FOXCONN® *Network System Group*

Trade Name : T60N871

802.11b/g Wireless LAN MiniPCI module

User Manual

FOXCONN® *Network System Group*

1. Wireless LAN Configuration Utility

Introduction

The Wireless LAN Configuration Utility is a powerful application that helps you to configure FOXCONN WLAN card and monitor the statistics of the communication status. Unlike the standard method of configuring the card via the operating system utilities, this application permits the dynamic modification of the configuration parameters while the card is operating. It also offers more configuration options.

FOXCONN offers the Wireless LAN Configuration Utility for Windows 95/98/Me/2000/XP.

![Foxconn Network System Group logo]

1.1 How to install the driver and Wireless LAN Configuration Utility
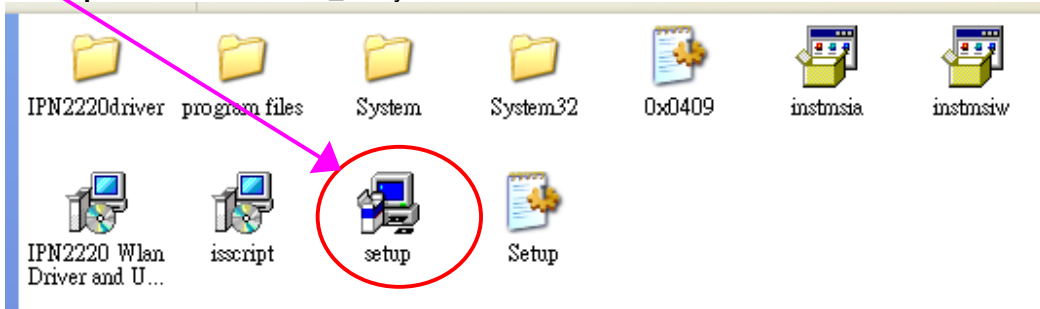
Double click the **"setup"** located in "\WLAN_Utility\"

Fig 1-1

The program will automatically proceed with installing. Press **"Next"** to continue.
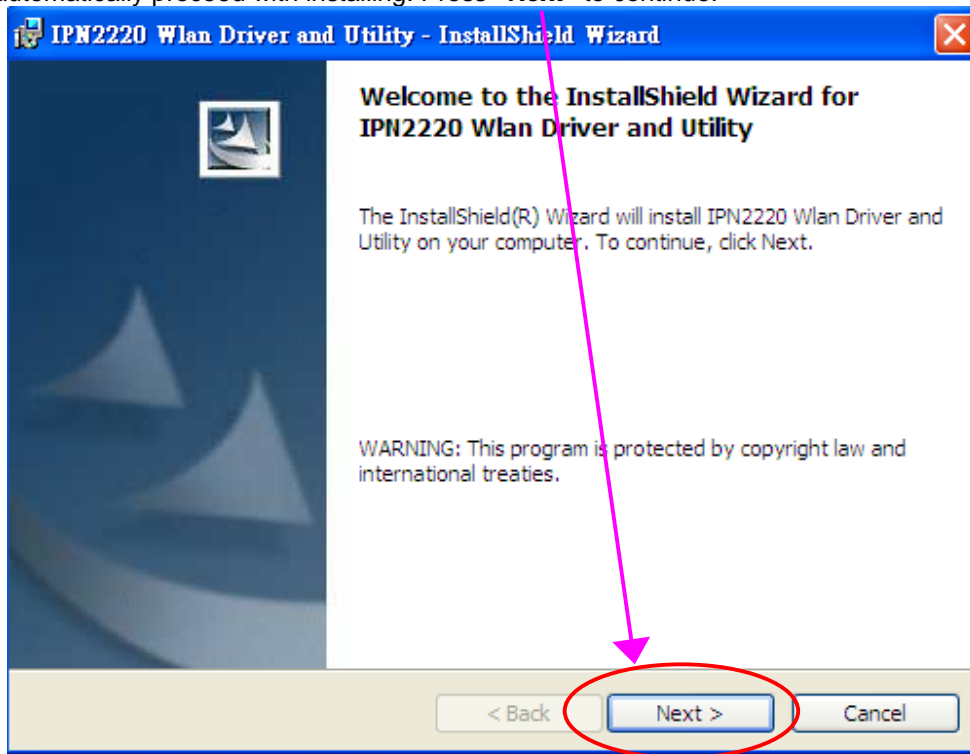

Fig 1-2

![FOXCONN® Network System Group]

