AWU50G

User's Manual

Part Name：802.11b/g Wireless Module

Part No.：AWU50G

Version：V1.0

Revision History

Release	Date	Revision	Initials
1.0	2009-6-24	Initial release	SH

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1. Product Overview

The AWU50G is a 802.11b/g wireless Module is used on wireless termination. It delivers incomparable wireless performance for your device. As a value added Wi-Fi card, it provides 64/128/256 WEP, WPA/WPA-PSK、WPA2/WPA2-PSK security as well.

2. Key Feature

- IEEE 802.11b、IEEE 802.11g Compliant;
- PCI-E interface,hot-swapping supported;
- Work mode : Infrastructure、Ad-Hoc;
- Modulation: OFDM/DBPSK/DQPSK/CCK;
- 64/128/256 WEP encryption; WPA/WPA-PSK 、 WPA2/WPA2-PSK security mechanism supported;
- QoS-WMM、WMM-PS quality mechanism supported;
- Transfer Rate : 54/48/36/24/18/12/9/6/11/5.5/2/1Mbps;
- Operating system: Windows 98/ME/2000/XP/64bit XP/2003,Linux;
- Transfer distance: Farthest 100 meters Indoor ,Farthest 300meters Outdoor（As a result of the environment varies）;
- ROHS Compliant

3. Specifications

3-1. Solution

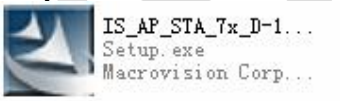
Item	Description
MCU+SWITCH	Ralink RT2571+RT2528

3-2. Technical Spec

Standard	IEEE 802.11g、IEEE 802.11b
Operating Frequency	IEEE 802.11b/g ISM Band USA(FCC): 2.412GHz ~ 2.462 GHz (CH1 ~ CH11) Europe(ETSI): 2.412 GHz ~ 2.472 GHz (CH1 ~ CH13) Japan(TELEC): 11b: 2.412 GHz ~ 2.484 GHz (CH1 ~ CH14) 11g:: 2.412 GHz ~ 2.472 GHz (CH1 ~ CH13)

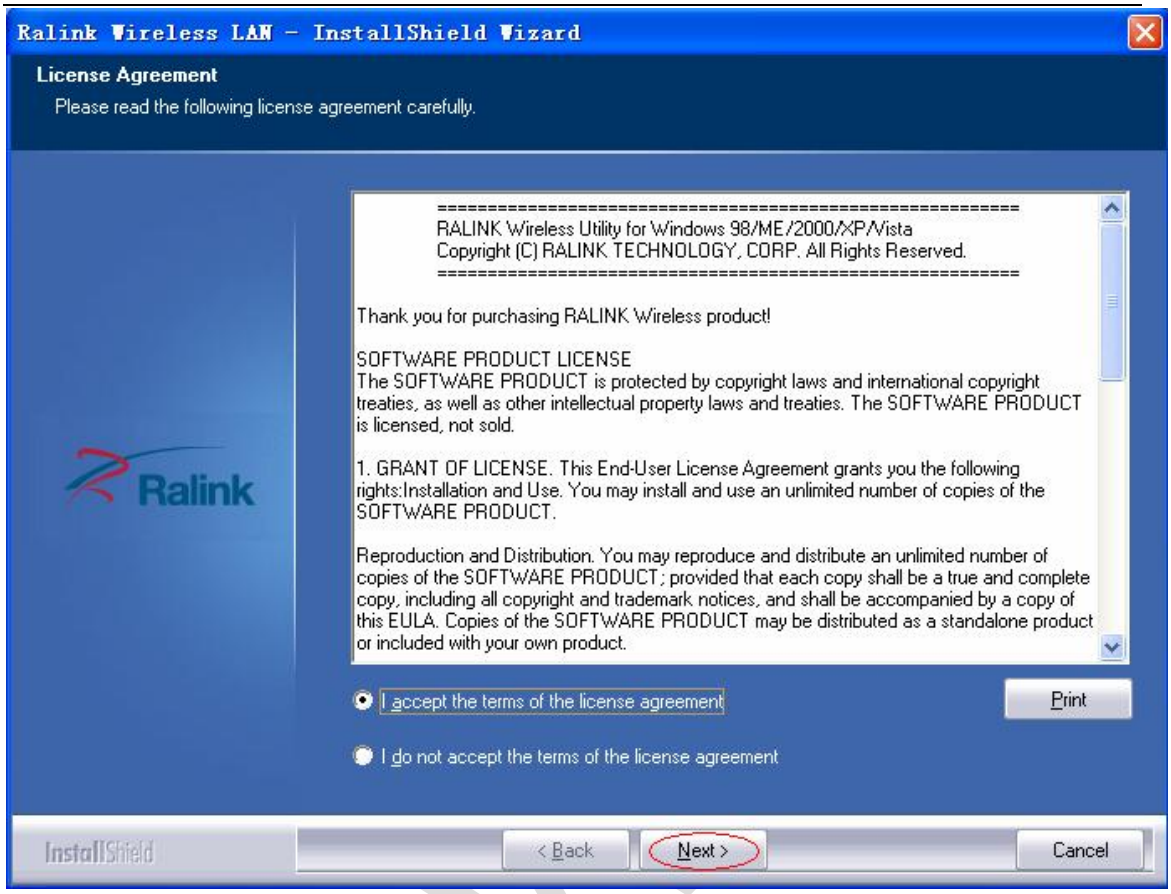
Modulation	802.11b :CCK,DQPSK, DBPSK 802.11g :OFDM			
RX sensitivity	802.11b :11Mbps:≦-84dBm 802.11g :54Mbps:≦-70dBm			
Power consumption	11b:	RX: ≦ 226mA	TX: ≦ 236mA	
	11g:	RX: ≦228mA	TX: ≦ 238mA	
Antenna	PCB antenna			
Operating Voltage	DC 5V			
Output Power	IEEE 802.11b:	Min	Typical	Max
	11/5.5/2/1 Mbps:	15dBm	17dBm	19dBm
	IEEE 802.11g:	Min	Typical	Max
	54/48/36/24/18/12/9/6Mbps	13dBm	14dBm	15dBm
Security	WEP 64/128/256-bit; WPA/WPA-PSK; WPA2/WPA2-PSK			
Supported OS	Win CE 5.0/ 98 / ME / 2000 / XP / 64-bit Linux			
Dimension (L*W *H)	75.5mm x 20mm x 5mm			
Environment Specification	Temperature	Humidity		
	Operating: 0-40℃	Operating:10%-90% （ Non-condensing）		
	Storage: -10℃-70℃	Storage: 5%-90%（Non-condensing）		

