



User Guide



EZ Connect™ N
2.4GHz 150Mbps Wireless PCIe Adapter

SMCWPCleS-N5

CE MARK WARNING

This is a class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

NATIONAL RESTRICTIONS

This device is intended for home and office use in all EU countries (and other countries following the EU directive 1999/5/EC) without any limitation except for the countries mentioned below:

Country	Restriction	Reason/Remark
Bulgaria	None	General authorization required for outdoor use and public service
France	Outdoor use limited to 10 mW e.i.r.p. within the band 2454-2483.5 MHz	Military Radiolocation use. Refarming of the 2.4 GHz band has been ongoing in recent years to allow current relaxed regulation. Full implementation planned 2012
Italy	None	If used outside of own premises, general authorization is required
Luxembourg	None	General authorization required for network and service supply(not for spectrum)
Norway	Implemented	This subsection does not apply for the geographical area within a radius of 20 km from the centre of Ny-Ålesund
Russian Federation	None	Only for indoor applications

NOTE: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

FCC 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 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.

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.
- 2) This device must accept any interference received, including interference that may cause undesired operation.

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

Note: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

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.



Declaration of Conformity (DoC) can be obtained from www.smc.com -> support -> download

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 + A11: 2009 +A1: 2010 + A12: 2011 Safety of Information Technology Equipment.
- 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 wide band modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive.
- EN 301 489-1 V1.9.2/ 2011-09E N 301 489-17 V2.1.1/ 2009-05 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.
- EN 62311: 2008 Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz - 300 GHz).

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.

This equipment may be operated in:



The official CE certificate of conformity can be downloaded by selecting the relevant model/ part number from www.smc.com -> support -> download.

Bulgarian Български	С настоящето, SMC Networks декларира, че това безжично устройство е в съответствие със съществените изисквания и другите приложими разпоредби на Директива 1999/5/EC.
Czech Česky	SMC Networks tímto prohlašuje, že tento Radio LAN device je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
Danish Dansk	Undertegnede SMC Networks erklærer herved, at følgende udstyr Radio LAN device overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF
Dutch Nederlands	Hierbij verklaart SMC Networks dat het toestel Radio LAN device in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG Bij deze SMC Networks dat deze Radio LAN device voldoet aan de essentiële eisen en aan de overige relevante bepalingen van Richtlijn 1999/5/EC.
English	Hereby, SMC Networks, declares that this Radio LAN device is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Estonian Eesti	Käesolevaga kinnitab SMC Networks seadme Radio LAN device vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
Finnish Suomi	Valmistaja SMC Networks vakuuttaa täten että Radio LAN device tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
French Français	Par la présente SMC Networks déclare que l'appareil Radio LAN device est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE
German Deutsch	Hiermit erklärt SMC Networks, dass sich dieser/diese/dieses Radio LAN device in Übereinstimmung mit den grundlegenden Anforderungen und den anderen relevanten Vorschriften der Richtlinie 1999/5/EG befindet". (BMWi) Hiermit erklärt SMC Networks die Übereinstimmung des Gerätes Radio LAN device mit den grundlegenden Anforderungen und den anderen relevanten Festlegungen der Richtlinie 1999/5/EG. (Wien)
Greek Ελληνική	με την παρούσα SMC Networks δηλώνει ότι radio LAN device συμμορφώνεται προς τις ουσιαστικές απαιτήσεις και τις λοιπές σχετικές διατάξεις της οδηγίας 1999/5/εκ.
Hungarian Magyar	Alulírott, SMC Networks nyilatkozom, hogy a Radio LAN device megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
Italian Italiano	Con la presente SMC Networks dichiara che questo Radio LAN device è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.

Latvian Latviski	Ar šo SMC Networks deklarē, ka Radio LAN device atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lithuanian Lietuvių	Šiuo SMC Networks deklaruoja, kad šis Radio LAN device atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
Maltese Malti	Hawnhekk, SMC Networks, jiddikjara li dan Radio LAN device jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
Polish Polski	Niniejszym SMC Networks oświadcza, że Radio LAN device jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
Portuguese Português	SMC Networks declara que este Radio LAN device está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Romanian Romană	SMC Networks declară că acest dispozitiv fără fir respectă cerințele esențiale precum și alte dispoziții relevante ale Directivei 1999/5/EC.
Slovak Slovensky	SMC Networks týmto vyhlasuje, že Radio LAN device spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
Slovenian Slovensko	SMC Networks izjavlja, da je ta radio LAN device v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Spanish Español	Por medio de la presente SMC Networks declara que el Radio LAN device cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE
Swedish Svenska	Härmed intygar SMC Networks att denna Radio LAN device står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.
Turkish Turk	SMC Networks bu kablosuz cihazın temel gereksinimleri ve 1999/5/EC yonergesindeki ilgili koşulları karşıladığını beyan eder.

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Package Contents

Please verify that all the package contents below are available.

- One SMCWPCleS-N5 150Mbps Wireless N PCIe Adapter
- One detachable omnidirectional antenna
- One low-profile bracket
- Quick Installation Guide
- SMC Warranty Card
- EZ Installation Wizard & Document CD, including:
 - SMC Wireless Configuration Utility and Driver
 - User Guide
 - Other helpful information

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

 **Note:**

The 'adapter' mentioned in this User Guide stands for SMCWPCleS-N5 150Mbps Wireless N PCIe Adapter without any explanation.

Chapter 1 Product Overview

1.1 Introduction

The adapter is a 802.11n client device designed to deliver a high-speed and unrivaled wireless performance for your desktop. With a faster wireless connection, you can get a better Internet experience, such as downloading, gaming, video streaming.

With the 802.11n technology, higher throughput improvements using MIMO (multiple input, multiple output antennas), the SMCWPCleS-N5's auto-sensing capability allows high packet transfer rate of up to 150Mbps for maximum throughput. It has good capability on anti-jamming, and it can also interoperate with other wireless (802.11b/g) products. The adapter supports WEP, WPA and WPA2 encryption to prevent outside intrusion and protect your personal information from being exposed.

The adapter is easy to install and manage with the Quick Setup Wizard guiding you step-by-step through the installation process and the SMC Wireless Configuration Utility instructing you to quickly set up a wireless connection.

With unmatched wireless performance, reception, and security protection, the SMCWPCleS-N5 is the best choice for easily adding or upgrading wireless connectivity to your desktop.

1.2 Features

- Complies with IEEE 802.11n, IEEE 802.11g, IEEE 802.11b, IEEE 802.1x, IEEE 802.11e, IEEE 802.11i standards
- Supports WPA/WPA2 data security, IEEE802.1x authentication, TKIP/AES encryption, WEP encryption
- Supports high rate of up to 150Mbps for maximum throughput, supports automatically adjust to lower speeds due to distance or other operating limitations
- Provides 32-bit PCI Express interface
- Supports Ad Hoc and Infrastructure modes
- Good capability on anti-jamming
- Supports roaming between access points when configured under Infrastructure mode
- Easy to configure and provides monitoring information
- Supports Windows XP, Windows Vista and Windows 7

1.3 Hardware Overview

LED status:

Status	Working Status
Off	The driver has not been installed; The adapter's radio has been disabled.
Flashing Slowly	The driver has been installed but no data is being transmitted or received.
Flashing Quickly	Data is being transmitted or received.

Chapter 2 Installation

Please install the PCI Express adapter into your computer before installing the driver and utility software from the Resource CD.

2.1 Hardware Installation

1. Turn off your computer and unplug the power cord from the computer.
2. Open the case and locate an available PCI Express slot. Remove the metal slot cover on the back of the PC. Keep the screws. Turn to your computer manufacturer for instructions if needed.
3. Insert the PCI Express adapter into the PCI Express slot. Make sure that all of its pins have touched the slot's contacts. Once the adapter has been firmly inserted, screw its fastening tab. Then, close your PC case.
4. Insert the power cable back into the computer and turn on your computer.

 **Note:**

When the hardware has been successfully installed on your computer, you will be prompted '**Found New Hardware Wizard**' (as shown in Figure 2-1 and Figure 2-2); please click **Cancel**, and then follow the **Software Installation** steps to install driver and utility for your adapter.

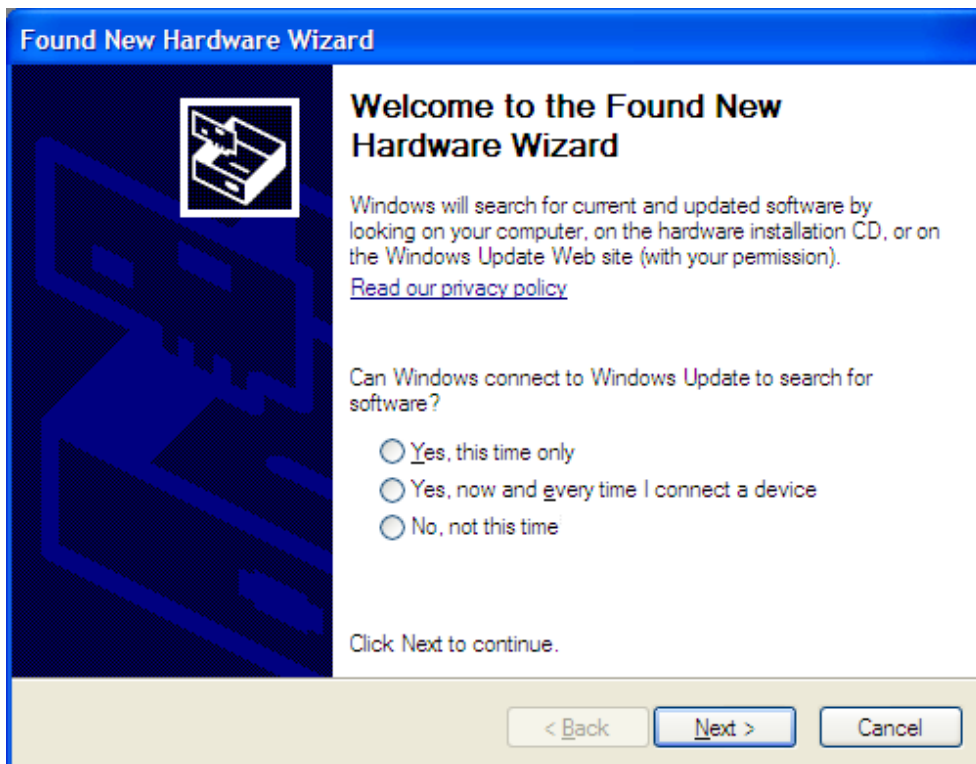


Figure 2-1 Found New Hardware Wizard in Windows XP

2.2 Software Installation

The adapter's Setup Wizard will guide you through the installation procedures for Windows 7, Windows Vista, and Windows XP. The procedures in different systems are quite similar, therefore the procedures in Windows XP are shown here as an example.

1. Load the EZ Installation & Documentation CD that comes with the package. The install program should start automatically. Click "Install Driver/Utility" to start the installation.



Figure 2-3

2. Wait for the InstallShield Wizard to start. The **InstallShield Wizard** window will appear. Click **Next** to continue.

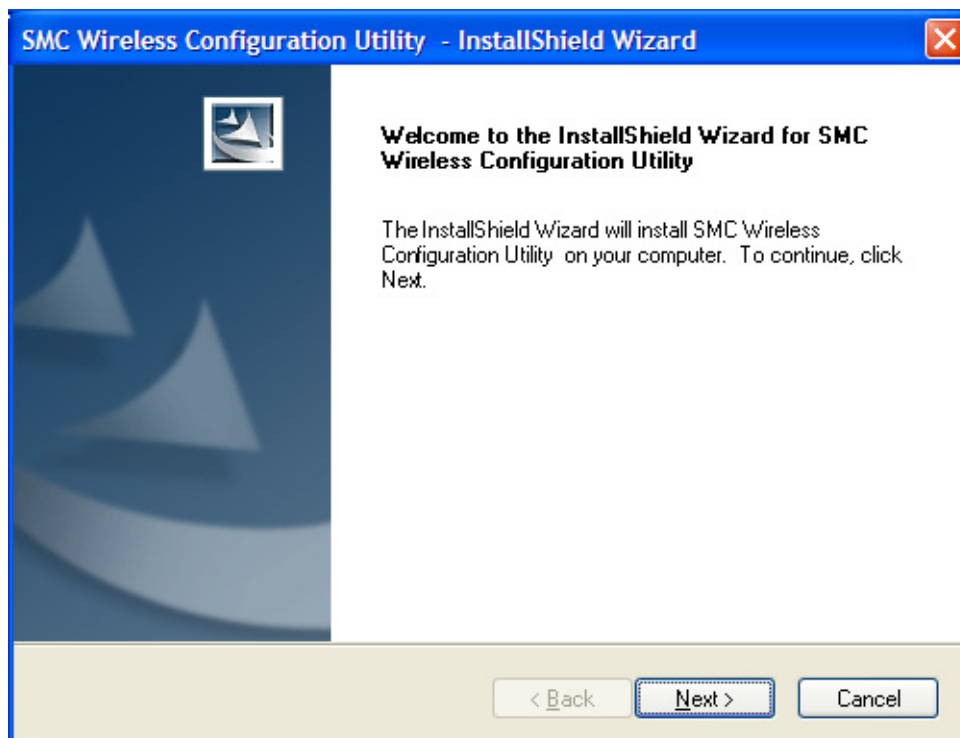


Figure 2-4

3. Choose a setup type. It is recommended to select **Install SMC Wireless Utility and Driver**. Selecting **Install Driver Only** can only install driver. Click **Next** to continue.

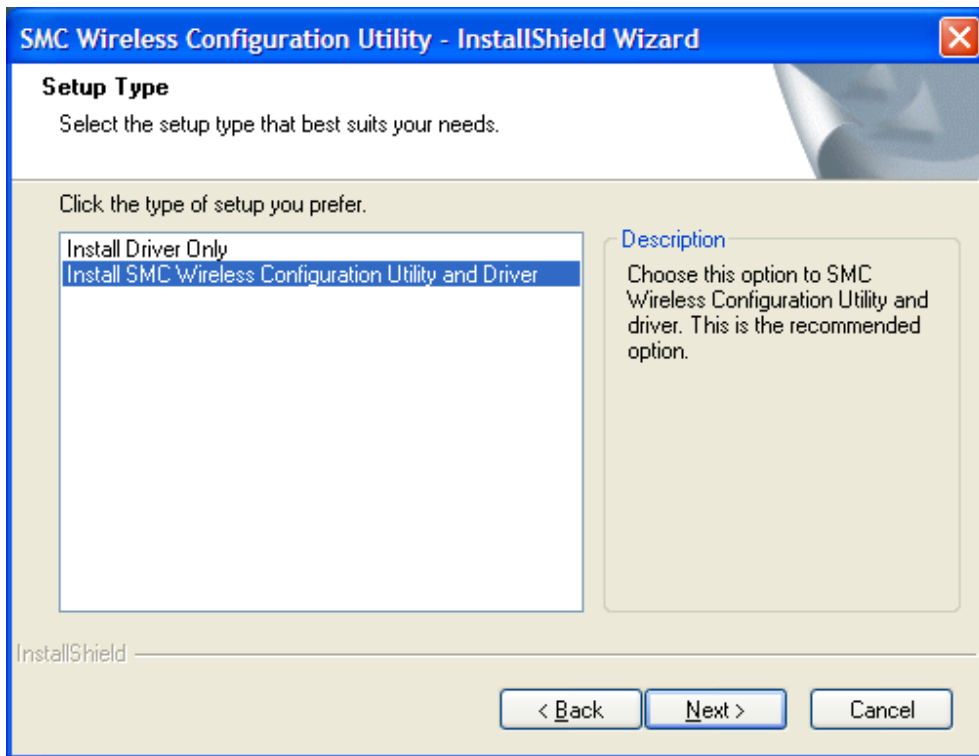


Figure 2-5

4. Click **Change** to specify the destination location for the software or you can leave it default. Click **Next** in the screen below to continue.

