FOUR SEAS GLOBAL LINK

Wireless Adapter *User Manual*

FCC STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to pro-vide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not in-stalled 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 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 the receiver is connected.

• Consult the dealer or an experienced radio/ TV technician for help.

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.

2) This device must accept any interference received, including interference that may cause undesired operation.

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

FCC RF Radiation Exposure Statement

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

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.

National Restrictions

2400.0-2483.5 MHz

Country	Restriction	Reason/remark
Bulgaria		General authorization required for outdoor use and public service
France	Outdoor use limited to 10 mW EIRP. within the band 2454-2483.5 MHz	Military Radiolocation use. Refarming of the 2.4 GHz band has been ongoing in recent years to allow current relaxed regulation. Full implementation planned 2012

Italy		If used outside of own premises, general authorization is required
Luxembourg		General authorization required for network and service supply(not for spectrum)
Norway	Implemented	This subsection does not apply for the geographical area within a radius of 20 km from the centre of Ny-Ålesund
Russian Federation		Only for indoor applications

Note: Please don't use the product outdoors in France.

Table of Content

Chapter 1 Overview

Thank you for choosing Comfast's 802.11n Wireless USB adapter. This
chapter is to introduce you more about this Wireless Adapter.

1.1   Package Content

Before getting started, please verify that your package includes the following items:

1. 802.11n Wireless USB Adapter x 1
2. Quick Installation Guide x 1
3. CD Driver   x 1
4. Warranty card

Note:

Make sure that the package contains the above items. If any of the listed items are damaged or missing, please contact

with your distributor.

1.2   Overview of the Product

The adapter is an 802.11n client device; it is designed to provide a high-speed and unrivaled
wireless performance for your computer or laptop. With a faster wireless connection, you
can get a better Internet experience, such as downloading, gaming, video streaming and so on.

With the 802.11n technology, the Comfast wireless adaptor allows high packet transfer rate of
up to 150Mbps for maximum download throughput. It can also interoperate with other wireless
(802.11b, 802.11g). The adapter supports WEP, WPA and WPA2 encryption to prevent
outside intrusion and protect your personal information from being exposed.

The adapter is easy to install and manage. The Quick Setup guides you step-by-step through
the installation process.

With unmatched wireless performance, reception, and security protection, the
is also designed to be one of the smallest size wireless adapter so you can use without any
interference. It is the best choice for easily adding or upgrading wireless connectivity to your
notebook and computer.

1.3   Features

● Comply with IEEE 802.11b/g/n standards with up to 150Mbps data transfer speed.
● Ultra-Nano size design with USB 2.0 interface.
● Supports QoS Enhancement (WMM) for multimedia applications' smoothness
● High level of security with Wireless encryption of 64/128/152-bit WEP, WPA, WPA2, and
    IEEE802.1x functions.

- Runs under most popular operating systems: Windows XP/Vista/7 (32/64 bits), Mac OS X and more.
- Supports Software WPS (WiFi Protected Setup) connection.
- Green Energy Saving: supports auto transmit power adjustment and idle energy auto control.

1.4 Product Specification

Chipset	RALINK 5370
Standard	IEEE 802.11n;IEEE 802.11g;IEEE 802.11b
Bus Type	USB 2.0 Type A
Frequency Band	2.4000~2.4835GHz (Industrial Scientific Medical Band)
Data Rate	11b：1/2/5.5/11Mbps 11g：6/9/12/18/24/36/48/54Mbps 11n：Up to150Mbps
Output Power	11b: 10.86dBm , 11g: 10.2dBm, 11n: 10.0dBm
Transmitting Power	10.86dBm (Max)
Security	WEP 64/128/152, WPA, WPA2
Antenna	Internal Antenna (1T1R)
OS support	Windows 2000/XP/XP64/Vista/Vista64； Windows 7/Windows7 x64
Channel	1-13 for CE and 1-11 for FCC, etc
Temperature	Operating: 32~104°F (0~40°C); Storage: -4~140°F (-20~60°C)
Humidity Operating:	10~90% (Non-Condensing); Storage: Max. 95% (Non-Condensing)

1.5 System Requirement

You must have at least the following

- A laptop computer/desktop PC with an available USB port
- At least a 300MHz processor and 32MB of memory
- Windows OS for Win98SE, ME, 2000, XP, Vista, 7 or Mac OS X 10.4~10.6
- A CD-ROM Drive
- USB controller properly installed and working in the computer
- 802.11n 、802.11g or 802.11b Wireless Access Point/Router (for infrastructure Mode) or another 802.11n、802.11g or 802.11b wireless adapter (for Ad-Hoc; Peer-to-Peer networking mode).

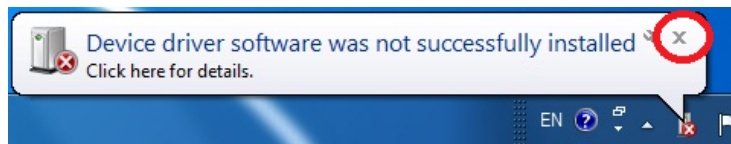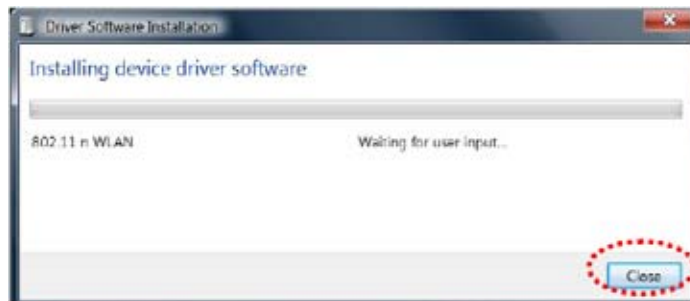# Chapter 2 Installation Guide

2.1 Hardware Installation

● Please first insert the adaptor into your PC or NB USB slot.
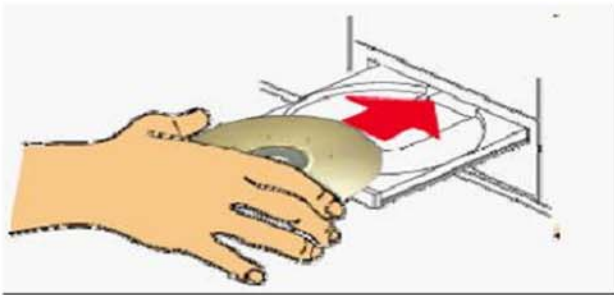

● If the following window popup, please click Cancel or Close:

■ Under Win XP

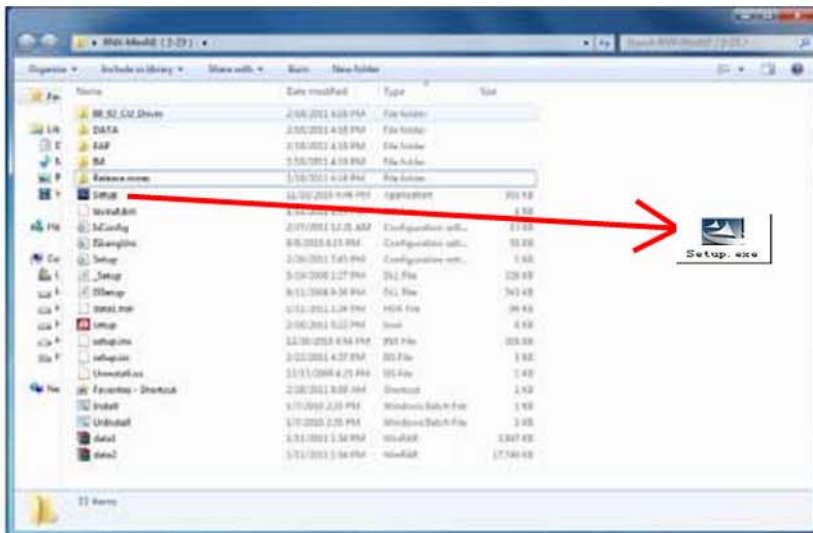■ Under Windows Vista/Win7

2.2 Installation using Driver CD:

Please insert the CD into your
CD-rom drive

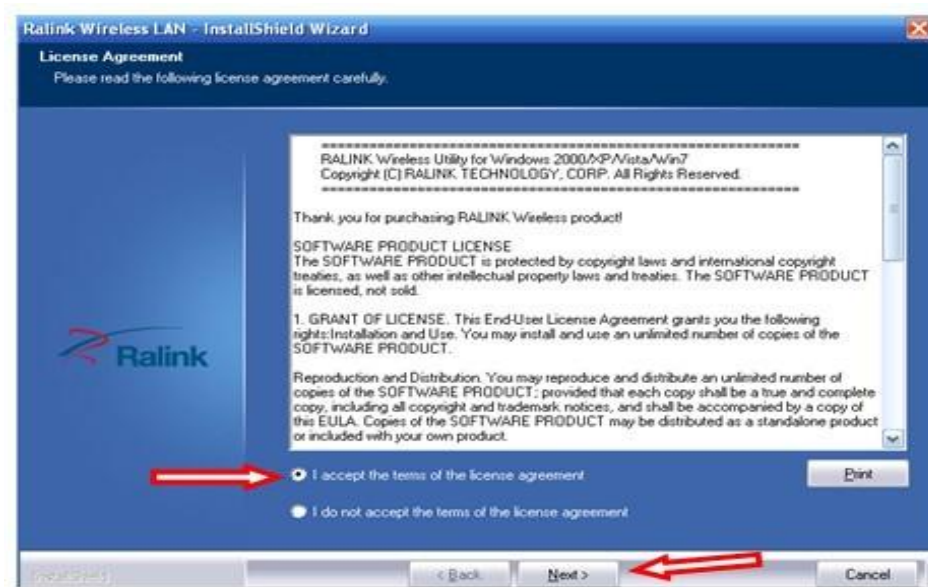Double click the 'Setup.exe' icon and run the 'Setup.exe' program
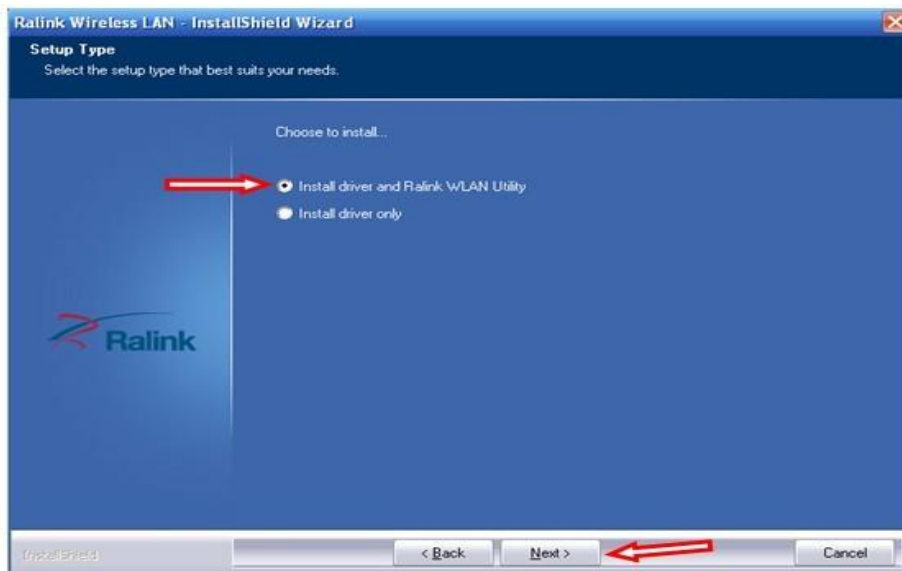

Clik "yes" if the following window pop out

Select'I accept the terms of the license agreement', and then click'Next';

Select the setup type that best suits your needs, 'Install driver and Ralink WLAN Utility' are recommended.

