MAXMEDIAWIFI1

IEEE 802.11b/g/n

USB Half-Mini-Card Wireless Module

I. Introduction

i. Overview

AzureWave Technologies, Inc. introduces the pioneer of the IEEE 802.11b/g/n USB Half-Mini-Card wireless module. The VVINWIFI 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 VVINWIFI 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 AWNU706.

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) × 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 accesses within valid range for users to communicate with others or transmit data with a 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.
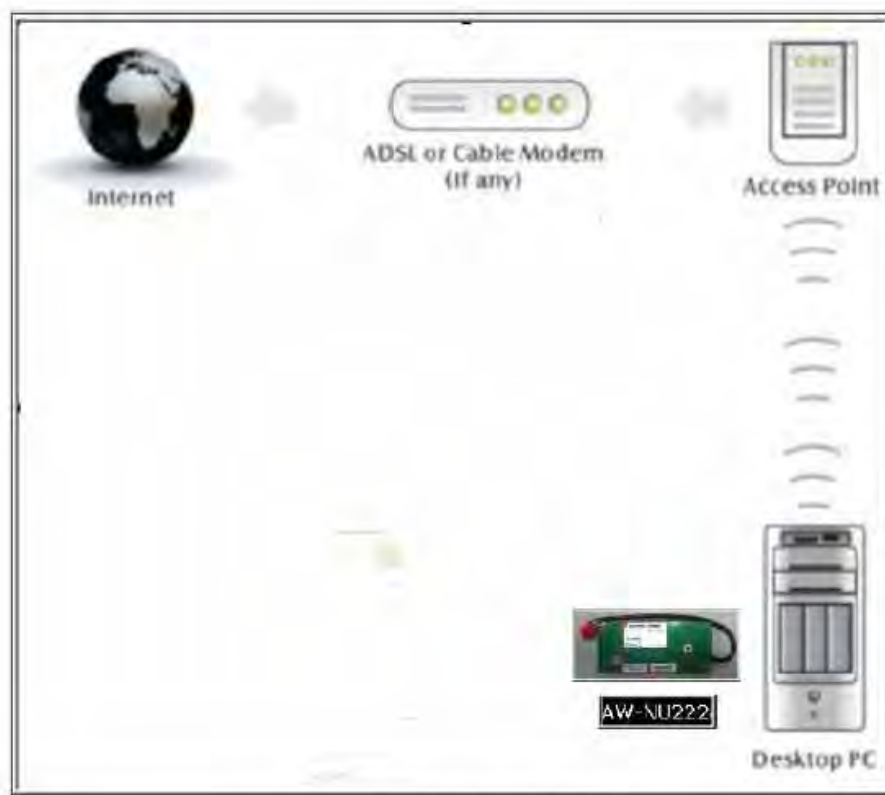
Infrastructure Mode

◎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 you use this mode, your computer will act as a server within the valid range and connect directly to others in the same LAN workgroup.
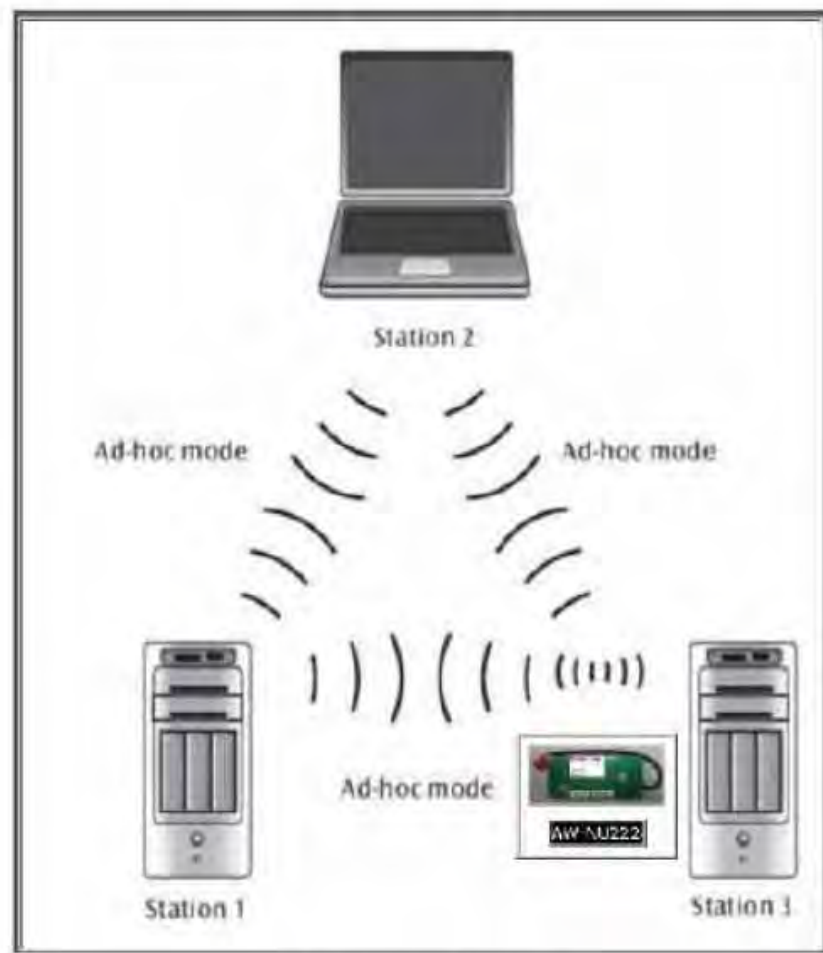
Ad-hoc Mode

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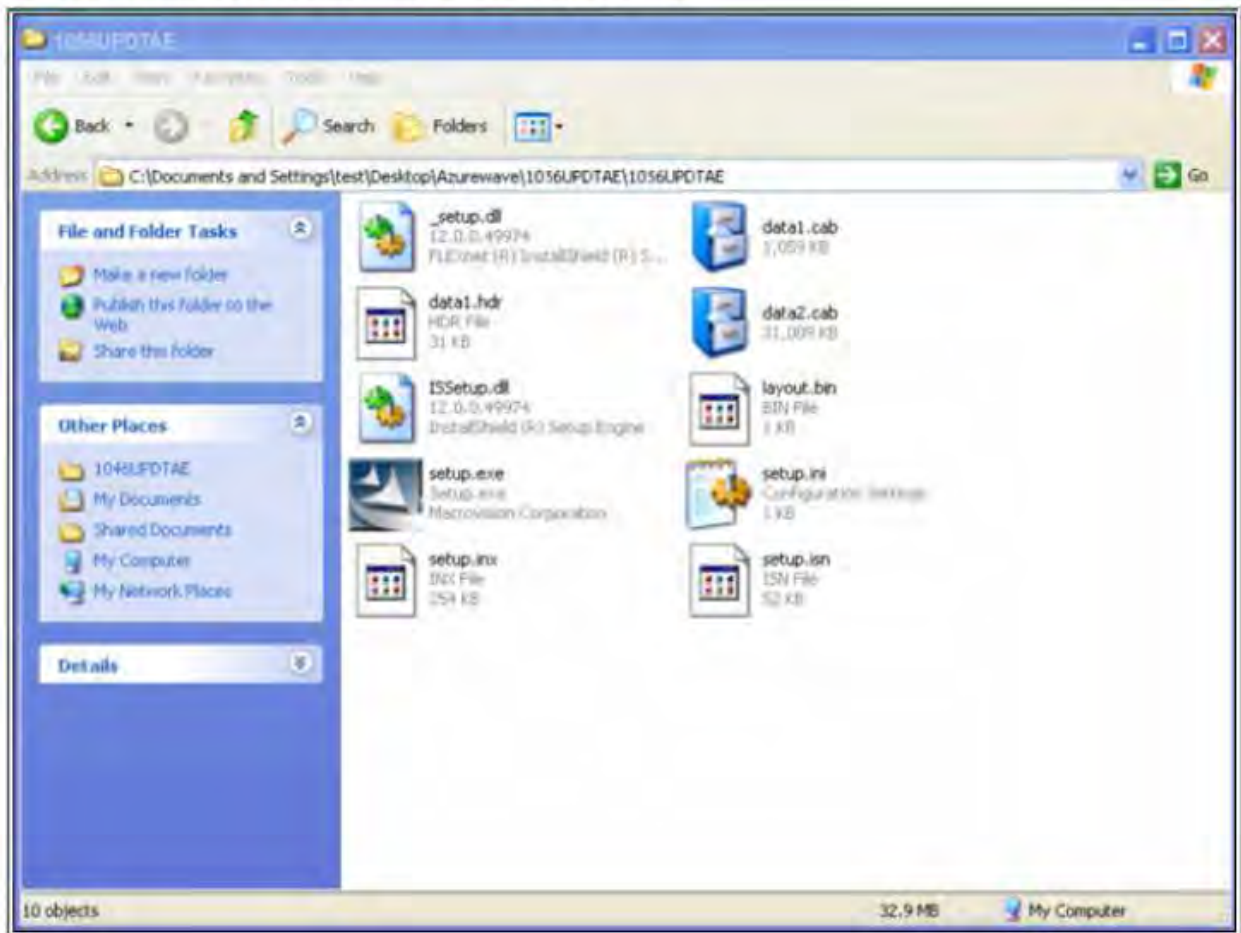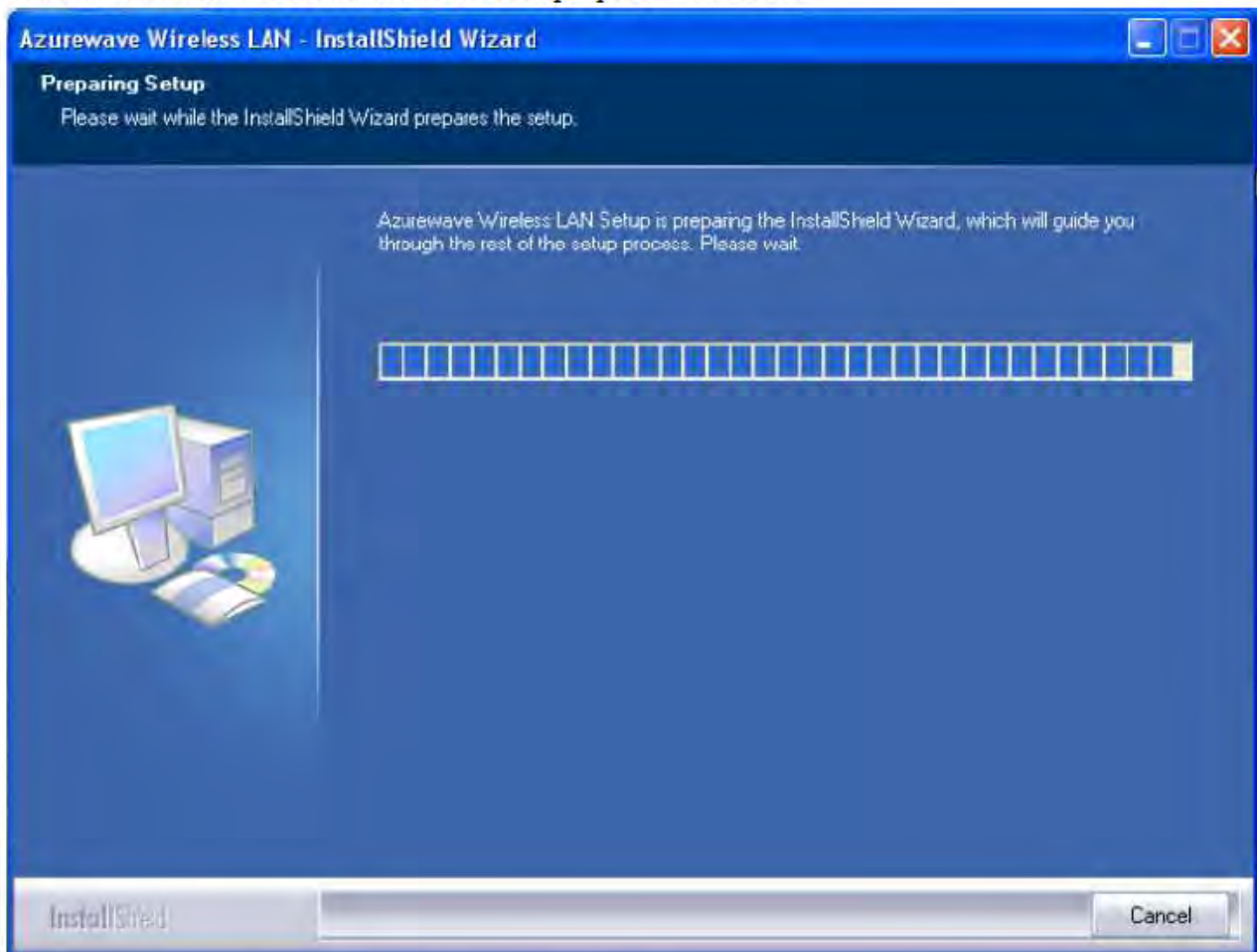
II. Installation

