



Sierra Wireless USB Modem

User Guide

2131232
Rev 1.0

Important Notice

Due to the nature of wireless communications, transmission and reception of data can never be guaranteed. Data may be delayed, corrupted (that is, have errors) or be totally lost. Although significant delays or losses of data are rare when wireless devices such as the Sierra Wireless modem are used in a normal manner with a well-constructed network, the Sierra Wireless modem should not be used in situations where failure to transmit or receive data could result in damage of any kind to the user or any other party, including but not limited to personal injury, death, or loss of property. Sierra Wireless accepts no responsibility for damages of any kind resulting from delays or errors in data transmitted or received using the Sierra Wireless modem, or for failure of the Sierra Wireless modem to transmit or receive such data.

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Do not operate the Sierra Wireless modem in areas where blasting is in progress, where explosive atmospheres may be present, near medical equipment, near life support equipment, or any equipment which may be susceptible to any form of radio interference. In such areas, the Sierra Wireless modem **MUST BE POWERED OFF**. The Sierra Wireless modem can transmit signals that could interfere with this equipment.

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Note: Some airlines may permit the use of cellular phones while the aircraft is on the ground and the door is open. Sierra Wireless modems may be used at this time.

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5,890,057	5,929,815	6,169,884	6,191,741	6,199,168
6,339,405	6,359,591	6,400,336	6,516,204	6,561,851
6,643,501	6,653,979	6,697,030	6,785,830	6,845,249
6,847,830	6,876,697	6,879,585	6,886,049	6,968,171
6,985,757	7,023,878	7,053,843	7,106,569	7,145,267
7,200,512	7,295,171	7,287,162	D442,170	D459,303
D599,256	D560,911			

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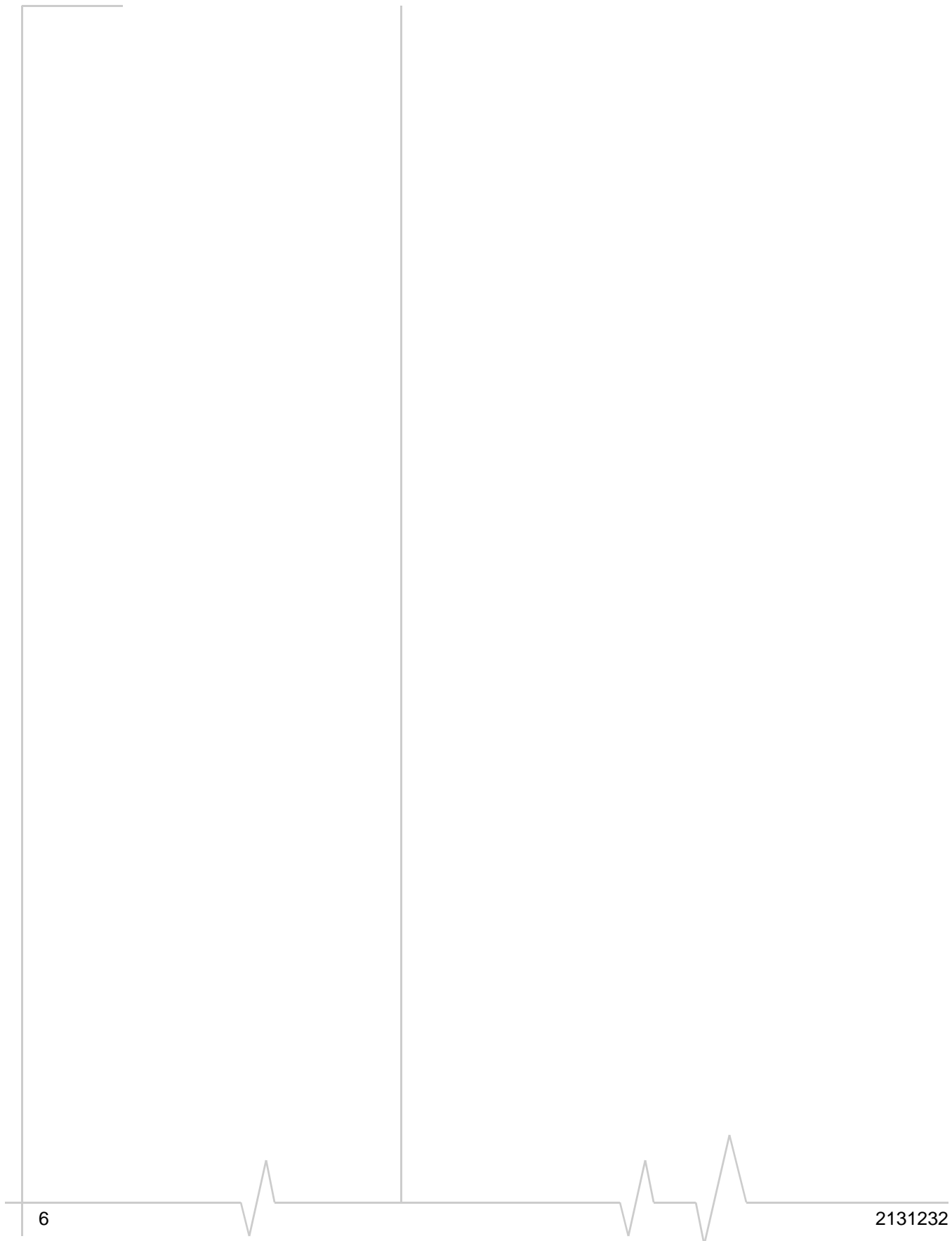
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Fax:	1-604-231-1109	
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Consult our Web site for up-to-date product descriptions, documentation, application notes, firmware upgrades, troubleshooting tips, and press releases:

www.sierrawireless.com

Revision History

Revision number	Release date	Changes
1.0	Sept. 2009	New document



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1: Introducing the Sierra Wireless USB Modem

- Services supported
- Your account and coverage area
- Modem software
- Frequency band support

About the USB modems

Sierra Wireless USB wireless modems enable you to connect to the Internet, send and receive email, connect to a corporate network or virtual private network (VPN), or view streaming video, without the need for a cable.

The USB modems connect to a Type A USB port on your computer.

The modems are TRU-Install™ enabled. All the required software is on the modem. When you set up your modem, the software is installed on your computer. You do not need an installation CD.

The modems have a built-in antenna and may have a slot that accommodates a microSD external memory card. Depending on your service provider, a microSD™ card may be included in your package, or you may need to purchase it separately.

