802.11g Wireless

USB 2.0 Adapter

User's Guide

Federal Communication Commission Interference 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 NOTE:

Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. To maintain compliance with FCC RF exposure compliance requirements, please follow operation instruction as documented in this manual.

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

SAR compliance has been established in typical laptop computer(s) with USB slot, and product could be used in typical laptop computer with USB slot. Other application like handheld PC or similar device has not been verified and may not compliance with related RF exposure rule and such use shall be prohibited.

Europe – EU Declaration of Conformity

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of conformity with the essential requirements of the R&TTE Directive 1999/5/EC:

EN 60 950-1: 2001 +A11: 2004

Safety of Information Technology Equipment

EN 50392: (2004-01)

Generic standard to demonstrate the compliance of electronic and electrical apparatus with the basic restrictions related to human exposure to electromagnetic fields (0 Hz - 300 GHz)

EN 300 328 V1.7.1: (2006-10)

Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband Transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using spread spectrum modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive

EN 301 489-1 V1.6.1: (2005-09)

Electromagnetic compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements

EN 301 489-17 V1.2.1 (2002-08)

Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for 2,4 GHz wideband transmission systems and 5 GHz high performance RLAN equipment

This device is a 2.4 GHz wideband transmission system (transceiver), intended for use in all EU member states and EFTA countries, except in France and Italy where restrictive use applies.

In Italy the end-user should apply for a license at the national spectrum authorities in order to obtain authorization to use the device for setting up outdoor radio links and/or for supplying public access to telecommunications and/or network services.

This device may not be used for setting up outdoor radio links in France and in some areas the RF output power may be limited to 10 mW EIRP in the frequency range of 2454 – 2483.5 MHz. For detailed information the end-user should contact the national spectrum authority in France.

CE0560①

cs Česky [Czech]	*[Jméno výrobce]* tímto prohlašuje, že tento *[typ zařízení]* je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
da Dansk [Danish]	Undertegnede *[fabrikantens navn]* erklærer herved, at følgende udstyr *[udstyrets typebetegnelse]* overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
de Deutsch [German]	Hiermit erklärt *[Name des Herstellers]*, dass sich das Gerät *[Gerätetyp]* in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
et Eesti [Estonian]	Käesolevaga kinnitab *[tootja nimi = name of manufacturer]* seadme *[seadme tüüp = type of equipment]* vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
en English	Hereby, *[name of manufacturer]*, declares that this *[type of equipment]* is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
es Español [Spanish]	Por medio de la presente *[nombre del fabricante]* declara que el *[clase de equipo]* cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
el Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ *[name of manufacturer]* ΔΗΛΩΝΕΙ ΟΤΙ *[type of equipment]* ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
fr Français [French]	Par la présente *[nom du fabricant]* déclare que l'appareil *[type d'appareil]* est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
it Italiano [Italian]	Con la presente *[nome del costruttore]* dichiara che questo *[tipo di apparecchio]* è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo *[name of manufacturer / izgatavotāja nosaukums]* deklarē, ka *[type of equipment / iekārtas tips]* atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių	Šiuo *[manufacturer name]* deklaruoja, kad šis *[equipment type]* atitinka esminius reikalavimus ir kitas

[Lithuanian]	1999/5/EB Direktyvos nuostatas.
nl Nederlands [Dutch]	Hierbij verklaart *[naam van de fabrikant]* dat het toestel *[type van toestel]* in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
mt Malti [Maltese]	Hawnhekk, *[isem tal-manifattur]*, jiddikjara li dan *[il-mudel tal-prodott]* jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
hu Magyar [Hungarian]	Alulírott, *[gyártó neve]* nyilatkozom, hogy a *[... típus]* megfelel a vonatkozó alapvetõ követelményeknek és az 1999/5/EC irányelv egyéb elõírásainak.
pl Polski [Polish]	Niniejszym *[nazwa producenta]* oświadcza, że *[nazwa wyrobu]* jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
pt Português [Portuguese]	*[Nome do fabricante]* declara que este *[tipo de equipamento]* está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
sl Slovensko [Slovenian]	*[Ime proizvajalca]* izjavlja, da je ta *[tip opreme]* v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]	*[Meno výrobcu]* týmto vyhlasuje, že *[typ zariadenia]* spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
fi Suomi [Finnish]	*[Valmistaja = manufacturer]* vakuuttaa täten että *[type of equipment = laitteen tyyppimerkintä]* tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
sv Svenska [Swedish]	Härmed intygar *[företag]* att denna *[utrustningstyp]* står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

TABLE OF CONTENTS

INTRODUCTION

Congratulations on your purchase of this 802.11g Wireless USB 2.0 Adapter.

This manual helps to get familiar with the 802.11g Wireless USB 2.0 Adapter. This manual contains detailed instructions in operation of this product. Please keep this manual for future reference.

With a Wireless LAN (IEEE 802.11g) USB 2.0 Adapter, a desktop or laptop computer can communicate with another computer in a wireless way. Easy-to-use utilities are bundled with Wireless USB Adapter for configuration, monitoring, and diagnosis purposes.

The 802.11g Wireless USB 2.0 Adapter can wirelessly transmit and receive data, minimizing the need for wired connections, at a speed of up to fifty-four megabit per second.

The 802.11g Wireless USB 2.0 Adapter provides users with an access to real-time information anywhere in their organization. The mobility provides productivity and service, which are not available under wired networks. The 802.11g Wireless USB 2.0 Adapter configuration is easy to change from peer-to-peer networks, suitable for a small number of users, to full infrastructure networks of thousands of users that allow roaming around a broad area.

Overview of this User's Guide

Introduction: Describe the 802.11g Wireless USB 2.0 Adapter and its features.

Unpacking and Setup: Help you get started with the basic installation of the 802.11g Wireless USB 2.0 Adapter.

Hardware Installation: Describe the LED indicators of the Adapter.

Software Installation: Tell you how to setup the driver and the utility setting.

Technical Specifications: List the technical specifications of the 802.11g Wireless USB 2.0 Adapter.

UNPACKING AND SETUP

This chapter provides unpacking and setup information for the 802.11g Wireless USB 2.0 Adapter.