i.   System Requirements

*Minimum of 64MB system memory

*Operating system: XP/Vista

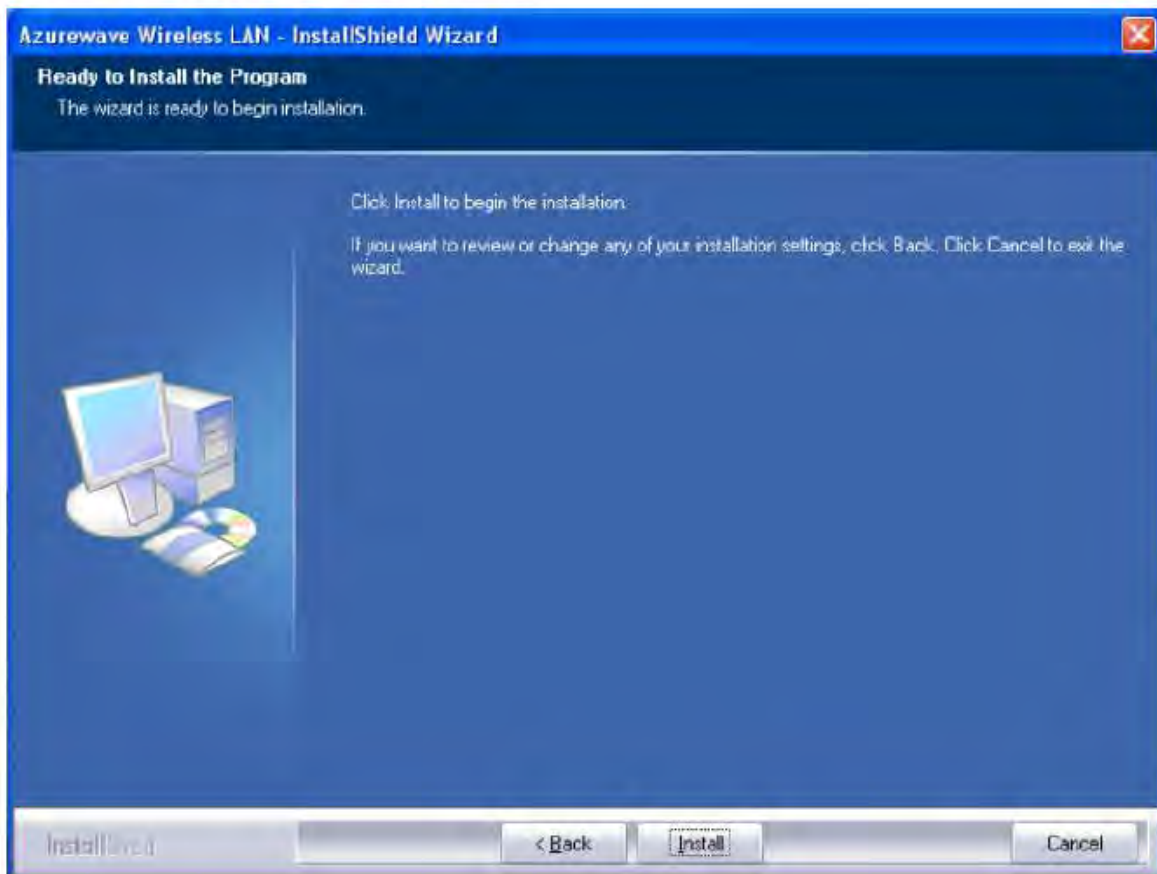* Driver installation

ii.   Setup: Windows XP OS

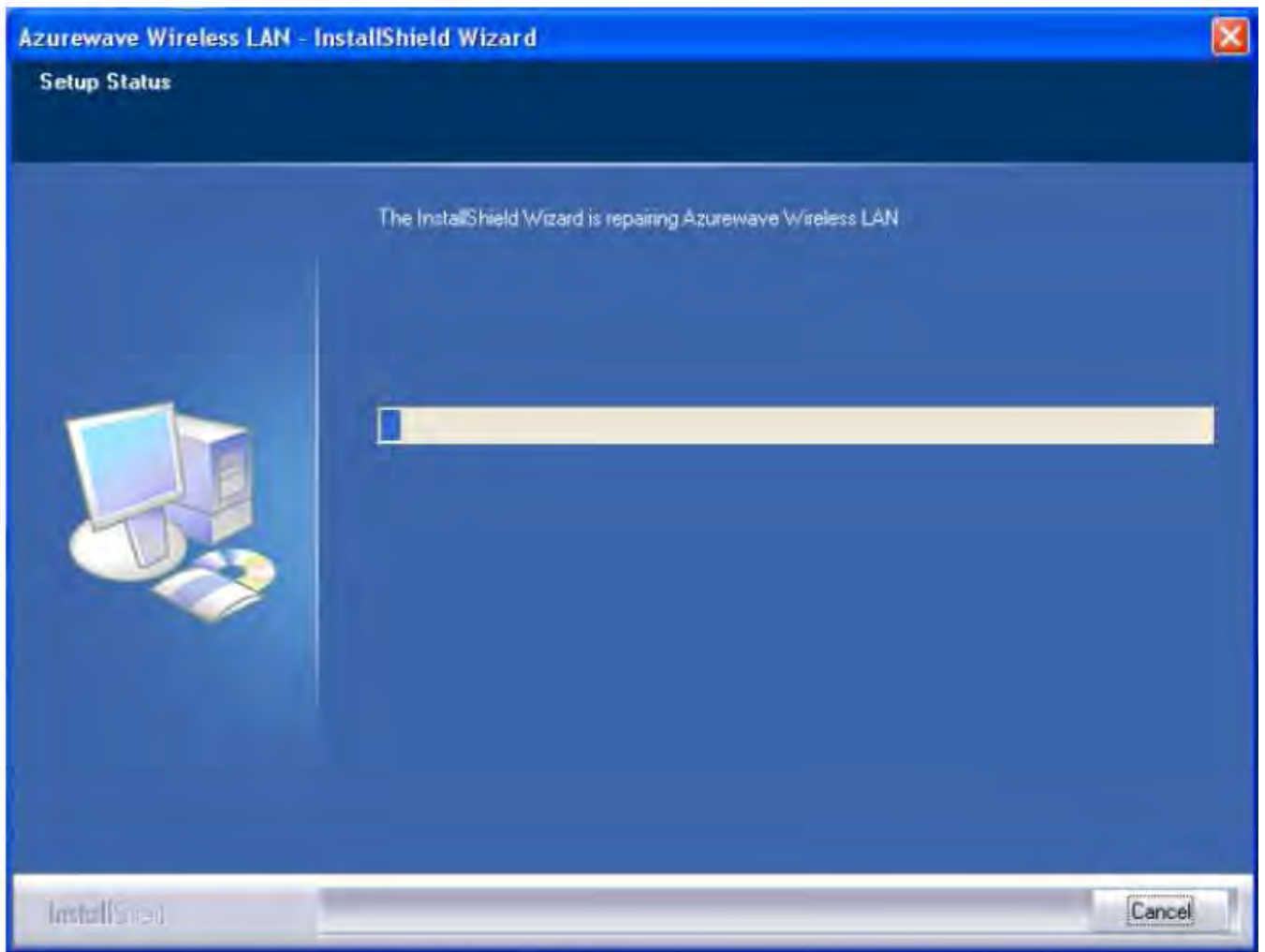1. Find out the Driver, and launch the Setup Wizard

