

WF-2116

User Manual

V1.0
2011-06-22

Certification

FCC CE

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 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 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.

To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. (Example- use only shielded interface cables when connecting to computer or peripheral devices)

FCC Radiation Exposure Statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This equipment 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.

Caution!

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user authority to operate the equipment

Package Contents

The following items should be found in your package:

- WF-2116 USB Adapter
- CD -ROM
- Quick Installation Guides

Make sure that the package contains above items. If any of the listed items is damaged or missing, please contact with your distributor.

Content

1	INTRODUCTION	- 1 -
1.1	PRODUCT OVERVIEW	- 1 -
1.2	MAIN FEATURES	- 1 -
1.3	STANDARDS	- 1 -
1.4	WORKING ENVIRONMENT	- 1 -
1.5	SYSTEM REQUIREMENT	- 2 -
2	DRIVER AND HARDWARE INSTALLATION	- 3 -
2.1	DRIVER INSTALLATION OF WF-2116.....	- 3 -
2.2	HARDWARE INSTALLATION OF THE WIRELESS USB ADAPTER.....	- 4 -
3	SYSTEM CONFIGURATION	- 6 -
3.1	GENERAL.....	- 6 -
3.2	PROFILE	- 8 -
3.2.1	<i>Add</i>	- 8 -
3.2.2	<i>Remove</i>	- 10 -
3.2.3	<i>Edit</i>	- 11 -
3.2.4	<i>Duplicate</i>	- 13 -
3.2.5	<i>Set default</i>	- 14 -
3.3	AVAILABLE NETWORK	- 15 -
3.4	STATUS	- 17 -
3.5	WI-FI PROTECT SETUP	- 18 -
4	THE ACCESS POINT MODE	- 21 -
4.1	GENERAL.....	- 21 -
4.2	ADVANCED	- 23 -
4.3	ICS	- 24 -
5	FAQ	- 25 -

1 Introduction

Thank you for choosing this Wireless 11N 300Mbps USB Adapter

1.1 Product Overview

WF-2116 is a powerful 300Mbps USB 2.0 Adapter that installs quickly and easily into PCs. The Adapter can be used in Ad-Hoc mode to connect directly with other cards for peer-to-peer file sharing or in Infrastructure mode to connect with a wireless access point or router for access to the Internet in your office or home network.

The Wireless 11N 300Mbps USB Adapter connects with 802.11n networks at up to an incredible 300Mbps! And for added versatility, it can also interoperate with all the up to 54Mbps 802.11g or 11Mbps 802.11b products found in homes, businesses, and public wireless hotspots around the country. And in every mode, your wireless communications are protected, so your data stays secure.

1.2 Main Features

- Compiles with IEEE802.11n/b/g standards
- Support advanced 2 x 2 MIMO Technology with up to 300Mbps data transfer rate
- Support 64/128-bit WEP,WPA and WPA2 wireless security modes
- Windows 7-32/64 bit, Vista 32/64 bit, XP, 2000, MacOS, Linux supportive
- Supports Sony PSP X-link for online gaming
- USB 2.0 Interface

1.3 Standards

- 802.11b/g/n
- 802.11i

1.4 Working Environment

Temperature

- 0° to 40° C (operating)
- -40° to 70° C (storage)

Humidity

- 10% to 90 % non-condensing (operating)

- 5% to 90% non-condensing (storage)

1.5 System Requirement

You must have the following at least

- A laptop computer/desktop PC with an available USB slot
- At least a 300MHz processor and 32MB of memory
- A CD-ROM Drive
- USB controller properly installed and working in the computer
- A 802.11n 、 802.11g or 802.11b Access Point (for infrastructure Mode) or another 802.11n、 802.11g or 802.11b wireless adapter (for Ad-Hoc; Peer-to-Peer networking mode).

2 Driver and Hardware Installation

2.1 Driver installation of WF-2116

- Insert the Driver and Utility CD-ROM into the CD-ROM driver.
- The Wizard should run automatically. If not, click the **Start** button and choose **Run**. In the field that appears, enter D:\autorun.exe (if "D" is the letter of your CD-ROM drive).
- Click **Install Driver & Utility for WF-2116** on the Wireless Client Configuration Utility dialogue box, and then click **Next** button.



Figure 2-1

- Click **Next**



Figure 2-2

- Follow the Install Shield Wizard steps, and click **Finish** when done.

Now your PC or notebook will restart automatically.

2.2 Hardware installation of the Wireless USB Adapter

WF-2116 supports up to 300 Mbps data transfer rates. This card is fully compliant with the specifications defined in IEEE802.11n standard. It is designed to complement USB2.0 computers and supports Windows98/Me/2000/XP/Vista/7,linux and MAC OS.

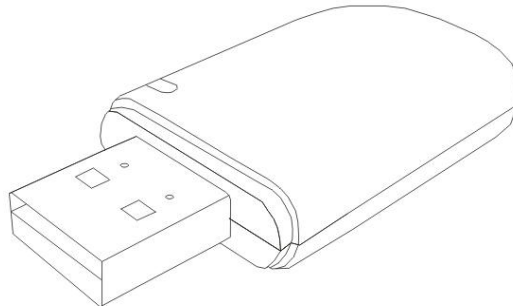


Figure 2-3

Install Wireless USB Adapter

- Power on your PC, let the operating system boot up completely, and log in succeed.
- Hold the adapter and insert it into a USB slot.(The adapter of demo figure is WF-2109)



Figure 2-4

- If the **Welcome to Found New Hardware Wizard** displays, choose **install the software automatically (Recommended)**, and click **Next** button. The driver will be installed automatically.



Figure 2-5

Now you have completed the driver and hardware installation for the adapter.

3 System Configuration

This Wireless 11N 300Mbps USB Adapter provides two modes: Station mode and Access Point mode, the default is Station mode. You can select remote wireless AP to connect to Internet in station mode. But in the AP mode, the Wireless USB Adapter act as a wireless access point which wireless client can connect to share an Internet connection with others

Use the Wireless LAN Utility to check the link information, search for available wireless networks, or create profiles that hold different configuration settings. You can double-click the icon (the following picture) on your desktop to run it. Another way to start the Configuration Utility is to click **Start>Programs> 11n USB Wireless LAN Utility> 11n USB Wireless LAN Utility**.

If you are using Windows XP, you can use either the Zero Configuration Utility or the Wireless Client Configuration.



Figure 3-1

3.1 General

The General tab (the following picture) displays current basic wireless connection information.

