Wireless Broadband Modem

PCMCIA

User Guide

Version 1.2

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Introduction

Congratulations on your selection of the Wireless Broadband Modem. Your Wireless Broadband Modem is designed to give you exceptional performance combined with easy installation and operation. Please read all safety and care instructions in Chapter 1 before installing your Wireless Broadband Modem for the first time.

The Wireless Broadband Modem is a portable, wireless, cellular device that provides high-speed access to the Internet and offers high-bandwidth data downloads, uploads, and web browsing when connected to networks authorized for use with the Wireless Broadband Modem

The design of the Wireless Broadband Modem is based on the standards of the latest third generation cellular communication technology, commonly known as 3G technology.   The Wireless Broadband Modem doesn't require an outdoor antenna, telephone jack, or additional home or office wiring. What's more, the Wireless Broadband Modem connects to the Internet through radio access -- you will never encounter dial-up busy signals or need to install an extra line to access the Internet and use the telephone at the same time.

The speed at which your Wireless Broadband Modem will perform is dependent upon the radio signal quality available and the service level that you select. Information on how to determine and boost the signal quality is located in Chapter 3. Of course, your Wireless Broadband Modem can only connect to systems authorized for use with Wireless Broadband equipment. Service is not available in all areas; consult your Internet Service Provider (ISP) for details.

Technical Support

This User Guide provides you with step-by-step instructions on how to install and use your Wireless Broadband Modem. However, if you need further assistance, please contact your Service Provider for Technical Support.

Chapter 1 – Safety and Care Instructions

Before using your Wireless Broadband Modem for the first time, please read and follow all warnings, safety, care, cleaning and operating instructions on the Wireless Broadband Modem label and in this guide. These guidelines will help protect your Wireless Broadband Modem from potential damage and ensure your personal safety.

Safety Guidelines for Power Connection

Danger - Do not place or use the Wireless Broadband Modem near any body of water. Accidental immersion can result in electric shock.

Safety Guidelines for the Wireless Broadband Modem

Do not attempt to disassemble the Wireless Broadband Modem; doing so may expose you to unsafe conditions. The Wireless Broadband Modem does not contain consumer serviceable components. Service should be performed by the Service Provider Service Center only. Contact Service Provider Customer Service to find the nearest Service Center.

Position the Wireless Broadband Modem so that it is protected from falling objects.

Do not allow liquids to spill on or into the Wireless Broadband Modem.

Do not expose the Wireless Broadband Modem to extreme hot (over 131° F/+55°C) or cold (under 14° F/-10°C) temperatures.

Do not leave the Wireless Broadband Modem in a motor vehicle parked in direct sunlight for more than fifteen minutes.

Do not expose the Wireless Broadband Modem to open flames.

Do not alter the antenna or substitute any other antenna. Doing so may be unsafe.

Switch your Wireless Broadband Modem off when near medical equipment, fuel, chemicals, a potentially explosive atmosphere such as a gasoline station, or when in an area in which blasting is in progress. Also, switch it off when on an aircraft. Follow any other rules, regulations, or posted notices that apply to the use of electronic or radio equipment.

Before using the Wireless Broadband Modem near a pacemaker or similar device, consult a physician or the device manufacturer for more information. In any event, do not use the Wireless Broadband Modem within 8" (20 cm) of a pacemaker or similar device.

Do not use the Wireless Broadband Modem when you need to pay attention to other activities. For example, never use it while driving or while supervising or operating machinery.

The Wireless Broadband Modem, like any other wireless communications device, cannot guarantee a connection in all circumstances. Do not rely on it for matters where a connection is essential.

Exposure to Radio Frequency Signals

The following information includes important safety guidelines regarding exposure to radio frequency (RF) signals and the use of electronic devices as determined by the Federal Communications Commission (FCC).

Your modem is a low power radio transmitter and receiver. When it is ON, it receives and also sends out RF signals. The FCC has adopted RF exposure guidelines with safety levels for wireless cellular devices. The FCC guidelines are consistent with the safety standards previously set by the U.S. and international standards bodies: American National Standards Institute - ANSI C95.1 (1992); National Council on Radiation and Measurements - NCRP Report 86 (1986); International Commission on Non-Ionizing Radiation Protection - ICNIRP (1996). If you use the modem in accordance with these guidelines, the level of RF exposure will fall within the FCC guidelines and the standards previously identified.

To comply with the FCC RF exposure rules, the modem has been evaluated against the Maximum Permissible Exposure (MPE) limits defined in Section 1.1310 of the FCC rules for the uncontrolled environment. During normal operation, the modem should be kept a minimum distance of 20cm (8 inches) away from the user and other persons to ensure compliance with the MPE limits.

Care and Cleaning Guidelines

Use a clean soft cloth, slightly moistened with water, and wipe the outside surface of the Wireless Broadband Modem only.

Do not use aerosol sprays, solvents, or abrasives when cleaning your Wireless Broadband Modem. These items may scratch the surface or damage the interior components of the Wireless Broadband Modem.

Avoid dropping, shaking or striking the Wireless Broadband Modem. This may damage its components.

Chapter 2 - Getting Started

Key Areas on Your Wireless Broadband Modem. Please review this information before you begin the installation.

