IEEE 802.11n Wireless Series

Wireless USB Adapter

User Manual

Version: 2.1 Date: March 19, 2011

FCC Certifications

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.

IEEE 802.11b or 802.11g operation of this product in the U.S.A. is firmware-limited to channels 1 through 11.

IMPORTANT NOTE: FCC Radiation Exposure Statement:

The product comply with the US/Canada portable RF exposure limit set forth for an uncontrolled environment and are safe for intended operation as described in this manual. The further RF exposure reduction can be achieved if the product can be kept as far as possible from the user body or reduce output power if it doesn't affect the transmission/receiving quality.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

SAR compliance has been established in typical laptop computer(s) with USB slot, and product could be used in typical laptop computer with USB slot. Other application like handheld PC or similar device has not been verified and may not compliance with related RF exposure rule and such use shall be prohibited.

CE Mark Warning

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This equipment complies with the requirements relating to electromagnetic compatibility, EN 55022 Class B for ITE, the essential protection requirement of Council Directive 2004/108/EC on the approximation of the laws of the Member States relating to electromagnetic compatibility and R&TTE Directive 1999/5/EC to meet the regulation of the radio equipment and telecommunications terminal equipment.

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Package Contents

The following contents should be found in your box:

- > One IEEE 802.11n USB Adapter
- > One external antenna (Type A) (Type B, C and D are internal antenna)
- > One resource CD, including:
 - ♦ REALTEK 11n USB Wireless LAN Driver and Utility
 - ♦ User Manual

Note:

Make sure that the package contains the above items. If any of the listed items are damaged or missing, please contact with your distributor.

Conventions:

The "Adapter" mentioned in this user guide stands for Wireless 11n USB Adapter without any explanations.

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Chapter 1 Introduction

Thank you for purchasing this product. Read this chapter to know about your IEEE 802.11n wireless USB Adapter.

1.1 Picture and Overview of the Product



Comply with 802.11n standard

This Wireless 11n USB Adapter provides you a better wireless signal. It complies with standards IEEE 802.11n with data rate up to 150Mbps (Type A, B and D) or 300Mbps (Type C), and IEEE 802.11b/g with maximum data rate of 54Mbps. It can also interoperate with all the 11Mbps wireless(802.11b) products.

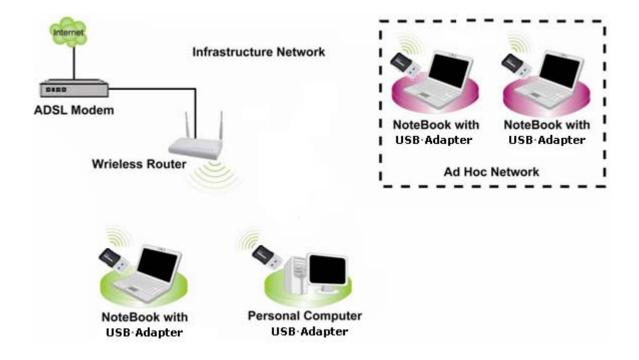
Reliable coverage

This Adapter includes a convenient utility for scanning available networks and saving preferred networks that users usually connected with. And your wireless communications are protected by up to 128-bit encryption, which can keep your data secure.

Easy installation and connection

Installation and use are further simplified by living up to USB's plug and play installation. You will neither need to open the case of your computer, nor will you be required to set IRQ's. It represents

the simplest way to connect your computer to an ethernet based network. Also, this USB Adapter has a small shape and is light in weight. It is convenient to carry and place.



1.2 Application Diagram

1.3 Features

- ▶ High Speed transfer data rate up to 150 Mbps (Type A, B and D) or 300Mbps (Type C)..
- Supports 2.4GHz Frequency band, 1T1R (Type A, B and D) or 2T2R (Type C).
- Supports QoS Enhancement (WMM, WMM-PS Client mode).
- Supports frame aggregation, Power saving mechanism, channel management and co-existence.
- Transmit Opportunity (TXOP) Short Inter-Frame Space (SIFS) bursting for higher multimedia bandwidth.
- Supports driver for Windows 7 (x86/x64), Vista (x86/x64), XP (x86/x64), Linux 2.6 and Mac OS 10.5, 10.6.
- Supports auto-installation and diagnostic utilities.

1.4 LED Status

This USB Adapter contains one LED. Please refer to the following description for LED definition.

LED Indications	Status	Working Status
	Blink blue	The Adapter is Radio on
Radio/ACT LED	Blink blue and flashing intermittently	The Adapter is already connected but is not transmitting or receiving data
	Blink blue and fast flashing	The Adapter is activity and transmitting of receiving data.
	Off	The Adapter is Radio off

Chapter 2 Management Guide for Windows XP User

2.1 Hardware Installation

The installation of the Adapter is very simple. You could plug the Adapter directly to the USB port on your computer. The LED will light up when the Adapter is installed successfully and the PC is on.

2.2 Software Installation

2.2.1 Overview

The following Setup Wizard will guide you through the Installation procedure for Windows XP. The Setup Wizard will install the REALTEK 11n USB Wireless LAN Driver and Utility. When you install the hardware before installing the software, the system will prompt "Found New Hardware Wizard" on your screen, click Cancel, and run the Setup Wizard program on the CD-ROM.

2.2.2 Installation Procedures

- 1. Insert the CD into your CD-Rom, and find the setup driver in the CD. Then click the setup icon to start the installation.
- 2. The language-selecting window pops up. Please select the language you use and click "Next".

REALTEK 11n USB Wireless LAN - InstallShield Wizard	
Choose Setup Language Select the language for the installation from the choices below.	
Basque Bulgarian Catalan Chinese (Simplified) Chinese (Traditional) Croatian Czech Danish Danish Dutch English	
Finnish French (Canadian) French (Standard) German Greek	
nstallShield	t> Cancel

3. At this moment "Preparing Setup" window appears. Please wait.

REALTEK 11n USB Wireless LAN Software - InstallShield Wizard	
Preparing Setup Please wait while the InstallShield Wizard prepares the setup.	EA.
REALTEK 11n USB Wireless LAN Software Setup is preparing the InstallShield Wiza will guide you through the rest of the setup process. Please wait.	ard, which
(**************************************	
InstallShield	
	Cancel

4. Now comes the welcome window. Click the "Next" button to proceed.

REALTEK 11n USB Wireless	LAN Software	\mathbf{X}
	REALTEK 11n USB Wireless LAN Software	
	The InstallShield Wizard will install REALTEK 11n USB Wireless LAN Software on your computer. To continue, click Next.	
	< <u>Back</u> <u>N</u> ext > Cancel	

5. Click the "Install" button to start installing.

REALTEK 11n USB Wireless LAN Driver and	d Utility 🛛 🔀
REALTEK 11n USB Wireless LAN Driver an	d Utility
Click Install to begin the installation.	
If you want to review or change any of your installa the wizard.	ation settings, click Back. Click Cancel to exit
InstallShield	
C	< <u>B</u> ack Install Cancel

6. Please wait when you see the following interface.

REALTEK 11n USB Wire Setup Status	less LAN Software	
Installing	less LAN Software is configuring your new software installation. a0c-A916-1D12314F45EB}\setup.exe	
]
installShield	Cancel	

7. Please wait again while installation



8. After all the steps above, you will see the screen below. Select "Yes, I want to restart my computer now." and click "Finish" to reboot the system.



2.3 Management Guide

This guide describes how to configure your Adapter for wireless connectivity on your Wireless Local Area Network (WLAN) and use the data security encryption features.

After Installing the Adapter, the Adapter's tray icon will appear in your system tray. It appears at the bottom of the screen, and shows the signal strength using color and the received signal strength indication (RSSI).

If the icon is purple, there is no connection.

If the icon is white, the network is dropping off.

If the icon is almost green, there is good signal strength.

If the icon is full green, there is excellent signal strength.

2.3.1 Select a Configuration Tool

In the following instruction for making a network connection, we use the provided Utility to configure your wireless network settings.

Note:

You could use either the software we provide or Microsoft Zero Configuration tool to configure this Adapter.

2.3.2 To Connect with Microsoft Zero Configuration Tool

After specifying the Microsoft Zero Configuration tool to configure your wireless network, right click on the sicon on system tray. Select "View Available Wireless Networks" to specify your wireless network.



The tool shows the available wireless networks. Select your demanding network to connect with. To connect to a wireless network, please click "Change advanced settings" to be compatible with your wireless network settings.

ion 3	X
Choose a wireless network	
Click an item in the list below to connect to a wireless network in range (information,	or to get more
((p)) w241	ê lite
((Q)) W142A	
Unsecured wireless network	Ulise
((Q)) ¹²³	
Unsecured wireless network	0000
((Q)) 88888test	
Unsecured wireless network	0000
((Q)) Wireless-11n-shawn	
Unsecured wireless network	0000
((Q)) WLAN-11g-GW	
Unsecured wireless network	ea000 🧹
	Connect
	Click an item in the list below to connect to a wireless network in range information. (m) w241 (m) get Security-enabled wireless network (WPA) (m) W142A Unsecured wireless network Unsecured wireless network (m) 123 Unsecured wireless network Unsecured wireless network (m) 88888test Unsecured wireless network Unsecured wireless network (m) Wireless-11n-shawn Unsecured wireless network Unsecured wireless network (m) Wireless-11n-shawn Unsecured wireless network Unsecured wireless network

2.3.3 Introduction to the 802.11n Wireless LAN Utility

2.3.3.1 Interface



After the driver installation, the **E** icon will appear on your desktop. Double click this icon and the following interface appears:

🖫 REALTEK 11n USB Wireless LAN Utility					
Refresh(R) Mode(M) About(A)					
MyComputer Reakek RTL818	General Profile Available Network Advanced Status Statistics Wi-Fi Protect Setup Status: Not Associated Speed: N/A Type: N/A Encryption: N/A SSID: Signal Strength: Link Quality: Network Address: MAC Address: IP Address: 0.0.0.0 Subnet Mask: 0.0.0.0 Gateway: ReNew IP				
Show Tray Icon		Close			
Radio Off	Windows Zero Config				

Note:

- 1. **Functional Buttons**: on the upper side of the utility window, you can click each button to access each configuration window for the detail information in the center area.
- 2. **Optional Table**: at the bottom: "Show Tray Icon", "Disable Adapter", "Radio off", "Windows Zero Config"
- A. Show Tray Icon---Clicking "Show Tray Icon" and "Close" button, the management GUI will be minimized and stay on the tray icon located at the right bottom corner of Windows. If not, management GUI will shut down by only click "Close" button with unchecked condition.
- B. Disable Adapter---Disable this wireless PCI card.
- *C. Radio off---*It can save power while turning off the radio. While the radio is off, the links with other wireless network will be disconnected. User should be aware that while the wireless configuration is in AP mode. Radio Off will cause the sub network belonging to the AP to be disconnected with internet.
- D. Windows Zero Config---External Configuration: select this item will enables you to disable the WLAN Station Configuration Utility and indicates that the station driver is to be configured with Windows XP's built-in Zero Configuration Utility. This item is only displayed on windows XP systems.

2.3.3.2 Available Network

This table lists the available wireless networks surrounding you. You can select the network you want in this list (The network with the strongest signal is recommended). You can refresh the connecting network list by clicking the "Refresh" button.

REALTEK 11n USB W	ireless LAN Uti	lity					
Refresh(R) Mode(M) Abou	ıt(A)						
🖃 😼 MyComputer	General Profile	Available Network	Adva	nced Status	Statistics Wi-Fi Protect Setup	1	
- S Realtek RTL818	Available Net	work(s)					
	SSID	Ch	annel	Encryption	Network Authentication	Signal	٦
	1 ²⁾ TRENDne	et310	1	None	Unknown	56%	Ir
	1 ⁹⁾ W142A		6	None	Unknown	58%	Ir
	1 ²⁰ lynwey_s	skyline	6	None	Unknown	46%	Ir
	1 ⁹⁾ 123		9	None	Unknown	88%	Ir
	1 ⁹⁾ W255-RE	EV.A	11	None	Unknown	56%	Ir
	1 ⁹⁾ W440A		11	TKIP	WPA Pre-Shared Key	46%	Ir
	WLAN-1	lg-GW	11	None	Unknown	10%	Ir
	<						>
		Refresh			Add to Profile]	
	Note Double of	lick on item to joi	n/creat	te profile.			
			Dia-1				_
Show Tray Icon				ole Adapter		Clos	e
Radio Off			Wind	dows Zero C	onfig		

Available Network Information:

ltems	Information
SSID	The name of the IEEE 802.11 wireless network. This field has a maximum limit of 32 characters.
Channel	Display current channel in use.
	Shows the encryption mode in use. There are total 4 modes: None,
Encryption	WEP, TKIP and AES.
Network Authentication	Shows the authentication mode in use.
Signal	This percentage shows the strength of the signal.
Туре	The type of network and the station currently connected are shown here.

