



User's Manual

High Power 802.11n Wireless Compact USB Adapter

▶ **WNL-U555HA**



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Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of 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:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio technician for help.

FCC Caution

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

This device complies with Part 15 of the FCC Rules. Operation is subject to the Following two conditions: (1) This device may not cause harmful interference, and (2) this Device must accept any interference received, including interference that may cause undesired operation.

Federal Communication Commission (FCC) Radiation Exposure Statement

This equipment complies with FCC radiation exposure set forth for an uncontrolled environment. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna shall not be less than 20 cm (8 inches) during normal operation.

CE mark Warning

This is a class B device, in a domestic environment; this product may cause radio interference, in which case the user may be required to take adequate measures.

R&TTE Compliance Statement

This equipment complies with all the requirements of DIRECTIVE 1999/5/CE OF THE EUROPEAN PARLIAMENT AND THE COUNCIL OF 9 March 1999 on radio equipment and telecommunication terminal Equipment and the mutual recognition of their conformity (R&TTE). The R&TTE Directive repeals and replaces in the directive 98/13/EEC (Telecommunications Terminal Equipment and Satellite Earth Station Equipment) As of April 8, 2000.

Safety

This equipment is designed with the utmost care for the safety of those who install and use it. However, special attention must be paid to the dangers of electric shock and static electricity when working with electrical equipment. All guidelines of this and of the computer manufacture must therefore be allowed at all times to ensure the safe use of the equipment.

EU Countries Intended for Use

The ETSI version of this device is intended for home and office use in Austria Belgium, Denmark, Finland, and France (with Frequency channel restrictions). Germany, Greece, Ireland, Italy, Luxembourg .The Netherlands, Portugal, Spain, Sweden and United Kingdom.

The ETSI version of this device is also authorized for use in EFTA member states Iceland, Liechtenstein, Norway and Switzerland.

WEEE regulation



To avoid the potential effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment, end users of electrical and electronic equipment should understand the meaning of the crossed-out wheeled bin symbol. Do not dispose of WEEE as unsorted municipal waste and have to collect such WEEE separately.

Revision

User's Manual for PLANET 802.11n Wireless High Power USB Adapter

Model: WNL-U555HA

Rev: EM-WNLU555HA_v1.0 (August, 2011)

Part No. 2081-E23180-000

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Chapter 1. Product Introduction

1.1 Package contents

The following items should be contained in the package:

- ▶ WNL-U555HA (Wireless High Power USB adapter)
- ▶ 5dBi High Gain Antenna
- ▶ Quick Installation Guide
- ▶ CD (includes driver/utility/user's manual)

Note: If there is any item missed or damaged, please contact the seller immediately.

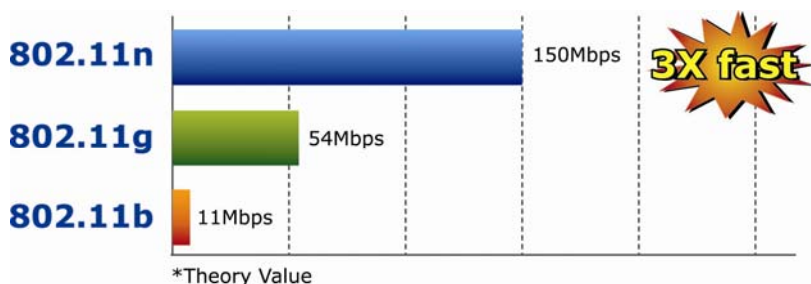
1.2 Product Description



The PLANET WNL-U555HA Wireless High Power Compact USB Adapter features a High-Gain 5dBi Wi-Fi upgradable antenna and high power output to increase over double the wireless coverage and greater sensitivity than standard wireless n adapters. It also provides powerful and stable performance to Windows/Linux Laptop, PC, or Mac linked into unlimited wireless network.

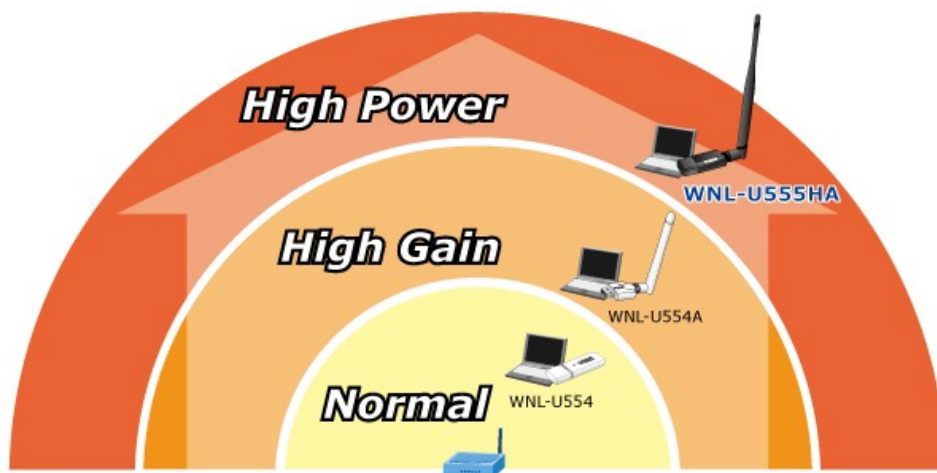
High Speed 802.11n Wireless Experience

The WNL-U555HA offers a reliable and cost effective wireless extending solution. It adopts IEEE 802.11n technology and is backward compatible with IEEE 802.11b and 802.11g. The WNL-U555HA supports USB 2.0 interface that integrates with one transmit channel and one concurrent receive channel to enable the speed up to 150Mbps for both data upload and download.



Wireless Coverage Plus !

The WNL-555HA is equipped with external **5dBi High-Gain** antenna which provides strong signal and excellent performance even in the long range or bad environment. With detachable SMA connector design in the WNL-U555HA, it allows users to manually exchange higher gain antenna for further wireless coverage range.



Advanced Wireless Security

The WNL-U555HA provides advanced security features including 64/128-bit WEP, WPA / WPA2 and WPA-PSK / WPA2-PSK with TKIP/AES encryption. Furthermore, in order to simplify the security configurations, WPS (Wi-Fi Protected Setup) function is included to offer a convenient and fast connection method for users as well.

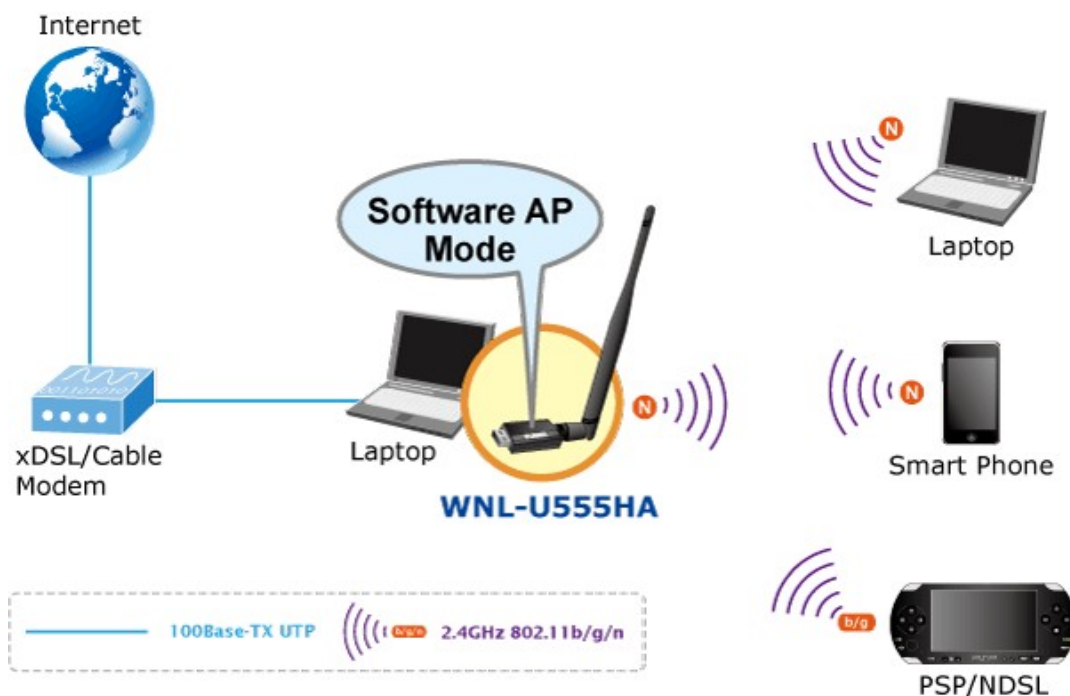
Multiple OS Compliant

The WNL-U555HA supports most popular operating systems including Windows 2000, XP, Vista, Win7, Linux, and MAC OS X. With high speed capability, users can have higher wireless transmission speed anywhere and anytime.



Software Access Point Function for Wireless Connection Sharing

More than just being an adapter for PC and laptop connecting to high speed wireless network, the WNL-U555HA can also become a wireless access point. By applying the USB Wireless LAN Utility included in the package, users can switch the WNL-U555HA operation mode between Station mode and Access Point mode. When the WNL-U555HA is in the Access Point mode, it turns to a Wi-Fi Hotspot. The Wi-Fi supported devices such as iPhone / Android / Symbian / Windows Phone / iPod Touch / iPad / NDS / PSP can connect to it and share the wireless access easily. Therefore, travelers would then be worry free to connect to Internet wirelessly via the WNL-U555HA when there is only wired Internet available anywhere.



Easy Installation Wizard

The WNL-U555HA provides an easy installation wizard in 35 languages. It guides users step by step to easily complete the product installation through the whole process.

1.3 Product Features

- Detachable RP-SMA connector with 5dBi high gain antenna
- 2.4GHz ISM band, unlicensed operation
- Compliant with IEEE 802.11b/g/n
- High Power up to 300mW
- Provides up to 150Mbps download and 150Mbps upload data rate
- Wi-Fi Protected Setup (WPS) support
- Supports WEP 64/128-bit, WPA / WPA2, WPA-PSK / WPA2-PSK (TKIP/AES encryption)
- Supports Software AP mode
- Supports Wireless QoS (WMM)
- Adjustable Transmit Power
- USB 2.0 attached interface
- Compact-size Design
- Supports most popular operating systems including Windows 2000, XP, Vista, Win 7, Linux, and MAC OS X.

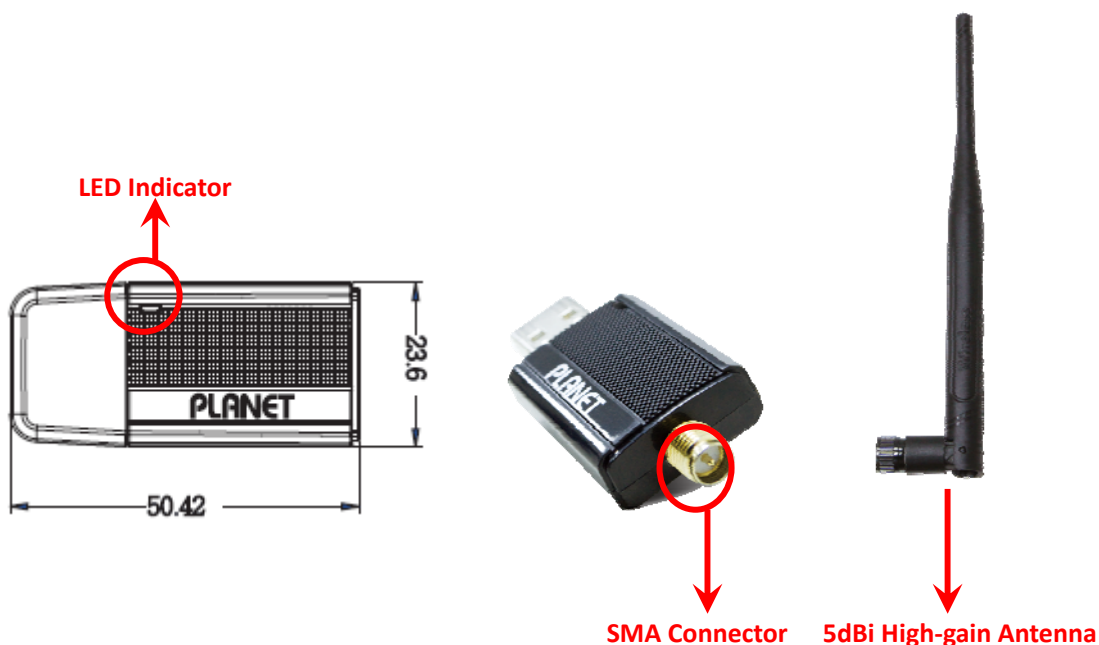
1.4 Hardware Description

There is a LED equipped on the wireless adapter. When the data is transmitting, the LED will be flashing.

LED definition

LED	Color	Description
Off	Blue	Link down or no power
Flash	Blue	Data transmitting

Case Outlook



Chapter 2. Installation

2.1 Driver Installation

Before installing the driver and utility of wireless adapter, do not insert the device into the USB port of your computer.

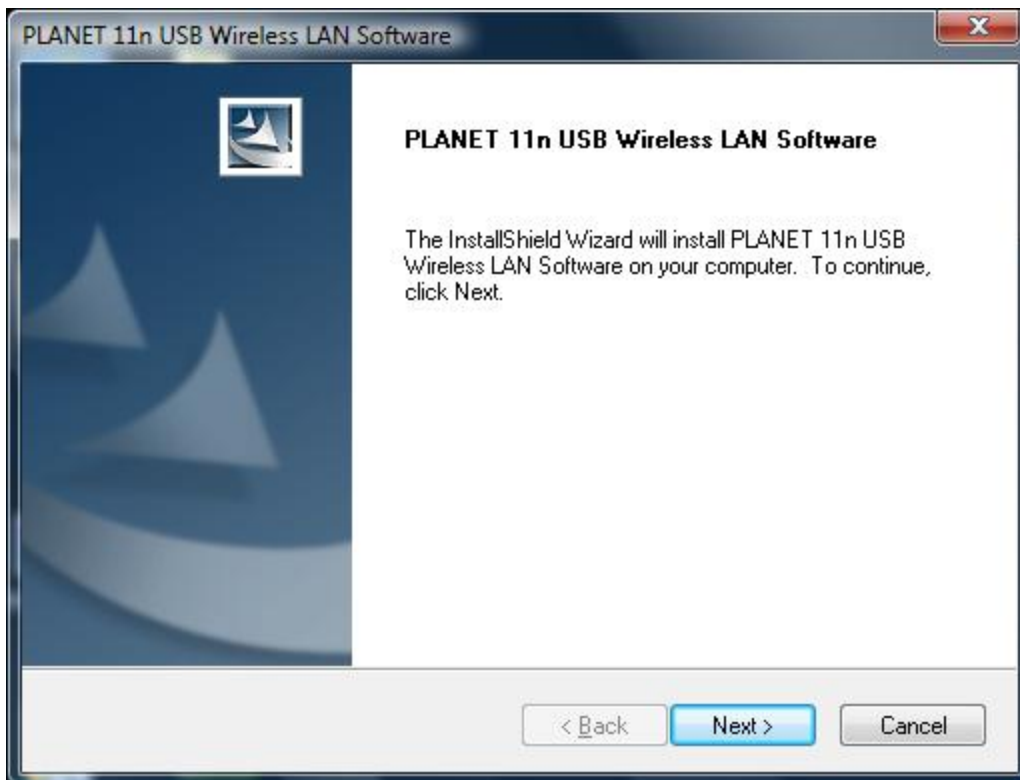


1. If you had ever installed other wireless adapters before, please uninstall the existed drivers and utilities first.
2. The following installation is performed in Windows XP. The procedures in other OS are similar.

Please follow the instructions below to install the USB Wireless Adapter:

Step 1. Insert the bundled CD into the CD-ROM drive. Then a webpage will appear. Click the “**Windows Utility**” hyperlink to initiate the installing wizard.

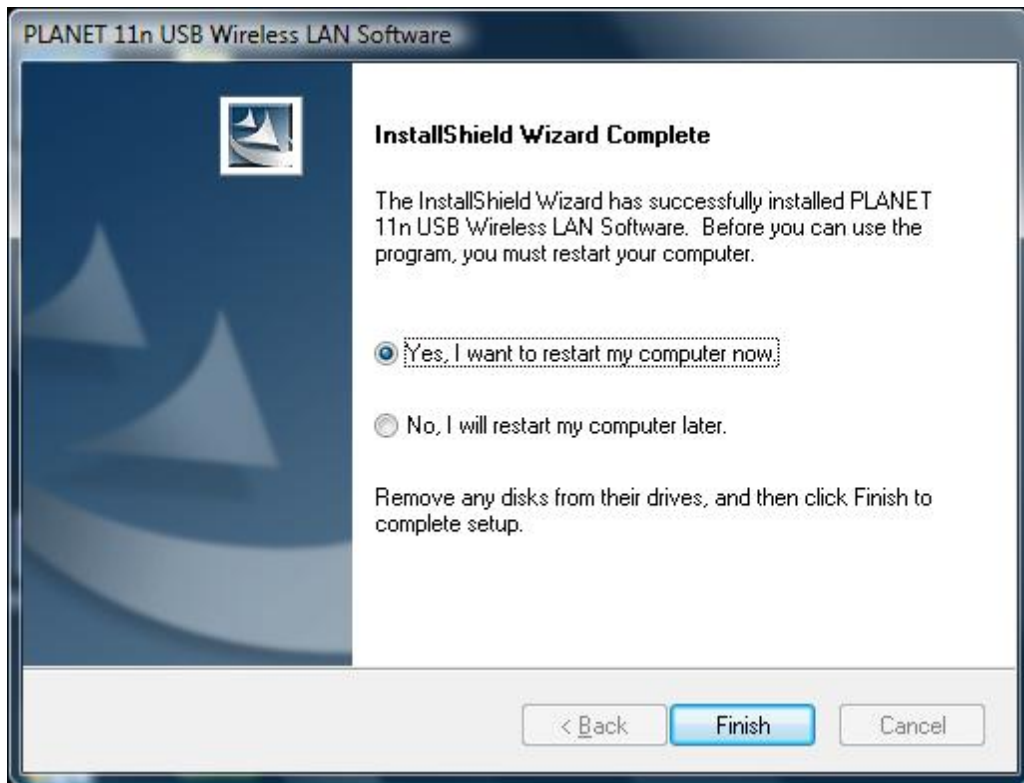
Step 2. Click “Next” button to start installing the driver and utility.



