

User Manual

PCI-1020
Wireless 802.11n
PCI Adapter

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Introduction

The LG-Ericsson PCI-1020 Wireless 802.11n PCI Adapter is the ideal solution for connecting your desktop to a high speed Wireless-N network. With wireless transfer speed at up to 150Mbps, the PCI-1020 significantly improves your wireless connectivity and signal while staying backwards compatible with your 802.11g network. In addition to providing basic connectivity, the LG-Ericsson PCI-1020 provides Wireless-N speed for simultaneous downloads, music and video streaming, and online gaming.

The LG-Ericsson PCI-1020 Adapter supports WEP, WPA and WPA wireless encryptions to ensure that your wireless network is secure. The Installation Wizard guides you step-by-step through the installation process. In addition, a low profile bracket is included in the package for flexible installation options.

Combining high speed with ease of use and installation flexibility, the LG-Ericsson PCI-1020 Wireless 802.11n PCI Adapter provides high performance and security to your home and home office.

Product Overview

Package Contents

- LG-Ericsson PCI-1020 Desktop Adapter
- CD-ROM with Manual and Software
- Quick Installation Guide
- One Antenna
- Low Profile Mounting Bracket



If any of the above items are missing, please contact your reseller.

System Requirements

For best results, the following minimum requirements are recommended on any system used to configure and use the LG-Ericsson PCI-1020 Desktop Adapter:

- Computer with: 1Ghz processor / 512 MB RAM / 200 MB available space / CD-ROM drive
- Internet Explorer version 7, Mozilla Firefox 3 or Apple Safari 4 and above
- Windows® XP (with Service Pack 2) or Vista™ or Windows 7™
- PCI slot
- An Access Point or Wireless Router

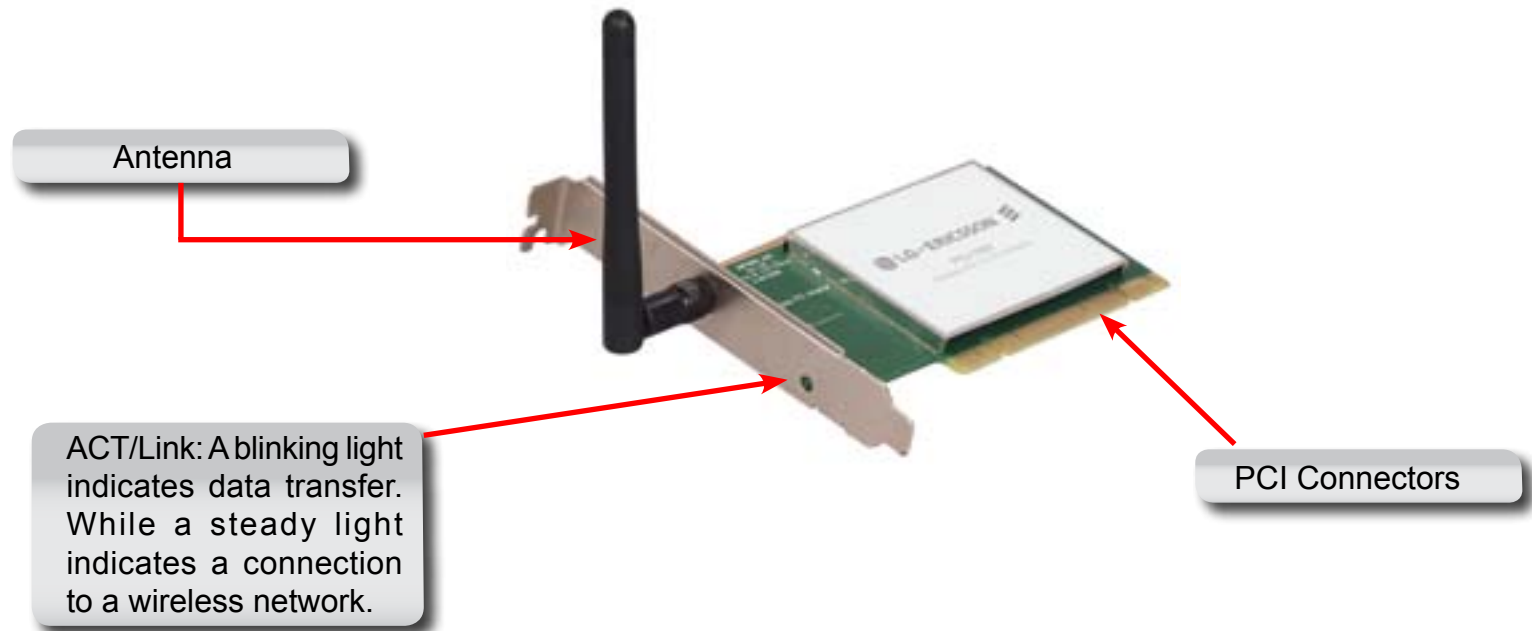
Features

The LG-Ericsson PCI-1020 Wireless 802.11n PCI Adapter is designed for easy installation and allows remote access to important data via LAN or WAN. The LG-Ericsson PCI-1020 offers seamless roaming and is fully interoperable with different networks :

- Fully compatible with IEEE 802.11n draft standard to provide wireless downlink and uplink speeds at up to 150Mbps data rate
- Compatible with IEEE 802.11g rate standard to provide up to 54Mbps data rate
- Compatible with IEEE 802.11b rate standard to provide up to 11Mbps data rate
- Operates at 2.4-2.5GHz frequency bands to meet worldwide regulations
- Dynamic data rate scaling at 6,9,12,18,24,36,48,54Mbps for IEEE 802.g
- Dynamic data rate scaling at 1,2,5.5, and 11Mbps for IEEE 802.11b
- Maximum reliability, throughput and connectivity with automatic data rate switching
- Supports infrastructure networks from an Access Point and Ad-hoc network from peer-to-peer communication
- Supports WEP, WPA, and WPA2 enhanced security
- Driver support for Windows XP 32/64-bit, Windows 2000, Windows Vista 32/64-bit, and Windows 7
- Advanced Quality of Service (QOS) - 802.11e, WMM
- Supports easier connections to Access Points, using WPS
- RoHS compliant
- External omni-directional antenna
- Low profile bracket included

Hardware Overview

Front Panel



COMPONENT	DESCRIPTION
PCI Connectors	The PCI connectors fit into the PCI slot on your computer
Antenna	One antenna for stable frequency

Installation

This section will walk you through the installation process. If you have another built-in wireless adapter in your PC, disable it in Device Manager before installing the LG-Ericsson PCI-1020 Desktop Adapter. Also, if you have previously installed another wireless adapter, make sure the software is uninstalled.

Getting Started

Before installing your new LG-Ericsson PCI-1020 Adapter, verify the following:

- Remove any previous installations of wireless adapters
- Disable any built-in wireless adapters
- Write down the SSID and security settings of your wireless router

Remove Existing Installations

Uninstall all existing wireless software from previous manufacturers. Some utilities may conflict with the new software. To remove any previous software packages:

Windows® 7: Click **Start > Control Panel > Programs and Features** > select the program > **Uninstall or Change a program**.

Windows® XP/Vista: Click **Start > Control Panel > Add or Remove Programs**

Disabling old Wireless Adapters

To prevent any conflicts with other wireless adapters, it is recommended to disable them.

Step 1: Right-click My Computer and select Properties

Step 2: Click the Hardware tab, click Device Manager. Scroll down the list and double-click Network Adapters.

Step 3: Right-click the adapter you would like to disable and select disable.

Step 4: Click Yes to disable the adapter. The adapter is disabled when a red X covers the icon. Disabling the adapter will not remove the drivers

Wireless Considerations

The LG-Ericsson PCI-1020 Wireless 802.11n PCI Adapter allows you to access your wireless network within the operating range of your wireless router or access point. Consider the following when installing wireless devices: the number, thickness and location of walls; ceilings; and other object that may limit the range the wireless signal must pass through. Wireless ranges vary depending on the types of material and background radio frequency noise. The key to maximizing your wireless range is to follow these basic guidelines:

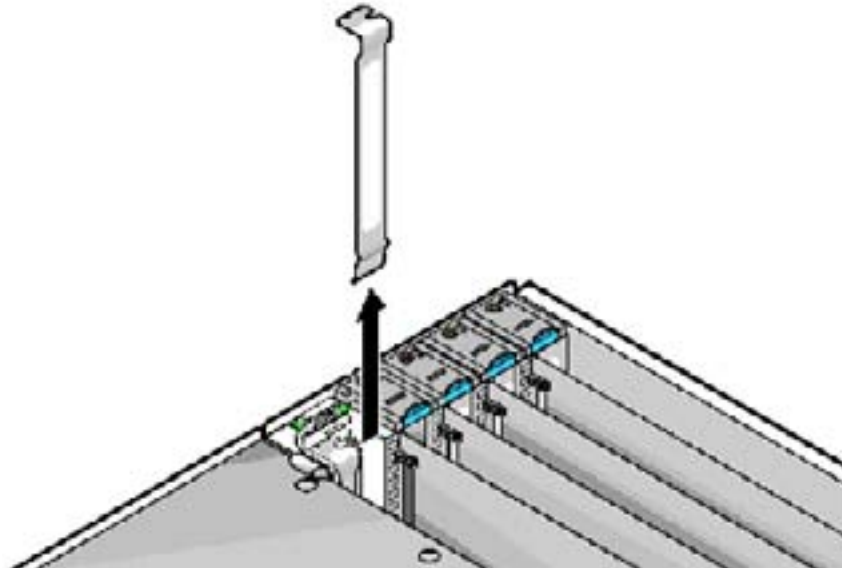
- Keep the number of walls and ceilings between the LG-Ericsson PCI-1020 and other network devices to a minimum - each wall or ceiling can reduce your adapter's range. Position the device so that the number of walls or ceilings are minimized.
- Be aware of the direct line between network devcies. A wall, 1.5 feet thick (0.5 meters), at a 45 degree angle appears to be almost 3 feet (1m) thick. At a 2 degree angle, it looks over 42 feet (14 meters) thick. Position your device so the signal travels straight through a wall or ceiling (instead of an angle) for better reception.
- Building materials make a difference. A solid metal door or aluminium studs may have a negative effect on the range. Try to position access points, wireless routers, and computers so the signal can pass through. Materials and objects such as glass, steel, metal, walls with insulation, water (fish tanks), mirrors, file cabinets, bricks, and concrete can degrade your wireless signal.
- Keep products away (3-6 feet or 1-2m) from electrical devices or appliances that generate RF noise.
- If you are using 2.4GHz cordless phones or X10 (wireless products such as ceiling fans, lights, and security systems), your wireless connection may degrade dramatically or drop signal strength completely. Make sure your 2.4GHz base unit is as far away from your wireless devices as possible. The base transmits a signal even if the phone is not in use.

Hardware Installation

Step 1: Open the side panel of your computer

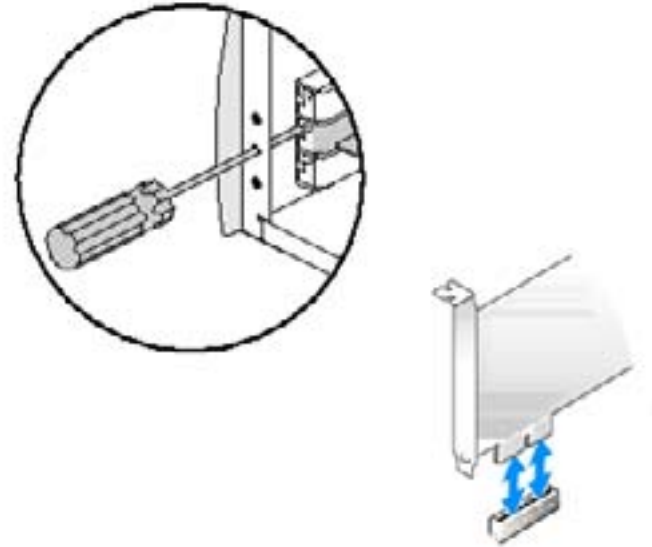


Step 2: Remove the metal cover bracket



Hardware Installation

Step 3: Insert the LG-Ericsson PCI-1020 Wireless 802.11n PCI Adapter firmly into the PCI slot and screw it in place



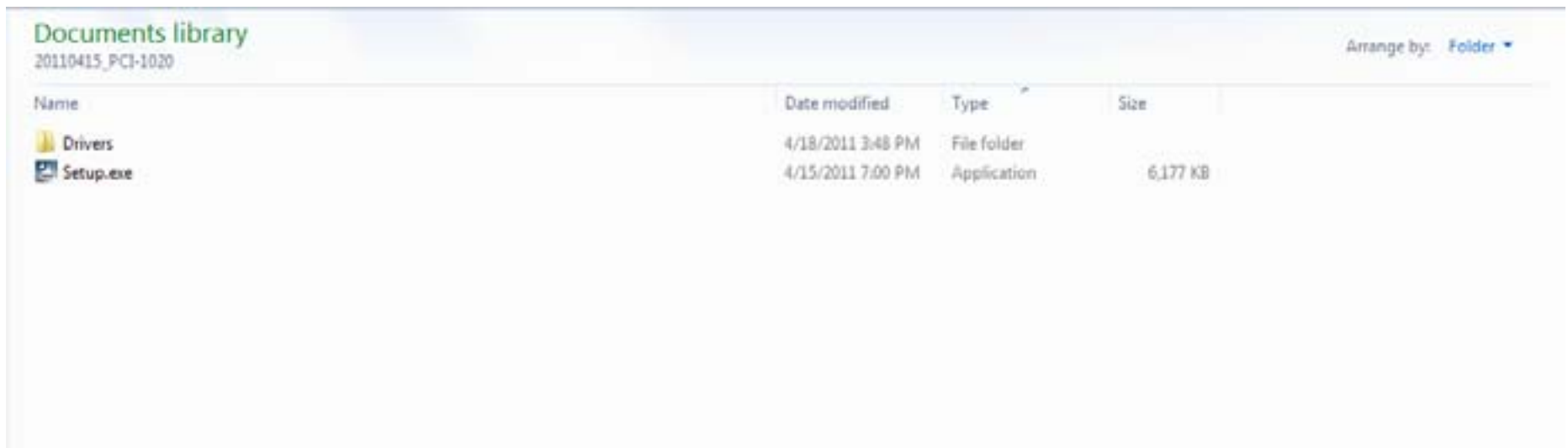
Getting Started

Installing the LG-Ericsson PCI-1020 in Windows® 7

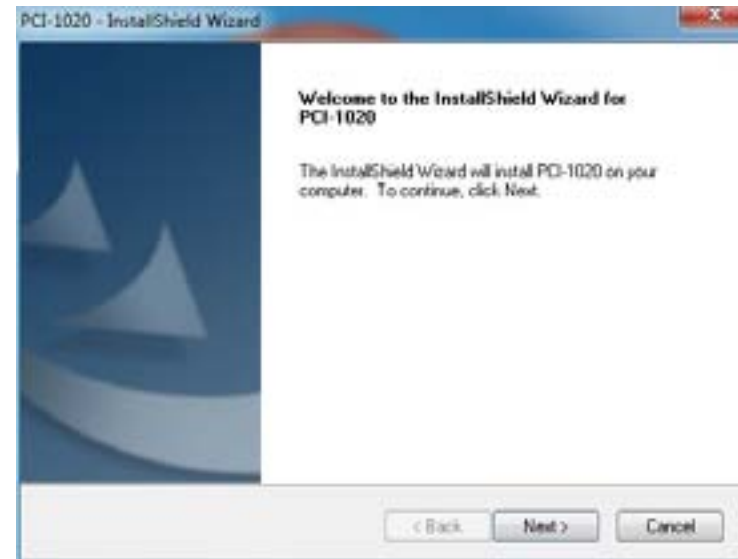
Before inserting the wireless adapter, please note that you have to install the software.

