ASRock WiFi-802.11g Module

Operation Guide

1. Introduction

ASRock WiFi-802.11g module is an easy-to-use wireless local area network (WLAN) adapter to support WiFi+AP function. With ASRock WiFi-802.11g module, you can easily create a wireless environment and enjoy the convenience of wireless network connectivity. Therefore, from anywhere within the signal range, you will be able to play LAN games, connect to the internet, access and share printers, and make Internet phone calls easily. Please read this operation guide carefully before you start to set up ASRock WiFi-802.11g module.

1.1 Specifications

Standard	- IEEE 802.11g
Data Rate	- 6, 9, 12, 18, 24, 36, 48, 54Mbps
Security	- Access Point mode (AP mode): WEP, WPA
Network Architecture Types	- Access Point mode (AP mode) - Station mode: Infrastructure mode and Ad-Hoc mode
Frequency Band	- 2.4~2.5GHz
Operating Range	- Indoor: 80ft (30m) - Outdoor: 200ft (60m) * The range varies in different environments
Number of Connected Devices (AP Mode)	- up to 16 stations
Antenna	- ASRock WiFi-802.11g omni-directional antenna
LED	- Green data transmission (AIR) LED
Support OS	- Windows$^{\circledR}$ XP / XP 64-bit / Vista^{TM} / Vista^{TM} 64-bit
Compatibility	- Full compatible with IEEE 802.11g standard products
Software Support	- ASRock WiFi-802.11g Wizard

1.2 LED Indicators and Antenna Port

ASRock WiFi-802.11g module has a green LED for transmission status mounted onboard, and an antenna port for connection to the external antenna.

Antenna Port

LED

LED Status	Indication
On	Power on, no data activity
Off	Power off, no wireless connection
Fast Blinking	Transmitting / receiving data
Slow Blinking	Site surveying

1.3 Signal Range

The signal range of ASRock WiFi-802.11g module varies from the operating environment. Obstacles such as walls and metal barriers could reflect and absorb radio signals. Devices like microwave ovens may also interfere with the wireless network greatly.

Signal range:
Indoor 80ft (30m), outdoor 200ft (60m)

By default, ASRock WiFi-802.11g module should automatically adjust the data rate. The closer the wireless stations are the better the signal and transmission speed they will receive.
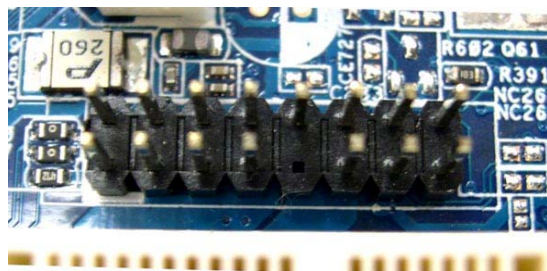
2. Hardware & Software Installation

2.1 System Requirements

Before installing ASRock WiFi-802.11g module to your motherboard, please make sure your system satisfies the following requirements.

1. ASRock motherboard with a WiFi or WiFi/E header (black)
   (Please refer to ASRock motherboard manual for the location of WiFi or WiFi/E header.)
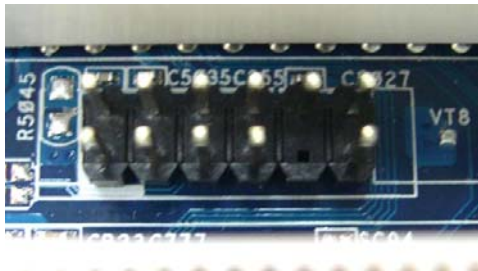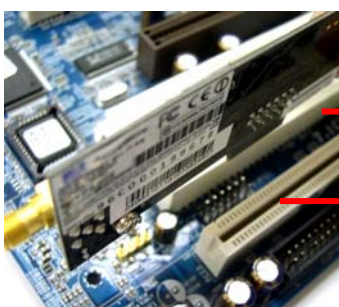

WiFi Header (2 x 6 Pin)   **WiFi/E Header (2 x 8 Pin)**

2. A minimum of 64MB system memory
3. Operating system: Windows® XP / XP 64-bit / Vista™ / Vista™ 64-bit
4. An optical drive / CD-ROM for driver and utility installation

2.2 Installing ASRock WiFi-802.11g Module and Antenna

After you make sure your system satisfies the requirements above, please follow below steps for installing your ASRock WiFi-802.11g module. If the motherboard you purchase is equipped with ASRock WiFi-802.11g module, which is screwed next to the audio jack of the I/O panel, please skip step 2 to 6.

1. Shut off the PC before installing ASRock WiFi-802.11g module.
2. Move out your motherboard from the chassis.
3. Fasten the bracket to the proper position of the chassis with screws.
4. Plug ASRock WiFi-802.11g module with its connector-side to the WiFi or WiFi/E header* (black) on the motherboard. (The location of the WiFi or WiFi/E header may vary on motherboard models. Please refer to your motherboard manual for the motherboard layout.)

Connector-side

WIFI or WIFI/E Header

4

* The WiFi header comes in WiFi (2 x 6 Pin) and WiFi/E (2 x 8 Pin) designs respectively, but to plug the ASRock WiFi-802.11g module on it, please align the module connector to the left hand side of the header.

5. Fasten ASRock WiFi-802.11g module to the motherboard with screws.

6. Place your motherboard to the chassis.

7. Connect the cable-end from the antenna to the antenna port on ASRock WiFi-802.11g module.
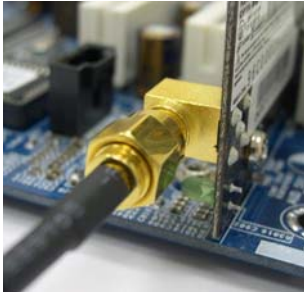
8. Place the antenna at an elevated location. A wide and open position will enhance the operating range.

2.3. Driver and Utility Installation

After you finish the hardware installation, you need to install WiFi driver and utility to your system. Please boot your system and follow below steps to install the WiFi driver and utility.

1. Insert ASRock motherboard support CD to the optical drive.

2. The system will automatically display the driver menu. Click "ASRock WiFi-802.11g Driver and Utility" and follow screen instructions to finish the driver installation.

After above steps, the WiFi driver and utility are installed to your system simultaneously.

Note:

* Microsoft® had released a hotfix to improve the connectivity and performance of wireless network in Windows® Vista-based system. To download the hotfix, please go to:
http://support.microsoft.com/kb/928152/en-us

* Microsoft® had also released three hotfix to improve the connectivity for transferring large file in Windows® Vista-based system. To download the three hotfix, please go to:

● "The connection has been lost" – this error message may occur when you try to copy a large file from one Windows® Vista-based computer to another Windows Vista-based computer, hotfix link:
http://support.microsoft.com/kb/932045/en-us

- When you copy large files to or from earlier operating systems, the copy operation may be slower than expected on some Windows® Vista-based computers, hotfix link:
  http://support.microsoft.com/kb/932170/en-us
- The copy process may stop responding when you try to copy files from a server on a network to a Windows® Vista-based computer, hotfix link: http://support.microsoft.com/kb/931770/en-us

2.4. Utility Setup

After you have installed the driver and utility to your system, now you are ready to set up the utility in your network. ASRock WiFi-802.11g module supports two kinds of wireless network mode: Access Point Mode (AP Mode) and Station Mode. Please refer to below introduction and select the most appropriate mode when setting it up.

A. Access Point Mode (AP Mode)

If you want to share the Internet access with the wireless stations in your environment, such as PC, notebook and other devices, you can configure ASRock WiFi-802.11g module in an access point mode (AP mode). In this mode, ASRock WiFi-802.11g module becomes the wireless access point that provides local area network and Internet access for your wireless stations. The AP Mode feature is ideal for home/SOHO networks with several computers, a shared printer, and a shared Internet connection.
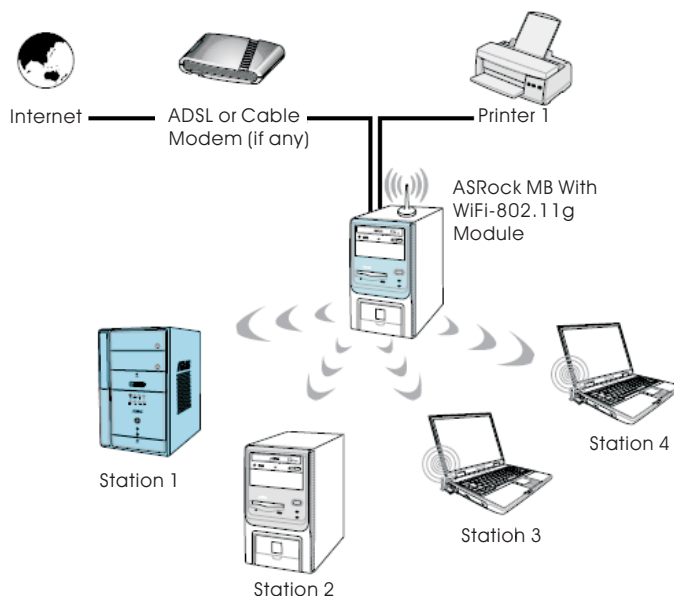
B. Station Mode

If you do not plan to use AP function with ASRock WiFi-802.11g module, but just

want to use the wireless function to connect the access point (AP), or connect with other stations in the wireless range instead, please set up ASRock WiFi-802.11g module in station mode. There are two choices provided in station mode: Infrastructure mode and Ad-hoc mode. Please read below introduction for the differences of these two modes.