2. Please wait few seconds for wizard to prepare installation

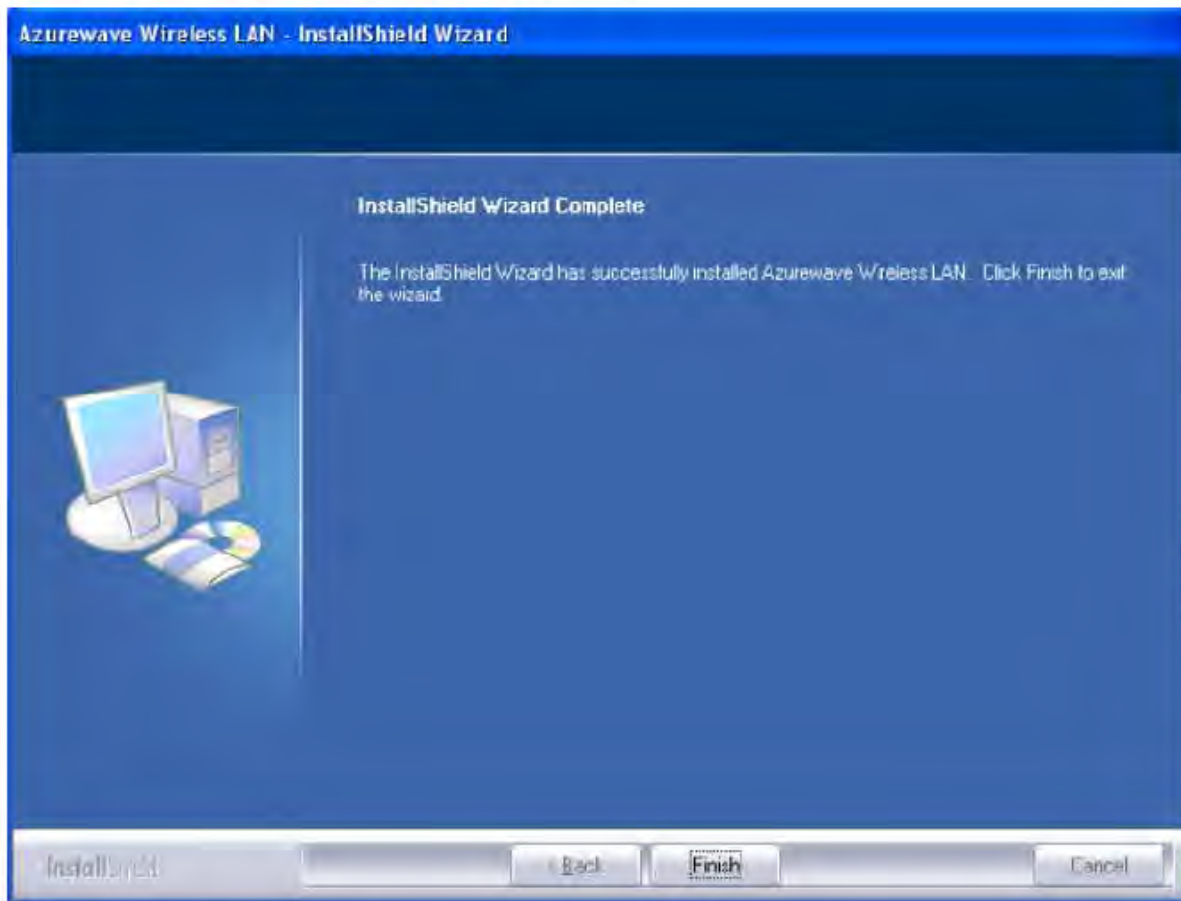3. Please select click [Install] to proceed

4. The Wizard is running installation
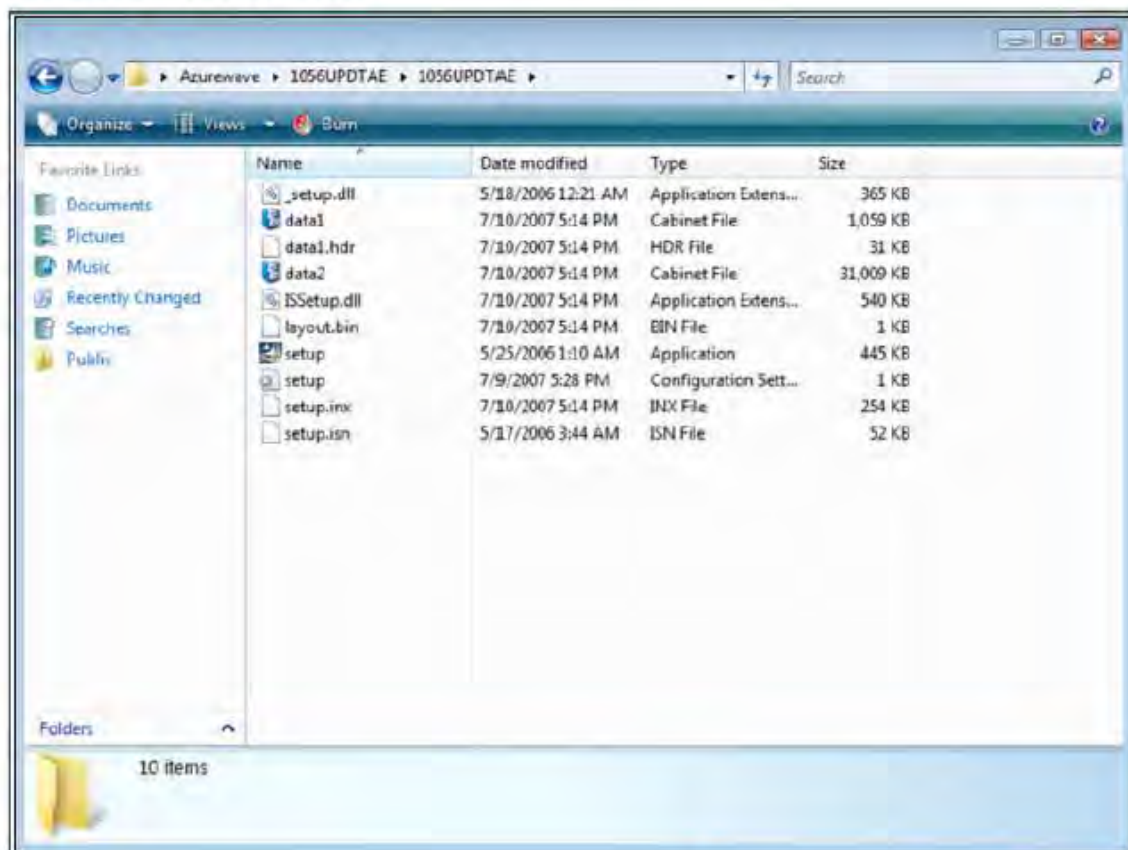

5. Please wait few seconds for Wizard to setup

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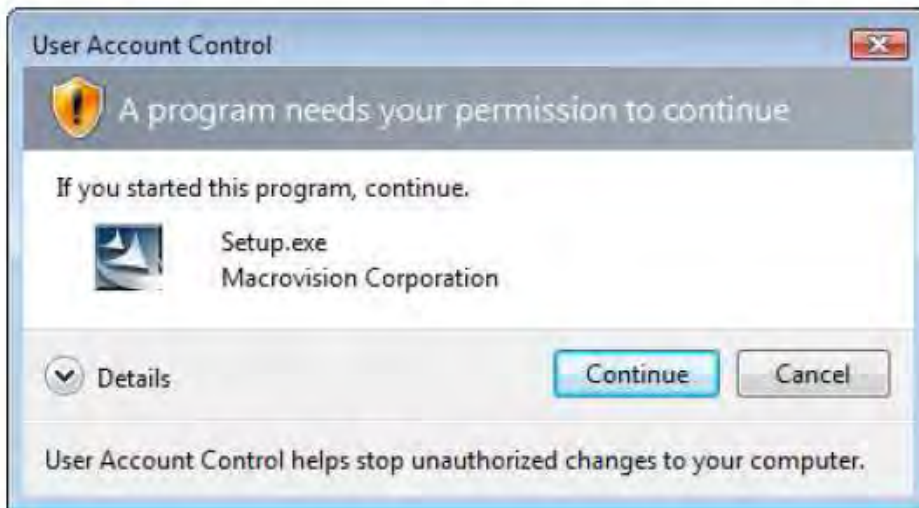

iii. Setup: Windows Vista OS
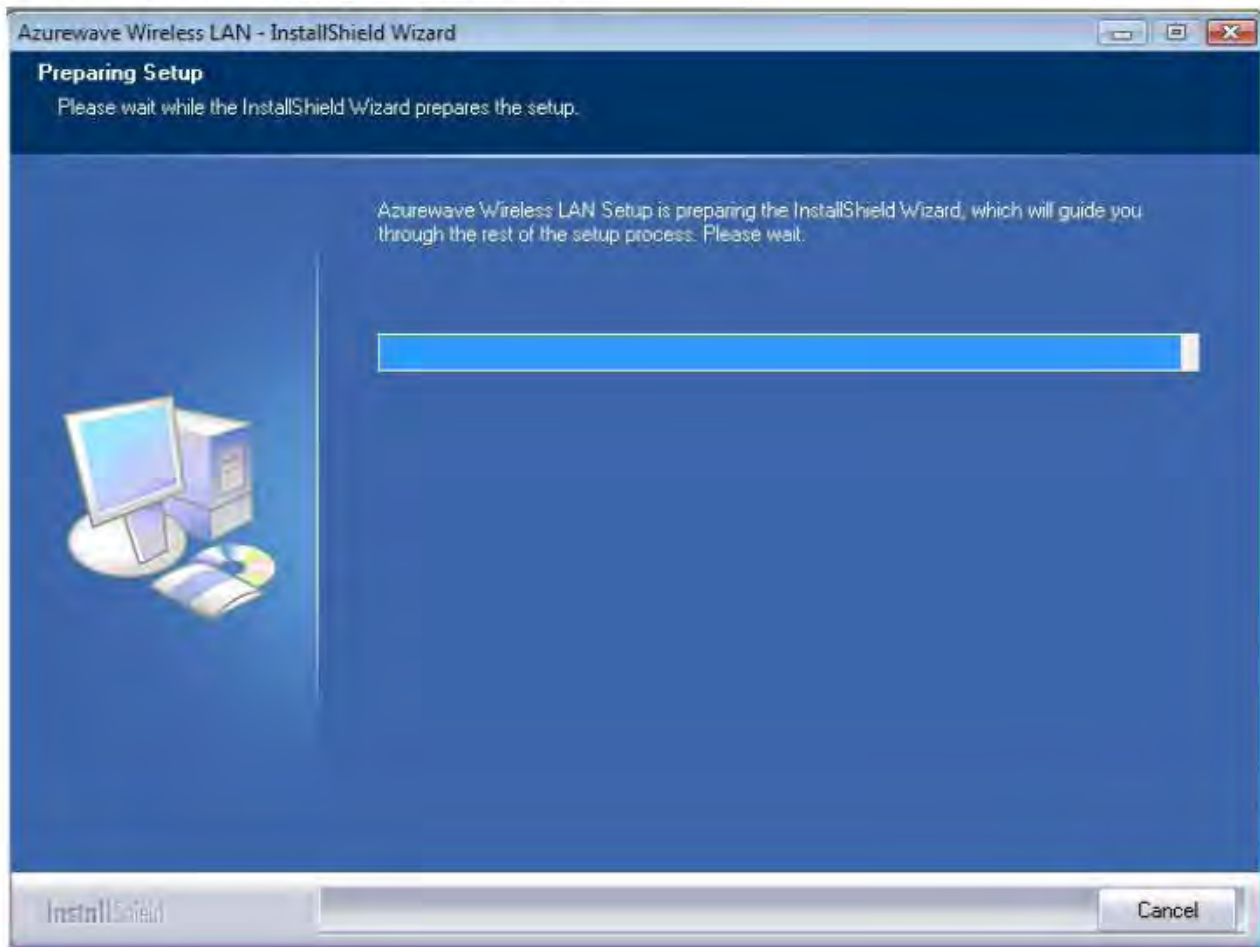
Please follow the steps to complete installation.
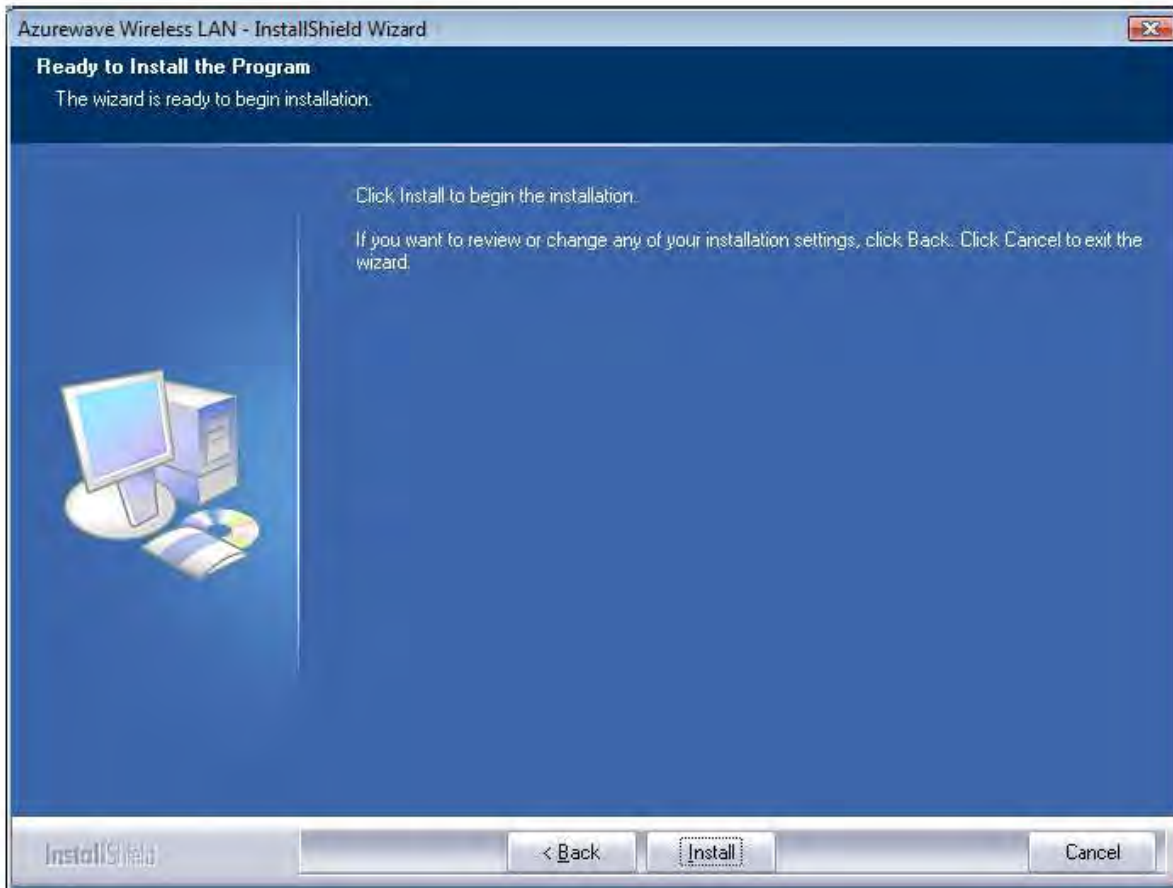
1. Launch the setup driver

