Wireless 54Mpbs USB 2.0 Adapter

User's Manual

(For SOHO Users)

FCC Warning

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 communication. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- 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
- Consult the dealer or an experienced radio/TV technician for help. the receiver is connected.

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 NOTE:

FCC RF Radiation Exposure Statement:

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. To maintain compliance with FCC RF exposure compliance requirements, avoid direct contact to the transmitting antenna during transmitting.

CE Mark Warning

This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

Copyright

Trademarks:

All trade names and trademarks are the properties of their respective companies.

Revision History

Revision	History
V1.0	First release

Contents

D=0.01673m is the minimum distance between the EUT and human body to meet the E-field strength of 61V/m.

1. Instruction

Congratulations on purchasing this Wireless 54Mbps USB 2.0 Adapter. Wireless 54Mbps USB 2.0 Adapter is a convenient Plug & Play USB 2.0 solution that brings wireless networking to your laptop or desktop PC. It provides up to a 128-bit level of WEP security to your wireless data transfers. The wireless USB 2.0 adapter comes with software drivers for the most popular Microsoft Windows operating systems and can be integrated into a larger network, running Windows XP/2000/Me/98SE in either Ad-Hoc mode (without an access point or router) or Infrastructure mode (with an access point or router). The IEEE 802.11g Ethernet standard allows you to connect computers and 802.11g compatible devices at speeds up to 54Mbps*, dependent upon the distance between wireless adapters, the configuration of your working environment, or the capabilities or limitations of your computer systems.

1.1 Features

- Up to 54Mbps data transfer rates
- Supports 64/128-bit WEP data encryption function for high level of security
- Supports WPA-PSK advanced WLAN security
- Supports Infrastructure mode
- Supports Ad-Hoc mode (peer-to-peer communication among any wireless users, no Access Point required)
- Supports automatic fallback increase data security and reliability
- Supports Power Save mode
- USB 2.0 interface

1.2 Package Contents

- One Wireless USB 2.0 Adapter
- One USB A-type male to female extension cable
- One CD disk includes driver, utility and user's manual

1.3 LED Indicator

LED	Light Status	Description
ACT / LINK	Flashing	Wireless LAN has Activity (ACT) data being sent.
	On	Wireless LAN has been activated.

2. IP Address

To use the Wireless 54 Mpbs USB Adapter with a computing device, the Wireless 54 Mpbs USB Adapter must be equipped with an USB 1.1 or 2.0 Interface. All drivers and supporting software for the Wireless 54 Mpbs USB Adapter need to be loaded and configured first.

Ask the system administrator for the following information which you may need during installation:

- Wireless Client Name
- Wireless SSID
- Computer's unique client name and workgroup name
- Network account, user name and password.
- IP address, gateway address, and subnet mask if you're not using a DHCP server.

Every computer in a network is identified by a unique network address. There are two methods of assigning network addresses to computers in a TCP/IP network:

- Static IP addressing
- Dynamic IP addressing (DHCP)

In networks with static IP addressing, the network administrator manually assigns an IP address to each computer. Once a static IP address is assigned, a computer uses the same IP address every time if reboots and logs on to the network. You can manually changed the IP address in the ***Network Properties dialog box***. Networks using static IP addresses are easy to set up and do not require additional network management software.

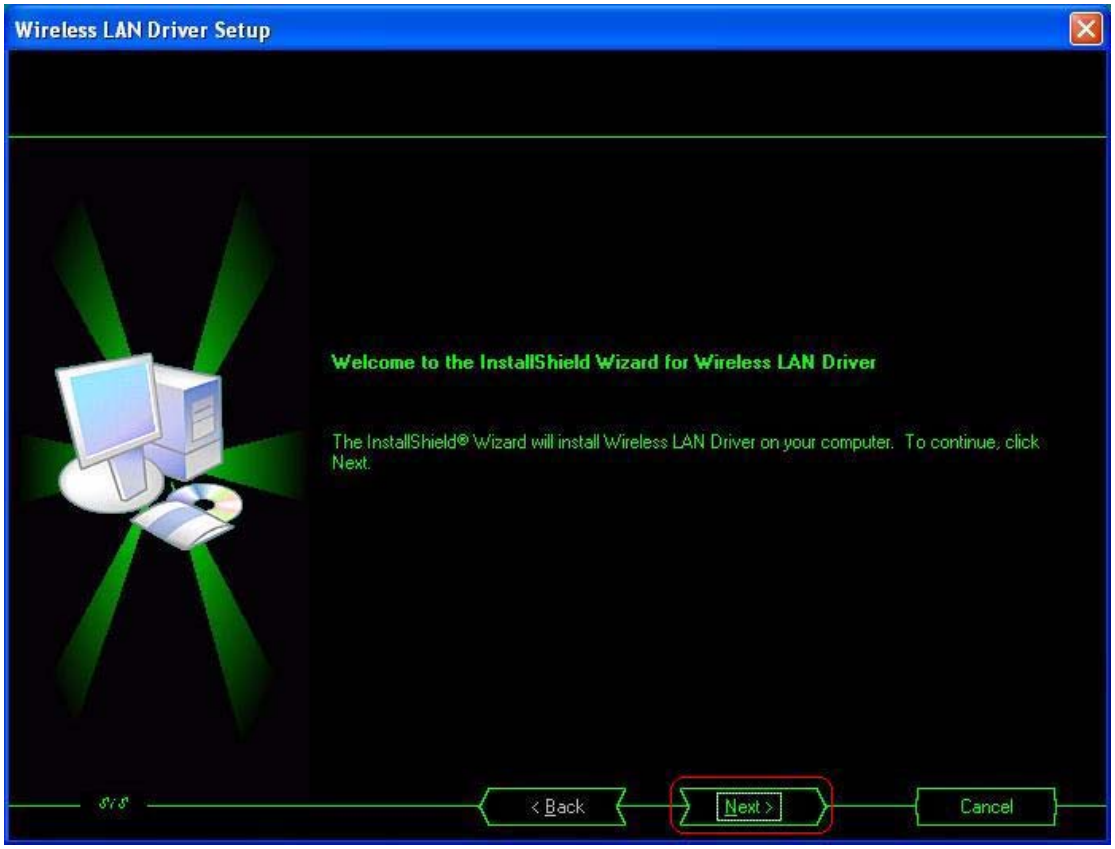
In a network with dynamic IP addressing, a DHCP server in the network dynamically assigns IP address to all clients every time they log on to the network. Networks using dynamic IP addresses require setting up and running a DHCP Server.

3. Install Driver/Utility

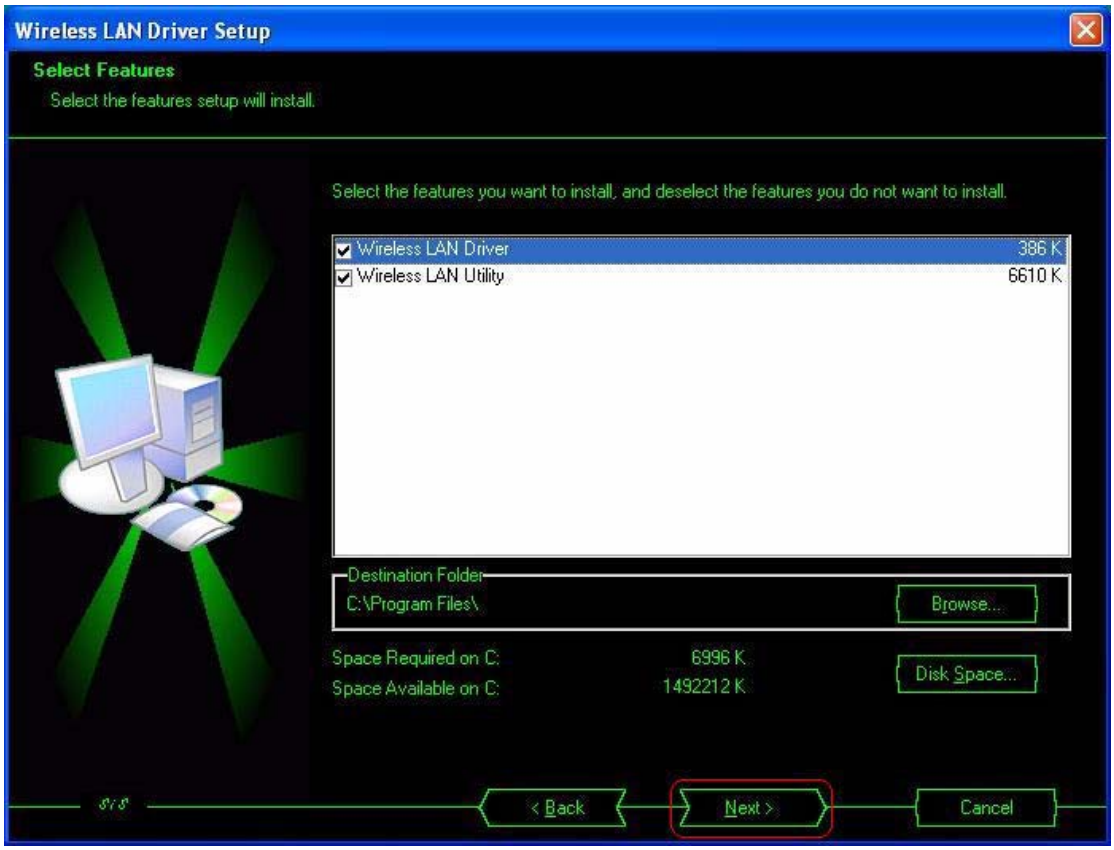
3.1 For Windows XP & Windows 2000

Step1: Inset Wireless LAN USB Adapter Installation CD into CD-ROM drive then windows below will appear. Click **Install Driver Utility** to begin Driver Installation.