V2 PCMCIA

Power-On Indicator

SIM Card Holder

Coverage, Connection and Transmit/Receive Status Indicator

External Antenna Connector SSMB Plug
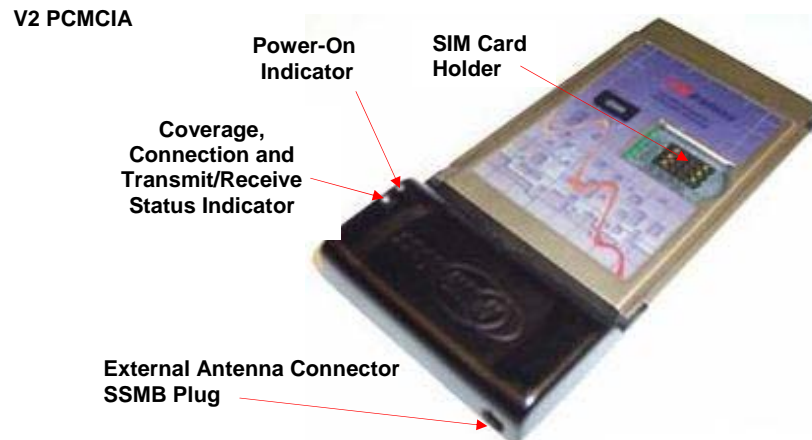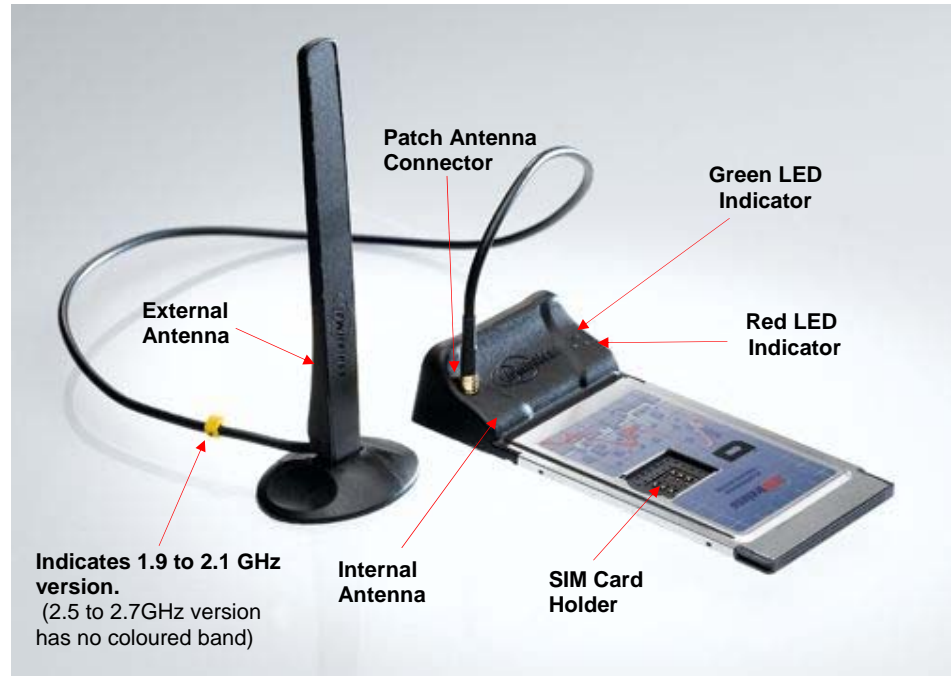
V1 PCMCIA

Figure 1- Key Areas on Your Wireless Broadband Modem

1) **Indicators**

PCMCIA Operational Mode	Red LED	Green LED
Unit powered on	Off (ON)	On (OFF)
PLMN Searching	Flashing (ON)	On (Flashing)
Camped On to PLMN	On	On
Connected to Network	On	Flashing (Rate will equate to traffic level plus off period to avoid confusion with the PLMN Searching phase)
Attach Dialler Warning	Off	Flashing
USIM Failure	Flashing	Off
Software Upgrade Warning	Flashing	Flashing (in phase)
Post Failure	Flashing	Flashing (out of phase)

2) Antenna

There are two antennas. The internal antenna is uni-directional and is recommended for use in areas of strong signal.   For all other signal conditions the external whip antenna should be used. In addition to the sucker shown, a Velcro patch is also available to allow the antenna to be fixed to the rear of a laptop computer hinge up display.

For exceptional fringe area conditions, an external antenna could be connected to the antenna socket on the PCMCIA card. This antenna is not supplied.

The external antenna may be mounted in one of two ways.

- Using the suction pad shown in the photograph on page 8, this is for a smooth surface such as a window, it will not adhere to a textured surface.

- Using the Velcro pad in the box, this will allow the antenna to be fixed to a textured surface such as the lid of a notepad computer.
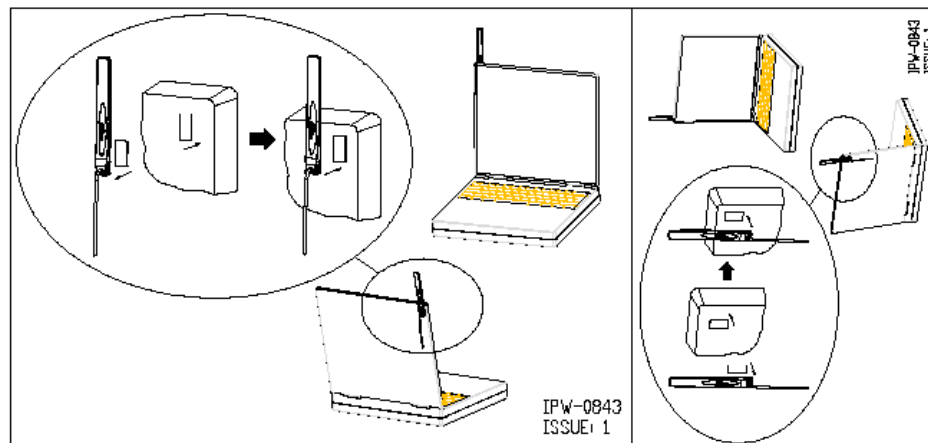
Required Equipment

To install and use your Wireless Broadband Modem, you will need the following computer configuration:

▶ Computer:
- IBC Compatible PC
- Pentium-class II processor or greater (300 MHz or higher recommended)

▶ Operating Systems Supported
- Microsoft Windows 98 (SE2),
- Microsoft Windows ME,
- Microsoft Windows 2000 (Administrative privileges required)
- Microsoft Windows XP Home (Administrative privileges required)
- Microsoft Windows XP Professional (Administrative privileges required)

▶ Memory
- Minimum 64 megabytes (MB) of RAM (128 MB recommended)

▶ Connector
- PCMCIA drive bay

▶ Display:
- VGA or Super VGA (recommended) monitor with the following settings:
- Screen resolution set to at least 800 x 600

▶ Free disk space required:
- 20 megabytes (MB) free in the target directory (minimum)
- 40 megabytes (MB) for future software upgrades

▶ Internet Browsers:
- Internet Explorer v5.0 or later
- Netscape Communicator v4.73

Package Contents

The following items are included in the Wireless Broadband Modem package:

User Guide

A Wireless Broadband Modem Quick Start Guide in paper form.

Installation CD

The installation CD includes the computer Client Software, operating system patches, TCP configuration files, and an HTMLHelp version of this guide.

Other Informational Material

Your Wireless Broadband Modem packaging may contain additional informational material pertaining to the use or care of the Wireless Broadband Modem within your service area. Please review all such information carefully before using the Wireless Broadband Modem.

Chapter 3 – Installation and Registration

This chapter explains how to install the hardware, software, register your user information, and operate your Wireless Broadband Modem.

The instructions are split into the following sections:

▶ How To Install the computer Client Software
▶ How To Find the Best Radio Signal
▶ How To Perform On-line Registration

How To Install the computer Client Software

The computer Client Software uses an online wizard that will guide you through the installation process. You will be asked to make selections on some of the installation screens.

Please be sure that your computer meets the minimum requirements before you begin the installation.

1. Close all programs that may be running on your PC and then insert the CD into the CD-ROM drive on your computer. The Windows operating system should detect the CD and start the installation program. If the installation program does not start automatically, open Windows Explorer or My Computer and select your CD drive to view the contents of the CD. Double-click the **'Setup.exe'** program to begin the installation. The wizard will now guide you through the installation screens described on the following pages. Follow the on-screen prompts to complete the installation.