Services supported

Depending on the model, your modem supports speeds of up to 21 Mbps (Megabits per second). However, actual speed depends on the services offered by your service provider. Contact your service provider and visit www.sierrawireless.com for details.

Maximum theoretical data speeds are:

- Evolved High Speed Packet Access (Evolved HSPA or HSPA+)— up to 21 Mbps
- High Speed Download Packet Access (HSDPA) — up to 7.2 Mbps
- High Speed Upload Packet Access (HSUPA) — up to 5.76 Mbps
- Concurrent HSDPA/HSUPA (HSPA) — up to 3.6 Mbps download and up to 1.5 Mbps upload

Note: If you purchased the modem from a GSM service provider, you may already have an account and a SIM card. Otherwise, your retailer should be able to give you the names of companies that provide these items.

Note: The fee for service is usually higher when you are roaming (connected to a network other than the one belonging to your service provider).

- Universal Mobile Telecommunications System (UMTS) – 384 kbps (kilobits per second)
- Enhanced Data rates for GSM Evolution (EDGE) – 236 kbps
- General Packet Radio Service (GPRS) – 56 kbps

GPRS and EDGE are second generation (2G) data services. UMTS, HSDPA/HSUPA, and HSPA+ are 3G data services.

When establishing a connection, your modem uses the fastest available service. If, for example, you are using the modem in an area that has EDGE service but not UMTS or HSDPA/HSUPA service, the modem connects using EDGE service.

Once the connection is established, you have access to all Internet services.

Your account and coverage area

You must have an account with a GSM service provider to use the modem. To use the modem's 3G capability, your account must be with a service provider that offers HSPA, HSPA+ or UMTS service. (The modem is backwards compatible with 2G service.)

When you obtain your account, you are given a Subscriber Identity Module (SIM) card containing account information. Before you use the modem, you must insert the SIM card into it.

Your ability to obtain service depends on these factors:

- **Network coverage** – You must be within the network coverage area.
- **Service provider** – If you are within the coverage area of a network that is not operated by your own service provider, you can obtain service only if there is a roaming agreement between your service provider and the network operator.
- **Account provisions** – Your account may restrict your usage to certain networks or limit the amount of time you can use the network.
- **Frequency band** – You cannot connect to networks operating in bands not supported by your modem, regardless of roaming agreements or account provisions.

Most service providers have coverage maps on their Web sites.

Modem software

The modem comes with connection management software. Depending on your carrier, it may come with carrier-specific software or the following software made by Sierra Wireless:

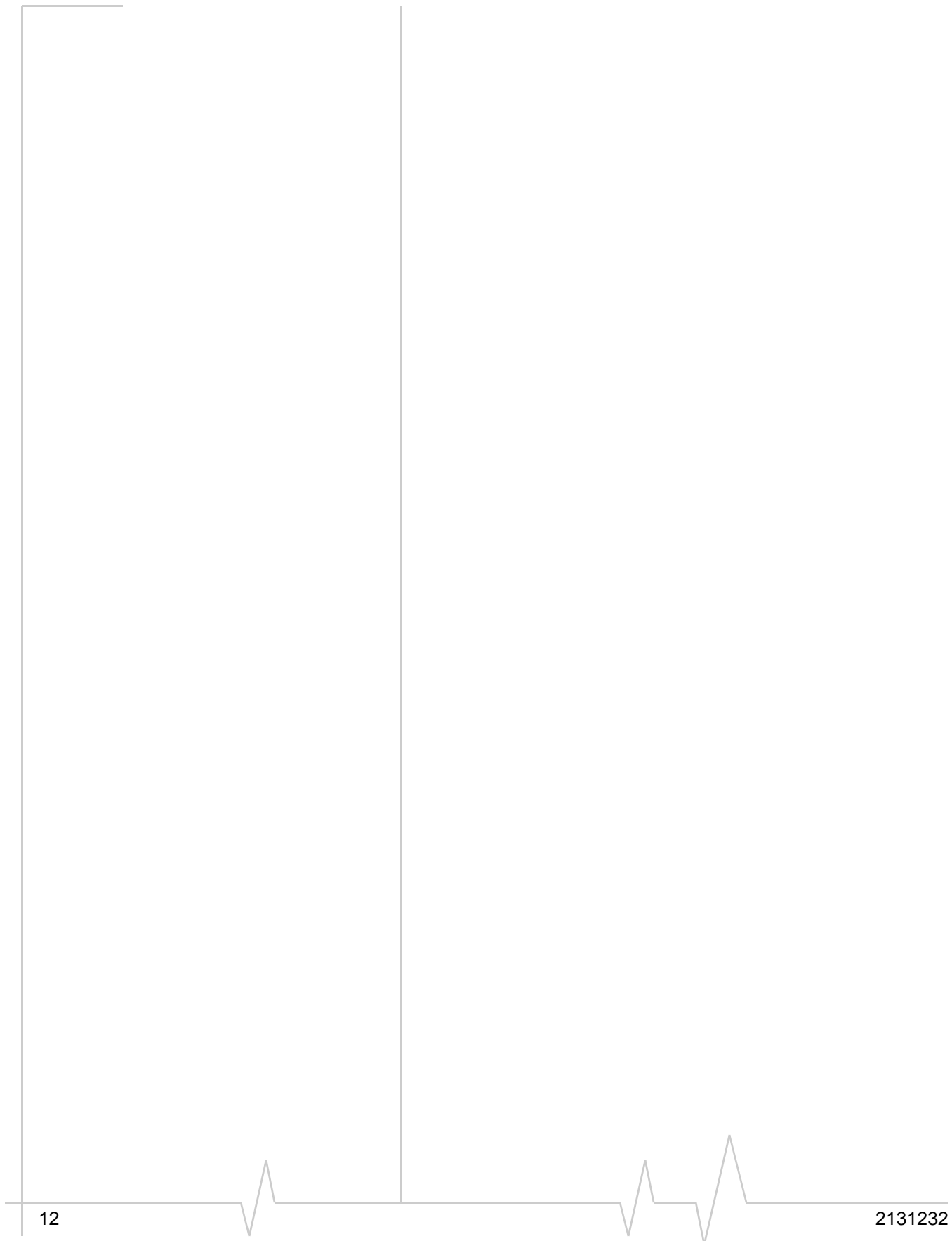
- Sierra Wireless Watcher[®] for Windows or 3G Watcher for Mac[®]. Use this software to manage the modem and monitor your connections.
- Driver software that forms the interface between the modem and your Windows operating system

For information on Watcher features and using Watcher, see [“Connection management software”](#) on page 24.

