EnGenius

Wireless 11N USB Adapter

User's Manual

Version: 1.0

Table of Contents

EnGenius®

1. Introduction

The high-speed wireless USB 2.0 client adapter is the most convenient way to let you put a desktop/laptop computer almost anywhere without the hassle of running network cables. Now you don't need to suffer from drilling holes and exposed cables. Once you are connected, you can do anything, just like the wired network. This USB client adapter operates seamlessly in 2.4GHz frequency spectrum supporting the 802.11b, 802.11g, and 802.11n wireless standards. It's the best way to add wireless capability to your existing wired network or simply surf the web.

To protect your wireless connectivity, the high-speed wireless USB 2.0 client adapter can encrypt all wireless transmissions through 64/128-bit WEP, WPA and WPA2 security allowing you to experience the most secure wireless connectivity available.

The EnGenius 802.11n USB Adapter 11N technology which extremely improves wireless signal for your computer than existing wireless 802.11g technology. The incredible speed of EnGenius USB adapter makes heavy traffic networking activities more flexible and takes the wireless into practical road. You could enjoy the racing speed of wireless connection, surfing on Internet without string wires.

Adding EnGenius USB Adapter to your Laptop or desktop PC, it provides an excellent performance and cost-effective solution for doing media-centric activities such as streaming video, gaming, and enhances the QoS (WMM) without any reduction of performance.

1.1. Features & Benefits

Features	Benefits
Racing Speed up to 150Mbps data rate (2.4GHz 11N technology)	**Enjoy the Internet connection in crazy-fast speed, without the bottleneck of stringing wires.**
Advanced power management	**Low power consumption**
WPA/WPA2 (IEEE 802.11i), WPA-PSK, WPA2-AES, WEP 64/128 Support	**Powerful data security.**
WMM (IEEE 802.11e) standard support	**Wireless Multimedia Enhancements Quality of Service support (QoS) / enhanced power saving for Dynamic Networking**
USB 2.0/1.1	**USB 2.0 interface and compatible with USB 1.1**

1.2. USB Adapter Description

LED shows the Power and Link (traffic) status. Antenna RSMA connector allows you to upgrade to higher gain antenna.

EUB9603 EXT

EUB9603H

1.3. System Requirements

The following are the minimum system requirements in order to use the USB adapter.
➤ PC/AT compatible computer with a USB interface.
➤ Windows 7/Vista/XP or Mac OS operating system.
➤ 30MB of free disk space for installing the USB adapter driver and utility program.

1.4. Applications

The wireless LAN products are easy to install and highly efficient. The following list describes some of the many applications made possible through the power and flexibility of wireless LANs:

a) **Difficult-to-wire environments**
There are many situations where wires cannot be laid easily. Historic buildings, older buildings, open areas and across busy streets make the installation of LANs either impossible or very expensive.

b) **Temporary workgroups**
Consider situations in parks, athletic arenas, exhibition centers, disaster-recovery, temporary offices and construction sites where one wants a temporary WLAN established and removed.

c) **The ability to access real-time information**
Doctors/nurses, point-of-sale employees, and warehouse workers can access real-time information while dealing with patients, serving customers and processing information.

d) **Frequently changed environments**
Show rooms, meeting rooms, retail stores, and manufacturing sites where frequently rearrange the workplace.

e) **Small Office and Home Office (SOHO) networks**
SOHO users need a cost-effective, easy and quick installation of a small network.

f) **Wireless extensions to Ethernet networks**
Network managers in dynamic environments can minimize the overhead caused by moves, extensions to networks, and other changes with wireless LANs.

g) **Wired LAN backup**
Network managers implement wireless LANs to provide backup for mission-critical applications running on wired networks.

h) **Training/Educational facilities**
Training sites at corporations and students at universities use wireless connectivity to ease access to information, information exchanges, and learning.

2. Installation for Windows (7/Vista/XP/2000)

2.1. Before You Begin

During the installation, XP may need to copy systems files from its installation CD. Therefore, you may need a copy of the Windows installation CD at hand before installing the drivers.

2.2. Installing the Drivers

Follow the steps below in order to install the USB adapter drivers:

1. Insert the CD that was provided to you in this package. The setup should run automatically. If the setup does not run automatically, then must manually select the **index.htm** file from the CD/DVD-ROM drive.

2. A list of drivers will be given on the screen. Please choose the driver for your current operating system.

3. Click on **Windows Driver** to start the install process.
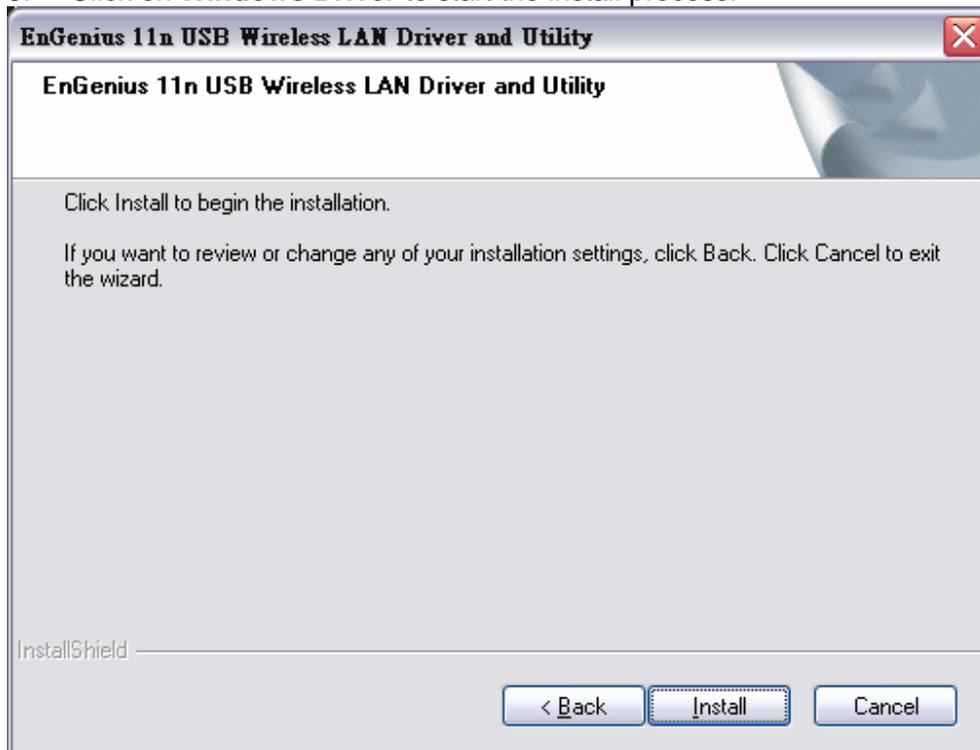
4. Click on the **Install** button to begin the installation.

Now installing EnGenius 11n USB Wireless LAN Driver

5. Wait for a few seconds until the driver and client utility is installed.

EnGenius 11n USB Wireless LAN Driver and Utility

InstallShield Wizard Complete

The InstallShield Wizard has successfully installed EnGenius 11n USB Wireless LAN Driver and Utility. Before you can use the program, you must restart your computer.

⦿ Yes, I want to restart my computer now.

○ No, I will restart my computer later.

Remove any disks from their drives, and then click Finish to complete setup.