	The options include :
	• Infrastructure - All wireless clients will connect to an access point
	or wireless router.
	• Ad-Hoc - Directly connecting to another computer, for peer-to-peer
	communication, using wireless network adapters on each computer,
	such as two or more wireless adapters.
BSSID	The MAC address of locally-managed, generating from a 46 random code.
Support Rates	Show current rate

Note:

1) An Infrastructure network contains an Access Point or wireless router. All the wireless devices or clients will connect to the wireless router or access point.

2) An Ad-Hoc network contains only clients, such as laptops with wireless desktop adapters. All the adapters must be in Ad-Hoc mode to communicate.

2.3.3.3 Profile

1. Add a new profile:

(1) Selecting an available network in the "Available Network" function then click the "Add to Profile" button., or double click the network name. You could also add a new profile (for example, the network with SSID 123) quickly by clicking the "Add" button in the "Profile" function.

Note: If the network you add to profile is not encrypted, "Unsecured network" window will pop up, then Click "OK".



(2) It displays "Wireless Network Properties" dialog box. This profile page allows users to save different wireless settings, which helps users to get access to wireless networks at home, office or other wireless network environments quickly.

Profile Name:	123	802.1x configure	
Network Name(SSID):	123	EAP TYPE :	
		GTC	9
		Tunnel : Privision Mode :	
This is a computer-tr access points are no	o-computer(ad hoc) network; wireless it used.	~	~
Channel:	9 (2452MHz) 💌	Username :	
Wireless network secu	urity		
This network requires	a key for the following:	Identity :	
Netv	vork Authentication: Open System 🛛 💌		
	Data encryption: Disabled	Domain :	
ASCII PAS	SPHRASE	Password :	
Key index (advanced): 1 🗸	Certificate :	
Network key:			N
		PAC : Auto Select PAC	
Confirm network key:			~

In this dialog box, there are some items:

Items	Information
Profile Name	Identifies the configuration profile .This name must be unique. Note that the profile names are not case-sensitive. (You can enter the Profile name by "Add", but you could only use the default name by "Add to profile".
Network Name(SSID)	The IEEE 802.11n wireless network name, using default name defined by system. This field has a maximum limit of 32 characters.

(3) Channel (Country Region Code): seven countries to choose. Country channel list:

Country	Channel Range	Country	Channel Range
USA	CH1 ~ CH11	FRANCE	CH1 ~ CH13
CANADA	CH1 ~ CH11	JAPAN	CH1 ~ CH14
ETSI	CH1 ~ CH13	ISRAEL	CH1 ~ CH13
SPAIN	CH1 ~ CH11		

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

(4) Wireless Network Security

A. Network Authentication



There are 7 types supported: Open System, Shared Key, WPA-PSK, WPA2-PSK, and WPA 802.1X, WPA2 802.1X, WEP 802.1X. Please select a type from the drop down list. Select the Security tab in the screen above. To define the security mode, select the desired security mode as follows.

- **Open System:** enable an adapter to attempt authentication regardless of its WEP settings. It will only associate with the access point if the WEP keys on both the adapter and the access point match.
- **Shared-key:** only allows the adapter to associate with access points that have the same WEP key.
- **802.1x:** This item appears while the environment is set to an open authentication with WEP encryption. The section is also available in WPA and WPA2 authentication types.
- **Preshared Key (PSK):** This is the shared secret between AP and STA. For WPA-PSK, WPA2-PSK and WPA-NONE authentication mode, this field must be filled with characters longer than 8 and less than 32 lengths. The following dialog appears if you have input invalid values.
- WEP Key: Only available when using WEP encryption algorithm. The key must match AP's key. Only using the same cryptographic key to access the computer, the internet can storage, and decryption the information from other computer.
- B. Data Encryption:

	There are 4 types supported: Disabled, WEP, TKIP and AES. The available encryption selection will differ from the authentication type you				
	have chosen, the result is shown bel	ow:			
Dete enemintien	Authentication	Available Encryption Selection			
Data encryption	Open System	Disabled, WEP			
	Shared Key , WEP 802.1X	WEP			
	WPA-PSK, WPA2-PSK, and WPA	TKIP, AES			
	802.1X, WPA2 802.1X				

Note: Select different Security Options, the configurations are different; you can select the

appropriate security option and configure the exact key as your need.

- **TKIP:** "Temporary Key Integration communication Protocol", it provide each packet's key mixture, message integration and key reconstruction mechanism. TKIP can use with personal or the enterprise network validation.
- **AES:** "Advanced Encryption Standard", it is a new method that the wireless transmission of privacy protection. AES encryption method is more careful than TKIP.

(5) Finish the configuration, then click "OK", that network has been added to the profile. You can go to the "General" interface for the connecting status.

REALTEK 11n USB Wi		AN Util	ity					
Refresh(R) Mode(M) Abou	t(A) General	Profile	Available	Network	Advanced	Status	Statistics	Wi-Fi Protect Setup
Realtek RTL818		ole Profi						
		ile Nami	9	SSID				Add
	(P 12	23		123				Remove
								Edit
								Duplicate
								Set Default
	<			ULE.			>	
< >								
Show Tray Icon Radio Off					Disable A Windows			Close

Profile List: The list shows all the profiles you have added before.

Buttons: You can click on these buttons to Add a new profile, Remove, Edit, Duplicate or Set Default an old profile.

2.3.3.4 General

REALTEK 11n USB W	REALTEK 11n USB Wireless LAN Utility						
Refresh(R) Mode(M) Abou	r(A)						
B WyComputer	General Profile Available Network Advanced Status Statistics Wi-Fi Protect Setup						
	Status: Associated Speed: Tx:150 Mbps Rx:150 Mbps Type: Infrastructure Encryption: None SSID: 123 Signal Strength: 96% Link Quality: 100%						
	Network Address: MAC Address: 00:E0:4C:81:76:00 IP Address: 0.0.0.0 Subnet Mask: 0.0.0.0						
Show Tray Icon	Gateway: ReNew IP Disable Adapter Windows Zero Config						

In this window, there are some items as following:

Items	Information
Status	Currently connection status.
Speed	Show current transmit rate and receive rate.
Туре	Network type in use.
Encryption	Encryption type in use.
SSID	The name of the IEEE 802.11 wireless network. This field has a maximum limit of 32 characters.
Signal Strength	Receive signal strength.
Link Quality	Display connection quality based on signal strength.
Network Address	 A. MAC Address: The MAC address of the wireless network adapter. B. IP Address: IP address of current connection. C. Subnet Mask: Subnet mask of current connection. D. Gateway: Gateway of current connection.

2.3.3.5 Advanced

This screen below enables you to make advanced configuration for the profile. Please refer to the following chart for definitions of each item.

REALTEK 11n USB W	ireless LAN Utility		
Refresh(R) Mode(M) Abou	it(A)		
⊟	General Profile Available Netw	vork Advanced Status Statistics Wi-Fi Prot	ect Setup
	Preamble Mode	Fragment Threshold 2347	2432
	Channel Plan	RTS Threshold 2346	2432
	Set Defau	its Apply	
Show Tray Icon	And a second	Isable Adapter Vindows Zero Config	Close

1. Preamble Mode

The length of CRC blocks in the frames during the wireless communication. Select the options from the drop list: (1) Long (2)Short (3)Auto.

2. Channel Plan

The selectable Channel: FCC, IC, ETSI, Spain, France, MKK, MKK1, Israel, TELEC, Default

3. Threshold

(1) Fragment Threshold

This value should remain at its default setting of 2347. If you experience a high packet error rate, you may slightly increase your fragmentation threshold within the value range of 256 to 2432. Setting the fragmentation threshold too low may result in poor performance.

(2) RTS Threshold

Request To Send Threshold. This value should remain at its default setting of 2346. If you encounter inconsistent data flow, only minor modifications to the value range between 0 and 2432 are recommended.

2.3.3.6 Status

The Status tab contains general information about the program and its operations.

Refresh(R) Mode(M) Abou	ut(A)	
Refresh(R) Mode(M) Abou	General Profile Available Network Advanced Status Statistics Wi-Fi Protect Setup	
<	Status Associated SSID 123 Network Type Infrastructure Power Save Mode None Associated AP MAC 00:21:91:F7:A8:D6 Up Time (hh:mm:ss) 0:14:42	
Show Tray Icon	Disable Adapter Close	

The following table describes the items in "Status".

Items	Information
Manufacturer	The name of manufacturing this product.
NDIS Driver Version	The version of Network Driver Interface Specification.
Encryption	Here displays the encryption type the device is using.
Authenticate	This shows whether the server based authentication is used.
Channel Set	Appears the country you use.
MAC Address	The MAC address of the wireless network adapter.
Data Rate(Auto)	Show current transmit rate and receive rate.
Channel Frequency	Shows the channel in use (1~14).
Status	Current connection status.
SSID	The SSID of the wireless system.
Network Type	The type of network and the station currently connected are shown
	here. The options include : Infrastructure, Ad Hoc
	The power save mode have three modes, as follows :
Power Save Mode	• Max - Selects maximum mode to let the access point buffer
	incoming messages for the Adapter. The Adapter will detect the

	access point if any messages are waiting periodically.
	• Min – Min mode uses minimum when retrieving a large number of
	packets, then switches back to power save mode after retrieving
	the packets.
	• None - Turns power saving off, thus powering up the Wireless
	USB Adapter continuously for a short message response time.
Associated AP MAC	The MAC Address of associated AP.
Up Time	Record life time.

Note to US model owner: To comply with US FCC regulation, the country selection function has been completely removed from all US models. The above function is for non-US models only.

2.3.3.7 Statistics

Statistics page displays the detail counter information based on 802.11 MIB counters. This page translates the MIB counters into a format easier for user to understand. It show receiving and transmitting statistical information about the following receiving and transmitting diagnostics for frames received by or transmitted to the wireless network Adapter.

REALTEK 11n USB Wi	less LAN Utility	
Refresh(R) Mode(M) Abou	0	
MyComputer Sealtek RTL8188	ieneral Profile Available Network Advanced Status	Statistics Wi-Fi Protect Setup
	Counter Name	Value
	Tx OK Tx Error	126 0
	Rx OK	47
	Rx Packet Count Rx Retry	47
	Rx ICV Error	0
	Reset	
< 5		
Show Tray Icon	 Disable Adapter Windows Zero Config 	Close

ltems	Information
ТХ ОК	Successfully transmitted frames numbers.
TX Error	Frames numbers transmitting with error.
RX OK	Successfully received frames numbers.
Rx Packet Count	The packets of receiving frames.
RX Retry	Frames numbers re-receiving.
RX ICV Error	Integrity Check Value receiving with error.
Reset Counter	Reset counters to zero.

2.3.3.8 Wi-Fi Protect Setup

The primary goal of Wi-Fi Protected Setup (Wi-Fi Simple Configuration) is to simplify the security setup and management of Wi-Fi networks. This Adapter supports the configuration setup using PIN configuration method or PBC configuration method. If the connected wireless Router/AP support Wi-Fi Protected Setup (WPS), you can use this USB Adapter to establish a wireless connection using either Push Button Configuration (PBC) method or PIN method.

REALTEK 11n USB W	ireless LAN Utility	
Refresh(R) Mode(M) Abo	ut(A)	
MyComputer Realtek RTL8188	General Profile Available Network Advanced Status Statistics Wi-Fi Protect Setup Wi-Fi Protected Setup (WPS) An easy and secure setup solution for Wi-Fi network Pin Input Config (PIN) After pushing the PIN button.Please enter the PIN code into your AP. PIN Code : 23966949 Pin Input Config (PIN) Push Button After pushing the PBC button.Please push the physical button on your AP or visual button on the WPS config page.	
	Push Button Config (PBC)	
Show Tray Icon Radio Off	Disable Adapter Windows Zero Config	Close

Here we will introduce two ways to configure the QSS

(QSS is known as rapid security settings, by pressing the wireless router and this Adapter on the QSS button to automatically set up WPA2 secure connection level without the router or network adapter management software to conduct the cumbersome interface settings, greatly simplifying the operation of the wireless security settings.)

Pin Code: 8-digit numbers. It is randomly generated from system.

1. PIN method

Click the button "Pin Input Config (PIN)", and then come to the following figure.

Wi-Fi Protected Set	up (WPS) 🛛 🔀
😲 Do you want	to select a specific AP ?
<u>Y</u> es	No

Click the button "Yes", and then select one of the AP. Also, you can click these buttons by "Refresh / Select / Cancel" for any change.

Wi-Fi Protected Setu	ıp - Select AP	×
WPS AP Name TRENDnet310 lynwey_skyline W255-REV.A 123	WPS AP MAC 00:E0:4C:81:96:B1 00:00:00:00:00:13 00:E0:4C:81:96:C1 00:21:91:F7:A8:D6	
< Select	Refresh Cancel	>

When the following interface pops up, double click the Internet WEB browser icon on your desktop screen. Type the IP address of you selected Router/AP into the URL and press "Enter", and then you can enter the configuration.

Please enter the WPS (Wi-Fi) configuration page, type the PIN code of adapter and click confirm button to build WPS connection.

