

ViewSonic®

WPCI-100

Wireless PCI Adapter

User Guide



Wireless 802.11g PCI Adapter

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Product Registration

To meet your future needs and to receive additional product information as it becomes available, register your ViewSonic® product at:

www.viewsonic.com

For Your Records

Product Name:	ViewSonic Wireless 802.11g PCI Adapter WPCI-100
Model Number:	VS10408
Document Number:	A-CD-WPCI-100-1-UG
Serial Number:	_____
Purchase Date:	_____

Chapter 1: Getting Started

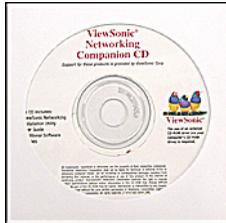
Welcome

Congratulations on your purchase of a **ViewSonic WPCI-100 802.11g Wireless PCI Adapter**. This PCI Card supports both 802.11b and 802.11g wireless networks.

Package Contents



ViewSonic WPCI-100
802.11g Wireless PCI
Adapter



Networking Companion CD
(with Setup Wizard and User Guide)
NOTE: Insert this CD first.



Quick Start Guide

Features

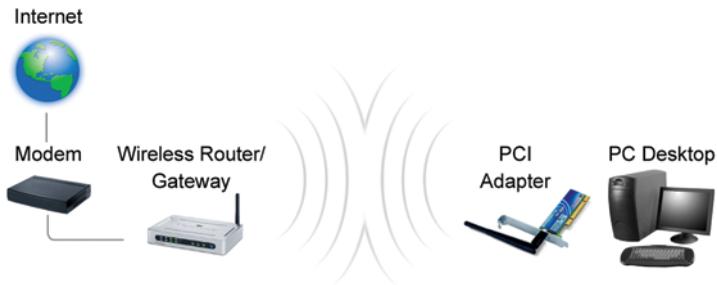
- Up to 54Mbps signal rate at a frequency of 2.4GHz
- Wireless security using WEP or WPA with TKIP encryption and EAP-type Authentication
- Supports both 802.11b and 802.11g wireless networks
- Plug & Play Installation

Chapter 2: Installation

System Requirements

- Microsoft Windows XP, Windows 2000, Windows ME, or Windows 98 Second Edition (SE)
- Available PCI slot
- 300MHz processor or higher
- Minimum 5MB free disk space
- Minimum 32MB RAM
- CD-ROM drive

Wireless Network Overview



Installation

NOTE: The installation instructions below apply to Windows XP. Instructions for Windows 98 SE, ME, and 2000 are noted where applicable, and configuration instructions for these three operating systems are located in the Appendix.

To install your ViewSonic WPCI-100 Wireless 802.11g PCI Adapter, do the following:

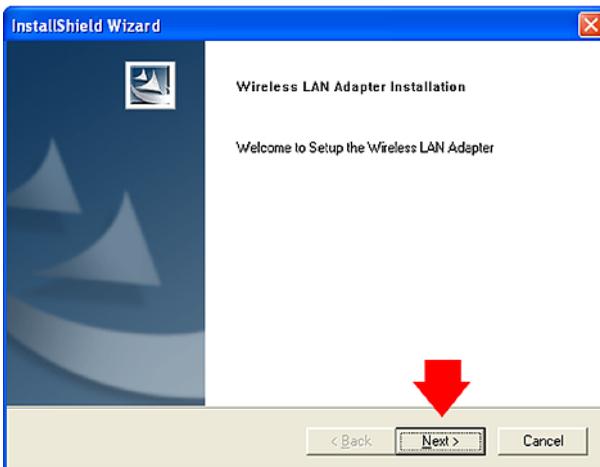
1. Insert the supplied Network Companion CD into the CD-ROM drive of your PC. The software automatically starts the Setup Wizard program.
NOTE: If the CD does not auto-start, right-click **Start**, select **Explore**, double-click the CD-ROM icon, then double-click the **Setup** icon.
2. From the home page of the ViewSonic Networking Setup Wizard, click **Wireless PCI Adapter**.