< Back   Finish   Cancel

6. The installation is complete. Click on the **Finish** button.
7. Carefully insert the USB adapter into the USB port. Windows will then detect and install the new hardware.

   If you are given a cable with three USB plugs, please make sure both P1 and P2 USB plugs are inserted into available slots.
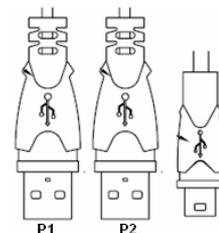
8. An **EG** icon will then appear in the system tray. Double click on EG icon to open utility window.

2.3. General
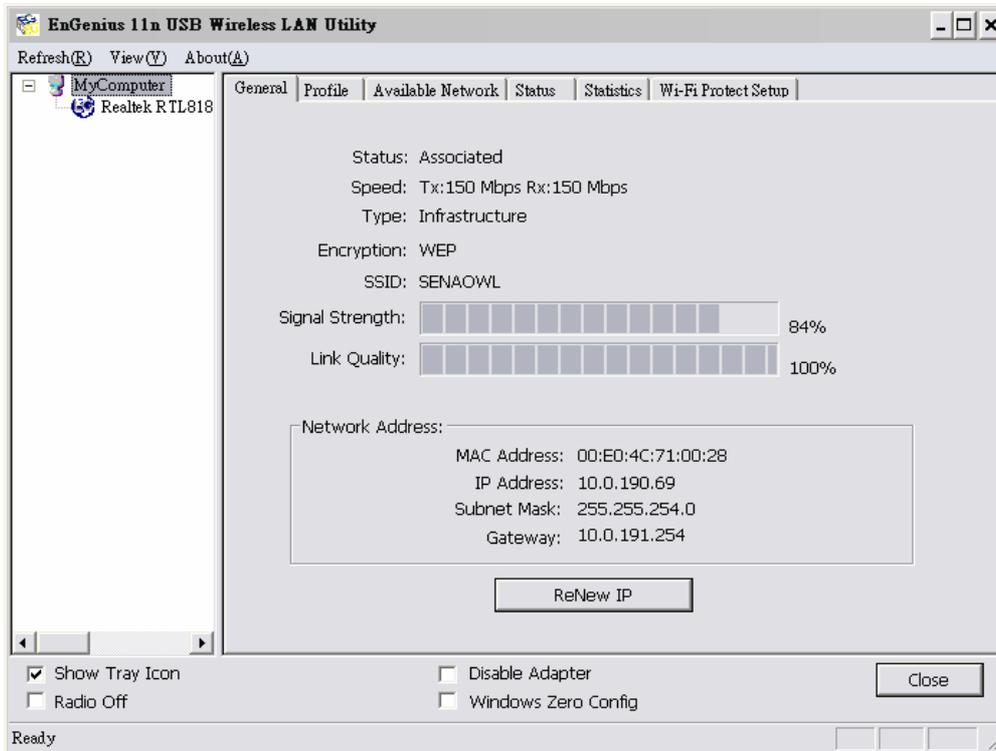
This page delivers information of Status, Speed, Type, Encryption, SSID, Signal Strength and Link Quality.

Click on **Renew IP** to re-establish wireless connection with the chosen AP.

2.4. Profile
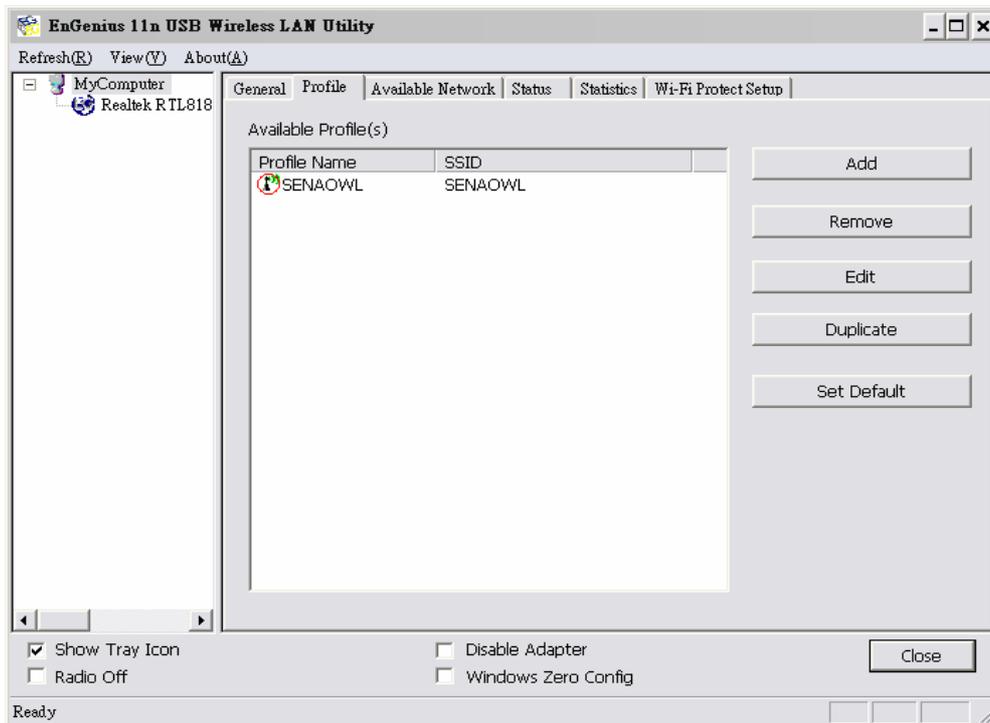
Options:

    Show Tray Icon: show/hide Utility icon in system tray.
    Radio Off: temporary turn off wireless radio
    Disable Adapter: temporary disable wireless adapter
    Windows Zero Config: switch to Windows default wireless configuration tool

Functional Button:

Add: Manual to key in Profile name, SSID and encryption keys as below.

Edit: You can modify the configuration and settings.

Duplicate: to clone a profile.

Set Default: Reset all saved setting.