Frequency band support

Frequency bands supported by the modem:

Technology	Bands	Location
2G	850 MHz (cellular band)	North America
	900 MHz (EGSM band)	Europe
	1800 MHz (DCS band)	Europe and Asia
	1900 MHz (PCS band)	North America
3G	WCDMA 800 (band VI)	Japan
	WCDMA 850 (band V)	North America and Australia
	WCDMA 1900 (band II)	North America
	WCDMA 2100 (band I)	Europe, Asia, and Australia



2: Getting Started

Note: Keep a written record in a secure place of the account information that your service provider gives you.

Follow the instructions in this chapter to set up and start using your modem.

To use your modem, you'll need:

- An account with a service provider
- A SIM card (supplied by the service provider)
- A profile, which may be:
 - Already stored on your modem when you purchase it
 - Set up automatically
 - Selected from a drop-down list
 - Created manually

Overview of installation steps

1. Check the system requirements.
2. Insert the SIM card into the modem.
3. Insert the modem into your computer. (The necessary software is installed and either the profile is set up automatically or Watcher prompts you to create a profile.)

System requirements

The modem is supported on:

- Windows® 7
- Windows Vista®
- Windows XP (Home and Professional versions)
- Mac® OS X 10.4.11 or later

To install a USB-connected modem, your computer requires the following:

USB port	1 USB Type A slot (USB 1.1 or 2.0)
Memory	32 MB

*Note: If you are running Mac OS X, please refer to the **Watcher Quick Start Guide for Mac OS X** found at www.sierrawireless.com/mac.*

Note: To prevent the SIM card from becoming jammed in its slot, ensure the edge of the card is smooth before inserting it. Do not attach labels to your SIM card as this may also cause it to jam.

Inserting the SIM card

1. If your SIM card is attached to a larger card, detach the SIM card and remove any fragments stuck to it.
2. Remove the end cap. The SIM card slot is the uppermost slot above the USB connector¹. See [Figure 2-1](#).
3. Insert the SIM card. Depending on the model, your modem may or may not have a SIM tray.

If there is no SIM tray:

- a. Gently push the SIM card into the slot until the card will not go in any further.

When it is properly inserted, the outer edge of the SIM card is in line with the edge of the housing.

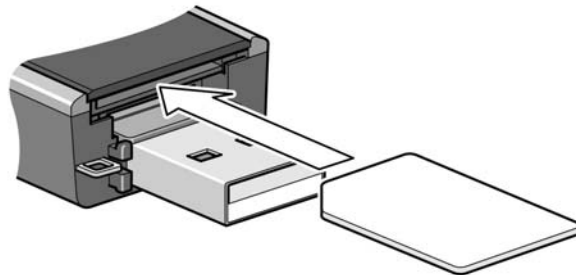
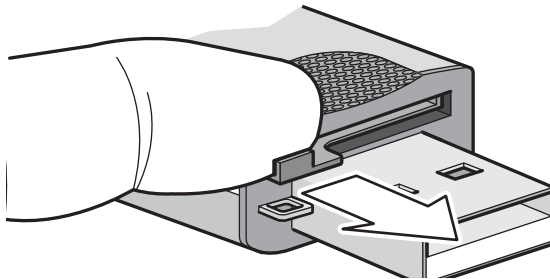


Figure 2-1: Inserting the SIM card into a USB modem

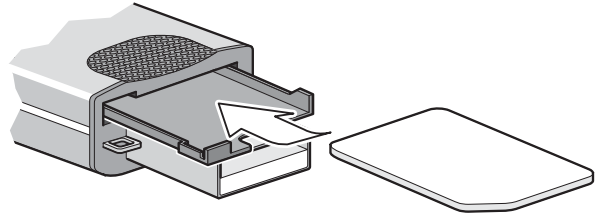
If there is a SIM tray:

- a. Gently slide open the SIM card tray, but do not remove it entirely.²

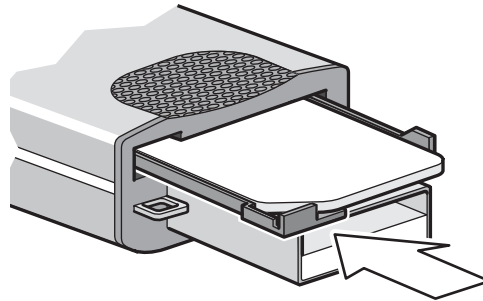


1. Depending on your model, some modems may have only one slot or the SIM slot may be on the side of the modem.
2. If you inadvertently remove the tray entirely, reinsert it into the modem.

- b.** Place the SIM card on the tray, as shown in the following illustration.



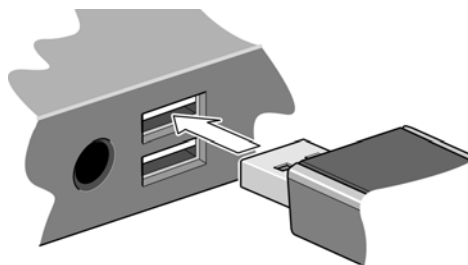
- c.** Close the SIM tray.



Note: For instructions on removing the SIM card, see [page 23](#).

Insert the modem into the computer

- 1.** Gently insert the modem into the USB slot.



Note: If the orientation of your computer's USB slot or the thickness of your computer are such that pressure is applied to the end or side of the modem, you may damage the modem or your computer. In such cases, do not insert the modem directly into your computer's USB slot; use the USB extension cable and notebook computer clip instead. See "[Using the extension cable and clip](#)" on [page 23](#).

Note: To ensure FCC RF exposure limits, ensure that there is at least 1 cm (0.4 inches) between you and the modem. For more safety and regulatory information, see [page 33](#).

Note: If the modem does not work in the first USB slot you insert it into, try using a different USB slot.

Note: Do not forcefully insert the modem as you may damage connector pins.

Note: Do not insert the modem or the USB extension cable into a USB hub or, if your keyboard is separate from your notebook computer, a USB slot on your keyboard.

Installing the software

The modem comes with TRU-Install™, a Sierra Wireless feature that installs the necessary software the first time you insert the modem into your computer. (You do not need an installation CD.)

The installation process starts automatically when you insert the modem. Follow the on-screen instructions for installing the software.

Note: If you have a previous version of Watcher installed, uninstall it before installing a new version.

Note: If the modem does not launch Watcher or the Install Software notice, try inserting it into a different USB slot.