3. From the next screen shown below, click **WPCI-100 Driver Installation**.



4. Complete the **InstallShield Wizard** instructions starting with the screen shown below.



5. After completing the on-screen instructions restart your PC.

NOTE for Windows 98 SE:

After restarting your PC, you may be asked to restart your PC again and/or insert the Windows 98 SE CD. Please follow these instructions.

6. With your PC powered off, plug in WPCI-100 *Wireless PCI Adapter* into an available PCI slot.



7. When the **Found New Hardware Wizard** dialog box appears (shown below), click **Next** and complete the remaining steps.



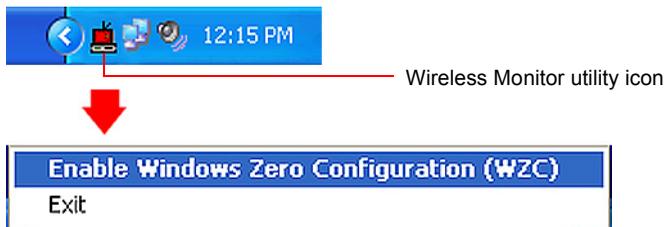
8. Complete the Wireless Configuration procedure for your operating system:
 - If you are using **Windows XP**, complete the instructions in the next section, Wireless Configuration.
 - If you are using **Windows 98SE, ME, or 2000**, see the Appendix for configuration instructions.

Wireless Configuration

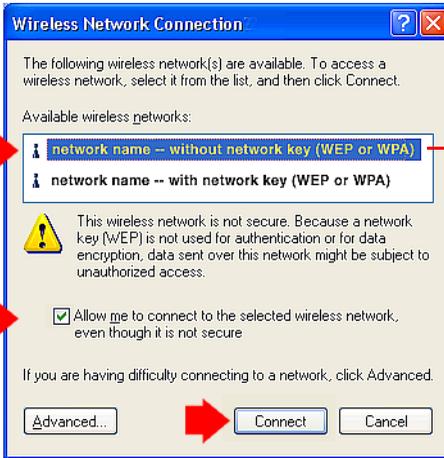
SUGGESTION: To configure your WPCI-100, you will need the configuration settings (Network Name [SSID], security settings, etc.) of your wireless router or gateway. For your convenience, write down these settings for later reference.

To configure your WPCI-100 with Windows XP, do the following:

1. From the Windows XP desktop, right-click the **Wireless Monitor** utility icon on the Windows status bar (shown below), then select **Enable Windows Zero Configuration (WZC)**.

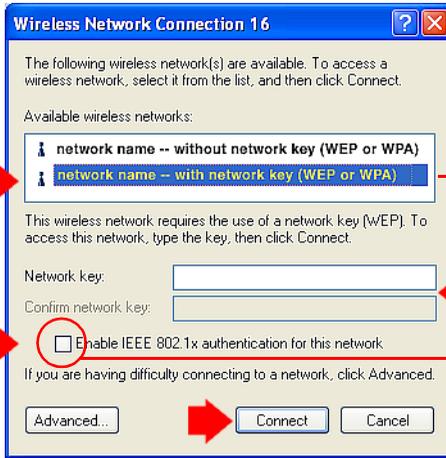


The **Wireless Network Connection** screen displays.



An access point (SSID) that does not have a network key (WEP or WPA)

2. In the **Available wireless networks** list, click the network name (SSID) that you want to join.
 - If you selected an SSID without a network key (WEP or WPA) associated with it, click **Allow me to connect to the selected wireless network, even though it is not secure**, then click **Connect**. See the **Wireless Network Connection** screen shown on the previous page.
 - If you selected an SSID with a network key, enter it in the **Network key** field, re-enter it in the **Confirm network key** field, un-check **Enable IEEE 802.1x authentication for this network**, then click **Connect**. See the **Wireless Network Connection** screen shown on the next page.
 - **IMPORTANT:** Be sure to un-check **Enable IEEE 802.1x authentication for this network**.



An access point (SSID) that **does** have a network key (WEP or WPA)

IMPORTANT:
Un-check this box.

