DIGITUS®

WIRELESS 150N
USB 2.0 ADAPTER

DN-70440-1 Rev.2

DN-7042-1 Rev.3

Manual

DN-70440-1 Rev.2 • DN-7042-1 Rev.3

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Safety Precautions

- Only use the device(s) within the specified temperature range for: 0 ~ 40°C
- When not in use, store the product in a clean and dry place in temperatures between 0°C and 40°C
- Do not let the indoor devices come into contact with liquids
- Ensure that the indoor devices are only used inside. These devices are not intended for outdoor use and would be damaged
- During thunderstorms, there is a danger of lightning strike and due to overvoltage damage to connected electrical appliances
- Do not install the product during a thunderstorm
- Disconnect the product from power source during a thunderstorm
- Keep the devices outside the reach of children, since these components can be dangerous
- Never try to repair the device by yourself. Repair and maintenance work must be carried out by specialists
- In case of problems contact our customer service
- Dust, humidity and vapours as well as sharp cleaning agents or solvents
  can damage the product
- Disconnect the product from the power source before cleaning
- Clean the product with a slightly damp, lint-free cloth

Chapter 1. Introduction

Thank you for purchasing the wireless 802.11b/g/n USB adapter! This adapter is mini size design and you are able to plug it into the USB port. Excepting common wireless standards 802.11b/g, this wireless adapter is also 802.11n compatible - data transfer rate is 150/300Mbps, and that's three times faster than 802.11g wireless network.

1.1 Product Features

◆ Complies with IEEE 802.11n, IEEE 802.11g and IEEE 802.11b standards

◆ Provides USB2.0 port

◆ Provides 150/300Mbps receiving rate and 150/300Mbps sending rate

◆ Supports 20MHz/40MHz frequency width

- Auto-detects and changes the network transmission rate
- Provides two work modes: Infrastructure and Ad-Hoc
- Supports Soft AP to establish your wireless LAN networking
- Supports 64/128-bit WEP, WPA, WPA2 encryption methods and 802.1x security authentication standard
- Supports WPS (Wi-Fi Protected Setup) encryption method to free you from remembering long passwords
- Easy-to-install, plug and play
- Supports Windows XP/VISTA/Win7/ Win8/Linux/Macintosh

1.2 Package contents

The following contents should be found in your box:

- One Wireless 802.11b/g/n USB adapter
- One CD (include driver/utility/user manual)

Note: If any of the listed contents are damaged or missing, please contact the retailer from whom you purchased the product for assistance.

1.3 Indicator Description

There is a LED indicator blinking when data communication is going on.

CHAPTER 2: Quick Installation Guide

This chapter is to assist you how to use the included CD-ROM which comprises the Driver and the Client Utility Interface.

2.1 Driver Installation

Please follow the following instructions to install your new wireless USB Adapter:

2.1.1

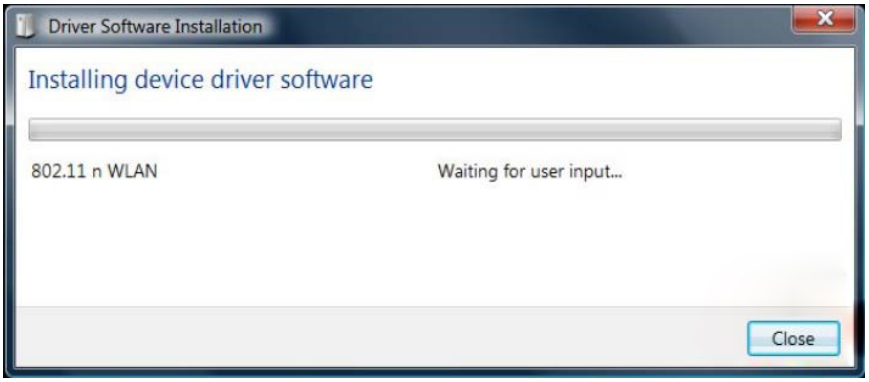
Insert the USB wireless network card into an empty USB 2.0 port of your computer when computer is switched on. Never use force to insert the card, if you feel it's stuck, flip the card over and try again.

2.1.2

The following message will appear on your computer, click '**Cancel / Close**'.

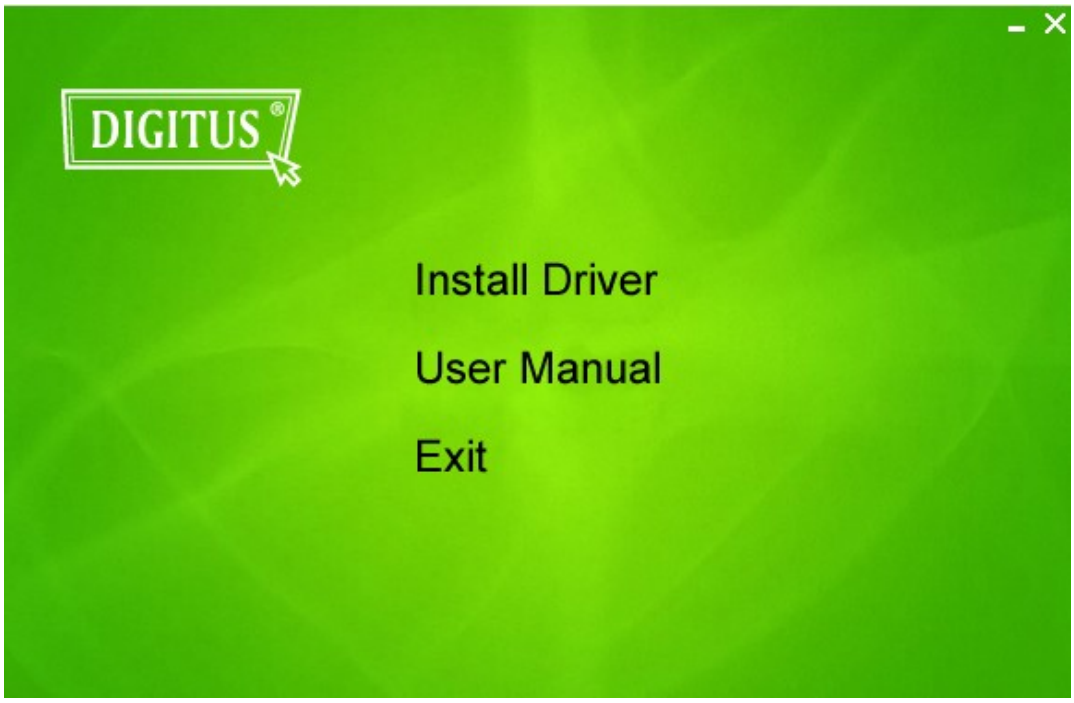
Under Windows XP

Under Windows Vista and Windows 7



2.1.3

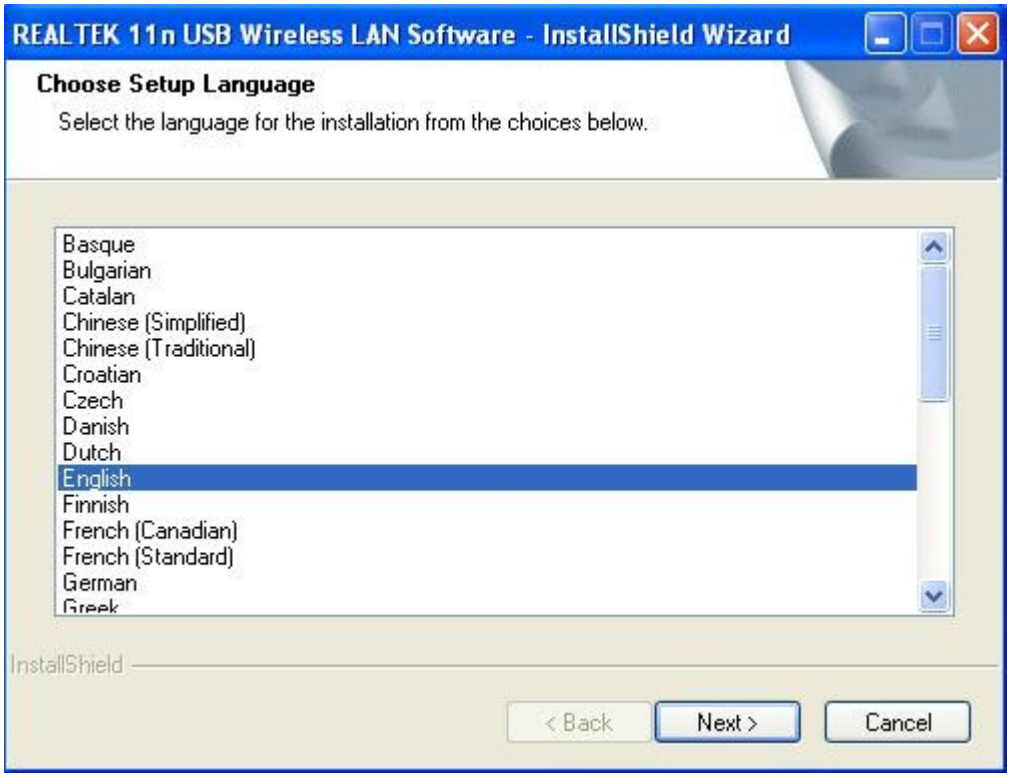
Insert the driver CD into your CD-ROM. You can see autorun screen below. if not, you can double click '**autorun.exe**' on CD.



Click '**Install Driver**' to start the installation procedure

2.1.4

Please select the language you wish to use, then click '**Next**'.



2.1.5

Installation descriptions shown. Click '**Next**' to continue

2.1.6

Once the installation is finished the computer will be asked to reboot. you can click '**Finish**' and reboot the computer to finish the installation of driver files.

2.1.7

A new icon will appear near the clock of system tray:

Left-click the icon will launch wireless network configuration utility, and you can right-click the icon to show the quick menu of configuration utility. This icon also uses different color to show the status of wireless connection:

Wireless connection is established, good signal reception.

Wireless connection is established, weak signal reception.

Connection is not established yet.

Wireless network card is not detected.

For detailed instructions of wireless network configuration utility, please see next chapter.

2.2 Connect to Wireless Access Point

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).

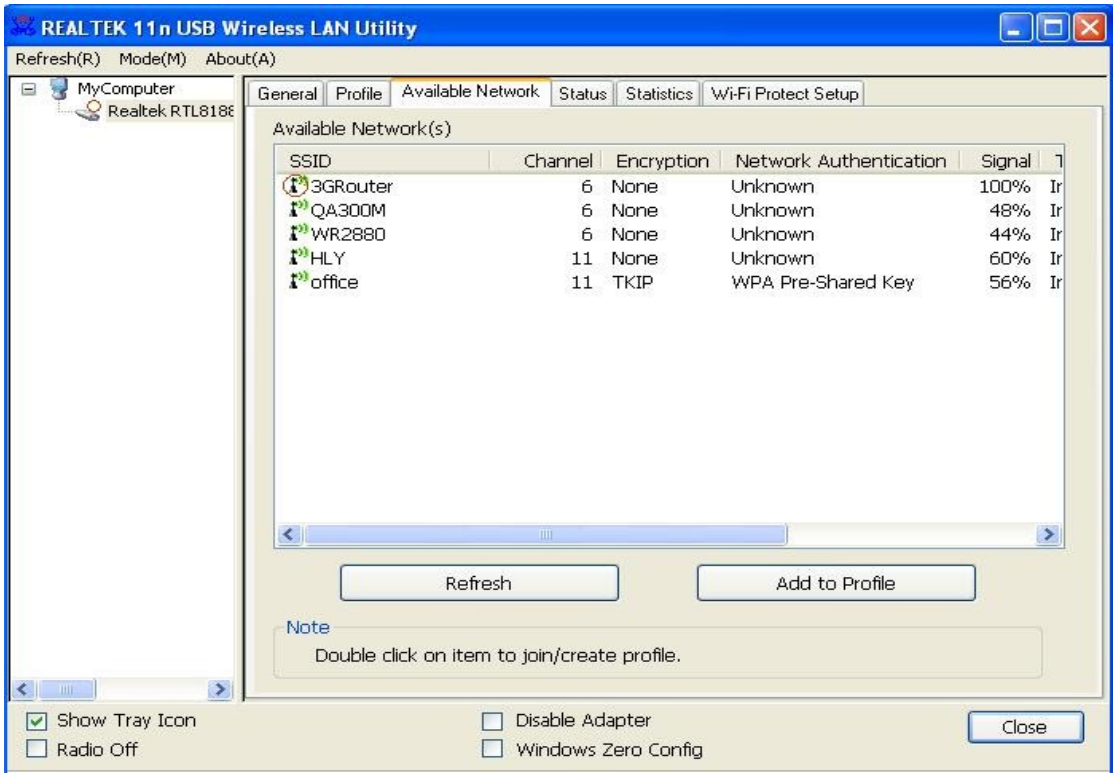
2.2.1 Using Client Utility

Please follow the following instructions to use Client configuration utility to connect to wireless access point.