2.4.1.Available Network

This tab allows user to scan APs in proximity. The information includes SSID, Channel, Encryption, Authentication and signal.
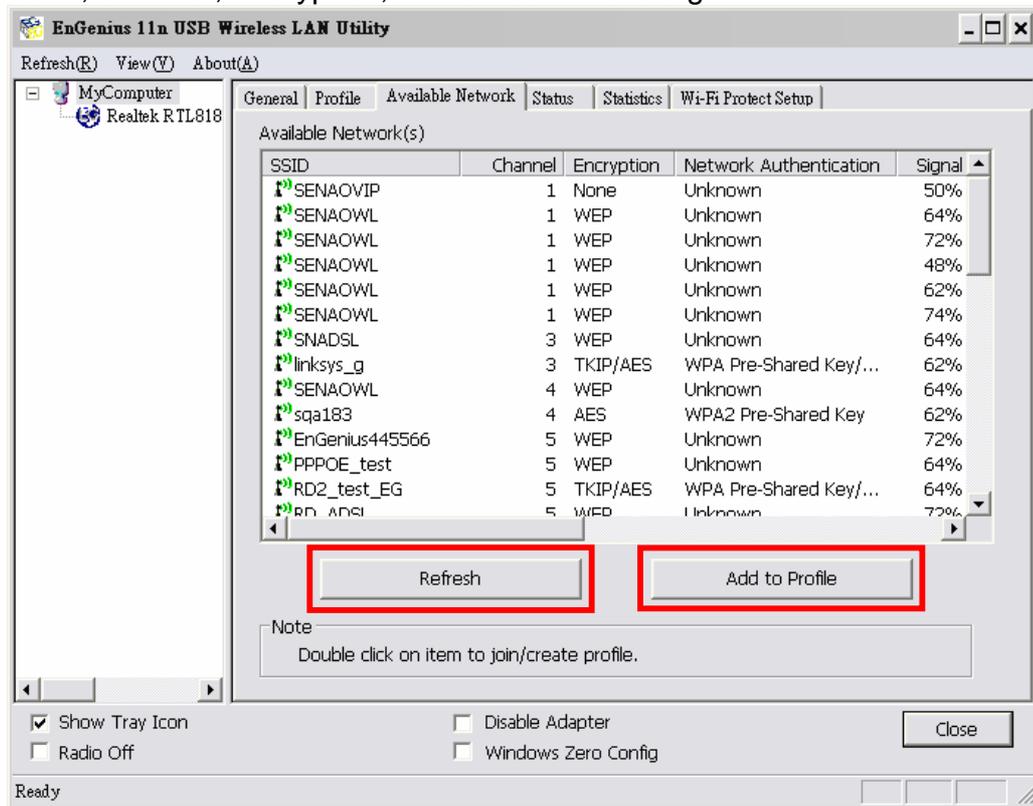
Refresh: Scan available networks again.
Add to Profile: Select any available SSID to save in profiles.

2.5. Status
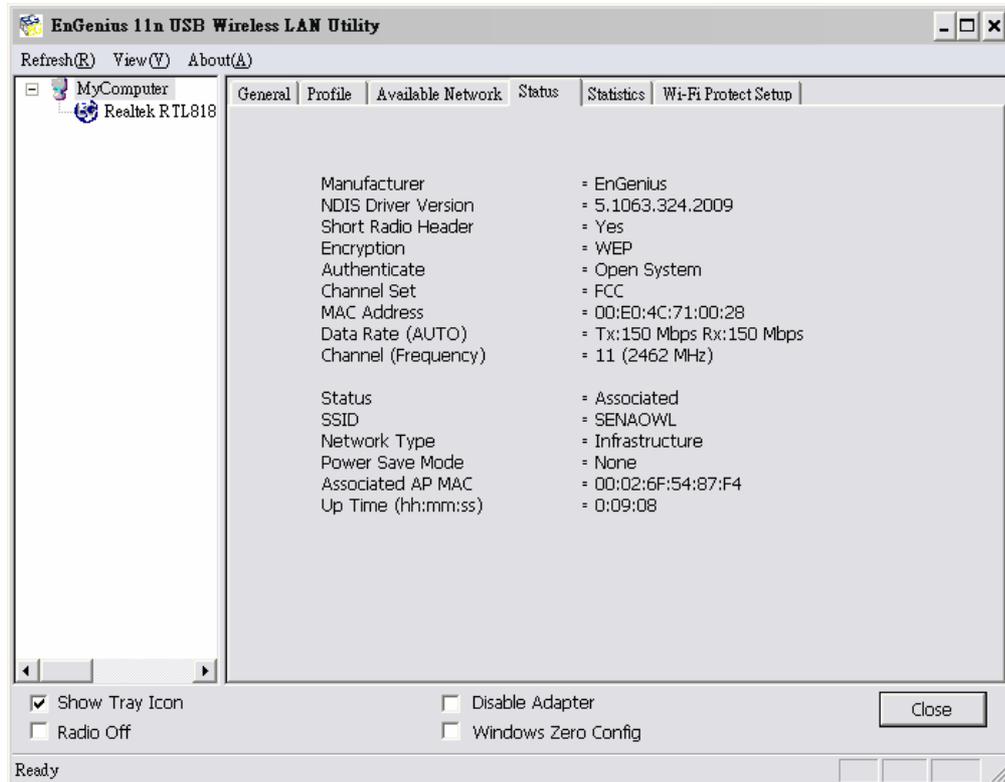
In Status tab, you can find the information, included Manufacturer, NDIS Driver Version, Radio Header, Encryption type, Authenticate type, Channel Set, MAC Address, Data Rate, Channel used, SSID, Network Type and so on.

2.6. Statistic
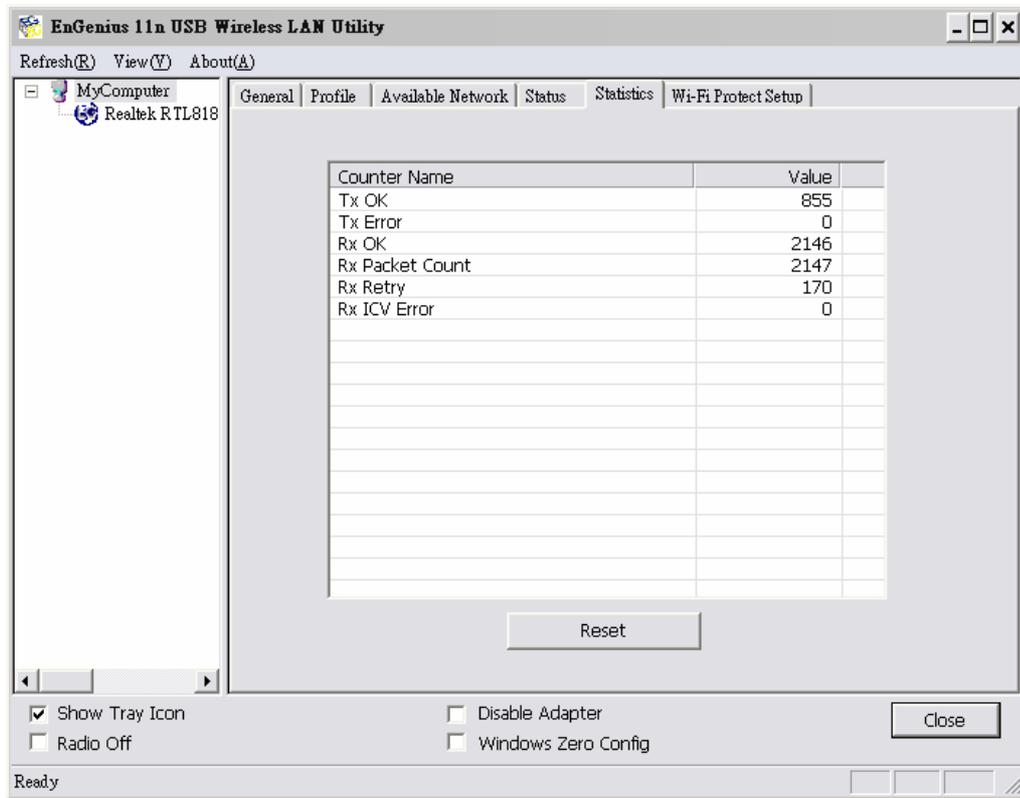
This page shows the information on Tx and Rx transmission and receiving condition.

