

User Guide

PW-MN427_34I

150Mbps Wireless N USB Module

FCC STATEMENT



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

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

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1) This device may not cause harmful interference.
- 2) This device must accept any interference received, including interference that may cause undesired operation.

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

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

FCC RF/RTTE RF Radiation Exposure Statement

"To comply with FCC RF/RTTE RF exposure compliance requirements, this grant is applicable to Only Mobile Configurations. The antennas 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."

CE Mark Warning



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

National restrictions

This device is intended for home and office use in all EU countries (and other countries following the EU directive 1999/5/EC) without any limitation except for the countries mentioned below:

Country	Restriction	Reason/remark
Bulgaria		General authorization required for outdoor use and public service
France	Outdoor use limited to 10 mW e.i.r.p. within the band 2454-2483.5 MHz	Military Radiolocation use. Refarming of the 2.4 GHz band has been ongoing in recent years to allow current relaxed regulation. Full implementation planned 2012
Italy		If used outside of own premises, general authorization is required
Luxembourg	None	General authorization required for network and service supply(not for spectrum)
Norway	Implemented	This subsection does not apply for the geographical area within a radius of 20 km from the centre of Ny-Ålesund
Russian Federation		Only for indoor applications

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

RTTE compliance may need to re-evaluate on the end-product or user device/system after installation of the RF module.

The end host device should bear the label which indicate "Contains FCC ID:WWMMN427V3"

No other antenna with the gain greater than tested antenna shall be used on this module. Antenna is connected by I-PEX button to the module. The installer must use antenna AN2400-5505Rs or other similar antenna with antenna gain less than 1.8dBi.

Chapter 1 Introduction

1.1 Product Overview

Thank you for choosing the PW-MN427_34I 150Mbps Wireless N USB Module.

The Module is designed to provide a high-speed and unrivaled wireless performance for your computer. With a faster wireless connection, you can get a better Internet experience, such as downloading, gaming, video streaming and so on.

The PW-MN427_34I 150Mbps Wireless N USB Module complies with IEEE 802.11n, IEEE 802.11g and IEEE 802.11b standards. It can perfectly interoperate with all the 802.11n/g/b devices. The PW-MN427_34I's auto-sensing capability allows high packet transfer rate of up to 150Mbps for maximum throughput.

Additionally, the PW-MN427_34I Module has good capability on anti-jamming and supports WEP, TKIP, AES, WPA and WPA2 encryption to prevent outside intrusion and protect your personal information from being exposed.

Featuring high performance transmission rates, simple installation and adaptability, as well as strong security, the PW-MN427_34I 150Mbps Wireless N USB Module is the perfect solution for small office and home needs.

1.2 Main Features

- 150Mbps wireless transmission rate
- Supports 64/128-bit WEP, complies with 152 bit WPA standard(TKIP/AES), supports MIC, IV Expansion, Shared Key Authentication, IEEE 802.1X
- Compatible with 11b/g/n equipment
- Supports 3.3V power supply
- Supports Android, Windows XP/Vista/7, Linux, OS

Chapter 2 Installation Guide

2.1 Hardware Installation

PW-MN427_34I has USB interface(4-PIN connector,2.0mm pitch), and it is mainly designed to provide stability wireless function and performance for your system.

For installation, you must be sure to connect this module to your device or system with a connecting wire first. Then, the promoted Found New Hardware Wizard will pop up if the Module is installed correctly.

2.2 Software Installation

2.2.1 Overview

The Module's Setup Wizard will guide you through the installation of the drivers. Before you install the software, please connect the USB Module with your computer by USB cable. After that, you will be prompted "**Found New Hardware Wizard**".

 **Note:**

The Setup steps for Windows XP/ Vista/ 7 are very similar, so the following installation guide takes Windows 7 for example.

2.2.2 Installation Guide

1. Please connect the USB Module with your computer by USB cable, right-click on **My Computer** and go to the **Computer Management**, choose **Device Manager** and you will see the screen as Figure 2-1. Right-click on **802.11n WLAN** to start the installation.

