

**WK8000**

**USB Half-Mini-Card  
Wireless Module**

## I. Introduction

### i. Overview

Good Way Technology Co. Ltd. introduces the pioneer of the USB Half-Mini-Card wireless module ---WK8000. The WK8000 USB Half-Mini-Card wireless module is a highly integrated wireless local area network (WLAN) solution to let users enjoy the digital content through the latest wireless technology without using the extra cables and cords. It enables a high performance, cost effective, low power, compact solution that easily fits onto one side of a USB Half-Mini-Card. Compliant with the IEEE 802.11b/g/n standard, the WK8000 uses Direct Sequence Spread Spectrum (DSSS), Orthogonal Frequency Division Multiplexing (OFDM), BPSK, QPSK, CCK and QAM baseband modulation technologies.

A high level of integration and full implementation of the power management functions specified in the IEEE 802.11 standard minimize system power requirements by using WK8000.

#### **Longer Range and Faster Speed**

Comparing to 802.11g technology, 802.11n draft 3.0 standard make big improvement on speed and range. It Increases wireless range by up to 2 times and reduces dead spots in coverage area. The data rate can up to 150Mbps data rate.

### ii. Features

- **USB Half-Mini-Card.**
- **Compliant with IEEE802.11n Draft 3.0 standard**
- **2 antennas to support 1(Transmit) x 1(Receive) Diversity technology**
- **High speed wireless connection up to 150MbpsLow power consumption and high performance**
- **Enhanced wireless security**

### iii. Product Review

#### 1. Connection Mode

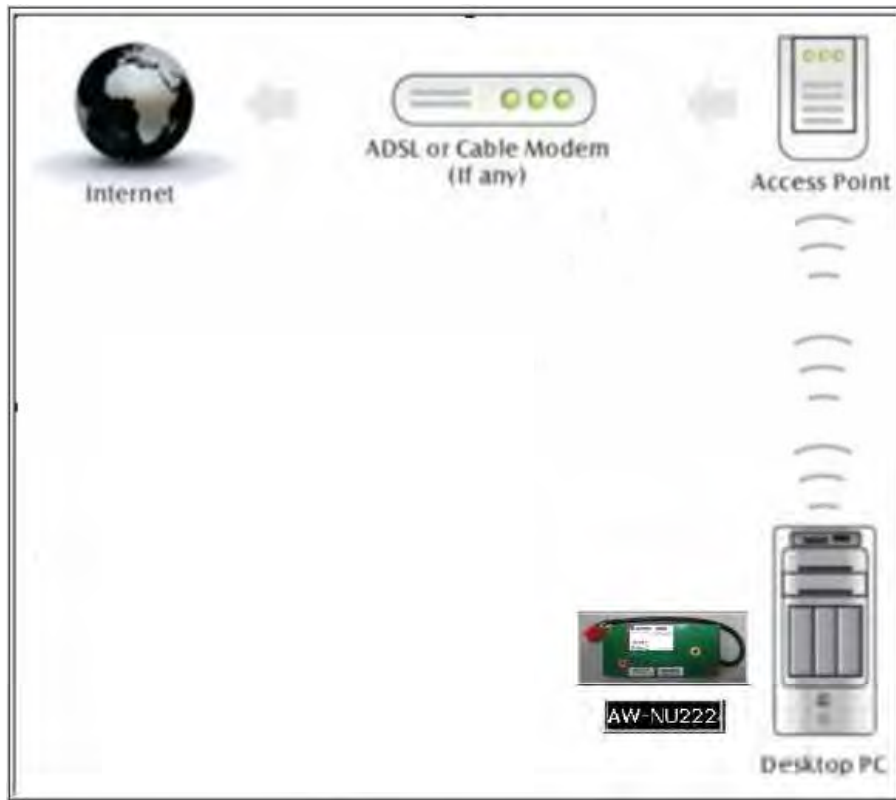
### Infrastructure mode

Infrastructure mode needs an access point to establish the network, which can provide wireless access within the valid range for users to communicate with others or transmit data with and wired network. There are several benefits of Infrastructure networking.

**Roaming:** a wireless LAN enabled computer can physically move from the operating range of one access point to the other without losing connection. There is a quick association made between new access point and wireless device as the computer traverses from the coverage of one access point to another.

**Range Extension:** each wireless LAN enabled computer within the range of access point can communicate with other wireless LAN enabled computers within the effective range from the access point.

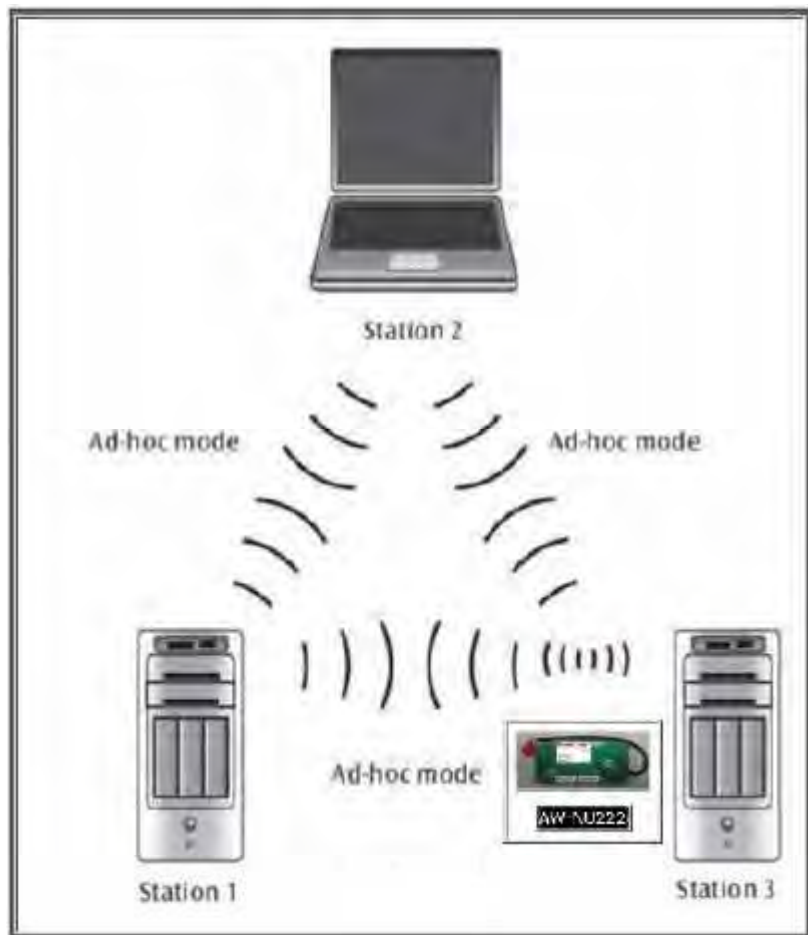
**Wired to wireless LAN connection:** the access point will establish a bridge between wireless LAN and other wired counterparts.



Infrastructure Mode

## Ad-hoc Mode

The difference between Ad-hoc mode and infrastructure mode is that Ad-hoc mode does not need the access point or router. When use this mode, you computer will act as a server within the valid range and connect directly to others in the same LAN workgroup.



## Ad-hoc Mode

It is recommended to choose this mode when there is no access point showed on your wireless network.

