802.11n 1.0 Draft WLAN CardBus Adapter

CAMEO/WLN-1108

User's Guide

Regulatory notes and statements

Wireless LAN, Health and Authorization for use

Radio frequency electromagnetic energy is emitted from Wireless LAN devices. The energy levels of these emissions however are far much less than the electromagnetic energy emissions from wireless devices like for example mobile phones. The use of Wireless LAN devices may be restricted in some situations or environments for example:

·On board of airplanes, or

·In an explosive environment, or

·In case the interference risk to other devices or services is perceived or identified as harmful

In case the policy regarding the use of Wireless LAN devices in specific organizations or environments (e.g. airports, hospitals, chemical/oil/gas industrial plants, private buildings etc.) is not clear, please ask for authorization to use these devices prior to operating the equipment.

Regulatory Information/disclaimers

Installation and use of this Wireless LAN device must be in strict accordance with the instructions included in the user documentation provided with the product. Any changes or modifications made to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment. The Manufacturer is not responsible for any radio or television interference caused by unauthorized modification of this device, of the substitution or attachment. Manufacturer and its authorized resellers or distributors will assume no liability for any damage or violation of government regulations arising from failing to comply with these guidelines.

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:

FCC 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 CardBus slot, and product could be used in typical laptop computer with CardBus 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.

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

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 wide band 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 equipmen

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.

CE0560 ①

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 [Lithuanian]	Šiuo *[manufacturer name]* deklaruoja, kad šis *[equipment type]* atitinka esminius reikalavimus ir kitas 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	*[Meno výrobcu]* týmto vyhlasuje, že *[typ zariadenia]* spĺňa základné požiadavky a všetky

[Slovak]	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.
sw 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.

Export restrictions

This product or software contains encryption code that may not be exported or transferred from the US of Canada without an approved US Department of Commerce export license.

Safety Information

Your device contains a low power transmitter. When device is transmitted it sends out radio frequency (RF) signal.

CAUTION: To maintain compliance with FCC's RF exposure guidelines, this equipment should be installed and operated with minimum distance 20cm between the radiator and your body. Use on the supplied antenna. Unauthorized antenna, modification, or attachments could damage the transmitter and may violate FCC regulations.

The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

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.

Protection requirements for health and safety – Article 3.1a

Testing for electric safety according to EN 60950 has been conducted. These are considered relevant and sufficient.

Protection requirements for electromagnetic compatibility – Article 3.1b

Testing for electromagnetic compatibility according to EN 301 489-1, EN 301 489-17 and EN 55024 has been conducted. These are considered relevant and sufficient.

Effective use of the radio spectrum – Article 3.2

Testing for radio test suites according to EN 300 328-2 has been conducted. These are considered relevant and sufficient.

CE in which Countries where the product may be used freely:

Germany, UK, Italy, Spain, Belgium, Netherlands, Portugal, Greece, Ireland, Denmark, Luxembourg, Austria, Finland, Sweden, Norway and Iceland.

France: except the channel 10 through 13, law prohibits the use of other channels.

TABLE OF CONTENT

INTRODUCTION

Congratulations on your purchase of this 300Mbps 802.11n Wireless LAN Adapter.

This manual contains detailed instructions regarding the operation of this product. Please keep this manual for future reference.

With the 300Mbps 802.11n Wireless LAN Adapter, a desktop or laptop computer can communicate with another computer wirelessly. An easy-to-use utility is bundled with the 300Mbps 802.11n Wireless LAN Adapter for configuration, monitoring, and diagnostic purposes.

The 300Mbps 802.11n Wireless LAN Adapter can wirelessly transmit and receive data, at a speed of up to 300 megabits per second.

The 300Mbps 802.11n Wireless LAN Adapter provides users with access to real-time information anywhere in their organization. The mobility of the 300Mbps 802.11n Wireless LAN Adapter provides productivity and service, which are not available under wired networks. The 300Mbps 802.11n Wireless LAN Adapter can easily adapt 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. Describes the 300Mbps 802.11n Wireless LAN Adapter and its features.

Unpacking and Setup. Helps you get started with the basic installation of the 300Mbps 802.11n Wireless LAN Adapter.

Hardware Installation. Describes the LED indicator on the Adapter.

Software Installation. Describes how to setup the driver and the utility setting.

Technical Specifications. Lists the technical (general, physical and environmental) specifications of the 300Mbps 802.11n Wireless LAN Adapter.