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

3. Now the Wizard is preparing installation

4. Please click [Install] to proceed
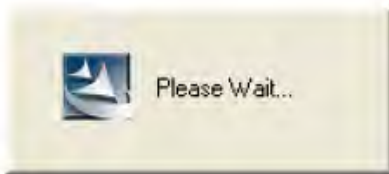

5. The system is processing installation
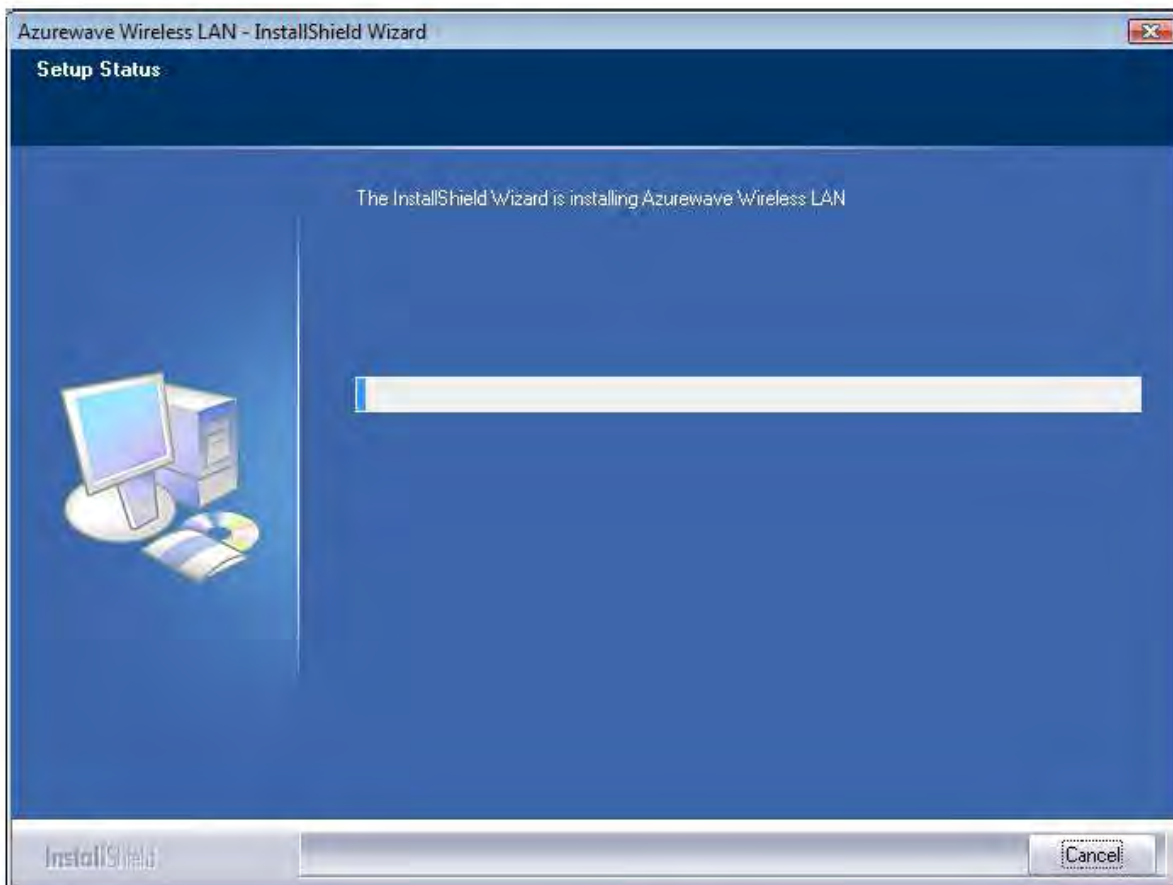
6. Please wait few seconds for Wizard to setup

Please Wait...

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

Azurewave Wireless LAN - InstallShield Wizard

InstallShield Wizard Complete

The InstallShield Wizard has successfully installed Azurewave Wireless LAN. Click Finish to exit the wizard.

< Back   Finish   Cancel
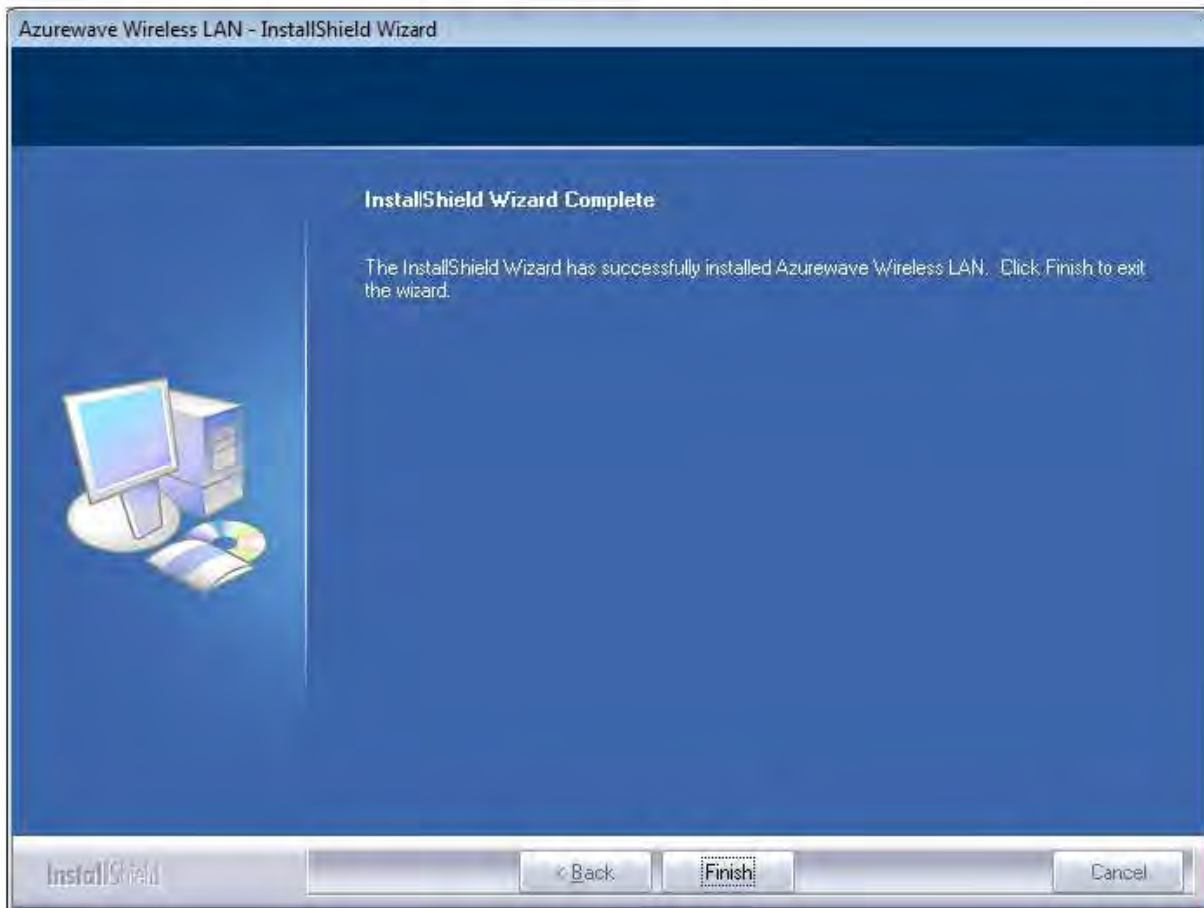
III. Network Connection

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]