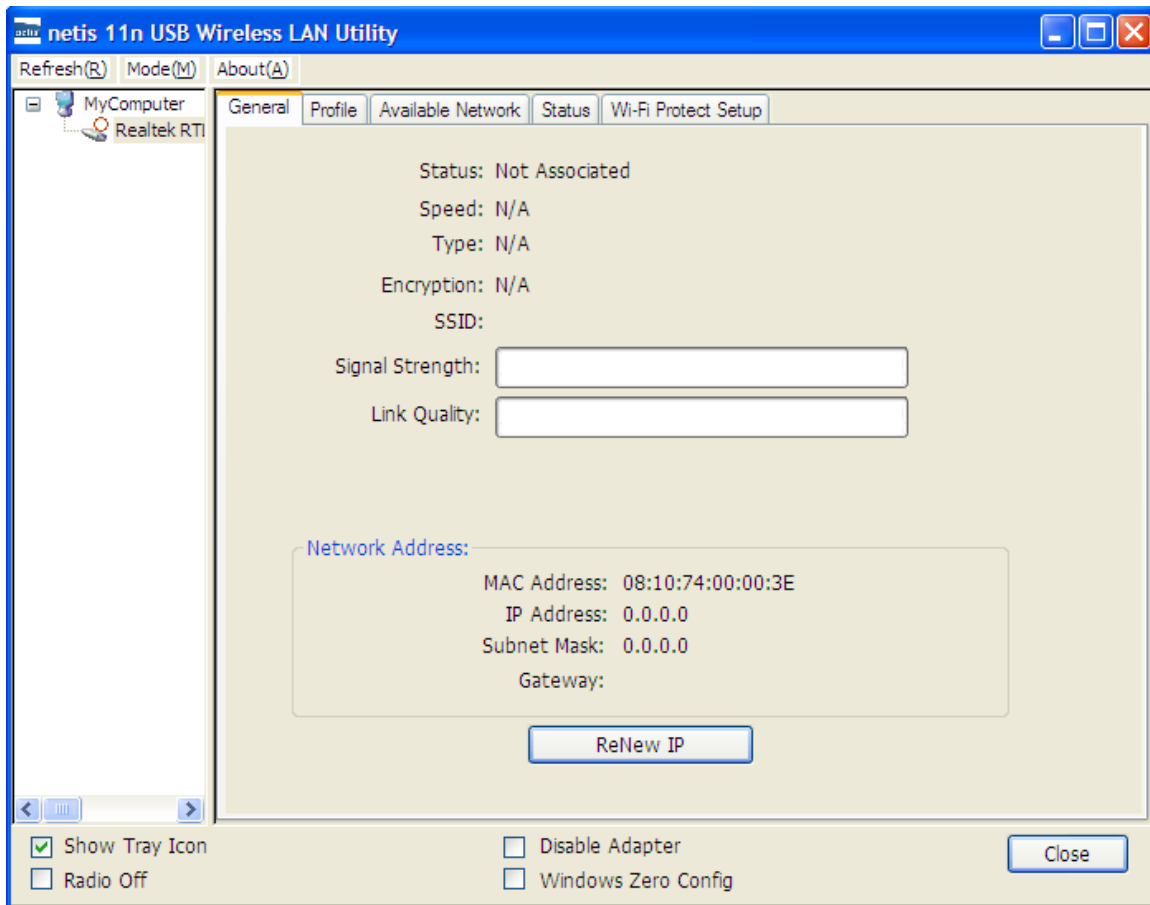


Figure 3-2

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.
- Subnet Mask: The Subnet Mask of the Adapter.
- Gateway: The Default Gateway address of the Adapter.

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.

3.2 Profile

Using the Profile tab (the following picture), you can add, remove, edit, duplicate, and set default a profile.

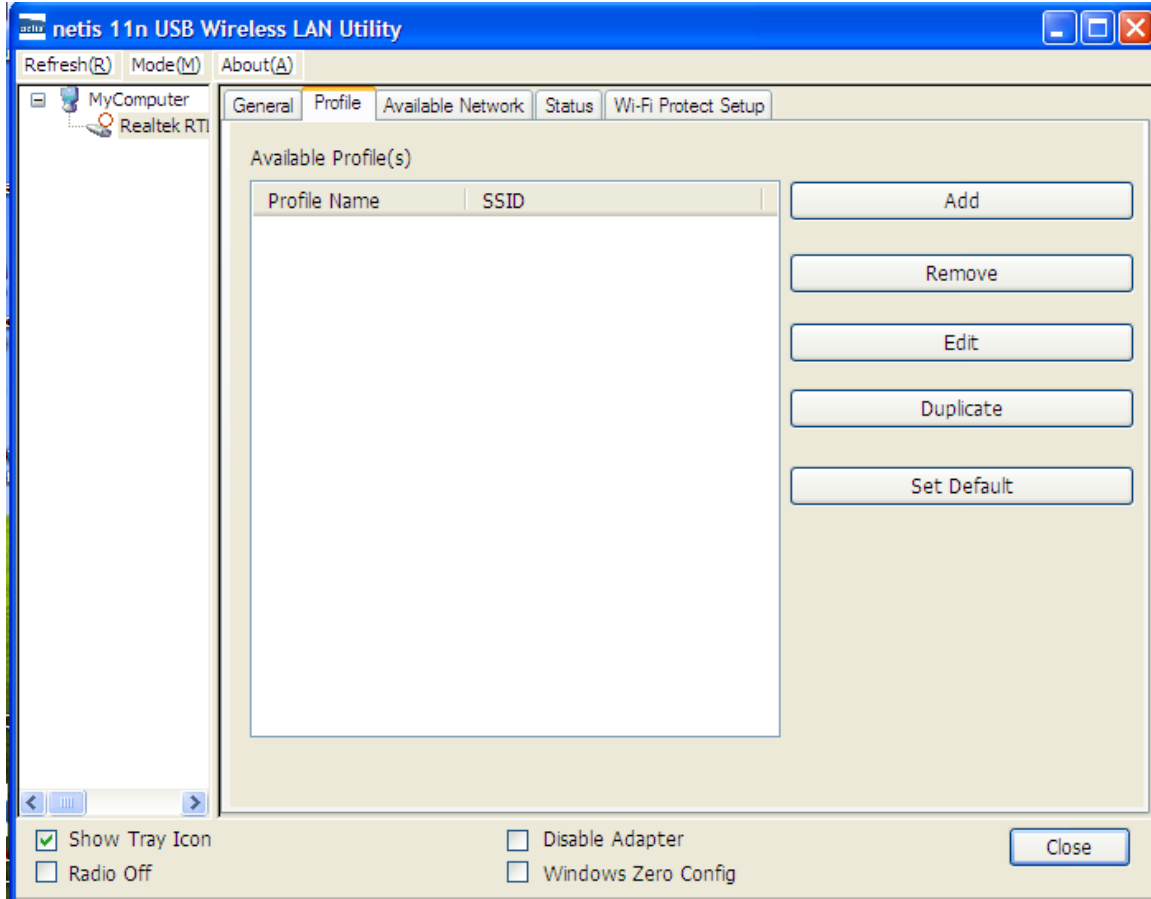


Figure 3-3

3.2.1 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.

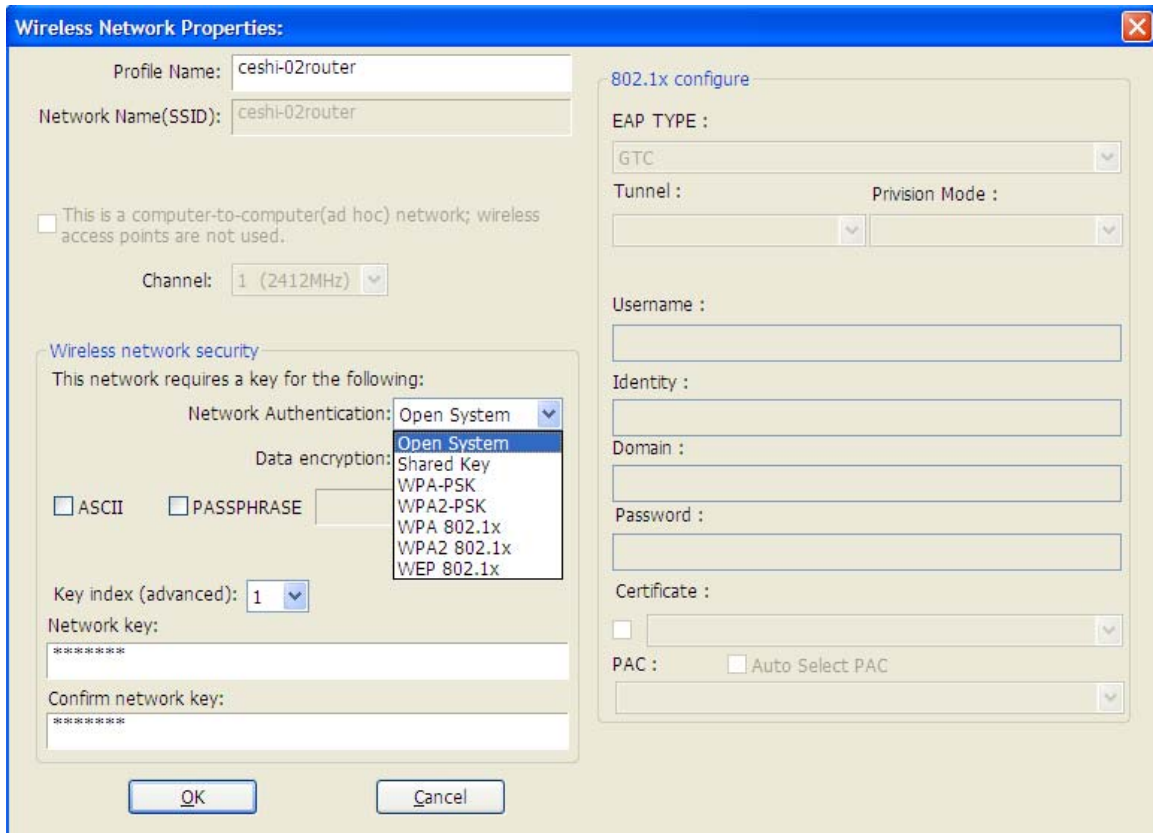


Figure 3-4

When the Network Info dialog box appears (the former picture), enter a name for the new profile. Enter the Network SSID. Choose the Network Authentication Mode and Data encryption from the drop-down menu and import 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, mark