Press **"I accept the terms in the license agreement"** to continue the install shield. Or press **"I do not accept the terms in the license agreement"** quit install process. Then, press **"Next"** to continue.
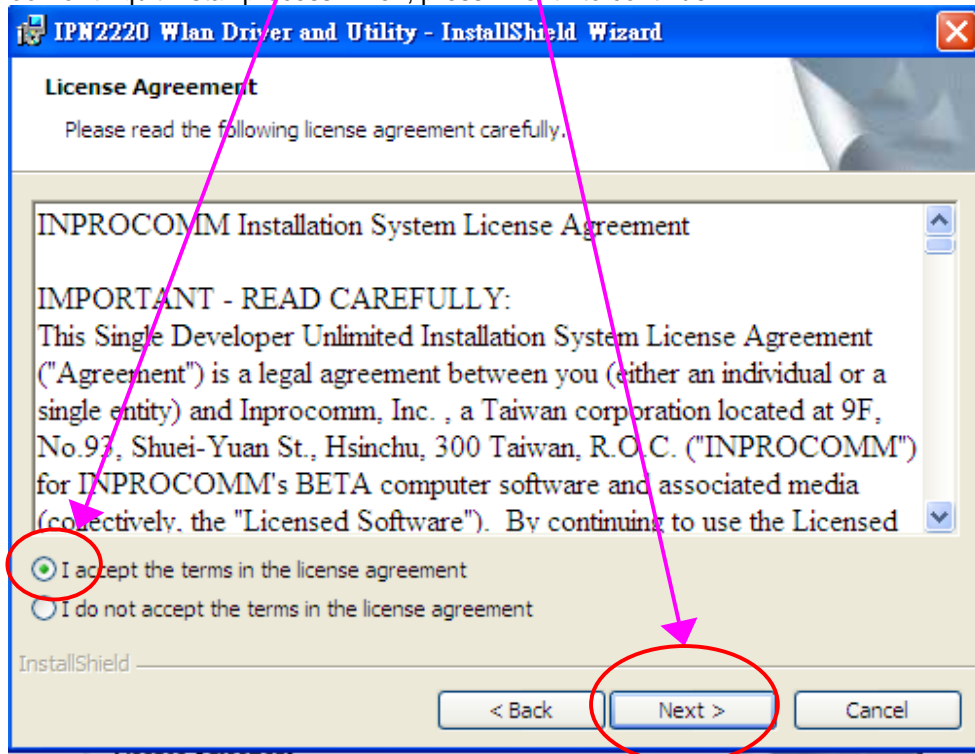

Fig 1-3
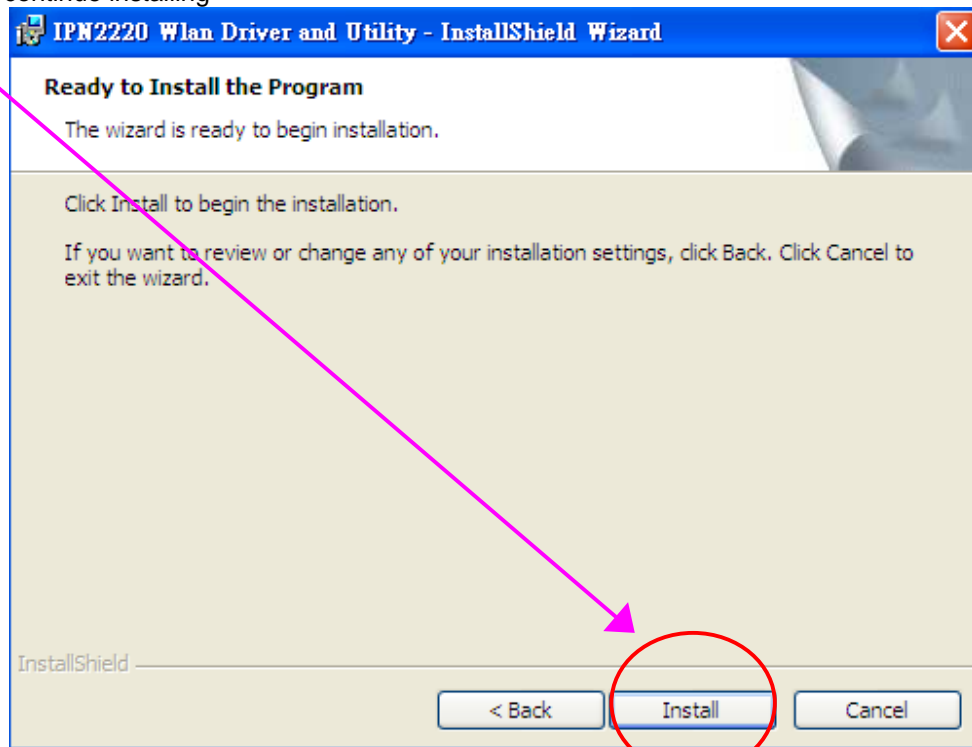
Press **"Install"** to continue installing

