

## EUB-9701 EXT2

## Wireless-N USB 2.0 Adapter

### (802.11n draft, 802.11g & 802.11b)



### User Manual Version: 1.3



1

### TABLE OF CONTENTS

1	INTRODUCTION	.4
2	FEATURES	.4
3	PACKAGE CONTENTS	.5
4	SYSTEM REQUIREMENTS	.6
5	INSTALLATION	.6
6	VERIFY INSTALLATION	.9
7	SETUP NETWORK CONFIGURATION (MS WINXP)	0
8	SETUP WLAN (ENGENIUS CONFIG-UTILITY)1	12
9	SETUP NETWORK SECURITY (WEP, WPA)	14
А. В.	SETTING WEP	14 15
10	ADDING PROFILES1	8
11	WPS CONFIGURATION	20
12	QOS	21
13	ADVANCED SETTINGS	22
14	STATISTICS	24
15	LINK STATUS	25
16	ABOUT	26
17	UNINSTALLING ENGENIUS UTILITY/DRIVER	27
APPI	ENDIX A – DRIVER INSTALLATION FOR WINDOWS VISTA	31
APPI	ENDIX B – SPECIFICATIONS	36
CER	TIFICATION STATEMENTS	37



### Revision History

Version	Date	Notes
1.1	May 24, 2007	Created
1.2	June 4, 2007	Updated setup pages
1.3	June 9, 2007	Modified Config pages & Screenshots



### **1** Introduction

EnGenius Wireless-N USB Adapter (EUB-9701 EXT2) implements the latest 11n (Draft 2.0) technology which extremely improves wireless signal for your computer than existing wireless 802.11g technology. The incredible speed of Wireless-N USB adaptor makes heavy traffic networking activities more flexible and takes the wireless into practical road.

You could enjoy the racing speed of wireless connection, surf Internet without string of wires. Adding EnGenius Wireless-N to your Notebook or Computer, provides an excellent solution for media-centric activities such as streaming video, gaming, and enhances the QoS (WMM) without any performance penalty.

It extends network coverage by 3 times and boosts transmission throughput 6 times than existing 11g products. For more security-sensitive applications, EUB-9701 EXT2 supports Hardware-based IEEE 802.11i encryption/decryption engine, including 64-bit/128-bit WEP, TKIP, and AES. Also, it supports Wi-Fi alliance WPA and WPA2 encryption. Cisco CCX V1.0, V2.0 and V3.0

Features	Advantages
High Speed Data Rate Up to 300Mbps*	Capable of handling heavy data payloads
	such as MPEG video streaming
IEEE 802.11b/g Compliant	Fully Interoperable with IEEE 802.11b /
	IEEE802.11g compliant devices with legacy
	protection
WPA/WPA2 (IEEE 802.11i), WEP	Powerful & Robust data security.
64/128	
Support	
Support 2Tx * 2Rx Radios	enables Intelligent Antenna
WMM (IEEE 802.11e) standard support	Wireless Multimedia Enhancements Quality of
	Service support (QoS) / enhanced power
	saving for Dynamic Networking.
2 Detachable Antenna design	Flexible with SMA connector design

### 2 Features



4

\* Theoretical wireless signal rate based on IEEE standard of 802.11a, b, g chipset used. Actual throughput may vary. Network conditions and environmental factors lower actual throughput rate. \*\* All specifications are subject to change without notice.

### **3 Package Contents**

Open the package carefully, and make sure that none of the items listed below are missing. Do not discard the packing materials, in case of return; the unit must be shipped back in its original package.

- > One Wireless-N USB Adaptor
- > One USB cable (1.0m)
- > One CD-ROM with User's Manual & Drivers
- Quick Installation Guide
- > 2 Detachable antennas (Reverse SMA connector)



LED	Description
LINK	Blinks when active connection is available else remains switched OFF
PWR	Blinks rapidly when data communication in progress else remains switched OFF



### **4** System Requirements

To begin using the WLAN USB Adapter, your PC/Notebook must meet the following minimum requirements:

- > Operating System Microsoft Windows XP/2000
- USB 2.0 socket x 1 (free to use socket)
- > 256MB system memory or larger
- > 750MHz CPU or higher configuration

### 5 Installation

Important: Install the WLAN Adapter utilities before inserting the WLAN Adapter into your computer.

Insert the support CD into your optical drive. In the CD drive folder, you will see the following file.