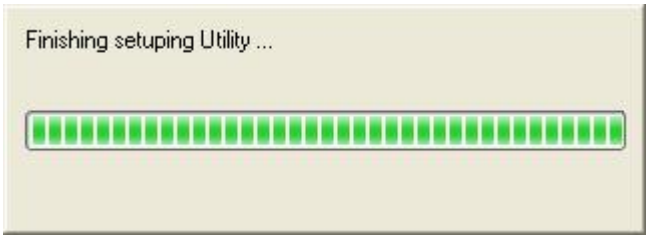
Step2: After click **Install Driver Utility**, the Welcome dialog will show as below. Please click **Next** to continue.



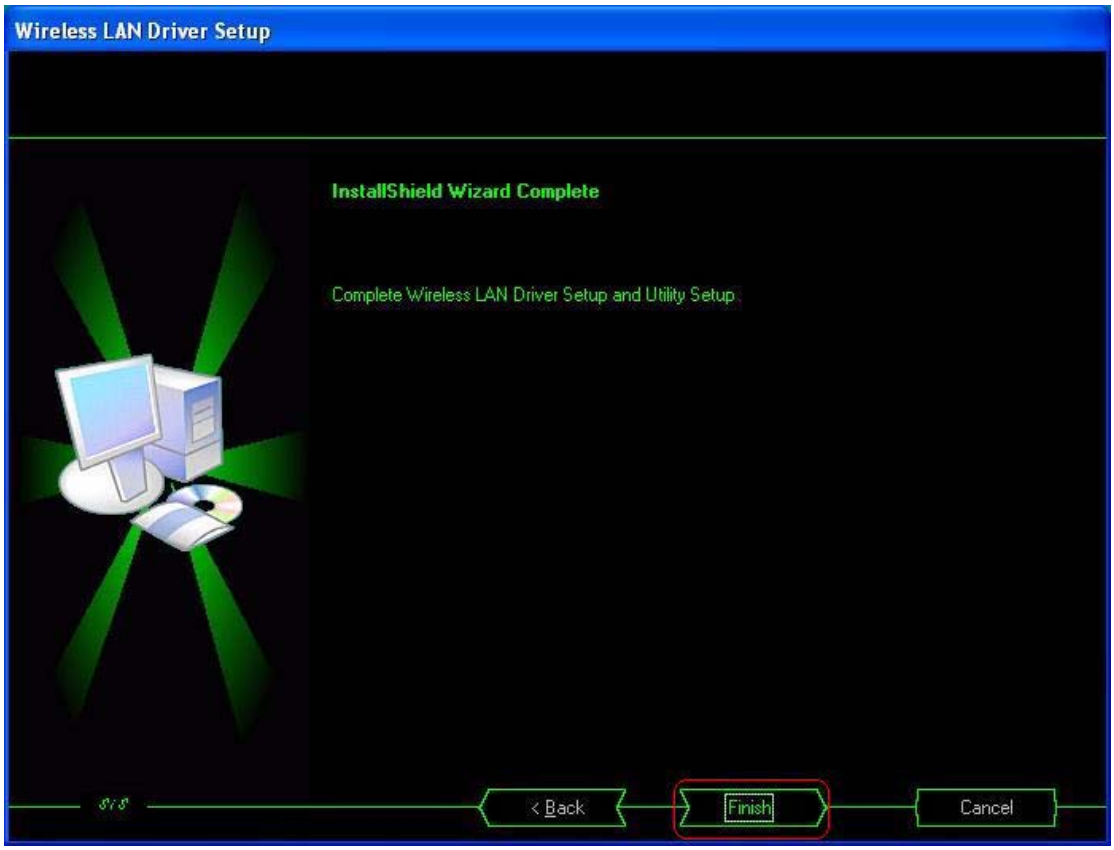
Step 3: Setup Wireless LAN Driver and Utility, please click **Next**.



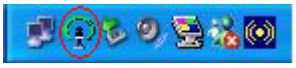
Step 4: Start copying files until it finishes the installation.



Step 5: Click **Finish** to complete installation.



Step 6: After finished install driver and utility on your system, you will see the connection icon in the system tray.

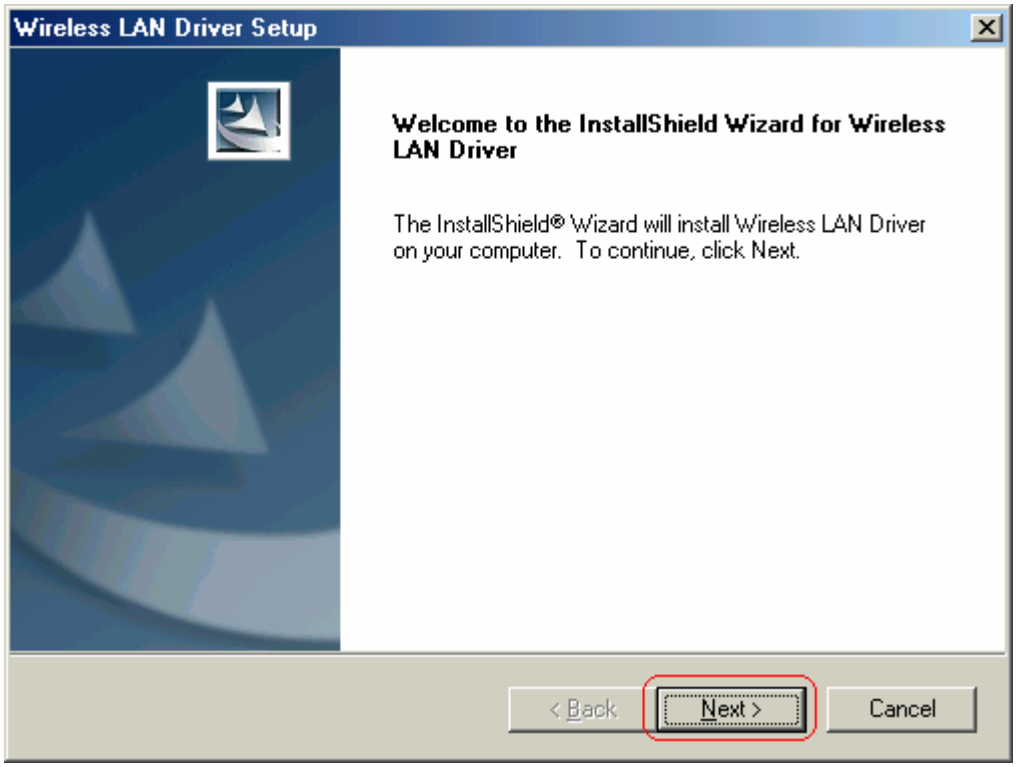


.

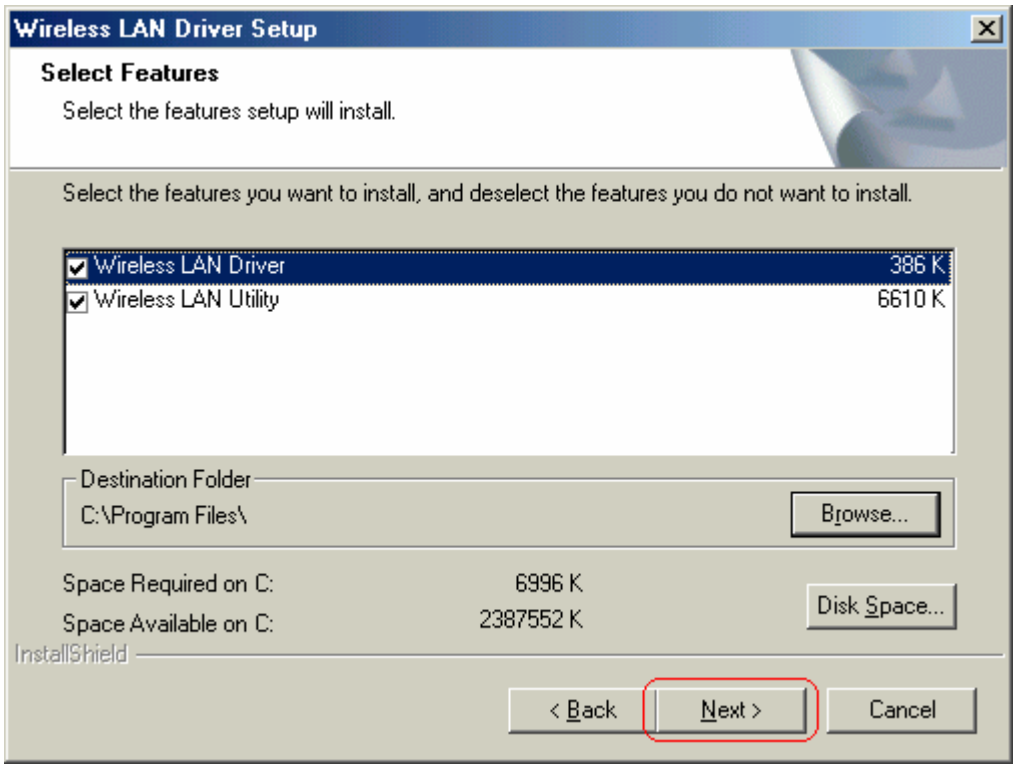
3.2 For Windows ME

Step1: Inset Wireless LAN USB Adapter Installation CD into CD-ROM drive then windows below will appear. Click **Install Driver Utility** to begin Driver Installation.