UNPACKING AND SETUP

This section provides unpacking and setup information for the 300Mbps 802.11n Wireless LAN Adapter.

Unpacking

The box should contain the following items:

◆ One 300Mbps 802.11n Wireless LAN Adapter

◆ One Driver & Utility CD-ROM

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

Setup

Before installation, check the following:

● Make sure your computer is running at least a 300MHz or above processor with 256MB RAM or above

● Visually inspect the CardBus/PCI Adapter and make sure that it is fully plugged in to the CardBus/PCI slot.

● The operating system on your computer must be the following: Windows 2000 (Service Pack 4), XP (Service Pack 2), Windows Vista

● A draft 802.11n or 802.11b/g access point.

● Make sure the environment has minimal interference and obstructions.

HARDWARE INSTALLATION

LED Indicator for CardBus

Link

The Link LED indicator lighted green when the 300Mbps 802.11n Wireless LAN Adapter is connected to wireless network successfully.

ACT (Activity)

The ACT LED indicator blinking green when the 300Mbps 802.11n Wireless LAN Adapter is transmitting or receiving data.

LED Indicator for PCI

Link

The Link LED indicator lighted green when the 300Mbps 802.11g Wireless LAN Adapter is connected to wireless network successfully.

Check the installation

The LEDs of the Wireless LAN Adapter are clearly visible and the status of the network link can be seen instantly:

1. Once the device is plugged to the station's CardBus/PCI slot, the LED of the Wireless LAN Adapter will light up indicating a normal status.

2. When the device plugged to the station's CardBus/PCI slot and the driver was installed, the ACT will start alternate blinking, it means that the device is starting to scan the wireless devices near the Wireless LAN Adapter.

3. While the Wireless LAN Adapter linked up and transmitting data to the Access Point or to other Wireless LAN station, the Link LED will lighted green.

SOFTWARE INSTALLATION

This section describes how to install the driver and utility for the 300Mbps 802.11n Wireless LAN Adapter.

Note: DO NOT install the 300Mbps 802.11g Wireless LAN Adapter in the computer until instructed to do so.

Windows 98/ME/2000/XP/Vista Utility and Driver Installation

1) Insert the 300Mbps 802.11n Wireless LAN Adapter Driver & Utility CD-ROM and the Auto-run program will appear. Alternatively, open a file browser and double click on the autorun.exe file located in the CD directory. 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:\Utility\Vista\Setup.exe" or "D:\Utility\XP2K\Setup.exe"in the dialog box and click **OK**.

> *Note: (D:\ will depends on where the CD-ROM drive is located and <Windows OS> will depend on the Windows OS you are using)*

2) If you need to install the driver manually, refer each Windows OS to the following CD-Rom directory path: D:\Driver\<Windows OS>.

> *Note: (D:\ will depends on where the CD-ROM drive is located and <Windows OS> will depend on the Windows OS you are using).*

3) Click "Install Software (Utility)" to install the driver and software. Select "XP / 2K/ ME / 98" or "Vista" , depending on your operating system, and the install wizard will begin installing the software. Follow the install wizard instructions to complete the installation.

4) Follow the Install Shield Wizard Instructions. Click "**Next**" to continue and finish it.

The installation program will help you to setup the Wireless LAN utility.

When the Wireless LAN Adapter was installed, you will see the icon on the Windows task bar. The user can configure the wireless settings using the Wireless Adapter Configuration Utility. Double-click the utility icon that appears in the taskbar

When the icon in the toolbar represents in full green color then the signal strength has an excellent performance with the AP, if it represents in yellow color then the signal strength has a fair performance with the AP, and if the icon represents no color, then the signal strength has a worst performance with the wireless station.

Windows Vista Wireless Utility Setting

The user can configure the wireless settings using the Wireless Adapter Configuration Utility. Double-click the utility icon that appears in the taskbar.