If the screen below appears during installation, please click “**Continue Anyway**” button to continue.

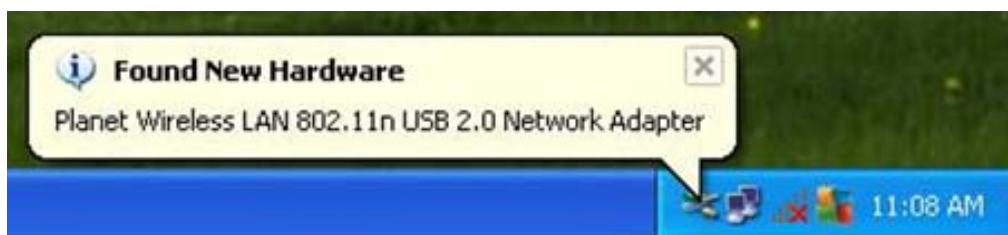


Step 3. After the software has been installed successfully, choose “Yes, I want to restart my computer now.” and click “Finish” button to restart your computer.



Step 4. After restarting the computer, insert the wireless adapter into an empty USB port of your computer. Never force to insert the adapter if you feel it get stuck. Flip the adapter over and try again.

Then you'll see the following message pop-up at lower-right corner of the screen.



Step 5. The following window will be pop-up. Choose “**No, not this time**” and click “Next” button to continue.



Step 6. Choose “**Install the software automatically (Recommended)**”, and click “Next” button to install the driver.



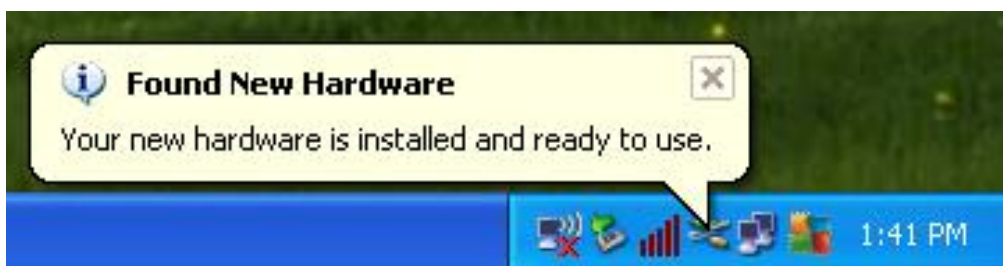
If the screen below appears during installation, please click “**Continue Anyway**” button to continue.



Step 7. Once the installation is finished, click “Finish” button.



After the driver of wireless adapter has been installed successfully, you’ll see another message pop-up at lower-right corner of the screen. And there is also a new icon appeared on the system tray.



Left-click the new icon will launch PLANET 11n USB Wireless LAN Utility, and right-click the icon will show the quick menu of configuration utility. This icon also uses different colors 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.

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 **PLANET 11n USB Wireless LAN Utility** (comes with network adapter), or **Windows Zero Config utility** (comes with Windows operating system).

2.2.1 PLANET 11n USB Wireless LAN Utility

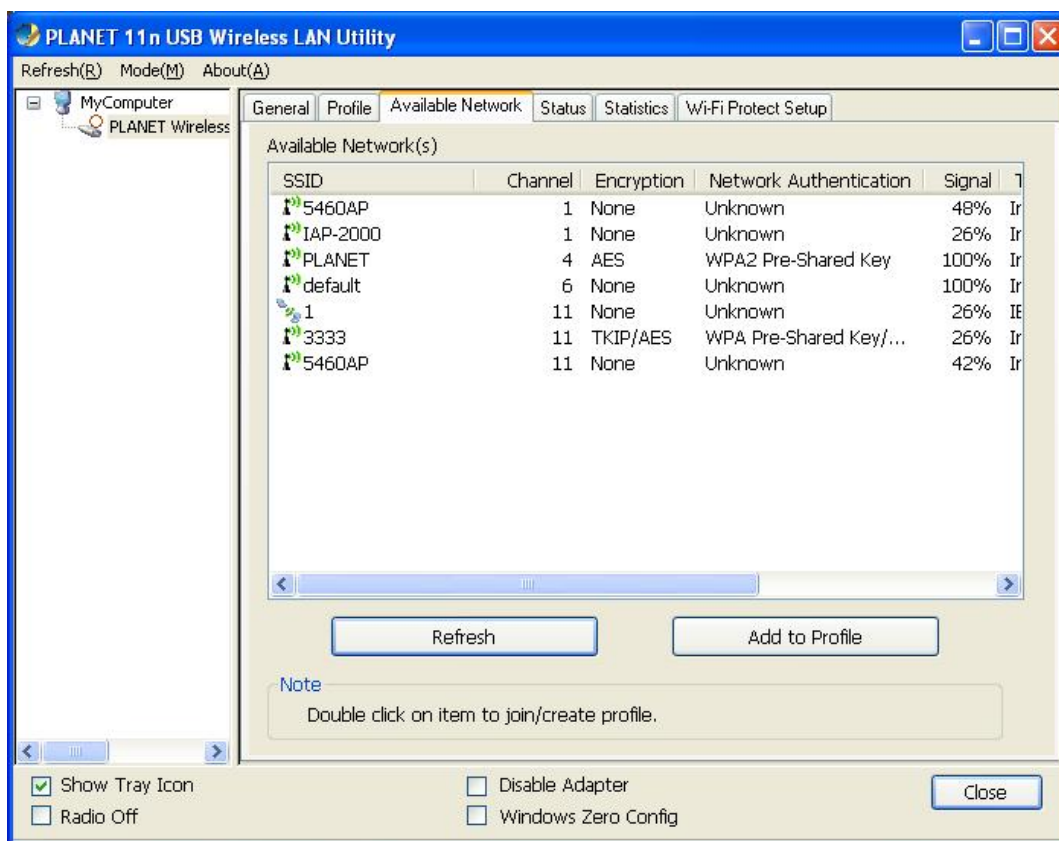
Please follow the instructions below to connect the wireless access point via PLANET 11n USB Wireless LAN Utility.

Step 1. Left-click the PLANET Wireless Utility icon located at lower-right corner of the screen, and configuration menu will appear:



Step 2. Click “**Available Network**” label. Please wait for a while, and all wireless access points nearby which can be reached by the wireless adapter 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 to the access point.

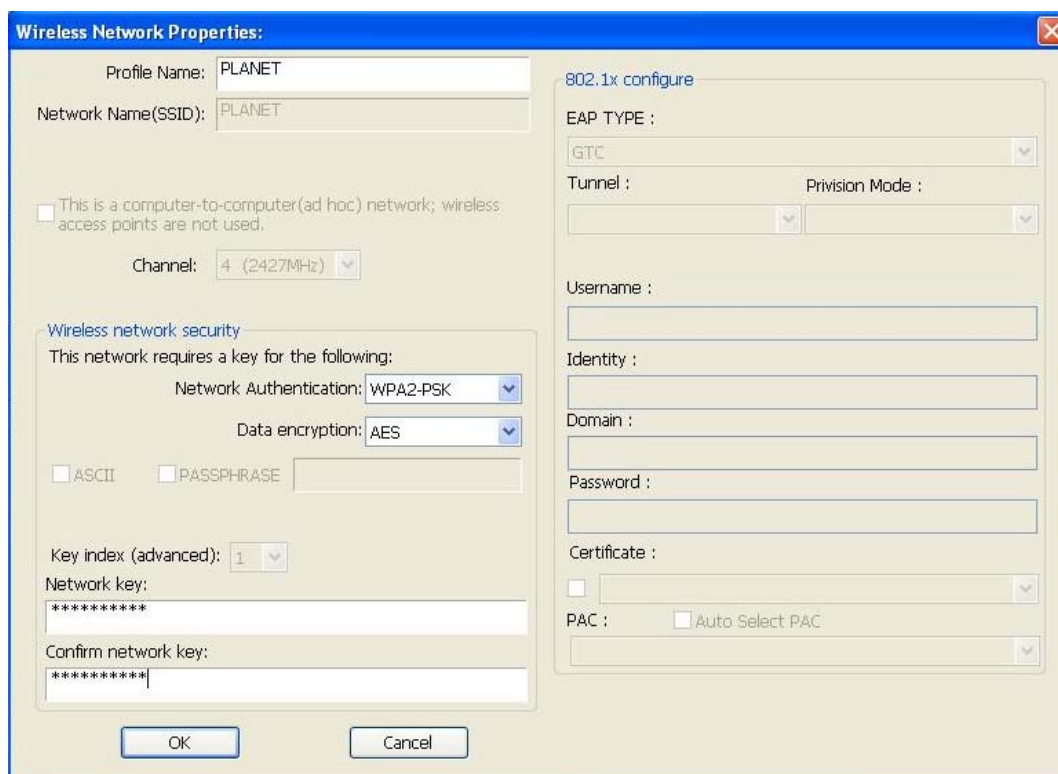


Step 3. When the access point you're looking for is on the list, left-click it and then double click it or click **"Add to Profile"**.

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



Network security option (**"Network Authentication"** and **"Data encryption"**) will be selected automatically based on the security setting of the wireless access point you selected. It's not necessary to change these settings by your own self.



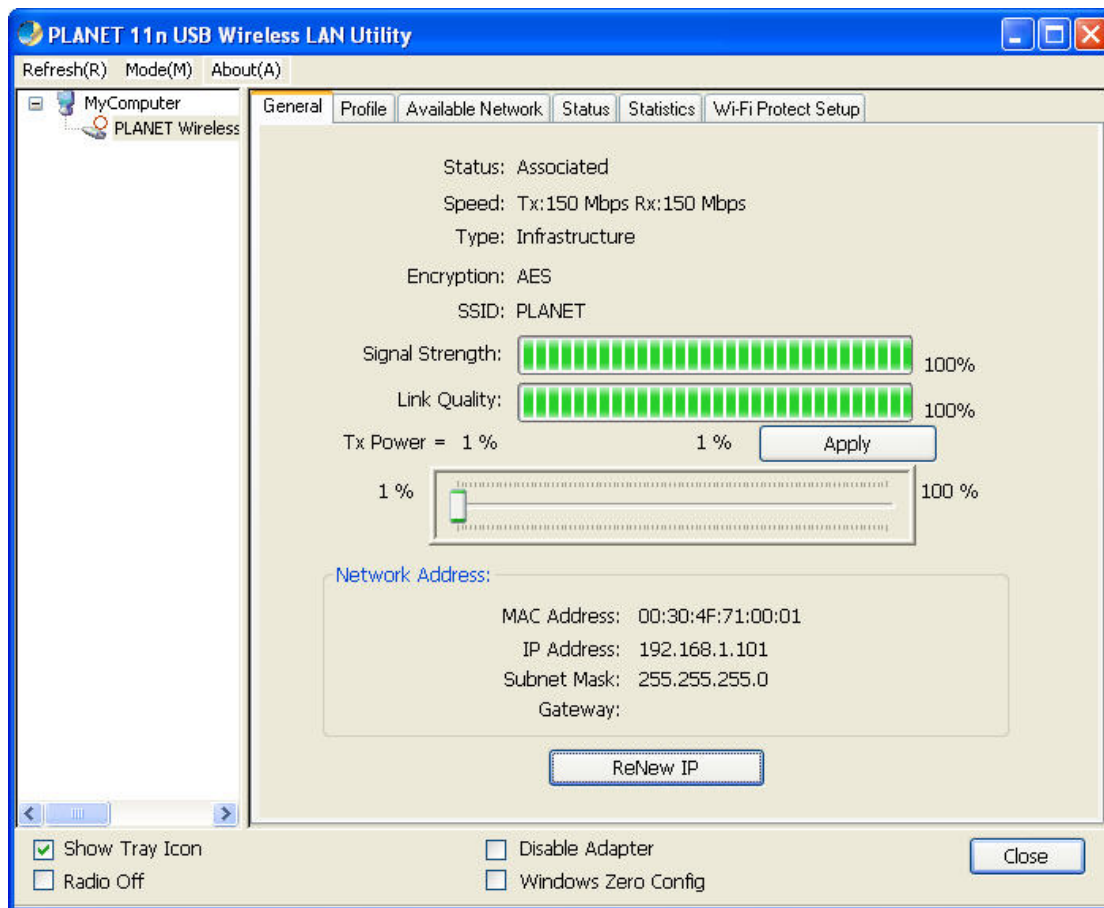
All options in this page will be filled automatically according to the access point you wish to add to profile. However, you can still modify any of them to meet your requirement.

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 wish 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 wish 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 wish 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.

Step 5. Wireless adapter will attempt to connect to access point; this may require few seconds to minutes. When the "Status" become "Associated", your computer is connected to access point you selected. Click "Close" to close configuration window.



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

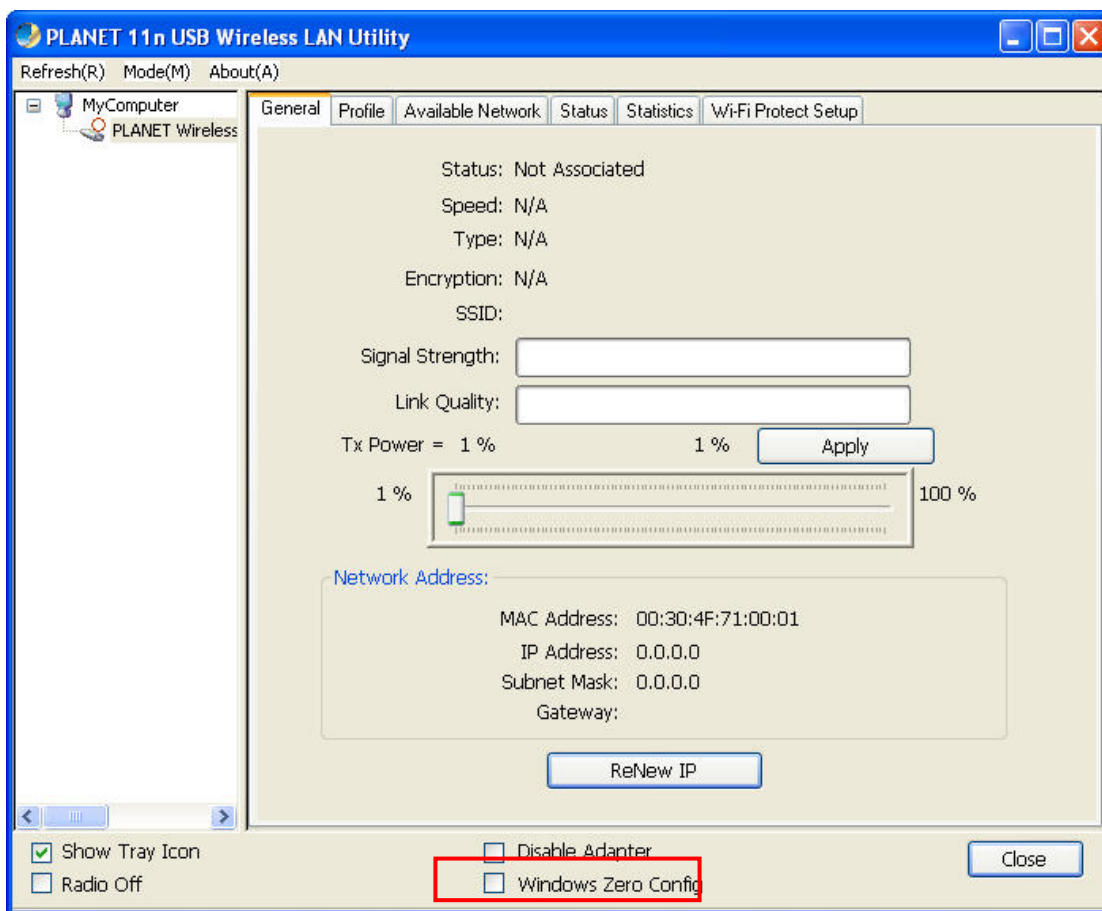
2.2.2 Windows Zero Configuration

Windows XP / Vista / 7 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:

Step 1. Right-click PLANET Wireless Utility icon, and click “**Open Config Utility**”.



Step 2. Check “Windows Zero Config” box.

