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FCC ID: PKRNVWMiFi4510
IC ID: 3229B-MIFI4510

PN: 90026098_R1_DraftD_15Dec2010

Please visit www.novatelwireless.com for the latest information about your device.

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Getting Started

Overview

Congratulations on your purchase of the Novatel Wireless MiFi 4510L Intelligent Mobile Hotspot for Mobile Broadband and Wi-Fi!

This device operates over high-speed Mobile Broadband networks in the 800/1900 bands and Wi-Fi, enabling you to connect at high speeds to the Internet, your corporate Intranet, Wi-Fi enabled devices, and access your email virtually anywhere!

The MiFi 4510L device is an Intelligent Mobile Hotspot, empowering you with high-speed data access as well as Wi-Fi connectivity.

Features

- **Connect to High-Speed Wireless Data**

- **Benefit from Wi-Fi Connectivity**

Choose between Two Operating Modes: Mobile Broadband with USB Cable or Wi-Fi

> **NOTE** See "System Requirements" on page 6 for a complete list of supported operating systems.

- **Manage Wireless Network Activity**

    - **MiFi Settings** is an easy-to-use web-based interface that allows you to manage, monitor, and customize your Wi-Fi and Mobile Broadband connection when the device is in Wi-Fi mode (e.g., when not connected with a USB cable).

- **Advanced embedded antenna design**

- **VPN capability**

- **Auto connectivity options**

- **2-Way Short Messaging Service (SMS)**

- **NDIS configuration**

Package Contents

The Novatel Wireless MiFi 4510L package includes:

- Novatel Wireless MiFi 4510L

- AC wall charger

- Lithium-ion battery

- Storage pouch

- microUSB cable

- Quick reference guide

- Driver software included on the device (no CD required)

System Requirements

If you want to install the driver software and use MiFi 4510L in USB Cable mode, your computer must meet the following requirements:

- Supported operating systems (USB Cable mode only)

  - Windows® 2000, XP (SP2 or higher), Vista, 7

  - Mac OS® X v10.4 or higher

- Internet browser software. For example: Microsoft Internet Explorer 6.0 or higher, Firefox, Safari, Opera, Chrome

- Driver software included on the device (no CD required)

- USB port: Type A, v1.1 supported; v2.0 high speed recommended

- Wi-Fi (802.11b or higher)

- Hard drive: 100 MB free hard disk space

- Memory (RAM): 128 MB

If you want to use Wi-Fi mode only, your computer needs Wi-Fi capability and Internet browser software only.

Your device must have data service to function properly. See Activate Your Device on page 18.

Software

If you connect the MiFi 4510L device to your computer for the first time, the driver software automatically installs itself on your computer. The software is included on the MiFi 4510L device (no CD required).

The device has two modes: Mobile Broadband (USB Cable) mode, and Wi-Fi mode. In both cases you can change the device settings with the web-based MiFi Settings.

Components

[IMAGE FORTHCOMING]

❶ **Display:** Shows the user the device status, including network signal strength, roaming status, battery status, email/SMS new message status, GPS on/off status, and the number of users connected with Wi-Fi. See Display States on page 10.

❷ **Power Button**: Powers the device on and off.

❸ **LED**: Shows the device status, including connection and error states. See LED States on page 9.

[IMAGE FORTHCOMING]

❶ **microUSB Connector:** The AC charger and USB cable connect here.

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[IMAGE FORTHCOMING]

❶ **SIM Card Slot**: The SIM card is installed here.

❷ **Battery Compartment**: The battery contacts connect here.

❸ **Master Reset Button**: Insert a paperclip in the small hole the device to factory settings. See
How do I reset MiFi back to factory settings? on page 57.

❹ **Battery Removal Divot**: When the battery is installed, insert a fingernail here to easily
remove it.

❺ **Network Name and Password Label (Not shown)**: The preconfigured name of your network
(SSID) and your network password (also called a network key) are printed on the back of
your device.