4. Install the driver

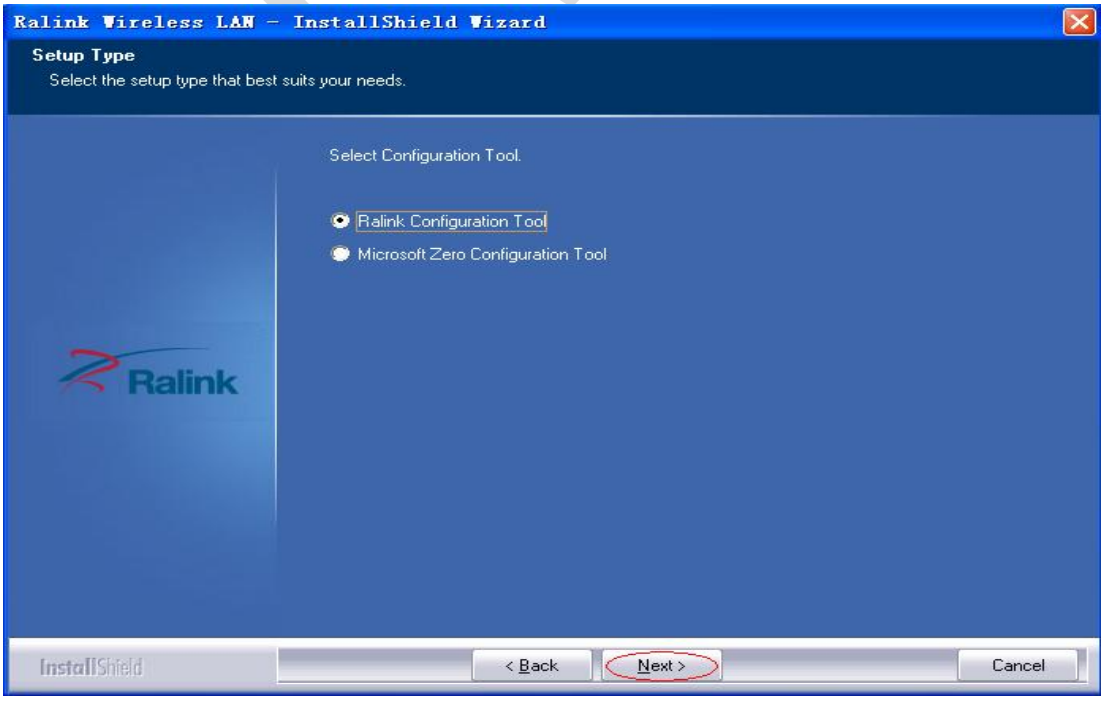
Step1 Insert the installation CD into your CD-ROM driver, Double click the icon 

to start setup.