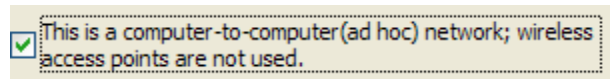


Figure 3-5

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

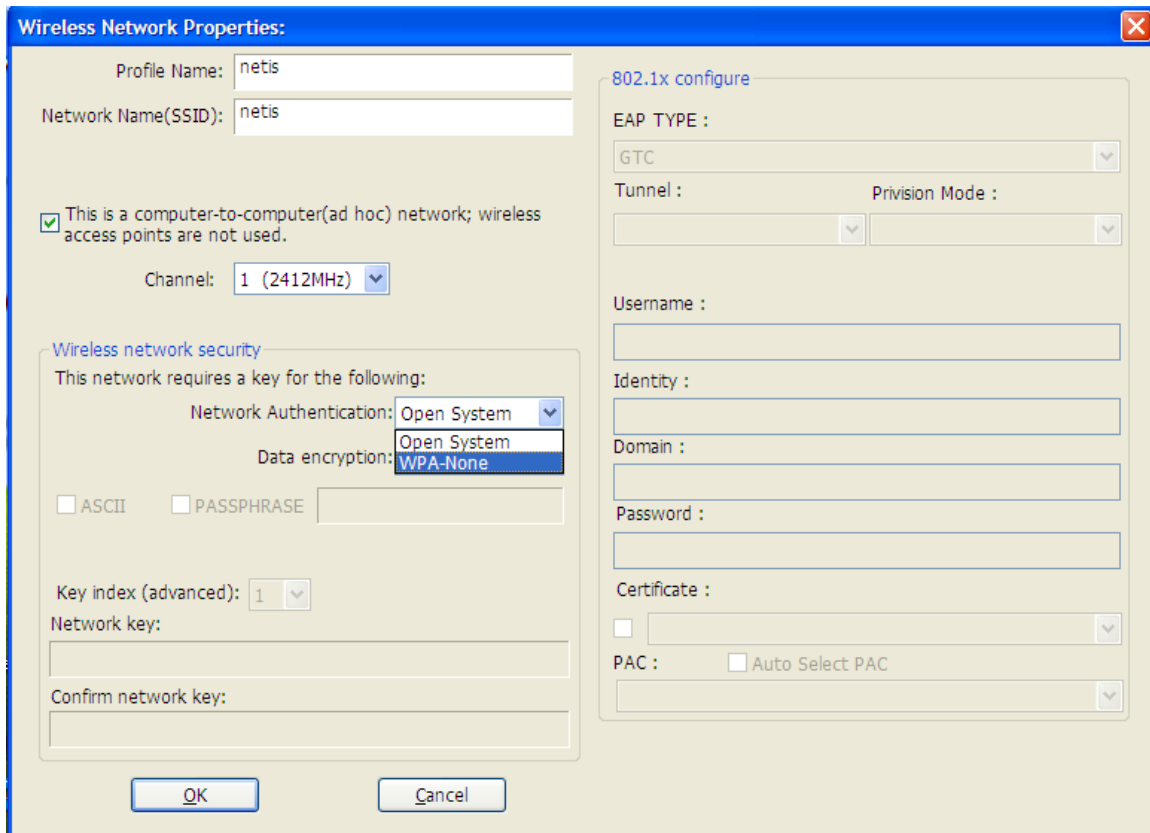


Figure 3-6

Choose the Network Authentication Mode and Data encryption from the drop-down menu. And import the network key. Then click OK button.

You have successfully created a profile.

3.2.2 Remove

Select a profile and click **Remove** button to delete this profile (the following picture).

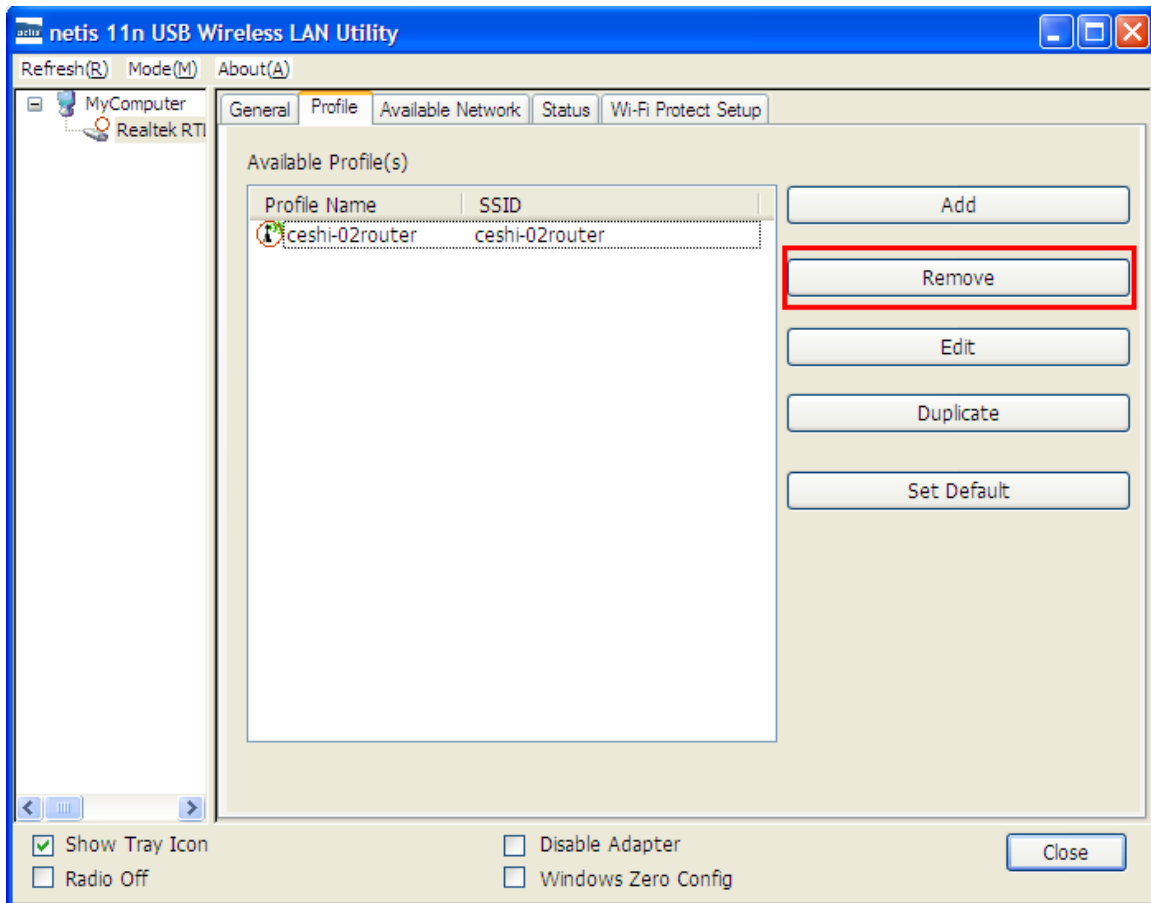


Figure 3-7

3.2.3 Edit

Select a profile and click **Edit** button to edit this profile (the following picture).