Link Information
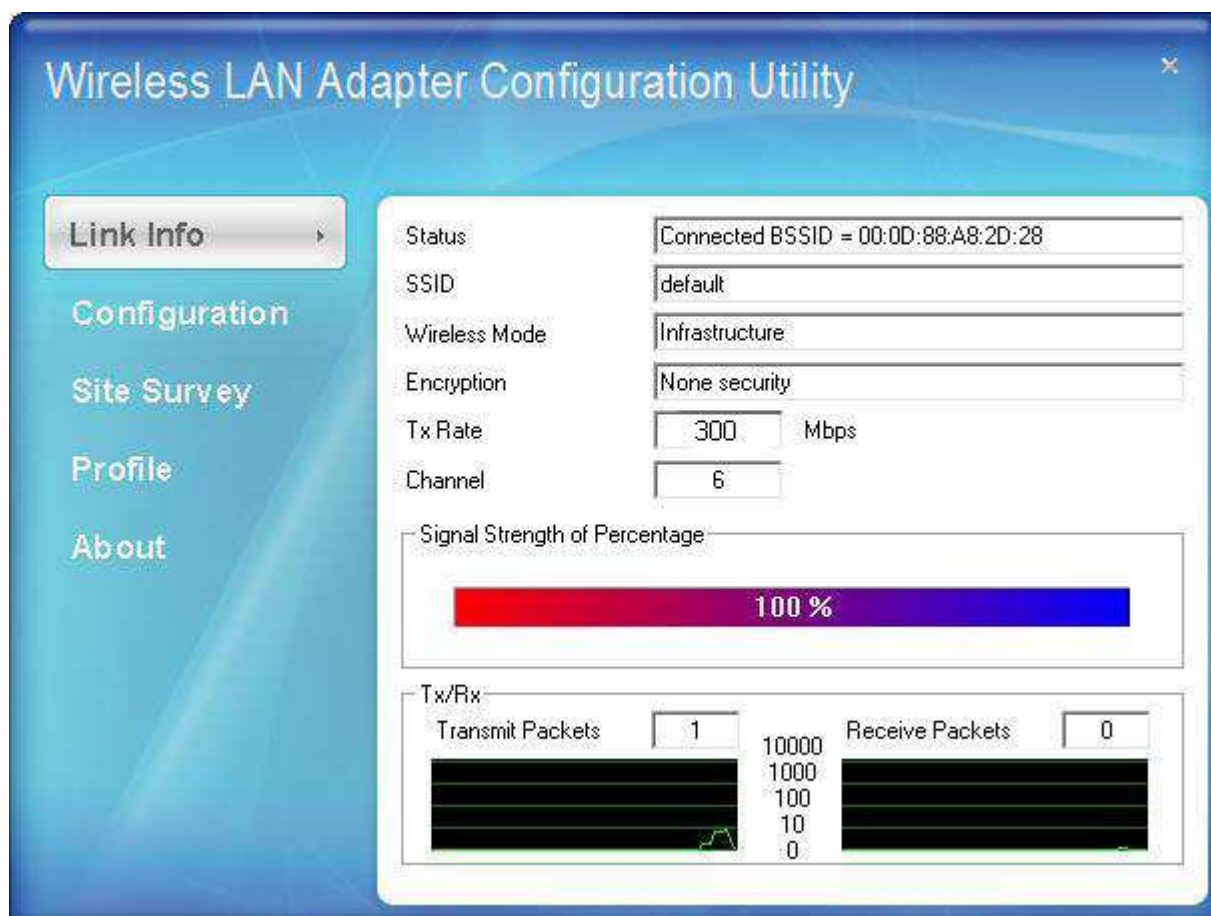
This is the default screen after launching the Utility program.

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: Shows the current encryption mode used on the wireless network.

TxRate: 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 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 Adapter with the Access Point when operating under Infrastructure mode.