NOTE: The WPCI-100 Wireless 802.11g PCI Adapter reads the Network Name (SSID) from accessible access points and/or the router or gateway connected to your wireless network. If you want to change/add an SSID or network key, change the configuration settings on your wireless router or gateway, repeat the WPCI-100's installation procedure using the new settings.

Verifying a Successful Installation

The simplest way to verify a successful installation is to try opening your Internet browser. If it opens, installation is complete.

For a more thorough way to verify a successful installation, do the following:

1. Click **Start**, click **Control Panel**, select **Classic View**, click **System**, select the **Hardware** tab, then click **Device Manager** tab.
2. In the **System Properties** dialogue box, click the **Hardware** tab, then click **Device Manager**.
3. In the opened screen, expand **Network Adapters** double-click **Wireless 802.11g Network Adapter**.
NOTE: If the WPCI-100 is installed properly, there will NOT be a red or yellow icon next to **Wireless 802.11g Network Adapter**, such as a question mark (?).
4. If you do see a yellow or red icon, do the following to uninstall the drivers:
Start (Windows desktop) **Programs > Wireless Network > Uninstall**.
5. After uninstalling the drivers, repeat the installation procedure described in the preceding pages.

Uninstalling the Drivers

To uninstall the driver and wireless utility software, do the following:

1. Click **Start** on the Windows desktop.
2. Select: **Programs > Wireless Network > Uninstall**.

Chapter 3: Appendix

Wireless Configuration for Windows 98SE, ME, and 2000

SUGGESTION: To configure your WPCI-100, you will need the configuration settings (Network Name, security settings, etc.) of your wireless router or gateway. For your convenience, write down these settings for later reference.

Before you start configuring your WPCI-100, be sure you complete the Installation steps on Pages 3 - 5.

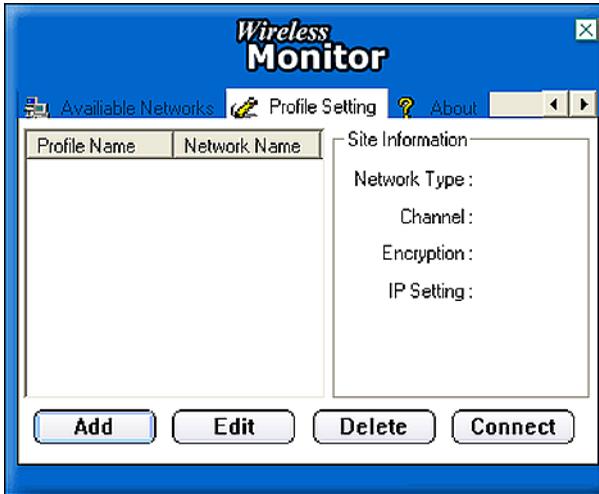
To configure your WPCI-100 with Windows 98SE, ME, or 2000, do the following:

1. Double-click the Wireless Monitor utility icon on the Windows status bar.



Wireless Monitor utility icon

The **Wireless Monitor** utility screen displays.



2. Click the **Profile Setting** tab (shown above), then click **Add**.
3. Enter the wireless configuration settings that are consistent with your router, gateway, etc. This includes **Profile Name** (optional), **SSID** (network name), **Network Type**, **Transfer Rate**, WEP or WPA security settings, etc.
4. Click **Complete**, then click **Connect**.

Troubleshooting

For the fastest solution to an installation problem, please refer to the solutions below before contacting ViewSonic Customer Support for assistance.

The setup wizard does not launch after I insert the Networking Companion CD.

- If the CD does not auto-start, right-click **Start**, select **Explore**, double-click the CD-ROM icon, then double-click the **Setup** icon.
- If the CD still does not respond, try inserting another CD to make sure that the CD-ROM drive is functioning properly.

My PC does not recognize the Wireless PCI Adapter after installing it.

- Check the distance to your router or gateway. It should be within 100 feet of your computer.
- Uninstall the WPCI-100 driver software, restart your PC, then repeat the installation and wireless configuration steps listed in Chapter 2.

My Wireless PCI Adapter disconnects soon after connecting.