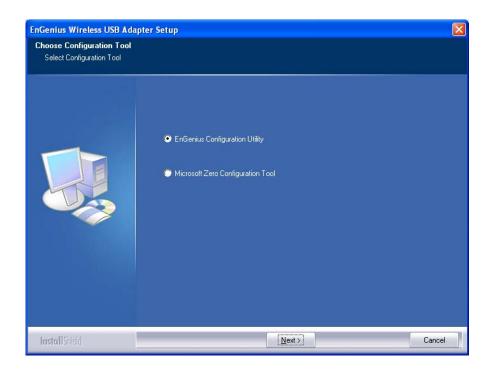
Open the file and you can briefly see the following...



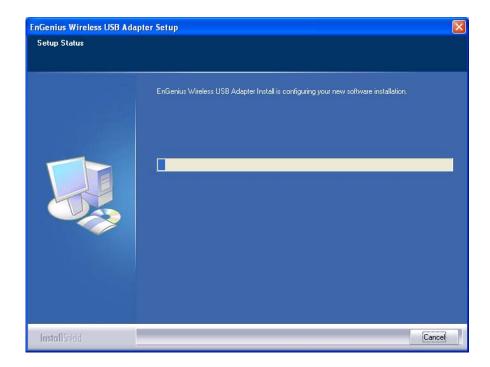
Choose EnGenius configuration utility & click next



6



Await instructions as you see the setup progress as shown below...



Click finish to restart PC/notebook.





Please insert EUB-9701 EXT2 Wireless Network Adapter with the USB cable in your notebook/PC's available USB 2.0 socket



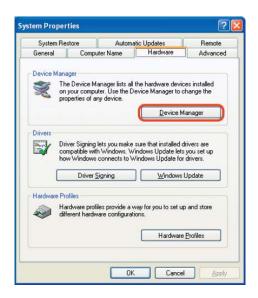
After a few seconds a notification that setup is complete will show up as follows. Click **Finish** to restart the PC/notebook.

EnGenius Wireless USB Adap	ter Setup
	InstallShield Wizard Complete The InstallShield Wizard has successfully installed EnGenius Wireless USB Adapter , Before you can use the program, you must restart your computer.
	<ul> <li>Yes, I want to restart my computer now.</li> <li>No, I will restart my computer later.</li> <li>Remove any disks from their drives, and then click Finish to complete setup.</li> </ul>
InstallShield	< Back Finish Cancel

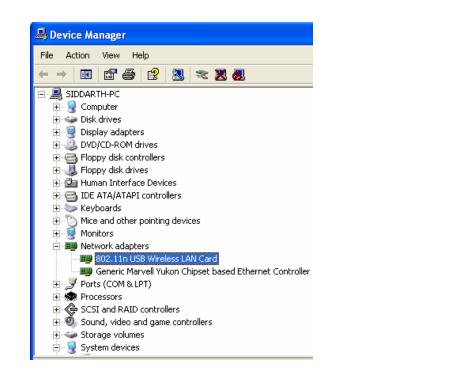


### 6 Verify installation

- 1. Open [Control Panel] =>Double-click [System].
- 2. Select [Hardware] tab=>Click [Device Manager].



Select and double-click [802.11N USB wireless LAN card]



Verify that the device status of [802.11N USB wireless LAN card]



EUB-9701 Wireless N USB adapter Version 1.3

[This device is working properly]->Click [OK]

802.11n	USB Wireless L	AN Card Properties	? 🗙
General	Advanced Driver	Details	
E	802.11n USB Win	eless LAN Card	
	Device type:	Network adapters	
	Manufacturer:	Ralink Technology, Corp.	
	Location:	Location 0 (USB Device)	
Devic	e status		
This	device is working pr	operly.	~
	u are having problem the troubleshooter.	is with this device, click Troubleshoot to	
			~
		Iroubleshoot	
<u>D</u> evice	usage:		
Use th	is device (enable)		~
		OK Ca	ancel

### 7 Setup Network Configuration (MS WinXP)

- Enter [Start Menu] =>select [Control panel] =>select [Network].
- Right-click [Wireless Network]
- Select [Local Area Connection]) icon=>select [properties]
- Select [Internet Protocol (TCP/IP)] =>Click [Properties].