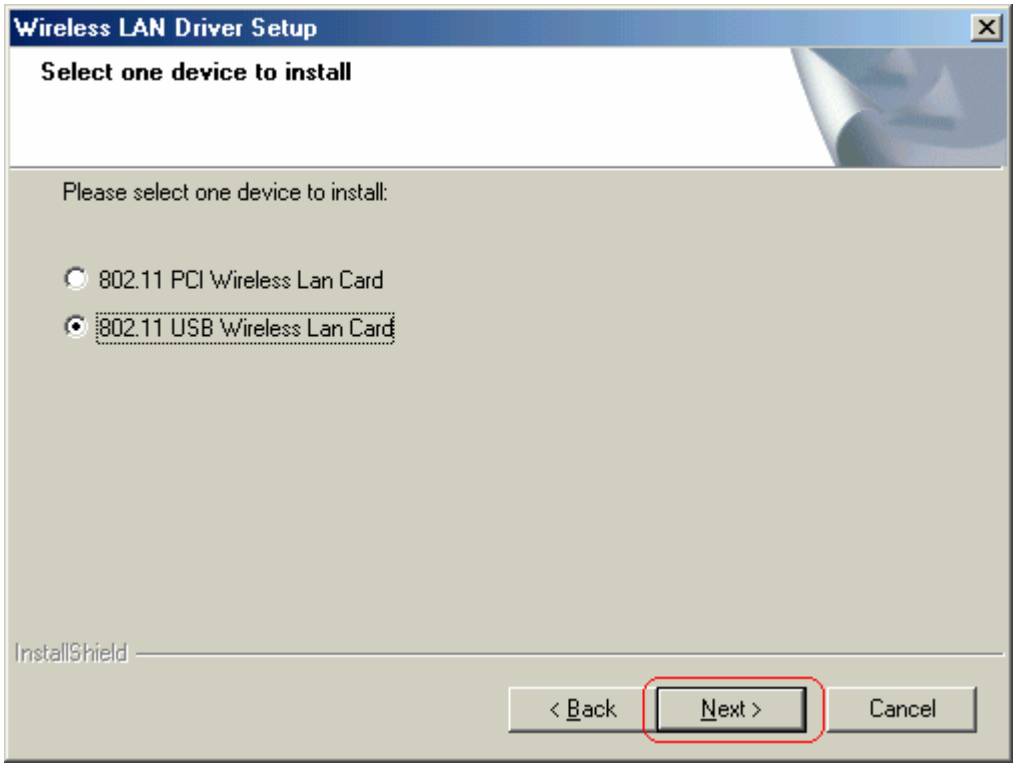
Step2: After click **Install Driver Utility**, the Welcome dialog will show as below. Please click **Next** to continue.



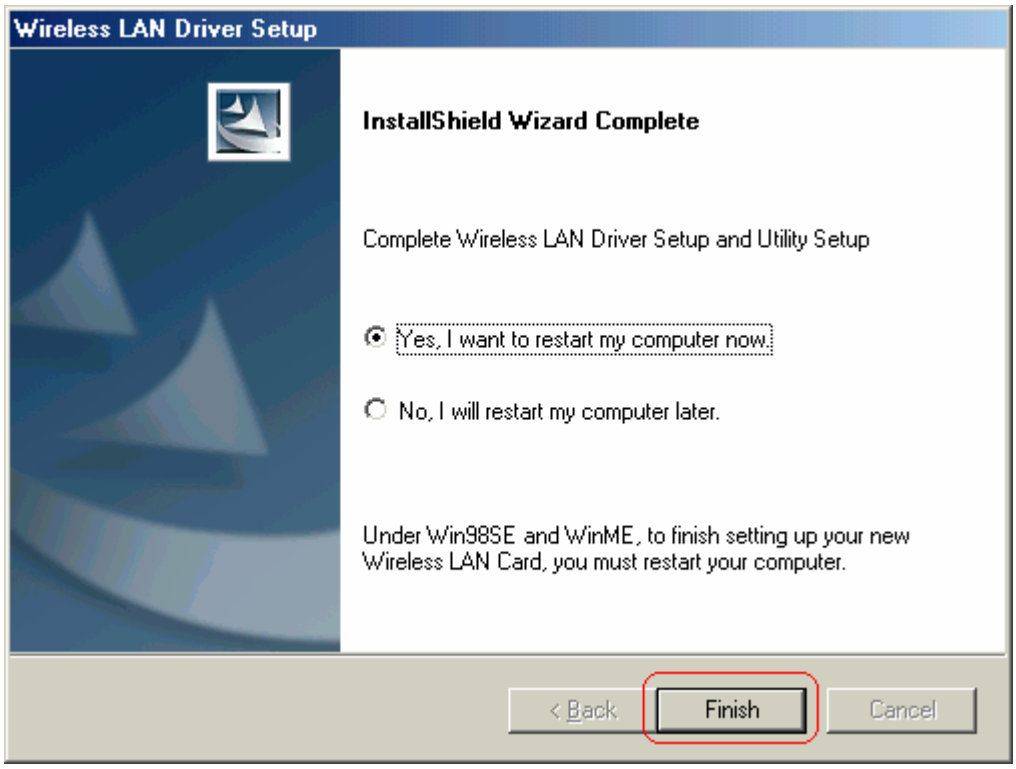
Step 3: Setup Wireless LAN Driver and Utility, please click **Next**.



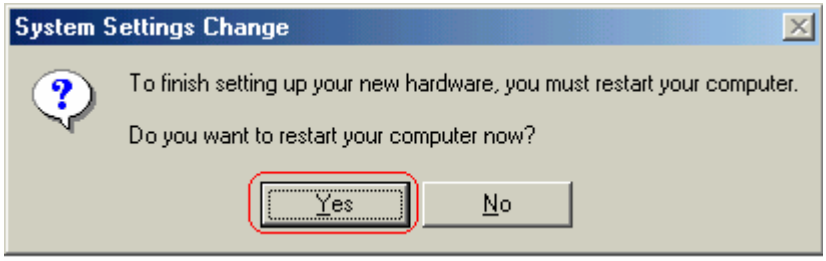
Step 4: Select **802.11 USB Wireless Lan Card** and click **Next** to continue.



Step 5: Select **Yes, I want to restart my computer now** and click **Finish** to complete installation process.



Step 6: After reboot your computer, Windows System will pop-up the message and ask you to restart your computer for finishing set up your new hardware. Please click **YES** to restart again.

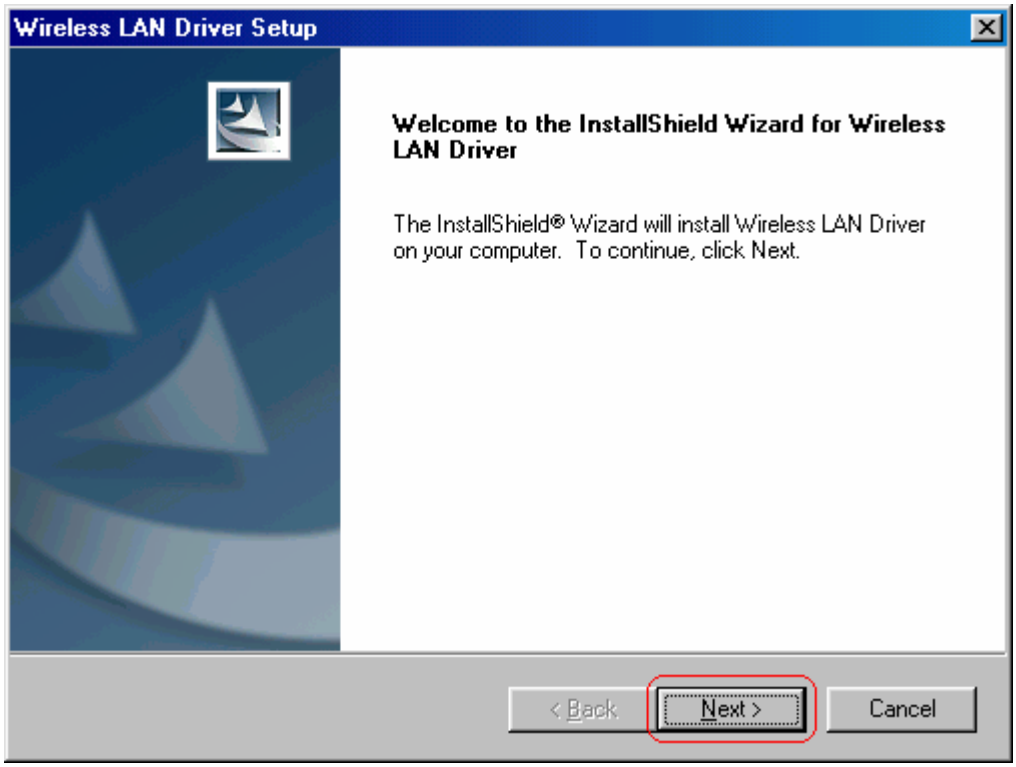


Step 7: After finished install driver and utility on your system, you will see the connection icon in the system tray.