Click'Next' , show the'Select Configuration Tool' dialogue, you can manage this
wireless adapter both by Ralink Configuration Tool and Microsoft Zero Configuration Tool;
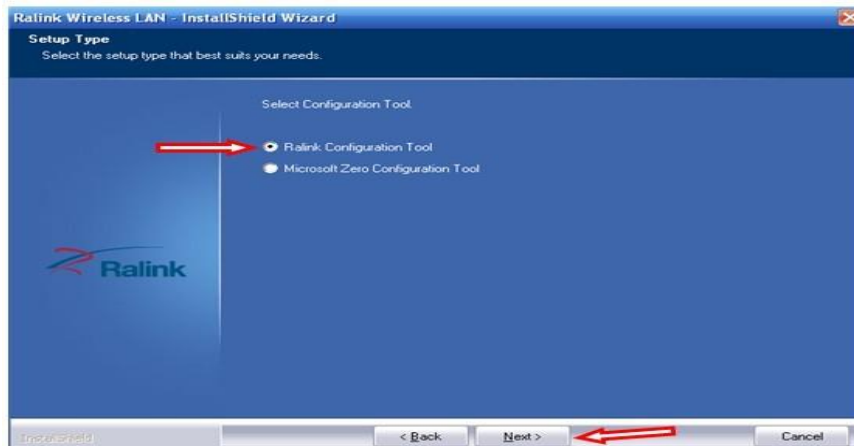
Click'Next', and the installation is in process.
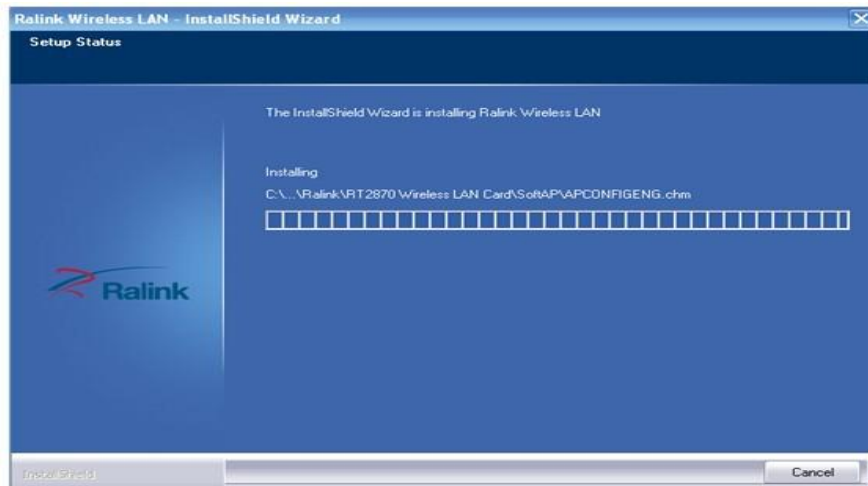
Finally, click'Finish' to finish the driver installation
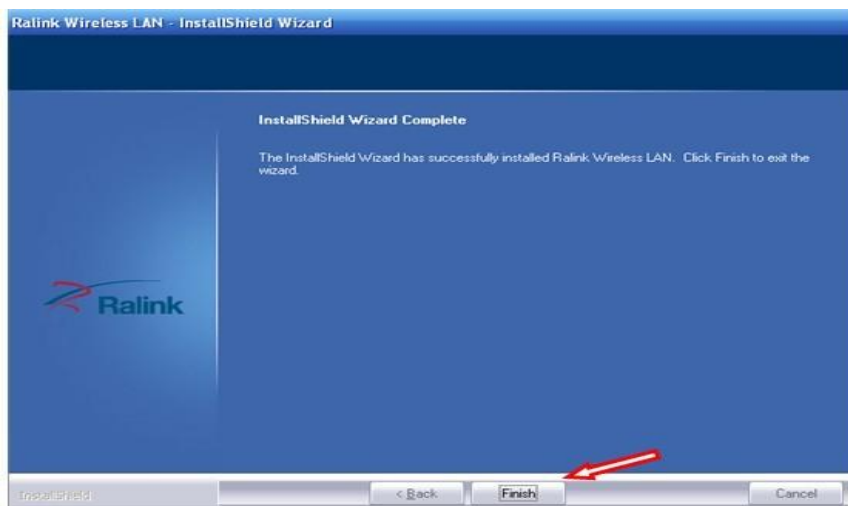
if you see below window popup,please select install this driver software anyway

.

Win7   **Win XP**

Chapter 3 Wireless Connection Guide

This chapter describes how to configure your Adapter for wireless connectivity on your Wireless Local Area Network (WLAN) and use the data security encryption features.

After Installing the Adapter, the Adapter's tray icon will appear in your system tray. It appears at the bottom of the screen, and shows the signal strength using color and the received signal strength indication (RSSI).

In the following instruction for making a network connection, we use the provided Utility to configure your wireless network settings.

Note: You could use either the software we provide or Microsoft Zero Configuration tool to configure this adapter.

   To use wireless network, you have to connect to a wireless access point first. You can either use Client utility (comes with network card driver), or Windows Zero Config utility (comes with Windows operating system).

1.   Left-click the Client configuration utility icon located at lower-right corner of computer desktop, and configuration menu will appear:
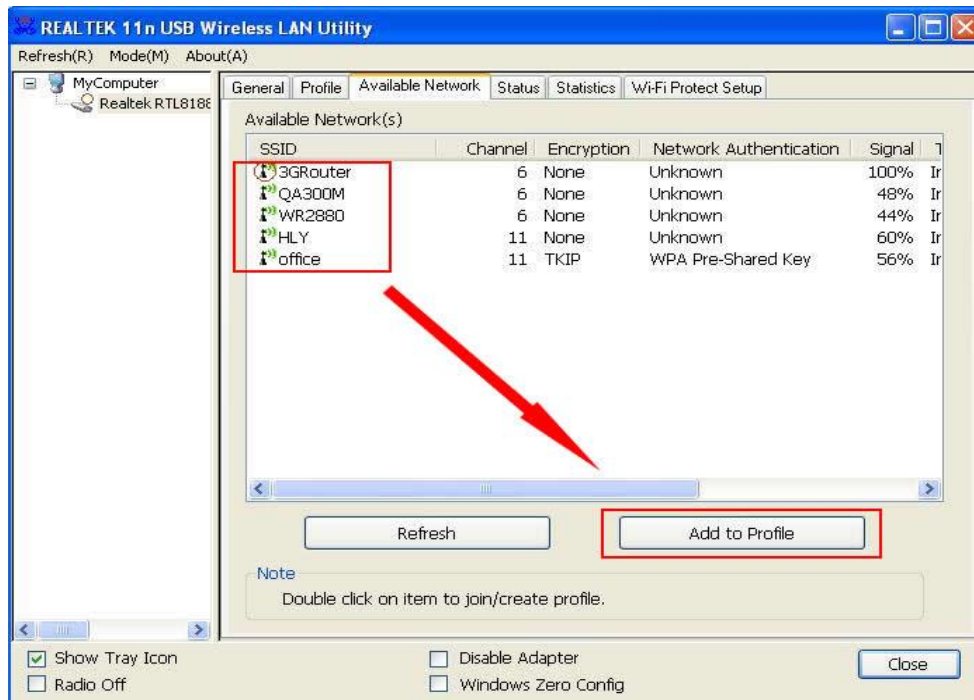

HERE!

 2.   Wireless utility will appear. Click '**Available Network**' menu to search for wireless access points nearby.
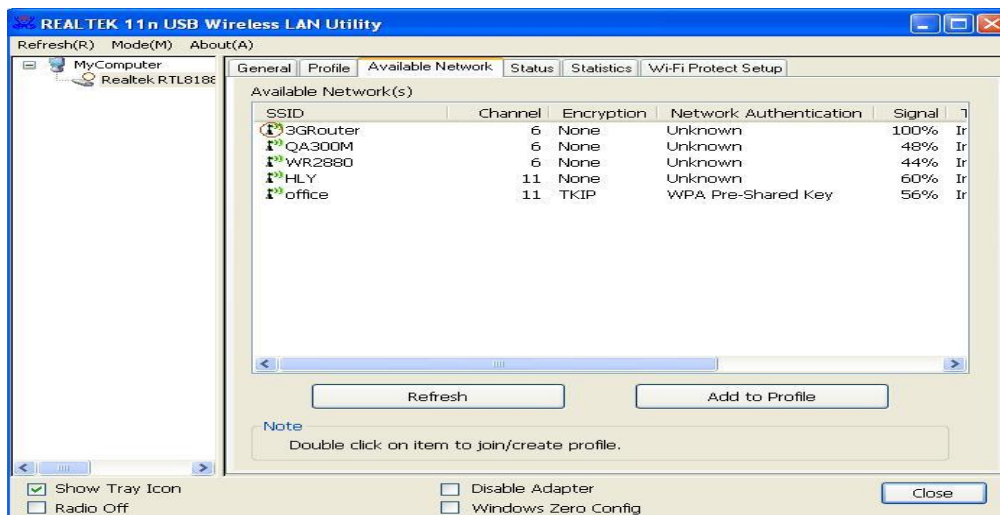
3. Please wait for a while, and all wireless access points which can be reached by this wireless network card will be displayed here.

    If the wireless access point you wish to connect does not appear here, you can click '**Refresh**' button to scan for wireless access points again; if the wireless access point you're looking for still not appear, try to move the computer closer.

    When the access point you're looking for is on the list, left-click it and then double click it or click '**Add to Profile**'.

4. If a password (a.k.a. 'Network Key') is required to access the wireless access point, please input it in '**Network key**' (and input it again in '**Confirm network key**' for confirmation). Click '**OK**' when password is properly inputted.

    NOTE: Network security type ('**Network Authentication**' and '**Data encryption**') will be selected automatically based on wireless access point's security setting. It's not required to change these settings by yourself.

All options in this page will be filled automatically according to the access point you wish to add to profile. However, you can still modify any of them to meet your requirement.

Profile name	You can give a name to this profile, so you can remember its purpose easily. It can be any phrase to help you remember.
Network Name (SSID)	The SSID (Service Set IDentifier, i.e. access point's name). This field will be filled as the access point you selected when SSID is not hidden and grayed out. If SSID is hidden, you have to input correct SSID you yourself.
This is a computer-to-computer (ad hoc) network	Check this box if you wish to connect to another computer / network device by ad hoc method. When not accessing to wireless access point, you have to check this box.
Channel	Select wireless channel for ad hoc connection. This option only appears when you're using ad hoc connection.
Network Authentication	Select the network authentication type from drop-down menu. This setting must be identical with the setting of wireless access point you with to connect.
Data encryption	Select the data encryption type from drop-down menu. This setting must be identical with the setting of wireless access point you with to connect.

ASCII / PASSPHRASE	When the encryption type is 'WEP', it's required to input a set of 'passphrase' to connect to wireless access point. Check 'ASCII' or 'PASSPHRASE' depends on the security setting of access point, and input it in the box; if you select 'PASSPHRASE' you also need to select the length of the key. The passphrase must be identical with the setting of wireless access point you with to connect.
Key index	Select WEP key index. For most of access points you can select '1', but please refer to the setting of the access point.
Network key / Confirm network key	When the encryption type is 'WPA' or 'WPA2-PSK', it's required to input a set of 'passphrase' to connect to wireless access point. Please input the same passphrase in two boxes for confirmation.

EAP TYPE / Tunnel / Provision Mode	When authentication type is any of 802.1X, you have to select EAP type, tunnel, and provision mode from dropdown menu. This setting must be identical with your 802.1x authentication server.
Username / Identity / Domain / Password	Please input 802.1x related authentication information here.
Certificate	If certification is required to authenticate with 802.1x authentication server, please select a local certificate from dropdown list.
PAC	Check this box and PAC (Privilege Access Certificate) will be automatically selected.

Please click '**OK**' when ready.

5. Network card will attempt to connect to access point now, this may require few seconds to minutes, please be patient. When the '**Status**' become '**Associated**' , your computer is connected to access point you selected. Click '**Close**' to close configuration menu.