### EUB-9701 Wireless N USB adapter Version 1.3

🕹 Wireless Network Connection 4 Properties 👘 [ ? 🔀
General Advanced
Connect using:
B02.11n USB Wireless LAN Card Configure
This connection uses the following items:
AEGIS Protocol (IEEE 802.1x) v3.5.3.0
The Microsoft TCP/IP version 6     The Microsoft TCP/IP version 6     The Microsoft TCP/IP version 6
Install Uninstall Properties
Description Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.
Show icon in notification area when connected
Notify me when this connection has limited or no connectivity
OK Cancel
Internet Destand (TCD (ID) Descention
Internet Protocol (TCP/IP) Properties
General Alternate Configuration
General Alternate Configuration You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for
General Alternate Configuration You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings. O Dotain an IP address automatically a Use the following IP address:
General Alternate Configuration You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings. O Use the following IP address:
General Alternate Configuration You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.  O Dotain an IP address automatically a Use the following IP address: IP address: Subnet mask:
General Alternate Configuration You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings. O Use the following IP address:
General Alternate Configuration You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings. Obtain an IP address automatically a Use the following IP address: IP address: Subnet mask: Default gateway: Obtain DNS server address automatically a
General Alternate Configuration You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.  O Use the following IP address:  P address:  Subnet mask: Default gateway:  O Use the following DNS server addresses:  D Use the following DNS server addresses:  D Use the following DNS server addresses: D
General Alternate Configuration You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings. Obtain an IP address automatically a Use the following IP address: IP address: Subnet mask: Default gateway: Obtain DNS server address automatically a
General Alternate Configuration You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.  O Use the following IP address: UP ad
General Alternate Configuration You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.  O Use the following IP address: UP ad

• Select the [General] tab.

a. If your Wireless Router supports [DHCP] function, please select both [Obtain an IP address automatically] and [Obtain DNS server address automatically].b. If the router does not support [DHCP] function, you have to configure the IP and DNS settings.

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11

### 8 Setup WLAN (EnGenius Config-Utility)

### Prerequisite:

- 1. Your home/office environment should have a wireless LAN Access Point (AP) that is available for your use.
- 2. You should readily have the (security keys) to connect those Wireless LAN Access Points (AP)

Configuration utility will first automatically link with the Wireless AP if there is no security key required. If the connection is successful, a message will appear on taskbar.

Following steps guides you to initially setup a wireless network connection.

Notice the EnGenius configuration utility on the taskbar

🔇 🕬 🖸 🗊 4:50 PM

Hovering the mouse cursor briefly over "EG" icon will show status as follows...the current status indicates that **Config utility** has automatically connected to an **Access Point** named **NKSP**.



Right click on "EG" icon will open up a menu as shown below

Launch Config Utilities Use Zero Configuration as Configuration utility Exit



Click on Launch Config Utilities. Notice it has many tabs for configuration

To make connection, select one AP/SSID (eg: NKSP) and click [Connect]. When the connection works, S [Connected] will appear in the left button of this tab and the icon appears in front of the linked AP.

When the connection failed, [Disconnected] will appear. If the AP has set up the encryption, please setup the same before you click [OK].

SSID	BSSID	Si	C	Encry	Authe	Network
ICNEXUS	00-90-CC-76-4B	10	6	WEP	Unknown	Infrastruct.
😸 NKSP	00-A0-C5-EF-C2	34%	6	None	Unknown	Infrastruct.
<						>

Click on **Site Survey** tab. Press **Rescan**. You will see several AP listed under <u>SSID</u>

They denote individual access points. Click on the one you want to connect with. Notice that if there is no security key needed, you can see that in the **Encryption** status as "**None**".



If there is security key required, obtain it and click **connect**. If you need to input a security key, refer to chapter 9 to understand setting up WEP key.

### 9 Setup Network security (WEP, WPA...)

If your AP/Router has network security key, your wireless adapter needs to have the same security setting. The details of network security setting are described below. Please open EnGenius Wireless Utility before you start to setup network security:



Please click [start] ->select [Programs] ->click [CG-WLUSB2GO] ->click [EnGenius Wireless Utility], and the wireless icon "**EG**" will appear on taskbar.

### a. Setting WEP

If AP you want to connect to has [WEP] authentication, press [Connect].

SSID	BSSID 00-02-6F	Signal 100%	C	Encry None	Authentic	Network
PUNSID_WI		86%	9	WEP	Unknown	Infrastruct
¢						Ì
- 2						~
Connected <> en	igenius		escan		Connect	Add to Profile

Press **Connect**. You will see a window pop up as shown below.



Authentication and Secu	rity 🔀
Authentication Type :	Open Use 802.1x 802.1x Setting
Encryption :	WEP
WPA Preshared Key :	
⊂ Wep Key	
⊙ Key#1 Hex	
◯ Key#2 Hex	▼
◯ Key#3 Hex	
◯ Key#4 Hex	
* WEP 64 Bits Encryption: * WEP 128 Bits Encryption	Please Keyin 10 HEX characters or 5 ASCII characters : Please Keyin 26 HEX characters or 13 ASCII characters
	Show Password
0	IK Cancel

Follow steps below:

a. [Authentication Type]: indicates the authentication type of the AP/Router.

