USRobotics® *Wireless Nd1 PC Card, Wireless Nd1 PCI Adapter: User Guide*

- **Home**
- **Installation**
- **Configuration**
- **Help**

The USRobotics Wireless **N**d_1 PC Card and PCI Adapter are the solution to your home and small business wireless connectivity needs. **N**d_1 technology provides the maximum 802.11n Draft 1.0 range in the industry, delivering optimal wireless connections to your PCs, laptops, and other wireless devices. **N**d_1 also provides the maximum speed — up to 270 Mbps — delivering large files like MP3s, digital photos, and digital video through your network fast and efficiently. And with **N**d_1, your network will be protected with a maximum security suite of capabilities, including Wi-Fi Protected Access (WPA), WPA2/802.11i, and more.

And to assure a simple, straight-forward installation, U.S. Robotics developed the SureStart installation wizard. SureStart walks you through the installation of the **N**d_1 PC Card, and PCI Adapter in a seamless fashion. In addition, SureStart provides easy-to-understand guidance to set up security for your wireless network. Sharing Internet access securely, wirelessly or wired, has never been easier.

System Requirements

- Windows™ XP SP1 or later or Windows 2000 SP4
- Available PCI or PC slot
- CD-ROM drive
- A functioning Ethernet-based cable or DSL modem or other WAN connection for Internet access
- A browser that supports HTML 4.01 specification with Javascript enabled

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USRobotics® *Wireless Nd1 PC*

Card, Wireless Nd1 PCI Adapter: User Guide

- **Home**
- **Installation**
- **Configuration**
- **Help**

Product Specifications

Wireless Nd_1 PC Card

- Complies with IEEE 802.11n Draft 1.0 270 Mbps wireless radio standard
- 100mW power output
- Supports Windows 2000 and Windows XP
- SecureEasySetup™ for automatic Wireless LAN configuration with Wireless **Nd_1** and other certified SecureEasySetup routers and access points.

Wireless Nd_1 PCI Adapter

- Complies with IEEE 802.11g 54 Mbps wireless radio standard
- 100mW power output
- 2 dBi Detachable Reverse SMA Antennas
- Supports Windows 2000 and Windows XP
- SecureEasySetup for automatic Wireless LAN configuration with Wireless **Nd_1** routers and access points.

Security Features

- WPA (Wi-Fi Protected Access)
- WPA2 (Wi-Fi Protected Access)
- 802.1x (RADIUS) authentication
- CCX 1.0 and 2.0
- CCKM
- 64/128-bit WEP (Wired Equivalent Privacy) data encryption
- Ability to disable wireless radio
- AES
- TKIP

Acknowledgements

This product includes software developed by MDC and its licensors. This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (http://www.openssl.org/). This product includes cryptographic software written by Eric Young (eay@cryptsoft.com). This product includes software written by Tim Hudson (tjh@cryptsoft.com).

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USRobotics® *Wireless Nd1 PC Card, Wireless Nd1 PCI Adapter: User Guide*

- **Home**
- **Installation**
- **Configuration**
- **Help**

Installation

Depending on the product that you purchased, choose one of the following installation instructions:

Click here if you are installing a **Wireless Nd_1 PC Card**.

Click here if you are installing a **Wireless Nd_1 PCI Adapter**.

USRobotics® *Wireless Nd1 PC*
Card, Wireless Nd1 PCI Adapter: User Guide

- **Home**
- **Installation**
- **Configuration**
- **Help**

Install Your USRobotics Wireless Nd_1 PCI Adapter

1.
   Insert the USRobotics Installation CD-ROM into your computer's CD-ROM or DVD drive.
   If the CD does not start automatically, start it manually as follows:
   - A. Windows XP: Click Windows **Start** > **My Computer**.
     Windows 2000: On the desktop, double-click **My Computer**.
   - B. Double-click the CD drive.
2. Click **Wireless Nd_1 PCI Adapter**, click **Install**, and follow the on-screen instructions.
3. If a window appears warning that the software has not passed Windows testing, continue with the installation. USRobotics has thoroughly tested the operation of the software with Windows to ensure its safe operation.

   Windows XP: Click **Continue Anyway**.
   Windows 2000: Click **Yes**.
4. When you are prompted to Power Off your computer, click **Power Off** (with Windows 2000 you must also manually power off the computer) and unplug your computer.
5. Open your computer's case and remove the screw and metal filler bracket for an available PCI slot.
6. Hold the wireless adapter by its edges. Do not touch the contacts on the connector. Insert the wireless adapter into the available PCI slot and press it firmly to seat it in the connector.
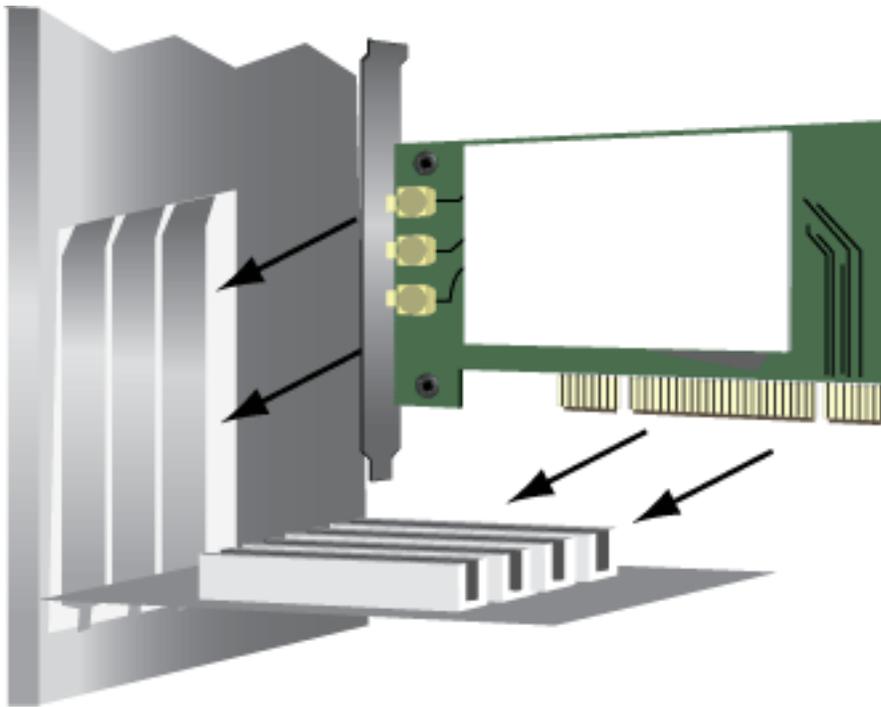
7. Use the screw removed in Step 5 to secure the PCI Adapter.
8. Attach the antennas to the wireless card.
9. Close your computer, plug it in, and turn it on.
10. Windows XP only:
    A. If the Found New Hardware Wizard asks to connect to the Windows update Web site to search for software, select **No, not this time** and click **Next**.
    B. With Install the software automatically selected, click **Next**.
11. If a window appears warning that the software has not passed Windows testing, continue with the installation. USRobotics has thoroughly tested the operation of the software with Windows to ensure its safe operation.

    Windows XP only: **Click Continue Anyway**.
    Windows 2000 only: Click **Yes**.

12. Windows XP only: Click **Finish**.
13. Select the option that matches your wireless network and follow the on-screen instructions.

You can connect your PCI Adapter to an **N**d_1 or other certified SecureEasySetup router or access point using the SecureEasySetup button. SecureEasySetup attempts to automatically configure the wireless security settings to create a secure connection. If your wireless router or access point is certified SecureEasySetup, one of the following logos should appear on the device:

You can also manually enter the wireless security settings to connect your PCI Adapter to any router or access point.

If you choose not to connect to a wireless network at this time, you can connect later by following the instructions in Connect to a Wireless Router or Access Point After Installation.

You have successfully completed the installation procedure. Please register your USRobotics Wireless Nd_1 PCI Adapter at www.usr.com/productreg/.

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USRobotics® *Wireless Nd1 PC Card, Wireless Nd1 PCI Adapter: User Guide*

- **Home**
- **Installation**
- **Configuration**
- **Help**

Install Your USRobotics Wireless Nd_1 PC Card

1. Insert the USRobotics Installation CD-ROM into your computer's CD or DVD ROM drive.
   If the CD does not start automatically, start it manually as follows:
   A. Windows XP: Click Windows **Start** > **My Computer**.
      Windows 2000: On the desktop, double-click **My Computer**.
   B. Double-click the CD drive.
2. Click **Wireless Nd_1 PC Card**, click **Install**, and follow the on-screen instructions.
3. If a window appears warning that the software has not passed Windows testing, continue with the installation. USRobotics has thoroughly tested the operation of the software with Windows to ensure its safe operation.

   Windows XP: Click **Continue Anyway**.
   Windows 2000: Click **Yes**.

4.
   When you are prompted, insert the PC Card.

5. Windows XP only:
    A. If the Found New Hardware Wizard asks to connect to the Windows update Web site to search for software, select **No, not this time** and click **Next**.
    B. With **Install the software automatically** selected, click **Next**.
6. If a window appears warning that the software has not passed Windows testing, continue with the installation. USRobotics has thoroughly tested the operation of the software with Windows to ensure its safe operation.

    Windows XP only: **Click Continue Anyway**.
    Windows 2000 only: Click **Yes**.

7. Windows XP only: Click **Finish**.
8. Select the option that matches your wireless network and follow the on-screen instructions.

You can connect your PC Card to an **N**d_1 or other certified SecureEasySetup router or access point using the SecureEasySetup button. SecureEasySetup attempts to automatically configure the wireless security settings to create a secure connection. If your wireless router or access point is certified SecureEasySetup, one of the following

logos should appear on the device:

You can also manually enter the wireless security settings to connect your PC Card to any router or access point.