Step 1: Turn on your computer and insert the LG-ERICSSON CD (included in the package contents of this product) into the drive. Installed on the CD is an auto-run application that allows you to quickly access the contents of of the CD easily

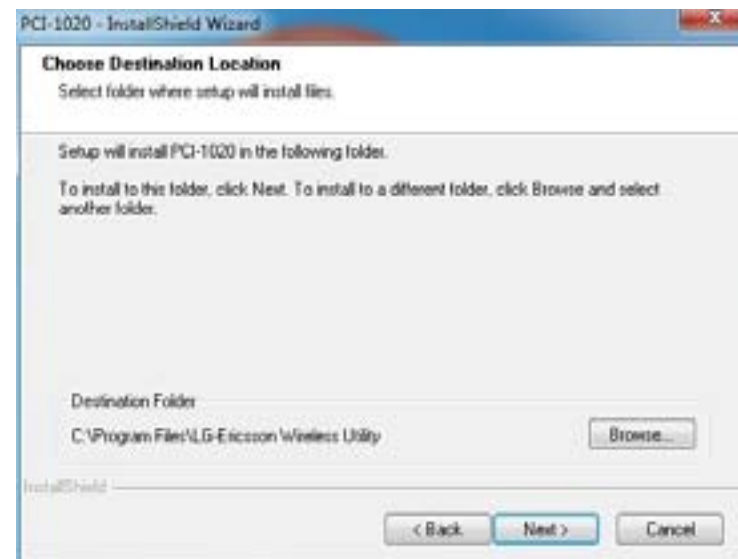
The introduction screen appears. Double-click the Setup.exe icon to begin the installation.



Step 2: The LG-Ericsson PCI-1020 Wireless 802.11n PCI Adapter welcome screen will appear. Click Next to continue.



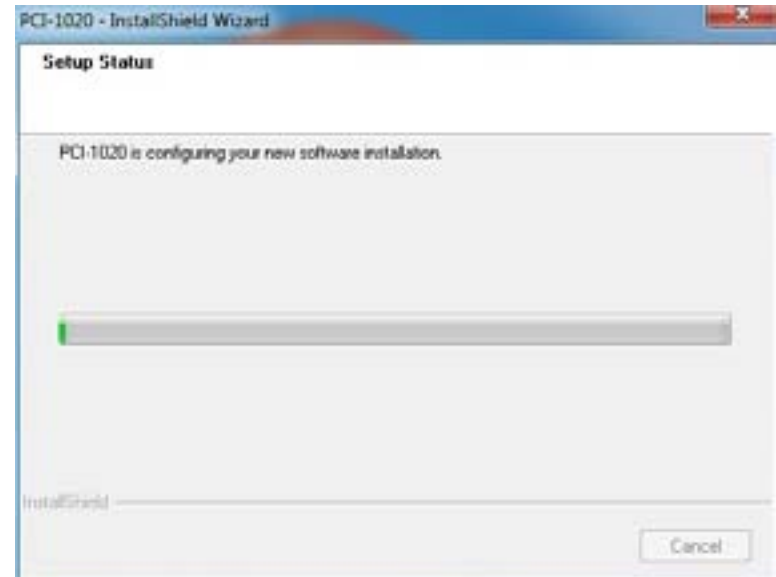
Step 3: Choose a Destination Location and click Next.



Step 4: Select the Program Folder where you want the program to be installed. Click Next when complete.



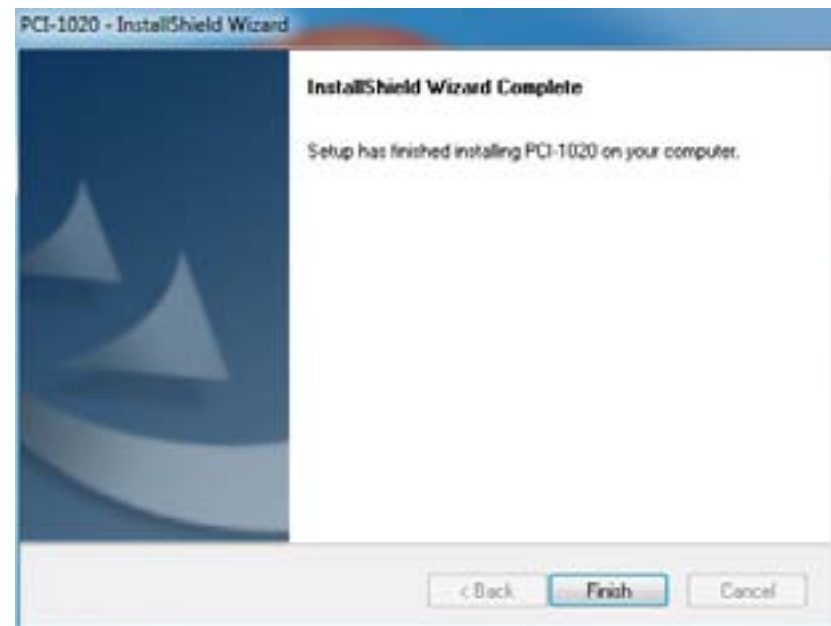
Step 5: The installation process begins



Step 6: Windows 7 security feature will prompt you about the validity of the software. Click “Install this driver software anyway”.



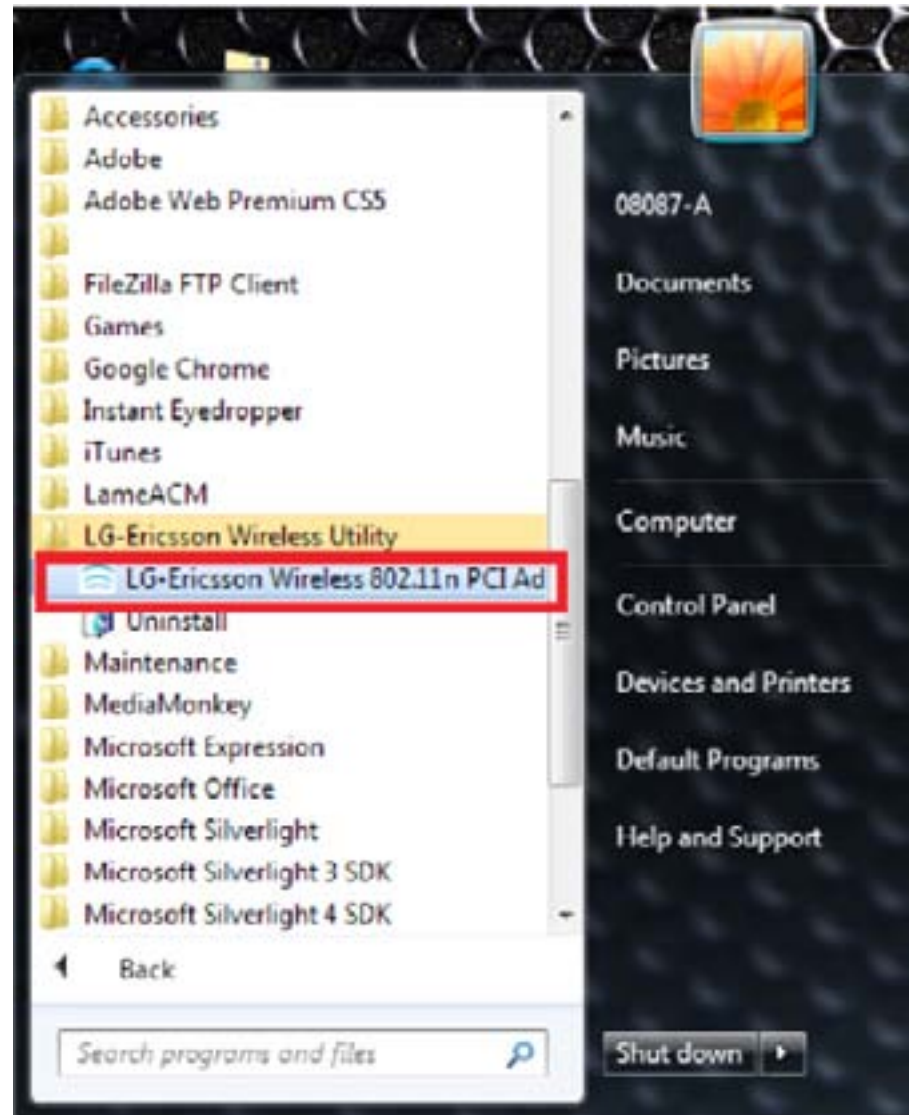
Step 7: The LG-Ericsson PCI-1020 Wireless 802.11n PCI Adapter software installation process is complete. Click Finish.



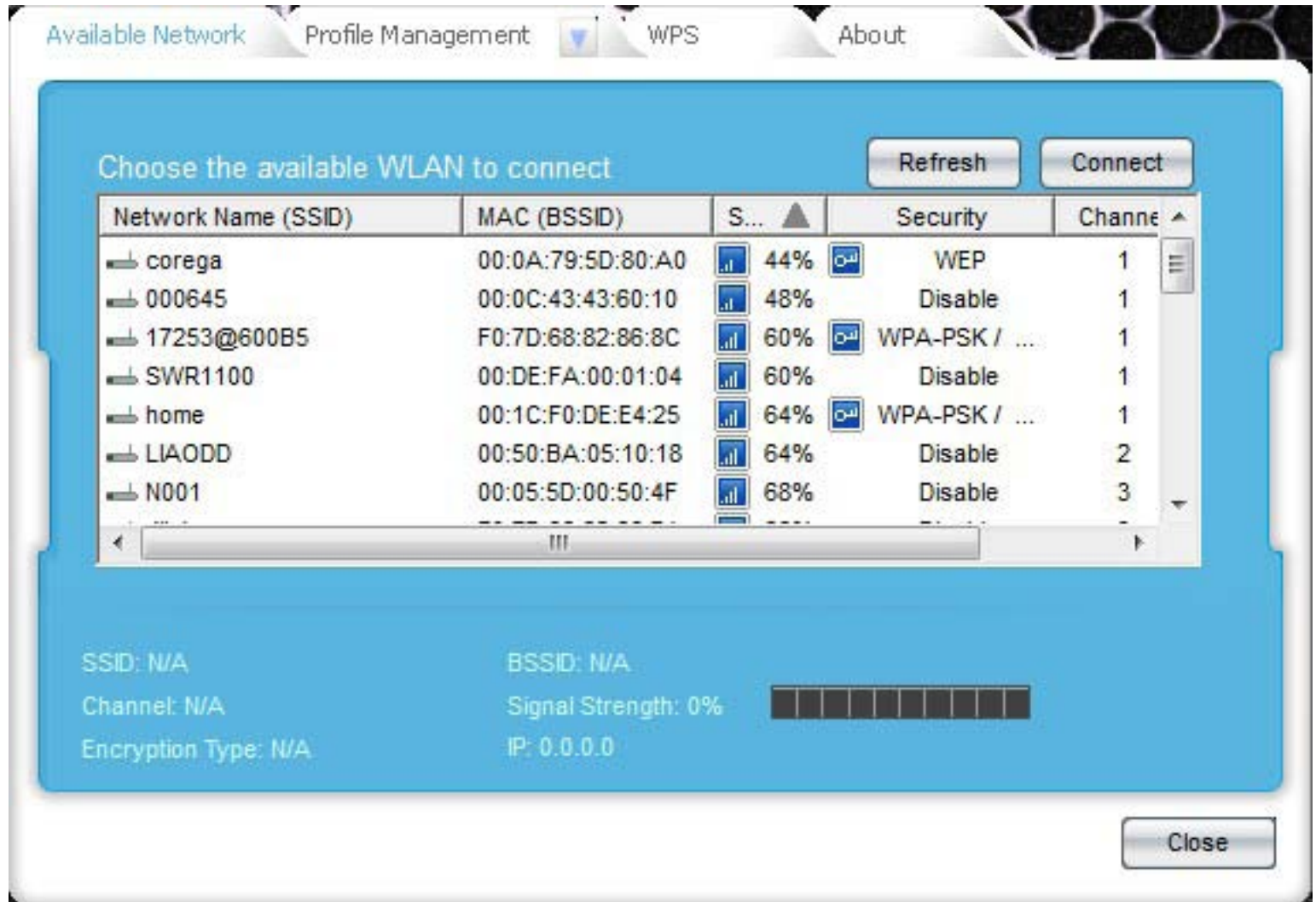
Configuring the LG-Ericsson PCI-1020 in Windows® 7

This section shows you how to configure the LG-Ericsson PCI-1020 Adapter using the LG-Ericsson Wireless Utility.

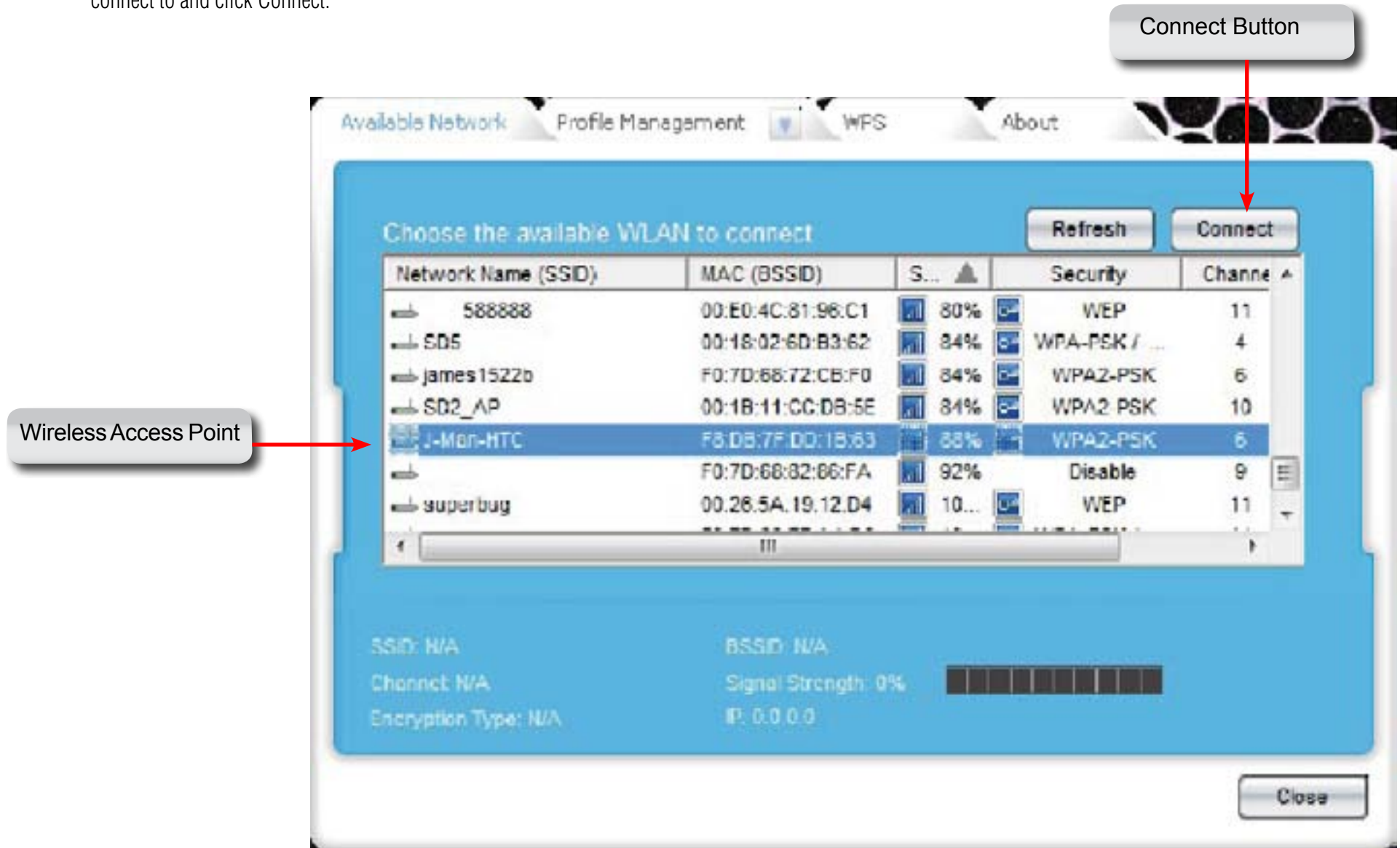
Step 1: In Windows® 7, click the Start button, All Programs, LG-Ericsson Wireless Utility, LG-Ericsson Wireless 802.11n PCI Adapter.