Configuration

This screen is where you set the basic wireless settings for the Wireless LAN Adapter
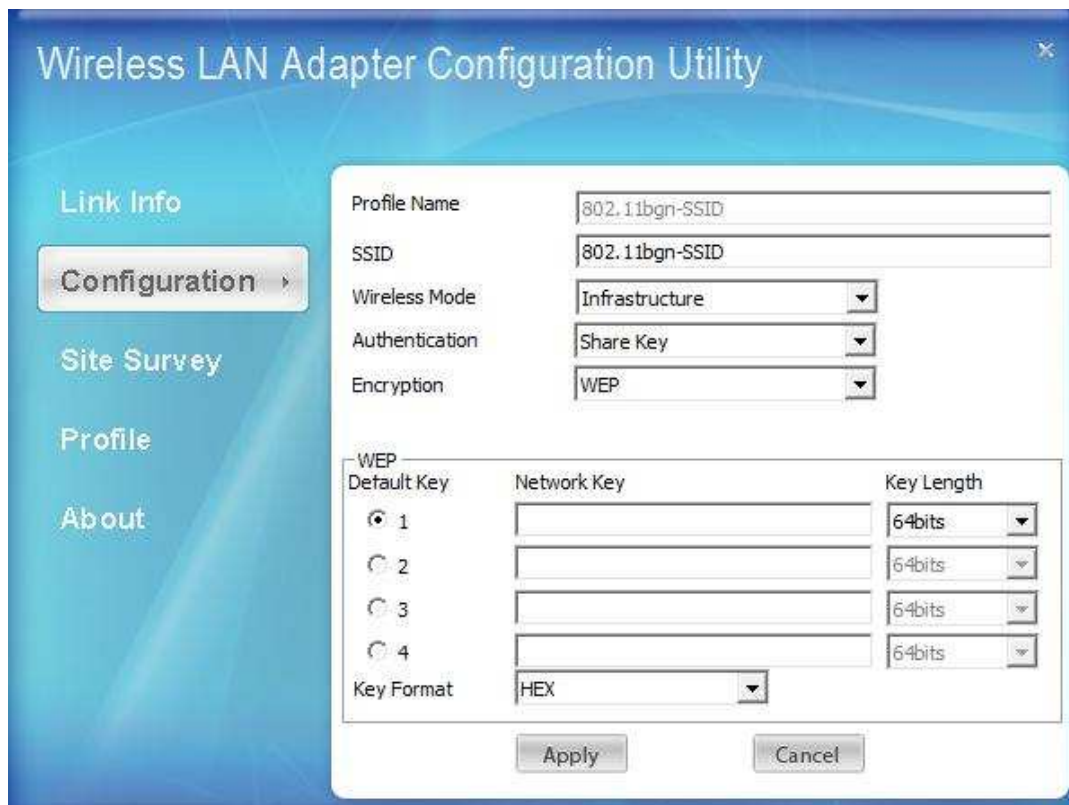
SSID: Service Set Identifier, which is a unique name shared among all clients in a wireless network. The SSID must be identical for each client in the wireless network.

Wireless Mode: There are two modes available for selection

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

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

Authentication: The following options are available: Open System, Shared Key, WPAPSK, WPA2-PSK, WPA EAP-TLS, WPA2 EPA-TLS and WPA2-PSK. Select Open System, Shared Key for WEP data encryption feature.
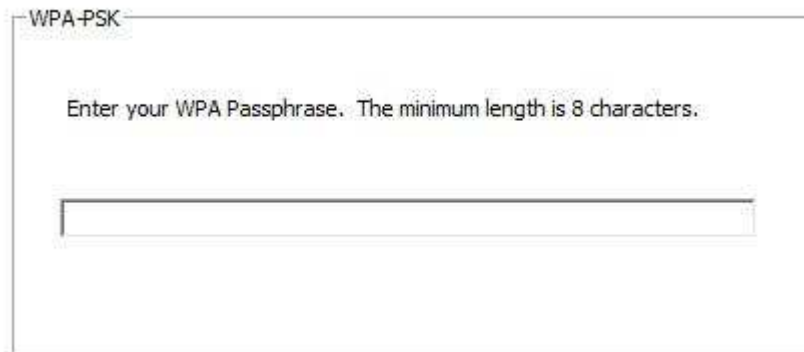
Open or Shared Key

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

- 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 A**SCII**

WPA-PSK/WPA2-PSK
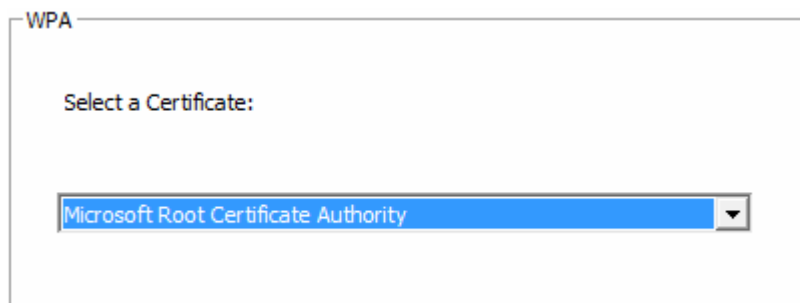
If **WPA-PSK/WPA2-PSK** is selected the below window appears. Please enter a WPA Passphrase.

WPA-PSK/WPA2-PSK

If **WPA/WPA2** is selected, configuration is enabled. Please click the "**configuration"** button. Select a certification for drop down list.