If you choose not to connect to a wireless network at this time, you can connect later by following the instructions in Connect to a Wireless Router or Access Point After Installation.

You have successfully completed the installation procedure. Please register your USRobotics Wireless Nd_1 PC Card at www.usr.com/productreg/.

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USRobotics® *Wireless Nd1 PC Card,*

Wireless Nd1 PCI Adapter: User Guide

- **Home**
- **Installation**
- **Configuration**
- **Help**

Connect to a Wireless Router or Access Point After Installation

To connect to an **N**d_1 or other certified SecureEasySetup wireless network device, refer to Connect Your PC Card Or PCI Adapter To A certified SecureEasySetup Wireless Router or Access Point.

To manually connect to any router or access point, refer to Connect Your PC Card Or PCI Adapter To Any Wireless Router Or Access Point Manually.

Connect Your PC Card Or PCI Adapter To A certified SecureEasySetup Wireless Router or Access Point

The SecureEasySetup Wizard makes connecting your USRobotics Wireless **N**d_1 PCI Adapter or PC Card to a USRobotics Wireless **N**d_1 Router or Access Point as easy as pressing a button. The SecureEasySetup Wizard automatically establishes communication and negotiates security between the PCI Adapter or PC Card and an **N**d_1 router or access point.

1. Select **USRobotics Nd1 SecureEasySetup Wizard** from the Start menu's Programs folder.
2. Click **Next** and follow the on-screen instructions. Security and communication between the certified SecureEasySetup Wireless router or access point and the PC Card PCI Adapter are automatically configured.

At the end of the setup you will have the option to print or save to a file the network name and security settings.

Connect your PC Card or PCI Adapter to any wireless router or access point manually

You can use the Wireless Networks Wizard or the Configuratin Utility to manually create a wireless connection.

Using the Wireless Networks Wizard

1. Open the USRobotics Wireless **N**d_1 Configuration Utility and select the **Wireless Networks** tab.
2. Pull down the **Add** menu and select **Use Wizard**. Select a wireless network from the list and click **Next**.
3. If security is enabled for the specified wireless network device, enter the **Network key**, click **Next**, and then **Connect**. If security is not enabled for the specified wireless network device, click **Connect**.
4. You should now be connected to the specified wireless network device.

Using the Configuration Utility

1. Open the USRobotics Wireless **N**d_1 Configuration Utility and select the **Wireless Networks** tab.
2. Pull down the **Add** menu and select **Use Utility**.
3. Click **Select** to display a list of wireless devices.
4. Select a wireless device.
5. If you do not see the correct device, click **Refresh** to update the list. If you still do not see the correct device, click **Cancel** and manually enter the Network Name of the device.
6. Click **Ok**.
7. Enter the appropriate connection and security information for the wireless network device, if applicable, and click **OK**.
8. Click **OK** and the **N**d_1 PC Card or PCI Adapter will attempt a connection to the wireless network. If the card or adapter does not connect to the wireless network, open the Wireless Networks tab in the in the Configuration Utility, select the wireless network, and click **Edit**. Verify that the information for the wireless network device is correct and click **OK**.

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USRobotics® *Wireless Nd1 PC Card, Wireless Nd1 PCI Adapter: User Guide*

- **Home**
- **Installation**
- **Configuration**
  - **Help**

Overview of the USRobotics Nd_1 Configuration Utility

In the Configuration Utility, you can create and edit the settings for wireless connections, view the information regarding your **N**d_1 PC Card or PCI Adapter, and perform diagnostic tests on your device.

For more detailed information regarding the different areas of the Configuration Utility, click **Help** within the Configuration Utility.

Note: Depending on your version of Windows, the Configuration Utility may look slightly different.
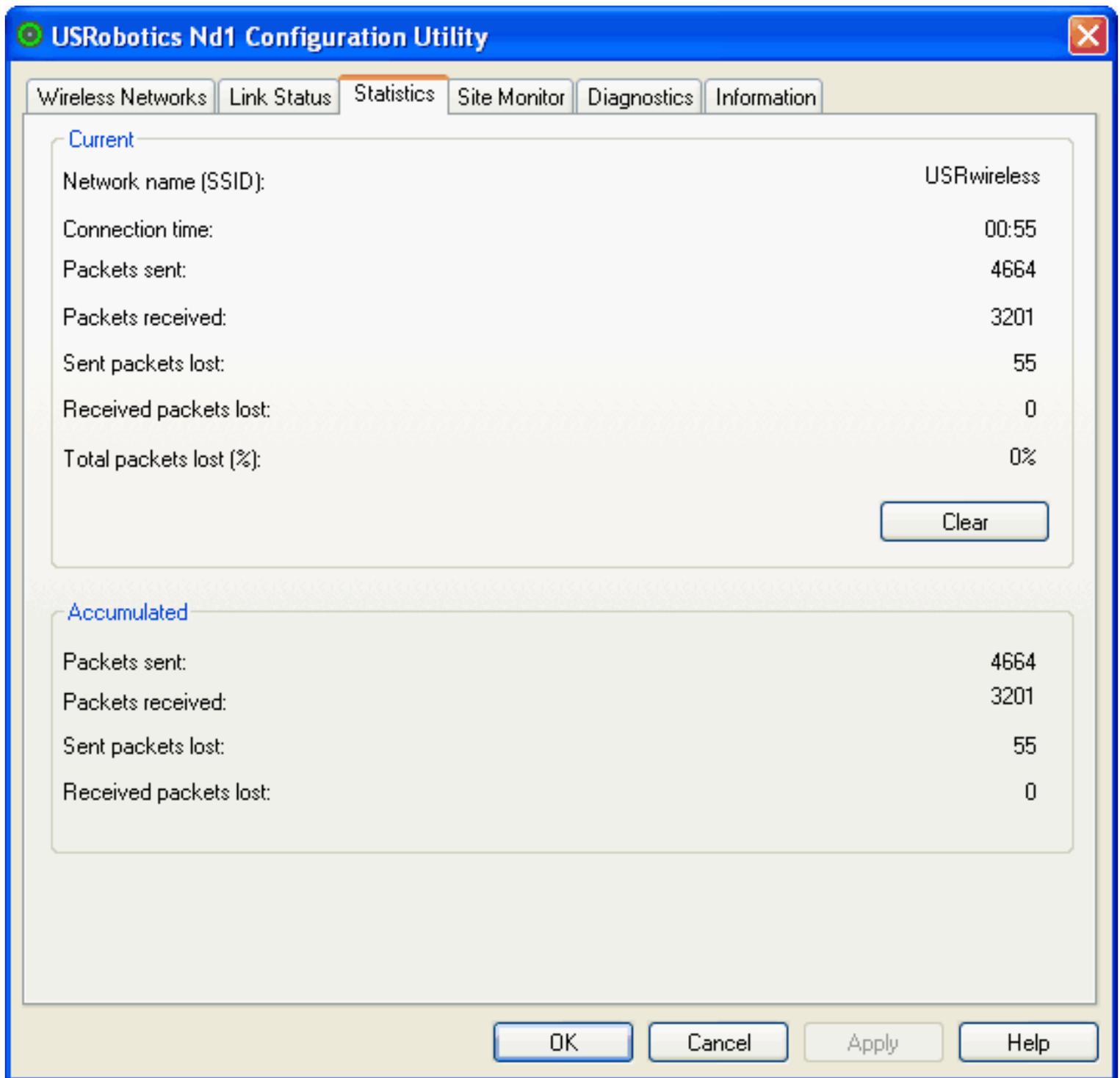
In the **Wireless Networks** area, you can locate available wireless network devices and create connections. You can also create new entries for wireless network devices if they do not appear in the list.
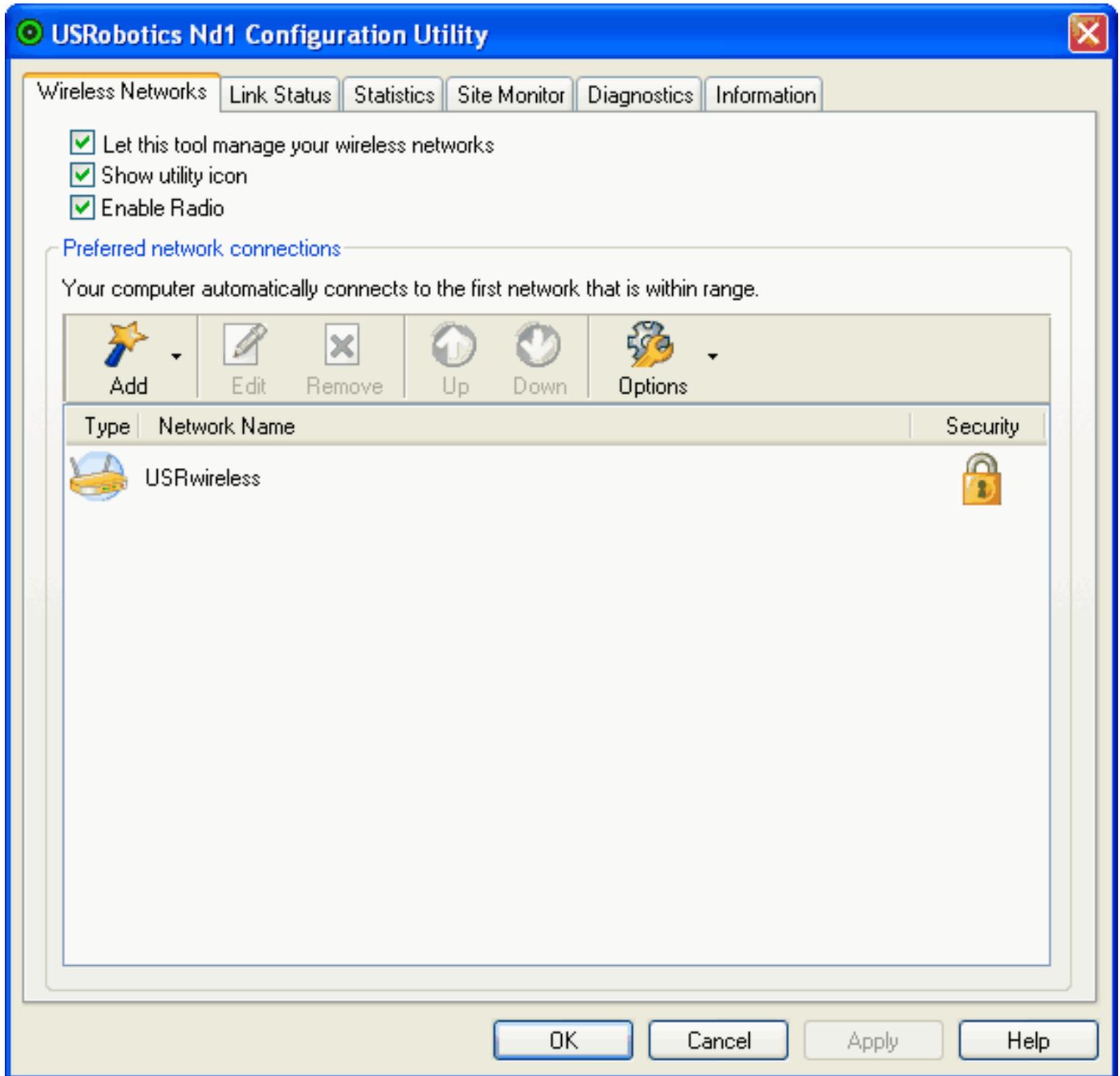
In the **Link Status** area, information regarding your current wireless connection is displayed.
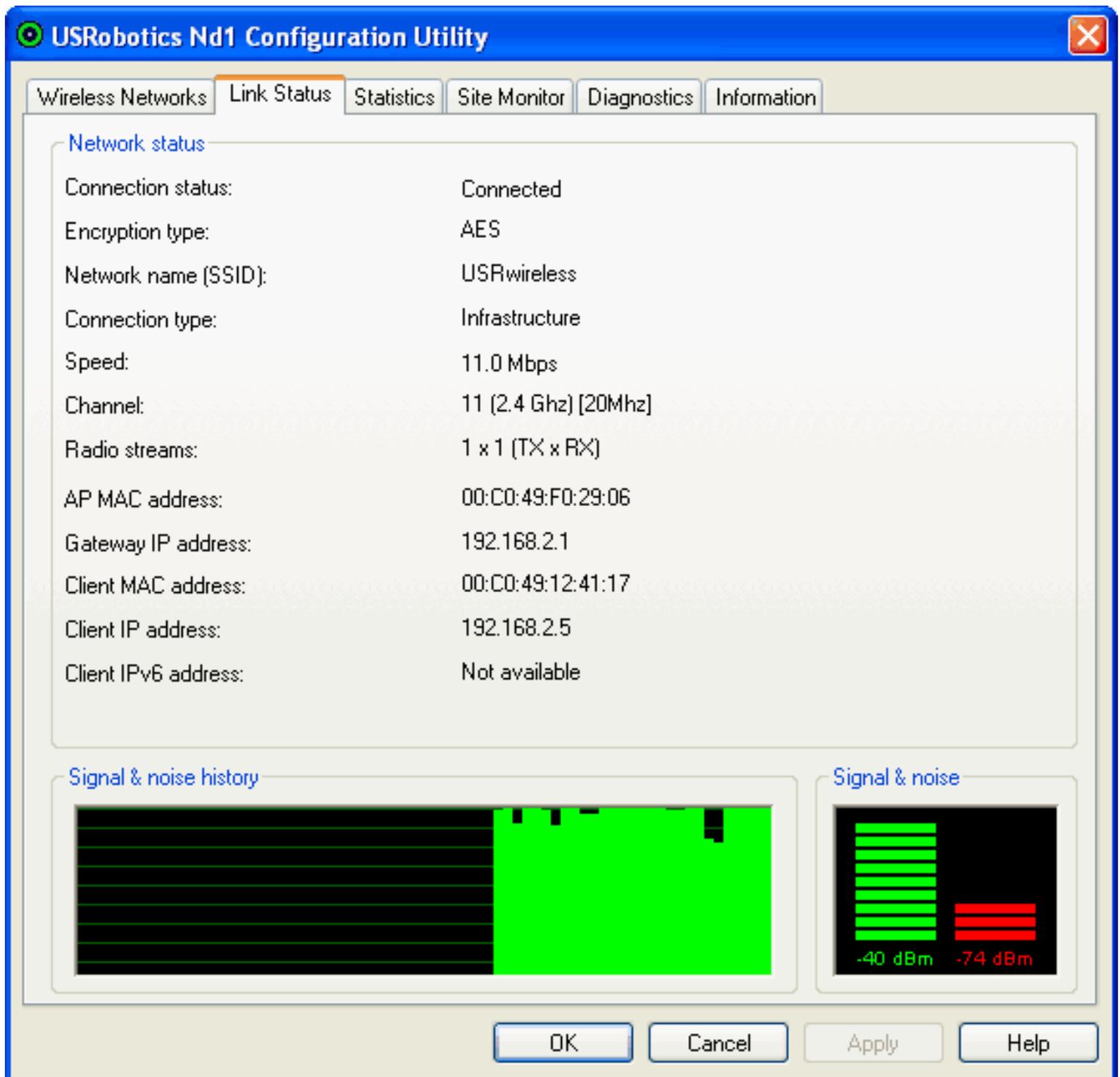
In **Statistics**, you can view the results regarding network traffic over your wireless connection.