B-1. Infrastructure Mode

If you have a present access point (AP) in your wireless network environment for this station to join, you can set up ASRock WiFi-802.11g module in Infrastructure mode. In this mode, ASRock WiFi-802.11g module acts as a wireless adapter. In other words, it is centered on an AP that provides Internet access and LAN communication for the wireless stations, such as PC, notebook and other devices.
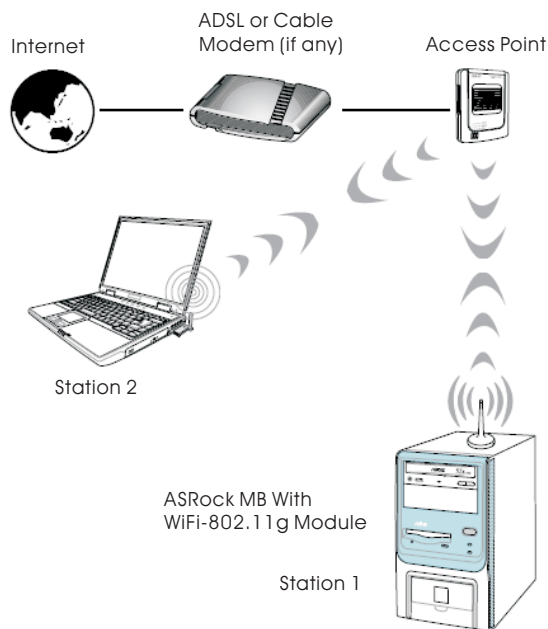
B-2. Ad-hoc Mode

If you don't have a present access point in your wireless network environment, you can set up ASRock WiFi-802.11g module in Ad-hoc mode. The wireless network brings together workstations, PC, notebook and other devices for wireless communication.

7

Station 2

ASRock MB With
WiFi-802.11g Module

Station 1
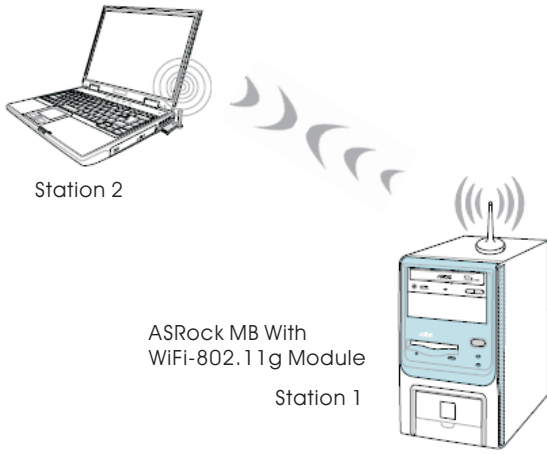
3. General Setup with ASRock WiFi-802.11g Wizard

If you want to easily set up ASRock WiFi-802.11g for general use, please use ASRock WiFi-802.11g Wizard and follow below procedures according to the mode you choose.

Here we take Windows® Vista™ for example in the following pictures. Since the setup procedures are quite similar in different operating systems, please refer to below procedures when setting up ASRock WiFi-802.11g wizard under other operating systems.

3.1 Setting up the AP Mode

1. Move your mouse cursor to the icon on the Windows® taskbar and right-click the icon.
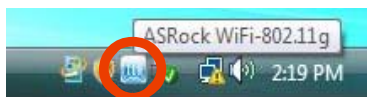

2. Select **ASRock WiFi-802.11g Wizard** to launch the WiFi setup wizard.
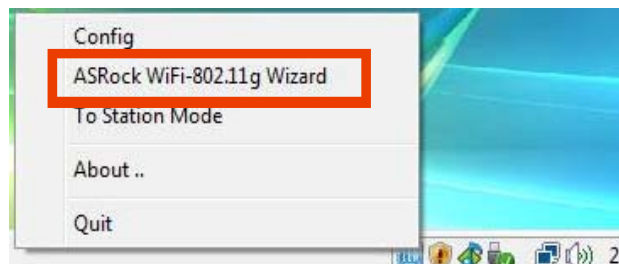
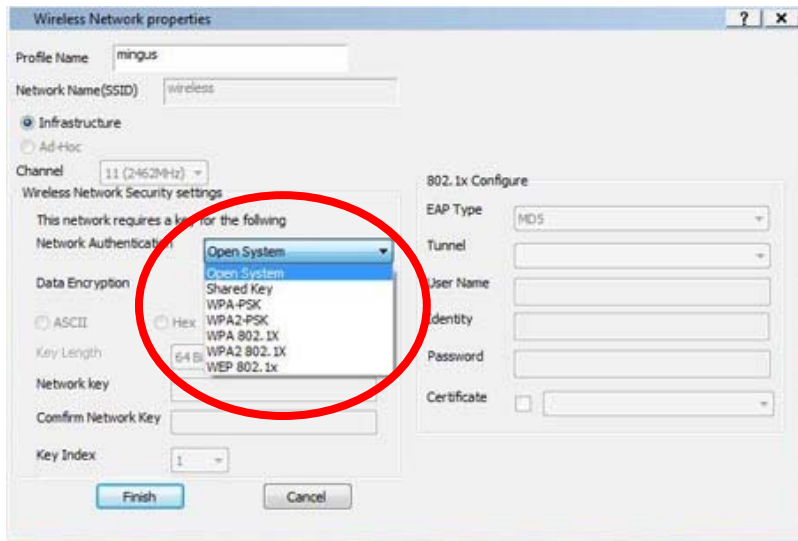3. Select **Access Point** and click **Next**.
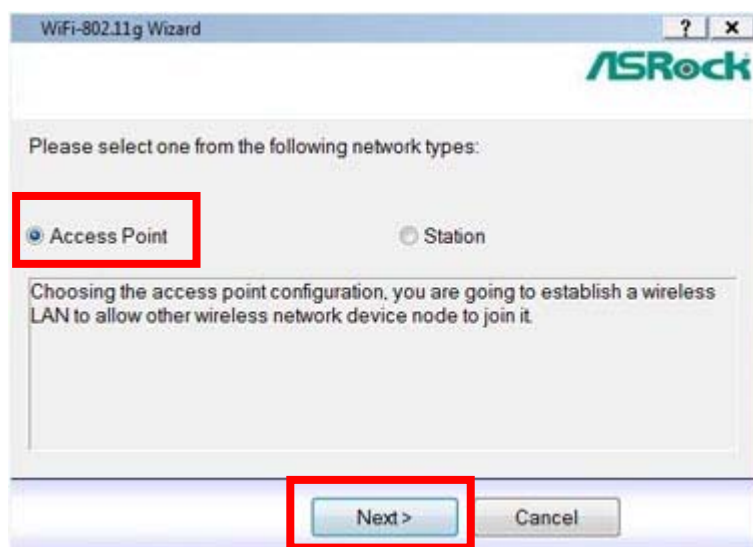
4. The system will automatically generate a SSID for the AP mode. You can rename the SSID if you want.
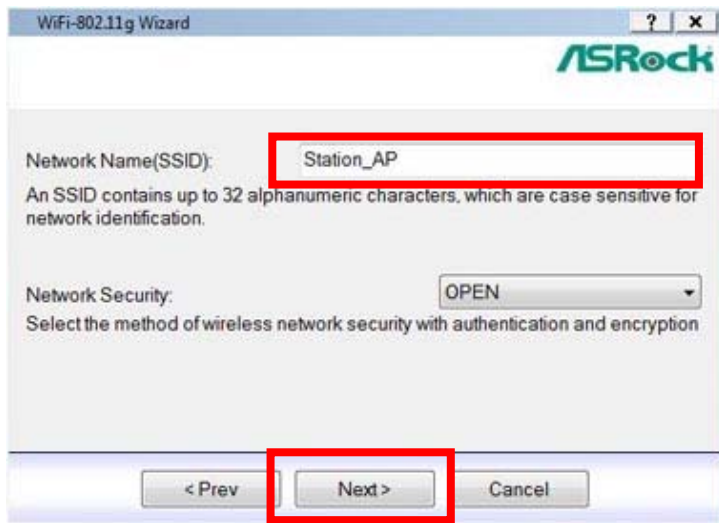
5. Select a Network Security level for your AP mode. The configurable options are **OPEN**, **SHARE WEP** and **WPA-PSK TKIP**. Select an appropriate level and click **Next**.
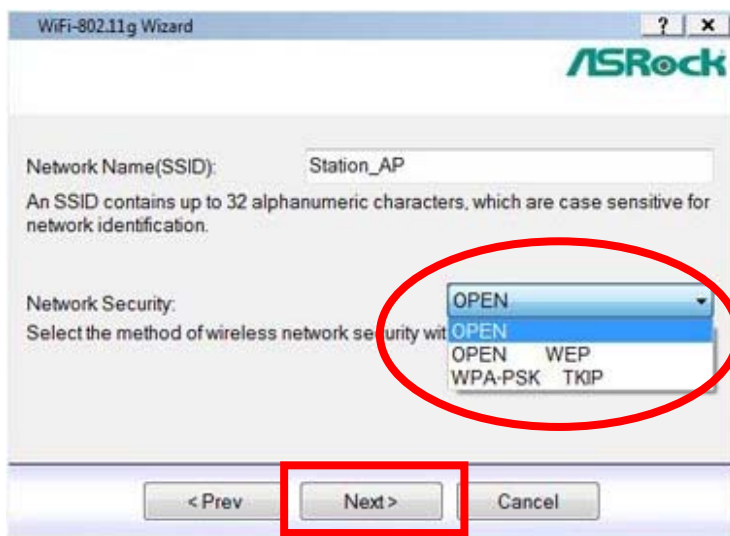
6. If you select **SHARE WEP** or **WPA-PSK TKIP**. You need to input a password. You can choose to configure the password in either ASCII or HEX mode. If you choose HEX mode, input 10 hex digits for 64-bit encryption, or 26 hex digits for 128-bit encryption. Then click **Next** to continue.
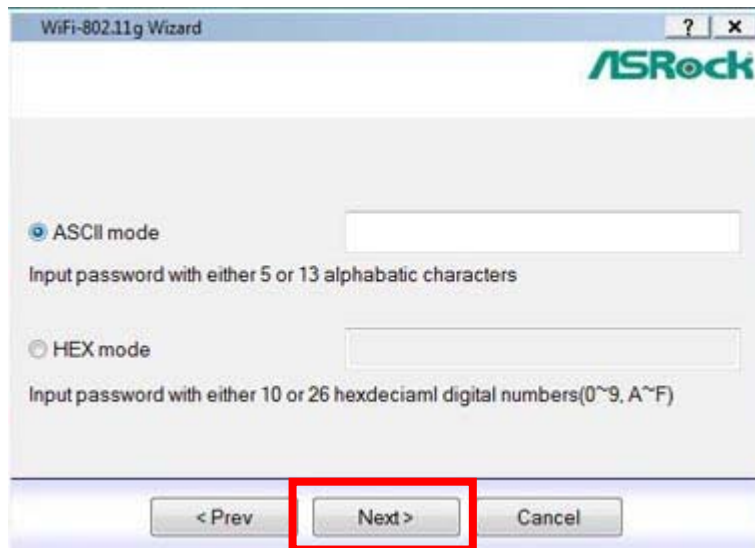
7. Select your Internet connection and click **Next**.
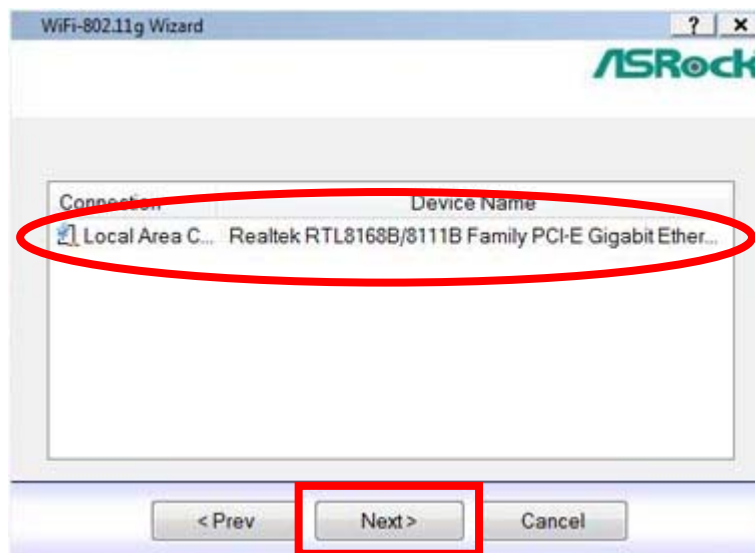
Note:

* You need to have another LAN connector connected to your ADSL / cable modem, and already set it up for Internet access. Please refer to the manual from your ISP for detailed setup steps.

8. The AP mode configuration is complete. Record the setup information on your note and click **Finish** to quit ASRock WiFi-802.11g wizard.
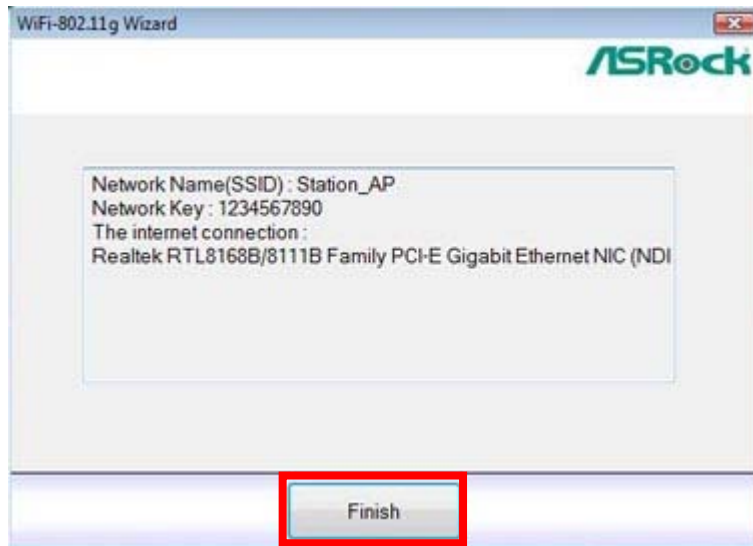
3.2 Setting up the Station Mode

There are two choices provides in station mode: Infrastructure mode and Ad-hoc mode. Please read the following procedures according to the mode you choose. For the differences of Infrastructure mode and Ad-hoc mode, please refer to page 5 and 6 for details.

3.2.1 Setting up the Infrastructure Mode

1. Move your mouse cursor to the icon on the Windows® taskbar and
   right-click the icon.
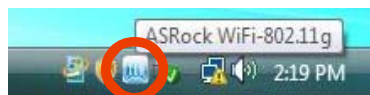
2. Select **ASRock WiFi-802.11g Wizard** to launch the WiFi setup wizard.
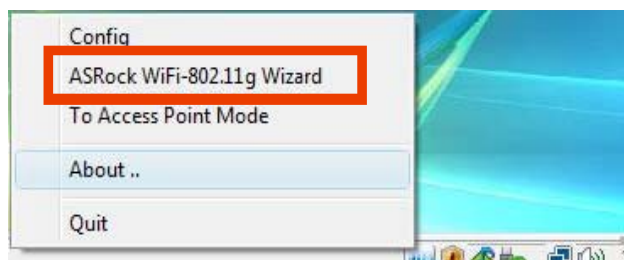
3. Select **Station** and click **Next**.
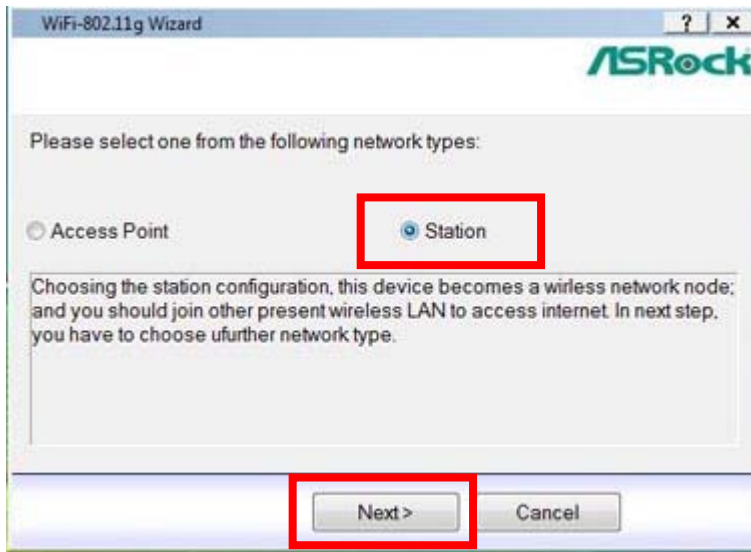
4. Select the desired network type of the wireless station. Click **Infrastructure** and
   click **Next**.
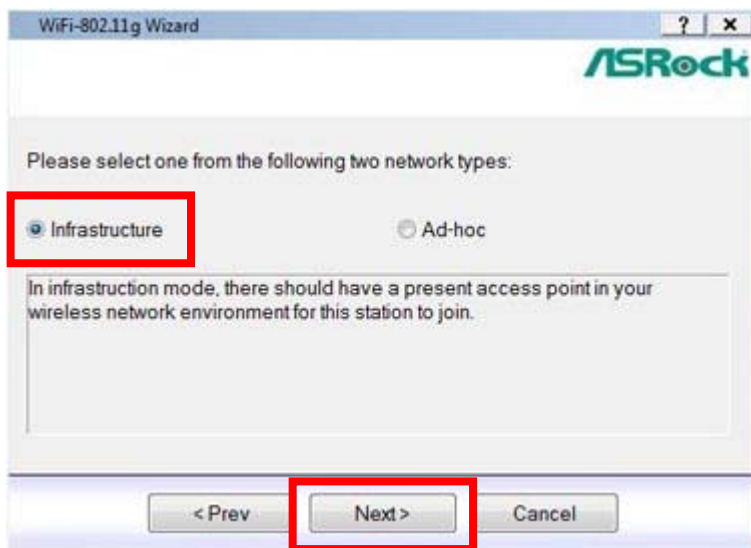
5. Select one from the found sites as connection point. Click **Next**.
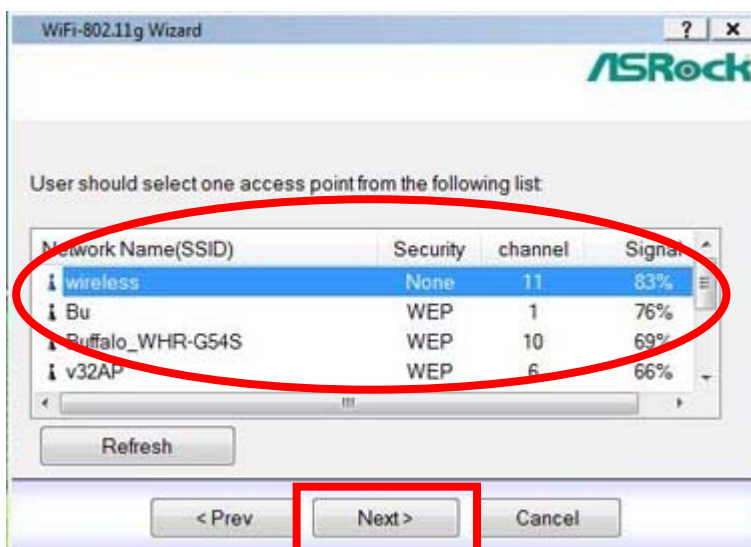
6. Select the Network Authentication for Infrastructure mode. The configurable options are **Open System**, **Shared Key**, **WPA-PSK**, **WPA2-PSK**, **WPA 802.1X**, **WPA2 802.1X** and **WEP 802.1X**.