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.

Remove: Deletes the selected 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

Connect: The current connected profile information.
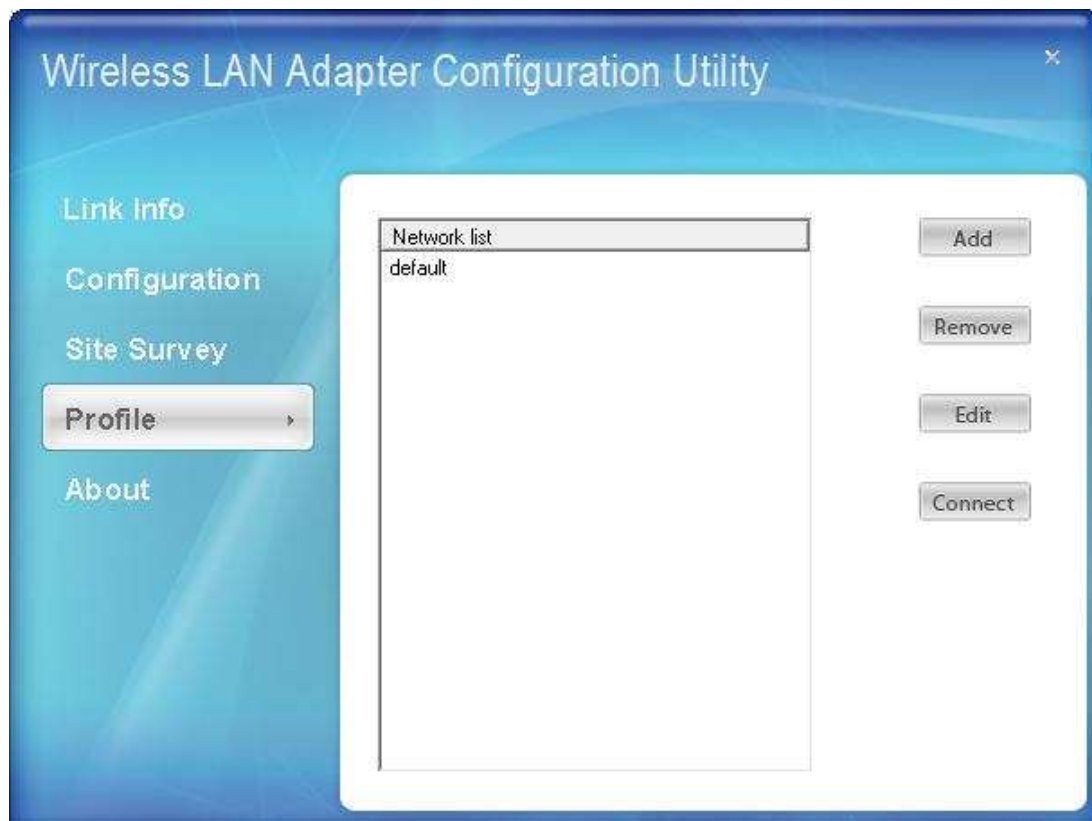
About