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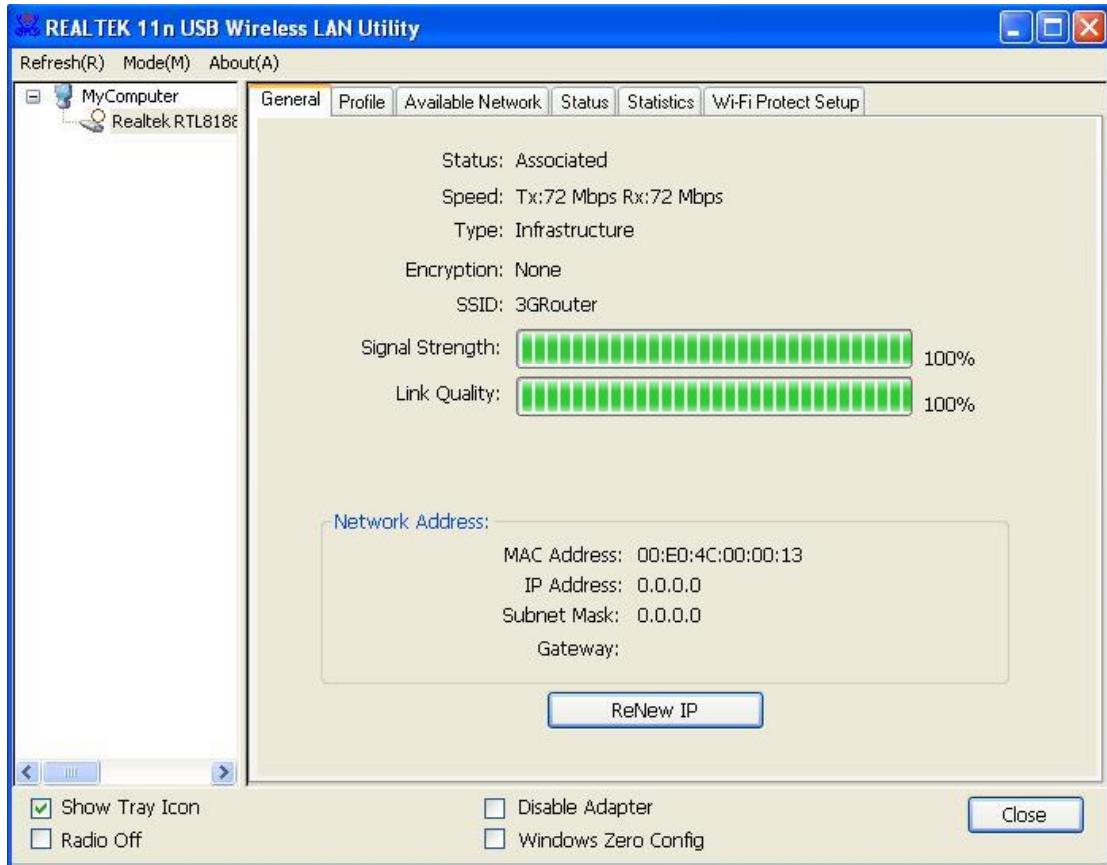
NOTE: If you connected to an access point but the connection has been dropped soon, please check security settings and re-check password spelling.

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Chapter 4 Client Utility Configuration – Station   Mode

The Wireless Adapter provides two modes: **Station mode** and **Access Point mode**, the default is **Station mode** under Window XP and Windows 7.

You can select connect wirelessly to your Wireless router/AP to connect to Internet in station mode. But in the **Access Point mode**, the wireless adapter act as a wireless access point which can share Internet connection with others. (Access Point Mode requires Wired Connection)

4.1   General

The General tab displays current basic wireless connection information.
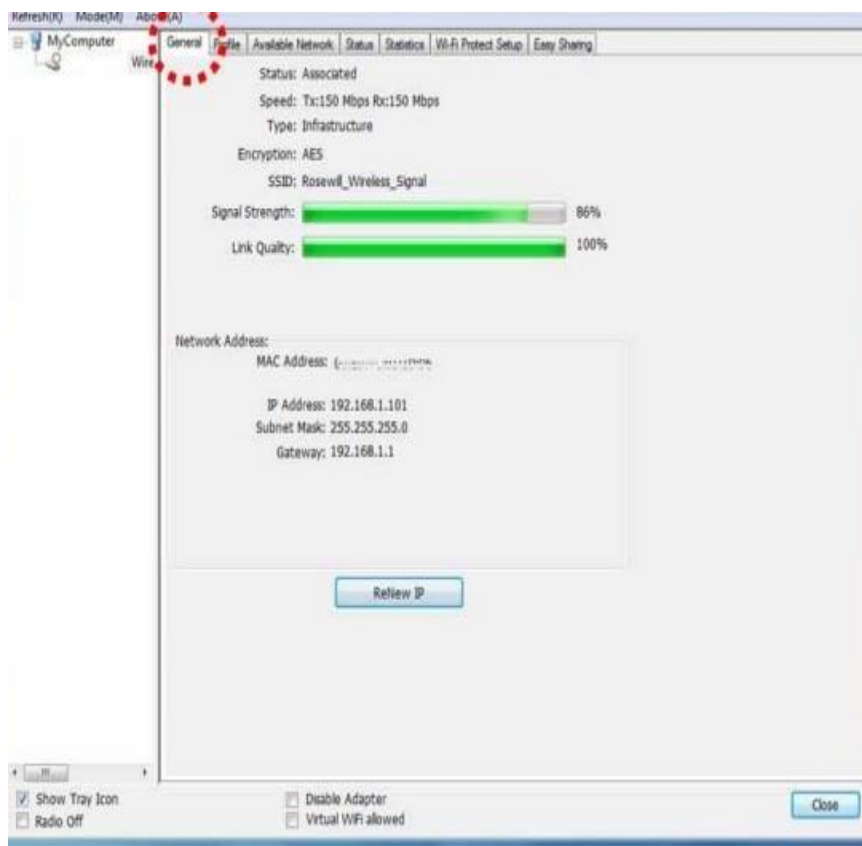
General Information

- **Status**: Wireless network Associated, Ad-hoc Mode or Not Associated.
- **Speed**: The data Tx rate and Rx rate of the current connection.
- **Type**: The type of the current wireless connection , Infrastructures or ad hoc
- **Encryption**: Current encryption.
- **SSID**: The unique name of the wireless network to which the wireless adapter is connecting.
- **Signal Strength**: The signal quality of the current connection.
- **Link Quality**: The link quality of the current wireless connection.

Network Address

- **MAC Address**: The MAC Address of the Adapter.
- **IP Address**: The IP Address of the Adapter. (This is assigned by the wireless router)
- **Subnet Mask**: The Subnet Mask of the Adapter.
- **Default Gateway**: The Default Gateway address of the Adapter. (This is normally the IP address of your wireless router)

Others

- **Show Tray Icon**: Show USB Wireless LAN Utility icon in the windows taskbar notification area.
- **Disable Adapter**: Disable the wireless adapter.
- **Radio off**: Turn off the radio of the wireless adapter.

4.2　Profile

Using the Profile tab, you can Add, Remove, Edit, Duplicate, and Set Default a profile.
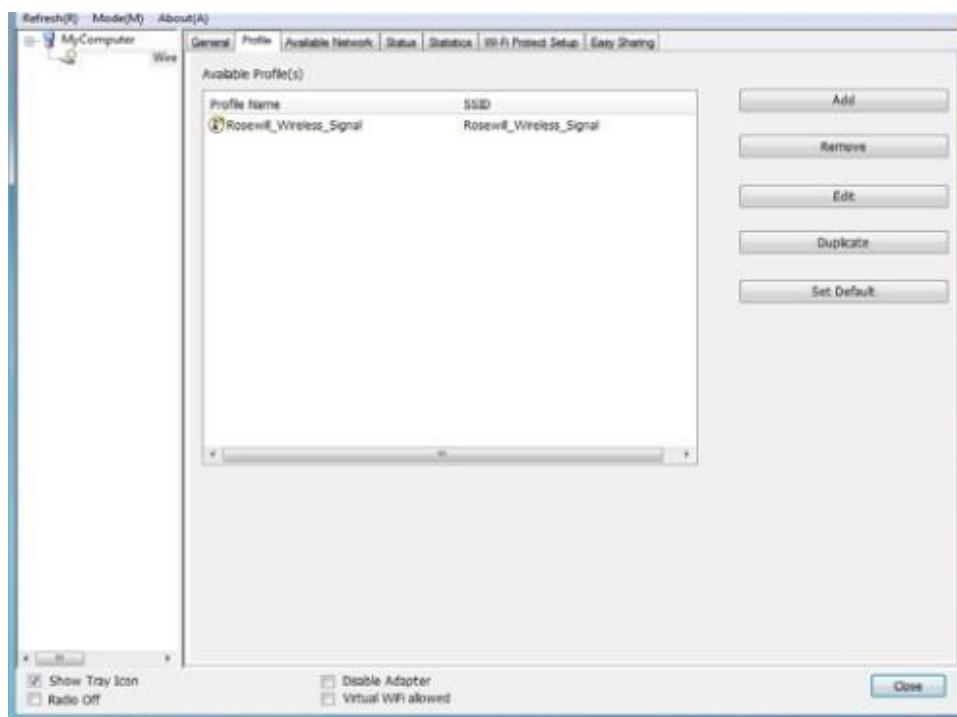
4.2.1 Add

● **Create a new Infrastructure mode profile**

If you want your wireless computers to communicate with other computers on your wired network via a wireless access point. Click the **Add** button to create a new infrastructure profile.
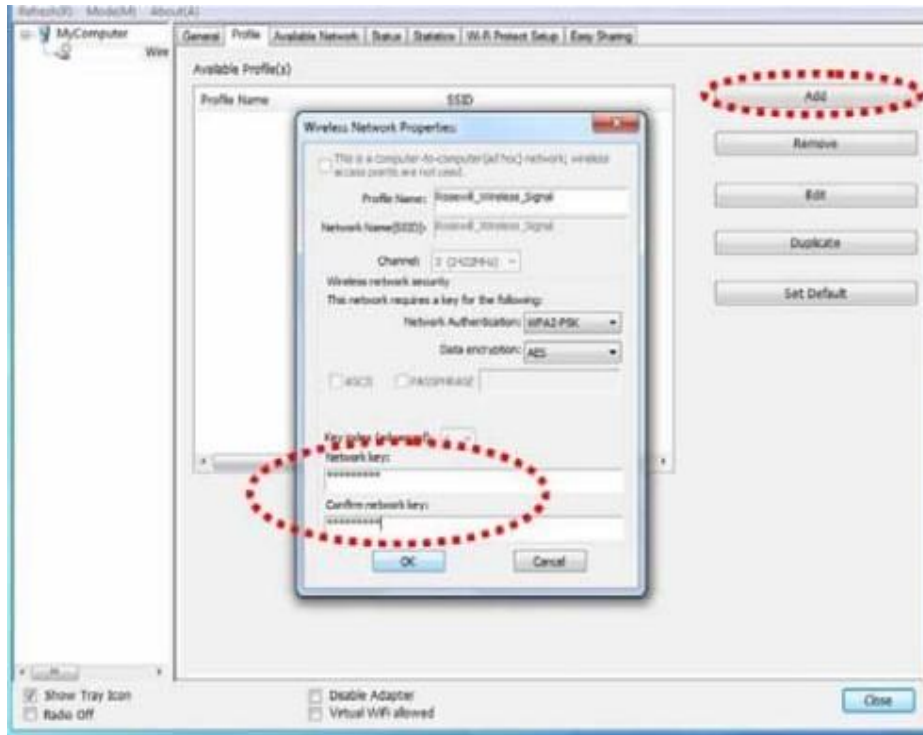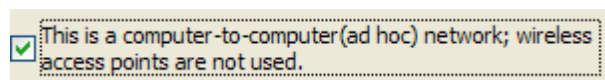

When the Network Info dialog box appears, enter a name for the new profile. Enter the Network SSID.
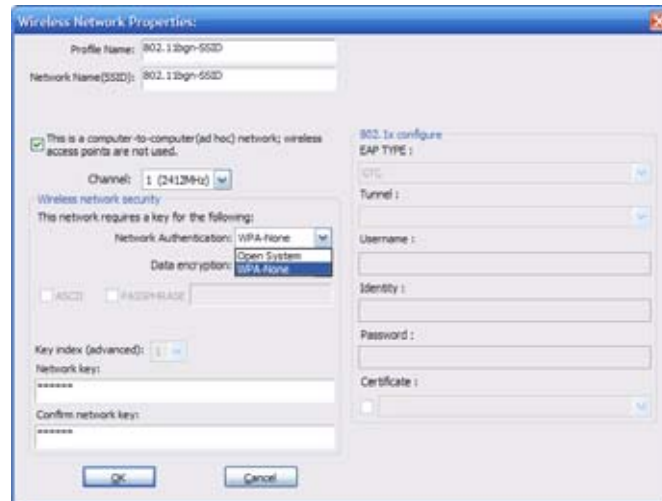
The Network Authentication and Data Encryption can be auto-deteced. So you only need to key-in the Network Key. Then click OK button.