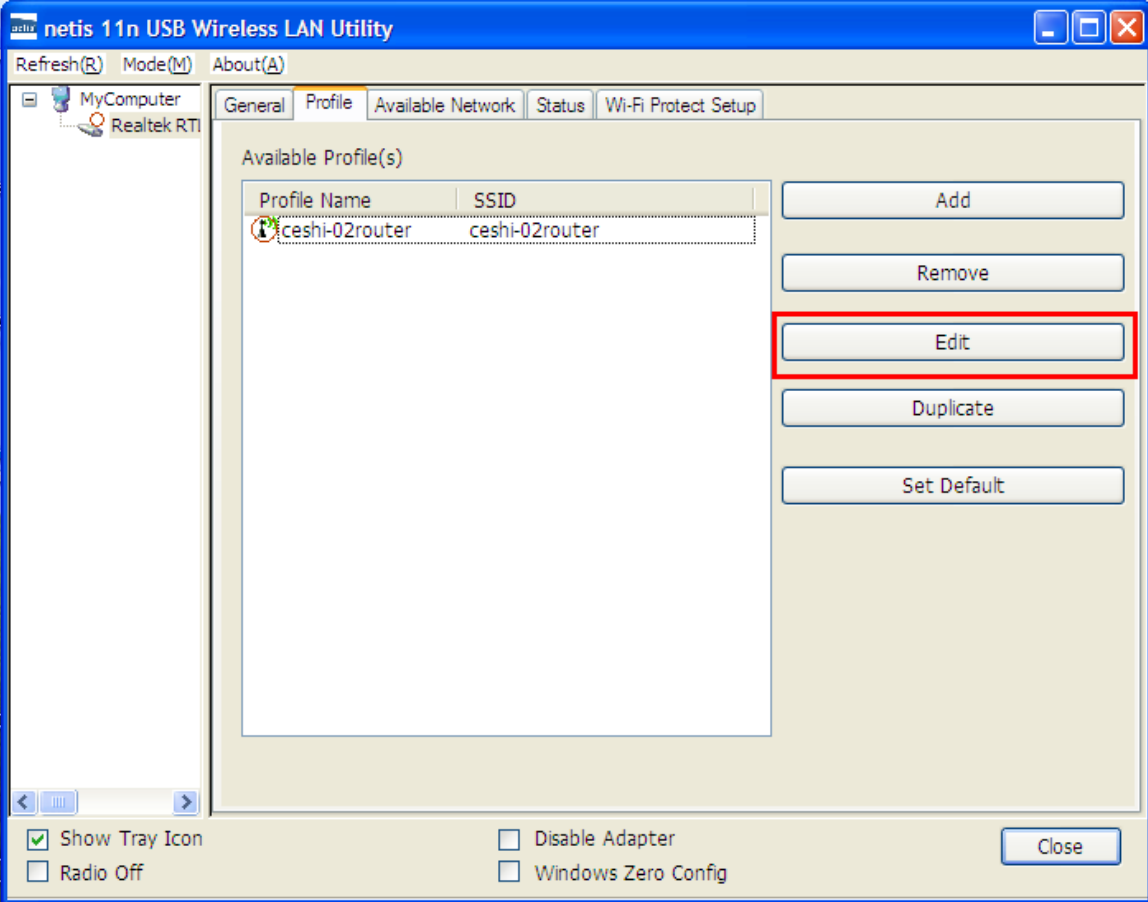


Figure 3-8

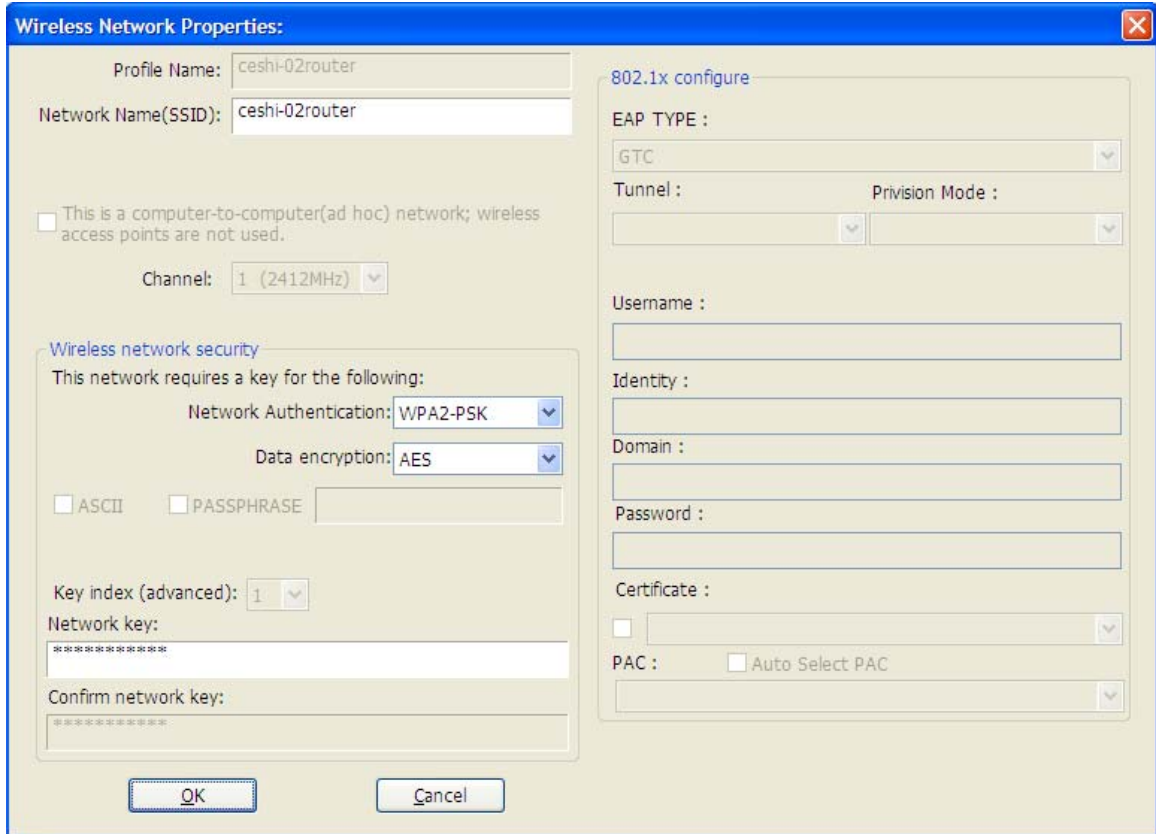


Figure 3-9

Modify the profile information according to your demand.

3.2.4 Duplicate

Select a profile which you want to copy and then click **Duplicate** (the following picture)

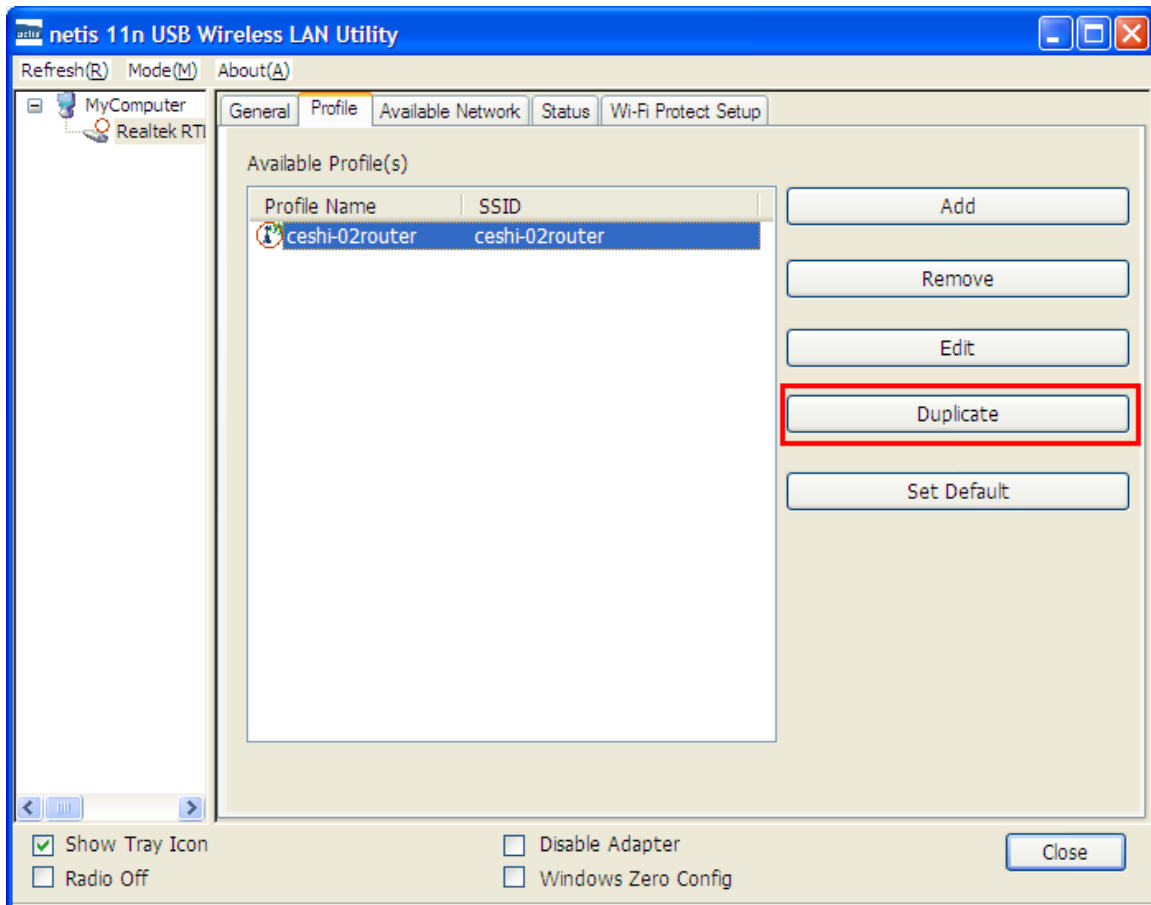


Figure 3-10

Import the new profile name in the popup window blank (the following picture)

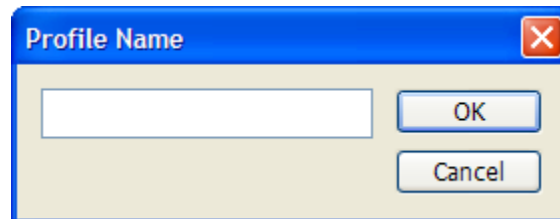


Figure 3-11

3.2.5 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.