7. Select the Data Encryption. The configurable options are **Disabled** and **WEP**.

8. Select the Key Length. The configurable options are **64 Bits** and **128 Bits**. (If you select **Disabled** in the previous option **Data Encryption**, you will not be able to choose the Key Length.)

9. Key in the Network password and confirm.

10. Click **Finish**.

3.2.2 Setting up the Ad-hoc Mode

1. Move your mouse cursor to the icon on the Windows® taskbar and
   right-click the icon.
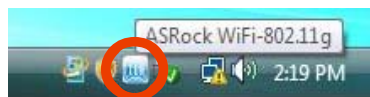
2. Select **ASRock WiFi-802.11g Wizard** to launch the WiFi setup wizard.
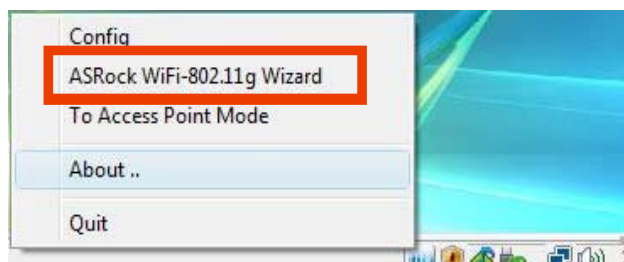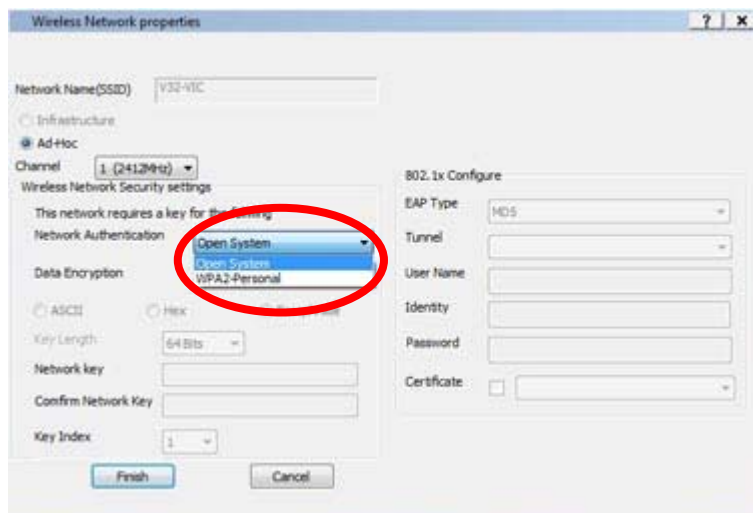

3. Select **Station** and click **Next**.
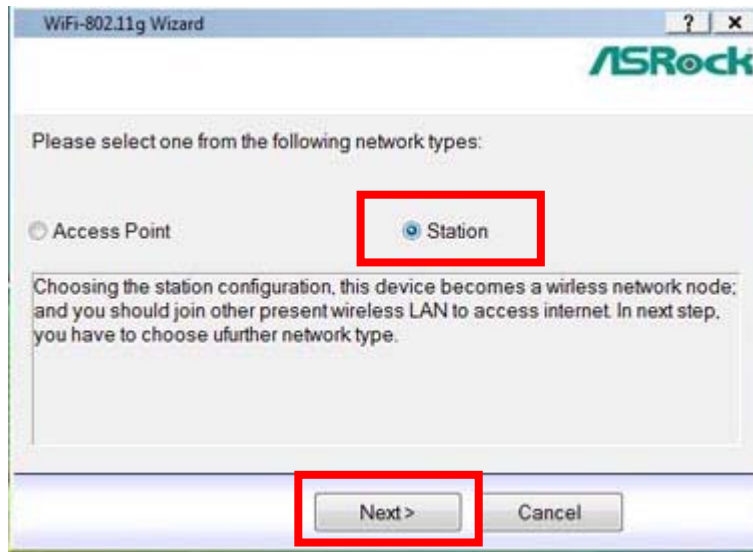
4. Select the desired network type of the wireless station. Click **Ad-hoc** and click **Next**.
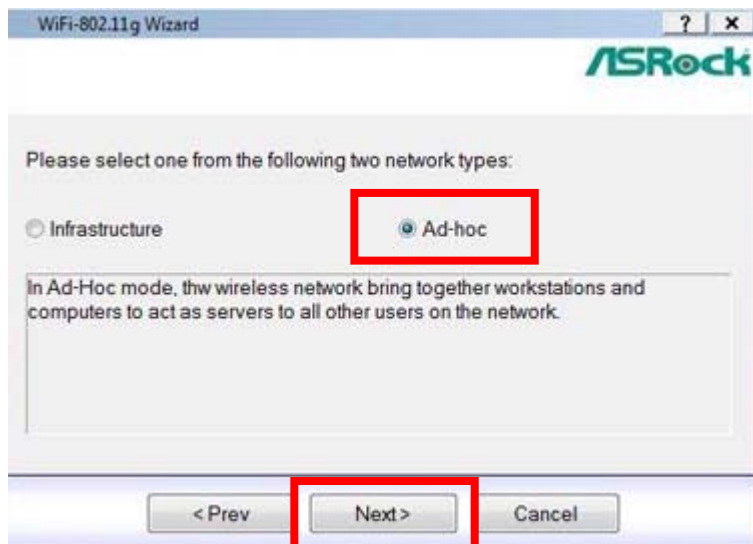
5. Select one IBSS from the list to join, click **Next**, and follow below steps to enter the required information of this station. You can also click **Create** to create a new IBSS, and follow below steps to enter the information of the IBSS you create.
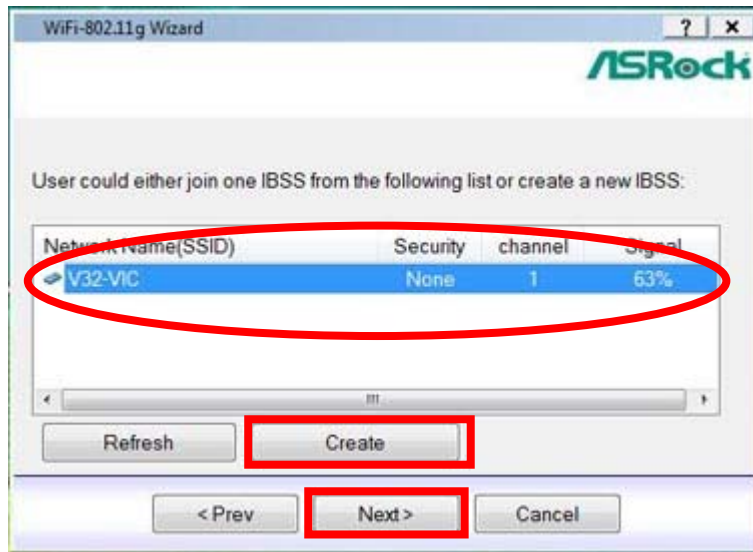
6. Select the Network Authentication for Ad-hoc mode. The configurable options are **Open System** and **WPA2-Personal**.