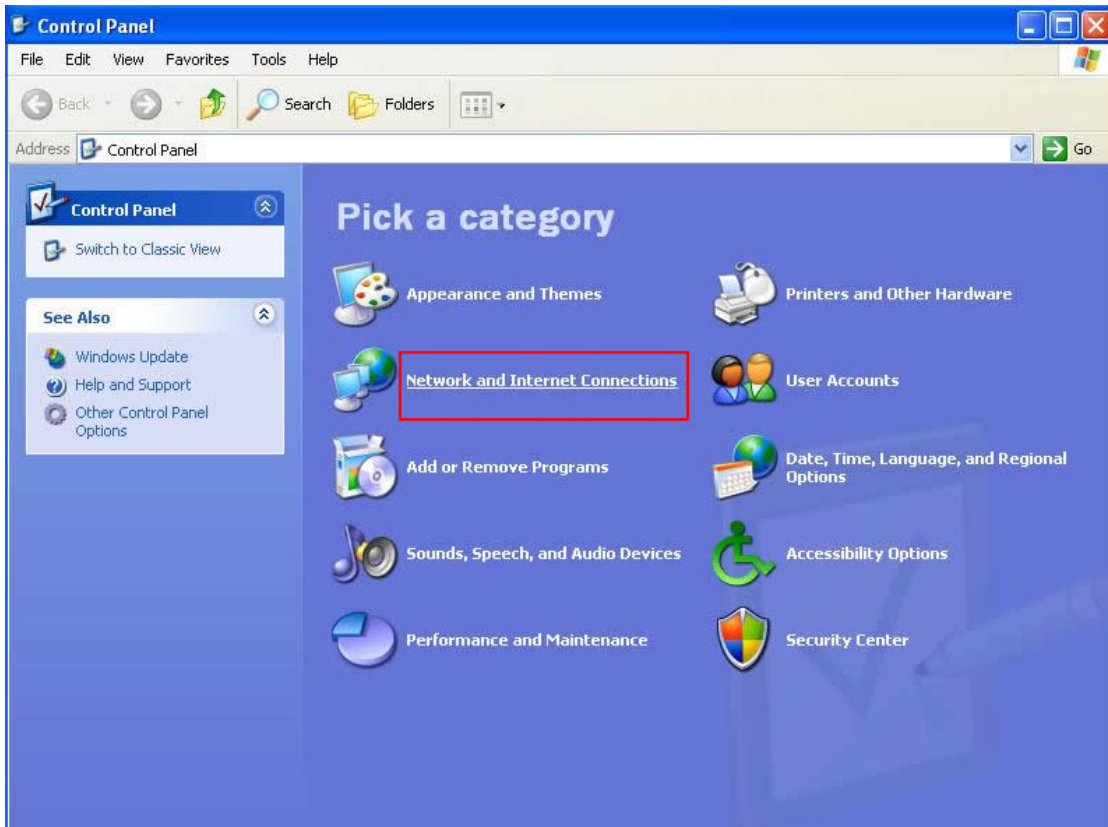


Step 3. There is message appeared indicating that you’ve been already switched to Windows Zero Config mode.

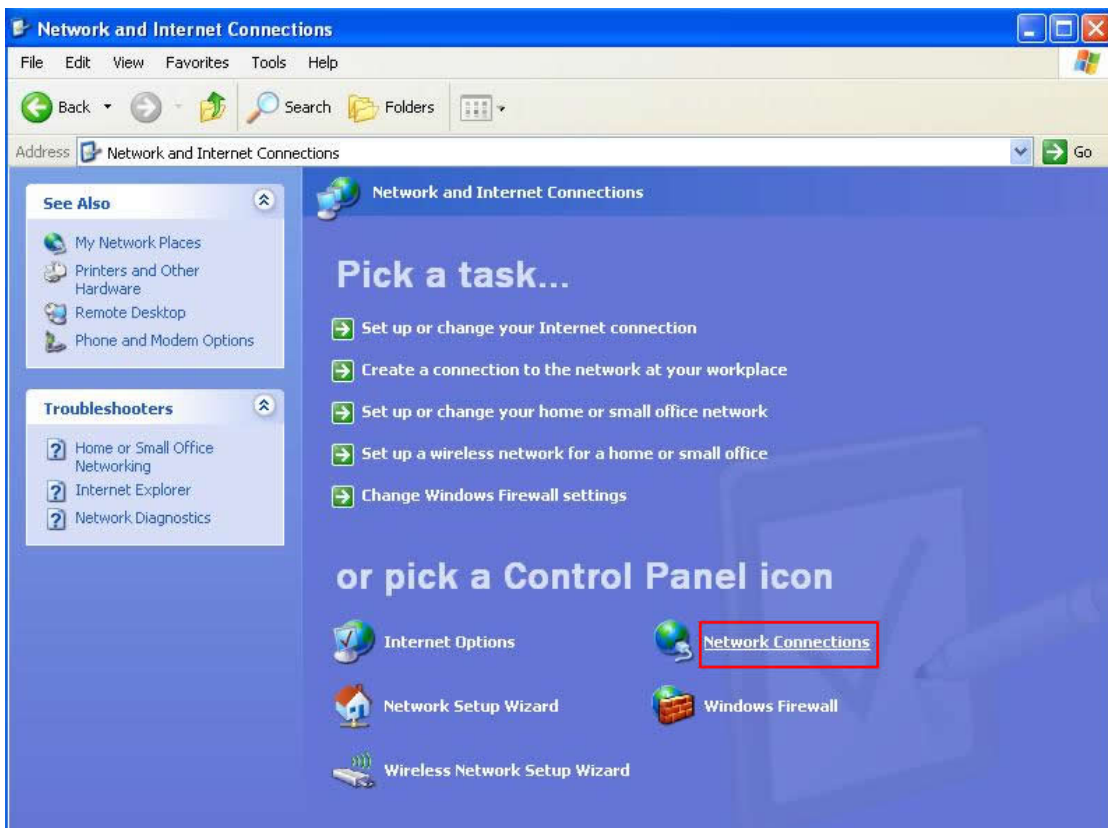


To return to use PLANET wireless utility, uncheck “Windows Zero Config” box.

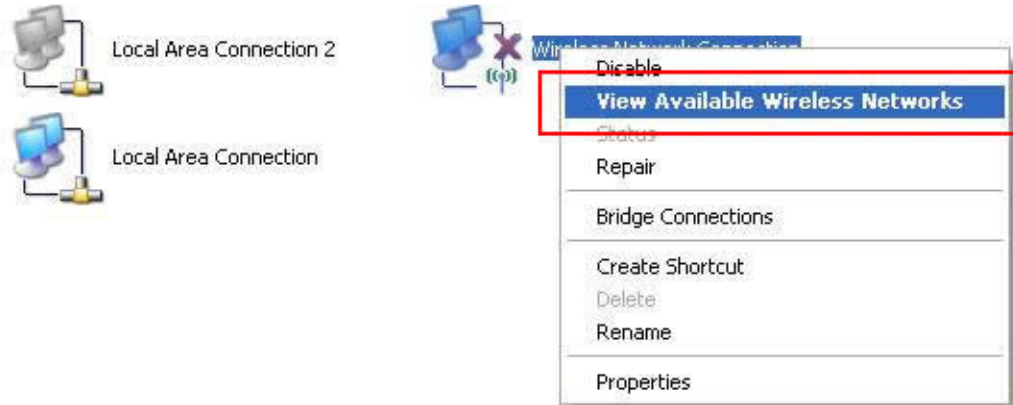
Step 4. Click “Start” button (should be located at the bottom-left corner of windows desktop), click “Control Panel”, then click “Network and Internet Connections” in Control Panel.



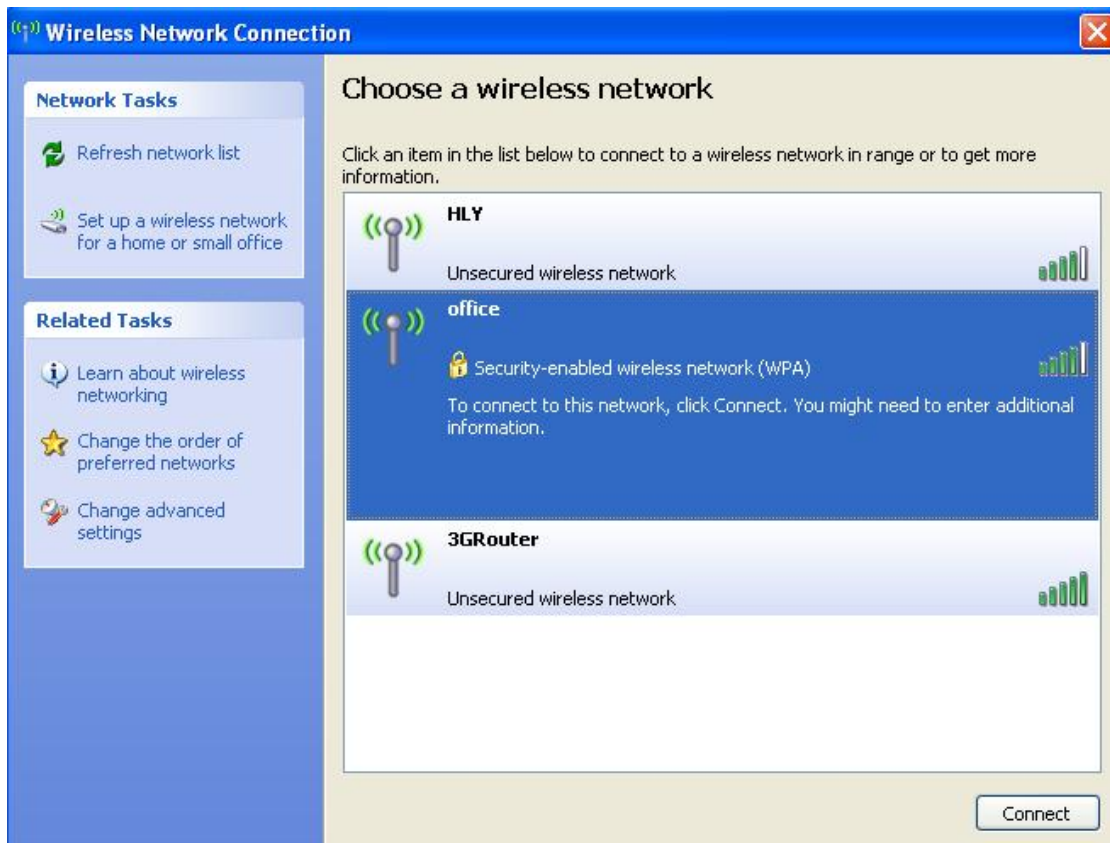
Step 5. Double click "Network Connections".



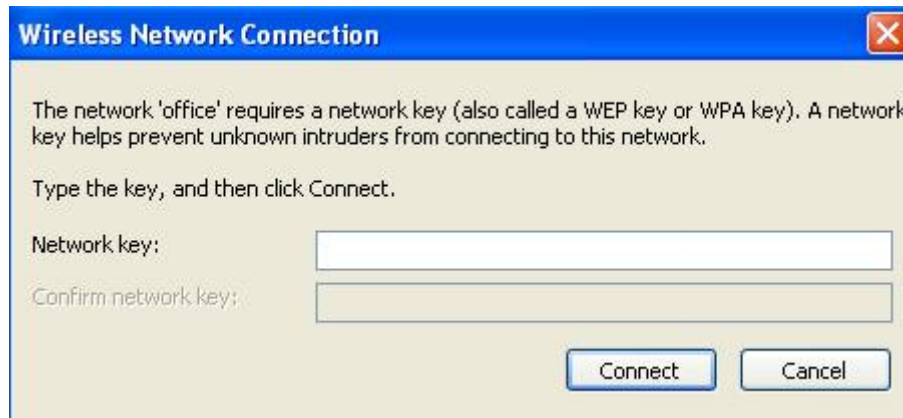
Step 6. Right-click “**Wireless Network Connection**” (it may have a number as suffix if you have more than one wireless network adapter, please make sure you right-click the **PLANET Wireless LAN 802.11n USB Network Adapter**), then select “**View Available Wireless Networks**”.



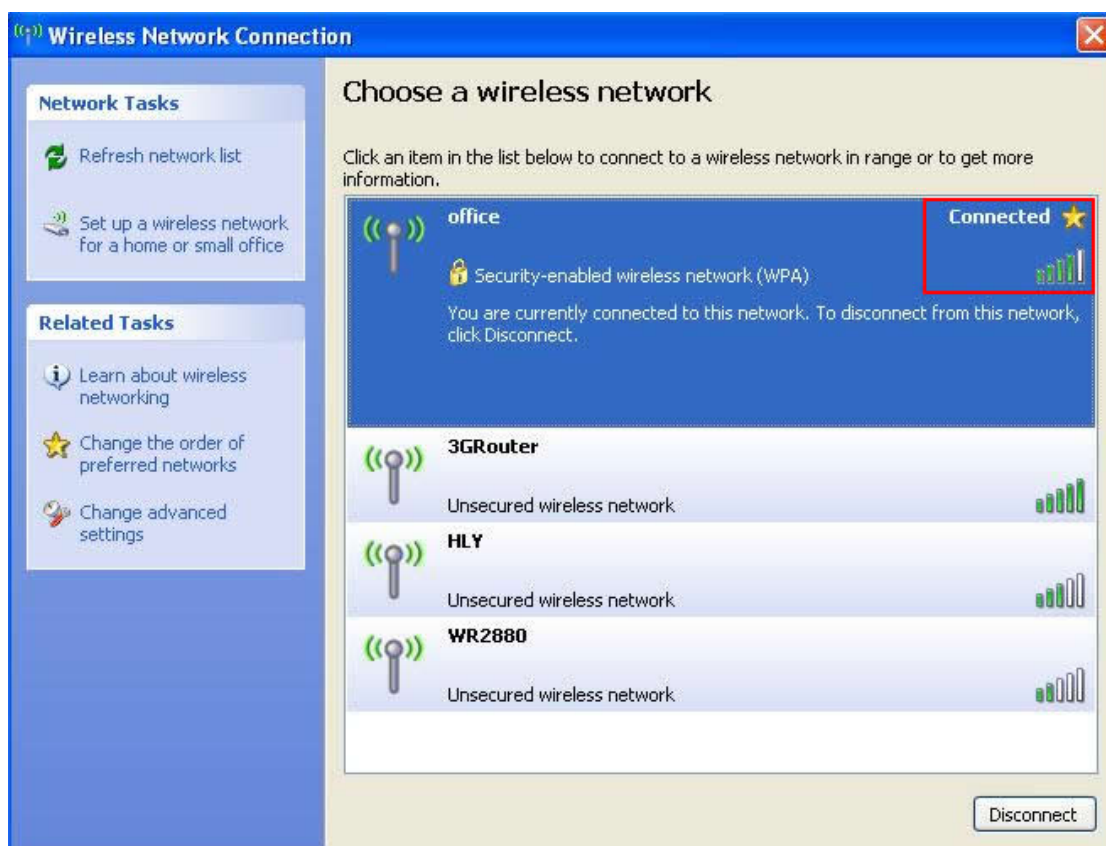
Step 7. All wireless access points in proximity will be displayed here. If the access point you want to use is not displayed here, please try to move your computer closer to the access point, or you can click “**Refresh network list**” to rescan access points. Click the access point you want to use if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



Step 8. If the access point is protected by encryption, you have to input its Network 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 network key or passphrase.



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



Chapter 3. PLANET USB Wireless LAN Utility

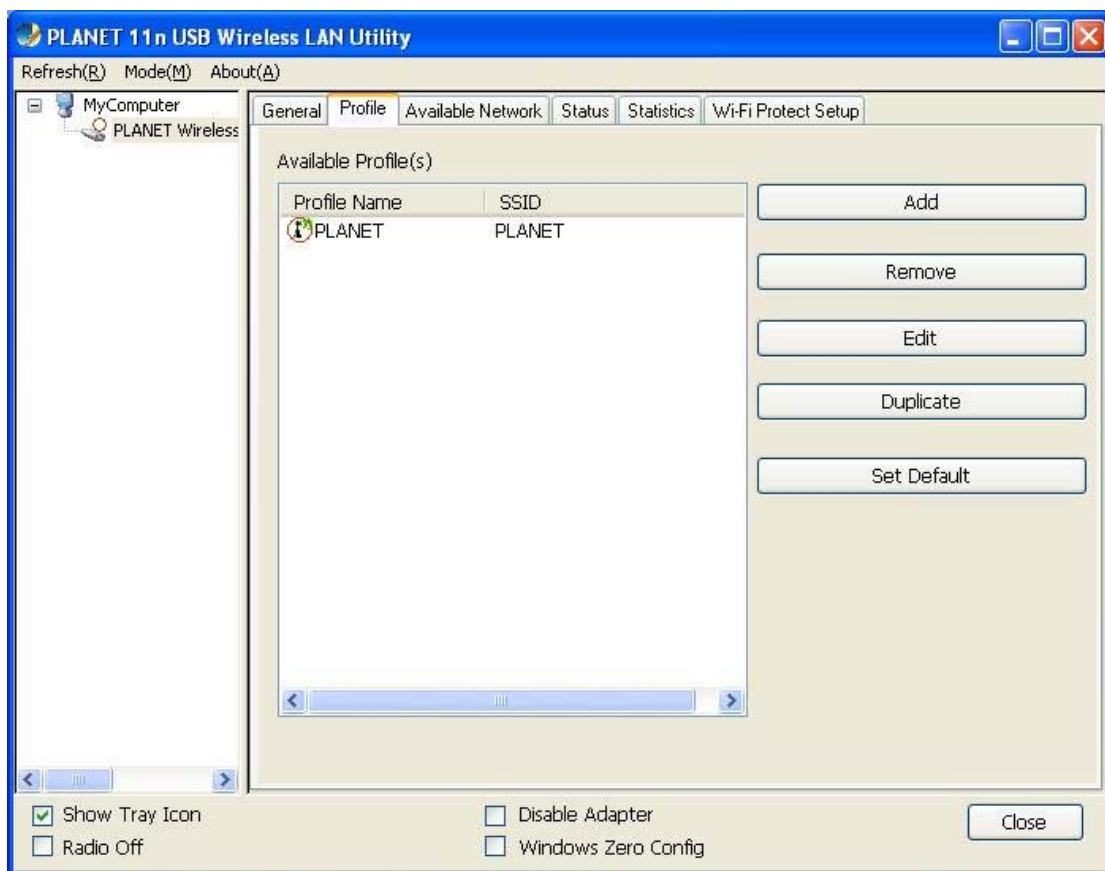
3.1 Connection Profile Management

If you need to connect to different wireless access points at different time, like access point at home, office, cyber-cafe, or public wireless service, you can save the connection parameters (encryption, passphrase, security, etc.) as profiles for every access point, so you don't have to input these parameters every time when you want to connect to the specific wireless access point.