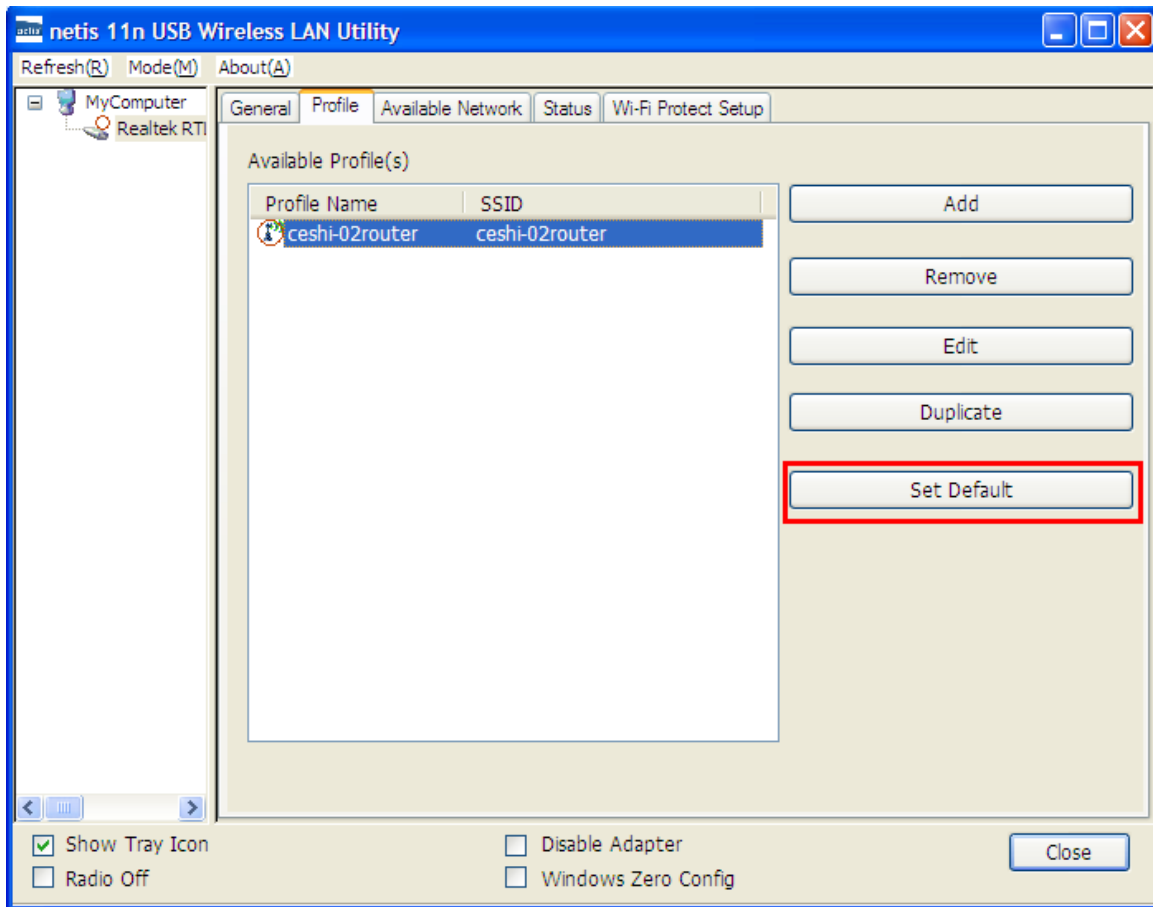


Figure 3-12

3.3 Available Network

The Available Network tab displays a list of infrastructure and ad-hoc networks for available wireless connection (the following picture)

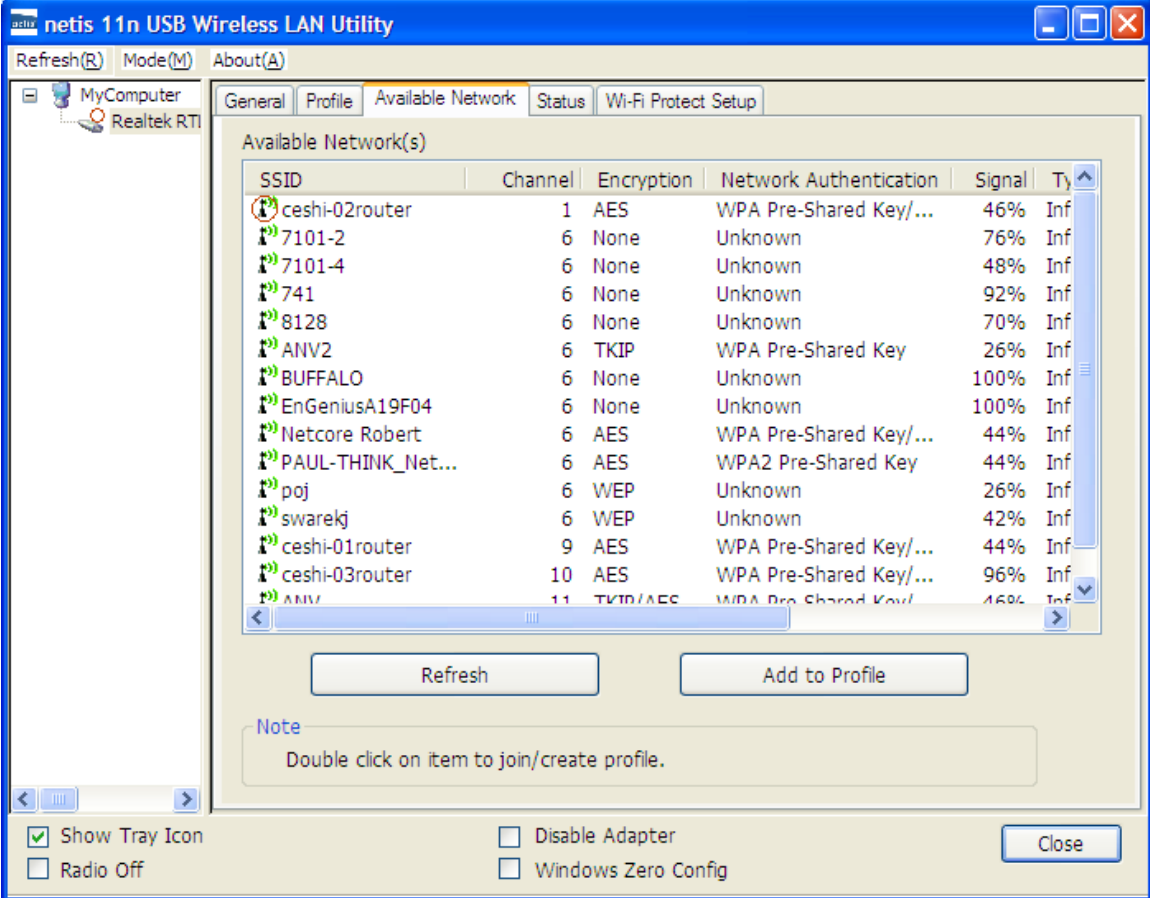


Figure 3-13

Double-click the network to which you wish to connect.