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LED States

LED Color		Status	Description
No Light		Off	The device is powered off or otherwise is not getting power.
BLUE		Solid	The device is powered on and not connected to the network; LTE service is available.
		Blinking	The device is powered on and connected to the LTE network. The blink rate corresponds to the connection speed.
GREEN		Solid	The device is powered on and not connected to the network; 2G/3G service is available.
		Blinking	The device is powered on and connected to the 2G/3G network. The blink rate corresponds to the connection speed.
Red		Blinking	If this occurs during activation, no SIM card is inserted. All other times, this indicates an error. See Troubleshooting on page 54.

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Display States

Display Icon		Status	Description
No icons	[icon]	The display is off, and the LED is also off	The device is powered off or otherwise is not getting power.
Network signal strength	[icon]	An antenna with bars	More bars indicate stronger signal.
Battery status	[icon]	A battery outline filled with bars; while charging, the bars cycle from 0-4 bars. When fully charged, the bars are static. When the battery has 5% or 15 minutes of charge remaining, the battery outline blinks on and off every two seconds.	More bars indicate more battery life. If the device LED and display are all off except for the battery icon, the device is in low-power Standby mode. See Power Management on page 53. This means the device is charging while connected to a computer, but the device is not connected to the network.
Roaming indicator	[icon]	Present or not present	If the icon is present, the device is roaming on another carrier's network.
Email/SMS icon	[icon]	Present or not present	If the icon is present, a new email or SMS message is waiting.
GPS on/off status icon	[icon]	Present or not present	If the icon is present, the GPS feature is turned on.
No. of Wi-Fi users connected	[icon]	Number	The number indicates the number of Wi-Fi users connected to the device.

Power Management

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

- **Battery** — The battery lasts for up to seven hours. Charge the battery by plugging in the AC adapter. While the battery is charging the battery icon bars blink. When the battery is fully charged, the battery icon is solid.

- **Wall power** — You can use the device when it is plugged into a wall socket. The MiFi battery charges while it is plugged in.

- **USB power from a computer** — You can use the device as a USB modem while plugged into the USB port of a computer, using a microUSB cable. The battery charges while it is plugged in. Charging the battery through the USB port is slower than charging it with wall power.

Before using the MiFi 4510L device, read the battery safety information in the "Safety Hazards" section of this guide. See Proper Battery Use and Disposal on page 66.

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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 excessive 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 either the battery or the SIM card, 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. To avoid risk of explosion, never dispose of batteries in a fire.

Caring for Your Device

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

- Protect the device from liquids, dust, and excessive temperatures.

- Do not apply adhesive labels to the device; they might cause the device to potentially overheat and they might alter the performance of the antenna.

- The USB connector should plug easily into your computer's standard Type A USB port. Do not force the device into a port, as doing so might damage the connector.

- Remove the device from your computer before transporting it.

- Store the device in a safe place when not in use.

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Using the MiFi 4510L Device

Using the Device for the First Time

IMPORTANT   Do not connect the MiFi 4510L device to a USB hub, as it might not provide sufficient power.

To get started, follow these steps.

❶   Confirm your computer meets the minimum system requirements. See System Requirements on page 6.

❷   Remove the tab and charge the battery. See Remove the Tab and Charge the Battery on page 16.

❸   Activate the MiFi 4510L device. See Activate Your Device on page 18.

❹   Connect the device to your computer using Wi-Fi.

❺   (Optional) Connect the device to your computer with the USB cable. See Connect the Device to the Computer with the USB Cable on page 17.

IMPORTANT   The MiFi 4510L device requires an activated account with a network operator to function.

If you decide to connect the MiFi 4510L device to your computer, the device includes drivers in its flash memory so no installation CD is needed. The device automatically installs the software the first time it is inserted into the computer's USB port.

Remove the Tab and Charge the Battery

IMPORTANT   Before you use your device, be sure to charge the battery for at least four hours to ensure a full initial charge.

The MiFi 4510L device requires an activated account with a network operator.

To insert and charge the battery

❶ Press the button and then slide the cover to open the battery compartment, located on the bottom of the device.
[IMAGE FORTHCOMING]

❷ A plastic tab separates the gold-colored contact points in the battery compartment. Pull to remove the plastic tab.
[IMAGE FORTHCOMING]

❸ Once the tab is removed, replace the cover to close the battery compartment.
[IMAGE FORTHCOMING]

❹ Connect the microUSB end of the AC wall charger to the microUSB port of the device as shown.
[IMAGE FORTHCOMING]

❺ Plug the other end of the AC wall charger into the appropriate electrical outlet. Charge for at least four hours.

