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Getting Started

MiFi 4082 Device Overview Install and Charge Battery Initial Connection and Setup — Overview Wi-Fi Setup

MiFi 4082 Device Overview

The Novatel Wireless MiFi Intelligent Mobile Hotspot device (model 4082) is your access point to the Internet anywhere you are. It acts as a Mobile Hotspot for up to five Wi-Fi-enabled devices, where you can surf the web, download files and music, share and swap photos with the built-in microSDHC™ reader, manage email and more at speeds of up to 10 Mbps download via the highest speed mobile 3G and 4G broadband networks.

You can connect any 802.11 b/g/n wireless device to your MiFi device, and the MiFi Landing Page (MLP) provides a quick and easy resource for information. You can establish a secure profile so that others cannot use your MiFi device unless you allow them. [See Wi-Fi Setup on page 16.] You can also establish temporary settings to allow up to five devices to connect with your MiFi device without having to give them your security settings.

System Requirements

- Windows® 2000, XP, Vista and 7; Mac OS® X (10.4.7+); Linux® (2.4, 2.6)*
- 100 MB Hard Drive Space
- 128 MB of RAM
- For Wi-Fi connection: Device supporting Wi-Fi 802.11 b/g/n and an Internet browser
- For USB connection: USB 2.0 port

Package Contents

The Novatel Wireless MiFi 4082 device package includes:

- MiFi Intelligent Mobile Hotspot device
- Rechargeable lithium ion battery
- A/C charger
- Storage pouch
- Quick Start Guide

Product User Guide (on device)

Your MiFi 4082 Intelligent Mobile Hotspot Device

Your MiFi 4082 device has the following parts:

4082 PHOTO DEVICE FRONT FPO



- **microUSB Port** The AC charger, USB cable and optional car charger connect here.
- **microSDHC Slot** Removable memory storage slot supports microSDHC cards (microSDHC card not included).
- **6 Power / Connection LED** Displays network connection and status. [See <u>LED States</u> on page 4.] for a detailed list of the colors and their defined states.
- **elnk Display** Displays network signal strength, battery charge, GPS, and number of users connected to the MiFi 4082 device.

4082 PHOTO DEVICE BACK BATT FPO 4082 PHOTO DEVICE BACK SSID LABEL FPO

- **6 Battery Compartment** The battery is placed here.
- **Master Reset Button** Resets device to factory default settings. {See <u>Using the Master Reset Button</u> on page 68.]
- **SSID Label** If your network is preconfigured, the SSID and Wi-Fi Key are located on the inside of the battery door.

LED States

The MiFi device LEDs provide valuable information about the state of the device and connection.

Power/Connection LED

LED Color		Status	Description
No Light	No power	_	Device is powered off.
Amber	Connected	Flashing:	Battery charging
	to power	Solid:	Battery fully charged
Green	3G	Flashing:	3G service is available
		Solid:	Connected to a network using 3G
Blue	4G	Flashing:	4G service is available
		Solid:	Connected to a network using 4G

elnk Display

The elnk Display is located on the right side of the front of the MiFi device. When the device is powered on, the icons display current device status information.

_000	Mobile Broadband network signal strength	
	[Need correct icon]	
	Battery life; this icon indicates the amount of battery life remaining, and also indicates when the device is connected to power.	
\bigoplus	GPS status; this icon indicates whether the device has a GPS fix or not, and also indicates when the device is searching for a GPS fix.	
Need icon	Connection status; displays a dot for each device connected to the MiFi 4082 device.	

Caring for Your Device

As with any electronic device, the MiFi 4082 device must be handled with care to ensure reliable operation. Novatel Wireless recommends the following handling guidelines:

- Do not apply adhesive labels to the MiFi 4082 device; they may cause the device to potentially overheat and they may alter the performance of the antenna system.
- The USB connector should plug easily into your computer's Type A USB port. Forcing the device into a port may damage the connector.
- Protect the MiFi 4082 device from liquids, dust, and excessive heat.
- Store the MiFi 4082 device in a safe place, when not in use.

Power Sources for Your MiFi Device

Your device will work from its battery or when plugged into a power source.

- **Battery** The battery lasts up to four hours. Charge the battery by plugging in the AC adapter or optional car charger. While the battery is charging the Power/Connection LED flashes amber. When the battery is fully charged, the LED is solid amber.
- **Wall power or car charger** Use the device by plugging it into either a wall socket or a vehicle using the optional car charger accessory. The MiFi battery charges while it is plugged in.
- **USB power from a computer** Use the device as a USB modem while plugged into the USB port of a computer using the supplied USB cable. The battery charges while it is plugged in. Charging the battery through the USB port is slower than charging it with AC or vehicle power.

Install and Charge Battery

Before connecting the MiFi device to your computer for the first time, you must install and charge the battery.

The battery door cover on your MiFi device snaps open and closed. No tools are required to remove or install the battery door. Using any type of tools could result in damage to the device and to the battery. If excessive force appears necessary to move the door or remove the battery, please return the MiFi device to your carrier or where you purchased your MiFi device.

IMPORTANT The battery must be fully charged (for a minimum of four hours) before using your MiFi device the first time. After the initial use and set up, you may use the device with the battery, AC mains charger, car charger, or USB power.

- Hold your MiFi device firmly with one hand and the battery door side up.
- 2 Using the thumb of your free hand, push the release button on the end of the MiFi device.

4082 PHOTO
DEVICE BACK
HOLDING w/ONE
HAND/THUMB ON
BUTTON FPO

IMPORTANT When installing or replacing a battery, ensure that the MiFi device is not connected to your computer with the USB cable or a USB power supply. Before using the MiFi device, review the Battery Tips and Safety disposal instructions in Proper Battery Use and Disposal on page 75

While using normal thumb pressure on the release button with one hand, lift the battery door away from the MiFi device with your other hand.

4082 PHOTO
DEVICE BACK
REMOVING BATTERY
COVER FPO

4 Pick up the edge of the battery door to remove the door.

4082 PHOTO DEVICE BACK PICK UP EDGE FPO

Slide the battery into the battery well.

4082 PHOTO DEVICE BACK HOLDING w/BOTH HANDS FPO

6 Connect the A/C charger to the MiFi device and **charge for a minimum of 4 hours** before use. The battery indicator icon in the Status Indicator Panel will flash while the device is charging and glow solid once charging is complete.

4082 PHOTO DEVICE CONNECTED TO A/C CHARGER FPO

Remove the Battery

WARNING! Never use tools, knives, keys, pens or any type of object to force the door open or to remove the battery. Using any of these types of objects could result in puncturing the MiFi battery.

• Hold your MiFi device firmly with one hand and the battery door side up.

4082 PHOTO
DEVICE ON FLAT
SURFACE W/BATTERY
DOOR SIDE UP.
FPO

Using the thumb of your free hand, push the release button on the end of the MiFi device.

4082 PHOTO
HOLDING W/ONE
HAND & THUMB ON
RELEASE BUTTON
FPO

While using normal thumb pressure on the release button with one hand, lift the battery door away from the MiFi device with your other hand.

4082 PHOTO
DEVICE BACK
W/BATTERY DOOR
LIFTED
FPO

4 Pick up the edge of the battery door to remove the door.

4082 PHOTO
SHOWING BATTERY
DOOR REMOVED
FPO

5 Lift the battery up and remove from the battery well.

4082 PHOTO
SHOWING HOLDING BATTERY OUT OF
WELL
FPO

Battery Tips

WARNING! Use only batteries and chargers with your device that have been approved by your service provider or by Novatel Wireless. Always use Novatel Wireless original batteries and chargers. The warranty does not cover damage caused by non-Novatel Wireless batteries and/or chargers.

- It normally takes at least four hours to fully charge the battery.
- Do not use sharp objects to access the battery well, this may damage the device and the battery.
- Do not use force to remove the battery or to access the battery well.
- If your MiFi device is connected to a computer using a USB cable, the battery charges.
- When one device is accessing mobile data while your MiFi device is using battery power, the device lasts up to four hours.
- The battery discharges more rapidly as additional devices access your MiFi device.
- Battery life depends on the network, signal strength, temperature, features, and accessories you use.
- Your device also works with an approved car charger.
- New batteries or batteries stored for a long time may take more time to charge.
- When charging your battery, keep it near room temperature.
- When storing your battery, keep it uncharged in a cool, dark, dry place.
- Never expose batteries to temperatures below -10°C (14°F) or above 45°C (113°F).
- Never leave the device in an unattended vehicle due to uncontrollable temperatures that may be outside the desired temperature for this device.
- Some batteries perform best after several full charge/discharge cycles.
- It is normal for batteries to gradually wear down and require longer charging times. If you notice a change in your battery life, it is probably time to purchase a new battery.

IMPORTANT! Whenever you remove or insert the battery, ensure your MiFi device is not connected to any device or power source. Never use tools, knives, keys, pens or any type of object to force the door open or to remove the battery. Using any of these types of objects could result in puncturing the MiFi battery.

WARNING! The failure to use approved batteries and chargers may increase the risk that your device will overheat, catch fire, or explode, resulting in serious bodily injury, death, or property damage.

Initial Connection and Setup — Overview

IMPORTANT Your MiFi device is pre-configured with your network operator settings. If your MiFi device is unable to pre-configure your settings, you need the Service Programming Code (SPC) or Master Subsidy Lock (MSL) name from your service provider plus any username, password, or other information they may have given you. If you do not have this information, contact your service provider before attempting to set up your MiFi device.

Your MiFi device is your access point to the Internet anywhere you are. It is also a temporary hotspot for up to five devices, and the MiFi Landing Page is your quick and easy resource for information.

You can connect any 802.11 b/g/n wireless device to your MiFi device. You can establish a secure profile so that others cannot use your MiFi device unless you allow them. You can also establish temporary settings to allow up to five devices to connect with your MiFi device without you having to give them your security settings. [See Wi-Fi Configuration on page 34.]

MiFi Landing Page

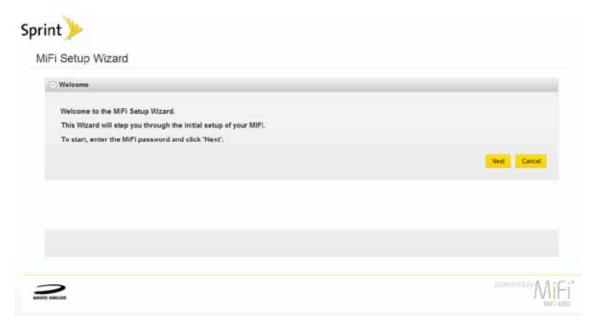
The MiFi Landing Page comes on your MiFi device. It's an on-device web page that contains customizable widgets with frequently-used information. Your widgets may vary; the examples in this guide describe generally how widgets work.

Continue through the following steps if you are setting up your MiFi device for the first time. For more detailed information about the MiFi Landing Page features, see MiFi Landing Page on page 26.

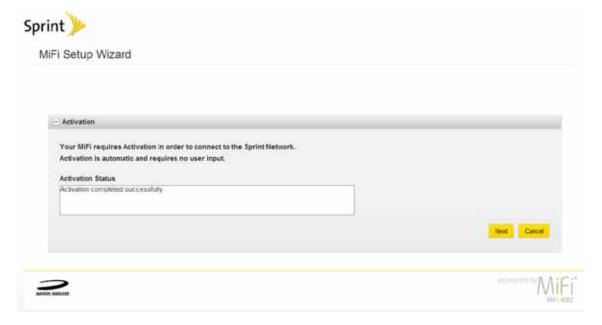
Login to the MiFi 4082 Device for the First Time

• From your computer's Web browser, type http://192.168.1.1 in the address bar and press the **Enter** or **Return** key.