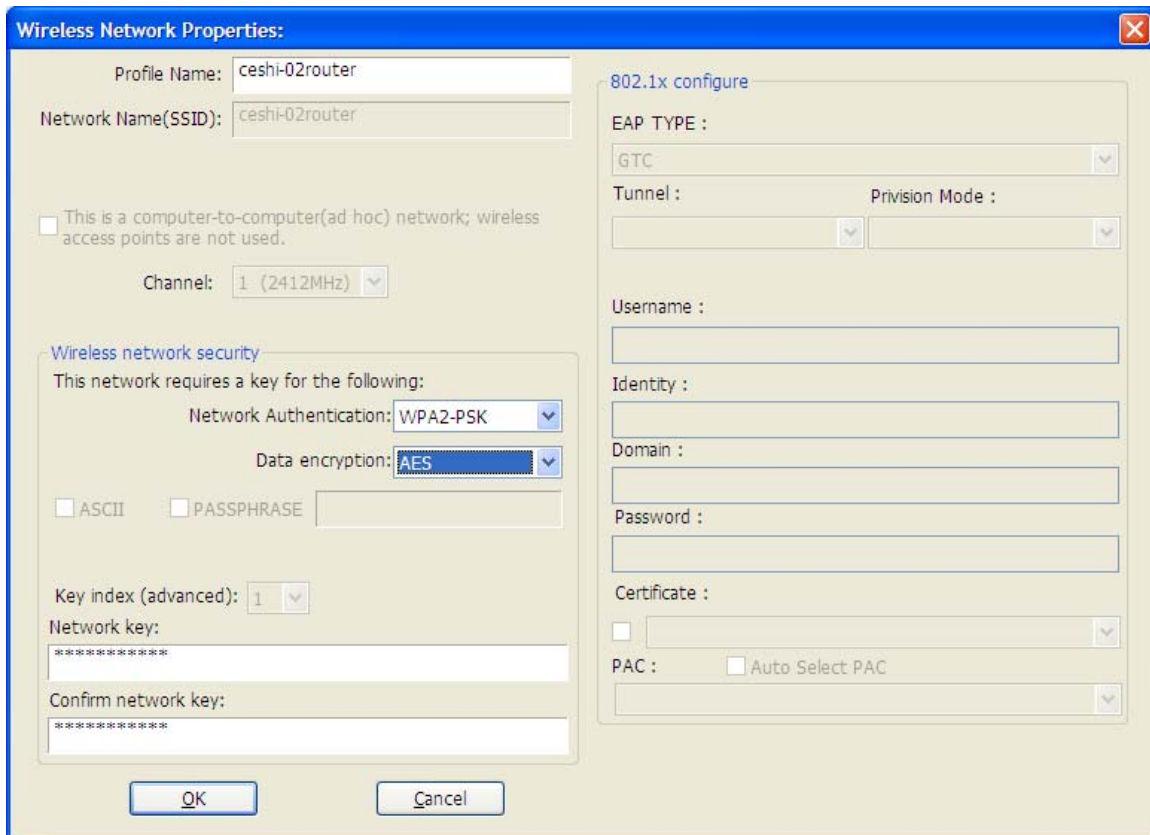


Figure 3-14

Refer to the former picture choose the Authorization modes and Encryption modes in the drop-down box. If the wireless network uses a Passphrase, enter the Passphrase in the Passphrase field. If the wireless network uses a WEP key, enter the WEP key in the Key field. Click the **OK** button to complete the network connection.

3.4 Status

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

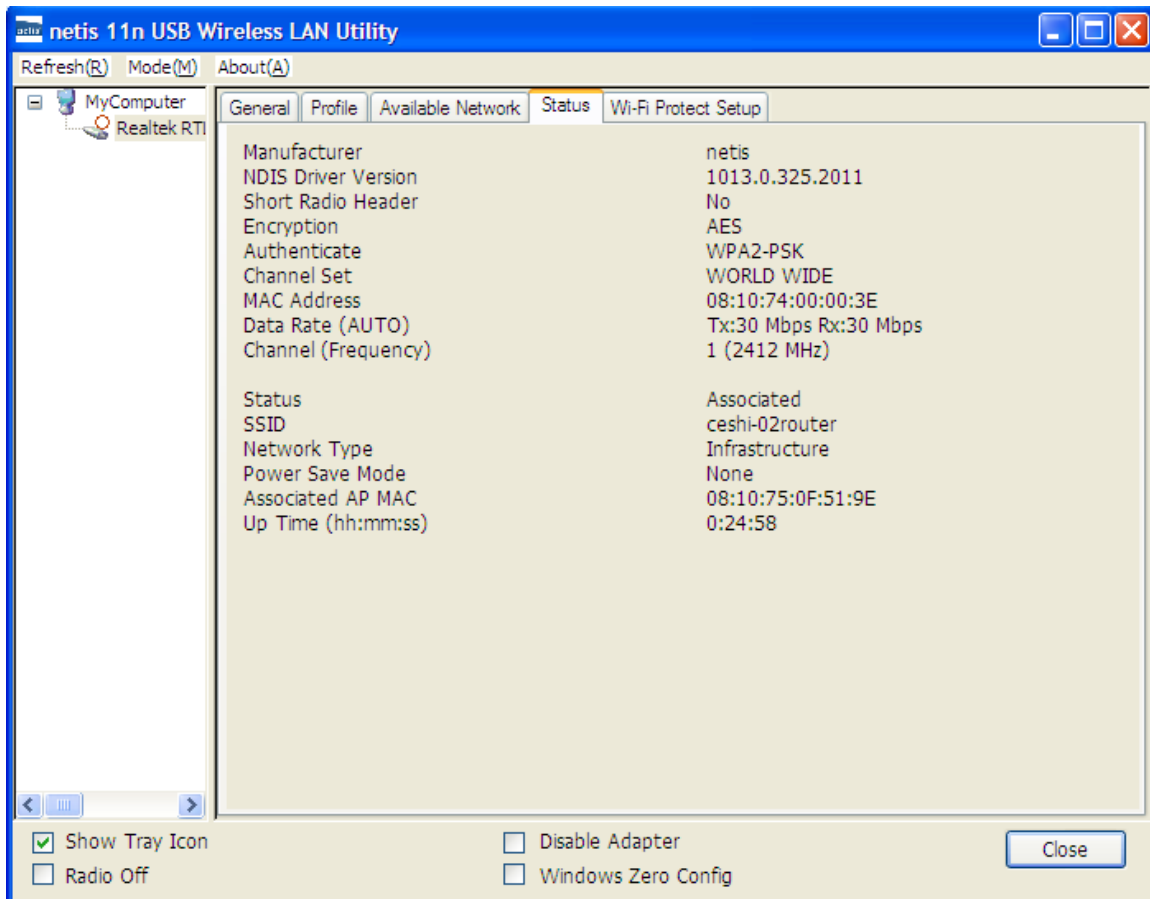


Figure 3-15

3.5 Wi-Fi Protect Setup

Wi-Fi Protect Setup (WPS) function can let you create a safety network easily. You can through 'PIN Input Config (PIN)' or 'Push Button (PBC)' to encrypt your network. This USB adapter also provides WPS button, you only need to push the WPS button in this USB adapter and the router which support WPS function, then the router will be encrypted to WPA2-AES mode automatically

Note:

- The status of WPS in the router must be enabled
- If you have configured encryption mode in your router, then when you use this WPS function, please configure encryption mode to NONE, then it will be encrypted to WPA2-AES mode automatically. If you don't want to change your encryption mode, then when you use this function, the router will be encrypted to the mode that you have configured.

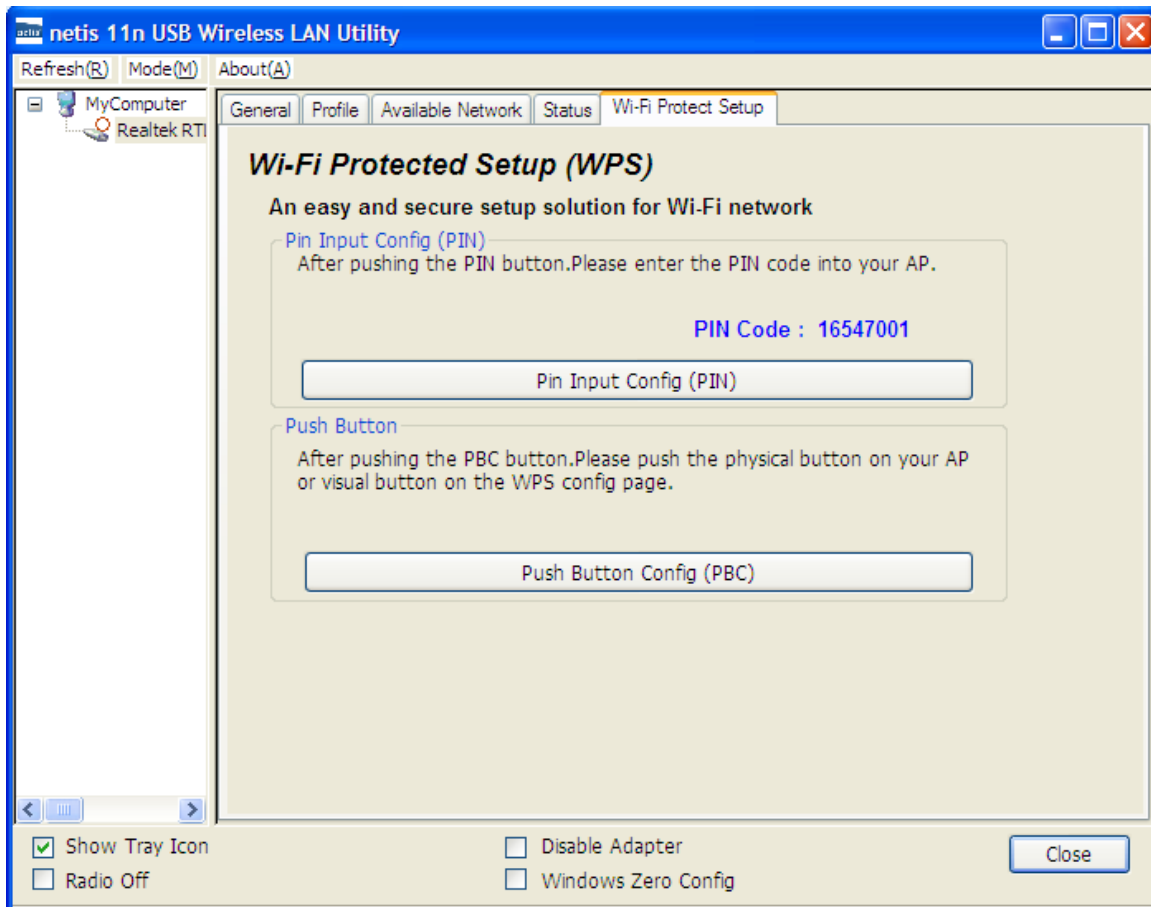


Figure 3-16

WPS can connect the wireless adapter and the router in a safe way. If you have a router which has WPS button, you may set up a safe network via the following methods