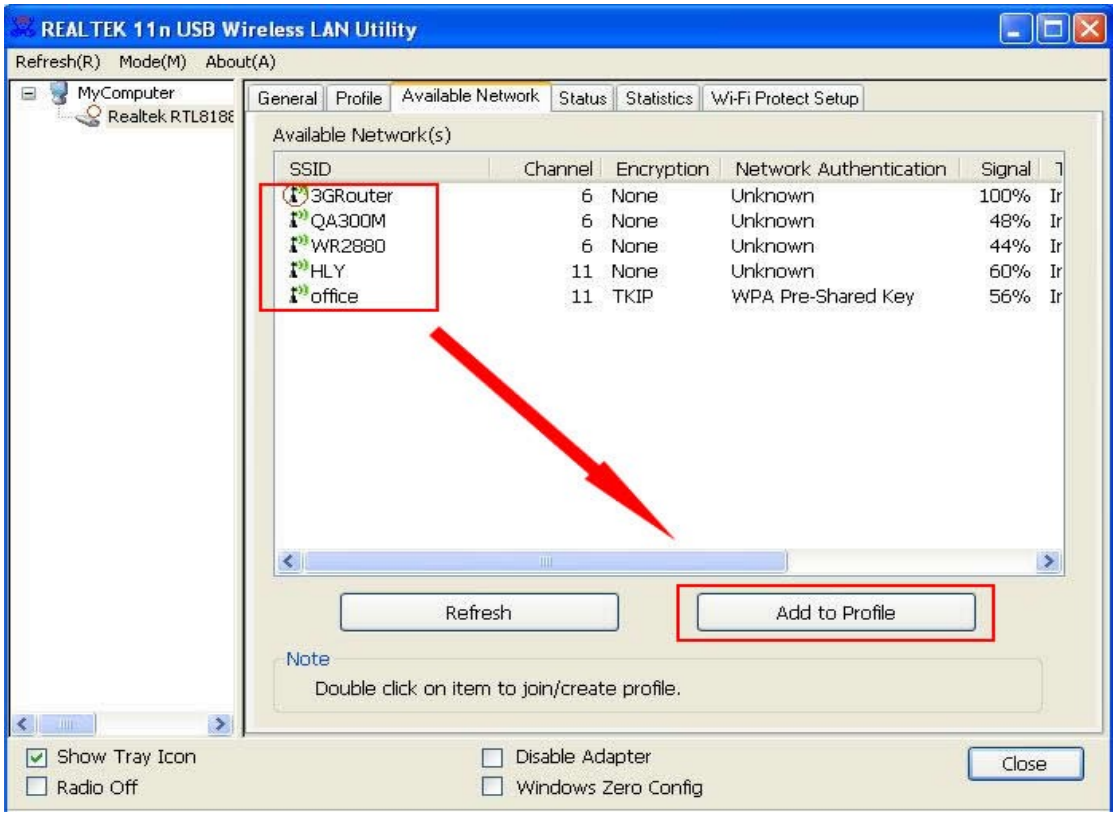
1. Left-click the Client configuration utility icon located at lower-right corner of computer desktop, and configuration menu will appear:

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.

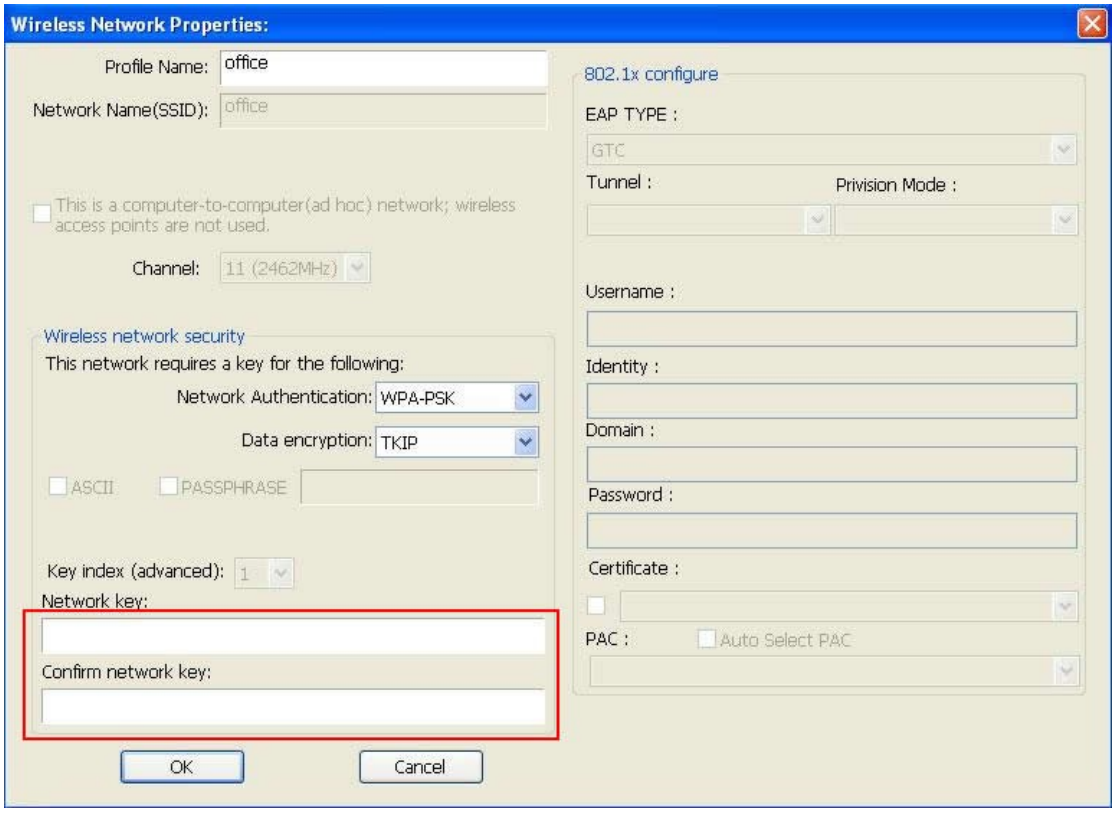


If the wireless access point you wish to connect does not appear here, you can click '**Refresh**' button to scan for wireless access points again; if the wireless access point you're looking for still not appear, try to move the computer closer.

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.



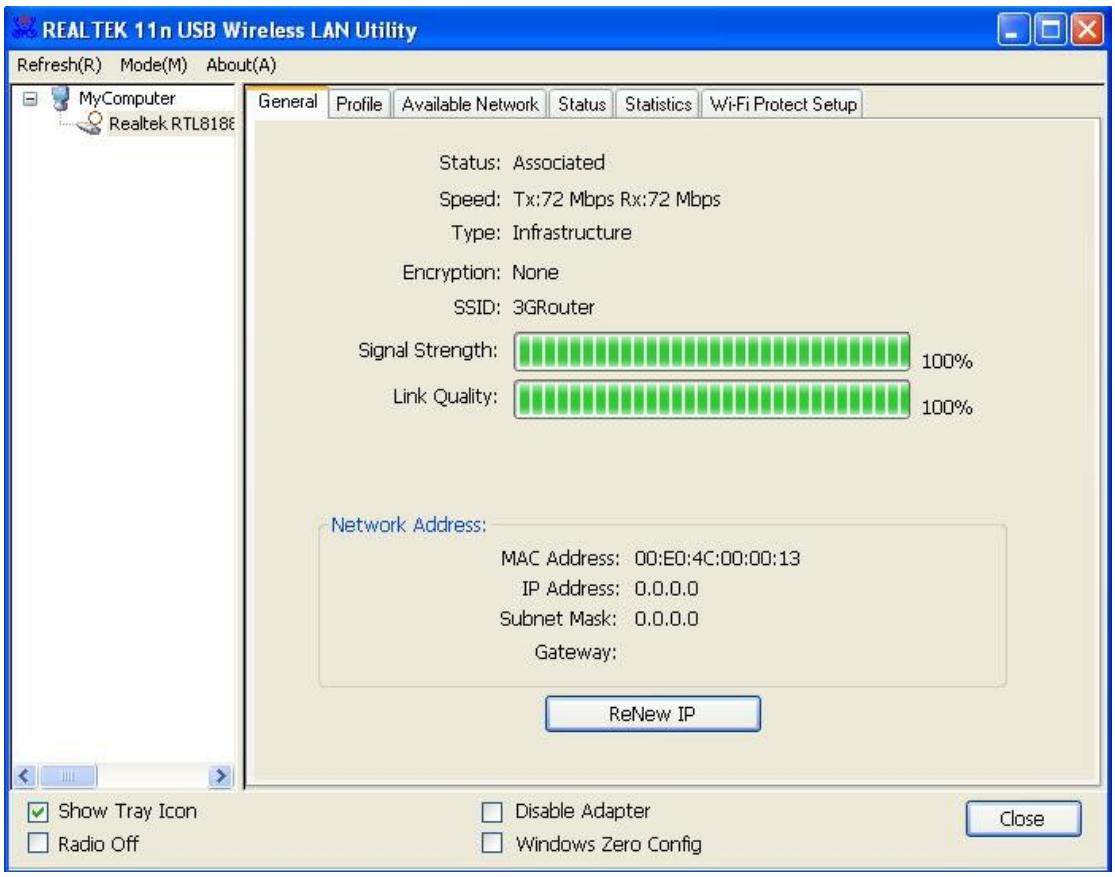
All options in this page will be filled automatically according to the access point you wish to add to profile. However, you can still modify any of them to meet your requirement.

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.



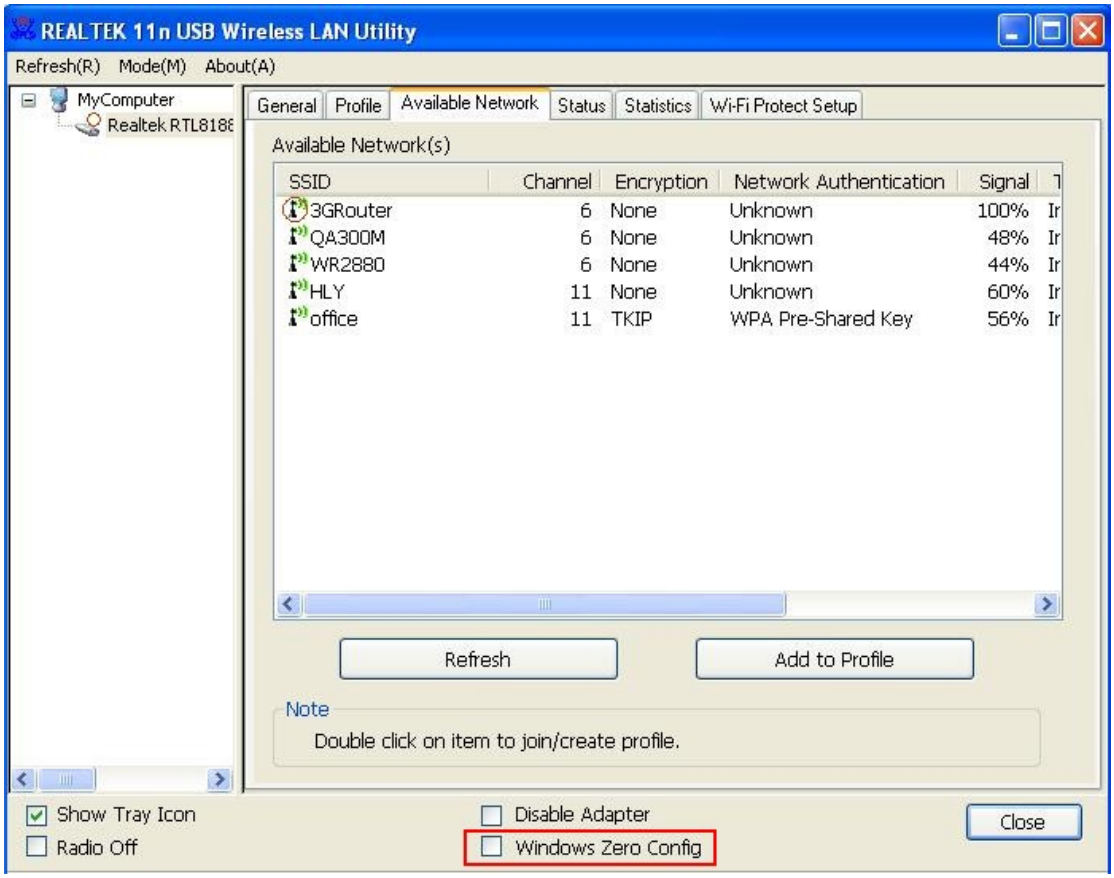
NOTE: If you connected to an access point but the connection has been dropped soon, please check security settings and re-check password spelling.

2.2.2 Using Windows Zero Configuration

Windows XP and Vista has a built-in wireless network configuration utility, called as '**Windows Zero Configuration**' (WZC). You can also use WZC to configure your wireless network parameter:

1. Right-click Client configuration utility icon, and click '**Open Config Utility**'.

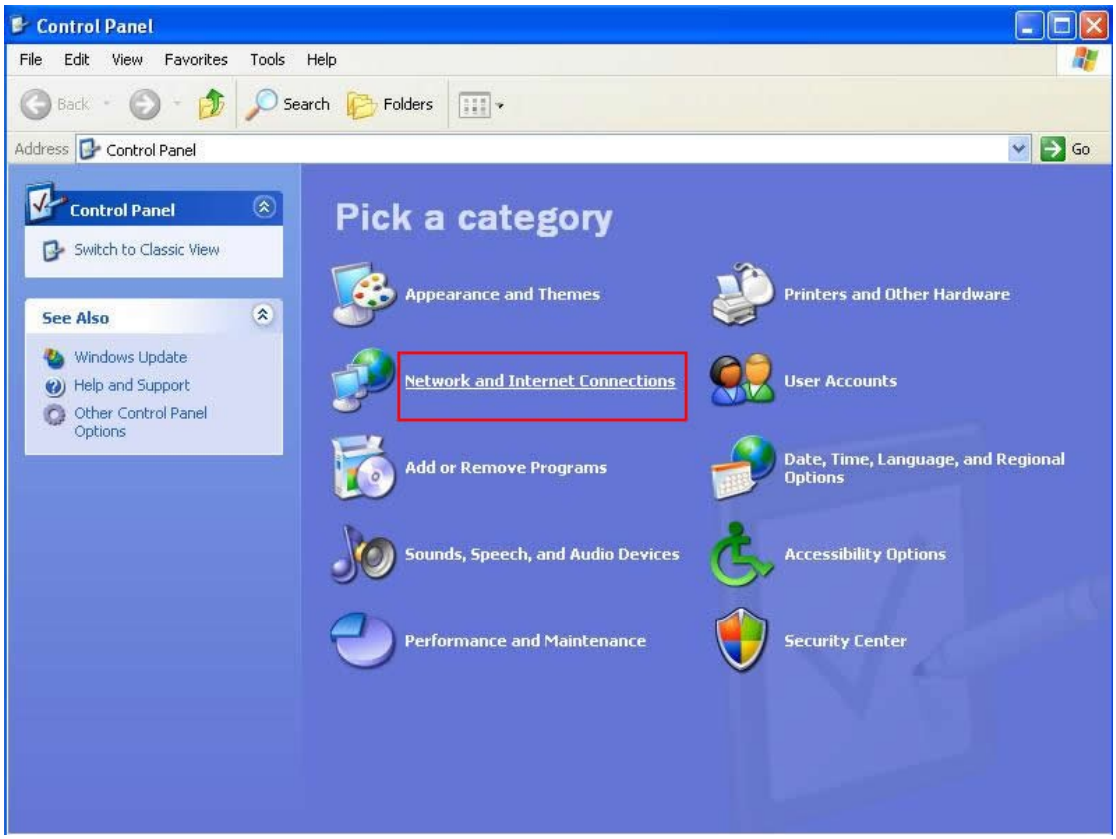
2. Check '**Windows Zero Config**' box.