● **Create a new ad-hoc mode profile**

If you want your wireless computers communicate with each other directly, click the **Add** button to create a new ad-hoc profile. Then, check on below option:

then select the correct operating channel for your network from the Channel drop-down menu.

The Network Authentication and Data Encryption can be auto-deteced. So you only need to key-in the Network Key. Then click OK button.
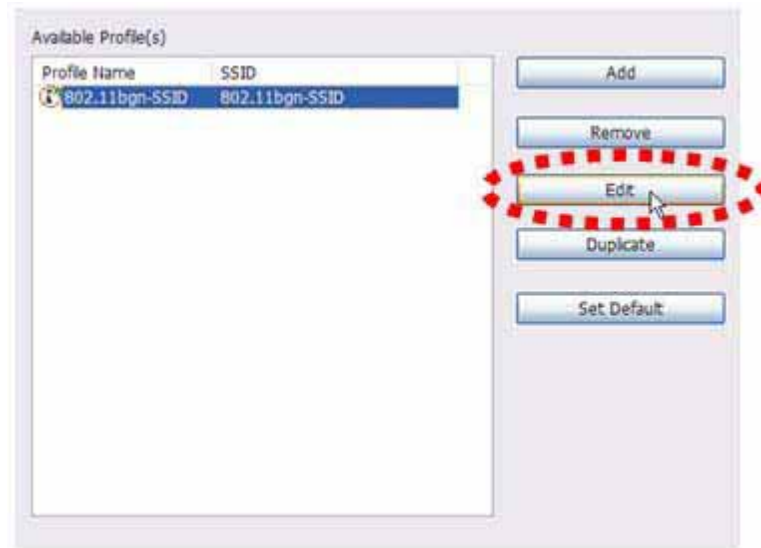
4.2.2 Remove

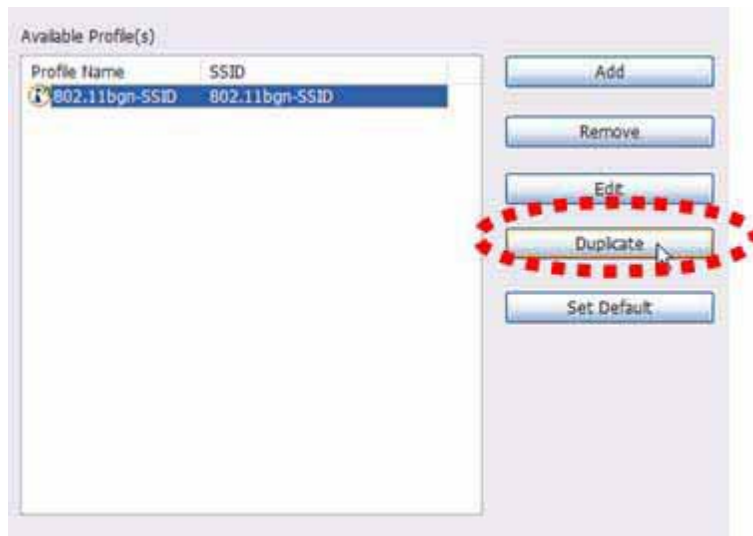Select a profile and click **Remove** button to delete this profile.
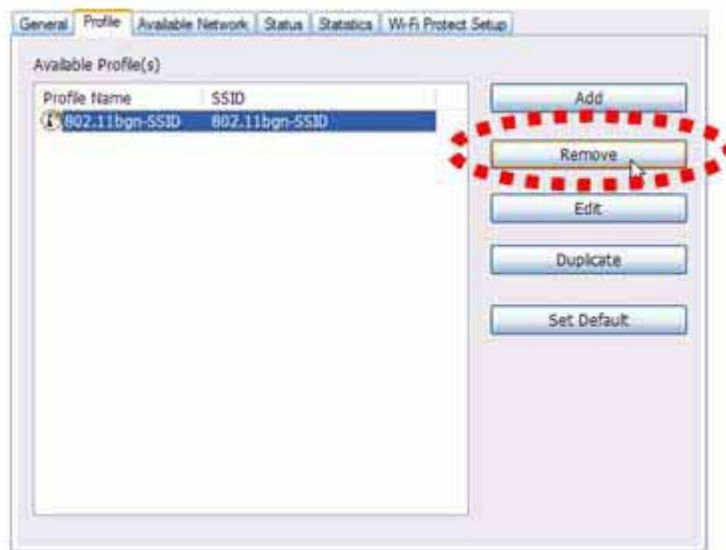
4.2.3 Edit

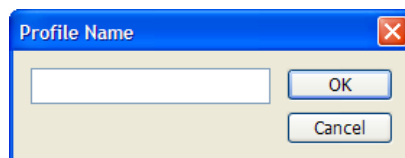Select a profile and click **Edit** button to edit this profile.

Modify the profile information according to your demand.

4.2.4   Duplicate

Select a profile which you want to copy and then click **Duplicate**

Import the new profile name in the popup window blank

4.2.5   Set default

When you want to make one profile as a default wireless connection, you should select the profile and click **Set default** button. The wireless adapter will use this profile to connect to wireless network automatically when the utility running next time.
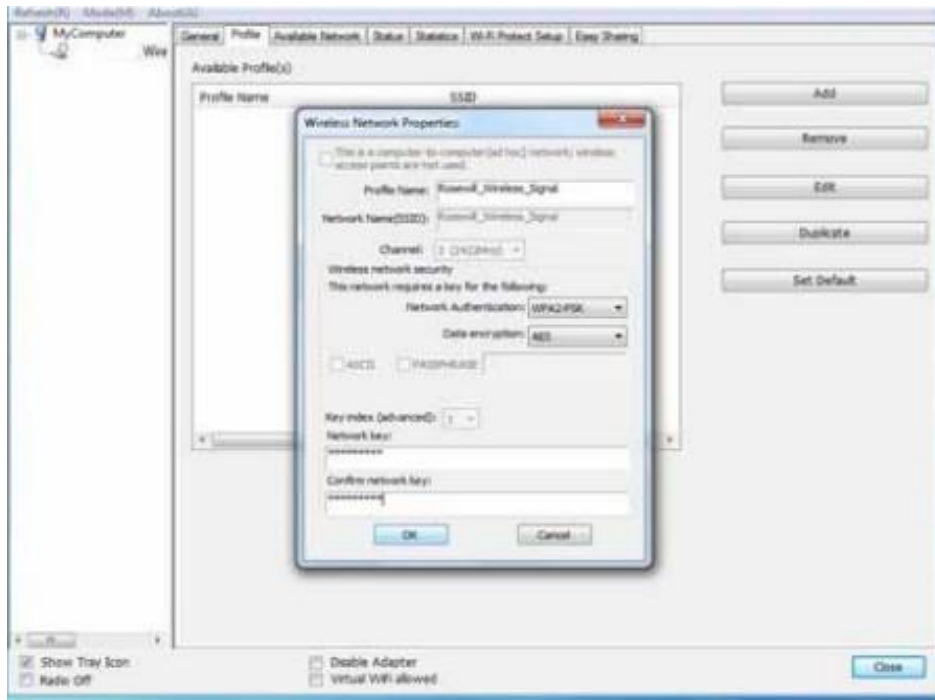
20
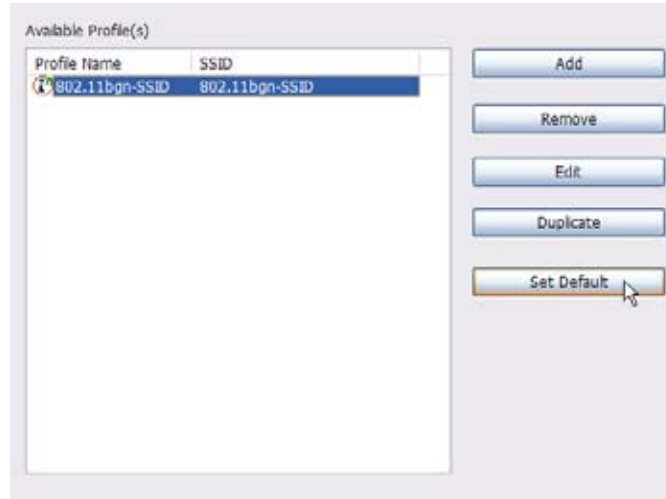
4.3   Available Network

The Available Network tab displays a list of networks for available wireless connection
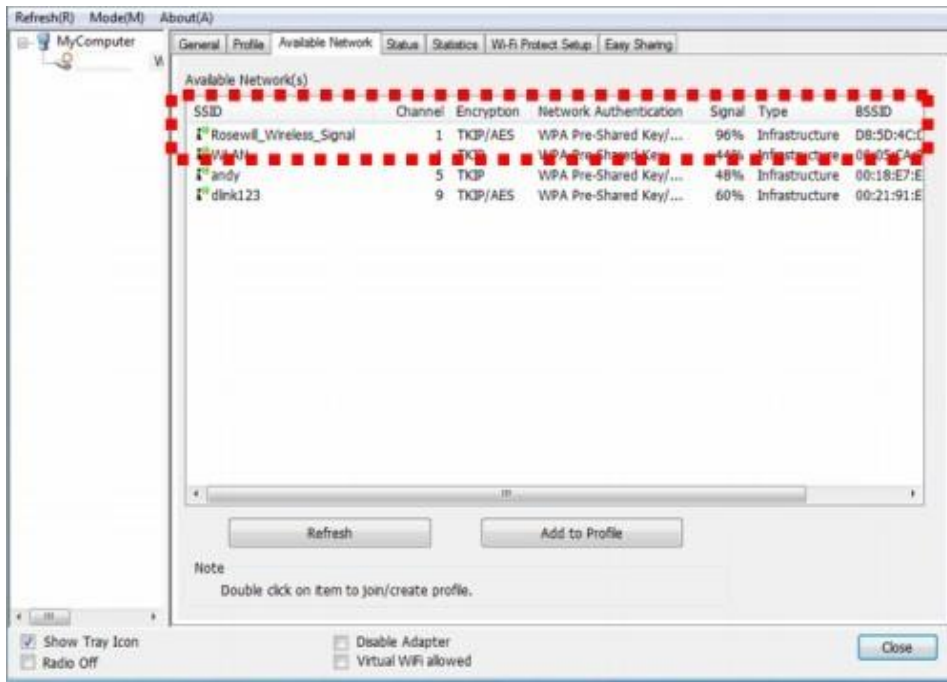
Select the network to which you wish to connect. Then click "**Add to Profile**"

The Network Authentication and Data Encryption can be auto-deteced. So you only need to key-in the Network Key. Then click **OK** button.
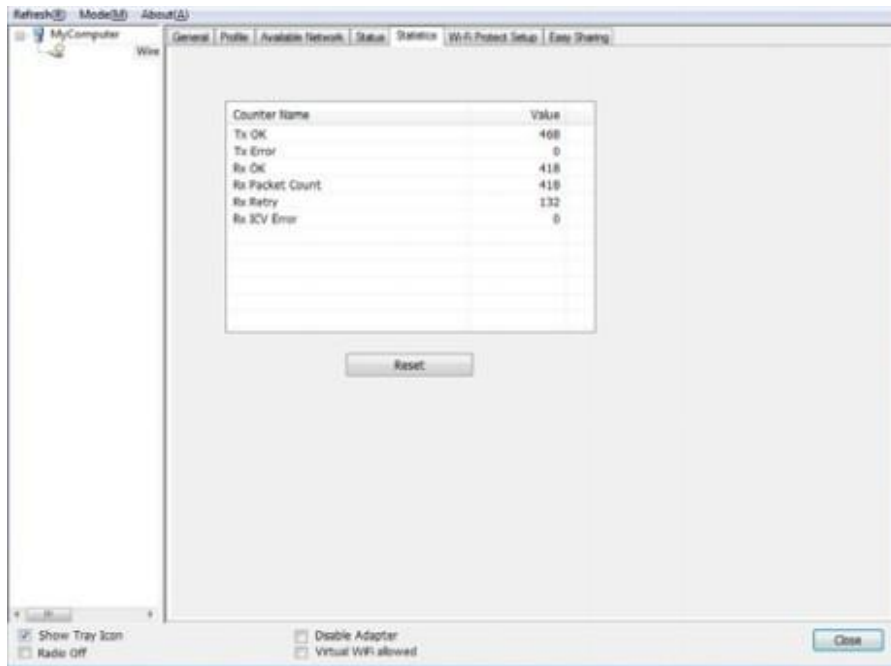
4.4   Status