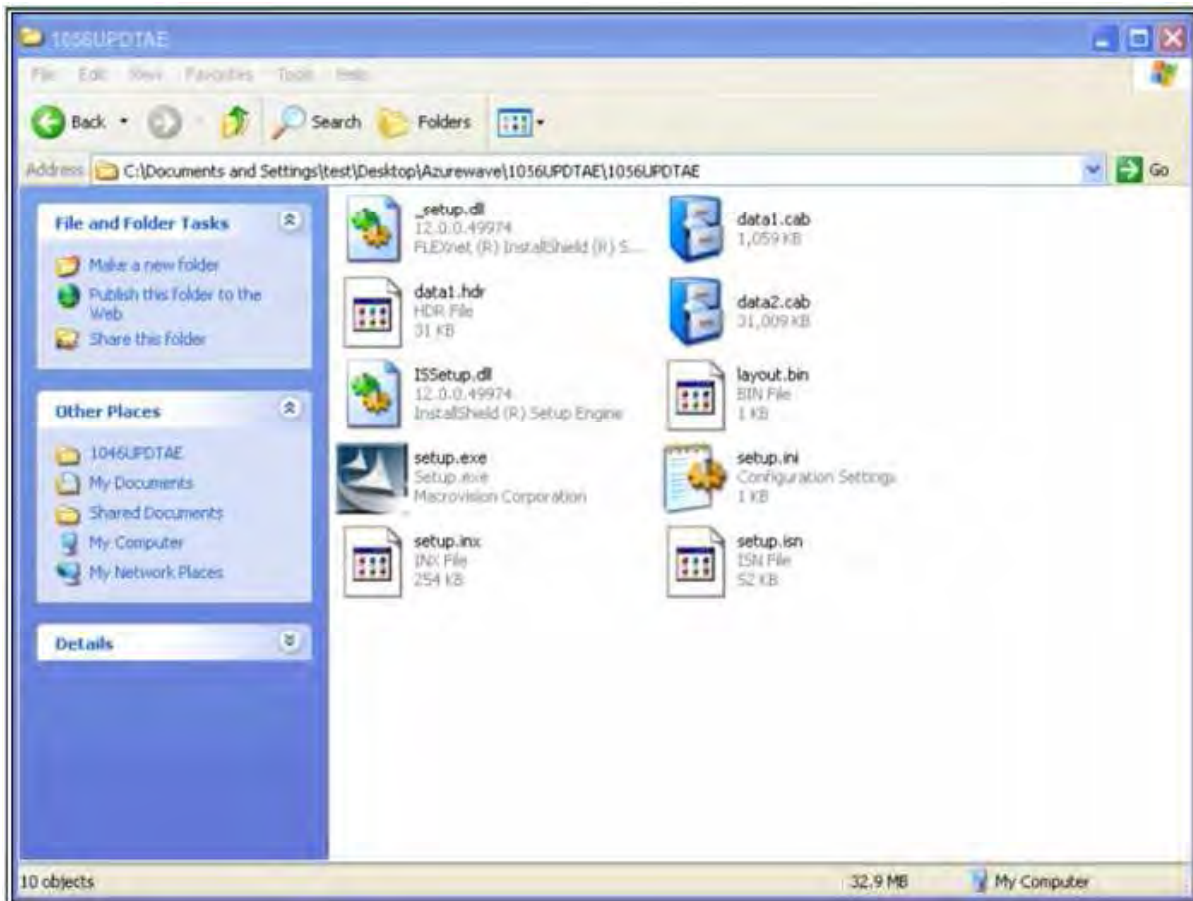
# Installation

## i. System Requirements

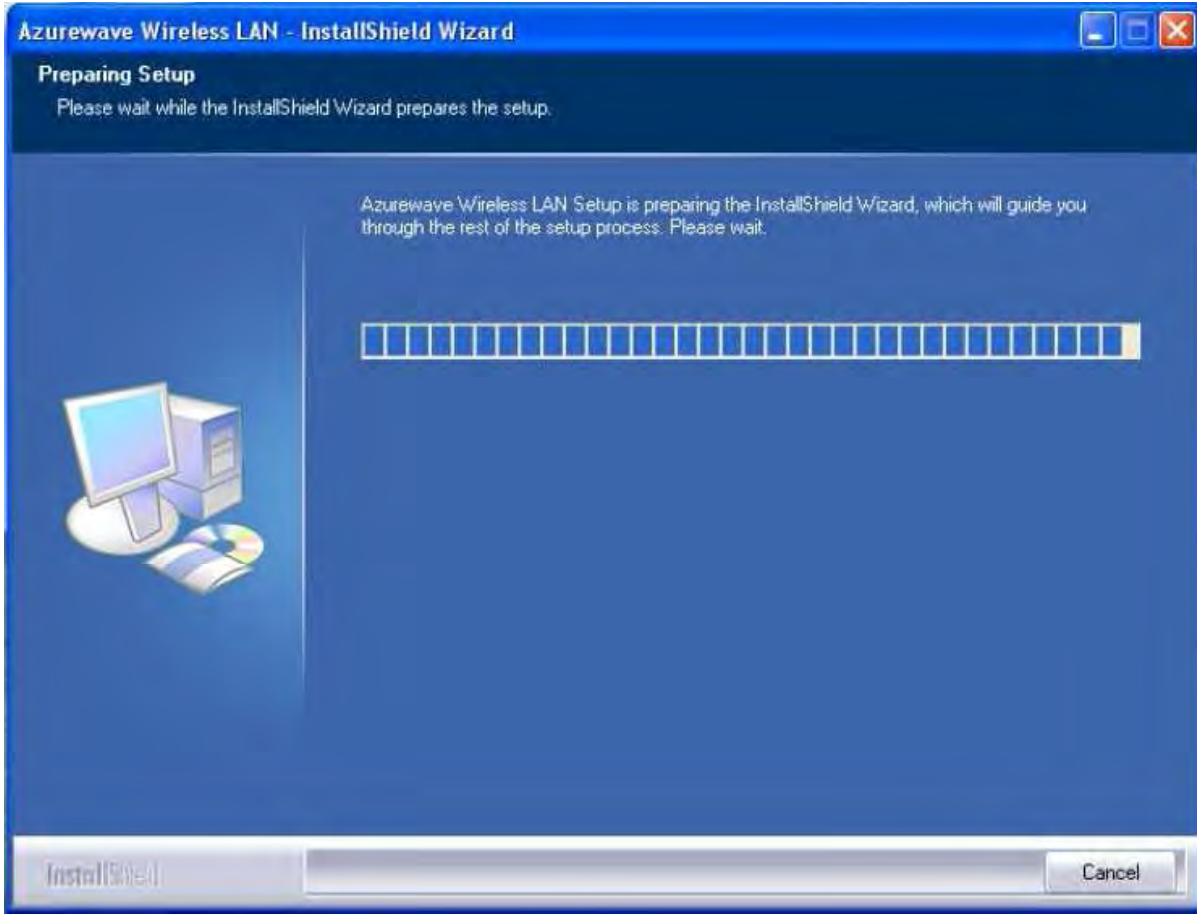
- \*Minimum of 64MB system memory
- \*Operating system: XP/Vista
- \* Driver installation

## ii. Setup: Windows XP OS

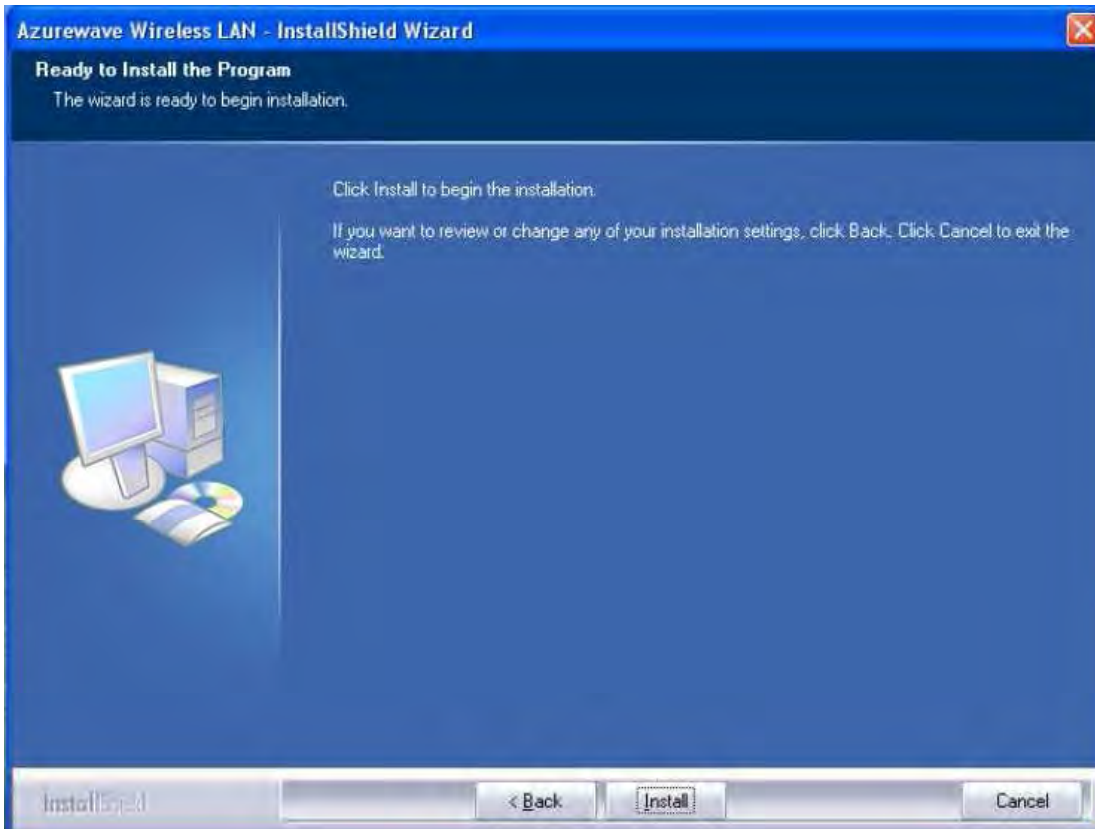
1. Find out the Driver, and launch the Setup Wizard



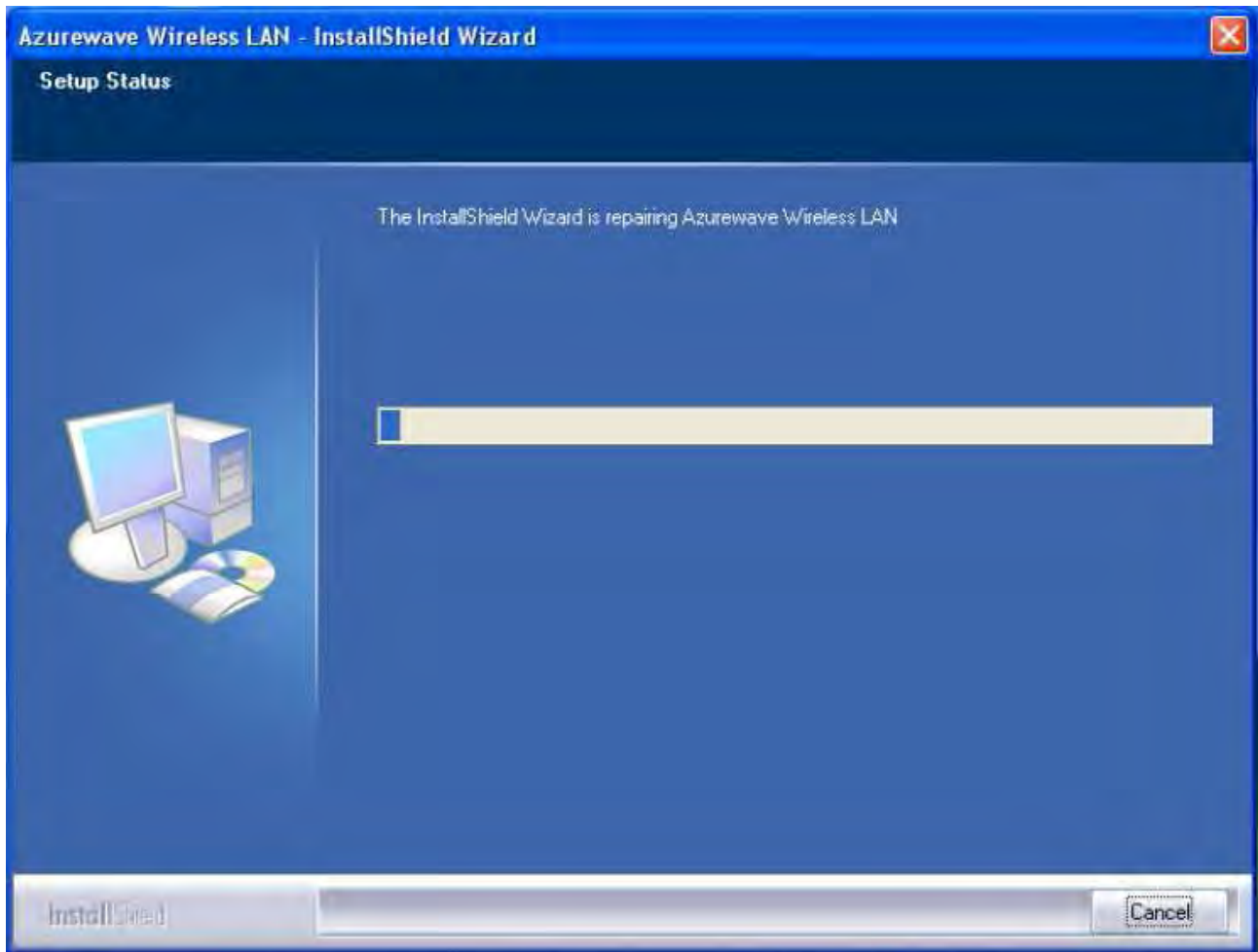
2. Please wait few seconds for wizard to prepare installation