Windows Operating System¹

If the installation process does not start automatically:

1. Double-click **My Computer** (Windows XP) or **Computer** (Windows 7 or Windows Vista) on your desktop.
2. Click the **TRU-Install** drive.
3. Under the TRU-Install drive, go to the **Win** folder and double-click the **Setup.exe** file.
4. Follow the on-screen instructions for installing the software.

Note: Do not remove the modem until the software installation is complete. If you have inadvertently removed the modem too soon, see ["Reinstalling the software \(Windows\)"](#) on page 27.

1. If you are using a Mac computer, see page 17.

Connect to the network

To use your account (and connect to your service provider's network), you need to have at least one profile set up on your modem. Depending on how your modem is configured, the profile may already be set up or you may need to create one.

Scenario	Required action
Watcher automatically detects or creates a default profile.	Click Connect ^a .
Watcher prompts you to create a data profile.	1. Click Yes , then....
<ul style="list-style-type: none"> If Watcher opens the Options window Profile pane and pre-selects an appropriate profile (normally the name of your service provider) from the drop-down list... 	<ul style="list-style-type: none"> a. Click OK to accept that profile (or choose another from the drop-down list). b. Click Connect^a.
<ul style="list-style-type: none"> If Watcher opens the Options window Profile pane, the Profile name field is blank, and your service provider is not included in the drop-down list... 	You need to create a profile manually. Refer to the Watcher online help for details.

- a. The first time you insert the modem in the computer, it takes a few seconds for the modem to locate the network. While it is scanning for a network, the Connect button is unavailable.

Once the software is successfully installed and the profile is set up, the modem is ready to use.

Anytime you use the modem with the same computer, TRU-Install verifies that the correct software is already installed. This process takes a few seconds.

If you need to re-install the software, see [page 27](#).

For information on using Watcher, see "[Connection management software](#)" on page 24 or view the Online Help that comes with Watcher.

Mac OS X

- After inserting the modem, double-click the installer package.
If you do not see the installer package:
 - Open Finder.
 - Under **Devices**, click **TRU-Install**.
 - Double click the installer package.
- Follow the on-screen instructions.
- Restart our computer when prompted.

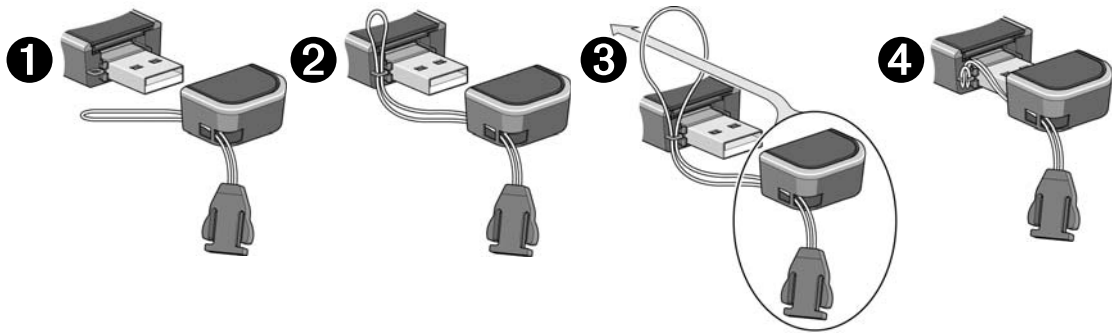
Connect to the network

Once the software is successfully installed, the modem is ready to use.

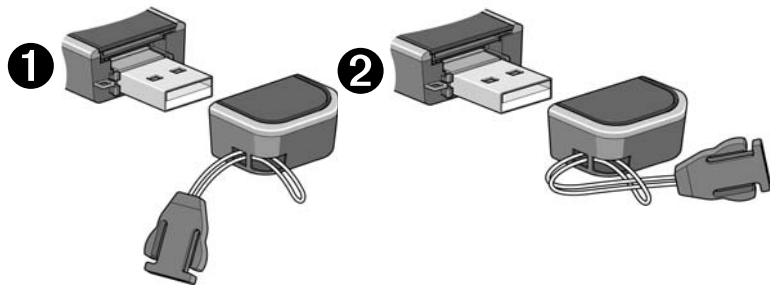
1. Click the **Connect** button to connect to the network.

Attach the modem to the lanyard

To keep everything together, thread the lanyard through the cap and the modem, as shown in the illustrations.



You can also attach the lanyard to the cap.

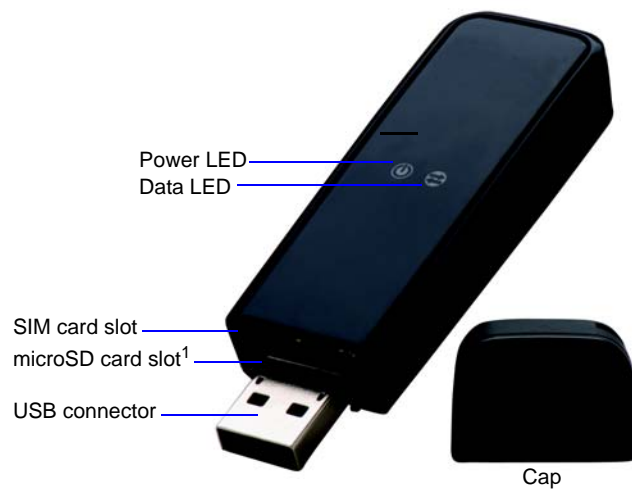


3: Using your USB Modem

- USB modem LED operation
- Using the microSD card (some models only)
- Using the extension cable and clip
- Connection management software

USB modem features



USB modems have a USB connector and slots for a SIM card and a microSD external storage card. LEDs on the front of the modem provide status information.



Note: 1. Depending on the modem, the microSD card slot may be on the side of the modem.

LED operation

The USB modem has two LEDs that show the current status of the modem.

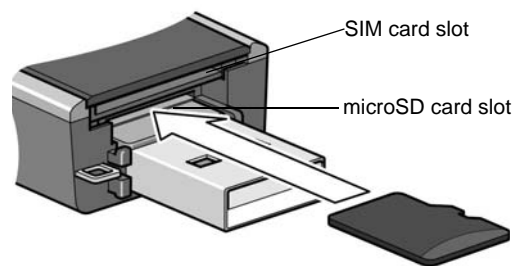
LED	State	Indicates
Power 	Off	Indicates one of the following states: <ul style="list-style-type: none"> The modem is not inserted in the computer. The computer is off or in “suspend and resume” mode. The modem radio has been turned off using Watcher (see “Enable Airplane mode” on page 25) or another connection client.
	Solid Blue	The power is on, the modem is working normally.
	Blinking Blue	The firmware is being updated. Do not remove the modem from the computer.
	Blinking Amber	The modem is searching for service (initializing).
	Solid Amber	Modem error—either the modem is having a problem initializing (searching for service) or is offline because of a failure. Contact your service provider.
Data 	Off	The modem is unable to detect 2G or 3G service.
	Blinking Amber	The modem has detected a 2G network (EDGE, GPRS, GSM) and is ready to connect.
	Solid Amber	The modem is connected to a 2G network and is able to send and receive data.
	Blinking Blue	The modem has detected a 3G network (UMTS, HSPA, HSPA+) and is ready to connect.
	Solid Blue	The modem is connected to a 3G network and can send and receive data.