CAUTION!   Use only batteries and chargers with your device that have been approved by Novatel Wireless. 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.

You are now ready to connect your computer or other wireless device to the MiFi 4510L device. You can also optionally connect the MiFi 4510 device to your computer to install the drivers.

Connect the Device to the Computer with the USB Cable

To connect the device to the computer

❶ Grip the MiFi 4510L device by its sides and gently connect the small end of a microUSB cable to the microUSB port on the device.

The cable should fit easily into the device. Do not force the cable into the device as this might damage both the cable and the device.

❷ Connect the large end of the microUSB cable to your computer's USB port.

The cable should fit easily into the port. Do not force the cable into the port as this might damage both the cable and the port.

[IMAGE FORTHCOMING]

NOTE If you have difficulty inserting the cable into your computer's USB port, verify that you are inserting the cable in the correct orientation and that you are using a Type A USB port.

The following occurs:

❶ The status icon appears in the system tray / notification area (Windows) or in the menu bar (Mac).
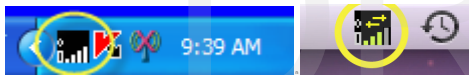
❷ The MiFi 4510L device is powered on automatically and begins charging.

IMPORTANT The recommended minimum distance between you and the device is 8 inches. Extend the microUSB cable so MiFi is at least 8 inches from your body.

Power the MiFi 4510L Device On and Off

Power On

➤ Press the Power Button until the network signal strength icon appears on the display and the LED turns on green or blue.

Power Off

❶ If the device is plugged into your computer with the USB Cable, unplug the USB cable from the device first.

❷ Press and hold the Power Button until the display and LED shuts off.

Activate Your Device

IMPORTANT   The MiFi 4510L device requires an activated account with a network operator to function.

[Content TBD]

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Properly Remove the Device from Your Computer

> **IMPORTANT**   Be sure to disconnect from the network before you remove the device from your computer. Disconnecting from the network avoids potential problems such as automatic shutdown or screen freezing.

The MiFi 4510L device's USB technology allows you to safely remove the device from your computer at any time when you are not connected to the network.

Quick removal

❶ End your network session.

❷ Ensure the device is powered off.

❸ Gently grip the USB cable on both sides and pull straight out to avoid damaging the USB connectors.

Standard unplug/eject hardware removal (Windows and Mac OS X)

❶ End your network session.

❷ Ensure the device is powered off.

❸ **Windows only**: Right-click the **Safely Remove Hardware** icon in the Windows notification area, click **Safely Remove Hardware**, click the device, and then click **Stop** (Windows 2000, XP, Vista) or **Eject** (Windows 7).

❹ Gently grip the USB cable on both sides and pull straight out to avoid damaging the USB connectors.

Configuring Wi-Fi Mode

The MiFi Settings Web-based User Interface (MiFi Settings) is used to configure the MiFi 4510L device for Wi-Fi mode. In Wi-Fi mode, there is no USB connection from your computer to the MiFi 4510L device; the connection to the MiFi 4510L device is wireless using Wi-Fi.

IMPORTANT   The device must be activated before you configure Wi-Fi mode. See Activate Your Device on page 18.

The battery must be fully charged before you configure Wi-Fi mode. See Remove the Tab and Charge the Battery on page 16.

Configure Security for the MiFi 4510L Device

The MiFi 4510L device comes from the factory with security enabled. A sticker on the back panel includes the name of the wireless network (SSID) and the network password. You can change the security settings with the MiFi Settings Wi-Fi screen. See Wi-Fi on page 32.

Connect to MiFi Settings

❶ Turn on your computer and turn on the MiFi 4510L device.

The MiFi 4510L device's LED should be solid green or blue, indicating the device is in service and ready to connect. The MiFi 4510L device broadcasts its own wireless network.

❷ On your computer, use the Wi-Fi manager (Windows) or the AirPort menu bar icon (Mac OS X) to connect wirelessly to the the MiFi 4510L device wireless network.