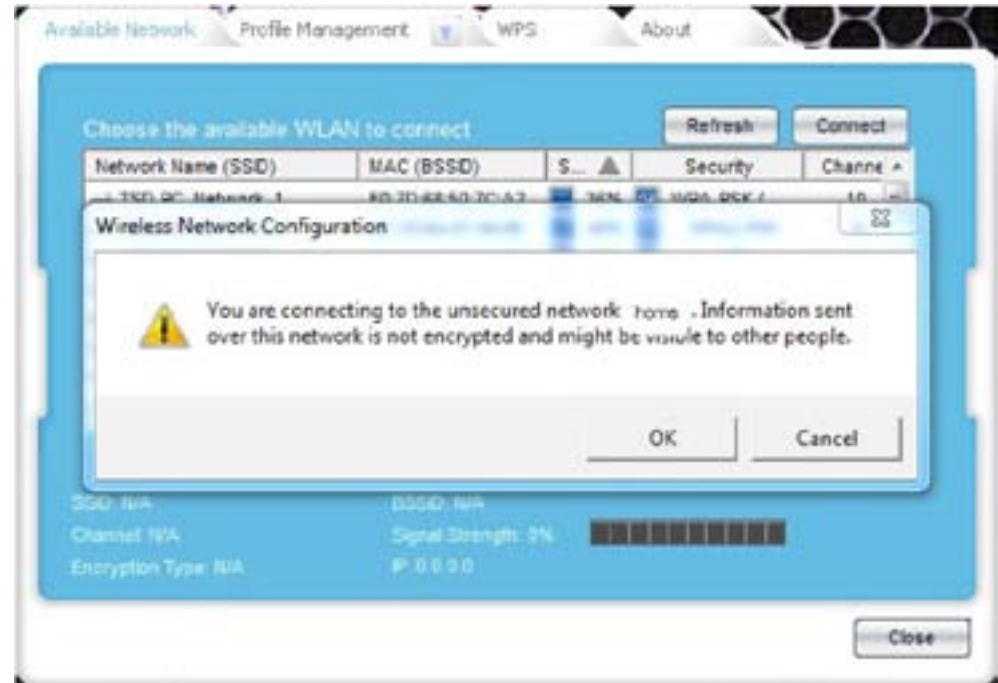
Step 2: The program interface lists “Available Networks”. There is a report on Network Names, MAC addresses, range percentages, security, and Channels.



Step 3: Select the SSID or wireless router you wish to connect to and click Connect.



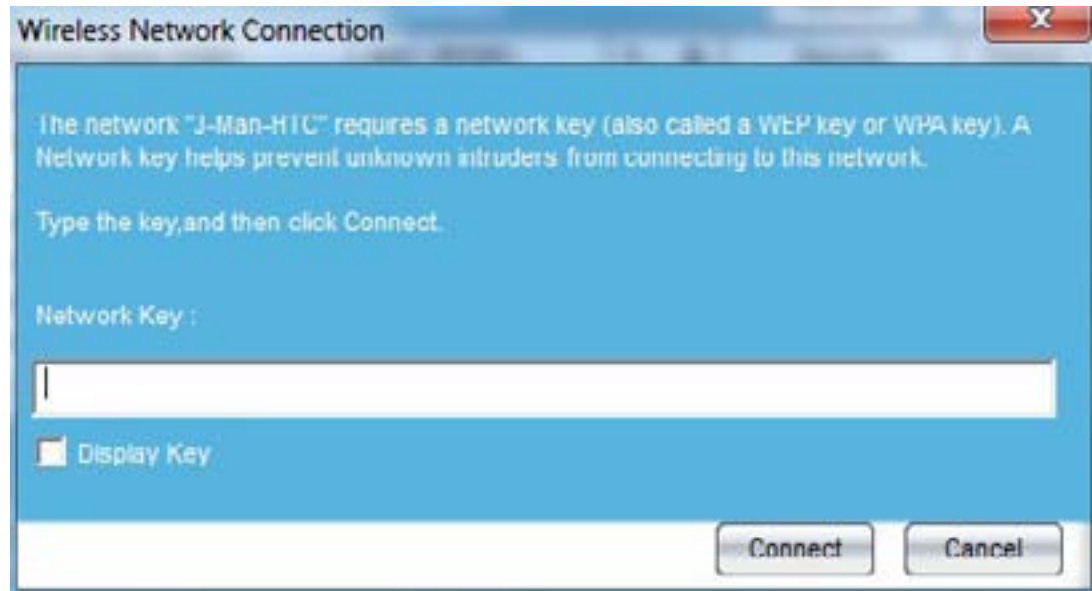
Step 4: If you are trying to connect to an unsecured wireless network, Windows prompts you to acknowledge that you are entering an unsecured network. It is strongly recommended that you set up wireless security for your network.



Step 5: Click OK to continue

Step 6: The LG-Ericsson PCI-1020 adapter attempts to connect to the wireless router and prompts you to enter a network key.

This only occurs if the router has security enabled.



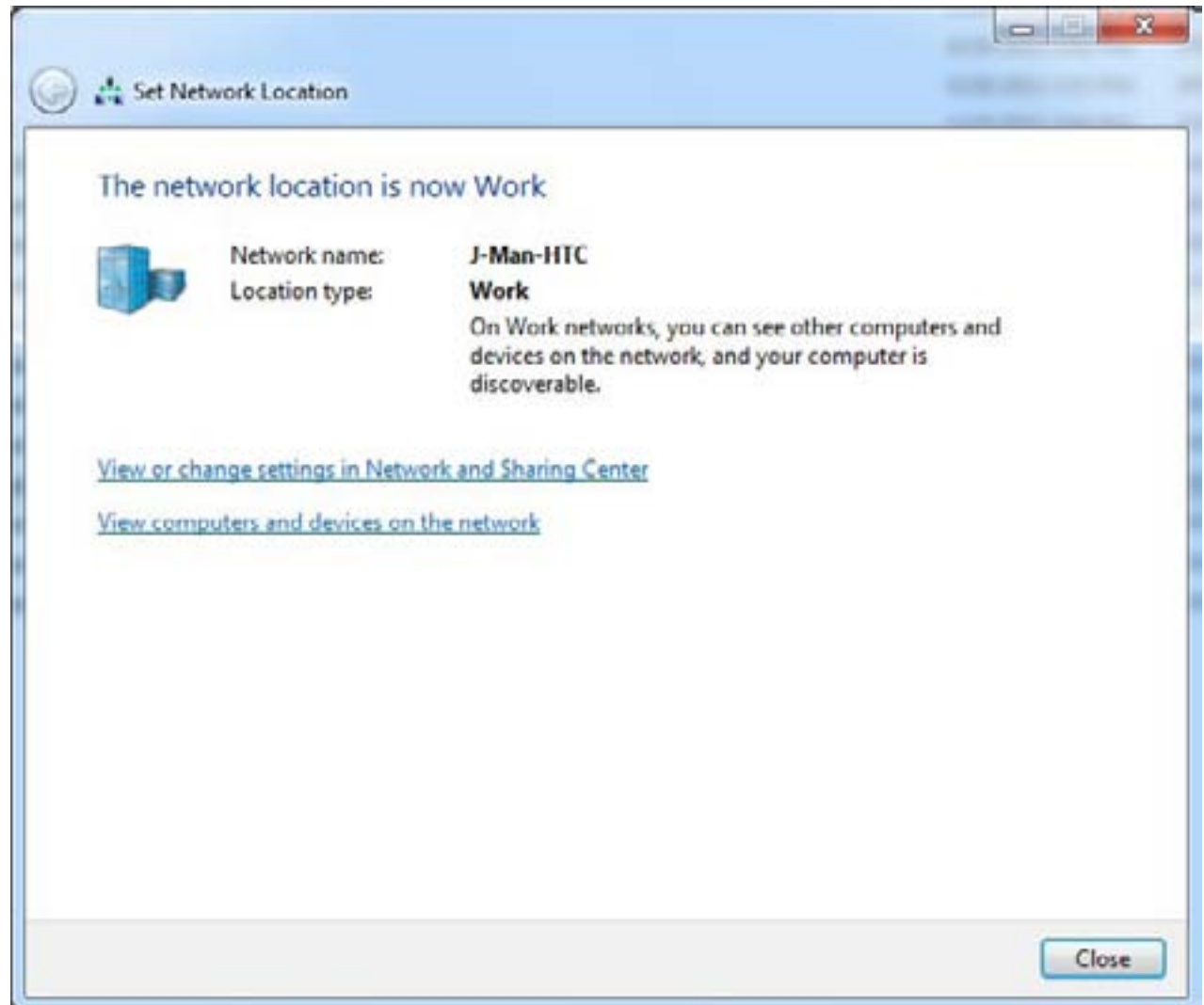
Step 7: Enter the network key your network administrator has provided to you and click Connect.



Connect Button



Step 8: Windows verifies that you are connected to a wireless network and asks you to confirm the network location.



Step 9: Click Close.

Step 10: Under Control Panel, Network and Sharing Center, the wireless router appears that you are connected to.

The Wireless Network



Understanding the Interface

The LG-Ericsson Wireless Utility has a detailed user interface. Let's take a look at the different parts of the interface.

The LG-Ericsson Interface - Available Networks

Available Network Tab

Choose the available WLAN to connect

Network Name (SSID)	MAC (BSSID)	S...	Security	Channel
588888	00:E0:4C:81:96:C1	80%	WEP	11
SD5	00:18:02:6D:B3:62	84%	WPA-PSK / ...	4
james1522b	F0:7D:68:72:CB:F0	84%	WPA2-PSK	6
SD2_AP	00:1B:11:CC:DB:5E	84%	WPA2 PSK	10
J-Mon-HTC	F8:DB:7F:DD:1B:63	88%	WPA2-PSK	6
	F0:7D:68:82:86:FA	92%	Disable	9
superbug	00:26:5A:19:12:D4	10...	WEP	11

SSID Name: SSID: N/A
Channel ID: Channel: N/A
Encryption Type: Encryption Type: N/A

BSSID: N/A
Signal Strength: 0%
IP: 0.0.0.0

Close Button

The LG-Ericsson Interface - Available Network Tab

The screenshot displays the 'Available Network' tab in the LG-Ericsson interface. The main window is titled 'Choose the available WLAN to connect' and contains a table of available networks. Below the table, there is a summary for the selected network 'N001'.

Table of Available Networks:

Network Name (SSID)	MAC (BSSID)	Signal Strength	Security	Channel
SYVR1100	00:DE:FA:00:01:04	48%	Disable	1
	1C:BD:EB:C0:02:C2	55%	Disable	1
BBIQHR38NHWPA2	00:50:BA:06:38:50	60%	WPA2-PSK	4
BHD3	00:50:BA:11:22:10	80%	Disable	11
N001	00:05:5D:00:50:4F	64%	Disable	3
Itank1522	F0:7D:55:72:CB:F4	66%	WPA-PSK	9
SYVR1100	00:DE:FA:07:24:58	68%	Disable	1

Selected Network Summary (N001):

- SSID: N001
- Channel: 3
- Encryption type: Disable
- BSSID: 00:05:5D:00:50:4F
- Signal Strength: 70%
- IP: 192.168.1.101

Callouts and UI Elements:

- Network Name or SSID:** Points to the 'Network Name (SSID)' column in the table.
- MAC Address:** Points to the 'MAC (BSSID)' column in the table.
- Signal Strength in %:** Points to the percentage values in the 'Signal Strength' column.
- Signal Strength:** Points to the signal strength bar at the bottom of the interface.
- Refresh Button:** Points to the 'Refresh' button in the top right.
- Connect Button:** Points to the 'Connect' button in the top right.
- Wireless Channel:** Points to the 'Channel' column in the table.
- Security Method:** Points to the 'Security' column in the table.
- Disabled Security:** Points to the 'Disable' security status in the table.

The LG-Ericsson Interface - Profile Management Tab

The screenshot shows the 'Profile Management' tab of the LG-Ericsson interface. It features a table of profiles, an 'Information' panel, and connection details. Red arrows point from external labels to specific fields in the interface.