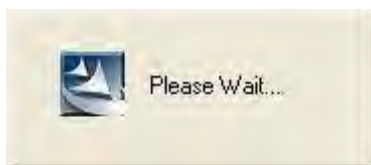
3. Please select click [Install] to proceed



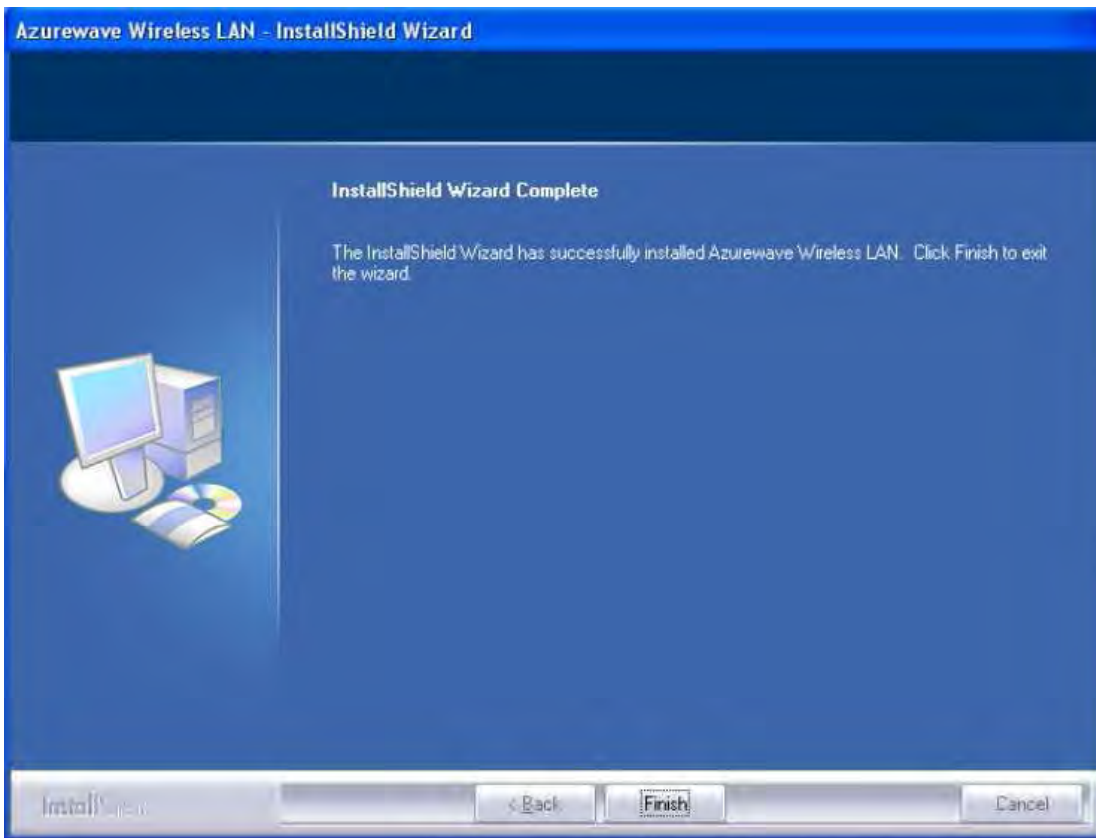
4. The Wizard is running installation



5. Please wait few seconds for Wizard to setup



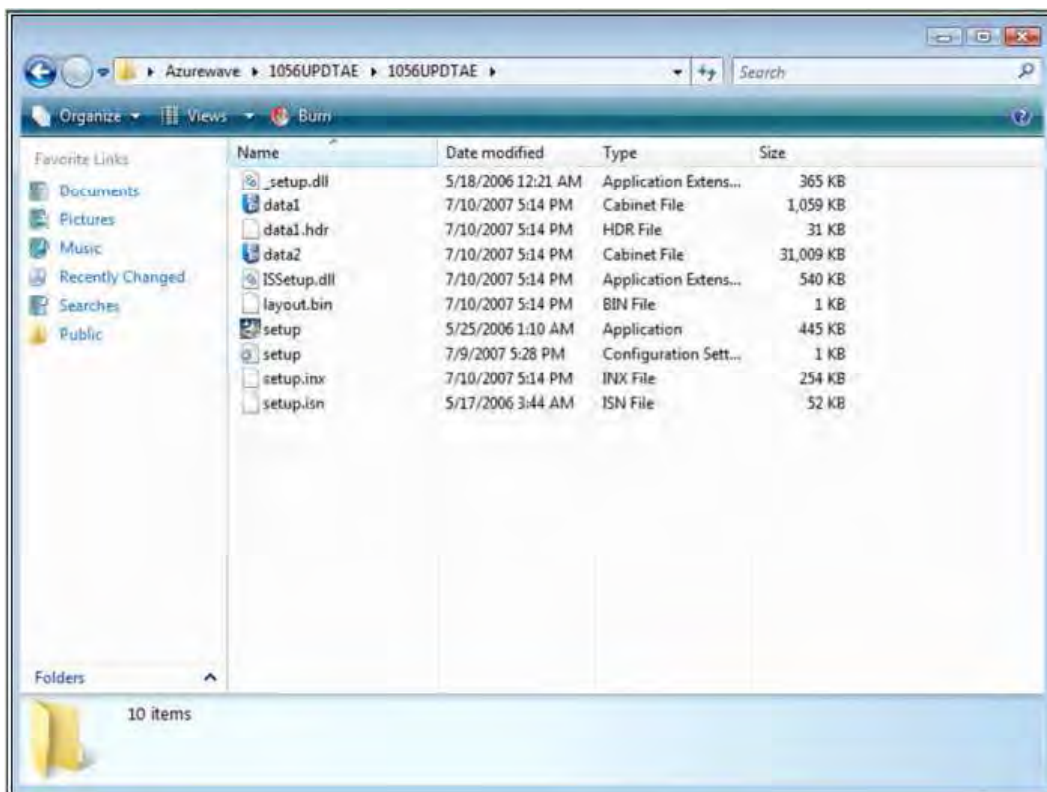
6. When it is completed, please click [Finish]



### iii. Setup: Windows Vista OS

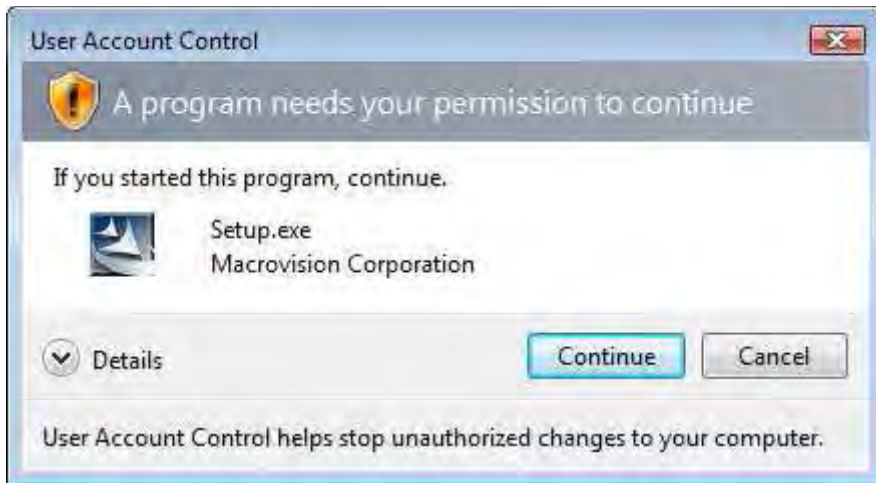
Please follow the steps to complete installation.