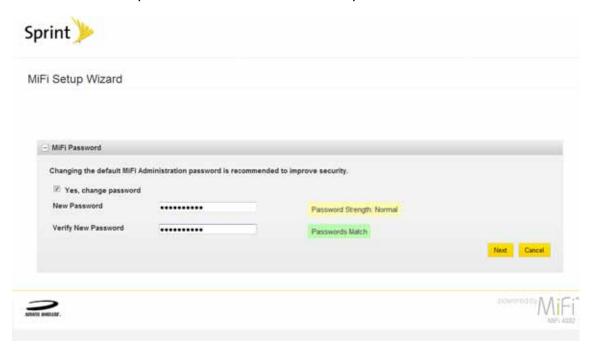
Your MiFi device's Setup Wizard opens. This Wizard will take you step-by-step through your initial set up. You will not need to run the Setup Wizard after your initial set up, although you can access it anytime from the Home page.



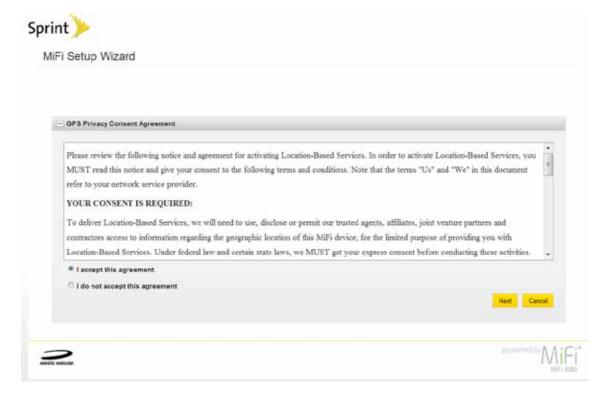
2 Enter the MiFi password **admin** and click **Next.** The Setup Wizard Activation screen opens and displays your activation status.



6 Click Next. The Setup Wizard MiFi Password screen opens.



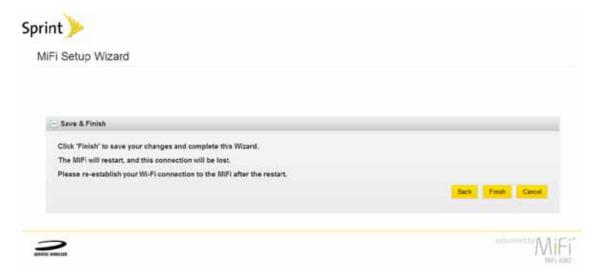
4 Enter and verify your new password, and then click **Next.** The GPS Privacy Consent Agreement screen opens.



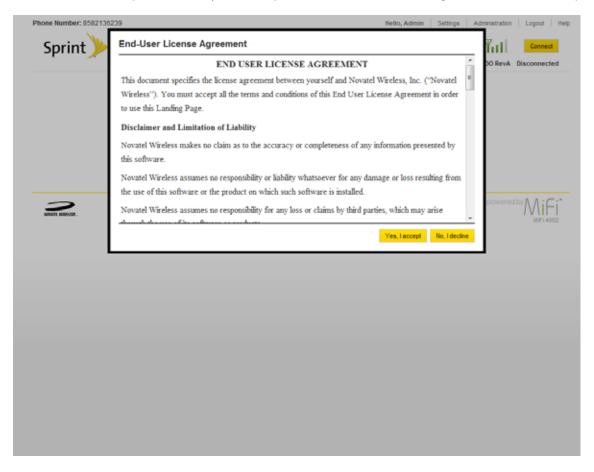
Select the I accept this agreement button, and then click Next.

The Setup Wizard Save & Finish screen opens.

6 Click **Back** to change previous setting selections, or click **Cancel** to exit the Setup Wizard without saving the changes. You can restart the Setup Wizard at any time from the Home page.

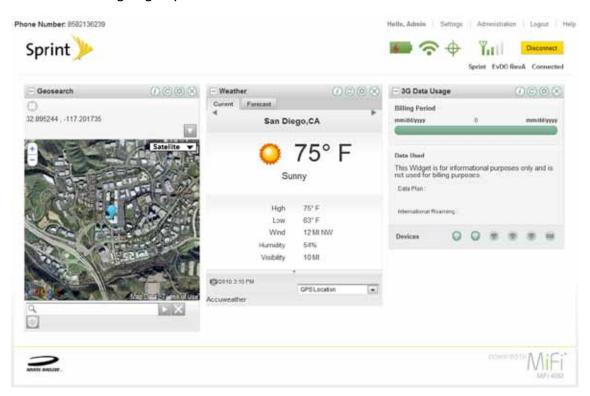


Click Finish to accept and save your setup. The End-User License Agreement window opens.



8 Click Yes, I accept.

The MiFi Landing Page opens.



Wi-Fi Setup

To properly set up your device, you need to do both of the following tasks:

- Set Up a Wi-Fi Connection
- Set Up Wireless Security

IMPORTANT Your MiFi device might be pre-configured with Wi-Fi encryption (WEP 128 bits) to prevent unauthorized access to your mobile broadband service. The unique SSID (network name) and WEP key are printed on the inside of the battery door. You need this information to continue.

Set Up a Wi-Fi Connection

In most cases, your MiFi device should be pre-configured for your network operator right out of the box and you can connect normally. [See Connect to your MiFi device: (page 16).]

If it is not pre-configured, setting up the Wi-Fi connection requires two steps:

- Connect to your MiFi device
- Configure your MiFi device for your service provider (Not required for most users.)



The battery should be fully charged before using MiFi the first time.

To connect in Wi-Fi Mode, your MiFi device must be powered with a charged battery, with an AC mains, or car charger. When your MiFi device is connected to your computer with the USB cable, Wi-Fi is disabled.

Connect to your MiFi device:

• Press the power button.

Your MiFi device powers on and starts up. When the power LED is flashing and the Wi-Fi LED is solid blue, the device is ready for you to connect another device (such as your computer) to it.

- ② Use the normal Wi-Fi manager on your computer to locate the MiFi network name (SSID) and select it.
 - **NOTE** If your device was pre-configured, the network name was printed on the inside of the battery door. If your device was not pre-configured, select the network name that has MiFi_4082 in the name.
 - **Windows only**: The steps to connect to a Wi-Fi network vary depending on your operating system version and whether you use the native application or third-party software.

Windows: Click **Connect**.

Mac OS X: Click the MiFi network name.

If your unit was **not** pre-configured, the Wi-Fi LED flashes to show the connected status. Continue to <u>Configure your MiFi device for your service provider</u> on page 17.

If your unit was pre-configured, continue to the next step.

6 Enter the Network Key when requested.

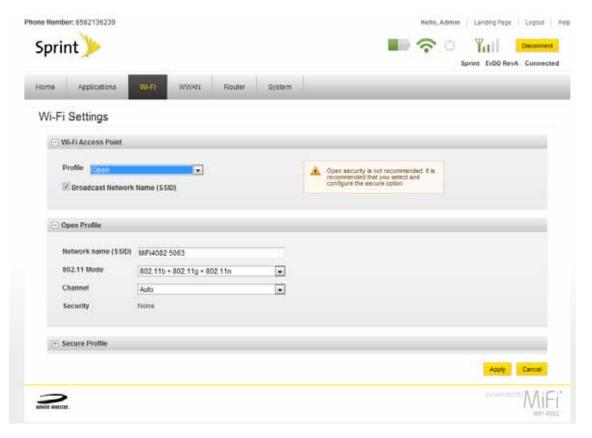
The Wi-Fi LED flashes to show connected status.

Configure your MiFi device for your network operator:

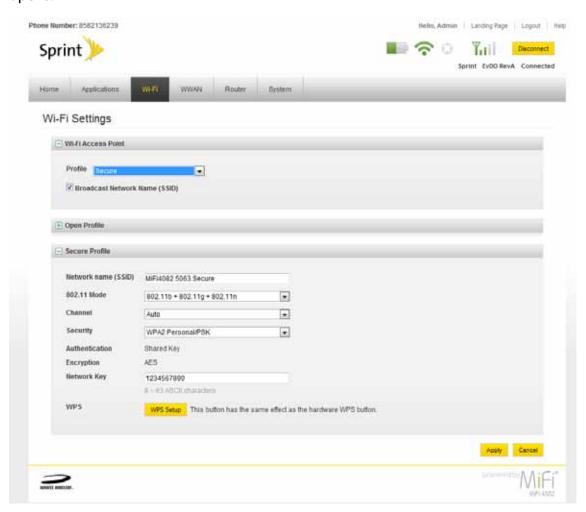
IMPORTANT If your network was not pre-configured, follow these steps to configure your MiFi device for you network operator. Your network service provider should have given you instructions with your APN (and user name and password, if required). Be sure you have and follow those instructions.

- 1 Log in and then click **Settings**. [See Login to the MiFi 4082 Device for the First Time on page 12.]
- Select WiFi > Settings.

The Wi-Fi Settings page opens. If your device does not come preconfigured with security, you will be prompted to change to the secure option.



Select **Secure** from the Wi-Fi Access Point Profile dropdown menu. The Secure Profile section opens.



- Select the appropriate 802.11 Mode, Channel, and Security options from the Secure Profile dropdown menus.
- 5 Type the Network Key you want to use.

IMPORTANT Record your network key.

6 Click **Apply**.

IMPORTANT Your wireless connection will be disabled at this point. You must reconnect with the new network key you just established.

WARNING! It is highly recommended that you set up security for your MiFi device at this time. If you do not configure security for your wireless network, data on your network will be easily accessible to others.

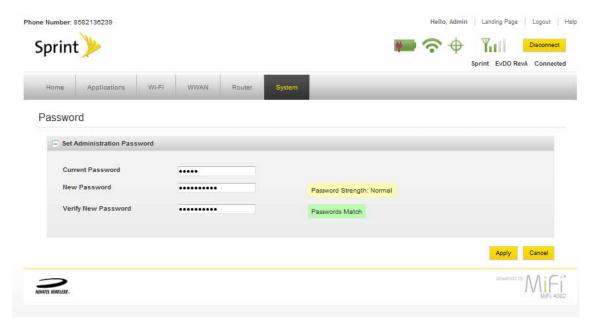
Set Up Wireless Security

Using security with your wireless network is very important. If your network was not pre-configured, Novatel Wireless recommends that you set up security immediately by following these steps:

- Change the Administrative Password:
- Establish a Secure Profile:

Change the Administrative Password:

- 1 Log in and then click Settings. [See Login to the MiFi 4082 Device for the First Time (page 12).]
- Choose System > Password from the menu bar.



- **3** Type **admin** into the Current Password field.
- Select a new administrative password and enter it into both New Password fields.
- **6** Click **Apply**.

This is the new administrative password that you use when you log in to the browser interface.



Establish a Secure Profile:

You can use WEP (64- or 128-bit), WPA-PSK, WPA2-PSK, or WPA/WPA2 mixed mode security. If you did not establish a secure profile when you configured your device for your network operator, you can do so now. [See <u>Configure your MiFi device for your network operator</u> on page 17.]

You can customize your MiFi Landing Page by continuing to Accessing MiFi Features on page 26.

Using MiFi and Sharing Files

Using microSDHC Cards with MiFi — File Sharing

Using microSDHC Cards with MiFi — File Sharing

Your MiFi device comes with a microSDHC card slot that allows you to move files with you without having to carry an additional flash drive. You can use microSDHC cards with up to 16GB capacity.

Insert the microSDHC Card

Insert the microSDHC card into the microSDHC slot.

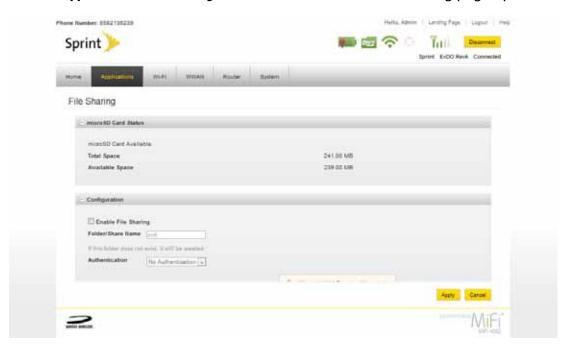


- **NOTE** Be careful not to touch the contacts.
 - Do not force the card into the slot. Check the orientation if you have difficulties.