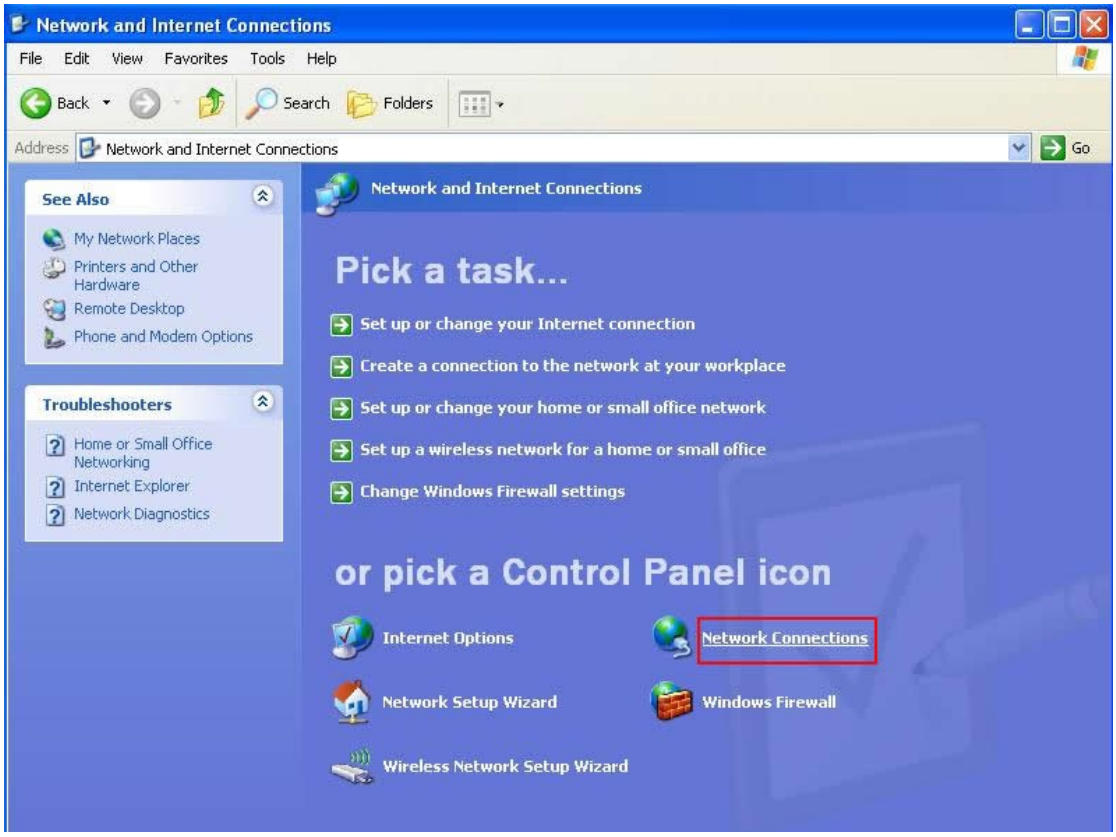
3. A message indicating that you've been switched to Windows Zero.

NOTE: To return to use Client utility, uncheck 'Windows Zero Config' box.

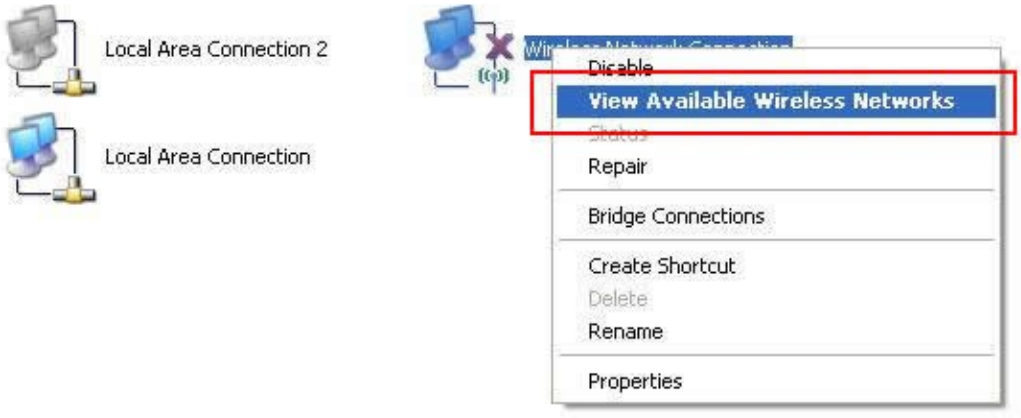
4. Click '**Start**' button (should be located at the bottom-left corner of windows desktop), click '**Control Panel**', then click '**Network and Internet Connections**' in Control Panel.


Control Panel
File Edit View Favorites Tools Help
Back Search Folders
Address Control Panel
Go
Control Panel
Switch to Classic View
See Also
Windows Update
Help and Support
Other Control Panel Options
Pick a category
Appearance and Themes
Printers and Other Hardware
Network and Internet Connections
User Accounts
Add or Remove Programs
Date, Time, Language, and Regional Options
Sounds, Speech, and Audio Devices
Accessibility Options
Performance and Maintenance
Security Center

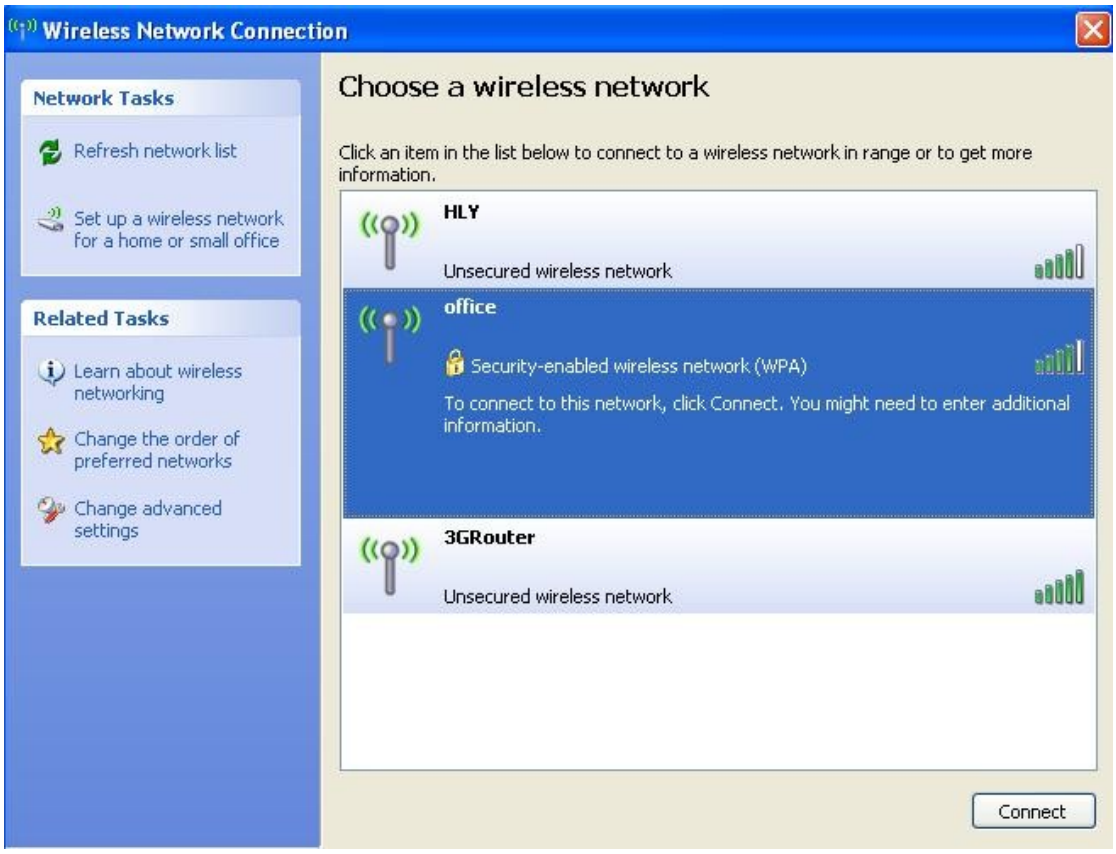
5. Double click '**Network Connections**'.



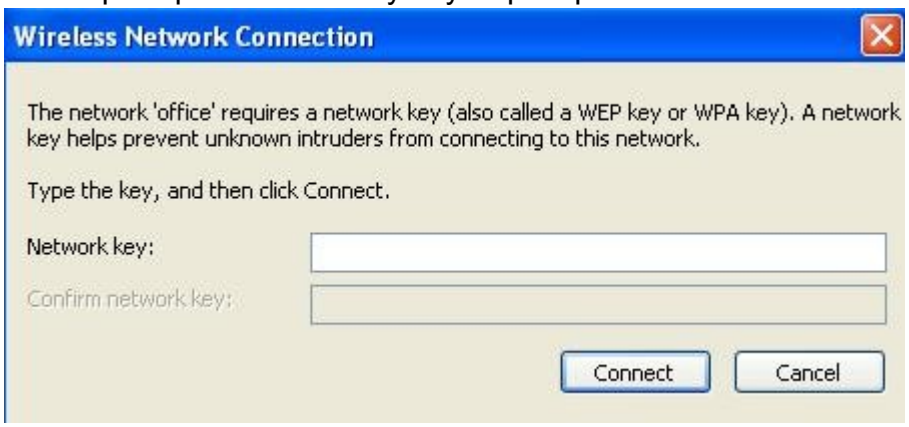
6. Right-click '**Wireless Network Connection**' (it may have a number as suffix if you have more than one wireless network card, please make sure you right-click the Wireless LAN 802.11n USB Network Adapter), then select '**View Available Wireless Networks**'.



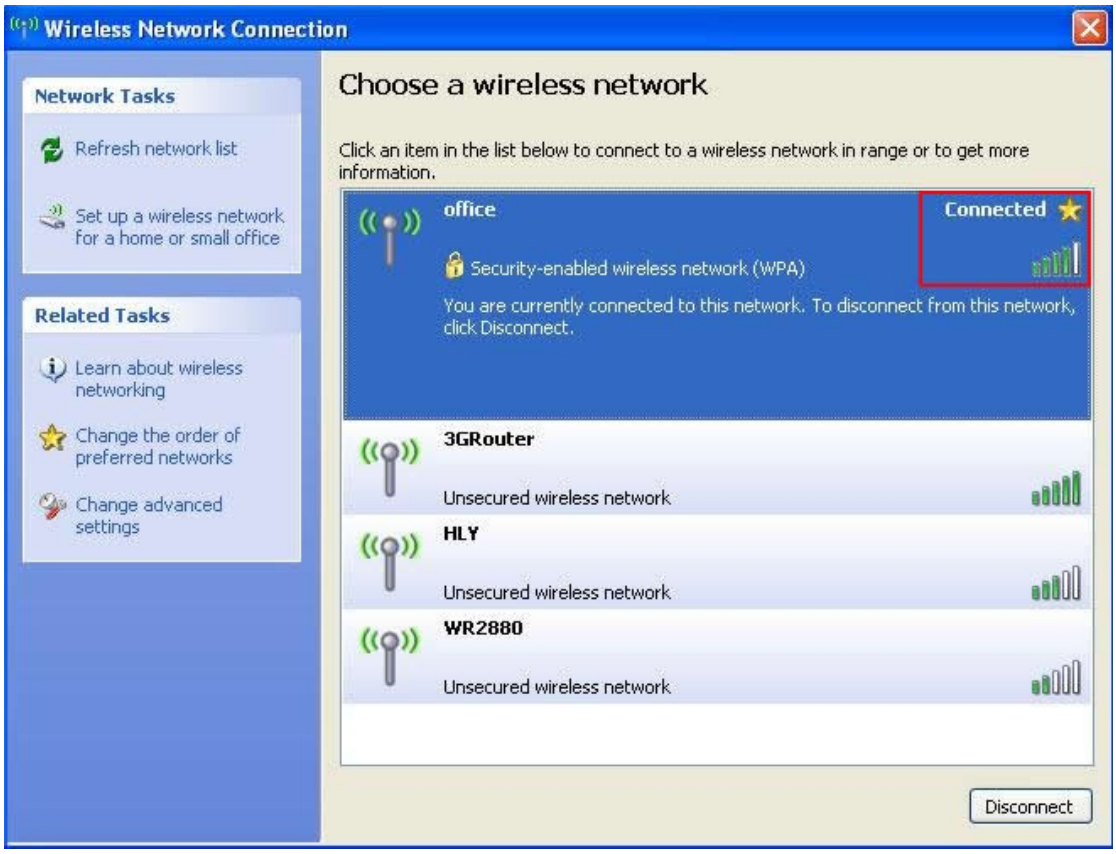
7. All wireless access points in proximity will be displayed here. If the access point you want to use is not displayed here, please try to move your computer closer to the access point, or you can click 'Refresh network list' to rescan access points. Click the access point you want to use if it's shown, then click '**Connect**'.



8. If the access point is protected by encryption, you have to input its security key or passphrase here. It must match the encryption setting on the access point. If the access point you selected does not use encryption, you'll not be prompted for security key or passphrase.



9. If you can see '**Connected**' message, the connection between your computer and wireless access point is successfully established.