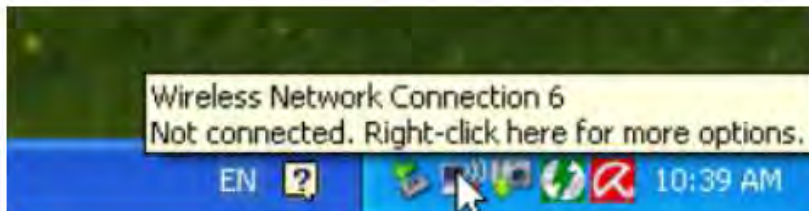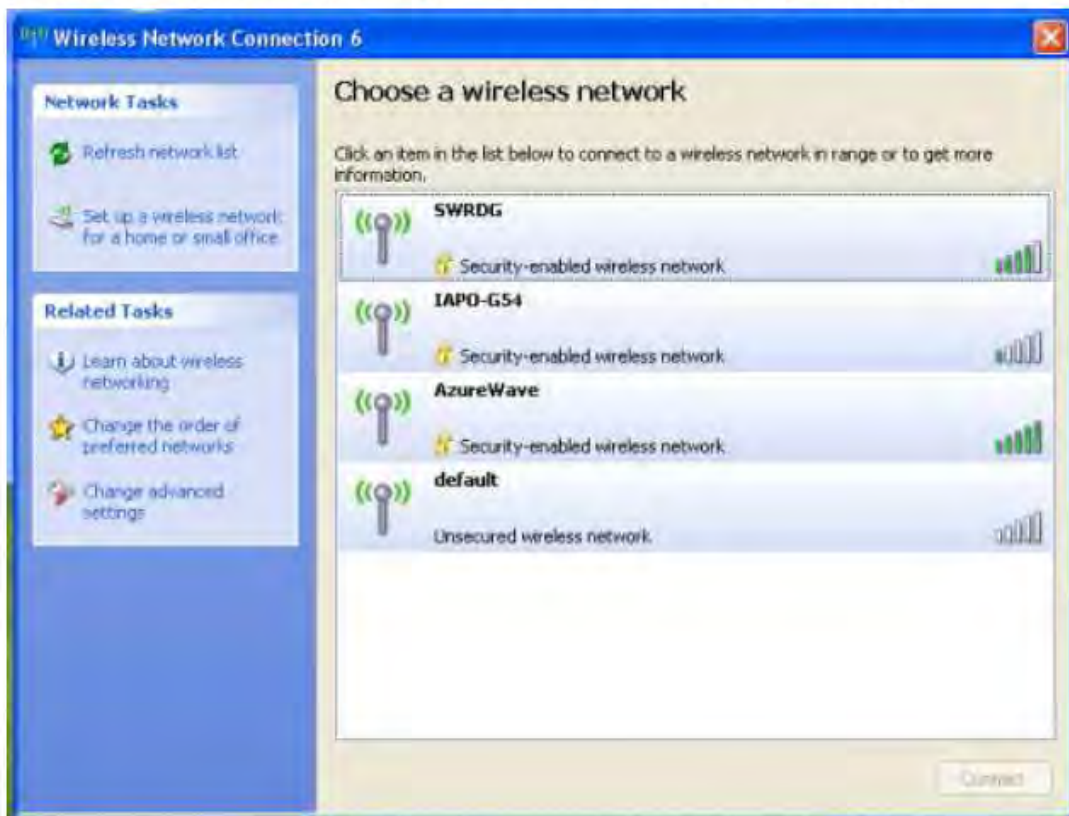3. Please wait for few seconds to let system connecting to selected wireless network

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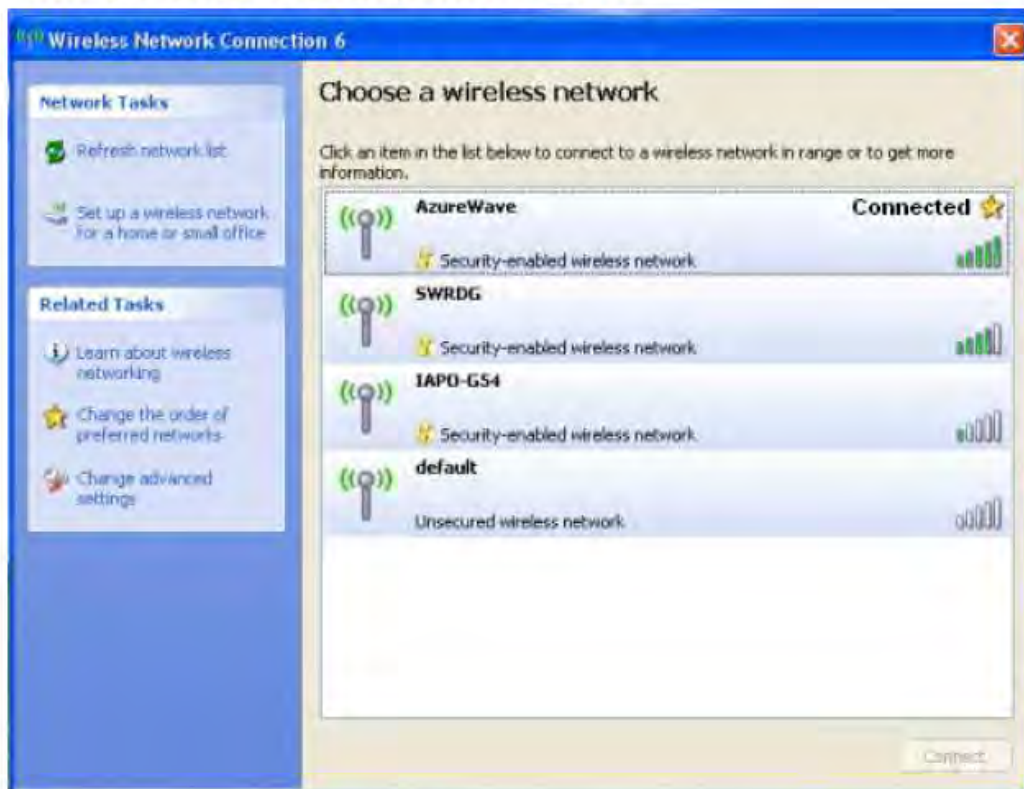
6. You can check the connection status by clicking [Status] in the pop-up dialogue

7. Here is the wireless network connection status
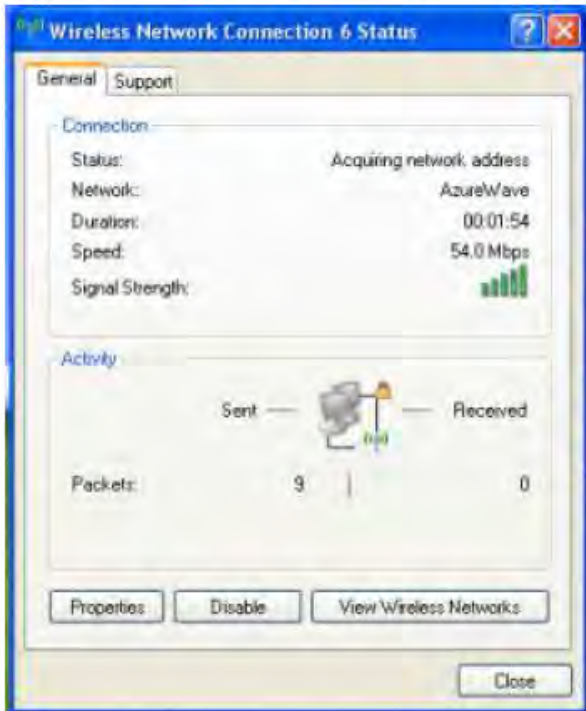
ii. For Windows Vista OS

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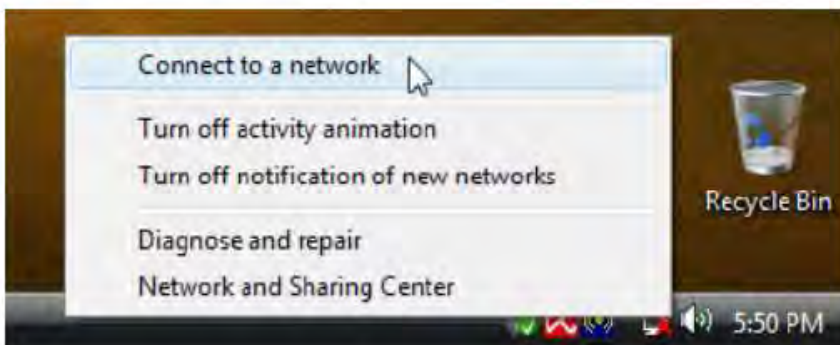
2. Choose wireless network within your range and click [Connect]