Enable File Sharing on Your MiFi Device

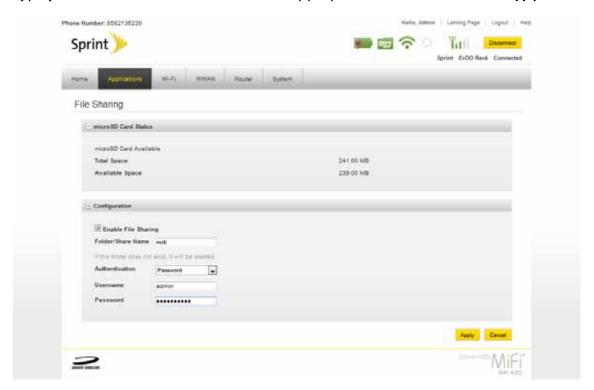
If you establish file sharing on your MiFi device, others connected to your MiFi device can access the files on your microSDHC card.

- 1 Log in and then click Settings. [See Log In to the Home Page (page <?>).]
- Insert a microSDHC card.
- Choose Applications > File Sharing from the menu bar. The File Sharing page opens.



From here you can see how much free space you have available on the microSDHC card and enable file sharing

- **6** Check **Enable File Sharing** in the Configuration section.
- **S**elect your security setting, from the Authentication dropdown menu.
- **6** Type your Username and Password in the appropriate fields and then click **Apply**.



Access Shared Files on Your MiFi Device

Once you enable file sharing (see "Enable File Sharing on Your MiFi Device" on page 21), you can access the shared files on your computer.

Windows

- Connect to your MiFi device using WiFi
- Open My Network Places. This might vary depending on your version of Windows.
- In the Address bar, type the MiFi IP address and the MiFi Share name (for example: \\192.168.1.1\\mifi, if your share name is the default name).
 - You can set the MiFi Share name and authentication (username and password) on the File Sharing screen. [See Enable File Sharing on Your MiFi Device (page 21).]
- If authentication is enabled, you will be prompted for a username and password. Use the username and password set on the File Sharing screen.

You can now browse the folders and files on the microSD card inserted in your MiFi device.

Mac OS X (v10.4 and later)

- Connect to your MiFi device using WiFi.
- Select Go > Connect to Server.
- In the Address field, type smb:// and the MiFi address (for example: smb://192.168.1.1/mifi, if your share name is the default name).
 - You can set the MiFi Share name and authentication (username and password) on the File Sharing screen. [See <u>Enable File Sharing on Your MiFi Device</u> (page 21).]
- 4 Click Connect.
- **Mac OS X v10.4 only**: An authentication window opens. If you set authentication (password) on the File Sharing screen, type the username and password in the window. If you did not set authentication, click **OK** to access the MiFi Share.
 - **NOTE** If no password is set, but you are prompted for a name, use the name **guest**.

Mac OS X v10.5 and later: If you set authentication (username and password) on the File Sharing screen, type the username and password when prompted. If you did not set authentication, a Finder window opens.

You can now browse the folders and files on the microSD card inserted in your MiFi device.

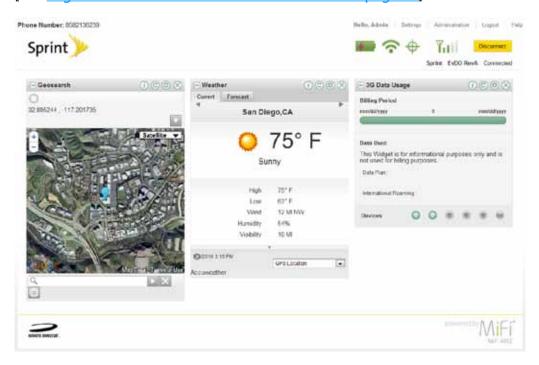
Accessing MiFi Features

MiFi Landing Page MiFi Settings Wi-Fi Configuration Internet Configuration Router Configuration System Configuration

MiFi Landing Page

Open the MIFi Landing Page Interface

[See Login to the MiFi 4082 Device for the First Time page 12]



The Navigation Bar

At the top of the MiFi Landing Page in the browser interface is the navigation bar. These buttons are dynamic according to the page you visit.

The following images are some examples of the navigation bar:

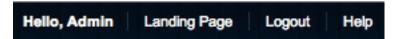
The navigation prior to logging in.



The navigation after you log in, but before you go to the Settings section of the site.



The navigation in the Settings section of the site.



The Status Icons

Below the Navigation Bar, at the top right corner of the window, status icons tell you about the battery life, mobile broadband network strength, Wi-Fi strength, roaming status, GPS status, and connection status.

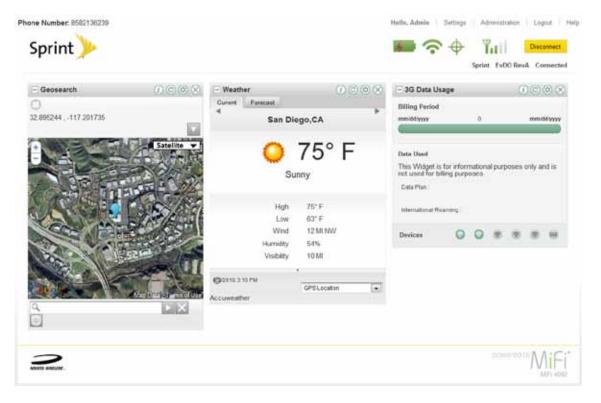
	Battery life; this icon indicates the amount of battery life remaining, and also indicates when the device is connected to power.
	Mobile Broadband network signal strength
<u> </u>	WiFi signal strength
	Network roaming status; this icon indicates whether the device is on its own network or roaming on another network.
\oplus	GPS status; this icon indicates whether the device has a GPS fix or not, and also indicates when the device is searching for a GPS fix.
Disconnect	Connection status; click this button to connect to or disconnect from the Moblie Broadband network.

Each icon varies according to the current status and may vary depending on your network operator and conditions.

The Landing Page

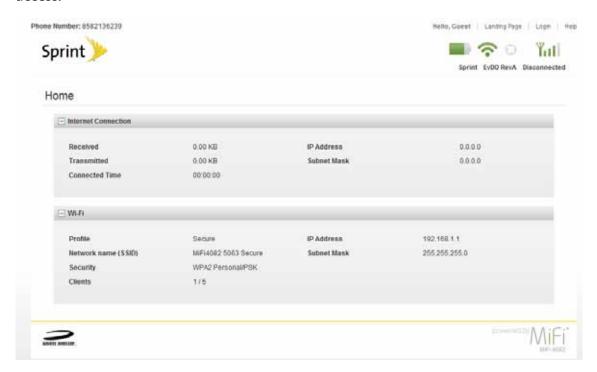
The Landing page is the page you see when you first connect to your MiFi device with your browser. It is the main point of entry for all your work with your MiFi device. This is the page where you first find the Connect button with which you can connect to the Mobile Broadband network. You can also set your MiFi device to auto-connect to the network.

The Landing page is where guests can see and interact with widgets. They can drag and drop widgets around the screen and arrange them as they like; each guest's browser stores the widget locations. Generally the widget settings are limited or not available to guests. Guests also cannot initiate a connection to the network. You can change this setting. [See Internet Settings (page 40).]



The Administration Page

The Administration page is a basic Internet Connection and Wi-Fi status page that guest users can access.



Widgets

Widgets are little programs that give you information really quickly. For example, your MiFi device can give you the weather where you are right now or anywhere in the world. Another example is a widget that can help you track your data usage and visibly show you how much data you have left this period.

Your network operator can provide more information about how to get additional widgets.

While some widgets work with the device itself and store information on the device, most widgets work best when you have an active Internet connection.

MiFi Settings

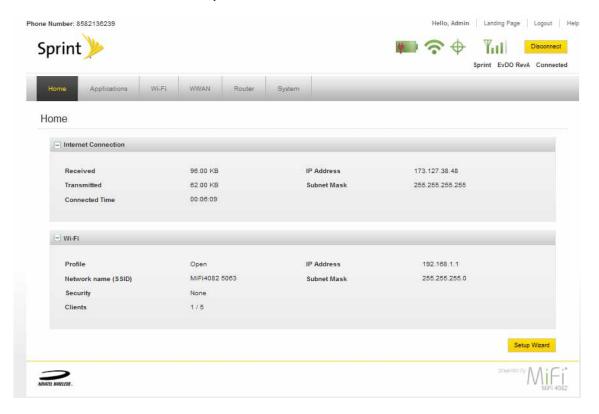
In addition to the Landing page, the MiFi Settings are included in this page. You can configure and customize your MiFi device as you like.

MiFi Settings Menu Bar

The MiFi Settings section contains a menu bar to help you configure your MiFi device.

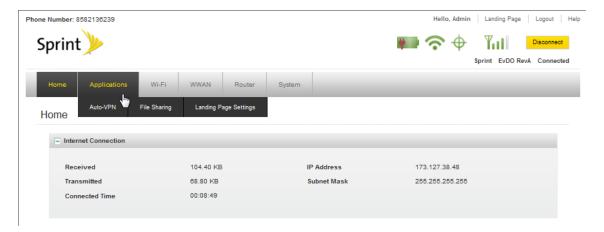
Except for the Home menu item, each menu bar item has a submenu with several additional items available.

The Home menu item returns you to the Administration screen.



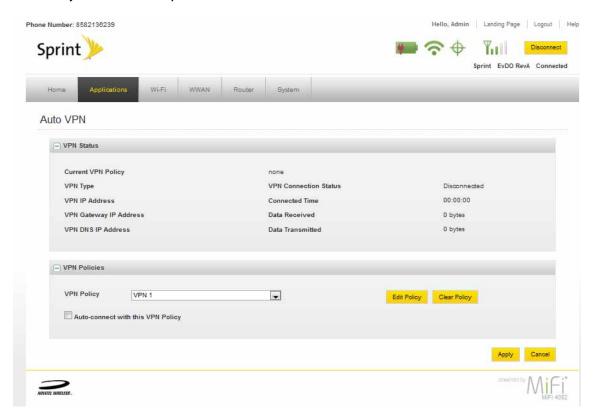
Applications Menu

The Applications Menu includes Auto-VPN, File Sharing, and Landing Page Settings.



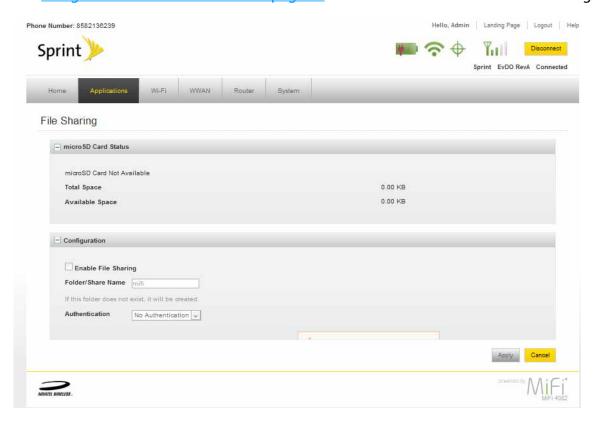
Auto-VPN

Auto-VPN transforms your mobile broadband into a connection to a virtual private network. Contact your network operator for more information.



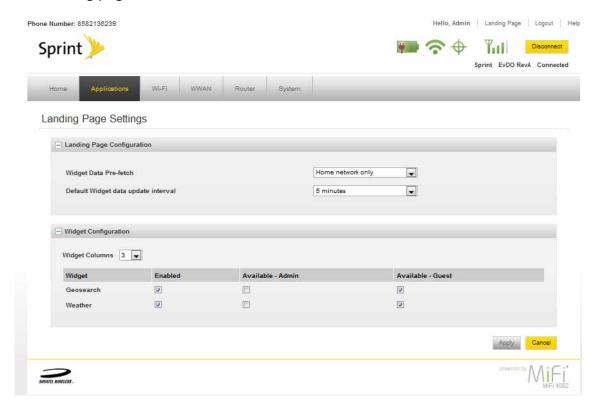
File Sharing

See <u>Using microSDHC Cards with MiFi page 23</u> for more information about File Sharing.



Landing Page Settings

You can configure how often your widgets connect to the network and which widgets appear on the Landing page.