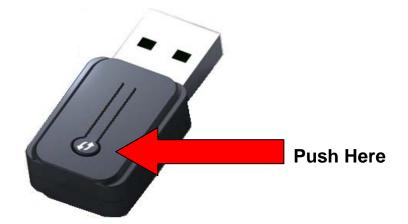
Wi-Fi Protected Setup - PIN method	×
Wi-Fi Protected Setup - PIN method	
Please enter the following PIN code into your AP .	
PIN Code: 16172777	
Status : [Wireless-11n-Router] WPS Protocol Communication	
	-
Cancel	J

When the "General" window appears, WPS is configured successfully.

REALTEK 11n USB W Refresh(R) Mode(M) Abo							
MyComputer Sealtek RTL8188	General	Profile	Available Network	Advanced	Status	Statistics	Wi-Fi Protect Setup
			Status: Asso Speed: Tx:: Type: Infra Encryption: AES	150 Mbps R astructure	x:150 M	bps	
			SSID: WP al Strength:	60e896d79	11		100% 100%
	1	Netwo	rk Address:				
				Address: 0)
				Address: 1			
				et Mask: 2 ateway: 1			
				ReN	ew IP		
				100			
Show Tray Icon Radio Off			Disable Ada				Close

2. PBC (Push Button Configuration) method

After pushing the PBC button, please push the physical button on your Router/AP or visual button on the WPS config page, then come to the following figure.



(The above PBC button only for Type C, Type A, B and D can do this function on the GUI.)

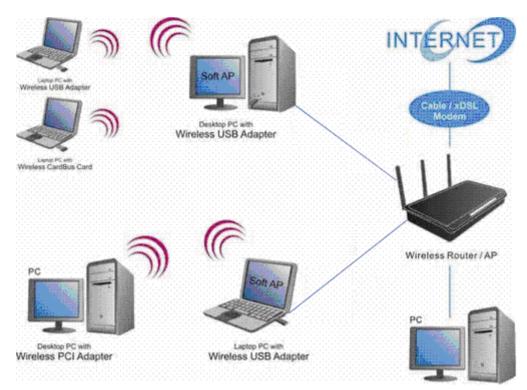
	×
<i>Wi-Fi Protected Setup - PBC method</i> If there is more then one AP on the PBC mode, there will be [Session Overlap].Please using PIN method or wait for a while push the button again. Status : Initial WPS	
Complete :	-

When WPS is configured successfully, the "Available Profile" is changed.

Refresh(<u>R)</u> Mode(<u>M</u>) View	Y) About(A)	
MyComputer Realtek RTL8188	General Profile Available Network Advanced Status Statistics Wi-Fi Prote Available Profile(s)	ct Setup
	Profile Name SSID I [®] RTK 11n AP RTK 11n AP	Add
	1 ⁰ WPS04527f96b1 WPS04527f96b1 C WPS2a3b0e96b1 WPS2a3b0e96b1	ernove
		Edit
		uplicate
	Se	t Default
Show Tray Icon	Disable Adapter	Close
The second second	Windows Zero Config	Close

2.3.4 AP Mode Management Guide for Windows XP User

If you wish to share the Internet access with the wireless stations in your environment, you can configure this wireless adapter as a software access point (Soft AP). In this mode, this wireless adapter becomes the wireless access point that provides local area network and Internet access for your wireless stations.



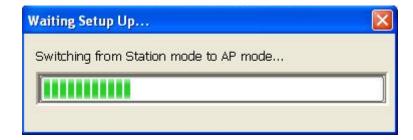
Software Access Point (Soft AP) Application:

2.3.4.1 General

To use this Adapter as an access point, please click the "Mode" on the menu bar and select "Access Point".

🔽 REALTE	K 11n U	SB Wirel	ess L	AN Util	ity				
Refresh(<u>R</u>)	Mode(M)	About(A)							
🖃 闍 MyC	 Station 		eneral	Profile	Available Network	Status	Statistics	Wi-Fi Protect Setup	
2	Access			Fionie	Available Network	Status	Statistics	wi-ri riotect setup	

Then switch from station mode to AP:



At the same time, you will find that the icon on the system tray is changed.

🔊 🗊 🖗 🏷 4:47 PM

The following interface is under AP mode:

REALTEK 11n USB W	ireless LAN Utility	
Refresh(R) Mode(M) Abou	Jt(A)	
MyComputer Sealtek RTL8186	General Advanced Statistics ICS SSID: eng7_AP BSSID: 00:E0:4C:81:76:00 Association Table	
	AID MAC Address Life Time	
	1 00:08:54:9A:79:11 19:45	
Show Tray Icon	Disable Adapter	Close

Please refer to the following information about this AP mode utility.

Items	Information
SSID	AP name of user type.
BSSID	The MAC address of locally-managed, generating from a 46 random code.
AID	Raise value by current connection.
MAC Address	The station MAC address of current connection.
Life Time (mm:ss)	Record life time.

Click the "Config" button, then you can configure the wireless network properties. This page provides overall configuration to this Adapter.

Wireless Network Prope	erties:	×
Profile Name:	Access Point Mode	
Network Name(SSID):	eng7_AP	
access points are not		
Channel:	1 (2412MHz) 💌	
- Wireless network secu	rity	
	a key for the following:	
Netw	rork Authentication: Open System	
	Data encryption: Disabled	
	SPHRASE	-
	(1, 1, 3, 3) (3m)ber	-
New Judges (reduced a)		
Key index (advanced) Network key:	: 1	
Confirm network key:		
ОК	Cancel	

SSID: AP name of user type.

Channel: Manually force the AP using the channel. System default is channel 1.

Security Setting: Authentication mode and encryption algorithm used within the AP. System default is no authentication and encryption.

Cancel: Cancel the above changes.

OK: Apply the above changes.

Network Authentication: Select the Security tab in the screen above. To define the security mode, select the desired security mode as follows. There are 4 types supported: Open System, Shared Key, WPA-PSK, WPA2-PSK. Please select a type from the drop down list.

Data Encryption:

	There are 4 types supported: Disabled, WEP, TKIP and AES. The available encryption selection will differ from the authentication type you have chosen, the result is shown below:		
Data encryption	Authentication Open System	Available Encryption Selection Disabled, WEP	
	Shared Key WPA-PSK,	WEP TKIP, AES	

WPA2-PSK	
	1

Note: Select different security options, the configurations are different; you can select the appropriate security option and configure the exact key as your need.

2.3.4.2 Advanced

REALTEK 11n USB W	ireless LAN Utility	
Refresh(R) Mode(M) Abou	ıt(A)	
Refresh(R) Mode(M) Abou	General Advanced Statistics ICS General Beacon Interval IOI DTIM Period: 1 Preamble Mode	
	Long 💌	
Show Tray Icon Radio Off	Disable Adapter	Close

Items	Information
Beacon Interval	Beacon frequency spacing.
DTIM Period	Delay transmission indicator map (DTIM) is enabled for power management of the client. If any client power management is enabled, the DTIM should be retained for 1 (the default). Support this parameter range from 1 to 255.
Preamble Mode	Select the options from the drop list, (Long / Short).
Set Defaults	Setting the default value of General.
Apply	Apply the above changes.

2.3.4.3 Statistics

Statistics page displays the detail counter information based on 802.11 MIB counters.

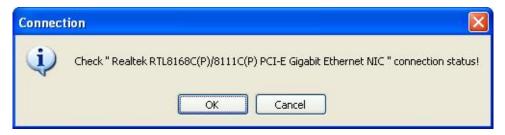
esh(R) Mode(M) About(A)	Advanced Statistics ICS	
Realtek RTL8188		
	Counter Name	Value
	Тх ОК	742
	Tx Error	0
	Rx OK	939
	Rx Packet Count	939
	Rx Retry	13
	Rx ICV Error	0
	Reset	
	L	

Items	Information
ТХ ОК	Successfully transmitted frames numbers.
TX Error	Frames numbers transmitting with error.
RX OK	Successfully received frames numbers.
Rx Packet Count	The packets of receiving frames.
RX Retry	Frames numbers re-receiving.
RX ICV Error	Integrity Check Value receiving with error.
Reset Counter	Reset counters to zero.

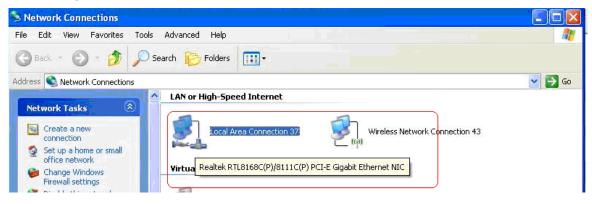
2.3.4.4 ICS

REALTEK 11n USB Wi	reless LAN Utility	
Refresh(R) Mode(M) Abou	t(<u>A</u>)	
WyComputer Sealtek RTL8188	General Advanced Statistics	and the second
	ConnName	Device Name
	Local Area Connection SiS190 100/10 Ethernet Device	SiS190 100/10 Ethernet Device
	원 Local Area Connecti ① pppoe-b1	Realtek RTL8139/810x Family Fast Ethernet NIC WAN Miniport (PPPOE)
	Public Network	
< >	(Apply
Show Tray Icon	D D	isable Adapter Close
Ready		NUM

In this function, you can set the device sharing with Internet. Click the button "Apply", and then Prompt box pops up.



Select "OK". When the connection is successful, you will find that the tray "Local Area Connection" has been changed.



Chapter 3 Management Guide for Vista User

3.1 Hardware Installation

The installation of the Adapter is very simple. You could plug the Adapter directly to the USB port on your computer. The LED will light up when the Adapter is installed successfully and the PC is on.

3.2 Soft Installation

3.2.1 Overview

The following Setup Wizard will guide you through the Installation procedure for Vista. The Setup Wizard will install the REALTEK 11n USB Wireless LAN Driver and Utility. When you install the hardware before installing the software, the system will prompt "Found New Hardware Wizard", click "Cancel", and run the Setup Wizard program on the CD-ROM.

3.2.2 Installation Procedures

- 1. Insert the CD into your CD-Rom, and find the setup driver in the CD. Then click the setup icon to start the installation.
- 2. The language-selecting window pops up. Please select the language you use and click "Next".

Choose Setup Language Select the language for the installati	on from the choices below.	
Basque Bulgarian Catalan Chinese (Simplified) Chinese (Traditional) Croatian Czech Danish Dutch English		E
Finnish French (Canadian) French (Standard) German Greek		-

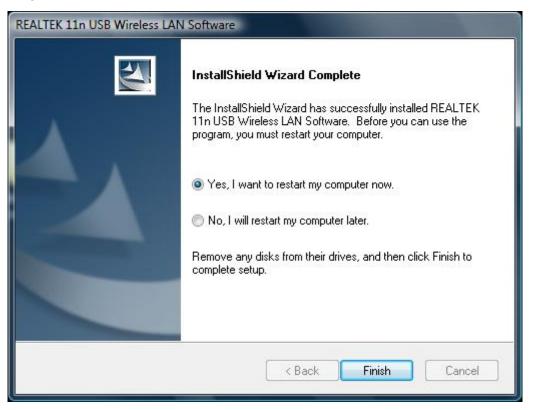
3. The welcome window pops up. Click the "Next" button to proceed.

REALTEK 11n USB Wireless LAN Software	
Setup Status	No.
REALTEK 11n USB Wireless LAN Software is configu	ring your new software installation.
InstallShield	Cancel

4. Please wait again while installation



5. After all the steps above, you will see the screen below, Select "Yes" to reboot the system, then click "Finish".



3.3 Management Guide

This guide describes how to configure your Adapter for wireless connectivity on your Wireless Local Area Network (WLAN) and use the data security encryption features.

After Installing the Adapter, the Adapter's tray icon will appear in your system tray. It appears at the bottom of the screen, and shows the signal strength using color and the received signal strength indication (RSSI).

3.3.1 Interface



After the driver installation, the **CENN** icon will appear on your desktop. Double click this icon and the following interface appears:

🞇 REALTEK 11n USB Wirel	ess LAN Utility
Refresh(R) Mode(M) A	bout(A)
MyComputer Realtek RTL818	General Profile Available Network Advanced Status Statistics Wi-Fi Protect Setup Status: Not Associated Speed: N/A Type: N/A Type: N/A SSID: Signal Strength:
	Network Address: IP Address: 0.0.0 Subnet Mask: 0.0.0 Gateway: ReNew IP
Show Tray Icon Radio Off	Disable Adapter Close

Note:

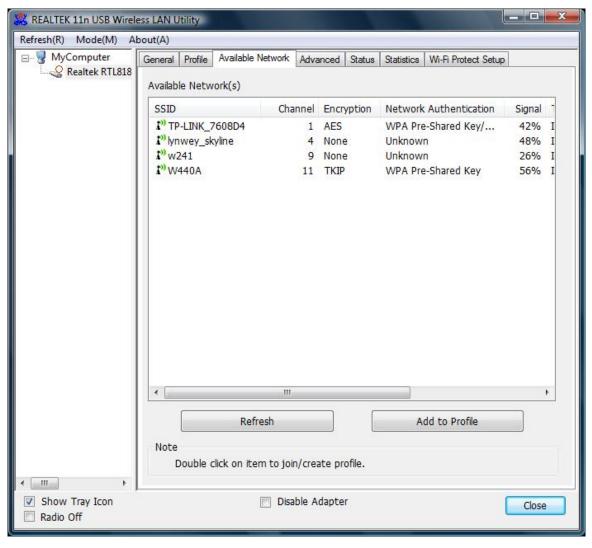
- 1. **Functional Buttons**: on the upper side of the utility window, you can click each button to access each configuration window for the detail information in the center area.
- 2. Optional Table: at the bottom: "Show Tray Icon", "Disable Adapter", "Radio off".
- A. Show Tray Icon---Clicking "Show Tray Icon" and "Close" button, the management GUI will be

minimized and stay on the tray icon located at the right bottom corner of Windows. If not, management GUI will shut down by only click "Close" button with unchecked condition.