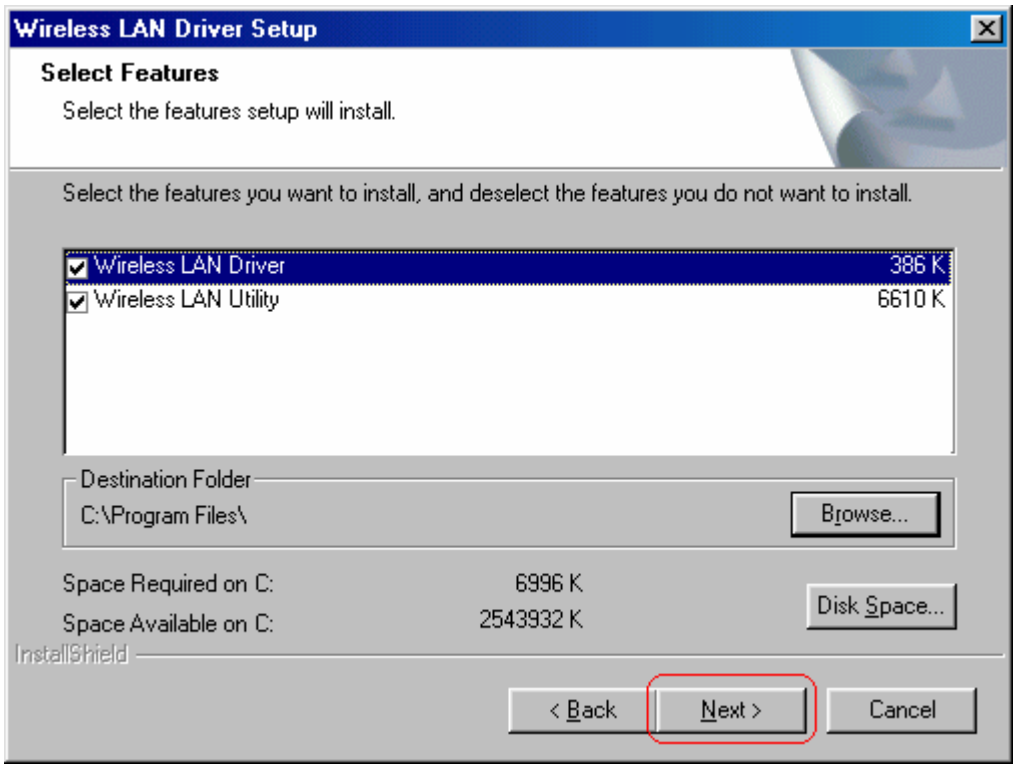
3.3 For Windows 98SE

Step1: Inset Wireless LAN USB Adapter Installation CD into CD-ROM drive then windows below will appear. Click **Install Driver Utility** to begin Driver Installation.

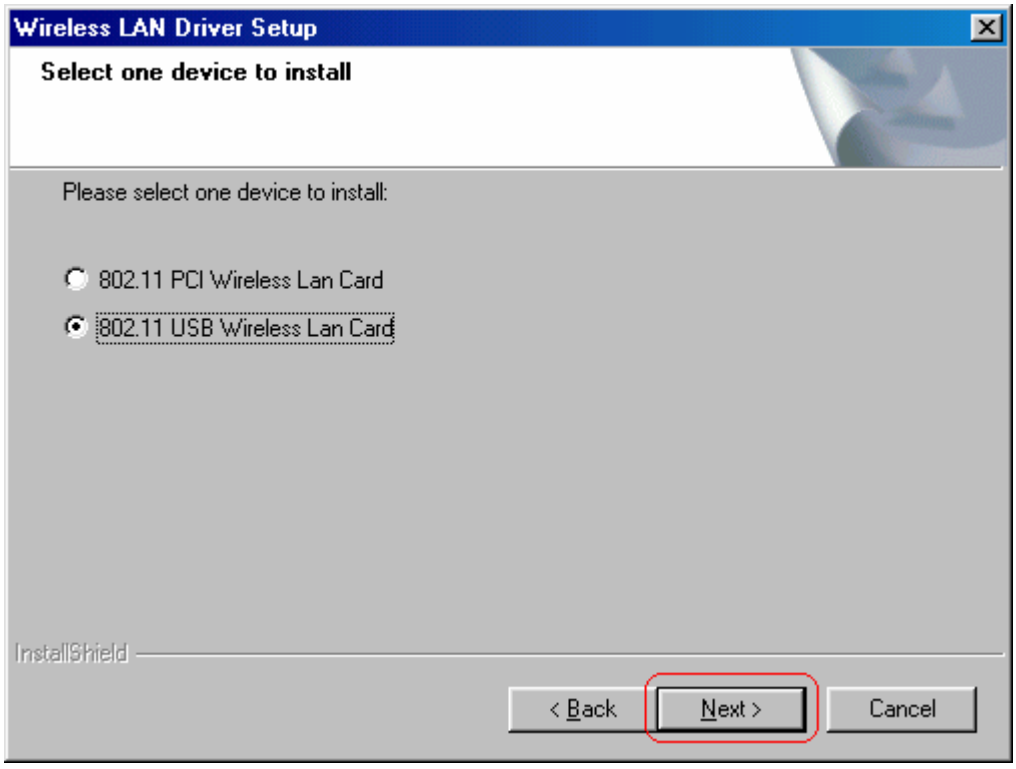
Step2: After click **Install Driver Utility**, the Welcome dialog will show as below. Please click **Next** to continue.



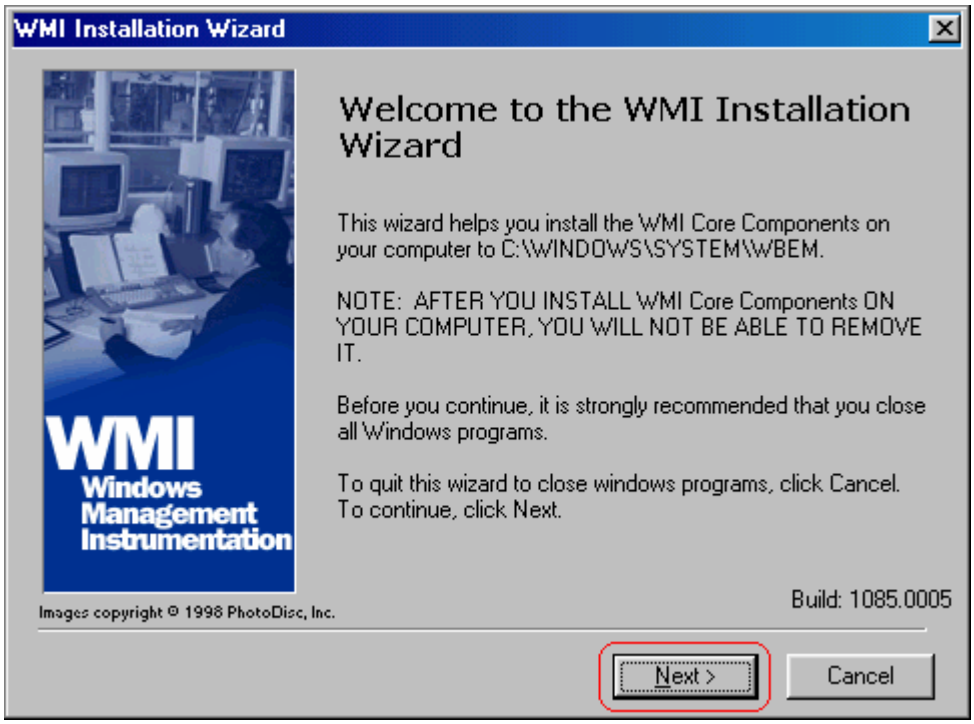
Step 3: Setup Wireless LAN Driver and Utility, please click **Next**.