Unpacking

Open the box of the 802.11g Wireless USB 2.0 Adapter and carefully unpack it. The box should contain the following items:

- One 802.11g Wireless USB 2.0 Adapter

- One Driver & Utility CD-ROM

If any item is found missing or damaged, please contact your local reseller for replacement.

Setup

The setup of the 802.11g Wireless USB 2.0 Adapter can be performed using the following steps:

- Visually inspect the USB connector and make sure that it is fully plugged in to the system's USB port.

- Make sure that there is a well environment that there is no much intrusion to have a better connection.

HARDWARE INSTALLATION

LED Indicator

LINK

The LINK LED lights green when the 802.11g Wireless USB 2.0 Adapter is connected to a network successfully. Otherwise the LINK indicator blinks green while the 802.11g Wireless USB 2.0 Adapter is access the wireless network.

Check the installation

The LED of the 802.11g Wireless USB 2.0 Adapter is clearly visible and the status of the network link can be seen instantly:

1. When connected to the USB port and the driver were installed, the LNK LED will start blinking, and it means that the device is starting to scan an 802.11g wireless device near the 802.11g Wireless USB 2.0 Adapter.

2. While the 802.11g Wireless USB 2.0 Adapter linked up to the Access Point or to other Wireless LAN station, the LINK LED will always light up.

SOFTWARE INSTALLATION

This section will lead you to install the driver and utility of the 802.11g Wireless USB 2.0 Adapter.

Before insert the USB Dongle into USB port of your computer, please install the Utility Program first. Make sure that the 802.11g Wireless USB 2.0 Adapter is NOT inserted into the USB slot.

Windows Vista Installation

Insert the 802.11g Wireless LAN USB 2.0 Adapter Driver & Utility CD-ROM into computer's CD-ROM Drive and it will automatically run a setup menu and install the driver and the utility. In some specific setting on Windows system, you may need to proceed the software manually, go to your Windows Start menu and choose *Run*, type "D:\Setup\Setup.exe" in the dialog box (D:\ will depend on where your CD-ROM drive is located).
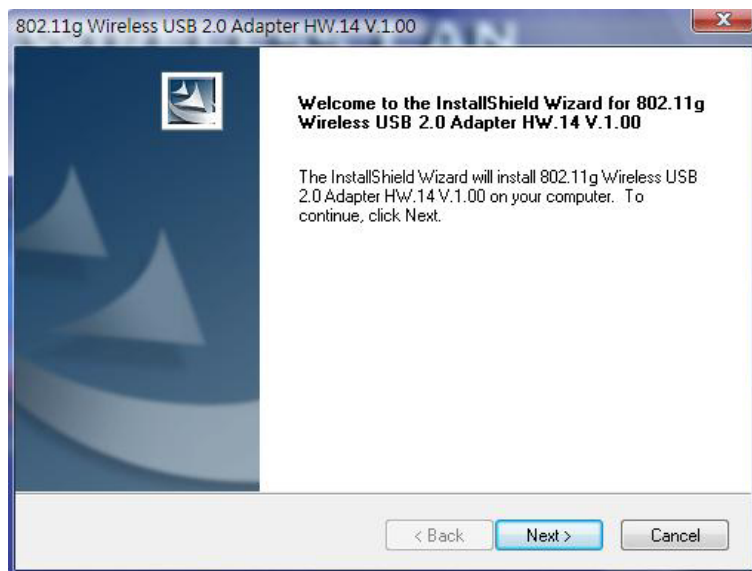
Note: (D:\ will depends on where the CD-ROM drive is located and <Windows OS> will depend on the Windows Operating System you are using).

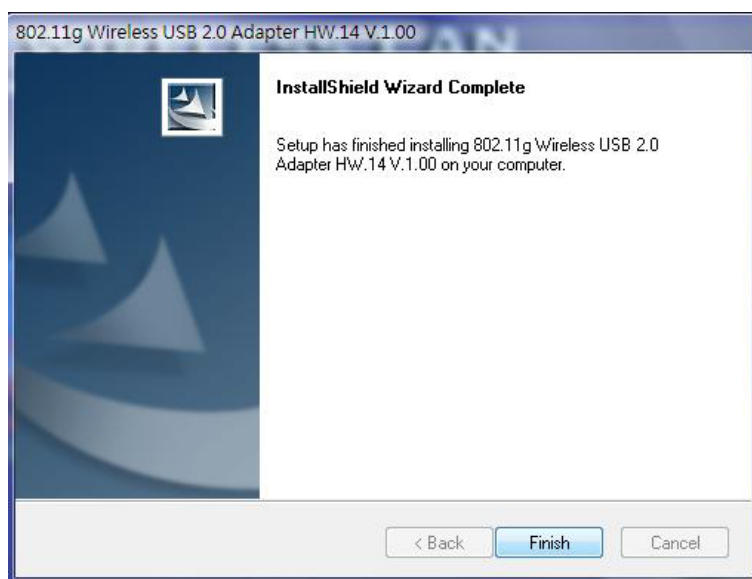1. Click **Install** and then click **Vista** to start the Utility and driver installation

2. The Install Shield Wizard screen will appear. Click "Next" to continue.

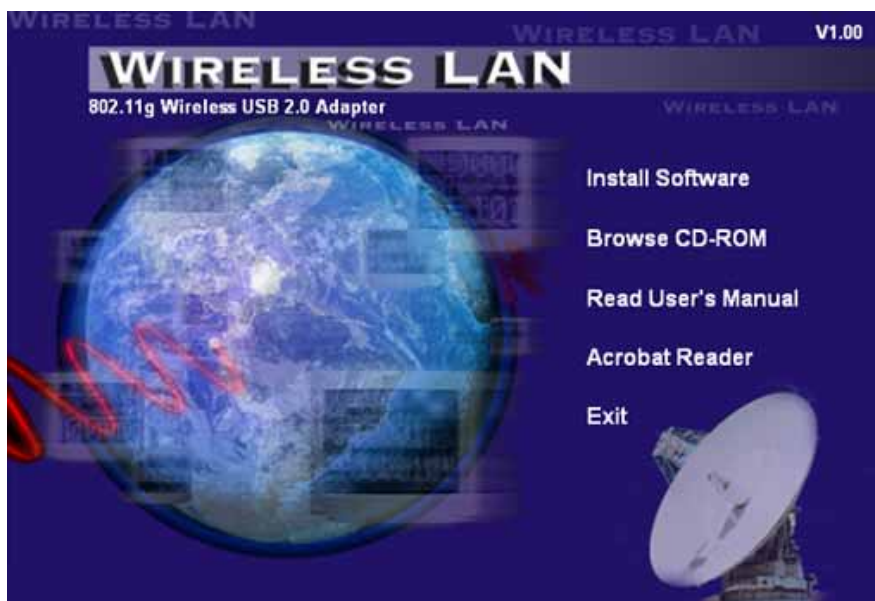3. Click **"Finish"** to finish the installation.