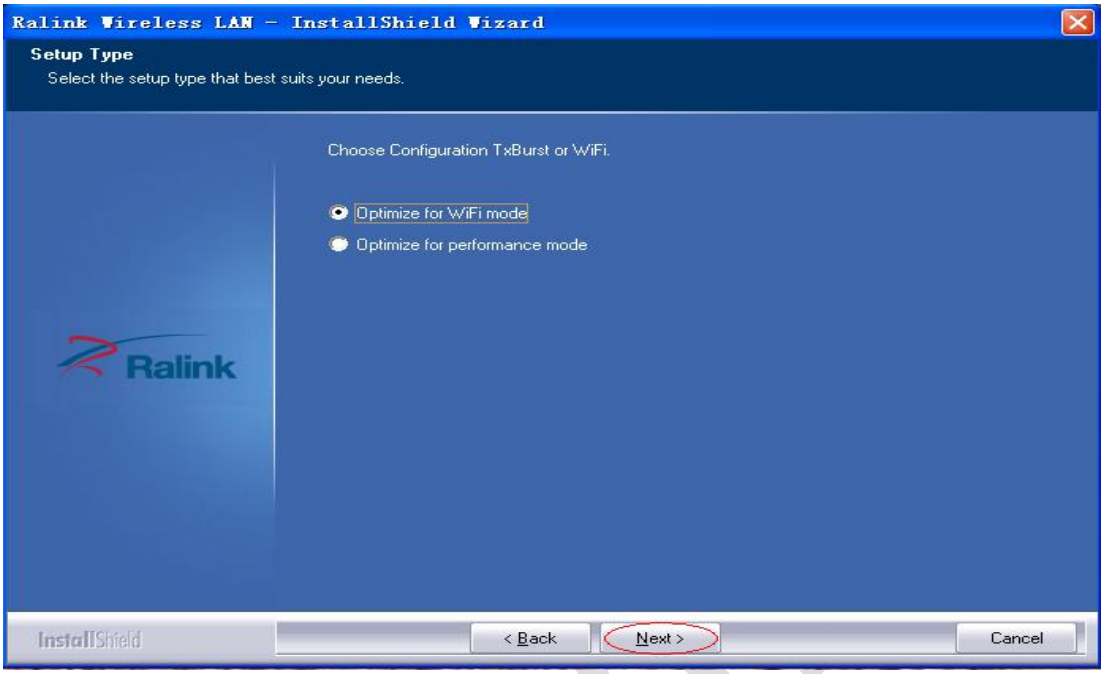
Step2 Choose ***I accept the terms of the license agreement*** and click ***next*** to go on.



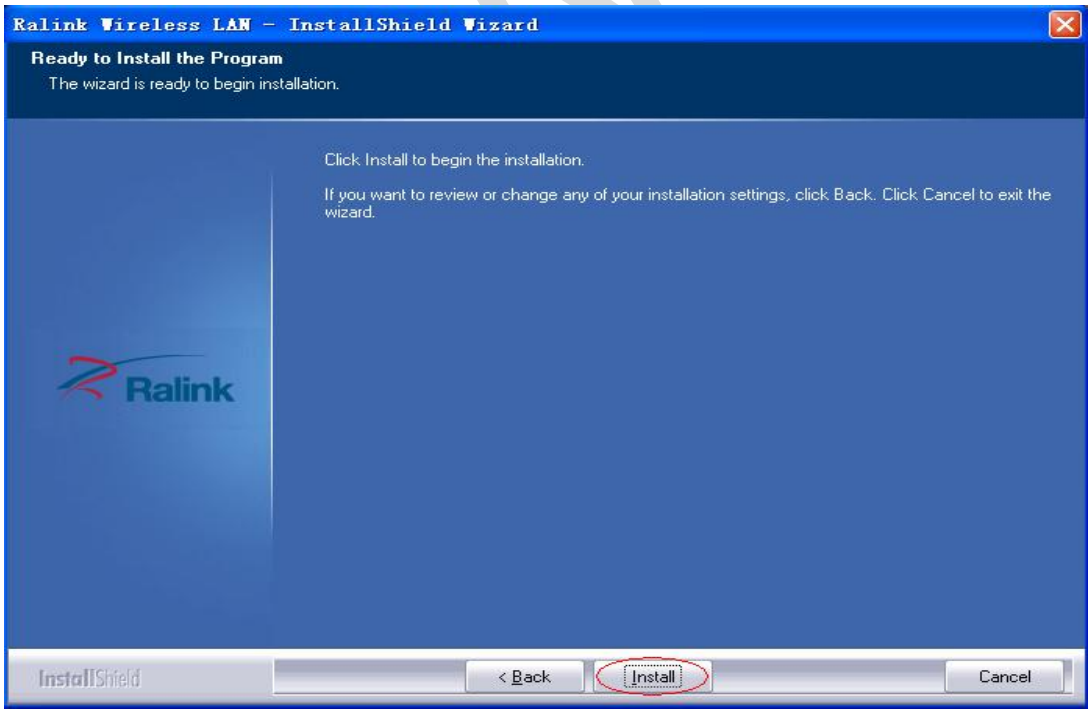
Step3 Choose ***Ralink Configuration Tool*** and click ***next*** to go on.