To manage profiles, right-click the PLANET wireless utility icon located at lower-right corner of the screen, then click "Open Config Utility".

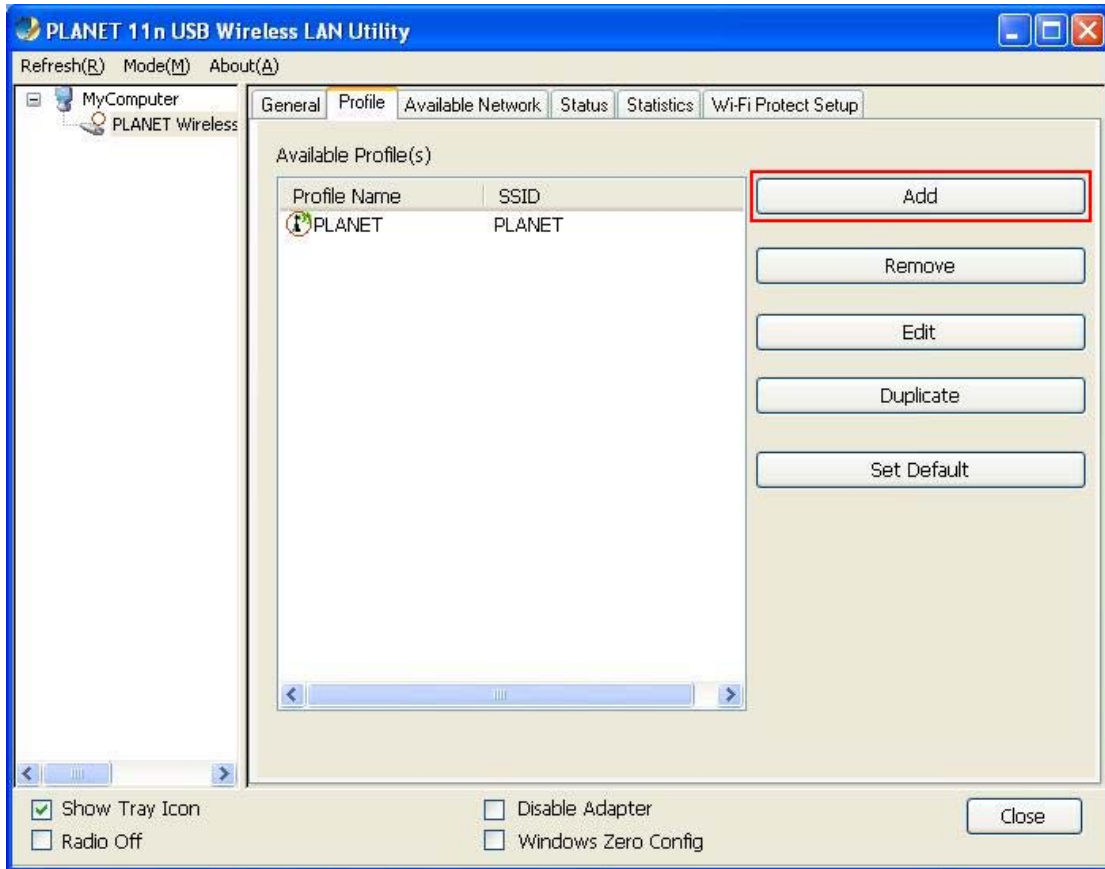


Click the "Profile" label.

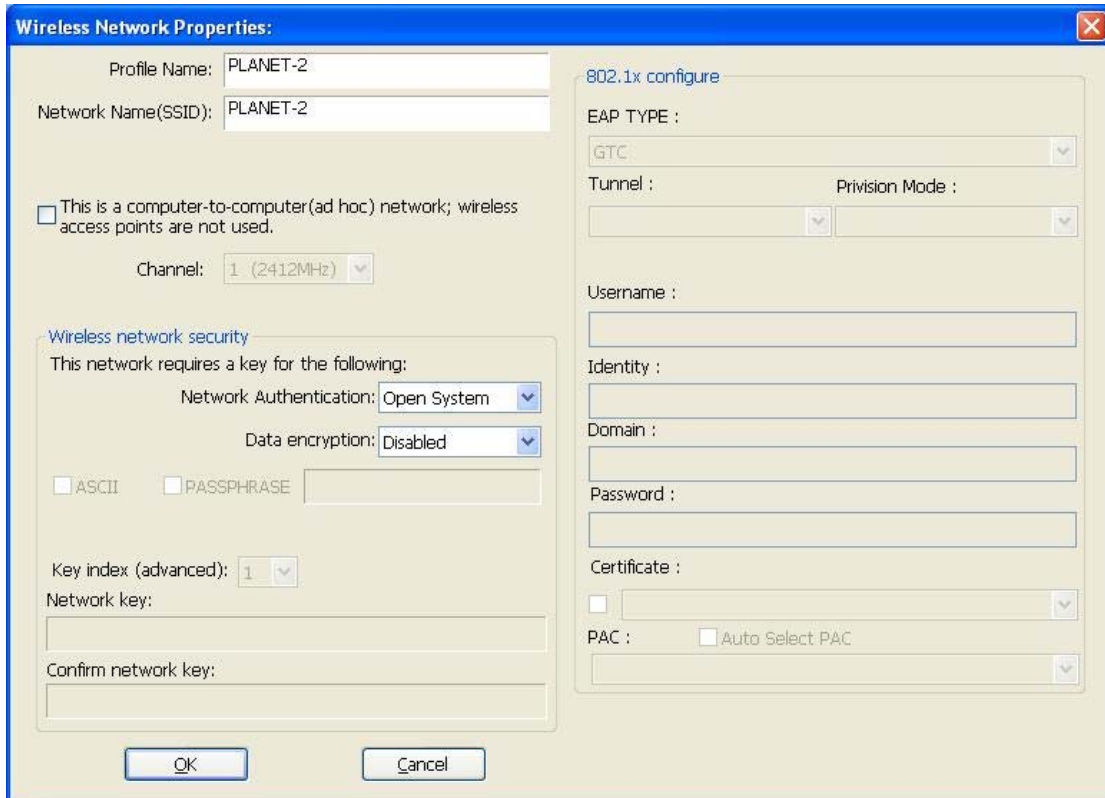


3.1.1 Add a new profile

You can setup the connection parameters for the specific wireless access point in advance. If you want to create a new profile, click “Add” button.



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



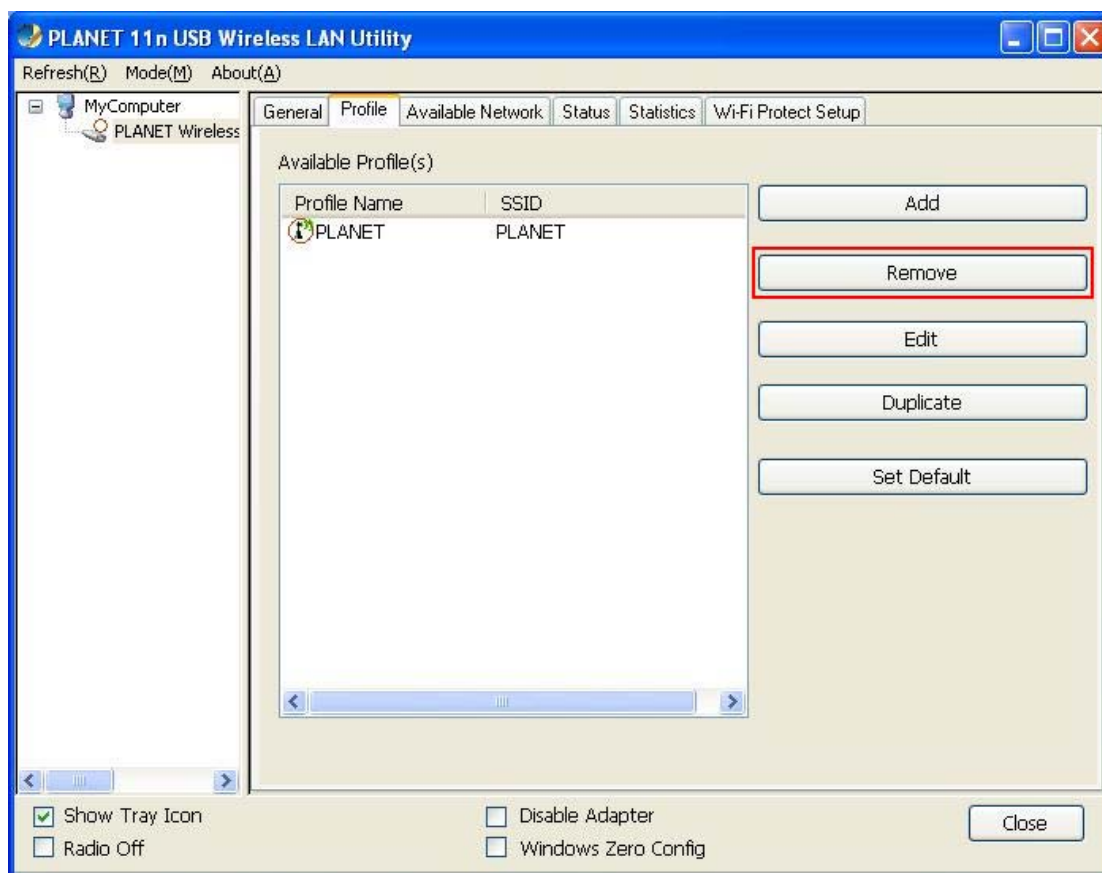
Required parameters are as follows:

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 wish 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 wish 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 wish 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.

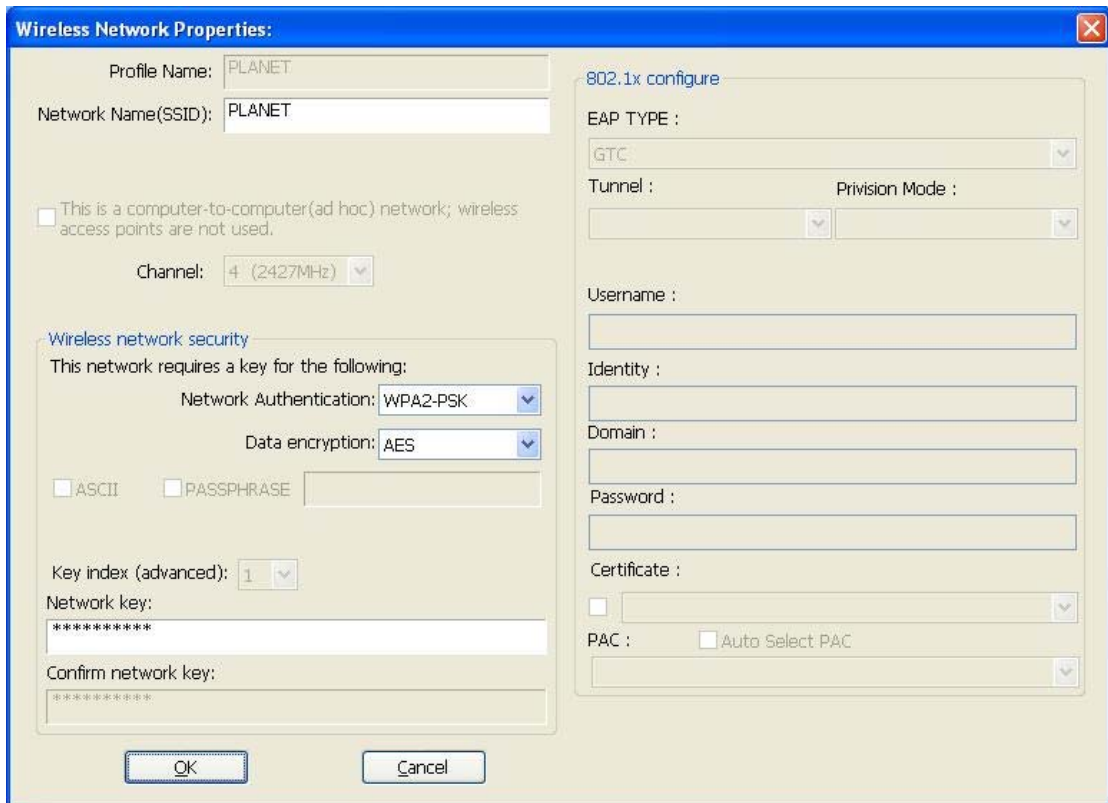
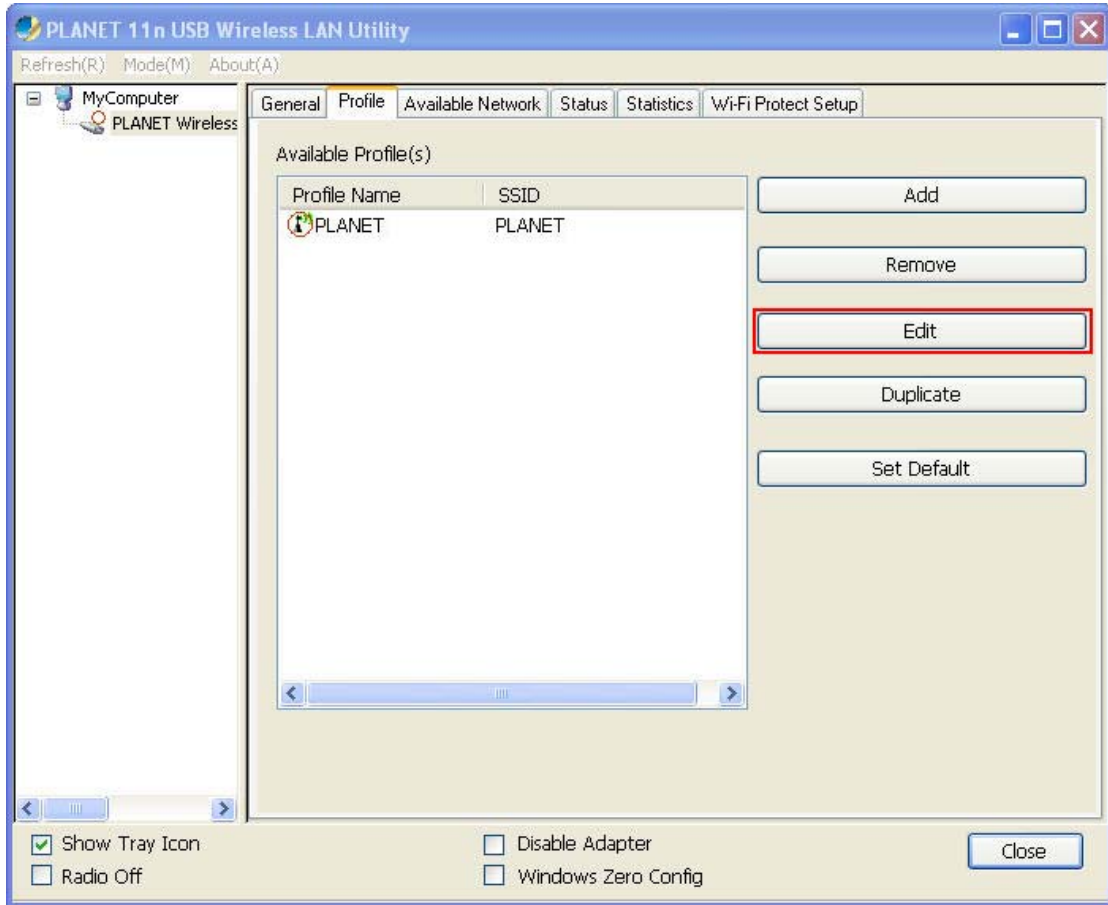
3.1.2 Remove an existing profile

If you want to remove a profile no longer needed, click “**Profile**” label, then select the existing profile you wish to remove, and click “**Remove**” button.