Profile Name	Network Name(SSID)
N001	N001

Information

- Profile Name: N001
- SSID: N001
- Network Type: Infrastructure
- Authentication Type: Open
- Encryption Type: Disable

Connection Details:

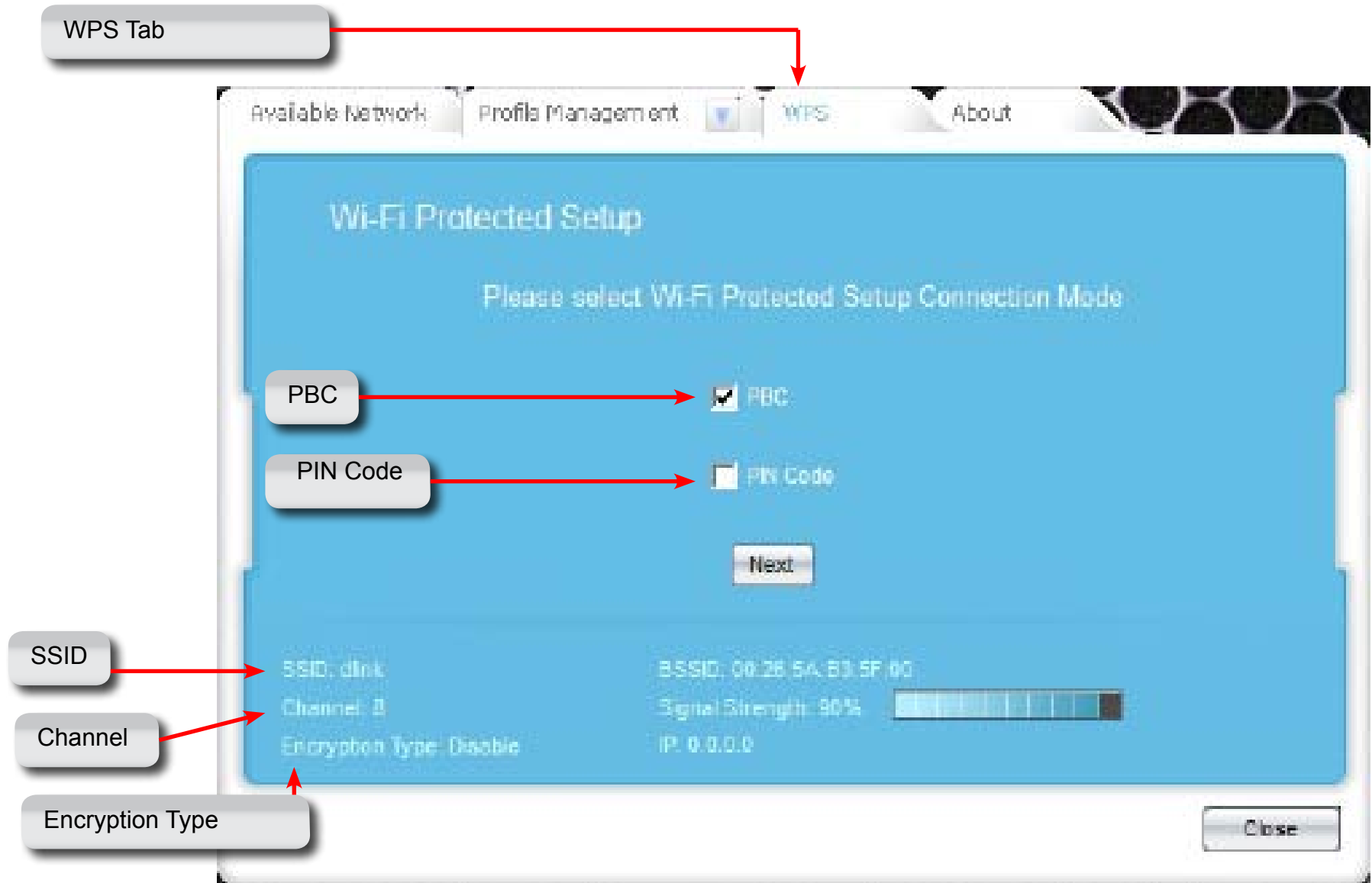
- SSID: N001
- BSSID: 00:05:5D:00:50:4F
- Channel: 3
- Encryption Type: Disable
- Signal Strength: 70%
- IP: 192.168.1.101

Buttons: New, Properties, Remove, Connect, Close

Callouts and their targets:

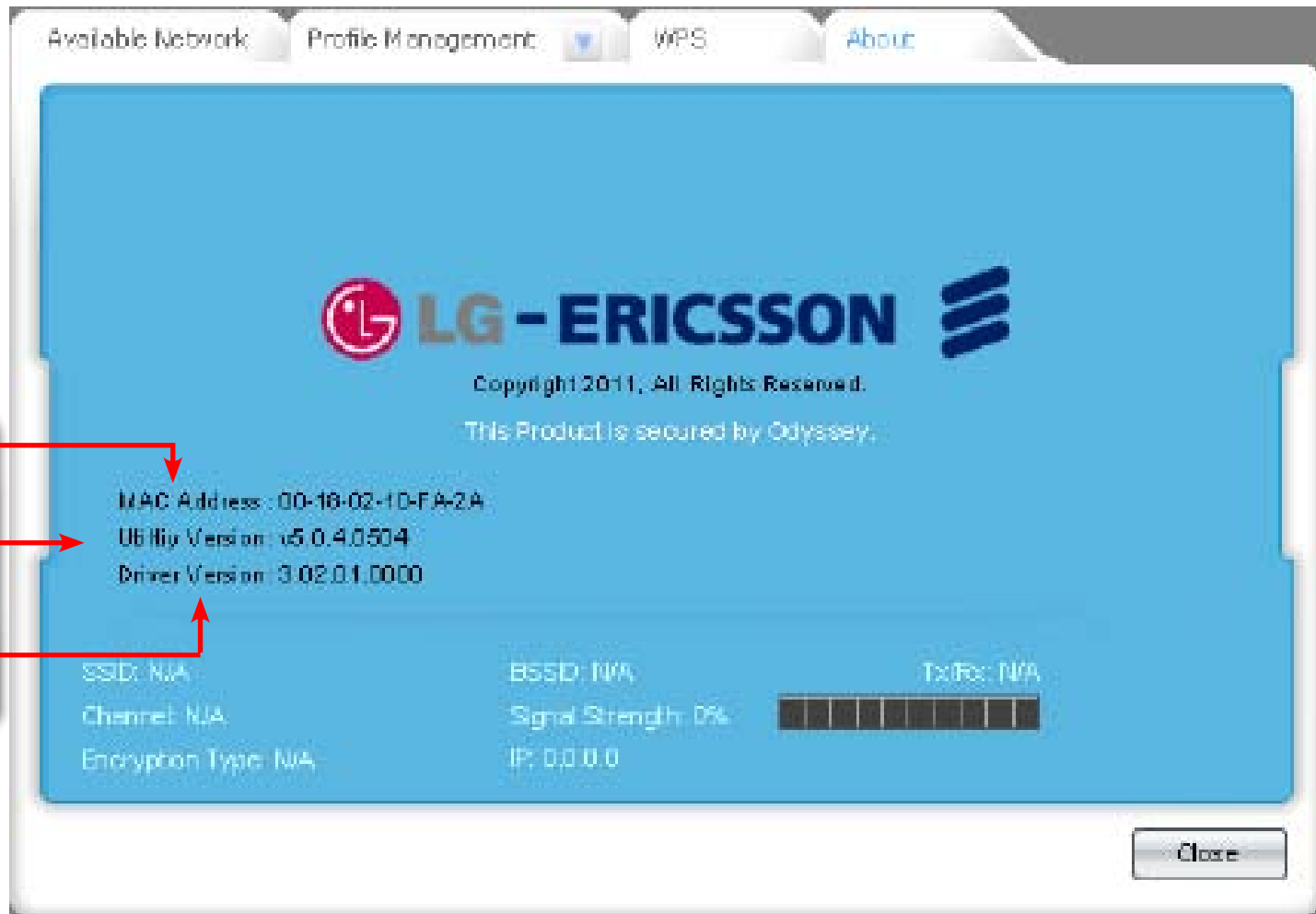
- Profile Management Tab (points to the tab)
- Profile Name (points to the 'Profile Name' column header)
- Profile Name (points to the 'Profile Name' field in the information panel)
- SSID (points to the 'SSID' field in the information panel)
- Network Type (points to the 'Network Type' field in the information panel)
- Authentication Type (points to the 'Authentication Type' field in the information panel)
- Encryption Type (points to the 'Encryption Type' field in the information panel)
- Channel Number (points to the 'Channel: 3' field)
- Encryption Type (points to the 'Encryption Type: Disable' field)
- IP Address (points to the 'IP: 192.168.1.101' field)

The LG-Ericsson Interface - Wi-Fi Protected Setup Tab



The LG-Ericsson Interface - About Tab

About Tab



MAC Address



Utility Version

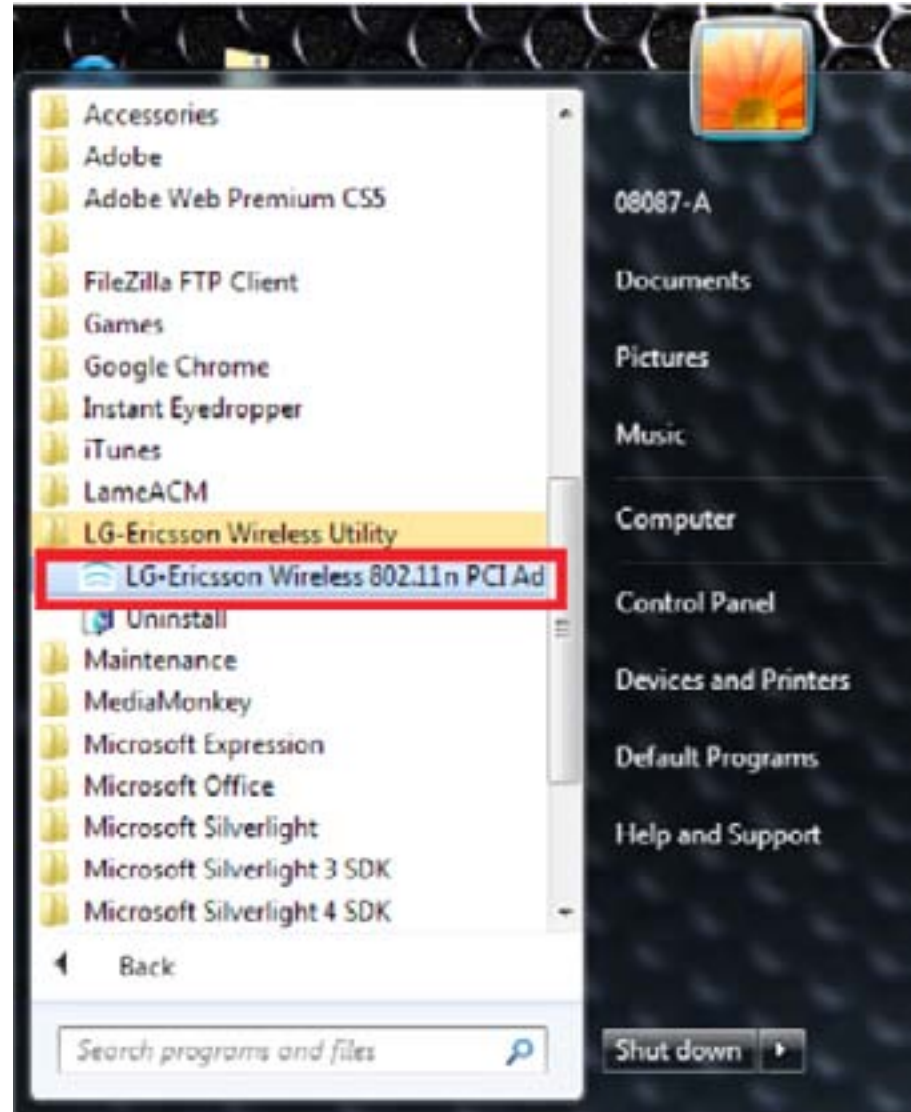


Driver Version

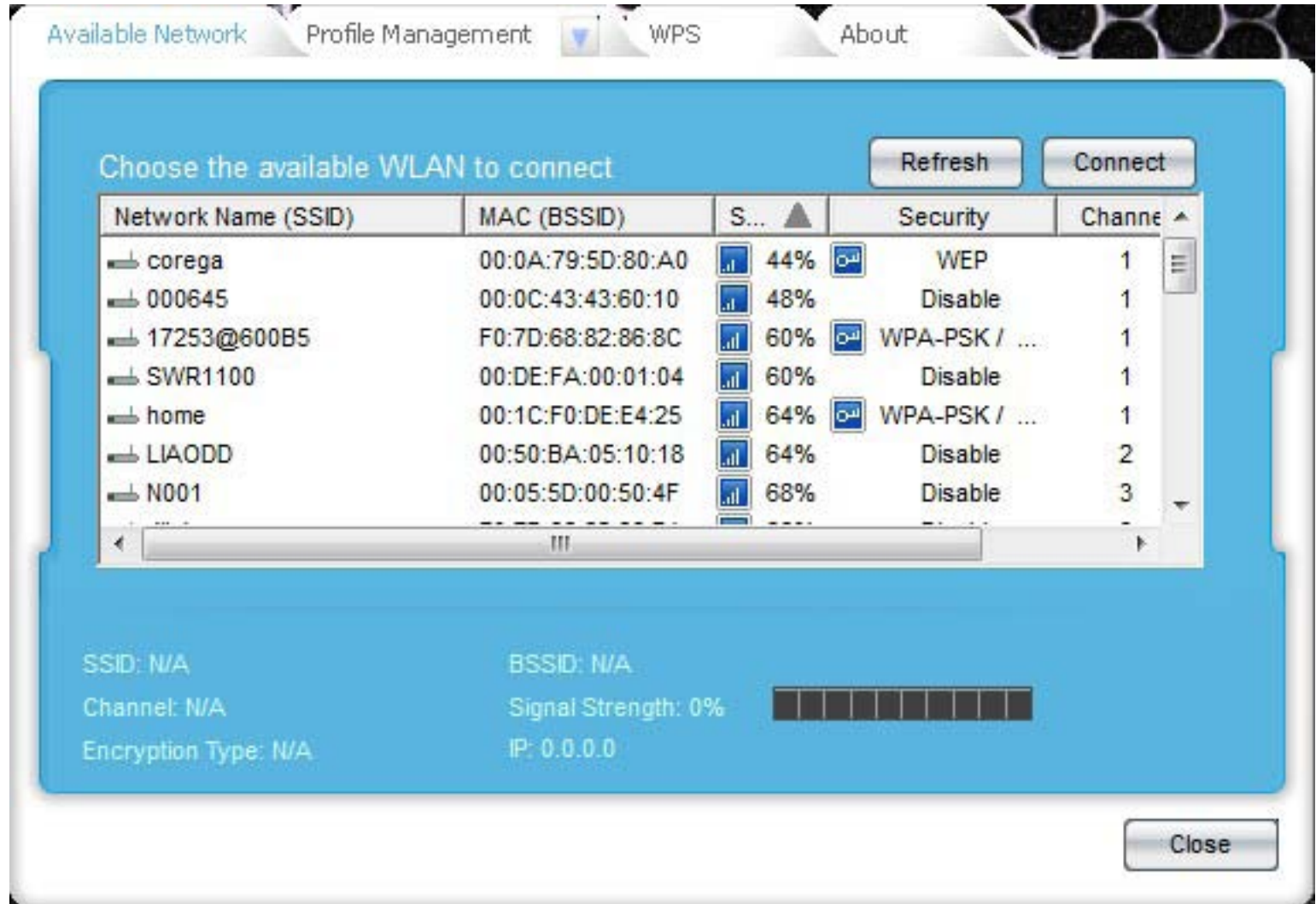


Connecting to a Wireless Router Manually

Step 1: In Windows® 7, click the Start button, All Programs, LG-Ericsson Wireless Utility, LG-Ericsson Wireless 802.11n PCI Adapter.



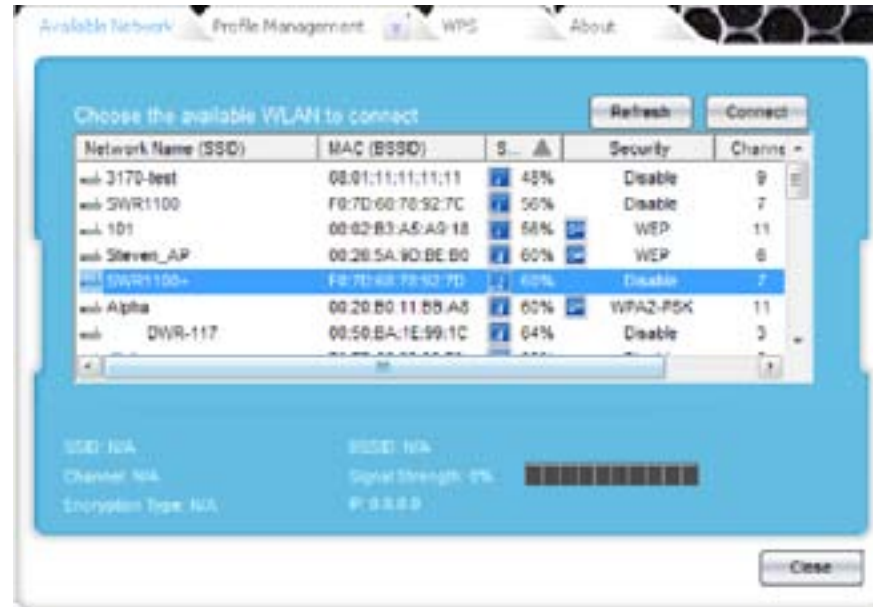
Step 2: The program interface lists “Available Networks”. There is a report on Network Names, MAC addresses, range percentages, security, and Channels.