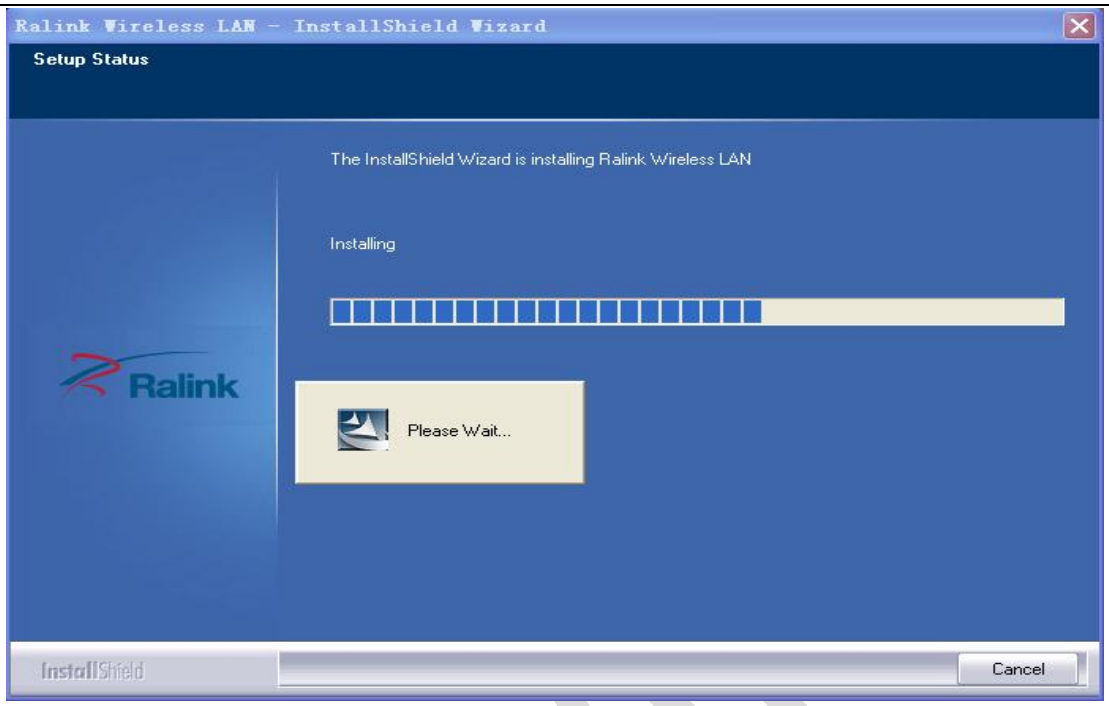


Step4 Choose ***Optimize for WiFi mode*** and click ***next*** to go on.

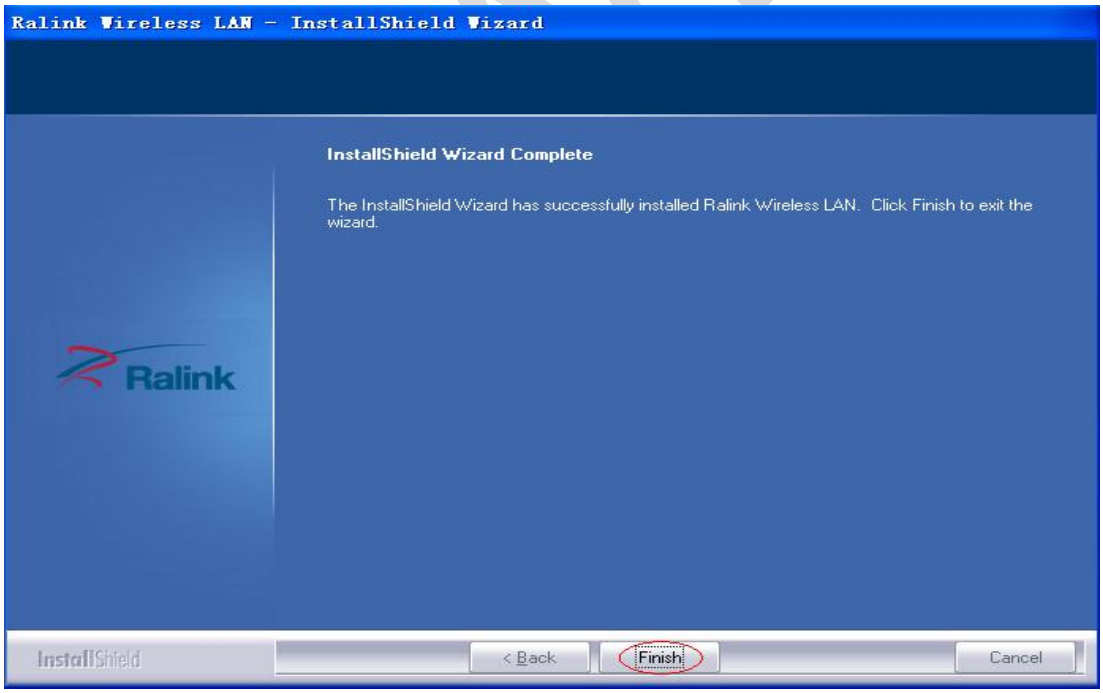


Step5 Click ***Install*** to begin the setup.



