

# **User's Manual**



# QP-W2410GP

# 802.11b/g Wireless LAN PCI Card



www.qpcom.com

#### **USING THIS DOCUMENT**

This document provides detailed user guidelines for Wireless LAN PCI Card operation and settings. Though every effort has been made to ensure that this document is up-to-date and accurate, more information may have become available subsequent to the production of this guide.

#### **RELEASE HISTORY**

Ve	ersion	Author	Date	Note
1.	0	Sue	2006/11/17	First Release

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#### **Chapter 1 Introduction**

Thank you for purchasing Wireless LAN PCI Card. Wireless card is a perfect combination product of performance and cost-effectiveness. It is sincerely hoped that you can enjoy the wireless world through this solidly profiled wireless card.

It provides a full solution of the IEEE 802.11b/g protocols, this solution passed the WiFi tests that a re compatible with all the wireless products with WiFi logo. If you have a wireless card on hand, it means you can connect to the wireless world without any difficulty.

It provides all the data rates in the IEEE 802.1b/g standards, which confines the highest data rate as 54Mbps. In addition, it rewards customers with proprietary "Turbo mode" for a better throughput as well as supports both the short and long preambles to ensure the compatibilities with legacy wireless products and new ones, saving the panic works for finding compatible products.

Since the security has became one of the most important issue in the wireless society, it provides you with the full security coverage from the naïve 64/128bits Wep encryptions, second generation WPA-PSK and WPA-AES encryption, to the most advanced WPA2-PSK and WPA2-AES encryption. WPA2 is the latest security standard currently approved by WiFi standard.

AP mode, Saving mode, Adhoc wireless Lan, Wake on Lan (WOL) and other exciting features are also included in this Wireless LAN PCI Card. It will guide you through these exciting features in the following chapters , and it is believed that you will be greatly satisfied with its performance and ease of use.

# **Chapter 2 Specifications**

Interface	PCI
Standard	802.11b, 802.11g, 802.11i
OS support	98Se, WinMe, Win2000, WinXP, WinXP64
Data rate	1,2,5.5,11,6,8,12,18,24,36,48,54Mbps, depends on
	the wireless mode
Frequency band	BG:2.4 ~ 2.497 GHz
Operation Channel	1~11(BG)
Coverage Area	Indoors: 100m (BG)
	Outdoors: 400m (BG)
Compatibility	Fully compatible with IEEE 802.11 b/g devices
Operation Mode	Infrastructure and AdHoc
Security Capacity	64-bit/128-bit WEP, TKIP,WPA-AES, and
	WPA2-PSK,WPA2-AES
Antenna	External antenna
LED	LED0: On: link is on. Off: link is off
	LED1:Blinking: data transition
Wake on WLAN	Wake up system by wireless LAN (AP mode)
Turbo mode	Active when there is no other station around
Power Saving mode	Fast wake up and maximum power saving
AP mode	Support both station mode and AP mode operation
Other features	I Dynamically adjust power for the most stable and
	best throughput
	I Dynamically adjust receiving ability for the best
	Compiled with all the main radio regulations
	User can specify certain wireless modes to use
	Fully support window's hibernation and standby
	2 mode
	2 11000

# Chapter 3 Installation/ Uninstallation

# 3.1 Installation

# Hardware Installation

#### Step 1:

Install Wireless LAN PCI Card (card only) into your computer PCI slot as below.





#### Step 2:

Install antenna to your Wireless LAN PCI Card as picture below.



Note: Please make sure that antenna is tightly screwed to get optimal receiving coverage area.

# **Driver Installation**

Before you proceed with the installation, please notice the following descriptions. Note1: The following installation was operated under Windows XP. (Procedures are similar for Windows 98SE/Me/2000.)

- Note2: If you have installed the WLAN PCI Card driver & utility before, please uninstall the old version first.
- 1. If you insert the Wireless LAN PCI Card into your computer PCI slot before installing the software program from the CD, then auto installation window pops up as follows:
- 2. Click Driver Installation



- 1-1. If you insert the Wireless LAN PCI Card into your computer PCI slot after installing the software program from the CD, then the following window pops up.
   2.1. Olicit Caracal
- 2-1. Click Cancel.