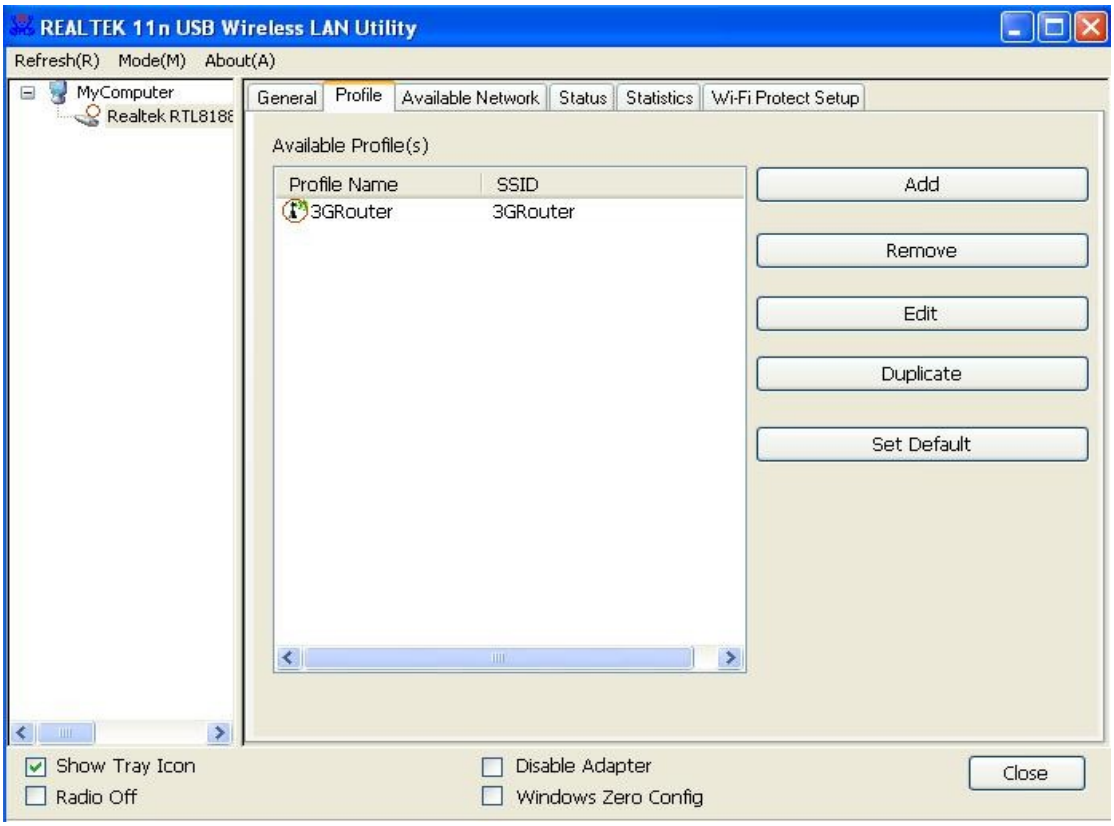
CHAPTER 3: Client Utility

3.1 Connection Profile Management

If you need to connect to different wireless access points at different time, like of access point of your home, office, cybercafe, or public wireless service, you can store the connection parameters (encryption, passphrase, security etc, etc.) as a profile for every access point, so you don't have to input these parameters every time when you want to connect to a specific wireless access point.

To manage profiles, right-click the Client configuration utility icon located at lower-right corner of computer desktop, then click '**Open Config Utility**'.

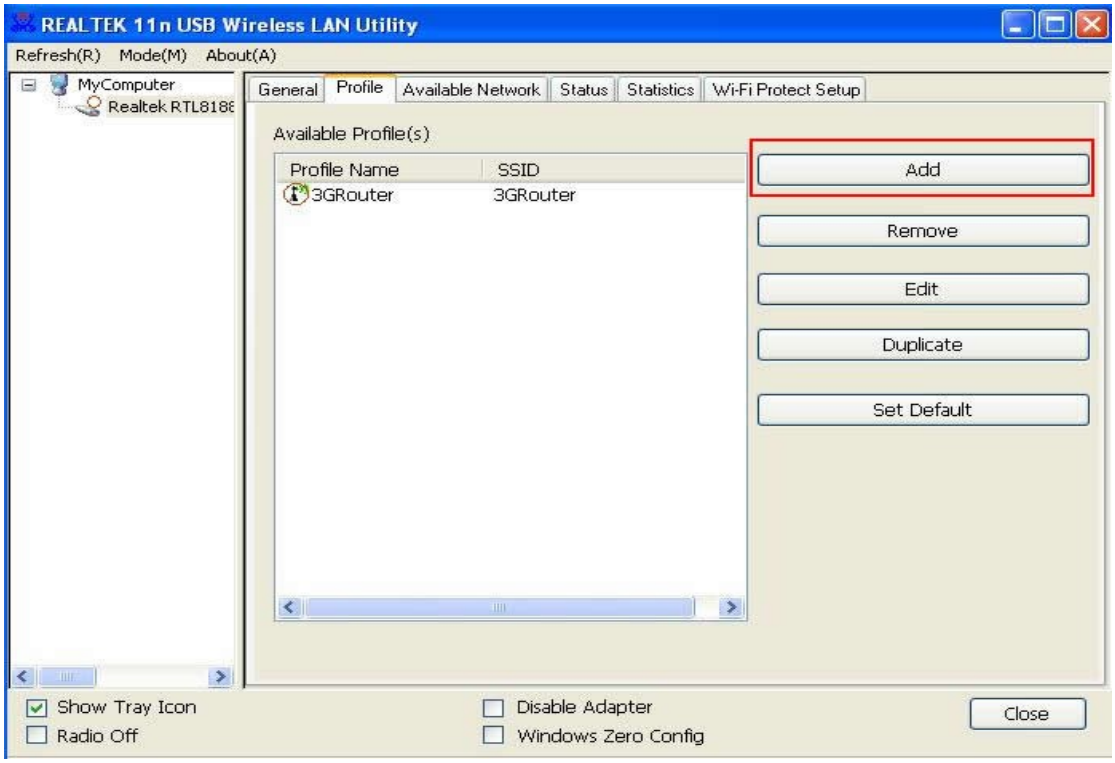
Click the '**Profile**' menu.



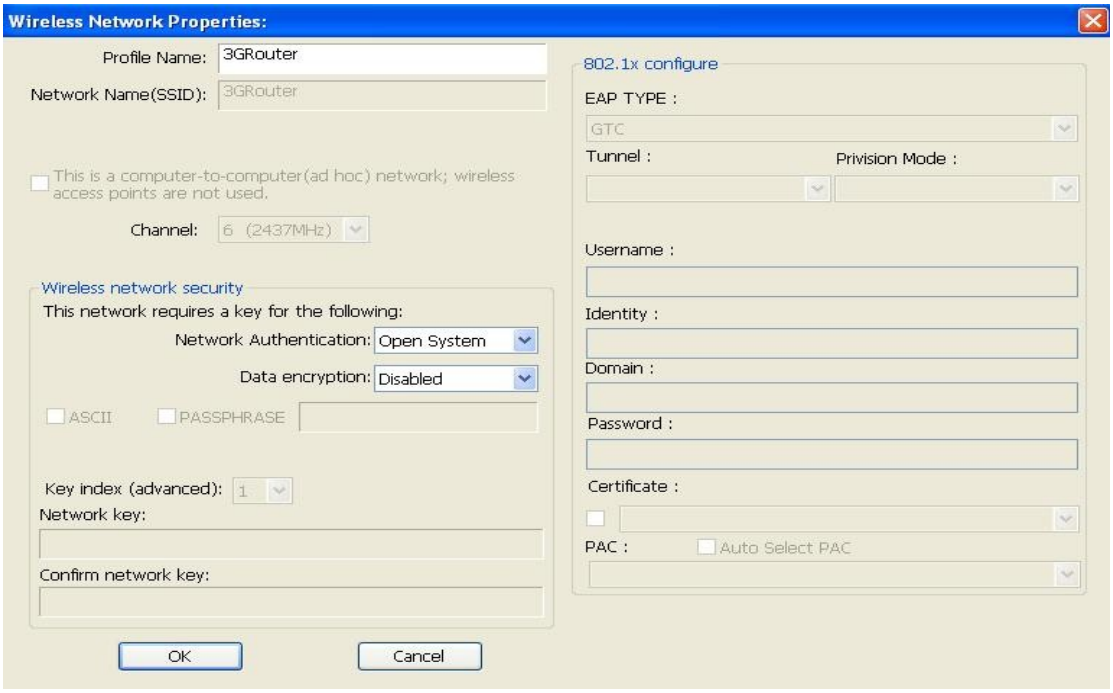
3.1.1 Add a new profile

By this function you can setup the connection parameters for a specific wireless access point in advance, without contacting it first.

If you want to create a new profile, click '**Profile**' menu, then click '**Add**' button.



You'll be prompted to input connection parameters for the wireless access point you wish to connect:



Required parameters are:

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 must be identical with the SSID of the access point you wish to connect.
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'

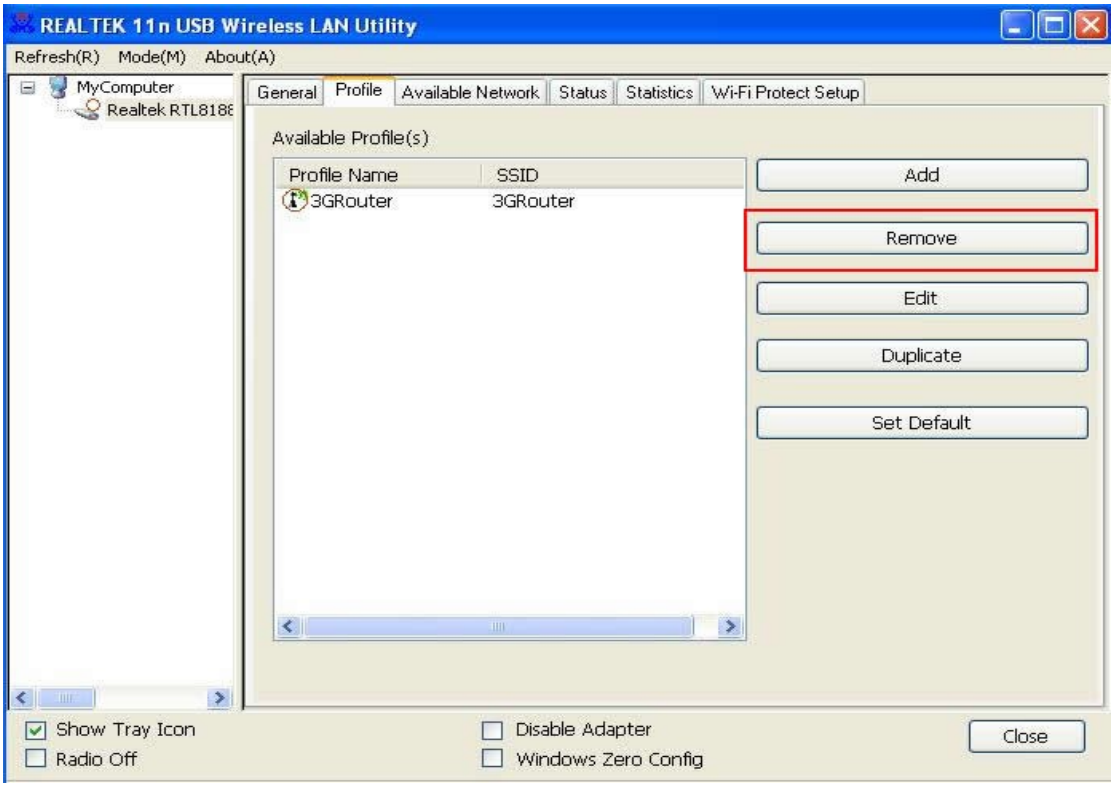
	depends on the security setting of access point, and input it in the box; if you select 'PASSPHRASE' you also need to select the length of the key. The passphrase must be identical with the setting of wireless access point you with to connect.
Key index	Select WEP key index. For most of access points 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.

When all required parameters are set, click '**OK**' to create and save a new profile.

3.1.2 Remove an existing profile

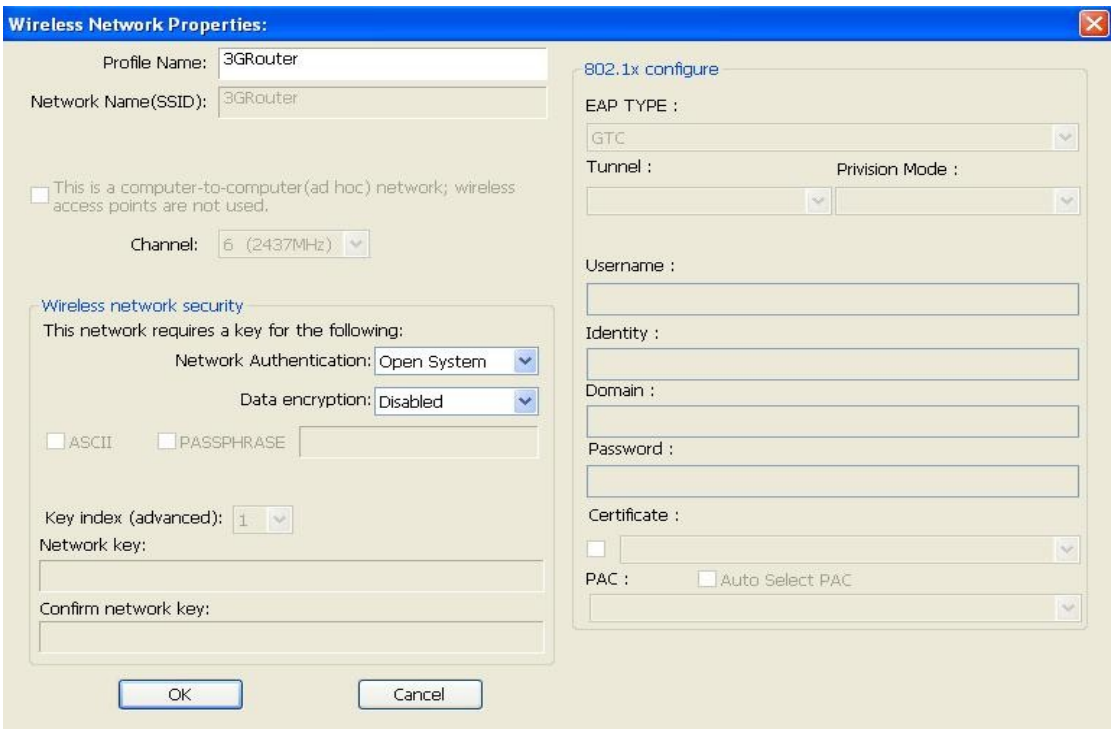
When you no longer need an existing profile, you can remove it.