2. **License Agreement Screen** - The use of the Wireless Broadband Modem is subject to acceptance of the License Agreement. Scroll through the display window to read the entire agreement. The installation of the computer Client Software will proceed only if you accept the License Agreement. If you want a printed version of the License Agreement, use the Print function on your browser before you click the **'Accept'** button. Click **'Accept'** to continue.

3. **Copying Files Screen** - All installation options have now been made and the installation Wizard will copy the necessary files to your computer.

4. **Installing the Modem Driver Files.** The installation will now copy the necessary PCMCIA modem driver files to your computer, so that the PC will detect the Wireless Broadband Modem when you insert the PCMCIA card into the computer. A number of information/warning boxes will be displayed, indicating the progress of the modem driver installation.

Note: The Wireless Broadband Modem is supplied with third party software which is installed during the installation, see Appendix I for details. Independent removal of these third party software products may stop the Wireless Broadband Modem from working.

How To Find the Best Radio Signal

1. Insert the Wireless Broadband Modem into the PCMCIA drive bay of your computer, the card should automatically power on.

2. Your Wireless Broadband Modem will then perform a short self-test that will last for approximately five seconds.

3. The Wireless Broadband Modem will then attempt to search for the best radio signal and will display an indication that it has been able to find a signal by means of varying the PCMCIA lights on the modem display.

4. Using the dialler application on the PC, the signal strength indication shown on the PC screen can be used as a guide for judging available signal level and positioning the whip antenna for best signal. The stronger signal the higher the peak data rate available. See page 17.

How To Perform Registration

You are now ready to register your user information. **Please note:** You can complete the registration process at a later time; however User Registration is not optional.

You must register in order to create a username and password, register your account and payment information, and receive software and modem upgrades.

The registration process takes place on-line using an internet browser that must already be installed on your computer. Typically, the browser might be Microsoft Internet Explorer or Netscape Navigator.

The only requirements are that you have a default browser installation, and that your browser is capable of accepting 'cookies'. If you have disabled cookies, you need to enable them before registration. If you wish, you may disable receipt of cookies after registration. See Frequently Asked Questions (FAQs) in Appendix C for instructions on how to set cookie preferences on your browser.

1. **To Continue with Registration Now** - Make sure that there is a checkbox is selected to the left of **Connect To The Internet** and then click **'Next >'**.

2. The Wireless Broadband Modem Dialler application will then automatically start. The application will communicate with the Wireless Broadband Modem and after a short delay (23-30 seconds) it will attempt to establish a wireless internet connection. The default Internet browser will be automatically launched and will automatically display your **Service Providers Customer Registration** web page.

   Note: If a connection cannot be made, the computer Client Software will timeout and display a message indicating that the connection failed. If this happens, see the Troubleshooting Tips in Appendix A.

3. To create a new account via your **Service Providers Customer Registration** web page follow the on-screen instructions.

4. When you have created a new account, close the Internet Browser session (Click the Windows close icon (x) in the upper right corner of the screen to close the browser software).

5. Upon closing the Internet Browser session, the Wireless Broadband Modem Dialler application will then automatically disconnect the wireless internet connection. The Wireless Broadband Modem Dialler application will then attempt to read the cookies returned from the Service Providers registration server to the PC. There will be a short delay of about10 seconds, after which the Wireless Broadband Modem Dialler application will indicate if the registration has been successful before the application automatically closes.

6. Click **Finish** to exit the installation program.

7. You are now ready to connect to the Internet.

Once the registration has completed the Installation Wizard will finish. The software should now be installed with your computer having the following entries listed from the Start->Programs menu bar.

Windows Operating System Patches

The Wireless Broadband Modem can work at high data speeds, to achieve these rates may require a Windows Operating System patch to be applied. The installation software will determine if any operating system patch is required and it is recommended that the windows operating system patch is applied if required.

At the end of the Windows Operating System patch installation, a window will be displayed stating that the computer needs to be rebooted for the patch to take effect. Since the Wireless Broadband Modem will work with your original settings (at a slower rate), it is advised that you do not reboot here but continue with the rest of the installation.

Windows Internet Configuration Setting

Again, due to the high data speeds that the Wireless Broadband Modem can work at, in order to achieve these rates will require that some TCP/IP settings are modified to take full advantage of this high rate.

These settings will only be used by the operating system the next time the computer is rebooted.

At the very end of the computer Client Software installation it is advised that you reboot the computer so that the changes applied to the computer during the installation can take effect.

Chapter 4 – Connect to the Internet

The computer Client Software is used in conjunction with your Wireless Broadband Modem to connect to the Internet. This section describes how the computer Client Software is used to initiate the connection, and also how it may be used to download software upgrades for your Wireless Broadband Modem and computer Client Software from the Service Providers web site.

To start the computer Client Software, go to your desktop and double click on the icon labeled **'Wireless Broadband Modem Dialler'**, as shown below, Fig 10.
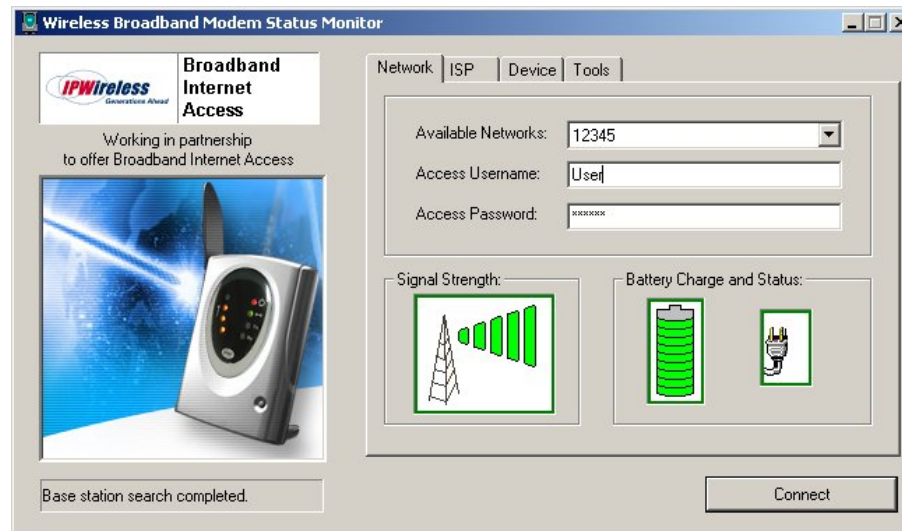
Figure 12

The main screen has four tabs that display associated screens when you click on them. These tabs are described in more detail below. A single button is used to initiate (Connect) and terminate (Disconnect) the connection to the Internet. This button also indicates the state of the connection since if, for example, the connection is currently inactive, the button will be greyed out and the button text will indicate "Connect". The button is available regardless of which tab is currently visible.
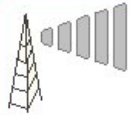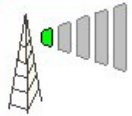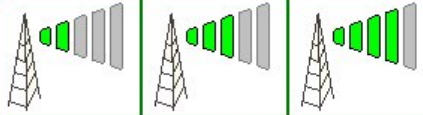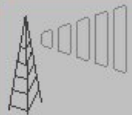
The other main feature of the main screen is the status bar, located below the modem picture. The status bar provides useful information concerning the status of the Internet connection, and other error or warning messages.