Landing Page Configuration

- Widget Data Prefetch Select Disabled, Home Network Only, or Always
- Default Widget Data Update Interval Select intervals of 2 to 30 minutes

Widget Configuration

- Widget columns Select 2 to 4 columns
- Click Apply to save your changes.

Wi-Fi Configuration

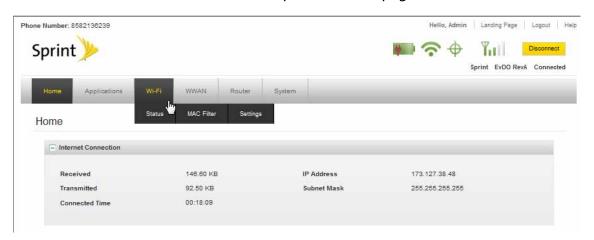
The Wi-Fi menu allows you to work with profiles, set MAC filters, view the Wi-Fi log, and view status information for the Wi-Fi network.

This section contains the following information:

- Wi-Fi Menu Options
 - Wi-Fi Status
 - MAC Filter
 - Wi-Fi Settings

Wi-Fi Menu Options

• Choose Wi-Fi from the menu bar at the top of the Home page.



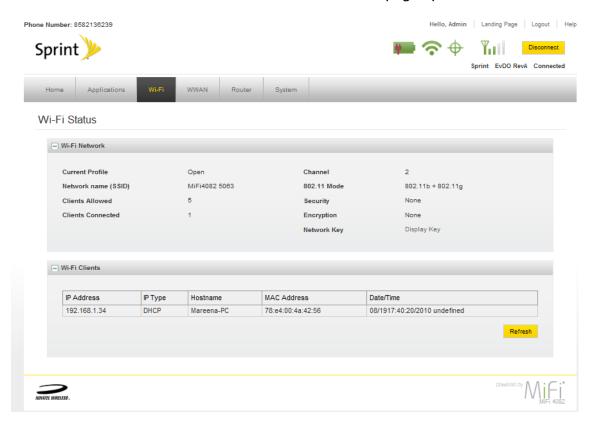
- Select one of the following:
 - Wi-Fi Status to view profile information, see who is connected to the device, and view the Wi-Fi Log. You can also retrieve your Network Key from this page.
 - MAC Filter to allow only certain devices to connect to your MiFi device.
 - Wi-Fi Settings to enable or disable broadcasting the network name or enable or disable the Wi-Fi log.

Wi-Fi Status

The Wi-Fi Status page provides you with information about your wireless network.

Opening the Page

• Choose Wi-Fi > Status from the menu bar. The Wi-Fi Status page opens.



Wi-Fi Status Sections

Wi-Fi Network

The Wi-Fi Network section of the Wi-Fi Status page provides the following information:

- Profile that is currently in use.
- Name of the network (SSID) that you are connected to.
- Maximum number of clients that are allowed to connect to the device.
- Number of clients that are currently connected to the device.
- Channel that is being used.
- Current wireless mode.
- Security type and encryption for the current profile.
- Network Key link. (Click to retrieve the network key.)

Wi-Fi Clients

The Wi-Fi Clients section of the Wi-Fi Status page shows the clients that are currently connected to your MiFi device. This is another way you can find the MAC address for a particular device when you are setting up MAC filtering.

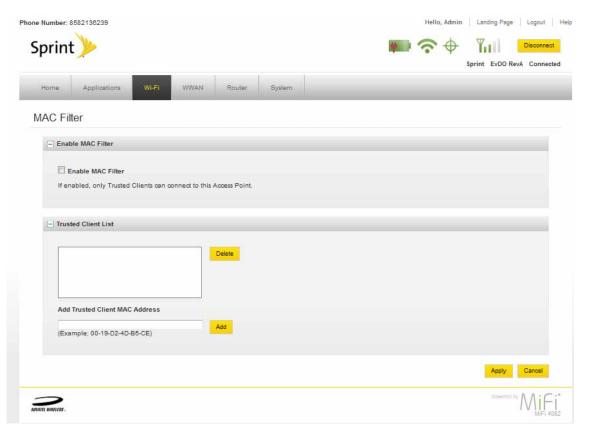
Click **Refresh** to update the information about the clients that are currently connected to your MiFi device.

MAC Filter

MAC Filtering allows you to restrict access to your MiFi device to only those devices with a specific MAC address. The MAC address is a unique code specific to a particular piece of hardware such as a network adapter. [See <u>Finding the MAC Address</u> (page 36).]

Opening the Page

Choose Wi-Fi > MAC Filter from the menu bar. The MAC Filter page opens



Finding the MAC Address

The MAC Address is also known as a hardware or physical address for a device, usually a network adapter. It consists of 6 pairs of numbers and letters. The pairs of numbers may be separated by "-" or ":" (for example, 00-21-9B-1C-64-34 or 00:21:9B:1C:64:34).

You can view the MAC address of any device currently connected to your MiFi device in the Wi-Fi Clients section of the Wi-Fi Status page. [See Wi-Fi Clients (page 35).]

- On a Windows PC, you can find the MAC address by running **ipconfig/all** from a command prompt window (cmd). The MAC address is referred to as the Physical Address.
- On a Mac, open **System Preferences > Network**. In the Show list, click **AirPort**, then click **Advanced**. The MAC address is the Airport ID.

IMPORTANT Make sure you get the MAC address for the wireless network adapter and not the Ethernet adapter.

Using MAC Filter

The MAC Filter page allows you to enable or disable MAC filtering and to add or delete MAC addresses from the trusted client list.

IMPORTANT Do not enable MAC filtering unless you have added your own MAC address to the trusted client list. Otherwise you will be unable to access your MiFi device until you use the Master Reset button. [See <u>Using the Master Reset Button</u> (page 63).]

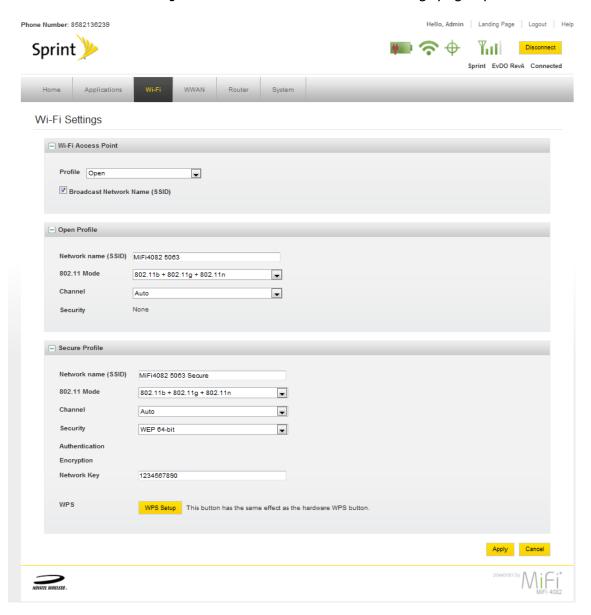
- Choose Wi-Fi > MAC Filter from the menu bar.
- 2 Type the MAC address for your computer into the Add Trusted Client MAC Address box and click **Add**.
 - You can copy and paste your computer's MAC address from the Wi-Fi Clients section of the Wi-Fi Status page. [See Wi-Fi Clients (page 35).]
- If desired, type the MAC address for other computers into the Add Trusted Client MAC Address box and click Add.
- Select the Enable MAC Filter check box and click Apply.

Wi-Fi Settings

The Wi-Fi Settings page allows you to enable or disable broadcasting the network name and the Wi-Fi log.

Opening the Page

• Choose Wi-Fi > Wi-Fi Settings from the menu bar. The Wi-Fi Settings page opens.



Wi-Fi Settings Page

Broadcast Network Name (also known as SSID broadcast) causes the device to send the Network Name (SSID) out where it can be picked up by nearby computers. This is what you see when you "View Available Wireless Networks" from your computer.

Disabling Network Name (SSID) broadcasting provides additional security, but you will have to reenable it if you lose your automatic connection.

Select or deselect the checkbox to enable or disable Broadcast Network Name and click Apply.

WWAN

The WWAN menu provides status information for your connection to the Internet and the 3G and 4G networks, and allows you to configure your connection and network options. The section contains the following information:

- WWAN Menu
 - Status
 - 3G
 - 4G
 - Settings

WWAN Menu Options

1 Choose **WWAN** from the menu bar at the top of the Home page.



- Select one of the following:
 - Status to view information about your internet connection, TCP/IP, and to access the WWAN Log.
 - 3G to view information about the 3G network and 3G modem, a traffic counter, and to access service updates.
 - 4Gs to view information about the 4G network and 4G modem, and a traffic counter.
 - Settings to access options to allow your MiFi device to automatically connect, allow guests to establish the Internet connection, determine roaming and network technology, and to setup a data link.

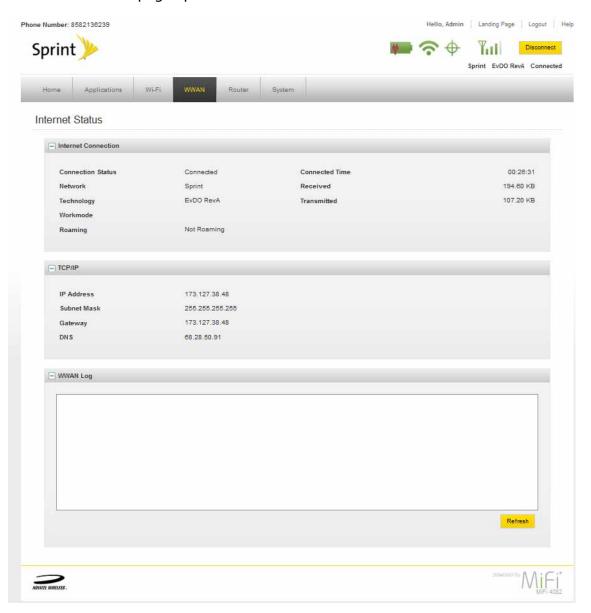
Status

The Status page provides information about your internet connection, TCP/IP, and access to the WWAN Log.

Opening the Page

➤ Choose **WWAN** > **Status** from the menu bar.

The Internet Status page opens.



Internet Connection

The Internet Connection section of the Internet Status page gives you the following information:

- Status of the connection
- Network connected to
- Technology of connection
- Whether or not you are roaming
- The current profile
- The number of bytes received and transmitted
- The duration of the current connection

TCP/IP

The TCP/IP section of the Internet Status page gives you the following information about your MiFi device:

- Local IP address
- Subnet Mask
- Gateway IP address
- DNS server IP address

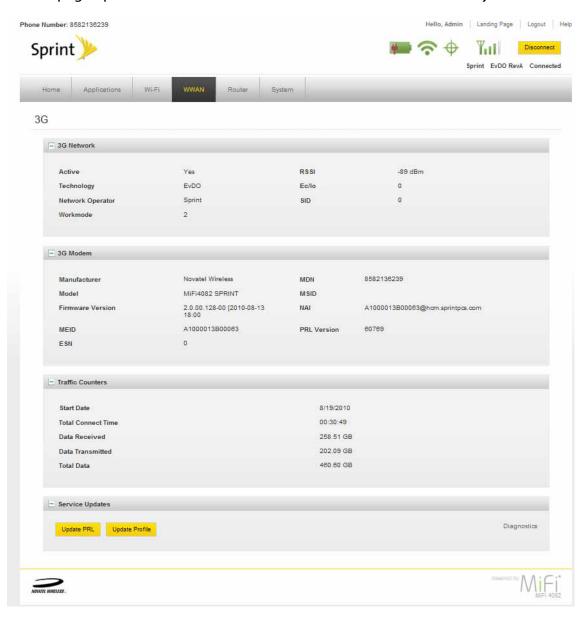
3G

The 3G page provides you with information on the 3G network and 3G modem, a traffic counter, and access to service updates.

Opening the Page

Choos WWAN > 3G from the menu bar.

The 3G page opens. The details for the 3G network and modem currently in use are shown.