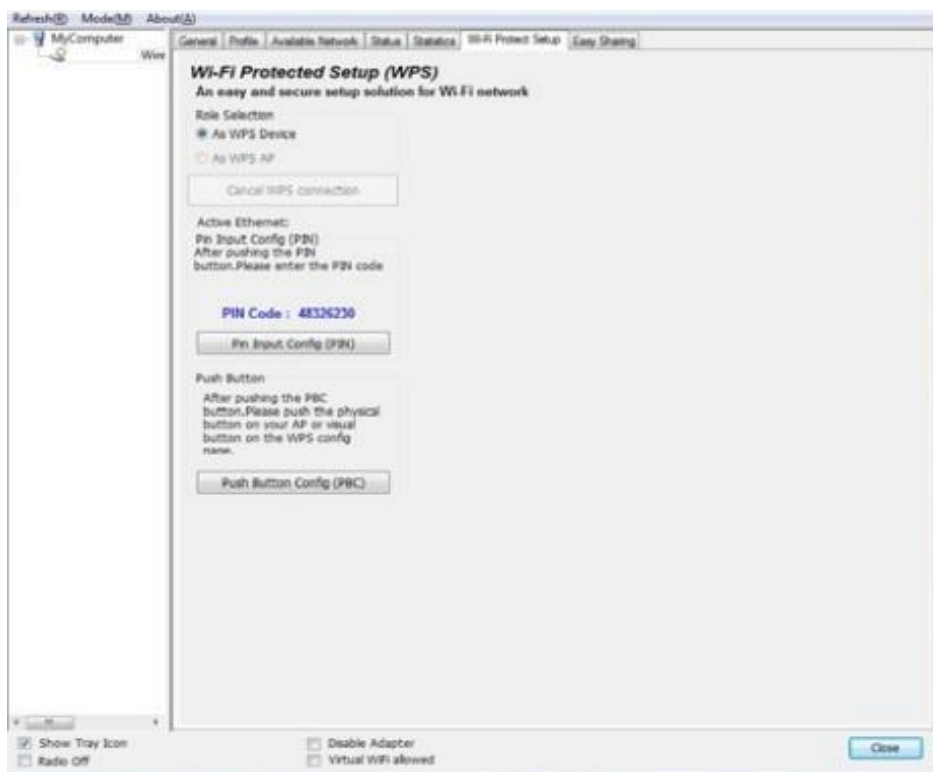The Status tab displays the detailed information of current device and wireless connection.
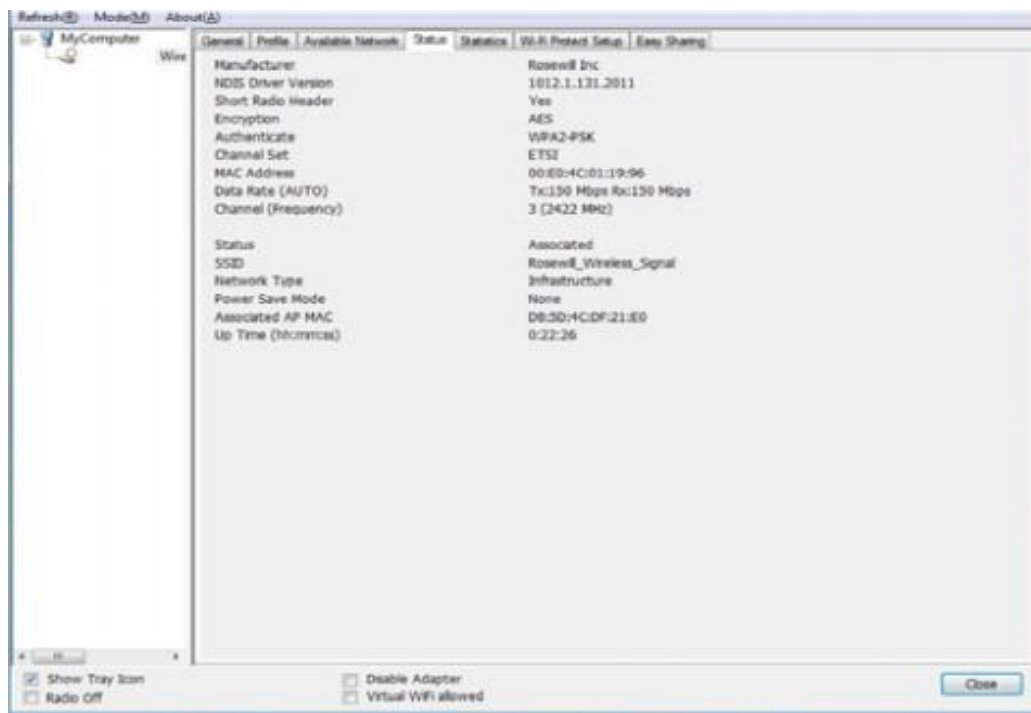
4.5   Statistics

The Statistics tab display the stat. value of current wireless connection Tx and Rx, you can

click **Reset** button to reset value and restart to count.

4.6   Wi-Fi Protect Setup

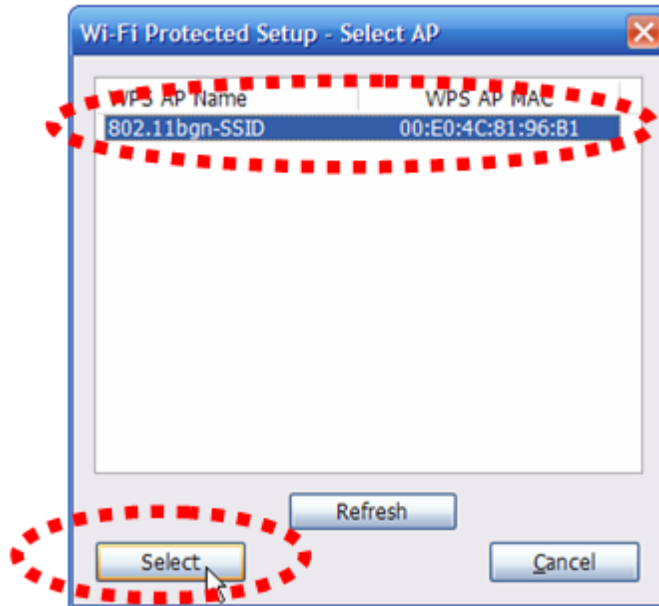### 4.6.1   Method 1 PIN Input Config (PIN)

1.   Input the Wireless Adapter's PIN Code into your wireless router and click **Start PIN in**
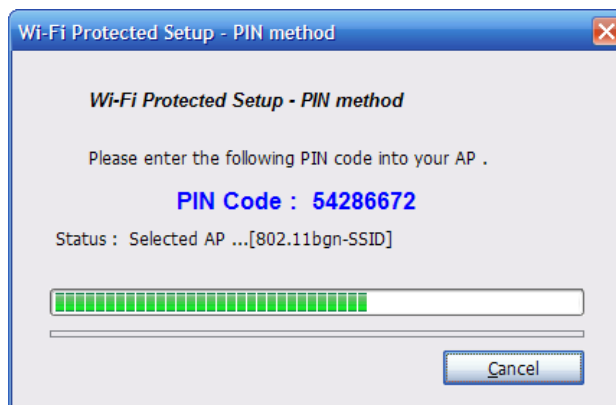
the Wireless-Router WPS configuration page

2. Click **Pin Input Config(PIN)** in your computer.

3. Select one WPS AP which you want connect to and click **Select** button

4. Please wait when the PIN Method Window pop-up appear, the secure connection between AP and wireless adapter will be founded automatically.
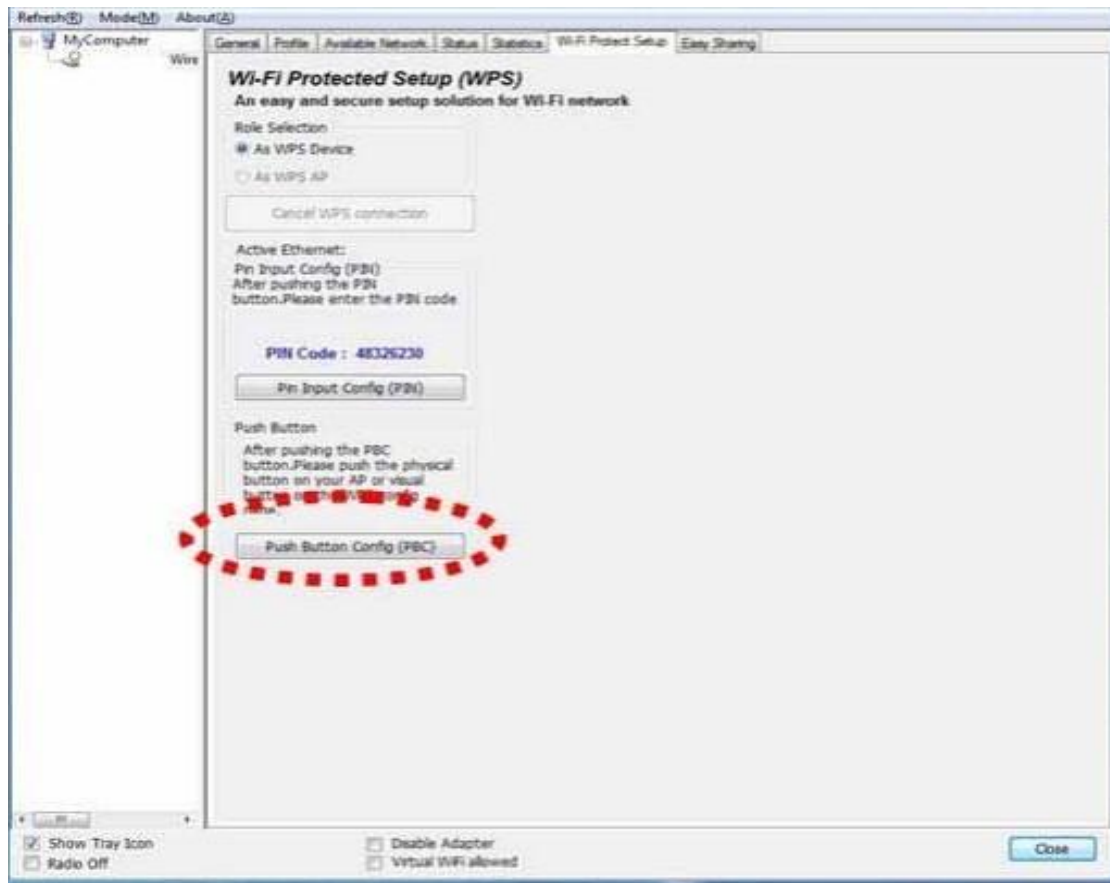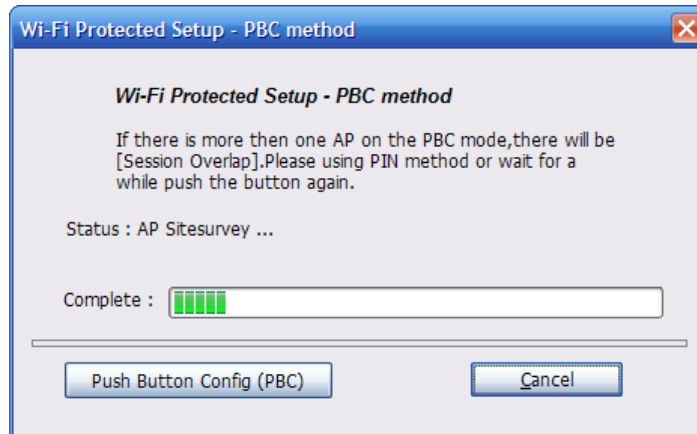

4.6.2　Method 2 Push Button

1. First, press the **WPS** buttom on your Wireless Router.

2.   Click **Push Button Config(PBC)** on Wi-Fi Protect Setup page

3.   Please wait when the PBC method window pop-up appear, the secure connection between wireless router and Wireless Adapter will be founded automatically.