Network Tab - The Network tab shown in Figure 12 displays three main groups;

> **Access Network Parameters** - The current version of the computer Client Software only supports your service provider as the network operator. This is shown in the drop down list. The other two parameters are the user access name and access password.

These parameters are set automatically during the registration procedure, and the user should have no need to modify them manually.

Signal Strength - shows the level of the radio signal strength currently achieved by the Wireless Broadband Modem.

Unable to transmit or receive due to lack of signal.	
Minimum signal strength required to transmit and receive data.	
Increasing signal strength, allowing higher data transmit and receive data rates.	
Maximum signal strength. Data will be transferred at the maximum rate of the Wireless Broadband Modem.	
Unable to obtain signal from the Wireless Broadband Modem.	

ISP Tab – This tab shows the username and password information that is sent to your Internet Service Provider (ISP) during the connection procedure.

These details are established during the registration procedure, and the user should have no need to modify them manually. Note that this information is actually maintained by the Windows phonebook, and is extracted automatically by the computer Client Software.

Devices Tab – This tab shows information for the currently connected Wireless modem.

This includes the physical communication port to which the modem is bound, the modem IMEI (international mobile equipment identity) number, the modem version string, and the modem initialization and reset strings.

Tools Tab - Upgrade may periodically provide upgrades for both the PC Software and the Wireless Broadband Modem software.

These upgrades will usually be a combination of bug fixes and additional features. Whilst connected, click on the "Check WWW for Software Upgrade" button in order to download over the air the latest software upgrade. The download takes place by way of a File Transfer Protocol (FTP) link to the Service Providers web site. Once complete, the new image is then available on the PC hard disk, and may be transferred to the

Wireless Broadband Modem by clicking on the "Upgrade UE" button (remember to Disconnect from the Internet before attempting the upgrade).

Establishing the Connection to the Internet

You should establish an Internet connection using the computer Client Software before launching your browser (or any other Internet associated software such as FTP, telnet, etc).

1. Start the computer Client Software and wait until the signal strength indicator on the **Network** tab indicates that there is sufficient signal strength for the connection. At this point, the button should be highlighted and have the text "**Connect**" displayed on button which may be clicked.

2. The user is automatically taken to the ISP tab so that the progress of the connection to the Internet may be observed. When the connection to the ISP has been established, the status bar should indicate that the session is active and the button is now highlighted but the text changes from "**Connect**" to "**Disconnect**". For convenience, the computer Client Software is automatically minimized once the connection is established, but can be restored by clicking on the Service Providers icon on the taskbar.

3. Go to your desktop and double-click on your Internet browser icon to connect to the Internet. You can configure your browser to set any web page as your home page. To set your browser home page, see the FAQs in Appendix C.

4. You may terminate the internet connection in many ways;

(a) Right click the Wireless Broadband Modem icon on the taskbar, and select disconnect from the menu

(b) Click the Wireless Broadband Modem icon on the taskbar to restore the main screen, then click the button when labeled "**Disconnect**".

(c) Close the Wireless Broadband Modem application by clicking the X button in the top right corner of the window

Appendix A – Troubleshooting Tips

Troubleshooting Tips

Please review these troubleshooting tips if you experience trouble with software installation, user registration, finding a radio signal, or connecting to the Internet. You may achieve a faster resolution to your trouble if you first consult and follow the tips before calling your Service Provider for Technical Support.

Warning: Do not attempt to repair the PCMCIA card Wireless Broadband Modem yourself. Any damage you may cause to the Wireless Broadband Modem may create an unsafe condition.

If your trouble is not listed in this section, call your Service Provider for Technical Support. The technical support representative will ask for your name, your location, your phone number, the serial number located on the back of the Wireless Broadband Modem, and any error messages that may have displayed. You may need to provide your username and password if the problem is related to your service or your account rather than the Wireless Broadband Modem and its associated software.

Remember, your PC operating system must be compatible with the supported operating systems: Windows 98 (Second Edition), Windows ME, Windows 2000 and Windows XP.

THE COMPUTER CLIENT SOFTWARE NO LONGER OPERATES CORRECTLY

Check that the third party software, listed in Appendix I, is installed and if not then install. Contact your Service Provider for Technical Support as needed.

THE WIRELESS BROADBAND MODEM DISCONNECTS UNEXPECTEDLY

Check for that the PCMCIA card is pushed all the way home. If the remote antenna is in use check that it is plugged in securely to the PCMCIA card and the antenna it self is vertical has not been shielded by some object placed adjacent to it.   If all connections are secure, you may have had a bad connection. Try connecting to the Internet again. If your subsequent connection attempts fail, call your Service Provider for Technical Support.

THE WIRELESS BROADBAND MODEM SPEED IS NOT FAST ENOUGH

There are several conditions that can result in slower access speed that are not related to your Wireless Broadband Modem's performance:

The access speed is related to the radio signal strength. If the signal strength indicated on the computer monitor shows less than four bars illuminated, you may have reduced access speed due to a condition such as a marginal coverage area. If you are using the internal antenna, try plugging in the external antenna supplied and locating it for best signal level.

You may have subscribed to a Service Level that limits the data rate. You can increase your Service Level on the registration web page or call your Service Providers Customer Service.

You may be accessing a slow web site. A web site can cause a traffic jam on the Internet's backbone because many people converge on it at once or that site's server does not have the capacity to handle its traffic. In these cases, it does not matter what speed your modem can achieve. Tip: Surf these sites when Internet traffic is low. Heaviest traffic is usually on weekends and evenings. You can also configure your browser so it won't display graphics, animations, sound, video or other multimedia content.

If you do not think that any of the above conditions are causing the problem, call your Service Provider for Technical Support.

CONNECTED MODEM BEFORE INSTALLING THE COMPUTER CLIENT SOFTWARE

If you connect your Wireless Broadband modem to your PC before installing the Driver Software contained on the PC Software installation CD your PCMCIA drivers are likely to be missing preventing you from making a connect via your PCMCIA card modem. It is necessary for the modem to be removed from the computer and the documented installation procedure be followed carefully to insure your PCMCIA card modem is correctly installed. The installation procedure is begun by inserting the CD-ROM supplied with your PCMCIA card into the drive on your PC.