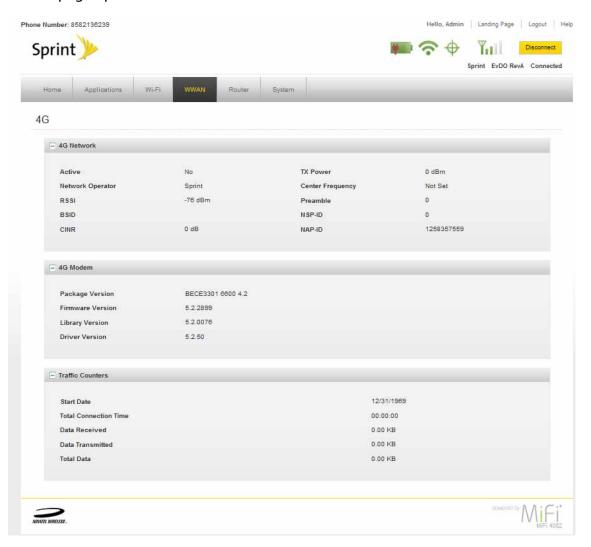
4G

The 4G page provides you with information on the 4G network, the 4G modem, and a traffic counter.

Opening the Page

Choose WWAN > 4G from the menu bar.

The 4G page opens.



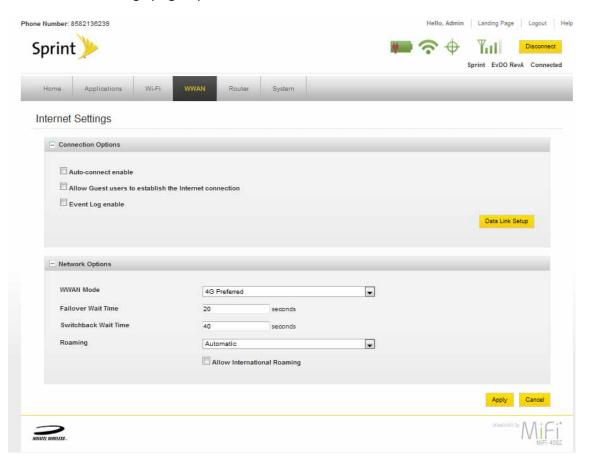
Settings

The Settings page provides access to options to allow your MiFi device to automatically connect, allow guests to establish the Internet connection, determine roaming and network technology, and to setup a data link.

Opening the Page

Choose WWAN > Settings from the menu bar.

The Internet Settings page opens.



Internet Settings Page

Connection Options

Auto-connect enable

Auto-connect allows your MiFi device to connect to your provider's network automatically whenever it is turned on.

Allow Guest users to establish the Internet connection

Check this box to have the Connect button appear on the Landing page. This also enables Guest users access to unlock the SIM PIN if prompted during a connection.

Event Log Enable

Check this box to enable the Event Log.

Network Options

- WWAN Mode Select 3G Only, 4G Only, 3G Preferred, or 4G Preferred
- Failover Wait Time Type in the desired number of seconds
- Switchback Wait Time Type in the desired number of seconds
- Roaming Select Automatic or Home Network Only. You can allow international roaming by marking the check box.
 - Home Network Your MiFi device only auto-connects to the home network when it is on.
 - Automatic Your MiFi device connects to any available network when it is on.

IMPORTANT Additional charges may apply for international roaming. Please consult your network operator.

After selecting your network options settings, click **Apply**.

Router Configuration

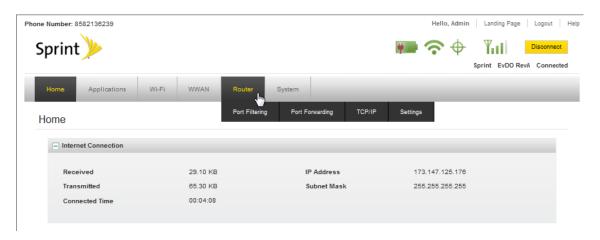
The Router Menu gives you access to options that allow you to configure traffic through your MiFi device.

The section contains the following information:

- Router Menu
 - Port Filtering
 - Port Forwarding
 - TCP/IP
 - Router Settings

Router Menu

Choose Router from the menu bar.



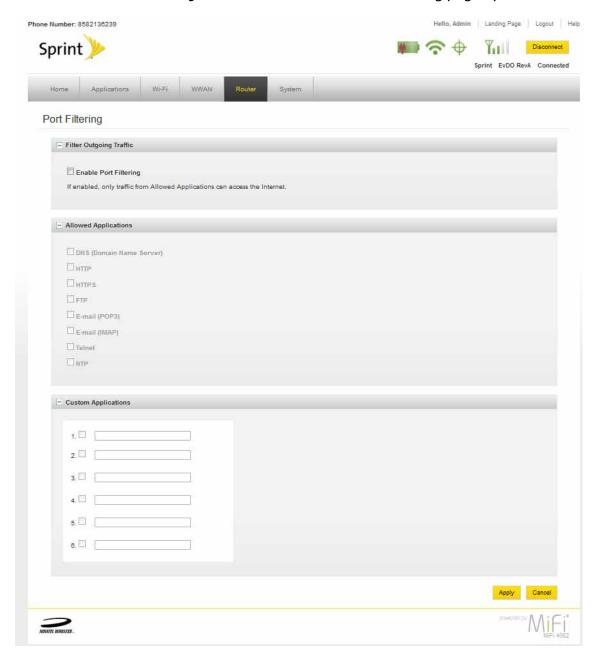
- Select one of the following:
- Port Filtering Create a list of applications that are allowed to access the Internet.
- Port Forwarding Create a list of applications that are allowed to access your computer from the Internet. You might use this if you have an FTP server on your system or play certain online games.
- TCP/IP See your MiFi device IP address and MAC address.
- Settings Enable DHCP and VPN passthrough.

Port Filtering

Port Filtering allows you to enhance the security of your system by only allowing certain applications to reach the Internet.

Opening the Page

Choose Router > Port Filtering from the menu bar. The Port Filtering page opens.



Port Filtering Page

This page allows you to enable Port Filtering, select common applications to allow access to the Internet, and set up custom applications for access to the Internet.

To set port filtering for standard applications:

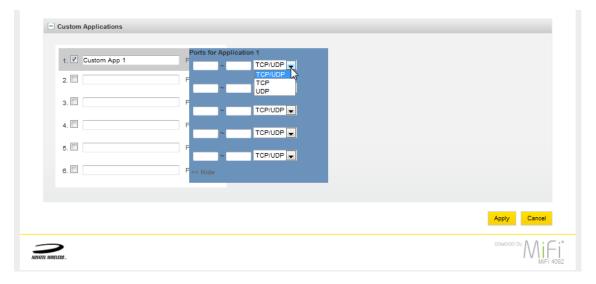
- Open the page.
- 2 Select the **Enable Port Filtering** checkbox.
- **3** Select the check boxes for the applications you want to allow access to the Internet.
- Click Apply.
 - The device uses standard ports for these applications. If you have applications that do not use the standard ports or that are not listed under Allowed Applications, use Custom Applications.

To set port filtering for custom applications:

In order to set up port filtering for a custom application, you will need to know the port numbers (up to five ports or port ranges) and the protocol (TCP, UDP, or both) used by outgoing traffic.

- Open the page.
- Select the Enable Port Filtering checkbox.
- **3** Click **Custom Applications**.

The Custom Applications page opens.



6 Enter a name for the application and click the **Ports** link.

The Ports for Application # entry area overlay the page.

- **6** Enter the port number or port number range. You can enter up to five ports or port ranges for each application.
 - Single port enter the port number in both fields.
 - Port range enter the beginning port in the left field and the ending port in the right field.
- **6** For each port row, select the protocol (TCP, UDP, or both) used by that port or port range.
- Click **Hide**.
- **3** Click **Apply** on the Custom Applications page.
- **9** Click **Apply** on the Port Filtering page.

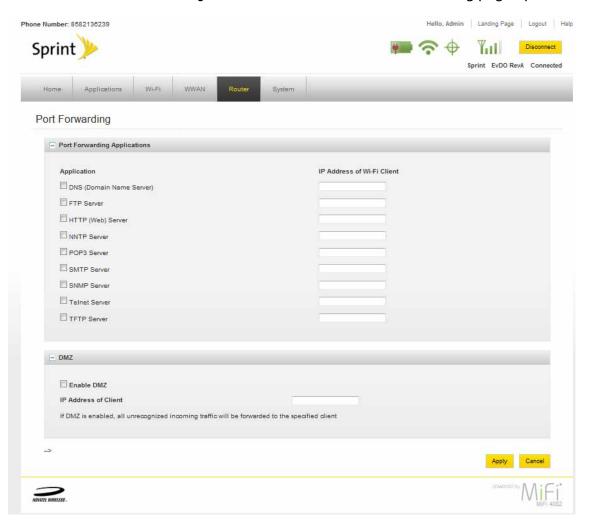
Port Forwarding

Incoming traffic from the Internet is normally prevented by the firewall from reaching devices on your local wireless network. Use port forwarding to allow Internet users to reach any server you are running on your computer, such as an FTP server. Also some online games require incoming access to work properly.

IMPORTANT You will need to set up static IP addresses on your WLAN for each device that has an application you want to forward to.

Opening the Page

Choose Router > Port Forwarding from the menu bar. The Port Forwarding page opens.



Port Forwarding Page

This page allows you to enter the local static IP address for each application that you want to receive traffic from the Internet.

- **1** Select the checkbox for the application you want to enable.
- 2 Enter the local static IP address of the device hosting the application in the IP Address of Wi-Fi Client field.
- **3** Click **Apply**.

IMPORTANT required.

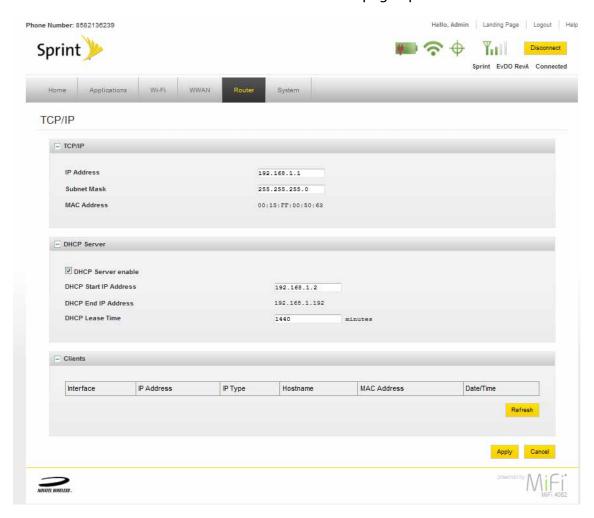
Port forwarding creates a security risk and should be disabled when not

TCP/IP

The TCP/IP page allows you to view the local (WLAN) IP address and the MAC address for your MiFi device.

Opening the Page

Choose **Router > TCP/IP** from the menu bar. The TCP/IP page opens.



TCP/IP Page

This page gives you status information about yoTCP/IP, the DHCP Server, and the Clients currently connected to your MiFi device

TCP/IP

- Local IP Address
- Subnet Mask
- MAC Address of your MiFi device

DHCP Server

- DHCP Server enable
 - DHCP Start IP Address
 - DHCP End IP Address
 - DHCP Lease Time

Clients

- Interface
- IP Address
- IP Type
- Hostname
- MAC Address
- Date/Time

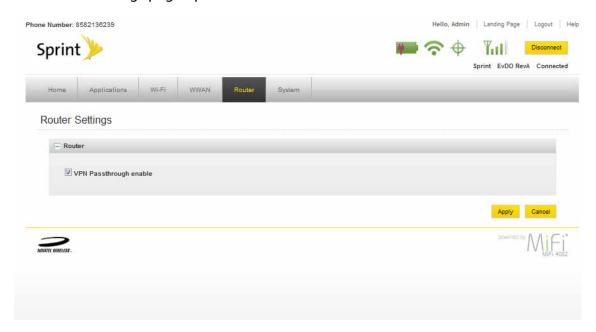
Router Settings

The Router Settings page allows you to enable DHCP and allow VPN passthrough.

Opening the Page

Choose Router > Settings from the menu bar.

The Router Settings page opens.



Router Settings Page

VPN Passthrough enable

VPN Passthrough is required if you are going to connect to a VPN (such as to your office).