- 3. Choose a set up language.
- 4. Click OK.



5. Click **Next** to process the installation.



- The system starts software installation of the WLAN PCI Card.
   On Windows Logo Software Installation screen, click **Continue Anyway** to continue. Note: Not all the drivers will have this message box. On Found New Hardware Wizard screen, click Cancel.

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N
et 1





8. Click **Finish** to complete the installation.



9. After setup, restart your computer.

Restarting Windows
Setup has finished copying files to your computer. Before you can use the program, you must restart your computer.
Choose one of the following options and click DK to finish setup.
Yes, I want to restart my computer now.
C No, I will restart my computer later.
OK

# 3.2 Uninstallation

From "Wireless Network Driver and Utility" or "Control Panel"→ "Change or Remove Programs".

A. Uninstall the WLAN USB Adaptor Driver from "Start"→ "All Programs"→

Click "Uninstall" (or "Change/Remove") to remove Wireless LAN PCI Card driver.





B. Click "OK" if you want to remove Wireless LAN USB Adaptor Driver .



C. Click "Finish" to complete the uninstallation.



## **Chapter 4 Wireless LAN Management GUI**



#### 4.1 Introduction of Main Window

#### A. Main Menu

The main menu includes five submenus.

#### § Refresh

By clicking the Refresh, you can update and re-enumerate the contents of the adapter list area.

#### § RT-Set

Open a wizard that helps you connecting to the wireless network.

#### § Mode (M)

Wireless configuration can be quickly switched to either [Station] or [Access Point]. Currently supports Station Mode is supported.

#### § View (V)

Enable/disable the presence of status bar.

#### § About (A)

The application version and license information.

#### B. Adapter List Area

All enabled adapters on this system are displayed in this area. It is easy for users to change the selected adapter by one click. The contents of properties area are dependant on wireless configuration that the selected adapter is set up. If only single adapter is installed on the system, the only one adapter is always selected.

#### C. Properties Area

The contents of this area depend on current wireless configuration. The current configuration is determined on previous explanation of submenu "Mode". Details are described in the following wireless configuration sections.

🗄 🔜 tay Computer 🗟

100

General	Status Speed	Available Asso 36 M	e Network clated lbps	Advanced	Status	Statistics	
En	Type cryption SSID	: Infra : None : HW_	structure : LIN	Th	oughpu	t Tx:0%,T	otal:04
54	gnal Stre	ingth:				1	
Li	ik Qualt	y:					
Neta	vork Ada	tress					
P	fac Add	ress:	00:E0:4	C:81:86:36			
	IP Add	ress:	169.25	4.122.157			
S	iubnet M Gate	task: way:	255.25	5.0.0			
			R	ENEW			

#### D. Global Control Bar

Show Tray Icon Windows Zero Config Radio Off Disable Adapter		J
--------------------------------------------------------------	--	---

Each item on this bar controls the adapter or management GUI.

#### § Show Tray Icon

Check this item and clicking "Close" button, the management GUI will be minimized and stay on the tray icon located at the right bottom corner of Windows. Otherwise, management GUI will be shut down while clicking "Close" button with unchecked box.



#### § Windows Zero Config

Transfer the control to Window Default wireless tool. If you want to use this UI to control wireless adapter, this one should be unchecked.

#### § Radio Off

Turn off the radio. While the radio is off, the links with other wireless network nodes will be lost. No signal will be sent out.

#### § Disable Adapter

Disable this wireless adapter. Please notice this action will cause disconnection. The wireless adapter will turn off all the HW function.

#### § Close

Close the active GUI window. If you have the "Show Tray Icon" checked, the small signal icon will be shown at the system tray bar.

NUM

#### E. Status Bar

Ready

Status of the management GUI is present in the status bar.

#### 4.2 RT-Set

RT-Set is introduced in this section, which is a wizard that can help users to connect to a wireless LAN or build an Ad hoc wireless network.

A. Open RT-Set wizard, and choose a mode you want to connect to. One example is explained to show how to connect to an infrastructure network. Click "Next".



B. The site survey results will show up. It tells you how many networks you can connect to at this time. Pick up the one you'd like to connect to and click "Next".