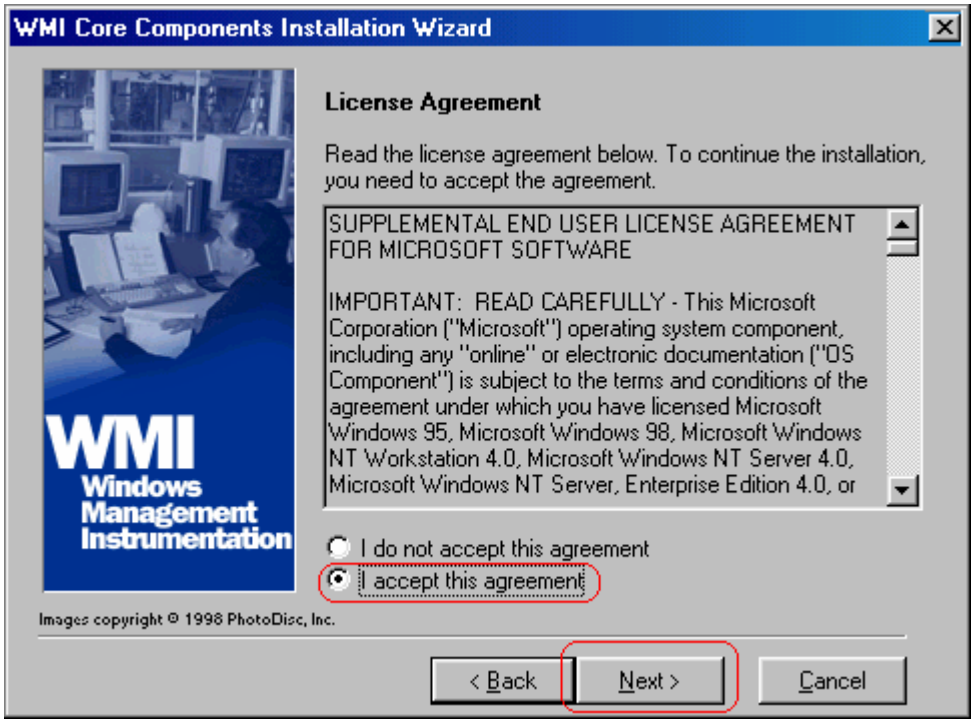
Step 4: Choose **802.11 USB Wireless Lan Card** and click **Next** to continue installation.



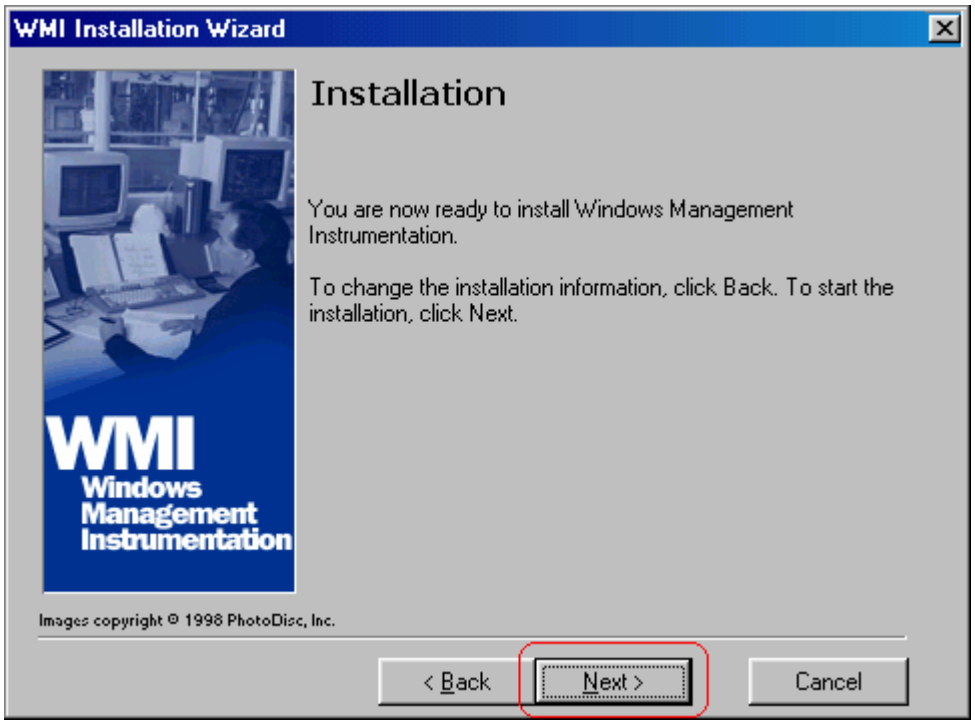
Step 5: Click **Next** to begin WMI Installation Wizard.



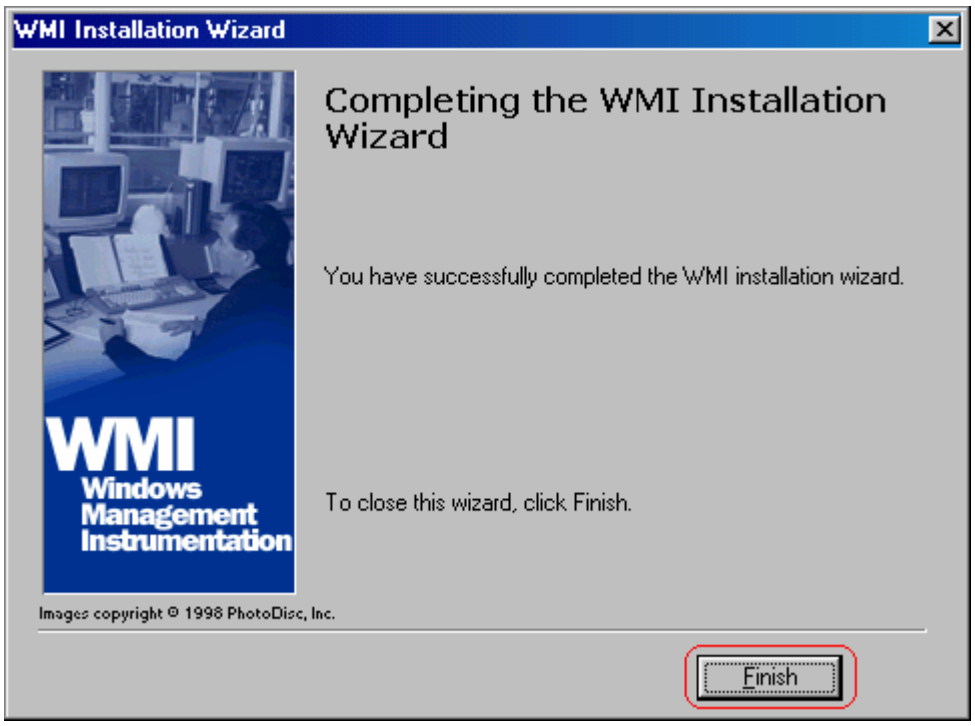
Step 6: After read the License Agreement, select **I accept this agreement** and click **Next** to continue the installation.



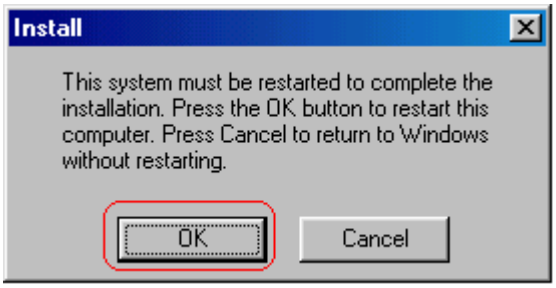
Step 7: Click **Next** to start the installation.



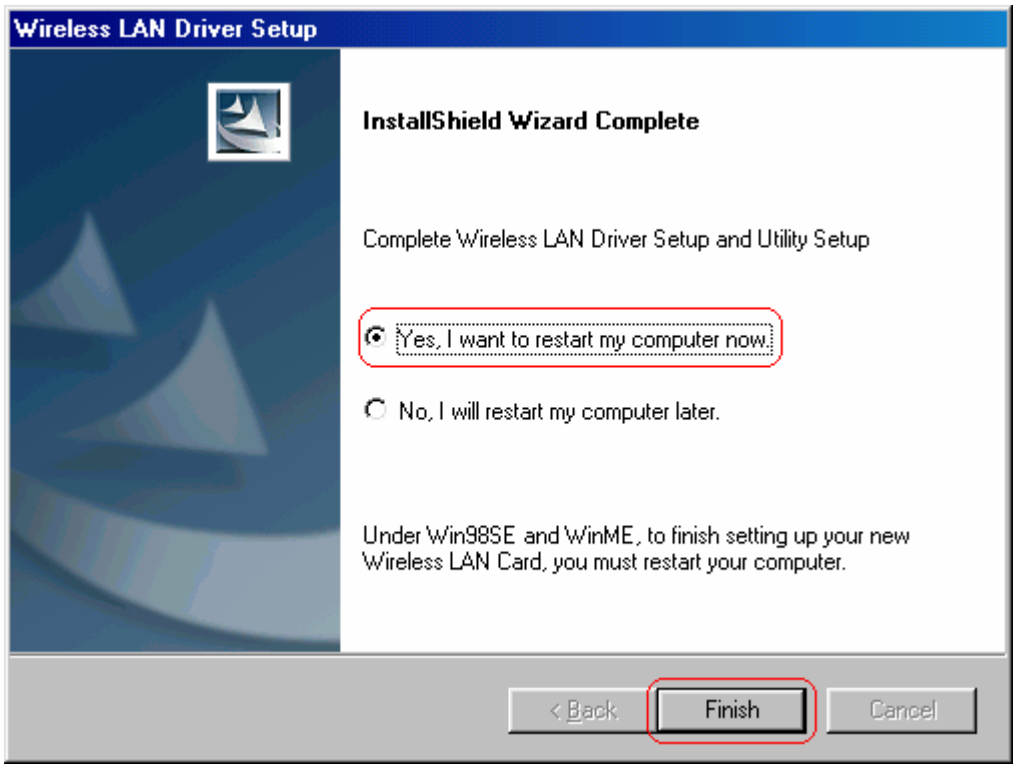
Step 8: After completed the WMI installation wizard, click **Finish** to close the wizard.