DRIVER INSTALLATION FAILS DUE TO "DIGITAL SIGNATURE NOT FOUND"

All recent IPWireless PCMCIA drivers are approved by Microsoft and digitally signed. If the version of driver you are installing is not digitally signed you may encounter an error message. It is recommended that you stop the installation and obtain the latest drivers from your service provider. If you cannot do this then follow the procedure below.

On Windows 2000 and Windows XP by default your system is configured to "Block" or "Warn" you when an attempt is made to install a device driver that does not contain a valid digital signature. If configured to "Block" the installation operation will fail, if set to "Warn" you will be given the option to continue the installation by selecting "Yes" on the warning dialog window. To avoid problems during the installation it is advisable to configure your system to ignore Digital Signatures during the installation of Wireless Broadband Modem software and device drivers. You can revert to your original configuration once the drivers are installed. To change your systems Digital Signature configurations follow these simple steps. Right click "My Computer" and select "Properties", under the "Hardware" tab within the "Device Manager" section select "Driver Signing". Within the "File Signature Verification" section you will notice the options "Ignore/Warn/Block" select "Ignore" and "Apply" change. Repeat the installation procedure as before.

REGISTRATION FAILS BECAUSE THE PC DOES NOT ACCEPT "COOKIES"

This does not apply to systems that employ SIM cards for authentication.

When you register with the ISP, you provide a username and password that the wireless network uses to identify you when you connect. For your convenience, these attributes are stored within the PC so that you do not need to enter them manually. The registration server sends a small file, called a cookie, to your PC. The cookie contains the username and password information. In order for the registration process to complete successfully, you must configure your browser application to accept cookies. Once registration has completed, you may disable receipt of cookies, if desired. See the FAQs in Appendix C for instructions on how to set cookie preferences on your browser.

THE BROWSER DID NOT GO DIRECTLY TO THE REGISTRATION SCREEN

Manually type the registration web page URL (check the Wireless Broadband Modem packaging or contact your Service Provider for this information) in the browser address window and then press enter on your keyboard. If you get an error message similar to the "page cannot be displayed", there might be maintenance occurring on the web site. Call your Service Provider for Technical Support or try again later.

THE CONNECT / DISCONNECT BUTTON IS NOT HIGHLIGHTED ON THE STATUS MONITOR SCREEN BUT A RADIO SIGNAL IS PRESENT

On rare occasions, the "Wireless Broadband Modem Status Monitor" will lose contact with the Wireless Broadband Modem. The "Wireless Broadband Modem Status Monitor" should be shut down and restarted to clear the problem. If the problem persists the computer COM port that the computer Client Software and the Wireless Broadband Modem are using may have become "locked up" and cannot be freed until the computer is shutdown (powered off) and restarted.

If there is still a problem after shutting down and restarting you computer, call your Service Provider for Technical Support.

ERROR MESSAGE "INVALID PASSWORD"

1. This error message means that the network no longer recognizes your username and/or password.

2. Check that your username and password were entered correctly.

3. The ISP's server does not allow more than one simultaneous connection to the network with the same username and password. Do not share your username and password with other Wireless Broadband Modem users.

4. If you cannot correct the problem, call your Service Provider for Technical Support.

ERROR MESSAGE "NO ANSWER"

On rare occasions, the server will not receive the message advising it that the previous session has ended. There is a timeout of a few minutes before the server will accept a subsequent connection. If you recently had a successful connection, wait a few minutes before trying again.

WIRELESS BROADBAND MODEM NOT RESPONDING

1. Check that the PCMCIA card modem is fully pushed home in the PCMCIA slot on the PC.

2. Check that the indicator lights on the modem show normal operation (see page 8).

3. If the Modem still does not respond, try restarting the PC and then restart the computer Client Software application. Occasionally, the PC COM port that the computer Client Software and the PCMCIA card modem are using can become "locked up" and cannot be freed until the PC is restarted.

4. If the status bar still reports "Wireless Broadband Modem not Responding", contact your Service Provider for Technical Support for assistance.

Appendix C – Frequently Asked Questions

Q. WHERE CAN I FIND A COVERAGE MAP?

A. Call Service Provider.

Q. HOW DO I CHANGE MY SERVICE LEVEL?

A. See registration process above.

Q. HOW DO I SET COOKIE PREFERENCES ON MY BROWSER?

A. Using Netscape Navigator:

Go the browser drop-down **Edit** menu and select **Preferences**. Click on the **Advanced** heading. Go to the **Cookies** box and click on **Accept all cookies**. After successful registration, you may return to **Edit>Preferences>Advanced** and click on **Disable cookies**.

A. Using Microsoft Internet Explorer:

Go to the browser drop-down **Tools** menu and select **Internet Options**. Click on the **Security** tab. Click on the **Custom Level** button. Scroll down to the **Cookies** heading. Click on **Enable** to accept all cookies. After successful registration, you may return to **Tools>Security>Custom Level** and click on **Disable**.

Q. HOW DO I SET MY HOME PAGE?

A. Using Microsoft Internet Explorer:

Go to the browser drop-down **Tools** menu and select **Internet Options**. Select the **General** tab. Click **Use Current** in the **Home Page** area if you are currently viewing the Web page you want as your home page. If you are not viewing the web page you want to use, type in the URL (Universal Resource Locator -- the web address) of the web page you want to use as your home page. Click **OK**.

A. Using Netscape Navigator:

Click on the **Options** menu and select **General Preferences**. Select the **Appearance** tab. In the **Startup** box, type in the address of the web page you want to use as your home page. Click **OK**.

Q. HOW WILL I KNOW WHEN TO UPGRADE MY PC SOFTWARE?

A. The user will access a web site and select the appropriate files to download. Information regarding PC Software upgrade alerts will be provided at that time.

Q. HOW DO I PERFORM A WIRELESS BROADBAND MODEM PC SOFTWARE UPGRADE?

A. Using the Wireless Broadband Modem Dialler, establish a connection to the internet. On the Wireless Broadband Modem Dialler change to the **Tools** tab, and press the button labeled "Check WWW for Software Upgrade". This will automatically check to see if there is a newer version of software, and if one is available it will be automatically downloaded to the computer with the progress of the download being displayed using the sliding bar.

Q. HOW WILL I KNOW WHEN TO UPGRADE MY WIRELESS BROADBAND MODEM?

A. Using the Wireless Broadband Modem Dialler, establish a connection to the internet. On the Wireless Broadband Modem Dialler change to the **Tools** tab, and press the button labeled "Check WWW for Software Upgrade". This will automatically check to see if there is a newer version of software and if one is available, it will be automatically downloaded to the computer.