3.1.3 Edit an existing profile

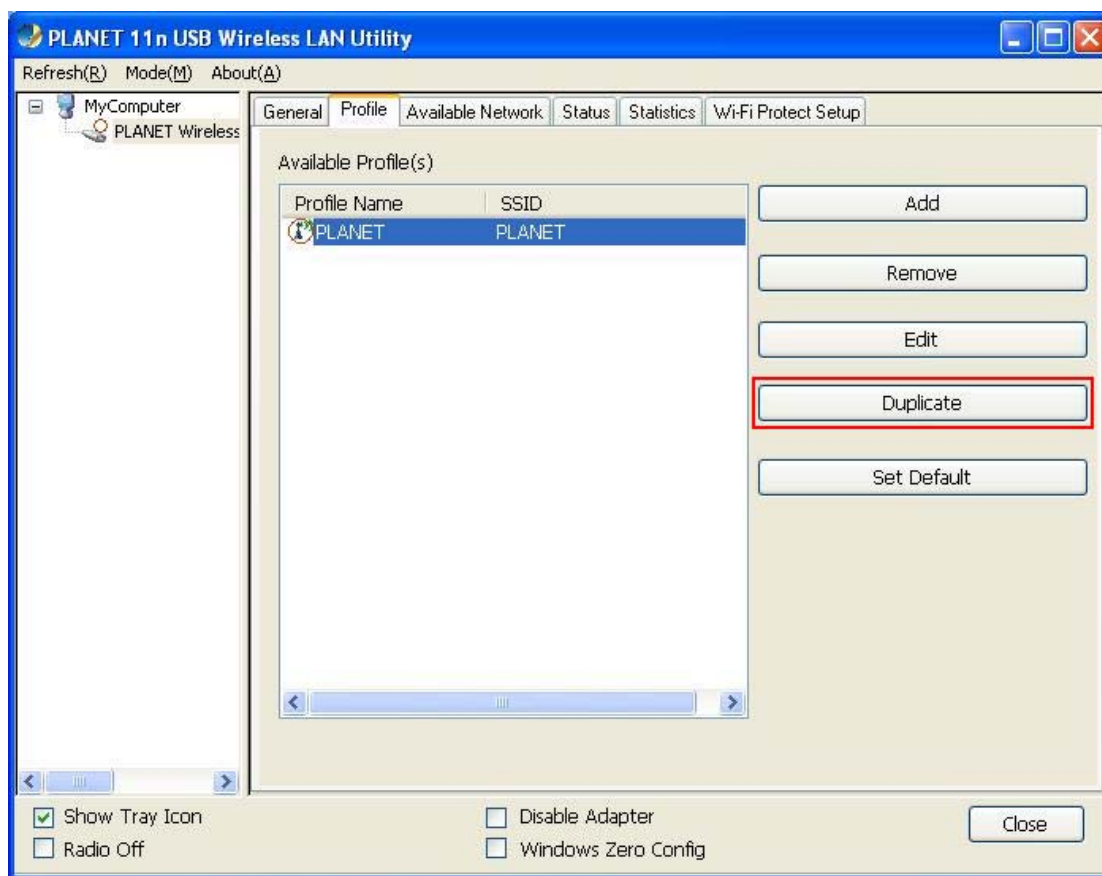
If you have added a profile before, and now you wish to change the settings of the profile, you can use this function. Please select the profile from the list first, then click “**Edit**” button. The contents of the selected profile will appear. After editing them, you can click “**OK**” to save changes, or click “**Cancel**” to discard changes.



3.1.4 Make a copy of existing profile

If you need to create a new profile which parameters are similar to any existing profile, you can make a copy of a specific profile and edit the copy to save as a new profile.

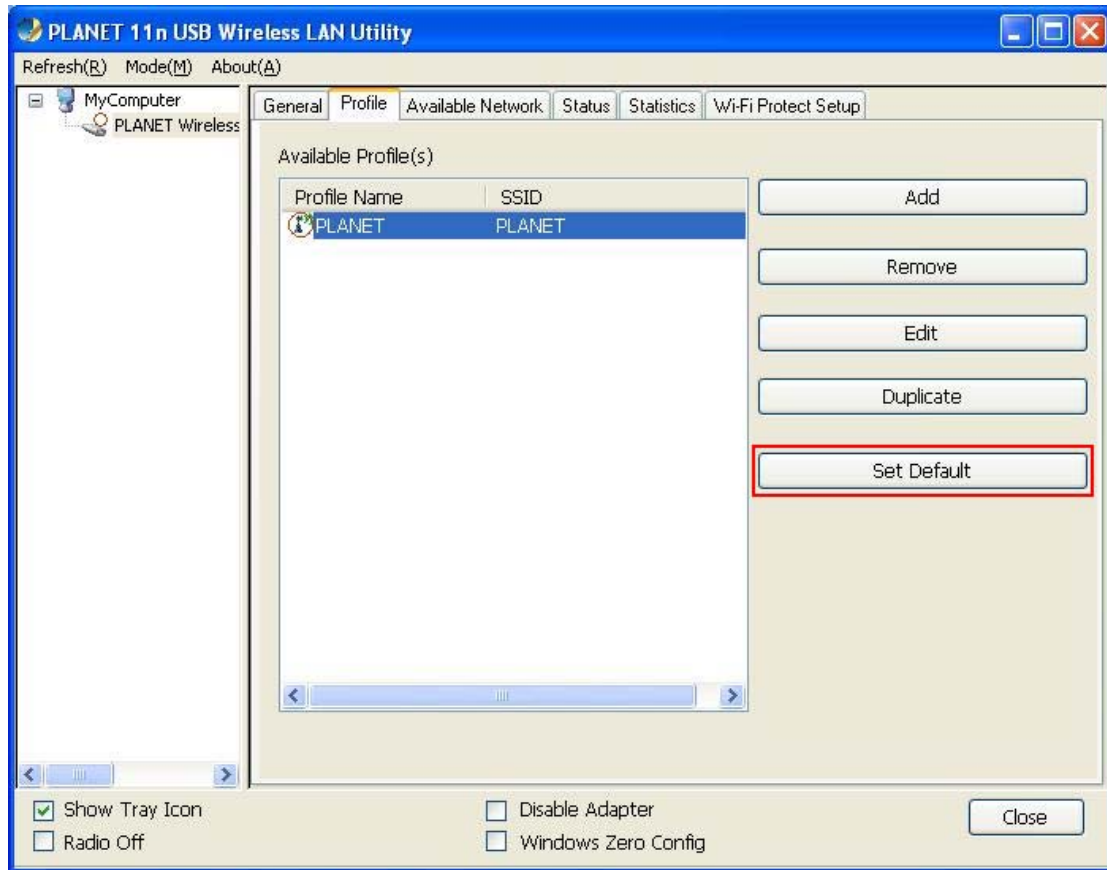
To do this, select an existing profile, then click **“Duplicate”** button.



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

3.1.5 Set as the default profile

If you wish to use a specific profile as the default wireless connection, you can select the profile in the list, and click **“Set Default”**. The selected profile will become default selection and PLANET wireless utility will attempt to connect to the selected access point.

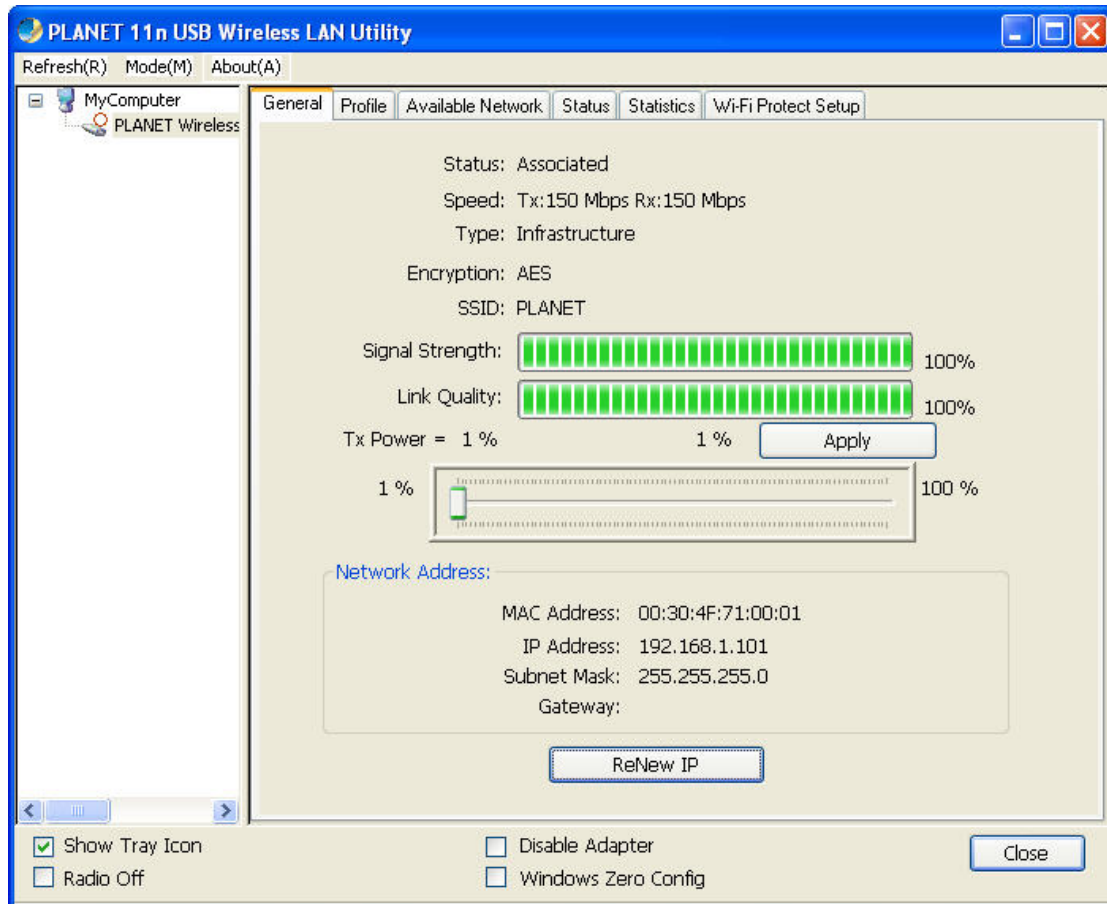


3.2 General Information, Status, and Network Statistics

The PLANET wireless utility provides the 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" label:

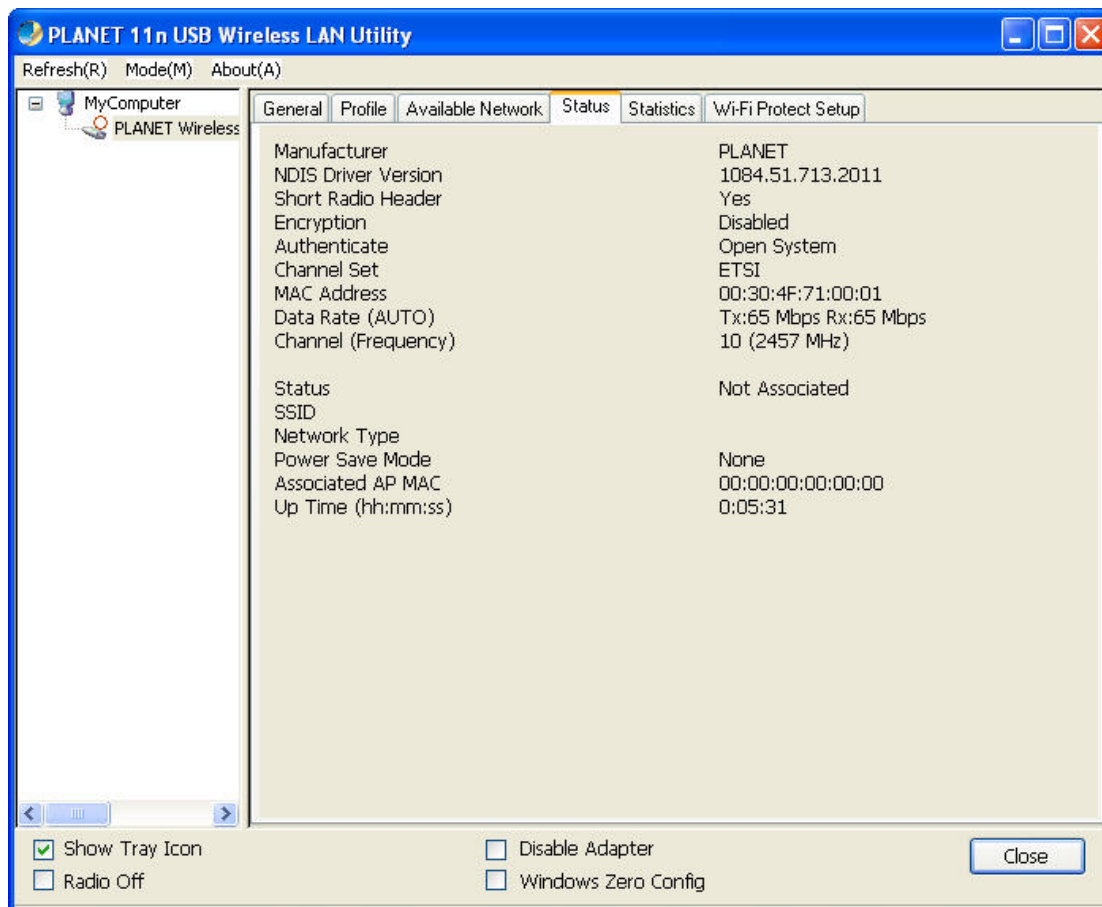


All general information like signal strength and link quality will be displayed here. The information is very useful when you encounter some problems in connecting to access point.

If you wish to get a new IP address from DHCP server, you can click "ReNew IP" button.

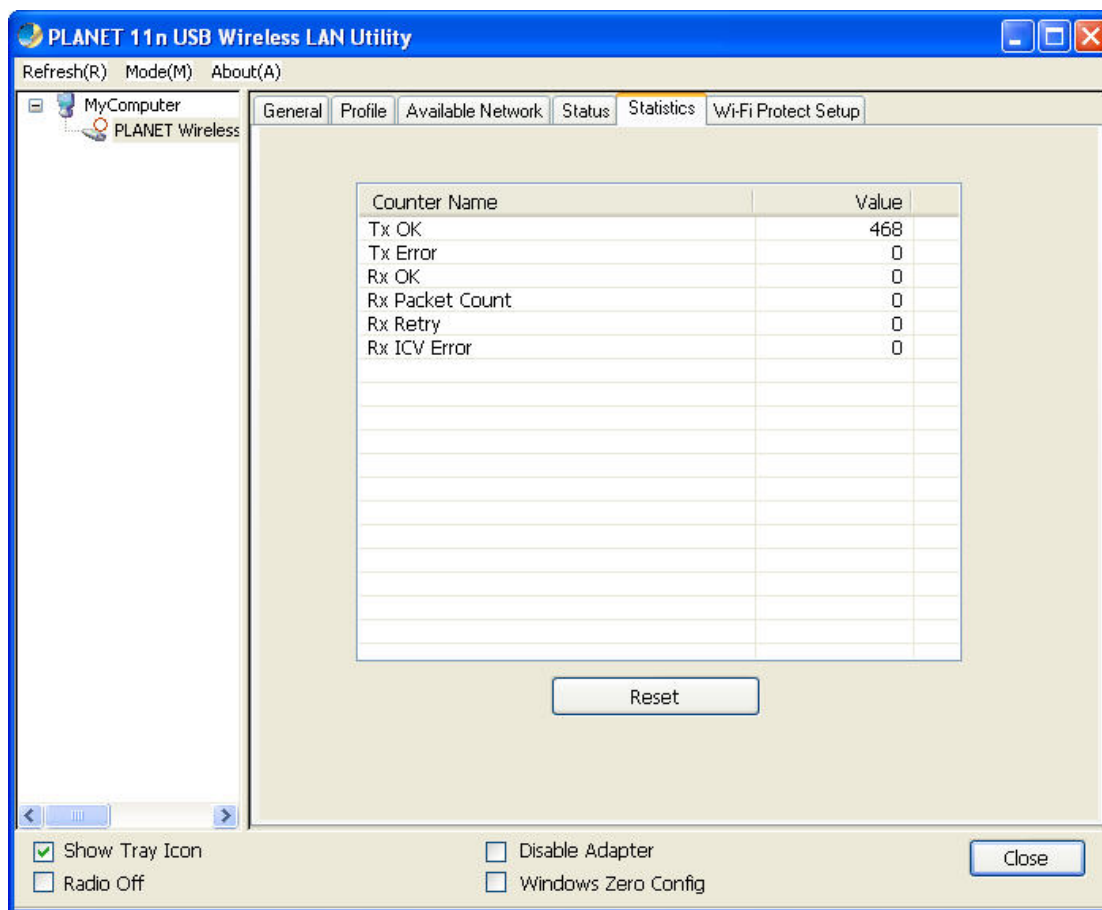
3.2.2 Status

If you want to know the status of your wireless network card, click “**Status**” label:



3.2.3 Network Transmission Statistics

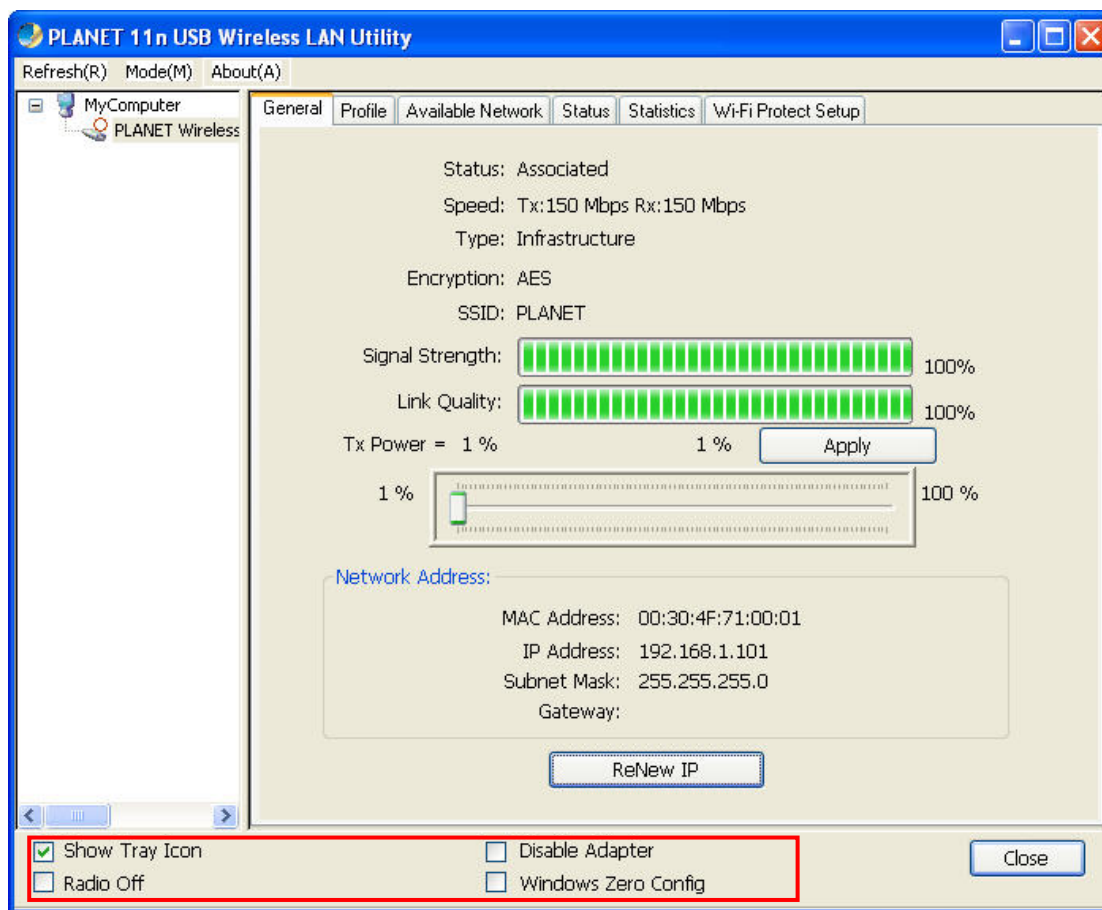
To view the statistical data of wireless adapter, click “**Statistics**” label, and the statistics of wireless connection will be displayed:



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 some other functions provided by PLANET wireless utility, and you can access these functions from the bottom of configuration window:



The descriptions of the function 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 adapter. All functionalities of configuration menu will disappear. To resume, uncheck “ Disable Adapter ”.
Windows Zero Config	Use Windows Zero Configuration to manage wireless connections. See chapter 2.2.2.