- B. Disable Adapter---Disable this wireless PCI card.
- *C. Radio off---*It can save power while turning off the radio. While the radio is off, the links with other wireless network will be disconnected. User should be aware that while the wireless configuration is in AP mode. The radio off will cause the sub network belonging to the AP to be disconnected with internet.

3.3.2 Available Network

This network lists the available wireless networks. The Utility connects to a wireless network with best signal strength automatically. You can refresh the connecting network by clicking on the network name and click the "Refresh" button.



Items	Information
SSID	The name of the IEEE 802.11 wireless network. This field has a maximum limit of 32 characters.
Channel	Display current channel in use.
Encryption	Shows the encryption mode in use. There are total 4 modes: None, WEP, TKIP and AES.
Network Authentication	Shows the authentication mode in use.
Signal	This percentage shows the strength of the signal.
Туре	The type of network and the station currently connected are shown here. The options include : Infrastructure & Ad-Hoc
BSSID	The MAC address of locally-managed, generating from a 46 random code.
Support Rates	Show current rate.

Available Network Information:

Note:

1) An Infrastructure network contains an Access Point or wireless router. All the wireless devices or clients will connect to the wireless router or access point.

2) An Ad-Hoc network contains only clients, such as laptops with wireless desktop adapters. All the adapters must be in Ad-Hoc mode to communicate.

3.3.3 Profile

1. Add a new profile:

(1) Selecting an available network in the "Available Network" function then click the "Add to Profile" button, or double click the network name. You could also add a new profile (for example, the network with SSID lynwey_skyline) quickly by clicking the "Add" button in the "Profile" function.

Note: If the network you add to profile is not encrypted, "Unsecured network" window will pop up, then Click "OK".



(2) It displays "Wireless Network Properties" dialog box. This profile page allows users to save different wireless settings, which helps users to get access to wireless networks at home, office or other wireless network environments quickly.

In the following dialog box, there are some items:

Items	Information
Profile Name	Identifies the configuration profile . This name must be unique. Note that the
	profile names are not case-sensitive.
Network	The IEEE 802.11n wireless network name, using default name defined by
Name(SSID)	system. This field has a maximum limit of 32 characters.

[]] access points are no	
Profile Name:	lynwey_skyline
Network Name(SSID):	lynwey_skyline
Channel:	4 (2427MHz) -
Wireless network sec	
This network requires	a key for the following:
Netw	ork Authentication: Open System
	Data encryption: Disabled
	SPHRASE
Key index (advanced) Network key:	: 1 *

Country	Channel Range	Country	Channel Range
USA	CH1 ~ CH11	FRANCE	CH1 ~ CH13
CANADA	CH1 ~ CH11	JAPAN	CH1 ~ CH14
ETSI	CH1 ~ CH13	ISRAEL	CH1 ~ CH13
SPAIN	CH1 ~ CH11		

(3). Channel (Country Region Code): seven countries to choose. Country channel list:

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

(4) Wireless Network Security A. Network Authentication

Select the Security tab in the screen above. To define the security mode, select the desired security mode as follows. There are 7 types supported: Open System, Shared Key, WPA-PSK, WPA2-PSK, and WPA 802.1X, WPA2 802.1X, WEP 802.1X, Please select a type from the drop down list

Network Authentication:	Open System 🔻
Data encryption:	Open System Shared Key WPA-PSK
PASSPHRASE	WPA2-PSK WPA 802.1x WPA2 802.1x WEP 802.1x

- **Open System:** enable an adapter to attempt authentication regardless of its WEP settings. It will only associate with the access point if the WEP keys on both the adapter and the access point match.
- Shared-key: only allows the adapter to associate with access points that have the same WEP key.
- 802.1x: This item appears while the environment is set to an Open authentication with WEP encryption. Mark the checkbox to make the section available. The section is also available in WPA and WPA2 authentication types.
- Preshared Key(PSK): This is the shared secret between AP and STA. For WPA-PSK, WPA2-PSK and WPA-NONE authentication mode, this field must be filled with characters longer than 8 and less than 32 lengths. The following dialog appears if you have input invalid values.
- WEP Key: Only available when using WEP encryption algorithm. The key must match AP's key. Only using the same cryptographic key to access the computer, the internet can storage, and decryption the information from other computer.

B. Data Encryption:

	There are 4 types supported: Disa available encryption selection will diffe have chosen, the result is shown below	er from the authentication type you		
	Authentication	Available Encryption Selection		
Data encryption	Open System	Disabled, WEP		
	Shared Key	WEP		
	WPA-PSK, WPA2-PSK, and WPA 802.1X, WPA2 802.1X	TKIP, AES		
	WEP 802.1X	WEP		

Note: Select different Security Options, the configurations are different; you can select the appropriate security option and configure the exact key as your need.

- **TKIP:** "Temporary Key Integration communication Protocol", it provide each packet's key mixture, message integration and key reconstruction mechanism. TKIP can use with personal or the enterprise network validation.
- **AES:** "Advanced Encryption Standard", It is a new method that the wireless transmission of privacy protection. AES encryption methods provides more careful than TKIP.

(5) Finish the configuration, and then click "OK", that network has been added to the profile.

🧏 REALTEK 11n USB Wirel	ess LAN Utility	Statement of the local division of the			. 🗆 🗙
Refresh(R) Mode(M) A	bout(A)				
HyComputer	General Profile Available Available Profile(s)	Network Advanced	Status Statistics	Wi-Fi Protect Setup	
	Profile Name	SSID		Add	
	() lynwey_skyline	lynwey_skyline		Remove	
				Edit	
				Duplicate	
				Set Default	
<		11	•		
Show Tray Icon Radio Off		Disable Adapter			Close

Wireless 11n USB Adapter

Profile List: The list shows all the profiles you have added before.

Buttons: You can click on these buttons to Add a new profile, Remove, Edit, Duplicate or Set Default an old profile.

3.3.4 General

🧱 REALTEK 11n USB Wirele	ess LAN Ut	ility							x
Refresh(R) Mode(M) Al	bout(A)								
B- 🖁 MyComputer	General	Profile	Available Network	Advanced	Status	Statistics	Wi-Fi Protect S	etup	
Realtek RTL818			Status: Associa	ited					
			Speed: Tx:72	Mbps Rx:29	Mbps				
			Type: Infrast	ructure					
		En	cryption: None						
			SSID: lynwey	_skyline					
	:	Signal S	trength:					56%	
		Link	Quality:				_	92%	
								-	
	Networ								
	Networ	K AUUI	255:						
			MAC Address: (
			IP Address: 1		.70				
			Subnet Mask: 2 Gateway: 0						
			Galeway: 0	.0.0.0					
			1	Dahl					
				ReiNe	ew IP				
Chaw Tray Ison			Die						
Show Tray Icon Radio Off			Disa	able Adapte				Close	

In this window, there are some items as following:

Items	Information
Status	Currently connection status.
Speed	Show current transmit rate and receive rate.
Туре	Network type in use.
Encryption	Encryption type in use.
SSID	The name of the IEEE 802.11 wireless network. This field has a maximum limit of 32 characters.
Signal Strength	Receive signal strength.

Link Quality	Display connection quality based on signal strength.				
	A. MAC Address: The MAC address of the wireless network adapter.				
Network	B. IP Address: IP address of current connection.				
Address	C. Subnet Mask: Subnet mask of current connection.				
	D. Gateway: Gateway of current connection.				

3.3.5 Advanced

This screen below allows you to make advanced configuration for the profile. Please refer to the following chart for definitions of each item.

REALTEK 11n USB Wirel	ess LAN Utility
Refresh(R) Mode(M) A	bout(A)
MyComputer Sealtek RTL818	General Profile Available Network Advanced Status Statistics Wi-Fi Protect Setup
	Preamble Mode Fragment Threshold 2347
	Channel Plan RTS Threshold 2432
	Set Defaults Apply
Show Tray Icon Radio Off	Disable Adapter Close

1. Preamble Mode

The length of CRC blocks in the frames during the wireless communication. Select the options from the drop list: (1) Long, (2)Short

2. Channel Plan

The selected country: FCC, IC ETSI, Spain, France, MKK, MKK1, Israel, TELEC, Default.

3. Threshold

(1) Fragment Threshold

This value should remain at its default setting of 2347. If you experience a high packet error rate,

you may slightly increase your fragmentation threshold within the value range of 256 to 2432. Setting the fragmentation threshold too low may result in poor performance.

(2) RTS Threshold

Request To Send Threshold. This value should remain at its default setting of 2346. If you encounter inconsistent data flow, only minor modifications to the value range between 0 and 2432 are recommended.

3.3.6 Status

The Status tab contains general information about the program and its operations. The current Status tab needn't any configurations.

REALTEK 11n USB Wirele Refresh(R) Mode(M) Al	pout(A)	
New Medical Contract of Minister Contractor	General Profile Available Network Advanced Manufacturer NDIS Driver Version Short Radio Header Encryption Authenticate Channel Set MAC Address Data Rate (AUTO) Channel (Frequency)	Status Statistics Wi-Fi Protect Setup REALTEK 1006.1.713.2010 No Disabled Open System FCC 00:E0:4C:81:76:00 Tx:72 Mbps Rx:29 Mbps 4 (2427 MHz)
< III) >	Status SSID Network Type Power Save Mode Associated AP MAC Up Time (hh:mm:ss)	Associated lynwey_skyline Infrastructure None 00:00:00:00:00:13 0:07:00
Show Tray Icon	📄 Disable Adapte	Close

The following table describes the items found on the Status screen.

Items	Information
Manufacturer	The name of manufacturing this product.
NDIS Driver Version	The version of Network Driver Interface Specification.
Encryption	Here displays the encryption type the device is using.

Authenticate	This shows whether the server based authentication is used.
Channel Set	Appears the country you use.
MAC Address	The MAC address of the wireless network adapter.
Data Rate(Auto)	Show current transmit rate and receive rate.
Channel Frequency	Shows the channel in use (1~14).
Status	Current connection status.
SSID	The SSID of the wireless system.
Network Type	The type of network and the station currently connected are shown
	here. The options include : Infrastructure, Ad Hoc
Power Save Mode	The power save mode have three mode: Max, Min, None
Associated AP MAC	The MAC Address of associated AP.
Up Time	Record life time.

3.3.7 Statistics

Statistics page displays the detail counter information based on 802.11 MIB counters. This page translates the MIB counters into a format easier for user to understand. It show receiving and transmitting statistical information about the following receiving and transmitting diagnostics for frames received by or transmitted to the wireless network adapter.

MyComputer Ge	eneral P	mfile	Available Network	Advanced	Statue	Statistics	Wi-Fi Protect Setup
Realtek RTL818		Tome	A diable Herrone	Avancea	010100		With Hotel Study
	1						
		Cou	nter Name				Value
		Tx C					118
		Tx E			0		
		Rx C)K Jacket Count				10
							8
		Rx Retry Rx ICV Error					0
			r			_	
			l	Re	set		

Items	Information
ТХ ОК	Successfully transmitted frames numbers.
TX Error	Frames numbers transmitting with error.
RX OK	Successfully received frames numbers.
Rx Packet Count	The packets of receiving frames.
RX Retry	Frames numbers re-receiving.
RX ICV Error	Integrity Check Value receiving with error.
Reset Counter	Reset counters to zero.

3.3.8 Wi-Fi Protect Setup

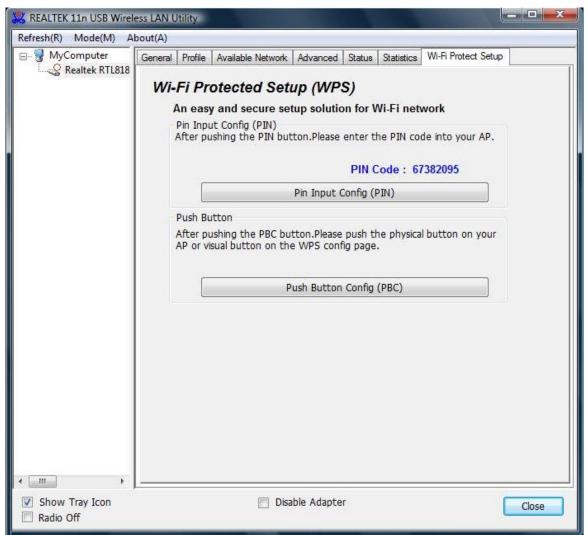
The primary goal of Wi-Fi Protected Setup (Wi-Fi Simple Configuration) is to simplify the security setup and management of Wi-Fi networks. This adapter supports the configuration setup using PIN configuration method or PBC configuration method. If the connected wireless Router/AP supports Wi-Fi Protected Setup (WPS), you can use this adapter to establish a wireless connection by either Push Button Configuration (PBC) method or PIN method.