Windows 98SE/ME/2000/XP Installation

Insert the 802.11g Wireless LAN USB 2.0 Adapter Driver & Utility CD-ROM into computer's CD-ROM Drive and it will automatically run a setup menu and install the driver and the utility. In some specific setting on Windows system, you may need to proceed the software manually, go to your Windows Start menu and choose **Run**, type "D:\Setup\Setup.exe" in the dialog box (D:\ will depend on where your CD-ROM drive is located).

Note: (D:\ will depends on where the CD-ROM drive is located and <Windows OS> will depend on the Windows Operating System you are using).
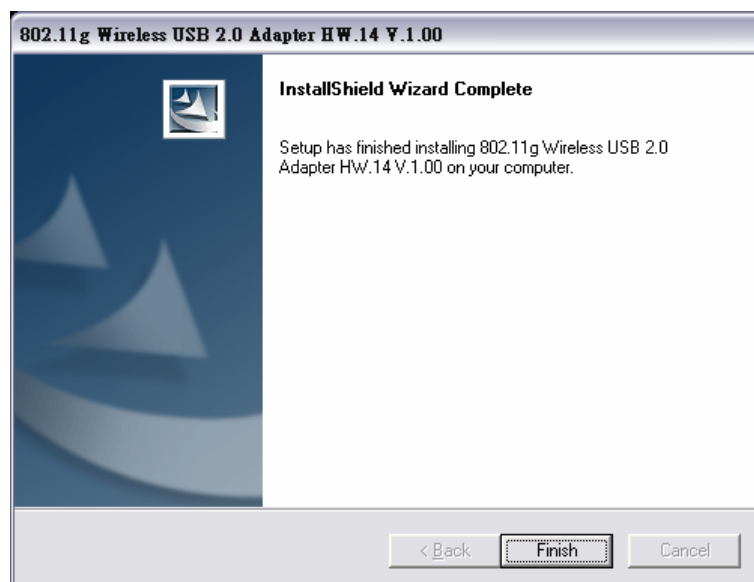
4. Click Install to start the Utility and driver installation.

5. The Install Shield Wizard screen will appear. Click "**Next"** to continue.
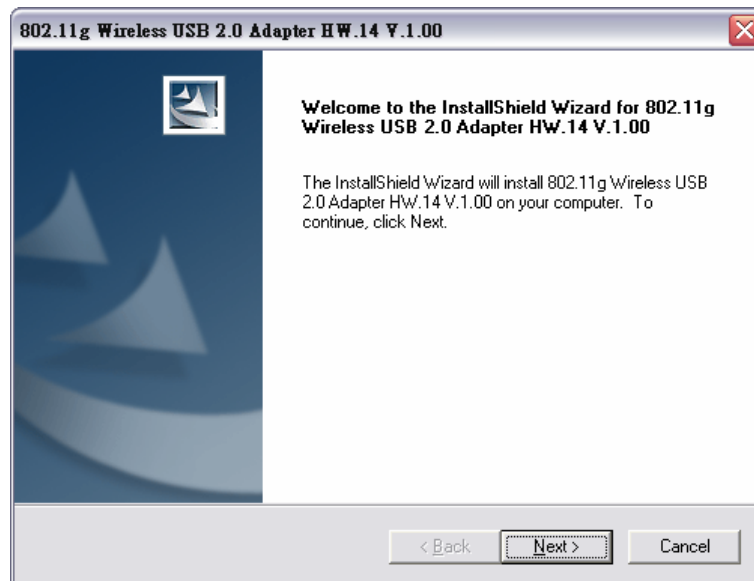
6. Click **"Finish"** to finish the installation.

7. Plug-in your 802.11g Wireless USB 2.0 Adapter into your computer's USB port.

8. You will see the icon on the Windows task bar when you finish the utility installation and plugged the 802.11g Wireless USB 2.0 Adapter.

When the icon in the toolbar represents in green color, it is properly connected to the network and shown the linking quality.
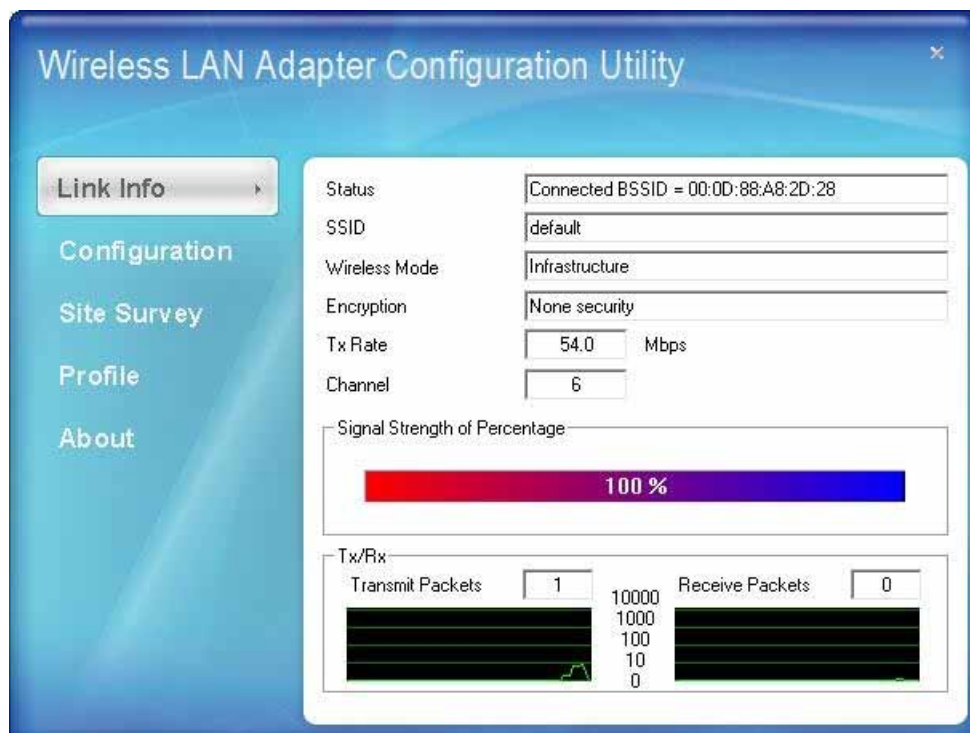
SOFTWARE CONFIGURATION