In **Site Monitor**, you can see the wireless network devices that your Wireless **N**d_1 PC Card or PCI Adapter could connect to. If you want to connect to a device that you see in this list, go to the Wireless Networks area.
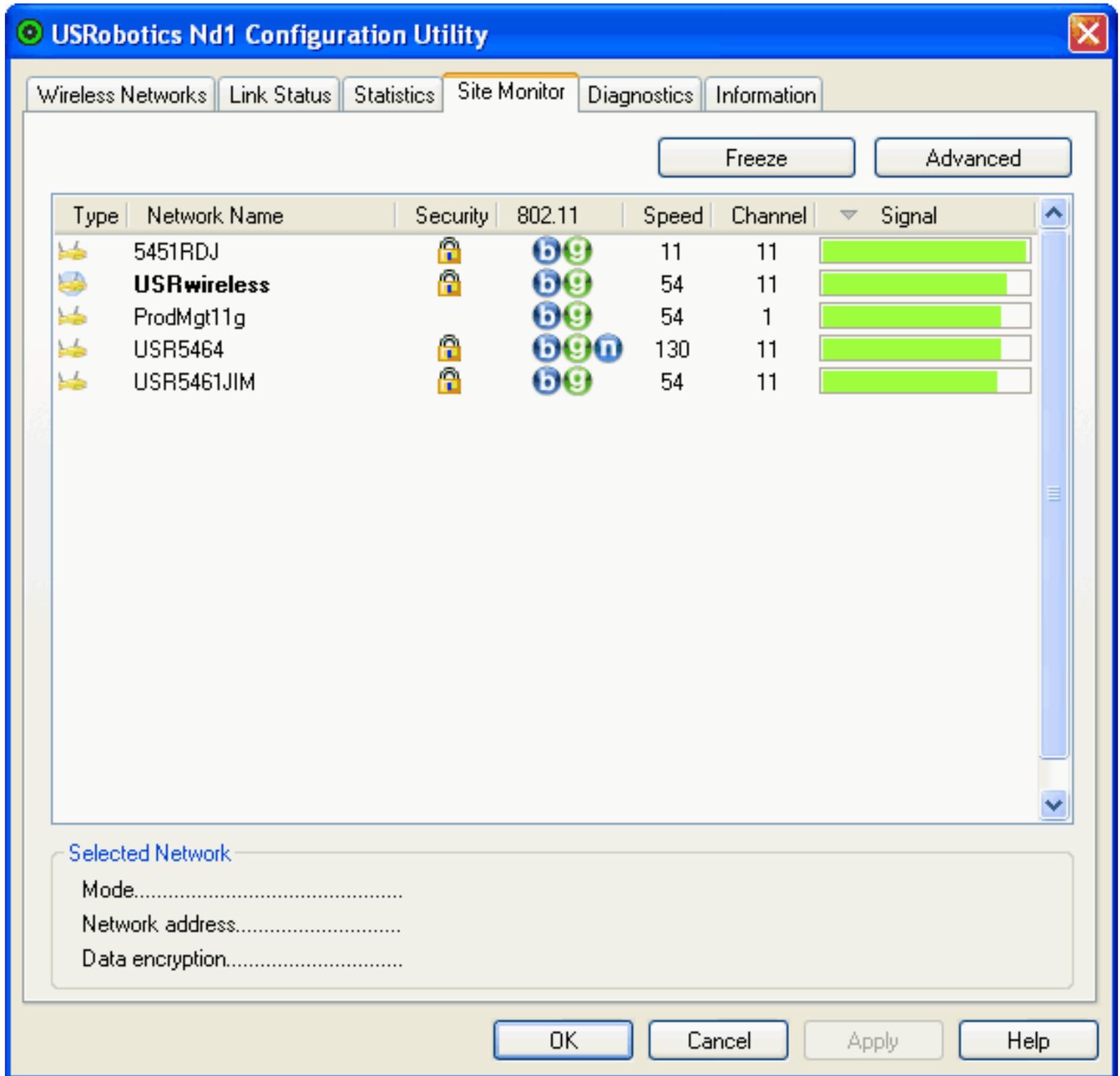
In the **Diagnostics** area, you can run a battery of tests on your Wireless **N**d_1 PC Card or PCI Adapter and on your wireless connection.
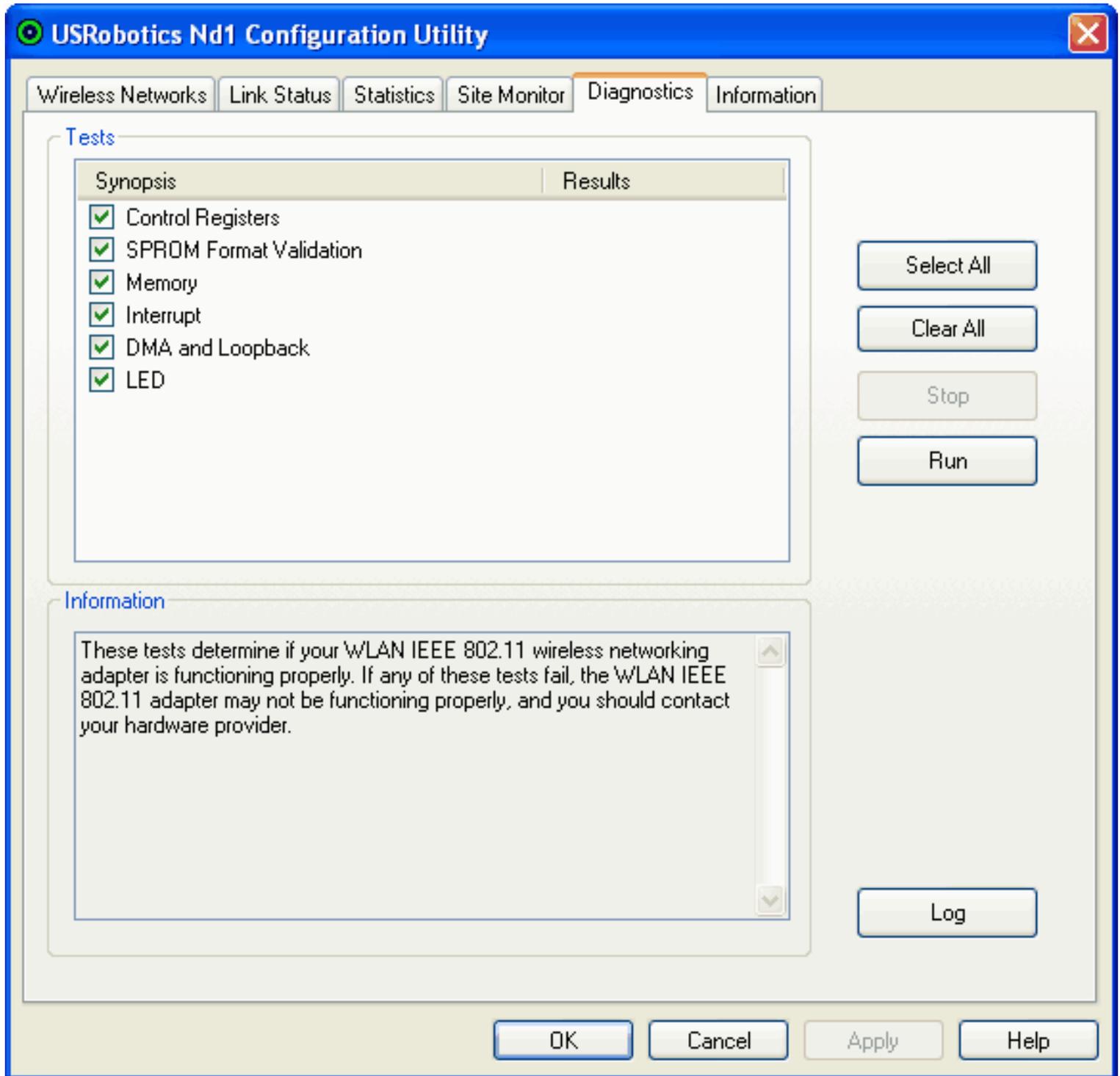
In the **Information** area, you can view the version information for your Wireless **N**d_1 PC Card or PCI Adapter.