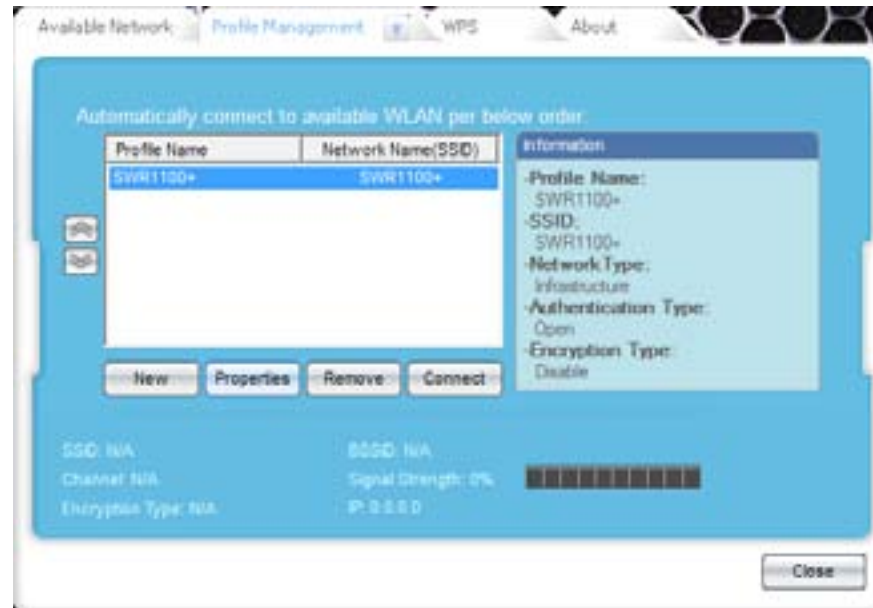
Connect to an Access Point

Step 3: There are two options available here:
Unencrypted, encrypted.

1. Locate the SSID/network you wish to connect to.
2. Click the designated SSID/network.



Step 4: Click Connect. Once connected click Properties.



Selecting your Network

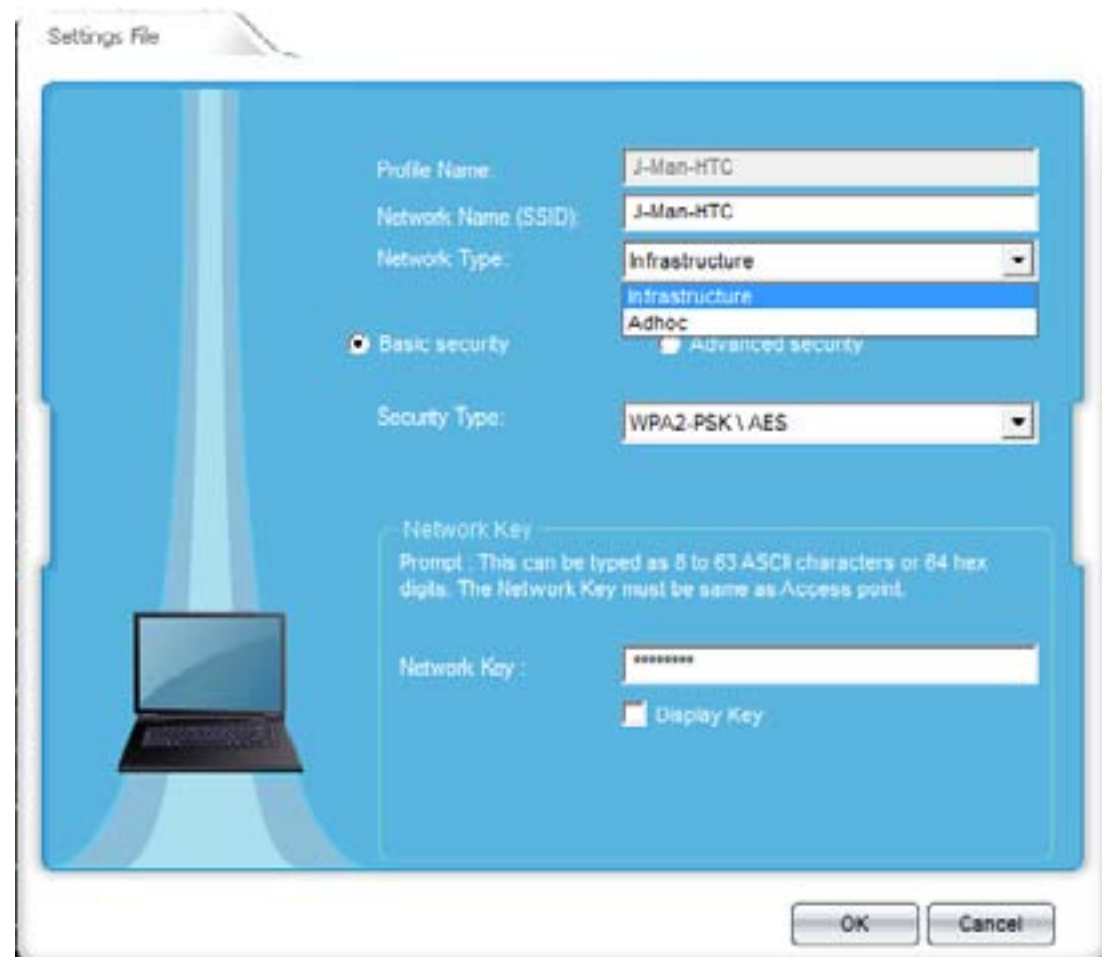
Step 5: Under the Settings File tab, the Profile Name is automatically selected.

Enter a Network Name (SSID).

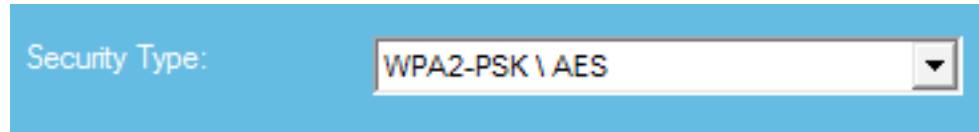
Under Network Type, select either Infrastructure mode or Adhoc mode.

Infrastructure mode is: 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. Infrastructure mode is useful at a corporation scale, or when it is necessary to connect the wired and wireless networks.

Adhoc mode: 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 peer-to-peer mode and is useful at a departmental scale or SOHO operation.

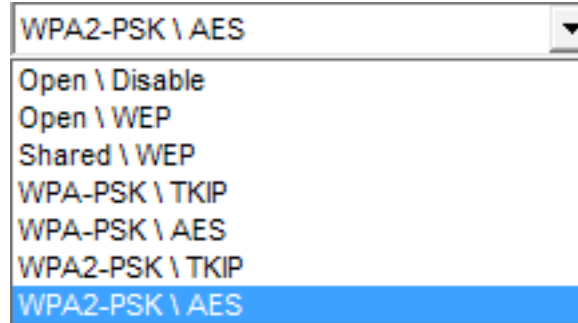


Step 6: Select Basic Security mode and then the security type.



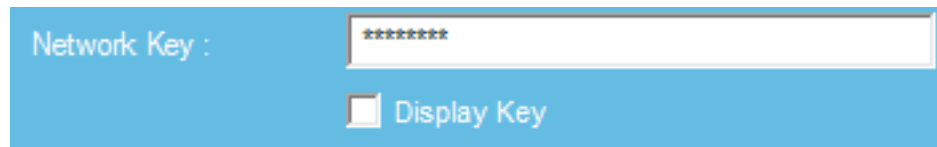
Step 7: Under Security Type there are seven choices.

- Open \ Disable - no security
- Open \ WEP - no \ limited security
- Shared \ WEP - poor security
- WPA-PSK \ TKP - best
- WPA-PSK \ AES - best
- WPA2-PSK TKP - Good
- WPA2-PSK \ AES - Good



Select your security preference.

Step 8: If you have selected a security method, enter the Network Key and click Connect.



Check the Display Key if you wish to see the Network Key digits.

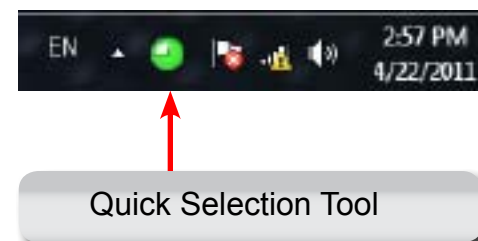
Step 9: The LG Ericsson PCI-1020 will now connect to the wireless router. Windows® 7/Vista will prompt you to select a network type. Choose your location and click OK.



Step 10: Windows® also creates a Quick bar which indicates your connection to the wireless network.

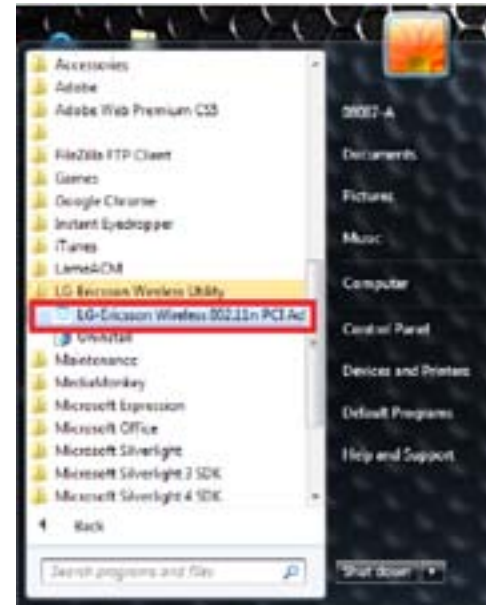


The LG-Ericsson software also installs a quick detection icon in the taskbar

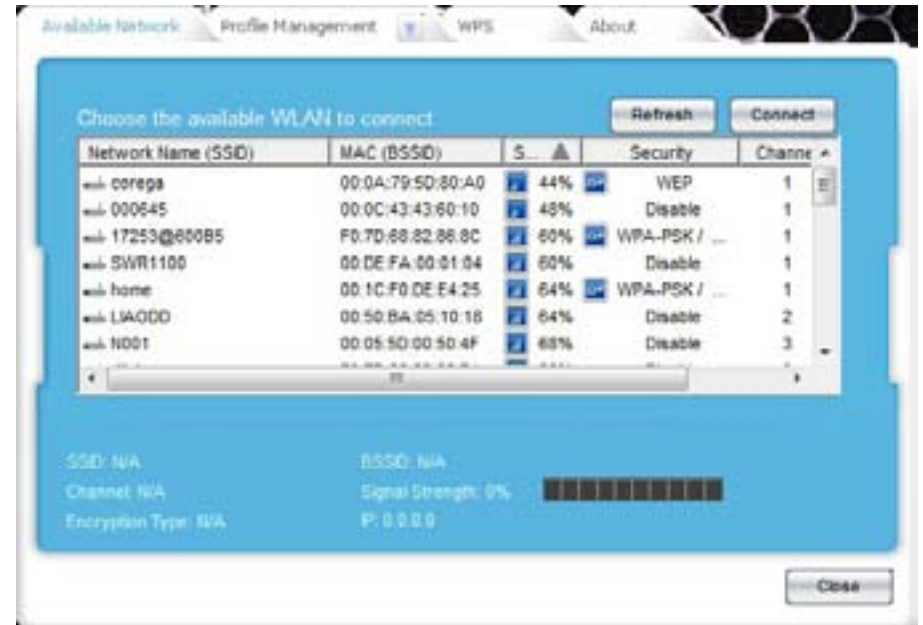


Connecting in Infrastructure Mode

Step 1: Click LG-Ericsson Wireless 802.11n PCI Adapter



Step 2: Select a wireless hotspot or access point from the list provided. Click Connect.

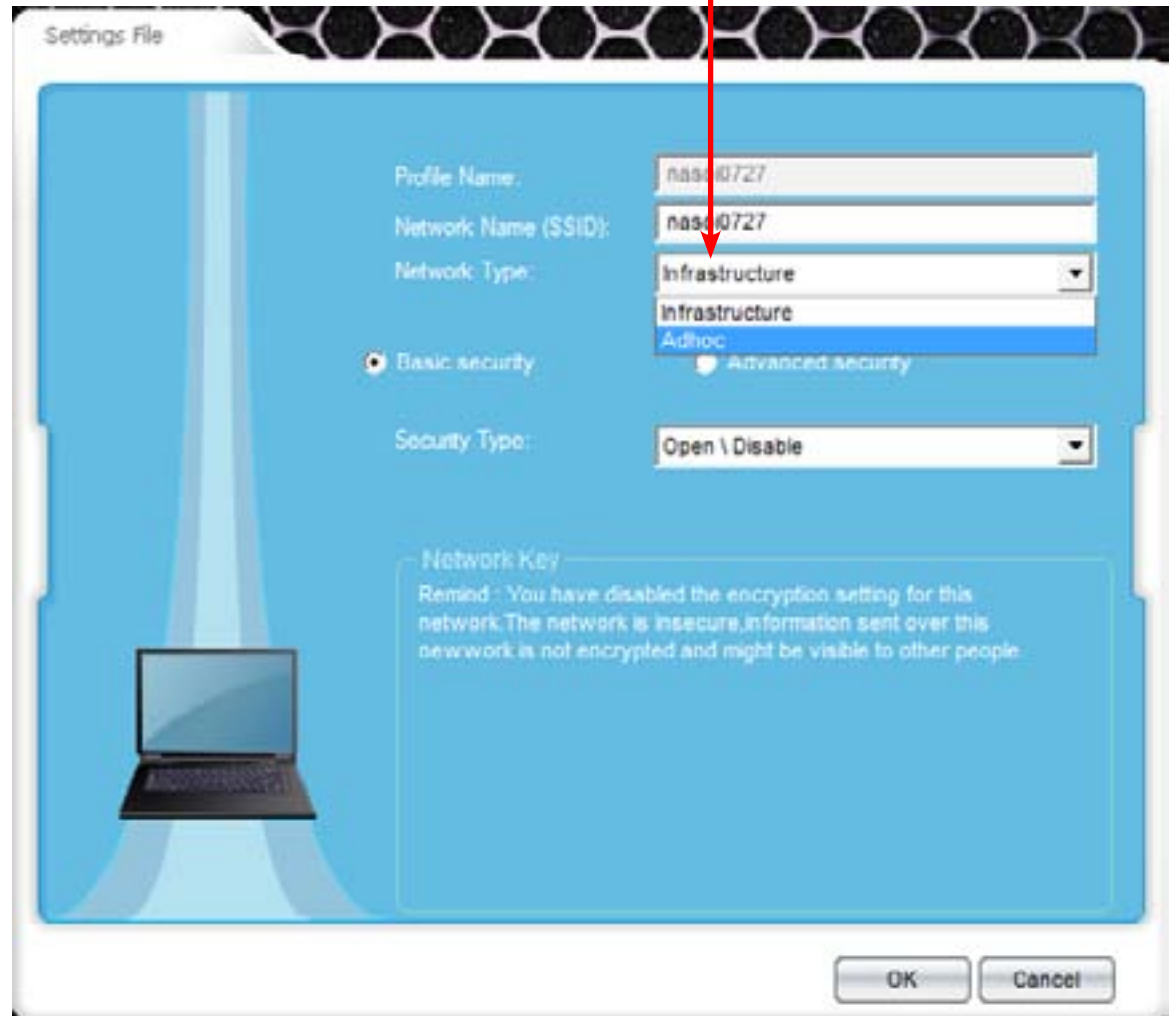


Connecting in Infrastructure Mode

Step 3: Under the Settings File tab, the Profile Name is automatically selected.