1. Launch the setup driver

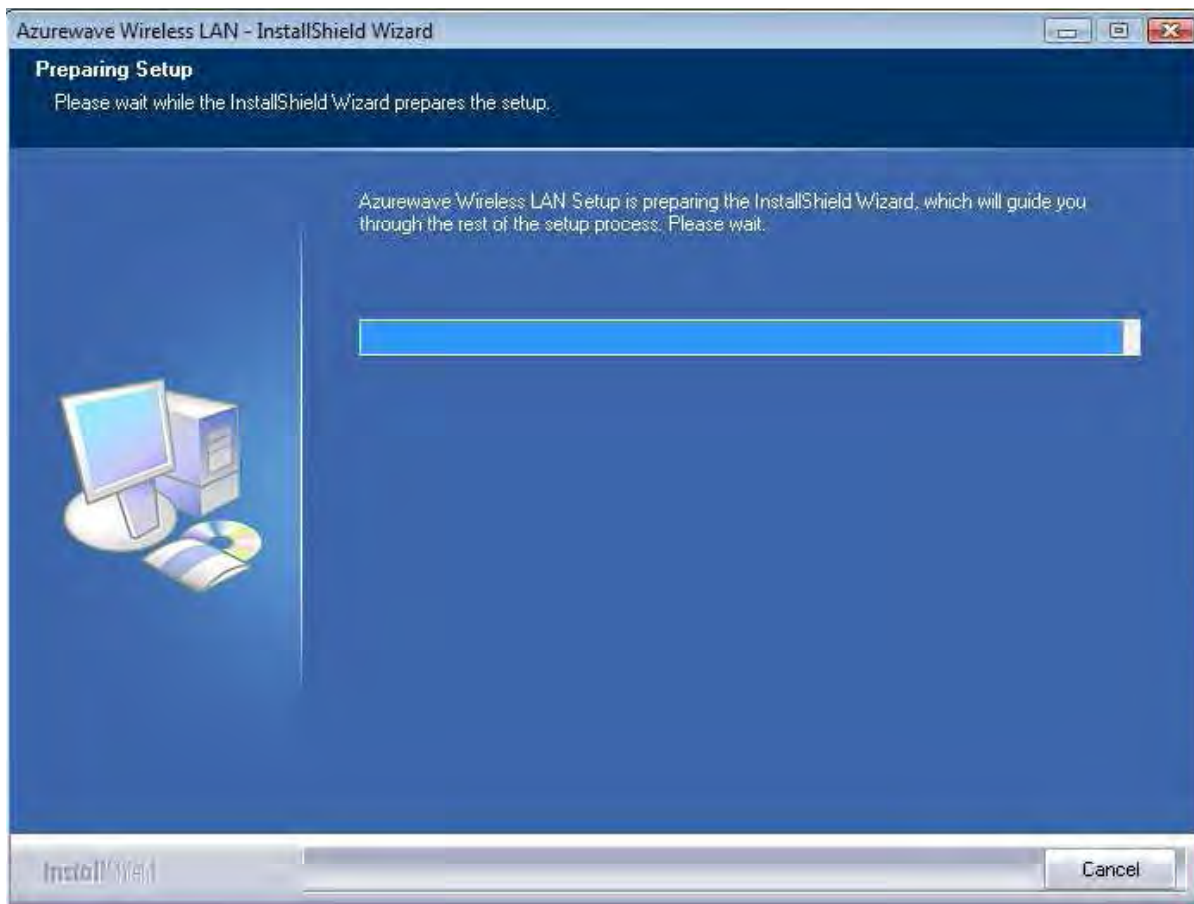




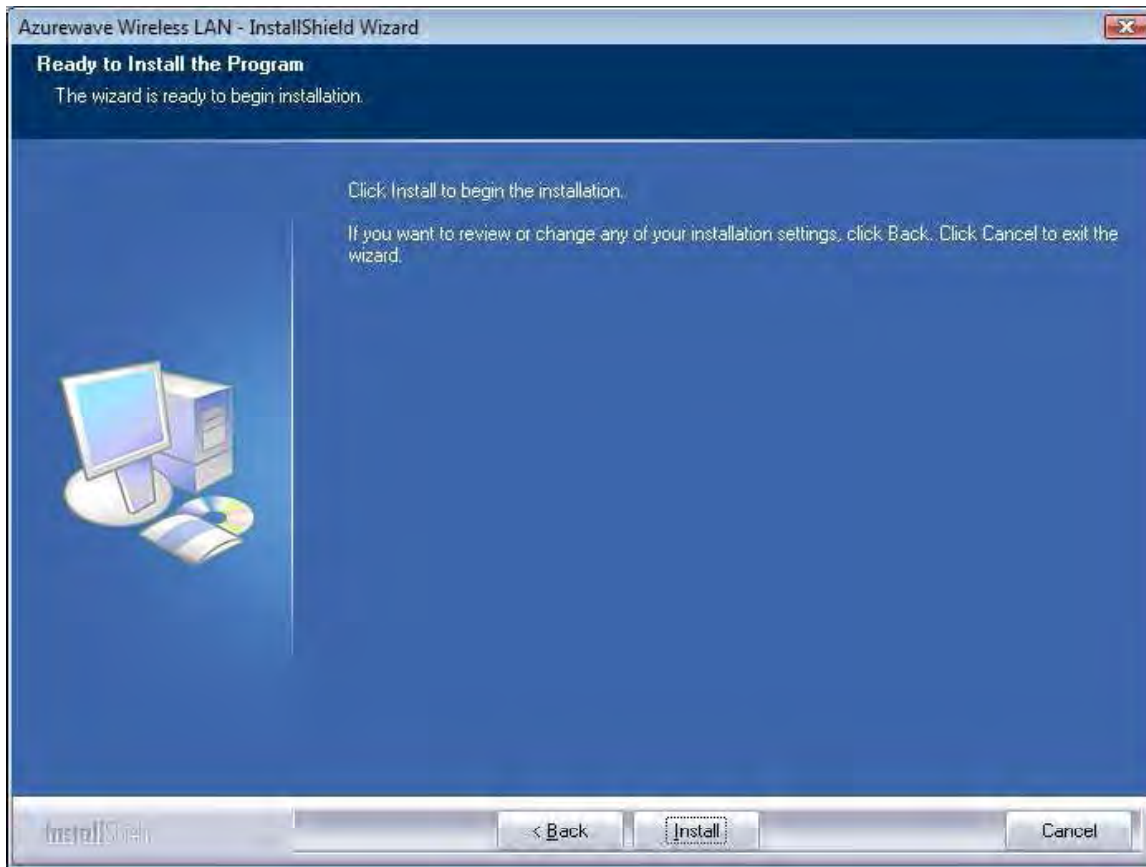
2. When you see the permission dialogue box, please click [Continue]



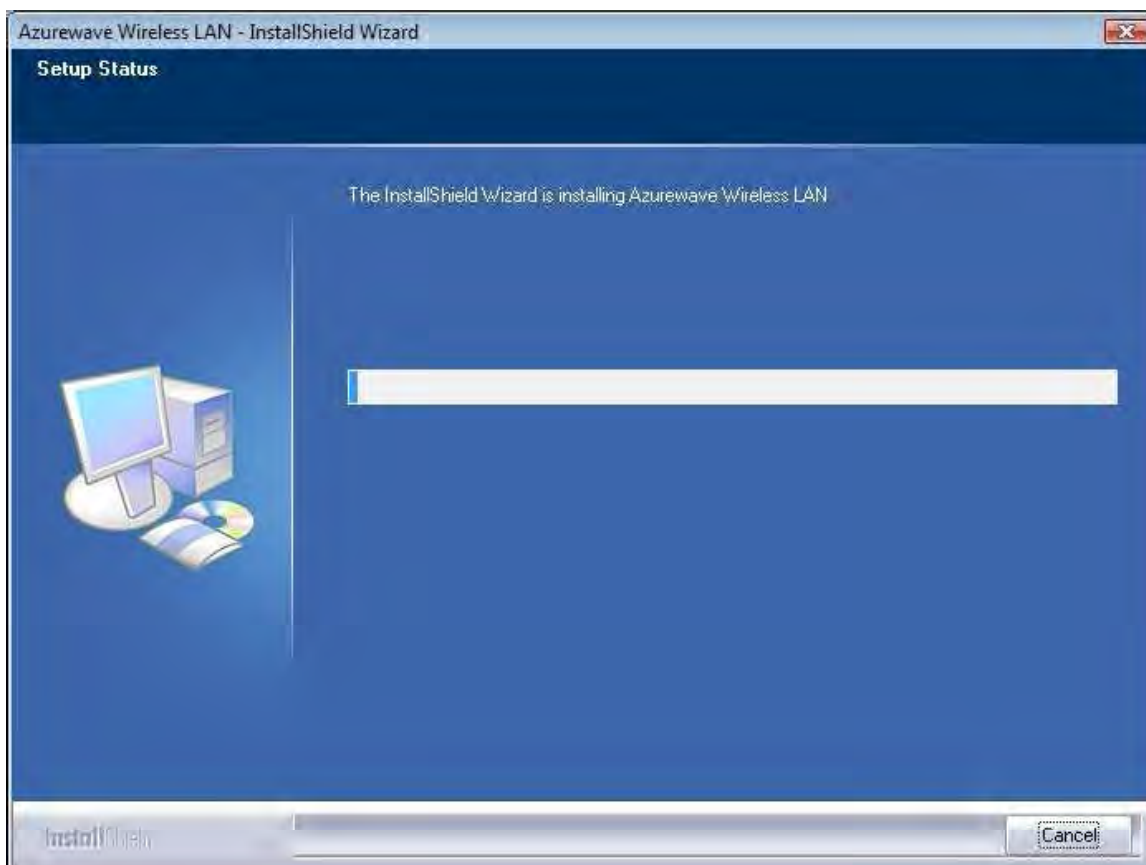
3. Now the Wizard is preparing installation



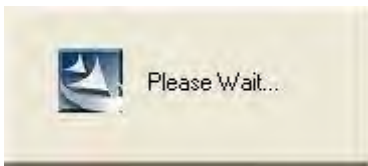
4. Please click [Install] to proceed



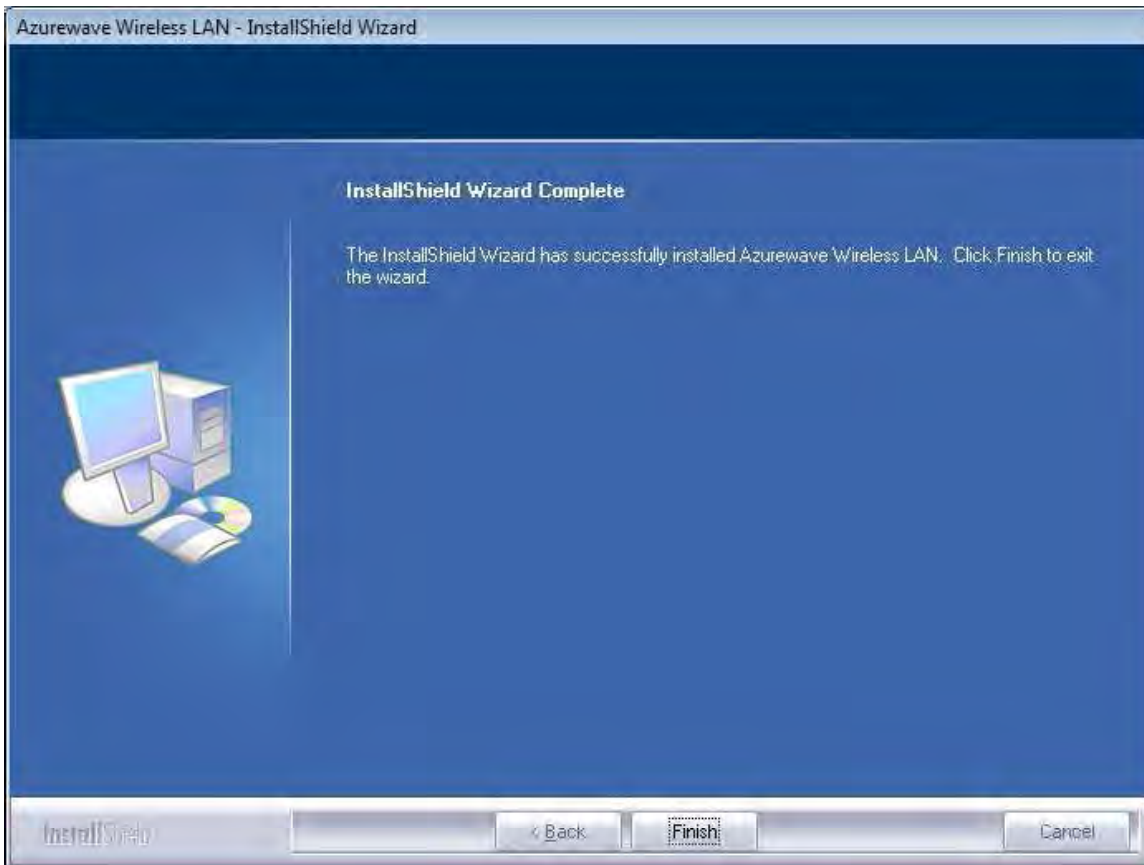
5. The system is processing installation