Note:

* If your operating system is Windows® XP with Service Pack 2, it is required to install the Microsoft hotfix in order to support **WPA2-Personal** function. Please go to this link to download the necessary hotfix:

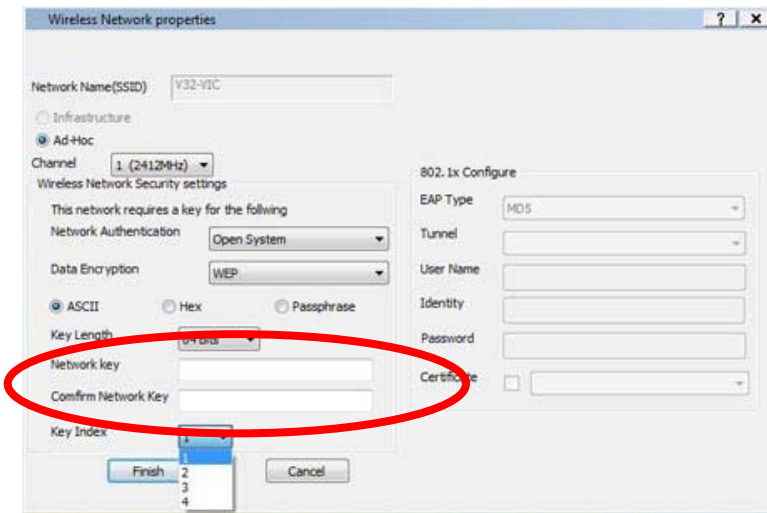http://www.microsoft.com/downloads/details.aspx?familyid=662BB74D-E7C1-48D6-95EE-145923 4F4483&displaylang=en

7. Select the Data Encryption. The configurable options are **Disabled** and **WEP**.
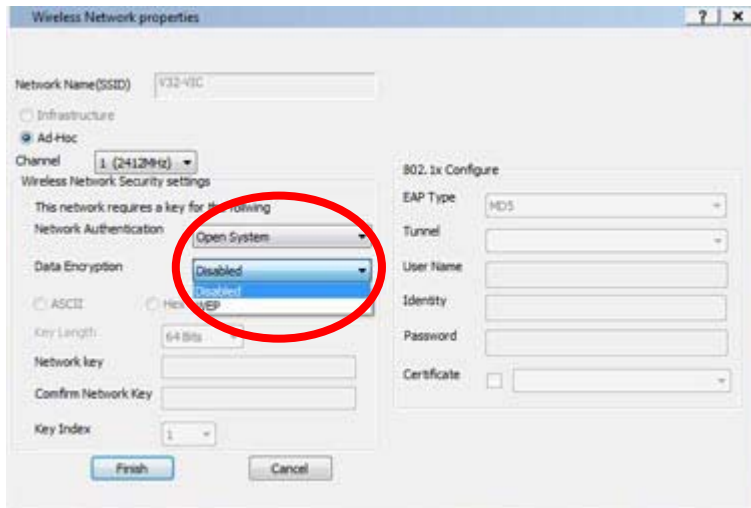
8. Select the Key Length. The configurable options are **64 Bits** and **128 Bits**. (If you
   select **Disabled** in the previous option **Data Encryption**, you will not be able to
   choose the Key Length.)
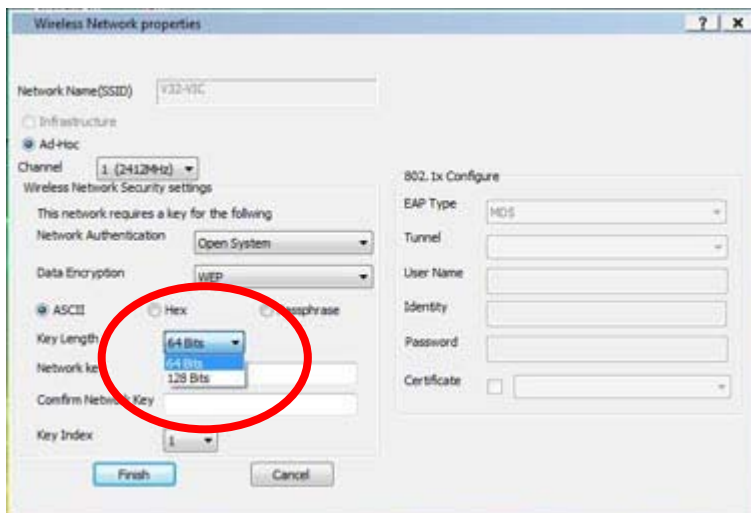
9. Key in the Network password and confirm.

10. Click **Finish**.

4. Advanced Setup in ASRock WiFi-802.11g Utility

If you want to set up ASRock WiFi-802.11g for advanced use, please use ASRock
WiFi-802.11g utility and follow below procedures according to the mode you choose.
For general users, it is unnecessary to read below advanced setup in ASRock
WiFi-802.11g utility.
Here we take Windows® Vista™ for example in the following pictures. Since
the setup procedures are quite similar in different operating systems, please refer to
below procedures when setting up ASRock WiFi-802.11g utility under other
operating systems.

4.1 Setting up the AP Mode

1. Double-click the utility shortcut on the desktop or double-click the

    icon on your Windows® taskbar to open the setup utility.
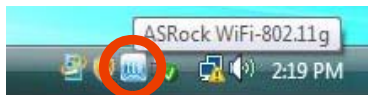
2. The setup utility contains six buttons - Status, Config, Survey, Statistics, Advanced
   and ICS in the left column. The survey button is greyed out in AP mode and the
   ICS button is disabled when in the station mode. Click **Config** button. Click the
   AP/Station Mode switch button - **To Access Point Mode**. Then ASRock
   WiFi-802.11g module is switched to AP mode in several seconds.
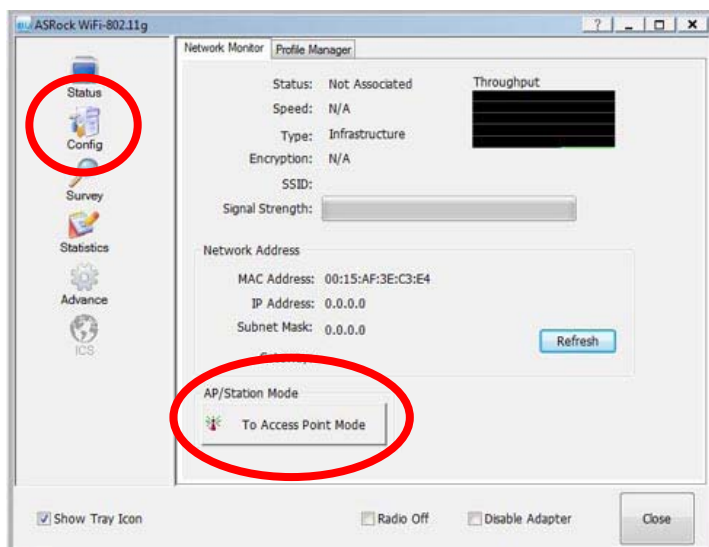
3. Click **ICS** button to configure the Internet connection which you wish to share. Select the correct connection and click **Apply**.
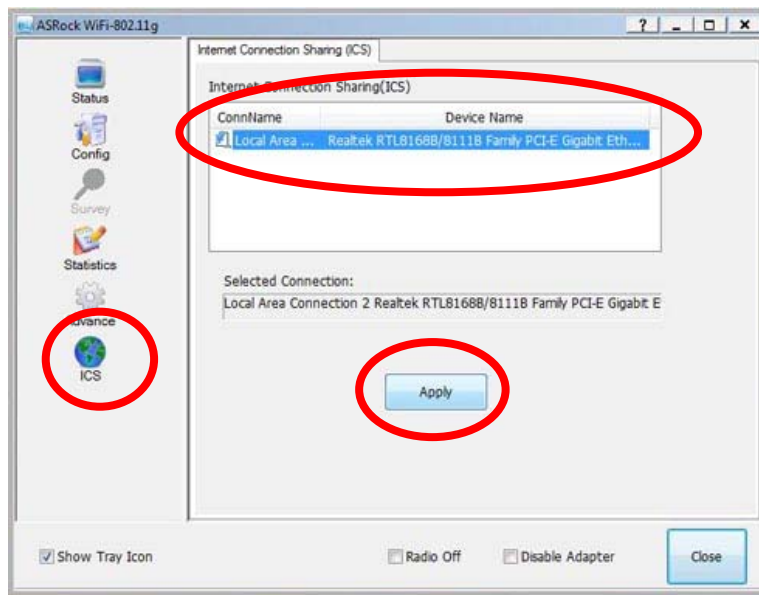

Note:

* You need to have another LAN connector connected to your ADSL / cable modem, and already set it up for Internet access. Please refer to the manual from your ISP for detailed setup steps.