Enter a Network Name (SSID).

Under Network Type, select Infrastructure mode.



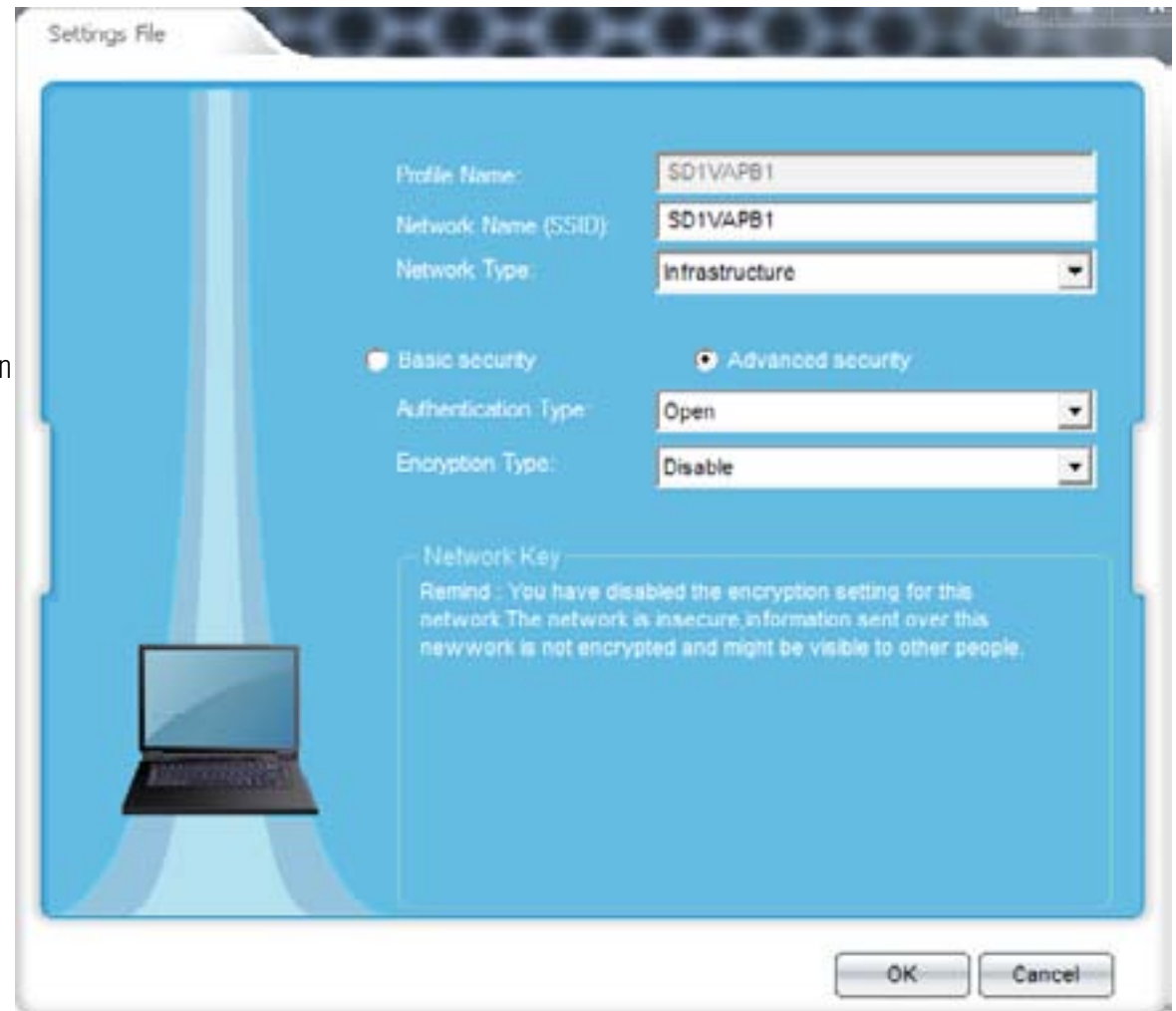
Connecting in Infrastructure Mode

Step 4: Selecting Infrastructure mode provides Basic and Advanced security features. (At the beginning, we connected via Basic Security)

Select Advanced Security.

Under Advanced Security, the Authentication Type and Encryption Type changes accordingly.

Default Advanced Security settings leaves authentication open and encryption disabled.



Security Settings

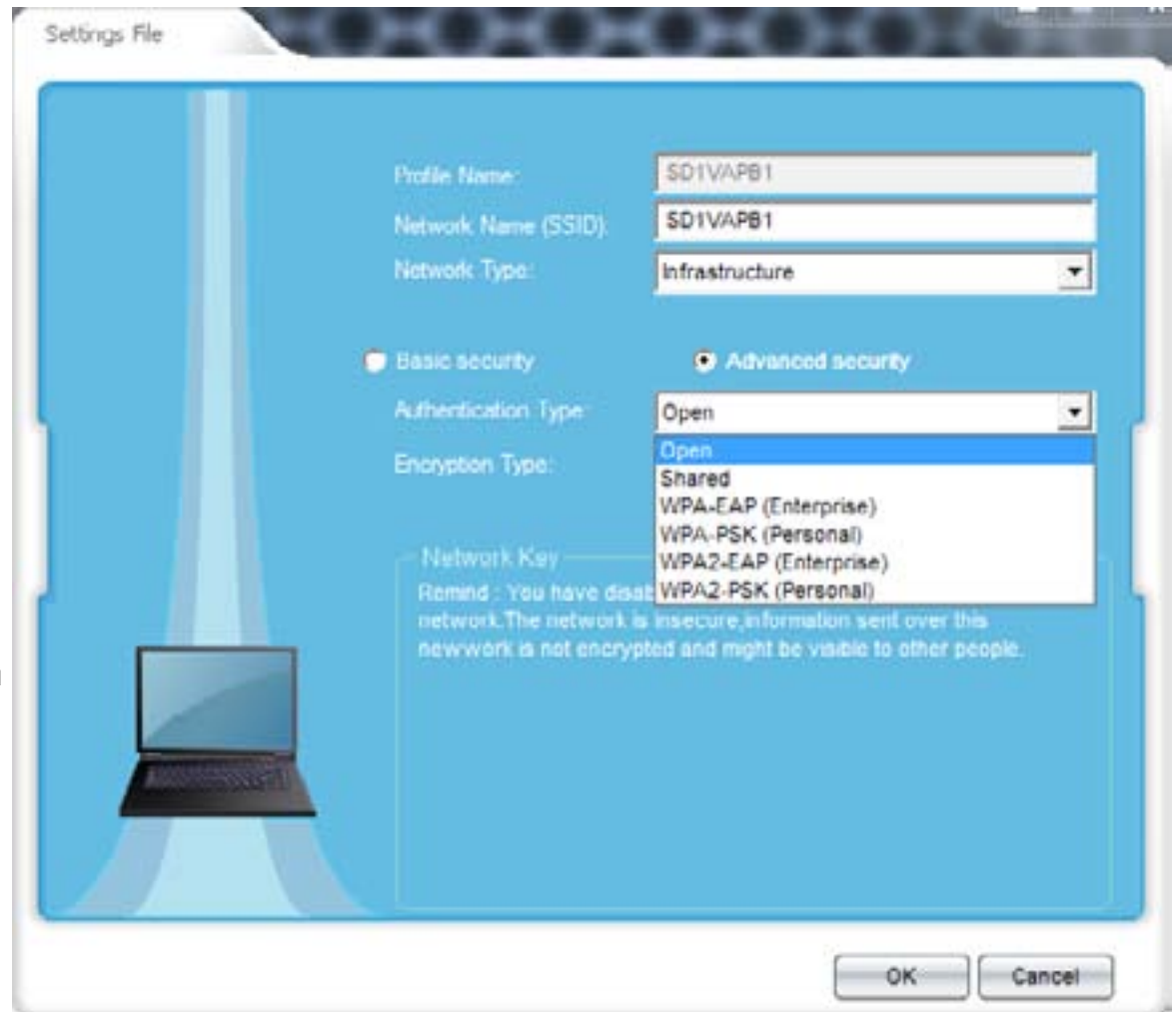
Step 1: Contact your network administrator first before configuring your device. Otherwise, as system administrator, make sure you record your router settings. The security settings on your router is crucial to setting up this device.

Under Authentication mode, there are six authentication options:

- Open
- Shared
- WPA-EAP (Enterprise)
- WPA-PSK (Personal)
- WPA2-EAP (Enterprise)
- WPA2-PSK (Personal)

NB: The recommended security for the wireless network is WPA2-PSK with AES if you wish to use an encryption type.

Step 2: Select Open if the network you are trying to connect to does not have security enabled.

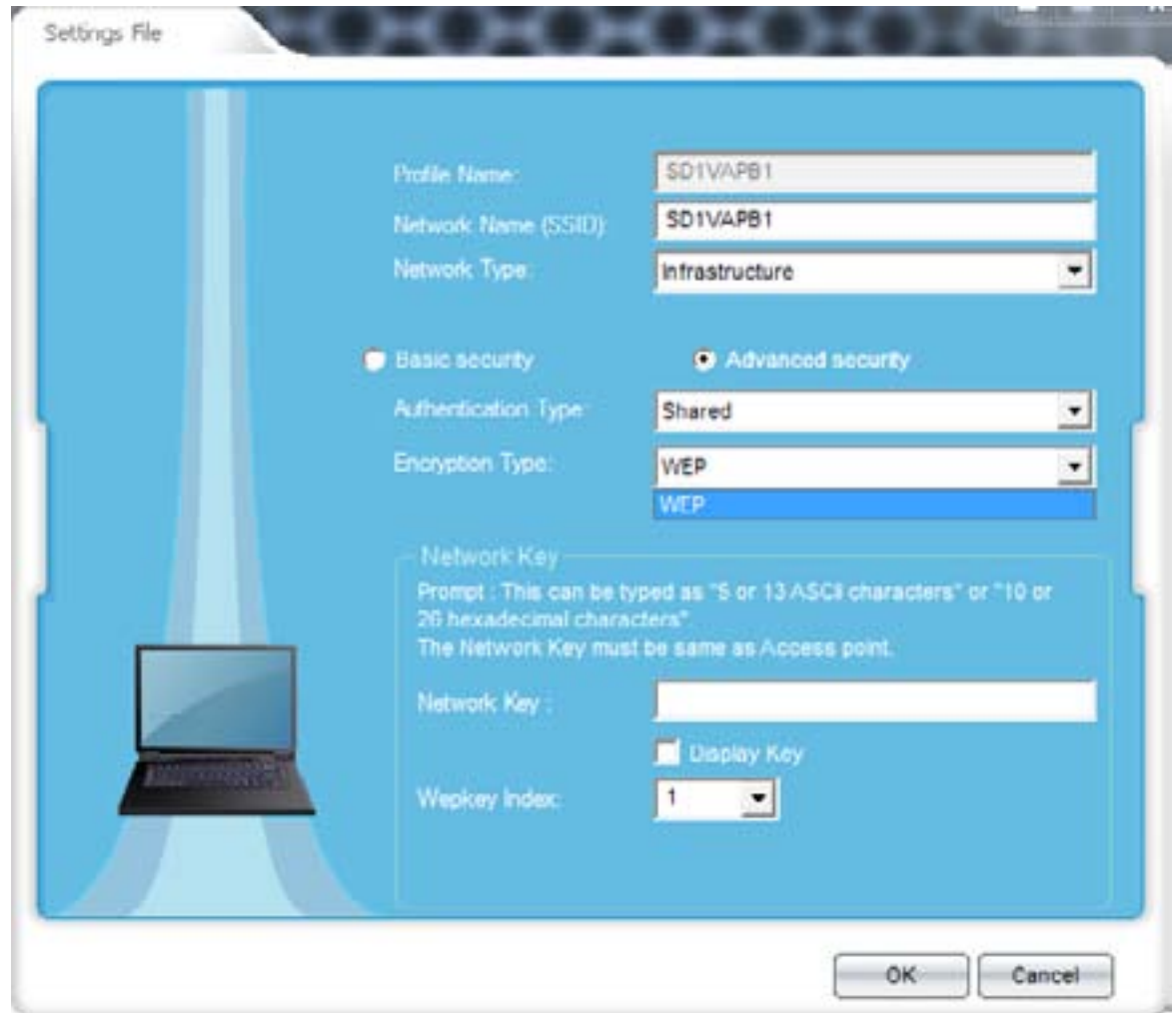


Security Settings - Shared/WEP

Step 3: Select Shared. The only option available is WEP. WEP offers the same level of security as a wired network. It encrypts data over radio waves but because of its physical structure, it is more vulnerable to tampering. It protects data from one end point to another.

However, because it is at the lowest network layer level, it doesn't offer end-to-end security.

Step 4: Enter a Network key password. This can be obtained from your network administrator or if you have access to your Access Point. Click OK when done.



Security Settings - WPA-EAP (Enterprise)

Step 1: Under WPA-EAP (Enterprise), there are more options for Encryption type.

TKIP or AES.

Under TKIP, the 802.1x settings vary according to the different spec.

Under EAP Type, there are:

EAP_PEAP
EAP_TLS

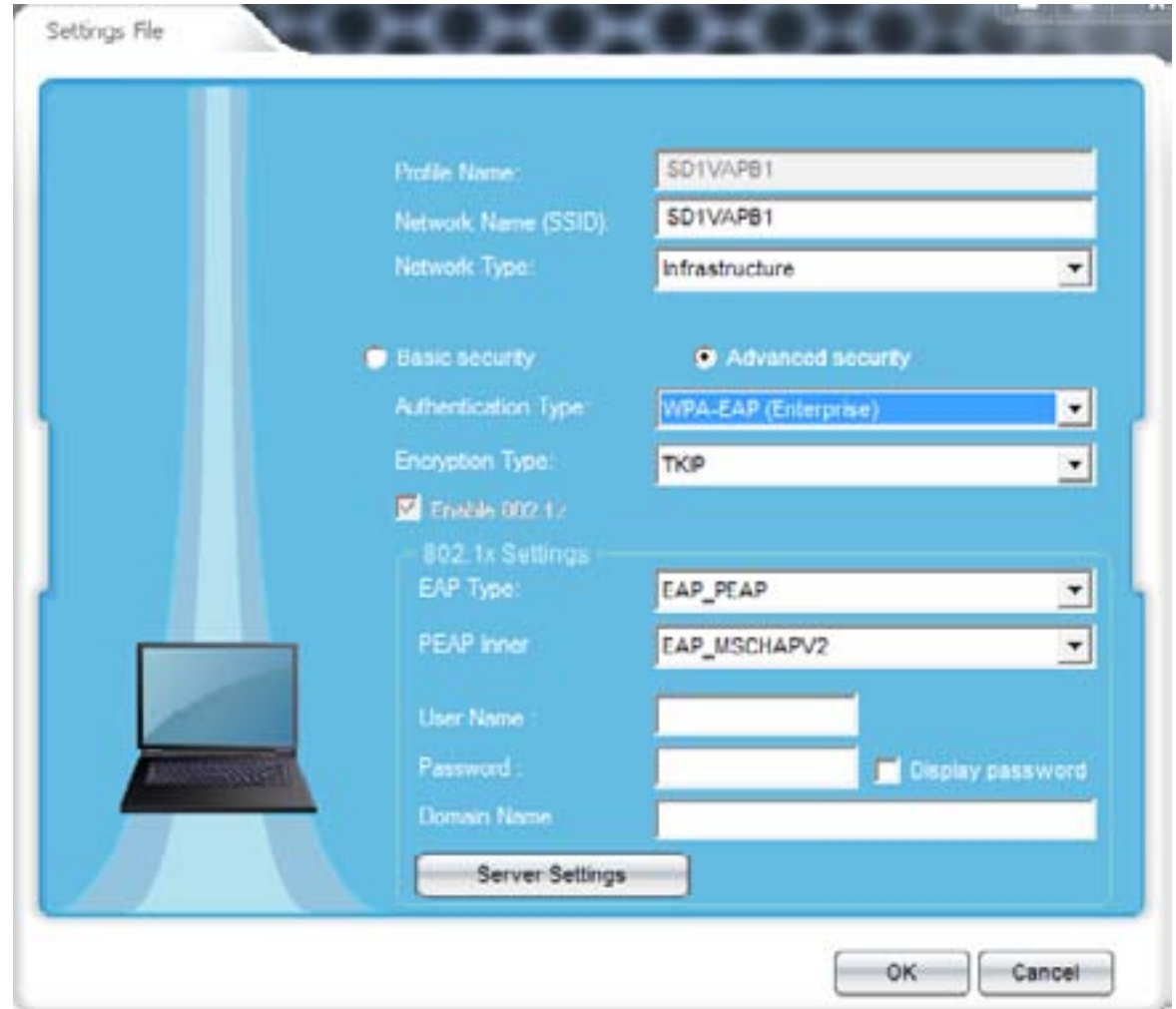
Selecting EAP_PEAP mode, the PEAP Inner only offers one choice: EAP_MSCHAPV2

Selecting EAP_TLS mode, enter a User Certificate

Type in a User Name, Password and Domain Name to authenticate your wireless device.