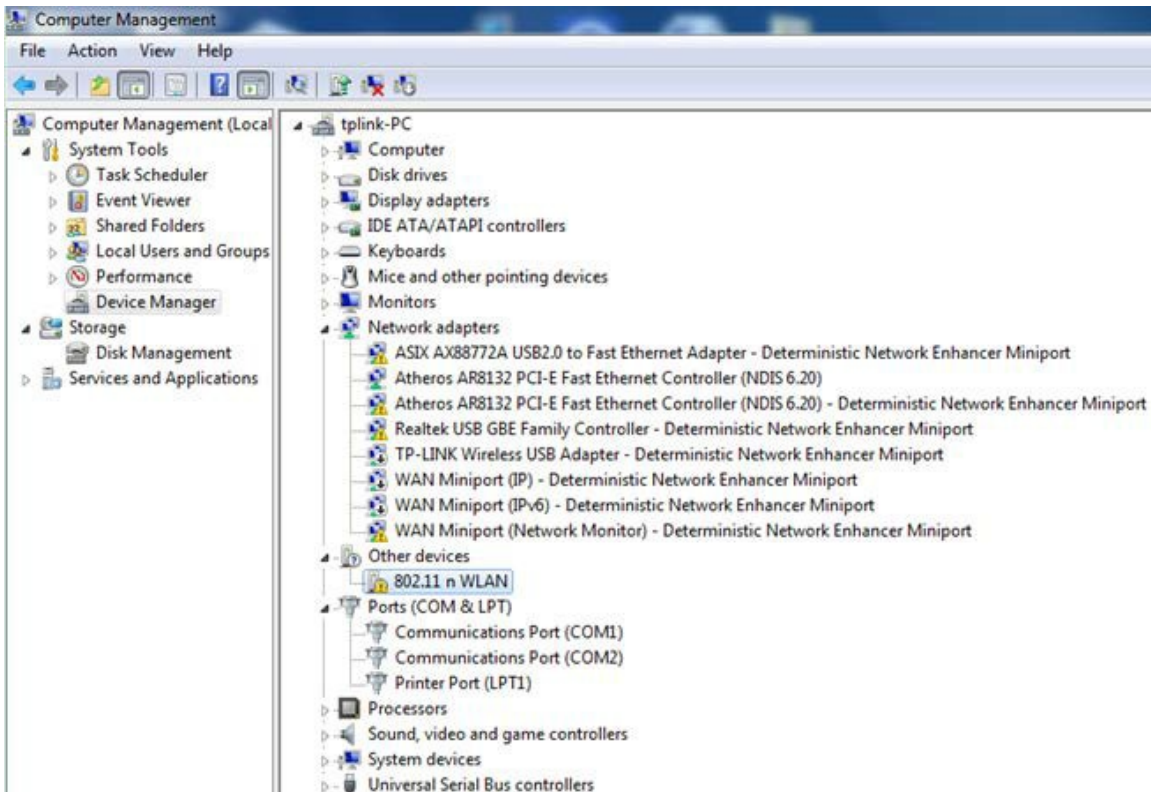


Figure 2-1 Start The Installation

2. Choose **Update Driver Software**, You'll see the screen as below. You should choose the second item and click **Browse my computer for driver software**.

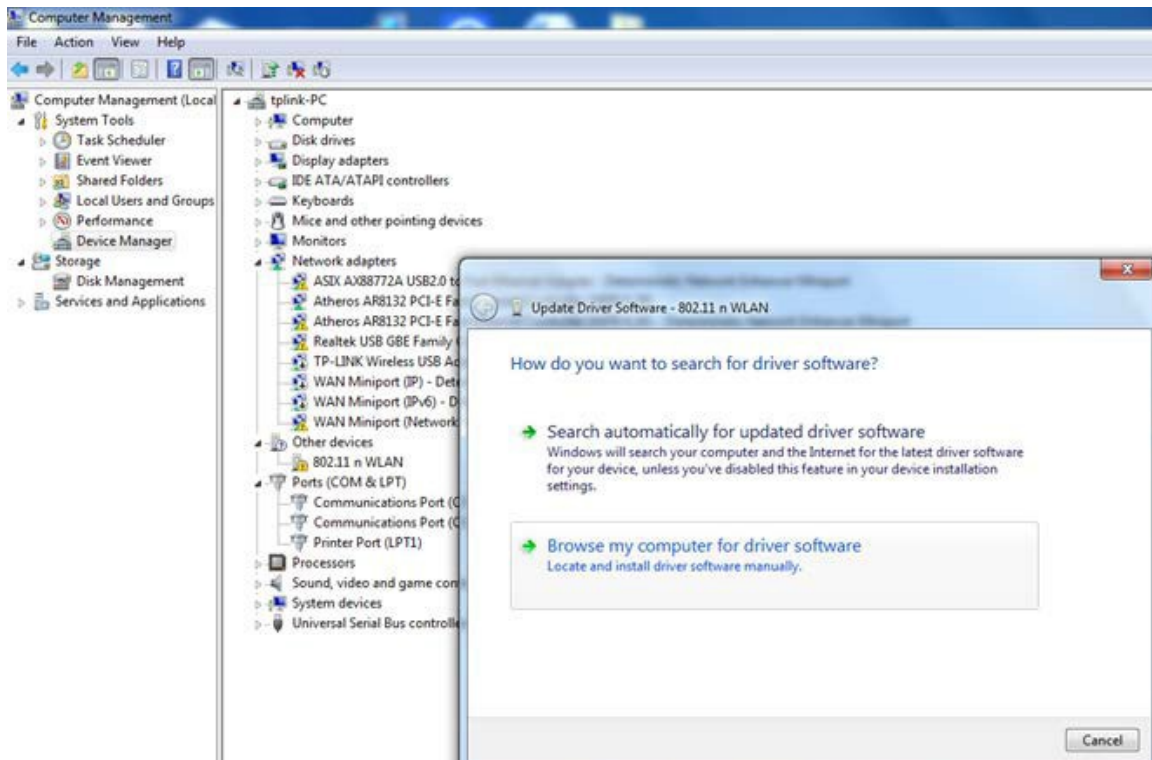


Figure2-2 Update Driver Software

3. In the following screen, browse for driver software on your computer. Choose the destination location and click **Next**.