Q. HOW DO I PERFORM A WIRELESS BROADBAND MODEM UPGRADE?

A. Having used the Wireless Broadband Modem Dialler to obtain any new software available for the upgrade of the Modem, disconnect the current internet connection. The button "Upgrade Modem" should now be highlighted. Pressing this Upgrade Modem button will start the download of the new software to Modem and the progress of the download will be displayed on the progress bar. This may take a number of minutes to complete.

Q. ARE ANY MODEM ACCESSORIES AVAILABLE?

A. Access the IPWireless web site at www.ipwireless.com to view available accessories.

Q. HOW DO I INSTALL MY MODEM ON A DIFFERENT COMPUTER?

A. If you have already installed your modem on ONE PC and wish to use it on a SECOND PC or laptop, insert the Installation CD into the second PC and run the installation software. You will automatically connect to the registration web pages. Select 'Support Services'. You may modify your settings here, if needed. If you leave all fields unchanged and click 'Apply', the username/password cookie will access your second PC and the dialer will automatically configure the modem.

Q. WHEN SHOULD I DE-INSTALL THE MODEM AND/OR PC SOFTWARE?

A. You should de-install the Modem and PC software only when you wish to discontinue service or change your PC.

Appendix D – Modem Display Warnings

The Wireless Broadband Modem LED display contains 2 individual LEDs, , used to indicate various activities on the modem, such as ON/OFF, current signal strength, data traffic activity and network connection status.

However if the modem experiences certain error conditions the display will be used to signal the condition back to the user.

See page 8 for details of the LED indicator states that a user might encounter.

Power-On Self Test Failure

At power-on the Modem will carry out a number of tests to confirm the operational integrity of various onboard components. If the two LED indicators are flashing alternately following power-on for 1 second, then the Modem is indicating a particular test has failed.

In this scenario it is recommended the user switch off the modem and contact **your Service Provider for** Technical Support.

Software Upgrade Warning

If the two LED indicators in the antenna housing of the PCMCIA are both flashing together this is indicating that a software upgrade is in progress. Do not attempt to use or extract the modem until this process is complete.

Please refer to Appendix C for details on performing software upgrades.

Appendix E – [Technical Specifications]

Physical
PCMCIA type II card with extension
Length .... 116 mm (1.182 inches)
Width.. 54 mm (5.122 inches)
Height... 5 mm (5.91 inches)
Height (antenna housing extension).................................. 23 mm (5.91 inches)
Width.. 54 mm (5.122 inches)
Weight..58 grams (8.825 ounces)

Indicators
I red LED and 1 green LED
Functions described on page 8 ....

Power
Power Requirements:
Current ....1.0A peak
DC voltage... 5.0V
Power supplied from host device via PCMCIA interface

Environmental
Temperature:
Normal .... +15°C to +35°C (59°F to 95°F)
Extreme (short periods)............................ -10°C to +55°C (14°F to 131°F)
Storage ....-20°C to +65°C (-4°F to 149°F)
Relative humidity:
Operating .... 25% to 75%
Extreme... 25% to 75%

RF Performance
Frequency of operation .... 2.5 to 2.69 GHz
....2.053 to 2.082 GHz
....2.01 to 2.025 GHz
.... 1.9 to 1.92 GHz
.... 3.4 to 3.615 GHz
Transmit output power...+24dBm
Transmit output power for 3.4GHz modem...+27dBm
Receiver sensitivity (AWGN)............................. -110dBm (±2dB) / code for 7.68 Mcps
Receiver sensitivity (AWGN)............................. -113dBm (±2dB) / code for 3.84 Mcps

Integral Antenna
Impedance:...50 ohms nominal
Uni-directional gain: 0-2dBi
Polarization: .... vertical

Appendix H – Error Messages

The computer Client Software displays error messages when a problem occurs.

There are two main categories of error messages that can be displayed by the computer Client Software

Microsoft Remote Access Service (RAS) Errors, and
Wireless Broadband Modem Extended Errors.

For both categories, the error message is always displayed within the Connection progress region on the ISP tab.

To differentiate between the two error categories, RAS errors are terminated with a "Reason: Normal disconnect" whilst the Wireless Broadband Modem Extended Error text is always displayed as "Reason: *extended error text*" where the *extended error text* is NOT "Normal disconnect".

The following figure shows an example of the RAS error "Access denied because username and/or password is invalid on the domain".
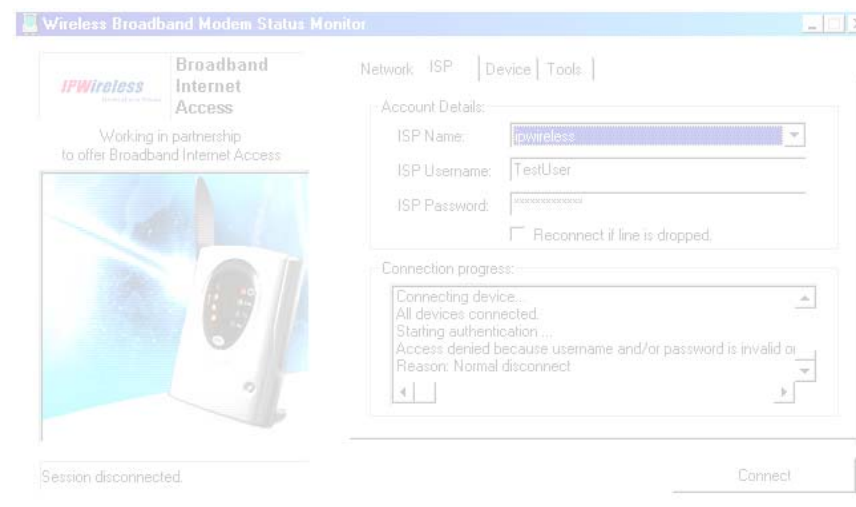
The following figure shows an example of the extended error "Modem cable disconnected".
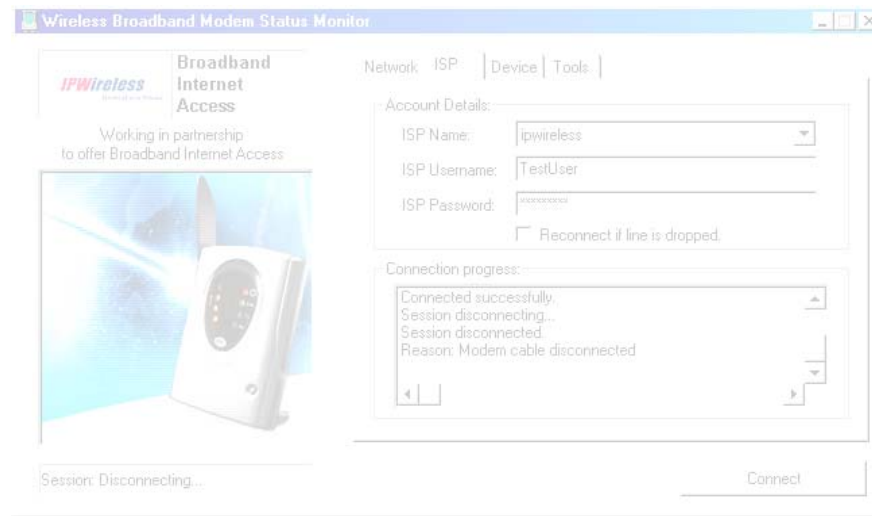
The following pages document these errors and where possible suggests what actions to take to correct the problem.