6. Please wait few seconds for Wizard to setup



7. When the setup is completed, please click [Finish]

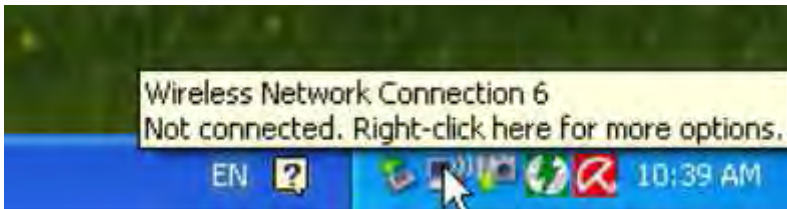


### III. Network Connection

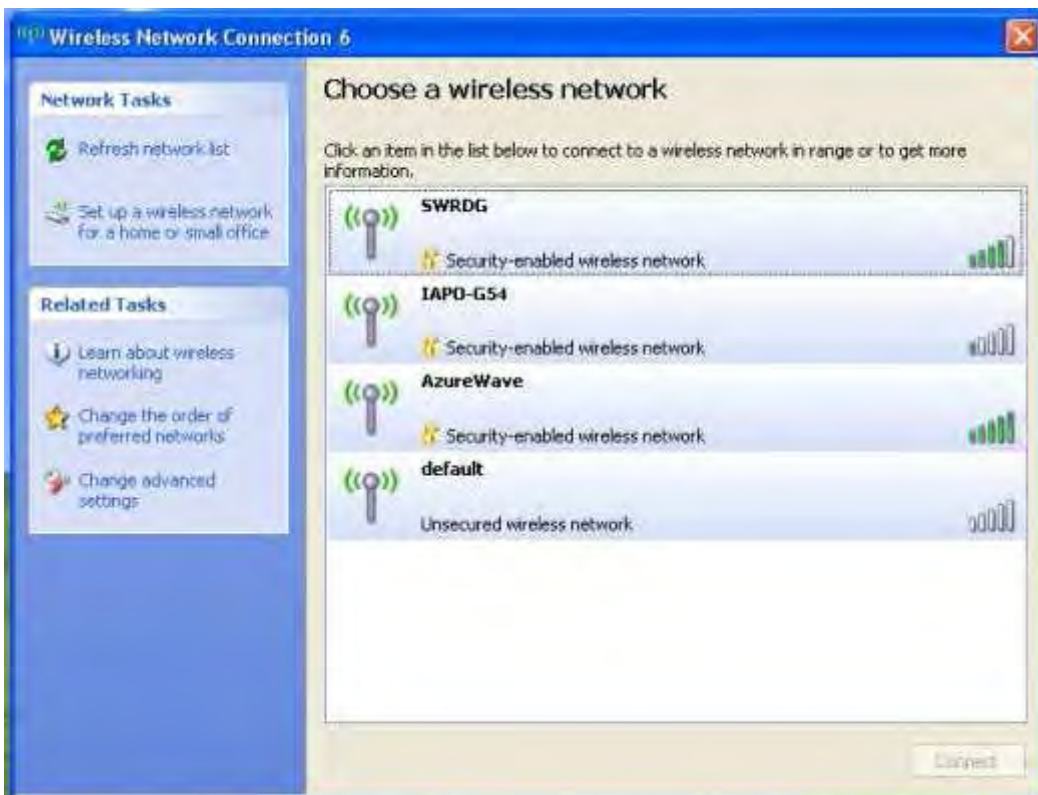
#### i. For Windows XP OS

Please see the following steps to setup network connection for Windows XP.

1. Find the network icon on the desktop shortcut and right-click on it. Choose “View Available Wireless networks”



2. You will see several options, please select one and click [Connect]



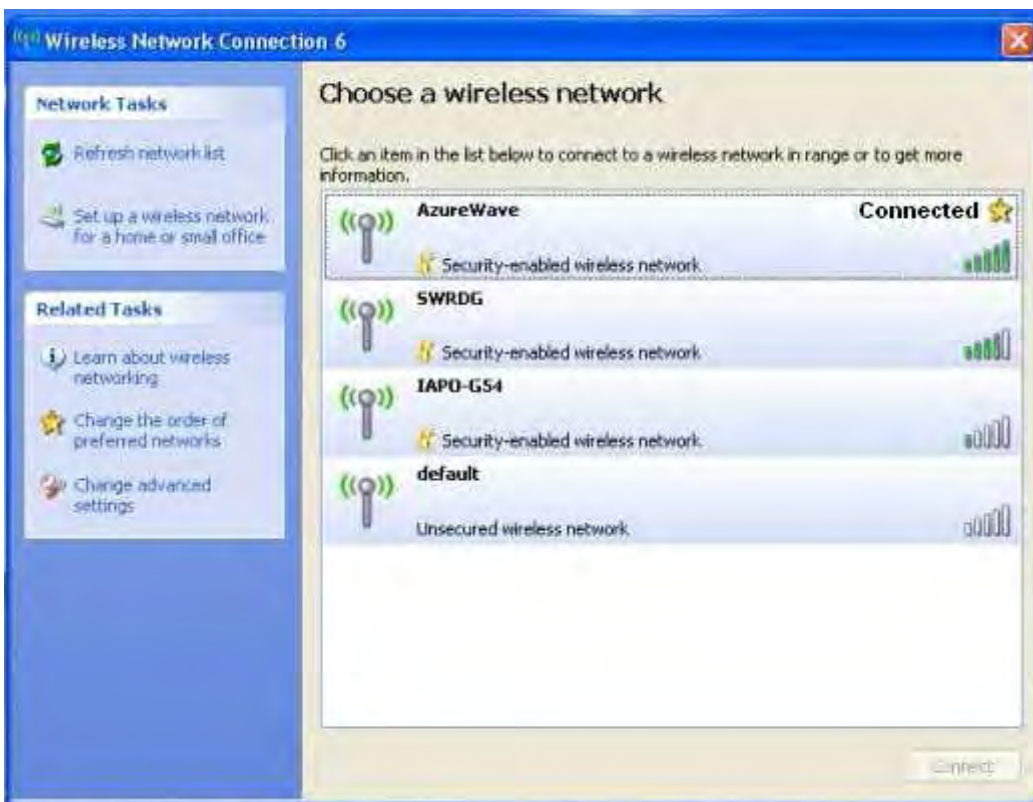
3. Please wait for few seconds to let system connecting to selected wireless network



4. You may need to type the network key when it is required (if the network doesn't request the key, the network will connect directly.)



5. Now the selected wireless network is connected



6. You can check the connection status by clicking [Status] in the pop-up dialogue



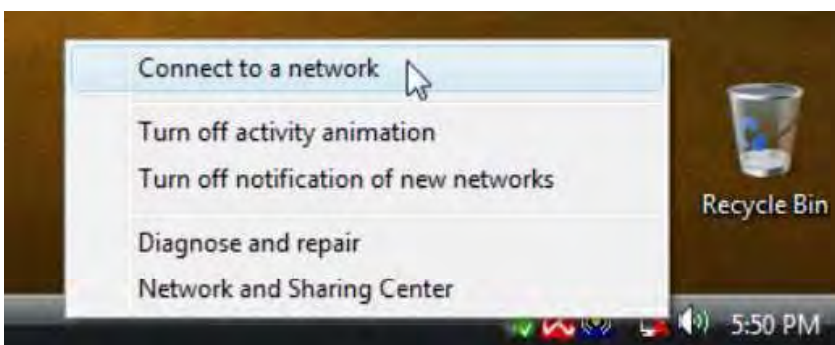
7. Here is the wireless network connection status



ii. For Windows Vista OS

Following are the instructions to setup wireless connection for Windows Vista.

1. Right-click on the network icon located on desktop shortcut. When you see the dialogue, please click [Connect to a network]

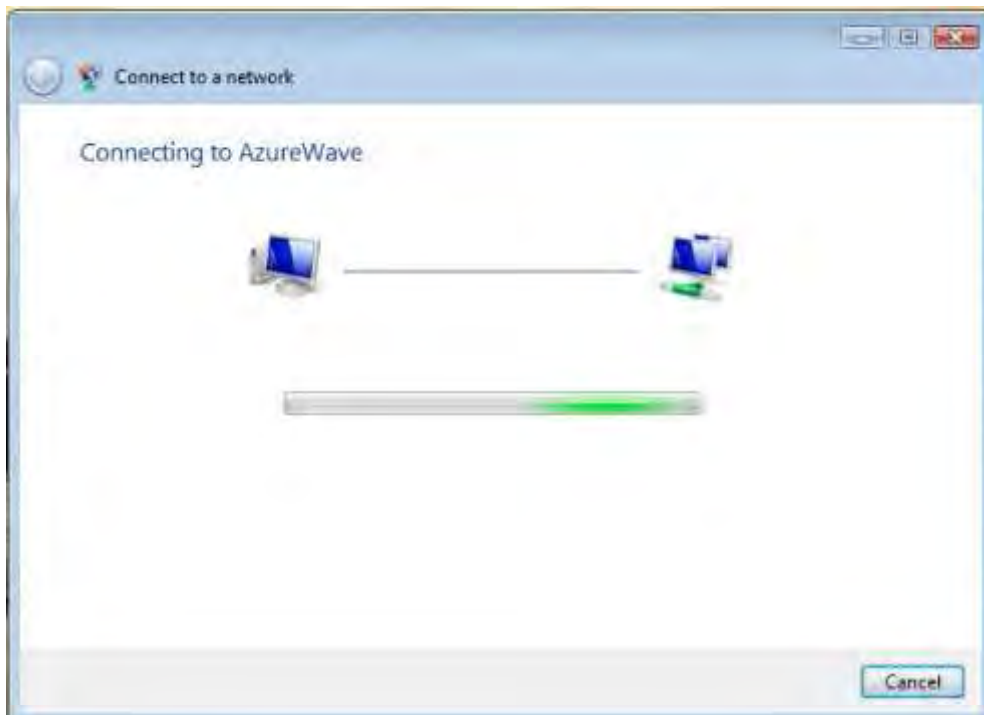


2. Choose wireless network within your range and click [Connect]



\* If selected network is not secure, please choose [Connect anyway]