Using the microSD card (some models only)

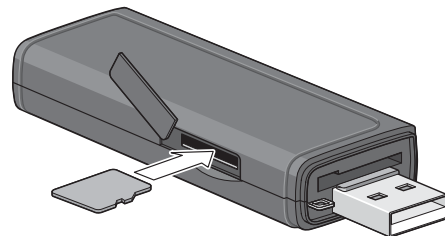
Some Sierra Wireless modems can accommodate a microSD external storage card.

To use a microSD card:

1. If there is a non-functional microSD card in the lower slot:
 - a. Press it in and then release it.
 - b. Gently remove the non-functional microSD card.
2. Insert the microSD card into the lower slot at the end of the modem, as shown in the illustration.



Or if the microSD slot is on the side of the modem:



3. Insert the modem into the computer.
If the computer does not have Watcher installed, you may be given the option to install it. If you do not want to install Watcher, cancel the installation. You can use the microSD card without having Watcher installed.

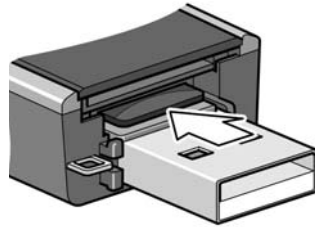
The microSD card appears as a USB memory drive. You can copy, paste, and drag files to and from it the same way as you can with any other external drive.

Removing the microSD card

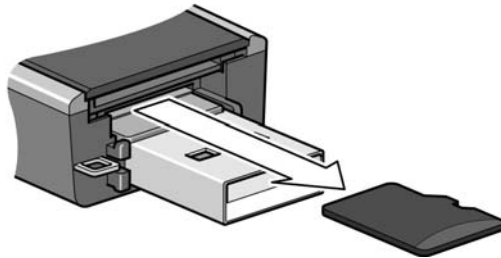
To remove the microSD card:

If the microSD slot is in the end of the modem:

1. Remove the cap.
2. Push the microSD card in and then release it.

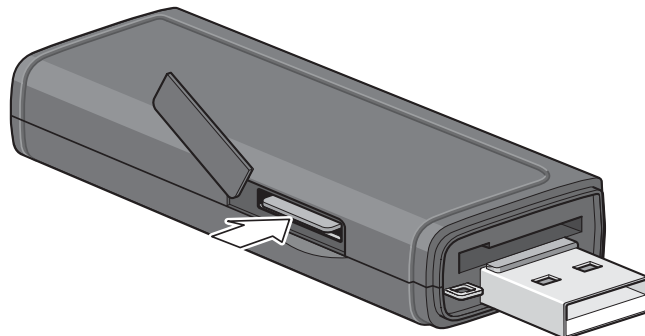


3. Gently pull the microSD card out.

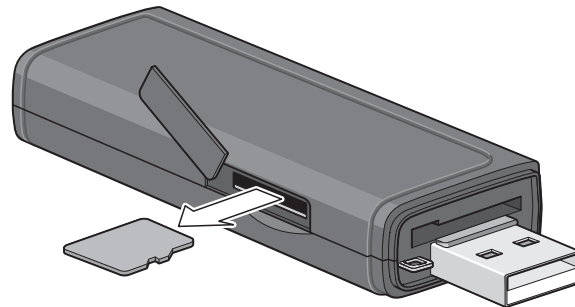


If the microSD slot is on the side of the modem:

1. Open the flap on the side of the modem.
2. Push the microSD card in and then release it.



3. Gently pull the microSD card out.



Removing the SIM card

To remove the SIM card from the modem, push the SIM card in and then release it. See [Figure 3-1](#).

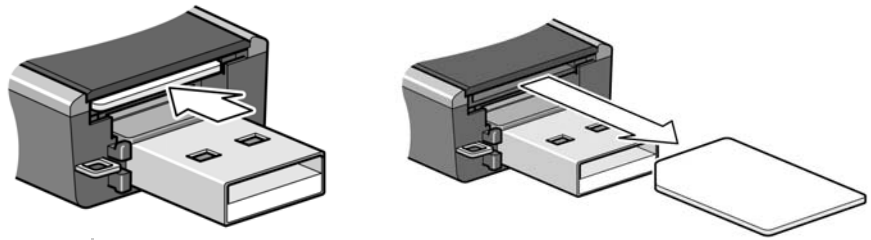


Figure 3-1: Removing the SIM card from a USB modem

Using the extension cable and clip

Some USB modems may come with an extension cable and clip. The clip fits on the top of your notebook computer and holds your modem.

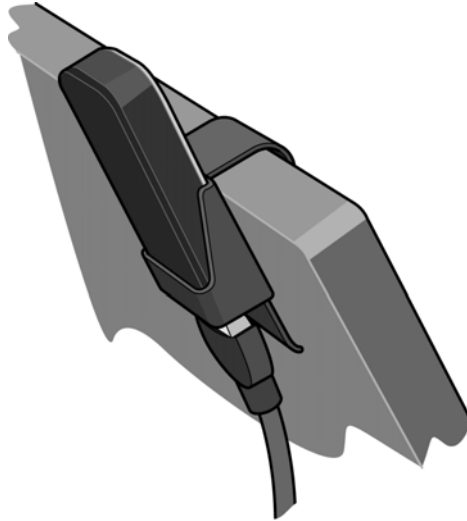
Note: To meet FCC (regulatory) requirements, use only the supplied extension cable and notebook computer clip; other cables and notebook computer clips should not be used.

Note: Do not insert the modem or the USB extension cable into a USB hub or, if your keyboard is separate from your notebook computer, a USB slot on your keyboard.

To use the extension cable and clip:

1. Place the clip on top of the notebook computer.

2. Connect the extension cable to the modem.
3. Place the modem in the clip holder.
4. Connect the other end of the extension cable to the USB slot on your computer.