Fig 1-4

4

Install Shield is processing
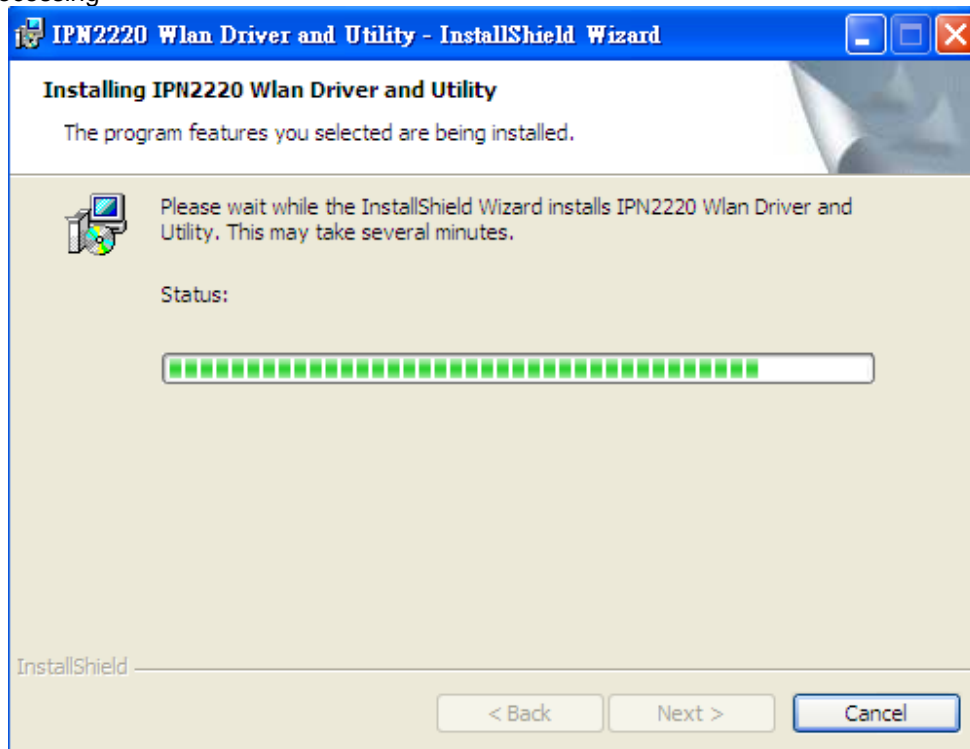

Fig 1-5

Choose **"Finish"** to complete the installatio**n**
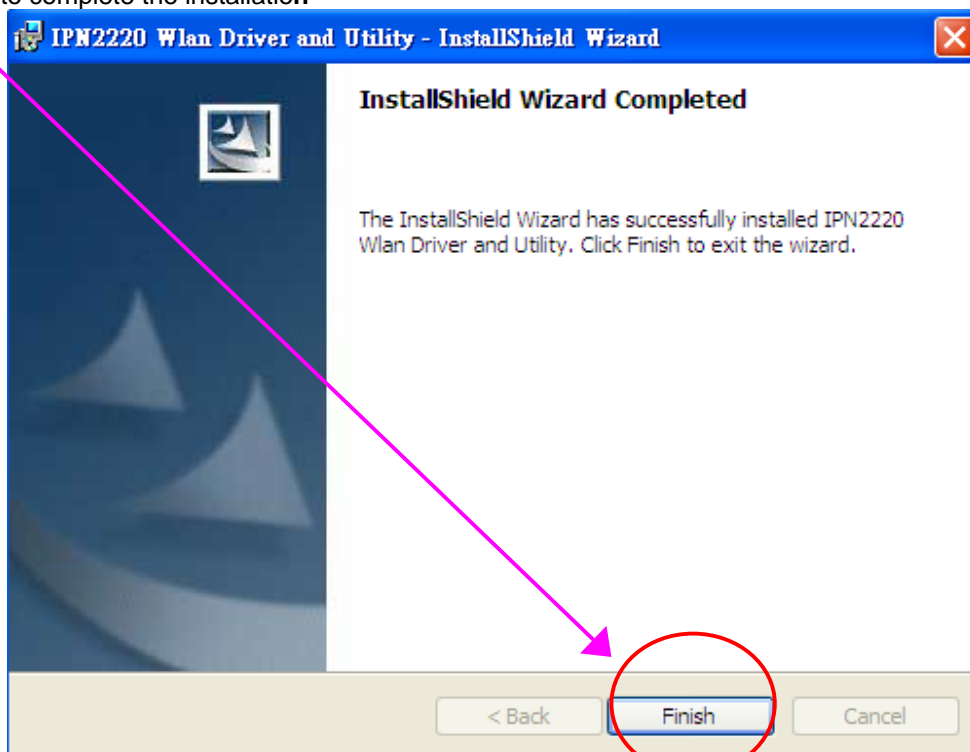

Fig 1-6

The usage of Wireless LAN Configuration Utility

2.1 Introduction

The Wireless LAN Configuration Utility appears as an icon on the system tray of Windows while the card is running. You can open it by double clinking the icon (*Fig* 2-1) to show full screen of WLAN Utility.