Select or deselect the checkbox to enable or disable VPN Passthrough and click Apply.

System Configuration

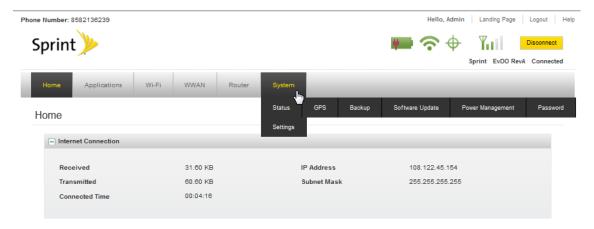
The System Menu gives you access to settings and features that affect your MiFi device as a whole.

The section contains the following information:

- System Menu
 - System Status
 - GPS
 - Backup
 - Software Update
 - Power Management
 - Password

System Menu

1 Choose System from the menu bar.



- Select one of the following:
 - Status to view information about your device and a system log.
 - GPS to view GPS status and to configure GPS options
 - Backup to set power saving modes.
 - Software Update to view a software version history and configure network update frequency.
 - Power Management to configure your device's energy useage.
 - Password to set the administrative password.

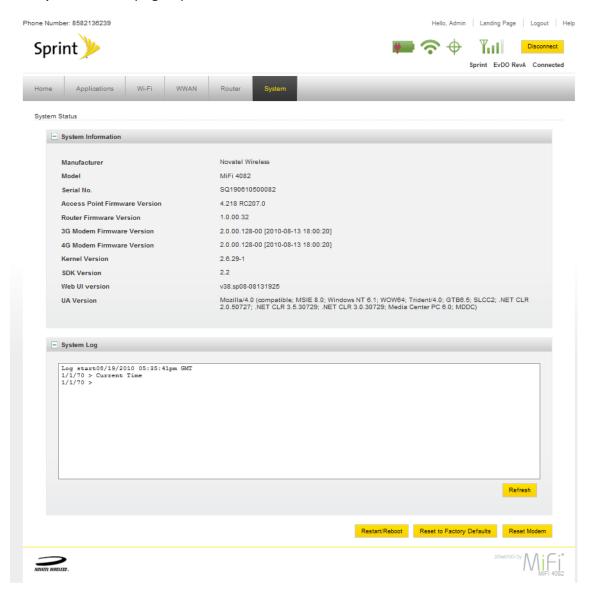
System Status

The System Status page provides you with information about your MiFi device.

Opening the Page

Choose System > Status from the menu bar.

The System Status page opens.



System Status Page

System Information

System Information includes the following:

- Manufacturer Novatel Wireless
- Model Number
- Serial Number
- Access Point Firmware Version
- Router Firmware Version
- Modem Firmware Version
- Kernel Version
- SDK Version
- Web User Interface Version
- User Agent Version

Restart/Reboot

You can restart your MiFi device from this page.

Click Restart/Reboot to reset your MiFi device (as if you turned the power off then on again).

IMPORTANT

Your Internet and Wi-Fi connections will be lost and you will have to reconnect.

Reset to Factory Defaults

Click Reset to Factory Defaults to set all settings back to factory settings.

IMPORTANT

- Your Internet and Wi-Fi connections will be lost and you will have to reconnect.
- In addition, you will have to reconfigure your profiles.

Reset Modem

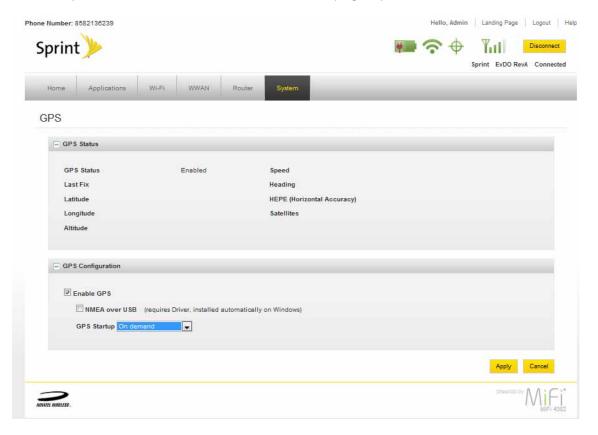
Click Reset Modem to restart your MiFi device using the same settings.

GPS

The System GPS page allows you to view GPS status and to configure GPS options.

Opening the Page

► Choose **System > GPS** from the menu bar. The GPS page opens.

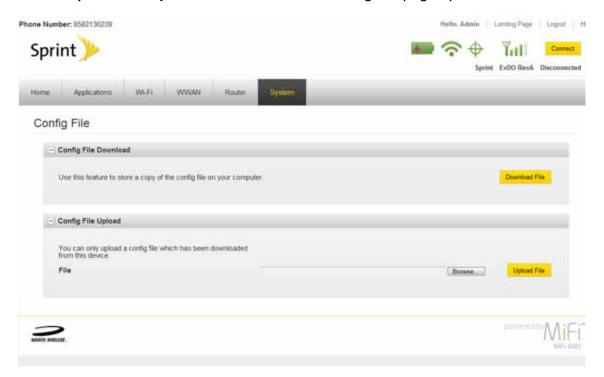


Backup

The System Backup page allows you to store a copy of the config file on your computer, and to upload a config file to the MiFi device from your computer. The backup file is stored in an encrypted binary format.

Opening the Page

Choose System > Backup from the menu bar. The Config File page opens.

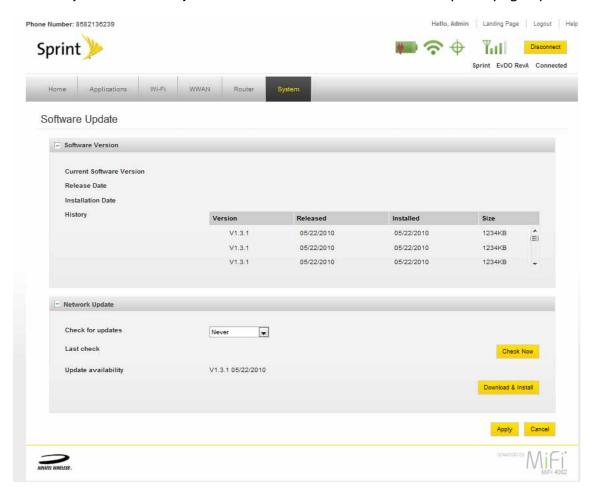


Software Update

The Software Update page allows you to review the software version history and to check for and download network updates.

Opening the Page

Choose System > Software Update from the menu bar. The Software Update page opens.



Software Update Page

Software Version

The Software Version section provides you with a software history including version, release date, installation date and file size.

Network Update

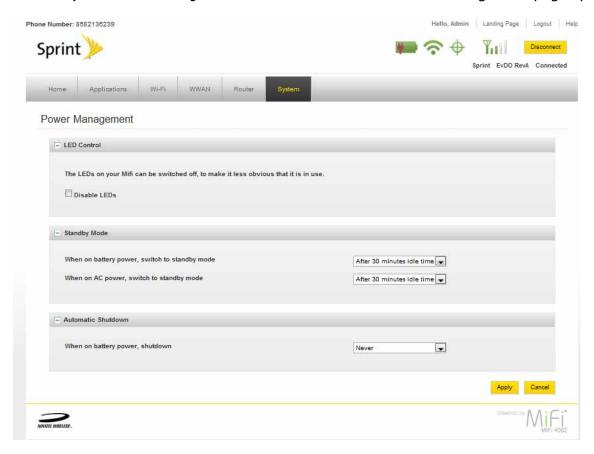
- Check for updates Select a 30 day interval from never to every 180 days.
- Last check Click **Select Now** to check for the latest network updates.
- Update availability Click **Download and Instal**l to update the software to the newest version.
- Click Apply to finalize your software updates.

Power Management

Your MiFi device can turn itself off when it is idle and running on battery power. The Power Management page allows you to set the timing for when your MiFi device switches off.

Opening the Page

Choose System > Power Management from the menu bar. The Power Management page opens.



Power Management Page

The Power Management page allows you to set your MiFi device to turn itself off when it is idle and running on battery power. You can also disable the LEDs, which turns off the status LEDs and clears the Status Diplay Panel.

- LED Control Never to 60 minutes
- Standby Mode Never to 60 minutes
- Automatic Shutdown Never to 60 minutes
- After you select your power management options, click **Apply**.

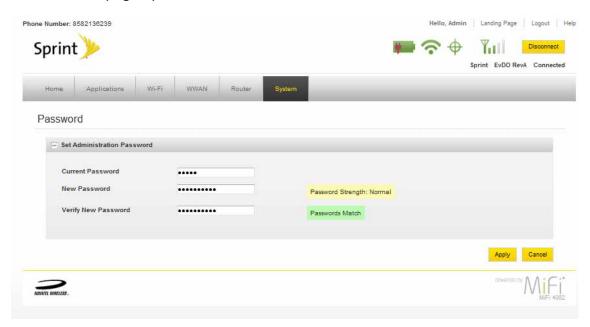
Password

The Password page allows you to change the administrative password that gives access to the browser interface.

Opening the Page

Choose System > Password from the menu bar.

The Password page opens.



Password Page

This page allows you to create a new administrative password.

- 1 Type your current password in the Current Password box.
- 2 Enter the new password (must have 4 to 64 characters) in the New Password box and again in the Verify New Password box.
- **3** Click **Apply.**

Troubleshooting

Overview Common Problems and Solutions Using the Master Reset Button

Overview

The following tips will help solve many common problems encountered while using your MiFi device.

- Make sure you are using your MiFi device in the correct geographic region.
- Ensure that your network operator's wireless coverage extends to your current location.

When properly installed, your MiFi device is a highly reliable product. Most problems are caused by one of these issues:

- System resources required by your MiFi device are being used by other devices.
- Network coverage is unavailable due to coverage area or an account or network problem.

Common Problems and Solutions

Before you read on, all of the steps mentioned here are given in more detailed form elsewhere in the user guide. When a reference is given, click the link to go to the more detailed information.

The following are some common problems and solutions.

No service is available.

- OR -

I get a "Limited or No Connectivity" message.

- You are outside of the coverage area of your network operator.
- Check with your network operator. There may be a problem with your account.
- Reorient your MiFi device.
- If you are inside a building or near a structure that may be blocking the signal, change the position or location of the device. For example, try moving your MiFi device close to a window.

The device has no power.

The LED indicator is off and does not come on when the Power button is pressed.

- Ensure the battery is properly seated in the device.
- Ensure the battery is fully charged. Plug in the AC mains charger for at least 4 hours.

I forgot my password.

You can reset the device to factory defaults using the master reset button. [See <u>Using the Master Reset Button</u> (page 68).]

I cannot connect to my MiFi device.

Make sure the WiFi LED is on .

If the LEDs are not on, check your battery.

- Make sure your Windows PC / Mac AirPort is turned on. (Check your computer help if you need assistance.)
- Open your wireless network connection list.
 - Windows: Right-click icon and select View Available Networks.
 - Mac: Pull down list from AirPort icon.
- **3** Select the MiFi network name (in Windows, click **Connect**).

When the your MiFi device is connected to the network, the WiFi LED begins to blink.

My network does not appear in the wireless network list.

- Verify that the MiFi LEDs are on and are not showing an error condition. Refer to your Quick Start Guide for a table of LED states.
- Refresh your network list.
 - Windows: Click **Refresh Network List** on the left side of the Wireless Network Connection screen. If that does not work you can try the following:
 - 1. Open Network Connections.
 - 2. Right-click Wireless Network Connection and select Properties.
 - 3. Click the Wireless Networks tab.
 - 4. Delete any unused wireless connections from the Preferred Networks list and click **OK**.
 - 5. Restart your computer.
 - Mac: Click the AirPort icon and select **Turn AirPort Off**. Then click it again and select **Turn AirPort On**..

I see the network name but cannot connect to my MiFi device.

Check the user name, password, and Service Programming Code (SPC) or Master Subsidy Lock (MSL) in your connection profile. If any of these are wrong, you will not be able to connect to the network.

How do I disconnect from the network?