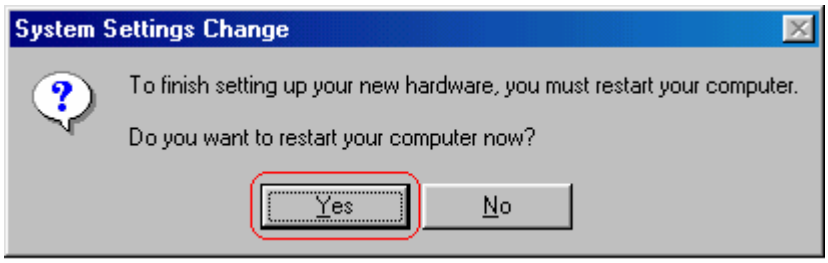
Step 9: This system (WMI) must be restarted to complete the installation. Please click **OK** to restart your computer.



Step 10: Wireless LAN Driver Setup Wizard will also ask to restart computer to complete the setup. Choose **Yes, I want to restart my computer now** and click **Finish** to reboot the computer.



Step 11: After reboot your computer, Windows System will pop-up the message and ask you to restart your computer for finishing set up your new hardware. Please click **YES** to restart again.



Step 12: After finished install driver and utility on your system, you will see the connection icon in the system tray.

4. Wireless Network Configuration

There are two different ways to configure Wireless LAN USB Adapter on your system. They are alike in functionality. Therefore, you can choose any one of them which you prefer to use.

Method 1 – Configured at Windows XP Configuration

Step 1: After installing driver and utility on your system, let's start to setup your wireless LAN card. First of all, you will see the connection icon in the system tray (from the right-bottom corner of your screen). Right-Click on the Network Connect.

Step 2: Click the **View Available Wireless Networks** and it will pop-up a setup dialog as below. If there are some efficient access points and the efficient range contains your USB Adapter range, then SSID will show in the **Available Networks** list. Select one and click the **Connect** button.

Method 2 – Configured at "SiS Advanced Configuration"

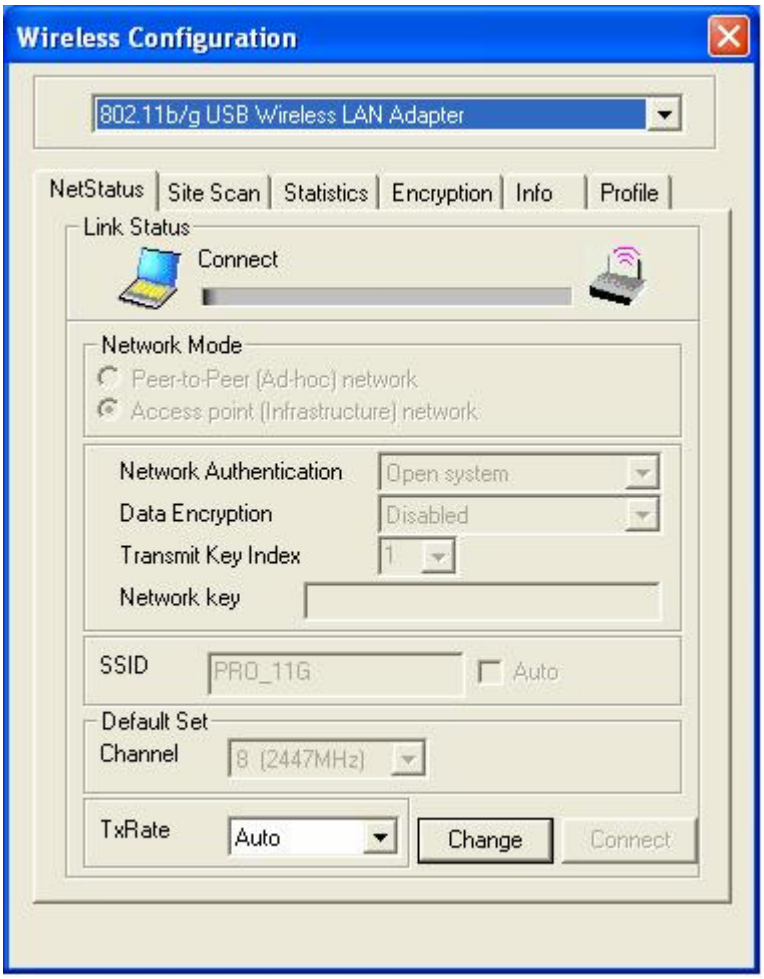
The second configuration utility is for Windows (XP/2000/ME/98SE) system. The Configuration Tab contains several fields where operating parameters of the driver can be viewed or changed. Change of any parameter in this panel can be applied to the driver without restarting the PC needed.

Step 1: Plug-in wireless card and you will see SiS utility appears on your system tray.

Step 2: Double-Click on the crab icon () and an **802 11b/g USB Wireless LAN Adapter** dialog box will appear.

[NetStatus]

The **NetStatus** tab shows the Link Status, Network Mode, SSID, Channel, Tx Rate. You can also change your Ad hoc/Infrastructure network, enable or disable Data Encryption, set your SSID, configure a Channel number for RF transmission or fix Tx Rate on a specified speed in this tab.

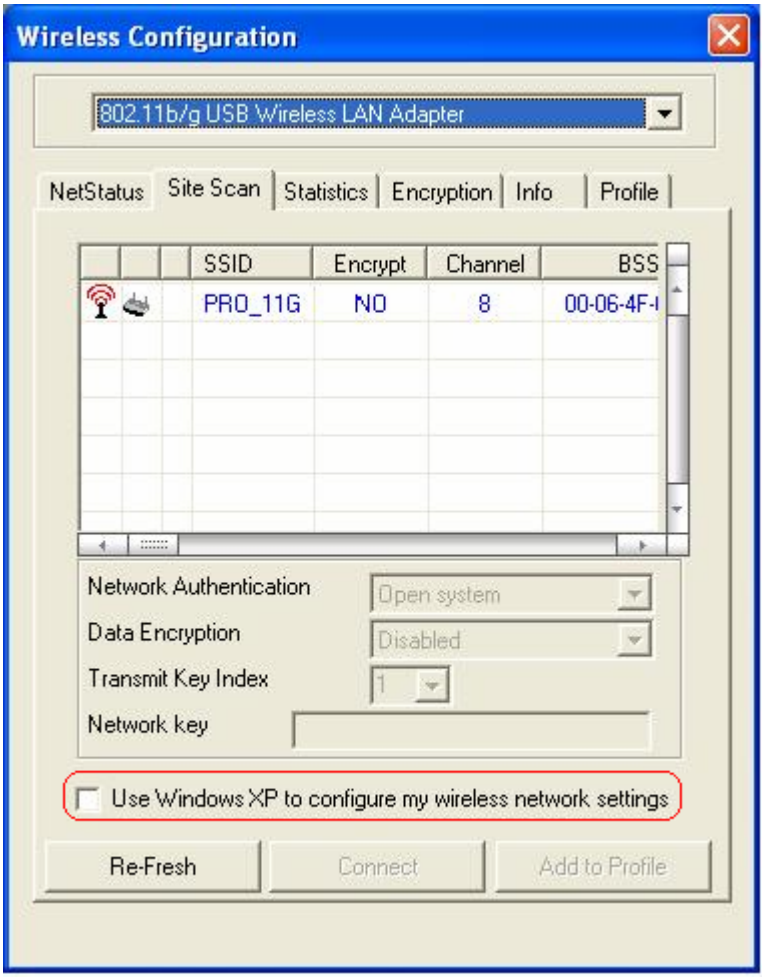


[Site Scan]

After select the **Site Scan** tab, please wait system to scan or click **Re-fresh** button, all Access Point and Ad-hoc devices within detectable range will be found and their related information will be displayed in the list. You can assign Access Point or Ad-hoc devices with which you want your Wireless LAN USB Adapter to connect. You also can establish or change current connection just double clicking SSID from the list.

If you check the **Use Windows XP to configure my wireless network settings**, it will change to Windows XP configuration, which mentioned in Method 1, to set the Wireless link function.