Please confirm the setting of the AP/Router.

\* [Open]: WEP open system is based on request and grant. It is essentially no authentication.

\* [Shared]: WEP shared key is based on request, challenge, challenge response, grant/deny.

b. Select [WEP] in [Encryption].

c. Key in AP encryption keys (64/128bits) in the box Key1~Key4. Please accept the auto selected setting of [Hex]/ [ASCII].

- d. Select the current AP encryption keys from Key1~Key4.
- e. Press [OK] to finish setting.

### **b. Setting WPA**

WPA encryption type can be divided into WPA-PSK, WPA2-PSK, WPA (or called WPA-EAP), and WPA2 (or called WPA2-EAP). All settings should correspond with settings of the wireless AP you would want to connect with.

#### WPA-PSK and WPA2-PSK

ile Link Status Site :	Survey Statistics Adv	anced IF	<sup>9</sup> Informatio	n About		
SSID	BSSID	Signal	Channel	Encryption	Authentication	Netw
core	00-23-12-A1-04-02	94%	10	None	Unknown	Infras
	00-23-12-A1-06-01	23%	1	None	Unknown	Infras
ATTW-OFFICE	00-0A-79-5B-FE-43	18%	6	TKIP:AES	WPA-PSK	Infras
bearhome	00-C0-02-F5-FB-34	57%	6	None	Unknown	Infras
0205	00-50-18-21-CF-69	100%	6	None	Unknown	Infras
cs-test	00-0A-79-81-4A-96	57%	9	WEP	Unknown	Infras
RD-SW	00-C0-02-FF-56-12	47%	11	WEP	Unknown	Infras
iome a	00-C0-02-E4-B7-68	23%	11	WEP	Unknown	Infras
OFFICE	00-0A-79-75-CD-AC	7%	11	TKIP	WPA-PSK	Infras
	00-0A-79-5C-E2-A2	47%	11	WEP	Unknown	Infras
<		101				>
Connected <> corega			Rescan	Connec	t Add to P	rofile

Setting the [Authentication and Security] Page:

ryption :		AES	
A Preshared K	.cy :		
/ep Key			
Key#1	Hex		
◯ Key#2	Hex	~	
⊖ Key#3	Hex	~	
⊖Key#4	Hex	~	
		ion: Please Keyin 10 HEX nion: Please Keyin 26 HE≻	characters or 5 ASCII characters K characters or 13 ASCII

- a. Authentication Type: Select [WPA-PSK] or [WPA2-PSK] (AP must support the function).
- b. Encryption: Select [TKIP] or [AES].(Same as AP)
- c. Enter the selected AP's password in [WAP Preshared Key] box and click [OK].

### WPA and WPA2

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1. Select an AP with [WPA] or [WPA2] authentication and press [Connect]. Here we use OFFICE for example; hence the following settings must correspond with your corresponding Wireless Access Point.

ile Link Status Site :	Survey Statistics Adv	anced IF	<sup>,</sup> Informatio	n About		
SSID	BSSID	Signal	Channel	Encryption	Authentication	Netw
core	00-23-12-A1-04-02	94%	10	None	Unknown	Infra
	00-23-12-A1-06-01	23%	1	None	Unknown	Infra
ATTW-OFFICE	00-0A-79-5B-FE-43	18%	6	TKIP;AES	WPA-PSK	Infra
bearhome	00-C0-02-F5-FB-34	57%	6	None	Unknown	Infra
0205	00-50-18-21-CF-69	100%	6	None	Unknown	Infra
cs-test	00-0A-79-81-4A-96	57%	9	WEP	Unknown	Infra
RD-SW	00-C0-02-FF-56-12	47%	11	WEP	Unknown	Infra
tome .	00-C0-02-E4-B7-68	23%	11	WEP	Unknown	Infra
OFFICE	00-0A-79-75-CD-AC	7%	11	TKIP	WPA	Infra:
	00-0A-79-5C-E2-A2	47%	11	WEP	Unknown	Infra
<						>
Connected <> corega			Rescan	Connec	t Add to F	rofile

Setting the [Authentication and Security] Page:

Authentication Typ	be:	WPA	V	C(802.1x Setting
Encryption :		AES		8
WPA Preshared K	ey:			
Wep Key				
● Key#1	Hex	~		
⊖ Key#2	Hex	~		
⊖ Key#3	Hex	~		
⊖ Key#4	Hex	~		
			eyin 10 HEX chara Keyin 26 HEX char	cters or 5 ASCII characters acters or 13 ASCII
				Show Password

a. Authentication Type: select [WPA] or [WPA2-PSK] (AP must support the function).

b. Encryption: select [TKIP] or [AES] (Same as AP)



c. If the AP/router has [802.1x Setting] function, click it for advanced settings. Please consult your network administrator for details or check the user manual of the Wireless Access Point.