2.7. Wi-Fi Protected Setup
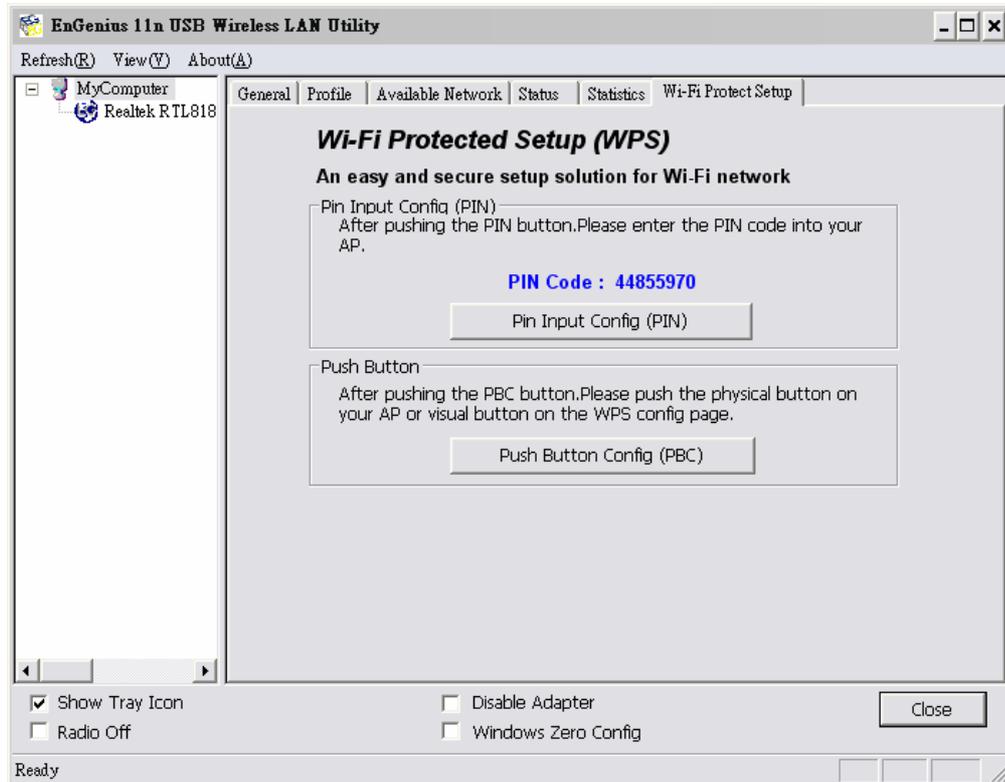
There are two ways to setup connection through WPS.

Pin Input Config (PIN): enter PIN code to establish connection
Push Button Config (PBC): this is the software button for WPS button

PIN Input Config:

Click on the button to start the PIN code process
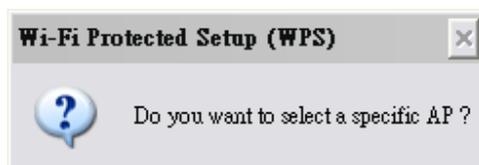
If select Yes, AP scanning will run automatically.
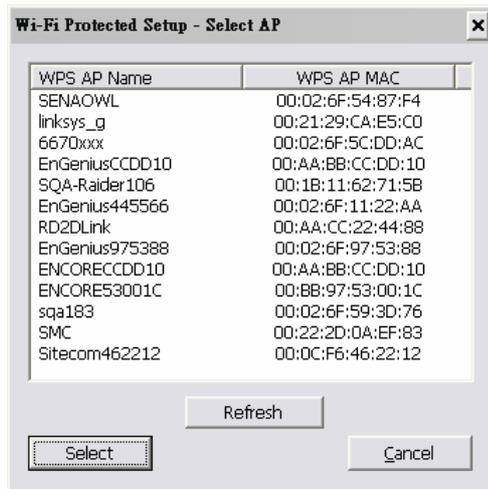
Select the target AP,
Choose one AP to key in PIN code.

Enter generated PIN code in AP your selected. The synchronization will start shortly.

Press WPS Button on USB directly and then click the button "**Push Button Config**" shown above.

Push Button Config:

Click on the [**Push Button Config**] button

Press WPS button on the AP

The connection will be established in a few seconds..

3. Installation for Mac OS

3.1. Installing the Drivers

Follow the steps below in order to install the USB adapter drivers:

1. Insert the CD that was provided to you in this package. The setup should run automatically. If the setup does not run automatically, then must manually select the **index.htm** file from the CD/DVD-ROM drive.

2. A list of drivers will be given on the screen. Please choose the driver for your current operating system.

3. **Introduction** stage: Click on the **Continue** button to configure the next step.

4. **Read Me** Stage: Read the Important Information and then click on the **Install** button.
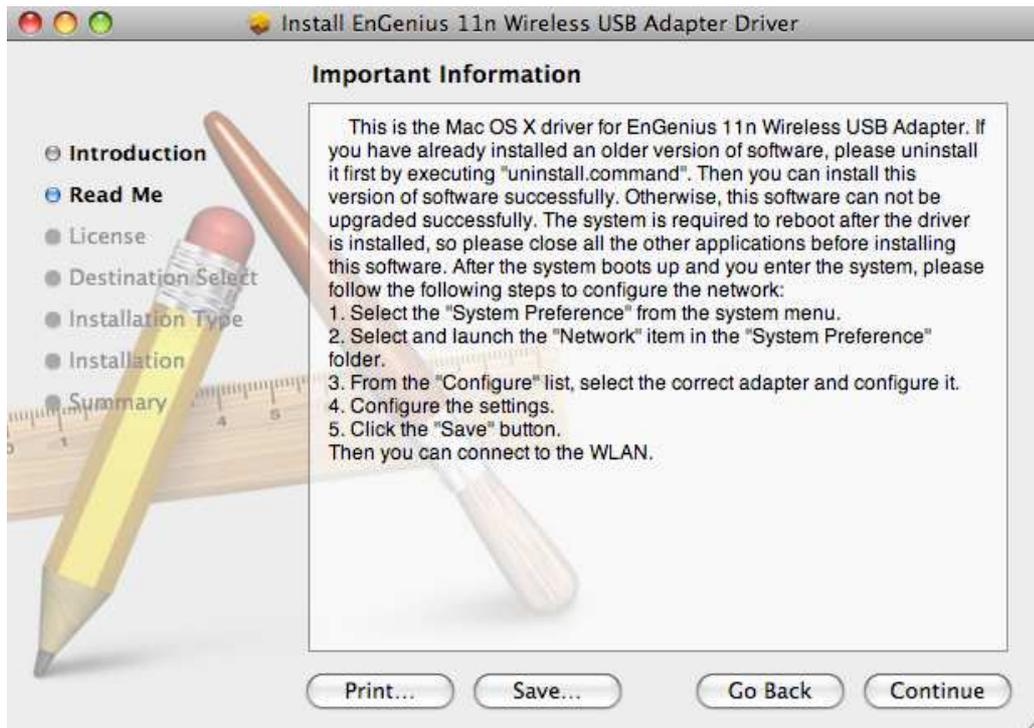
5. **License** stage: You can choose the language and then click on the **Continue** button to configure the next step.