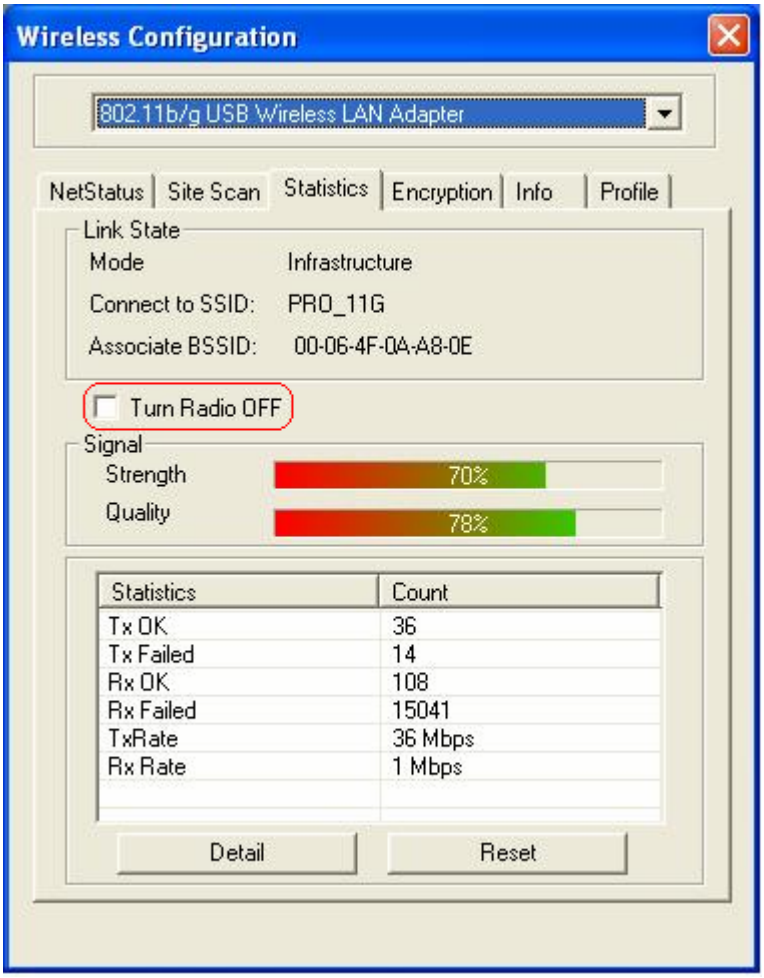
Caution: If you want to it on other place, such as USA, you can only select Channel 1-11. For Europe region which can support Channel 1 -13, It would be disable by firmware before placing on USA market.


Wireless Configuration
802.11b/g USB Wireless LAN Adapter
NetStatus
Site Scan
Statistics
Encryption
Info
Profile
SSID
Encrypt
Channel
BSS
PRO_11G
NO
8
Network Authentication
Open system
Data Encryption
Disabled
Transmit Key Index
1
Network key
Use Windows XP to configure my wireless network settings
Re-Fresh
Connect
Add to Profile

[Statistics]

The **Statistic** tab allows you to check the Link State, signal Strength, and the Transmitting/Receiving Statistics data.

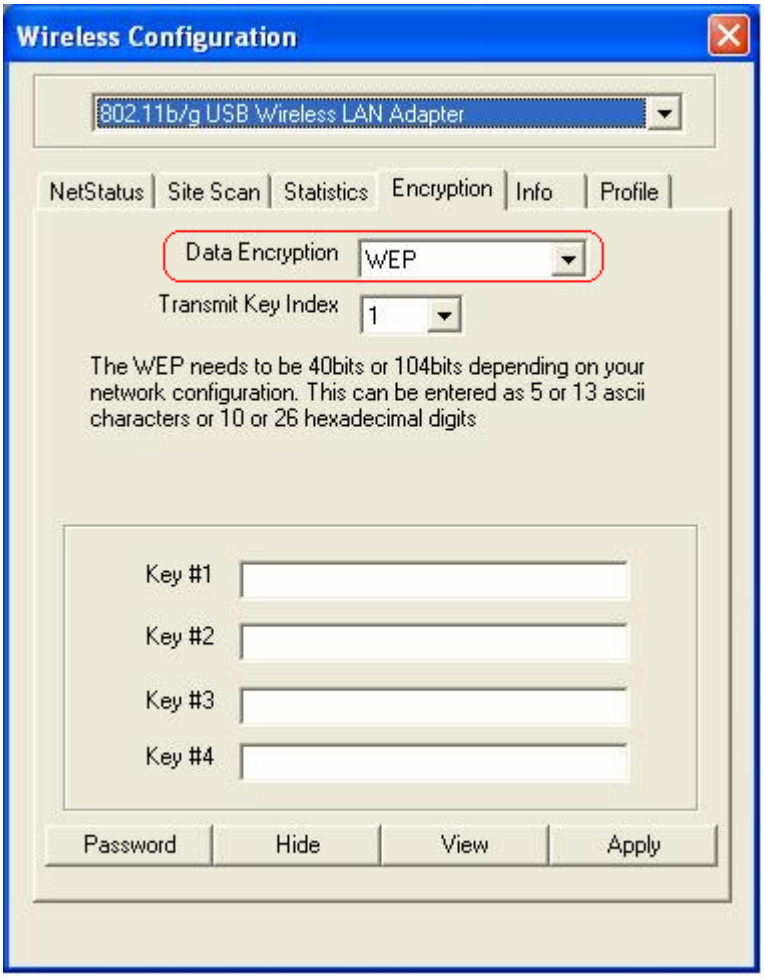
If you check the **Turn Radio OFF**, then any radio activity will be turned off.



[Encryption]

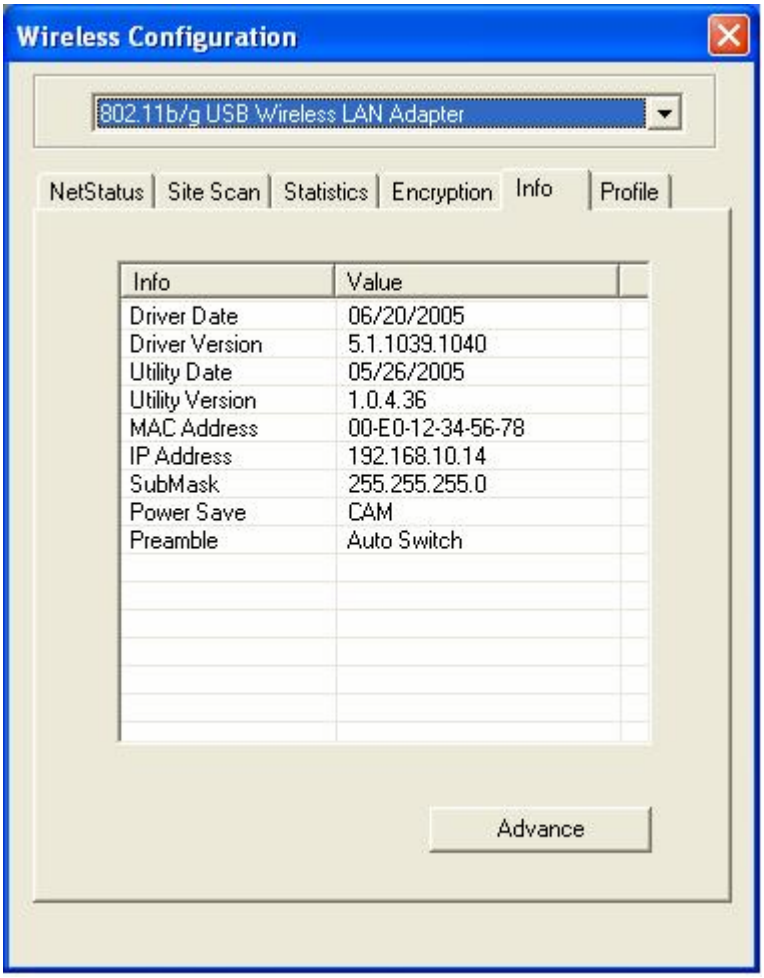
If there are several wireless networks co-existing, you have to consider about data encryption which depends on your Access Point security configuration. The setting of security KEY shall be done on both of your Wireless LAN USB Adapter and Access Point. The wireless connection will fail if any security setting does not match.

Select the **Encryption** tab and set the **Data Encryption** to **WEP** if you want to enable the function. The WEP encrypts every frame transmitted over the radio using one of the keys entered in this panel. All keys must be presented of hex digits for been written to the driver and registry. It means only digit 0-9 and letters A-F are valid entries. Incorrectly input key will not enable WEP function.



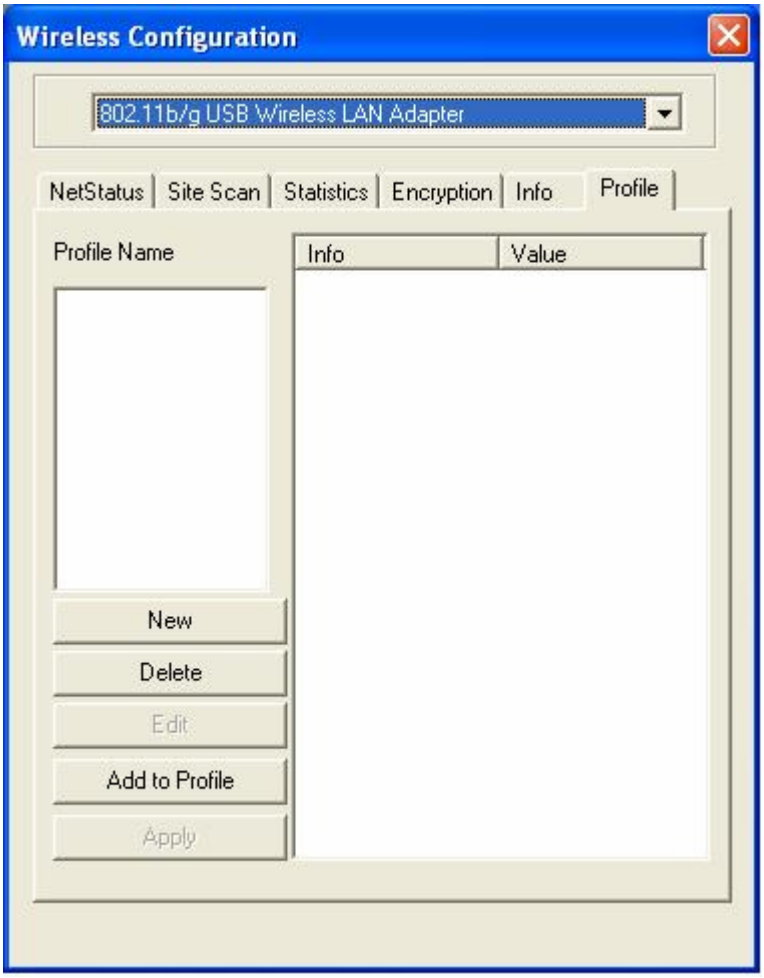
[Info]

The **Info** tab shows the Driver Version including the detailed configuration Utility and NIC firmware version. Users will need this information when reporting their problems for technical support.