> **Tip!** The steps to connect to a Wi-Fi network vary depending on your operating system and whether you use the native application or third-party software.
> Generally you click an icon in the Windows notification area where you can select **View Available Wireless Networks,** or click the Airport icon in the menu bar on a Mac. If you are unfamiliar with wireless networking on your computer, consult the computer help system.

❸ Connect to the network name found on the sticker on the device. The name includes **MiFi4510L.**

❹ Open your browser and type **http://192.168.1.1** into the address bar. Then press the **Enter** or **Return** key.

The Welcome screen opens. See Welcome on page 27.

❺ Type the password **admin** in the Login field in the upper right corner of the window.

The Welcome screen changes to the Home screen. See Home on page 30.

For more information about MiFi Settings, see "Configuring MiFi Settings" on page 26.

Using the Device After Setup is Complete

The MiFi 4510L device has two modes: Mobile Broadband with USB Cable mode or Wi-Fi mode.

Wi-Fi Mode

You can use the MiFi 4510L device as a wireless hotspot to connect your computer and/or (up to a total of five) other Wi-Fi enabled devices to the mobile broadband network.

You can customize the MiFi 4510L device's settings using MiFi Settings. See Configuring MiFi Settings on page 26.

Normal Use

- The MiFi 4510L device is not connected to a computer.

- The MiFi 4510L device is powered on as soon as you press the power button and the display turns on.

- The on the device becomes green or blue and blinks according the connection speed.

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Setting Up a Temporary Hotspot

You can use the device to set up a temporary hotspot to allow a maximum of five connections to your the MiFi 4510L device at one time.

The Temporary Hotspot profile is pre-set on your device. It generates a temporary network name (SSID) and network key so you can allow others to connect to your device without having to change your secure profile's security settings.

[IMAGE FORTHCOMING]

Set up a Temporary Hotspot
To set up a Temporary Hotspot, follow these steps.

❶   Connect to MiFi Settings and log in. See Configuring MiFi Settings on page 26.

❷   Go to the Wi-Fi screen. See Wi-Fi on page 32.

❸   On the Wi-Fi screen, select Temporary Hotspot as the selected profile.

A new (temporary) network name (SSID) and network key (Wi-Fi passkey) appears. Typically the temporary network name is the secure profile name with "Temp" added, and the temporary network key is "12345."

Tip!   Click **Generate** to create a new network name and network key.

❹   Click **Apply**. Others can now use the temporary network name (SSID) and network key to connect to your device.

For more information about changing profiles, see "Wi-Fi" on page 32.

Mobile Broadband with USB Cable Mode

You can use the MiFi 4510L device as a USB modem to connect your computer to the mobile broadband network.

Connect the device to a computer

❶ Connect the device to your computer's USB port with a microUSB cable.
See Connect the Device to the Computer with the USB Cable on page 17.

❷ Turn on the device. Although the device is powered on, it does not automatically connect to the Internet.

❸ If sound effects are enabled, the computer might beep.

Connect To and Disconnect From the Network

[TBD, use MiFi Settings]

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Accessing the User Guides

You can access the User Guides on the device.

- The MiFi 4510L Device Product User Guide – Explains The MiFi 4510L device's hardware features and Wi-Fi configuration

To access the User Guides (Windows)

❶ Connect the device to your computer's USB port with the included microUSB cable. See Connect the Device to the Computer with the USB Cable on page 17.

❷ Go to **My Computer** > **Devices with Removable Storage**.

❸ TBD

To access the User Guides (Mac OS X)

❶ Connect the device to your computer's USB port with the included microUSB cable. See Connect the Device to the Computer with the USB Cable on page 17.

❷ Open a Finder window.

❸ TBD

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Troubleshooting

Overview
Common Problems and Solutions
Technical Support

Overview

When properly installed, MiFi 4510L is a highly reliable product. Most problems are caused by one of these issues:

- System resources required by the device are being used by other devices.

- Network coverage is unavailable due to coverage area, an account problem, or a network problem.

The following tips can help solve many common problems encountered while using the device.

First Steps

- Make sure you are using the device in the correct geographic region.