Fig 2-1 icon on the system tray

While the station is in infrastructure mode and **not** associated to an Access Point, the color of the icon is **"White (blank)"**(*Fig* **2-2)**.

Fig 2-2 No Connection

As soon as the station associates to an Access Point, the icon color automatically turns to "**Green",** "Yellow" **or** "Red". Which indicates the receiving signal strength from Access Point. "**Green"** (*Fig* 2-3) indicates the signal is "Good". "Yellow"(*Fig* 2-4) indicates the signal is "Fair". "Red"(*Fig* 2-5) indicates the signal is "Poor".

Fig 2-3 Good Connection

Fig 2-4 Fair Connection

Fig 2-5 Poor Connection

The Wireless LAN Configuration Utility is a powerful and highly integrated application include the following options (tabs),

- *Status*
- *Site Survey*
- *Statistics*
- *About*

2.2.1 Status

A typical screen of the application in Infrastructure mode is shown in *Fig* 2-6. The Wireless LAN Configuration Utility contains the following information for Wireless LAN.

- **Profile:** The profile name which user selected. If there is no profile selected, it would show "default".
- **SSID:** The Network Service Set Identification provided by Access Point.
- **Link Status:** The MAC address of Access Point.
- **Network Type:** Infrastructure or Ad-Hoc.
- **Channel:** Operation channel provided by Access Point.
- **Tx (Transmit ion) Rate:** Current transmit ion rate.
- **Signal Strength:** The Signal level of Wireless Network.
- **Link Quality:** The Signal Quality of Wireless Network.
- **Network Address:** shows the current Network status such as MAC address (Wireless Card), DHCP (Enable or not), IP address, Subnet Mask address, Gateway Address and DNS server address.
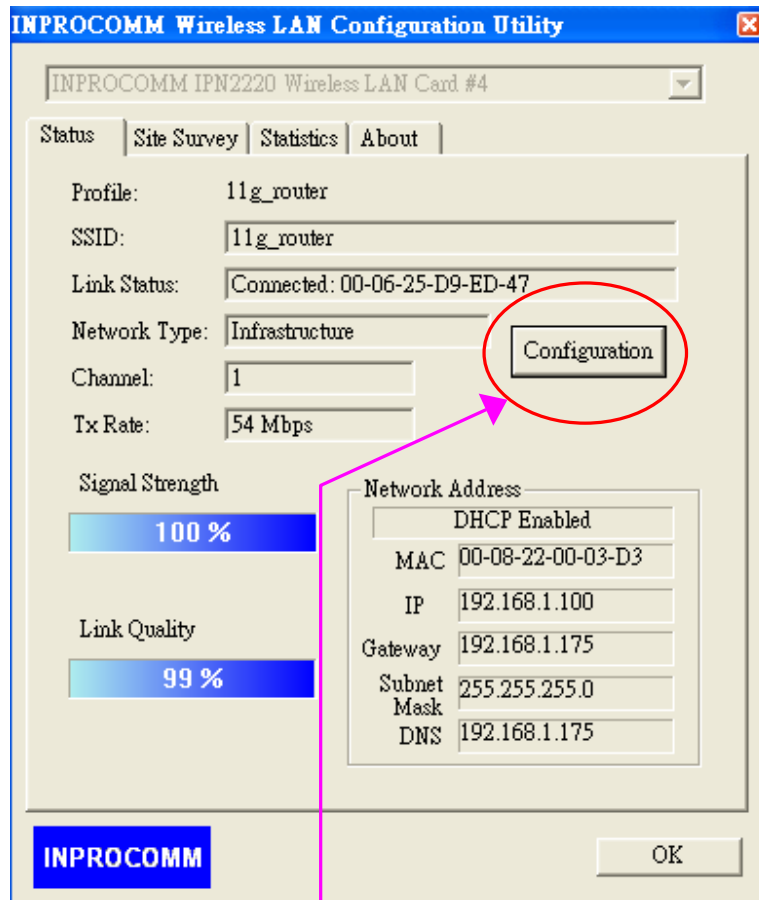

Fig 2-6 Typical screen of the Wireless LAN Configuration Utility in Infrastructure mode.

Users can change the configuration by clicking the **"Configuration"** Button.