4. Click **Config** button and enter the **Network Monitor** tab. Click **Setup** button to enter the **Wireless Network Properties** page of the AP mode.
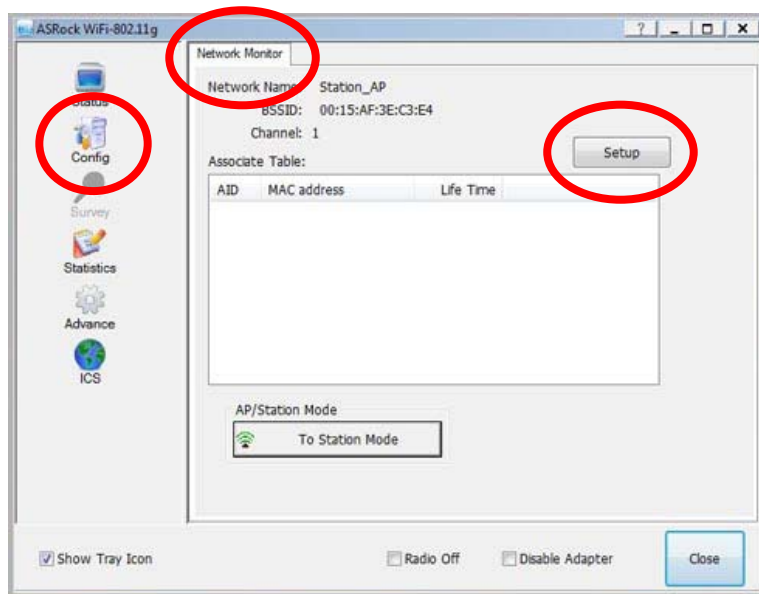
5. You are directed to the **Wireless Network Properties** page to set up the AP mode. The system will automatically generate a SSID for the AP mode. You can rename the SSID if you want.
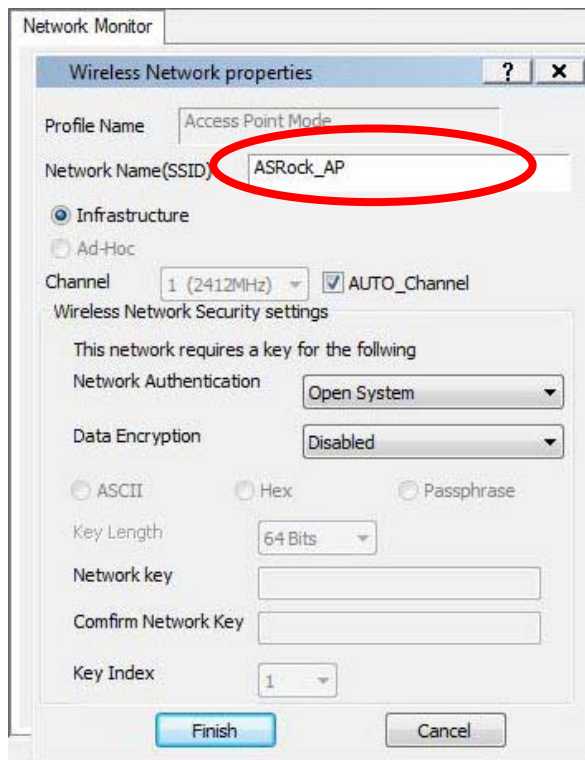
6. Select a Network Authentication for your AP mode. The configurable options are
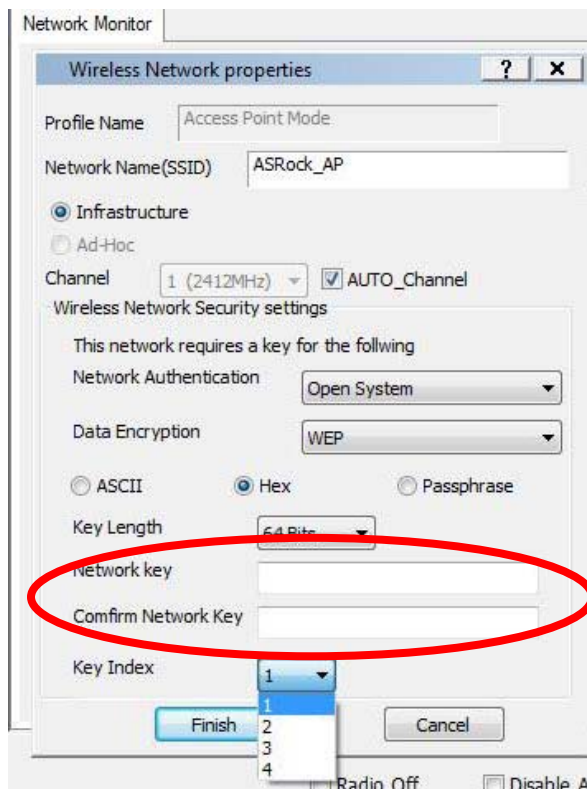**Open System**, **Shared Key** and **WPA-PSK**. Select an appropriate one.

7. Select the Data Encryption. The configurable options are **Disabled** and **WEP**.
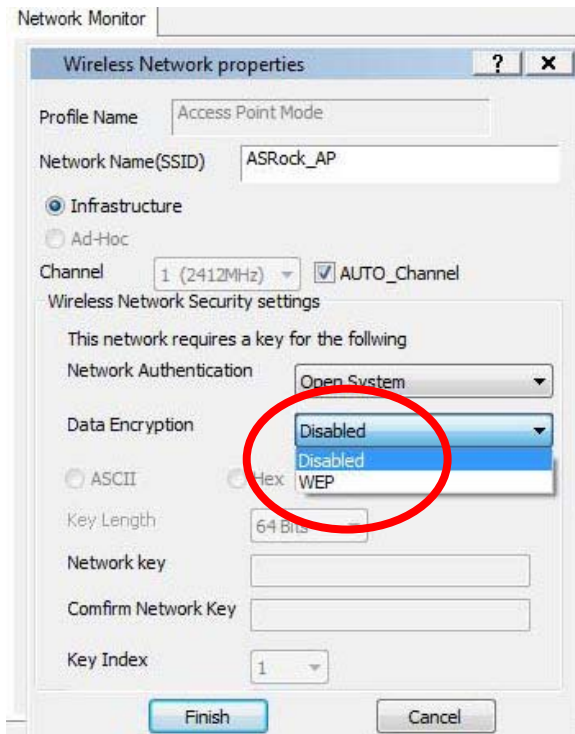
8. Select the Key Length. The configurable options are **64 Bits** and **128 Bits**. (If you select **Disabled** in the previous option **Data Encryption**, you will not be able to choose the Key Length.)
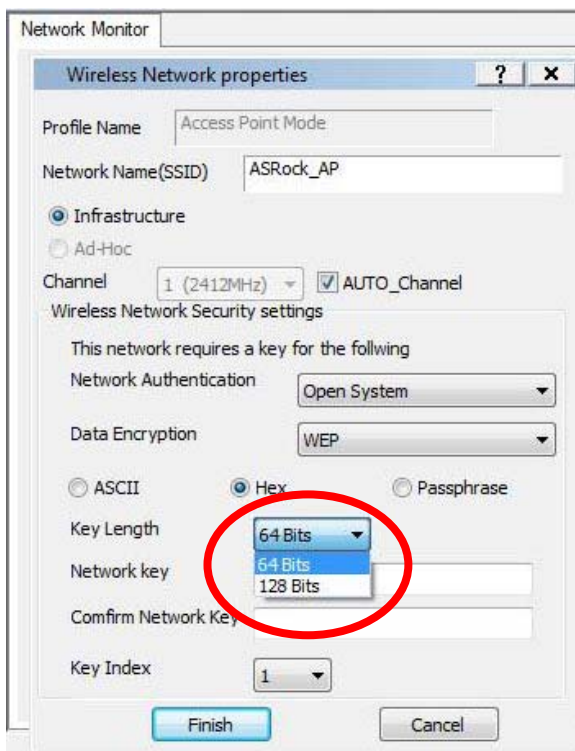
9. Key in the Network password and confirm.

10. Click **Finish**. And the AP mode configuration is finished.
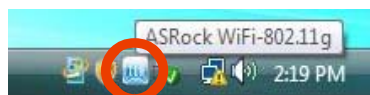
4.2 Setting up the Station Mode

There are two choices provides in station mode: Infrastructure mode and Ad-hoc mode. Please read the following procedures according to the mode you choose. For the differences of Infrastructure mode and Ad-hoc mode, please refer to page 5 and 6 for details.

4.2.1 Setting up the Infrastructure Mode

1. Double-click the utility shortcut on the desktop or double-click the icon on your Windows® taskbar to open the setup utility.

2. The setup utility contains six buttons - Status, Config, Survey, Statistics, Advanced and ICS in the left column. The survey button is greyed out in AP mode and the ICS button is disabled when in the station mode. Click **Config** button. Click the **AP/Station Mode** switch button - **To Station Mode**. Then ASRock WiFi-802.11g module is switched to Station mode in several seconds.
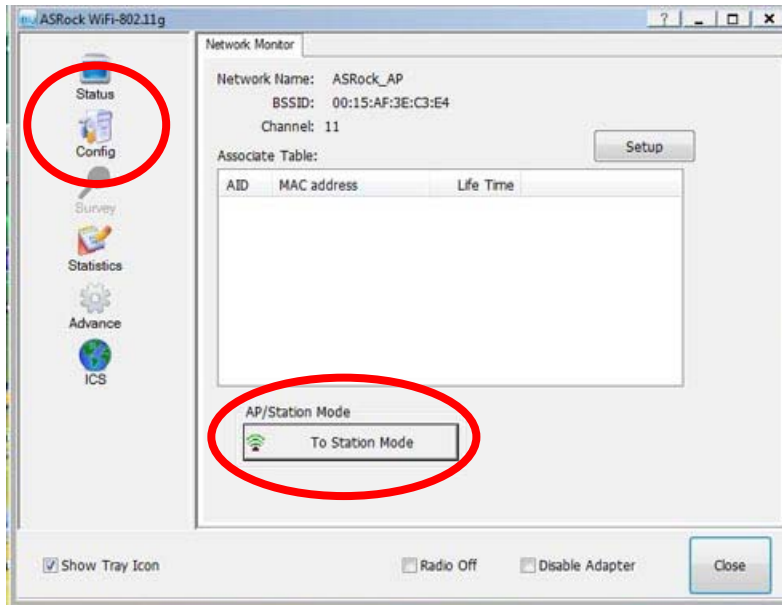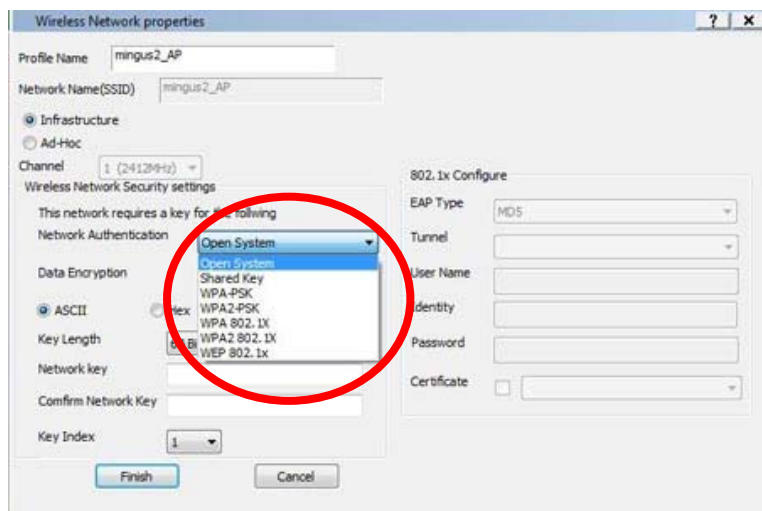