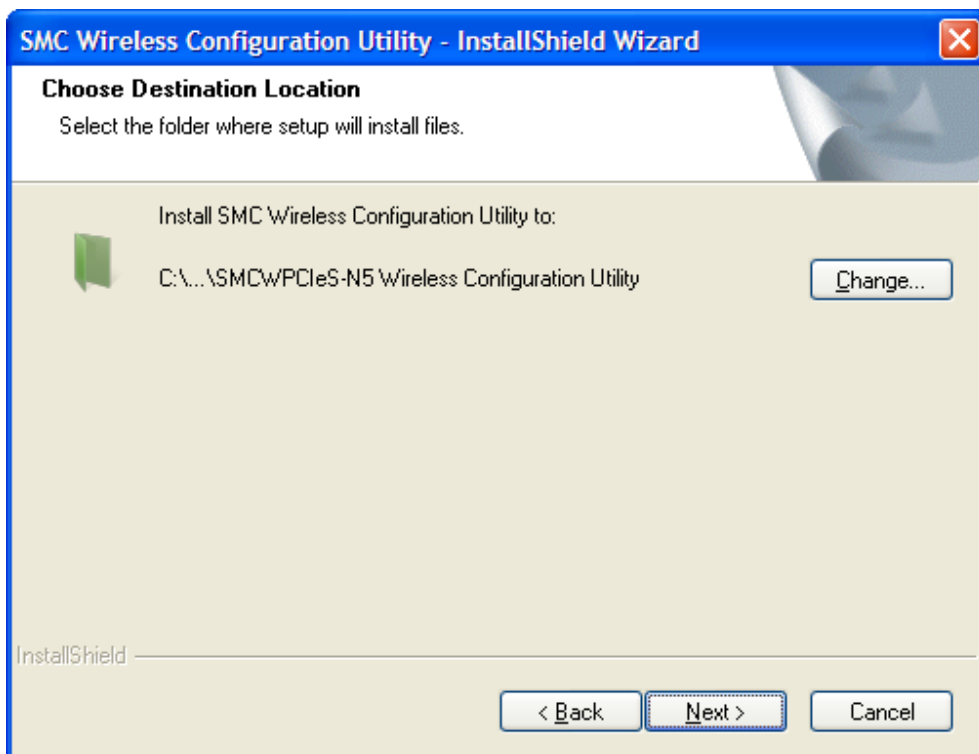


Figure 2-6

5. Click **Install** to continue the setup.

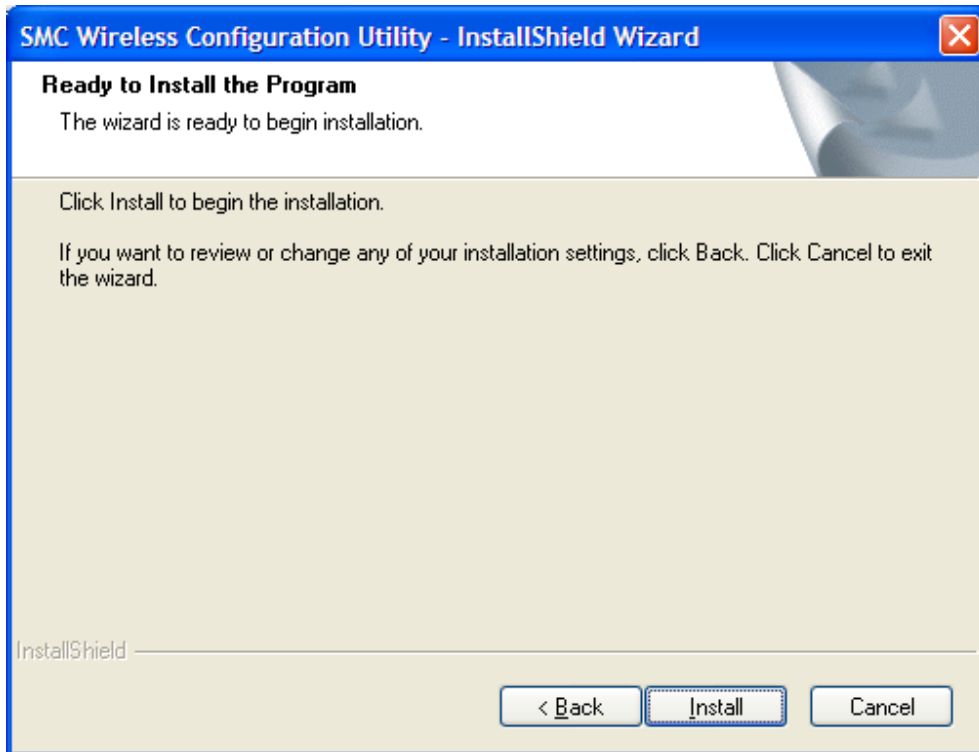


Figure 2-7

6. The utility and drivers will install. It may take 1~2 minutes.

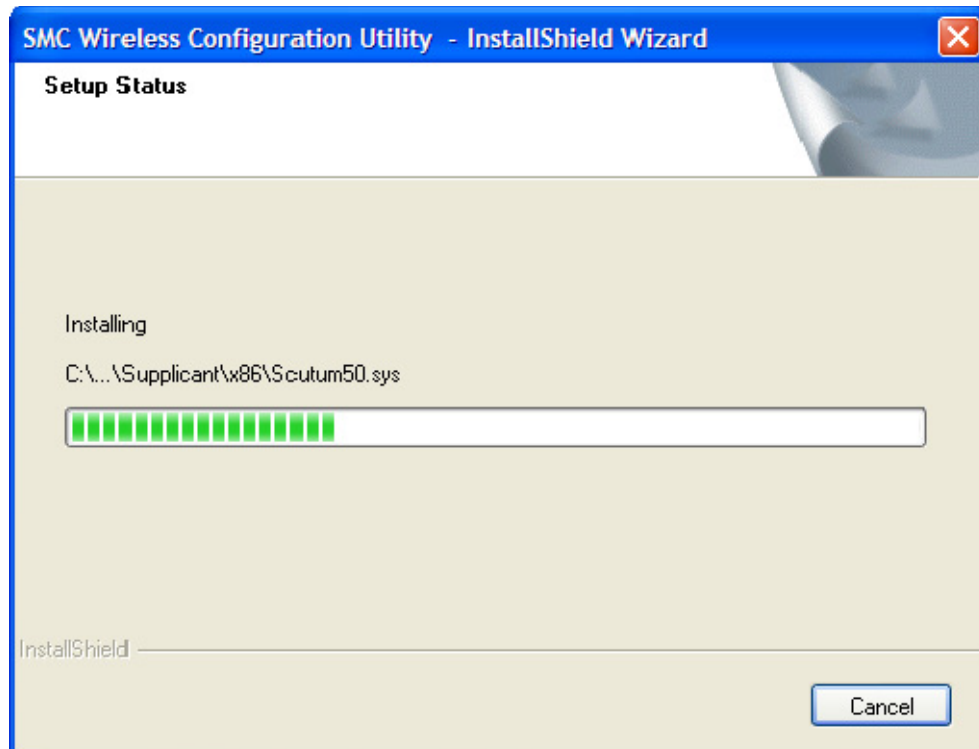


Figure 2-8

- If Windows XP warns about Windows Logo testing, click **Continue Anyway** to continue the installation.

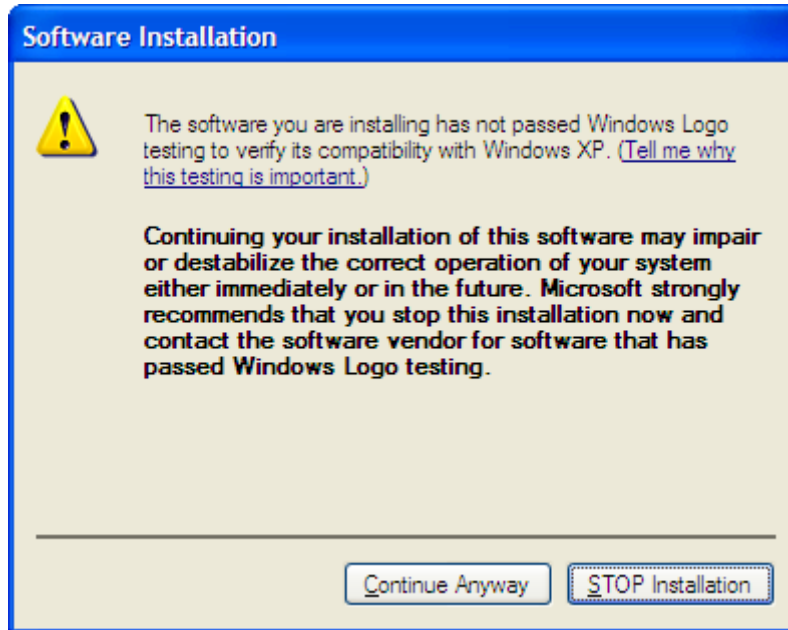


Figure 2-9

- After all the steps above, you will see the screen below. Click **Finish** to complete the setup.

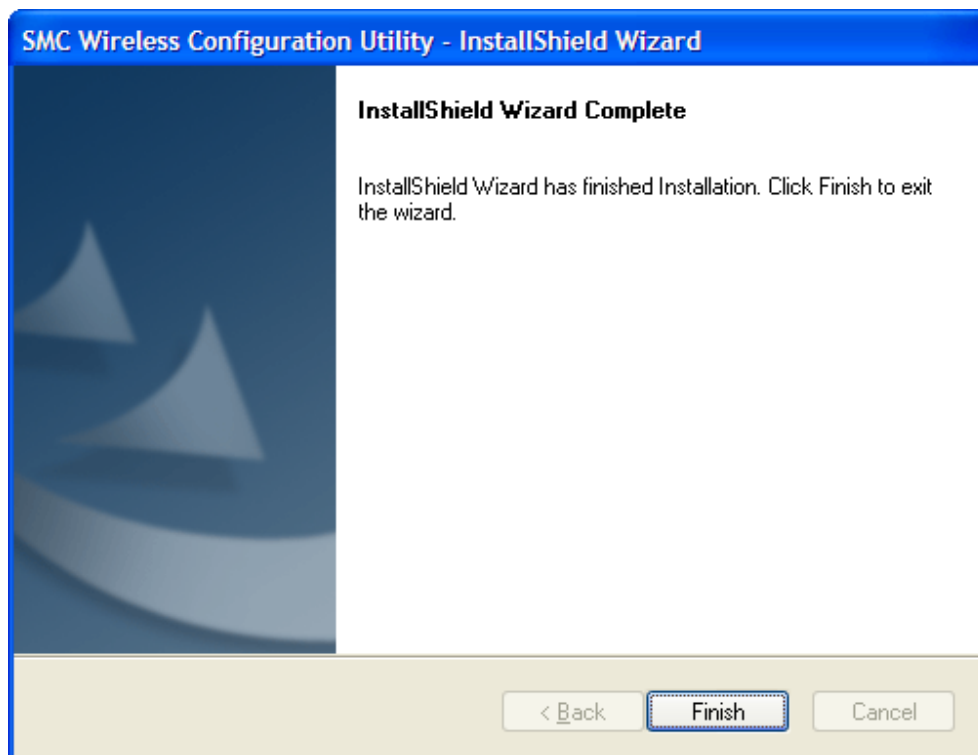



Figure 2-10

- After installation, the utility configuration page will automatically pop up as shown in the following figure and the icon  will appear in your system tray. To connect to a network, please refer to [Chapter 3 Connect to a Wireless Network](#).

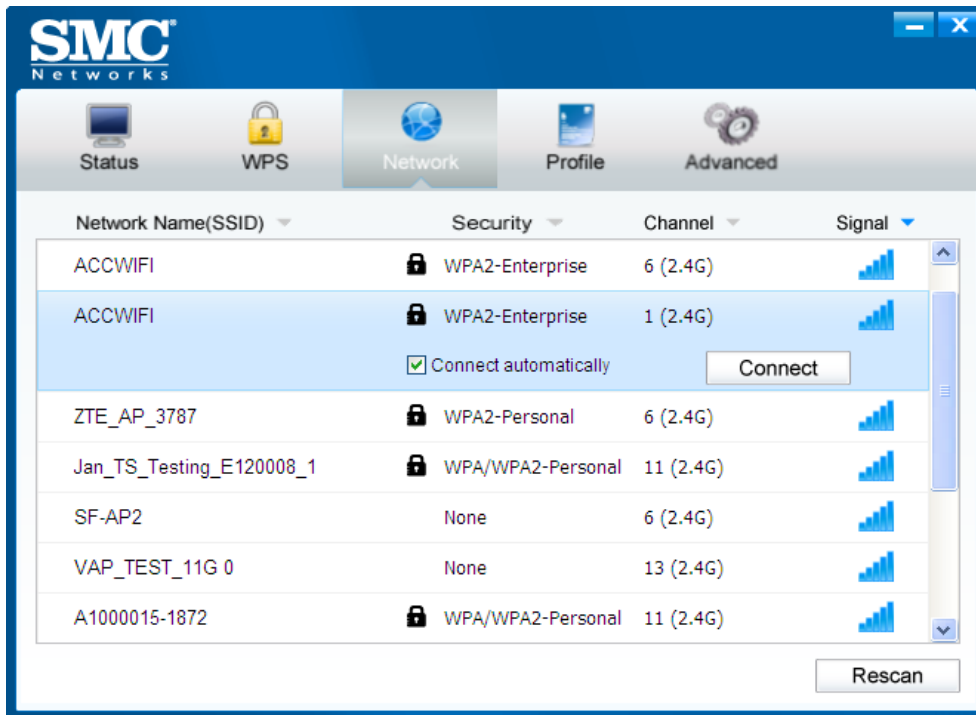


Figure 2-11

Chapter 3 Connect to a Wireless Network

With both the hardware and software successfully installed into your computer, you can quickly connect to a wireless network using one of the following methods.

➤ **Method One: To connect using SMC Wireless Configuration Utility**

SMCWPCleS-N5 uses the SMC wireless Configuration Utility as the management software. The utility provides you an easy interface to connect to a network and to change any settings related to the wireless adapter.


➤ **Method Two: To connect using WPS**

By this method, you can connect to your network quickly on the condition that your Router or access point supports WPS or QSS as is called by some other products.

➤ **Method Three: To connect using Windows built-in wireless utility**

Windows users may use the built-in wireless utility to connect to a wireless network. For specific operations, please go to [Section 3.3 To connect using Windows built-in wireless utility](#).

3.1 To connect using SMC Wireless Configuration Utility

1. After installation, the utility configuration page will automatically pop up on the screen. If the utility page does not pop up, you can also launch the utility by double-clicking on the icon on your desktop or the icon  in your system tray.