Remark

If there is more than one AP on the PBC mode, there will be session overlap. Please using
method 1 PIN Input Config(PIN) or wait for a while push the button again.

4.7   Virtual Wifi Allowed – (Windows 7 only)

Comfast wlan adaptor uses the Virtual Wifi technology and turns into a Wireless sharing
points. Selecting this function, Comfast wlan adaptor will release wireless signal for wireless
clients around it to connect.

4.7.1   Enabling the Virtual WiFi

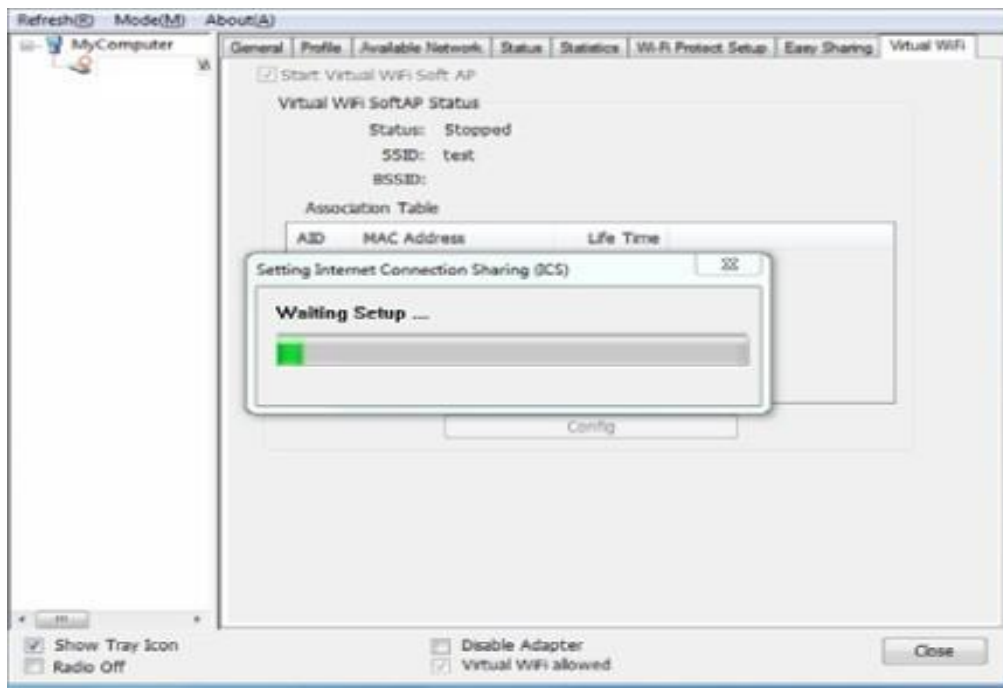1.   First click on the option at the bottom of the utility "**Virtual WiFi allowed**" to
       enable this function.
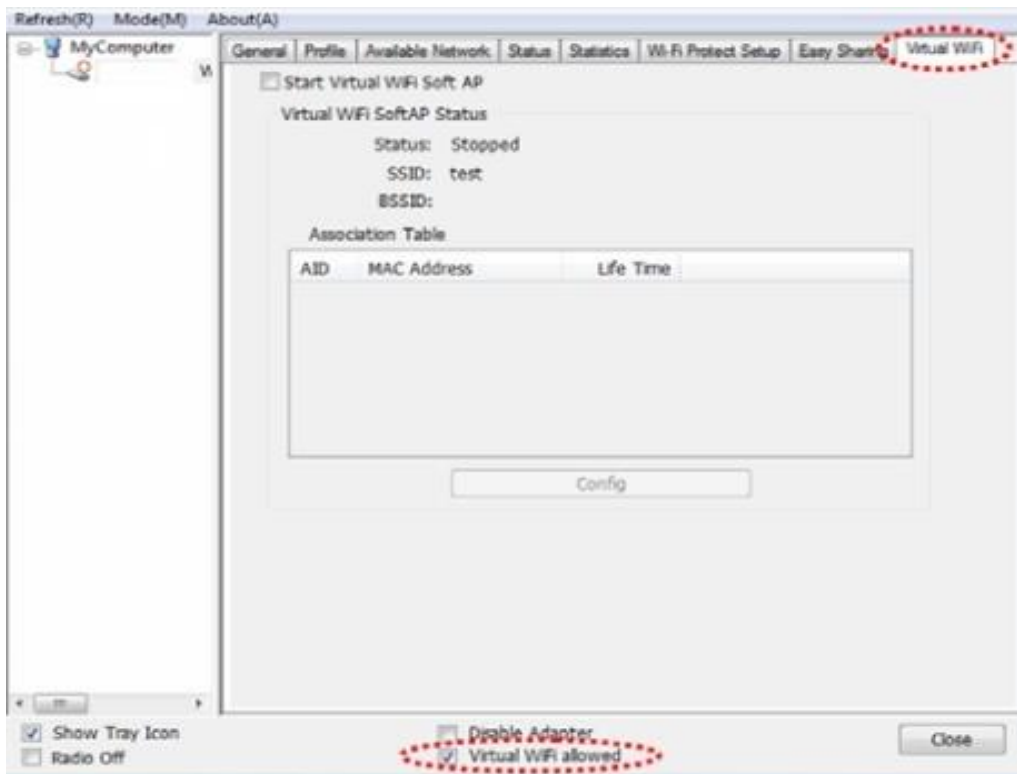
2. Check "Start Virtual WiFi Soft AP" to enable the broadcast of the signal.
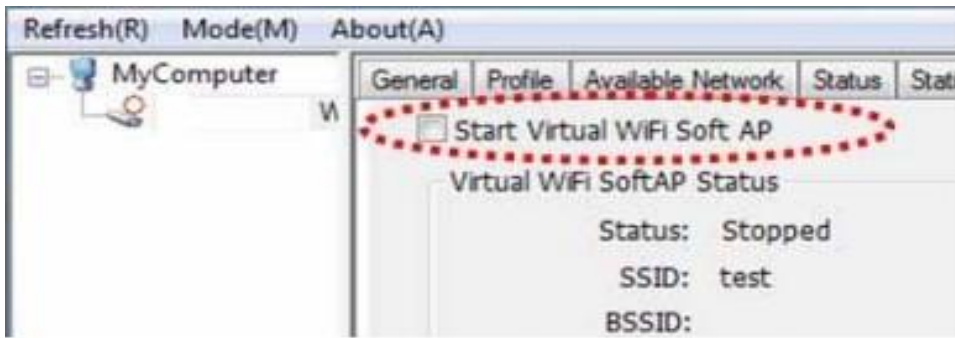
3. After checking this option, you will see an process window popup indicating the enabling process is starting

4. When complete, click on "**Config**" to set your desired SSID and password. Click "OK" when complete.
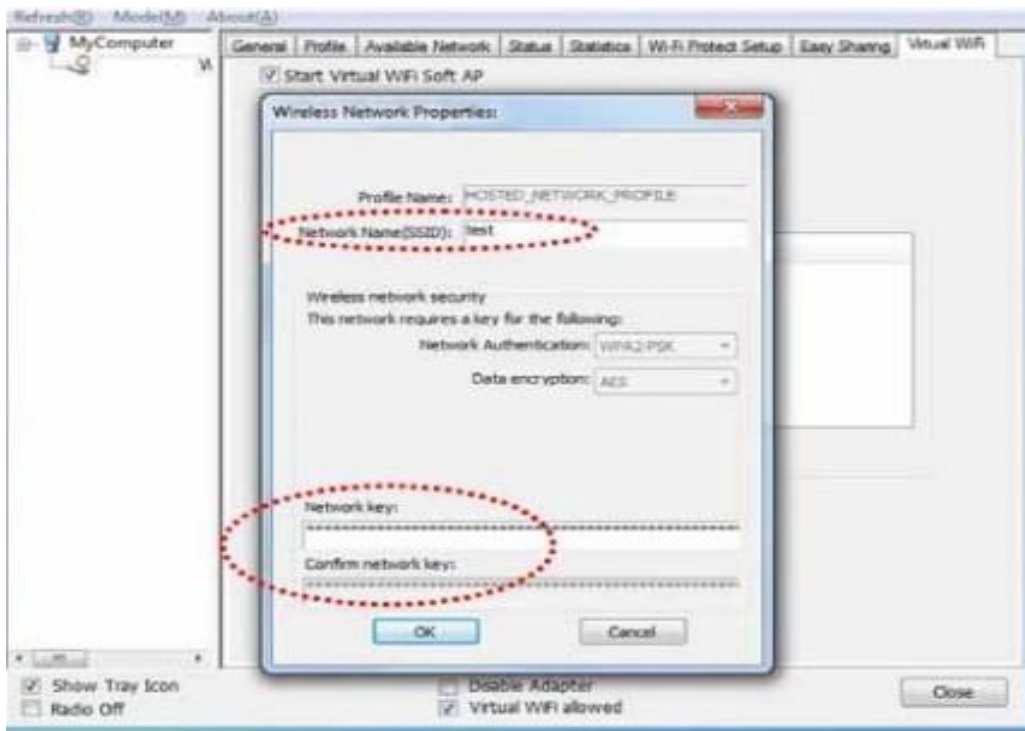
5. Click the "**Setting Internet Connection Sharing (ICS)**" to enable the WiFi sharing.
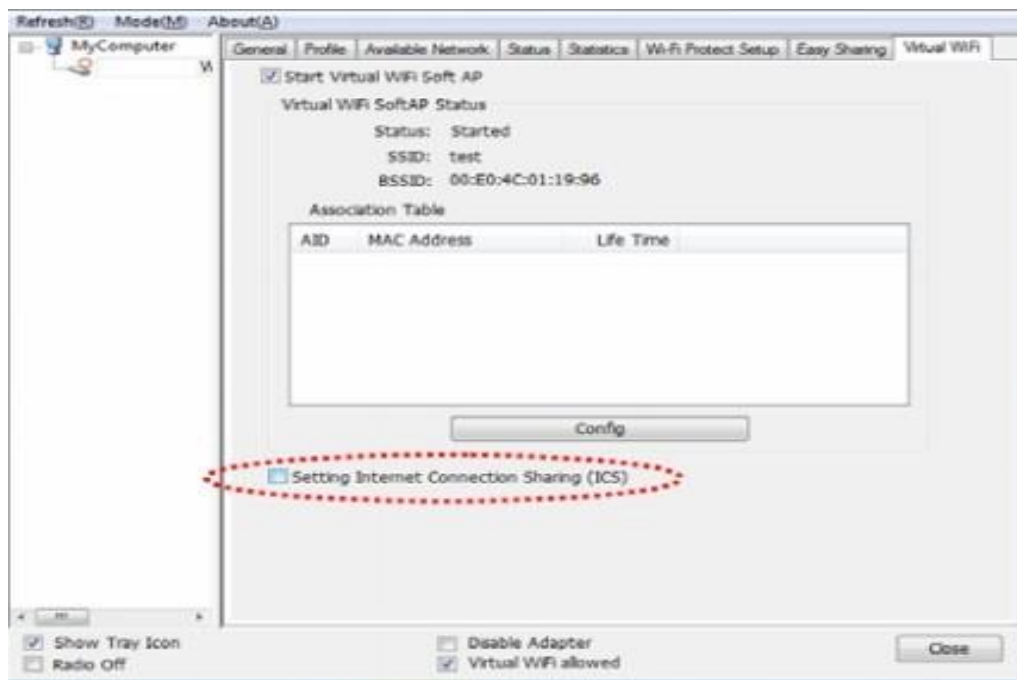
6. When complete, you will see below status appear in the "**General**" shows that your wireless adapter is currently also broadcasting signal for others to connect to.
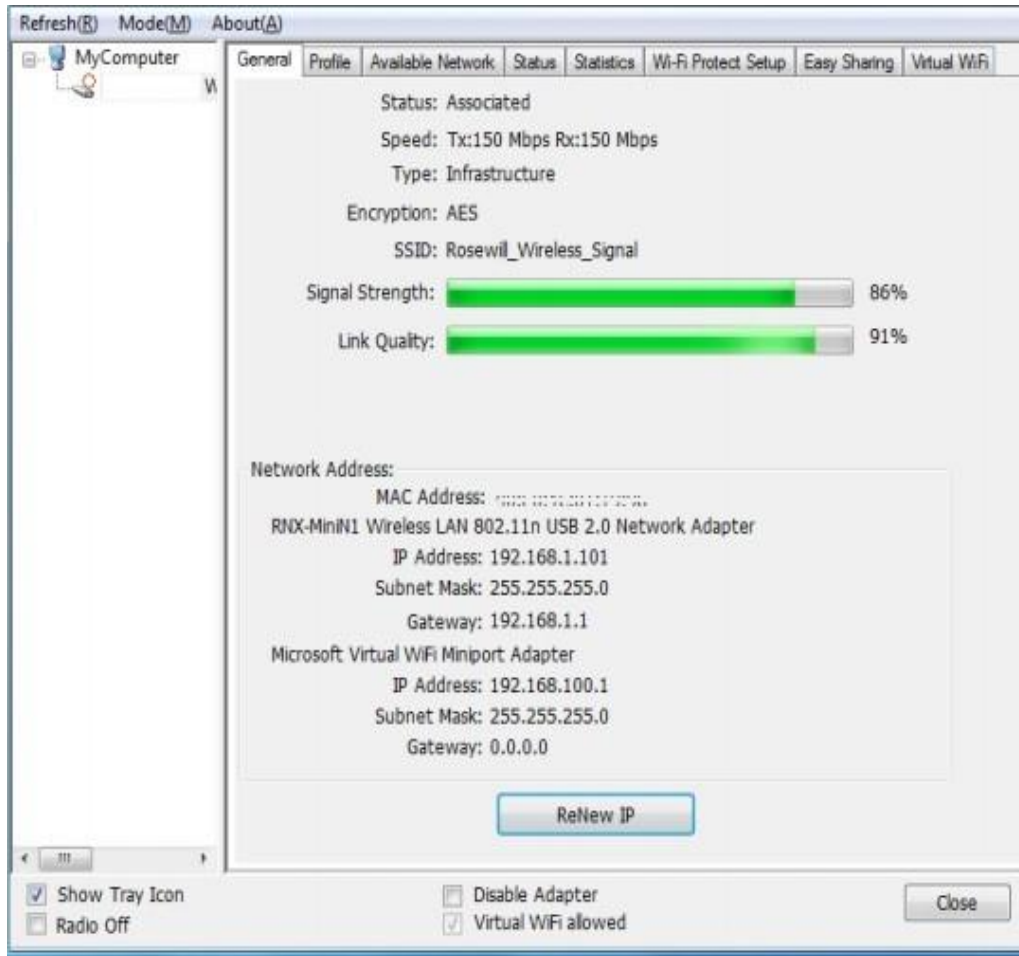
Remark