-				
4.1		No. 100		1. I. I.
ec	Cha	Sin		
None	6	46%		
None	6	16%		
None	11	18%		
None	11	16%		
None	11	2296		
None	11	26%		Refrech
None	11	30%		- runes
WEP	11	36%		
lone	11	36%		
WEP	11	20%	×	
	ec None None None None None WEP None WEP	ec Cha None 6 None 11 None 11 None 11 None 11 None 11 WEP 11 WEP 11 WEP 11	ec Cha Si None 6 46% None 6 16% None 11 18% None 11 16% None 11 22% None 11 26% None 11 30% WEP 11 36% WEP 11 36% WEP 11 20%	ec Cha Si None 6 45% None 6 16% None 11 18% None 11 15% None 11 22% None 11 25% None 11 30% WEP 11 36% WEP 11 36% WEP 11 20%

C. A settings window pops up, fill out correct values for this network you'd want to connect to. If this is an open AP without any security, just click "Next".

ofile Name: Patro Saupton				
etwork Name(SSBD):	المالي 20			
This is a computer-to-com access points are not use	puter(ad hoc) network; wirele d. Channel 6 (2002795)	55 0		
Wireless network security		802.1x config	ure	
This network requires a key	for the following:	EAP TYPE :	MDS	W.
Network Authentication:	WPM-PSK	Tunnel :		2
Data encryption:	AES	Username :		
ASCII Possphere	ite [	Identity :		
		Password :		
Network key:		Certificate :	in the	
Confirm network key:				
Key index (advanced):	*			

D. Choose an IP setting that fits your wireless network. If you don't know, please contact your network administrator .

TCP/IP O Obtain a O Use the	n IP addres following IF		auton ddres	nat rg:	tically			
IP	192	•	168		10		201	
MASK	255	•	255	÷	255		0	
GATEWAY		2		1	š.	•		
© Obtain D O Use the	NS server following D	ad	dress i serv		utom: addr	sti e s	cally sest	
Primary			25					
Sec			40				1	

E. Congratulation, you are now connected to the wireless network.

Speed: 36 Mbps Type: Infrastructure Encryption: None Throughput Tx:0%,Total:0% SSID: HW_LIN Signal Strength: Link Qualty: Mac Address Mac Address: 00:E0:4C:81:86:36 IP Address: 00:E0:4C:81:86:36		Status	: Ass	sociated				
Type: Infrastructure Encryption: None Throughput Tx:0%,Total:0% SSID: HW_LIN Signal Strength:		Speed	: 36	Mbps				
Encryption: None Throughput Th::0%,Total:0% SSID: HW_LIN Signal Strength:		Туре	: Inf	rastructure				
SSID: HW_LIN Signal Strength: 66% Link Qualty: 76% Network Address Mac Address: 00:E0:4C:81:86:36 IP Address: 169.254.122.157	En	cryption	: No	ne	Thr	oughpu	t Tx:0%,To	tal:0%
Signal Strength:         66%           Link Quality:         76%           Network Address         76%           Mac Address:         00:E0:4C:81:86:36           IP Address:         169.254.122.157		SSID	: HM	V_LIN				
Link Quality:         76%           Network Address         76%           Mac Address:         00:E0:4C:81:86:36           IP Address:         169.254.122.157	5	gnal Stre	ngth:				1	66%
Network Address           Mac Address:         00:E0:4C:81:86:36           IP Address:         106:254.122.157	Li	nk Qualt	y:			ШП		76%
Mac Address: 00:E0:4C:81:86:36 IP Address: 169.254.122.157	Net	work Add	tress	State Streets				
IP Address: 169.254.122.157	1	Mac Add	ress:	00:E0:4	C:81:86:36			
a h i h h h h h h h h h h h h h		IP Add	ress:	169.254	122.157			
Subnet Mask: 255,255,0,0	2	Subnet M	lask:	255.253	5.0.0			
Gateway:		Gate	wəy:					

#### 4.3 Station Mode

	Status: Speed: Type	Ass 36 Infi	ociated Mbps rastructure				
Enc	ryption: SSID:	Nor HW	ne /_LIN	Tł	iroughpu	t Tx:0%,T	otal:0%
Sign	al Strer	ngth:					66%
Link	(Quality	r:					76%
Netw	ork Add	ress					- 2
M	ac Addr	ess:	00;E0:4	C:81:86:36	<b>i</b>		
	IP Addr	ess:	169.25	4.122.157			
SL	ibnet M Gater	ask: vay:	255.25	5.0.0			
			R	ENEW			

The following explanations focus on the properties area.