This screen displays information about the 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.
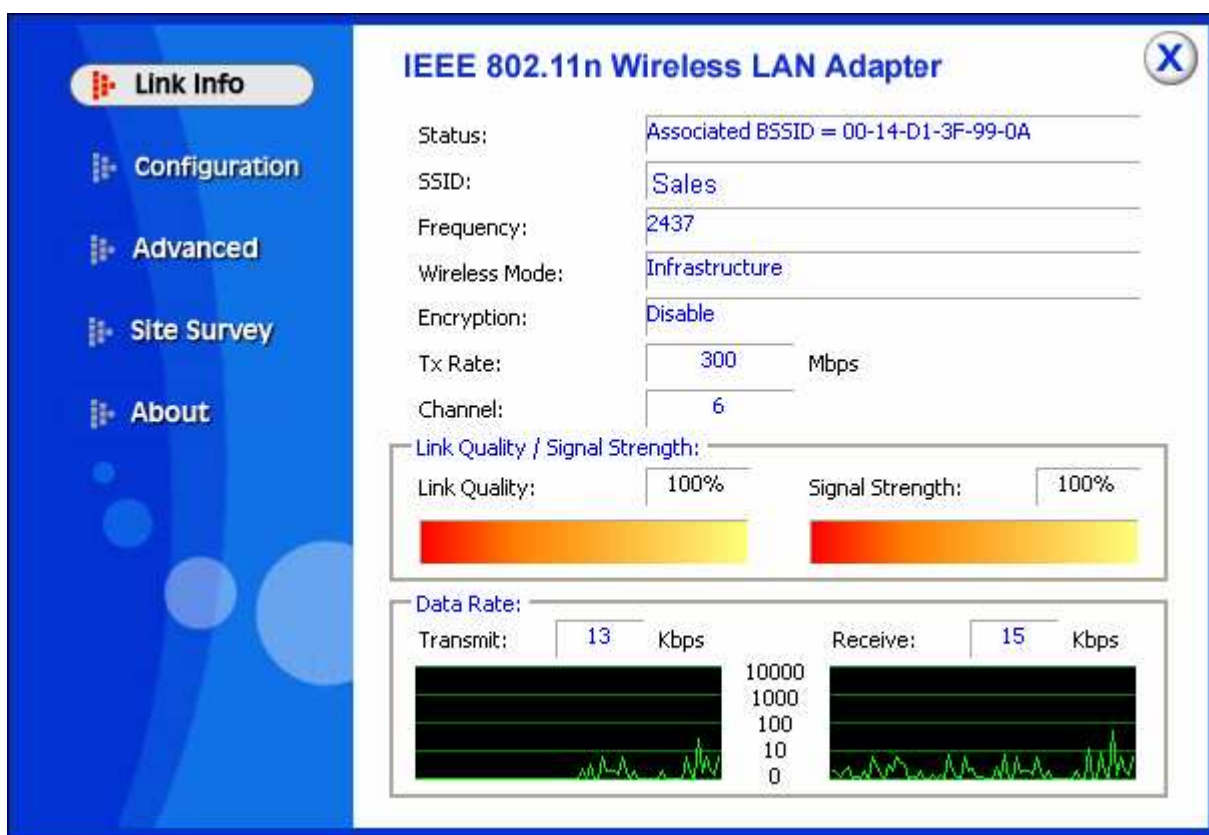
Windows XP/2000/ME/98 Wireless Utility Setting

The user can configure the wireless settings using the Wireless Adapter Configuration Utility. Double-click the utility icon that appears in the taskbar.
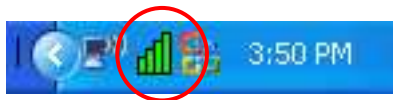
The Wireless Adapter Configuration Utility is divided into five sections: Link Info, Configuration, Advanced, Site Survey and About.

Link Information

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.

Frequency: Shows the current frequency used for wireless network.

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

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

TxRate: Shows the current data rate used for transmitting.

**Channel:** Shows the current channel for communication.

Link Quality: Shows the link quality of the 300Mbps 802.11n Wireless LAN Adapter with the Access Point when operating under Infrastructure mode.

Signal Strength: Shows the wireless signal strength of the connection between the 300Mbps 802.11n Wireless LAN Adapter with the Access Point.

Data Rate: Shows the statistics of data transfer, and the calculation is based on the number of packets transmitted and received.