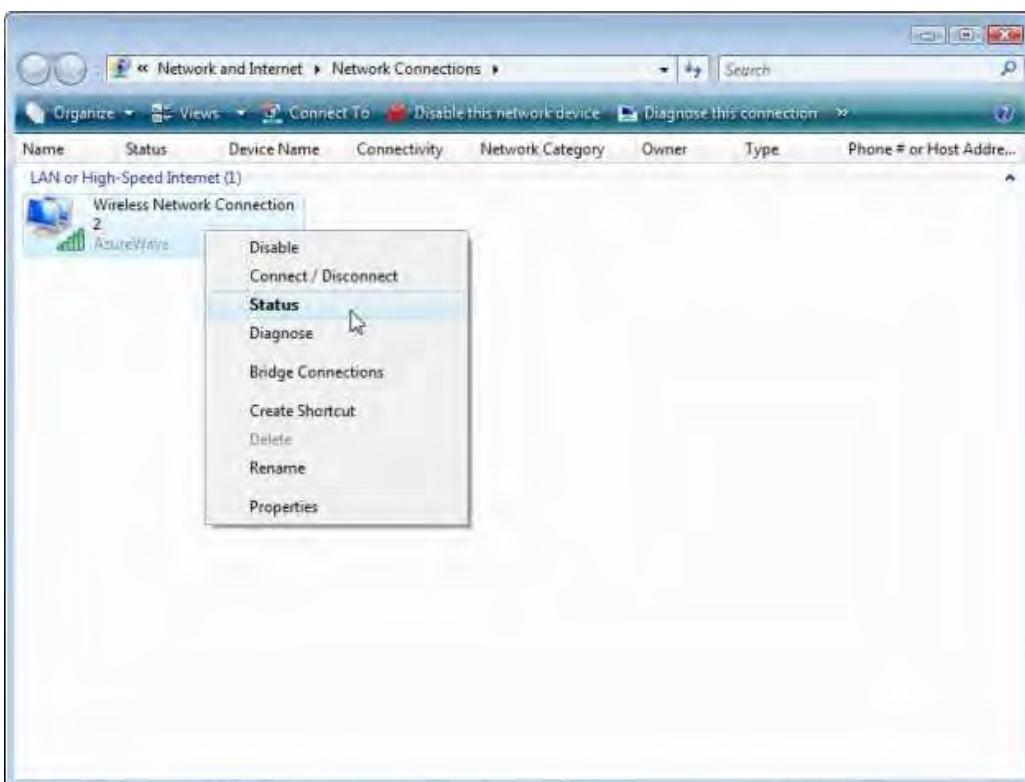
3. You may need to wait for few seconds when Windows connects to wireless network



4. Now the selected wireless network is connected



5. If you want to see the connection status, please right-click on the network you choose and select [Status]





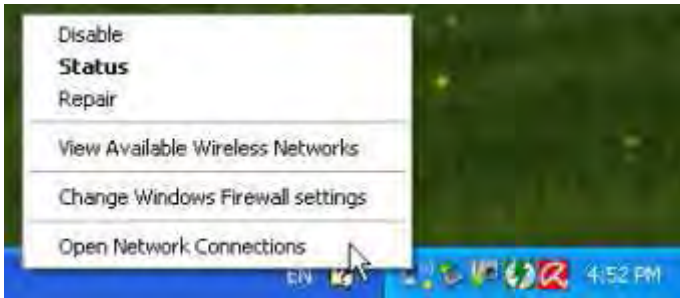
6. This is the information of network status



## IV. Setup for Ad-hoc Mode

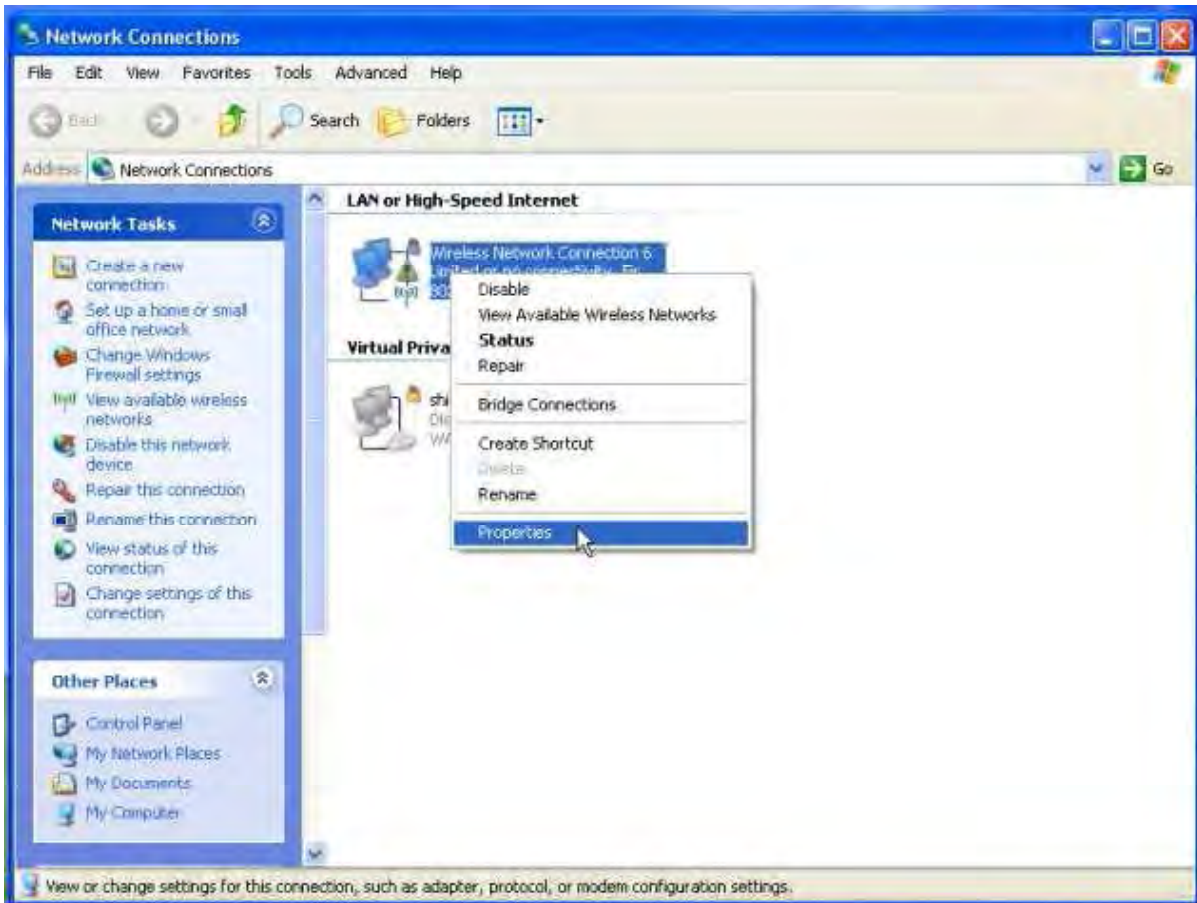
### i. For Windows XP OS

If you want to choose Ad-hoc mode, please right-click network icon on desktop shortcut and choose “Open Network Connections”, or go to [Control Panel] and double-click “Network Connection” icon.



When you see the “Network Connections” screen, please follow the steps below to setup Ad-hoc mode.

1. Double-click “Wireless Network Connection” icon to enter its properties



2. Click "General" tab and double-click the “Internet Protocol (TCP/IP)” item

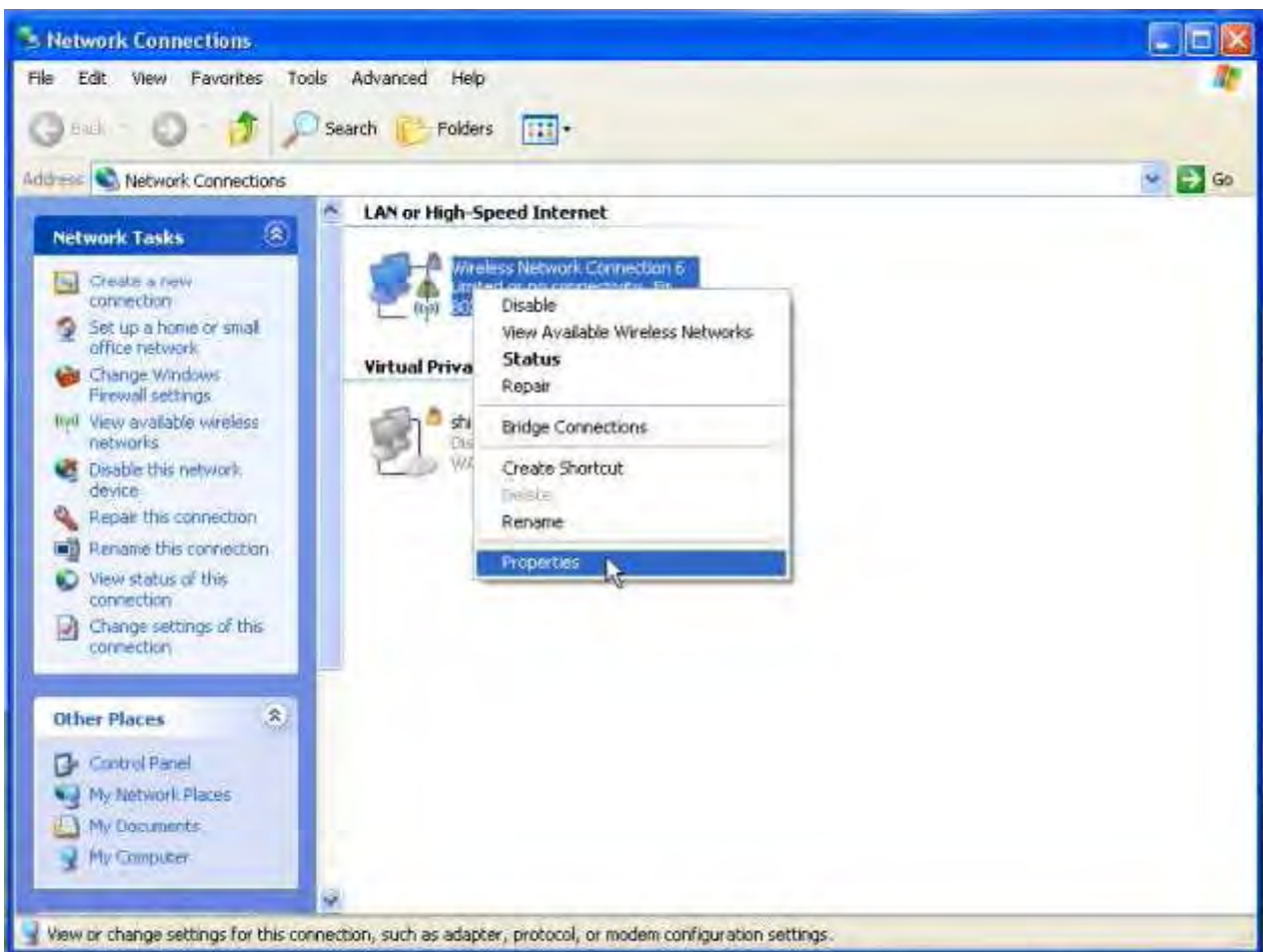


3. Choose “Use the following IP address:” and type the IP address; then click [OK]



\*Note: the IP address of the other wireless card should be set with the same subnet mask