If you want to remove a profile, click '**Profile**' menu, then select an existing profile which you wish to remove, and then click '**Remove**' button.



3.1.3 Edit an existing profile

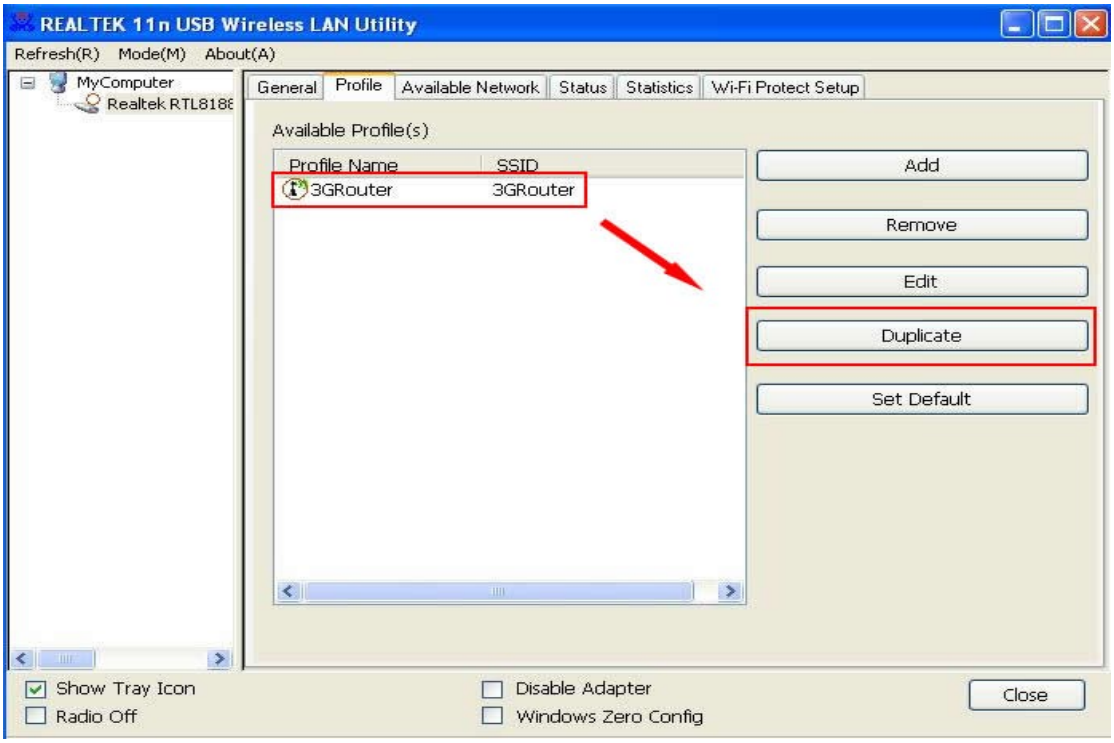
If you have added a profile before, and you wish to change the content of the profile, you can use this function. Please select a profile from the list first, then click '**Edit**' button. You'll be provided with the contents of selected profile, and you can edit them. Click '**OK**' to save changes, or click '**Cancel**' to discard changes.



3.1.4 Make a copy of existing profile

If you need to make a copy of a specific profile, you can use this function. This function is very convenient when you need to build a new profile which parameters are similar to any existing profile.

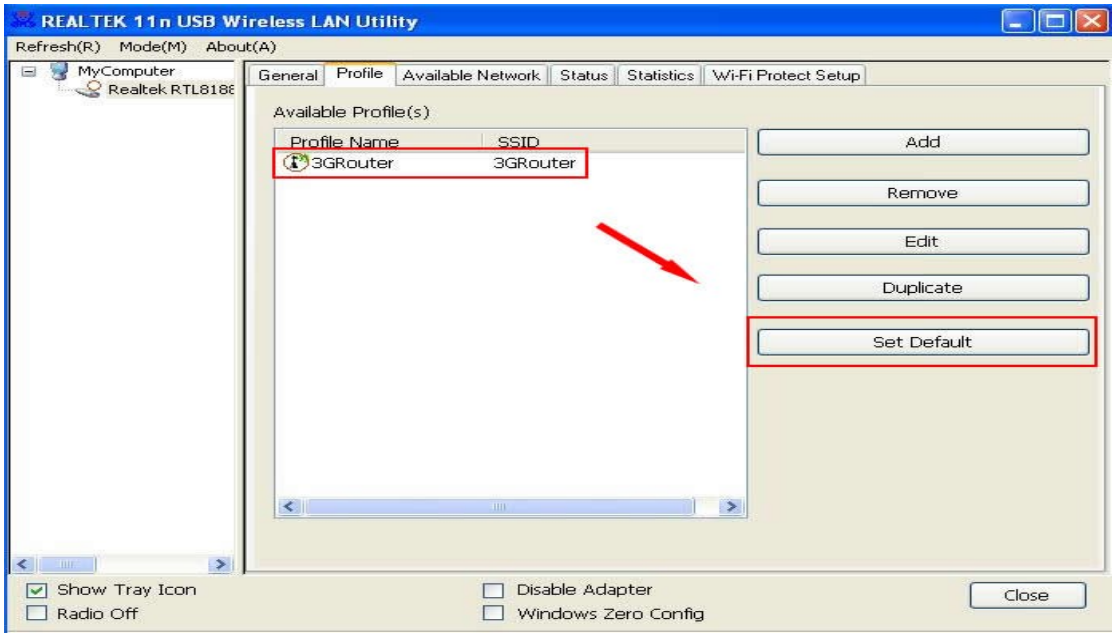
To do this, select an existing profile, then click '**Duplicate**' button.



You'll be prompted to input a profile name, please use an identical name that does not exist in profile list.

3.1.5 Set as default profile

If you wish to use a specific profile as default connection, you can select a profile in the list, and click '**Set Default**'. Selected profile will become default selection and Client configuration utility will attempt to connect to selected access point.

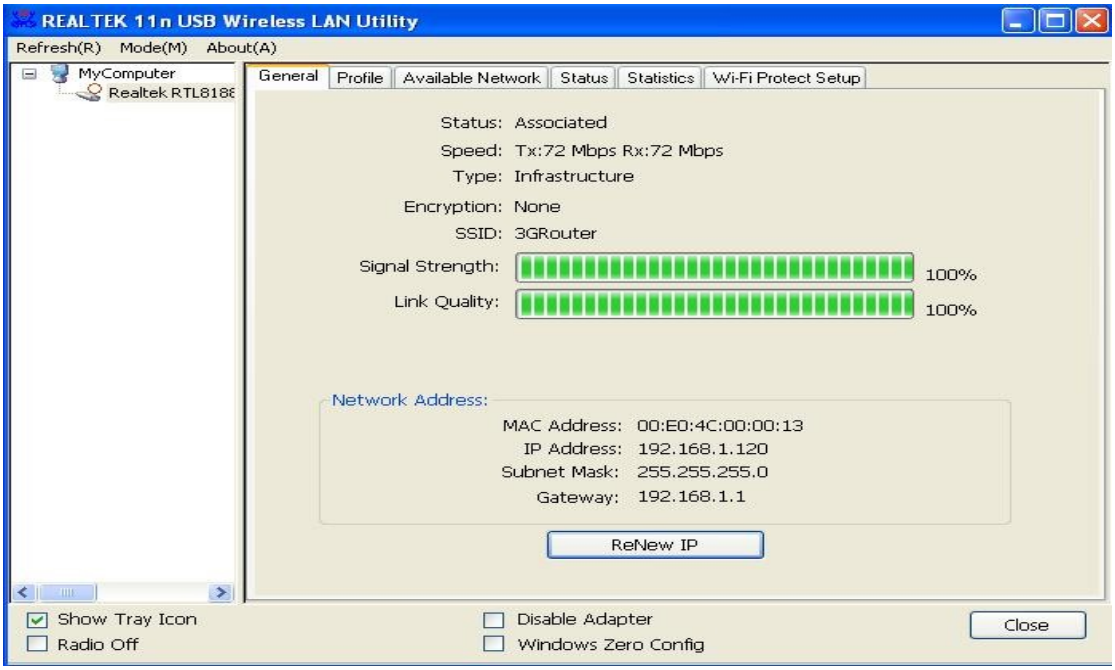


3.2 View Network Statistics, General Information, and Status

The configuration utility provides information about network statistics and link status. If you want to know how your wireless network card works, you can use these functions to get detailed information about the wireless connection you're using.

3.2.1 General Information

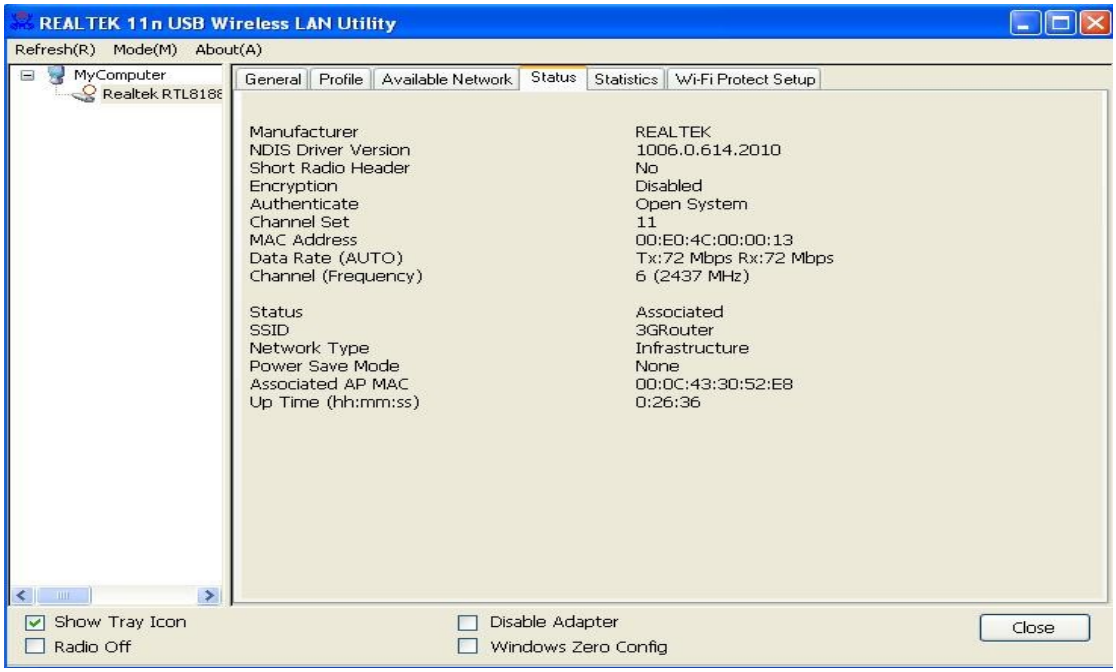
If you want to know the general information of the access point you're connecting to, click '**General**' menu:



All general information like signal strength and link quality will be displayed here. These information are very useful when you encounter some problem on connecting to access point.
If you wish to get a new IP address from DHCP server, you can click '**ReNew IP**' button.

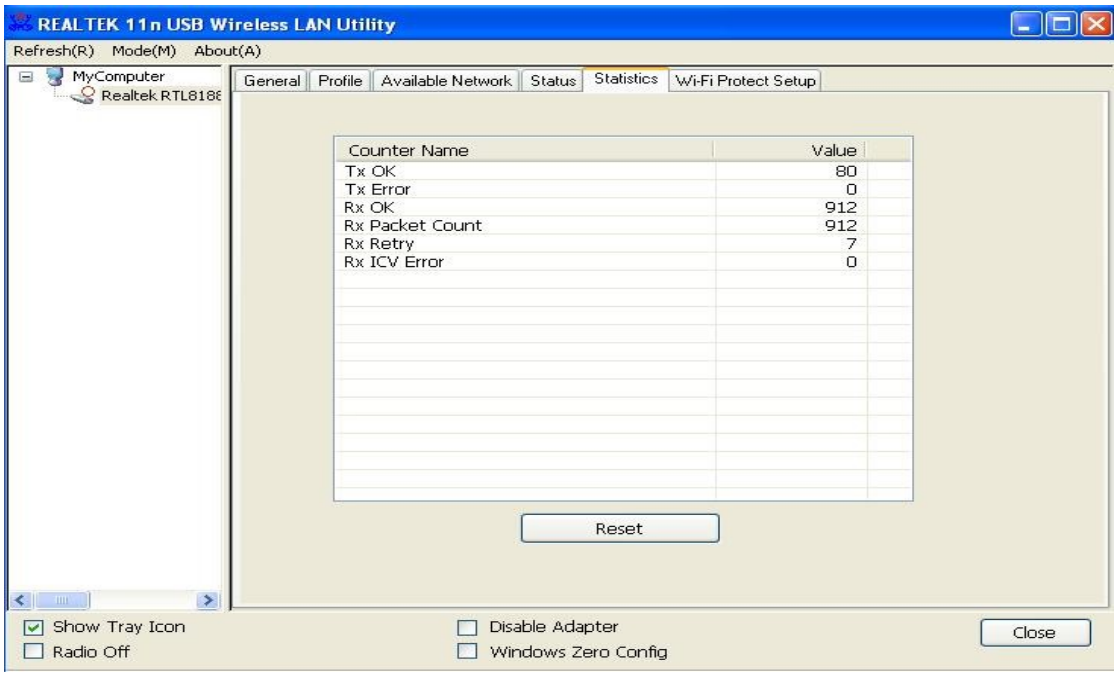
3.2.2 Status

If you want to know the status of your wireless network card,
click '**Status**' menu:



3.2.3 View Network Statistics

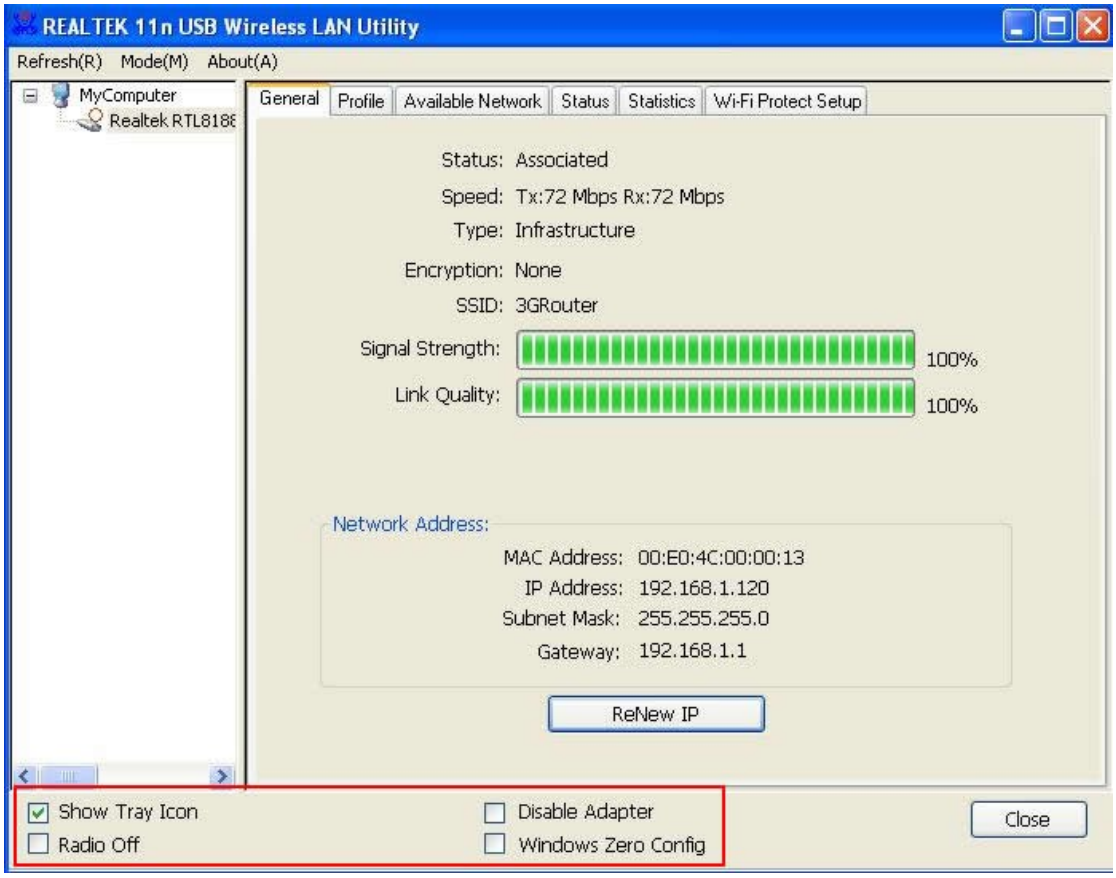
To view the statistical data of wireless network card, click '**Statistics**' menu, and the statistics of wireless connection will be displayed:



All connection-related statistics is displayed here. You can click '**Reset**' button, to reset the statistics of all items back to 0.

3.3 Miscellaneous Settings

There are few functions provided by Client configuration utility, you can access these functions from the bottom of configuration menu:



The descriptions of these functions are listed as follow:

Show Tray Icon	Check this box to show an icon on system tray. Uncheck this box to hide it.
Radio Off	Switch wireless radio off. Wireless network functionalities are disabled.
Disable Adapter	Disable wireless network adapter. All functionalities of configration menu will disappear. To resume, unckeck ‘Disable Adapter’.
Windows Zero Config	Use Windows Zero Configuration to manage wireless connections. See section 2.2.2.

3.4 Establish secure connection with AP by WPS

Wi-Fi Protected Setup (WPS) is the latest wireless network technology which makes wireless network setup become very simple. If you have WPS-enabled wireless access point, and you want to establish a secure connection to it, you don't have to configure the wireless access point and setup data encryption by yourself. All you have to do is to go to the WPS setup page of this wireless card, click a button, and then press a specific button or enter a set of 8-digit code on the wireless access point you wish to establish a secure connection - just three simple steps!

For older wireless access points, it's possible to perform a firmware upgrade to become a WPS-enabled access point. Since they may not have a hardware button to press for WPS setup, you can use an alternative WPS setup method - input the pin code. Every WPS-compatible wireless network card support pin code configuration method; you can just input the code to wireless access point, and the wireless access point and wireless network card will do the rest for you.

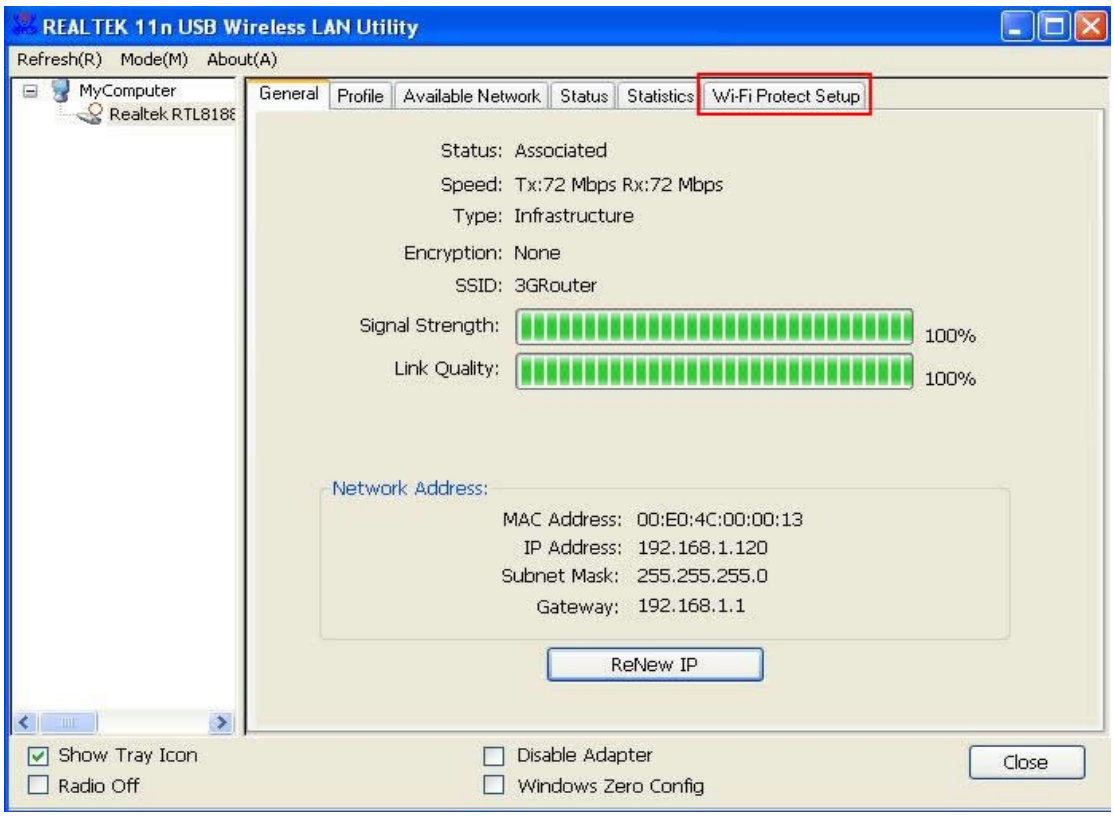
This wireless network card is compatible with WPS. To use this function, the wireless access point you wish to connect to must support WPS function too. Now, please follow the following instructions to establish secure connection between WPS-enabled wireless access point and your wireless network card.

This wireless network card supports 2 kinds of WPS: PIN code and Push-Button.

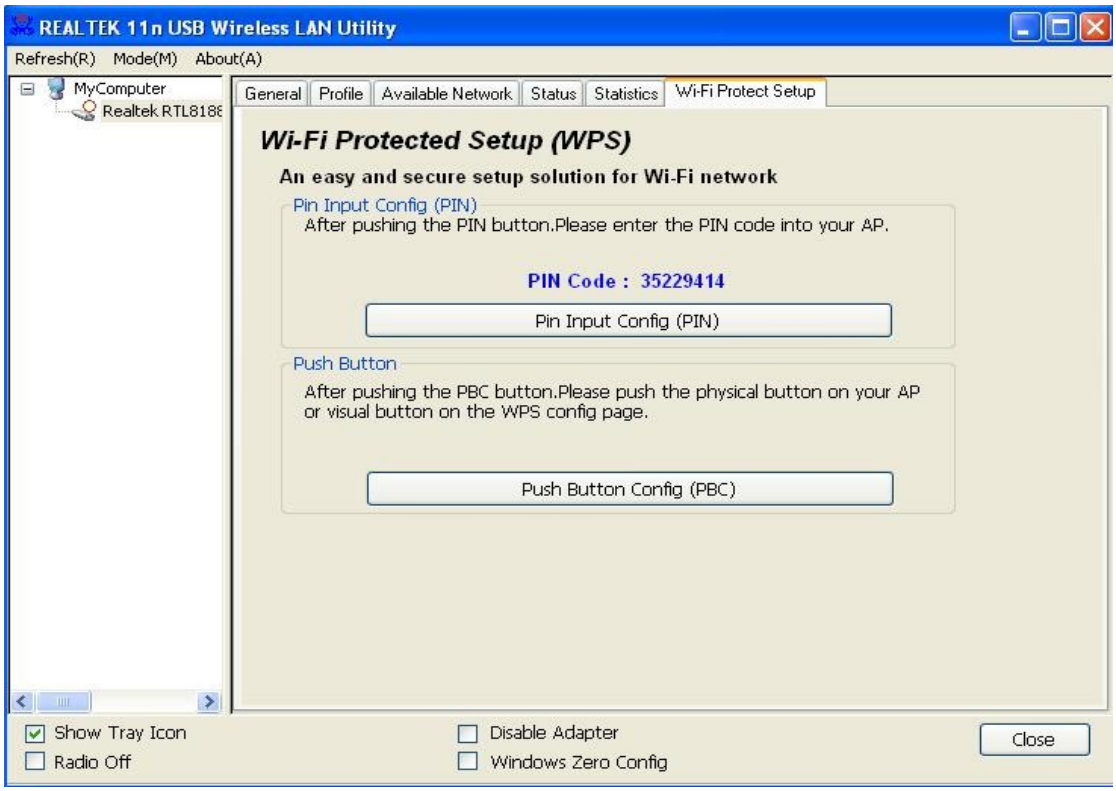
Please follow the following instructions to setup WPS:

1. Right-click Client configuration utility icon, and click '**Open Config Utility**'.

2. Click '**Wi-Fi Protect Setup**' menu.

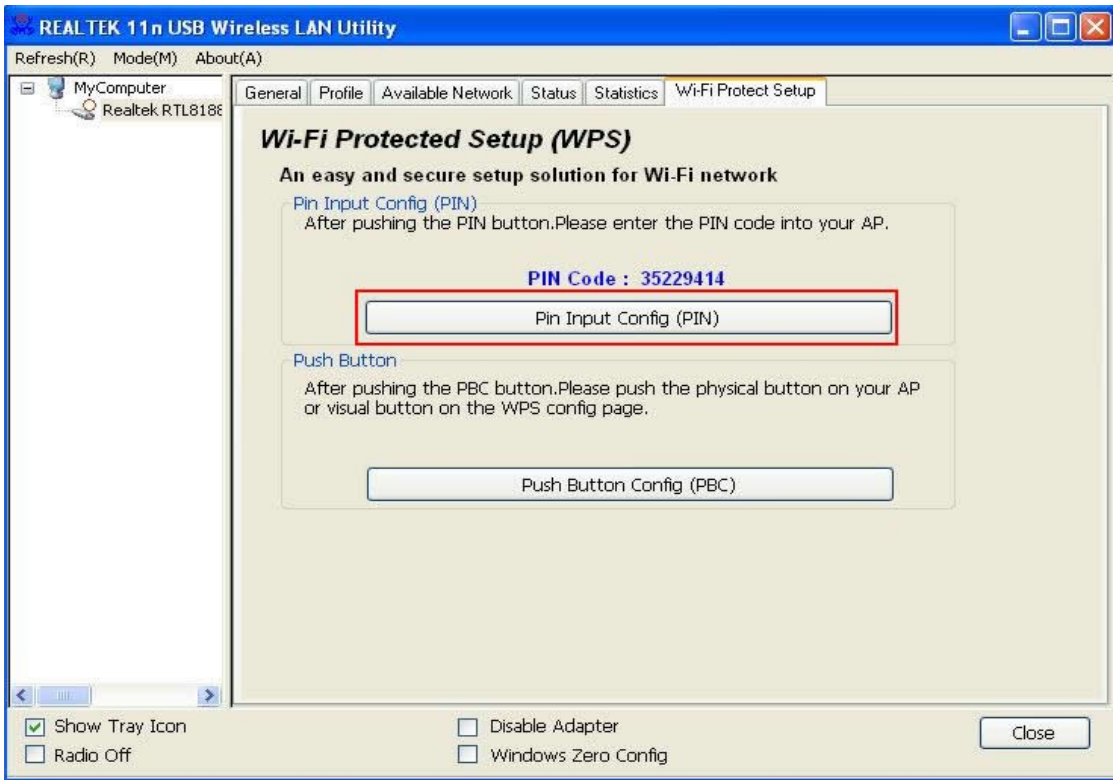


3. You can use PIN code or Push-Button configuration, and WPS-compatible wireless access point must use the same type of WPS. For instructions on setup each type of WPS, see next 2 chapters for detailed instructions.