2.2.2 Configuration

Users can edit Wireless Network setting by pressing **"Configuration"** button.
There are 3 tabs in "Configuration".
- ■ **General**
- ■ **Encryption**
- ■ **Advance**

2.2.2.1 General Page

General Page include the following options, (See *Fig* 2-7)

- **Profile Name:** Name of Selected Profile. (Default profile name: default). If users want to change settings of profile, please refer to Edit Profile option in **"Site Survey"** page.
- **Network Type:** User can choose either Infrastructure or Ad-Hoc mode.
- **SSID:** Define the SSID.
- **Channel:** Provided by Access Point in Infrastructure mode. User can only define when choose Ad-Hoc mode in Network Type option.
- **Desired Rate:** User can choose the desired rate from 1Mbps~11Mbps (associated with 802.11b Access Point) and 1Mbps~54Mbps (associated with 802.11g Access Point). (Default Setting: Automatic).
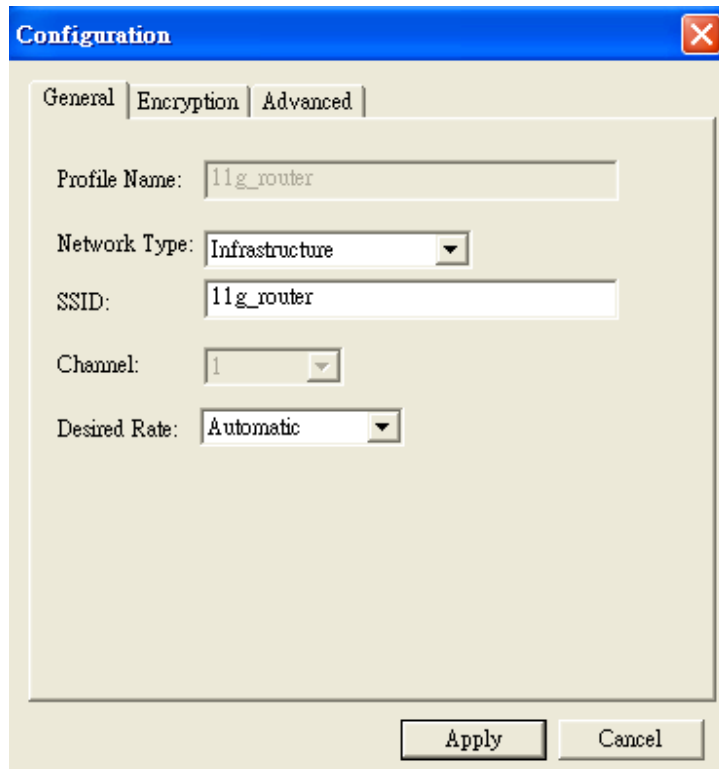

Fig 2-7

2.2.2.2 Encryption Page

IPN2220 WLAN Utility provides powerful and intelligent setting of WEP Key. The Encryption page include the following options, (see *Fig* 2-8)

- **Encryption Mode:** User can choose WEP On or None WEP for the Network. This option will be automatically defined after **"Site Survey".**
- **Authentication:** There are 2 modes of Authentication of 802.11b/g Wireless Network. Open System and Share Key. These are defined by Access Point. IPN2220 WLAN Utility provides the "Auto Switch" option for easy to use. This option can be also automatically defined after **"Site Survey"**.
- **WEP Key Entry (hex):** Users have 4 sets of WEP to use. Each will need to be defined by user according to Access Point. The Key value is in Hex format (from 0~9, a~f).
- **Encryption Key Length:** User can choose 64bits, 128bits or 152bits encryption for the network according Access Point.
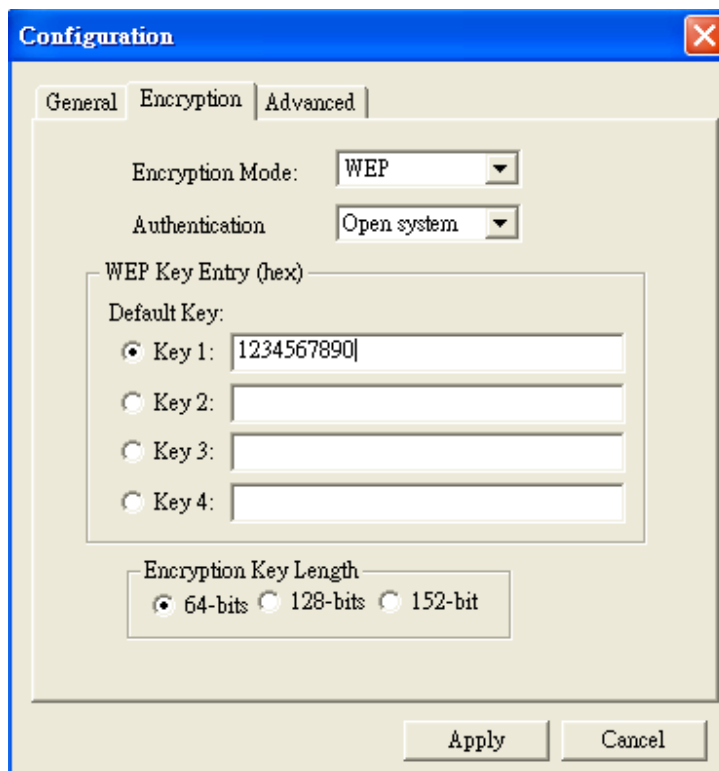