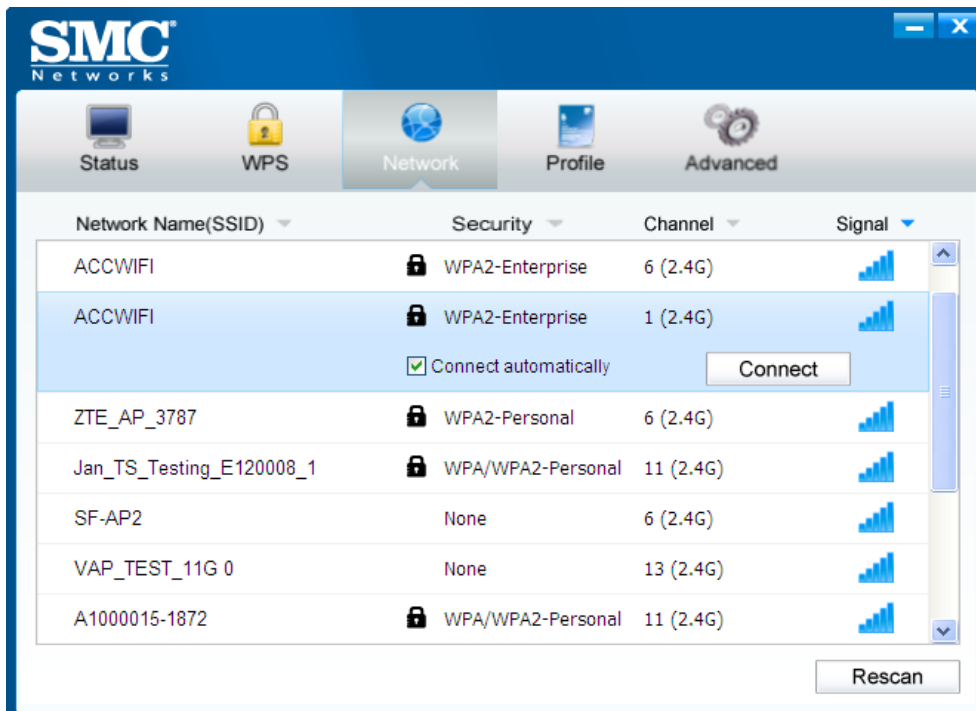


Figure 3-1

- The **Network** page will display all wireless networks that are available in your area. To connect to a network, simply highlight the wireless network name (SSID) and click **Connect**. If you tick **Connect automatically**, the adapter will automatically connect to your target network next time.

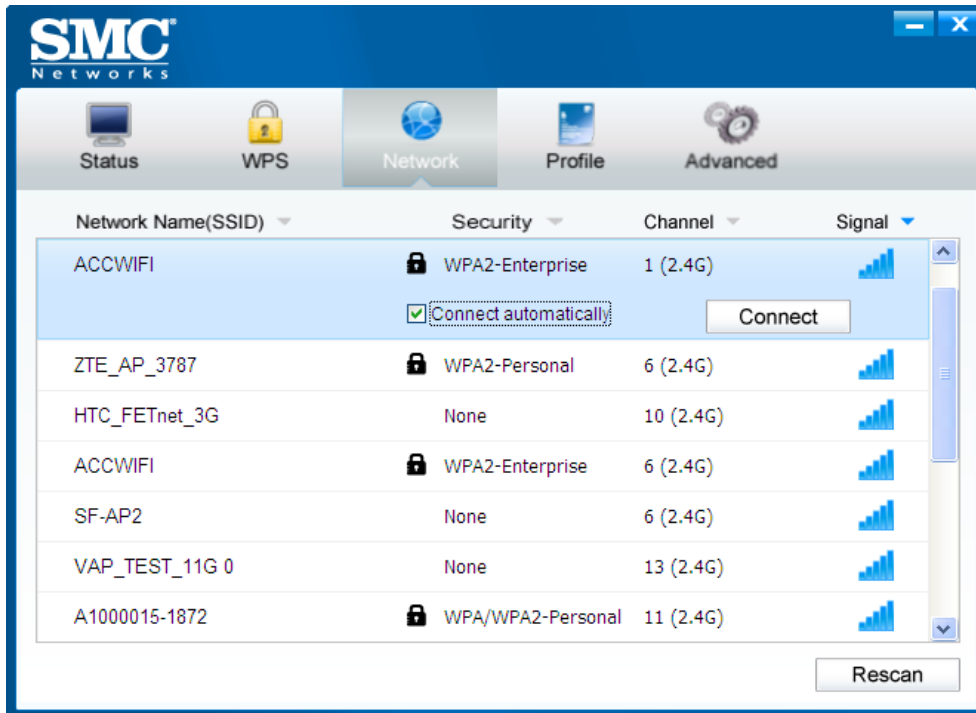


Figure 3-2

- You will be prompted different windows when you choose wireless network of different security types.

- 1) Wireless network of **WPA/WPA2-Personal**

If you selected a wireless network of the security type WPA/WPA2-Personal, you will be prompted to enter the password in the security key field, as shown in Figure 3-3. Or you can push the **WPS/QSS** button on your Router (if it features the WPS/QSS function) to quickly build a connection without entering the security key (password).

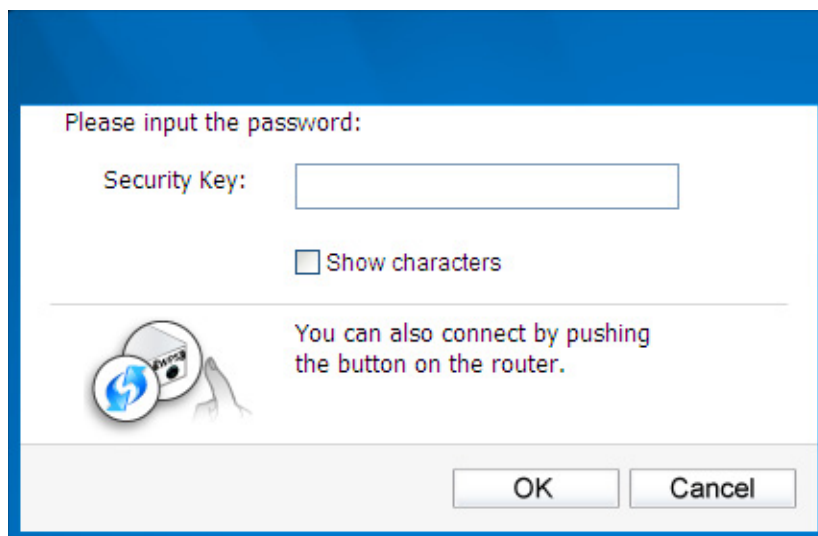


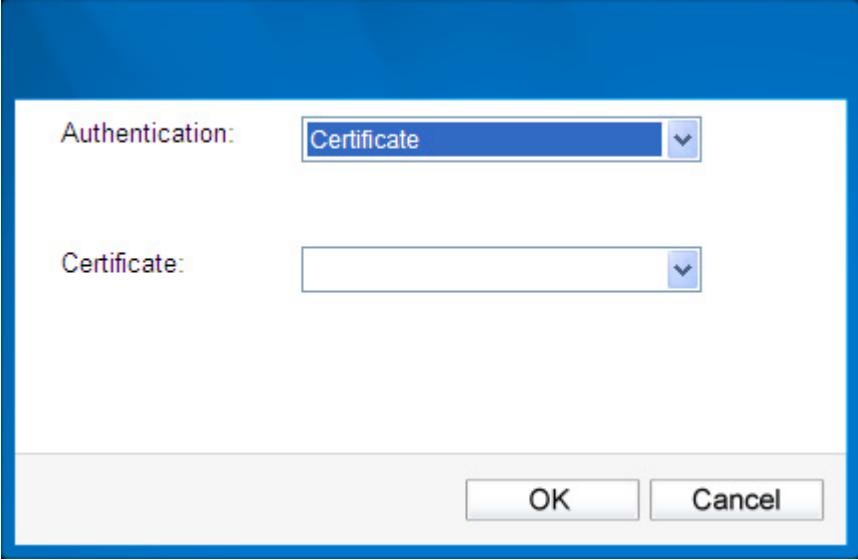
Figure 3-3

 **Note:**

The security key (password) can be found on the configuration page of your Router or Access Point.

2) Wireless network of **WPA/WPA2-Enterprise**

If you selected a wireless network of the security type WPA/WPA2-Enterprise, you will be prompted to choose a type of authentication, either **certificate** or **password**. With **Certificate** as your authentication, you need to select one specific certificate from the drop-down list, as shown in Figure 3-4. With **Password** as your authentication, you should enter the right user name and password in the corresponding field, as shown in Figure 3-5.

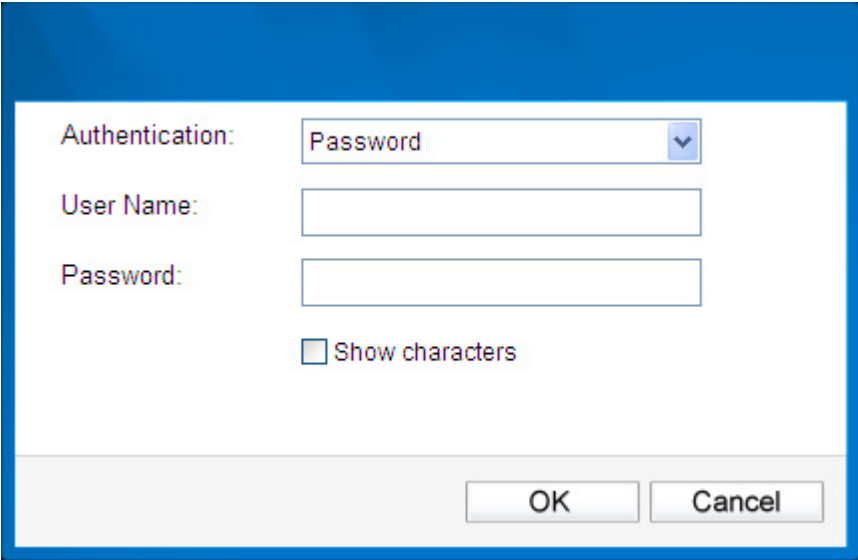


Authentication: Certificate

Certificate:

OK Cancel

Figure 3-4



Authentication: Password

User Name:

Password:

Show characters

OK Cancel

Figure 3-5

3) Wireless network of **None**

If you selected a wireless network of **None** (that is, no security is set.), you can get directly connected to this network without any further configuration.

- Please wait a few minutes for the connection process.

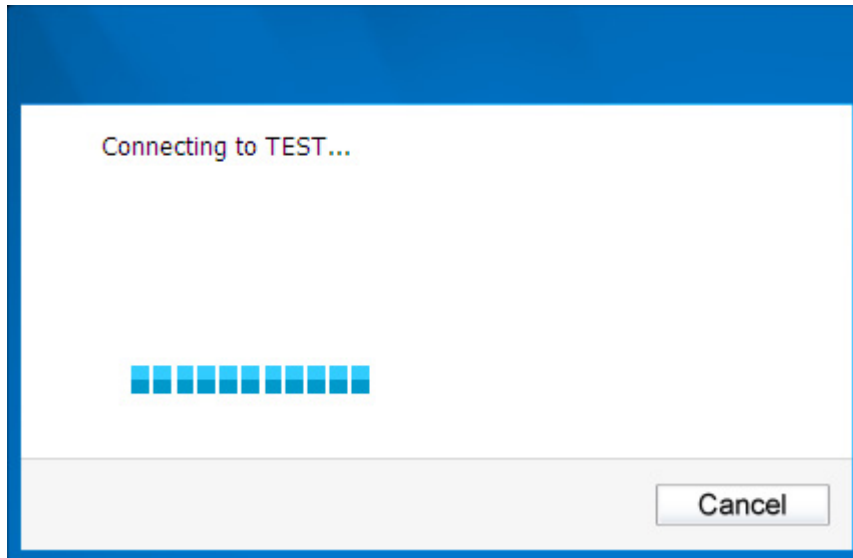


Figure 3-6

- You have now successfully connected to your network. Click **Close** to enjoy the Internet.

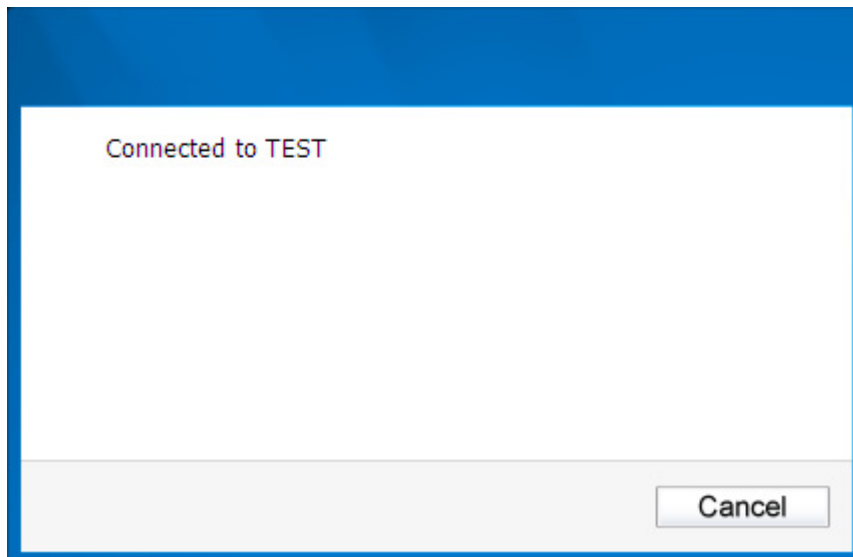


Figure 3-7

- To view more information about the network currently connected, click **Status** in the tools section and the page will display information such as the network type, channel, rate, etc.

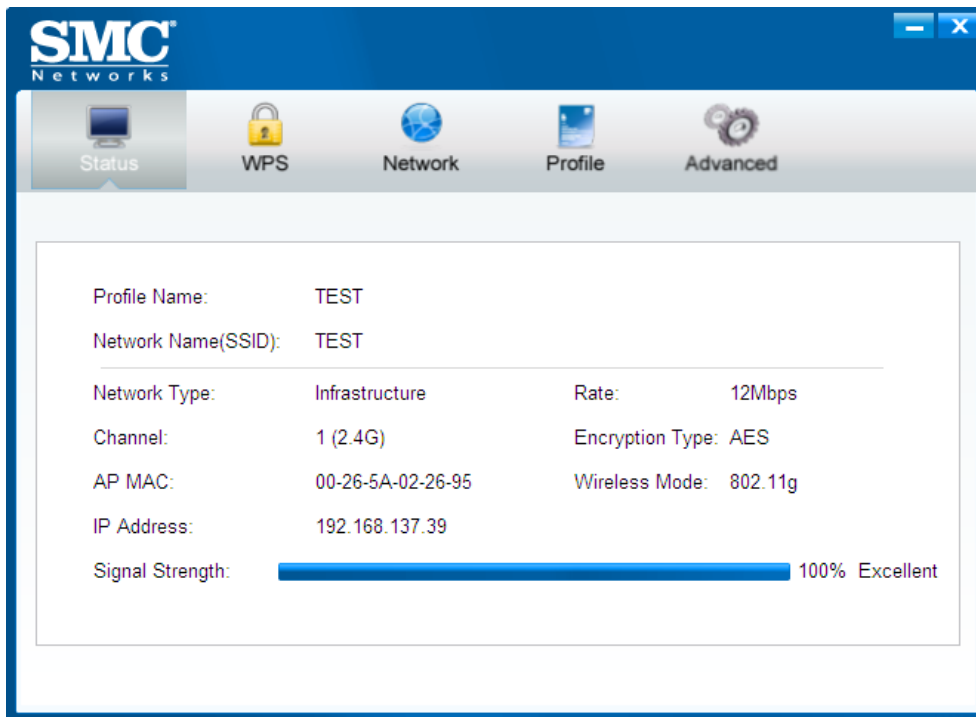


Figure 3-8

3.2 To connect using WPS

WPS (Wi-Fi Protected Setup) function allows you to add a new wireless device to an existing network quickly.

If your wireless Router supports WPS or QSS (Quick Security Setup), you can establish a wireless connection between wireless card and Router using either Push Button Configuration (PBC) method or PIN method. Three WPS connection methods are listed in the following parts, while the third method is only supported in Windows XP and Windows Vista.

3.2.1 PBC (Push Button Configuration) method

1. Press the **WPS** or **QSS** button on the Router.
2. Open SMC Wireless Configuration Utility and click **WPS** tab. Select **Push the button on my access point or wireless router** and then click **Connect**.