- Ensure that your wireless coverage extends to your current location.

- Ensure you have an active subscription plan.

- Restarting your computer and your modem can resolve many issues.

IMPORTANT   Before contacting support, be sure to restart both your computer and your device.

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Common Problems and Solutions

The following are some common problems and solutions.

Windows only: What if my software drivers didn't install automatically?

➤ Your computer's USB port might not work properly. You can try a different USB port or install the driver software manually.

My computer does not start when the device is inserted. I experience an error or a blank screen.

➤ When this happens, remove the device and restart the computer.
The device contains internal memory which behaves like a CD-ROM. Some computers, depending on the system BIOS settings, might try to start from the device's internal memory instead of the Hard Drive. The computer might show a black screen with a cursor or an error message about a non-bootable disk. This behavior is similar to using any non-bootable CD in your CD-ROM drive.

I cannot install the software drivers.

➤ You might not have administrator privileges.

1. Contact your system administrator (if applicable).
2. Log on to your computer as an administrator, or create a user account with administrator privileges.

I still cannot connect to the network after trying First Steps. See First Steps on page 55.

➤ Your Connection Type in the active connection profile might be incorrect. Use the Profile Manager to verify your settings.

➤ Your access point name (APN) settings, username, or password in the active connection profile might be incorrect. Use the Profile Manager to verify your settings.

My MiFi powered off when I plugged it in to the wall charger. Why?

This occurs if any power settings are activated once the device is plugged into the wall charger.

➤ Manually press the power button to turn it back on.

My MiFi just powered off without my pressing the power button. Why?

This may occur under any of the following circumstances.

> » Pressing the Master Reset button.
> » Restarting the device.
> » Switching profiles.
> » Restoring the configuration settings.
> » Battery depleted.

➤ Manually press the power button to turn it back on.

➤ If the battery is depleted, charge the device with the wall charger or USB cable.

How do I reset MiFi back to factory settings?

The master reset button is in a small hole located on the bottom of the device, under the battery cover. This button returns the device to factory settings, including re-setting the network name (SSID) and network key (Wi-Fi passkey) to those printed on the sticker affixed to the back of the device.

1. Place one end of an unfolded paper clip in the master reset button hole.
2. Press the paper clip on the button until the LED blinks green one full blink and then a very brief blink (about five seconds).

How do I reset the Access Point and Router settings back to factory settings?

When MiFi is in Wi-Fi mode, you can connect to MiFi Settings by connecting your computer to the MiFi wireless network and going to **http://192.168.1.1** in your browser.

Connect to the Diagnostics screen. See Diagnostics on page 48. The Diagnostics screen has a **Reset to Factory Defaults** button. This button resets all Access Point and Router settings to their factory default values. All existing settings are lost.

Technical Support

Customer Service

IMPORTANT   Before contacting support, be sure to re-start both your computer and the device.

For more information about your device, please visit www.novatelwireless.com.

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Product Specifications and Regulatory Information

Product Specifications

General

Name:	Novatel Wireless MiFi 4510L
Model:	MiFi 4510L
Approvals:	FCC (North America); CDG
Weight:	58 g / 2.05 oz
Dimensions (with USB folded out):	90 mm x 60 mm x 8.8 mm, 3.54 in x 2.36 in x 0.35 in
Wireless Network – Dual Mode:	LTE, CDMA 1X/EV-DO Rev A
Wireless Network – Wi-Fi Mode	802.11 b/g/n
Battery	
Size	1150 mAh
Time required for full charge when charging from the AC Charger	2.5 hours (when not in use)
Time required for full charge when charging from the computer microUSB cable	7-8 hours (when not in use)
Interface Type:	Type A USB Port for microUSB cable (included)

Technology/Bands

Technology:	LTE, CDMA Rev A, Rev 0, 1XRTT
Band Designation:	LTE 700 MHz
	CDMA 1x/EV-DO RA; 800/1900 MHz

Environmental

Operating Temperature:	-10 ° C to +45° C (14°F to 113° F)
Storage Temperature:	-20° C to 25° C (-4° F to 77° F)
Drop:	1 meter (3.28 feet) drop, no damage – fully operational
Vibration Stability:	5 Hz to 500 Hz, 0.1 octave/second

Regulatory Statements

Federal Communications Commission Notice (FCC – United States)

Electronic devices, including computers and wireless modems, generate RF energy incidental to their intended function and are therefore subject to FCC rules and regulations.