For Windows XP only: Try disabling 802.1x authentication:

1. Click **Start**, select **Connect To**, select **Show all Connections**, then double-click the name of your wireless network.
2. On the **General** tab, click **Properties**.
3. Click the **Wireless Networks** tab.
4. Under **Preferred Networks**, click **Network Name (SSID)**.
5. Click the **Authentication** tab, un-check the **Enable IEEE 802.1X for this network** (if it is selected). If you can not select this check box, then you are not using 802.1x authentication.

The WPCI-100 does not work properly after installation.

- **Make sure that the WPCI-100 is correctly installed.** Verify that the WPCI-100 is firmly plug in the PCI slot inside your computer.
- **Verify that you are using the correct wireless settings.** You might have incomplete or incorrect wireless settings for your PCI adapter. To connect successfully, the wireless PCI adapter on your PC must have the same network name (SSID), and wireless security (WEP and/or WPA) information as your router or gateway.
- **Reset your router or gateway.** Turn off or unplug your router or gateway, wait at least 10 seconds, then turn it back on again. When the status lights indicate that the router or gateway is functioning, try accessing the Internet from your PC connected to your wireless network.
NOTE: (For advanced users) You may need to move a card currently in slot 1 to another slot in your PC. Troubleshoot conflicts among your device resources.
- **Look for conflicts among your device resources.** Try using Windows Troubleshooting to verify that the WPCI-100 is not trying to use computer resources already being used by another piece of hardware.

My network is slow.

- Try decreasing the number of computers or programs that are simultaneously accessing your network.
- Contact your Internet Service Provider (ISP) to verify that there are no problems with your connection, such as scheduled maintenance, line issues, or other problems. If you are still not satisfied with your connection speed, you might want to inquire about upgrading to a faster connection.

After installing my WPCI-100, my PC goes into Safe Mode when Windows starts.

You might have a resource conflict in Windows.

Resolve any device conflicts in the Windows operating system. You can use Windows Troubleshooting to ensure that your WPCI-100 is not trying to use computer resources already being used by another piece of hardware.

My wireless desktop PC cannot connect to the Internet.

- **Verify that you can access the Internet from another PC in your wireless network.** If other computers also cannot access the Internet, the problem might be with your router or gateway, broadband modem, or Internet service provider (ISP).
- **Check for range problems.** You might be out of range of the wireless router, gateway, or access point. Place the computer with the wireless adapter in the same room as your router or gateway and try connecting again. If you can connect to the wireless network, you might previously have been out of range.
- **Check for interference problems.** Wireless signals can be affected by interference from other wireless devices such as 2.4 gigahertz (GHz) cordless phones, microwave ovens, and neighboring wireless networks. Move the other devices further from your wireless networking hardware as needed, and avoid using them while connected to your network. To minimize interference from another wireless network, try changing channels on your router.
- **Verify that you are using the correct wireless settings.** You might have incomplete or incorrect wireless settings for your adapter. To connect successfully, the wireless adapter on your computer must have the same network name (SSID), wireless channel, and wireless security (WEP and/or WPA) information as your router or gateway.
- **Reset your broadband modem.** Turn off the modem for 5 to 10 seconds. Restart the modem, and wait for it to connect to your ISP. After the status lights on your modem indicate that it is connected, and the status lights on your router or gateway show that you have a working wide area network (WAN) connection, try accessing the Internet from your wireless computer again.
- **Reset your router or gateway.** Turn off or unplug your router or gateway, wait at least 10 seconds, then turn it back on again. When the status lights indicate that the router or gateway is functioning, try accessing the Internet from your PC connected to your wireless network.

Customer Support

Before contacting ViewSonic Customer Support, check the *Troubleshooting* section for possible solutions to any setup problems you have.

NOTE: For Customer Support or product service you will need to provide the product's serial number (on the back of the unit).