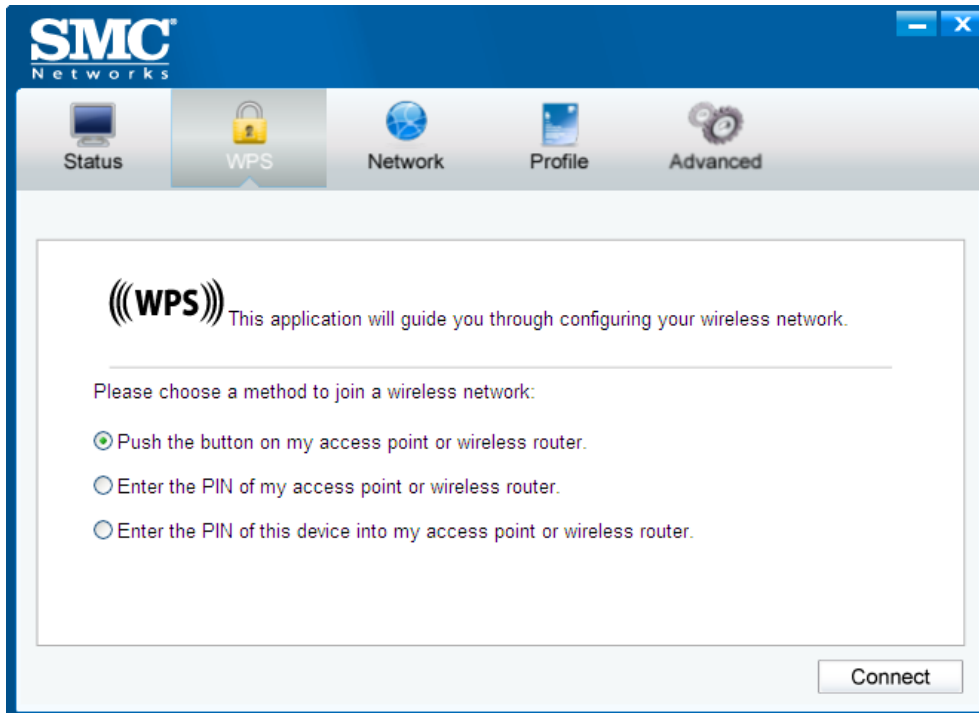


Figure 3-9

3. The adapter will be connecting to the target network.

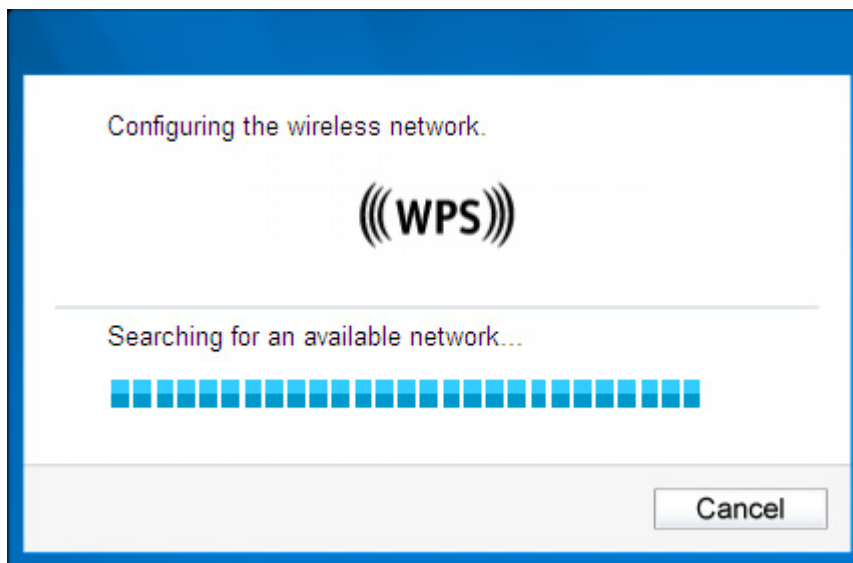


Figure 3-10

4. When the following window appears, you have successfully connected to the network.

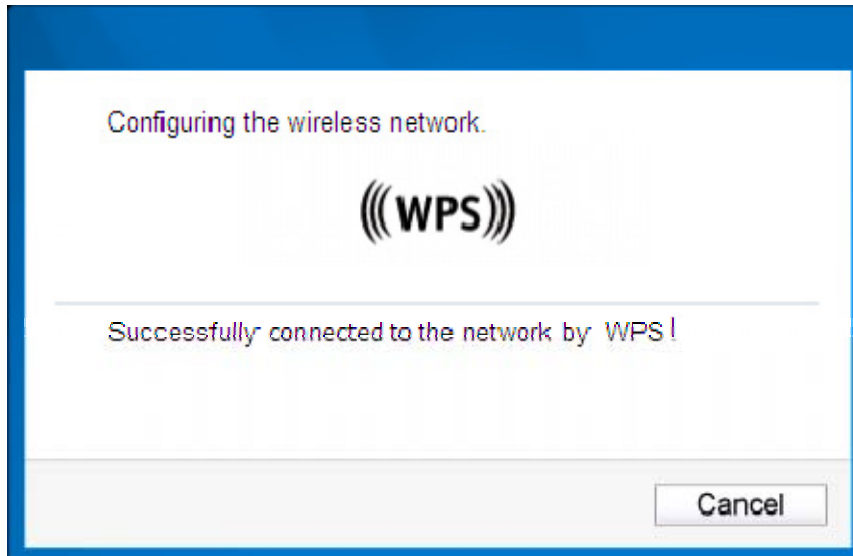


Figure 3-11

3.2.2 PIN method

There are two ways to configure the WPS by PIN method:

- 1) Enter the PIN from your Router or AP device.
- 2) Enter a PIN into your Router or AP device.

(👉 **Note:** This method is only available in Windows XP and Windows Vista.)

Following are the detailed configuration procedures of each way.

3.2.2.1. Enter the PIN from your Router or AP device

1. Open SMC Wireless Configuration Utility and click **WPS** tab. Select **Enter the PIN of my access point or wireless router**. In the empty field beside PIN, enter the PIN labeled on the bottom of the Router (here takes 13492564 for example). If you have generated a new PIN code for your Router, please enter the new one instead. Click **Connect** to continue.

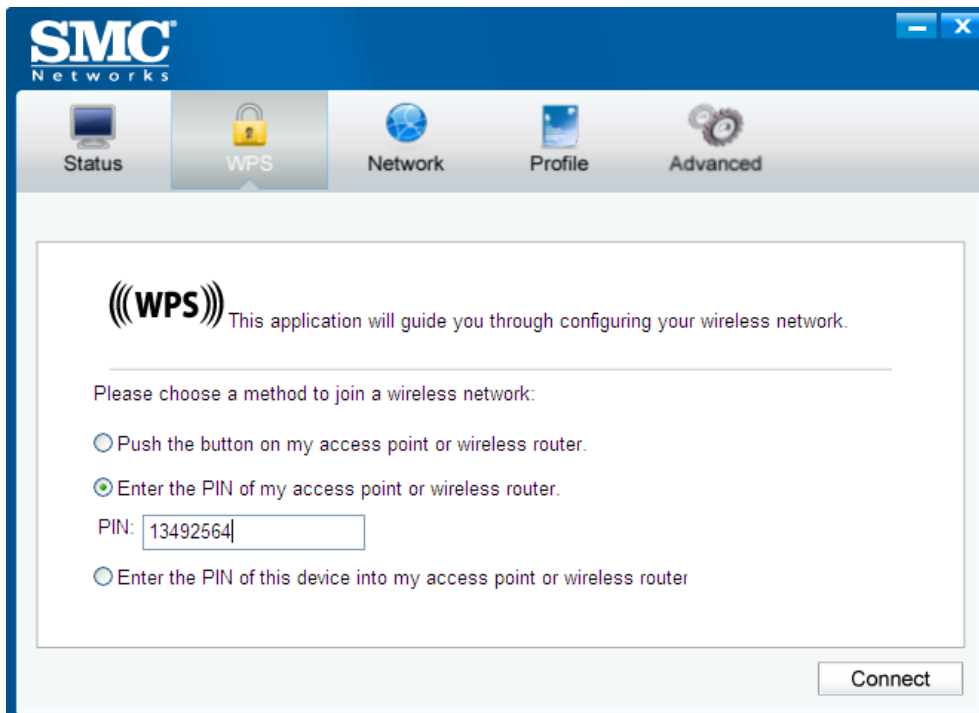


Figure 3-12

2. The adapter will be connecting to the target network.

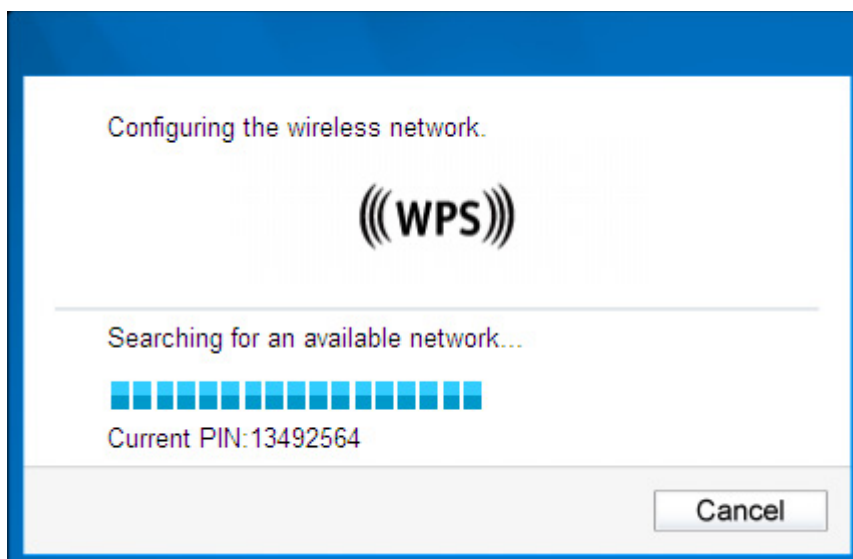


Figure 3-13

3. When Figure 3-11 appears, you have successfully connected to the network.

3.2.2.2. Enter a PIN into your AP device

 **Note:** This method is only available in Windows XP and Windows Vista.

1. Open SMC Wireless Configuration Utility and click **WPS** tab. Select **Enter the PIN of this device into my access point or wireless router**. In the field beside PIN, you will see the PIN value of the adapter which is randomly generated. Click **Connect** to continue.

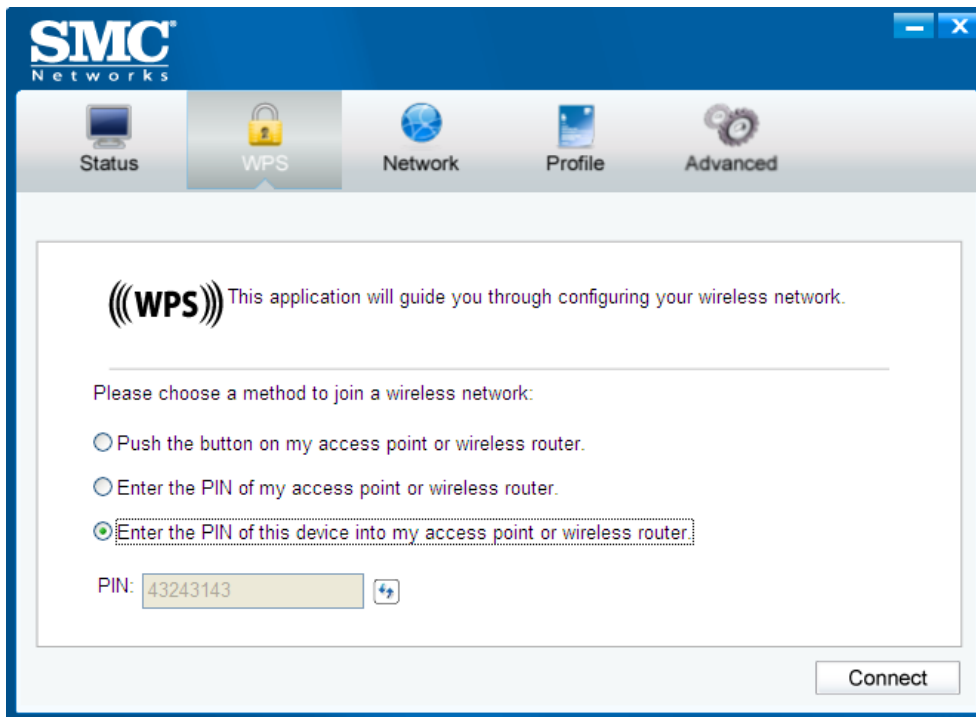


Figure 3-14

2. Open your Router's Web-based Utility and click WPS link on the left of the main menu. Then click **Add device** and the following figure will appear. Enter the PIN value of the adapter in the empty field beside PIN and then click **Connect**.
3. When **Connect successfully** appears on the screen (as shown in Figure 3-16), the WPS configuration is complete. Or you can view the adapter's utility page to see whether the connection has been successful (as shown in Figure 3-17).

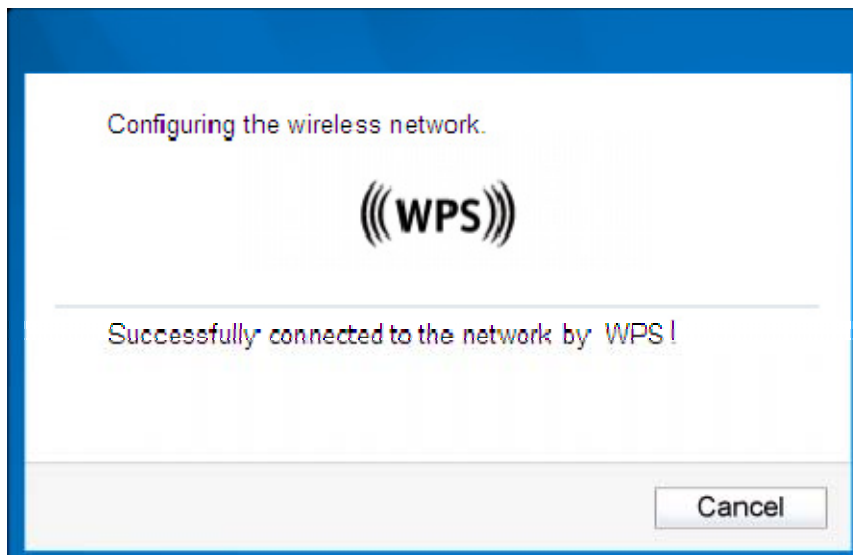


Figure 3-17

3.3 To connect using Windows built-in wireless utility

3.3.1 In Windows XP

The steps are similar for all Microsoft Windows systems. The interface for Windows XP is described in this user guide.

1. Right-click on the utility icon in your system tray (lower-right corner). Select **Switch to Windows wireless configuration tool**

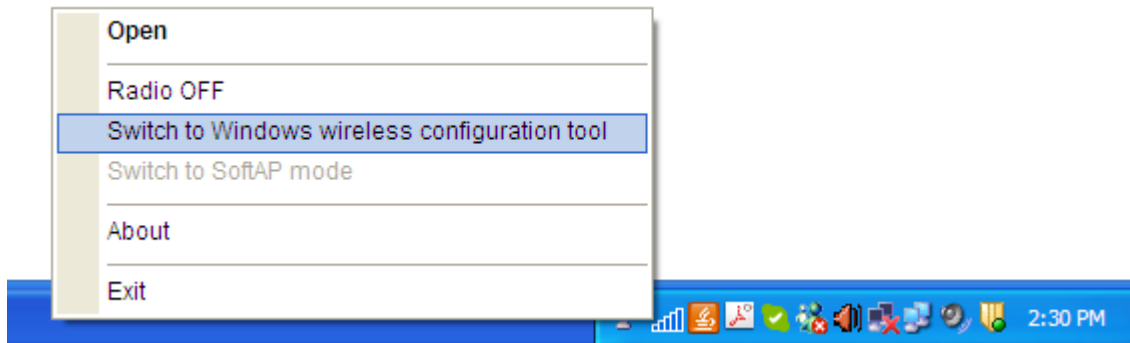


Figure 3-25

Or double-click the utility icon to load the utility configuration page. Click **Advanced** in the tools section and then select **Use Windows wireless configuration tool** in the figure shown below. Click **OK** when Figure 3-27 appears to continue.