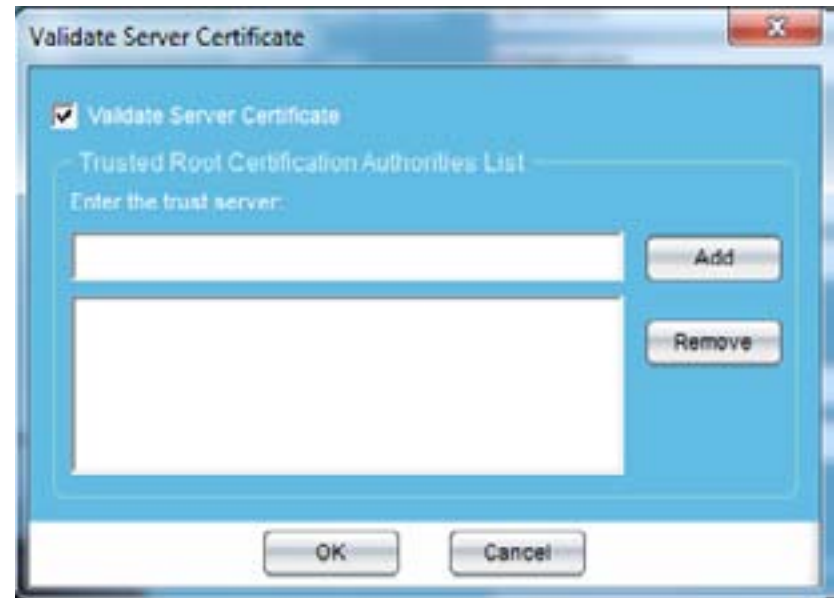
Click Server Settings to configure your server for your device.

Check the Appendix for a list of definitions.

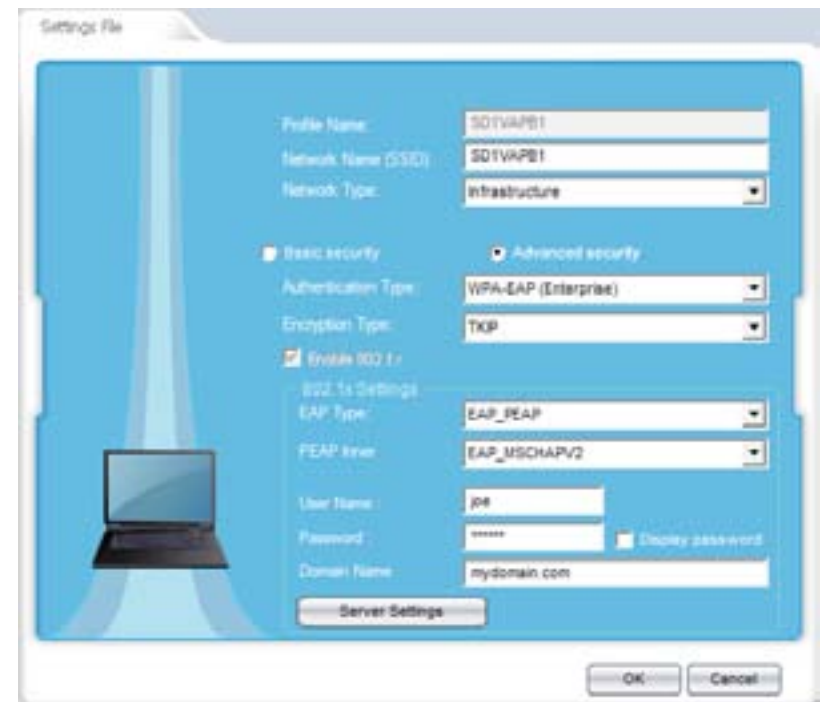


Step 2: Click the Validate Server Certificate, click Add, enter a domain name or IP address and click OK.

If you do not have the specific details please consult with your network administrator.



Step 3: Once you have filled in all the details click OK to continue.



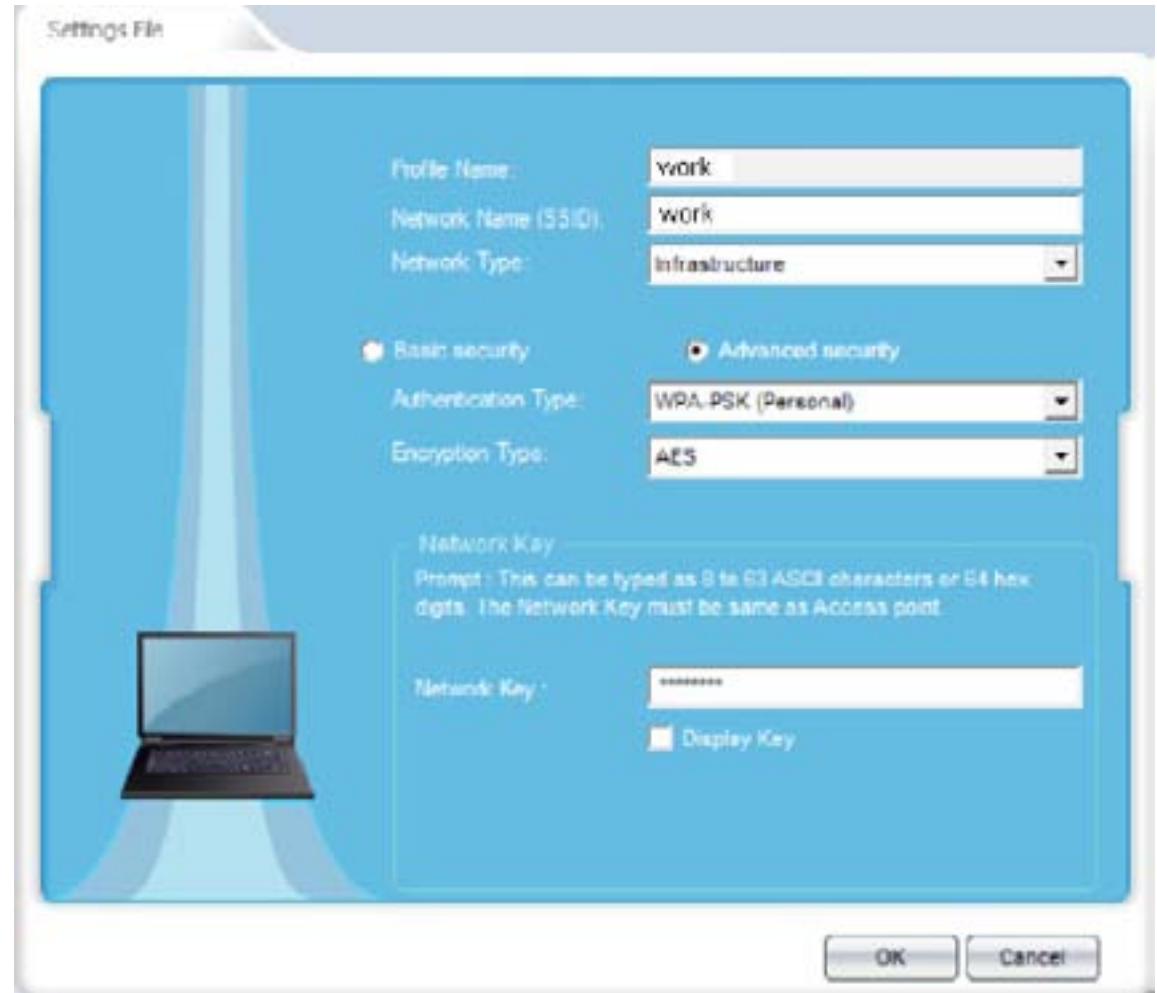
Security Settings - WPA-PSK (Personal)

Step 1: Under WPA-PSK (Personal), there are two options for the Encryption type.

TKIP or AES.

Select TKIP or AES, enter the network Key and click OK.

Step 2: Enter the Network Key and click OK.



Security Settings - WPA2-EAP (Enterprise)

Step 1: Under WPA2-EAP (Enterprise), there are two options for Encryption type.

TKIP or AES.

Under TKIP/AES, the 802.1x settings vary according to the different spec.

Under EAP Type, there are:

EAP_PEAP
EAP_TLS

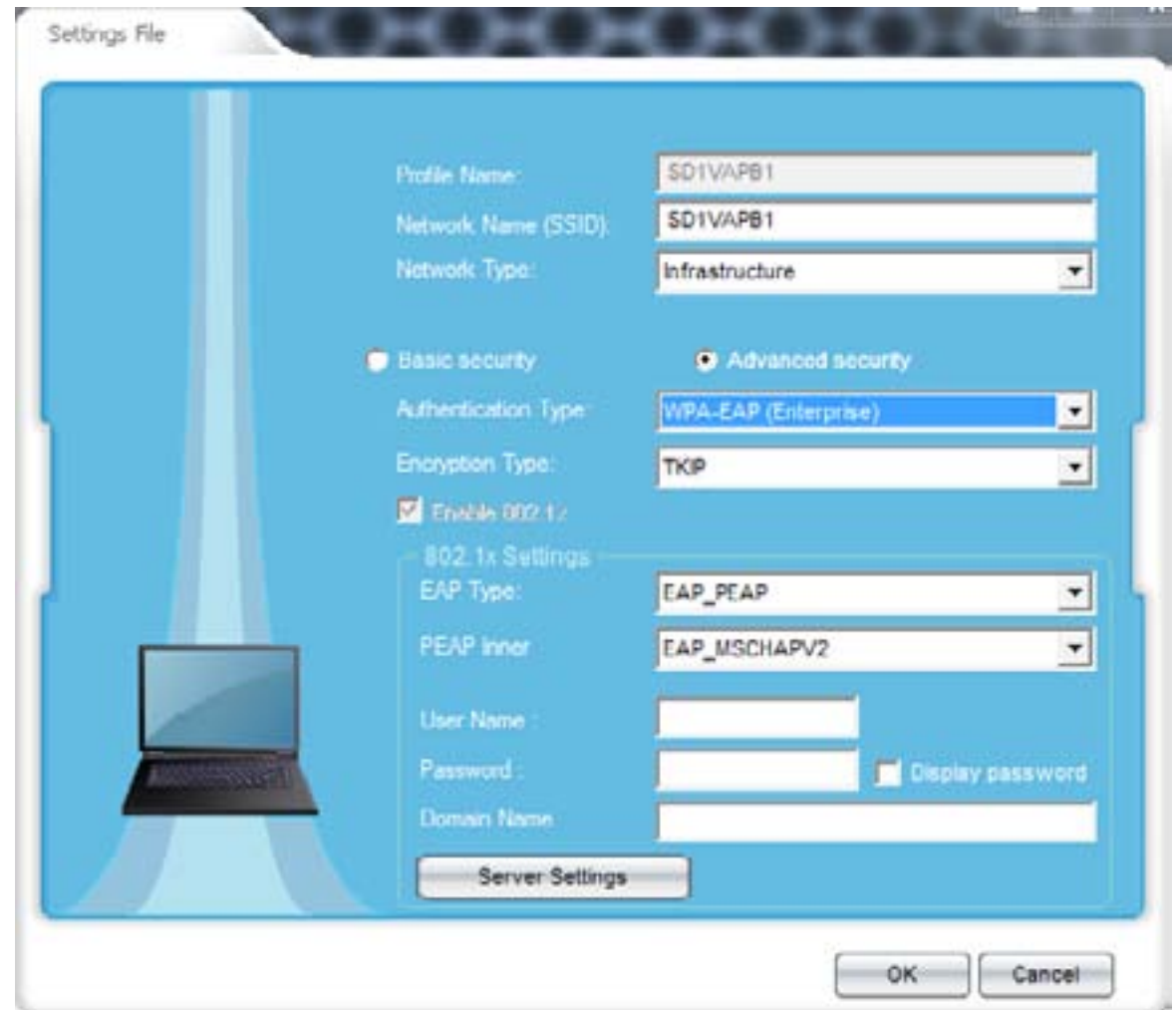
Selecting EAP_PEAP mode, the PEAP Inner only offers one choice: EAP_MSCHAPV2

Selecting EAP_TLS mode, enter a User Certificate

Type in a User Name, Password and Domain Name to authenticate your wireless device.

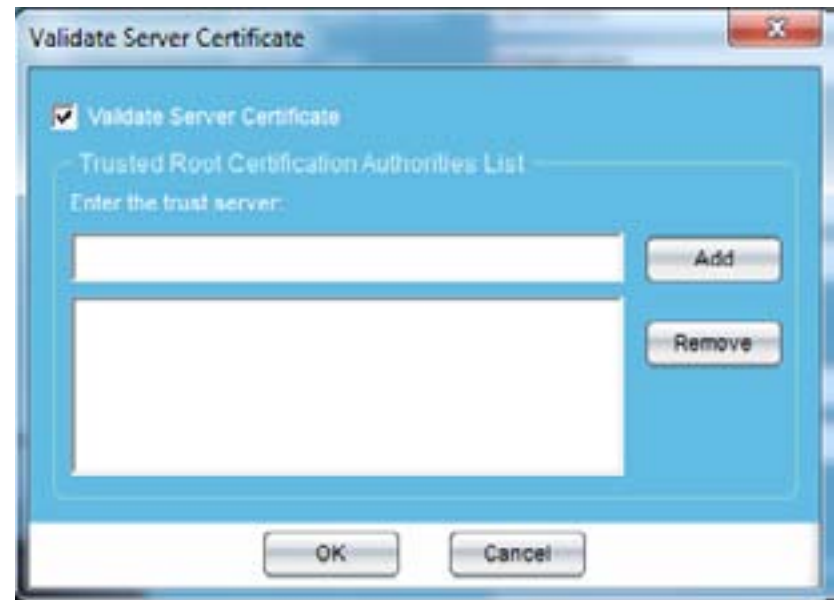
Click Server Settings to configure your server for your device.