#### General Page

This page represents the general information of this adapter.

General Profile Avails Status: As Speed: 36	ble Network sociated Mbps	Advanced	Status	Statistics	
Encryption: No SSID: H	mastructure one V_LIN	Th	oughpu	t Tx:0%,T	otal:0%
Signal Strength:					66%
Link Quality:					76%
Network Address					
Mac Address:	00;E0:4	C:81:86:36			
IP Address:	169.254	1.122.157			
Subnet Mask: Gateway:	255.255	5.0.0			
	RI				

#### 1. Status

This adapter's current connection status.

#### 2. Speed

Current transition speed in Mbps (Mega-Bits-Per-Second).

#### 3. Туре

Current wireless LAN configuration type.

#### 4. Encryption

Current encryption mode used.

#### 5. SSID

Name of wireless network.

#### 6. Signal Strength

The average signal strength received by this adapter.

#### 7. Link Quality

The average quality of signal. Signal to Noise ratio.

#### 8. Throughput Diagram

Trasmitting performance.

#### 9. Network Address

- I Mac Address: A unique hardware ID for this adapter.
- I IP Address: Assigned by DHCP server or by user manually.
- I Subnet Mask: IP layer subnet mask setting. Most of the network use 255.255.255.0. Contact your network administrator for the right setting. If you use DHCP server, then you don't need to assign this value.
- I Gateway: IP address of your gateway.

#### 10.Renew

Renew all the status on the status page.

#### Profile Page

This page provides profiles management functions.

#### Available Profile(s)

The list box shows all the created profiles.

Profile Name	SSID HW LIN	Add
i test	testteste	Remove
	Disconnected	Edit
		Dupicate
		Set Default

#### 1. Add

Add a new access point profile.

#### 2. Remove

Remove the selected profile.

#### 3. Edit

Edit contents of selected profile.

#### 4. Duplicate

Make copy of selected profile.

#### 5. Set Default

Set the selected profile as default selection. It will automatically connect to this profile when the card is plug in next time.

#### 6. Available Network Page

This page presents all access points around this system. You could connect to one of these networks by double clicking on it.

#### Available Network(s)

Present networks around this adpater. In order to connect to a network, you can double click and connect to it.

SSID		Chan	Encrypt	Network Au	uthenticati 🧌
CISCOWPA	2_11G	1	None	Unknown	
l Instant80	12_WME	1	TKIP	WPA Pre-Sh	ared Key
1 SMC2804		1	TKIP	WPA Pre-Sh	ared Key
	AES	1	None	Unknown	
ASUS-WL	5003	з	None	Unknown	
		10	None	Unknown	
i 12CG		11	None	Unknown	
Atheros_	WPA2_G	11	None	Unknown	9
<					8
				Refresh	Add to Profie
Note:			-		-
Day dala selat		e tete leve	and second second		

#### 1. Refresh

Rescan networks around this adapter.

#### 2. Add to Profile

Create a profile for selected network connection. This profile will appear in the profile list.

#### A. Advanced Page

Refresh RT-Set Mode(M)       View(Y)       About (A)         Image: Sector of the	Wireless LAN Uitily	
General Profile Available Network       Advanced Status       Statistics         Power Save       Turbo Mode       Fragment Threshold:       2432         OFF       OFF       OFF       2432         Max       AUTO       RTS Threshold:       2432         Wireless Mode:       0       2432         0       2432       2432         0       2432       2432         0       2432       2432         0       2432       2432         0       2432       2432         0       2432       2432         0       2432       2432         0       2432       2432         0       2432       2432         0       2432       2432         0       2432       2432         0       2432       2432         0       2432       2432         0       2432       2432         0       2432       2432         0       2432       2432         0       2432       2432         0       2432       2432         0       2432       2432         2432       2432	Refresh RT-Set Mode(M) View(Y) About(A)	
Show Tray Icon Windows Zero Config Radio Off Disable Adapter Close	General       Profile       Available Network       Advanced       Status       Statistic:         Power Save       Turbo Mode       Fragment       Fragment Threshold:       256         Min       ON       Max       AUTO       RTS Threshold:       0         Min       ON       Max       AUTO       RTS Threshold:       0         Sol:       Sol:       None       0       0         Sol:       Sol:       None       0       0         Sol:       Sol:       Sol:       0       0         Sol:       Taiwan       Set Defaults       0	2432 2432 2432 2432 2432
Close		
Ready		