Fig 2-8

2.2.2.3 Advance Page

Advance Page provides more advanced options for Wireless Network. This include the followings, (See *Fig* 2-9)

- ■ **Power Saving:** Enable or Disable the Power Saving Mode. (Default: Disable)
- ■ **Preamble Type:** User can choose Long Preamble or Short Preamble type according to Access Point. IPN2220 provides **"Auto"** setting for choosing **"Preamble Type"**.
- ■ **Fragment Threshold:**
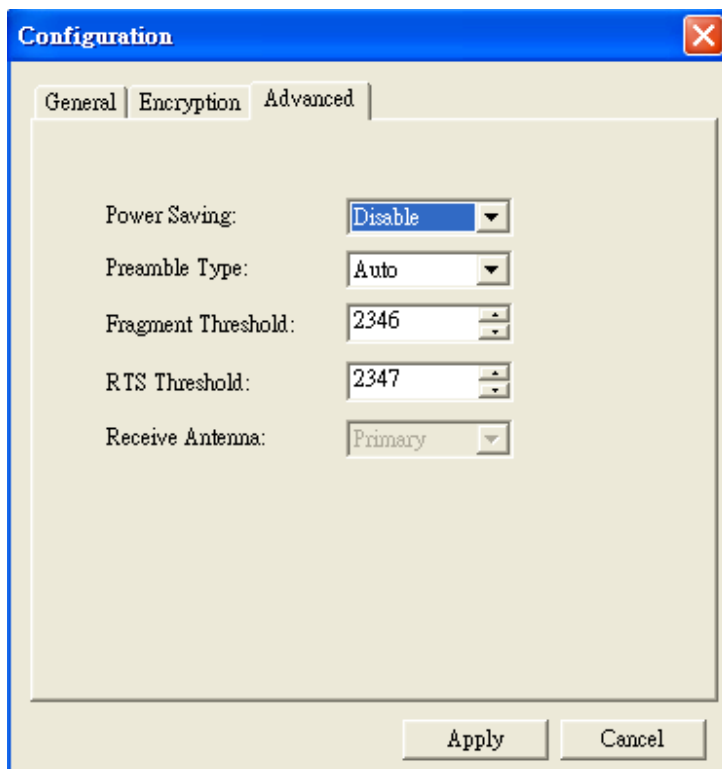- ■ **RTS Threshold:**
- ■ **Receive Antenna:**

Fig 2-9

2.2.3 Site Survey

IPN2220 WLAN Utility provides the easy to link "Site Survey" option. This will allow users to connect to Access Point intelligently. By choosing the *Site Survey* option, you can scan all the channels to find all the Access Points within the range of card. The list includes information about the BSSID and SSID of the access point(s), the Mode (Network Type), whether or not WEP encryption is used, Channel, Signal Strength and Support Rate. In order to update this list, press the **"Rescan"** button.

The **"Site Survey"** page include, (See *Fig* 2-10)

■ **Available Networks:** Users can press **"Rescan"** button to Scan/Rescan the environment for all existing Access Points. User can move the cursor on the desired Access Point to join.