Authentication T	ype: FEAP	Session Resumption	n: Disabled	1
Identity :		Password :		
Use Client c	ertificate			
Issued To :				
Issued To :				
Issued To : Issued By :			More	
Issued To : Issued By : Expired On :	8		More	
Issued To : Issued By : Expired On : Friendly Name	8	Identity :	More	

Click [OK] to finish setting.

### **10 Adding Profiles**

1. Select one AP in the SSID column, eg: EnGenius=>Click [Add to Profile] and the page shown below will appear.



onfiguration Authentication	n and Security			
Profile Name PROF1	I	SSID	engenius	~
PSM © CAM (Constantly Aw	ake Mode)	O PSM (Pr	ower Saving Mode)	
Network Type	irastructure	<ul> <li>TX Power</li> </ul>	Auto	*
Preamble	ito	P		
RTS Threshold	0	(	2347 2347	
Fragment Threshold	256		2346 2346	

2. Setting items in the [configuration] tab:

• Profile Name: Enter the connected AP profile, eg: PROF1.

• **SSID**: Click the drop-down menu and select one AP. You can also enter the AP manually.

• **PSM**: When CAM is selected, indicates that the product is not in power saving status. When PSM is selected, the product is in power saving status. (Only select it under Infrastructure network type).

• Network Type: [Infrastructure] or [Ad Hoc] type. We recommend you to select [Infrastructure].

• **Transmit power**: the amount of power used by a radio transceiver to send the signal out. User can choose power value by sliding the bar.

• [RTS Threshold] and [Fragment Threshold]: We recommend you to use the default value 2312. User can adjust threshold numbers by sliding the bars or key in the values directly.

3. Click [OK] and the set AP will appear in the [Profile] tab.



astructure

• [Add]: Click [Add] to add a new profile.

• [Delete]: to delete a profile, select one profile name and click [Delete].

• [Edit]: to edit the setting of a profile, select the profile and click [Edit].

• [Activate]: to activate the selected profile, select the profile and click [Activate].

### **11 WPS Configuration**

Wi-Fi Protected Setup (WPS) configuration function - provides easy procedures to set up wireless security. Wi-Fi Protected Setup gives SOHO users a variety of setup options. It uses familiar methodologies such as typing in a Personal Identification Number /numeric code (PIN method), and pushing a button (Push-Button Configuration, or PBC) to enable users to automatically configure network names and strong WPA2 (Wi-Fi Protected Access 2TM) data encryption and authentication.



EG EnGenius WLA	AN Utilit	у					
Profile Link Statu:	s Site Su	rvey Stati:	stics Adv	anced Q	oS [	wPS Configu	ation About
SSID	BSSID		C. ID	A	uthe	Encry	Rescan Information Pin Code [11185192]
SSID		MAC Add	ress	Auther	ntic	Encryption	Detail Connect Rotate Disconnect Delete
	6 Associat 6 Probe IE		status is no	t used			
						ОК	

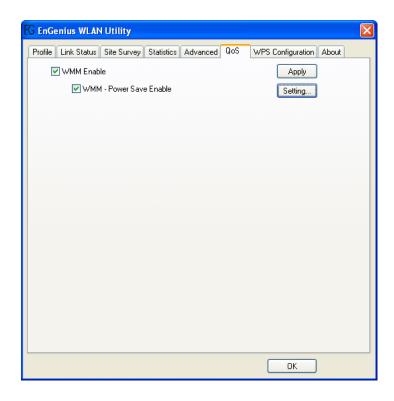
### 12 QoS

Wi-Fi CERTIFIED<sup>™</sup> for WMM (Wi-Fi Multimedia) provides multimedia enhancements for Wi-Fi® networks that improve the user experience for audio, video, and voice applications. WMM is a profile of the IEEE 802.11e Quality of Service (QoS) extensions for 802.11 networks and started a certification program for WMM to satisfy the most urgent needs of the industry for a QoS solution for Wi-Fi networks. WMM provides prioritized media access and is based on the Enhanced Distributed Channel Access (EDCA) method.



Click **WMM Enable** to turn on the WMM capability.

Click **WMM – Power Save Enable** and this can improve the power savings by atleast 15% as far as the EUB-9701 EXT2 power consumption is concerned.