Windows Vista Wireless setting

The user can configure the wireless setting using the Wireless Adapter Configuration Utility. Double-click the utility icon �📶 that appears in the system tray.

Link Info

This is the default screen after launching the Utility program.

Status: Shows the associated BSSID, which can be used to identify the wireless access point.

SSID: Shows the current SSID, which must be the same on the wireless client and AP in order for communication to be established.

Wireless Mode: Shows the current wireless mode used for wireless communication.

Encryption: Hoes the current encryption mode used on the wireless network.

**TX Rate:** Shows the current data rate used for transmitting.

Channel: Shows the current channel for communication.

Signal Strength of Percentage: Shows the wireless signal strength of the connection between the Wireless LAN USB 2.0 Adapter with the Access Point.

TX/RX: Shows the statistics of data transfer, and the calculation is based on the number of packets transmitted and received. It also shows the link quality of the Wireless LAN USB 2.0 Adapter with the Access Point when operation under Infrastructure mode.

Configuration

This screen is where you set the basic wireless settings for the Wireless LAN USB 2.0 Adapter.
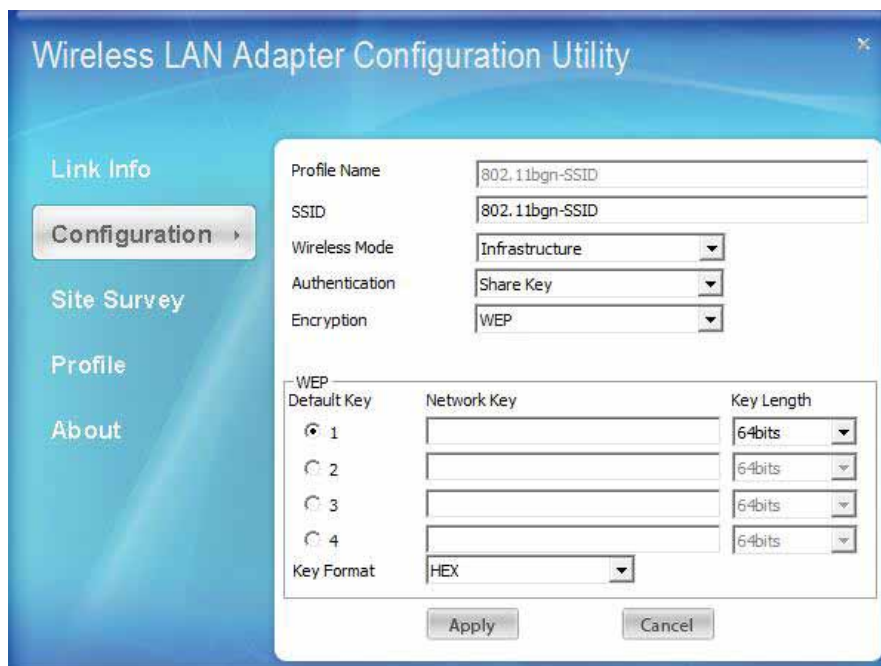
Profile Name: The default name is the same as the SSID of the platform which you connected and you can change the name you favor (the key length is limited 1~32 bits).

SSID: Service Set Identifier, which is a unique name shared among all client in a wireless network. The SSID must be identical for client in the wireless network.

Wireless Mode: There are two modes available for selection

● Infrastructure –to establish wireless communication with the LAN and other wireless client through the use of Access Points.

● Ad-Hoc – to establish point- to-point wireless communication directly with other wireless client device.

Authentication: The following options are available: **Open System, Shared key, WPA-PSK, WPA2-PSK, WPA EAP-TLS and WPA2 EPA-TLS.**

Select **Open System**, **Shared Ke**y for WEP data encryption feature.

Open System and **Shared Key** require the users to set a WEP key to exchange data with other wireless clients that have the same WEP key.

The following will only be activated when **Open**, **Shared Key** is enabled:

Default Key: select one of the 4 keys to use.

Network Key: choose the encryption way, either in HEX or ASCII formats, and enter the password in the blank space.

Key Length: select 64 or 128 bits as the length of the keys.

Key Format: HEX or ASCII

WPA-PSK/ WPA2-PSK:.This Passphrase must be the same on each computer that is connected to the wireless network.

WPA/ WPA2: Please click the "**Certificate"** button. Then, please select the certificate that user wants to use

Encryption: select the encryption type for TKIP or AES encryption type.