After click on the **Continue** button, a agreement window will be opened for your confirm. Click on the **Agree** button to configure the next step.
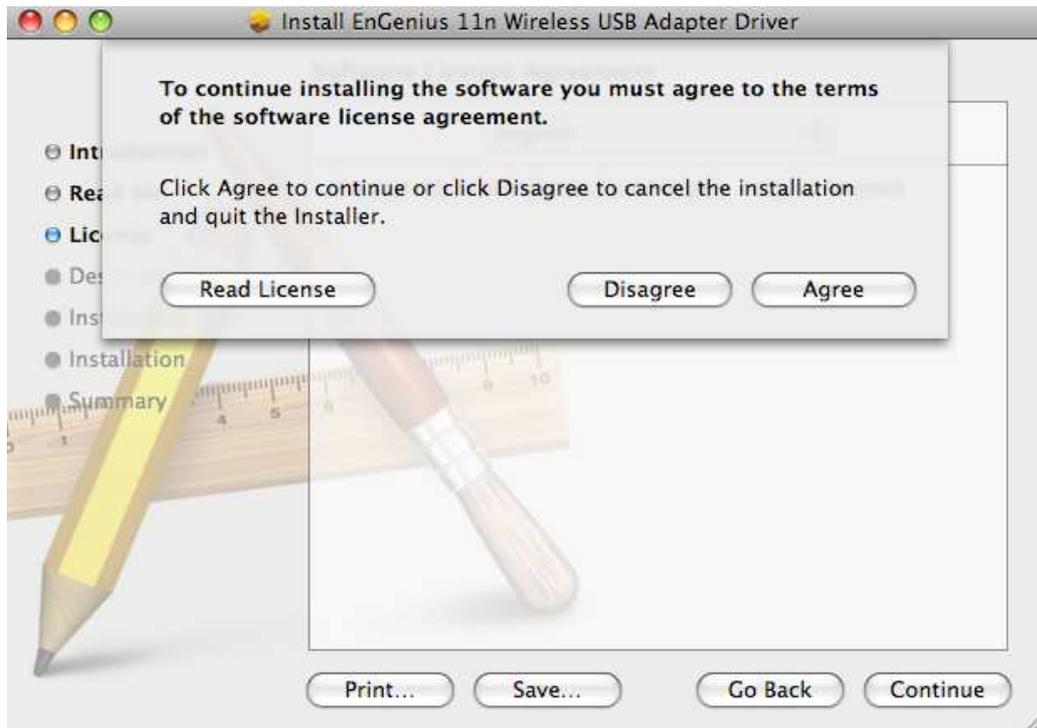
6. **Installation Type** stage: Click on the **Install** button to install the driver on Macintosh HD.
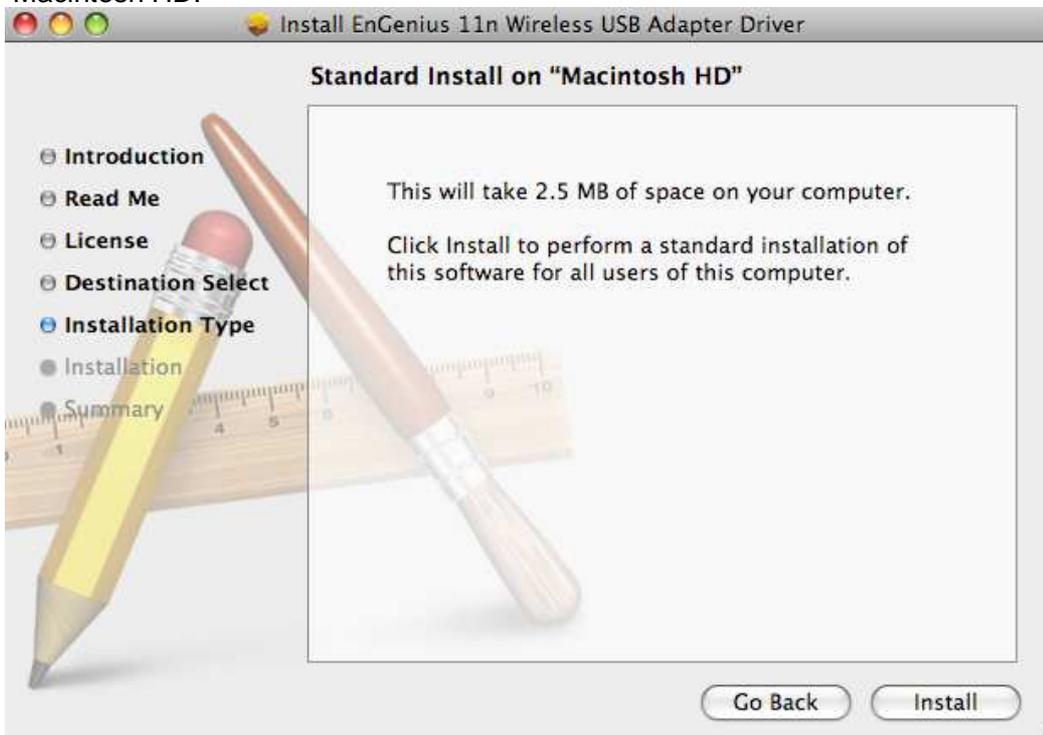
Click on the **Continue Installation** to configure the next step.

7. **Summary** stage: The installation is complete. Click on the Restart button.
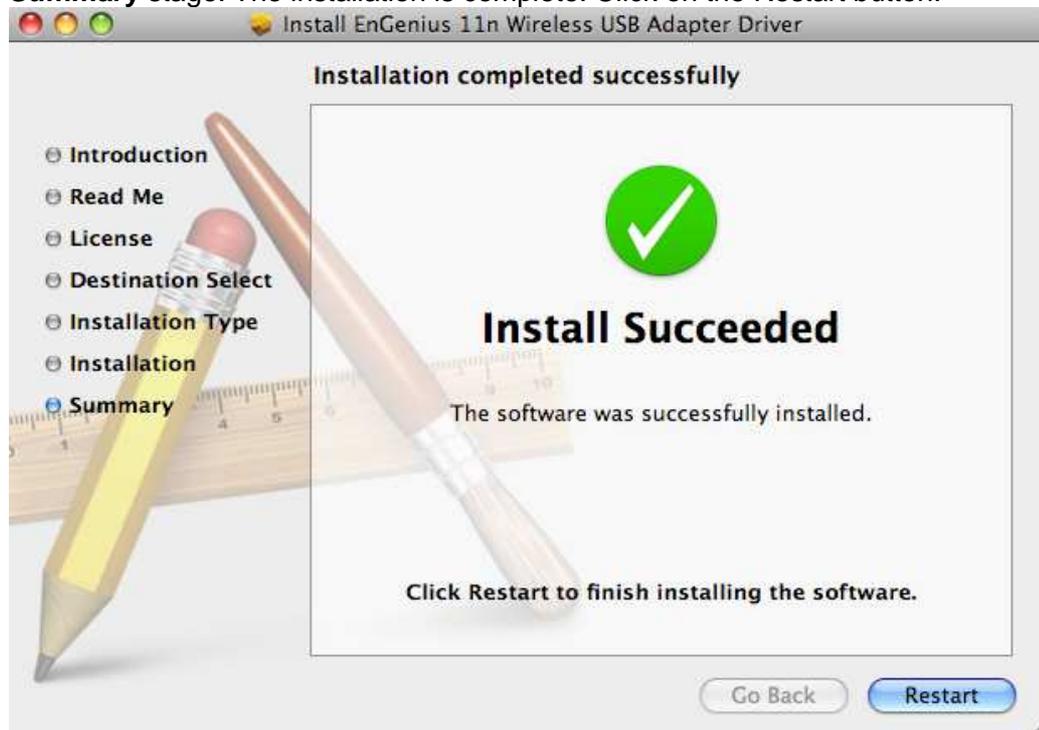
8. Carefully insert the USB adapter into the USB port. MAC OS X will then detect and install the new hardware.