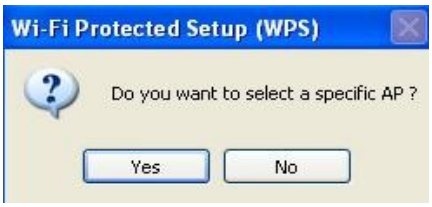


3.4.1 PIN Code

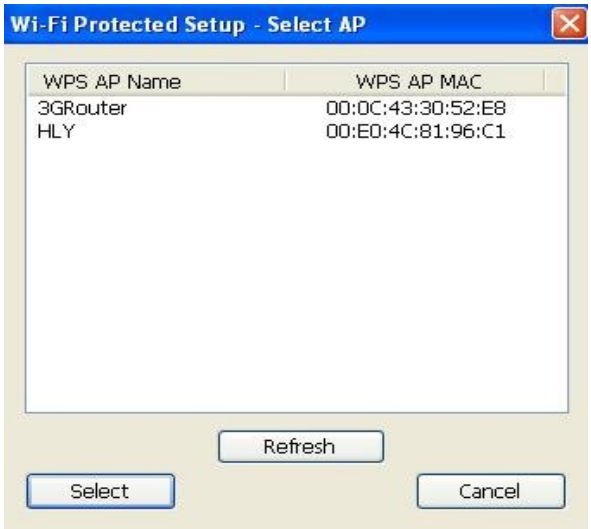
To use PIN Code, please click '**Pin Input Config (PIN)**' button:



You'll be prompted to select an access point you wish to connect. If you know its SSID, click '**Yes**', otherwise click '**No**'.



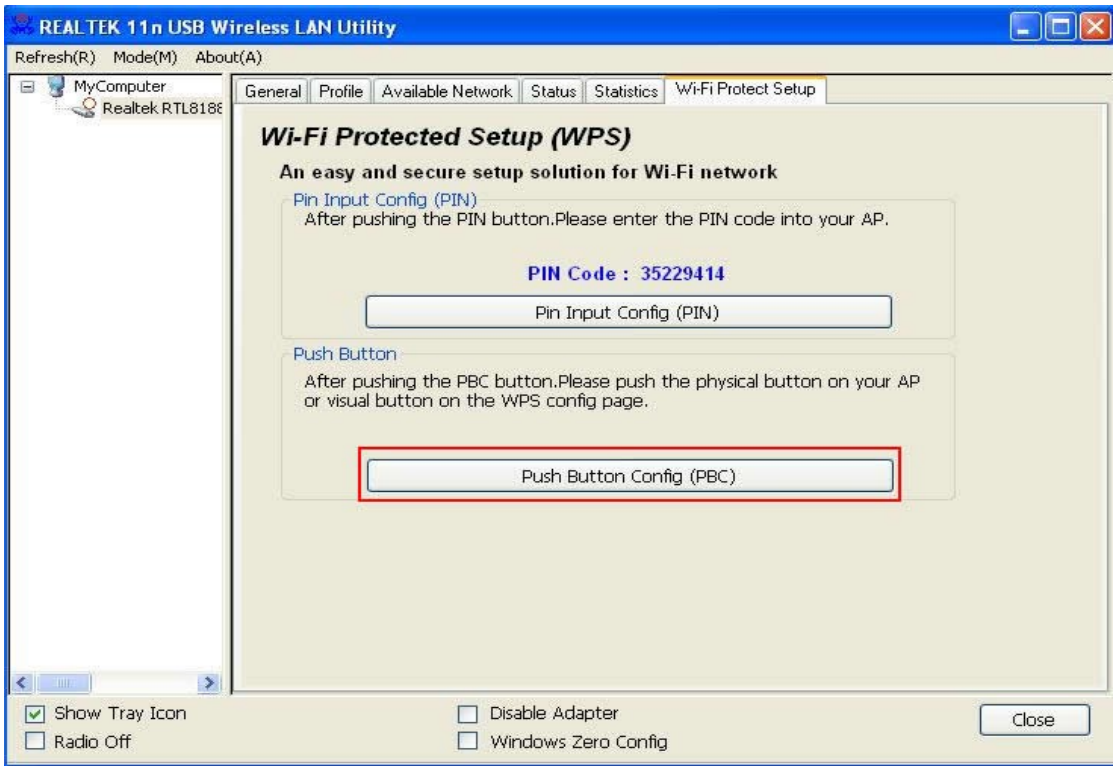
If you select '**Yes**', a list of all WPS-compatible AP nearby will be displayed; you can click '**Refresh**' to rescan, then select an AP and click '**Select**' button.



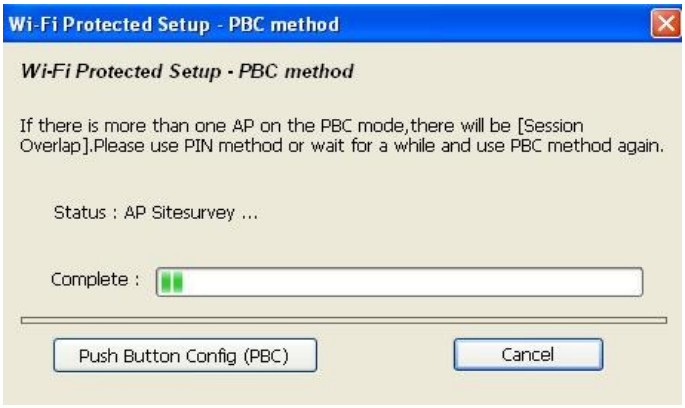
If you select '**No**', wireless network card will prompt you to enter 8-digit PIN code into your AP, without selecting an AP in advance.
After you select '**Yes**' or '**No**' in previous step, network card will attempt to connect to WPS-compatible AP, and an 8-digit number will appear. Please input this number to AP's configuration menu within 2 minutes, and network card will establish secure connection with AP automatically.
To stop this procedure before connection is established, click '**Cancel**'.

3.4.2 Push Button

To use Push-Button WPS configuration, please click '**Push Button Config (PBC)**' button. This is the easiest way to establish secure connection by WPS, but if there're more than one WPS-compatible AP using Push-Button config, please use PIN Code instead.



After you click "**Push Button Config(PBC)**", a message box will appear:



Please activate Push-Button function on wireless access point now, and wireless network card will establish secure connection with access point within one minute.

CHAPTER 4 Soft-AP Function

Excepting become a wireless client of other wireless access points, this wireless adapter can act as a wireless service provider also! You can switch this wireless adapter's operating mode to 'AP' mode to simulate the function of a real wireless access point by software, and all other computers and wireless devices can connect to your computer wirelessly, even share the internet connection you have.
Please follow the instructions in following chapters to use the AP function of your wireless card.

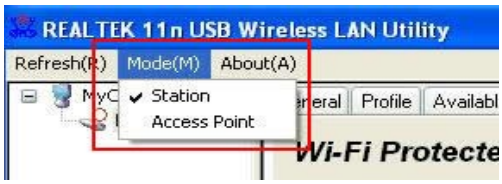
4.1 Switch to AP Mode and Station Mode

The operating mode of the wireless card is 'Station Mode' (becoming a client of other wireless access points) by default.

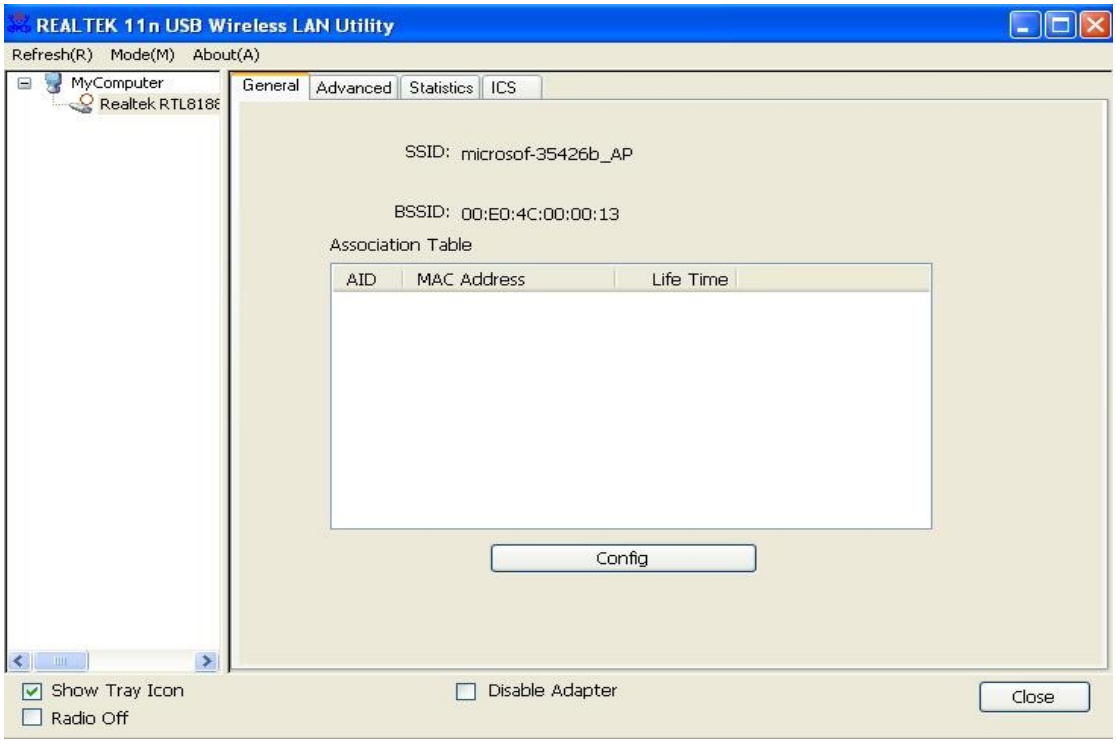
Please follow the following instructions to switch to AP mode:

1. Right-click Client configuration utility icon, and click '**Open Config Utility**'.

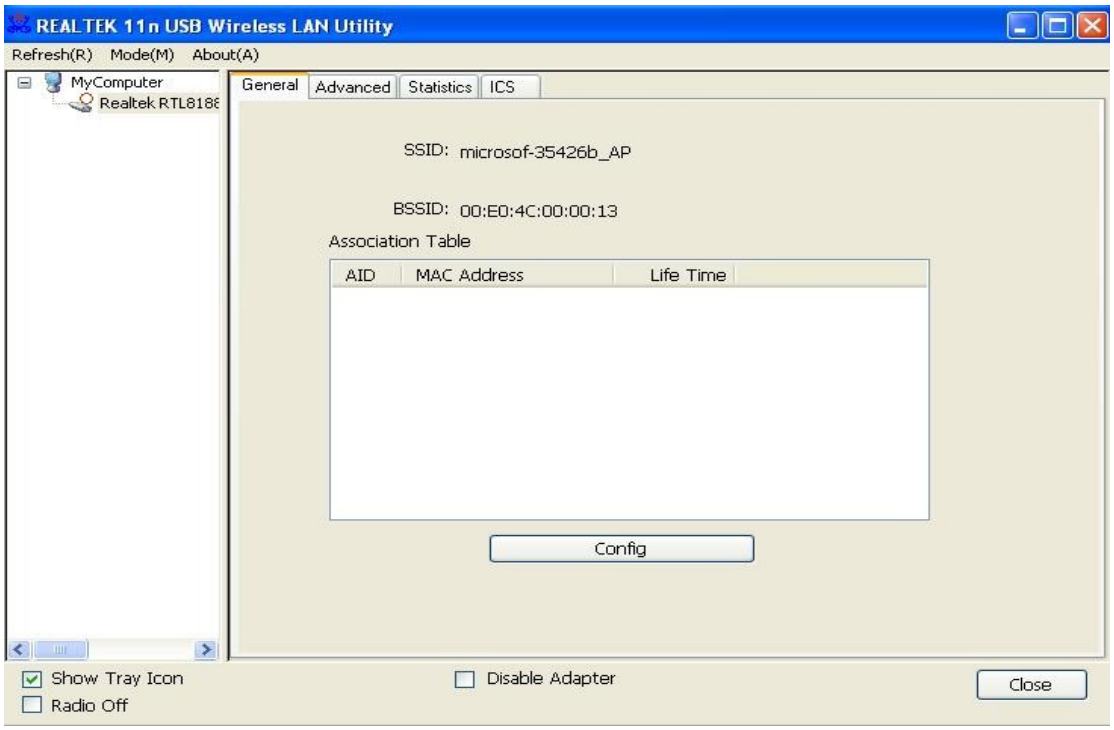
2. Select '**Mode**', and then select '**Access Point**'.



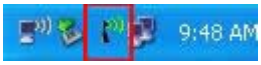
It requires few seconds to switch to AP mode, please be patient.



After mode switch is complete, you'll see general information of software AP, which shows AP's SSID and connected wireless clients.