Connection management software

Your modem comes with Sierra Wireless Watcher, Watcher for Mac, or other connection management software, depending on your carrier.

*Note: Sierra Wireless Watcher and Watcher for Mac are compatible with earlier Sierra Wireless modems. You can set Watcher to automatically check for updates. For more information, see the Watcher Help (select **Help > Help topics**).*

Watcher enables you to:



- Initiate data connections
- Determine signal strength, roaming status, GPRS, EDGE, UMTS, or HSDPA/HSUPA availability, and other network connection parameters
- Monitor the status of the modem and GSM service
- Send and receive SMS messages
- Monitor your data usage (by selecting Call History)

- Enable or disable SIM security that prevents others from using your SIM card if it is lost or stolen
- Set options related to notifications and the 3G Watcher window
- Create or modify an account profile

You do not need to run Watcher when you use the modem, but Watcher does provide useful status information.

Launching Watcher

Unless this feature has been disabled, Watcher launches automatically anytime you insert the modem. You can also launch Watcher by:

Windows	Mac
<ul style="list-style-type: none"> • Double-clicking the desktop shortcut  , or • Selecting Start > Programs > Sierra Wireless > 3G Watcher > 3G Watcher 	<ul style="list-style-type: none"> • Clicking the Watcher icon  in the dock, or • Navigating to the Applications > 3G Watcher folder and double-clicking 3G Watcher.

Depending on how your profile is configured, your browser, VPN, or other program may launch automatically anytime you launch Watcher.

Enable Airplane mode

Immediately

When you enable Airplane mode, the radio transmitter/receiver turns off. Use this mode when you are on an airplane or in any area where the use of wireless devices is restricted.

To enable Airplane mode:

1. From the main menu, select **Enable Airplane Mode**.

When you exit Watcher

You also have the option to enable Airplane mode when you exit Watcher. If you do not need to receive or send data after shutting Watcher down, using this option helps to extend the life of the computer's battery.

To enable Airplane mode when you exit Watcher:

1. Open the **User Options** window.

2. Under **Startup**, select the **On exit** field, and from the drop-down list, select **Enable Airplane Mode**.
3. Click **OK**.

Frequency band and network selection

3G Watcher has two options that affect your ability to obtain GPRS, EDGE, UMTS, HSDPA/HSUPA or HSPA+ service:

- The frequency band you want to use
- The network you want to use, if you are within the coverage area of more than one network

Note: Your service provide may not permit manual network selection. If network selection is restricted, the Network button in the Preferences pane will be disabled.

Frequency band selection

Every GSM network operates on one set of frequency bands. The modem is designed to change frequency bands automatically to obtain network service. You can also change frequency bands manually.

To change frequency bands manually:

Windows	Mac
<ol style="list-style-type: none"> 1. From the main window, select Tools > Options > Network. 2. In the Frequency Band field, select an option from the drop-down list. 	<ol style="list-style-type: none"> 1. Select 3G Watcher > Preferences > Network. 2. In the Frequency Band field, select the desired frequency band from the drop-down list.

*Note: Unless your service provider specifies otherwise, it is recommended that you use the **Automatic** setting.*

More information is available in the Watcher Online Help. From the main Watcher window, select **Help > Help Topics** (Windows) or **Help > SierraWatcher Help** (Mac).

Network selection

To change your network selection mode:

Windows	Mac
<ol style="list-style-type: none"> 1. From the main window, select Tools > Options > Network > Network Selection Mode. 2. Select an option from the Network Selection Mode drop-down list. 	<ol style="list-style-type: none"> 1. Select 3G Watcher > Preferences > Network. 2. Select an option in the Network Selection Mode field.

Depending on your location, you may be within the coverage area of several networks. Your ability to obtain service on each network depends on your account.

Your options for network selection are:

- **Automatic** — The modem automatically selects a network based on your account and network availability.
- **Manual** — The modem scans the area and displays a list of detected GSM networks.

If you select a network on which you cannot obtain service, the message, “Failed to register with network” appears. Choose a different network.

More information is available in the Watcher Online Help. From the main Watcher window, select **Help > Help Topics** (Windows) or **Help > SierraWatcher Help** (Mac).

Reinstalling the software (Windows)

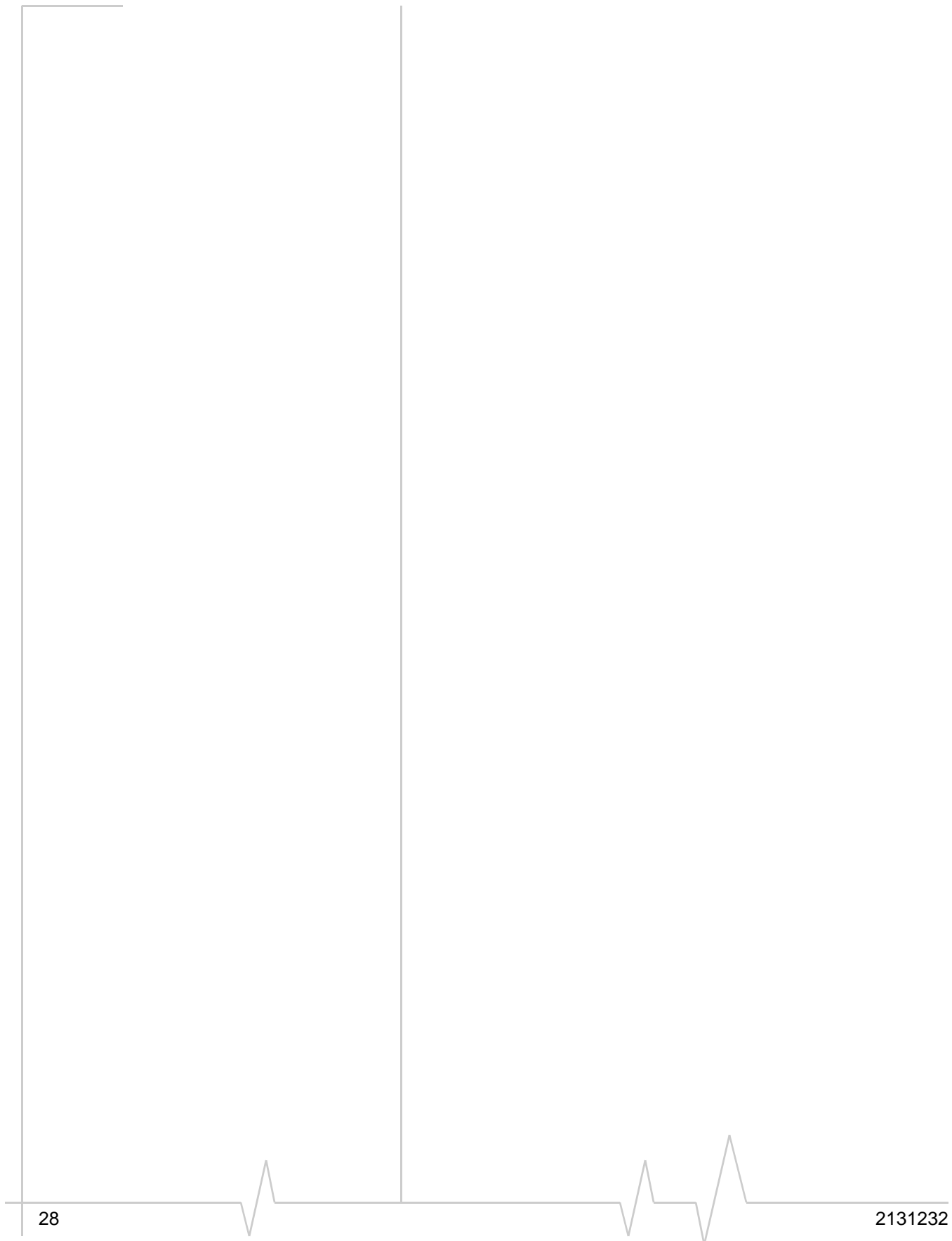
If you need to reinstall or repair the Watcher software:

1. Go to **Start > Control Panel > Add or Remove Programs**.
2. **Uninstall Watcher.**
3. **Insert the modem into your computer.**
4. Follow the on-screen instructions.

Or, in Watcher:

1. Select **Tools > Software Installation Mode**.
2. Follow the on-screen instructions.

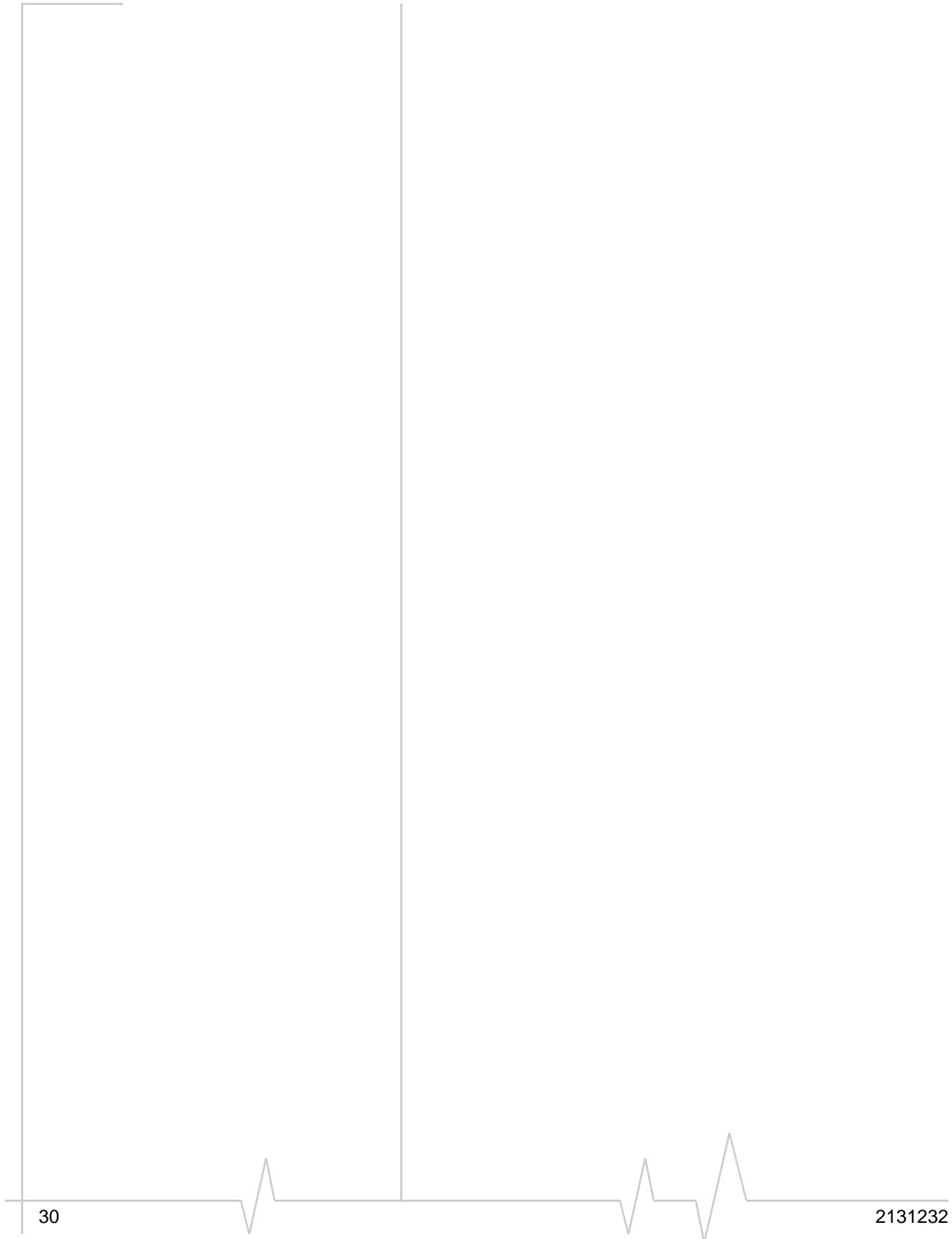
Note: Do not remove the modem until the software installation process is complete.



4: Care and Maintenance of Your USB Modem

As with any electronic device, the modem must be handled with care to ensure reliable operation. Follow these guidelines when you use and store your modem:

- Do not apply adhesive labels to the SIM card. This may cause it to jam inside the slot, or prevent it from being inserted properly.
- When not installed in your computer, store the modem and SIM card in a safe place.
- USB-connected modems should fit easily into your computer's USB port. Forcing the modem into the port may damage the connector pins.
- Protect the modem from liquids, dust, and excessive heat. (See the "[Environmental specifications](#)" on page 32 for maximum tolerances.)