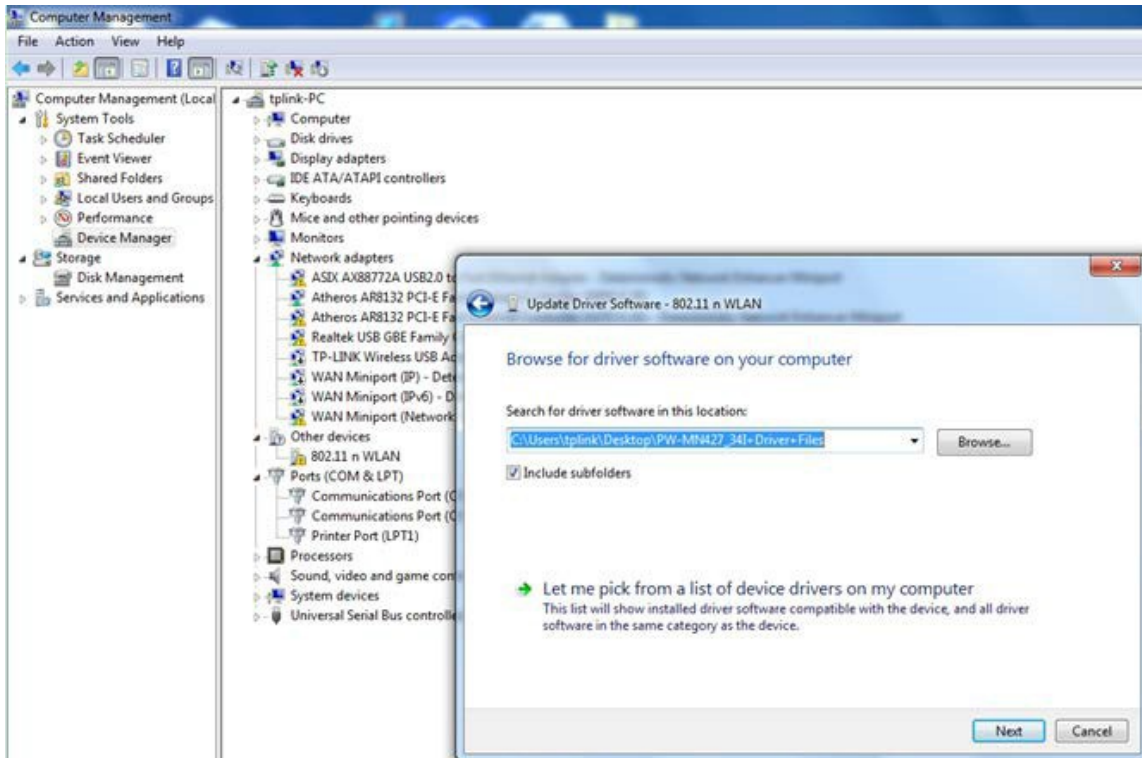


Figure2-3 Browse For Driver

4. You will see the next screen as below, installing will appear.

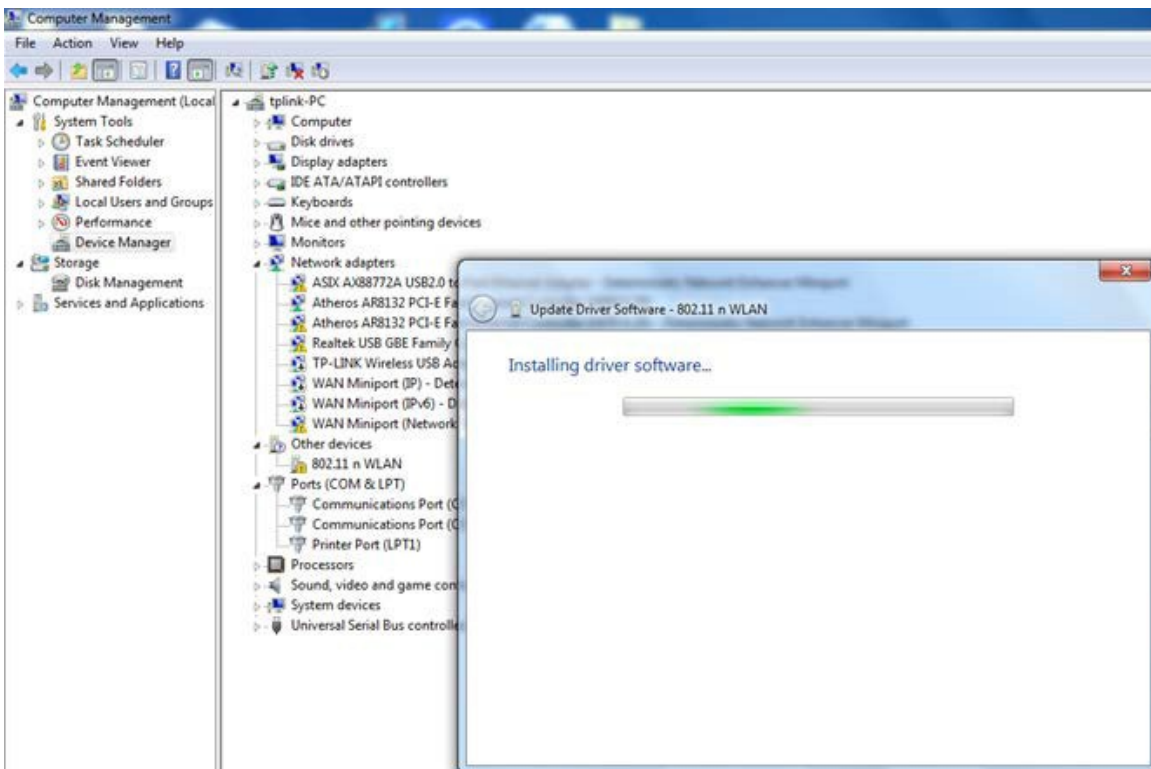


Figure 2-4 Installing Driver Software

- Wait for a moment , and you will see **Windows** has successfully update your driver software.