Country/ Region	Website (with email address)	T = Telephone F = FAX
United States	service.us@viewsonic.com	T= (800) 688 6688 F= (909) 468 1202
Canada	service.us@viewsonic.com	T= (886) 463 4775 F= (909) 468 1202
United Kingdom	service.eu@viewsoniceurope.com	T= (0800) 833 648 F= +44 (0) 1293 643 910
Europe, Middle East, Baltic countries, and North Africa	service.eu@viewsoniceurope.com	(Contact your reseller)
Taiwan (VSTW)	www.viewsonic.com.tw/support/ service@tw.viewsonic.com	T= +886 (2) 2246 3456 F= +886 (2) 8242 3668 Toll Free: 0800 061 198
China (VSCN)	www.viewsonic.com.cn/service/ service_index.asp service.cn@cn.viewsonic.com	T= +86 (21) 6237 5252 F= +86 (21) 6237 5373 Toll Free= 800 820 3870
Australia and New Zealand	www.viewsonic.com.au/support/ service@au.viewsonic.com	+ 61 2 9906 6277
Singapore, Southeast Asia, and India	service@sg.viewsonic.com	+ 65 273 4018
Other Asia, Pacific countries, and Indian Peninsula	service.ap@viewsonic.com	+ 886 (2) 2246 3456

The websites shown above provide the most current email addresses for your Customer Support queries.

Specifications

WLAN Standards:	802.11g: 54, 48, 36, 24, 18, 12, 9, 6 Mbps 802.11b: 11, 5.5, 2, 1 Mbps
Interface	PCI Interface
Modulation	802.11g: OFDM; 802.11b: CCK (11 Mbps, 5.5 Mbps), DQPSK (2Mbps), DBPSK (1 Mbps)
Network Architectures	Infrastructure and ad hoc
Operating Frequencies	2.412-2.484 GHz
Operating Channels	802.11b/g: 11 for North America (FCC)
Average Output Power	17.5 dBm typical at 11Mbps, 13.5 dBm typical at 54Mbps, FCC 13.5 dBm typical at 11Mbps, 13.5 dBm typical at 54Mbps, CE
Diversity Scheme	TX/RX at main antenna.
Range	802.11g: 54 Mbps up to 50 m LOS, 20 m indoors; 18 Mbps up to 150 m LOS, 75 m indoors 802.11b: 11 Mbps up to 180 m LOS, 60 m indoors; 1 Mbps up to 570 m LOS, 125 m indoors
Wireless Security	WEP 64/128-bits; WPA/WPA-PSK, 802.1x
Temperatures	Operates from 0 to 65°C; Storage from -20 to 90°C
Humidity (non-condensing)	5 to 95%
Product Dimension	L:160mm x W:153mm x H:22mm
Packaging Dimension	L:228mm x W:152mm x H:42mm
Weight	Net:0.17 lb. (77 g) Gross:0.465 lb. (210 g)
OS Support	Supplied Driver Windows 98SE/ME/2000/XP
LED Color Description	Act Green Steady on when link is up and blinking when data is following through.
Regulatory	FCC part 15C,IC,WHQL,Wi-Fi, CE

Limited Warranty

Wireless Network Adapter Products

What the warranty covers:

ViewSonic® warrants its Wireless Network Adapter products to be free from defects in material and workmanship during the warranty period. If a ViewSonic Wireless Network Adapter product proves to be defective in material or workmanship during the warranty period, ViewSonic will, at its sole option, repair or replace the product with a like product. Replacement product or parts may include remanufactured or refurbished parts or components.

VIEWSONIC AND ITS SUPPLIERS DISCLAIM ALL WARRANTIES AND CONDITIONS, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NONINFRINGEMENT.

ANY SOFTWARE THAT MAY BE INCLUDED WITH THIS PRODUCT IS PROVIDED FREE OF CHARGE AND ON AN "AS IS" BASIS, WITHOUT WARRANTY OF ANY KIND, INCLUDING WITHOUT LIMITATION ANY WARRANTIES THAT IT IS FREE OF DEFECTS, MERCHANTABILITY, FIT FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT, OR COMPATIBLE WITH ANY OTHER SOFTWARE. FOR YOUR SPECIFIC RIGHTS AND DUTIES, PLEASE SEE THE END-USER LICENSE AGREEMENT (EULA) CONTAINED WITHIN THE SOFTWARE FOR YOUR PRODUCT.