3. Click **Survey** button. Select one from the found sites as connection point.
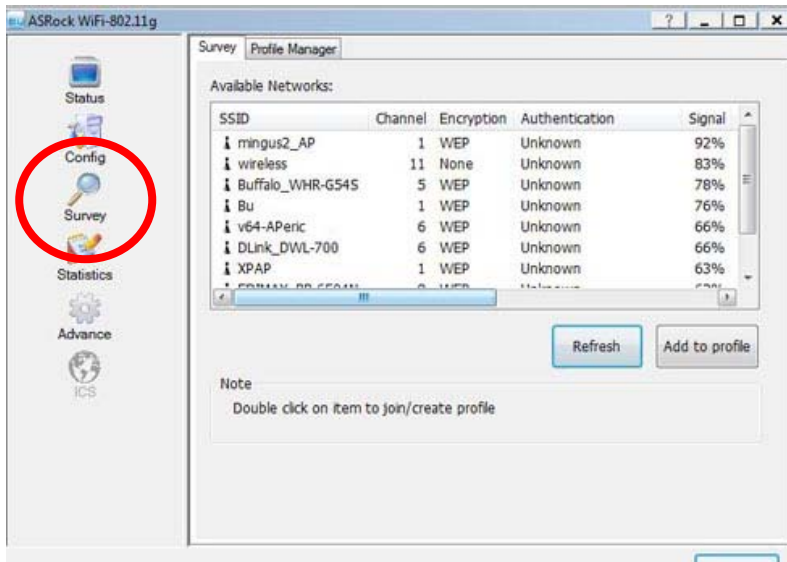
4. In **Wireless Network Properties** page, choose **Infrastructure** mode.
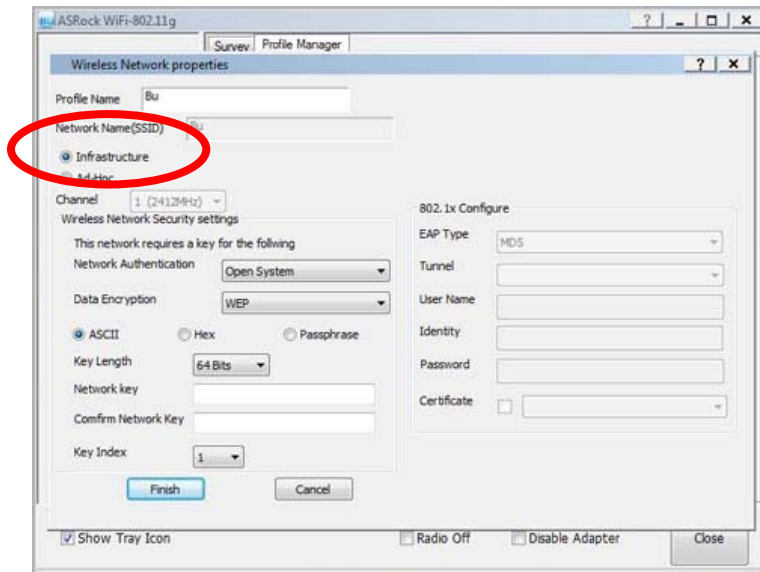
5. Select the Network Authentication for the Station mode. The configurable options are **Open System**, **Shared Key**, **WPA-PSK**, **WPA2-PSK**, **WPA 802.1X**, **WPA2 802.1X** and **WEP 802.1X**.
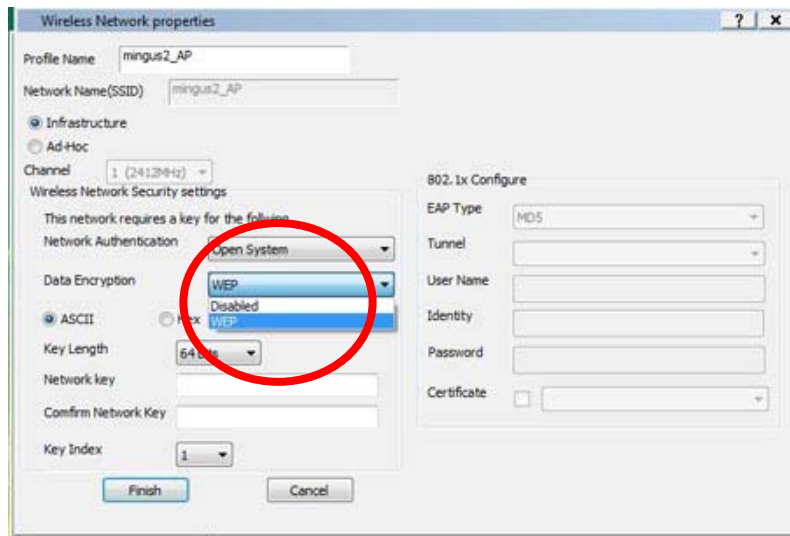

Note:

* If your operating system is Windows® XP with Service Pack 2, it is required to install the Microsoft hotfix in order to support **WPA2-Personal** function. Please go to this link to download the necessary hotfix:

http://www.microsoft.com/downloads/details.aspx?familyid=662BB74D-E7C1-48D6-95EE-145923 4F4483&displaylang=en
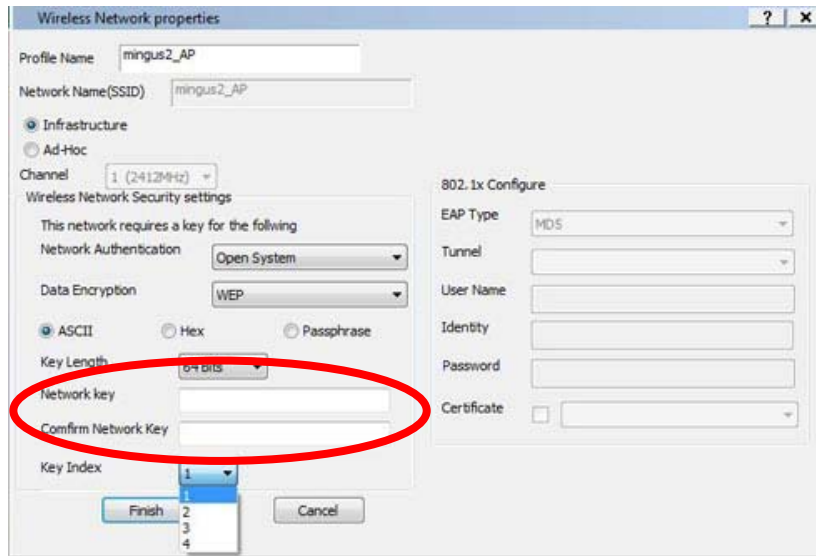
6. Select the Data Encryption. The configurable options are **Disabled** and **WEP**.

7. Select the Key Length. The configurable options are **64 Bits** and **128 Bits**. (If you select **Disabled** in the previous option **Data Encryption**, you will not be able to choose the Key Length.)

8. Key in the Network password and confirm.
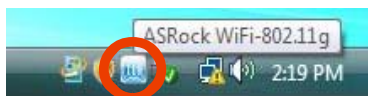

9. Click **Finish**.

4.2.2 Setting up the Ad-hoc Mode

1. Double-click the utility shortcut on the desktop or double-click the

 icon on your Windows® taskbar to open the setup utility.