Method 1:

- Push the WPS button in the Router until the WPS LED flashes
- Push the WPS button in this wireless network card for about 3-5 seconds
- The safe connection will be established automatically, please wait

Method 2:

- Input the PIN code of the adapter's WPS page into the router's WPS configure page, then click 'connect'

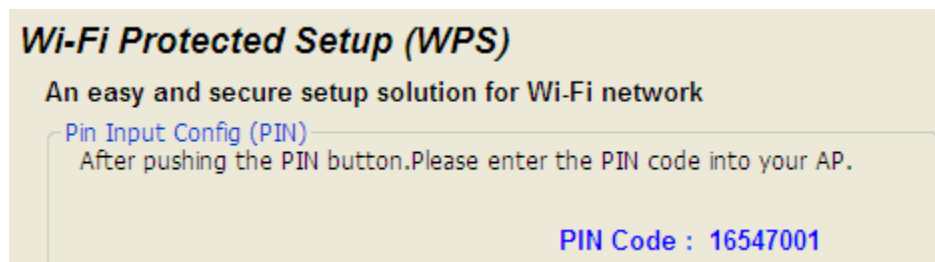


Figure 3-17

WPS PIN Settings	
Wireless Host PIN Code	<input type="text" value="35229155"/>
<input type="button" value="Connect"/>	

Figure 3-18

- Click the 'PIN Input Config (PIN)' in the Wi-Fi protect setup of the adapter

PIN Code : 35229155
<input type="button" value="Pin Input Config (PIN)"/>

Figure 3-19

- Select the AP that you want to connect in the pop-up window, and then click 'Select'
- The connection will be established automatically.

Method 3:

- Check 'Input PIN from AP' in the adapter's WPS page into the router's WPS configure page, enter the PIN code of the wireless router that you want to connect (the PIN code is usually in the back of the router), and then click the 'PIN Input Config (PIN)' in the Wi-Fi protect setup of the adapter

<input checked="" type="checkbox"/> Input PIN from AP	PIN Code : <input type="text"/>
---	--

Figure 3-20

- Select the AP that you want to connect in the pop-up window, and then click 'Select'
- The connection will be established automatically.

Note: If there is more than one AP on the PBC mode when you use the method 1, there will be session overlap. Please using method 2/3 or wait for a while push the button again.

4 The Access Point mode

We can use the wireless 11N 300Mbps USB adapter to build an access point apart from the station mode. The wireless client can connect to it if the wireless USB adapter is set to access point mode, then you can share an Internet connection with others

Click Mode in the menu bar and select Access Point, then it will change to Access Point mode automatically

4.1 General

General displays the basic information of this AP

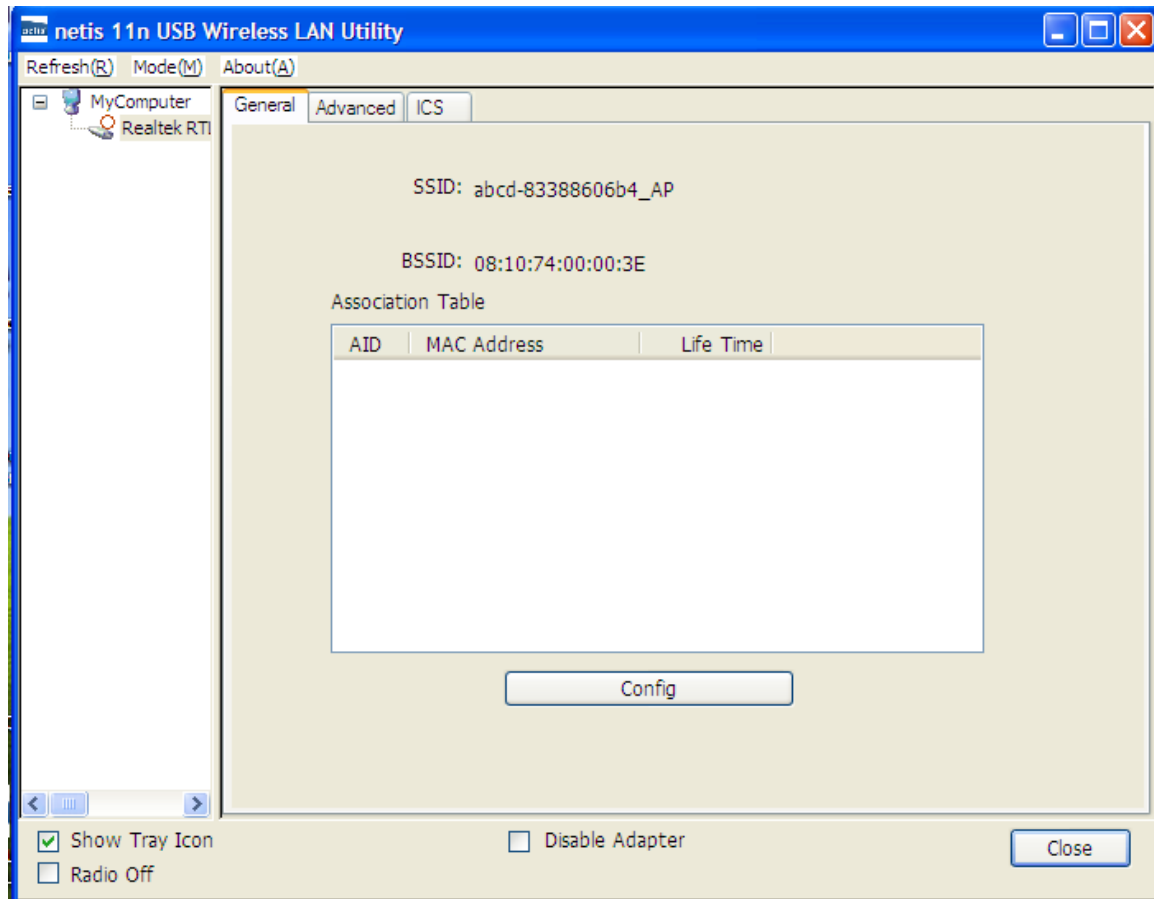


Figure 4-1

- SSID: The SSID of this AP
- 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