■ **Profiles:** Users can click the **"New"**, **"Delete"** and **"Edit"** button to configure the selected profile and/or create new profile.
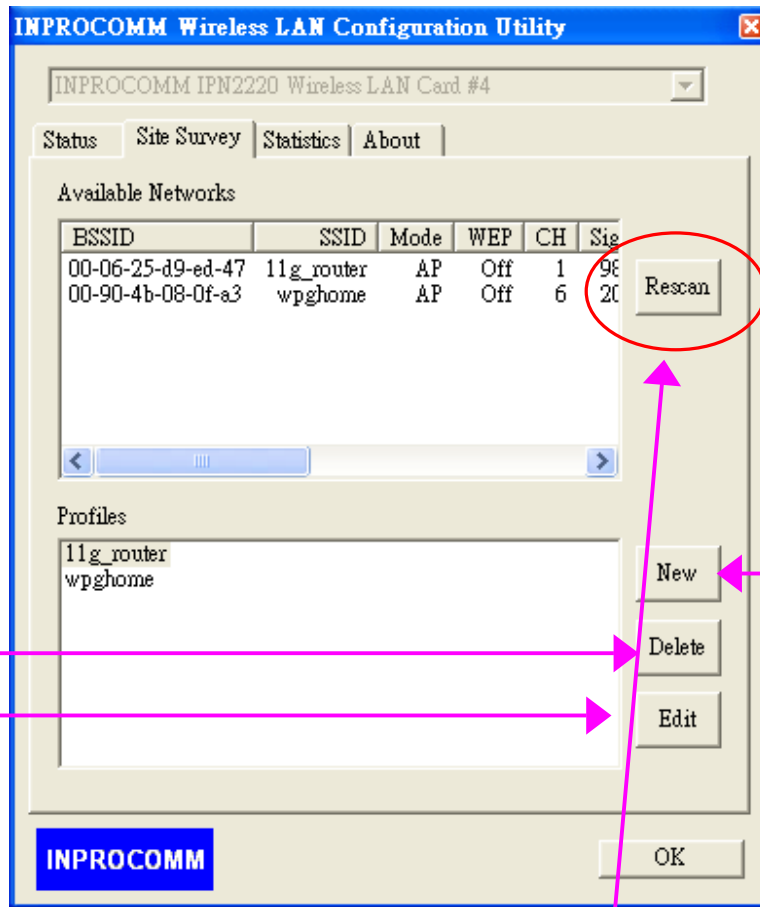

Fig 2-10

If you want to associate with any of the access point(s) listed after pressing **"Rescan"**, Double-clicking on your choice and the system will take you back to the *Configuration* page showing you the parameters of the connection newly established. Then user can give a Profile Name for the connection. System will save all changes and options automatically.

After connecting to Access Point, system will create a Profile in the **"Profiles"** screen. Users can create a **"New"** profile, **"Delete"** profile and/or **"Edit"** profile by pressing the button on the right of screen. When users press the "New" and "Edit" button, system will also pop up the *Configuration* page to enter the desired settings.

2.2.4 Statistics

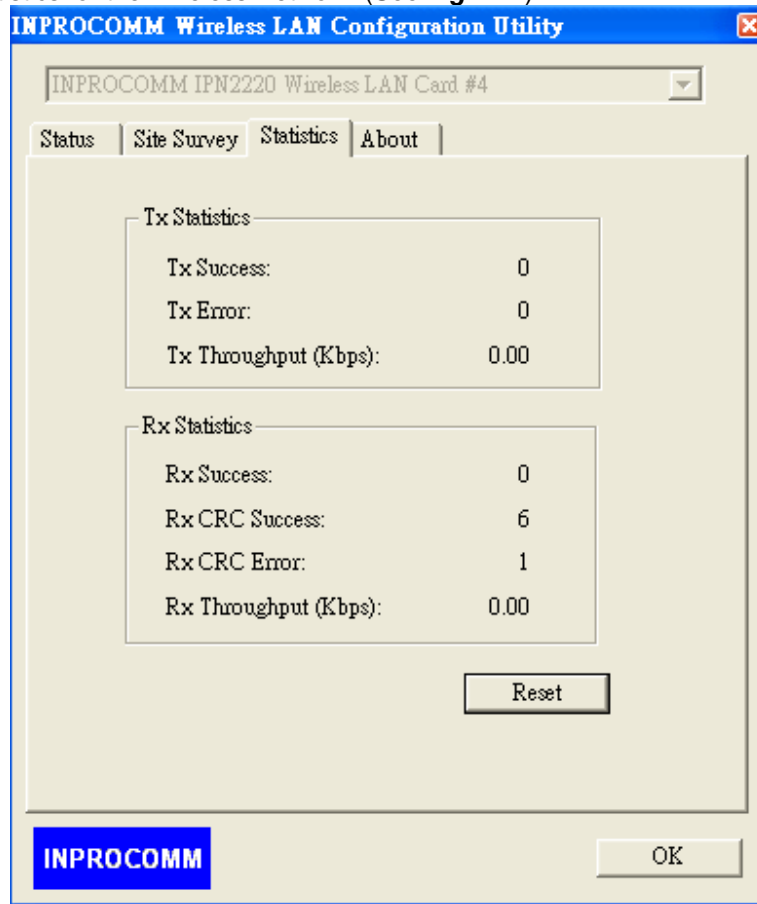This page includes the Statistics for the Wireless Network. (See *Fig* 2-11)