1. Power Save

None: without power saving mode. Min: Medium power saving mode. Max:Max power saving mode.

#### 2. Wireless Mode

You can choose the B/G mode you want to use.

#### 3. 802.11b Preamble Mode

Long: Only use long preamble. Ignore short preamble packets. More reliable signal synchronization quality but with lower effective data throughput than short preamble mode. Usually used by legacy B mode device.

Short: Only use short preambles. Higher effective data performance than long preamble mode.

Auto: Accept all preamble modes. It is suggested that you use this setting. Please note that you will need the right settings to be able to connect to certain type of networks.

#### 4. Fragment Threshold

The threshold of fragment length. This value will limit the maximum size of packets this adapter will send out. Higher threshold increases data transition performance. However, Poorer signal quality results worse data throughput on higher fragment threshold.

#### 5. RTS Threshold

Request to send packet's threshold. The RTS packets will not be sent out until the data to be sent reach or over this threshold. Packets shorten than this threshold will be sent out directly.

#### 6. WOL (Wake On LAN) (Only appear in some versions)

The wake-on-LAN is a part of remote control function. You could wake up a system through network packets. It does not exist in some version of UI.

#### 7. Set Defaults

Restore to the default settings.

#### 8. Apply

Apply the current settings to GUI.

#### 9. Turbomode

There are 3 modes. Off/On/Auto. Auto mode only works with certain AP products and it will give user a good experience on these ones.

Turbo mode "on" means the wireless card will try the turbo mode with other APs, however, the performance is not guaranteed.

#### 10.Region Domain

If a user travels around the world and needs to use the wireless LAN. He/she can use this feature to dynamically change country/ region settings.

#### Status Page

General Profile Avenable Retwork	Alveloel Share Share
Manda Law	- F - H
1-FL 102 1 TUS.	- F \$100
NCB Drive Marsian	- 5.1169 DE DE18
Shini Fuli (Histori	- Ni
Fullyn i'r	<ul> <li>Disturb</li> </ul>
Automoticalle	- Chur
Corre B	- FCC
MAC Arch w	5.00:E0:10:81:87:02
Data Bata	1.54 Mich
Charte (Festivery)	- 1 (2412 MHz)
Sala	: Acroscol
SSID	1 CM 1 WPA2 112
N don to Tetu	- Tales inclusion
From Specificate	<ul> <li>Mone</li> </ul>
A social st AP MAC	- 00:11:02:7E:AD 70
A subjid at AP 1P	- 0.0 0.0
UniTime (Increase)	- 0:07:20

- § Manufacturer
- **§** NDIS Driver Version: Driver version.
- § Short Radio Header: No
- § Encryption: Current encryption mode.
- **§** Authenticate: Authentication state.
- § Channel Set: Current channel plan.
- § MAC Address: MAC address of this adapter.
- § Data Rate: Wireless LAN transition speed.
- **§** Channel(Frequency): Current channel number.
- § Status: Wireless network status.
- **§** SSID: Network SSID this station currently connected to.
- **§** Network Type: Current network configuration type.
- **§** Power Save Mode: Current power saving mode.
- § Associated AP MAC: MAC address of connected access point.
- § Associated AP IP: IP address of connected access point
- § Up Time: Total connection time.

#### B. Statistics Page

You could monitor the status of current wireless connection. This page shows a statistic analysis of packet transition.