 You can find the logo and there are some windows with message.

    (1) If click **Network Preference**, you can configure the network setting for MAC OS.

    (2) Click OK to enable EnGenius wireless LAN card and open utility to configure.
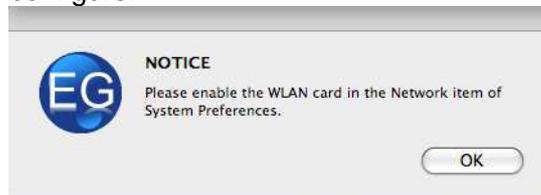
9. The Client Utility is installed in the **Applications** folder.

3.2. WLAN Client Utility - Link Status

The **Link Status** tab displays the current status of the wireless radio. The following information is included in this tab, as the image depicts below.
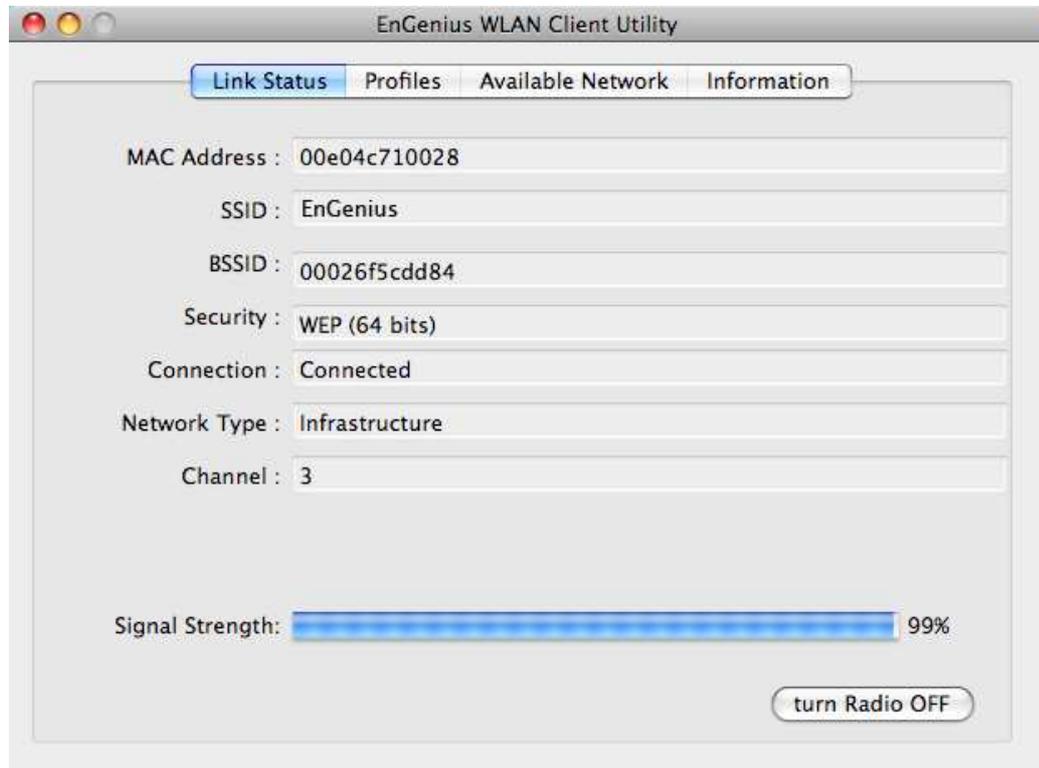
➤ **MAC Address:** This displays the MAC address of EUB-9703
➤ **SSID:** Show the SSID what you select to connect.
➤ **BSSID:** Display the MAC address of AP which is connected with.
➤ **Security:** This displays what kind of the encryption in communication between AP and Client.
➤ **Connection:** Show the "Connected" in connection, or "Disconnected" in disconnection.
➤ **Network Type:** Infrastructure(connected between AP and client) or Ad-hoc(connected between one client and another)
➤ **Channel**: Operating frequency channel that the client is using.
➤ **Signal Strength:** This bar displays the signal strength received from an AP or client.
➤ **Turn Radio OFF:** When you click on the button. The radio will be turn off.

3.3. WLAN Client Utility - Profiles

The **Profile** tab is used to store the settings and configurations of multiple Access Points for different application. In the profiles table, it list all saved profiles and some information, included Profiles Name, SSID, Network Type. You can click Add to add a new profile, or click Remove to delete a profile. And also you can click Edit to modify a exist profile, or click Duplicate to copy the settings of a exist profile to a new profile. Click Apply after all modification is done.
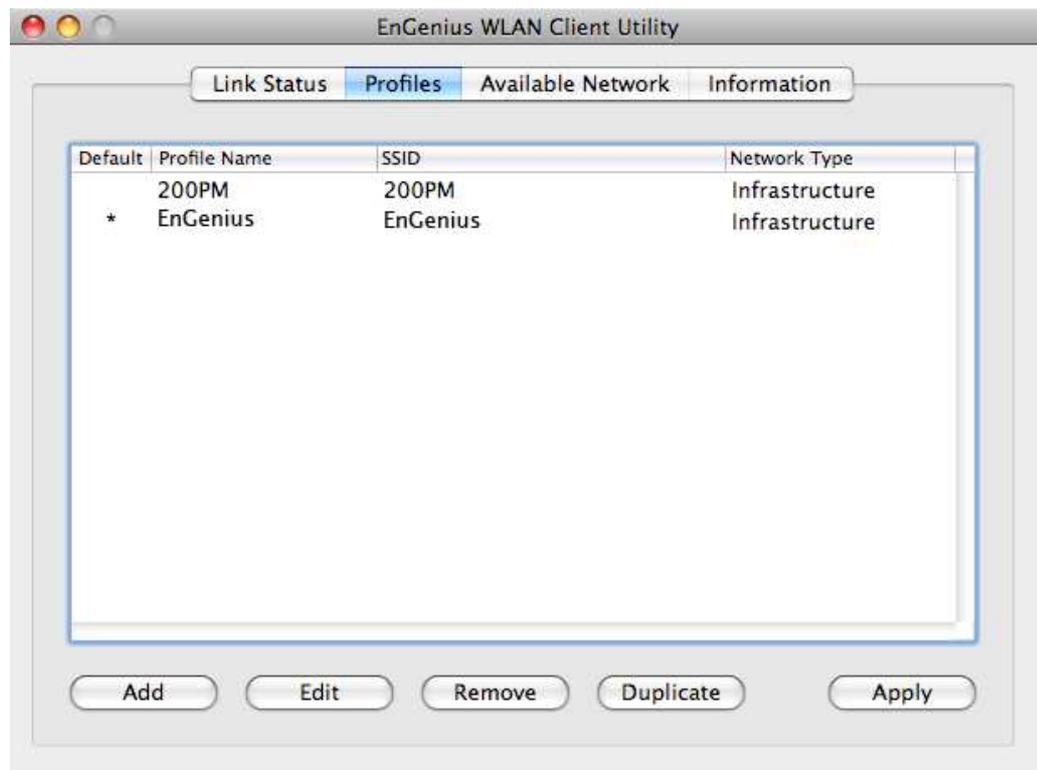
➤ **Profile Name**: Show all you created profile names.
➤ **SSID**: Displays the SSID of the Access Point. The SSID is a unique name shared among all points in your wireless network. The SSID must be identical for all points in the network, and is case-sensitive.
➤ **Network Type**: Indicates whether the SSID is Ad-hoc mode or Infrastructure mode.