- Login to your MiFi device and click Disconnect.
 - 1. Open the MiFi Home page.
 - 2. Then type your administrative password into the login window and click **Login**.
 - 3. Click the **Disconnect** button.

How can I find out how many users are connected to my MiFi device?

Open the MiFi Home page. The number of clients (users) currently connected to your MiFi device is in the WiFi section at the bottom of the screen. You can also see the number of clients currently connected on the Status Panel display on the front of your WiFi device.

Where can I find information about Internet connectivity and my WiFi setup?

Open the MiFi Login Home page.

How do I check the model number and firmware versions of my MiFi device?

► Login to your MiFi device and choose System > Status. [See System Status (page 78).]

How can I check the battery level of my MiFi device?

Open the MiFi Login Home page. The battery status icon is displayed in the menu bar. For more detailed information, login and choose Internet > Diagnostics. Then click Modem Status. You can

How do I check the available space on the microSDHC card?

Open the MiFi Login Home page. Click Settings > Applications > File Sharing to open the File Sharing page and see the microSD Card status information.

How do I turn off my MiFi device?

Press and hold the Power button for 5 seconds until the LEDs turn off.

What is the default administrative/login password?

admin

How do I access information on the WiFi network and WiFi clients?

Login to your MiFi device and choose **Settings** > **WiFi** > **Status** to open the WiFi Status page and see the current Wi-Fi Network and Wi-Fi Clients information. [See WiFi Status (page 58).]

I am having trouble connecting to my office VPN.

Login to your MiFi device and choose **Router > Settings**. Select the VPN Passthrough enable checkbox and click **Apply**.

Using the Master Reset Button

Your MiFi device comes with a master reset button that allows you to return it to its factory default state.

The master reset button is recessed in a hole on the back of the device. You need a paperclip or similar object to push the button.

- Make sure your MiFi device is powered on.
- 2 Locate the master reset button on the back of the device next to the label.



- Insert a paper clip into the hole and hold the button down for five5 seconds until the LED goes off.
 - Your list of wireless networks will now show the original default network when you first configured your device.
- **4** Connect to your MiFi device again and reconfigure it. You will have to enter your APN and other information again.

Product Specifications and Regulatory Information

Product Specifications
Regulatory
Safety Hazards
Proper Battery Use and Disposal
Limited Warranty and Liability

Product Specifications

Interface

microUSB	
microSDHC	Up to 16GB
SIM socket	1.8V and 3.0V standard USIM

Mechanical

Dimensions (W x D x H)	60 mm x 90 mm x 12.5 mm 3.54" x 2.36" x 0.49"
Weight	85 g (3 oz)
LED	Two: Multi-color status and Wi-Fi indicator
External display	E-Ink; Status icons
Battery	Removable Li-ion battery
Antenna	Integrated diversity antenna Integrated Wi-Fi antenna Integrated GPS antenna

Technology/Bands

WiMAX	2.5 GHz; 5 and 10 MHz,
Data Speeds	Upload: Up to 10 Mpbs Download: Up to 5 Mbps
CDMA Mode	1xEV-DO Rev. A/O; 1xRTT
Data Speeds	Download: Up to 3.1 Mbps Upload: Up to 1.8 Mbps
CDMA Bands	800/1900 MHz
Wi-Fi Mode	802.11b/g/n
A-GPS/S-GPS	GPSOne xTRA and Standalone GPS

WLAN

802.11N; 802.11b/g/n	2.4 GHz
Pre-configurable security	WEP/WPA/WPA2
DHCP server	
NAT/NAPT	
DNS support	
VPN pass-through	Auto VPN; WPS (Wi-Fi protected setup)

Security

CDMA authentication/identification	
Dynamic MIP key update; CHAP	EAP-TLS; EAP-TTLS

Standards/Approvals/Certifications

IS 2000	CDMA 1xRTT
IS 683A	Service provisioning
IS 707A	Data
IS 856A/866	EV-DO Rev. A/O
IEEE 1725	
Industry Canada	
Wi-Fi Alliance	
CDG (stages 1,2,3)	CCF 57 Level 1,2
WiMax Forum Certification	CRSL 10

Regulatory

Federal Communications Commission Notice (FCC United States)

This equipment has been tested to, and found to be within the acceptable limits for a Class B digital device, pursuant to part 15 of the FCC Rules and Industry Canada ICES-003. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment.

This equipment generates radio frequency energy and is designed for use in accordance with the manufacturer's user manual. However, there is no guarantee that interference will not occur in any particular installation.

If this equipment causes harmful interference to radio or television reception, which can be determined by turning the equipment off and on, you are encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the 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/television technician for help.

This device complies with Part 15 of the Federal Communications Commission (FCC) Rules and Industry Canada ICES-003 for EMI compliance.

Operation is subject to the following two conditions:

- 1. This device may not cause harmful interference.
- 2. This device must accept any interference received, including interference that may cause undesired operation.

WARNING: DO NOT ATTEMPT TO SERVICE THE WIRELESS COMMUNICATION DEVICE YOURSELF. SUCH ACTION MAY VOID THE WARRANTY. THE MIFI DEVICE IS FACTORY TUNED. NO CUSTOMER CALIBRATION OR TUNING IS REQUIRED. CONTACT TECHNICAL SUPPORT FOR INFORMATION ABOUT SERVICING YOUR WIRELESS COMMUNICATION DEVICE.

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

NOTE: The Radio Frequency (RF) emitter installed in your device must not be located or operated in conjunction with any other antenna or transmitter, unless specifically authorized by Novatel Wireless Technologies.

MODIFICATIONS: The FCC requires that you be notified that any changes or modifications made to this device that are not expressly approved by your service provider may void your authority to operate the equipment.

FCC Equipment Authorization ID:

PKRNVWMIFI4082

To comply with FCC RF exposure requirements, the MiFi4082 device should not be used in configurations that cannot maintain at least 12mm (0.47" or 1/2") from a user.

To maintain a distance of 12mm (0.47" or 1/2") from a user this device shall not be used while in your pocket.

When utilizing the USB cable please ensure that the MiFi device is not placed on your lap, hand or close to a user or bystanders to satisfy RF Exposure requirements.

Limitation of Liability

The information in this manual is subject to change without notice and does not represent a commitment on the part of Novatel Wireless. NOVATEL WIRELESS AND ITS AFFILIATES SPECIFICALLY DISCLAIM LIABILITY FOR ANY AND ALL DIRECT, INDIRECT, SPECIAL, GENERAL, INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR EXEMPLARY DAMAGES INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS OR REVENUE OR ANTICIPATED PROFITS OR REVENUE ARISING OUT OF THE USE OR INABILITY TO USE ANY NOVATEL WIRELESS PRODUCT, EVEN IF NOVATEL WIRELESS AND/OR ITS AFFILIATES HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR THEY ARE FORESEEABLE OR FOR CLAIMS BY ANY THIRD PARTY.

Notwithstanding the foregoing, in no event shall Novatel Wireless and/or its affiliates aggregate liability arising under or in connection with the Novatel Wireless product, regardless of the number of events, occurrences, or claims giving rise to liability, be in excess of the price paid by the purchaser for the Novatel Wireless product.

Safety Hazards

Do not operate your MiFi device in an environment that may be susceptible to radio interference resulting in danger specifically;

Areas where prohibited by the law

• Follow any special rules and regulations and obey all signs and notices. Always turn off your MiFi device (or the host device and remove the modem from the USB port) when instructed to do so, or when you suspect that it may cause interference or danger.

Where explosive atmospheres may be present

- Do not operate your modem in any area where a potentially explosive atmosphere may exist. Sparks in such areas could cause an explosion or fire resulting in bodily injury or even death. Be aware and comply with all signs and instructions.
- Users are advised not to operate the modem while at a refueling point or service station. Users are reminded to observe restrictions on the use of radio equipment in fuel depots (fuel storage and distribution areas), chemical plants or where blasting operations are in progress.
- Areas with a potentially explosive atmosphere are often but not always clearly marked.
 Potential locations can include gas stations, below deck on boats, chemical transfer or
 storage facilities, vehicles using liquefied petroleum gas (such as propane or butane), areas
 where the air contains chemicals or particles, such as grain, dust or metal powders, and any
 other area where you would normally be advised to turn off your vehicle engine.

Near Medical and life support equipment

• Do not operate your device in any area where medical equipment, life support equipment, or near any equipment that may be susceptible to any form of radio interference. In such areas, the host communications device must be turned off. The device may transmit signals that could interfere with this equipment.

On an aircraft, either on the ground or airborne

• In addition to FAA requirements, many airline regulations state that you must suspend wireless operations before boarding an airplane. Please ensure that your MiFi device (or the host device is turned off) and (if in USB Mode, your modem is removed from the USB port) prior to boarding aircraft in order to comply with these regulations. The modem can transmit signals that could interfere with various onboard systems and controls.

While operating a vehicle

• The driver or operator of any vehicle should not operate a wireless data device while in control of a vehicle. Doing so will detract from the driver or operator's control and operation of that vehicle. In some countries, operating such communications devices while in control of a vehicle is an offense.

Proper Battery Use and Disposal

CAUTION!

Never dispose of batteries in a fire because they might explode.

WARNING!

In the event of a battery leak:

- Do not allow the liquid to come in contact with the skin or the eyes. If contact has been made, wash the affected area with large amounts of water and seek medical advice.
- Seek medical advice immediately if a battery has been swallowed.
- Contact your local recycling center for proper battery disposal.

Guidelines for Safe and Responsible Battery Use

- Do not disassemble or open, crush, bend or deform, puncture, or shred.
- Do not modify or remanufacture, attempt to insert foreign object into the battery, immerse or expose to water or other liquids, or expose to fire, explosion, or other hazard.
- Only use the battery for the system for which it was specified.
- Only use the battery with a charging system that has been qualified with the system per this standard. Use of an unqualified battery or charger may present a risk of fire, explosion, leakage, or other hazard.
- Do not short circuit a battery or allow metallic or conductive object to contact the battery terminals.
- Replace the battery only with another battery that has been qualified with the system er this standard. Use of an unqualified battery may present a risk of fire, explosion, leakage, or other hazard.
- Promptly dispose of used batteries in accordance with local regulations.
- Battery usage by children should be supervised.
- Avoid dropping the device or battery. If the device or the battery is dropped, especially on a hard surface, and the user suspects damage, take it to a service centre for inspection.
- Improper battery use may result in a fire, explosion, or other hazard.

Limited Warranty and Liability

Novatel Wireless, Inc. warrants for the 12 month period immediately following receipt of the Product by Purchaser that the Product will be free from defects in material and workmanship under normal use. THESE WARRANTIES ARE EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

The exclusive remedy for a claim under this warranty shall be limited to the repair or replacement, at Novatel Wireless' option, of defective or non-conforming materials, parts or components. The foregoing warranties do not extend to (I) non conformities, defects or errors in the Products due to accident, abuse, misuse or negligent use of the Products or use in other than a normal and customary manner, environmental conditions not conforming to Novatel Wireless' specification, of failure to follow prescribed installation, operating and maintenance procedures, (II) defects, errors or nonconformity's in the Product due to modifications, alterations, additions or changes not made in accordance with Novatel Wireless' specifications or authorized by Novatel Wireless, (III) normal wear and tear, (IV) damage caused by force of nature or act of any third person, (V) shipping damage, (VI) service or repair of Product by the purchaser without prior written consent from Novatel Wireless, (VII) products designated by Novatel Wireless as beta site test samples, experimental, developmental, reproduction, sample, incomplete or out of specification Products, or (VIII) returned products if the original identification marks have been removed or altered.