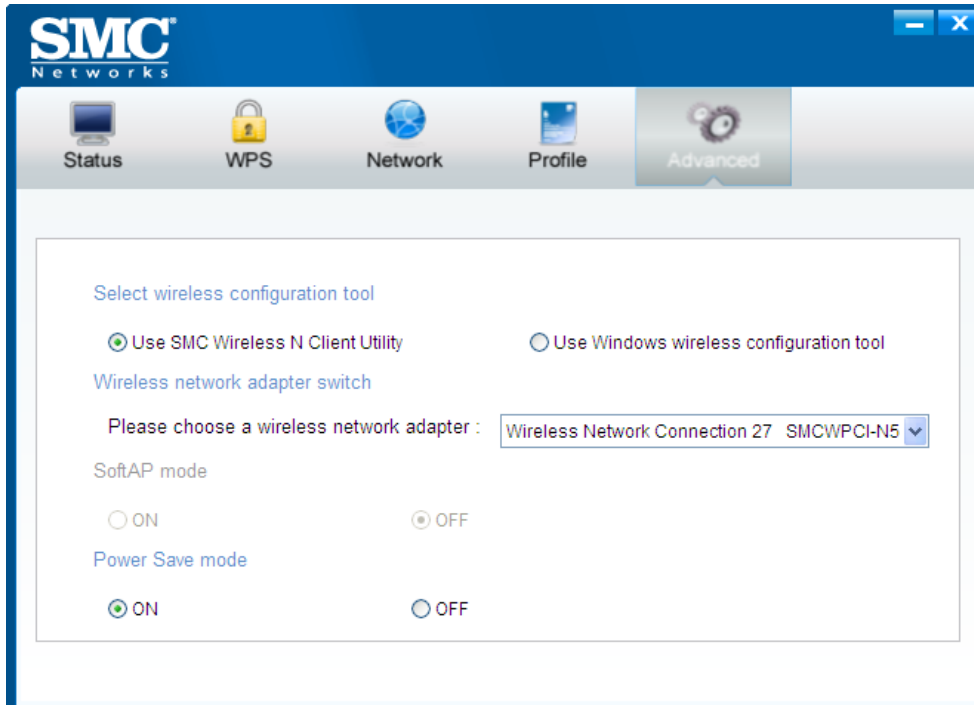


Figure 3-26

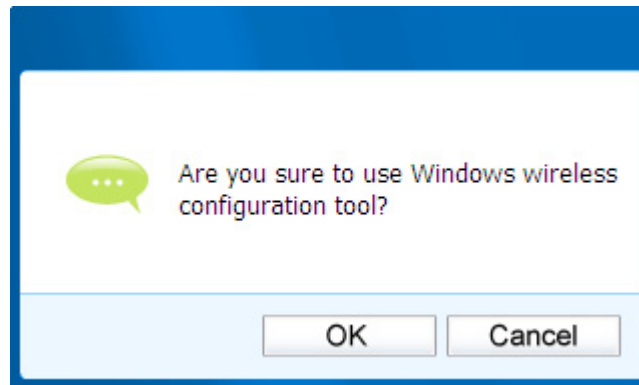


Figure 3-27

2. Right-click on the wireless computer icon in your system tray (lower-right corner). Select **View Available Wireless Networks**.

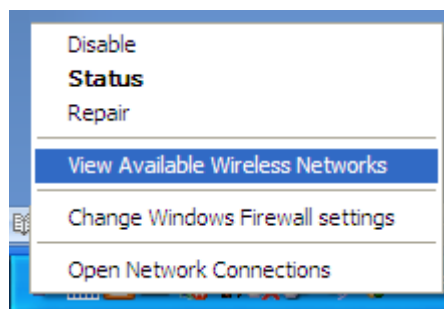


Figure 3-28

3. The utility will display any available wireless networks in your area. Click on a network (displayed using the SSID) and click the **Connect** button.

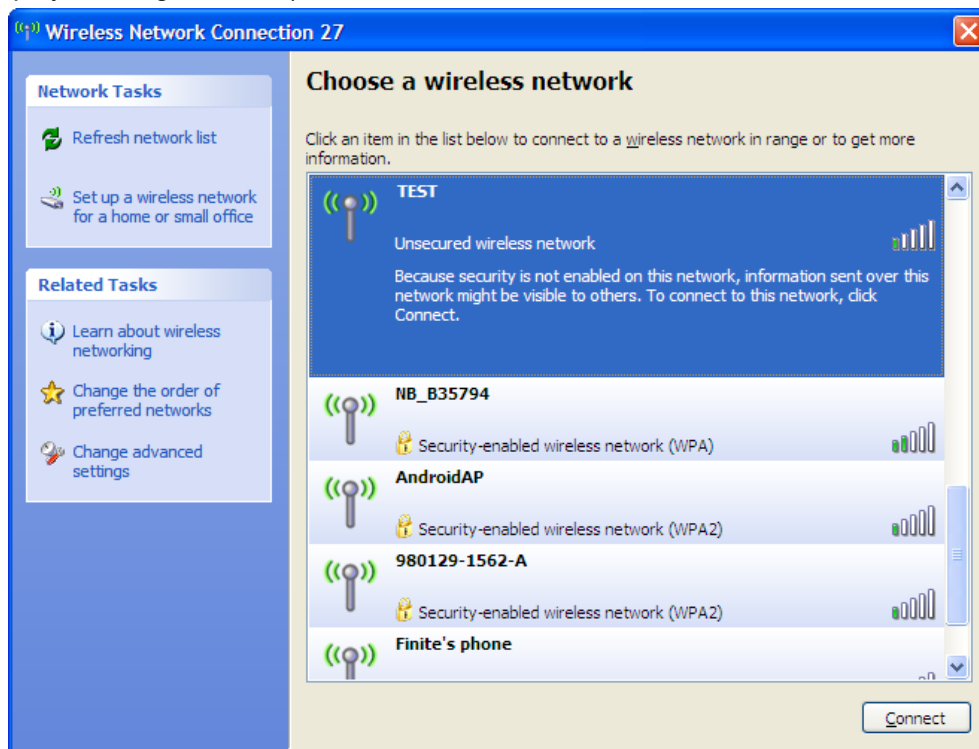


Figure 3-29

4. If the network is security-enabled, you will be prompted to enter the key as shown below. If not, you will connect to the network directly without entering a key.

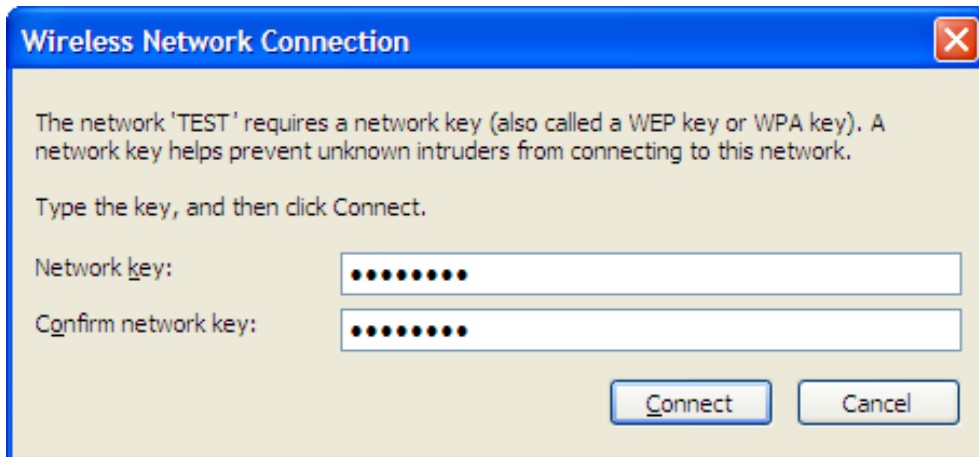



Figure 3-30

Chapter 4 Management

This section will show you how to configure your SMCWPCleS-N5 adapter using the SMC Wireless Configuration Utility.

The SMCWPCleS-N5 adapter uses the SMC Wireless Configuration Utility as the management software. The utility provides users with an easy interface to change any settings related to the adapter. Double-clicking on the  icon on your desktop will start the utility.

4.1 Profile

Your wireless networks may vary in different places like home, office or coffee shop. With **Profile** management, you can easily save and manage various networks to be connected, saving you the trouble of having to repeat the same configurations. Click **Profile** in the tools section, the following page will appear.

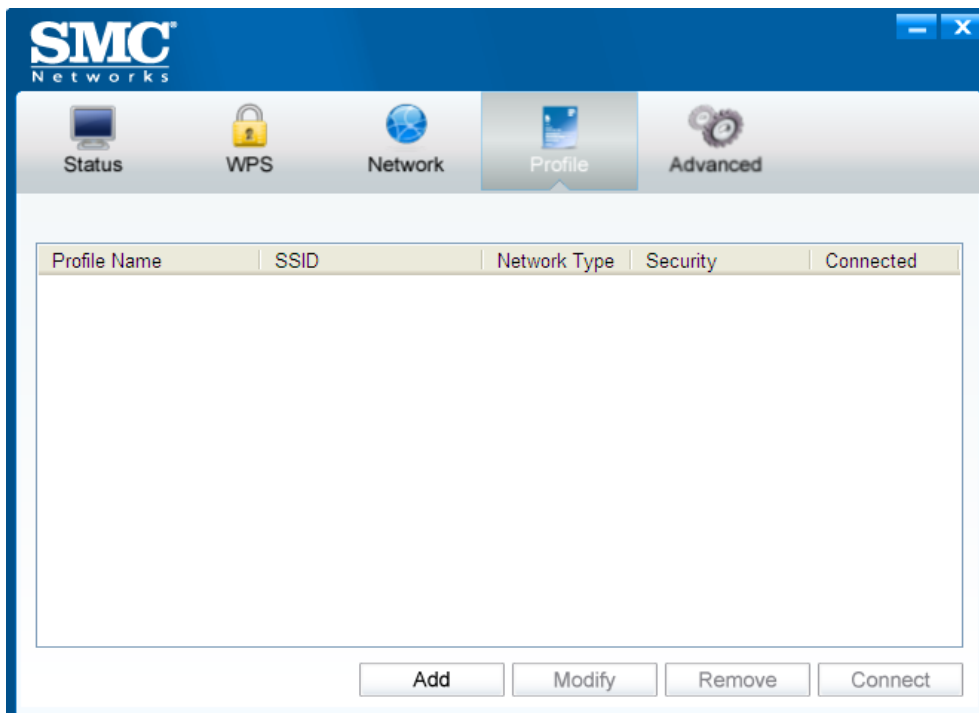


Figure 4-1

4.1.1 Add a profile

To add a profile, click the **Add** button on the bottom of the screen. Then the configuration window will appear.

If you are connecting to a wireless router or access point, select **Infrastructure** as the Network Type, and if you are connecting to another wireless client such as an adapter, select **ad hoc** as the Network Type. Then, the screen below will appear. Follow the instructions below to finish the setting.

The screenshot shows a configuration window for a wireless network profile. The fields are as follows:

- Profile Name: TEST 1
- SSID: C6620
- Network Type: Infrastructure, ad hoc
- Security Type: WEP
- Encryption Type: Open
- Key Index: 1
- Key Format: ASCII_64
- Security Key: ****
- Show characters:
- Start this connection automatically:

Buttons: Save, Cancel

Figure 4-2

The screenshot shows a configuration window for a wireless network profile. The fields are as follows:

- Profile Name: TEST 2
- SSID: E34E8A
- Network Type: Infrastructure, ad hoc
- Security Type: WEP
- Encryption Type: Open/Shared
- Key Index: 1
- Key Format: ASCII_64
- Security Key: ****
- Show characters:
- Start this connection automatically:

Buttons: Save, Cancel

Figure 4-3

The screenshot shows a configuration window for a wireless network profile named 'Home'. The fields are as follows:

- Profile Name: Home
- SSID: 10FF1F
- Network Type: Infrastructure (selected), ad hoc
- Security Type: WPA-PSK/WPA2-PSK
- Encryption Type: TKIP/AES
- Security Key: ****
- Show characters:
- Start this connection automatically:

Buttons: Save, Cancel

Figure 4-4

The screenshot shows a configuration window for a wireless network profile named 'Office'. The fields are as follows:

- Profile Name: Office
- SSID: 35273C
- Network Type: Infrastructure (selected), ad hoc
- Security Type: WPA/WPA2
- Encryption Type: TKIP/AES
- Authentication: Certificate
- Certificate: wi-fi user wi-fi user
- Start this connection automatically:

Buttons: Save, Cancel

Figure 4-5

The screenshot shows a configuration window for a wireless network profile named 'office 1'. The fields are as follows:

- Profile Name: office 1
- SSID: BEEF2D
- Network Type: Infrastructure (selected), ad hoc
- Security Type: WPA/WPA2
- Encryption Type: TKIP/AES
- Authentication: Password
- User Name: office 1
- Password: **** (with a 'Show characters' checkbox)
- Start this connection automatically.

Buttons: Save, Cancel

Figure 4-6

The screenshot shows a configuration window for a wireless network profile named 'office 2'. The fields are as follows:

- Profile Name: office 2
- SSID: E34E8B
- Network Type: Infrastructure (selected), ad hoc
- Security Type: WEP
- Encryption Type: Open/Shared
- Key Index: 1 (with a dropdown arrow), ASCII_64 (with a dropdown arrow)
- Security Key: **** (with a 'Show characters' checkbox)
- Start this connection automatically.

Buttons: Save, Cancel

Figure 4-7

The following items can be found on the screen.

- **Profile Name:** Enter a name for your profile (e.g. CoffeeShop, Home, and Office). The same name is not allowed. Please also note that no space is allowed between words.
- **SSID:** Select the target network from the drop-down list.

- **Network Type:** Select the network type. If you are connecting to a wireless router or access point, select **Infrastructure**. If you are connecting to another wireless client such as an adapter, select **ad hoc**.
- **Security Type:** Select the security type from the list. In **Infrastructure** mode, four options are available: **WPA-PSK/WPA2-PSK**, **WPA/WPA2**, **WEP** and **None**. In **ad hoc** mode, two options are available: **WEP** and **None**. The security type should be the same as on your router or access point, otherwise, you will not be able to build a successful connection. **WPA-PSK/WPA2-PSK** uses a passphrase or key to authenticate your wireless connection. The key must be the exact same key entered on your wireless router or access point. **None** stands for no security. In **Infrastructure** mode, it is recommended to enable **WPA-PSK/WPA2-PSK** on your wireless router or access point before configuring your wireless adapter. While in **ad hoc** mode, it is recommended that you select **WEP** to secure your wireless network.

 **Note:**

In **Infrastructure** mode, you will see Figure 4-3 if you selected the security type **WEP**; you will see Figure 4-4 if you selected the security type **WPA-PSK/WPA2-PSK**. While, if you selected the security type **WPA/WPA2** (-Enterprise), Figure 4-5 or Figure 4-6 will be displayed.

In **ad hoc mode**, you will see Figure 4-2 if you selected the security type **WEP**.

- **Encryption Type:** From the drop-down menu, select the encryption type that is the same as on your router or access point.
- **Key Index:** You can select **ASCII** or **Hexadecimal** format on the right. ASCII format stands for any combination of keyboard characters in the specified length. Hexadecimal format stands for any combination of hexadecimal digits (0-9, a-f, A-F) in the specified length.
 - For **64-bit** encryption - You can enter 10 hexadecimal digits (any combination of 0-9, a-f, A-F, zero key is not permitted) or 5 ASCII characters.
 - For **128-bit** encryption - You can enter 26 hexadecimal digits (any combination of 0-9, a-f, A-F, zero key is not permitted) or 13 ASCII characters.
- **Security Key:** Enter the passphrase exactly as it is on your wireless router or access point. Click the **Show characters** box to see the passphrase. Unchecking it will hide it.
- **Authentication:** Select a type of authentication, either **certificate** or **password**.