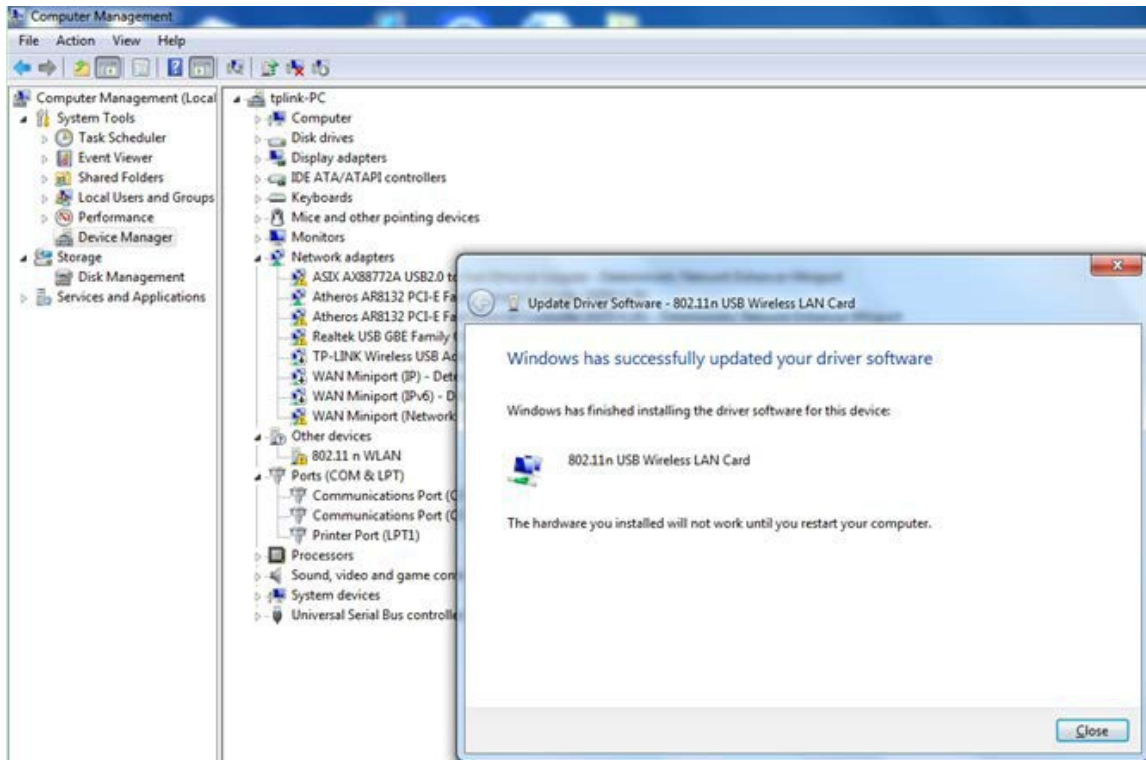


Figure2-5 Driver Is Installed

- After you installing the driver, please restart your computer then the hardware you installed will work, go to the **Device Manager** and check that **802.11n USB Wireless LAN Card** is successfully installed as below.