Overall	Firstile Leonikitie Kunouik Intonened	Olohos Olohistics
	Counter Name Tri OK Tri Bohiy Tri Bohiy Tri Bohiy Bri OK Bri Striy Bri GRI Bohiy Bri GRI Bohiy Bri GRI Bohiy Bri GRI Bohiy Bri GRI Bohiy Bri GRI Bohiy Bri GVI Bohi	value - 15 0 0 0 10 10 1 1 0 0 0
		Keset

## **Chapter 5 Connect to AP**

There are two major ways you can connect to an AP.

On "Available Network" page, you can directly double click on any network and enter the related settings if the profile page pops up.

General Profile	Available Network	Adv	/anced Status	Statistics	Easy Config
Available Netw	ork(s)	<u>ر</u>			
SSID	Ch	an	Encrypt	Network A	luthenticat 🔼
i 802.11c	-SSID	11	None	Unknown	
🗢 BLOWFI	SH	11	WEP	Unknown	
👗 Buffalo-5	54-GGG	11	None	Unknown	
	3939ED0	11	TKIP/AEC	WPA Pre S	hared Key/
<b>i</b> J		11	WEP	Unknown	
	RMayG	11	None	Unknown	
👗 RTL8186	5-G	11	None	Unknown	
👗 jwagr61	4	11	None	Unknown	~
<					>
Note: Double cli	ick on item to joir	n/crea	Ref	řesh	udd to Profile

The Second way is through "Profile" tab. You can press the "Add" in the Profile table and enter the related setting. For example, with SSID "test111".

1

WPA-PSK, TKIP. You should enter the fields on the following page.

Wireless network properties		
Profile Name: test Network Name(SSID): test111 This is a computer-to-computer(ad hoc) network; wireless access points are not used		
Wireless network security       This network requires a key for the following:       Network Authentication       WPA-PSK       Data encryption:       TKIP       ASCII       Passphrase       Key Length:       64 Bits	802.1x configure           EAP TYPE :         MD5           Tunnel :         Identity :           Identity :         Identity :	
Network key: Confirm network key Key index (advanced): OK Cancel	Certificate :	

### Chapter 6 AP Mode Usage

This UI also support "AP" mode. With the following processes you can set up an AP mode with your wireless card.

1. Select AP mode on the main menu.



2. On the AP mode settings window. Select "Config".

Associ	SSID BSSIE	; test4 ); 00:E0:4C:0	31:85:5C		Config
Associ	ation Labi ID Ma	e c Address	Li	fe Time	

3. On the Config page, you can choose the settings for your AP. Some settings had been filled with grey color; these settings are not applicable in AP mode.

work Name(SSID): (esc4		
This is a computer-to-computer(ad hoc) network; wireless		
access points are not used. Channel 6 (2437MHz) 😪		
Vireless network security	802.1x configure	
his network requires a key for the following;	EAP TYPE : MDS	×
letwork Authentication:	Tunnel :	
Data encryption:	Usersene i	
ASCII Passphrase	Identity :	
ey Length: 64 Bits 💉	Password :	
letwork key:	Certificate :	Q.
Confirm network key;		

4. After you fill out the settings, you can connect to this AP.

5. If you want to connect to the internet through this AP, you will need to make a bridge between SoftAP and your internet connect. Select the internet connection in your SoftAP host machine. Select your internet connection network card. Press Apply. For Window 2000, you will need to set up extra steps for internet bridge, Please see the information (\*\*) in the end of this chapter.

ConnName	Device Name
▲」圖改建版之 2 <u>1</u> 無線網路連…	Intel(R) PRO/Wireless 2915ABG Network Connecti.
<	
ublic network	函域連線 2 Broadcom NetXtreme Gigabit Ethernet

6. If you want to see the Statistics in your SoftAP, it is on the Statistics page.

Counter Name	Value
X OK	2576
Tx Error	256
x Retry	3043
x Beacon OK	6246
x Beacon Error	0
X OK	0
tx Retry	0
Rx CRC Error(0-500)	3
Rx CRC Error(500-1000)	0
x CRC Error(>1000)	0
x ICV Error	2.0
	Reset

7. Advanced settings. You can use default values if the fields are blank.

General Advanced Statisti	cs SoftAP
Beacon Interval:	100
DTIM Period:	3
Preamble Mode:	Auto
Set Defaults	Apply

8. If a station is connected to this SoftAP, you can see it on the General page. You may also set up a timeout for each station. If a station idles for more than 10 minutes, it will be disconnected to save your resources.