Wireless adapter are broadcasting and receiving the signal at the same time, therefore, the signal and the speed of the other Wireless Clients will be less that what Comfast wlan adaptor connects.

Chapter 5 Configuration – Access Point Mode

We can also use the wireless USB adapter as a Wireless signal provider. The other wireless clients can connect to Comfast wlan adaptor if the wireless USB adapter is set to Access Point mode Click Mode in the menu bar and select **Access Point**, then it will change to Access Point mode automatically

Remark

This works when your computer is currently connecting to the internet either via cable connection (RJ45) or via another wireless adapter.
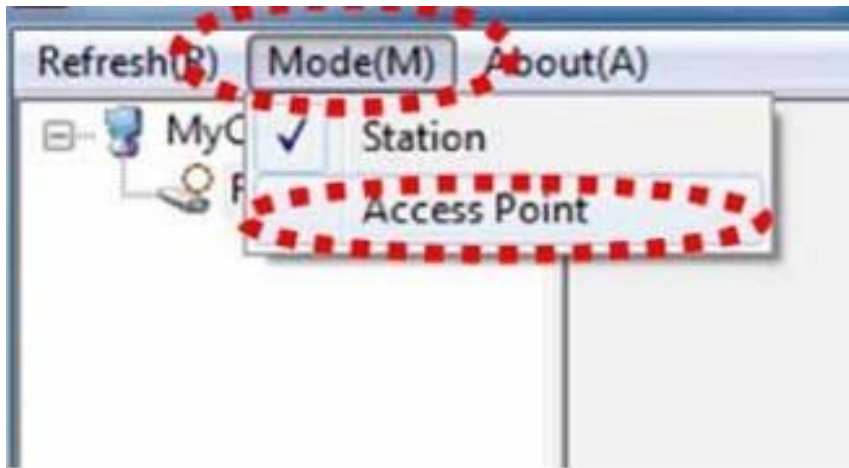
5.1 General

General displays the basic information of this AP
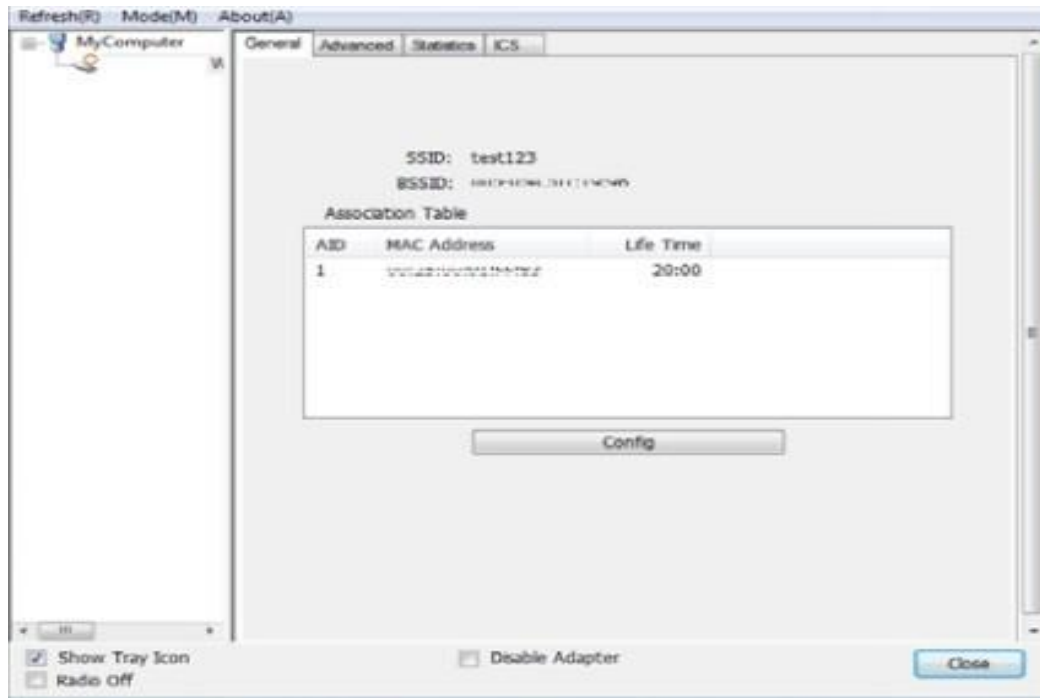
- SSID:

The SSID of this AP (the SSID that your RNX-MiniN1 broadcasting)

- BSSID:

The MAC address of this AP

- Association Table:

It displays the PC's MAC address and life time that connect to this AP

- Config

Configure this AP. Click config, display the following picture
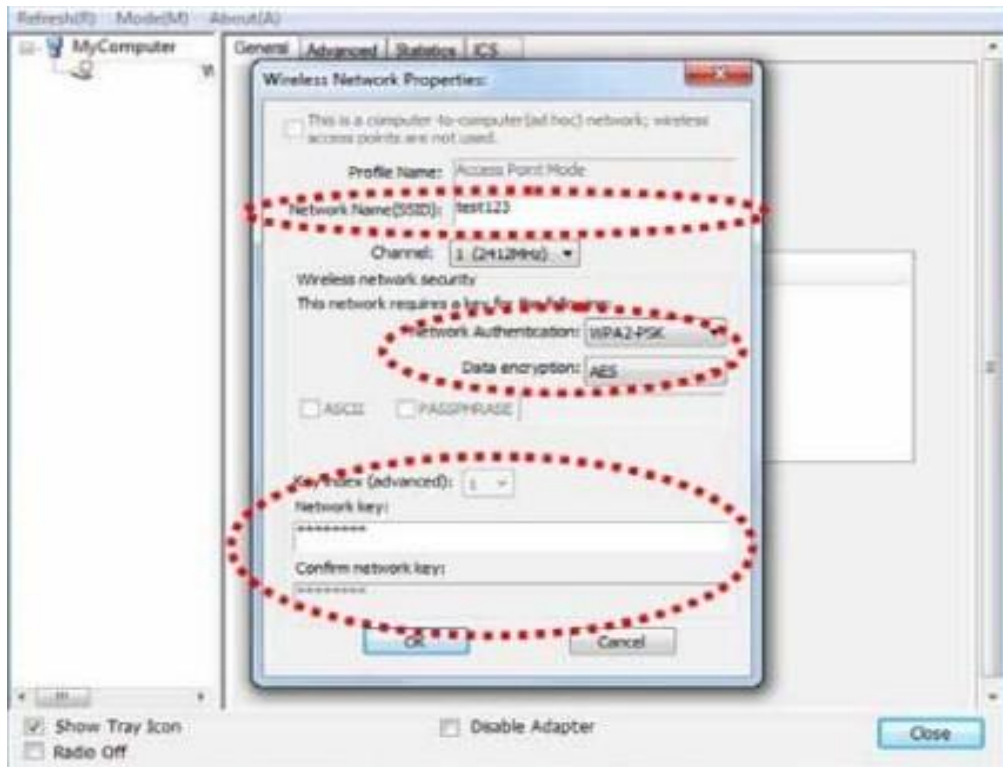
● **Profile name:**

The default is Access Point Mode and can't be modified

● **Network name (SSID):**

The name of this AP and can be modified

● **Channel**:

You can select channel 1 to 14, which provides a choice of avoiding interference

● **Network authentication:**

It contains open system, shared key, WPA-PSK and WPA2-PSK. You can configure safe
encryption mode for this AP. If you select encryption mode, then you will need to enter key

5.2　Advanced

● **Beacon Interval:**

This represents the amount of time between beacon transmissions. Before a station enters power save mode, the station needs the beacon interval to know when to wake up to receive the beacon (and learn whether there are buffered frames at the access point)
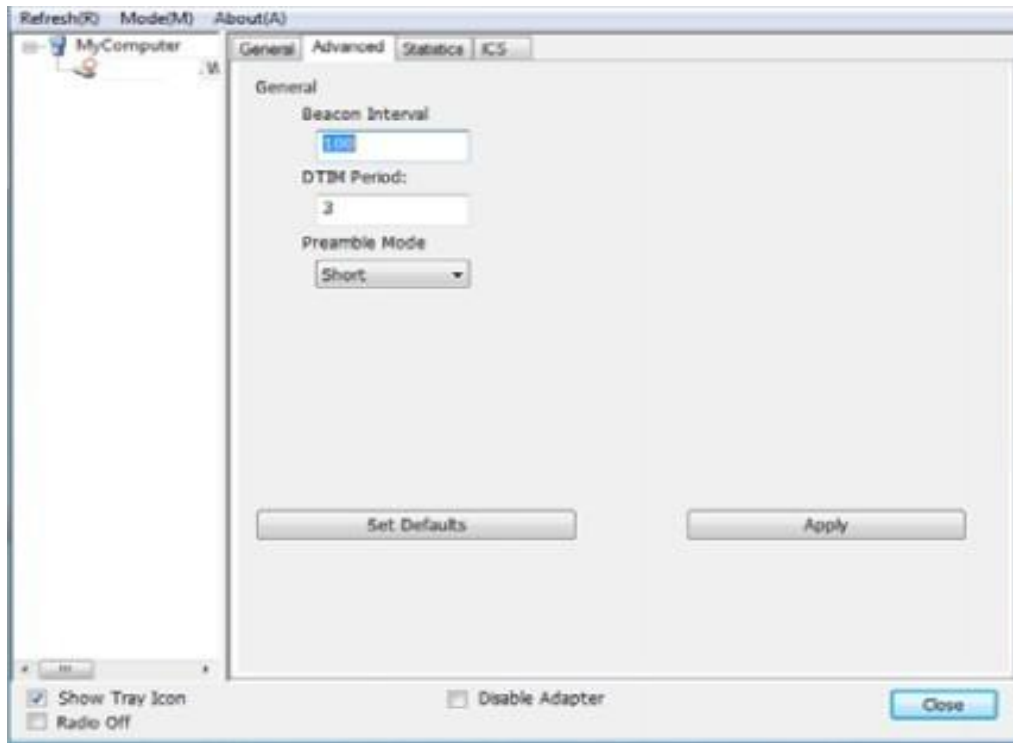
● **DTIM period:**

The DTIM period is set on the TIM information element on the DTIM period field. This field is one byte and represents the number of beacon intervals that must go by before a new DTIM is sent.