USRobotics Nd1 Configuration Utility

| Wireless Networks | Link Status | Statistics | Site Monitor | Diagnostics | Information |

USRobotics Nd1 Configuration Utility
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USRobotics

Software details

Software version:	4.80.28.2	Jun 16, 2006
Driver version:	4.80.28.7	Aug 2, 2006
Supplicant version:	4.80.28.2	Jun 16, 2006

Hardware details

Board:	V16EC D0124 Rev 4.11
Chipset:	BCM4329 / BCM42055000
MAC address:	00:C0:49:12:41:17

Location details

Location:	United States
Channel:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11

OK   Cancel   Apply   Help

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USRobotics® *Wireless Nd1 PC Card, Wireless Nd1 PCI Adapter: User Guide*

- **Home**
- **Installation**
- **Configuration**
  - **Help**

Introduction to the Configuration Utility

The Configuration Utility can be used to change the settings of the Wireless **N**d_1 PC Card or PCI Adapter. In this area of the User Guide you can read about the different ways to open the Configuration Utility, how to create a wireless connection, and a brief overview of the areas within the Configuration Utility.

Open the Configuration Utility

After the product is installed, you should see a small icon for the Configuration Utility in the system tray by your clock on your computer desktop. The Utility icon's colour indicates the status of your wireless network. Red indicates disconnected, yellow indicates connected with poor quality, and green indicates connected with good quality.

There are a few ways to access the Configuration Utility and create a wireless connection.

- Right-click the Utility icon and click **Open Utility**. This opens the Configuration Utility's **Wireless Networks** tab.
- Left-click the Utility icon. If you are connected to a wireless network, the Configuration Utility's **Link Status** tab opens. If you are not connected to a wireless network, the **Wireless Network Wizard** opens.
- Select **USRobotics Wireless Utility** from the Start menu's programs folder.

For more detailed information regarding the different areas of the Configuration Utility, click **Help** within the Configuration Utility.

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USRobotics® *Wireless Nd1 PC Card, Wireless Nd1 PCI Adapter: User Guide*

- **Home**
- **Installation**
- **Configuration**
  - **Help**

Basic Troubleshooting Procedure

This procedure addresses some symptoms that you might experience with your PC Card or PCI Adapter, wireless connection, and connection to the Internet:

1. Verify the physical cable connections between your wireless router or access point, your computer, and your modem.
2. Ensure that the power outlet to which the router is connected is a live outlet.
3. Refer to your router's documentation and then check any LEDs or indicators on your router to make sure you are receiving power and that are no errors.
4. Reboot your router to refresh your Internet connection information.
5. Some electronic devices, such as 2.4GHz - 5.8 GHz phones and microwave ovens, may interfere with the wireless signal and affect your wireless range and link quality. Try creating a wireless connection on a different channel.
6. Low link quality or range can be caused by environmental interference, such as lead-based paint and concrete walls. Try to move the antenna of the router or to reposition the wireless clients to improve the link quality. If possible, ensure that there are no obstructions between wireless clients and the router.
7. Refer to your router's documentation an verify communications between your computer, your router and the Internet.

If you still have trouble using your PC Card or PCI Adapter, follow the procedure below that best describes your symptom.

I am no longer able to access the Internet.

I cannot connect to my wireless router or access point.

I am experiencing poor wireless link quality.

My computer does not recognise the Wireless **N**d_1 PC Card or PCI Adapter.

The USRobotics interface did not begin when I inserted the Installation CD-ROM.

I accidentally clicked Cancel during the software installation procedure for the Wireless **N**d_1 PC Card or PCI Adapter.

The wireless network I want to connect to is not appearing in the Available Networks list in the Configuration Utility.

The wireless PC Card (adapter) does not work properly, and I may need to uninstall the device.

The USRobotics Nd1 Configuration Utility icon is not displayed in my system tray.

The USRobotics Installation CD-ROM did not automatically start when I inserted the Installation CD-ROM.

The wireless clients seem to be communicating, but they do not appear in the **My Computer** screen or in the **My Network Places** screen.

My computer does not create a wireless connection to a Wireless Nd1 Router after I changed the settings.

Troubleshooting Ping Procedure

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USRobotics® *Wireless Nd1 PC Card, Wireless Nd1 PCI Adapter: User Guide*

- **Home**
- **Installation**
- **Configuration**
- **Help**

My computer does not recognise the Wireless Nd_1 PC Card or PCI Adapter.

Possible Solution:

- The Wireless **N**d_1 PC Card may not be fully inserted into the PC card slot. You can also try installing the Wireless **N**d_1 PC Card into a different PC card slot.
- The Wireless **N**d_1 PCI Adapter may not be fully inserted into the PCI slot. You can also try installing the Wireless **N**d_1 PCI Adapter into a different PCI slot.
- Your PC card slot or PCI slot may not be configured correctly. To configure your PC card slot or PCI slot, contact your computer manufacturer.

Return to Troubleshooting page.

USRobotics® *Wireless Nd1 PC*

Card, Wireless Nd1 PCI Adapter: User Guide

- **Home**
- **Installation**
- **Configuration**
- **Help**

I am no longer able to access the Internet.

When your computer connects to the Internet using the router, a number of devices have to work together.

- Your computer connects to your router wirelessly using your PC Card or PCI Adapter.