Associ	BSSIC iation Tabl	): 00:E( e	):4C:81:8	5:5C			Config
F	ID Ma	c Address	8	11.1	Life Time	3	
1	00:	20:A6:53	:F5:F7		9:35		

\*\*

For Window 2000, you will need to do extra settings to set up an internet connection bridge. Please follow these steps.

- 1. Wireless card must be set to enable DHCP and DNS in network properties.
- 2. Disable protocols other than TCP/IP.
- 3. There will be a sharing tab on the properties page, select it and check the sharing option.
- 4. Confirm the warning message after you click "OK".
- 5. Now you should be able to share your internet connection to the SoftAP and other people using your AP.

#### **Chapter 7 Frequently Asked Questions**

#### 1. What is B/G mode?

These names are from the IEEE standard. It refers to the IEEE 802.11 group name. 802.11B network standard operates at 2.4G band and its maximum throughput is 11Mbps. 802.11G operates at 2.4G band too but has the maximum throughput 54Mbps.

2. What is infrastructure mode? What is Adhoc mode?

Infrastructure mode refers to a network that operates like an architecture-like network group. Our adapter, as a station, will connect to an access point, which will connect to a gateway and forward our traffic to the internet. Infrastructure mode is the mostly used network type.

Ad hoc mode refer to a network that everyone is equal. All the peers are stations. Usually people use it when there is no network access and people want to connect to each other using wireless networks.

3. How could I get a better throughput?

Throughput depends on a lot of factors. Usually we will suggest you not leave your access point too far away. It usually will be better if your access point is within your line of sight. If there are other access points around, try to keeps your access point channel setting away from their setting.

# Appendix 1: How to use 802.1x (Step by Step)

Wireless network properties	×
Profile Name: Instant802_WME_WPA2	
Network Name(SSID): Instant802_WME_WPA2	
This is a computer-to-computer(ad hoc) network; wireles access points are not used. Channel 6 (2437MHz)	s T
Wireless network security	
This network requires a key for the following:	
Network Authentication: WPA 802.1X	<b>.</b>
Data encryption:	2
T ASCII T Passphrase	
Key Length: 64 Bits	
Network key:	
Confirm network key:	-8
Key index (advanced):	
⊂ 802.1× configure	
EAP TYPE : TLS	1
	× I
	-
Identity :	/
Password :	
Certificate: "popyou" "Realtek-Root"	-

Step 1 : Set Authentication mode to WPA 802.1x ,or WPA2 802.1x

Network Authentication:	WPA 802.1X
Data encryption:	Open System Shared Key
🗖 ASCII 🗖 Passphr	WPA-PSK ast WPA2-PSK WPA 802 1X
Key Length: 64	4 B WPA2 802.1X

Step 2 : Set encryption to TKIP ,or AES

Data encryption:	AES
🗖 ASCII 🔲 Passphr	

#### Step 3 : Set EAP Type to MD5 , GTC , TLS , LEAP , TTSL , or PEAP

EAP TYPE :	MD5
Tunnel :	MD5 GTC
Username :	TLS LEAP
Identity :	TTSL PEAP

#### Step 3.1.1 : When set TTSL

Set Tunnel Type to CHAP , MSCHAP , MSCHAP-V2 , PAP , or EAP-MD5

Tunnel :	СНАР
	CHAP
Username :	MSCHAP
Ideotity	MSCHAP-V2
Tuencicy :	PAP
Deceword :	EAP-MD5

#### Step 3.1.2 : When set PEAP

Set Tunnel Type to MD5 , GTC , TLS , or MSCHAP-V2

Tunnel :	MD5
Username :	MD5 GTC
Identity :	TLS MSCHAP-V2

Step 3.2 If you do not set PEAP to TLS ,you could use certificate.

Certificate : 🕞	"popyou" "Realtek-Root"	-
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Step 4 : After you finish above steps.

You should fill out the following fields( Username , Identity , Password ).

User name : Certificated user name .

Identity : User's identity in the RADIUS server

Password : User's pass word in the RADIUS server

Username :	
Identity :	
Password :	