If you see an error message displayed that is not listed on the following section, please call your Service Provider for Technical Support

Microsoft Remote Access Service (RAS) Error Codes

The following is a list of known RAS Error Codes and associated error message. The RAS error text will be displayed if a RAS error occurs whilst attempting to either connect to the internet, whilst connected to the internet or when disconnecting from the internet.

Error   Messages
600   An operation is pending.
601   The port handle is invalid.
602   The port is already open.
603   Caller's buffer is too small.
604   Wrong information specified.
605   Cannot set port information.
606   The port is not connected.
607   The event is invalid.
608   The device does not exist.
609   The device type does not exist.
610   The buffer is invalid.
611   The route is not available.
612   The route is not allocated.
613   Invalid compression specified.
614   Out of buffers.
615   The port was not found.
616   An asynchronous request is pending.
617   The port or device is already disconnecting.
618   The port is not open.
619   The port is disconnected.
620   There are no endpoints.
621   Cannot open the phone book file.
622   Cannot load the phone book file.
623   Cannot find the phone book entry.
624   Cannot write the phone book file.
625   Invalid information found in the phone book.
626   Cannot load a string.
627   Cannot find key.
628   The port was disconnected.
629   The port was disconnected by the remote machine.
630   The port was disconnected due to hardware failure.
631   The port was disconnected by the user.
632   The structure size is incorrect.
633   The port is already in use or is not configured for Remote Access dialout.
634   Cannot register your computer on the remote network.
635   Unknown error.
636   The wrong device is attached to the port.
637   The string could not be converted.
638   The request has timed out.
639   No asynchronous net available.
640   A NetBIOS error has occurred.
641   The server cannot allocate NetBIOS resources needed to support the client.
642   One of your NetBIOS names is already registered on the remote network.
643   A network adapter at the server failed.
644   You will not receive network message popups.
645   Internal authentication error.

646	The account is not permitted to log on at this time of day.
647	The account is disabled.
648	The password has expired.
649	The account does not have Remote Access permission.
650	The Remote Access server is not responding.
651	Your modem (or other connecting device) has reported an error.
652	Unrecognized response from the device.
653	A macro required by the device was not found in the device .INF file section.
654	A command or response in the device .INF file section refers to an undefined macro
655	The <message> macro was not found in the device .INF file section.
656	The <defaultoff> macro in the device .INF file section contains an undefined macro
657	The device .INF file could not be opened.
658	The device name in the device .INF or media .INI file is too long.
659	The media .INI file refers to an unknown device name.
660	The device .INF file contains no responses for the command.
661	The device .INF file is missing a command.
662	Attempted to set a macro not listed in device .INF file section.
663	The media .INI file refers to an unknown device type.
664	Cannot allocate memory.
665	The port is not configured for Remote Access.
666	Your modem (or other connecting device) is not functioning.
667	Cannot read the media .INI file.
668	The connection dropped.
669	The usage parameter in the media .INI file is invalid.
670	Cannot read the section name from the media .INI file.
671	Cannot read the device type from the media .INI file.
672	Cannot read the device name from the media .INI file.
673	Cannot read the usage from the media .INI file.
674	Cannot read the maximum connection BPS rate from the media .INI file.
675	Cannot read the maximum carrier BPS rate from the media .INI file.
676	The line is busy.
677	A person answered instead of a modem.
678	There is no answer.
679	Cannot detect carrier.
680	There is no dial tone.
681	General error reported by device.
682	ERROR WRITING SECTIONNAME
683	ERROR WRITING DEVICETYPE
684	ERROR WRITING DEVICENAME
685	ERROR WRITING MAXCONNECTBPS
686	ERROR WRITING MAXCARRIERBPS
687	ERROR WRITING USAGE
688	ERROR WRITING DEFAULTOFF
689	ERROR READING DEFAULTOFF
690	ERROR EMPTY INI FILE
691	Access denied because username and/or password is invalid on the domain.
692	Hardware failure in port or attached device.
693	ERROR NOT BINARY MACRO
694	ERROR DCB NOT FOUND
695	ERROR STATE MACHINES NOT STARTED
696	ERROR STATE MACHINES ALREADY STARTED
697	ERROR PARTIAL RESPONSE LOOPING
698	A response keyname in the device .INF file is not in the expected format.
699	The device response caused buffer overflow.
700	The expanded command in the device .INF file is too long.
701	The device moved to a BPS rate not supported by the COM driver.

702 Device response received when none expected.
703 ERROR INTERACTIVE MODE
704 ERROR BAD CALLBACK NUMBER
705 ERROR INVALID AUTH STATE
706 ERROR WRITING INITBPS
707 X.25 diagnostic indication.
708 The account has expired.
709 Error changing password on domain.
710 Serial overrun errors were detected while communicating with your modem.
711 RasMan initialization failure. Check the event log.
712 Biplex port is initializing. Wait a few seconds and redial.
713 No active ISDN lines are available.
714 Not enough ISDN channels are available to make the call.
715 Too many errors occurred because of poor phone line quality.
716 The Remote Access IP configuration is unusable.
717 No IP addresses are available in the static pool of Remote Access IP addresses.
718 PPP timeout.
719 PPP terminated by remote machine.
720 No PPP control protocols configured.
721 Remote PPP peer is not responding.
722 The PPP packet is invalid.
723 The phone number, including prefix and suffix, is too long.
724 The IPX protocol cannot dial-out on the port because the computer is an IPX router.
725 The IPX protocol cannot dial-in on the port because the IPX router is not installed..
726 The IPX protocol cannot be used for dial-out on more than one port at a time.
727 Cannot access TCPCFG.DLL.
728 Cannot find an IP adapter bound to Remote Access.
729 SLIP cannot be used unless the IP protocol is installed.
730 Computer registration is not complete.
731 The protocol is not configured.
732 The PPP negotiation is not converging.
733 The PPP control protocol for this network protocol is not available on the server.
734 The PPP link control protocol terminated..
735 The requested address was rejected by the server..
736 The remote computer terminated the control protocol.
737 Loopback detected..
738 The server did not assign an address.
739 The remote server cannot use the Windows NT encrypted password.
740 The TAPI devices configured for Remote Access failed to initialize or were not installed correctly.
741 The local computer does not support encryption.
742 The remote server does not support encryption.
743 The remote server requires encryption.
744 Cannot use the IPX net number assigned by the remote server. Check the event log.
752 A syntax error was encountered while processing a script