Configuration

This screen is where you set the basic wireless settings for the 300Mbps 802.11n Wireless LAN Adapter
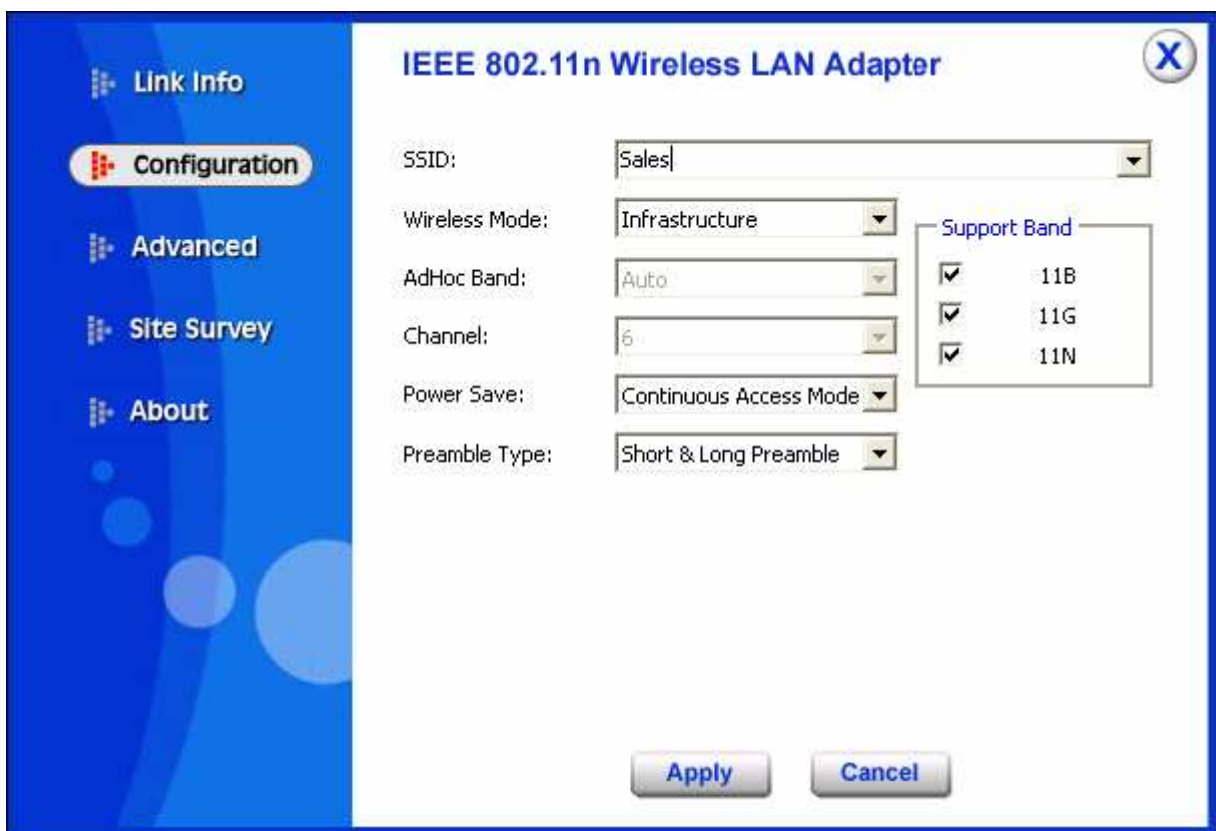
SSID: Service Set Identifier, which is a unique name shared among all clients in a wireless network. The SSID must be identical for each client in the wireless network.

Wireless Mode: There are two modes available for selection:

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

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

AdHoc Band: There are three available selection for Auto, 11b and 11g

Channel: The channel the AP operates on. Users can select the channel range of 1 to 11 for North America (FCC) domain and 1 to 13 for European (ETSI) and Japan (MKK) domains.

Power Save: There are 3 modes to choose from.

- Continuous Access Mode (default) – the wireless LAN adapter is constantly operating with full power. This mode consumes the most power.

- Maximum Power Save – the wireless LAN adapter consumes the least power. This mode only operates when there is wireless network activity.

- Power Save – the wireless LAN adapter consumes moderate level of power.

Preamble Type: Select Long or Short & Long 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 1Mbps and 2Mbps DSSS specification (as described in IEEE 802.11), and an optional Short Preamble and header (as described in IEEE 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 for the IEEE 802.11b (High- Rate) standard and not for the original IEEE 802.11 standard. That means that stations using Short-Preamble cannot communicate with stations implementing the original version of the protocol. Click "Apply" to save the changes.

Support Band: There are 3 modes the user can select; 11B, 11G and 11N. By default, 11B, 11G and 11N are enabled.

Advanced

This screen is where you configure the Security settings for the 300Mbps 802.11n Wireless LAN Adapter.

Auth Mode: The following options are available: Open System, Shared Key, Auto, WPA/WPA2 and WPA-PSK/WPA2-PSK. Select Open System, Shared Key or Auto for WEP data encryption feature.
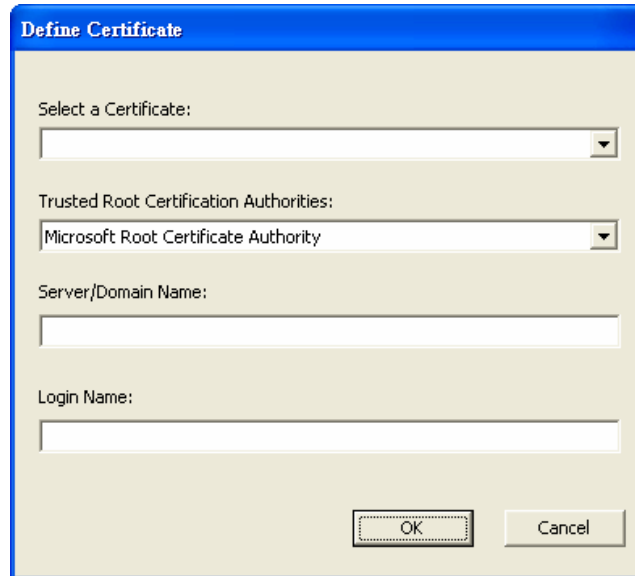
Open or Shared Key