● **Preamble Mode:**

"Short" is suitable for heavy traffic wireless network. "Long" provides much communication reliability; the default setting is "Short"
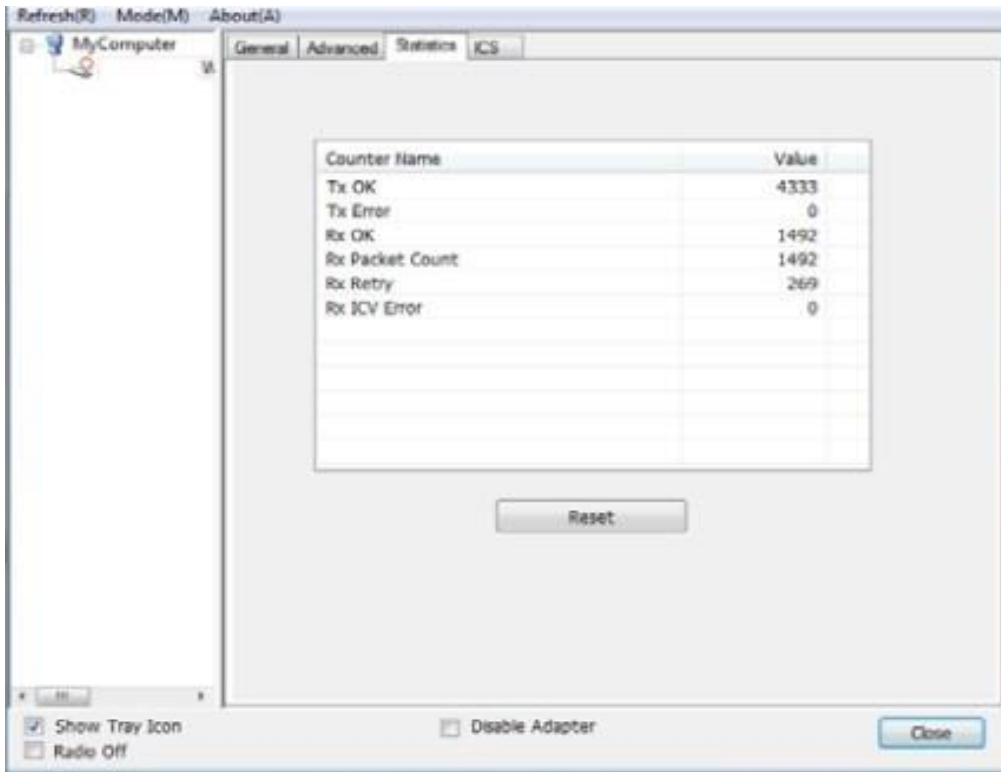
● **Set defaults:**

Set the options in advanced to default
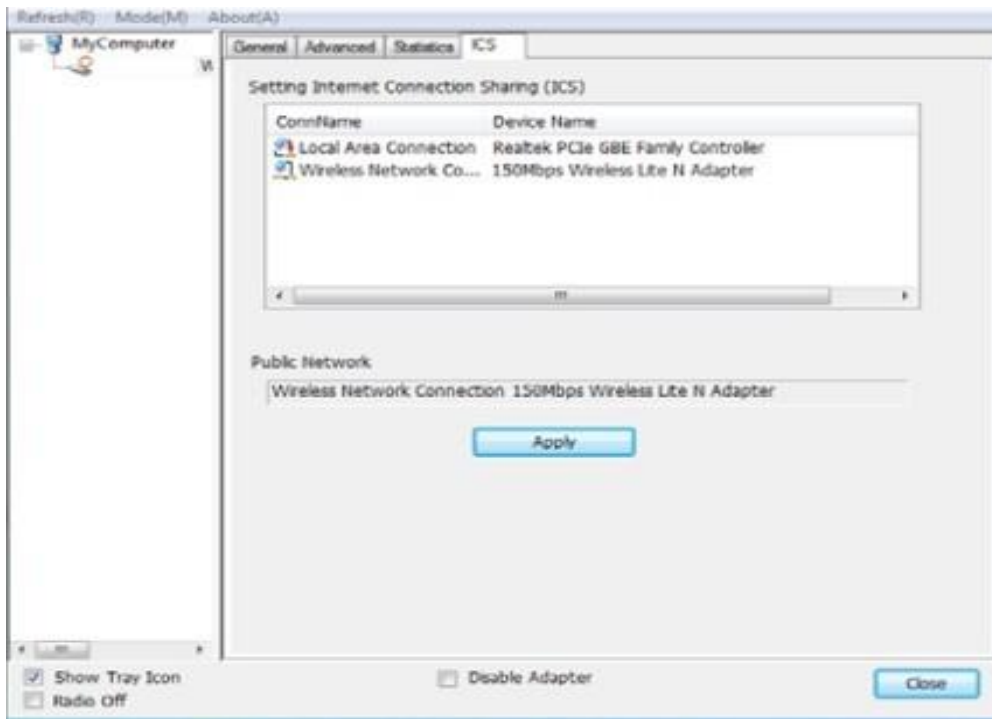
● **Apply:**

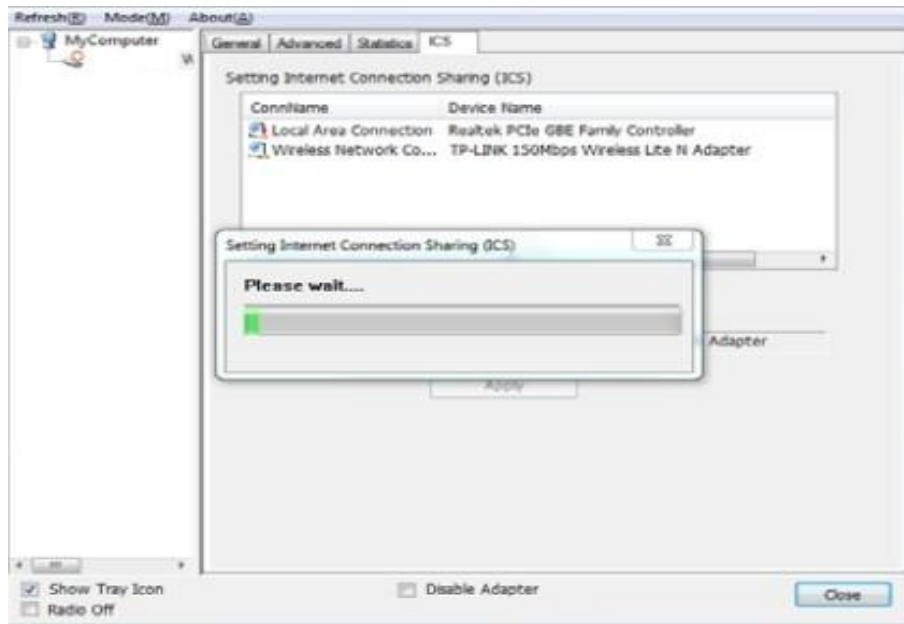Save the options

5.3   Statistics

It display receive and transmit information

5.4 ICS

You can set internet connecting sharing (ICS), select the network you want to share in the list, then click 'apply', the following picture appears.

When you connect successfully, you can share network with others

FAQ

This chapter provides solutions to problems that may occur during the installation and operation of the Wireless USB Adapter. Read the descriptions below to solve your problems.

1. **The Wireless USB Adapter does not work properly.**

    Reinsert the Wireless USB Adapter into your PC's USB slot. Right click My Computer and select Properties. Select the device manager and click on the Network Adapter. You will find the Adapter if it is installed successfully. If you see the yellow exclamation mark, the resources are conflicting. You will see the status of the Adapter. If there is a yellow question mark, please check the following:

    Make sure that you have inserted the right adapter and installed the proper driver. If the Adapter does not function after attempting the above steps, remove the adapter and do the following:

    Uninstall the driver software from your PC through Control Panel's "**Add or Remove Programs**".

    Restart your PC and repeat the hardware and software installation as specified in this User Guide.

2. **I cannot communicate with the other computers linked via Ethernet in the Infrastructure configuration.**

    Make sure that the PC to which the Adapter is associated is powered on.

    Make sure that your Adapter is configured on the same channel and with the same security options as with the other computers in the Infrastructure configuration.

3. **What should I do when the computer with the Adapter installed is unable to connect to the wireless network and/or the Internet?**

    Check that the LED indicators for the broadband modem are indicating normal activity.

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If not, there may be a problem with the broadband connection.

Check that the LED indicators on the wireless router are functioning properly. If not, check that the AC power and Ethernet cables are firmly connected.

Check that the IP address, subnet mask, gateway, and DNS settings are correctly entered for the network.

In Infrastructure mode, make sure the same Service Set Identifier (SSID) is specified on the settings for the wireless clients and access points.

In Ad-Hoc mode, both wireless clients will need to have the same SSID. Please note that it might be necessary to set up one client to establish a BSS (Basic Service Set) and wait briefly before setting up other clients. This prevents several clients from trying to establish a BSS at the same time, which can result in multiple singular BSSs being established, rather than a single BSS with multiple clients associated to it.

Check that the Network Connection for the wireless client is configured properly.

If Security is enabled, make sure that the correct encryption keys are entered on both the Adapter and the access point.

4. **I can't find any wireless access point / wireless device in 'Site Survey' function.**

    1. Click 'Rescan' for few more times and see if you can find any wireless access point or wireless device.

    2. Please move closer to any known wireless access point.

    3. 'Ad hoc' function must be enabled for the wireless device you wish to establish a direct wireless link.

    4. Please adjust the position of network card (you may have to move your computer if you're using a notebook computer) and click 'Rescan' button for few more times. If you can find the wireless access point or wireless device you want to connect by doing this, try to move closer to the place where the wireless access point or wireless

device is located.

5. Nothing happens when I click 'Open Config Utility'

1. Please make sure the wireless network card is inserted into your computer's USB port.

2. Reboot the computer and try again.

3. Remove the card and insert it into another USB port.

4. Remove the driver and re-install.

5. Contact the dealer of purchase for help.

6. I can not establish connection with a certain wireless access point

1. Click 'Add to Profile' for few more times.

2. If the SSID of access point you wish to connect is hidden (nothing displayed in

3. 'SSID' field in 'Site Survey' function), you have to input correct SSID of the access point you wish to connect. Please contact the owner of access point to ask for correct SSID.

4. You have to input correct passphrase / security key to connect an access point with encryption. Please contact the owner of access point to ask for correct passphrase / security key.

5. The access point you wish to connect only allows network cards with specific MAC address to establish connection. Please go to 'Status' menu and write the value of 'MAC Address' down, then present this value to the owner of access point so he / she can add the MAC address of your network card to his / her access point's list.

7. The network is slow / having problem when transferring large files

1. Move closer to the place where access point is located.

2. There could be too much people using the same radio channel. Ask the owner of the access point to change the channel number.