- Your router connects to your broadband cable modem or DSL modem using an Ethernet cable.

- Your cable modem or DSL modem connects to your Internet Service Provider (ISP) using your cable or phone network.

The first step in solving this problem is to diagnose the cause. There are a number of places where the connection from your computer to the Internet might fail.

1. Check the indicator lights of your various devices. If one or more of these devices indicate a problem, it's a good indication of where you should focus your troubleshooting efforts.

2. Verify the wired or wireless connection to your router. If your computer cannot communicate with the router, it cannot access the Internet.

3. Verify that your router is working. Refer to your router's documentation for additional information.

4. If your router is working, verify that your router is connected connection to your Cable or DSL modem. Your router must be connected to your modem and communicating with it.

5. Verify your modem's connection to the Internet. Internet service through your Internet service provider must be available.

Verify the Wireless connection to your router

1. Use the USRobotics **N**d_1 Configuration Utility to check the connection between your PC Card or PCI Adapter and your router.

2. Ensure that your computer is connected to your router rather than another router, such as a neighbor's router. You can use the USRobotics **N**d_1 Configuration Utility to check the **Network name** (SSID) of the router that your PC Card or PCI Adapter is connected to. If it is connected to the wrong router, you can use the utility to force your PC Card or PCI Adapter to try to connect to your router. Refer to Connect to a Wireless Router or Access Point After Installation.

If you do not have a connection to your router:

1. Ensure that your computer is close enough to your router to receive a signal and that there is nothing interfering with the signal, such as a microwave oven or a concrete wall. Check the Site Monitor tab of the USRobotics **N**d_1 Configuration Utility. If your router is not listed, the problem may be signal strength.

2. Verify that your router is configured to broadcast its network name.

3. Ensure that the **N**d_1 Configuration Utility is using the correct **Network name** (SSID) and wireless security settings for your router. Settings such as network name, security method (such as WPA or WEP), and security keys must all match.

4. Verify that the computer is allowed to connect to your router. If MAC filtering is enabled on your router, verify that the MAC address of your PC Card or PCI Adapter is allowed access to the router. You may need to add this MAC address to your router.

5. If your PC Card or PCI Adapter still cannot connect to your router, try a wired connection between your computer and your router. Connect an Ethernet cable between your computer's LAN port and a LAN port on your router. If a wired connection works, the problem is almost certainly with your computer's wireless connection to the router. Try the previous steps again.

If you can verify the connection between your computer and your router, it's likely the router is not connected to the Internet or is not functioning correctly. Refer to your router's documentation to troubleshoot your router's connection to the Cable or DSL modem and to verify your modem's connection to the Internet.

Verify your modem's connection to the Internet

If your computer has a connection to your router and the Internet connection information on your router is configured correctly but you still cannot connect to the Internet, it is possible that the cable or DSL modem has lost its connection or is not functioning properly, or there's a problem with your ISP.

1. Ensure that an Ethernet cable is connected between your router's WAN port and the cable/DSL modem's Ethernet port and that the corresponding LEDs are lit.

2. Ensure that your cable/DSL modem is connected to your wall jack. (A cable modem uses a coax cable, and a DSL modem uses an RJ-11 cable.)

3. Restart your cable/DSL modem. (There may be a power switch or reset button on the modem or you may have to unplug/re-plug the modem's power adapter. Consult your modem's documentation.)

4. Reboot your router.

5. After the router reboots and the LEDs on the router have stabilized, if you still cannot access the Internet, please start at the beginning of this tutorial to determine if there is a new point of failure. It's possible that your wireless connection needs to be re-established.

6. If the router still does not have an IP address after repeating this tutorial, the problem may be with the cable/DSL modem or your ISP. Please contact your ISP's Customer Support.

Return to Troubleshooting page

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I accidentally clicked Cancel during the software installation procedure for the Wireless Nd_1 PC Card or PCI Adapter.

Possible Solution:

Remove and reinsert the Installation CD-ROM into your CD-ROM drive. Follow the instructions in this guide for installing the software.

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USRobotics® *Wireless Nd1 PC*

Card, Wireless Nd1 PCI Adapter: User Guide

- **Home**
- **Installation**
- **Configuration**
- **Help**

The USRobotics interface did not begin when I inserted the Installation CD-ROM.

Possible Solution:

Some programs may disable the autorun feature of Windows. Close any open applications and reinsert the Installation CD-ROM. If the Installation CD-ROM interface does not run automatically, click Windows **Start** and then click **Run**. In the "Run" dialog box, type **D:\setup.exe**. If your CD-ROM drive uses a different letter, type that letter in place of "D."

Return to Troubleshooting page

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- **Home**
- **Installation**
- **Configuration**
- **Help**

The wireless clients seem to be communicating, but they do not appear in the My Computer screen or in the My Network Places screen.

Possible Solution:

Verify that File and Printer Sharing is enabled on all the computers on your network.

1. Open **Control Panel**.
   Windows XP Users: If you are using Category View in Windows XP, click **Switch to Classic View**.
2. In Control Panel, double-click the **Network Connections** icon or **Network and Dial-up Connections** icon, depending on your version of Windows.
3. Right-click the network connection for your wireless adapter and then click **Properties**.
4. In the network connection properties screen, verify that the **File and Printer Sharing for Microsoft Networks** check box is selected. If this item is not present, click **Install**. In the Select Network Component Type box, select **Service** and click **Add**. In the Select Network Service box, select **File and Printer Sharing for Microsoft Networks** and click **OK**. Close the network connection properties screen.
5. Close the Network Connections screen.

Return to Troubleshooting page

USRobotics® *Wireless Nd1 PC*

Card, Wireless Nd1 PCI Adapter: User Guide

- **Home**
- **Installation**
- **Configuration**
- **Help**

I cannot connect to my wireless router or access point.

Possible Solution:

Ensure that the Configuration Utility is installed for your Wireless **N**d_1 PC Card or PCI Adapter and that the Configuration Utility detects your Wireless **N**d_1 PC Card or PCI Adapter.

Possible Solution:

If you are using a USRobotics Wireless **N**d_1 Router or Access Point, select **USRobotics N**d_1 **SecureEasySetup Wizard** from the Start menu. Follow the on-screen instructions.

Possible Solution:

Check the USRobotics **N**d_1 Configuration Utility icon in the system tray to confirm the connection status. If you are connected to your wireless network device, the icon is green or yellow. If the icon is red, open the USRobotics **N**d_1 Configuration Utility, and click the **Wireless Networks** tab. Double-click the network that you are connecting to

and follow the prompts.

Possible Solution:

Verify that you are using the same SSID, Channel, and Security information as the wireless router or access point. Perform the following steps to verify and, if necessary, update the settings:

1. Right-click the Utility icon in the system tray and select Open Utility.
2. On the Wireless Networks tab, pull down the **Add** menu and select **Use Wizard**. Browse through the list of available wireless network devices and locate the correct wireless router or access point. If you do not see the correct device, click **Refresh** to update the list. Double-click the device. If the correct device still does not appear, click **Manually connect to an advanced network** and enter the appropriate information to create the entry. For more information about setting up connection profiles and security features, right click the **USRobotics Nd1 Configuration Utility icon** and select **Help Files**.
3. When the Properties window appears, verify and, if necessary, update the appropriate connection and security information for the wireless network device. Make sure you do not have the checkbox next to This is a computer-to-computer (ad hoc) network selected. When you are finished, click OK.
4. On the main screen, click Apply and a connection will be established.

Possible Solution:

Change the channel used by the wireless router or access point and check for the network on the **Wireless Networks** tab.

Possible Solution:

Verify that MAC address filtering is not enabled on your wireless router or access point. If MAC address filtering is enabled, the MAC address of the Wireless Nd_1 PCI Adapter or PC Card must be included in the filtering table of the wireless router or access point.

Possible Solution:

Be sure that each Wireless **N**d_1 PC Card or PCI Adapter that you want to connect to the wireless network is set to Infrastructure mode within the Configuration Utility. If your Wireless **N**d_1 PC Cards or PCI Adapters are not set to Infrastructure mode, they will not be able to communicate with an access point or wireless router.

Possible Solution:

Determine the WLAN MAC address of the desired wireless router or access point. The WLAN MAC address is usually located on a label on the wireless routers and access points. Check the WLAN MAC address and verify that you are connecting to the correct wireless router or access point.

Return to Troubleshooting page

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USRobotics *Wireless Nd1 PC Card, Wireless Nd1 PCI Adapter: User Guide*

- **Home**
- **Installation**
- **Configuration**
  - **Help**

The wireless network I want to connect to is not appearing in the Available Networks list in the Configuration Utility.

Possible Solution:

Verify that your access point or wireless router is functioning correctly.

Possible Solution:

Your computer may be too far away from the router. Move it closer to the router and check the **Site Monitor** tab in the **N**d_1 Configuration Utility .

Possible Solution:

The network may not be broadcasting a Network Name (SSID). Open the USRobotics Nd1 Configuration Utility, and click the **Wireless Networks** tab. Click **Add** and select **Use Utility (advanced network)**. Enter the network name and security configuration being used by the router or access point. Click **OK**.

Possible Solution:

Change the channel on the access point or wireless router to channel 1 and retest. If the problem persists, change the channel on the access point or wireless router to channel 11 and retest. If the problem persists, change the channel on the access point or wireless router to channel 6 and retest.

Return to Troubleshooting page

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USRobotics® *Wireless Nd1 PC Card, Wireless Nd1 PCI Adapter: User Guide*

- **Home**
- **Installation**
- **Configuration**
- **Help**

The wireless PC Card (adapter) does not work properly, and I may need to uninstall the device.