3.3.1. Profile Properties

When adding a profile you are required to enter a profile name and SSID as well as configure the network type and encryption/authentication settings. A profile can be configured as **Infrastructure** or **Ad-hoc** mode. The configuration settings for each mode are described below.

➤ **Profile Name**: Input the profile name you want. And the name can not be the same with each other of all profiles. If have reduplicate profile name, it will have a warning message.

➤ **SSID**: Input the SSID of available AP
➤ **Ad-Hoc**: A computer to computer network, and wireless access point is not used. When enable this function, you can select the channel to connect. (This is the simplest network configuration with several computers equipped with the PC Cards that form a wireless network whenever they are within range of one another. In ad-hoc mode, each client is peer-to-peer, would only have access to the resources of the

other client and does not require an access point. This is the easiest and least expensive way for the SOHO to set up a wireless network).
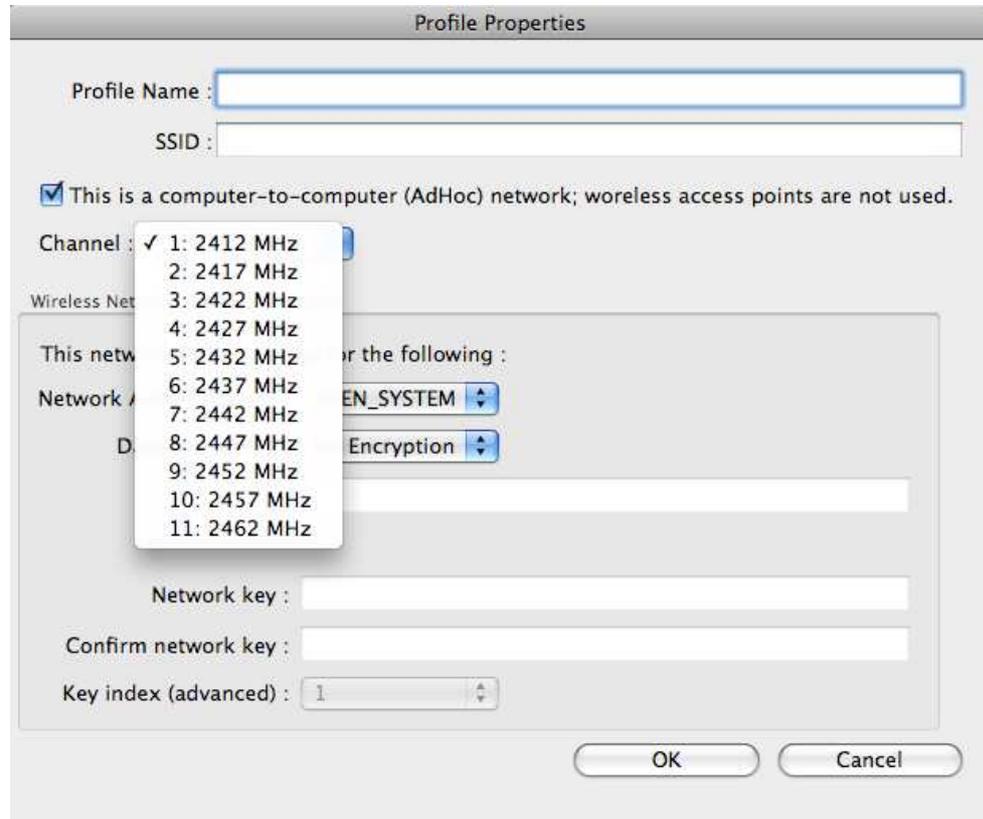
Wireless Network Security Properties

➤ Network Authentication: It allows you to configure 3 kinds of authentication and encryption settings, SHARED_KEY(WEP), WPA_PSK and WPA2_PSK.

➤
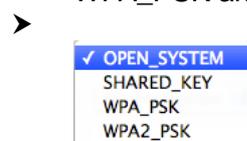
➤ **SHARED_KEY**
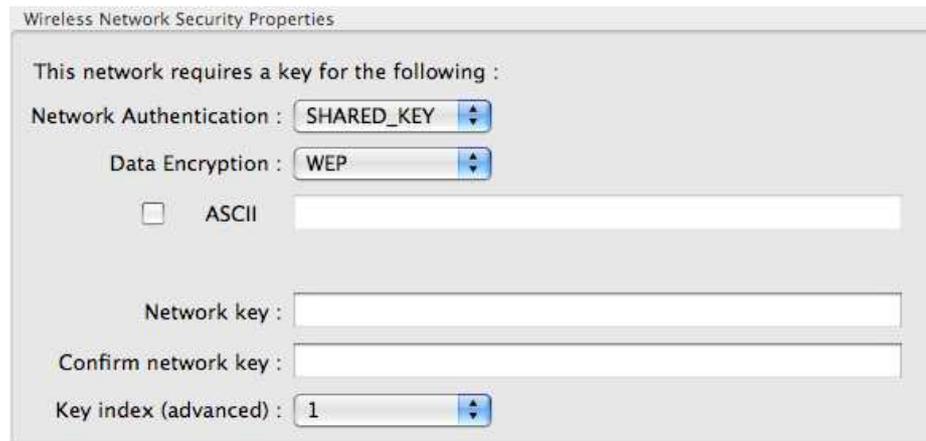
● **Network Authentication:** Select **OPEN_SYSTEM** or **SHARED_KEY**
from the drop-down list.
● **Data Encryption:** Select WEP from the drop-down list.
● ASCII: You can type the WEP key, 5 or 13 character string, into the
field when you enable this.
● **Network Key:** Type a character string into the field. For 64-bit enter 10
hexadecimal characters. For 128-bit enter 26 hexadecimal characters.
● **Confirm network Key:** Type your network key again for confirmation.
● **Key index**: You can save different keys to different key index.

➤ **WPA_PSK**
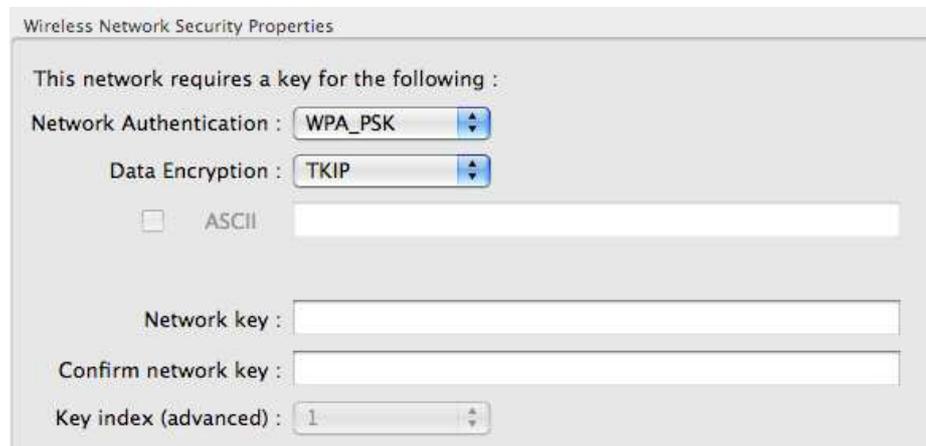
● **Network Authentication:** Select **WPA_PSK** from the drop-down list.
● **Data Encryption:** Select TKIP or AES from the drop-down list.
● **Network Key:** Enter a WPA Pre-shared key which is between 8 and
32 characters long.
● **Confirm network Key:** Type your network key again for confirmation.