Wireless 11n USB Adapter

Here we will introduce two ways to configure the QSS

(QSS is known as rapid security settings, by pressing the wireless Router and this adapter on the QSS button to automatically set up WPA2 secure connection level without the Router or network adapter management software to conduct the cumbersome interface settings, greatly simplifying the operation of the wireless security settings.)

Pin Code: 8-digit numbers. It is randomly generated from system



1. PIN method

Click the button "Pin Input Config (PIN)", and then come to the following figure.

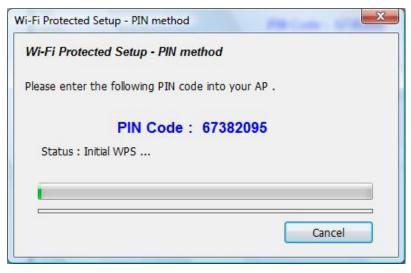


Click the button "Yes", and then select one of the AP. Also, you can click these buttons by "Refresh / Select / Cancel" for any change.

WPS AP Name	WPS AP MAC	
w241	00:08:54:9A:79:11	
NTX 11n AP	00:E0:4C:81:96:C1	
lynwey_skyline	00:00:00:00:00:13	
<	m	•

When the following interface pops up, double click the Internet WEB browser icon on your desktop screen. Type the IP address of you selected Router/AP into the URL and press "Enter", and then you can enter the configuration.

Please enter the WPS (Wi-Fi) configuration page, type the PIN code of adapter and click confirm button to build WPS connection.



KEALTEK 11n USB Wirele	ess LAN Utility
Refresh(R) Mode(M) Al	bout(A)
P S MyComputer Realtek RTL818	General Profile Available Network Advanced Status Statistics Wi-Fi Protect Setup Status: Associated Speed: Tx:72 Mbps Rx:72 Mbps Type: Infrastructure Encryption: AES SSID: WPS7d42c39653 80% Link Quality: 99%
	Network Address: MAC Address: 00:08:94:00:07:00 IP Address: 192.168.1.104 Subnet Mask: 255.255.0.0 Gateway: 192.168.1.1 ReNew IP
Show Tray Icon	Disable Adapter Close

When the "General" window appears, WPS is configured successfully.

2. PBC (Push Button Configuration) method

After pushing the PBC button, Please push the physical button on your Router/AP or visual button on the WPS config page, then come to the following figure.

Fi Protected Setup - PBC method	
Wi-Fi Protected Setup - PBC	method
If there is more then one AP on [Session Overlap].Please using P while push the button again.	
Status : AP Sitesurvey	
Complete :	
Push Button Config (PBC)	Cancel

B B MyComputer	General	Profile	Available N	etwork	Advanced	Status	Statistics	WI-Fi Protect Setup	
	Availat	ole Prof	le(s)						
	Profi	le Name	e	SSID			(Add	
	I ⁿⁱ lynwey_skyline I ⁿⁱ RTK 11n AP III MPS2a3b0896b1			lynwey_skyline RTK 11n AP WPS2a3b0e96b1			Remove		
								Edit	
								Duplicate	
								Set Default	
			m.			,			

When WPS is configured successfully, the "Available Profile" is changed.

3.4 AP Mode Management Guide for Vista User

If you wish to share the Internet access with the wireless stations in your environment, you can configure this wireless adapter as a software access point (Soft AP). In this mode, this wireless adapter becomes the wireless access point that provides local area network and Internet access for your wireless stations.

3.4.1 General

To use this adapter as an access point, please click the "Mode" on the menu bar and select "Access Point".

Refresh(R) Mode(M)	About(A)	_		
E- MyC Station	1	Ivanced	Statistics	ICS

Then switching from station mode to AP: At the same time, you will find that the icon on the system

tray is changed.



Please refer to the following information about this AP mode utility.

REALTEK 11n USB Wirele	ess LAN Utility	
Refresh(R) Mode(M) Al	bout(A)	
MyComputer Sealtek RTL818	General Advanced Statistics ICS SSID: b2_vista_x64_AP BSSID: 00:E0:4C:81:76:00 Association Table	
<	AID MAC Address Life Time	
Show Tray Icon	Disable Adapter Close]

Items	Information
SSID	AP name of user type.
BSSID	The IEEE MAC address of locally-managed, generating from a 46 random code.
AID	Raise value by current connection.
MAC Address	The station MAC address of current connection.
Life Time (mm:ss)	Record life time.

Click the "Config" button, then you can configure the wireless network properties. This page provides overall configuration to this adapter.

Wireless 11n USB Adapter

This is a computer-to access points are no		network; wireless
Profile Name:	Access Point Mode	2
Network Name(SSID):	b2_vista_x64_AP	2
Channel:	1 (2412MHz) =	
Wireless network secu	urity	
This network requires	a key for the follow	ing:
Netw	ork Authentication:	Open System
	Data encryption:	Disabled
	SPHRASE	
Key index (advanced) Netw <mark>o</mark> rk key:	: 1 - 7	
Confirm network key:		

SSID: AP name of user type.

Channel: Manually force the AP using the channel. System default is channel 1.

Security Setting: Authentication mode and encryption algorithm used within the AP. System default is no authentication and encryption.

Cancel: Cancel the above changes.

OK: Apply the above changes.

Network Authentication: Select the Security tab in the screen above. To define the security mode, select the desired security mode as follows. There are 4 types supported: Open System, Shared Key, WPA-PSK, WPA2-PSK. Please select a type from the drop down list.

Data Encryption:

	There are 4 types supported: Disabled, WEP, TKIP and AES. The available encryption selection will differ from the authentication type you have chosen, the result is shown below:					
Data encryption	Authentication Open System	Available Encryption Selection Disabled, WEP				
	Shared Key WPA-PSK,	WEP TKIP, AES				
	WPA2-PSK					

Note: Select different Security Options, the configurations are different; you can select the appropriate security option and configure the exact key as your need.

3.4.2 Advanced

REALTEK 11n USB Wirele	ess LAN Utility
Refresh(R) Mode(M) Al	bout(A)
MyComputer	General Advanced Statistics ICS General Beacon Interval Image: DTIM Period: 1 I Preamble Mode Long Set Defaults Apply
 ✓ III → ✓ Show Tray Icon ✓ Radio Off 	Disable Adapter

Items	Information
Beacon Interval	Beacon frequency spacing.
DTIM Period	Delay transmission indicator map (DTIM) is enabled for power management of the client. If any client power management is enabled, the DTIM should be retained for 1 (the default). Support this parameter range from 1 to 255.
Preamble Mode	Select the options from the drop list, (Long / Short).
Set Defaults	Setting the default value of General.
Apply	Apply the above changes.

3.4.3 Statistics

Statistics page displays the detail counter information based on 802.11 MIB counters.

🧏 REALTEK 11n USB Wireless LAN Utility					
Refresh(R) Mode(M) About(A)					
	General Advanced Statistics ICS				
	Counter Name	Value			
	Тх ОК	478			
	Tx Error	0			
	Rx OK	12			
	Rx Packet Count	12			
	Rx Retry	0			
	Rx ICV Error	0			
	Reset				
<					
Show Tray Icon Radio Off	Disable Adapter	Clos	e		

Items	Information
тх ок	Successfully transmitted frames numbers.
TX Error	Frames numbers transmitting with error.
RX OK	Successfully received frames numbers.
Rx Packet Count	The packets of receiving frames.
RX Retry	Frames numbers re-receiving.
RX ICV Error	Integrity Check Value receiving with error.
Reset Counter	Reset counters to zero.

3.4.4 ICS

🧏 REALTEK 11n USB Wirel	less LAN Utility	×
Refresh(R) Mode(M) A	.bout(A)	
Baltek RTL818	General Advanced Statistics ICS Setting Internet Connection Sharing (ICS)	
	ConnName Device Name	
	Area Connecti Realtek PCIe GBE Family Controller #2	
	۲ ۲	
	Public Network Apply	
Show Tray Icon Radio Off	Disable Adapter	

In this function, you can set the device sharing with Internet. Click the button "Apply", Prompt box pops up.



Select "OK", then the Internet connection is sharing.

Chapter 4 Introduction for Windows 7 User

4.1 Hardware Installation

The installation of the Adapter is very simple. You could plug the Adapter directly to the USB port on your computer. The LED will light up when the Adapter is installed successfully and the PC is on.

4.2 Software Installation

4.2.1 Overview

The following Setup Wizard will guide you through the Installation procedure for Windows 7. The Setup Wizard will install the REALTEK 11n USB Wireless LAN Driver and Utility. When you install the hardware before installing the software, the system will prompt "Found New Hardware Wizard" on your screen, click Cancel, and run the Setup Wizard program on the CD-ROM.

4.2.2 Installation procedures

1. Insert the CD into your CD-Rom, and find the setup driver in the CD. Then click the setup icon to start the installation.

2. The language-selecting window pops up. Please select the language you use and click "Next".

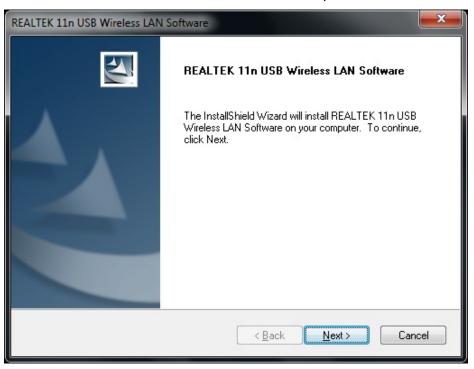
REALTEK 11n USB Wireless LAN Software - InstallShield Wizard	
Choose Setup Language Select the language for the installation from the choices below.	
Basque Bulgarian Catalan Chinese (Simplified) Chinese (Traditional) Croatian Czech Danish Dutch English Finnish French (Canadian) French (Standard)	E
German Greek InstallShield	
< Back Ne	ext > Cancel

3. Please wait while "Preparing Setup" appears.

Wireless 11n USB Adapter

REALTEK 11n USB Wireless LAN Software - InstallShield Wizard	
Preparing Setup	
Please wait while the InstallShield Wizard prepares the setup.	
REALTEK 11n USB Wireless LAN Software Setup is preparing the Install will guide you through the rest of the setup process. Please wait.	Shield Wizard, which
InstallShield	
	Cancel
	T/1/5010 T'33 LIAI

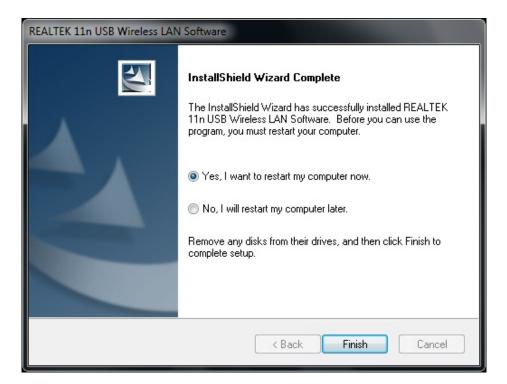
4. Here comes the welcome window. Click the "Next" button to proceed.



5. Please wait again while install.



6. After all the steps above, you will see the screen below, Select "Yes" option to reboot the system..



4.3 Management Guide

This guide describes how to configure your Adapter for wireless connectivity on your Wireless Local Area Network (WLAN) and use the data security encryption features.

After Installing the Adapter, the Adapter's tray icon will appear in your system tray. It appears at the bottom of the screen, and shows the signal strength (the icon will change its color) and the received signal strength indication (RSSI).