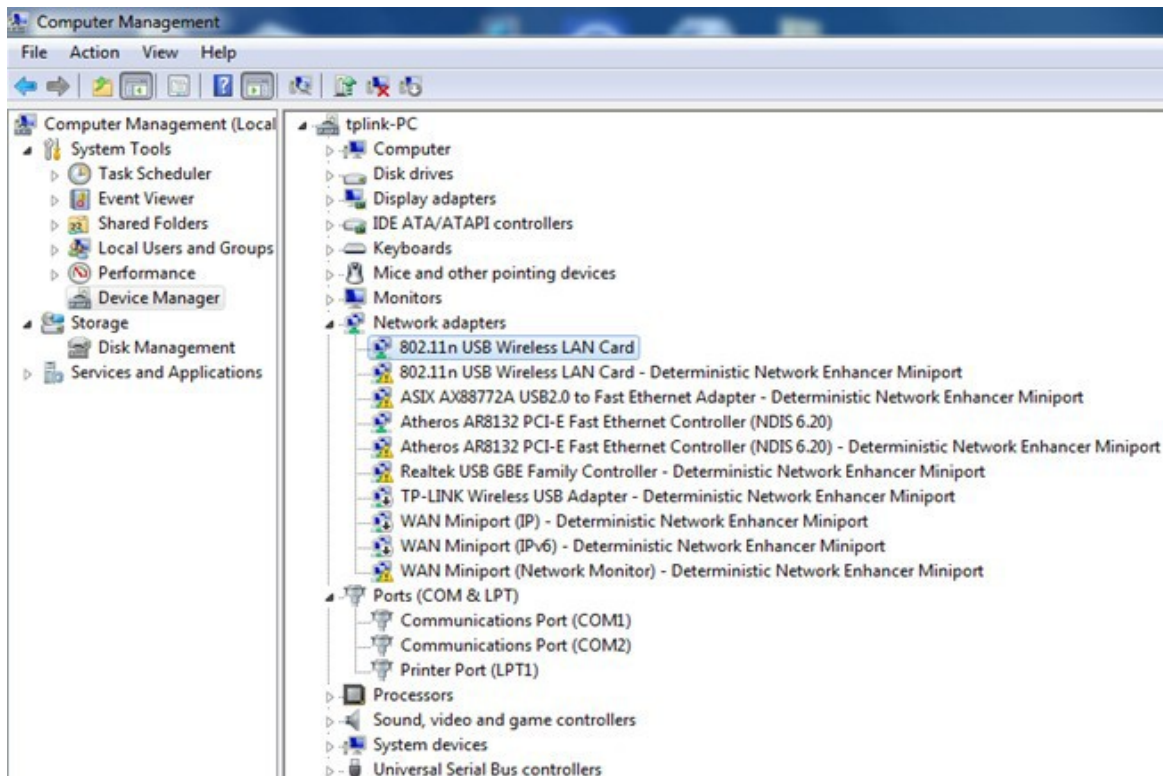


Figure2-6 Check The Card

2.3 Uninstall Software

2.3.1 Uninstall the driver software from your PC

1. On the Windows taskbar, click the **Start** button, and then click **Control Panel**.
2. Click the **System** icon, click on the **Hardware** tab in the **System** window.
3. Click on the **Device Manager** button, double-click **Network Modules**, and then right-click **802.11 n Wireless LAN Card**.

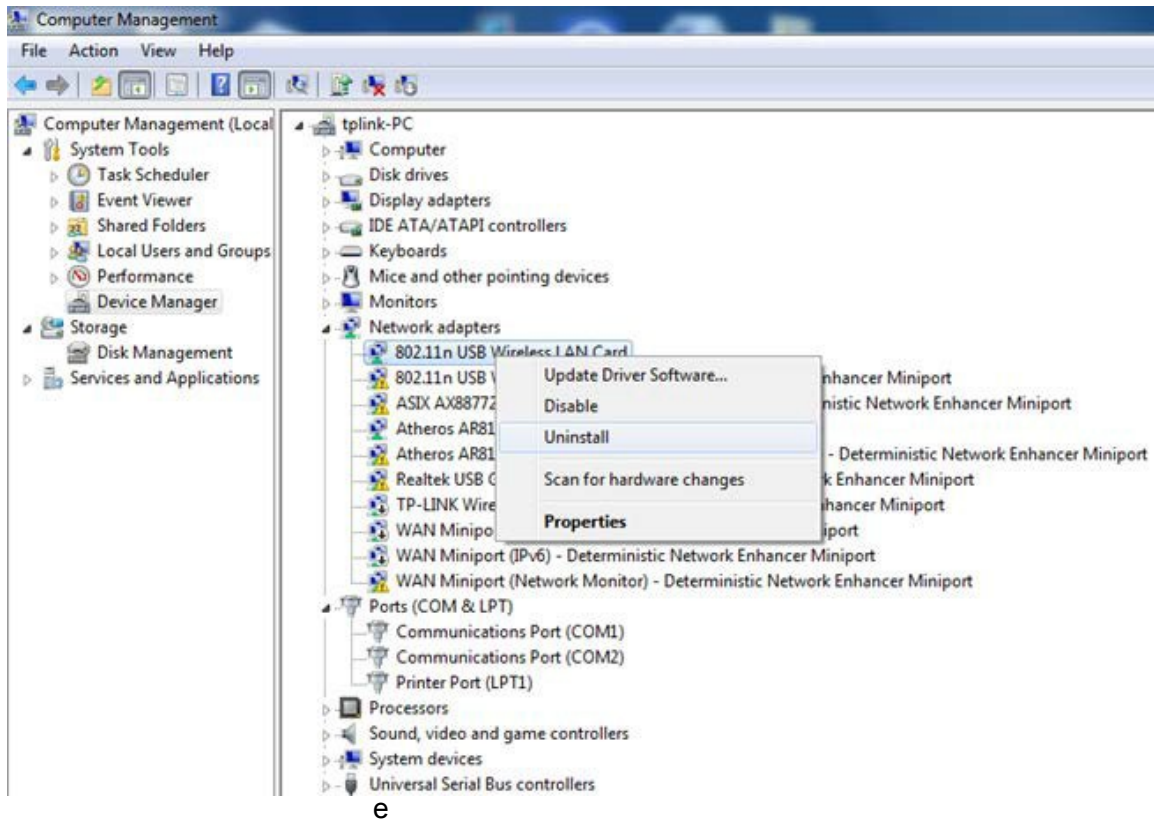


Figure2-7 Uninstall Driver Software

4. Click **Uninstall** shown in above Figure 2-9, the system will uninstall the driver software of the Module from your PC.

Chapter 3 Example for Application

3.1 Configuration of PSP XLink Online game

Please ensure the software and hardware environments are well established before configuring. For hardware, at least a PC, a PW-MN427_34I 150Mbps Wireless N USB Module and a PSP device are needed. For software, the PW-MN427_34I Module driver should be properly installed.