➤ **WPA2_PSK**

Wireless Network Security Properties

This network requires a key for the following :

Network Authentication : WPA2_PSK

Data Encryption : TKIP

☐ ASCII

Network key :

Confirm network key :

Key index (advanced) : 1

- **Network Authentication:** Select **WPA2_PSK** from the drop-down list.
- **Data Encryption:** Select TKIP or AES from the drop-down list.
- **Network Key:** Enter a WPA Pre-shared key which is between 8 and 32 characters long.
- **Confirm network Key:** Type your network key again for confirmation.

➤ Click on the **OK** button if you have made any changes.

EnGenius®

3.4. WLAN Client Utility - Available Network

The **Available Network** displays a list of Access Points in the area, and allows you to connect to a specific one. The following information is included in this tab, as the image depicts below.
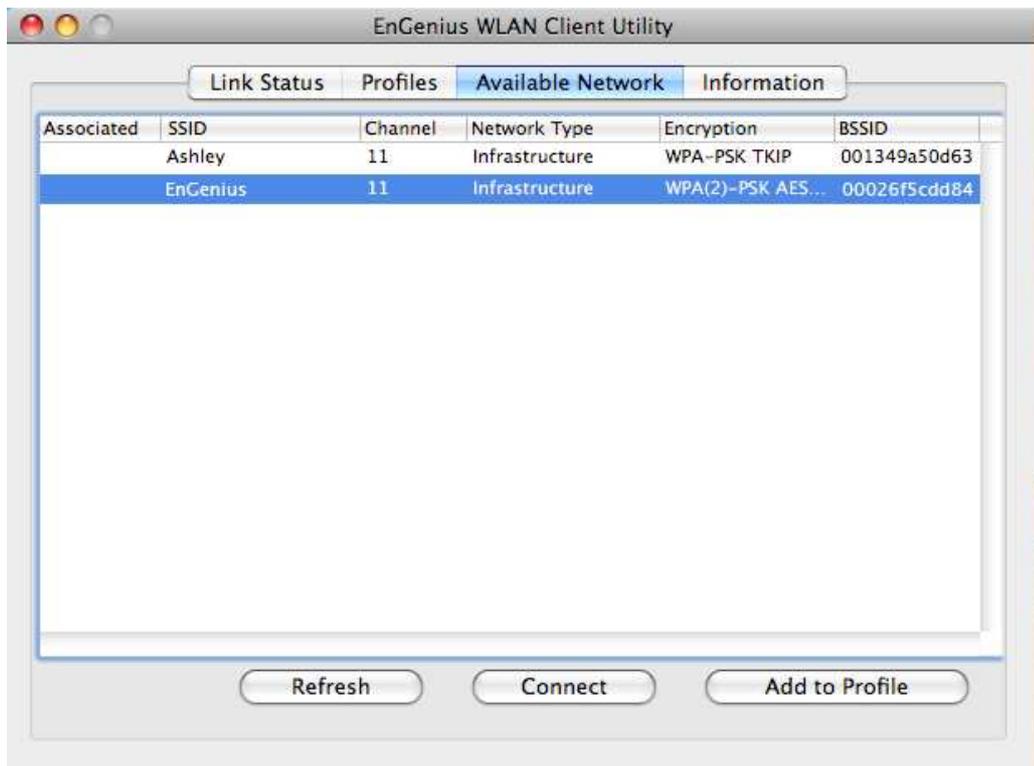
- ➤ **SSID**: The SSID of AP which has scanned
- ➤ **Channel**: Display the channel AP used.
- ➤ **Network Type**: Indicates whether the SSID is Ad-hoc mode or Infrastructure mode.
- ➤ **Encryption**: Show what kind of the used encryption on AP.
- ➤ **BSSID**: Display the MAC address of AP
- ➤ **Refresh**: when click this button, it will re-scan the AP list and refresh the AP table.
- ➤ **Connect**: Choose an AP you want to connect, and then click this button.
- ➤ **Add to Profile**: Choose an AP you want to save to profile, and then click this button.

3.5. WLAN Client Utility - Information

The **Information** tab displays information about the network driver version and date.
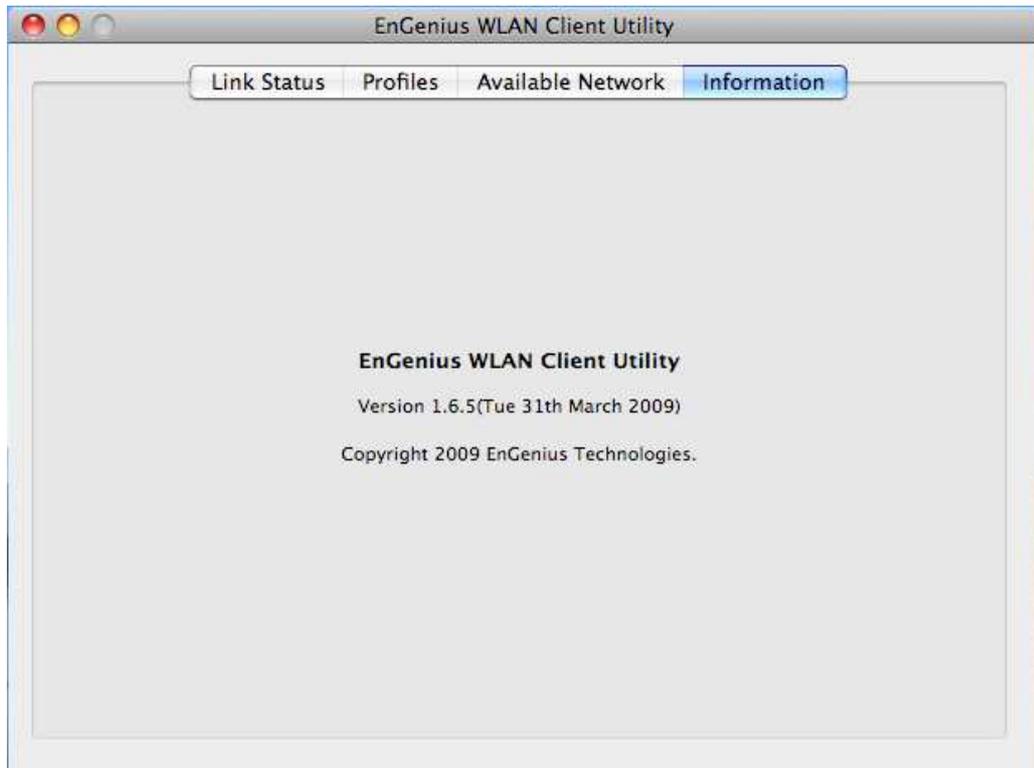
Appendix A – FCC Interference Statement

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.
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.

Appendix B – IC Interference Statement

Industry Canada statement:

This device complies with RSS-210 of the Industry Canada 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 IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This device has been designed to operate with an antenna having a maximum gain of 2 dBi. Antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is 50 ohms.