Glossary

Glossary

- 3G Third Generation. 3G refers to the third generation of mobile telephony technology..
- **802.11 (b, g, n)** A set of WLAN communication standards in the 2.4, 3.6 and 5 GHz frequency bands.
- Access Point A device that allows wireless communication devices to connect to a wireless network using a standard such as Wi-Fi.
- **APN** Access Point Name. The APN is an alphanumeric string that identifies the particular network service that is being accessed. These are used by GPRS and UMTS networks.
- **bps** bits per second. The rate of data flow.
- **Broadband** High-capacity high-speed, transmission channel with a wider bandwidth than conventional modem lines. Broadband channels can carry video, voice, and data simultaneously.
- **CDMA** Code Division Multiple Access. It is the underlying channel access method used by some mobile phone standards.
- Computing Device Any of a variety of computer-like devices (for example, desktop computer, laptop, tablet PC, smart phone, and PDA).
- **DHCP** Dynamic Host Configuration Protocol. Software found in servers and routers that automatically assigns temporary IP addresses to clients logging into an IP network.
- DHCP Server A server or service with a server that assigns IP addresses.
- **DNS** Domain Name System. A system for converting host names and domain names into IP addresses on the Internet or on local networks that use the TCP/IP protocol.
- **EDGE** Enhanced Data for GSM Environment or Enhanced Data rates for Global Evolution. A faster version of GSM wireless service, it allows data to be delivered at rates of 384 Kbps and enables the delivery of multimedia and other broadband applications. EDGE became available in 2001.
- **ESN** Electronic Serial Number. A unique 32-bit number embedded in a wireless device that identifies the device.
- **ExpressCard** PCMCIA's hardware standard for high-performance expansion of notebook computers. Intended to replace the PC Card (formerly PCMCIA card) standard.
- **FID** Factory IDentification. Unique tracking number for factory builds.
- **Firewall** A hardware or software boundary that protects a network or single computer from unwanted outside traffic.
- **Firmware** A computer program embedded in an electronic device. Firmware usually contains operating code for the device.
- **FTP** File Transfer Protocol. A network protocol for exchanging files over a TCP network.
- **Gateway** A network point that acts as an entrance to another network that uses a different protocol.
- **GPRS** General Packet Radio Services. A system used by GSM mobile phones for transmitting IP

packets. It also provides support for WCDMA based 3G networks.

- **GSM** Global System for Mobile communication. A digital mobile telephony system widely used in Europe and other parts of the world. GSM was first launched in 1991 and is the most widely used of the three digital wireless telephony technologies (TDMA, GSM, and CDMA). GSM uses a variation of TDMA.
- **GPS** Global Positioning System. A radio-based navigation system that allows users to determine their location. The device uses satellite data to calculate its position. Commonly used in mapping and navigation systems.
- Host Name The unique name by which a network-attached device is known on a network.
- **Hotspot** A Wi-Fi (802.11) access point or the area covered by an access point. Used for connecting to the Internet.
- **Hot-Swappable** The ability to safely remove and replace a component (for example, a memory card or USB device) from a device or computer while it is powered on.
- **HSDPA** High Speed Downlink Packet Access. HSDPA is an enhanced version of WCDMA that supports broadband connections with download speeds up to 7.2 Mbps. This enhanced 3G technology enables the download of high-bandwidth multimedia files, high resolution graphics, and other complex files, and allows viewing email attachments at broadband-like speeds.
- **HSPA** High Speed Packet Access. A family of 3G services that is available to GSM carriers. It is a major enhancement from WCDMA.
- HSPA+ HSPA Evolution or HSPA Evolved. A 3G mobile telephony protocol with up-link speeds up to 11 Mbps and downlink speeds up to 42 Mbps.
- **HSUPA** High Speed Uplink Packet Access. A 3G mobile telephony protocol with up-link speeds up to 5.76 Mbps and downlink speeds up to 7.2 Mbps.
- **HTTP** Hypertext Transfer Protocol. An application-level protocol for accessing the World Wide Web over the Internet.
- ICCID Integrated Circuit Card IDentification. A serial number stored in and engraved or printed on a SIM card that internationally identifies the card.
- **IEEE** Institute of Electrical and Electronics Engineers. An international technical/professional society that promotes standardization in technical disciplines.
- IMAP Internet Message Access Protocol. An Internet standard protocol for email retrieval.
- **IMEI** International Mobile Equipment Identity. Used in GSM networks to identify the device. It is usually printed on the device and can often be retrieved using a USSD code.
- IMSI International Mobile Subscriber Identity. Used in GSM networks to identify the subscriber Usually embedded in the SIM.
- IP Internet Protocol. The mechanism by which packets are routed between computers on a network.
- **IP Type** The type of service provided over a network.
- **IP address** Internet Protocol address. The address of a device attached to an IP network (TCP/IP network).

- **ISP** Internet Service Provider. Also referred to as the service carrier, an ISP provides Internet connection service. (See Network Operator)
- Kbps Kilobits per second. The rate of data flow.
- LAN Local Area Network. A type of network that lets a group of computers, all in close proximity (such as inside an office building), communicate with one another. It does not use common carrier circuits though it can have gateways or bridges to other public or private networks.
- LTE Long Term Evolution. A set of enhancements to UMTS that will provide high throughput, low latency, plug and play and seamless connection to existing networks such as GSM, cdmaOne, etc. LTE is one of the new emerging network technologies often referred to as 4G.
- MAC Address Media Access Control. A number that uniquely identifies each network hardware device. MAC addresses are 12-digit hexadecimal numbers.
- **MEID** Mobile Equipment IDentifier. A globally unique number for a physical piece of mobile station equipment.
- Mbps Megabits per second.
- microSD / microSDHC A small, removable flash memory card available in various storage sizes. Some products have a slot that allows them to utilize this external memory.
- **MSID** Mobile Station IDentifier. A number for a mobile phone that identifies that phone to the network. These numbers are carrier specific.
- MSL Master Subsidy Lock. A numeric code for accessing certain phone settings.
- NAI Network Access Identifier. A standard way of identifying users who request access to a network.
- **NDIS** Network Driver Interface Specification. NDIS is a Windows specification for how communication protocol programs (such as TCP/IP) and network device drivers should communicate with each other.
- **Network Mask** A number that allows IP networks to be subdivided for security and performance.
- Network Operator The vendor who provides your wireless access. Known by different names in different regions, some examples are: wireless provider, network operator, and service provider.
- **Network Technology** The technology on which a particular network operator's system is built; such as GSM, HSPA, CDMA, EDGE, and EVDO.
- NNTP Network News Transfer Protocol. An Internet application protocol for reading and posting Usenet (newsgroup) articles.
- NovaSpeed Technology Novatel Wireless's proprietary software that enhances the speed and performance of its mobile broadband modems and enables simultaneous upload and download data transfers.
- PC Card PCMCIA's hardware standard for peripheral devices for laptop computers. Superseded by the ExpressCard.
- PCMCIA Personal Computer Memory Card International Association. An international standards
 organization of industry-leading companies for the definition of personal computer peripheral device
 standards.
- PDA Personal Digital Assistant. A handheld device used for organization, notes, address books, etc.

- **POP** Post Office Protocol. An Internet protocol for retrieving email from a remote server over a TCP/IP connection.
- **Port** A virtual data connection used by programs to exchange data. It is the endpoint in a logical connection. The port is specified by the port number.
- Port Forwarding A process that allows remote devices to connect to a specific computer within a
 private LAN.
- **Port Number** A 16-bit number used by the TCP and UDP protocols to direct traffic on a TCP/IP host. Certain port numbers are standard for common applications.
- Protocol A standard that enables connection, communication, and data transfer between computing endpoints.
- PPP Point-to-Point Protocol. A method of connecting a computer to the Internet.
- **PPTP** Point-to-Point Tunneling Protocol. A method for implementing virtual private networks that does not provide confidentiality or encryption but relies on the tunneling process for security.
- **PRL** Preferred Roaming List. A list that your wireless phone or device uses to determine which networks to connect with when you are roaming. (Network operator specific)
- Protocol A standard that enables connection, communication, and data transfer between computing endpoints.
- **Proxy** A firewall mechanism that replaces the IP address of a host on the internal (protected) network with its own IP address for all traffic passing through it.
- **PUK code** (Pin Unlock Key) A PUK is required when you enter an incorrect PIN 3 times. After entering the wrong PIN 3 times, the SIM card is disabled.
- **RAS** Remote Access Service. A Windows NT/2000 Server feature that allows remote users access to the network from their Windows laptops or desktops via modem.
- **Rev A** CDMA EV-DO Rev. A is a leading-edge wireless technology with higher data rates and higher system capacity. It is a fully backward compatible standard and remains interoperable with deployed EV-DO networks and devices around the world. The increased data rates on Rev. A's physical layer enable richer applications and services. For more information, visit www.cdg.org.
- **RFB** Remote Frame Buffer. A protocol for remote access to graphical user interfaces.
- Router A device that directs traffic from one network to another.
- RTP Real-time Transport Protocol. A packet format for streaming multimedia over the Internet.
- **SIM** Subscriber Identification Module. Found in GSM network technology, the SIM is a card containing identification information for the subscriber and their account. The SIM card can be moved to different devices.
- SMS Short Message Service. A service for sending short messages of up to 160 (224 in 5-bit mode) characters to mobile devices. SMS is also known as text messaging.
- **SMTP** Simple Mail Transfer Protocol. An Internet standard for email transmission across IP networks.
- **SSID** Service Set IDentifier. The name assigned to a Wi-Fi network.

- **TCP** Transmission Control Protocol. A core protocol for transmitting and receiving information over the Internet.
- **TCP/IP** Transmission Control Protocol/Internet Protocol. The set of communications protocols used for the Internet and other similar networks.
- **Telnet** Telecommunication Network. A network protocol used on the Internet or on local area networks.
- **TFTP** Trivial File Transfer Protocol. A file transfer protocol with a subset of FTP functionality.
- **UA** User Agent. Any device or software used to access a web page. A user agent might be a web browser, a smart phone, or a screen reader.
- **UDP** User Datagram Protocol. A simple transport protocol used to transfer information on the Internet.
- UI User Interface. The part of a software application or hardware device that a user sees and interacts with.
- **UMTS** Universal Mobile Telecommunications Service. A third-generation broadband, packet-based transmission of text, digitized voice, video and multimedia at data rates up to 2 Mbps. UMTS offers a consistent set of services to mobile users all over the world. UMTS is based on the GSM standard. Until UMTS is fully implemented, users can use multi-mode devices that switch to currently available technology.
- USB Universal Serial Bus. A connection type for computing device peripherals such as a printer, mobile modem, etc. USB connectors may be used for data transfer or charging.
- **USB Port Types** The USB ports on computers and hubs have a rectangular Type A socket, and peripheral devices have a cable with a Type A plug. Peripherals that do not have an attached cable have a square Type B socket on the device and a separate cable with a Type A and Type B plug. Ports and connectors are available in different sizes (for example, standard, mini, and micro).
- **USSD** Unstructured Supplementary Service Data. A service found in HSPA/GSM networks that allows the user to retrieve information or implement certain types of call services.
- **VNC** Virtual Network Computing. A graphical desktop sharing system that uses the RFB protocol to remotely control another computer.
- **VPN** Virtual Private Network. A secure private network that runs over the public Internet. Commonly used to connect to an office network from elsewhere.
- **VPN Passthrough** A feature that allows a client to connect to a VPN server.
- **WAN** Wide Area Network. A public network that extends beyond architectural, geographical, or political boundaries (unlike a LAN, which is usually a private network located within a room, building, or other limited area).
- **WCDMA** Wideband Code-Division Multiple Access. A 3G mobile wireless technology that promises much higher data speeds to mobile and portable wireless devices. Another name for UMTS.
- **WEP** Wired Equivalent Privacy. An IEEE standard security protocol for 802.11 networks. Superseded by WPA and WPA2.
- **Wi-Fi (R)** Any system that uses the 802.11 standard developed and released in 1997 by the IEEE.

- Wi-Fi Client A wireless device that connects to the Internet via Wi-Fi.
- **WLAN** Wireless Local Area Network. A typically low-power network that transmits a wireless signal over a span of a few hundred feet and usually only to stationary devices.
- **WPA/WPA2** Wi-Fi Protected Access. A security protocol for wireless 802.11 networks from the Wi-Fi Alliance.
- **WWAN** Wireless Wide Area Network. Wireless network technologies deployed over a large geographical area to a large number of users (see WLAN). This service is usually provided through cellular providers. WWAN connectivity allows a user with a laptop and a WWAN device to surf the Internet, check email, or connect to a virtual private network (VPN) from anywhere within the coverage area of the network operator.