- Windows XP Users: Click Windows **Start** > **Control Panel** > **Add or Remove Programs** > **USRobotics Wireless Nd1 Adapter** and then **Remove**.
- Windows 2000 Users: Click Windows **Start** > **Settings** > **Control Panel** > **Add/ Remove Programs** > **USRobotics Wireless Nd1 Adapter** and then **Remove**.

USRobotics® *Wireless Nd1 PC Card, Wireless Nd1*

PCI Adapter: User Guide

- **Home**
- **Installation**
- **Configuration**
  - **Help**

Troubleshooting Ping Procedure

If at any time during the ping procedure you do not receive a return message for a successful ping, this means that the address you are pinging has been changed and is causing a conflict or is no longer available. Check the address in the configuration pages and make any necessary corrections using the console mode. After you have made the corrections, continue with the ping procedure.

1. Click Windows **Start** > **Run**.

2. In the **Run** dialog box, type **cmd** and click **OK**.

3. Type **ipconfig /all** and press ENTER.

   This displays IP configuration, including values like the following:

   IP Address: 192.168.2.2
   Subnet Mask: 255.255.255.0
   Default Gateway: 192.168.2.1 (This is the Default Gateway of your LAN)
   DNS Server: 192.168.2.1

   ```
   Connection-specific DNS Suffix  . :
   Description . . . . . . . . . . . : Broadcom NetXtreme Gigabit Ethernet
   Physical Address. . . . . . . . . : 00-0F-FE-3E-08-89
   Dhcp Enabled. . . . . . . . . . . : Yes
   Autoconfiguration Enabled . . . . : Yes
   IP Address. . . . . . . . . . . . : 192.168.2.2
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . : 192.168.2.1
   DHCP Server . . . . . . . . . . . : 192.168.2.1
   DNS Servers . . . . . . . . . . . : 192.168.2.1
   Lease Obtained. . . . . . . . . . : Friday, September 08, 2006 1:18:30 P
   M
   Lease Expires . . . . . . . . . . : Friday, September 08, 2006 2:18:30 P
   M
   ```

   If you do not see information for the Ethernet adapter connection information, your computer is not communicating with your Ethernet adapter.

   If you receive a message that your media is disconnected, your computer is communicating with your adapter but has not received an IP address from your router. Verify that your wireless security settings for your adapter match the wireless security settings on your router.

If you have an IP address of 196.254 or 0.0.0.0, verify that your wireless security settings for your adapter match the wireless security settings on your router and repair the network connection on your computer.

4. Type **Ping 127.0.0.1** and press ENTER. This is your local host address and this will ensure that the TCP/IP protocol is installed and functioning properly. If you cannot complete this ping, you must install the TCP/IP framework for your operating system. See your operating system documentation for information on how to install the TCP/IP framework.

5. Type **Ping** followed by the *IP address* you recorded in step 3, and press ENTER. This will ensure that your computer is responding to requests. If you cannot complete this ping, make sure all the cables are properly connected and that all the correct drivers are installed.

6. Type **Ping** followed by the LAN IP address, which is the *Default Gateway* you recorded in step 3, and press ENTER. This checks the communication with your gateway or wireless router. This will ensure that you can get to the router. If you can establish communication with the router, you can access the configuration pages and configure the settings. If you cannot complete this ping, make sure the power cord of the router is plugged in and that it is properly connected to your computer.

7. Type **Ping** followed by the outside WAN IP address of your router. This is not the same as the Default Gateway for your LAN that you saw in step 3. See the documentation for your router to determine where to find this information. This procedure will ensure that you have access to the internet.

8. Type **Ping** followed by the *DNS Server* address you recorded in step 3, and press ENTER. This will allow you to resolve valid Internet host names to IP addresses and to verify that you can access the Internet.

Return to Troubleshooting page

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USRobotics® *Wireless Nd1 PC Card, Wireless Nd1 PCI Adapter: User Guide*

- **Home**
- **Installation**
- **Configuration**
- **Help**

I am experiencing poor wireless link quality.

Solution 1:

Poor link quality or range can be caused by environmental interference, such as lead-based paint and concrete walls. Move the antenna of the Wireless **N**d_1 PCI Adapter or reposition a computer using the PC Card to improve the link quality. If possible, ensure that there are no obstructions between wireless clients and the router.

Solution 2:

Perform a wireless site scan or site survey in the client utility for your wireless adapter to check for any adjacent networks. If you find any adjacent networks, check to see what channels the networks are using. Although the router will try to select the best available wireless channel, if your router and another network are running on the same channel, you may need to adjust change your router's settings to use another channel.

Solution 4:

Some electronic devices, such as 2.4GHz phones and microwave ovens, may interfere with the wireless signal and affect your wireless range and link quality. Try creating a

wireless connection on a different channel.

Return to Troubleshooting page

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Wireless Nd1 PC Card, Wireless Nd1 PCI Adapter: User Guide

- **Home**
- **Installation**
- **Configuration**
- **Help**

The USRobotics Nd1 Configuration Utility icon is not displayed in my system tray.

Possible Solution:

Select the **USRobotics Nd1 Configuration Utility** from the Windows **Start** menu. Select **Show Utility Icon** and click **OK**.

Return to Troubleshooting page

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USRobotics® *Wireless Nd1 PC*

Card, Wireless Nd1 PCI Adapter: User Guide

- **Home**
- **Installation**
- **Configuration**
- **Help**

The USRobotics Installation CD-ROM did not automatically start when I inserted the Installation CD-ROM.

Possible Solution:

Some programs (for example, anti-virus programs) may keep the auto-run feature of the USRobotics Installation CD-ROM from beginning. Close any open applications and re-insert the CD-ROM. If your CD-ROM still does not automatically start, click Windows **Start** > **Run** and type **D:\setup** (if your CD-ROM drive uses a different letter, type that letter in place of "D") and click OK.

Return to Troubleshooting page

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USRobotics® *Wireless Nd1 PC Card, Wireless Nd1 PCI Adapter: User Guide*

- **Home**
- **Installation**
- **Configuration**
- **Help**

My computer does not create a wireless connection to a Wireless Nd_1 Router after I changed the settings.

Possible Solution:

In the Wireless **N**d_1Configuration Utility, ensure that you are connecting to the correct Wireless **N**d_1 Router by verifying the MAC address, Network name (SSID), and security settings. The MAC address is located on the label on the bottom of the Wireless **N**d_1 Router. Ensure that the correct Pass phrase and encryption option are being used. If you changed the settings in the configuration of the Wireless **N**d_1 Router, you must also change the settings of every Wireless **N**d_1 PC Card or PCI Adapter connecting to this network. The settings of the Wireless **N**d_1 PC Card or PCI Adapter must match the new settings of the Wireless **N**d_1 Router.

Return to Troubleshooting page

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- **Home**
- **Installation**
- **Configuration**
- **Help**

U.S. Robotics Corporation Two (2) Year Limited Warranty

1.0 GENERAL TERMS:

1.1 This Limited Warranty is extended only to the original end-user purchaser (CUSTOMER) and is not transferable.

1.2 No agent, reseller, or business partner of U.S. Robotics Corporation (U.S. ROBOTICS) is authorised to modify the terms of this Limited Warranty on behalf of U.S. ROBOTICS.

1.3 This Limited Warranty expressly excludes any product that has not been purchased as new from U.S. ROBOTICS or its authorised reseller.

1.4 This Limited Warranty is only applicable in the country or territory where the product is intended for use (As indicated by the Product Model Number and any local telecommunication approval stickers affixed to the product).

1.5 U.S. ROBOTICS warrants to the CUSTOMER that this product will be free from defects in workmanship and materials, under normal use and service, for TWO (2) YEARS from the date of purchase from U.S. ROBOTICS or its authorised reseller.

1.6 U.S. ROBOTICS sole obligation under this warranty shall be, at U.S. ROBOTICS sole discretion, to repair the defective product or part with new or reconditioned parts; or to exchange the defective product or part with a new or reconditioned product or part that is the same or similar; or if neither of the two foregoing options is reasonably available, U.S. ROBOTICS may, at its sole discretion, provide a refund to the CUSTOMER not to exceed the latest published U.S. ROBOTICS recommended retail purchase price of the product, less any applicable service fees. All products or parts that are exchanged for replacement will become the property of U.S. ROBOTICS.

1.7 U.S. ROBOTICS warrants any replacement product or part for NINETY (90) DAYS from the date the product or part is shipped to Customer.

1.8 U.S. ROBOTICS makes no warranty or representation that this product will meet CUSTOMER requirements or work in combination with any hardware or software products provided by third parties.

1.9 U.S. ROBOTICS makes no warranty or representation that the operation of the software products provided with this product will be uninterrupted or error free, or that all defects in software products will be corrected.

1.10 U.S. ROBOTICS shall not be responsible for any software or other CUSTOMER data or information contained in or stored on this product.

2.0 CUSTOMER OBLIGATIONS:

2.1 CUSTOMER assumes full responsibility that this product meets CUSTOMER specifications and requirements.

2.2 CUSTOMER is specifically advised to make a backup copy of all software provided with this product.

2.3 CUSTOMER assumes full responsibility to properly install and configure this product and to ensure proper installation, configuration, operation and compatibility with the operating environment in which this product is to function.

2.4 CUSTOMER must furnish U.S. ROBOTICS a dated Proof of Purchase (copy of original purchase receipt from U.S. ROBOTICS or its authorised reseller) for any warranty claims to be authorised.

3.0 OBTAINING WARRANTY SERVICE:

3.1 CUSTOMER must contact U.S. ROBOTICS Technical Support or an authorised U.S. ROBOTICS Service Centre within the applicable warranty period to obtain warranty service authorisation.