4. Right-click the “Wireless Network Connection” icon and choose “properties”



5. Select “Wireless Network” tab and choose [Add]



6. Type “Network name (SSID)” and choose “Data encryption” if you want to protect the network security



7. When you see the dialogue showing your network is unsecured, please click [Continue Anyway]

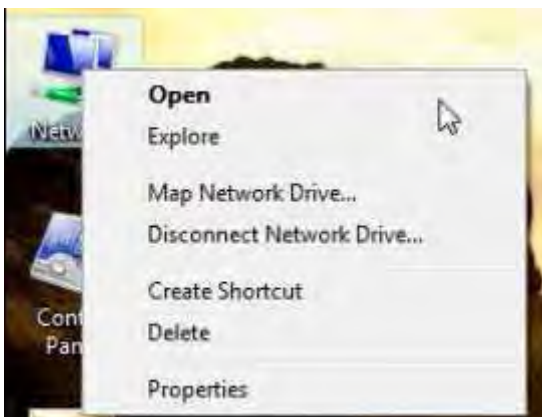
8. Now your network is in Ad-hoc mode

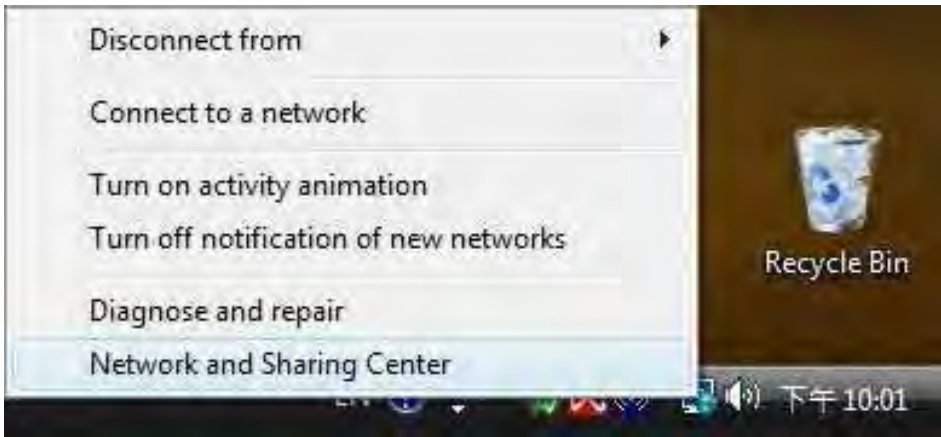


ii. For Windows Vista OS

Please follow the steps to setup Ad-hoc mode for Windows Vista.

1. Right-click the Network neighbor to choose “properties,” or you can right-click network icon on desktop shortcut and choose “Network and Sharing Center”

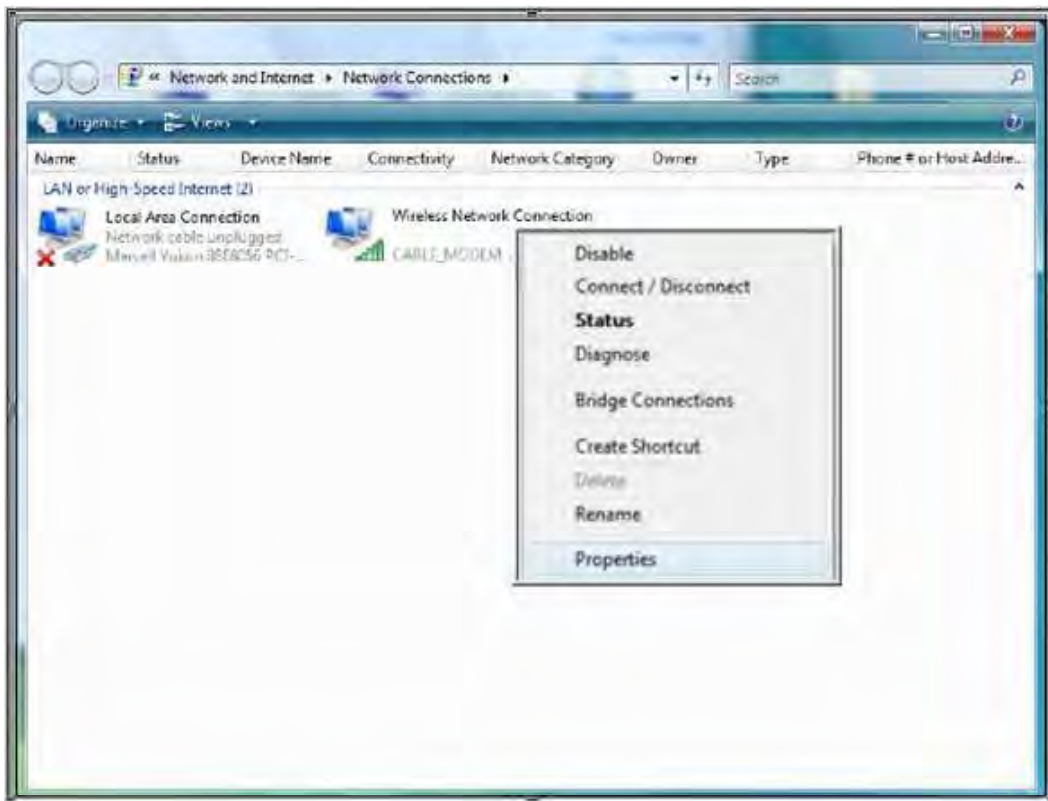




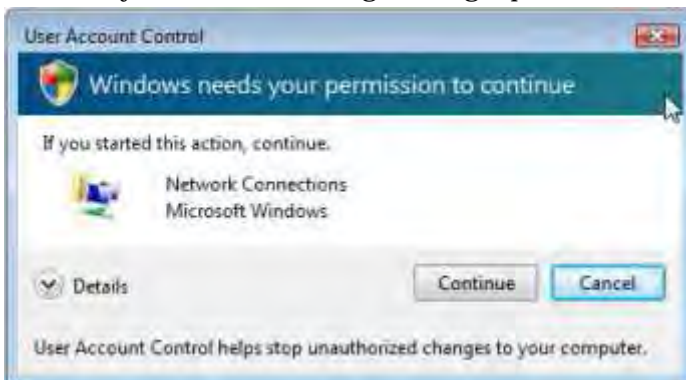
2. When you see the “Network and Sharing Center” windows, please select “Manage network connection” bar