2. The setup utility contains six buttons - Status, Config, Survey, Statistics, Advanced and ICS in the left column. The survey button is greyed out in AP mode and the ICS button is disabled when in the station mode. Click **Config** button. Click the **AP/Station Mode** switch button - **To Station Mode**. Then ASRock WiFi-802.11g module is switched to Station mode in several seconds.
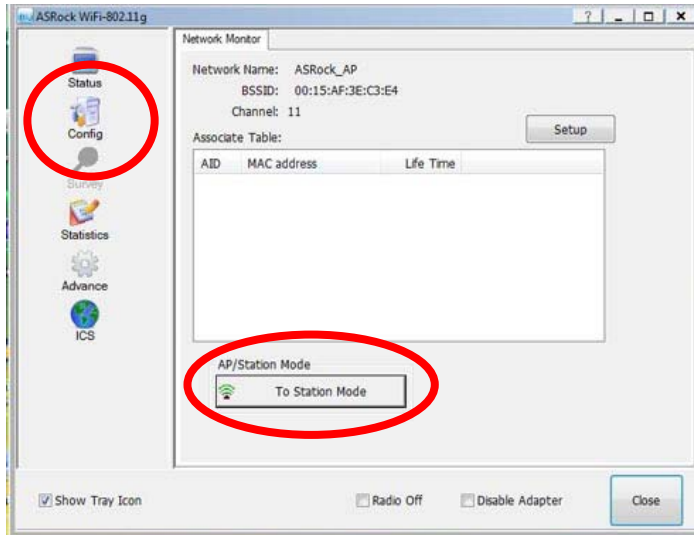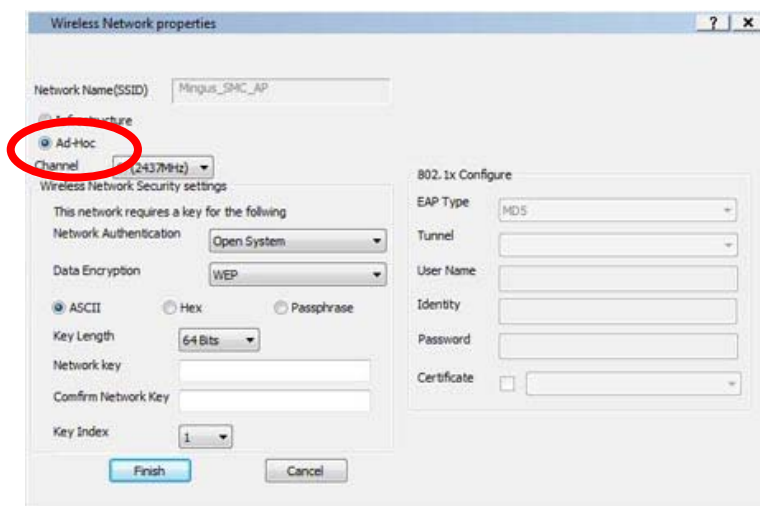
3. Click **Survey** button. Double-click one IBSS from the found sites to join, move to
   step 5, and refer to the following steps to enter the required information of this
   station. If you wan to create a new IBSS, please click **Profile Manager** and move
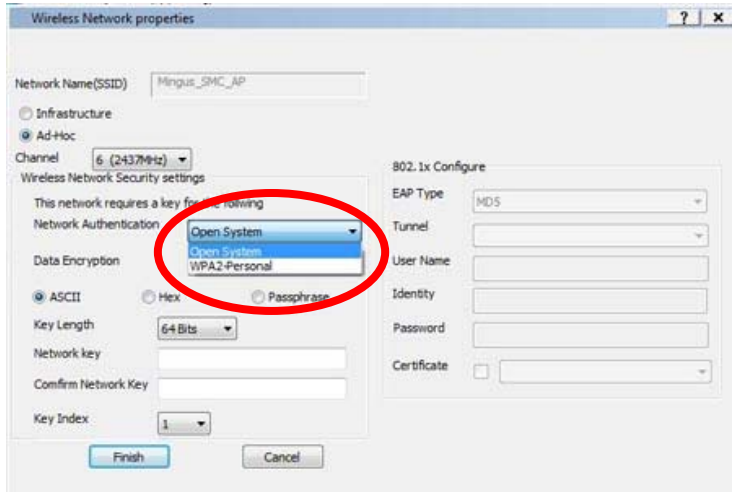   to step 4.
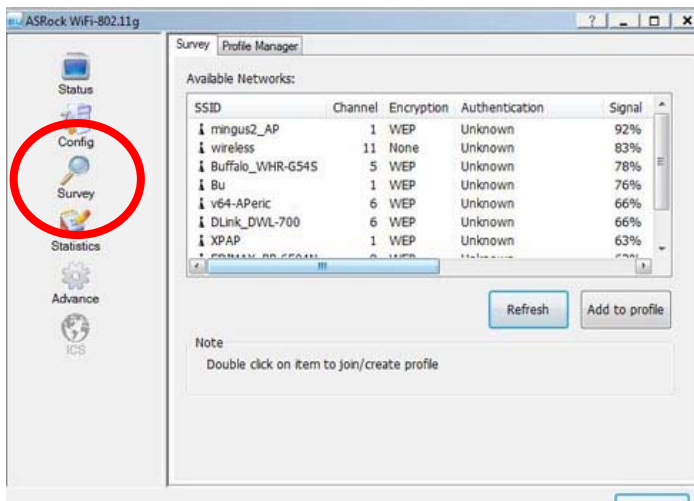
4. In the **Profile Manager** page, click **Add** and follow below steps to enter the
   information of the IBSS you create.
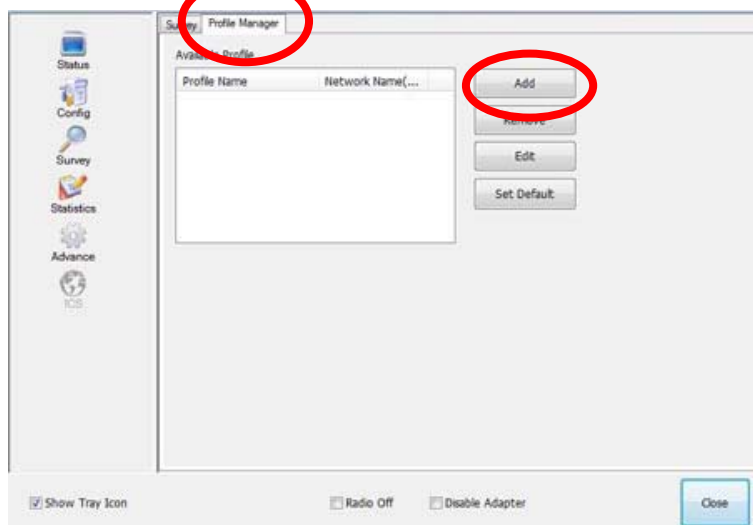
5. In **Wireless Network Properties** page, choose **Ad-hoc** mode.

6. Select the Network Authentication for the Station mode. The configurable options
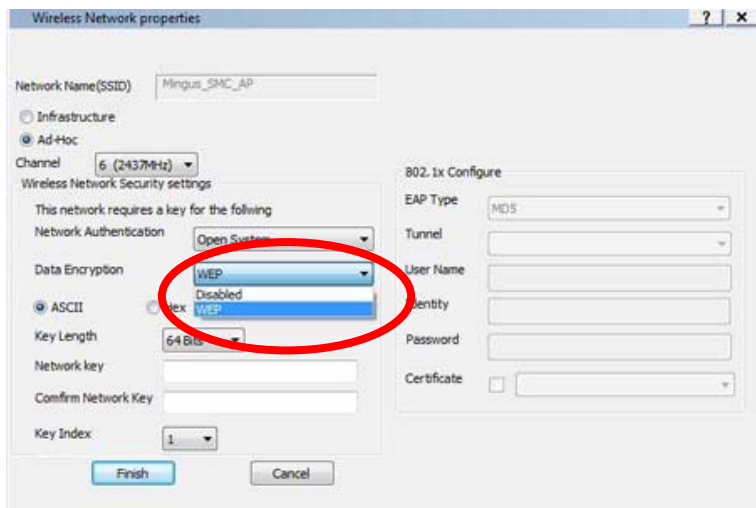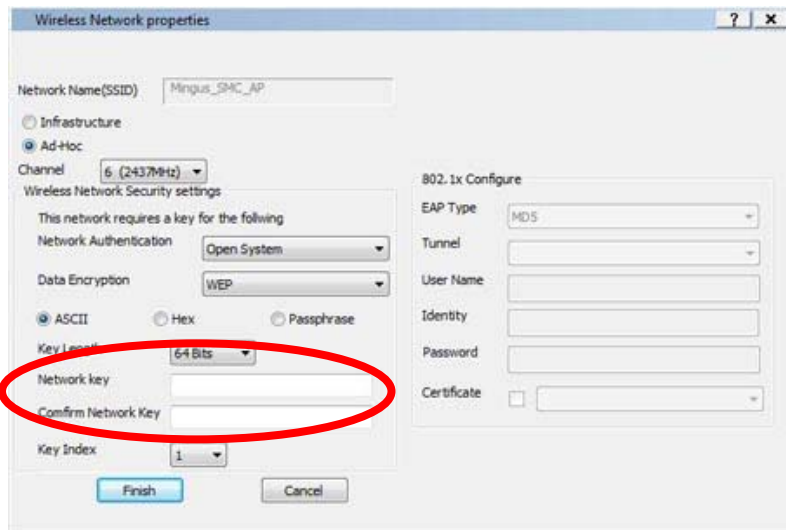   are **Open System** and **WPA2-Personal**.

7. Select the Data Encryption. The configurable options are **Disabled** and **WEP**.

8. Select the Key Length. The configurable options are **64 Bits** and **128 Bits**. (If you select **Disabled** in the previous option **Data Encryption**, you will not be able to choose the Key Length.)

9. Key in the Network password and confirm.

10. Click **Finish**.