### **13 Advanced Settings**

Wireless mode: Select wireless network mode (speed)

- 802.11b/g mixed: Automatically detect 11b or 11g
- 802.11b only: Frequency only 11b
- 802.11b/g/n mixed: Automatically detect 11b or 11g or 11n

22

In order to keep the connection stable, please select [Auto] to automatically confirm which mode the wireless network is working.

**<u>TX-Burst</u>**: Ralink's proprietary frame burst mode. When it is checked, transmission throughput will be improved. (Only works when AP supports this function)



Enable TCP Window Size :.( When checked, the reception speed will improve.)

**Fast Roaming at** \_\_\_\_ **dBm**: Will enter roaming mode when dBm reaches defined level.

**CCX 2.0**: Open CCX (supports Cisco Compatible Extensions function). Check it after making sure the Wireless AP supports it.

Turn on CCKM: Open CCKM function (Cisco Key Management).

Enable Radio Measurements: Open the function of CCK Monitor AP Channel.

**Non-Serving Channel Measurements**: Select and start to monitor the channels on which the AP is not transmitting

Turn off RF: Disable wireless radio.

Turn on RF: Enables wireless radio.

[Apply]: Click this when finish the settings.



EnGenius WLAN Utility Profile Link Status Site Survey Statistics	Advanced QoS WPS Configuration About
Wireless mode 802.11 B/G/N m Wireless Protection Auto	ix V
Tx BURST	Show Authentication Status Dialog
Enable TCP Window Size	Enable CCX (Cisco Compatible eXtensions)
Fast Roaming at -70 dBm	Tum on CCKM Enable Radio Measurement:
¥ Turn off BF	Non-Serving Channel Measurements Limit 250 milliseconds (0-2000)
	Аррју
	ОК

### **14 Statistics**

Statistics page displays the detail information about Wireless LAN TX/RX.

• Transmit Statistics: Statistic of transmitted frames.

• Receive Statistics: Statistic of received frames.

• [Reset Counters]: Click [Reset Counter] to zero the statistic numbers of transmitting and receiving data and start over.



Transmit Statistics         Frames Transmitted Successfully       =       4345         Frames Fail To Receive ACK After All Retries       =       236         RTS Frames Successfully Receive CTS       =       0         RTS Frames Fail To Receive CTS       =       0         Frames Retransmitted Successfully       =       1695	236 0 1695 221
Frames Transmitted Successfully=4345Frames Fail To Receive ACK After All Retries=236RTS Frames Successfully Receive CTS=0RTS Frames Fail To Receive CTS=0	236 0 1695 221
Frames Fail To Receive ACK After All Retries     =     236       RTS Frames Successfully Receive CTS     =     0       RTS Frames Fail To Receive CTS     =     0	236 0 1695 221
RTS Frames Successfully Receive CTS     =     0       RTS Frames Fail To Receive CTS     =     0	0 0 1695 221
RTS Frames Fail To Receive CTS = 0	0 1695 221
	221
Frames Retransmitted Successfully = 1695	221
C Receive Statistics	
Frames Received Successfully = 221	
Frames Received With CRC Error = 6812	6812
Frames Dropped Due To Out-of-Resource = 0	0
Duplicate Frames Received = 0	0

### **15 Link Status**

This tab displays the information of the Wireless connection status.

- **Status**: Displays the linked AP name and MAC address. When [Disconnect] appears in this box, the connection is failed.
- Extra Info: link status and strength.
- Channel: Current channel in use.
- Link Speed: Show current transmit rate and receive rate.
- Throughput: Display transmit and receive throughput value.
- Link Quality: Display connection quality based on signal strength and TX/RX packet error rate.



Profile Link Status S	-	tatistics	Advanced (	QoS WPS Confi	iguration About
Status :	CNEXUS <	> 00-90-0	C-76-4B-BF		
Extra Info :	Link is Up [	TxPower:1	00%]		
Channel :	6 <> 2437	MHz			
Link Speed :	Tx (Mbps)		11.0	Rx (Mbps)	11.0
Throughput :	Tx (Kbps)		3.1	Rx (Kbps)	31.7
Link Quality :	Good	100%			
LINK Quality .	Good	100%		F	dBm
Signal Strength 1:					
Signal Strength2 :	Good	94%			
	Low	26%			
Noise Level :					
HT BW: n/a G	l: n/a		MCS: n/a	SNR0: n/a	SNR1: n/a
					ОК

• Signal Strength 1 & 2: Receive signal strength, user can choose to display

as percentage or dBm format

• Noise Level: Display noise signal strength.