 **Note:**

In the security type of **WPA/WPA2** (-Enterprise), you will see Figure 4-5 if you choose certificate as the authentication, you will see Figure 4-6 if you choose password as the authentication.

- **Certificate:** If you select **certificate** as your **Authentication**, then you need to specify your certificate from the drop-down list here.
- **User Name:** Enter the name of the enterprise network.

- **Password:** Enter the password for the enterprise network. Click the **Show characters** box to see the passphrase. Unchecking it will hide it.
- **Start this connection automatically:** check this box to automatically connect to this network next time.
- **Save:** Click **Save** to save your settings.

Having completed the above settings, the Profile page should look like the following figure. To connect to a desired network, just highlight the network you would like to connect to and click the **Connect** button on the bottom of the window. Then click **OK** in Figure 4-10 to activate the profile.

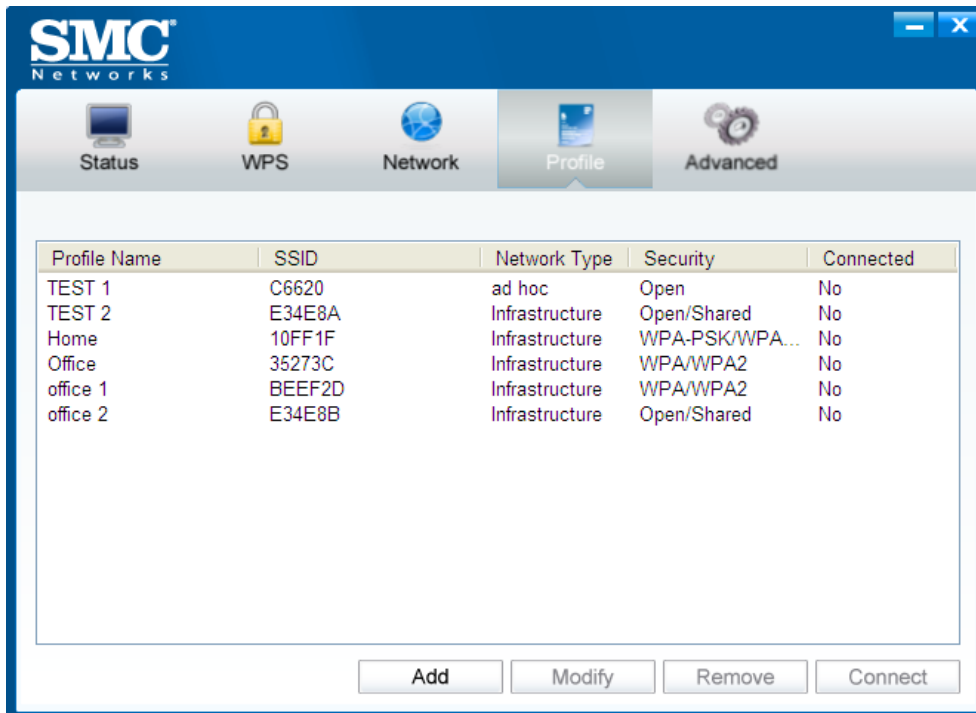


Figure 4-8

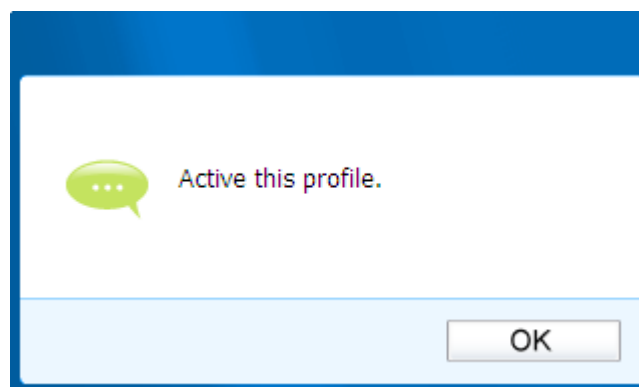


Figure 4-9

4.1.2 Modify a profile

You may edit an existing profile by clicking the **Modify** button from the Profile page. For instance, you may like to change the profile name from Home to Home1 or you may want to specify another SSID for profile Home. After all the changes, click **Save** to make the changes take effect.

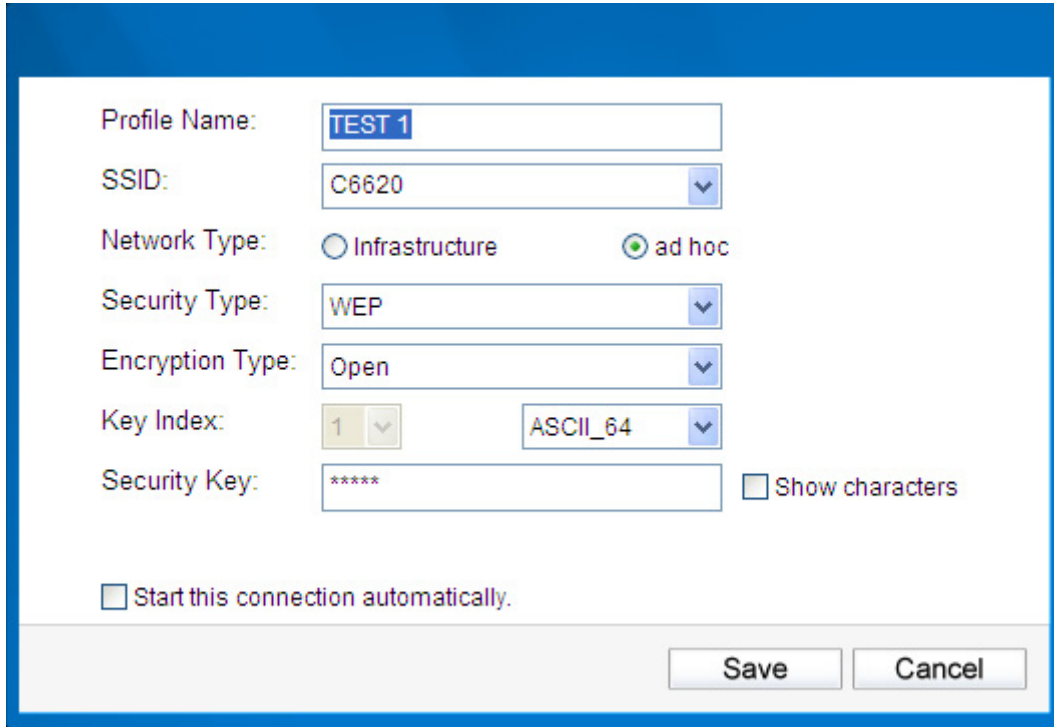


Figure 4-10

4.1.3 Delete a profile

To delete an existing profile, highlight the profile name and click **Remove** on the bottom of the screen or press the Delete button on your keyboard. When the following figure appears, click **OK** to continue.

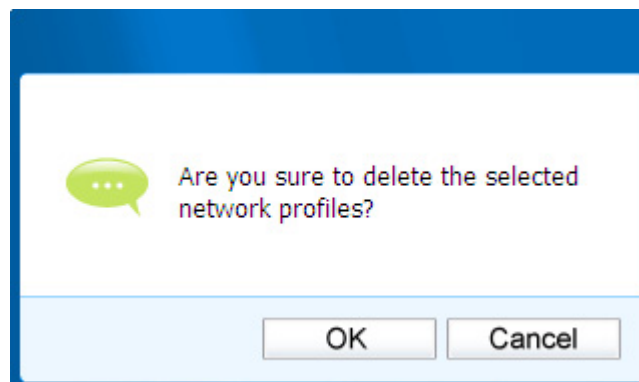


Figure 4-11

4.2 Advanced

The following configurations can be made on the **Advanced** page:

- 1) To select wireless configuration tool.

Here you can decide which tool to use, either the SMC Wireless Configuration Utility or the Windows wireless configuration tool. (This option is available only in Windows XP.)

- 2) To switch to another wireless network adapter.

Here you can switch to another adapter installed in your computer. The adapters successfully installed in your computer will be listed in the drop-down list if the adapters are supported by this utility.

- 3) To switch to SoftAP mode. (This option is only available in Windows 7.)

Once enabled, the adapter will be able to work as an AP.

- 4) To change the power save mode.

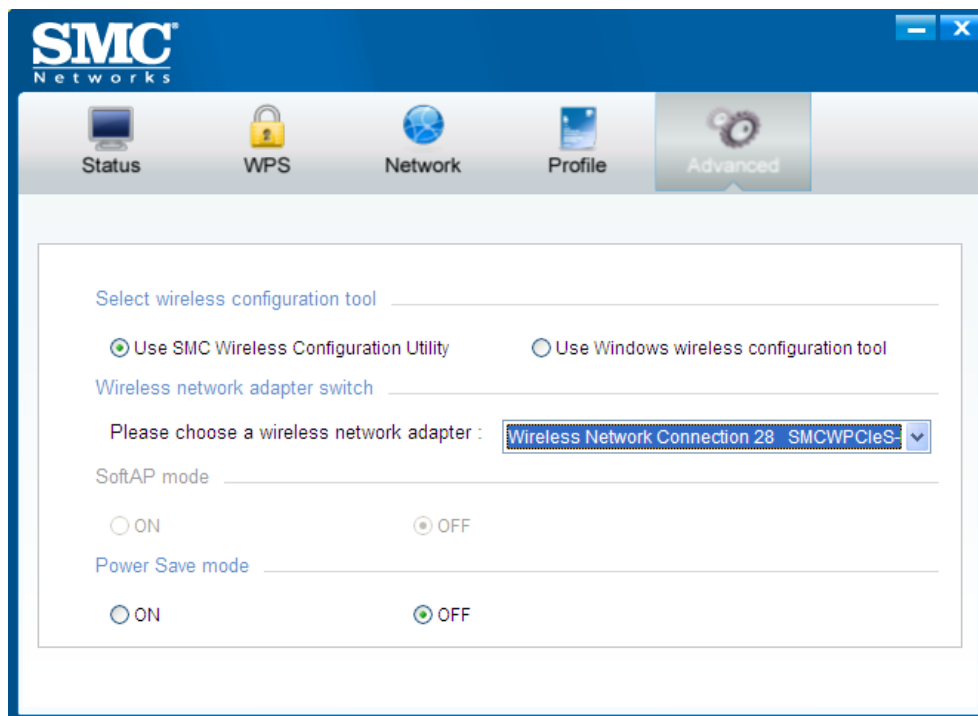



Figure 4-12

4.3 About

The About screen gives you some information about the Driver and Utility versions of the adapter. Right-click the  icon in your system tray and select **About** from the list.

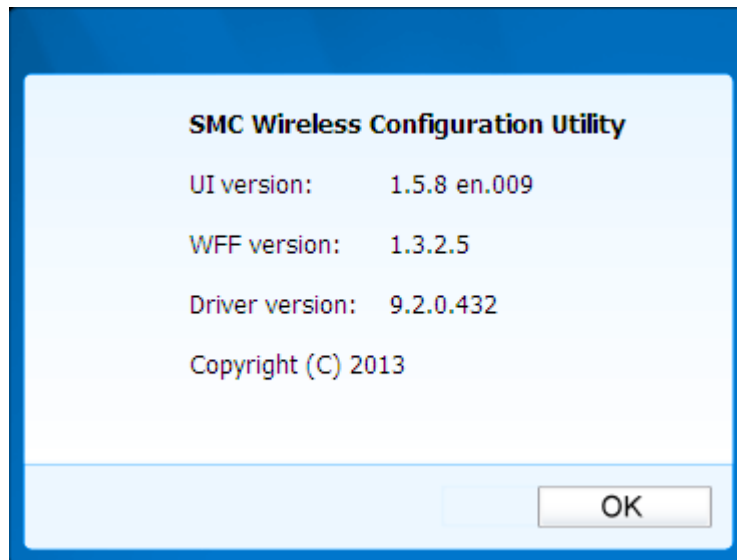


Figure 4-13

Chapter 5 AP Mode (For Windows 7 only)

In Soft AP mode, the adapter will work as an AP. [This function is available only in Windows 7.](#)

Suppose that only one computer in your house can access the Internet for various reasons like only one WLAN port is available on your wired broadband Router, however, other wireless-capable devices also want to share the Internet. Then the adapter can be configured as an AP under the Soft AP mode, saving you the trouble of having to get a separate access point or a Router.

With this feature, a computer can use a single physical wireless adapter to connect as a client to a hardware access point while at the same time acting as a software AP allowing other wireless-capable devices to connect to it.

5.1 SoftAP mode

To switch to this mode, right-click on the utility icon in your system tray and select **Switch to SoftAP mode**.

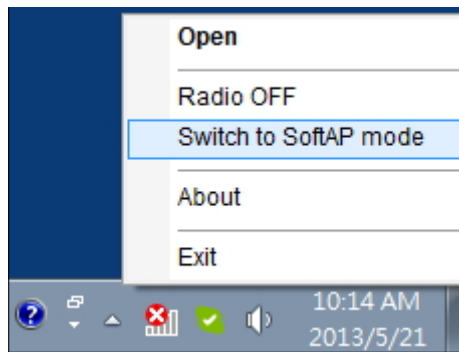


Figure 5-1

Or from the **Advanced** page of the utility, tick **ON** under the **SoftAP mode** as shown in the following figure. Click **OK** when prompted to confirm the setting.

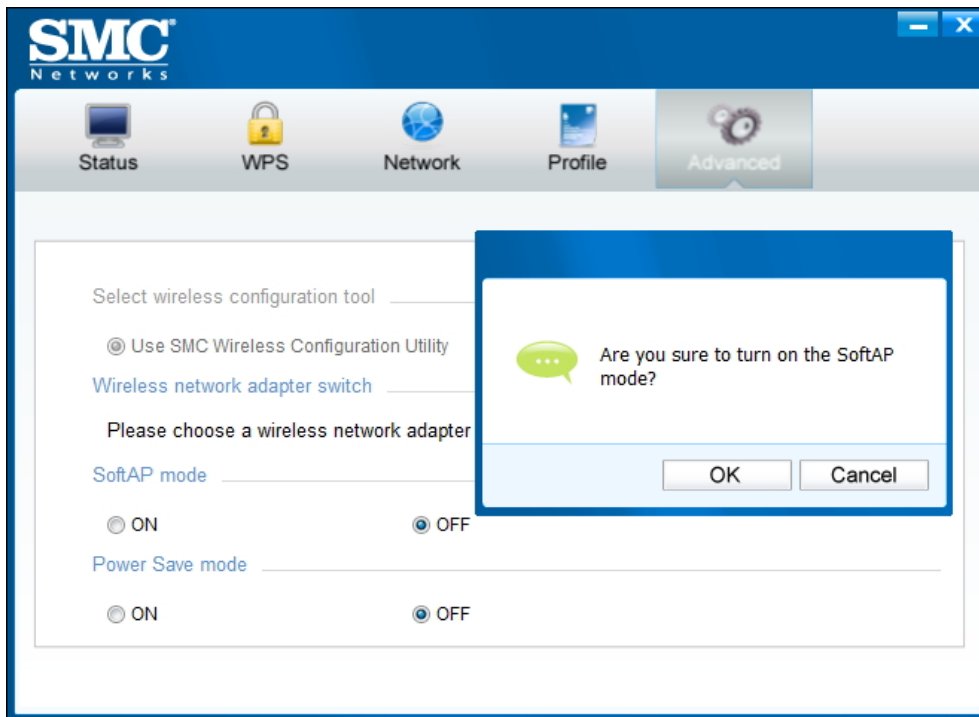


Figure 5-2

Note:

Restricted by local law regulations, version for North America does not have region selection option. The **Soft AP** icon then will appear beside **Advanced** icon in the utility.