3.4 Wi-Fi Protected Setup (WPS)

Wi-Fi Protected Setup (WPS) is the latest wireless network technology which makes setting up wireless network more quickly and easily. If you have WPS-supported 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 your own self.

There are two kinds of WPS method supported, “**PIN Input Config (PIN)**” and “**Push Button Config (PBC)**”. Please follow the instructions below to establish the secure connection between WPS-supported wireless access point and the PLANET wireless adapter.

Step 1. Right-click PLANET wireless utility icon, and click “Open Config Utility”.

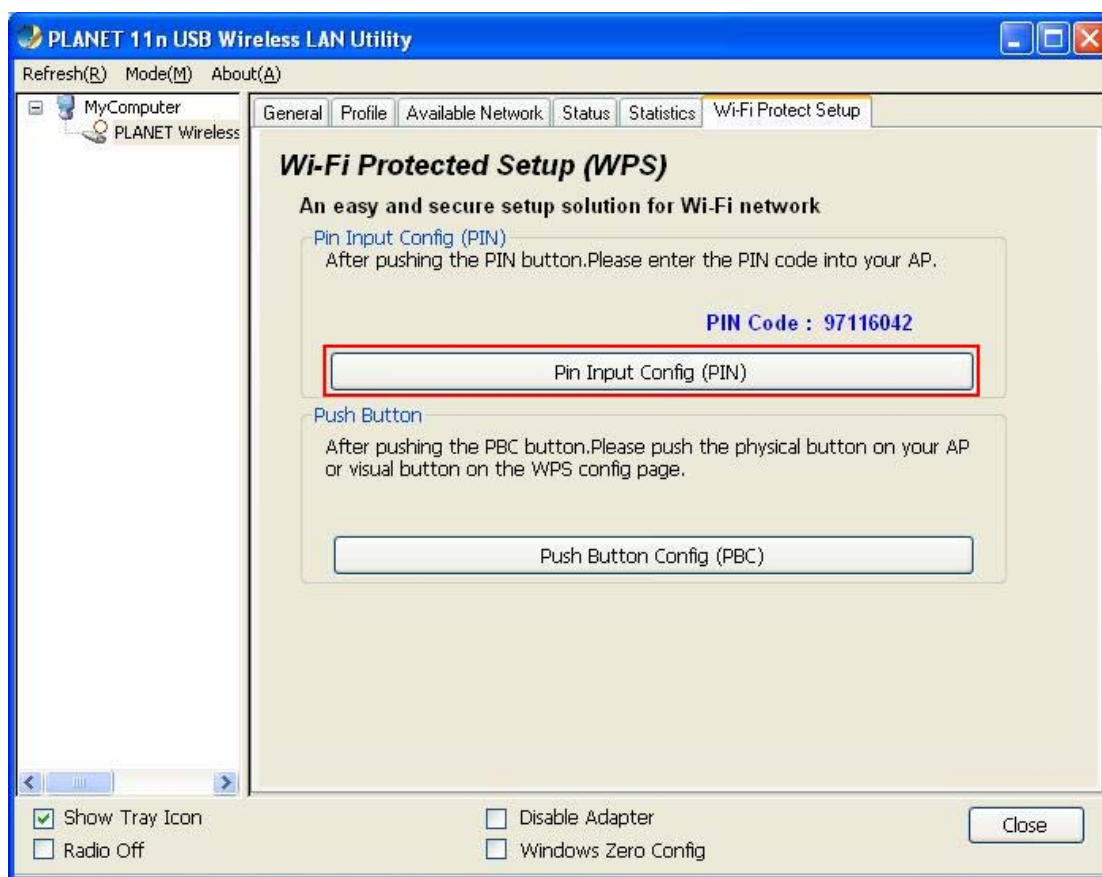


Step 2. Click “Wi-Fi Protect Setup” label.

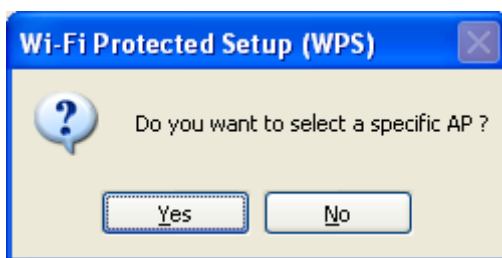
Step 3. You can choose which WPS method to use, **PIN Input Config (PIN)** or **Push Button Config (PBC)**, and WPS-supported wireless access point must use the same method. See the next two chapters for detailed instructions of each WPS method.

3.4.1 PIN Input Config (PIN)

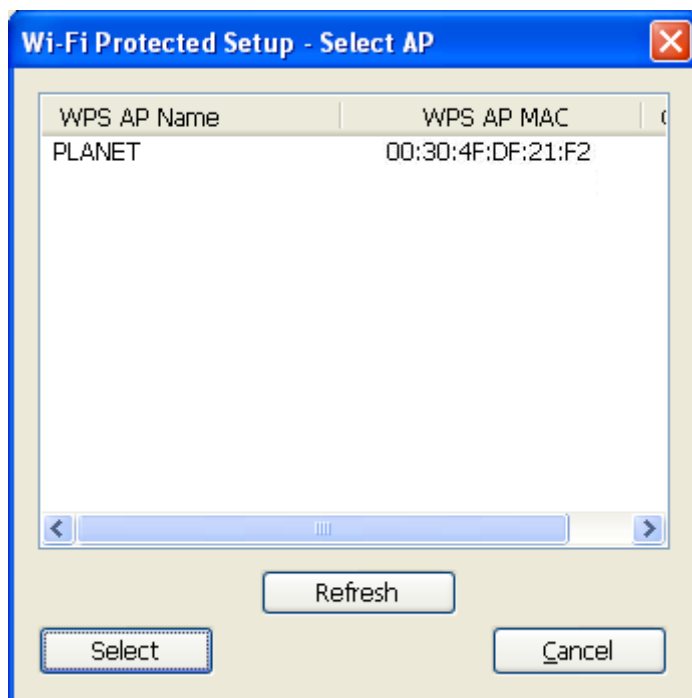
Please click “Pin Input Config (PIN)” button:



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



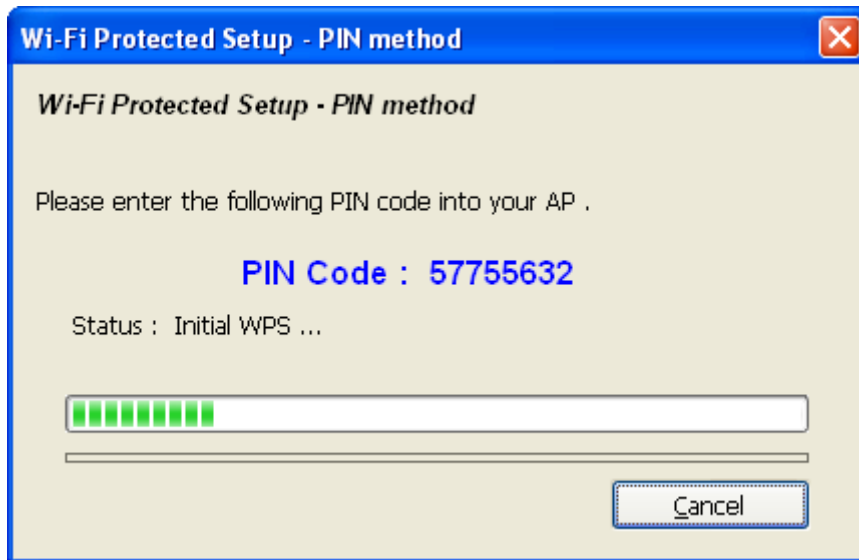
If you select “**Yes**”, a list of all WPS-supported AP nearby will be displayed. You can click “**Refresh**” button to rescan. Click an access point you want to connect and click “**Select**” button.



If you select “**No**”, wireless adapter will prompt you to enter 8-digit PIN code into your access point, without selecting an access point in advance.

After you select “**Yes**” or “**No**” in previous step, wireless adapter will attempt to connect to WPS-supported access point, and an 8-digit number will appear. Please input this number to the configuration of the access point within 2 minutes, and the secure connection between wireless adapter and the WPS-supported access point will be established automatically.

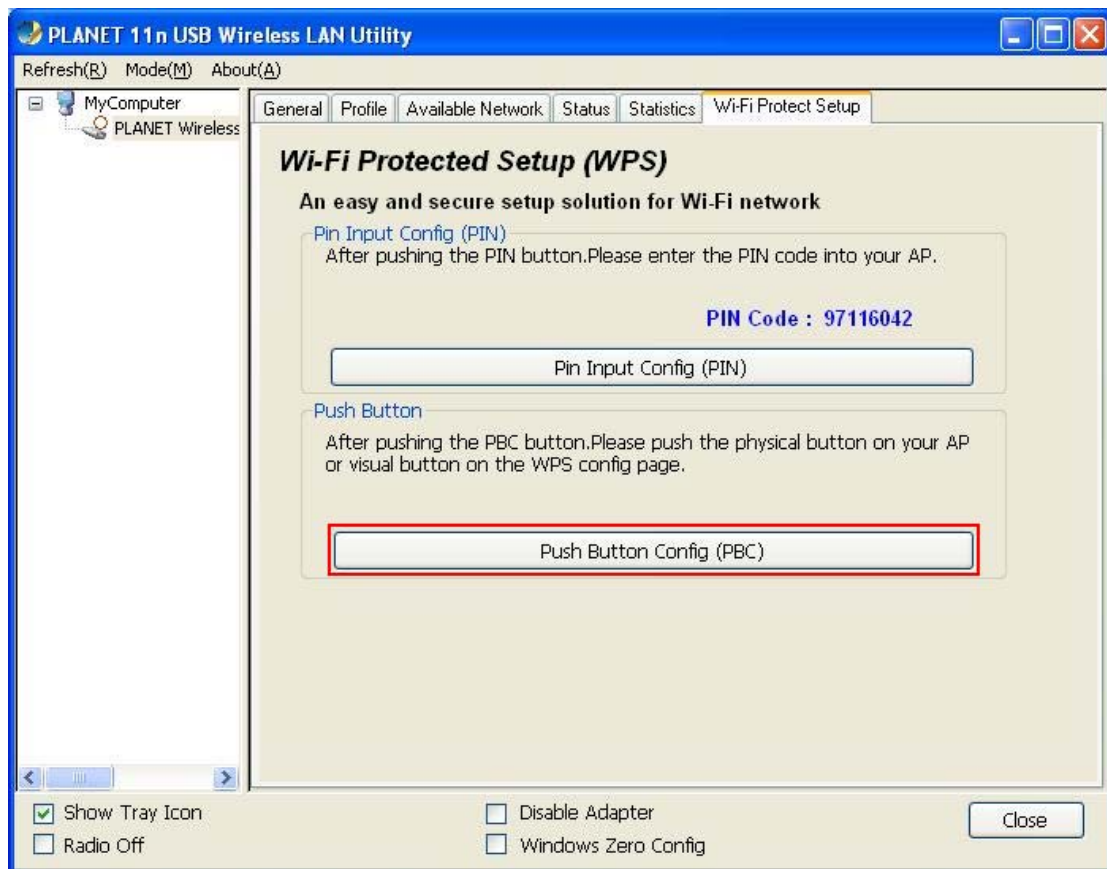
To stop this procedure before connection is established, click “**Cancel**” button.



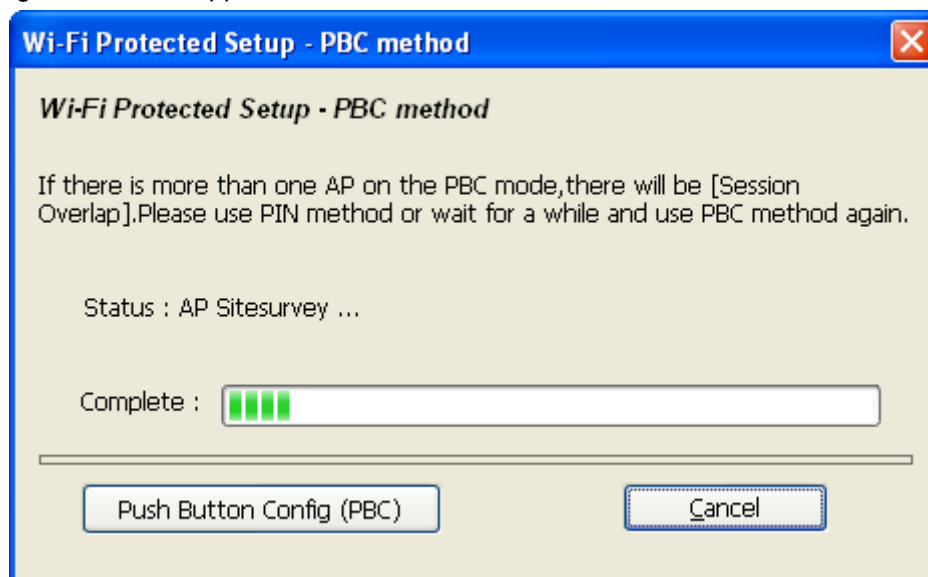
3.4.2 Push Button Config (PBC)

This is the easiest way to establish secure connection by WPS, but if there're more than one WPS-supported access point using Push-Button config, please use **PIN** Input Config (PIN) instead.

Please click "**Push Button Config (PBC)**" button.



Then a message window will appear:



Please activate WPS function of wireless access point now, and the secure connection between wireless adapter and the WPS-supported access point will be established automatically.

Chapter 4. Soft Access Point

Excepting be a wireless client of other wireless access points, the PLANET wireless adapter can also act as a wireless service provider. You can switch the operation mode of wireless adapter to “Access Point” mode to simulate the function of a real wireless access point by software. And all other computers and Wi-Fi supported devices can connect to your computer wirelessly, even share your internet connection service.

4.1 Switch between Access Point Mode and Station Mode

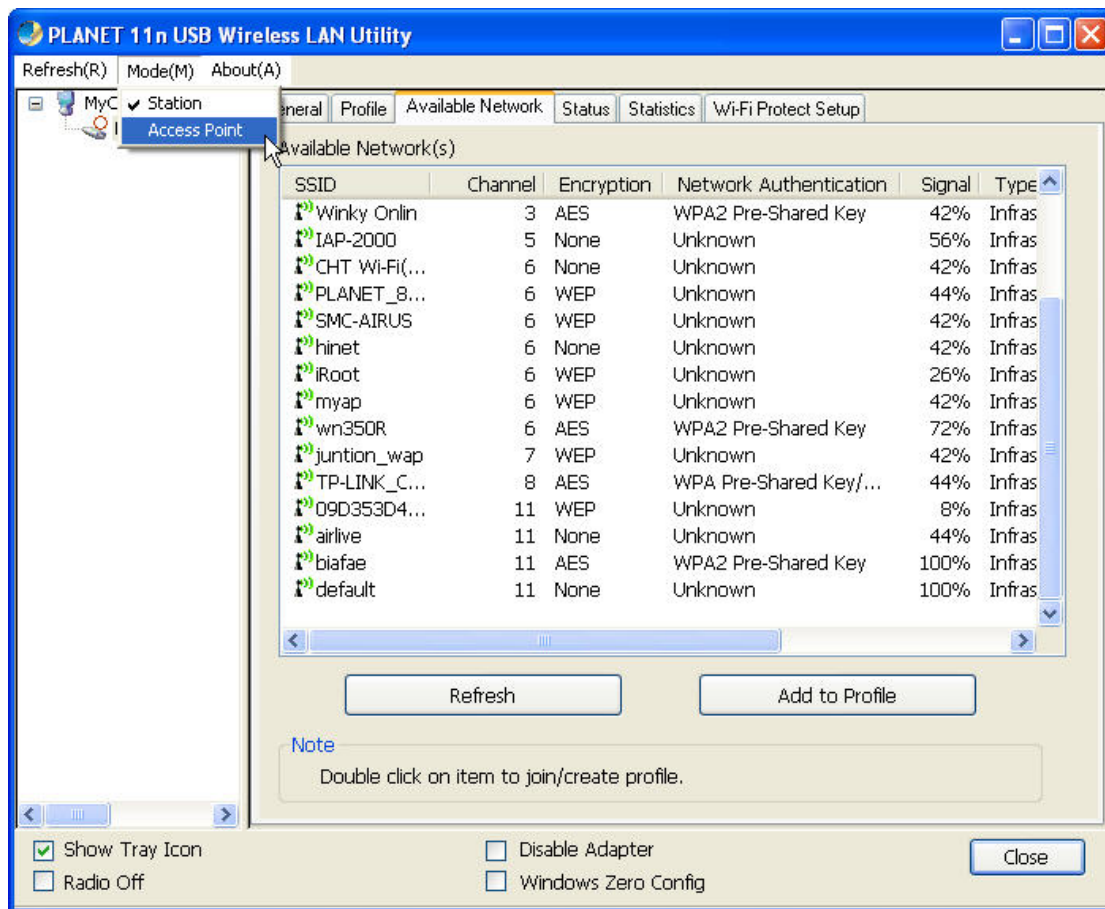
The default operating mode of the wireless adapter is “Station Mode” (being a client of other wireless access points).