* 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
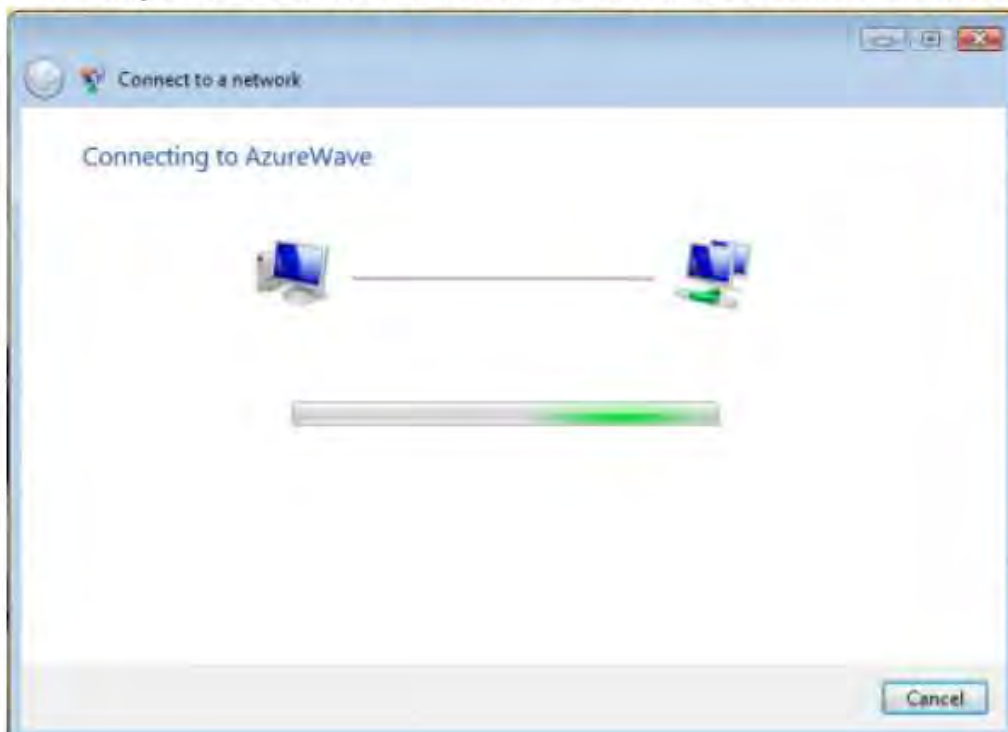
4. Now the selected wireless network is connected
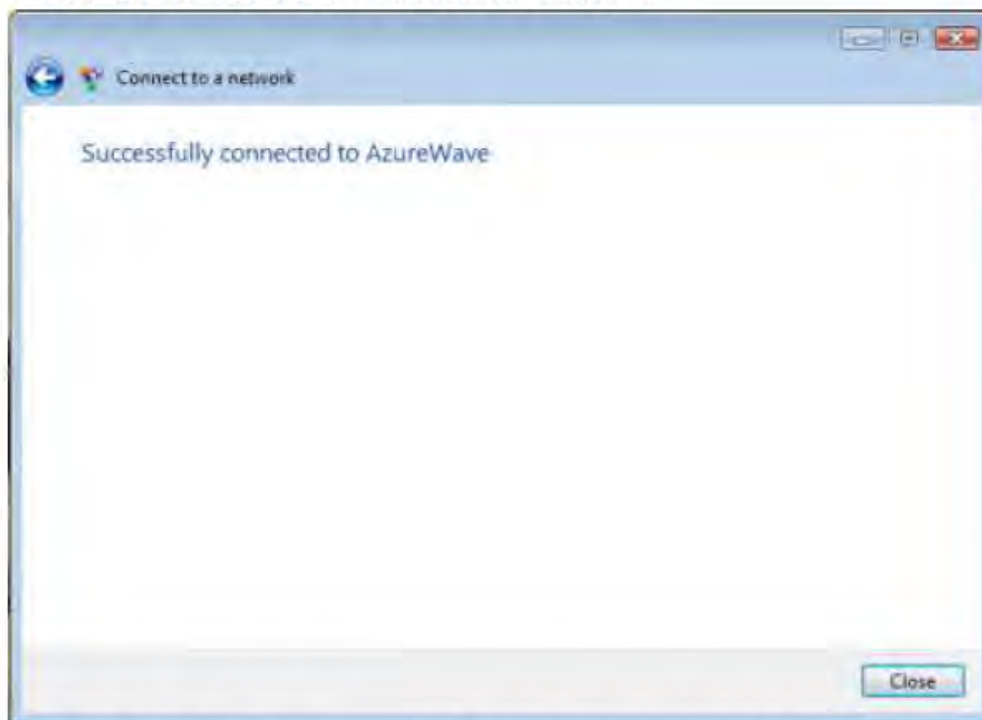
5. If you want to see the connection status, please right-click on the network you choose and select [Status]
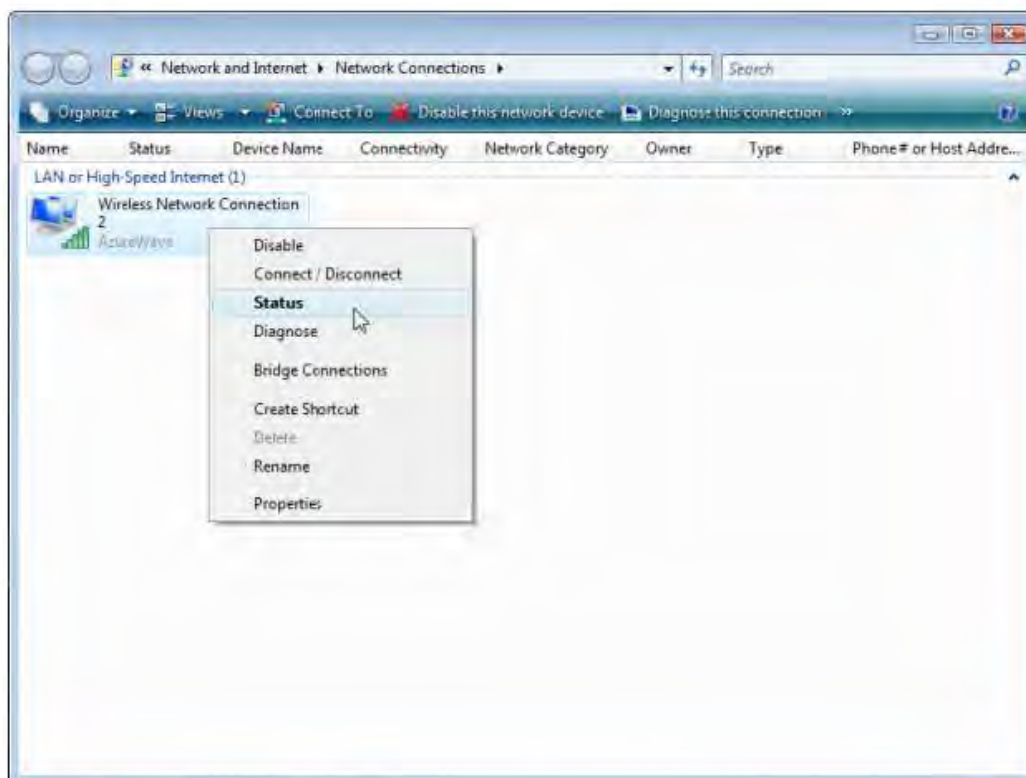
6. This is the information of network status
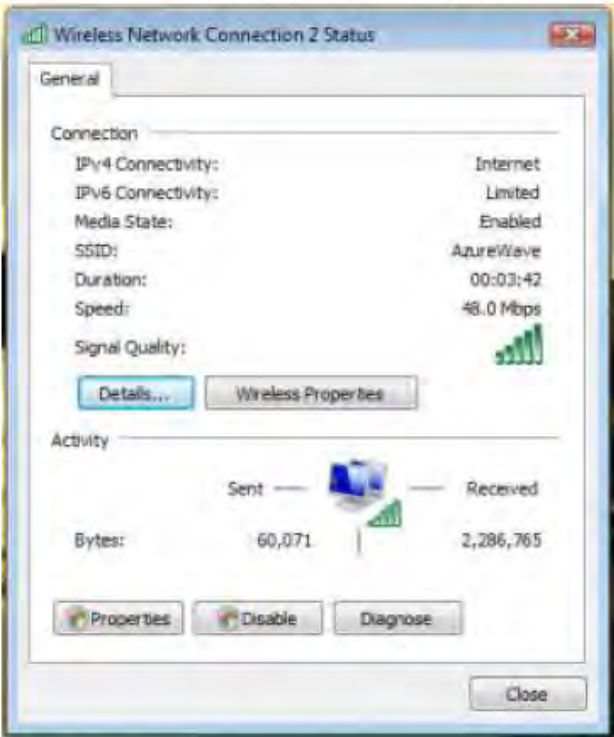
IV. Setup for Ad-hoc Mode

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
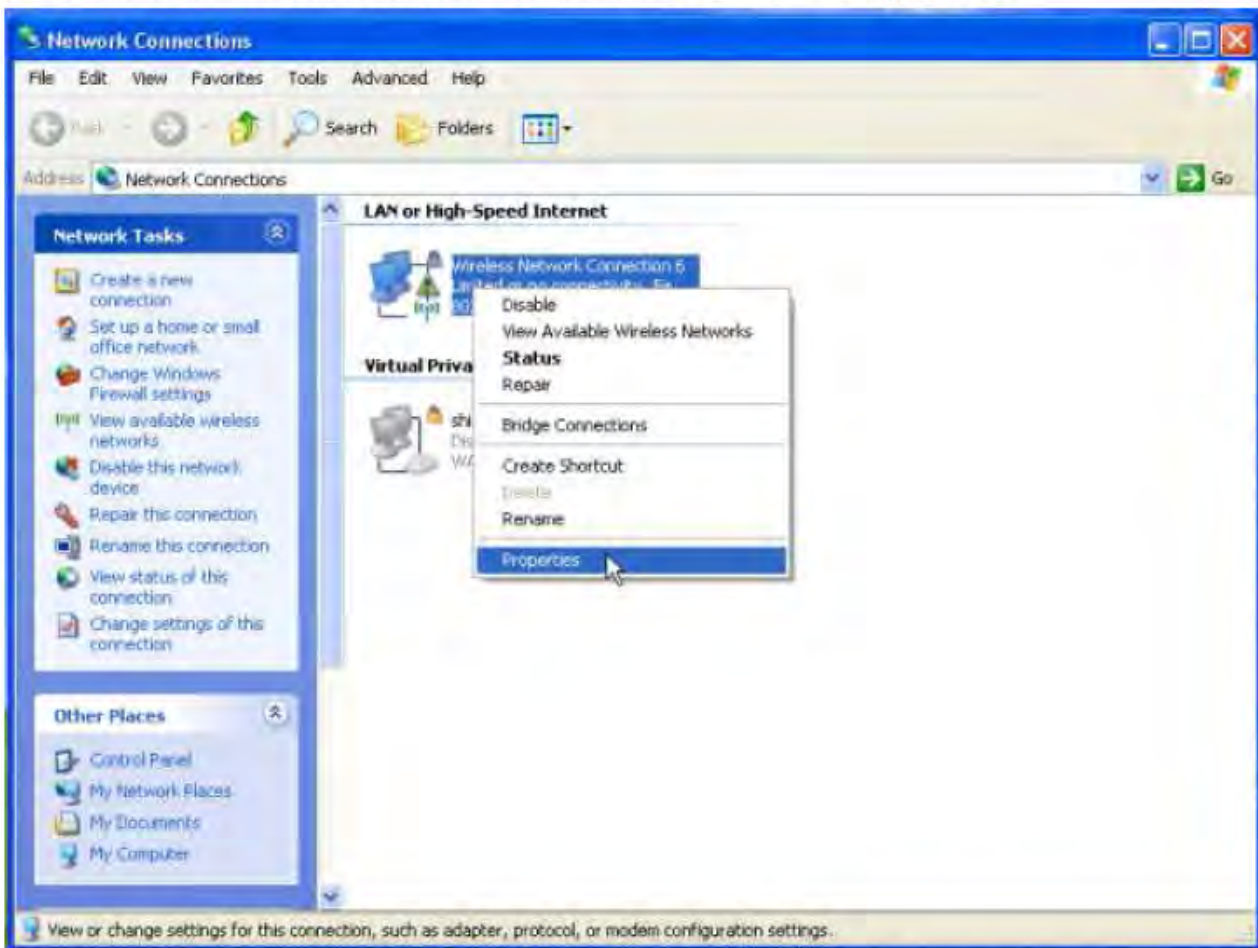
2. Click "General" tab and double-click the "Internet Protocol (TCP/IP)" item
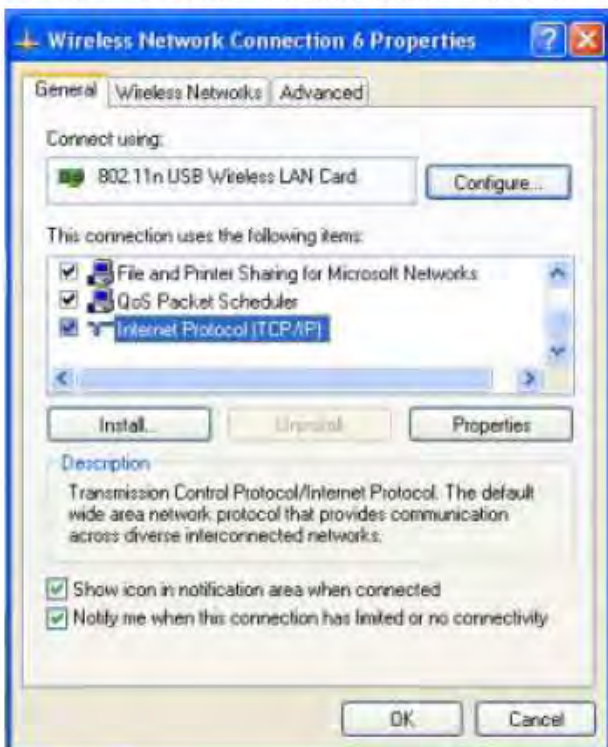
3. Choose "Use the following IP address:" and type the IP address; then click [OK]