3.2 Customer must provide Product Model Number, Product Serial Number and dated Proof of Purchase (copy of original purchase receipt from U.S. ROBOTICS or its authorised reseller) to obtain warranty service authorisation.

3.3 For information on how to contact U.S. ROBOTICS Technical Support or an authorised U.S. ROBOTICS Service Centre, please see the U.S ROBOTICS corporate Web site at: www.usr.com

3.4 CUSTOMER should have the following information / items readily available when contacting U.S. ROBOTICS Technical Support:

- Product Model Number
- Product Serial Number
- Dated Proof of Purchase
- CUSTOMER contact name & telephone number
- CUSTOMER Computer Operating System version
- U.S. ROBOTICS Installation CD-ROM
- U.S. ROBOTICS Installation Guide

4.0 WARRANTY REPLACEMENT:

4.1 In the event U.S. ROBOTICS Technical Support or its authorised U.S. ROBOTICS Service Centre determines the product or part has a malfunction or failure attributable directly to faulty workmanship and/or materials; and the product is within the TWO (2) YEAR warranty term; and the CUSTOMER will include a copy of the dated Proof of Purchase (original purchase receipt from U.S. ROBOTICS or its authorised reseller) with the product or part with the returned product or part, then U.S. ROBOTICS will issue CUSTOMER a Return Material Authorisation (RMA) and instructions for the return of the product to the authorised U.S. ROBOTICS Drop Zone.

4.2 Any product or part returned to U.S. ROBOTICS without an RMA issued by U.S. ROBOTICS or its authorised U.S. ROBOTICS Service Centre will be returned.

4.3 CUSTOMER agrees to pay shipping charges to return the product or part to the authorised U.S. ROBOTICS Return Centre; to insure the product or assume the risk of loss or damage which may occur in transit; and to use a shipping container equivalent to the original packaging.

4.4 Responsibility for loss or damage does not transfer to U.S. ROBOTICS until the returned product or part is received as an authorised return at an authorised U.S. ROBOTICS Return Centre.

4.5 Authorised CUSTOMER returns will be unpacked, visually inspected, and matched to the Product Model Number and Product Serial Number for which the RMA was

authorised. The enclosed Proof of Purchase will be inspected for date of purchase and place of purchase. U.S. ROBOTICS may deny warranty service if visual inspection of the returned product or part does not match the CUSTOMER supplied information for which the RMA was issued.

4.6 Once a CUSTOMER return has been unpacked, visually inspected, and tested U.S. ROBOTICS will, at its sole discretion, repair or replace, using new or reconditioned product or parts, to whatever extent it deems necessary to restore the product or part to operating condition.

4.7 U.S. ROBOTICS will make reasonable effort to ship repaired or replaced product or part to CUSTOMER, at U.S. ROBOTICS expense, not later than TWENTY ONE (21) DAYS after U.S. ROBOTICS receives the authorised CUSTOMER return at an authorised U.S. ROBOTICS Return Centre.

4.8 U.S. ROBOTICS shall not be liable for any damages caused by delay in delivering or furnishing repaired or replaced product or part.

5.0 LIMITATIONS:

5.1 THIRD-PARTY SOFTWARE: This U.S. ROBOTICS product may include or be bundled with third-party software, the use of which is governed by separate end-user license agreements provided by third-party software vendors. This U.S. ROBOTICS Limited Warranty does not apply to such third-party software. For the applicable warranty refer to the end-user license agreement governing the use of such software.

5.2 DAMAGE DUE TO MISUSE, NEGLECT, NON-COMPLIANCE, IMPROPER INSTALLATION, AND/OR ENVIRONMENTAL FACTORS: To the extent permitted by applicable law, this U.S. ROBOTICS Limited Warranty does not apply to normal wear and tear; damage or loss of data due to interoperability with current and/or future versions of operating system or other current and/or future software and hardware; alterations (by persons other than U.S. ROBOTICS or authorised U.S. ROBOTICS Service Centres); damage caused by operator error or non-compliance with instructions as set out in the user documentation or other accompanying documentation; damage

caused by acts of nature such as lightning, storms, floods, fires, and earthquakes, etc. Products evidencing the product serial number has been tampered with or removed; misuse, neglect, and improper handling; damage caused by undue physical, temperature, or electrical stress; counterfeit products; damage or loss of data caused by a computer virus, worm, Trojan horse, or memory content corruption; failures of the product which result from accident, abuse, misuse (including but not limited to improper installation, connection to incorrect voltages, and power points); failures caused by products not supplied by U.S. ROBOTICS; damage cause by moisture, corrosive environments, high voltage surges, shipping, abnormal working conditions; or the use of the product outside the borders of the country or territory intended for use (As indicated by the Product Model Number and any local telecommunication approval stickers affixed to the product).

5.3 TO THE FULL EXTENT ALLOWED BY LAW, THE FOREGOING WARRANTIES AND REMEDIES ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER WARRANTIES, TERMS, OR CONDITIONS, EXPRESS OR IMPLIED, EITHER IN FACT OR BY OPERATION OF LAW, STATUTORY OR OTHERWISE, INCLUDING WARRANTIES, TERMS, OR CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, SATISFACTORY QUALITY, CORRESPONDENCE WITH DESCRIPTION, AND NON-INFRINGEMENT, ALL OF WHICH ARE EXPRESSLY DISCLAIMED. U.S. ROBOTICS NEITHER ASSUMES NOR AUTHORISES ANY OTHER PERSON TO ASSUME FOR IT ANY OTHER LIABILITY IN CONNECTION WITH THE SALE, INSTALLATION, MAINTENANCE, WARRANTY, OR USE OF ITS PRODUCTS.

5.4 LIMITATION OF LIABILITY. TO THE FULL EXTENT ALLOWED BY LAW, U.S. ROBOTICS ALSO EXCLUDES FOR ITSELF AND ITS SUPPLIERS ANY LIABILITY, WHETHER BASED IN CONTRACT OR TORT (INCLUDING NEGLIGENCE), FOR INCIDENTAL, CONSEQUENTIAL, INDIRECT, SPECIAL, OR PUNITIVE DAMAGES OF ANY KIND, OR FOR LOSS OF REVENUE OR PROFITS, LOSS OF BUSINESS, LOSS OF INFORMATION OR DATA, OR OTHER FINANCIAL LOSS ARISING OUT OF OR IN CONNECTION WITH THE SALE, INSTALLATION, MAINTENANCE, USE, PERFORMANCE, FAILURE, OR INTERRUPTION OF ITS PRODUCTS, EVEN IF U.S. ROBOTICS OR ITS AUTHORISED RESELLER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, AND LIMITS ITS LIABILITY TO REPAIR, REPLACEMENT, OR REFUND OF THE PURCHASE PRICE PAID, AT U.S. ROBOTICS OPTION. THIS DISCLAIMER OF LIABILITY FOR DAMAGES WILL NOT BE AFFECTED IF ANY REMEDY PROVIDED HEREIN SHALL FAIL OF ITS ESSENTIAL PURPOSE.

6.0 DISCLAIMER:

Some countries, states, territories or provinces do not allow the exclusion or limitation of implied warranties or the limitation of incidental or consequential damages for certain products supplied to consumers, or the limitation of liability for personal injury, so the above limitations and exclusions may be limited in their application to CUSTOMER. When the implied warranties are not allowed by law to be excluded in their entirety, they will be limited to the TWO (2) YEAR duration of this written warranty. This warranty gives CUSTOMER specific legal rights, which may vary depending on local law.

7.0 GOVERNING LAW:

This Limited Warranty shall be governed by the laws of the State of Illinois, U.S.A. excluding its conflicts of laws principles and excluding the United Nations Convention on Contracts for the International Sale of Goods.

U.S. Robotics Corporation
935 National Parkway
Schaumburg, IL, 60173
U.S.A

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USRobotics® *Wireless Nd1 PC Card, Wireless Nd1 PCI Adapter: User Guide*

- **Home**
- **Installation**
- **Configuration**
- **Help**

Support

1. Know your model and serial number.

    The model number of the PC Card is 5412. The model number of a PCI Adapter is 5419. You can find your serial number on the side of the package and on the card or adapter.

2. Go to the Support section of the USRobotics Web site at www.usr.com/support

    Many of the most common difficulties that users experience have been addressed in the FAQ and Troubleshooting Web pages for your router.

    The Support Web pages also contain information on the latest firmware and documentation updates.

3. Submit your technical support question using an online form, or contact the USRobotics Technical Support Department.

Country	Webmail	Voice
United States & Canada	http://www.usr.com/emailsupport	(888) 216-2850

Country	Webmail	Voice
Austria	www.usr.com/emailsupport/de	07110 900 116
Belgium (Flemish)	www.usr.com/emailsupport/nl	070 23 35 45
Belgium (French)	www.usr.com/emailsupport/be	070 23 35 46
Czech Republic	www.usr.com/emailsupport/cz	
Denmark	www.usr.com/emailsupport/ea	38323011
Finland	www.usr.com/emailsupport/ea	08 0091 3100
France	www.usr.com/emailsupport/fr	0825 070 693
Germany	www.usr.com/emailsupport/de	0180 567 1548
Greece	www.usr.com/emailsupport/gr	
Hungary	www.usr.com/emailsupport/hu	0180 567 1548
Ireland	www.usr.com/emailsupport/uk	1890 252 130
Italy	www.usr.com/emailsupport/it	800 979 266
Luxembourg	www.usr.com/emailsupport/be	342 080 8318
Middle East/Africa	www.usr.com/emailsupport/me	+44 870 844 4546
Netherlands	www.usr.com/emailsupport/nl	0900 202 5857
Norway	www.usr.com/emailsupport/ea	23 16 22 37
Poland	www.usr.com/emailsupport/pl	
Portugal	www.usr.com/emailsupport/pt	0 21 415 4034
Russia	www.usr.com/emailsupport/ru	8 800 200 20 01
Spain	www.usr.com/emailsupport/es	902 117964
Sweden	www.usr.com/emailsupport/se	08 5016 3205
Switzerland	www.usr.com/emailsupport/de	0848 840 200
Turkey	www.usr.com/emailsupport/tk	0212 444 4 877
United Arab Emirates	www.usr.com/emailsupport/me	0800 877 63
United Kingdom	www.usr.com/emailsupport/uk	0870 844 4546

For current support contact information, go to: www.usr.com/emailsupport

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USRobotics® *Wireless Nd1 PC*

Card, Wireless Nd1 PCI Adapter: User Guide

- **Home**
- **Installation**
- **Configuration**
- **Help**

Frequently Asked Questions

What is 802.11 wireless networking?