Please operate as follows:

- Step 1.** Connect the website of X-LINK <http://www.teamxlink.co.uk/> to register, and download the latest software of X-LINK Kai.
- Step 2.** Install the X-LINK Kai software, click **Start > All programs > XLink Kai > Configure Kai**, then set as Figure 5-1.

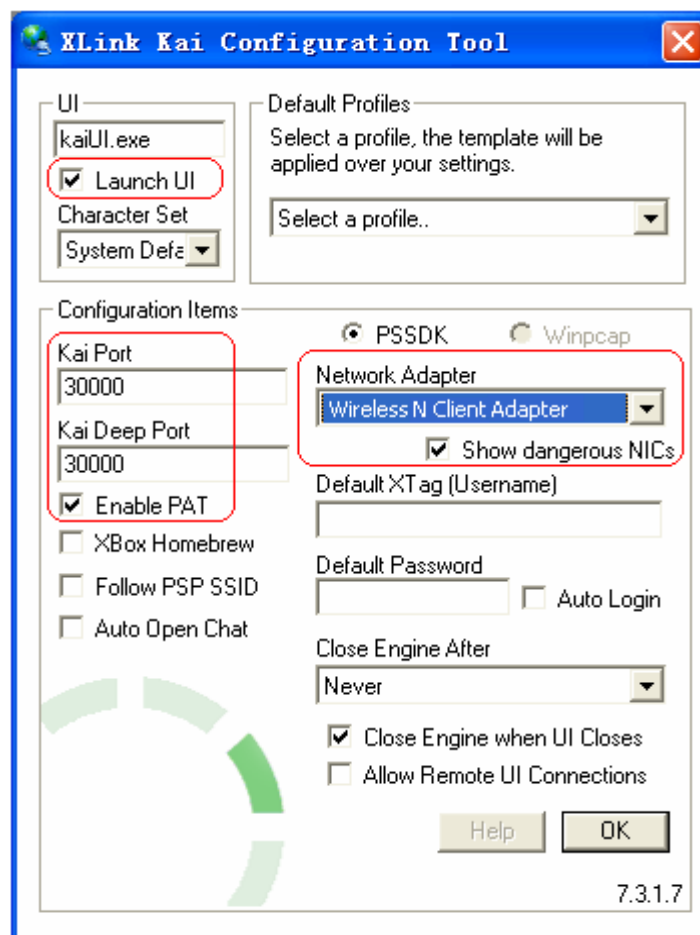


Figure 3-1

- Step 3.** After completing the settings, please click **Start > All programs > XLink Kai > Start Kai** to connect to XLink Kai.
- Step 4.** Open the wireless mode of the PSP device, and then start an internet game.

Step 5. Right-click “My Computer” and select **Management**. In the prompt page, click **Device Manager**, then right-click “Wireless N Client Module “and select **Properties**. Then set the value of “PSP Xlink Mode” as Enable following the red marked instruction in the figure.

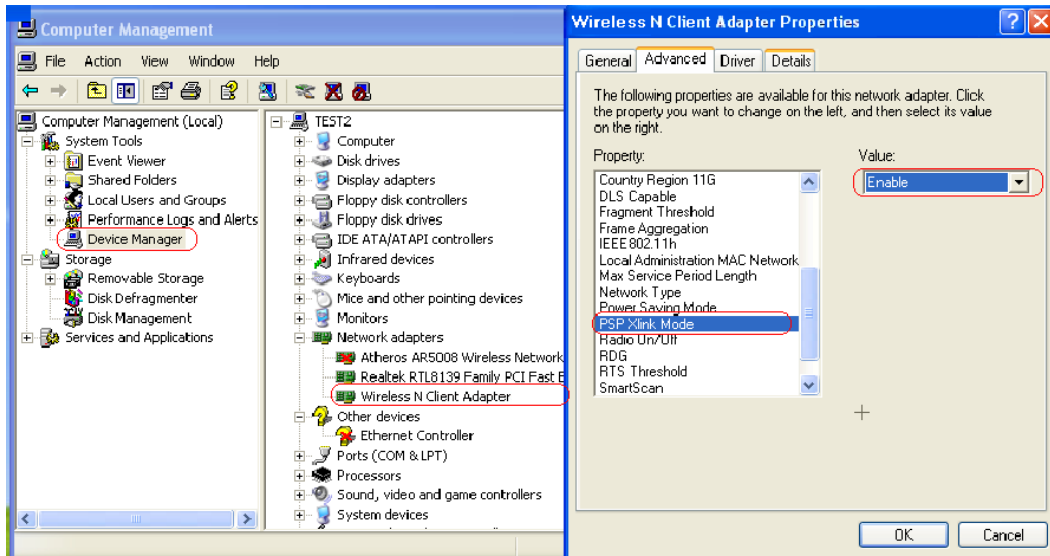


Figure 3-2

Step 6. Click **Start > Control Panel > Network**.