*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"
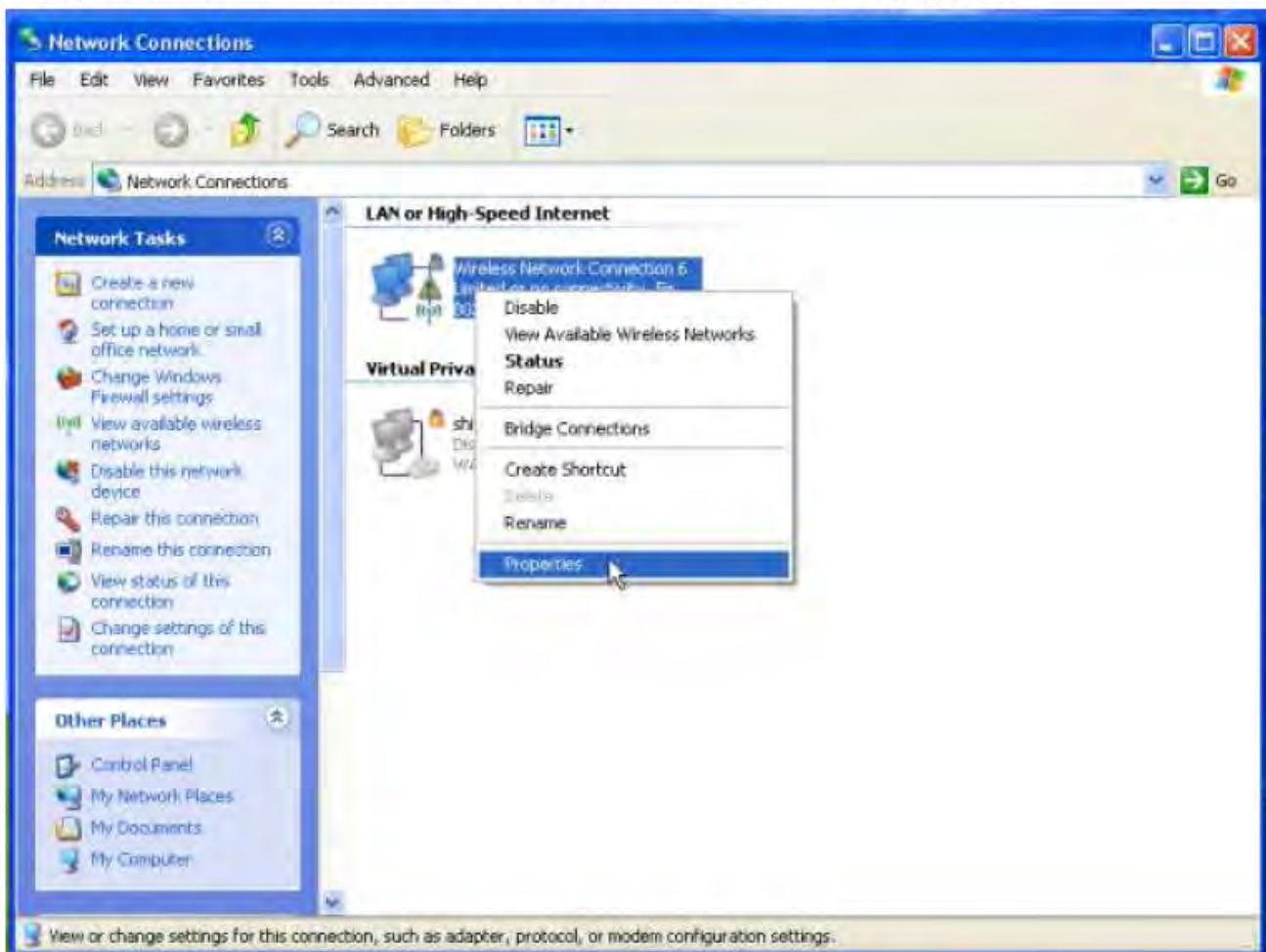
5. Select "Wireless Network" tab and choose [Add]

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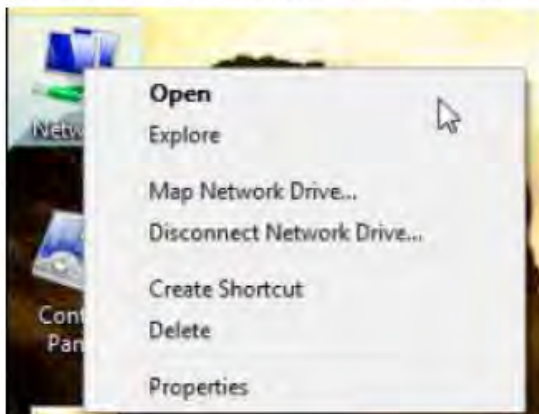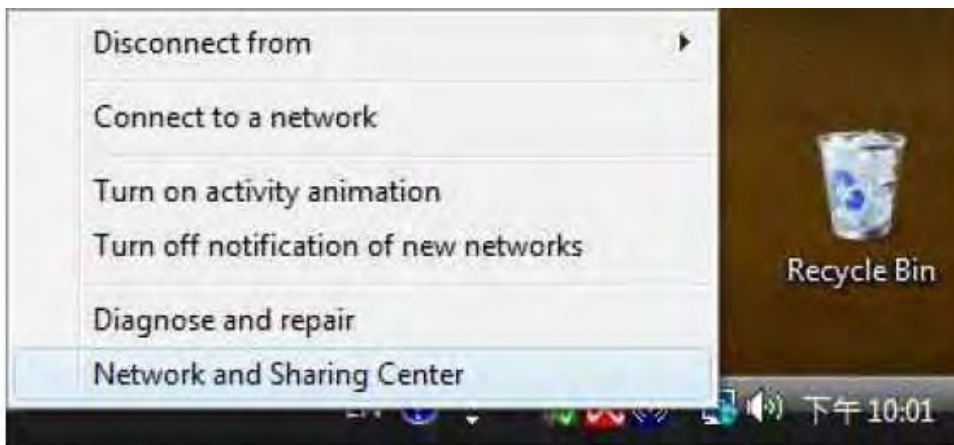
2. When you see the "Network and Sharing Center" windows, please select "Manage network connection" bar

3. Right-click the connected network icon and choose "Properties"
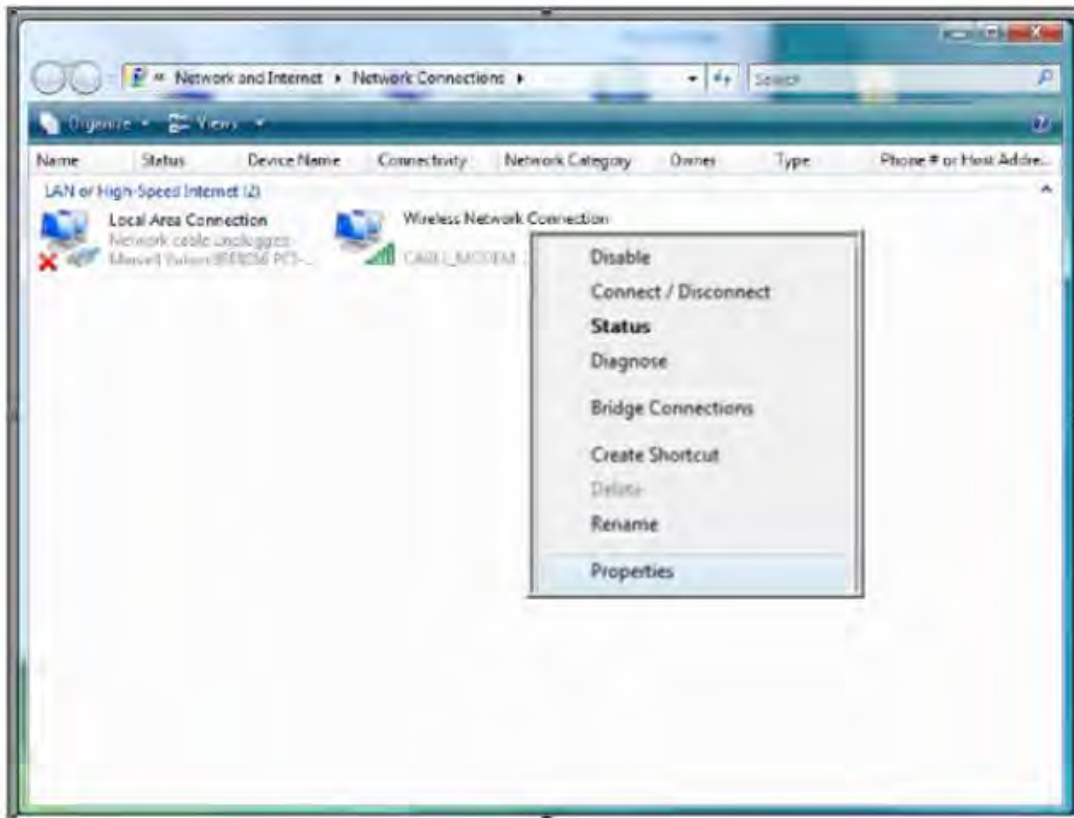
4. When you see the warning message, please click [Continue]
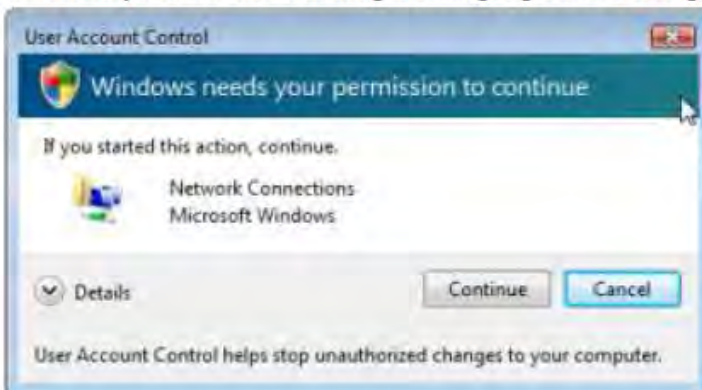
5. Choose "Networking" tab and double-click the "Internet Protocol Version 4 (TCP/IPv4)" item

6. Choose "Use the following IP address:" and type the IP address; then click [OK]
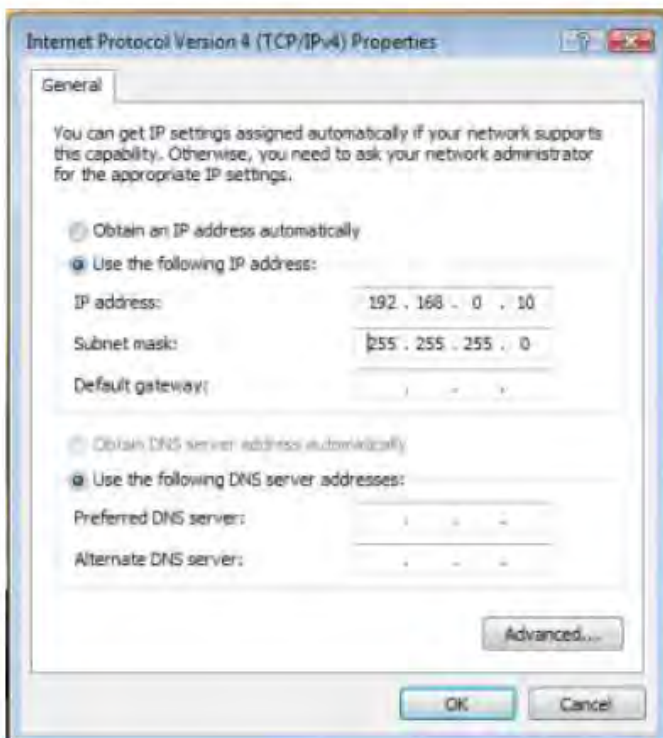
*Note: the IP address of the other wireless card should be set with the same subnet mask