4.3.1 Interface



icon will appear on your desktop. Double click this icon

and the following interface appears:

After the driver installation, the

Wireless 11n USB Adapter

Refresh(R) Mode(M) About(A) General Profile Available Network Advanced Status Statistics Wi-Fi Protect Setup Status: Not Associated Speed: N/A Type: N/A Type: N/A Encryption: N/A SSID: Signal Strength:	😹 REALTEK 11n USB Wirel	ess LAN Utility
Realtek RTL818 Status: Not Associated Speed: N/A Type: N/A Encryption: N/A SSID: Signal Strength:	Refresh(R) Mode(M) A	bout(A)
Status: Not Associated Speed: N/A Type: N/A Encryption: N/A SSID: Signal Strength: Link Quality: Network Address: MAC Address: IP Address: 0.0.0.0 Subnet Mask: 0.0.0.0		General Profile Available Network Advanced Status Statistics Wi-Fi Protect Setup
Type: N/A Encryption: N/A SSID: Signal Strength: Link Quality: Network Address: MAC Address: IP Address: 0.0.0.0 Subnet Mask: 0.0.0.0	I Realtek RTL818	Status: Not Associated
Encryption: N/A SSID: Signal Strength: Link Quality: Network Address: MAC Address: IP Address: 0.0.0.0 Subnet Mask: 0.0.0.0		Speed: N/A
SSID: Signal Strength: Link Quality: Network Address: MAC Address: IP Address: 0.0.0.0 Subnet Mask: 0.0.0.0		Type: N/A
Signal Strength: Link Quality: Network Address: MAC Address: IP Address: 0.0.0.0 Subnet Mask: 0.0.0.0		Encryption: N/A
Link Quality: Network Address: MAC Address: IP Address: 0.0.0.0 Subnet Mask: 0.0.0.0		SSID:
Link Quality: Network Address: MAC Address: IP Address: 0.0.0.0 Subnet Mask: 0.0.0.0		Signal Strength:
Network Address: MAC Address: IP Address: 0.0.0.0 Subnet Mask: 0.0.0.0		
MAC Address: IP Address: 0.0.0.0 Subnet Mask: 0.0.0.0		
MAC Address: IP Address: 0.0.0.0 Subnet Mask: 0.0.0.0		
MAC Address: IP Address: 0.0.0.0 Subnet Mask: 0.0.0.0		
IP Address: 0.0.0.0 Subnet Mask: 0.0.0.0		Network Address:
IP Address: 0.0.0.0 Subnet Mask: 0.0.0.0		MAC Address:
Gateway:		Subnet Mask: 0.0.0.0
		Gateway:
ReNew IP		ReNew IP
< <u> </u>	+	
Show Tray Icon Disable Adapter Close Radio Off Virtual WiFi disallowed		

Note:

- 1. **Functional Buttons**: on the upper side of the utility window, you can click each button to access each configuration window for the detail information in the center area.
- 2. Optional Table: at the bottom: "Show Tray Icon", "Disable Adapter", "Radio off".
- *A. Show Tray Icon*---Clicking "Show Tray Icon" and "Close" button, the management GUI will be minimized and stay on the tray icon located at the right bottom corner of Windows. If not, management GUI will shut down by only click "Close" button with unchecked condition.
- B. Disable Adapter---Disable this wireless PCI card.
- *C. Radio off---*It can save power while turning off the radio. While the radio is off, the links with other wireless network will be disconnected. User should be aware that while the wireless configuration is in AP mode. The radio off will cause the sub network belonging to the AP to be disconnected with internet.

4.3.2 Available Network

The above picture shows you the available wireless network lists. The Utility will connect to a wireless network with best signal strength automatically. You can refresh the connecting network by clicking on the network name and click the "Refresh" button. In the center of the Utility windows, you will see detail information of each network.

🧱 REALTEK 11n USB Wirel	less LAN Utility				- D X
	bout(A)				
MyComputer	General Profile Available	Network Adv	anced Status	Statistics Wi-Fi Protect Setup	
Realtek RTL818	Available Network(s)				
	SSID	Channel	Encryption	Network Authentication	Signal 1
	1) TP-LINK_7608D4	1	AES	WPA Pre-Shared Key/	26% I
	1 ⁽⁹⁾ WBR-6011	1	WEP	Unknown	42% I
	³⁾ logitecuser	1	None	Unknown	46% I
	1 ³⁾ w241	1	TKIP/AES	WPA Pre-Shared Key/	74% I
	🔊 lynwey_skyline	4	None	Unknown	44% I
	1 ²⁹ 123	-	None	Unknown	92% I
	1 ⁹⁾ IRIS		WEP	Unknown	42% I
	1 ⁹⁾ NTX 11n AP		None	Unknown	58% I
	1 ³⁾ W440A		TKIP	WPA Pre-Shared Key	48% I
	WLAN-11g-GW		None	Unknown	26% I
	K ³⁾ Wireless-11n-shawn	11	None	Unknown	26% I
	•	m			ł
	Refr			Add to Profile	
	Double click on iter	m to join/cre	ate profile.		
Show Tray Icon	J	Disable A			Close
Radio Off		Virtual V	/iFi disallowed		

Available Network Information:

Items	Information
SSID	The name of the IEEE 802.11 wireless network. This field has a maximum limit of 32 characters.
Channel	Display current channel in use.
Encryption	Shows the encryption mode in use. There are total 4 modes: None, WEP, TKIP and AES.

Network Authentication	Shows the authentication mode in use.
Signal	This percentage shows the strength of the signal.
Туре	The type of network and the station currently connected are shown here. The options include : Infrastructure & Ad-Hoc
BSSID	The IEEE MAC address of locally-managed, generating from a 46 random code.
Support Rates	Show current rate.

Note:

1) An Infrastructure network contains an Access Point or wireless router. All the wireless devices or clients will connect to the wireless router or access point.

2) An Ad-Hoc network contains only clients, such as laptops with wireless desktop adapters. All the adapters must be in Ad-Hoc mode to communicate.

4.3.3 Profile

1. Add a new profile:

(1) Selecting an available network in the "Available Network" function then click the "Add to Profile" button, or double click the network name. You could also add a new profile (for example, SSID 123) quickly by clicking the "Add" button in the "Profile" function.

Note: If the network you add to profile is not encrypted, the following "Unsecured network" window will pop up, and then click "OK".



(2) It displays "Wireless Network Properties" dialog box. This profile page allows users to save different wireless settings, which helps users to get access to wireless networks at home, office or other wireless network environments quickly.

ireless Network Proper	ties:
This is a computer-to- access points are not	-computer(ad hoc) network; wireless used.
Profile Name:	123
Network Name(SSID):	123
Channel:	9 (2452MHz) 🔻
Wireless network secur	ity
This network requires a	a key for the following:
Netwo	rk Authentication: Open System 🔻
	Data encryption: Disabled
ASCII PASS	PHRASE
Key index (advanced): Network key:	1 -
Confirm network key:	
ОК	Cancel

In the following dialog box, there are some items:

Items	Information
Profile Name	Identifies the configuration profile . This name must be unique. Note that the
	profile names are not case-sensitive.
Network	The IEEE 802.11n wireless network name, using default name defined by
Name(SSID)	system. This field has a maximum limit of 32 characters.

(3). Channel (Country Region Code): seven countries to choose. Country channel list:

Country	Channel Range	Country	Channel Range
USA	CH1 ~ CH11	FRANCE	CH1 ~ CH13
CANADA	CH1 ~ CH11	JAPAN	CH1 ~ CH14
ETSI	CH1 ~ CH13	ISRAEL	CH1 ~ CH13
SPAIN	CH1 ~ CH11		

The availability of some specific channels and/or operational frequency bands are country dependent and are firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

(4) Wireless Network Security

A. Network Authentication

Select the Security tab in the screen above. To define the security mode, select the desired security mode as follows. There are 7 types supported: Open System, Shared Key, WPA-PSK, WPA2-PSK, and WPA 802.1X, WPA2 802.1X, WEP 802.1X, and you can select a type from the drop down list if you click the button beside "Network Authentication".

- **Open System:** enable an adapter to attempt authentication regardless of its WEP settings. It will only associate with the access point if the WEP keys on both the adapter and the access point match.
- **Shared-key:** only allows the adapter to associate with access points that have the same WEP key.
- **802.1x:** This item appears while the environment is set to an Open authentication with WEP encryption. Mark the checkbox to make the section available. The section is also available in WPA and WPA2 authentication types.
- Preshared Key(PSK): This is the shared secret between AP and STA. For WPA-PSK, WPA2-PSK and WPA-NONE authentication mode, this field must be filled with characters longer than 8 and less than 32 lengths. The following dialog appears if you have input invalid values.
- WEP Key: Only available when using WEP encryption algorithm. The key must match AP's key. Only using the same cryptographic key to access the computer, the internet can storage, and decryption the information from other computer.

B. Data Encryption:

	There are 4 types supported: Disabled, WEP, TKIP and AES. The available encryption selection will differ from the authentication type you				
	have chosen, the result is shown below:				
	Authentication	Available Encryption Selection			
Data encryption	Open System	Disabled, WEP			
	Shared Key	WEP			
	WPA-PSK, WPA2-PSK, and WPA	A TKIP, AES			
	802.1X, WPA2 802.1X				
	WEP 802.1X	WEP			

Note: Select different Security Options, the configurations are different; you can select the appropriate security option and configure the exact key as your need.

- **TKIP:** "Temporary Key Integration communication Protocol", it provide each packet's key mixture, message integration and key reconstruction mechanism. TKIP can use with personal or the enterprise network validation.
- **AES:** "Advanced Encryption Standard", It is a new method that the wireless transmission of privacy protection. AES encryption methods provides more careful than TKIP.

🧱 REALTEK 11n USB Wireless LAN Utility								
Refresh(R) Mode(M) About(A)								
	General	Profile	Available Network	Advanced	Status	Statistics	Wi-Fi Protect Setup	
Realtek RTL818	Availat	ole Profi	le(s)					
							Add	
	Profi	le Name	SSID 123		_		Add	
		23	125				Remove	
							Edit	
							Duplicate	
							Set Default	
	<				4			
					-		_	
Show Tray Icon Radio Off				ble Adapte Jal WiFi disa			L	Close

(5) Finish the configuration, and then click "OK", that network has been added to the profile.

Profile List: The list shows all the profiles you have added before.

Buttons: You can click on these buttons to Add a new profile, Remove, Edit, Duplicate or Set Default an old profile.

4.3.4 General

🞇 REALTEK 11n USB Wirele	ess LAN Utility
Refresh(R) Mode(M) Al	bout(A)
Refresh(R) Mode(M) Al	General Profile Available Network Advanced Status Statistics Wi-Fi Protect Setup Status: Associated Speed: Tx:150 Mbps Rx:150 Mbps Type: Infrastructure Encryption: None SSID: 123 Signal Strength: 98% Link Quality: 100% Network Address: 0:E0:4C:81:76:00 IP Address: 192.168.0.199 Subnet Mask: 255.255.255.0 Gateway: 192.168.0.1
 ✓ III → ✓ Show Tray Icon ⊂ Radio Off 	Disable Adapter Close Virtual WiFi disallowed

In this window, there are some items as following:

Items	Information
Status	Currently connection status.
Speed	Show current transmit rate and receive rate.
Туре	Network type in use.
Encryption	Encryption type in use.
SSID	The name of the IEEE 802.11 wireless network. This field has a maximum limit of 32 characters.
Signal Strength	Receive signal strength.
Link Quality	Display connection quality based on signal strength.
Network	1. MAC Address : The MAC address of the wireless network adapter.

Address	2. IP Address : IP address of current connection.		
3. Subnet Mask : Subnet mask of current connection.			
	4. Gateway : Gateway of current connection.		

4.3.5 Advanced

This screen below allows you to make advanced configuration for the profile. Please refer to the following chart for definitions of each item.

🧝 REALTEK 11n USB Wirele	ess LAN Utility
Refresh(R) Mode(M) Al	bout(A)
□	General Profile Available Network Advanced Status Statistics Wi-Fi Protect Setup
40	
	Preamble Mode Fragment Threshold 2347
	Auto • 256 2432
	Channel Plan RTS Threshold 2432
	FCC
	Set Defaults Apply
Show Tray Icon Radio Off	 Disable Adapter Virtual WiFi disallowed

1. Preamble Mode

The length of CRC blocks in the frames during the wireless communication. Select the options from the drop list: (1) Long (2)Short (3)Auto.

2. Channel Plan

The selected Channel: FCC, IC, ETSI, Spain, France, MKK, MKK1, Israel, TELEC, Default

3. Threshold

(1) Fragment Threshold

This value should remain at its default setting of 2347. If you experience a high packet error rate, you may slightly increase your fragmentation threshold within the value range of 256 to 2432.

Setting the fragmentation threshold too low may result in poor performance.

(2) RTS Threshold

Request To Send Threshold. This value should remain at its default setting of 2346. If you encounter inconsistent data flow, only minor modifications to the value range between 0 and 2432 are recommended.

4.3.6 Status

The Status tab contains general information about the program and its operations.

🧱 REALTEK 11n USB Wirele	ess LAN Utility					
Refresh(R) Mode(M) Al	Refresh(R) Mode(M) About(A)					
🖃 🚽 MyComputer	General Profile Available Network Advanced	Status Statistics Wi-Fi Protect Setup				
Realtek RTL818						
	Manufacturer	REALTEK				
	NDIS Driver Version	1006.1.713.2010				
	Short Radio Header	Yes				
	Encryption	Disabled				
	Authenticate	Open System				
	Channel Set	FCC				
	MAC Address	00:E0:4C:81:76:00				
	Data Rate (AUTO) Channel (Frequency)	Tx:150 Mbps Rx:150 Mbps 9 (2452 MHz)				
	Channer (rrequency)	9 (2752 19172)				
	Status	Associated				
	SSID	123				
	Network Type	Infrastructure				
	Power Save Mode	None				
	Associated AP MAC	00:21:91:F7:A8:D6				
	Up Time (hh:mm:ss)	0:08:45				
• <u> </u>						
Show Tray Icon	Disable Adapter	Close				
Radio Off	Virtual WiFi disal	lowed				

The following table describes the items found on the Status screen.