Fig 2-11

2.2.5 About

This page shows the software information for IPN2220.
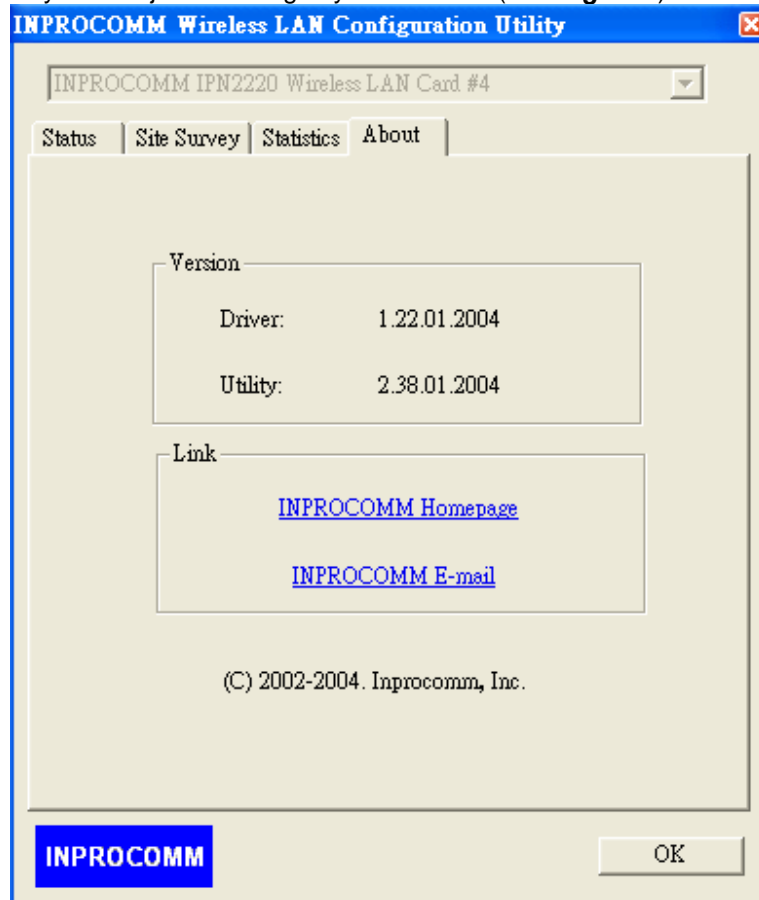The Version of Driver and Utility are subject to change by FOXCONN. (See *Fig* 2-12)

Fig 2-12

2.3 Quick Launch

IPN2220 WLAN Utility also gives users the quick way to set up Wireless Network and recall the profiles. (See *Fig* 2-13 and *Fig* 2-14)

By "Right- Clicking" the icon in system tray then choose **"Connect"** for proper profile list or turn-on/off the **"Radio"** while in same restricted area. Also can click on the **"Open"** to open the full screen of Utility and **"Minimize"** to hide the Utility. Or press the **"Exit"** to quit the Utility from system tray.

Fig2-13

Fig 2-14

Taiwan , R.O.C. Warning Notice

根據交通部 低功率管理辦法 規定：

第十四條　經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、
　　　　　加大功率或變更原設計之特性及功能。

第十七條　低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即
　　　　　停用，並改善至無干擾時方得繼續使用。

前項合法通信，指依電信規定作業之無線電信。低功率射頻電機須忍受合法通信或工業、科學及醫療
用電波輻射性電機設備之干擾。

FCC Warning Notice

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.   These limits are designed to provide reasonable protection against harmful interference in a residential installation.   This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.   However, there is no guarantee that interference will not occur in a particular installation.   If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

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

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.

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

IMPORTANT NOTE:
FCC Radiation Exposure Statement:
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.
This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

HON HAI PRECISION IND. CO., LTD. declared that T60N871is limited in CH1~11 from 2412 to 2462 MHz by specified firmware controlled in USA.

This device is intended only for OEM integrators under the following conditions:
The antenna must be installed such that 20 cm is maintained between the antenna and users, and
The transmitter module may not be co-located with any other transmitter or antenna.
As long as 2 conditions above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.).

IMPORTANT NOTE: In the event that these conditions can not be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID can not be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

<div align="center">

End Product Labeling

</div>

This transmitter module is authorized only for use in device where the antenna may be installed such that 20 cm may be maintained between the antenna and users (for example: 802.11b/g Mini-PCI). The final end product must be labeled in a visible area with the following: Contains TX FCC ID: MCLT60N87100

<div align="center">

Manual Information That Must be Included

</div>

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the users manual of the end product which integrate this module.

The users manual for OEM integrators must include the following information in a prominent location " IMPORTANT NOTE: To comply with FCC RF exposure compliance requirements, the antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.