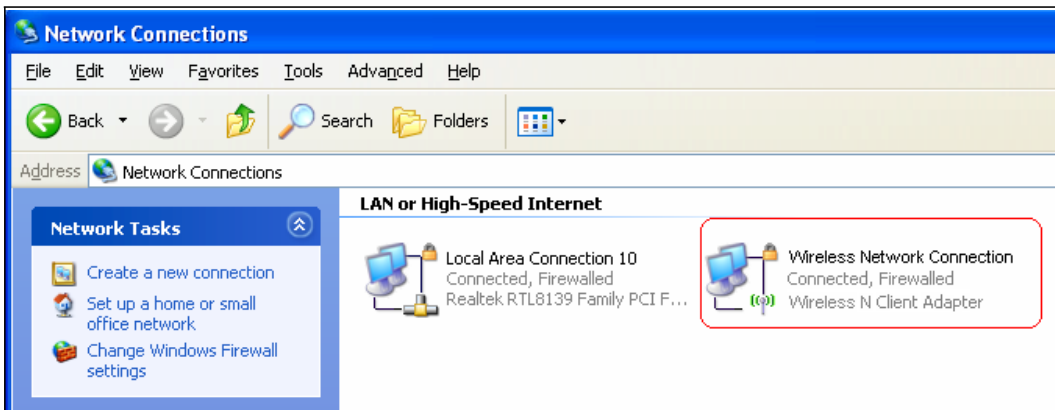


Figure 3-3

Step 7. Right-click **Wireless Network Connection icon** , and select **Properties**. In the following prompt page, highlight **Internet Protocol (TCP/IP)** and click **Properties**.

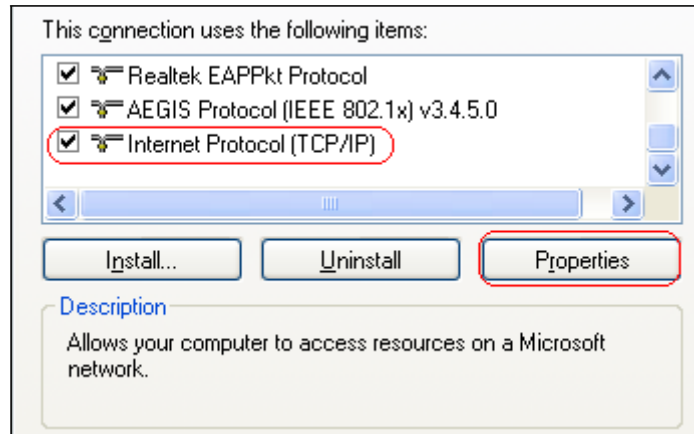


Figure 3-4

Step 8. In the prompt page shown below, select **Use the Following IP Address**, and set the IP and Subnet mask. After completing setting, click **OK**.

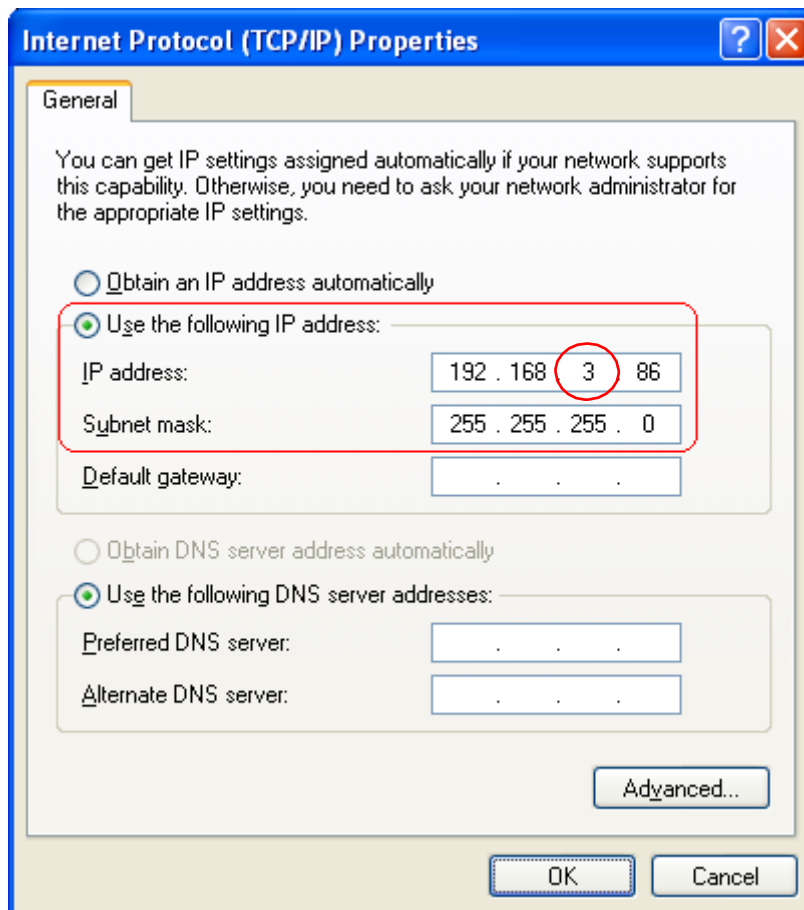


Figure 3-5

Note:

Please set the IP address in different network segment with the other network card to avoid conflict.

Step 9. Launch RL52 Wireless N Client Utility, then highlight the Network Name (SSID) beginning with “PSP” in the “Network” page, and click **Connect**.

Step 10. Check whether your PSP device is detected in the Diagnostics mode of Kai as Figure

5-6 shown: Click the icon  first and then click the folder .