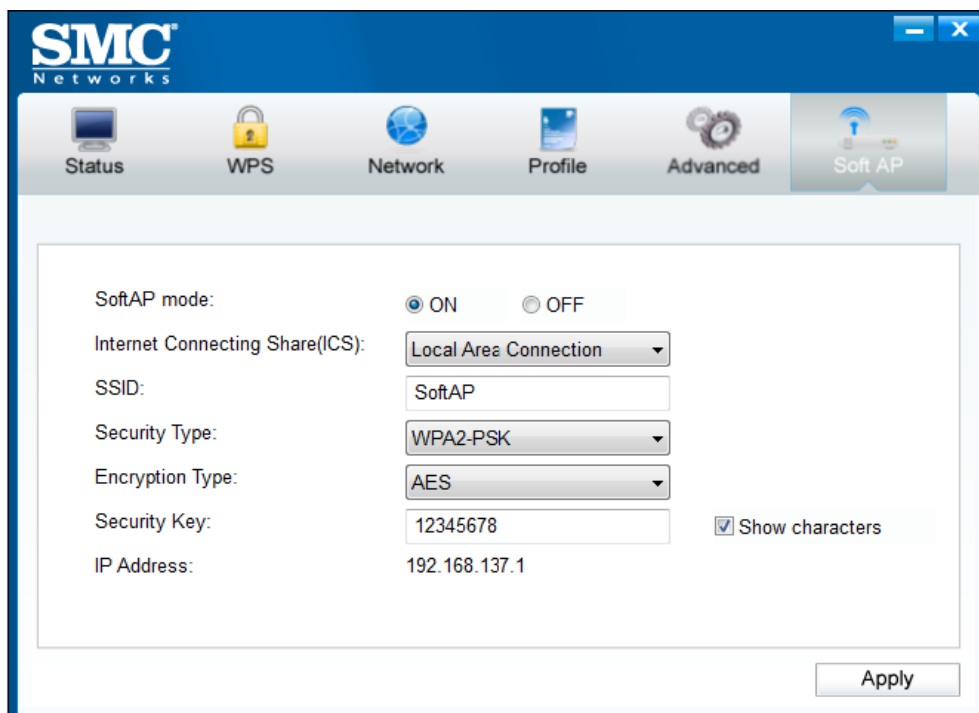


Figure 5-3

- **SoftAP mode:** Select to enable or disable the function.
- **Internet Connecting Share (ICS):** Specify a connection through which devices connected to your AP can access the Internet.
- **SSID:** Enter the name for your soft AP (for example, Jone) so that others can know which AP is yours when trying to connect to it. The default name (SSID) is "SoftAP".

- **Security Type:** The security type here is set to be WPA2-PSK which is based on 802.11i and uses Advanced Encryption Standard instead of TKIP. It was designed to improve the security features of WEP. WPA2-PSK uses a passphrase or key to authenticate your wireless connection. You needn't make any configuration here.
- **Encryption Type:** The encryption type here is set to be AES.
- **Security Key:** Enter the Key in the field to make your AP security enabled. It is recommended that you specify another key instead of the default key 12345678. Only by entering the corresponding key can other computers establish a successful connection with your AP.
- **IP Address:** Here displays the IP address of the SoftAP.

Note: When switch to SoftAP mode, If a warning message pops up as shown in the following figure . Please follow the steps to activate SoftAP mode.

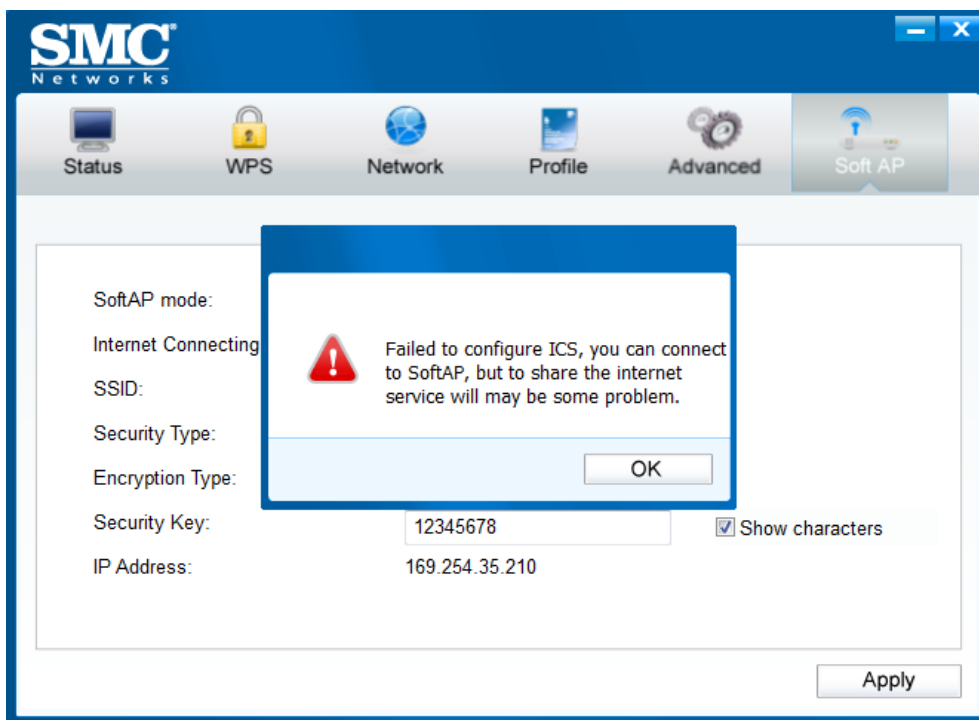


Figure 5-4

- 1) Go to Control Panel and select Network and Connections, double click the Local Area Connection. From the Sharing tab, choose Microsoft Virtual WiFi Miniport Adapter Wireless Network Connection.

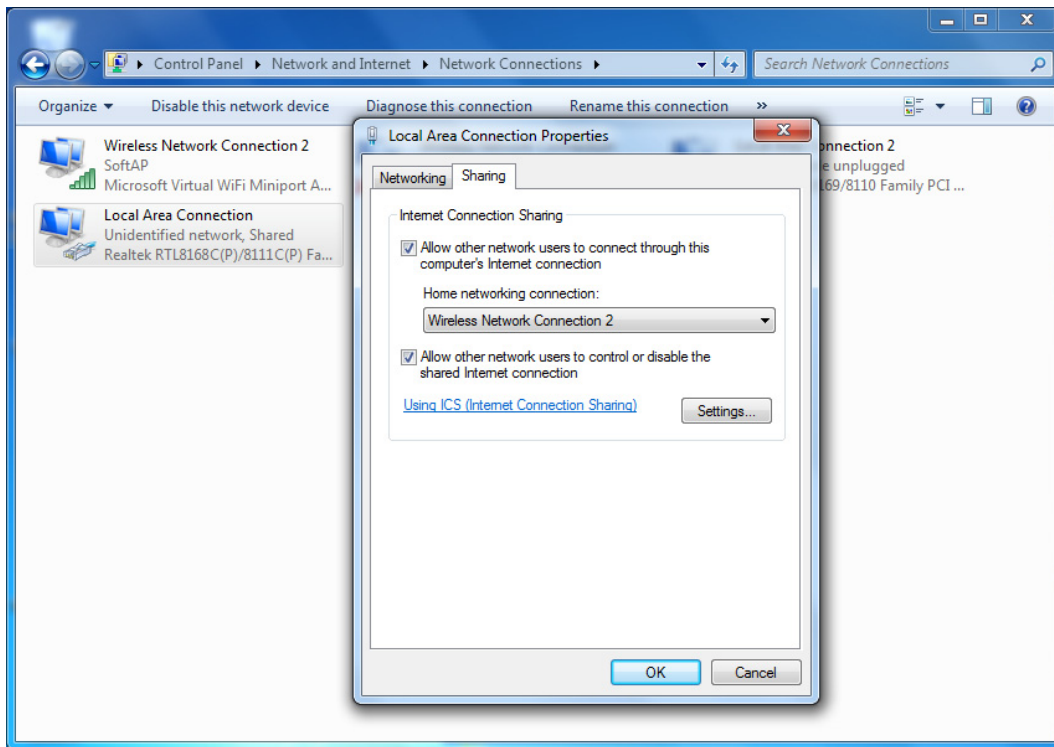


Figure 5-5

- 2) The IP Address will change to 192.168.137.1. Now the SoftAP mode is activated successfully..

Chapter 6 Uninstall Software

6.1 Uninstall the utility software from your PC

1. On the Windows taskbar, click the **Start** button, click **All programs**→**SMC**, and then click **Uninstall- SMC Wireless Configuration Utility**.

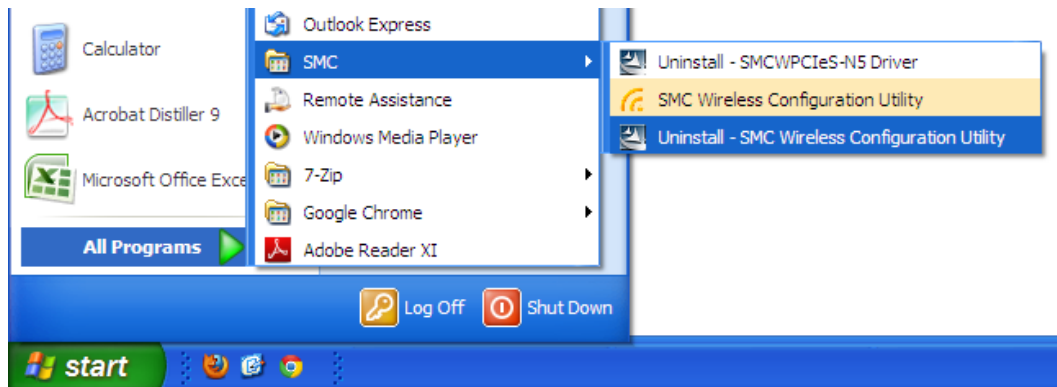


Figure 6-1 Uninstall Utility

2. Click **Yes** to start uninstalling the utility software from your PC.

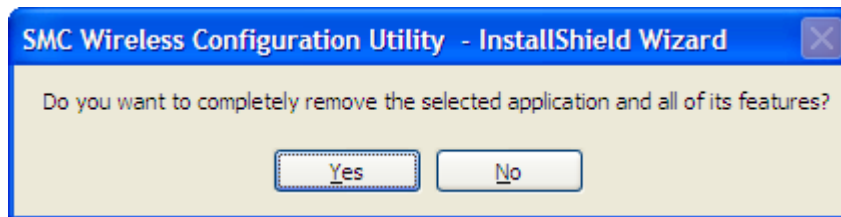


Figure 6-2

3. It may take a few minutes to undergo the whole uninstallation process.

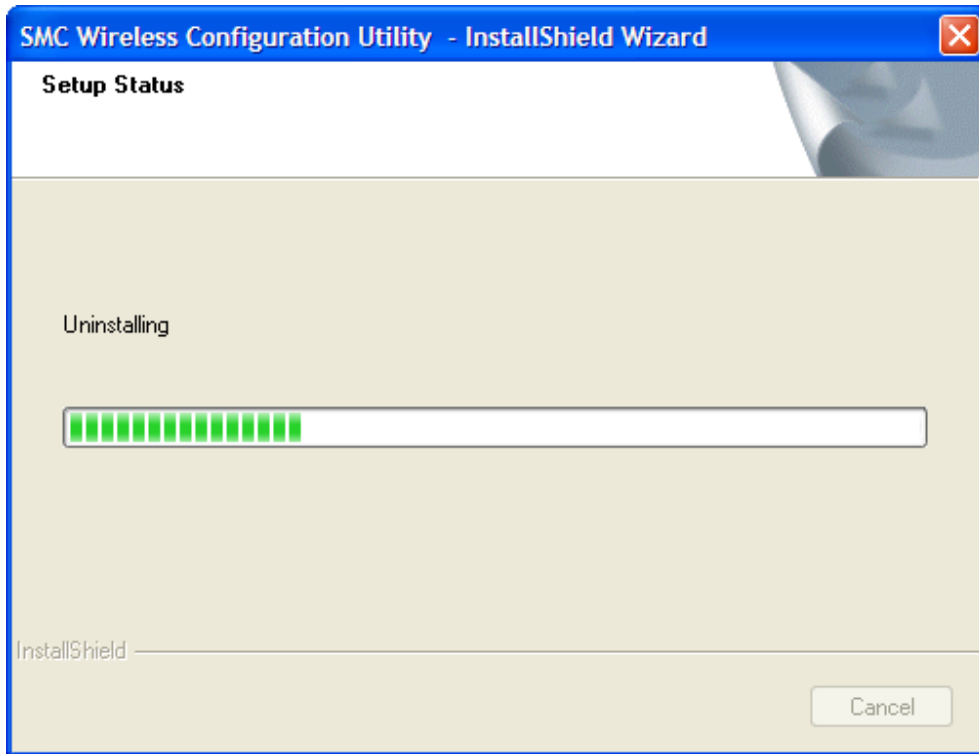


Figure 6-3

4. Click **Finish** when the figure below appears.

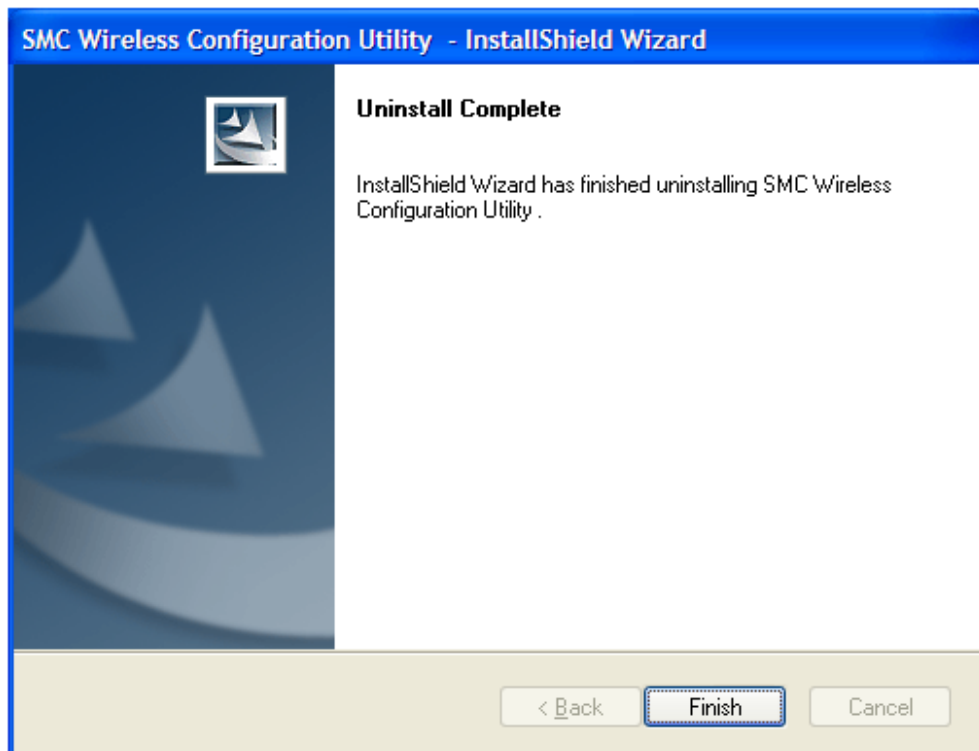


Figure 6-4

6.2 Uninstall the driver software from your PC

1. On the Windows taskbar, click the **Start** button, click **All programs**→**SMC**, and then click **Uninstall-SMCWPCleS-N5 Driver**.