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

- 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 A**SCII**

WPA/WPA2

If **WPA/WPA2** is selected, configuration is enabled. Please click the "**configuration"** button. The following window appears. Select the desired Certification, select the desired Certification Authority and then enter the Server/Domain name and Login Name.
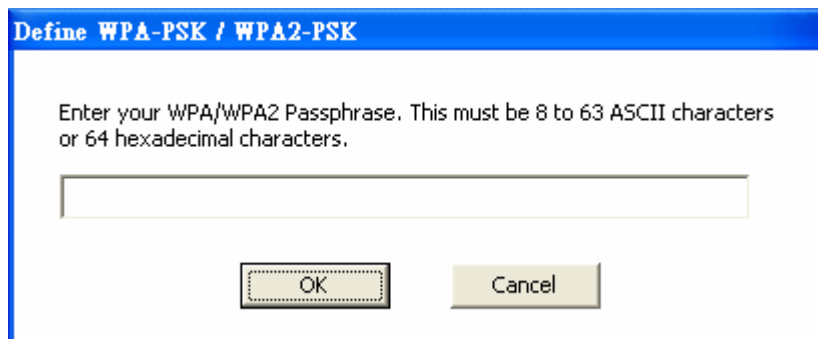

WPA-PSK/WPA2-PSK

If **WPA-PSK/WPA2-PSK** is selected, click the "**configuration"** button. The below window appears. Please enter a WPA Passphrase.

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 – 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 WEP as saved by that particular profile.

Remove: Deletes the selected profile

Properties: To view and change the settings of the 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.

About

This screen displays information about the 300Mbps 802.11n 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.

WLN-1108 TECHNICAL SPECIFICATIONS

General	
Radio Technology	IEEE 802.11b Direct Sequence Spread Spectrum (DSSS)
	IEEE 802.11g Orthogonal Frequency Division Multiplexing (OFDM)
	IEEE 802.11n draft 2.0 Orthogonal Frequency Division Multiplexing (OFDM)
Interface	PC Card: 32-bit CardBus, PCI Adapter: 32-bit PCI bus
Data Transfer Rate	802.11b: 11Mbps, 5.5Mbps, 2Mbps, and 1Mbps
	802.11g: 54Mbps, 48Mbps, 36Mbps, 24Mbps, 18Mbps, 12Mbps, 9Mbps and 6Mbps
	802.11n: up to 300Mbps
Receiver Sensitivity	300Mbps: Typical -65dBm @ 10% PER (Packet Error Rate)
	54Mbps: Typical -72dBm @ 10% PER (Packet Error Rate)
	11Mbps: Typical -86dBm @ 8% PER (Packet Error Rate)
Transmit Power	23 dBm
Frequency Range	2412 ~ 2484 MHz ISM band (channels 1 ~ 14)
	2400~2483.5MHz ISM band (channels 1 ~ 11)
Modulation Schemes	DBPSK/DQPSK/CCK/OFDM
Channels	1~11 channels (FCC/NCC), 1~13 channels (ETSI)
Media Access Protocol	CSMA/CA with ACK
Security	64/128-bits WEP Encryption, WPA-PSK, WPA2-PSK, WPA, WPA2
Diagnostic LED	PC Card: Link, ACT
	PCI Adapter: Link
Antenna	PIFA antenna, 2.25 dBi

Physical and Environmental	
Driver Support	Windows 98, ME, Windows 2000, Windows XP, Windows Vista
Temperature	Operating: 0° ~ 40° C, Storage: -10° ~ 70° C
Humidity	10% ~ 95% RH, no condensation
Dimensions	PC Card:, 115 x 54 x 8.7 mm, PCI Adapter: 13 x 121 x 21.6
Certifications	FCC Part 15.247 for US, ETS 300 328 for Europe, NCC LP0002 for Taiwan