Radio frequency and electrical specifications

Table 5-1: Radio frequency and electrical specifications

Compliance	GSM Release 6
Transmit	GSM 1900 (PCS): 1850 – 1910 MHz GSM 1800 (DCS): 1710 – 1785 MHz EGSM 900: 880 – 915 MHz GSM 850: 824 – 849 MHz WCDMA 2100 (Band I): 1920 – 1980 MHz WCDMA 1900 (Band II): 1850 – 1910 MHz WCDMA 850 (Band V): 824 – 849 MHz WCDMA 800 (Band VI): 830 – 840 MHz
Receive	GSM 1900 (PCS): 1930 to 1990 MHz GSM 1800 (DCS): 1805 to 1880 MHz EGSM 900: 925 to 960 MHz GSM 850: 869 to 894 MHz WCDMA 2100 (Band I): 2110 to 2170 MHz WCDMA 1900 (Band II): 1930 to 1990 MHz WCDMA 850 (Band V): 869 to 894 MHz WCDMA 800 (Band VI): 875 to 885 MHz
Channel spacing	200 kHz (GSM) 5 MHz (WCDMA)
Channel raster	200 kHz
Frequency stability	0.1 ppm

Environmental specifications

Operating temperature	0°C to 50°C (32°F to 122°F)
Storage temperature	-20°C to +85°C (-4°F to +185°F)
Humidity	85%, non-condensing
Vibration	Random vibration, 10 to 1000 Hz, nominal 6G RMS in each of 3 mutually perpendicular axes. Test duration of 60 minutes for each axis, for a total test time of 3 hours (non-operating).
Drop	1 m on concrete on each of 6 faces, 2 times

6: Regulatory and Safety Information

Notice

Because of the nature of wireless communications, transmission and reception of data can never be guaranteed. Data may be delayed, corrupted (that is, have errors), or be totally lost. Although significant delays or losses of data are rare when wireless devices such as the Sierra Wireless modem are used in a normal manner with a well-constructed network, the Sierra Wireless modem should not be used in situations where failure to transmit or receive data could result in damage of any kind to the user or any other party, including but not limited to personal injury, death, or loss of property. Sierra Wireless and its affiliates accept no responsibility for damages of any kind resulting from delays or errors in data transmitted or received using the Sierra Wireless modem, or for failure of the Sierra Wireless modem to transmit or receive such data.

Safety and hazards

The modem **MUST BE POWERED OFF** in all areas that may be susceptible to radio interference, in particular:

- Prohibited areas
Obey all signs and notices and follow all rules and regulations. Power off the modem when instructed to do so or when you suspect that it may cause interference or danger.
- In areas where blasting is in progress
- Where explosive atmospheres may be present
Areas with a potentially explosive atmosphere are not always clearly marked. Such areas include gas stations, fuel depots, chemical transfer or storage facilities, areas where blasting is in progress, 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 cellular phone or vehicle engine.
- Near medical or life-support equipment
Medical equipment may be susceptible to any form of radio interference. In such areas the modem can transmit signals that could interfere with this equipment.
- On board aircraft

In addition to Federal Aviation Authority (FAA) requirements, many airline regulations state that you must suspend wireless operations before boarding an aircraft. The modem is capable of transmitting signals that could interfere with various onboard systems and controls.

Failure to observe this instruction may lead to suspension or denial of cellular telephone services to the offender, legal action, or both.

Some airlines may permit the use of cellular phones while the aircraft is on the ground and the door is open. The modem may be used normally at this time.

- While operating a vehicle

The driver or operator of any vehicle should not use a wireless data device while in control of a vehicle. Doing so detracts from the driver or operator's ability to control and operate the vehicle. In some countries, using such communications devices while in control of a vehicle is an offence.

Regulatory information for North America

CAUTION: Unauthorized modifications or changes not expressly approved by Sierra Wireless, Inc. could void compliance with regulatory rules, and thereby your authority to use this equipment.

The design of the Sierra Wireless modems complies with U.S. Federal Communications Commission (FCC) and Industry Canada (IC) guidelines respecting safety levels of radio frequency (RF) exposure for portable devices, which in turn are consistent with the following safety standards previously set by Canadian, U.S. and international standards bodies:

- ANSI/IEEE C95.1-1999, *IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz*
- National Council on Radiation Protection and Measurements (NCRP) Report 86, -1986, *Biological Effects and Exposure Criteria for Radio Frequency Electromagnetic Fields*
- Health Canada, Safety Code 6, 1999, *Limits of Human Exposure to Radio frequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz*
- International Commission on Non-Ionising Radiation Protection (ICNIRP) 1998, *Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz)*

Caution: *The Sierra Wireless USB modem must be 1 cm (0.4 inches) or more from the user and bystanders during operation to satisfy FCC (regulatory) RF exposure requirements. It is approved for use with normal-size notebook computers only (typically with 12-inch or larger display screens). For notebook computers with a display screen smaller than 12 inches or if the orientation of the USB slot does not allow for at least 1 cm between the modem and the user or bystanders, use the provided extension cable and clip to ensure a safe distance between the modem antenna and users or bystanders.*

To meet FCC requirements, use only the supplied USB extension cable and laptop clip; other cables and laptop clips should not be used.

This device complies with Part 15 of the FCC Rules. Operation is subject to the condition that these devices do not cause harmful interference.

Where appropriate, the use of the equipment is subject to the following conditions:

Warning: (EMI) – *United States FCC Information – This equipment has been tested and found to comply with the limits pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in an appropriate installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation.*

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

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

If you have purchased this product under a United States Government contract, it shall be subject to restrictions as set forth in subparagraph (c)(1)(ii) of Defense Federal Acquisitions Regulations (DFARs) Section 252.227-7013 for Department of Defense contracts, and as set forth in Federal Acquisitions Regulations (FARs) Section 52.227-19 for civilian agency contracts or any successor regulations. If further government regulations apply, it is your responsibility to ensure compliance with such regulations.

Regulatory information for EU countries

Sierra Wireless hereby declares that the Sierra Wireless USB wireless modem conform to all the essential requirements of Directive 1999/5/EC:

CE 0682

The Declaration of Conformity made under Directive 1999/5/EC is available for viewing at the following location in the EU community:

Sierra Wireless (UK), Limited
Lakeside House
1 Furzeground Way, Stockley Park East
Uxbridge, Middlesex
UB11 1BD
England

Use of external antennas

Use of external antennas is subject to the following conditions:

- At least 20 cm separation distance between the antenna and the user's body must be maintained at all times.
- The USB 306 wireless modem and its antenna must not be collocated with any other transmitter or antenna within a host device.
- To comply with FCC/IC regulations limiting both maximum RF output power and human exposure to RF radiation, the maximum antenna gain must not exceed 8 dBi in the Cellular band and 4 dBi in the PCS band.

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