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. Operation is subject to the following two conditions.

• This device may not cause harmful interference.

• 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 4510L MODEM IS FACTORY TUNED. NO CUSTOMER CALIBRATION OR TUNING IS REQUIRED. CONTACT NOVATEL WIRELESS TECHNICAL SUPPORT FOR INFORMATION ABOUT SERVICING YOUR WIRELESS COMMUNICATION DEVICE.

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

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

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

RF Exposure Content

FCC Equipment Authorization ID: **PKRNVWMiFi4510**

This device is authorized for use in mobile and portable applications. At least 12 mm (0.5 inches) of separation between the antenna and the user's body must be maintained at all times.

This product has been evaluated for SAR and meets the FCC Guidelines for exposure to radio waves.

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Wireless Communications

> **IMPORTANT** Due to the transmission and reception properties of wireless communications, data occasionally can be lost or delayed.

This can be due to the variation in radio signal strength that results from changes in the characteristics of the radio transmission path. Although data loss is rare, the environment where you operate the modem might adversely affect communications.

Variations in radio signal strength are referred to as fading. Fading is caused by several different factors including signal reflection, the ionosphere, and interference from other radio channels.

Novatel Wireless or its partners will not be held responsible for damages of any kind resulting from the delays or errors in data transmitted or received with the MiFi 4510L device, or failure of the MiFi 4510L device to transmit or receive such data.

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.

Safety Hazards

Do not operate MiFi 4510L in an environment that might 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 the host device and remove the device from the USB port when instructed to do so, or when you suspect that it might cause interference or danger.

Where explosive atmospheres might be present

Do not operate your device in any area where a potentially explosive atmosphere might 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 device 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 might be susceptible to any form of radio interference. In such areas, the host communications device must be turned off. The device can 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 the host device is turned off and 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.

Electrostatic discharge (ESD)

Electrical and electronic devices are sensitive to electrostatic discharge (ESD). Macintosh native connection software might attempt to reinitialize the device should a substantial electrostatic discharge reset the device. If the software is not operational after an ESD occurrence, then restart your computer.

Proper Battery Use and Disposal

IMPORTANT   In 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

- Communicate the appropriate steps to be taken if a hazard occurs. Due to the transmission and reception properties of wireless communications, data occasionally can be lost or delayed.

Please review the following 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 a 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 a metallic or conductive object to contact the battery terminals.

- Replace the battery only with another battery that has been qualified with the system per 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 center for inspection.

- Improper battery use may result in a fire, explosion, or other hazard.

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Glossary

Glossary

- **3G** — Third Generation. 3G refers to the third generation of mobile telephony technology.

- **4G** — Fourth Generation. 4G refers to the fourth 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.

- **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.

- **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.

- **ESN** — Electronic Serial Number. A unique 32-bit number embedded in a wireless device that identifies the device.

- **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.

- **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 WiFi (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.

- **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.

- **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.

- **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.

- **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 provider, and service provider.

- **Network Technology** — The technology on which a particular network provider's system is built; such as CDMA and EVDO.

- **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.

- **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.

- **Router** — A device that directs traffic from one network to another.

- **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.

- **SSID** — Service Set IDentifier. The name assigned to a WiFi network.

- **TCP/IP** — Transmission Control Protocol/Internet Protocol. The set of communications protocols used for the Internet and other similar networks.

- **UI** — User Interface. The part of a software application or hardware device that a user sees and interacts with.

- **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).

- **VPN** — Virtual Private Network. A secure private network that runs over the public Internet. Commonly used to connect to an office network from elsewhere.

- **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.

- **WiFi** — Wireless Fidelity. Any system that uses the 802.11 standard developed and released in 1997 by the IEEE.

- **WiFi Client** — A wireless device that connects to the Internet via WiFi.

- **WPA/WPA2** — WiFi Protected Access. A security protocol for wireless 802.11 networks from the WiFi Alliance.

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