Please follow the instructions below to switch to Access Point mode:

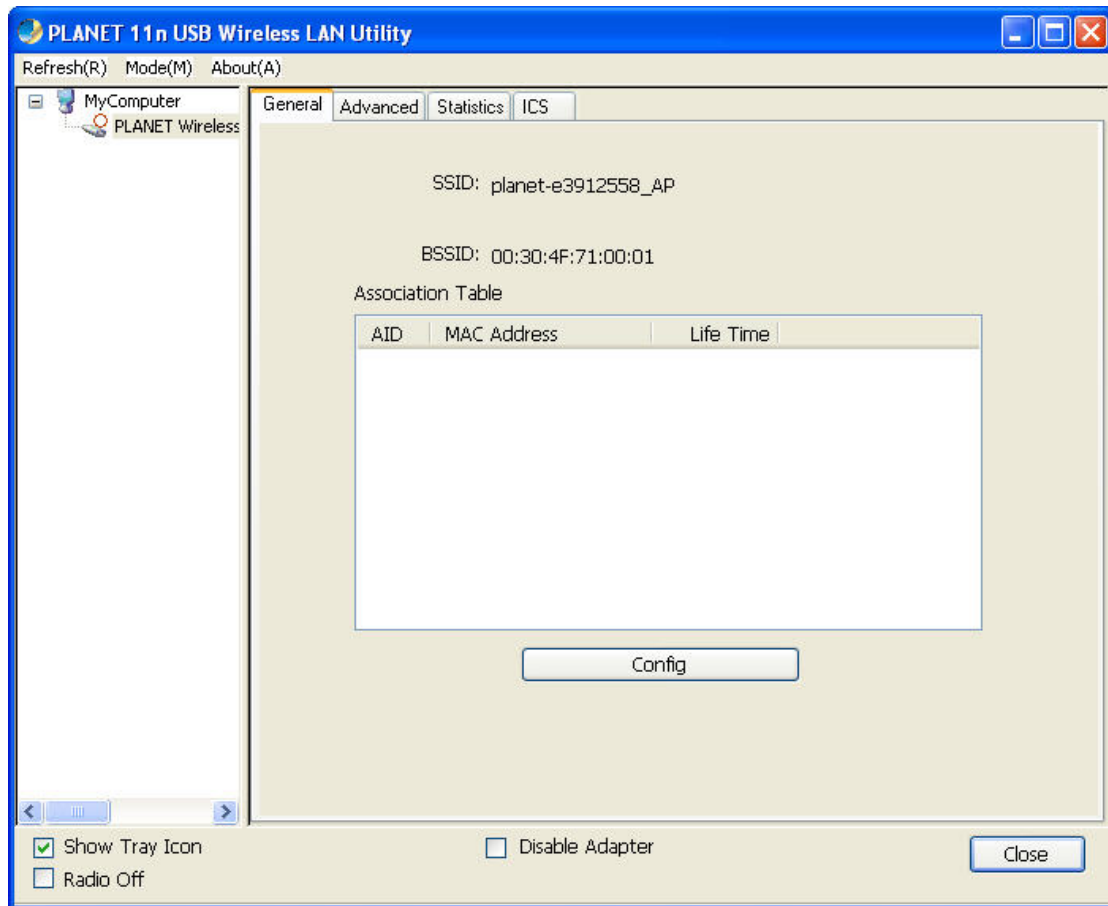
Step 1. Right-click PLANET wireless utility icon, and click “**Open Config Utility**”.



Step 2. Select “**Mode(M)**”, and then click “**Access Point**”.



It requires few seconds to switch mode. After the mode switch is complete, the window of general information about software access point will appear, includes SSID and connected wireless clients.

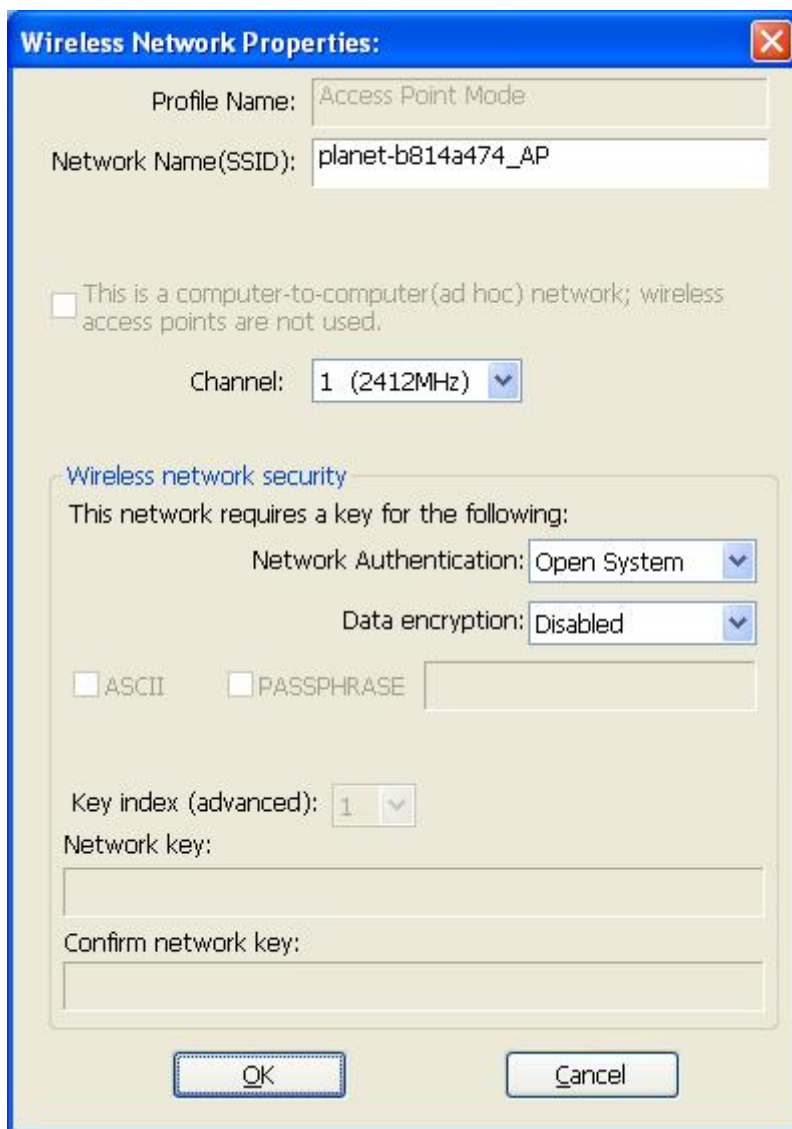


Station mode icon: 

Access Point icon: 

4.1.1 Configure SSID and Channel

To configure software Access Point, click “**Config**” button, and the “**Wireless Network Properties**” will be displayed.



Please note that Ad-Hoc mode is not available when the wireless adapter is in Access Point mode. The setup options 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 discard changes.

4.1.2 Soft Access Point Security

To setup security options for Soft Access Point, configure “Wireless Network Security” as follows:



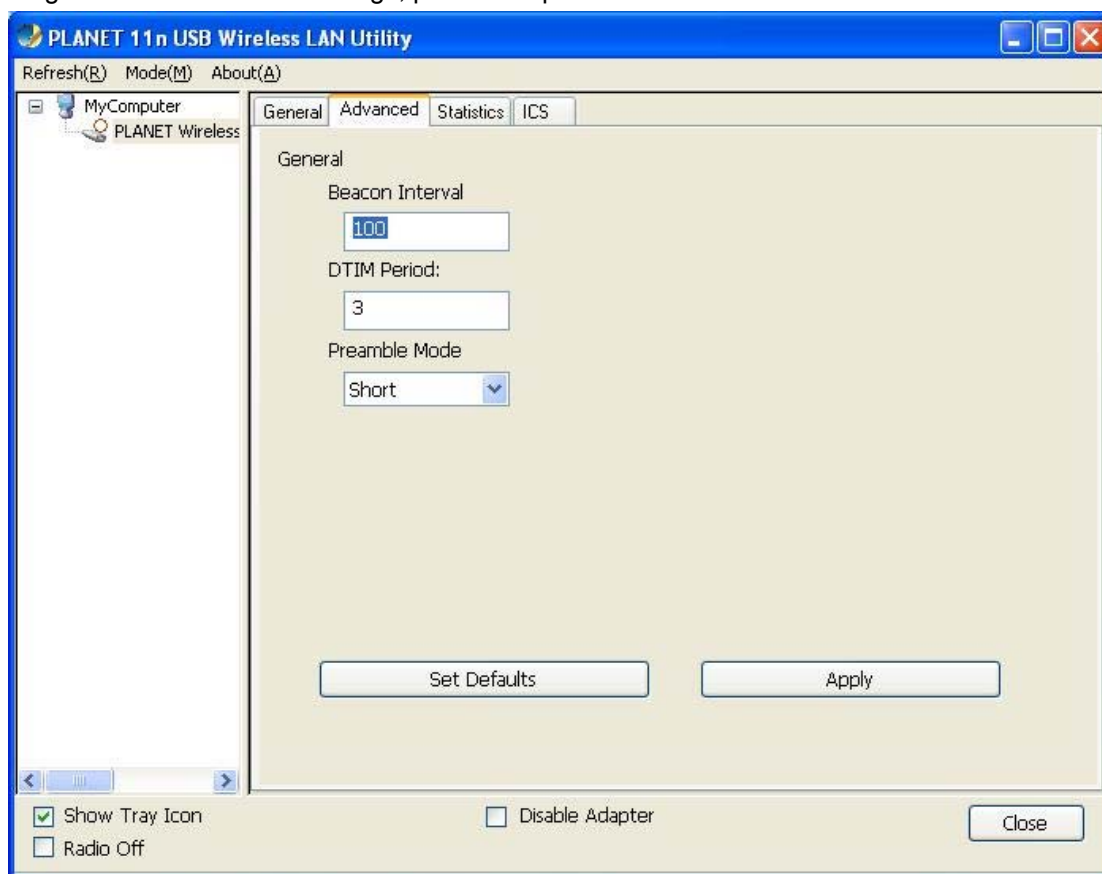
The setup items about wireless security are listed below:

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 discard changes.

4.2 Advanced Settings

Click **Advanced** label to setup advanced settings of software access point. If you don't know the meaning and affects of these settings, please keep them as default.



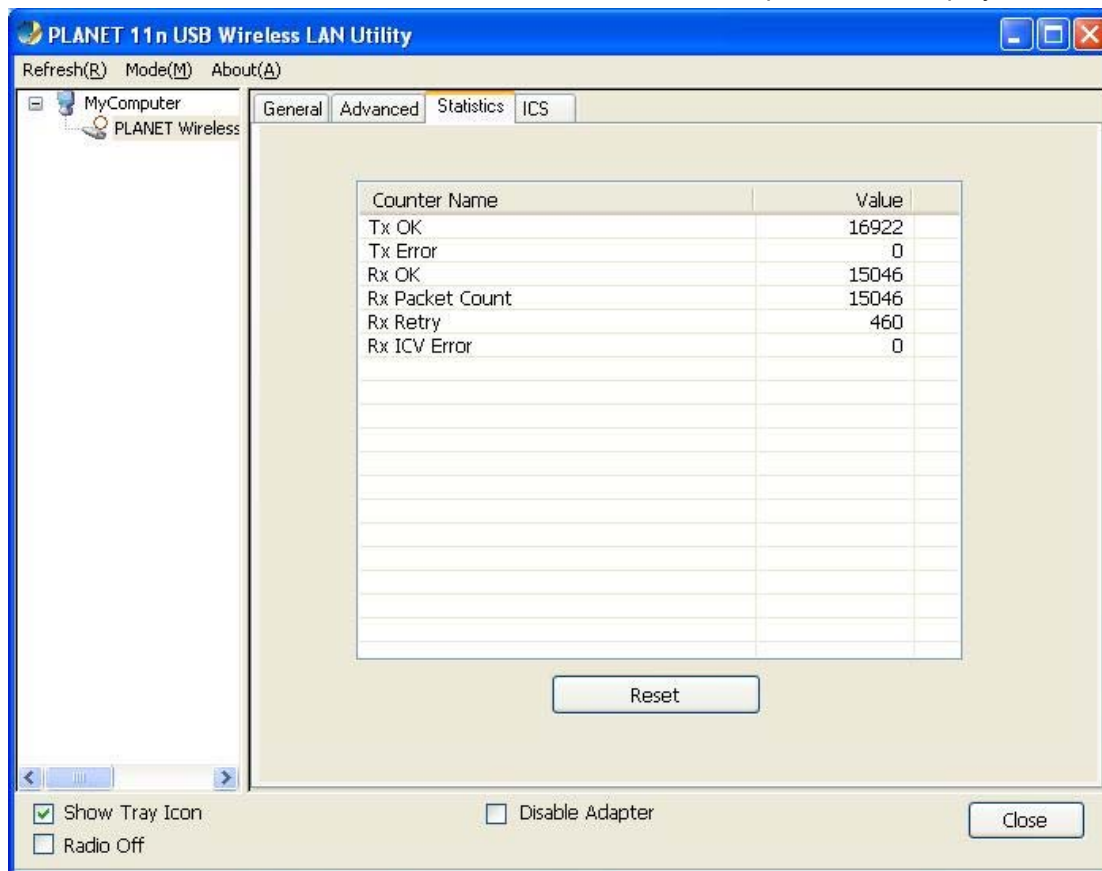
The setup items are listed below:

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 some problem on communicating with wireless clients, click **Set Defaults** to reset all settings back to default settings.

4.3 Wireless Transmission Statistics

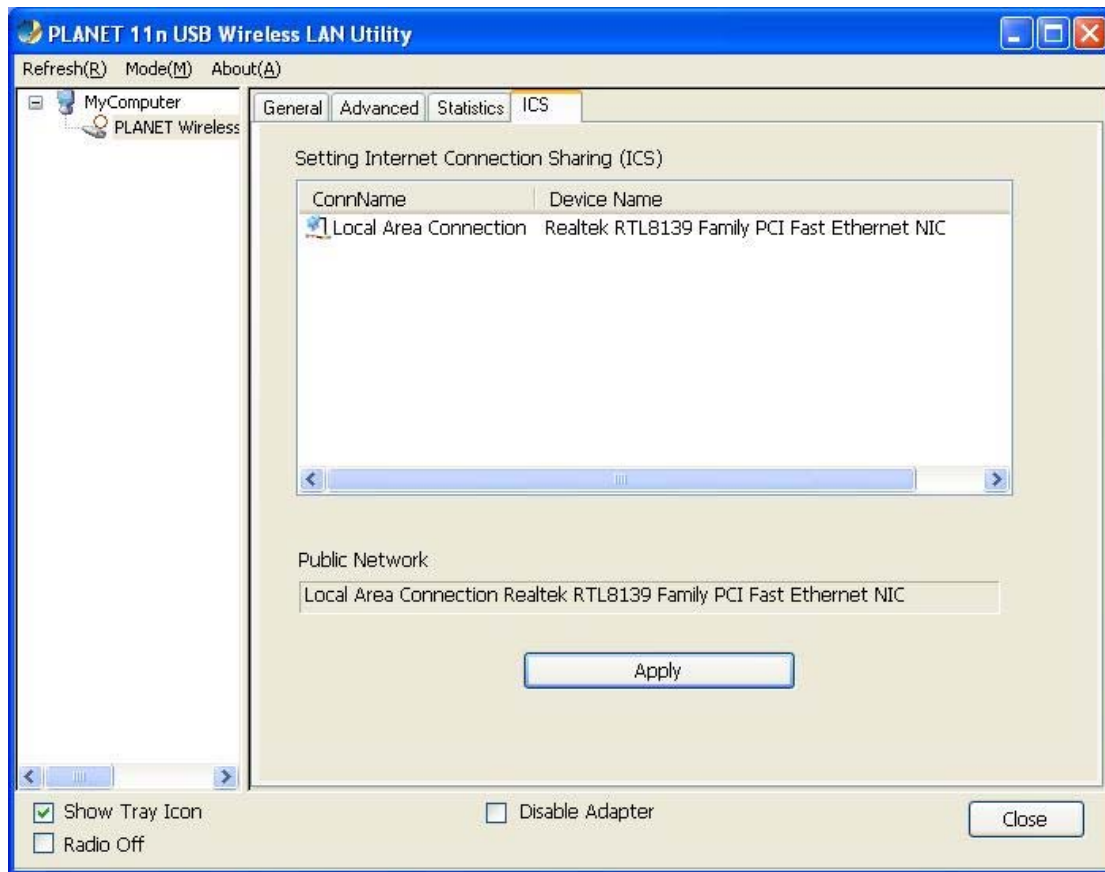
Click **“Statistics”** label and the data statistics about software access point will be displayed.