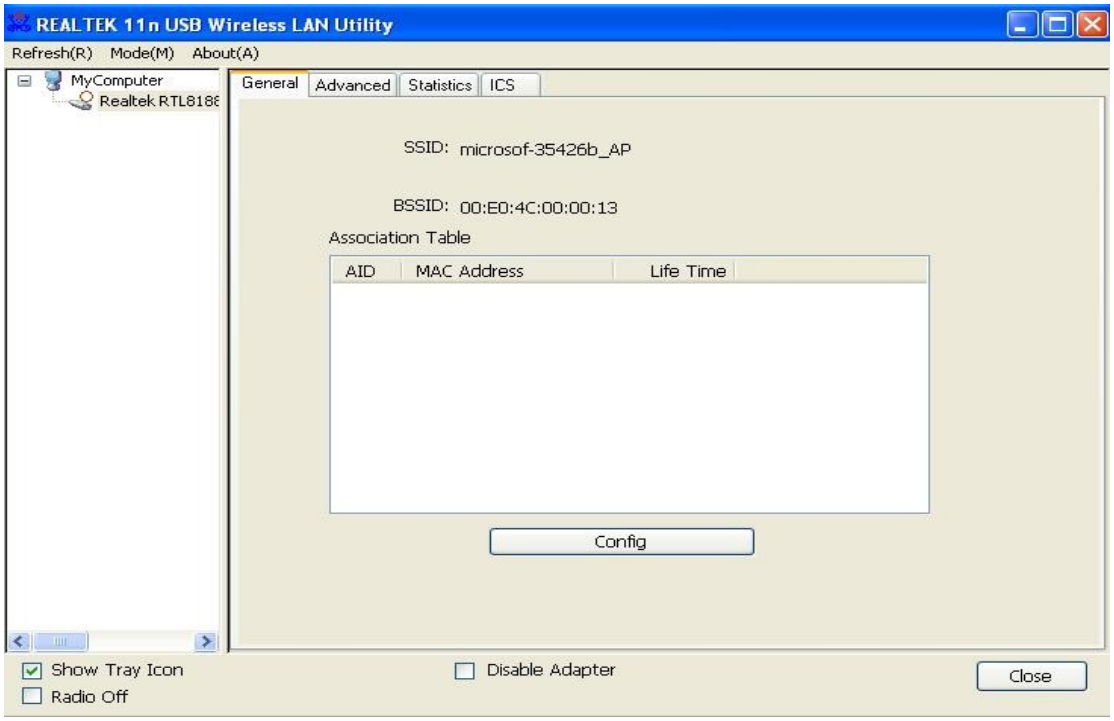


Client mode icon:

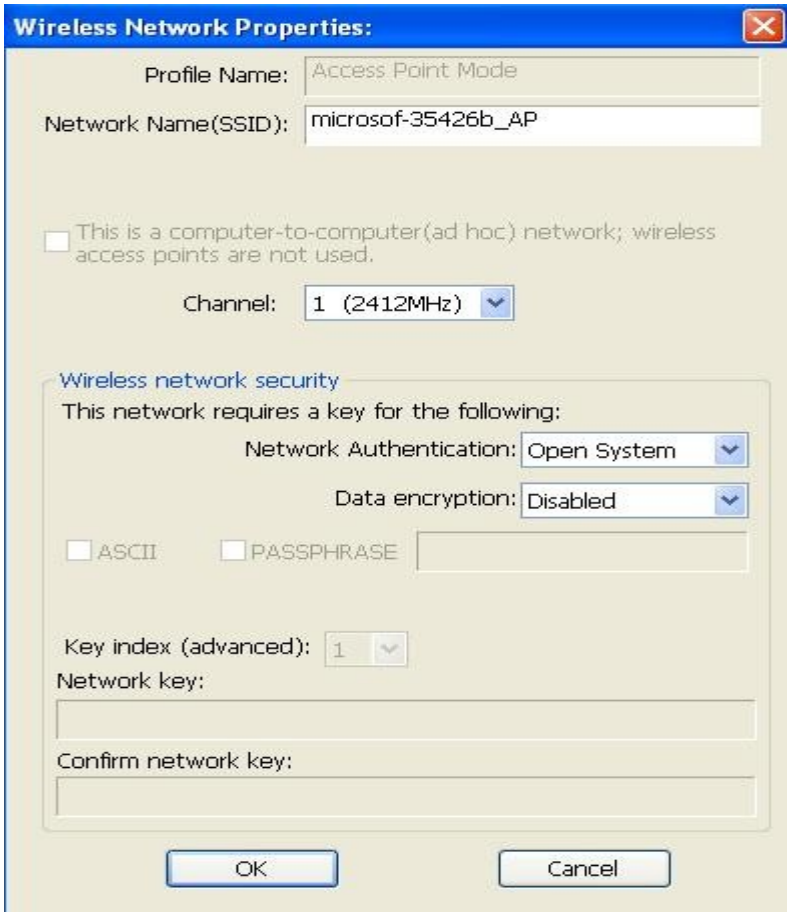
Software AP icon: 

4.1.1 Configure SSID and Channel

To configure software AP, click '**Config**' button:



The '**Wireless Network Properties**' is displayed.



Please note that Ad-Hoc mode is not available when network card is in AP mode. The description of major setup items are listed below:

Network Name (SSID)	Please input the SSID (the name used to identify this wireless access point) here. Up to 32 numerical characters can be accepted here, excepting space.
Channel	Please select the wireless channel you wish to use, from 1 to 13.

To save changes, click '**OK**'; otherwise click '**Cancel**' to leave this menu and keep settings untouched.

4.1.2 Setup Soft-AP Security

To setup security options for Soft-AP, configure 'Wireless Network Security' section as follow:

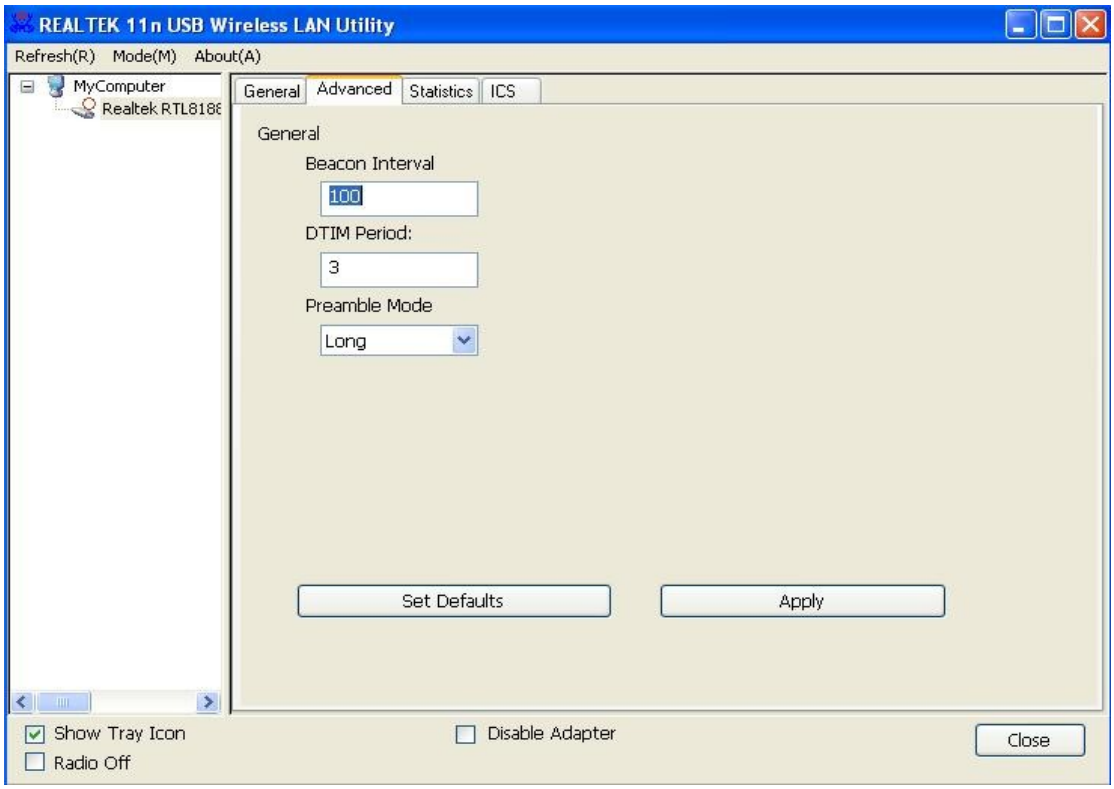
The description of setup items about wireless security are listed below:

Network Authentication	Select network authentication mode from dropdown menu.
Data Encryption	Select data encryption method from dropdown menu.
ASCII / PASSPHRASE	If the encryption method is WEP, check either 'ASCII' or 'PASSPHRASE' box and input it in the box as WEP passphrase.
Key Index	Select WEP key index (1-4). If you don't know which one you should use, select 1.
Network key / Confirm network key	IF network authentication mode is WPA, please input WPA passphrase in both box.

To save changes, click '**OK**'; otherwise click '**Cancel**' to leave this menu and keep settings untouched.

4.2 Advanced Settings

If you want to setup advanced settings of software access point, select '**Advanced**' menu. If you don't know the meaning and affects of these settings, keep them untouched.



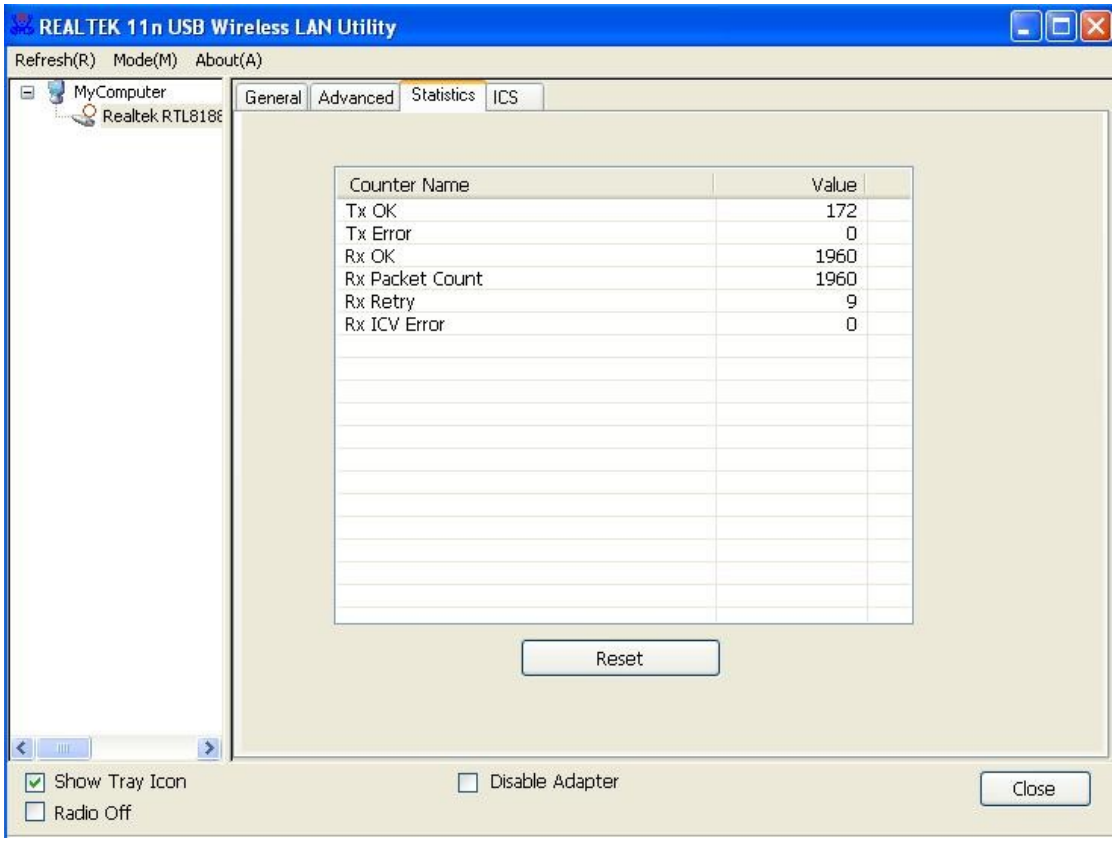
The description of all setup items are listed below:

Beacon Interval	Please input wireless beacon time interval here.
DTIM Period	Please input DTIM (Delivery Traffic Indication Message) here.
Preamble Mode	Select wireless frame preamble mode (long or short) from dropdown menu.
Set Defaults	Reset all settings back to factory default value.
Apply	Save changes.

If you changed any setting here and cause problem on communicating with wireless clients, click '**Set Defaults**' to reset all settings back to default setting.

4.3 Wireless Statistics

Select '**Statistics**' menu and the data statistics about software access point will be displayed.

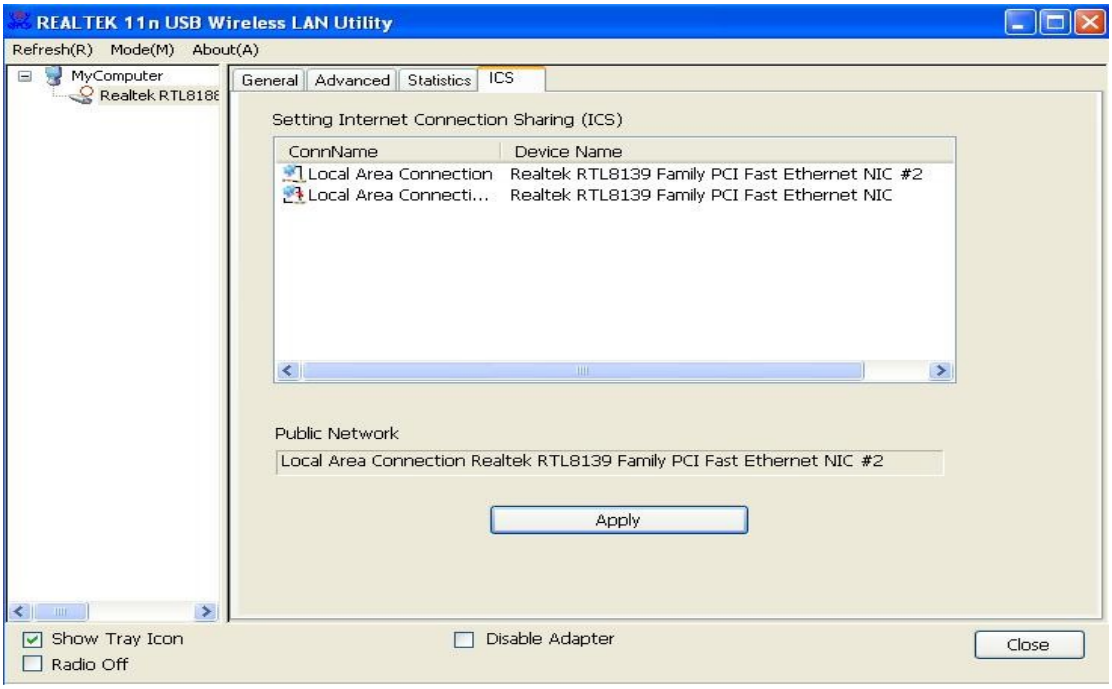


Click '**Reset**' to reset the value of every item back to '0'.

4.4 Internet Connection Sharing (ICS)

In this page, you can assign a network card on your computer as the path for all wireless clients to get connected to Internet.

If you have only one network card (except this software access point), you don't have to select network card here; if you have more than one network card, select the one you wish to be used as Internet gateway.



Click '**Apply**' to save changes
('**Apply**' is grayed out when no changes are made in this page).

CHAPTER 5: Troubleshooting

If you encounter any problem when you're using this wireless network card, don't panic! Before you call your dealer of purchase for help, please check this troubleshooting table, the solution of your problem could be very simple, and you can solve the problem by yourself .

Scenario	Solution
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.
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.
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 '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. **3.** 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. **4.** 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.
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. Please try one or more solutions listed above.

Technical Description
Frequency Range: 2412MHz-2472MHz for 802.11b, g, n/HT20
2422MHz-2462MHz for 802.11n/HT40
Transmit Power: 9.0 dBm EIRP
Hardware Version: U0119 V1.1
Software Version: 1.0

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