE circuits are considered as ES1 circuits and suitable for PoE bt type3 and voltage range 42.5 to 57V. The function of the ITE being investigated to IEC TR 62102 is considered not connection to an Ethernet Network with outside plant routing, including campus environment; and the installation instruction clearly states that the ITE is to be connected only to PoE networks without routing to the outside plant.

Caution: *The Verizon Business Internet Gateway must be installed inside the home or office. The Gateway is not designed for exterior installation.*

BATTERY SAFETY INSTRUCTIONS

8.0c/ GENERAL PUBLIC LICENSE

This product includes software made available under open source licenses. Additional information about that software, applicable licenses, and downloadable copies of source code, is available at:

<https://verizon.com/opensource/>

All open source software contained in this product is distributed WITHOUT ANY WARRANTY. All such software is subject to the copyrights of the authors and to the terms of the applicable licenses included in the download.

This information is provided for those who wish to edit or otherwise change such programs. You do not need a copy of any of such open source software source code to install or operate the device.

8.1/ BATTERY SAFETY INSTRUCTIONS

Please follow the below instructions carefully.

Caution and Safety Information:

In order to prevent battery leakage, overheating, explosion, please follow these precautions:

- **DO NOT**
 - put battery into water or seawater; and avoid humidity
 - put the battery in microwave or under pressure chamber
 - place the battery near heat sources such as fire or heater
 - reverse the positive and negative terminals of the battery
 - connect the battery terminals to the power output
 - knock or throw the battery

-
- pierce the battery with a pin or other sharp objects
 - use a hammer or step on the battery
 - leave the battery in unattended vehicle where it can get too hot or too cold
 - Only use the charger that came with the device. Directly charging or using non-factory charger will reduce the battery life and/or damage the battery
 - Short-circuiting the battery will lead to severe damage, reduce lifespan and potentially causing it to leak or explode
 - Battery has built-in safety features. Opening the battery and/or changing the parts may results in damage, leak or explosion
 - Maintain operating temperature within the range
 - Charge temperature ranges: 0°C to 50°C Discharge Temperature ranges: -20°C to 60°C

Warning

- Stop using the battery if it becomes abnormally hot, having an odor or subject to discoloration, deformation or any abnormal condition that is detected during use, charging, or storage.
- If the battery doesn't complete charging within the specified time, then charging should be stopped.
- If liquid leaking from battery gets into your eyes, don't rub your eyes, wash them with clean water and see a health care provider immediately.
- Keep away from fire sources immediately if the battery leaks or the electrolyte emits an odor. If the battery leakage or electrolyte gets into your skin or cloths, wash with fresh water immediately. If the battery leakage or electrolyte gets into the eyes, do not rub your eyes. Rinse with clean water and seek an ophthalmologist to prevent eye injuries.

BATTERY SAFETY INSTRUCTIONS

- Do not mix the battery with other chemical batteries or batteries of different capacities or brands.
- If the battery emits an unusual odor, heats up, changes color, or deforms, immediately stop charging.
- Keep battery away from children
- Charging current must be as specified in the user guide and cell specs.
- Discharge current must be as specified in device/battery cell specs.
- Do not touch any damaged or leaking lithium-ion batteries.
- Battery must be charged following the described steps in user guide.
- If the battery has been in the charging mode for a long time while it is fully charged status, an abnormal swelling may be caused. Users should avoid overcharging for a long period of time.

CAUTION

- Risk of fire or explosion if the battery is replaced by an incorrect type
- High or low extreme temperatures that a battery can be subjected to during use, storage or transportation
- Disposal of a battery into fire or a hot oven, or mechanically crushing or cutting of a battery, that can result in an explosion
- Leaving a battery in an extremely high temperature surrounding environment that can result in an explosion or the leakage of flammable liquid or gas
- A battery subjected to extremely low air pressure at high altitude that may result in an explosion or the leakage of flammable liquid or gas

Warranty:

The battery is covered with limited warranty. The battery is considered a 'wear and tear' item and expected to wear out with normal usage and should be replaced when the charging time exceeds the specifications.

The battery has one year warranty and maintain 80% of battery capability after 500 cycles at 25°C whichever comes first.

The battery warranty does not cover improper usage:

- Misuse (for instance, use at temperatures other than within the acceptable ranges defined in user guide or the Safety Instructions), unauthorized modifications, neglect, improper installation or testing, unauthorized attempts to repair, abuse, damage, or alteration by an entity or person other than the manufacturer; or
- Device or battery damaged by external causes, including without limitation, damage by fire, accident, power surge, power failure, improper storage or other hazard, natural disasters, wear and tear, or sulphation.