Click **“Reset”** button to reset the value of every item back to “0”.

4.4 Internet Connection Sharing (ICS)

You can assign a network adapter on your computer as the path for all wireless clients to get connected to Internet. If you have only one network adapter (except the software access point), you don't have to select network adapter here; if you have more than one network adapter, select the one you wish to be used as Internet gateway.



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

Appendix: Specifications

Product	802.11n Wireless High Power USB Adapter
Model	WNL-U555HA
Hardware Specification	
Interface	USB 2.0, Type-A
Antenna	1 x Detachable RP-SMA connector with 5dBi Antenna
LED	1 x Link / Active (Blue)
Operation Voltage	5V DC, power input from USB port
Wireless Specification	
Standards	IEEE 802.11n standard compliant
Conformance	IEEE 802.11b/g backwards compatible
RF Modulation	DBPSK, DQPSK, CCK, OFDM
Frequency Band	2.4-2.4835 GHz
Opt. Channel	America/ FCC: 2.414~2.462GHz (11 Channels) Europe/ ETSI: 2.412~2.472GHz (13 Channels) Japan/ TELEC: 2.412~2.484GHz (14 Channels)
Data Rate	802.11b: 11, 5.5, 2 and 1 Mbps with auto-rate fall back 802.11g: 54, 48, 36, 24, 18, 12, 9 and 6Mbps 802.11n (20MHz): up to 72Mbps 802.11n (40MHz): up to 150Mbps
Wireless Transmit Power	802.11b: 25 ± 1dBm 802.11g: 20 ± 1dBm 802.11n: 19 ± 1dBm
Receiver Sensitivity	IEEE 802.11b: -95dBm IEEE 802.11g: -92dBm IEEE 802.11n: -90dBm
Operating Mode	Ad-Hoc / Infrastructure, Soft AP
Encryption Security	WEP 64/128-bit WPA / WPA2 (TKIP/AES) WPA-PSK / WPA2-PSK (TKIP/AES)
Wireless Advanced	Supports 802.11e WMM (Wi-Fi Multimedia) Supports Software WPS (Wi-Fi Protected Setup)
Management	The utility included in the package or Windows XP Zero Configuration utility
Operating systems	Windows 2000/XP (x86/x64) / VISTA (x86/x64) / Win7 (x86/x64) Linux Kernel 2.4 /2.6 Macintosh 10.4/10.5/10.6

Appendix: Troubleshooting

Symptom :	The LED is off.
Remedy :	Make sure the PC Card is inserted properly. Otherwise contact your vendor.
Symptom :	The LED is always on not blinking.
Remedy :	Make sure that you have installed the driver from attached CD. Otherwise contact your vendor.
Symptom :	The LED is blinking but the PC Card icon does not appear in your icon tray.
Remedy :	Make sure that you have installed the Utility from the attached CD.
Symptom :	The PC Card is linking, but can't share files with others.
Remedy :	Make sure the file and printer sharing function is enabled. You can enable the function by checking the icon of My Computer -> Control Panel -> Network -> file and printer sharing -> I want to be able to give others to access to my files.
Symptom :	Slow or poor performance under AP mode
Remedy :	Try to select another channel for the communicating group or move your device closer to the Access Point.

Appendix: Glossary

1. IEEE 802.11 Standard

The IEEE 802.11 Wireless LAN standards subcommittee, which is formulating a standard for the industry.

2. Access Point

An internetworking device that seamlessly connects wired and wireless networks together.

3. Ad Hoc

An Ad Hoc wireless LAN is a group of computers, each with a WLAN adapter, connected as an independent wireless LAN

Ad Hoc wireless LAN is applicable at a departmental scale for a branch or SOHO operation.

4. BSSID

A specific Ad Hoc LAN is called a Basic Service Set (BSS). Computers in a BSS must be configured with the same BSSID.

5. DHCP

Dynamic Host Configuration Protocol - a method in which IP addresses are assigned by server dynamically to clients on the network. DHCP is used for Dynamic IP Addressing and requires a dedicated DHCP server on the network.

6. Direct Sequence Spread Spectrum

This is the method the wireless cards use to transmit data over the frequency spectrum. The other method is frequency hopping. Direct sequence spreads the data over one frequency range (channel) while frequency hopping jumps from one narrow frequency band to another many times per second.

7. ESSID

An Infrastructure configuration could also support roaming capability for mobile workers. More than one BSS can be configured as an Extended Service Set (ESS). Users within an ESS could roam freely between BSSs while served as a continuous connection to the network wireless stations and Access Points within an ESS must be configured with the same ESSID and the same radio channel.

8. Ethernet

Ethernet is a 10/100Mbps network that runs over dedicated home/office wiring. Users must be wired to the network at all times to gain access.

9. Gateway

A gateway is a hardware and software device that connects two dissimilar systems, such as a LAN and a mainframe. In Internet terminology, a gateway is another name for a router. Generally a gateway is used as a funnel for all traffic to the Internet

10. IEEE

Institute of Electrical and Electronics Engineers Infrastructure. An integrated wireless and wired LAN is called an Infrastructure configuration. Infrastructure is applicable to enterprise scale for wireless access to central database, or wireless

11. ISM Band

The FCC and their counterparts outside of the U.S. have set aside bandwidth for unlicensed use in the so-called ISM (Industrial, Scientific and Medical) band. Spectrum in the vicinity of 2.4 GHz, in particular, is being made available (Industrial, Scientific and Medical) band. Spectrum in the vicinity of 2.4 GHz, in particular, is being made available of users around the globe.

12. Local Area Network (LAN)

A LAN is a group of computers, each equipped with the appropriate network adapter card connected by cable/air, that share applications, data, and peripherals. All connections are made via cable or wireless media, but a LAN does not use telephone services. It typically spans a single building or campus.

13. Network

A network is a system of computers that is connected. Data, files, and messages can be transmitted over this network. Networks may be local or wide area networks.

14. Protocol

A protocol is a standardized set of rules that specify how a conversation is to take place, including the format, timing, sequencing and/ or error checking.

15. SSID

A Network ID unique to a network. Only clients and Access Points that share the same SSID are able to communicate with each other. This string is case-sensitive.

16. Static IP Addressing

A method of assigning IP addresses to clients on the network. In networks with Static IP address, the network administrator manually assigns an IP address to each computer. Once a Static IP address is assigned, a computer uses the same IP address every time it reboots and logs on to the network, unless it is manually changed.

17. Temporal Key Integrity Protocol (TKIP)

The Temporal Key Integrity Protocol, pronounced tee-kip, is part of the IEEE 802.11i encryption standard for wireless LANs. TKIP is the next generation of WEP, the Wired Equivalency Protocol, which is used to secure 802.11 wireless LANs. TKIP provides per-packet key mixing, a message integrity check and a re-keying mechanism, thus fixing the flaws of WEP.

18. Transmission Control Protocol / Internet Protocol (TCP/IP)

TCP/IP is the protocol suite developed by the Advanced Research Projects Agency (ARPA). It is widely used in corporate Internet works, because of its superior design for WANs. TCP governs how packet is sequenced for transmission the network. The term "TCP/IP" is often used generically to refer to the entire suite of related protocols.

19. Transmit / Receive

The wireless throughput in Bytes per second averaged over two seconds.

20. Wi-Fi Alliance

The Wi-Fi Alliance is a nonprofit international association formed in 1999 to certify interoperability of wireless Local Area Network products based on IEEE 802.11 specification. The goal of the Wi-Fi Alliance's members is to enhance the user experience through product interoperability. The organization is formerly known as WECA.

21. Wi-Fi Protected Access (WPA)

The Wi-Fi Alliance put together WPA as a data encryption method for 802.11 wireless LANs. WPA is an industry-supported, pre-standard version of 802.11i utilizing the Temporal Key Integrity Protocol (TKIP), which fixes the problems of WEP, including using dynamic keys.

22. Wide Area Network (WAN)

A WAN consists of multiple LANs that are tied together via telephone services and / or fiber optic cabling. WANs may span a city, a state, a country, or even the world

23. Wired Equivalent Privacy (WEP)

Now widely recognized as flawed, WEP was a data encryption method used to protect the transmission between 802.11 wireless clients and APs. However, it used the same key among all communicating devices. WEP's problems are well-known, including an insufficient key length and no automated method for distributing the keys. WEP can be easily cracked in a couple of hours with off-the-shelf tools.

24. Wireless LAN (WLAN)

A wireless LAN does not use cable to transmit signals, but rather uses radio or infrared to transmit packets through the air. Radio Frequency (RF) and infrared are the commonly used types of wireless transmission. Most wireless LANs use spread spectrum technology. It offers limited bandwidth, usually under 11Mbps, and users share the bandwidth with other devices in the spectrum; however, users can operate a spread spectrum device without licensing from the Federal Communications Commission (FCC).

25. Fragment Threshold

The proposed protocol uses the frame fragmentation mechanism defined in IEEE 802.11 to achieve parallel transmissions. A large data frame is fragmented into several fragments each of size equal to fragment threshold. By tuning the fragment threshold value, we can get varying fragment sizes. The determination of an efficient fragment threshold is an important issue in this scheme. If the fragment threshold is small, the overlap part of the master and parallel transmissions is large.

This means the spatial reuse ratio of parallel transmissions is high. In contrast, with a large fragment threshold, the overlap is small and the spatial reuse ratio is low. However high fragment threshold leads to low fragment overhead. Hence there is a trade-off between spatial re-use and fragment overhead. Fragment threshold is the maximum packet size used for fragmentation. Packets larger than the size programmed in this field will be fragmented. If you find that your corrupted packets or asymmetric packet reception (all send packets, for example). You may want to try lowering your fragmentation threshold. This will cause packets to be broken into smaller fragments. These small fragments, if

corrupted, can be resent faster than a larger fragment. Fragmentation increases overhead, so you'll want to keep this value as close to the maximum value as possible.

26. RTS(Request To Send) Threshold

The RTS threshold is the packet size at which packet transmission is governed by the RTS/CTS transaction. The IEEE802.11-1997 standard allows for short packets to be transmitted without RTS/CTS transactions. Each station can have a different RTS threshold. RTS/CTS is used when the data packet size exceeds the defined RTS threshold. With the CSMA/CA transmission mechanism, the transmitting station sends out an RTS packet to the receiving station, and waits for the receiving station to send back a CTS (Clear to Send) packet before sending the actual packet data. This setting is useful for networks with many clients. With many clients, and a high network load, there will be many more collisions. By lowering the RTS threshold, there may be fewer collisions, and performance should improve. Basically, with a faster RTS threshold, the system can recover from problems faster. RTS packets consume valuable bandwidth, however, so setting this value too low will limit performance.

27. Beacon Interval

In addition to data frames that carry information from higher layers, 802.11 includes management and control frames that support data transfer. The beacon frame, which is a type of management frame, provides the "heartbeat" of a wireless LAN, enabling stations to establish and maintain communications in an orderly fashion. Beacon Interval 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).

28. Preamble Type

There are two preamble types defined in IEEE 802.11 specification. A long preamble basically gives the decoder more time to process the preamble. All 802.11 devices support a long preamble. The short preamble is designed to improve efficiency (for example, for VoIP systems). The difference between the two is in the Synchronization field. The long preamble is 128 bits, and the short is 56 bits.

29. WPA2

It is the second generation of WPA. WPA2 is based on the final IEEE 802.11i amendment to the 802.11 standard.

30. Temporal Key Integrity Protocol (TKIP)

The Temporal Key Integrity Protocol, pronounced tee-kip, is part of the IEEE 802.11i encryption standard for wireless LANs. TKIP is the next generation of WEP, the Wired Equivalency Protocol, which is used to secure 802.11 wireless LANs. TKIP provides per-packet key mixing, a message integrity check and a re-keying mechanism, thus fixing the flaws of WEP.

31. 802.1x Authentication

802.1x is a framework for authenticated MAC-level access control, defines Extensible Authentication Protocol (EAP) over LANs (WAPOL). The standard encapsulates and leverages much of EAP, which was defined for dial-up authentication with Point-to-Point Protocol in RFC 2284. Beyond encapsulating EAP packets, the 802.1x standard also defines EAPOL messages that convey the shared key information critical for wireless security.

32. Advanced Encryption Standard (AES)

Security issues are a major concern for wireless LANs, AES is the U.S. government's next-generation cryptography algorithm, which will replace DES and 3DES.

EC Declaration of Conformity

English	Hereby, PLANET Technology Corporation , declares that this 802.11n Wireless High Power USB Adapter is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.	Lietuviškai	Šiuo PLANET Technology Corporation , skelbia, kad 802.11n Wireless High Power USB Adapter tenkina visus svarbiausius 1999/5/EC direktyvos reikalavimus ir kitas svarbias nuostatas.
Česky	Společnost PLANET Technology Corporation , tímto prohlašuje, že tato 802.11n Wireless High Power USB Adapter splňuje základní požadavky a další příslušná ustanovení směrnice 1999/5/EC.	Magyar	A gyártó PLANET Technology Corporation , kijelenti, hogy ez a 802.11n Wireless High Power USB Adapter megfelel az 1999/5/EK irányelv alapkövetelményeinek és a kapcsolódó rendelkezéseknek.
Dansk	PLANET Technology Corporation , erklærer herved, at følgende udstyr 802.11n Wireless High Power USB Adapter overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF	Malti	Hawnhekk, PLANET Technology Corporation , jiddikjara li dan 802.11n Wireless High Power USB Adapter jikkonforma mal-htigijiet essenzjali u ma provvediment i oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC
Deutsch	Hiermit erklärt PLANET Technology Corporation , dass sich dieses Gerät 802.11n Wireless High Power USB Adapter in Übereinstimmung mit den grundlegenden Anforderungen und den anderen relevanten Vorschriften der Richtlinie 1999/5/EG befindet". (BMWi)	Nederlands	Hierbij verklaart PLANET Technology Corporation , dat 802.11n Wireless High Power USB Adapter in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG
Eesti keeles	Käesolevaga kinnitab PLANET Technology Corporation , et see 802.11n Wireless High Power USB Adapter vastab Euroopa Nõukogu direktiivi 1999/5/EC põhinõuetele ja muudele olulistele tingimustele.	Polski	Niniejszym firma PLANET Technology Corporation , oświadcza, że 802.11n Wireless High Power USB Adapter spełnia wszystkie istotne wymogi i klauzule zawarte w dokumencie „Directive 1999/5/EC”.
Ελληνικά	<i>ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ</i> , PLANET Technology Corporation , <i>ΔΗΛΩΝΕΙ ΟΤΙ ΑΥΤΟ 802.11n Wireless High Power USB Adapter</i> <i>ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ</i>	Português	PLANET Technology Corporation , declara que este 802.11n Wireless High Power USB Adapter está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Español	Por medio de la presente, PLANET Technology Corporation , declara que 802.11n Wireless High Power USB Adapter cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE	Slovensky	Výrobca PLANET Technology Corporation , týmto deklaruje, že táto 802.11n Wireless High Power USB Adapter je v súlade so základnými požiadavkami a ďalšími relevantnými predpismi smernice 1999/5/EC.
Français	Par la présente, PLANET Technology Corporation , déclare que les appareils du 802.11n Wireless High Power USB Adapter sont conformes aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE	Slovensko	PLANET Technology Corporation , s tem potrjuje, da je ta 802.11n Wireless High Power USB Adapter skladen/a z osnovnimi zahtevami in ustreznimi določili Direktive 1999/5/EC.
Italiano	Con la presente, PLANET Technology Corporation , dichiara che questo 802.11n Wireless High Power USB Adapter è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.	Suomi	PLANET Technology Corporation , vakuuttaa täten että 802.11n Wireless High Power USB Adapter tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Latviski	Ar šo PLANET Technology Corporation , apliecinu, ka šī 802.11n Wireless High Power USB Adapter atbilst Direktīvas 1999/5/EK pamatprasībām un citiem atbilstošiem noteikumiem.	Svenska	Härmed intygar, PLANET Technology Corporation , att denna 802.11n Wireless High Power USB Adapter står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

EC Declaration of Conformity

For the following equipment:

*Type of Product : 802.11n Wireless High Power USB Adapter
*Model Number : WNL-U555HA

* Produced by:

Manufacturer's Name : **Planet Technology Corp.**
Manufacturer's Address: 10F., No.96, Minquan Rd., Xindian Dist.,
New Taipei City 231, Taiwan (R.O.C.)

is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to 99/5/EC R&TTE.
For the evaluation regarding the R&TTE the following standards were applied:

EN 300 328 V1.7.1	(2006-10)
EN 301 489-1 V1.8.1	(2008-04)
EN 301 489-17 V1.3.2	(2008-04)
EN 60950-1	(2006 + A11:2009)
EN 62311	(2008-11)

Responsible for marking this declaration if the:

Manufacturer Authorized representative established within the EU

Authorized representative established within the EU (if applicable):

Company Name: **Planet Technology Corp.**

Company Address: **10F., No.96, Minquan Rd., Xindian Dist., New Taipei City 231, Taiwan (R.O.C.)**

Person responsible for making this declaration

Name, Surname : **Kent Kang**

Position / Title : **Product Manager**

Taiwan
Place

9th Sep., 2011
Date



Kent Kang
Legal Signature

PLANET TECHNOLOGY CORPORATION