[Profile]

The **Profile** tab will allows you to save and retrieve the information associated with a specific setting, so you can quickly and easily connect to your network when you are in that location. The Profile page allows you to create a new profile, delete an old profile or edit your exiting profile.



5. Troubleshooting

Symptom:

The LED is off.

Remedy:

Make sure the USB Adapter is inserted properly. Otherwise contact your vendor.

Symptom:

The LED is always on not blinking

Remedy:

Make sure that you have installed the driver from attached CD. Otherwise contact your vendor.

Symptom:

The LED is blinking but the USB Adapter icon does not appear in your icon tray..

Remedy:

Make sure that you have installed the Utility from the attached CD.

Symptom:

The USB Adapter is linking, but can't share files with others.

Remedy:

Make sure the **File and printer sharing** function is enabled. You can enable the function by checking the icon of **My Computer** -> **Control Panel** -> **Network** -> **file and printer sharing** -> **I want to be able to give others to access to my files**.

Symptom:

Slow or poor performance.

Remedy:

Try to select another channel for the communicating group or move your device closer to the Access Point.

6. Glossary

IEEE 802.11 Standards

The IEEE 802.11 Wireless LAN Standards Subcommittee, which is formulating a standard for the industry.

Access Point

An internetworking device that seamlessly connects wired and wireless networks together.

Ad Hoc

An Ad Hoc wireless LAN is a group of computers, each with a WLAN adapter, connected as an independent wireless LAN. Ad Hoc wireless LAN is applicable at a departmental scale for a branch or SOHO operation.

BSSID

A specific Ad Hoc LAN is called a Basic Service Set (BSS). Computers in a BS must be configured with the same BSSID.

DHCP

Dynamic Host Configuration Protocol – a method in which IP addresses are assigned by server dynamically to clients on the network. DHCP is used for Dynamic IP Addressing and requires a dedicated DHCP server on the network.

Direct Sequence Spread Spectrum

This is the method the wireless cards use to transmit data over the frequency spectrum. The other method is frequency hopping. Direct sequence spreads the data over one frequency range (channel) while frequency hopping jumps from one narrow frequency band to another many times per second.

ESSID

An infrastructure configuration could also support roaming capability for mobile workers. More than one BSS can be configured as an Extended Service Set (ESS). Users within an ESS could roam freely between BSSs while served as a continuous connection to the network wireless stations and Access Points within an ESS must be configured with the same ESSID and the same radio channel.

Ethernet

Ethernet is a 10/100Mbps network that runs over dedicated home/office wiring. Users must be wired to the network at all times to gain access.

Gateway

A gateway is a hardware and software device that connects two dissimilar systems, such as a LAN and a mainframe. In Internet terminology, a gateway is another name for a router. Generally a gateway is used as a funnel for all traffic to the internet.

IEEE

Institute of Electrical and Electronics Engineers.

Infrastructure

An integrated wireless and wired LAN is called an Infrastructure configuration. Infrastructure is applicable to enterprise scale for wireless access to central database, or wireless application for mobile workers.

ISM Band

The FCC and their counterparts outside of the U.S. have set aside bandwidth for unlicensed use in the so-called ISM (Industrial, Scientific and Medical) band. Spectrum in the vicinity of 2.4 GHz, in particular, is being made available worldwide. This presents a truly revolutionary opportunity to place convenient high-speed wireless capabilities in the hands of users around the globe.

Local Area Network (LAN)

A LAN is a group of computers, each equipped with the appropriate network adapter card connected by cable/air, that share applications, data, and peripherals. All connections are made via cable or wireless media, but a LAN does not use telephone services. It typically spans a single building or campus.

Network

A network is a system of computers that is connected. Data, files, and messages can be transmitted over this network. Networks may be local or wide area networks.

Protocol

A Protocol is a standardized set of rules that specify how a conversation is to take place, including the format, timing, sequencing and/or error checking.

Roaming

In an infrastructure network, this is when a wireless PC moves out of range of the previously connected access point and connects to a newly connected access point. Throughout network environment where access point is deployed, PCs can always be connected regardless of where they are located or roam.

SSID

A Network ID require to a network. Only clients and Access Points that share the same SSID are able to communicate with each other. This string is case-sensitive.

Simple Network Management Protocol (SNMP)

Simple Network Management Protocol is the network management protocol of TCP/IP. In SNMP, agents-this can be hardware as well as software-monitor the activity in the various devices on the network and report to the network console workstation. Control information about each device is maintained in a structure known as a management information block.

Static IP Addressing

A method of assigning IP addresses to clients on the network. In networks with Static IP address, the network administrator manually assigns an IP address to each computer. Once a Static IP address is assigned, a computer uses the same IP address every time it reboots and logs on to the network, unless it is manually changed.

Temporal Key Integrity Protocol (TKIP)

The Temporal key Integrity Protocol, pronounced tee-kip, is part of the IEEE 802.11i encryption standard fir wireless LANs. TKIP is the next generation of WEP, the Wired Equivalency Protocol, which is used to secure 802.11 wireless LANs. TKIP provides per-packet key mixing, a message integrity check and a re-keying mechanism, thus fixing the flaws of WEP.

Transmission Control Protocol / Internet Protocol (TCP/IP)

TCP/IP is the protocol suite developed by the advanced Research Projects Agency (ARPA). It is widely used in corporate Internet works, because of its superior design of WANs. TCP governs how packet is sequenced for transmission the network. The term “TCP/IP” is often used generically to refer to the entire suite of related protocols.

Transmit / Receive

The wireless throughput in Bytes per second averaged over two seconds.

Wi-Fi Alliance

The Wi-Fi Alliance is a nonprofit international association formed in 1999 to certify interoperability of wireless Local Area Network products based on IEEE 802.11 specification. The goal of the Wi-Fi Alliance’s members is to enhance the user experience through product interoperability. The organization is formerly known as WECA.

Wi-Fi Protected Access (WPA)

The Wi-Fi Alliance put together WPA as a data encryption method for 802.11 wireless LANs. WPA is an industry-supported, pre-standard version of 802.11i utilizing the Temporal Key Integrity Protocol (TKIP), which fixes the problems of WEP, including using dynamic keys.

Wide Area Network (WAN)

A WAN consists of multiples LANs that are tied together via telephone services and/or fiber optic cabling. WANs may span a city, s state, a country, or even the world.

Wired Equivalent Privacy (WEP)

Now widely recognized as flawed, WEP was a data encryption method used to protect the transmission between 802.11 wireless clients and APs. However, it used the same key among all communicating devices. WEP’s problems are well-known, including an insufficient key length and no automated method for distributing the keys. WEP can be easily cracked in a couple of hours with off-the shelf tools.

Wireless LAN (WLAN)

A wireless LAN does not use cable to transmit signals, but rather uses radio or infrared to transmit packets through the air, Radio Frequency (RF) and infrared are the commonly used types of wireless transmission. Most wireless LANs use spread spectrum technology. It offers limited bandwidth, usually under 11Mbps, and user share the bandwidth with other devices in the spectrum; however, users can operate a spread spectrum device without licensing from the Federal Communications Commission (FCC).

European Notice

Products with the CE Marking comply with both the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community.
Compliance with these directives implies conformity to the following European Norms:

- **EN 55022** (CISPR 22) Radio Frequency Interference
- **EN 55024** (EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8,EN61000-4-11, EN61000-3-2, EN61000-3-3) Generic Immunity Standard
- **EN 60950** (IEC950) Product Safety

R&TTE (CE) MANUAL REGULATORY REQUIREMENT (WLAN - IEEE 802.11b/g)

802.11b/g Restrictions:

- European standards dictate maximum radiated transmit power of 100mW EIRP and frequency range 2.400-2.4835GHz.
- In France, the equipment must be restricted to the 2.4465-2.4835GHz frequency range and must be restricted to indoor use."

CE Declaration of Conformity

CE 0984 ①

Is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility (89/336/EEC), Low- voltage Directive (73/23/EEC) and the Amendment Directive (93/68/EEC), the procedures given in European Council Directive 99/5/EC and 89/3360EEC.

The equipment was passed. The test was performed according to the following European standards.

- EN 300 328 V.1.6.1 (2004-07)
- EN 301 489-1 V.1.4.1 (2002-04) / EN 301 489-17 V.1.2.1 (2002-04)
- EN 50371:2002
- EN 60950:2000