802.11 (sometimes called "Wi-Fi") is a set of protocols that are widely used for small Local Area Networks. Another protocol called Bluetooth allows devices to communicate wirelessly, but it is only useful for very short ranges, and generally not used for home networking. Bluetooth can be useful for networking personal devices in a small area, often called a Personal Area Network (PAN).

802.11 actually encompasses several different protocols. The trailing letters (i.e. the **g** in 802.11g) indicate different speeds and frequency bands used.

What kind of wireless antenna range performance issues might affect my wireless connection?

Radio waves don't really travel the same distance in all directions. Walls, doors, elevator shafts, people, and other obstacles offer varying degrees of attenuation, which cause the Radio Frequency (RF) radiation pattern to be irregular and unpredictable. Attenuation is simply a reduction of signal strength during transmission. Attenuation is registered in decibels (dB), which is ten times the logarithm of the signal power at a particular input divided by the signal power at an output of a specified medium. For example, an office wall (i.e., medium) that changes the propagation of an RF signal from a power level of 200 milliwatts (the input) to 100 milliwatts (the output) represents 3 dB of attenuation. The following provides some examples of the attenuation values of common office construction:

Plasterboard wall: 3dB
Glass wall with metal frame: 6dB
Cinder block wall: 4dB
Office window: 3dB
Metal door: 6dB
Metal door in brick wall: 12.4dB
Other factors that will reduce range and affect coverage area include concrete fiberboard walls, aluminum siding, pipes and electrical wiring, microwave ovens, and cordless phones.

What should I do if I am unable to access my e-mail or the Web page of my ISP?

You should contact your ISP to get the full URL and then perform the following steps:

Note: Linux users can perform steps 4 and 5 after opening a terminal.

1. Connect your broadband modem directly to one of your computers.
2. Perform the ping command by clicking Windows **Start** and then **Run**.
3. In the Run dialog box type **cmd**.
4. All users should then enter the following command: **ping xxx**, where *xxx* is the complete URL for your ISP.
5. After you get the IP address, enter the IP address in the mail server option or in the address line of your Web browser.

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USRobotics® *Wireless Nd1 PC*

Card, Wireless Nd1 PCI Adapter: User Guide

- **Home**
- **Installation**
- **Configuration**
- **Help**

Regulatory Information

Declaration of Conformity

U.S. Robotics Corporation
935 National Parkway
Schaumburg, IL 60173
U.S.A.
declares that this product conforms to the FCC's specifications:
Part 15, Class B

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

This equipment complies with FCC Part 15 for Home and Office use.

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

FCC Radiation Exposure Statement

5412: This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment is in direct contact with the body of the user under normal operating conditions. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

5419: This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Radio and Television Interference:

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

• Reorient or relocate the receiving antenna.
• Increase the separation between the equipment and receiver.
• Connect the equipment to 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.

USR declares that 5412 and 5419 are limited to CH1 through 11, 2412 to 2462 MHz, in the USA by specific firmware, which is controlled by the manufacturer and cannot be changed by the user.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. End users must follow the specific operating instructions for satisfying RF exposure compliance.

5412: SAR compliance has been established in typical laptop computer(s) with a CardBus slot. This product may be used in a typical laptop computer with a CardBus slot. Other application, such as use with a handheld PC or similar device, has not been verified and may not comply with related RF exposure rules. Such use is prohibited.

UL Listing/CUL Listing:

5412: This information technology equipment is UL Listed and C-UL Listed for both the US and Canadian markets respectively for use only with UL Listed laptop or notebook computers. Use this product only in UL Listed Information Technology Equipment (ITE).

5419: This information technology equipment is UL Listed and C-UL Listed for both the US and Canadian markets respectively for use with UL Listed personal computers that have installation instructions detailing user installation of card accessories. Use this product only in UL Listed Information Technology Equipment (ITE).

For Canadian Users

Industry Canada (IC)

This equipment complies with RSS-210 of the Industry Canada rules.

Operation is subject to the following two conditions:

1. This device may not cause interference.

2. This device must accept any interference, including interference that may cause undesired operation of the device.

To prevent radio interference to the licensed service, this device is intended to be operated indoors and away from windows to provide maximum shielding.

Equipment (or its transmit antenna) that is installed outdoors is subject to licensing.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the Equivalent Isotropic Radiated Power (EIRP) is not more than that required for successful communication.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make electrical ground connections by themselves, but should contact the appropriate inspection authority or an electrician, as appropriate.

Radiation Exposure Statement:

5412: This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment is in direct contact with the body of the user under normal operating conditions. This transmitter must not be co-located or

operating in conjunction with any other antenna or transmitter.

5419: This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This device has been designed to operate with an antenna having a maximum gain of 2 dBi. Antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is 50 ohms.

CE Compliance

CE0560①

Declaration of Conformity

We, U.S. Robotics Corporation of 935 National Parkway, Schaumburg, Illinois, 60173-5157 USA, declare under our sole responsibility that the products, USRobotics Wireless Nd_1 PC Card, Model 5412 and PCI Adapter, Model 5419 to which this declaration

relates, are in conformity with the following standards and/or other normative documents.

EN300 328
EN301 489-1
EN301 489-17
EN60950-1
EN50392

We, U.S. Robotics Corporation, hereby declare the above named products are in compliance and conformity with the essential requirements and other relevant provisions of Directive 1999/5/EC.

The conformity assessment procedure referred to in Article 10 and detailed in Annex IV of Directive 1999/5/EC has been followed.

This equipment is in compliance with the European recommendation 1999/519/ECC, governing the exposure to the electromagnetic radiation.

This product can be used in the following countries: Germany, Austria, Belgium, Switzerland, Netherlands, Luxembourg, Italy, France, UK, Ireland, Spain, Portugal, Sweden, Norway, Denmark, Finland, Czech Republic, Poland, Hungary, Turkey, and Greece.

An electronic copy of the original CE Declaration of Conformity is available at the U.S. Robotics website: www.usr.com.

Regarding IEEE 802.11b/g frequencies, we currently have the following information about restrictions in the European Union (EU) countries:

- Italy

    Please be aware that use of the wireless device is subject to the following Italian regulation:

    1. D.Lgs 1.8.2003, number 259, articles 104 (activities where General Authorization is required) and 105 (free use), for private use;
    2. D.M 28.5.03 and later modifications, for the supplying to public RadioLAN access for networks and telecommunication services

- France

    In France metropolitan, outdoor power is limited to 10mW (EIRP) within 2454MHz – 2483, 5MHz frequency band

In Guyana and Reunion Islands, outdoor use is forbidden within 2400MHz – 2420MHz frequency band

Regulatory Channel Frequency

Channel	Frequency (MHz)	FCC	Canada	ETSI
1	2412	X	X	X
2	2417	X	X	X
3	2422	X	X	X
4	2427	X	X	X
5	2432	X	X	X
6	2437	X	X	X
7	2442	X	X	X
8	2447	X	X	X
9	2452	X	X	X
10	2457	X	X	X
11	2462	X	X	X
12	2467			X
13	2472			X

Operating Channels:	• IEEE 802.11g compliant • 11 channels (US, Canada) • 13 channels (ETSI)

EU Health Protection

5412: These devices comply with the European requirements governing exposure to electromagnetic radiation. These wireless devices are transmitters/receivers and have been designed and manufactured to comply with the exposure limits recommended by the Council of the European Union and the International Commission on Non-Ionizing Radiation Protection (ICNIRP, 1999) for the entire population. The exposure standard for portable equipment uses the "Specific Absorption Rate" as unit of measure. The maximum SAR value of the 5412 wireless device measured in the conformity test is 0.724 W/Kg.

5419: These devices comply with the European requirements governing exposure to electromagnetic radiation. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body. These wireless devices are transmitters/receivers and have been designed and manufactured to comply with the exposure limits recommended by the Council of the European Union and the International Commission on Non-Ionizing Radiation Protection (ICNIRP, 1999) for the entire population. The exposure standard for portable equipment uses the "Specific Absorption Rate" as unit of measure.

The maximum SAR value of the 5419 wireless device measured in the conformity test is 1.09 W/Kg.

EU Detachable Antenna Information

5419: This USRobotics wireless device has been designed to operate with the antenna included in this package only. Together this device and antenna combination has been tested and approved by a European Agency conforming with the European R&TTE directive 1999/5/EC to meet the radiated power level requirement of 100mW (EIRP). Replacement of this antenna must only be done with an authorized USRobotics component that has been designed and tested with the unit to the requirements of directive 1999/5/EC. Please refer to the U.S. Robotics Web site to get product antenna ordering information.

Go to www.usr.com to see the most recent channel restriction information.

USRobotics® *Wireless Nd1 PC Card, Wireless Nd1 PCI Adapter: User Guide*

- **Home**
- **Installation**
- **Configuration**
- **Help**

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