Wireless Broadband Modem Extended Errors

Error Message	Cause	Recovery Action
Normal disconnect	None.	This is normal and does not indicate any error.
Network busy – please try again later	The network is temporarily busy.	Session establishment should be attempted at a later time.
Network not available – please try again later	There is a temporary problem with the wireless network that is affecting all users.	You will not be able to connect to the Internet until your service provider has repaired the system. Session establishment should be attempted at a later time.
User rejected by the network	The network is not able to verify who you are. This could be due to different problems based upon whether or not you have a SIM present: 1) Without SIM present 2) With SIM present	The recovery actions for the specific causes are as follows: 1) The network does not recognize the access identifiers that you gave yourself when you registered. Contact your service provider's technical support for assistance. 2) Contact your service provider's technical support for assistance.
Service provider not supported	This is normally seen when attempting to establish an internet session and gain access to your ISP with an invalid ISP phone number.	The ISP parameters are held in a phonebook. To verify that these values are correct, start up your internet browser (for Internet Explorer) and click on "Tools/Internet Options/Connections". You should see an entry called "ipwireless". To view the phonebook entry highlight the 'ipwireless' entry. Then click on the Settings button to view the ISP username and password. Also click on the "Properties" button and examine the phone number. This must be set to *99#.

Error Message	Cause	Recovery Action
Service provider not available – please try again later	This indicates a temporary problem accessing your ISP	Session establishment should be attempted at a later time
Disconnected by network operator	The network operator has disconnected your internet session.	Session establishment should be re-attempted.
User not known to network	This only affects modems that have a SIM card present. It indicates one of the following problems: 1) The wrong SIM card is being used 2) The SIM card is faulty	Check that the SIM card being used is the one provided by your service provider. If it is the correct SIM card contact your service provider's technical support for assistance.
Modem barred from network	The modem has been barred from the network.	Contact your service provider's technical support for assistance.
Network not allowed	This indicates that the modem has tried to connect to a forbidden network.	Contact your service provider's technical support for assistance.
Network details rejected	There is a problem with the network.	Session establishment should be re-attempted. If the problem persists contact your service provider's technical support for assistance.

Error Message	Cause	Recovery Action
Disconnected by service provider	This can occur for two reasons: 1) This is normally seen when attempting to establish an internet session and gain access to your ISP with an invalid ID. 2) If this occurs after successfully establishing an internet session, then there is a temporary network problem.	The recovery actions for the specific causes are as follows 1) The ISP parameters are held in a phonebook on the computer. To verify that these phonebook values are correct, start up your internet browser (for Internet Explorer) and click on "Tools/Internet Options/Connections". You should see an entry called "ipwireless". To view the phonebook entry highlight the 'ipwireless' entry and then click on the Settings button to view the ISP username and password and modify if necessary. Also click on the "Properties" button and examine the phone number. This must be set to *99# 2) Session establishment should be attempted at a later time. If the problem persists contact your service provider's technical support for assistance.
Disconnected by modem	The modem has detected a problem with the wireless connection to the network and released the connection.	Wherever possible try to improve the modem's signal strength using the measures described earlier in the user guide. If the problem persists contact your service provider's technical support for assistance.
Disconnected by network	The network has detected a problem with the wireless connection to the modem and released the connection.	Wherever possible try to improve the modem's signal strength using the measures described earlier in the user guide. If the problem persists contact your service provider's technical support for assistance.

Error Message	Cause	Recovery Action
Loss of coverage – please improve modem signal	The modem can no longer communicate with the wireless network. This may be caused by one of the following: 1) The modem has moved out of range of the wireless network 2) The wireless network may have developed a fault or may have been switched off	The modem will automatically try and regain radio coverage/ synchronization with the wireless network. If the modem has moved out of the wireless network range it must be brought back into range. Once radio coverage/ synchronization has been re-gained session establishment can be attempted.
SIM failure – please contact service provider	This only affects modems that have a SIM card present. The modem is having problems accessing the SIM card.	Perform the following steps: a) Carefully remove the SIM card from the modem b) Clean the SIM card's gold contacts with a soft cloth c) Re-insert the SIM card into the modem ensuring that the SIM card holder is securely fastened d) Power cycle the modem using the front panel button e) Establish a session in the normal manner If the problem persists contact your service provider's technical support for assistance.

Regulatory Information

North America and Canada

Your Wireless Broadband Modem may cause TV or radio interference (e.g., when using the modem in close proximity to a TV or radio receiver). The FCC/Industry Canada can require you to stop using the modem if such interference cannot be eliminated. If the modem does cause interference with other radio communications services, 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:

- Reposition the modem's receiving antenna.

- Reposition the TV or radio's receiving antenna.

- Relocate the modem with respect to the TV or radio receiver.

- Move the modem away from the TV or radio receiver.

If necessary, consult an experienced radio/television technician for additional suggestions. You may also find the *FCC Interference Handbook*, 1986, to be helpful. It is available from the U.S. Government Printing Office, Washington, D.C. 20402, Stock No. 004-000-00450-7, or on the World Wide Web at http:// www.fcc.gov/Bureaus/Compliance/WWW/tvibook.html.

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

Caution: Changes or modifications not covered in this manual must be approved in writing by the Manufacturer. Changes or modifications made without written approval may void the users authority to operate this equipment.

To comply with the FCC RF Exposure rules, the 2.5GHz UE PCMCIA wireless broadband modem has been evaluated for RF Exposure compliance using both the internal antenna and the remote antenna configurations.

Using the internal antenna, the modem has been designed to meet the FCC General Public/Uncontrolled Exposure SAR limit of 1.6W/kg averaged over a 1g tissue volume, the highest SAR value recorded during the certification is 0.577W/kg.

When the modem is used with the remote antenna, the configuration has been evaluated against the General Public/Uncontrolled Exposure Maximum Permissible Exposure (MPE) limits defined in Section 1.1310 of the FCC rules. During normal operation, all persons should maintain a distance of at least 3.7cm from the antenna to ensure compliance with the MPE limits.

Europe

Statements of Conformity

English   Hereby, IPWireless Inc, declares that this Wireless Broadband Modem Model: XX is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

Deutsch   Hiermit erklärt IPWireless Inc, dass sich dieses Wireless Broadband Modem Model: XX in Übereinstimmung mit den grundlegenden Anforderungen und den anderen relevanten Vorschriften der Richtlinie 1999/5/EG befindet".

The Wireless Broadband Modem will not transmit without suitable network coverage.

Caution: Only use IPWireless approved accessories with your Wireless Broadband Modem.