Items	Information
Manufacturer	The name of manufacturing this product.
NDIS Driver Version	The version of Network Driver Interface Specification.
Encryption	Here displays the encryption type the device is using.
Authenticate	This shows whether the server based authentication is used.
Channel Set	Appears the country you use.
MAC Address	The MAC address of the wireless network adapter.
Data Rate(Auto)	Show current transmit rate and receive rate.
Channel Frequency	Shows the channel in use (1~14).
Status	Current connection status.
SSID	The SSID of the wireless system.
Network Type	The type of network and the station currently connected are shown
	here. The options include : Infrastructure, Ad Hoc
Power Save Mode	The power save mode have three mode: Max, Min, None
Associated AP MAC	The MAC Address of associated AP.
Up Time	Record life time.

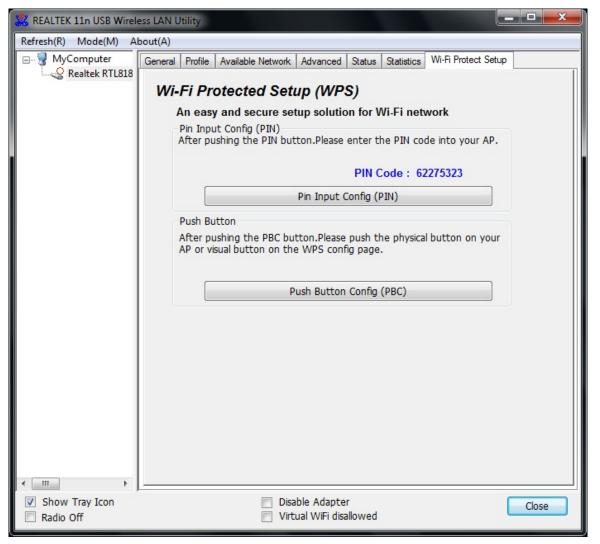
4.3.7 Statistics

Statistics page displays the detail counter information based on 802.11 MIB counters. This page translates the MIB counters into a format easier for user to understand. It show receiving and transmitting statistical information about the following receiving and transmitting diagnostics for frames received by or transmitted to the wireless network adapter.

🧱 REALTEK 11n USB Wirele	ess LAN Utility			
Refresh(R) Mode(M) About(A)				
🖃 📲 MyComputer	General Profile Available Network Advanced Status Sta	tatistics Wi-Fi Protect Setup		
Realtek RTL818				
	Counter Name	Value		
	Tx OK	152		
	Tx Error	1		
	Rx OK	29		
	Rx Packet Count	29		
	Rx Retry	1		
	Rx ICV Error	0		
	Reset			
- III				
,,	Dischla Adapter			
Show Tray Icon Radio Off	 Disable Adapter Virtual WiFi disallowed 	Close		

Items	Information
ТХ ОК	Successfully transmitted frames numbers.
TX Error	Frames numbers transmitting with error.
RX OK	Successfully received frames numbers.
Rx Packet Count	The packets of receiving frames.
RX Retry	Frames numbers re-receiving.
RX ICV Error	Integrity Check Value receiving with error.
Reset Counter	Reset counters to zero.

4.3.8 Wi-Fi Protect Setup



The primary goal of Wi-Fi Protected Setup (Wi-Fi Simple Configuration) is to simplify the security setup and management of Wi-Fi networks. This adapter supports the configuration setup using PIN configuration method or PBC configuration method. If the wireless card supports Wi-Fi Protected Setup (WPS), you can establish a wireless connection between wireless card and router using either Push Button Configuration (PBC) method or PIN method.

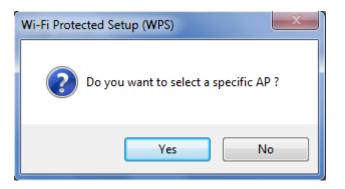
Here we will introduce two ways to configure the QSS

(QSS is known as rapid security settings, by pressing the wireless router and wireless card on the QSS button to automatically set up WPA2 secure connection level without the router or network adapter management software to conduct the cumbersome interface settings, greatly simplifying the operation of the wireless security settings.)

Pin Code: 8-digit numbers. It is randomly generated from system.

(1) PIN method

Click the button "Pin Input Config (PIN)", and then come to the following figure.



Click the button "Yes", and then select one of the AP. Also, you can click these buttons by "Refresh / Select / Cancel" for any change.

Vi-Fi Protected Setup - Select	t AP	X						
WPS AP Name	WPS AP MAC	C						
logitecuser	00:E0:4C:81:96:B1							
w241	00:08:54:9A:79:11							
TP-LINK_7608D4	74:EA:3A:76:08:D4							
WBR-6011	00:11:6B:44:8F:18							
lynwey_skyline	00:00:00:00:00:13							
NTX 11n AP	00:E0:4C:81:96:C1							
123	00:21:91:F7:A8:D6							
Wireless-11n-shawn	20:02:20:00:00:02							
<		F.						
Refresh								
Select	Cancel							

When the following interface pops up, double click the Internet WEB browser icon on your desktop screen. Type the IP address of you selected Router/AP into the URL and press "Enter", and then you can enter the configuration.

Please enter the WPS (Wi-Fi) configuration page, type the PIN code of adapter and click confirm button to build WPS connection.



When the "General" window appears, WPS is configured successfully.

🧝 REALTEK 11n USB Wireless LAN Utility										
Refresh(R) Mode(M) About(A)										
B 🖁 MyComputer	General	Setup								
Realtek RTL818	B Status: Associated									
			Speed: Tx:150	Mbps Rx:1	50 Mbps	5				
			Type: Infrastr	ucture						
		Er	cryption: AES							
			SSID: w241							
		Signal S	Strength:					100%		
		Lin	k Quality:					100%		
	Notw	ork Addr	0001							
	netwo	JIK AUUI	635.							
		MAC Address: 00:E0:4C:81:76:00								
		IP Address: 192.168.1.101 Subnet Mask: 255.255.0								
		Gateway: 192.168.1.1								
		Galeway, 192.100.1.1								
				ReNe	ew IP					
- III +										
 Show Tray Icon Radio Off 				ble Adapte ual WiFi disa				Close		

2. PBC (Push Button Configuration) method

After pushing the PBC button, Please push the physical button on your AP or visual button on the WPS config page, then come to the following figure.

Wi-Fi Protected Setup - PBC method								
Wi-Fi Protected Setup - PBC method								
If there is more then one AP on the PBC mode, there will be [Session Overlap]. Please using PIN method or wait for a while push the button again.								
Status : Initial WPS								
Complete :								
Push Button Config (PBC) Cancel								

When the "General" window appears, WPS is configured successfully.

Refresh(R) Mode(M) MyComputer General Profile Available Network Advanced Status Status: Associated Speed: Tx:150 Mbps Type: Infrastructure Encryption: Encryption: AES SSID: w241 Signal Strength: 84% Link Quality: 100% Network Address: MAC Address: 00:E0:4C:81:76:00 IP Address: 100:96:46:81:101 Subnet Mask: 255.255.0 Gateway: 192.168.1.1 ReNew IP Virtual WFi disaloved Close	🔀 REALTEK 11n USB Wireless LAN Utility											
Realtek RTLB18 Status: Associated Speed: Tx:150 Mbps Rx:150 Mbps Type: Infrastructure Encryption: AES SSID: w241 Signal Strength:	Refresh(R) Mode(M) About(A)											
Status: Associated Speed: Tx:150 Mbps Rx:150 Mbps Type: Infrastructure Encryption: AES Signal Strength: Ink Quality: 100% Network Address: MAC Address: 0:E0:4C:81:76:00 IP Address: 192.168.1.101 Subnet Mask: 255.255.255.0 Gateway: 192.168.1.1 ReNew IP V Show Tray Icon	· ·	General	Profile	Available Network	Advanced	Status	Statistics	Wi-Fi Protect Set	up			
Type: Infrastructure Encryption: AES SSID: w241 Signal Strength: 84% Link Quality: 100% Network Address: MAC Address: 00:E0:4C:81:76:00 IP Address: 192.168.1.101 Subnet Mask: 255.255.05 Gateway: 192.168.1.1 ReNew IP Pisable Adapter Close	Kealtek KTL818	Status: Associated										
<pre>Encryption: AES SSID: w241 Signal Strength: Link Quality: 100% Network Address: MAC Address: 00:E0:4C:81:76:00 IP Address: 192.168.1.101 Subnet Mask: 255.255.0 Gateway: 192.168.1.1 ReNew IP ReNew IP Show Tray Icon</pre>				Speed: Tx:150	Mbps Rx:1	50 Mbps	5					
SSID: w241 Signal Strength:				Type: Infrastr	ucture							
Signal Strength: 84% Link Quality: 100% Network Address: MAC Address: 00:E0:4C:81:76:00 IP Address: 192.168.1.101 Subnet Mask: 255.255.255.0 Gateway: 192.168.1.1 ReNew IP Show Tray Icon Disable Adapter			Er	cryption: AES								
Link Quality: 100% Network Address: MAC Address: 00:E0:4C:81:76:00 IP Address: 192.168.1.101 Subnet Mask: 255.255.25.0 Gateway: 192.168.1.1 ReNew IP Show Tray Icon Disable Adapter Close				SSID: w241								
Network Address: MAC Address: 00:E0:4C:81:76:00 IP Address: 192.168.1.101 Subnet Mask: 255.255.05 Gateway: 192.168.1.1 ReNew IP Show Tray Icon			Signal S	Strength:					84%			
MAC Address: 00:E0:4C:81:76:00 IP Address: 192.168.1.101 Subnet Mask: 255.255.255.0 Gateway: 192.168.1.1 ReNew IP Show Tray Icon Disable Adapter Close			Lin	k Quality:					100%			
MAC Address: 00:E0:4C:81:76:00 IP Address: 192.168.1.101 Subnet Mask: 255.255.255.0 Gateway: 192.168.1.1 ReNew IP Show Tray Icon Disable Adapter Close				and the second								
MAC Address: 00:E0:4C:81:76:00 IP Address: 192.168.1.101 Subnet Mask: 255.255.255.0 Gateway: 192.168.1.1 ReNew IP Show Tray Icon Disable Adapter Close												
MAC Address: 00:E0:4C:81:76:00 IP Address: 192.168.1.101 Subnet Mask: 255.255.255.0 Gateway: 192.168.1.1 ReNew IP Show Tray Icon Disable Adapter Close		Noture	ele Adde									
IP Address: 192.168.1.101 Subnet Mask: 255.255.0 Gateway: 192.168.1.1 ReNew IP Show Tray Icon Disable Adapter Close		enetwo	Network Address:									
Subnet Mask: 255.255.0 Gateway: 192.168.1.1 ReNew IP			MAC Address: 00:E0:4C:81:76:00									
Gateway: 192.168.1.1 ReNew IP Show Tray Icon Disable Adapter Close												
ReNew IP Show Tray Icon Disable Adapter Close												
 ✓ III → ✓ Show Tray Icon ✓ Disable Adapter Close 			Gateway: 192.168.1.1									
 ✓ III → ✓ Show Tray Icon ✓ Disable Adapter Close 												
 ✓ III → ✓ Show Tray Icon ✓ Disable Adapter Close 												
 ✓ III → ✓ Show Tray Icon ✓ Disable Adapter Close 												
 ✓ III → ✓ Show Tray Icon ✓ Disable Adapter Close 				1	Dahl	TD						
✓ Show Tray Icon ☑ Disable Adapter Close					Kelv	ew IP						
✓ Show Tray Icon ☑ Disable Adapter Close												
Close				Dies	hle Adapte	r						
	Radio Off								Close			

4.3.9 Virtual WiFi

Click the check box of "Virtual WiFi disallowed" at the bottom of the window to activate Virtual WiFi. Virtual WiFi, abbreviated to VWiFi, is a software layer that abstracts the wireless LAN card hardware into multiple virtual adapters. The software handles the connections of each adapter to ensure every adapter has an opportunity to connect to their respective networks limited by time. And you act as if you have multiple WLAN hardware adapters working independently.