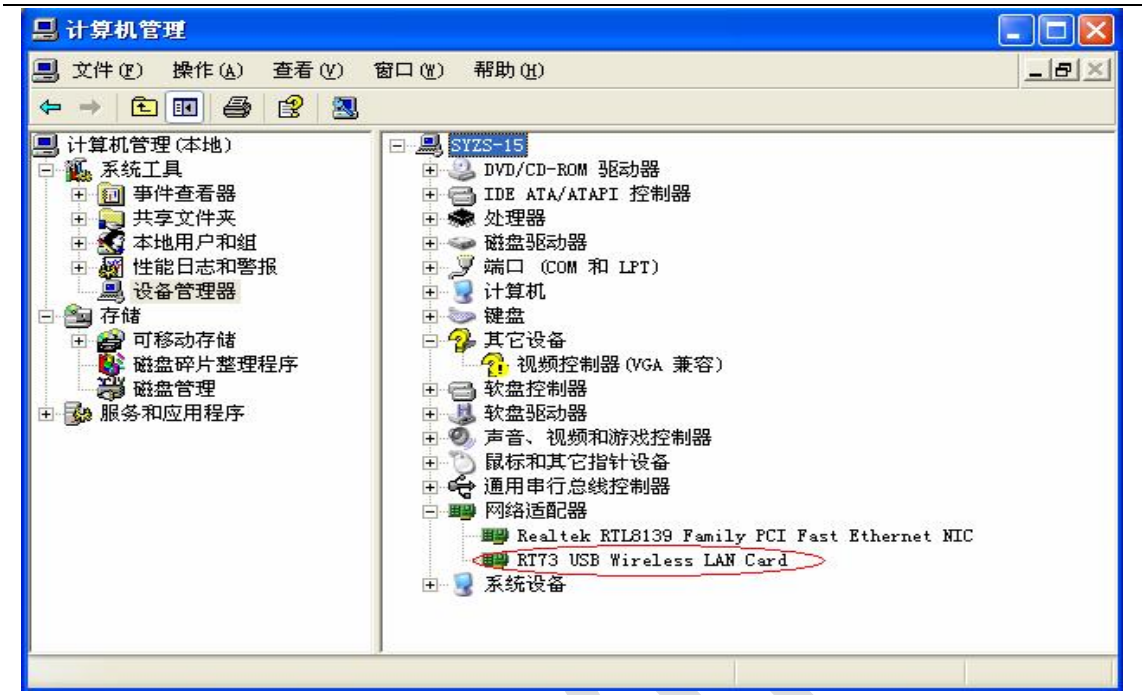


Step6 Click ***Finish*** to end the setup.



5. connect

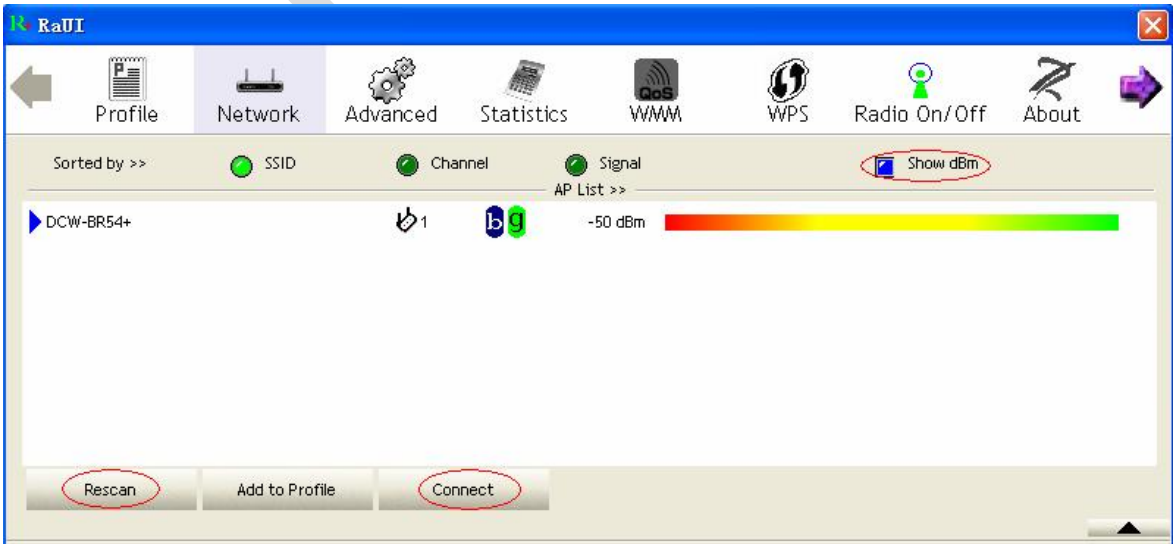
Plug in your wireless LAN adapter, it will be recognized and auto installed. Just confirmed it like below:



6. Make infrastructure connection

. Double click the icon in red circle

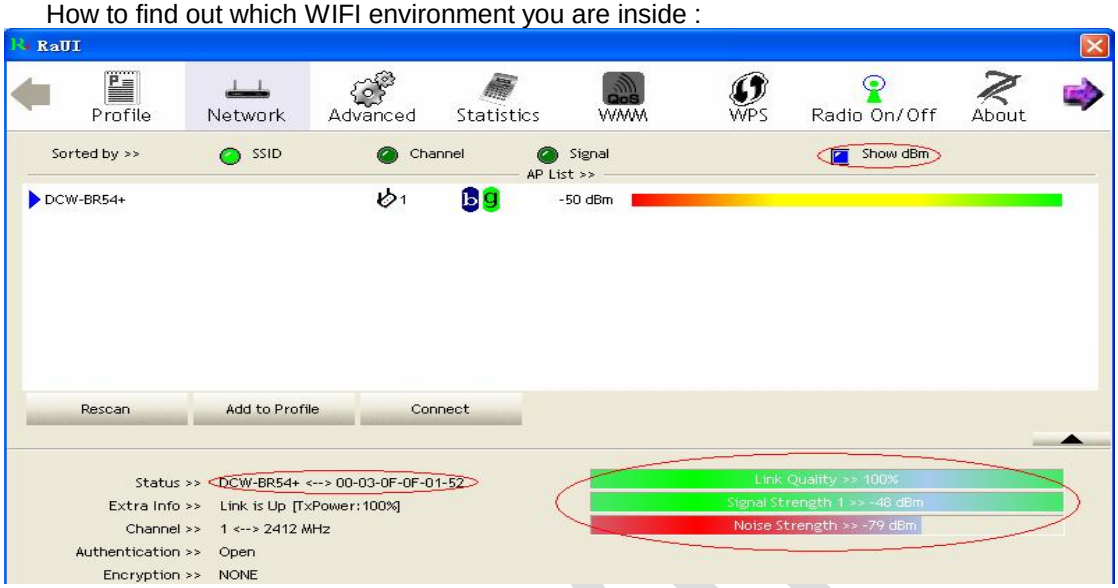
. You will see:



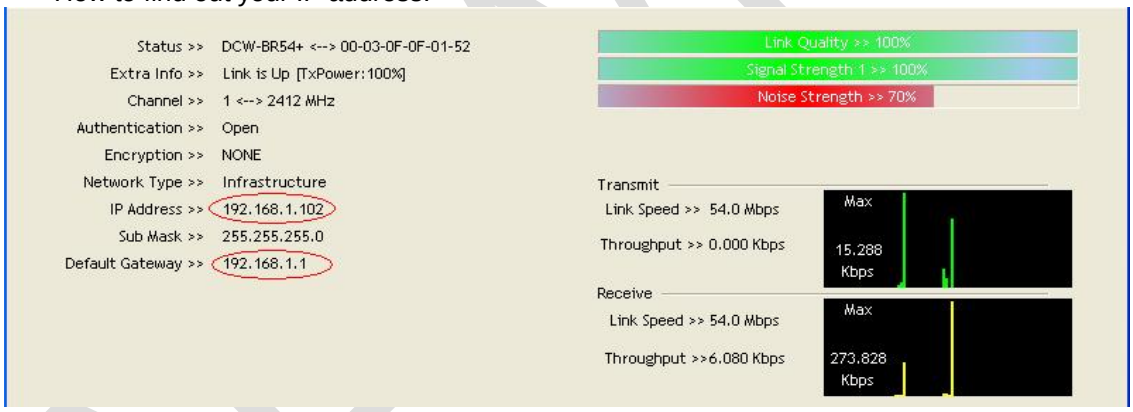
You can click the button ***Rescan*** to find which AP is in range, they will show on the window. Choice one you want to connect, and click the button ***connect*** to finish the connection. An infrastructure connection is completed.

7. Help information in RaUI

How to find out which WIFI environment you are inside :



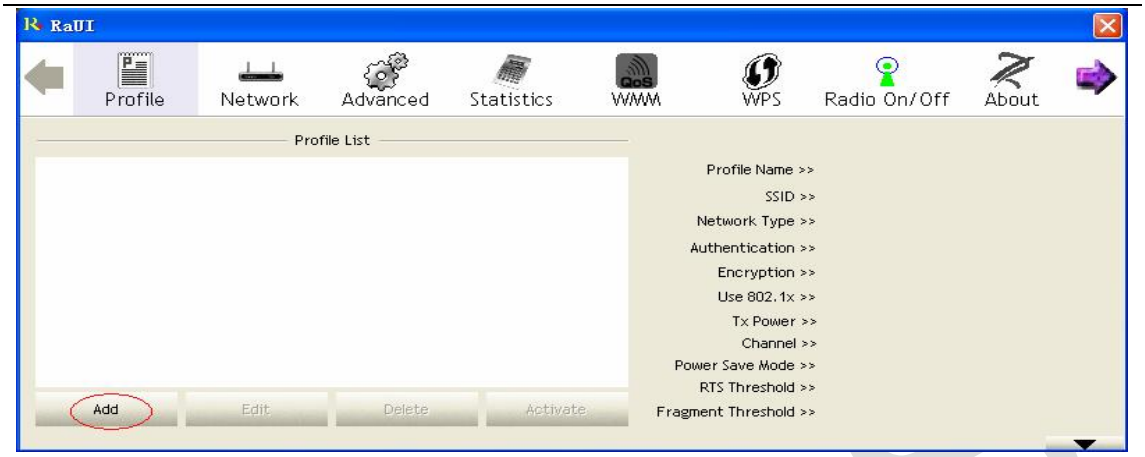
How to find out your IP address:



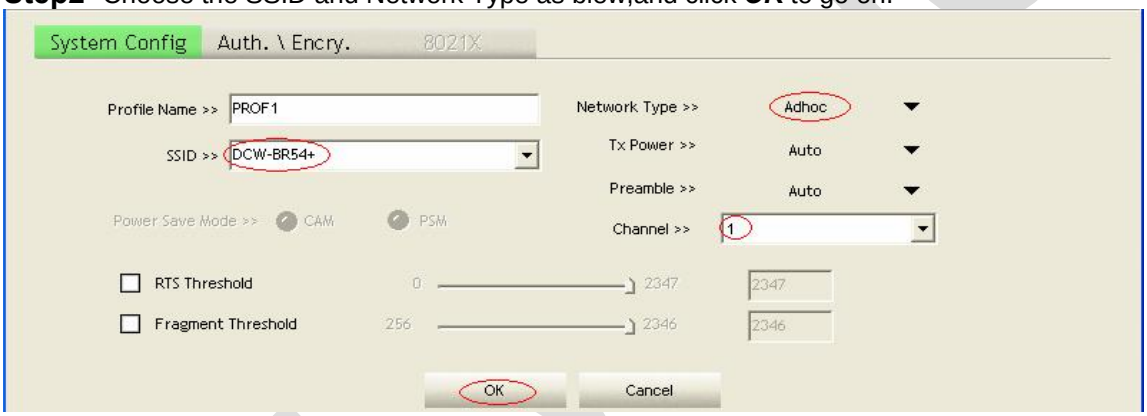
8. Make Ad-Hoc mode connection

8.1 Make an Ad-Hoc SSID

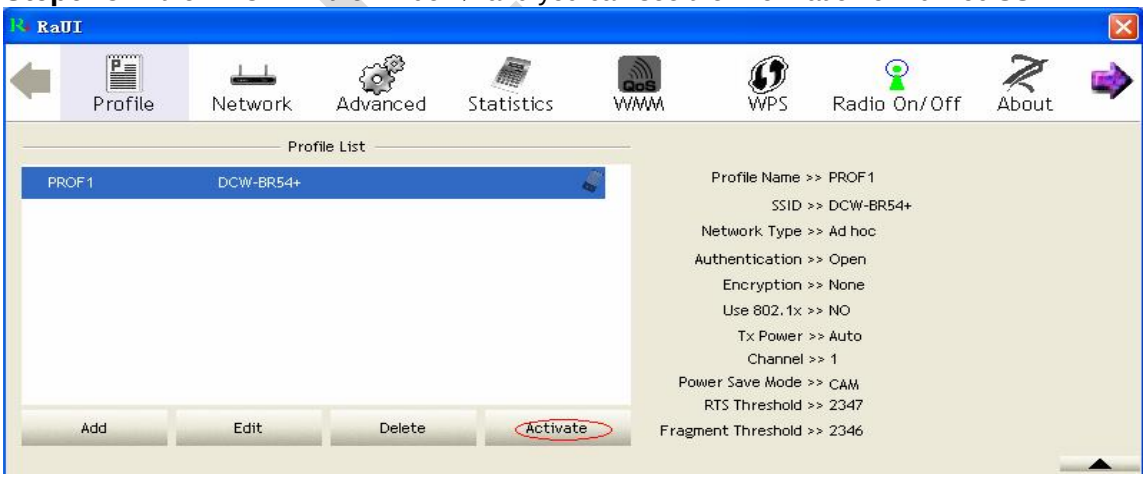
Step1 Click the button ***Add*** to make the Ad-Hoc SSID:



Step2 Choose the SSID and Network Type as blew,and click ***OK*** to go on.

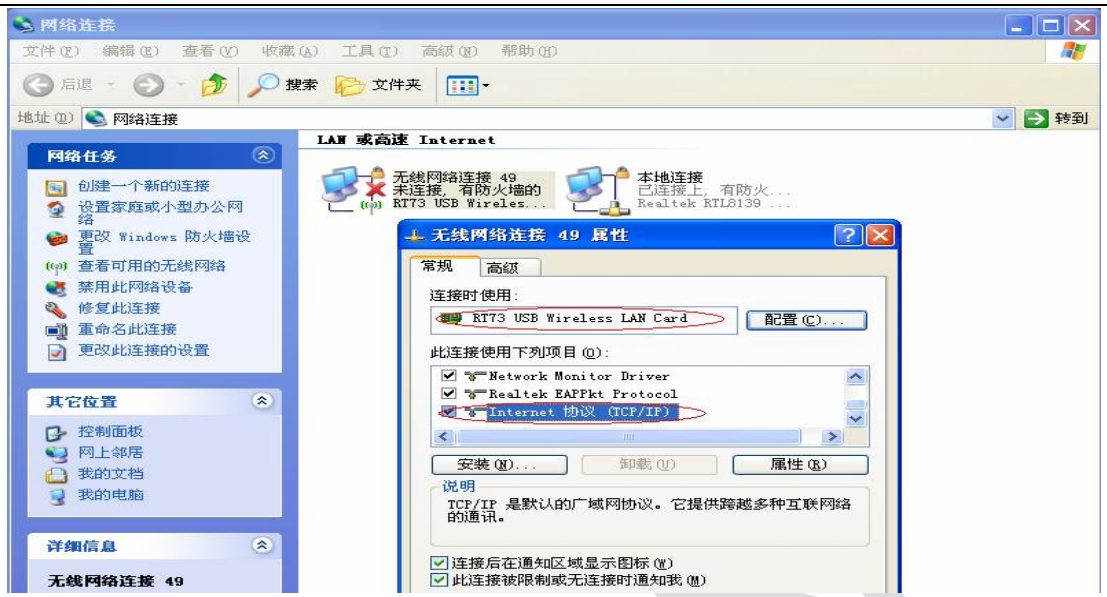


Step3 Clilk the **PROF1** in the window，and you can see the information of Ad-Hoc SSID.