3. Right-click the connected network icon and choose “Properties”

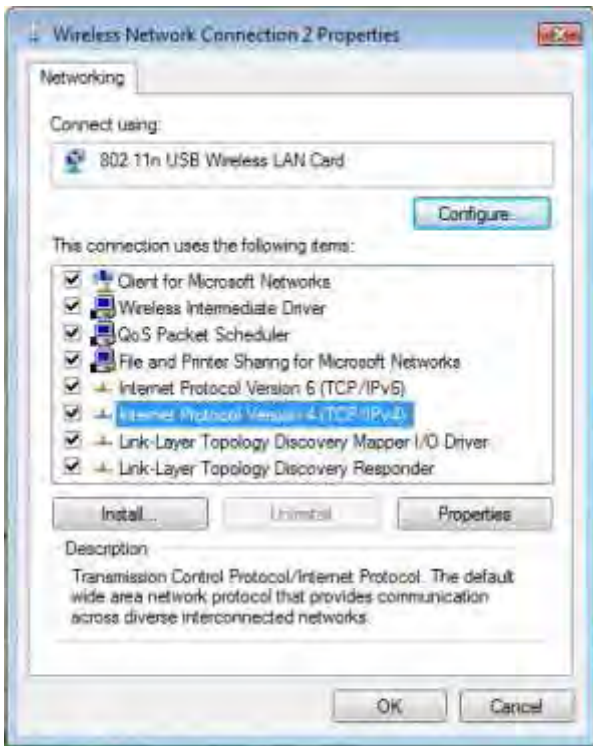


4. When you see the warning message, please click [Continue]

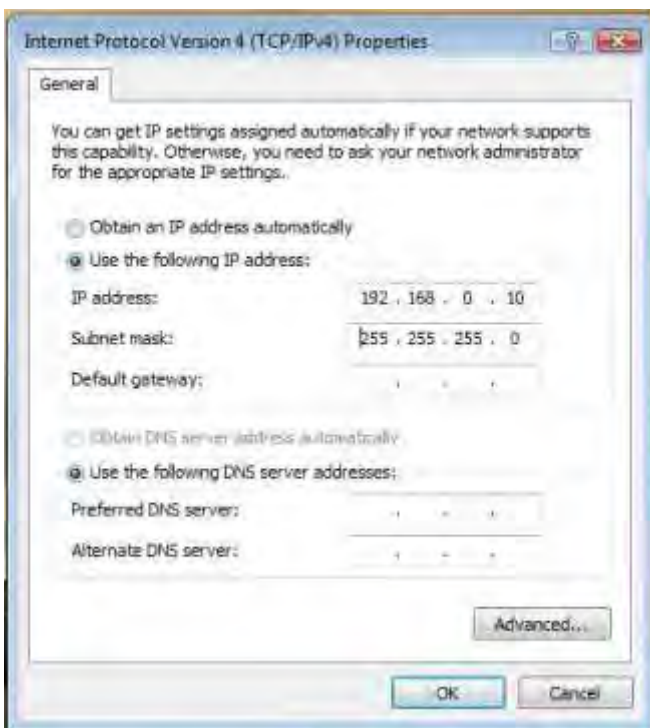




5. Choose “Networking” tab and double-click the “Internet Protocol Version 4 (TCP/IPv4)” item



6. Choose “Use the following IP address:” and type the IP address; then click [OK]

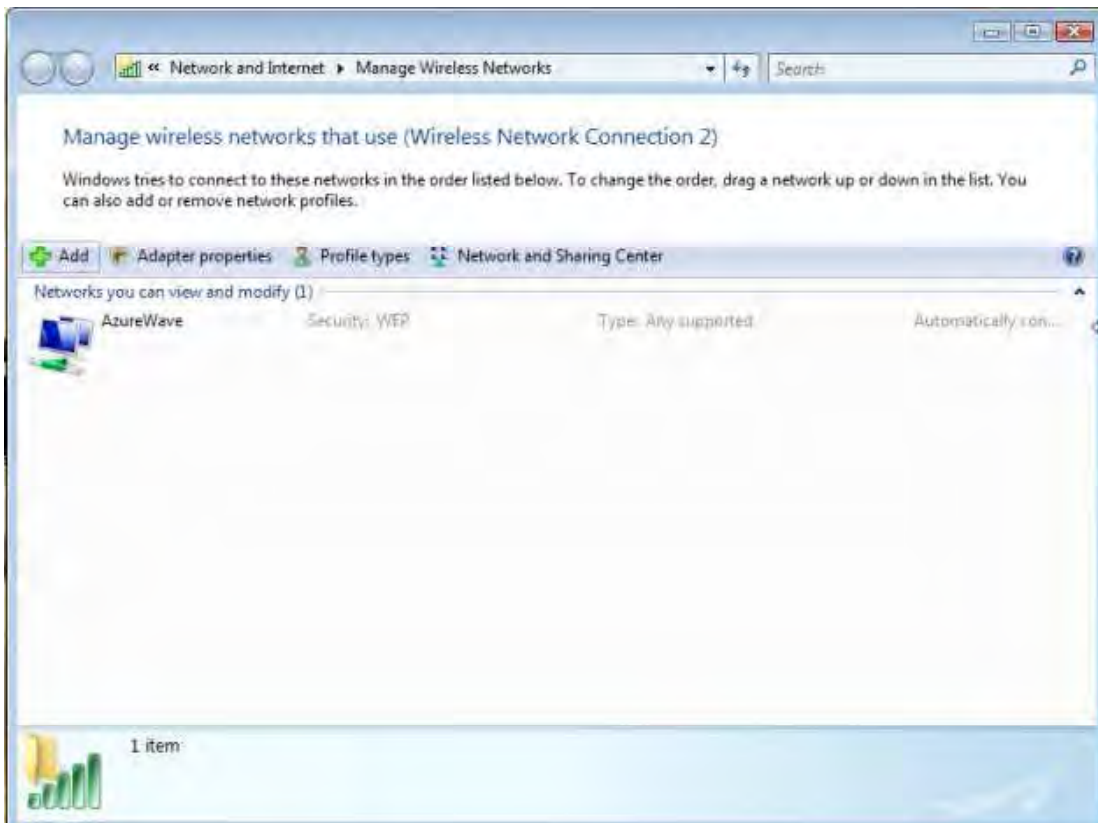


\*Note: the IP address of the other wireless card should be set with the same subnet mask

7. Choose “Manage wireless networks” bar



8. Select [Add]



9. Choose “Create ad-hoc network”



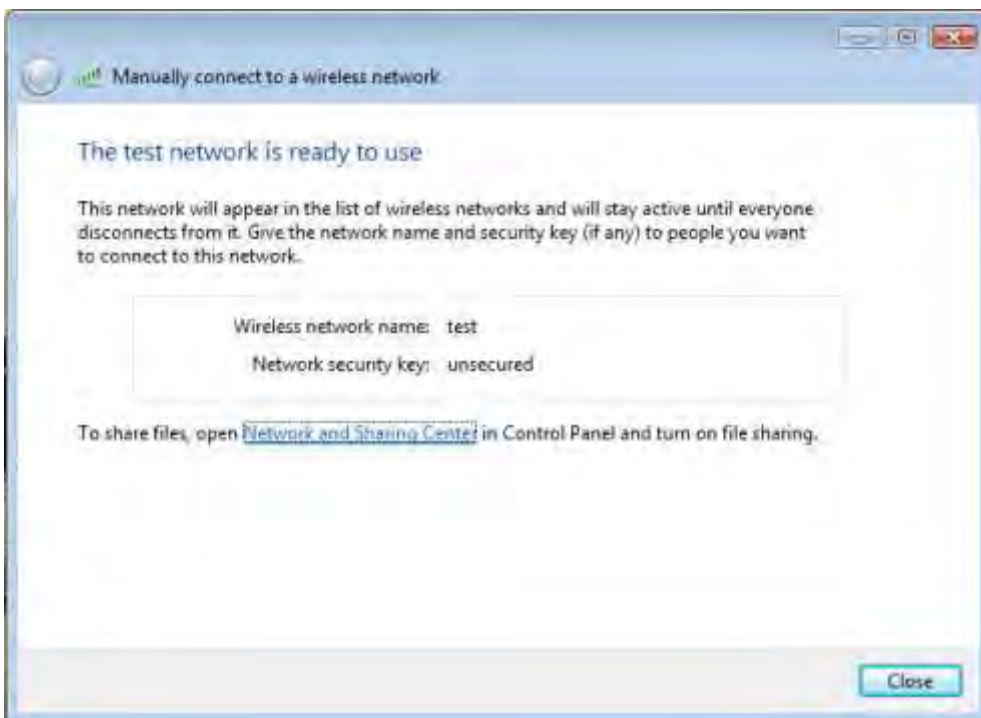
10. Please click [Next]



11. Enter “Network name” and if you want to protect the network security, please choose in “security type”; then click [Next]



12. Now your network is in Ad-hoc mode



## Europe – EU Declaration of Conformity

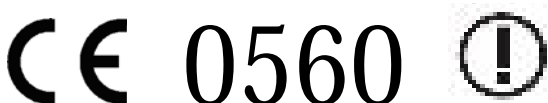
This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of conformity with the essential requirements of the R&TTE Directive 1999/5/EC:

- **EN 60950-1: 2006**  
Safety of Information Technology Equipment
  
- **EN50371**
  
- **EN 300 328 V1.7.1: (2006-10)**
- Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband Transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using spread spectrum modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive
  
- **EN 301 489-1 V1.6.1: (2005-09)**  
Electromagnetic compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements
  
- **EN 301 489-17 V1.2.1 (2002-08)**
- Electromagnetic compatibility and Radio spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for 2,4 GHz wideband transmission systems and 5 GHz high performance RLAN equipment

This device is a 2.4 GHz wideband transmission system (transceiver), intended for use in all EU member states and EFTA countries, except in France and Italy where restrictive use applies.

In Italy the end-user should apply for a license at the national spectrum authorities in order to obtain authorization to use the device for setting up outdoor radio links and/or for supplying public access to telecommunications and/or network services.

This device may not be used for setting up outdoor radio links in France and in some areas the RF output power may be limited to 10 mW EIRP in the frequency range of 2454 – 2483.5 MHz. For detailed information the end-user should contact the national spectrum authority in France.



Switch off the radio components (Bluetooth or wireless LAN) on the device when you are in a





hospital, an operating room or near a medical electronics system. The transmitted radio waves can impair the operation of the medical devices.









Keep the device at least 20 cm from a pacemaker, as otherwise the proper operation of the pacemaker may be impaired by radio waves.

The transmitted radio waves can cause an unpleasant humming in hearing aids.

Switch off the device when you are in an aircraft or driving in a car.

Do not let the device near flammable gases or into hazardous environments (e.g. paintshops) with radio components switched on, as the transmitted radio waves can cause an explosion or a fire.

 esky [Czech]	<i>[Jméno výrobce]</i> <i>[typ za ízení]</i> je ve shod se základními íslušnými ustanoveními sm rnice 1999/5/ES.
 Dansk [Danish]	Undertegnede <i>[fabrikantens navn]</i> erklærer herved, at følgende udstyr <i>[udstyrets typebetegnelse]</i> overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
 Deutsch [German]	Hiermit erklárt <i>[Name des Herstellers]</i> , dass sich das Gerät <i>[Gerätetyp]</i> in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
 Eesti [Estonian]	Käesolevaga kinnitab <i>[tootja nimi = name of manufacturer]</i> seadme <i>[seadme tüüp = type of equipment]</i> vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
 English	Hereby, <i>[name of manufacturer]</i> , declares that this <i>[type of equipment]</i> is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
 Español [Spanish]	Por medio de la presente <i>[nombre del fabricante]</i> declara que el <i>[clase de equipo]</i> cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
 [Greek]	<i>[name of manufacturer]</i> <i>[type of equipment]</i> 1999/5/ .
 Français [French]	Par la présente <i>[nom du fabricant]</i> déclare que l'appareil <i>[type d'appareil]</i> est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
 Italiano [Italian]	Con la presente <i>[nome del costruttore]</i> dichiara che questo <i>[tipo di apparecchio]</i> è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo <i>[name of manufacturer / izgatavot ja nosaukums]</i> deklar , ka <i>[type of equipment / iek rtas tips]</i> atbilst Direkt vas 1999/5/EK b tiskaj m pras b m un citiem ar to saist tajiem noteikumiem.

Lietuvi [Lithuanian]	Šiuo [ <i>manufacturer name</i> ] deklaruoja, kad šis [ <i>equipment type</i> ] atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
 Nederlands [Dutch]	Hierbij verklaart [ <i>naam van de fabrikant</i> ] dat het toestel [ <i>type van toestel</i> ] in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
 Malti [Maltese]	Hawnhekk, [ <i>isem tal-manifattur</i> ], jiddikjara li dan [ <i>il-mudel tal-prodott</i> ] jikkonforma mal- ti ijjiet essenzjali u ma provvedimenti o rajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
 Magyar [Hungarian]	Alulírott, [ <i>gyártó neve</i> ] nyilatkozom, hogy a [ <i>... típus</i> ] megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
 Polski [Polish]	Niniejszym [ <i>nazwa producenta</i> ] o wiadcza, e [ <i>nazwa wyrobu</i> ] jest zgodny z ostanowieniami Dyrektywy 1999/5/EC.
 Português [Portuguese]	[ <i>Nome do fabricante</i> ] declara que este [ <i>tipo de equipamento</i> ] está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
 Slovensko [Slovenian]	[ <i>Ime proizvajalca</i> ] izjavlja, da je ta [ <i>tip opreme</i> ] v skladu z bistvenimi zahtevami in ostalimi relevantnimi dolo ili direktive 1999/5/ES.
Slovensky [Slovak]	[ <i>Meno výrobcu</i> ] [ <i>typ zariadenia</i> ] sp príslušné ustanovenia Smernice 1999/5/ES.
 Suomi [Finnish]	[ <i>Valmistaja = manufacturer</i> ] vakuuttaa täten että [ <i>type of equipment = laitteen tyyppimerkintä</i> ] tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
 Svenska [Swedish]	Härmed intygar [ <i>företag</i> ] att denna [ <i>utrustningstyp</i> ] står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

## Countries:

**Austria, Belgium, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovenia, Slovak, Spain, Bulgaria, Czech Republic, Switzerland, Sweden & UK.**

## FEDERAL COMMUNICATIONS COMMISSION

This device complies with Part 15 of the FCC Rules Operation is subject to the following two conditions: this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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 radiated radio frequency energy and, if not installed and used in accordance with the instruction, may cause harmful interference to radio communication. However, there is no grantee 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 tuning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

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

**This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This device has been evaluated to be safe to use close to human body. It will not cause any harmful interference if client use this device within distance 20cm between the radiator and body.**

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

If the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following:

"Contains Transmitter Module FCC ID: SW8WK8000" or "Contains FCC ID: SW8WK8000."