Site Survey

This screen allows the user to scan for available wireless networks (wireless clients and Access Points). It also allows the user to establish wireless communications with an available wireless network.
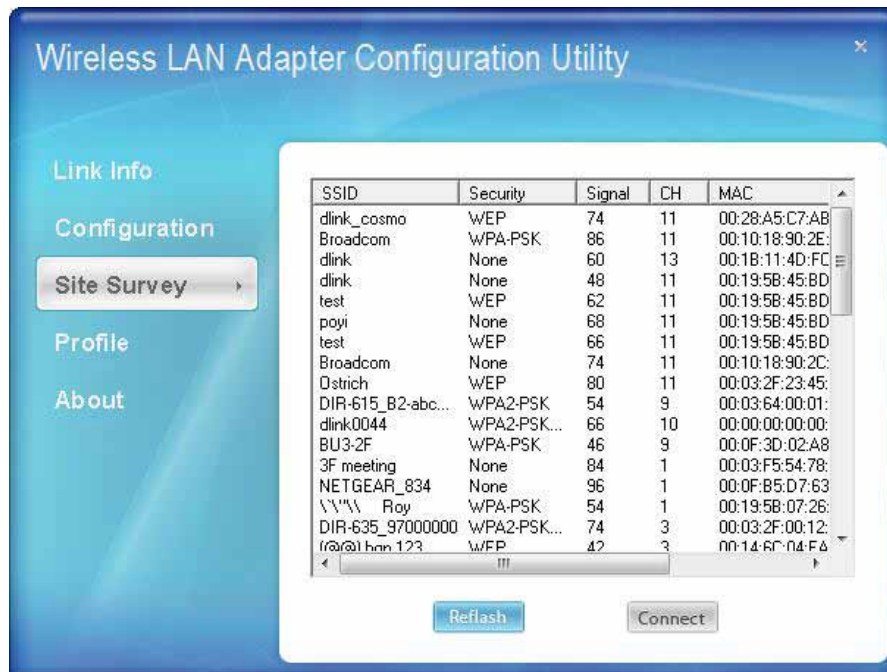
Available Network – displays the wireless networks (wireless clients and Access Points) that are within range.

Select any one of the wireless networks by **double-clicking** on it or clicking on the "**Connect**" button.

Click the "**Refresh**" button to scan for available networks.

Profile

Profile- The user can create and manage the created profiles for home, work or public areas. By double-clicking on one of the created profile, the setting will adjust to the specific setting such as SSID, channel, and encryption as saved by that particular profile.

Add: Adds a profile. The following screen will appear. The user can enter the necessary information required for accessing Access Points or Wireless Router.

Remove: Deletes the selected profile

Edit: To view and change its settings of the profile.

**Connect:** The current connected profile information
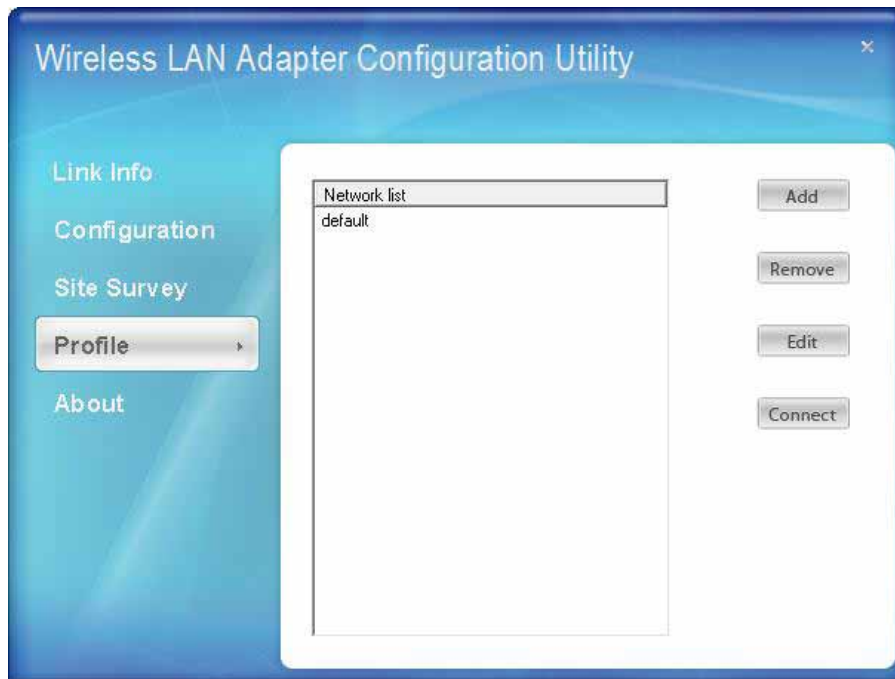
About

This screen displays information about the 54Mbps IEEE 802.11g Wireless LAN Adapter, such as the Driver and Utility version. When a new version of the utility becomes available for upgrade, users will be able to identify by version numbers.

Windows 98SE/ME/2000/XP Wireless setting

Windows® XP users may use the built-in wireless utility as default. The following instructions are for Service Pack 2 users. If you are using Windows® 2000/98/ME, you must use the Wireless Utility.

With the Wireless utility, users can configure all the functions provided by the Wireless LAN Adapter Utility. Double-click the utility icon that appears in the system tray.
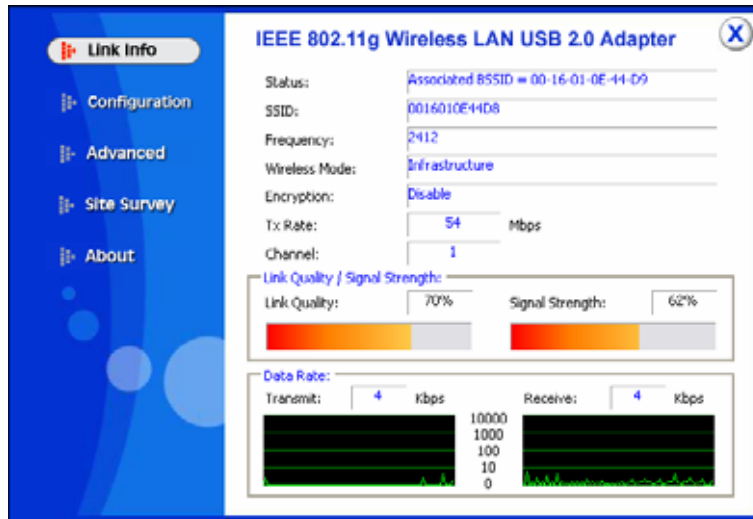
The Wireless LAN Adapter Utility includes six tabs: Link Info, Configuration, Advanced, Site Survey and About.