7. Choose "Manage wireless networks" bar
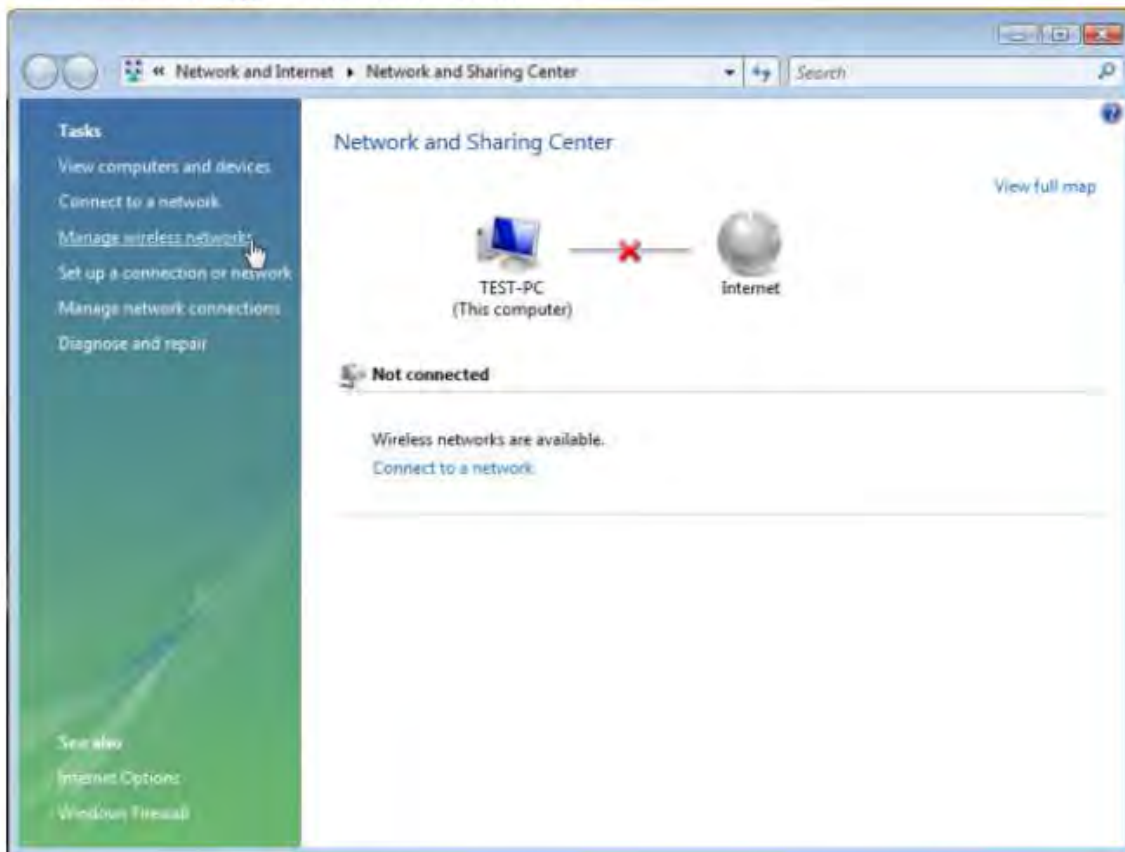
8. Select [Add]
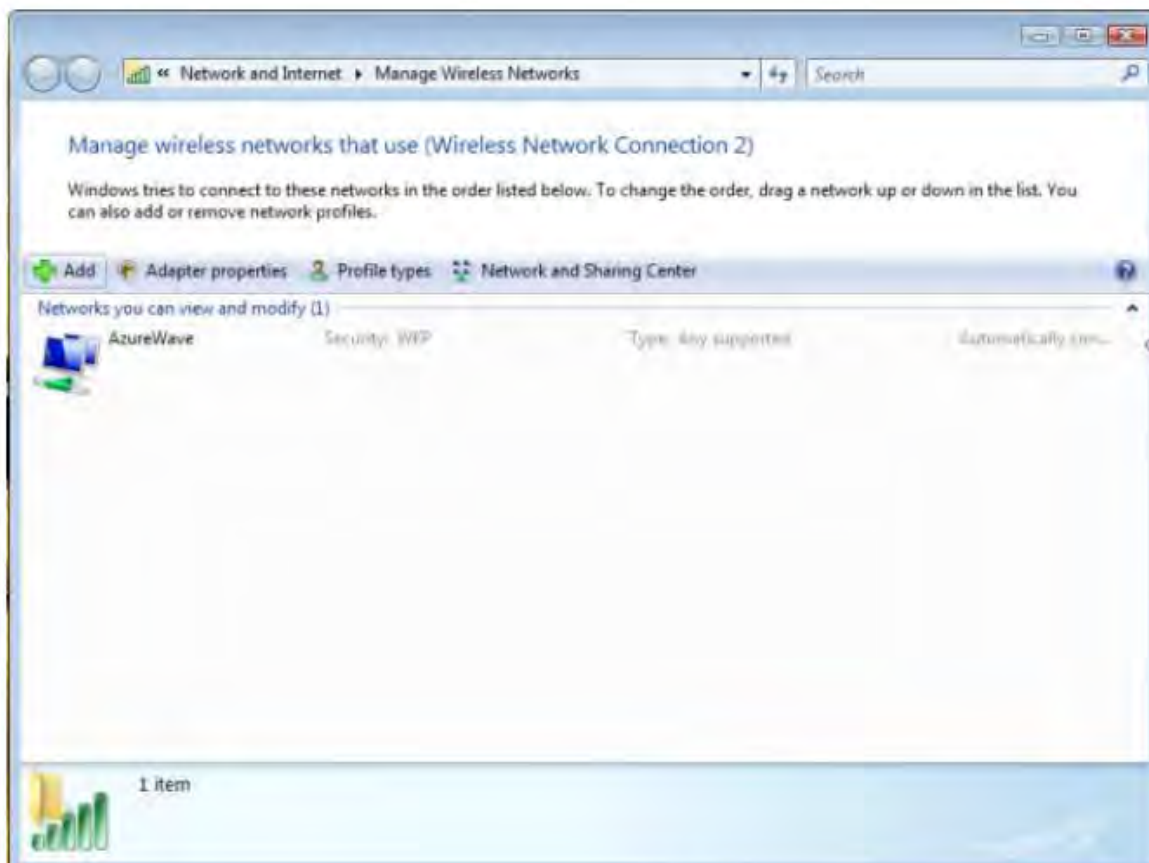
9. Choose "Create ad-hoc network"

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
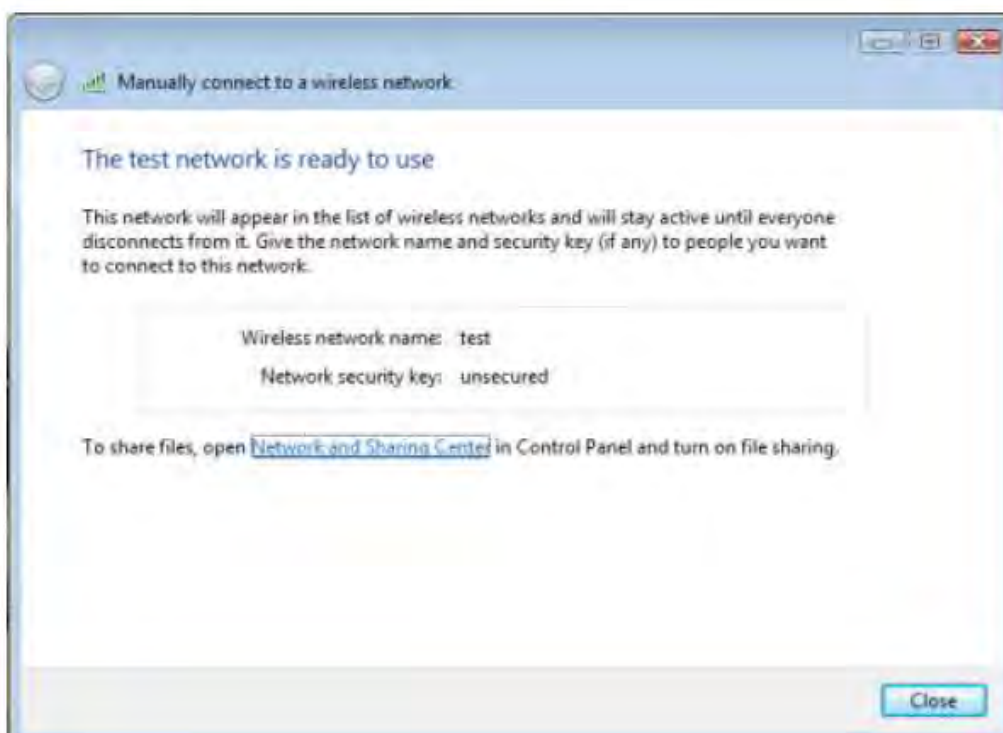
Federal Communication Commission Statement (FCC, U.S.)

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.

IMPORTANT NOTES

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.

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

Limited Channels fixed for use in the US:
IEEE 802.11b or 802.11g or 802.11n(HT20) operation of this product in the U.S. is firmware-limited to Channel 1 through 11.
IEEE 802.11n(HT40) operation of this product in the U.S. is firmware-limited to Channel 3 through 9.

OEM integration instructions:
This device is intended only for OEM integrators under the following conditions:
The antenna must be installed such that 20 cm is maintained between the antenna and users, and the transmitter module may not be co-located with any other transmitter or antenna. The module shall be only used with the external antenna(s) that has been originally tested and certified with this module.

For all products market in US, OEM has to limit the operation channels in Channel 1 to Channel 11 or 3-9 as specified above by the supplied firmware programming tool. OEM shall not supply any tool or info to the end-user regarding to Regulatory Domain change.

As long as 3 conditions above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.).

Validity of using the module certification:
In the event that these conditions cannot be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization for this module in combination with the host equipment is no longer considered valid and the FCC ID of the module cannot be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

Custom design antennas may be used, however the OEM installer must following the FCC 15.21 requirements and verify if new FCC approval will be necessary.

End product labeling:
This transmitter module is authorized only for use in device where the antenna may be installed such that 20 cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following:
 "Contains FCC ID: Z7ZMAXMEDIAWIFI1".

Information that must be placed in the end user manual:
The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user's manual of the end product which integrates this module. The end user manual shall include all required regulatory information/warning as show in this manual.