### 16 About

The About tab displays version information of

- 1. Driver
- 2. Utility
- 3. EEPROM binary
- 4. Firmware
- 5. IP Address (current)
- 6. MAC address of the PHY
- 7. Subnet MASK Address
- 8. Default Gateway



RaConfig Version:       1.3.2.0       Date:       05-11-2007         Driver Version:       1.0.1.0       Date:       03-13-2007         EEPRDM Version:       1.1       Firmware Version:       0.3         IP Address:       192.168.1.100       Phy_Address:       00-02-4F-11-11-37         Sub Mask:       255.255.255.0       Default Gateway:       192.168.1.1	Profile	Link Status	Site Survey	Statistics	Advance	d QoS	W	PS Configuration	About
Driver Version :         1.0.1.0         Date :         03-13-2007           EEPROM Version :         1.1         Firmware Version :         0.3           IP Address :         192.168.1.100         Phy_Address :         00-02-4F-11-11-37				EnG	enii	JS			
EEPROM Version:         1.1         Firmware Version:         0.3           IP Address:         192.168.1.100         Phy_Address:         00-02-4F-11-11-37		RaConfig	Version : 1.	3.2.0	C	ate :		05-11-2007	
IP Address : 192.168.1.100 Phy_Address : 00-02-4F-11-11-37		Driver Ve	rsion : 1.	0.1.0	0	ate :		03-13-2007	
		EEPROM	Version : 1.	1	F	irmware V	ersion	n: 0.3	
Sub Mask : 255.255.255.0 Default Gateway : 192.168.1.1		IP Addres	is: 1:	92.168.1.10	0 Phy.	Address	:	00-02-4F-11-11-37	
		Sub Masl	k: 2	55.255.255.	0 Defa	ult Gatew	ay :	192.168.1.1	
								OK	

### **17 Uninstalling EnGenius Utility/Driver**

Select Uninstall option from the start menu.



You can see the wizard preparing for uninstallation



### EUB-9701 Wireless N USB adapter Version 1.3

nGenius Wireless USB Adap Preparing Setup Please wait while the InstallShie	ptor Utility and Driver Install - InstallShield Wizard
	EnGenius Wireless USB Adaptor Utility and Driver Install Setup is preparing the InstallShield Wizard, which will guide you through the rest of the setup process. Please wait.
InstallShield	Cancel

### Select Remove All

EnGenius Wireless USB Adap	ter Setup	
Please select one way to cor	ntinue install	
	There have existed an older version. Which way do you like to do?.         Image: Comparison of the existence of the ex	
InstallShield	< Back Next >	Cancel

Removing the utility is in progress. At any time you may press **cancel** to abort uninstallation.



#### EUB-9701 Wireless N USB adapter Version 1.3

EnGenius Wireless USB Adaş Setup Status	oter Setup	
	EnGenius Wireless USB Adapter is configuring your new software installation.	
InstallShield	ſ	Cancel



You will need to restart your computer for ensuring a clean removal of the EnGenius Utility.

nGenius Wireless USB	наартет эетар	
	Setup has finished installing	
	Aegis function will work after reboot.	
	Yes, I want to restart my computer now.	
	No, I will restart my computer later. Click Finish to complete EnGenius Wireless USB Adapter Setup.	
InstallShield	Finish	
		EnGeni
	29	EnGen

EUB-9701 Wireless N USB adapter Version 1.3



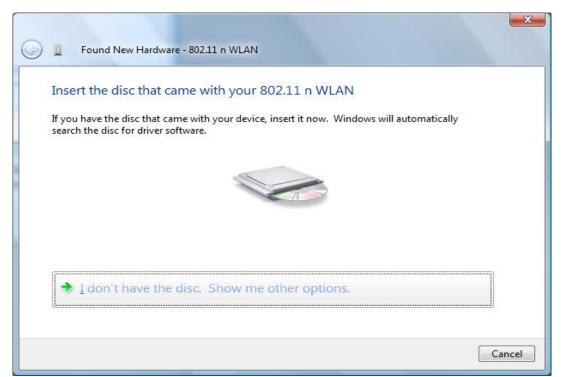
# Appendix A – Driver Installation for Windows Vista