Link Info

The Link Info screen shows you the status of the Wireless Adapter, it shows that where the device is connected to, the connect Status, the connecting Speed, the network Type, the Encryption type, the SSID and the Signal Strength.
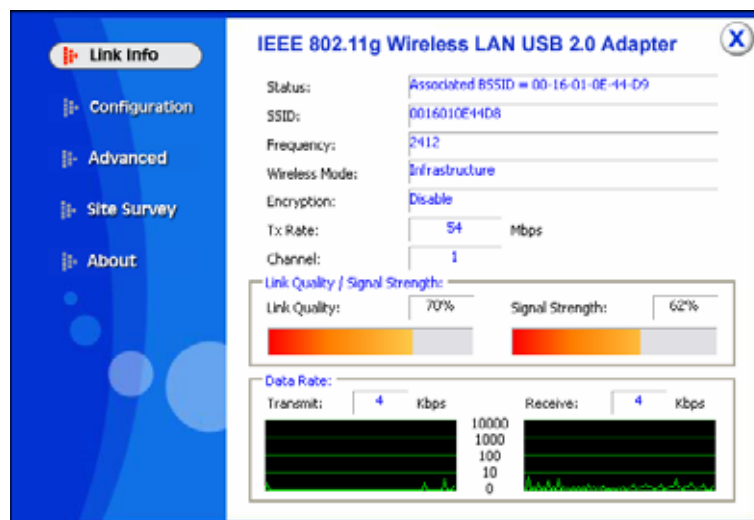
Configuration

This is the page where you can change the basic settings of the 802.11g Wireless USB 2.0 Adapter with the minimum amount of effort to implement a secure wireless network environment.
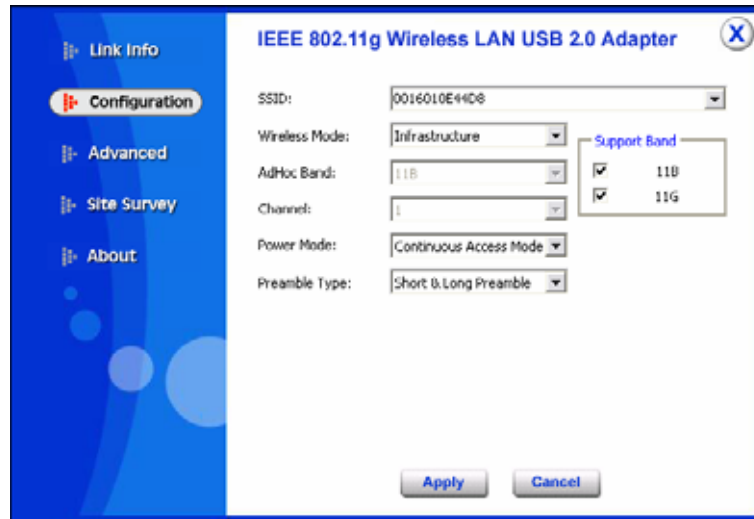
SSID: The SSID differentiates one Wireless LAN group name from another; so all access points and all devices attempting to connect to a specific Wireless LAN group name must use the same SSID. A device will not be permitted to join the BSS unless it can provide the unique SSID.

Wireless Mode: If you want to connect with an Access Point/WLAN Router, please set to "Infrastructure" mode. If you have more stations and just want to set them as local network, please set the mode to "Ad-hoc" mode.

Channel: It shows **auto** that used for Infrastructure Wireless LAN network. The channel number can be set only under the Ad-Hoc operation mode. In Ad-Hoc mode stations, each station must have the same channel number and SSID.

In Infrastructure mode, the Wireless USB Adapter will automatically detect the channel number of the Access Point.

Power Mode: There are 3 modes to choose:

Continuous Access Mode (default): The USB Dongle is constantly operating with full power and it consumes the most power.

Maximum Power Save: The USB Dongle consumes the least power and only operates when there is wireless network activity.

Power Save: The USB Dongle consumes the moderate level of power.

Preamble: Select Long or Short/Long (auto) Preamble type. Preamble is a sequence of bits transmitted at 1Mbps that allows the PHY circuitry to reach steady-state demodulation and synchronization of bit clock and frame start. Two different preambles and headers are defined: the mandatory supported Long Preamble and header, which interoperates with the 1 Mbit/s and 2 Mbit/s DSSS

specification (as described in IEEE Std. 802.11), and an optional Short Preamble and header (as described in IEEE Std. 802.11b). At the receiver, the Preamble and header are processed to aid in demodulation and delivery of the PSDU. The Short Preamble and header may be used to minimize overhead and, thus, maximize the network data throughput. However, the Short Preamble is supported only from the IEEE 802.11b (High-Rate) standard and not from the original IEEE 802.11. That means that stations using Short-Preamble cannot communicate with stations implementing the original version of the protocol.

Support Band: There are two bands available for selection; 11B and 11G.

Advanced

The Advanced settings help you to control the Wireless Adapter to adjust with wireless devices in certain environment.
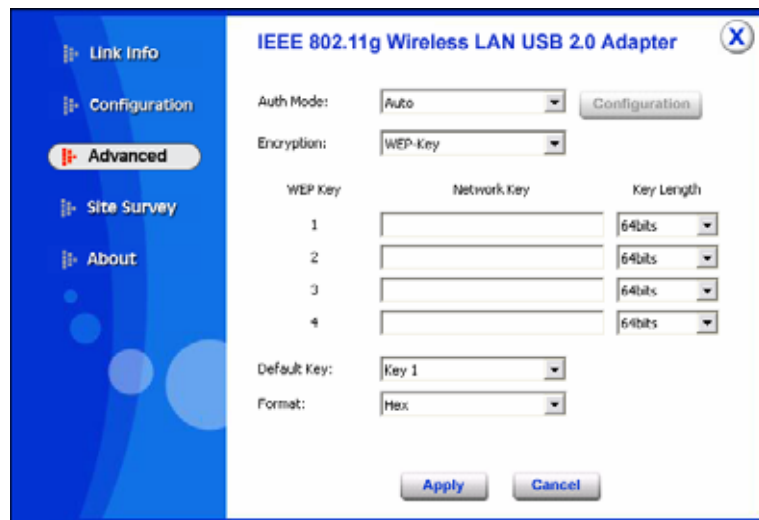
Auth. Mode: Eight options are available: Disable, Auto, Open System, Shared Key, WPA/WPA2, and WPA-PSK/WPA2-PSK. Select Auto, Disable for other authentication feature. If one of the two options is selected, it is required to select the **Encryption** mode from the next dropping list.