🧱 REALTEK 11n USB Wireless LAN Utility											
Refresh(R) Mode(M) A											
	General	Profile	Available Network	Advanced	Status	Statistics	Wi-Fi Protect Setup	Virtual WiFi			
Realtek RTL818	S S	tart Virt	ual WiFi Soft AP								
	Vi	rtual W	Fi SoftAP Status								
			Status: Starte	d							
			SSID: B2_W								
			BSSID: 00:E0	:4C:81:76:0	00						
		Assoc	ation Table								
		AID	MAC Address		Life Ti	me					
		Config									
		conng									
		Setting Internet Connection Sharing (ICS)									
•											
Show Tray Icon Radio Off				ble Adapte ual WiFi allo				Close			
			W VIC		neu						

Items	Information				
SSID	The name of connected IEEE 802.11 wireless network. This field				
	has a maximum limit of 32 characters.				
BSSID	a locally administered MAC address of the wireless network				
	generated from a 64-bit random number				
Association Table	It is the list of joined stations to this adapter				
AID	Association ID				
Mac Address	It is the six two-digit numbers that assemble the MAC address of				
	respected joined station				
	It is the timer that counts down from 10 minutes whenever the				
Life time	adapter connects the station successfully. If an STA associated to				
	SW adapter does not have any interaction with the adapter in 10				
	minutes, it will be disassociated from the Infra-structure BSS				
config	A dialog of this adapter is shown for configuration modification				

Click config button and the network properties interface pops up. You can key in the network key to set up the security accessing authority and click OK to finish the configuration.

Vireless Network Properties:	reless Network Properties:						
Profile Name: HOSTED_NETWOR	RK_PROFILE						
Network Name(SSID): B2_VMN7_X64-15	680						
Wireless network security							
This network requires a key for the follow	ving:						
Network Authentication:	WPA2-PSK 👻						
Data encryption:	AES 👻						
Network key:							
Confirm network key:							

<u>o</u> k	<u>C</u> ancel						

The other connecter can share the same network by typing in the network key. In this way the connecter is connected to the adapter.

🧏 REALTEK 11n USB Wireless LAN Utility									
Refresh(R) Mode(M) About(A)									
MyComputer Realtek RTL818	General Profile Available Network Advanced Status Statistics Wi-Fi Protect Setup Virtual WiFi ✓ Start Virtual WiFi Soft AP Virtual WiFi Soft AP Status Status: Status: Started SSID: B2_WIN7_X64-15680 BSSID: 00:E0:4C:81:76:00 Association Table AID MAC Address Life Time 1 00:08:54:9A:79:11 19:32 Config Config Setting Internet Connection Sharing (ICS) Setting Internet Connection Sharing (ICS)								
Show Tray Icon Radio Off	Disable Adapter Virtual WiFi allowed Close								

Setting Internet Connection Sharing(ICS)

1. Click the checkbox of ICS, a box asks for waiting will pop up, and "Auto Select Public Network" is enabled automatically.

🧱 REALTEK 11n USB Wirele	ss LAN U	tility						- • •	
Refresh(R) Mode(M) A	oout(A)								
B. S MyComputer	General	Profile	Available Network	Advanced	Status	Statistics	Wi-Fi Protect Setup	Virtual WiFi	
Realtek RTL818	Start Virtual WiFi Soft AP								
	Virtual WiFi SoftAP Status								
			Status: Stopp	ed					
			SSID: SoftAl	P-02					
			BSSID: 00:E0	:4C:81:76:1	11				
		Associ	ation Table						
		AID	MAC Address		Life Ti	me			
	Settin	g Intern	et Connection Sha	ring (ICS)			23		
	Wa	iting S	etup Up						
					_				
				C	onfig				
				cl	(102)				
		-	Internet Connecti		(ICS)				
	<u></u>		Select Public Net	work					
	Shared network:								
	Realtek RTL8188CU Wireless LAN 802.11n USB 2.0 Network Adapter								
				P	Apply				
←				his Adams					
Show Tray Icon Radio Off				ble Adapte ual WiFi allo				Close	

2. If you want to select the "Shared network" manually, you can enable "Auto Select Public Network" and choose the "Shared network" you want by the drop-down list as follow:

😹 REALTEK 11n USB Wirele										
	bout(A)									
B- 🖁 MyComputer	General Profile Available Network Advanced Status Statistics Wi-Fi Protect Setup Virtual WiFi									
Realtek RTL818	Start Virtual WiFi Soft AP									
	Virtual WiFi SoftAP Status									
	Status: Started									
	SSID: SoftAP-02									
	BSSID: 00:E0:4C:81:76:11									
	Association Table									
	AID MAC Address Life Time									
	Config									
	Setting Internet Connection Sharing (ICS)									
	Auto Select Public Network									
	Shared network:									
	Realtek RTL8188CU Wireless LAN 802.11n USB 2.0 Network Adapter									
	Realtek RTL8168C(P)/8111C(P) Family PCI-E Gigabit Ethernet NIC (NDIS 6.20)									
	Realtek RTL8188CU Wireless LAN 802.11n USB 2.0 Network Adapter									
• III •										
Show Tray Icon	Disable Adapter Close									
Radio Off	Virtual WiFi allowed									

3. After selecting the shared network, click the button "Apply", and then Prompt box pops up.



4. Select "OK". When the connection is successful, you will find that the tray "Local Area Connection" has been changed.



4.4 AP mode Management Guide for Window 7 User

If you wish to share the Internet access with the wireless stations in your environment, you can configure this wireless adapter as a software access point (Soft AP). In this mode, this wireless adapter becomes the wireless access point that provides local area network and Internet access for your wireless stations.

4.4.1 General

To use this adapter as an access point, please click the "Mode" on the menu bar and select "Access Point".

REALTEK :	11n	USB Wireless LAN Util	ity					-
Refresh(R)	Mo	de(M) About(A)						
E- MyC	1	Station	le	Available Network	Status	Statistics	Wi-Fi Protect Setup	
SE		Access Point		Status: Associa	ted			
				Speed: Tx:150	Mbps R	x:300		

At this time a box pops up:

Waiting Setup Up	<u>×</u>
Switching from Station mode to AP mode	

Then switching from station mode to AP: At the same time, you will find that the icon on the system



🧱 REALTEK 11n USB Wirel	ess LAN Utility
Refresh(R) Mode(M) A	bout(A)
	General Advanced Statistics ICS
	BSSID: 00:E0:4C:81:76:00 Association Table
	AID MAC Address Life Time
	1 00:08:54:9A:79:11 19:12 ■
	Config
۲ (III) (۲	4
 Show Tray Icon Radio Off 	Disable Adapter Close

Please refer to the following information about this AP mode utility.

Items	Information
SSID	AP name of user type.
BSSID	The IEEE MAC address of locally-managed, generating from a 46 random code.
AID	Raise value by current connection.
MAC Address	The station MAC address of current connection.
Life Time (mm:ss)	Record life time.

Click the "Config" button, then you can configure the wireless network properties. This page provides overall configuration to this adapter.

Wireless Network Properties:	×
This is a computer-to-computer(a access points are not used.	d hoc) network; wireless
Profile Name: Access Poin	t Mode
Network Name(SSID): b2_win7_x6	54_AP
Channel: 1 (2412MHz	:) 🔻
Wireless network security	
This network requires a key for the	following:
Network Authentic	ation: Open System 🔻
Data encry	ption: Disabled 🔹
ASCII PASSPHRASE	
Key index (advanced): 1 -	
Confirm network key:	
ОК	Cancel

SSID: AP name of user type.

Channel: Manually force the AP using the channel. System default is channel 1.

Security Setting: Authentication mode and encryption algorithm used within the AP. System default is no authentication and encryption.

Cancel: Cancel the above changes.

OK: Apply the above changes.

A. Network Authentication

Select the Security tab in the screen above. To define the security mode, select the desired security mode as follows. There are 4 types supported: Open System, Shared Key, WPA-PSK, WPA2-PSK. Please select a type from the drop down list.

B. Data Encryption:

		upported: Disabled, WEP, TKIP a election will differ from the authention t is shown below:	
Data anarymtian	Authentication	Available Encryption Selection	
Data encryption	Open System	Disabled, WEP	
	Shared Key	WEP	
	WPA-PSK,	TKIP, AES	
	WPA2-PSK		

Note: Select different Security Options, the configurations are different; you can select the appropriate security option and configure the exact key as your need.

4.4.2 Advanced

🧱 REALTEK 11n USB Wirel	ess LAN Utility
Refresh(R) Mode(M) A	bout(A)
Refresh(R) Mode(M) A MyComputer Realtek RTL818	General Advanced Statistics ICS General Beacon Interval Image: Constraint of the state
 III → ✓ Show Tray Icon 	Disable Adapter Close
Radio Off	

Items	Information
Beacon Interval	Beacon frequency spacing.
DTIM Period	Delay transmission indicator map (DTIM) is enabled for power management of the client. If any client power management is enabled, the DTIM should be retained for 1 (the default). Support this parameter range from 1 to 255.
Preamble Mode	Select the options from the drop list. (Long / Short).
Set Defaults	Setting the default value of General.
Apply	Apply the above changes.

4.4.3 Statistics

Statistics page displays the detail counter information based on 802.11 MIB counters.

🧱 REALTEK 11n USB Wirel	ess LAN Utility		
Refresh(R) Mode(M) A	bout(A)		
	General Advanced Statistics ICS		
	Counter Name	Value	
	Tx OK	403	
	Tx Error	0	
	Rx OK	73	
	Rx Packet Count	73	
	Rx Retry	1	
	Rx ICV Error	0	
	Reset		
 ✓ III → ✓ Show Tray Icon Radio Off 	Disable Adapter		Close

Items	Information
тх ок	Successfully transmitted frames numbers.
TX Error	Frames numbers transmitting with error.
RX OK	Successfully received frames numbers.
Rx Packet Count	The packets of receiving frames.
RX Retry	Frames numbers re-receiving.
RX ICV Error	Integrity Check Value receiving with error.
Reset Counter	Reset counters to zero.

4.4.4 ICS

🧱 REALTEK 11n USB Wirele	less LAN Utility	x
Refresh(R) Mode(M) Al	Nout(A)	
⊡… 🦞 MyComputer Realtek RTL818	General Advanced Statistics ICS Setting Internet Connection Sharing (ICS)	
	ConnName Device Name	
	🔁 Local Area Connecti Realtek PCIe GBE Family Controller #2	
	۰ III ا	
< <u>III</u> •	Public Network Apply	
Show Tray Icon Radio Off	Disable Adapter Close	;

When a dialogue box appears and asks for checking the connection status appears.



Select "OK", then the Internet connection is sharing.

🧱 REALTEK 11n USB Wirel	ess LAN Utility
Refresh(R) Mode(M) A	bout(A)
⊡ Brealtek RTL818	General Advanced Statistics ICS Setting Internet Connection Sharing (ICS)
	ConnName Device Name
	Local Area Connecti Realtek PCIe GBE Family Controller #2
	· · · · · · · · · · · · · · · · · · ·
< III •	Public Network Local Area Connection 2 Realtek PCIe GBE Family Controller #2
Show Tray IconRadio Off	Disable Adapter Close

Appendix A: Specifications

Standard

IEEE 802.11n, IEEE 802.11g, IEEE 802.11b

Interface

Complies with USB 2.0

Security

64/128-bit WPA , WPA2

Channel

USA 11, Europe 13, Japan 14

Network Data Rate

802.11b: 1,2,5.5 and 11 Mbps

802.11g: 6,9,12,18,24,36,48 and 54 Mbps

802.11n: up to 150 Mbps (Type A, B and D) or 300Mbps (Type C)

Range Coverage

Indoor 35~100 meters

Outdoor 100~300 meters

Temperature

Operating: 0°C ~ 40°C (32°~104°F)

Storage: -20°C ~ 70°C (-4°~158°F)

Humidity

Operating: 10% ~ 90% RH, non-condensing

Storage: 5%~90% RH, non-condensing

Emission

FCC, CE, VCCI Class B

Appendix B: Glossary

- 802.11b The 802.11b standard specifies a wireless product 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) 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 Wireless Adapter, 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.
- DSSS (Direct-Sequence Spread Spectrum) DSSS generates a redundant bit pattern for all data transmitted. This bit pattern is called a chip (or chipping code). Even if one or more bits in the chip are damaged during transmission, statistical techniques embedded in the receiver can recover the original data without the need of retransmission. To an unintended receiver, DSSS appears as low power wideband noise and is rejected (ignored) by most narrowband receivers. However, to an intended receiver (i.e. another wireless LAN endpoint), the DSSS signal is recognized as the only valid signal, and interference is inherently rejected (ignored).
- Infrastructure Network An infrastructure network is a group of computers or other devices, each with a Wireless Adapter, 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 networks.
- SSID A Service Set Identification 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. *See also* Wireless Network Name and ESSID.

- WEP (Wired Equivalent Privacy) A data privacy mechanism based on a 64-bit or 128-bit or 152-bit shared key algorithm, as described in the IEEE 802.11 standard. To gain access to a WEP network, you must know the key. The key is a string of characters that you create. When using WEP, you must determine the level of encryption. The type of encryption determines the key length. 128-bit encryption requires a longer key than 64-bit encryption. Keys are defined by entering in a string in HEX (hexadecimal using characters 0-9, A-F) or ASCII (American Standard Code for Information Interchange alphanumeric characters) format. ASCII format is provided so you can enter a string that is easier to remember. The ASCII string is converted to HEX for use over the network. Four keys can be defined so that you can change keys easily.
- **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