How long the warranty is effective:

ViewSonic Wireless Network Adapter products are warranted for one (1) year for all parts and one (1) year for all labor from the date of the first consumer purchase.

Who the warranty protects:

This warranty is valid only for the first consumer purchaser.

What the warranty does not cover:

Software.

Any product on which the serial number has been defaced, modified or removed.

Damage, deterioration or malfunction resulting from:

Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.

Repair or attempted repair by anyone not authorized by ViewSonic.

Damage to or loss of any programs, data or removable storage media.

Software or data loss occurring during repair or replacement.

Any damage of the product due to shipment.

Removal or installation of the product.

Causes external to the product, such as electrical power fluctuations or failure.

Use of supplies or parts not meeting ViewSonic's specifications.

Normal wear and tear.

Any other cause which does not relate to a product defect.

Removal, installation, and set-up service charges.

How to get service:

For information about receiving service under warranty, contact ViewSonic Customer Support. You will need to provide your product's serial number.

To obtain service under warranty, you will be required to provide (a) the original dated sales slip, (b) your name, (c) your address, (d) a description of the problem, and (e) the serial number of the product.

Take or ship the product freight prepaid in the original container to an authorized ViewSonic service center or ViewSonic.

For additional information or the name of the nearest ViewSonic service center, contact ViewSonic.

Limitation of implied warranties:

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION CONTAINED HEREIN INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Exclusion of damages:

VIEWSONIC'S LIABILITY IS LIMITED TO THE COST OF REPAIR OR REPLACEMENT OF THE PRODUCT. VIEWSONIC SHALL NOT BE LIABLE FOR: DAMAGE TO OTHER PROPERTY CAUSED BY ANY DEFECTS IN THE PRODUCT, DAMAGES BASED UPON INCONVENIENCE, LOSS OF USE OF THE PRODUCT, LOSS OF DATA, LOSS OF TIME, LOSS OF PROFITS, LOSS OF BUSINESS OPPORTUNITY, LOSS OF GOODWILL, INTERFERENCE WITH BUSINESS RELATIONSHIPS, OR OTHER COMMERCIAL LOSS, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

ANY OTHER DAMAGES, WHETHER INCIDENTAL, CONSEQUENTIAL OR OTHERWISE.

ANY CLAIM AGAINST THE CUSTOMER BY ANY OTHER PARTY.

Effect of state law:

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Some states do not allow limitations on implied warranties and/or do not allow the exclusion of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

ViewSonic Wireless Network Adapter Products Warranty (V1.0)

Regulatory Information

FCC Statement

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 and, if not installed and used in accordance with the instructions, 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 of the following measures:

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

FCC Caution

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

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT: FCC Radiation Exposure Statements

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This device complies with FCC RF Exposure limits set forth for an uncontrolled environment, under 47 CFR 2.1093 paragraph (d)(2).

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

ViewSonic Corporation declares that VS10408 (FCC ID: MXF-PI930723G) is limited in CH1~CH11 by specified firmware controlled in the U.S.A

Canada IC Compliance Statement

Low Power License-Exempt Radio communication Devices (RSS-210)

1. Warning Note: Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.
2. Operation in 2.4GHz band: To prevent radio interference to the licensed service, this device is intended to be operated indoors and away from windows to provide maximum shielding.
3. Equipment (or its transmit antenna) that is installed outdoors is subject to licensing.

Exposure of Humans to RF Fields for Portable Radio Equipment (RSS-102)

1. Portable radios, including handheld, body worn or push-to-talk models (PTT) require Specific Absorption Rate (SAR) evaluation. Portable radios are herein defined as radios that have their radiating elements normally operating 20 cm or less from the body of the user or of nearby persons.
2. This device has been tested for compliance with the RF exposure (SAR) limits for humans, as specified in Health Canada's Safety Code 6.
3. Health Canada's address is: 775 Brookfield Road, Ottawa, Ontario Canada K1A 1C1; Tel: (613) 954-6699 / Fax: (613) 941-1734; e-mail: alice_mackinnon@hc-sc.gc.ca.

ViewSonic® Corporation