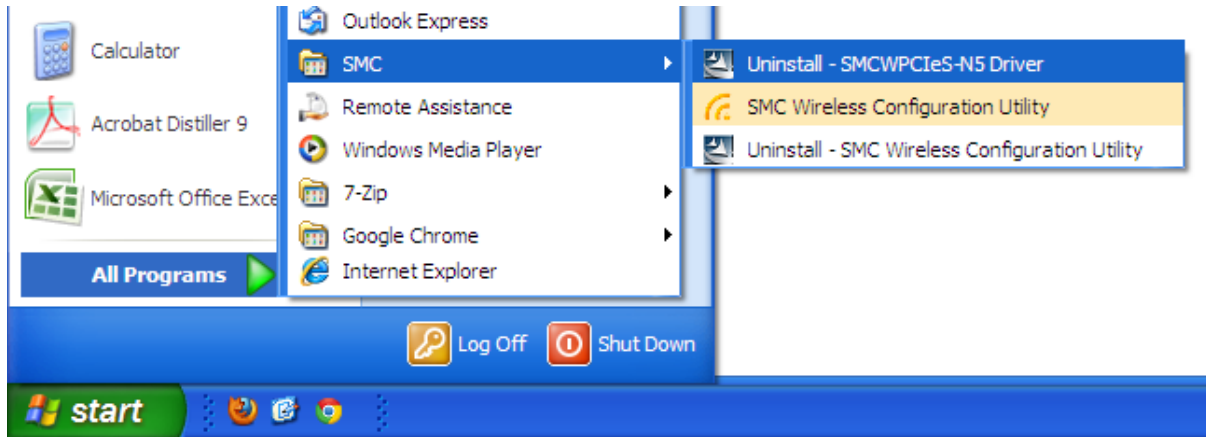


Figure 6-5 Uninstall Driver

2. Click **Yes** to start uninstalling the driver software from your PC.

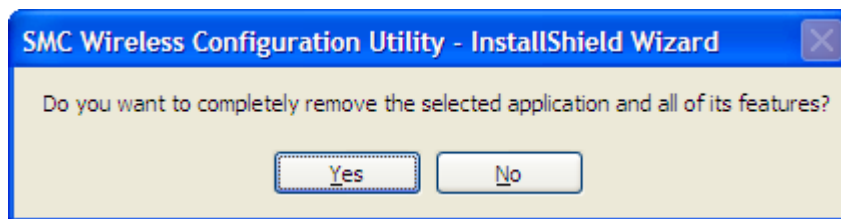


Figure 6-6

3. It may take a few minutes to undergo the whole un-installation process.

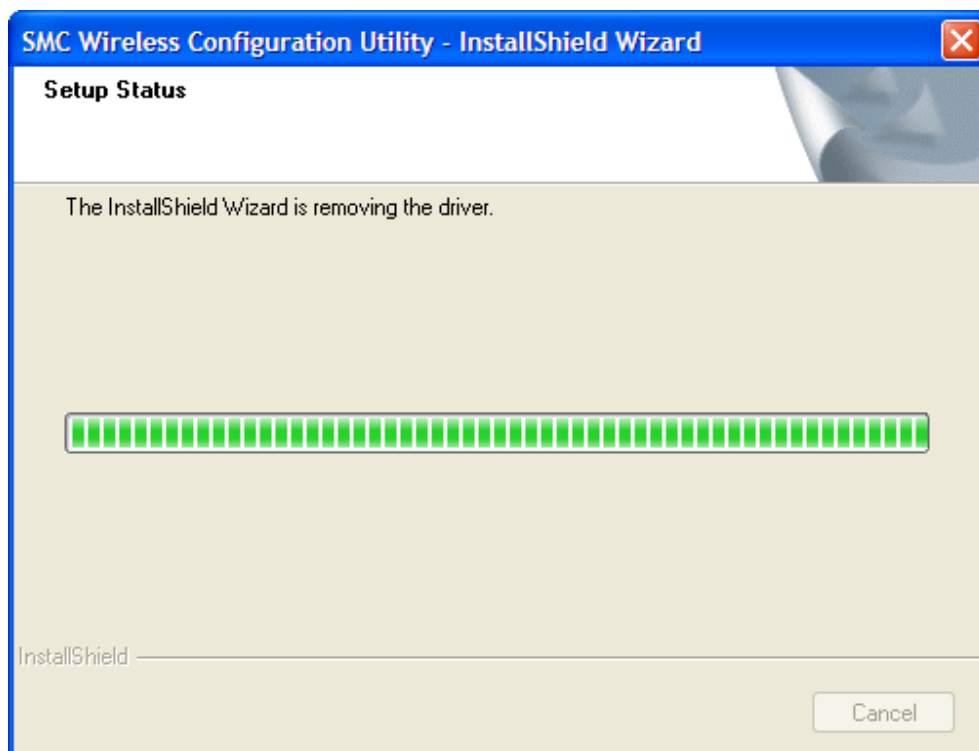


Figure 6-7

4. Click **Finish** when the figure below appears.

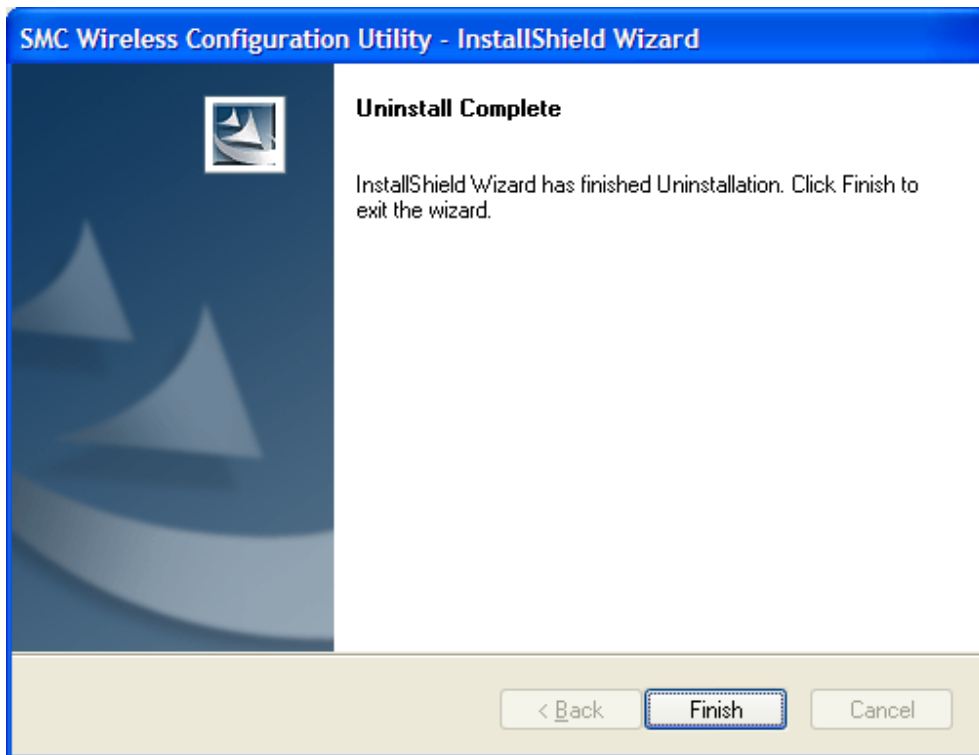


Figure 6-8

Appendix A: Specifications

Normal	
Interface	PCI-Express (PCIe) 2.0, Low-profile bracket included, Link/Activity status LED, 2 dBi detachable omni directional antenna (RP-SMA)
Standards	IEEE 802.11b/g, IEEE 802.11n, IEEE 802.11i, IEEE 802.11e
Operating System	Windows XP, Windows Vista, Windows 7, Windows 8
Throughput	150Mbps (maximum)
Radio Data Rate	11n: 135/121.5/108/81/54/40.5/27/13.5 Mbps 130/117/104/78/52/39/26/13 Mbps 65/58.5/52/39/26/19.5/13/6.5 Mbps (dynamic) 11g: 54/48/36/24/18/12/9/6 Mbps (dynamic) 11b: 11/5.5/2/1 Mbps (dynamic)
Network Configuration	Ad hoc (peer to peer) Infrastructure
Modulation	11b:CCK,QPSK,BPSK 11g:OFDM 11n: QPSK, BPSK, 16-QAM, 64-QAM
Media Access Protocol	CSMA/CA with ACK
Data Security	62/128-bit WEP, WPA/WPA2, WPA-PSK/WPA2-PSK
Operating Channel	11 channels (US, Canada), 2412~2462 MHz 13 channels (ETSI), 2412~2472 MHz
RF Power	17 dBm (maximum)
Receive Sensitivity	130M: -68 dBm@10% PER 108M: -68 dBm@10% PER 54M: -68 dBm@10% PER 11M: -85 dBm@8% PER 6M: -88 dBm@10% PER 1M: -90 dBm@8% PER
Frequency*	2.4 ~ 2.4835GHz
Dimension	Unit 4.8 x 2.6 x 0.78 in (122 x 67 x 19mm) Package 7.9 x 5.7 x 1.4 in (202 x 145 x 35mm)
Weight	Unit: 32 g Antenna: 9 g per piece

Spread Spectrum	Direct Sequence Spread Spectrum (DSSS)
Safety & Emissions	FCC, CE, Compliant with RoHS

Environmental and Physical	
Working Temperature	0°C~40°C (32°F~104°F)
Storage Temperature	-40°C ~70°C (-40°F ~158°F)
Working Humidity	10% ~ 90% RH, Non-condensing
Storage Humidity	10% ~ 90% RH, Non-condensing

* Only 2.412GHz~2.462GHz is allowed to be used in USA, which means only channel 1~11 is available for American users to choose.

Appendix B: Glossary

- **802.11b** - The 802.11b standard specifies a wireless product networking at 11 Mbps using direct-sequence spread-spectrum (DSSS) technology and operating in the unlicensed radio spectrum at 2.4GHz, and WEP encryption for security. 802.11b networks are also referred to as Wi-Fi networks.
- **802.11g** - specification for wireless networking at 54 Mbps using direct-sequence spread-spectrum (DSSS) technology, using OFDM modulation and operating in the unlicensed radio spectrum at 2.4GHz, and backward compatibility with IEEE 802.11b devices, and WEP encryption for security.
- **802.11n** - 802.11n builds upon previous 802.11 standards by adding MIMO (multiple-input multiple-output). MIMO uses multiple transmitter and receiver antennas to allow for increased data throughput via spatial multiplexing and increased range by exploiting the spatial diversity, perhaps through coding schemes like Alamouti coding. The Enhanced Wireless Consortium (EWC) was formed to help accelerate the IEEE 802.11n development process and promote a technology specification for interoperability of next-generation wireless local area networking (WLAN) products.
- **Ad hoc Network** - An ad hoc network is a group of computers, each with a Wireless Adapter, connected as an independent 802.11 wireless LAN. Ad hoc wireless computers operate on a peer-to-peer basis, communicating directly with each other without the use of an access point. Ad hoc mode is also referred to as an Independent Basic Service Set (IBSS) or as peer-to-peer mode, and is useful at a departmental scale or SOHO operation.
- **DSSS - (Direct-Sequence Spread Spectrum)** - DSSS generates a redundant bit pattern for all data transmitted. This bit pattern is called a chip (or chipping code). Even if one or more bits in the chip are damaged during transmission, statistical techniques embedded in the receiver can recover the original data without the need of retransmission. To an unintended receiver, DSSS appears as low power wideband noise and is rejected (ignored) by most narrowband receivers. However, to an intended receiver (i.e. another wireless LAN endpoint), the DSSS signal is recognized as the only valid signal, and interference is inherently rejected (ignored).
- **FHSS - (Frequency Hopping Spread Spectrum)** - FHSS continuously changes (hops) the carrier frequency of a conventional carrier several times per second according to a pseudo-random set of channels. Because a fixed frequency is not used, and only the transmitter and receiver know the hop patterns, interception of FHSS is extremely difficult.
- **Infrastructure Network** - An infrastructure network is a group of computers or other devices, each with a Wireless Adapter, connected as an 802.11 wireless LAN. In infrastructure mode, the wireless devices communicate with each other and to a wired network by first going through an access point. An infrastructure wireless network connected to a wired network is referred to as a Basic Service Set (BSS). A set of two or more BSS in a single network is referred to as an Extended Service Set (ESS). Infrastructure mode is useful at a corporation scale, or when it is necessary to connect the wired and wireless networks.

- **Spread Spectrum** - Spread Spectrum technology is a wideband radio frequency technique developed by the military for use in reliable, secure, mission-critical communications systems. It is designed to trade off bandwidth efficiency for reliability, integrity, and security. In other words, more bandwidth is consumed than in the case of narrowband transmission, but the trade off produces a signal that is, in effect, louder and thus easier to detect, provided that the receiver knows the parameters of the spread-spectrum signal being broadcast. If a receiver is not tuned to the right frequency, a spread-spectrum signal looks like background noise. There are two main alternatives, Direct Sequence Spread Spectrum (DSSS) and Frequency Hopping Spread Spectrum (FHSS).
- **SSID** - A **S**ervice **S**et **I**dentification is a thirty-two character (maximum) alphanumeric key identifying a wireless local area network. For the wireless devices in a network to communicate with each other, all devices must be configured with the same SSID. This is typically the configuration parameter for a wireless PC card. It corresponds to the ESSID in the wireless Access Point and to the wireless network name. See *also* Wireless Network Name and ESSID.
- **WEP** - (**W**ired **E**quivalent **P**rivacy) - A data privacy mechanism based on a 64-bit or 128-bit or 152-bit shared key algorithm, as described in the IEEE 802.11 standard. To gain access to a WEP network, you must know the key. The key is a string of characters that you create. When using WEP, you must determine the level of encryption. The type of encryption determines the key length. 128-bit encryption requires a longer key than 64-bit encryption. Keys are defined by entering in a string in HEX (hexadecimal - using characters 0-9, A-F) or ASCII (American Standard Code for Information Interchange – alphanumeric characters) format. ASCII format is provided so you can enter a string that is easier to remember. The ASCII string is converted to HEX for use over the network. Four keys can be defined so that you can change keys easily.
- **Wi-Fi** - A trade name for the 802.11b wireless networking standard, given by the Wireless Ethernet Compatibility Alliance (WECA, see <http://www.wi-fi.net>), an industry standards group promoting interoperability among 802.11b devices.
- **WLAN** - (**W**ireless **L**ocal **A**rea **N**etwork) - A group of computers and associated devices communicate with each other wirelessly, which network serving users are limited in a local area.
- **WPA** - (**W**i-Fi **P**rotected **A**ccess) - A wireless security protocol uses TKIP (Temporal Key Integrity Protocol) encryption, which can be used in conjunction with a RADIUS server.

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English: (for Asia-Pacific): Technical Support information at www.smc-asia.com

Deutsch: Technischer Support und weitere Information unter www.smc.com

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Français: Informations Support Technique sur www.smc.com

Português: Informações sobre Suporte Técnico em www.smc.com

Italiano: Le informazioni di supporto tecnico sono disponibili su www.smc.com

Svenska: Information om Teknisk Support finns tillgängligt på www.smc.com

Nederlands: Technische ondersteuningsinformatie beschikbaar op www.smc.com

Polski: Informacje o wsparciu technicznym są dostępne na www.smc.com

Čeština: Technická podpora je dostupná na www.smc.com

Magyar: Műszaki támogat információ elérhető -on www.smc.com

简体中文: 技术支持讯息可通过www.smc-prc.com查询

繁體中文: 產品技術支援與服務請上 www.smcnetworks.com.tw

ไทย: สามารถหาข้อมูลทางด้านเทคนิคได้ที่ www.smc-asia.com

한국어: 기술지원관련 정보는 www.smcnetworks.co.kr 을 참고하시기 바랍니다

INTERNET

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