Shared Key/Open System
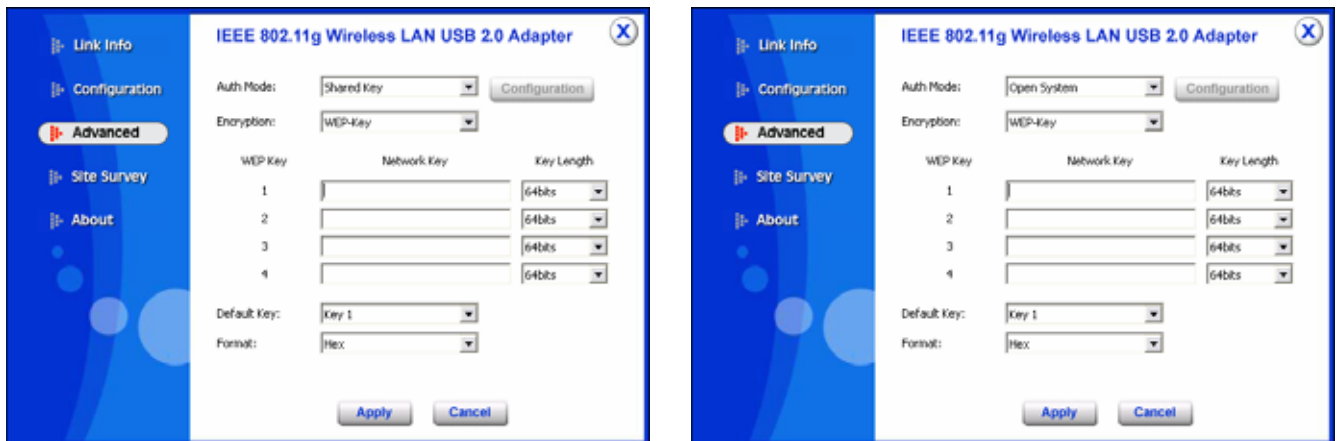
Network Key: Choose the encryption way, either in HEX or ASCII formats, and enter the password in the blank space.

Key Length, Key Format and WEP Key: If you select 64bit in Hex format, you must type 10 values in the following range (0~F, hexadecimal), or 64bit in ASCII format, you must type 5 values in the following range (0~9, A~Z and a~z Alphanumeric).

If you select 128bit in Hex format, you must type 26 values (0~F, hexadecimal), or 128bit in ASCII format, you must type 13 values in the following range (0~9, A~Z and a~z Alphanumeric).

WPA-PSK / WPA2-PSK
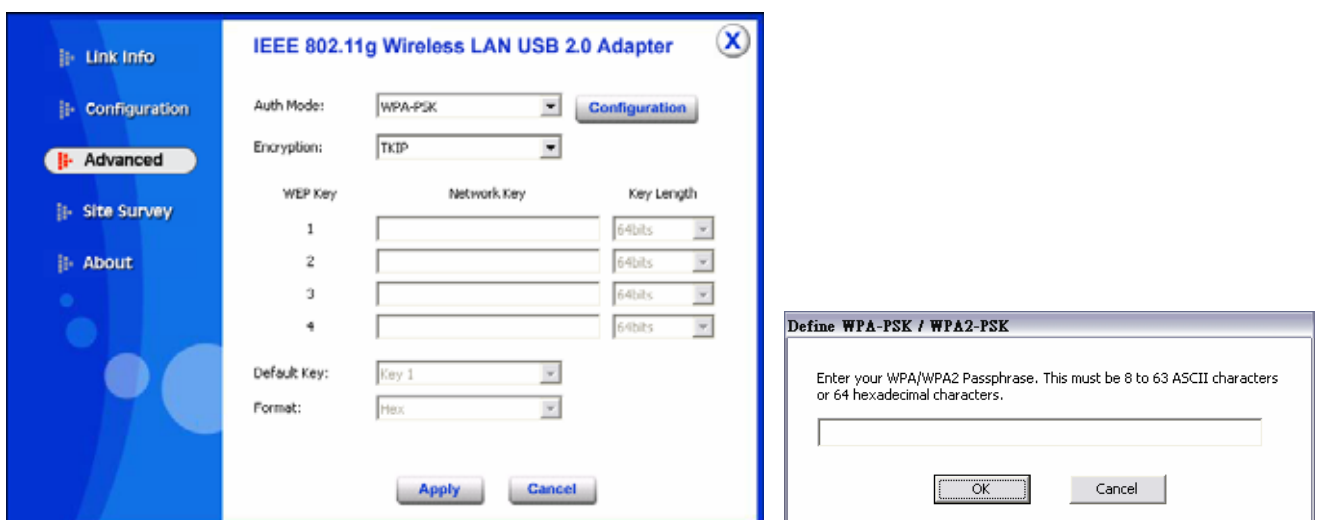
Click the **Configuration** button than enter a Passphrase in the Define WPA PSK dialog box. This Passphrase must be the same on each computer that is connected to the wireless network.