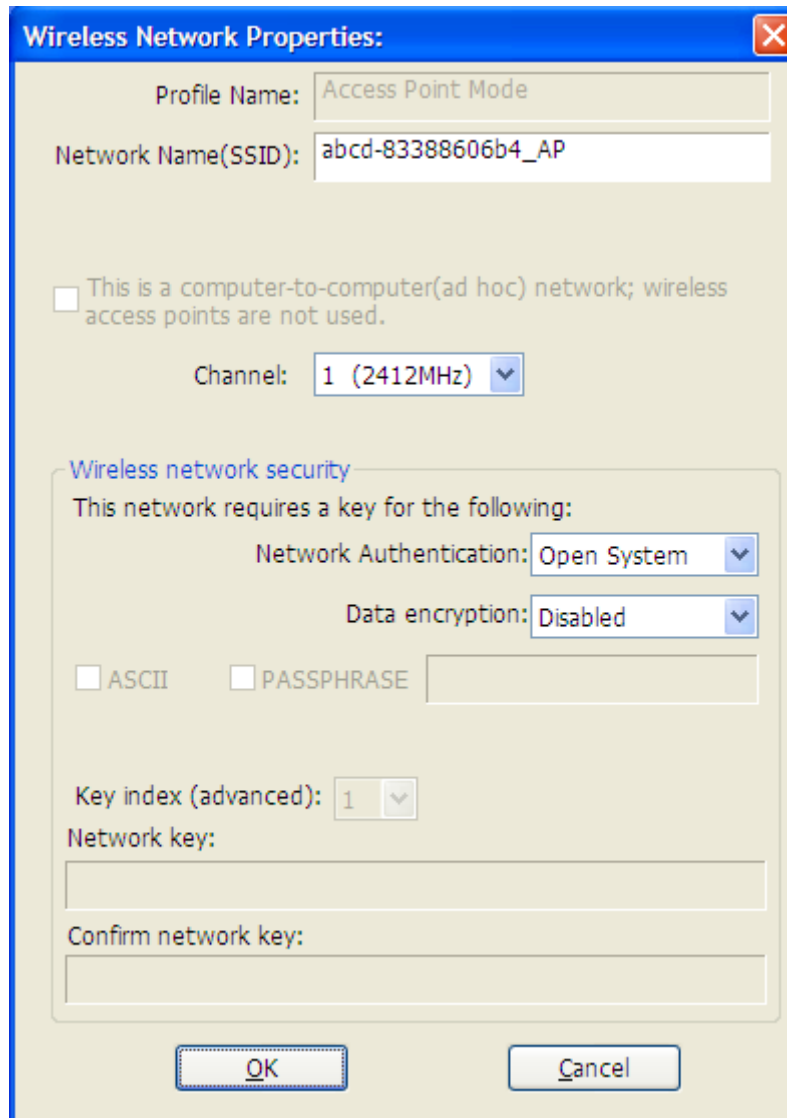


Figure 4-2

- 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

4.2 Advanced

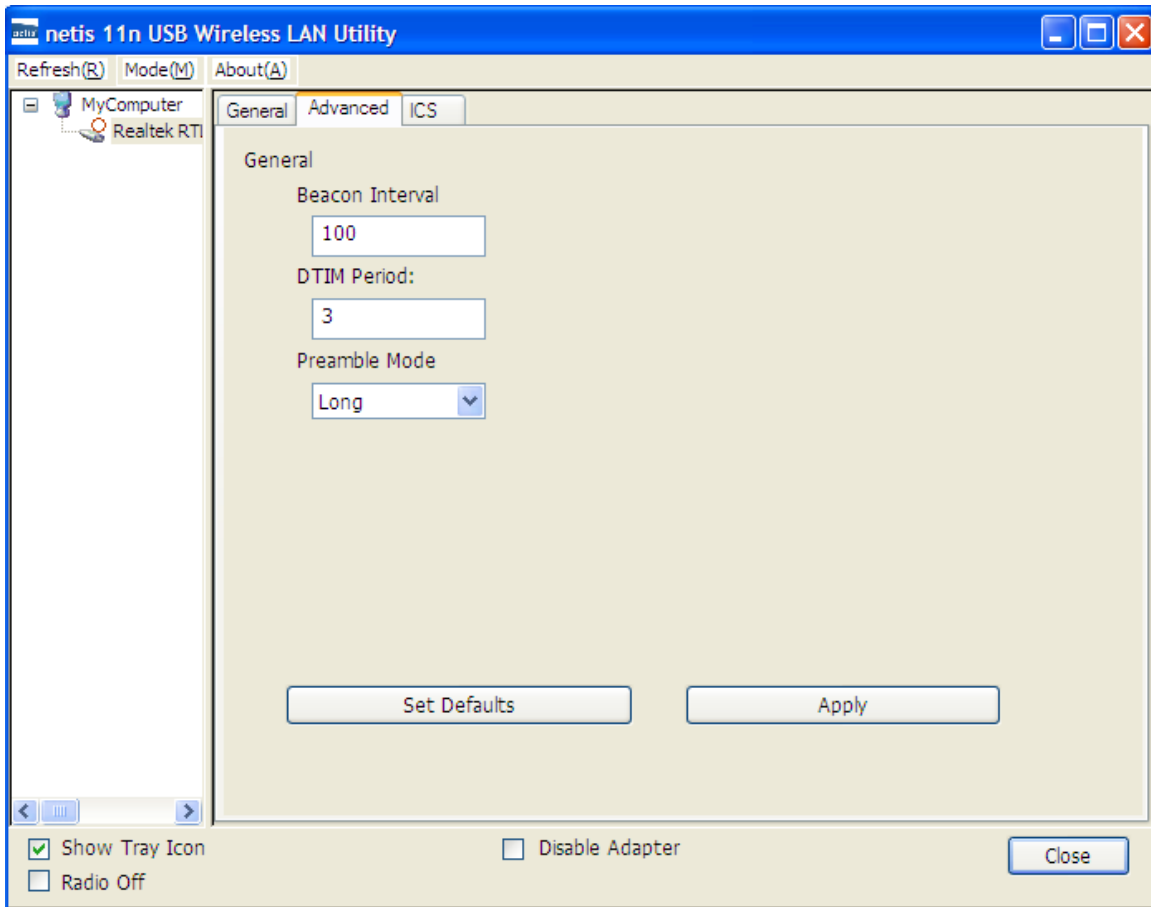


Figure 4-3

- **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

4.3 ICS

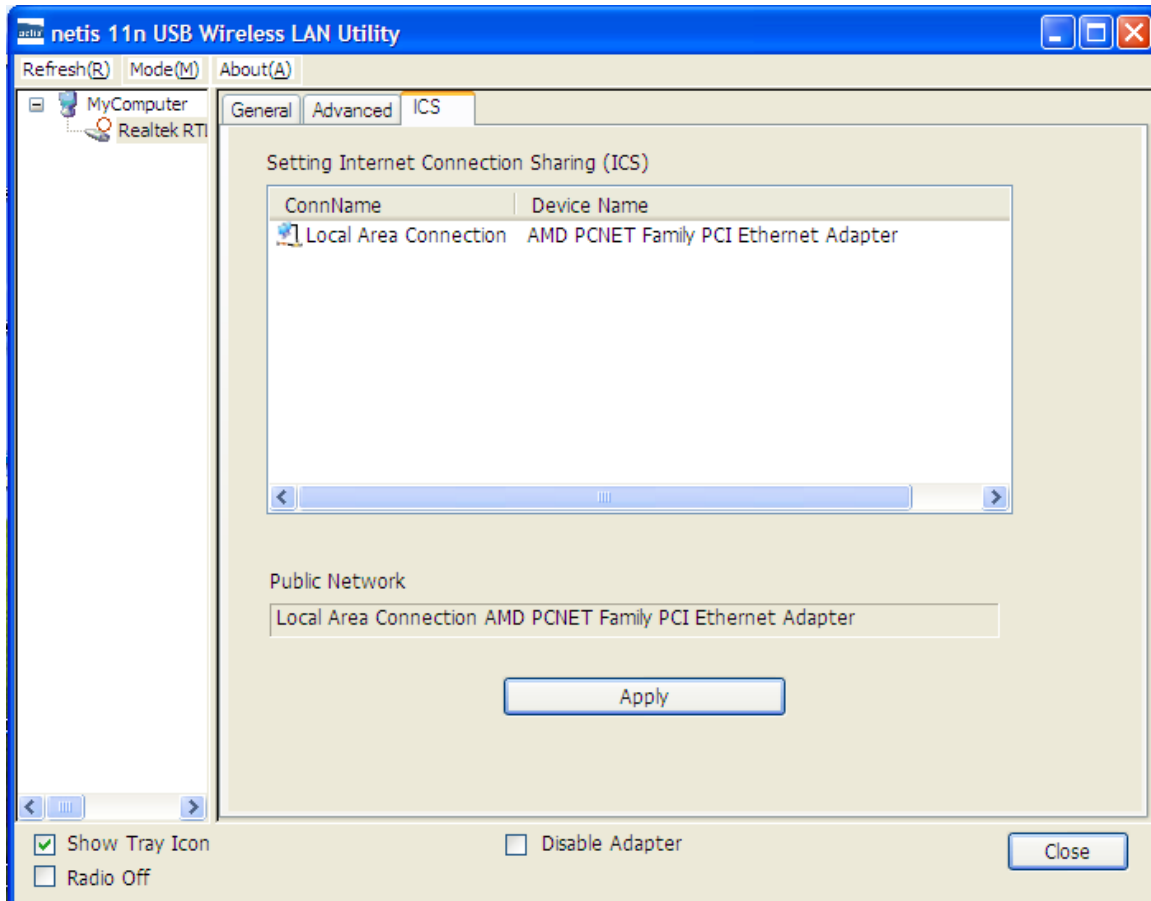


Figure 4-4

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



Figure 4-5

5 FAQ

This chapter provides solutions to problems that may occur during the installation and operation of the Wireless 11N 300Mbps USB Adapter. Read the descriptions below to solve your problems.

1. The Wireless 11N 300Mbps USB Adapter does not work properly.

Reinsert the Wireless 11N 300Mbps 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 your PC has a free IRQ (Interrupt ReQuest, a hardware interrupt on a PC.)

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.

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

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. 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.