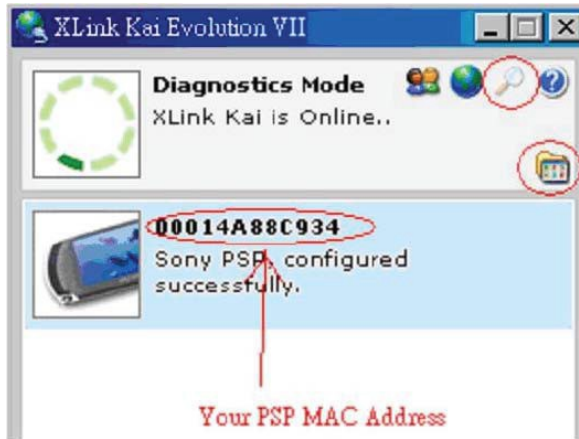


Figure 3-6


Step 11. Click the icon  on the right top corner to enter the Arena Mode, highlight the arena of your wanted game, and then join or start a new game.



Figure 3-7

3.2 Hardware installation example



Figure 3-8

Appendix A: Glossary

802.11b - The 802.11b standard specifies a wireless networking at 11 Mbps using direct-sequence spread-spectrum (DSSS) technology and operating in the unlicensed radio spectrum at 2.4GHz, and WEP encryption for security. 802.11b networks are also referred to as Wi-Fi networks.

802.11g - Specification for wireless networking at 54 Mbps using direct-sequence spread-spectrum (DSSS) technology, using OFDM modulation and operating in the unlicensed radio spectrum at 2.4GHz, and backward compatibility with IEEE 802.11b devices, and WEP encryption for security.

802.11n - 802.11n builds upon previous 802.11 standards by adding MIMO (multiple-input multiple-output). MIMO uses multiple transmitter and receiver antennas to allow for increased data throughput via spatial multiplexing and increased range by exploiting the spatial diversity, perhaps through coding schemes like Alamouti coding. The Enhanced Wireless Consortium (EWC)^[3] was formed to help accelerate the IEEE 802.11n development process and promote a technology specification for interoperability of next-generation wireless local area networking (WLAN) products.

Ad-hoc Network - An ad-hoc network is a group of computers, each with a 150Mbps Wireless N USB Module, connected as an independent 802.11 wireless LAN. Ad-hoc wireless computers operate on a peer-to-peer basis, communicating directly with each other without the use of an access point. Ad-hoc mode is also referred to as an Independent Basic Service Set (IBSS) or as peer-to-peer mode, and is useful at a departmental scale or SOHO operation.

Infrastructure Network - An infrastructure network is a group of computers or other devices, each with a 150Mbps Wireless N USB Module, connected as an 802.11 wireless LAN. In infrastructure mode, the wireless devices communicate with each other and to a wired network by first going through an access point. An infrastructure wireless network connected to a wired network is referred to as a Basic Service Set (BSS). A set of two or more BSS in a single network is referred to as an Extended Service Set (ESS). Infrastructure mode is useful at a corporation scale, or when it is necessary to connect the wired and wireless network.

SSID - A **S**ervice **S**et **I**dentification is a thirty-two character (maximum) alphanumeric key identifying a wireless local area network. For the wireless devices in a network to communicate with each other, all devices must be configured with the same SSID. This is typically the configuration parameter for a wireless PC card. It corresponds to the ESSID in the wireless Access Point and to the wireless network name.

WEP (Wired Equivalent Privacy) - A data privacy mechanism based on a 64-bit or 128-bit shared key algorithm, as described in the IEEE 802.11 standard.

Wi-Fi - A trade name for the 802.11b wireless networking standard, given by the Wireless Ethernet Compatibility Alliance (WECA, see <http://www.wi-fi.net>), an industry standards group promoting interoperability among 802.11b devices.

WLAN (Wireless Local Area Network) - A group of computers and associated devices communicate with each other wirelessly, which network serving users are limited in a local area.

WPA (Wi-Fi Protected Access) - A wireless security protocol use TKIP (Temporal Key Integrity Protocol) encryption, which can be used in conjunction with a RADIUS server.

Appendix B: Specifications

General	
Interface	USB 2.0 (4-PIN connector,2.0 pitch)
Standards	IEEE 802.11n, IEEE 802.11g, IEEE 802.11b
Operating System	Windows XP/ Vista/ 7 ,Linux OS, Android
Safety & Emission	FCC, CE
Frequency	2.4-2.4835GHz
Sensitivity	11b(11M): -86dBm@10% PER 11g(54M): -72dBm@10% PER 11n/HT20 (MCS 7): -67dBm@10% PER 11n/HT40 (MCS 7): -64dBm@10% PER
Wireless	
Radio Data Rate	Up to 150Mbps
Data Transfer Rates	11n: Up to 150Mbps(dynamic) 11g: Up to 54Mbps(dynamic) 11b: Up to 11Mbps(dynamic)
Channel	2.4GHz: 1-13
Wireless Security	64/128-bit WEP Encryption WPAWPA2, WPA-PSK/WPA2-PSK (TKIP/AES)

Physical Environmental	
Working Temperature	0°C~60°C
Storage Temperature	-40°C~80°C
Humidity	10%~90% RH, Non-condensing

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