WPA / WPA2
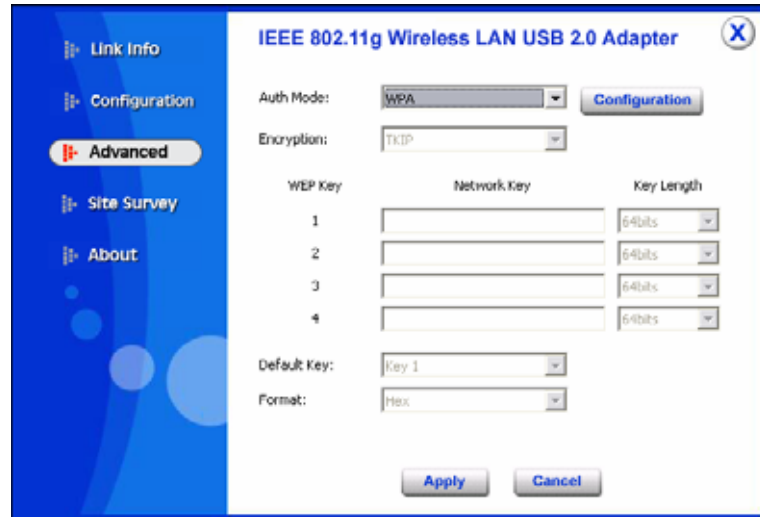
WPA2 (Wi-Fi Protected Access 2) is the second generation of WPA; providing enterprise and consumer Wi-Fi user with a high level of assurance that only authorized user can access their wireless networks. WPA2 is based on the final IEEE802.11i amendment to the 802.11 standard and is eligible for FIPS 140-2 compliant. WPA2 is select, configuration is enabled.   Please click the "**Certificate**" button. The below window is pop up. Then, please select the certificate that user wants to use and enter the server name and login name.
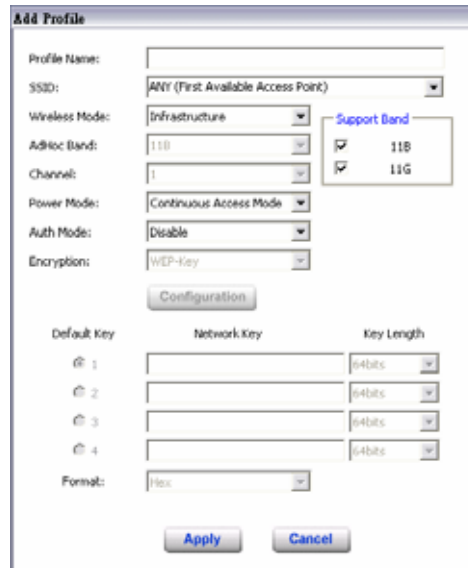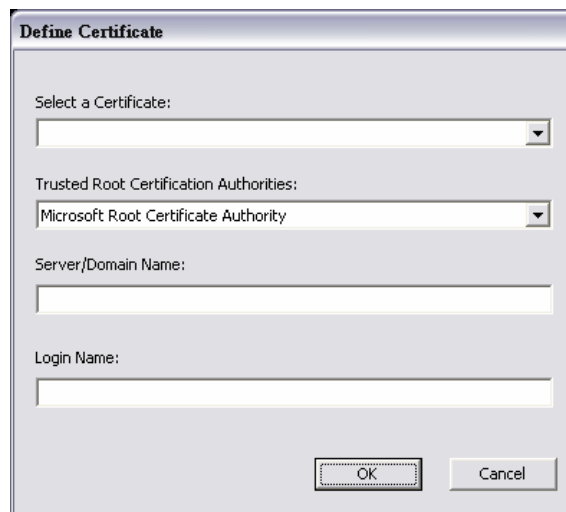
Site Survey

Available Network

The screen shows all the Wireless LAN devices around your Wireless LAN USB Adapter. The information of the wireless devices includes the SSID, MAC Address, Channels, Signal, the Security type and the Network mode.

You can click the "**Refresh**" button to find the new wireless LAN devices, and double-click the device to choose the wireless station that you want to connect with.
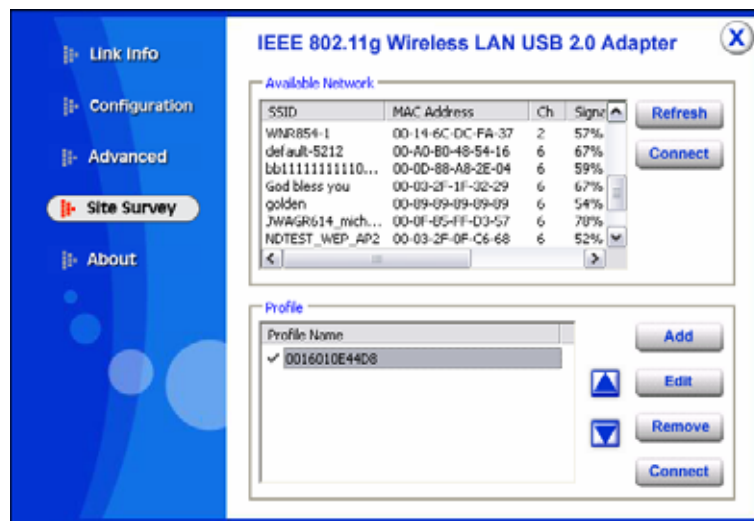
Profile

Add: Click "**Add**" to create a new profile, set the related values such as Profile name, SSID, Wireless Mode and Security settings than click "Apply" to save the profile.

Edit: Click "Edit" to modify existing profile, modify the settings than click "**Apply**" to save the profile.

Remove: Choose a profile name in the "Available Profiles" and click "Remove" to remove the existing profile.

Connect: Choose a profile name in the "Available Profiles" and click "Connect" to activate the existing profile.

About

The About section shows you the 802.11g Wireless USB 2.0 Adapter information, it shows MAC address, Utility Version, Driver Version, Regulatory Domain.

TECHNICAL SPECIFICATIONS

General	
Standards	IEEE 802.11g, USB 2.0, 1.1, 1.0
Radio Technology	IEEE 802.11b -- DSSS IEEE 802.11g -- OFDM
Data Transfer Rate	1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, 54Mbps (auto sense)
Receiver Sensitivity	54Mbps: Typical -68dBm @ 10% PER (Packet Error Rate) 11Mbps: Typical -83dBm @ 8% PER (Packet Error Rate)
Frequency Range	2412 MHz – 2462 MHz (FCC) 2412 MHz – 2472 MHz (ETSI) 2400 MHz – 2497 MHz (Japan)
Modulation Schemes	BPSK/QPSK/CCK/OFDM
Channels	1 ~ 11 channels (FCC) 1 ~ 13 channels (ETSI) 1 ~ 14 channels (Japan)
Media Access Protocol	CSMA/CA with ACK
Security	64/128bits WEP, WPA, WPA2, WPA-PSK, WPA2-PSK
Diagnostic LED	LNK (Link status)
Antenna	Internal printed antenna
Physical and Environmental	
Driver Support	Windows 98se, Windows 2000, Windows ME, Windows XP, Vista
Continuous Current Consumption	280mA typ. for receive mode, 410mA typ. for transmit mode
Temperature	Operating: 0° C ~ 40° C, Storage: -10° C ~ 70° C
Humidity	10% ~ 95% RH, no condensation
Dimensions	77 x 26 x 12 mm (W x H x D)
Certifications	FCC Part 15.247 for US, ETS 300 328 for Europe,