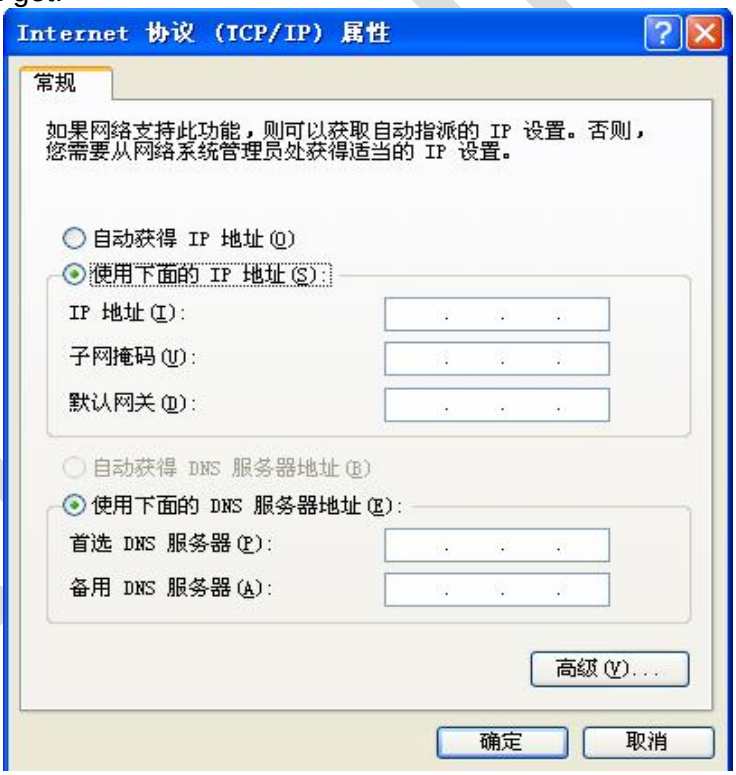


8.2 Setup static IP address for the Ad-Hoc link

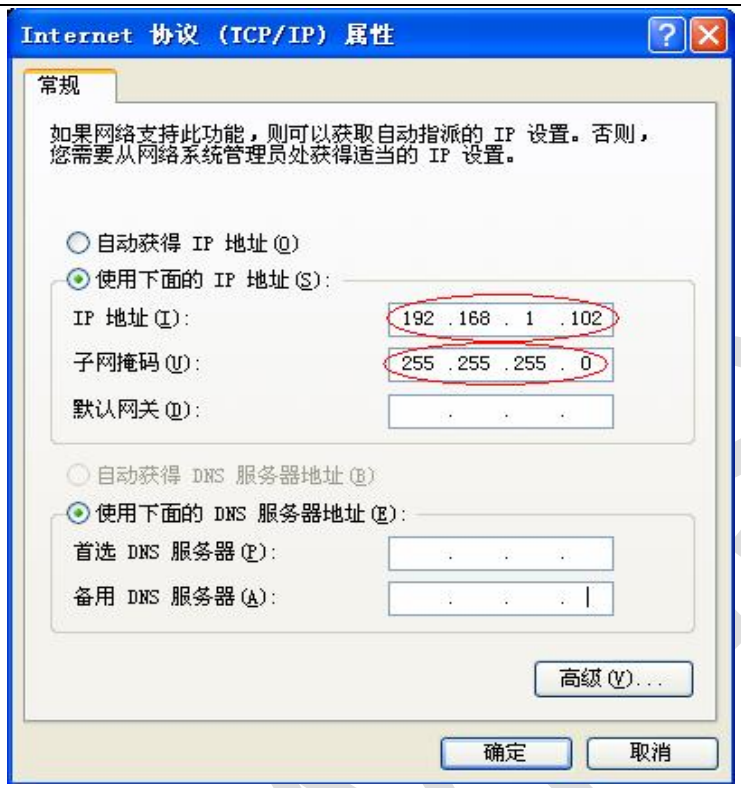
Step1 At its property page, double click item ***Internet Protocol (TCP/IP)***



Step2 You will get:



Step3 Fill the IP address blank, example as below:



Step4 Click ***OK*** to finish the setup.

8.3 Ad-Hoc setup for one point completed.
8.4 Setup another Ad-Hoc point as step a,b,c,d.
8.5 Ad-Hoc mode link accomplished. And you can visit each other.

Note: To make an Ad-Hoc mode link, we should choice the same channel. Its static IP address should be in the same subnet, and the SSID should be the same too.

Appendix A: Terminology

- **ad hoc network A** network composed solely of stations within mutual communication range of each other via the wireless medium (WM).
- **access point (AP)** Any entity that has station functionality and provides access to the distribution ser-vices, via the wireless medium (WM) for associated stations.
- **Station (STA)** Any device that contains an IEEE 802.11 conformant medium access control (MAC) and physical layer (PHY) interface to the wireless medium (WM).
- **RTS (Request To Send)** The frame type used to deign the RTS-CTS clearing exchange. RTS frames are used when the frame that will be transmitted is larger than the RTS threshold.
- **CTS (Clear To Send)** The frame type used to acknowledge receipt of a Request to Send and the second component used in the RTS-CTS clearing exchange used to prevent interference from hidden nodes.
- **WEP (Wired Equivalent Privacy)** The optional cryptographic confidentiality algorithm specified by IEEE 802.11 used to provide data confidentiality that is subjectively equivalent to the confidentiality of a wired local area network (LAN) medium that does not employ cryptographic techniques to enhance privacy.
- **authentication** The service used to establish the identity of one station as a member of the set of stations authorized to associate with another station.
- **WPA (Wi-Fi Protected Access)** A specification of standards-based, interoperable security enhancements that strongly increase the level of data protection and access control for existing and future wireless LAN systems.

Appendix B: Important Notices

Federal Communications 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 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.

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, 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.