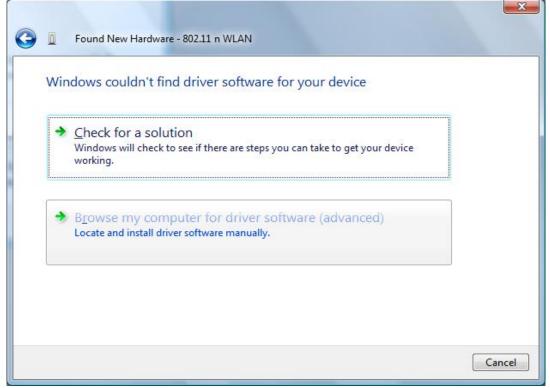
1. Click Locate and install driver software (recommended)







### 3. Click I don't have the disc. Show me other options.



4. Click Browse my computer for driver software (advanced)



	Browse for driver software on your computer
	Search for driver software in this location:
	E:\ahone\EUB-9701 vista\x32
	Include subfolders
ele	Cancel Ca
ę	Windows Security  Windows can't verify the publisher of this driver software



#### 6. Click Install this driver software anyway.



Found New Hardware - 802.11 n WLAN	
Installing driver software	

7. Wait a moment.



G I Found New Hardware - EnGenius EUB-9701 Wireless USB Adapter	<b>X</b>
The software for this device has been successfully installed	
Windows has finished installing the driver software for this device:	
EnGenius EUB-9701 Wireless USB Adapter	
	Close

8. Finish install driver. Click Close.



### **Appendix B – Specifications**

#### **Data Rates**

1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, 54, 72, 84, 150 and 300Mbps (with 2-stream on both ends)

#### Standards / Compliance

IEEE802.3, IEEE802.3u, IEEE802.11b, IEEE802.11g, 802.11n 2.0

#### **Regulation Certifications**

FCC Part 15, ETSI 300/328/CE

#### Operating Voltage

5 V ± 0.25V

Status LEDs

LINK

#### Drivers

Windows 2000/XP/Vista

#### **RF Information**

#### **Frequency Band**

U.S., Europe and Japan product covering 2.4 to 2.484 GHz, programmable for different country regulations

#### **Media Access Protocol**

Carrier Sense Multiple Access with Collision Avoidance (CSMA/CA)

#### **Modulation Technology**

**802.11g:** OFDM (64-QAM, 16-QAM, QPSK, BPSK)

802.11b: DSSS (DBPSK, DQPSK, CCK) Operating Channels

11 for North America, 14 for Japan, 13 for Europe

#### **Receive Sensitivity (Typical)**

2.412~2.472G(IEEE802.11b)
 -91dBm @ 1Mbps
 -90dBm @ 11Mbps

- 2.412~2.472G(IEEE802.11g)
   -90dBm @ 6Mbps
   -74dBm @ 54Mbps
- 2.412~2.472G(IEEE802.11N)
   -90 dBm @ MCS 8
   -65 dBm @ MCS 15

#### Available transmit power

• 2.412~2.472G(IEEE802.11b)

- 18dBm @1~11Mbps
- 2.412~2.472G(IEEE802.11g)

### 15 dBm @6Mbps

14 dBm @54Mbps

2.412~2.472G(IEEE802.11N)
 15dBm

#### Antenna Configuration

2T2R Mode (detachable 2.4GHz antenna/2.0dBi gain)

#### Networking

Topology Ad-Hoc, Infrastructure

#### Security

WPA/WPA2 (AES, 64,128-WEP with shared-key authentication) Cisco CCS V1.0, V2.0 and V3.0 compliant

#### Physical

Form Factor

USB 2.0/1.1

#### Dimensions (HxWxD)

70(L) mm x 57.5(W) mm x 16(H) mm

Weight

#### 55 g/ 2.0oz

#### Environmental

#### **Temperature Range**

Operating: 0°C to 50°C Storage: -10°Cto 75°C

#### Humidity (non-condensing)

5%~95% Typical

#### Package Contents

One Wireless-N USB Adaptor One CD-ROM with User's Manual and Drivers One USB cable (1.0M) Two SMA antennas

#### Related Product(s)

11N Wireless USB Adapter/MiniPCI EUB-9701 (802.11n 2.0 Palm type) EUB-9702 (802.11n 2.0 USB 1T2R) ESR-9710 (802.11n 2.0 Router)

High power Outdoor AP-Client EOC-3220 Series (802.11b/g) EOC-8610 Series (802.11a/b/g)

High power Indoor AP-Client ECB-3220 Series / ECB-8610 Series



### 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.

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.

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.

### **IMPORTANT NOTE:**

### FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

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

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.

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.

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### Industry Canada statement:

This device complies with RSS-210 of the Industry Canada 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.

### **IMPORTANT NOTE:**

### **Radiation Exposure Statement:**

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This device has been designed to operate with an antenna having a maximum gain of 2.0dB. Antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is 50 ohms.