Check the Appendix for a list of definitions.

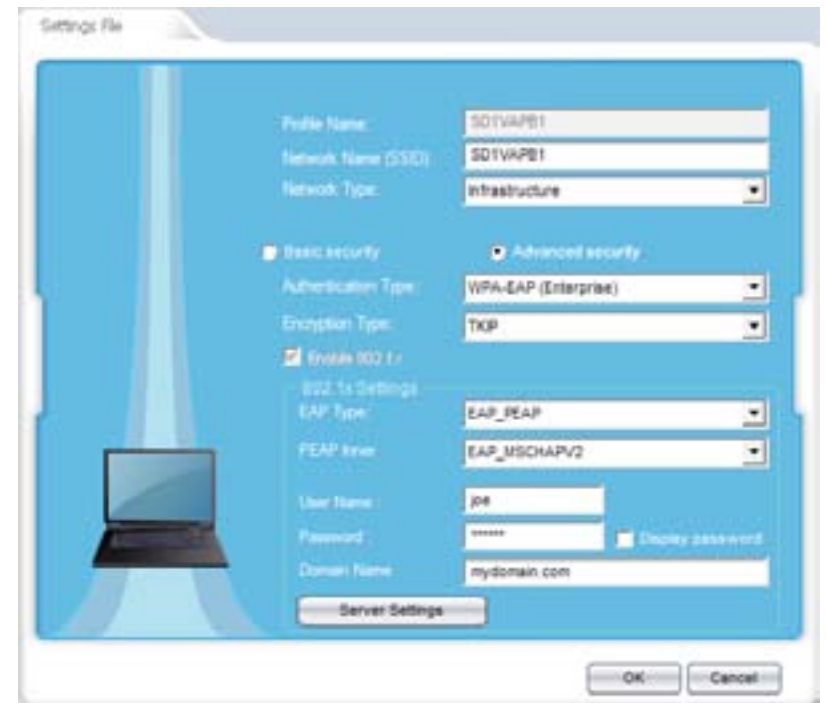


Step 2: Click the Validate Server Certificate, click Add, enter a domain name or IP address and click OK.

If you do not have the specific details please consult with your network administrator.



Step 3: Once you have filled in all the details click OK to continue.



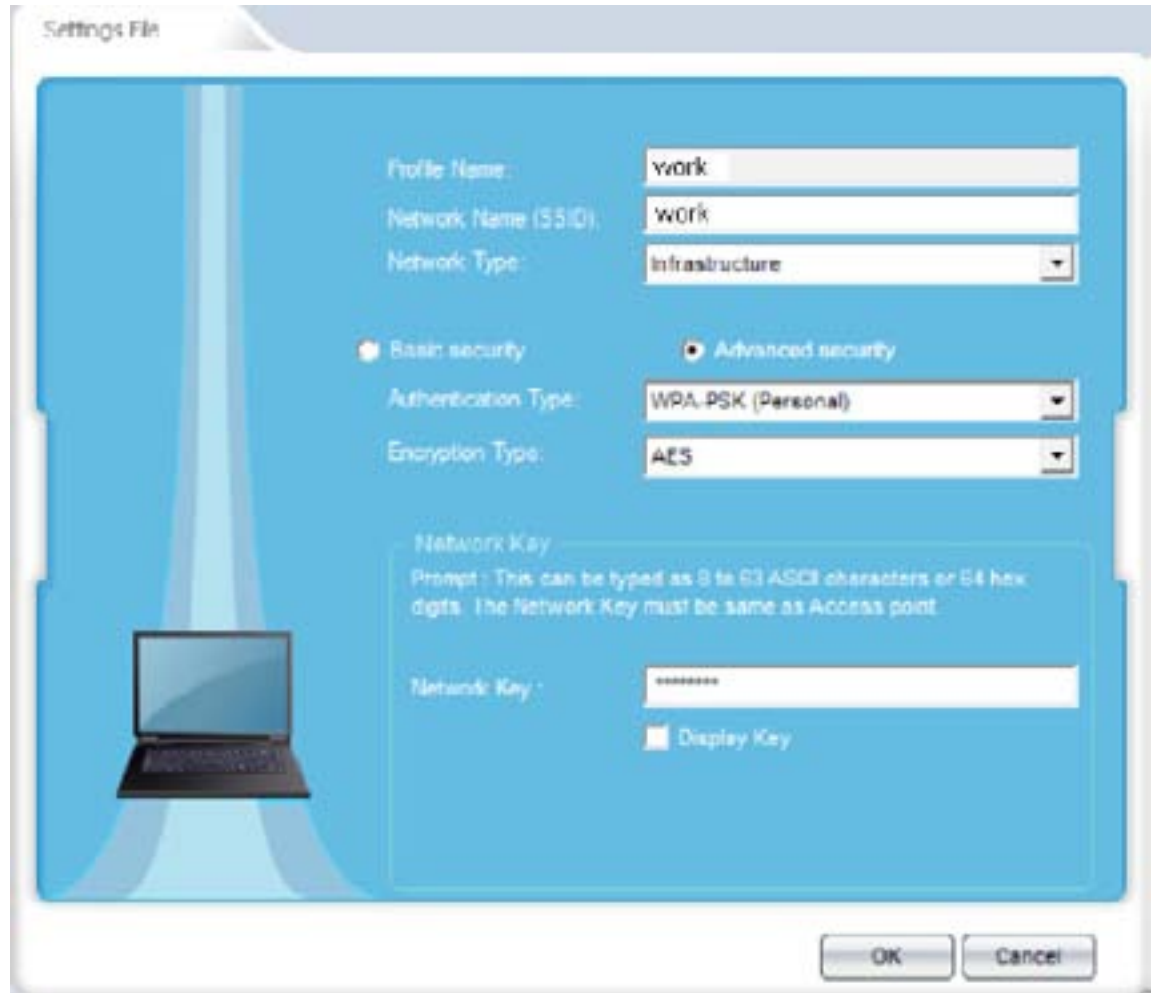
Security Settings - WPA2-PSK (Personal)

Step 1: Under WPA2-PSK (Personal), there are two options for the Encryption type.

TKIP or AES.

Select TKIP/AES, enter the network Key and click OK.

Step 2: Enter a Network Key and click OK.

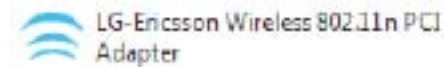


Please Note: The recommended security settings is WPA2-PSK (Personal) with AES. However, please check with your network administrator to confirm the router settings.

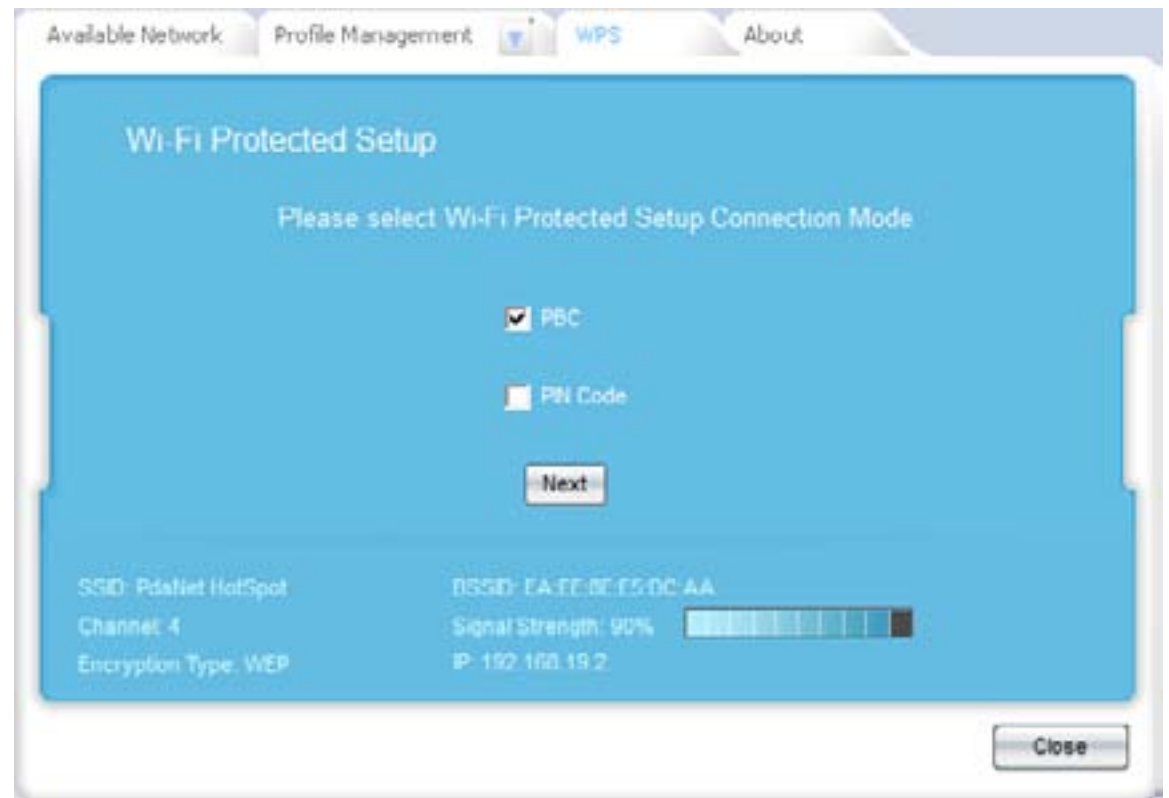
Connect to the Wireless Network using WPS

This section guides you through the process of connecting the LG-Ericsson PCI-1020 Desktop Adapter to your wireless network.

Step 1: Click Start, All Programs, LG-Ericsson Wireless 802.11n PCI Adapter.



Step 2: Click the WPS Tab



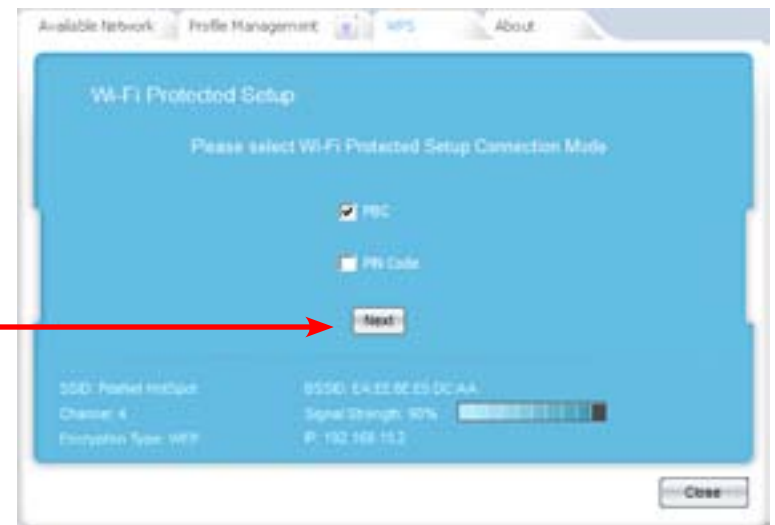
The Wi-Fi protected setup works in association with your wifi router. Many wifi routers have dedicated buttons to enable wifi protected mode. Please check your router or ask your network administrator before making changes to your wifi protected setup.

Step 3: Activate wireless connectivity on your router by pressing the WPS button on your router. This function will remain active for 2 minutes (depending on manufacturer). Click the “Connect Now” button on the router.



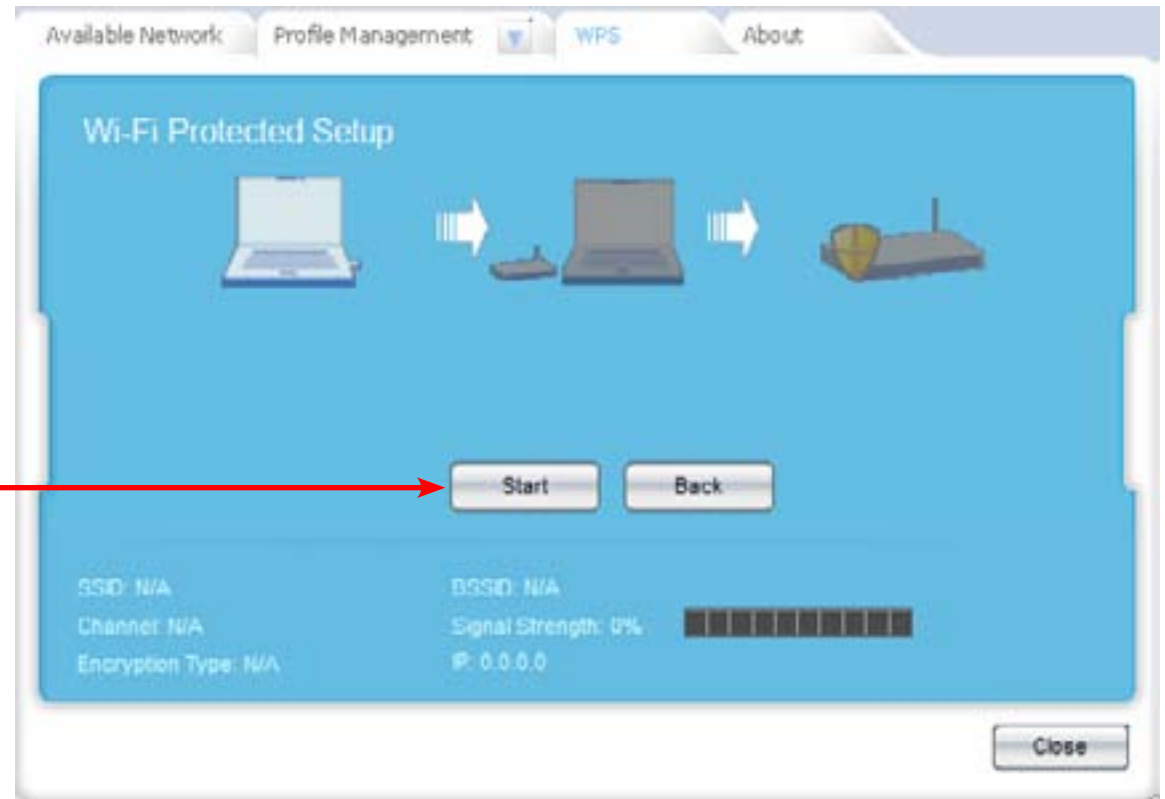
Step 4: Click PBC on the WPS tab and click Next.

Next



Step 5: The software gives an illustration of the connecting devices. Click Start to sync the devices.

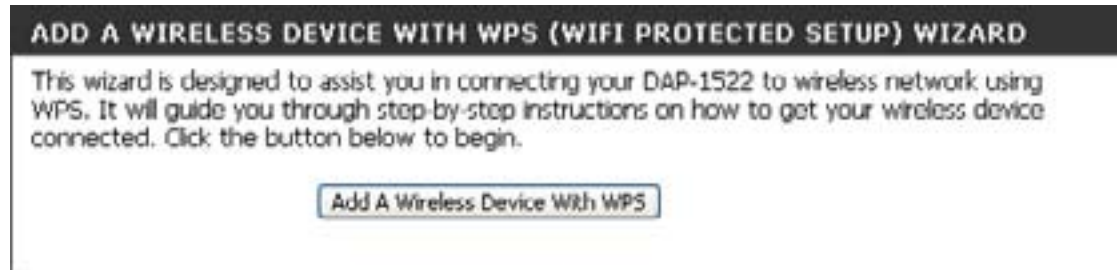
Next



NB: Make sure you have pressed the WPS button on the router to activate WPS.

Step 6: On your router, locate the WPS settings.

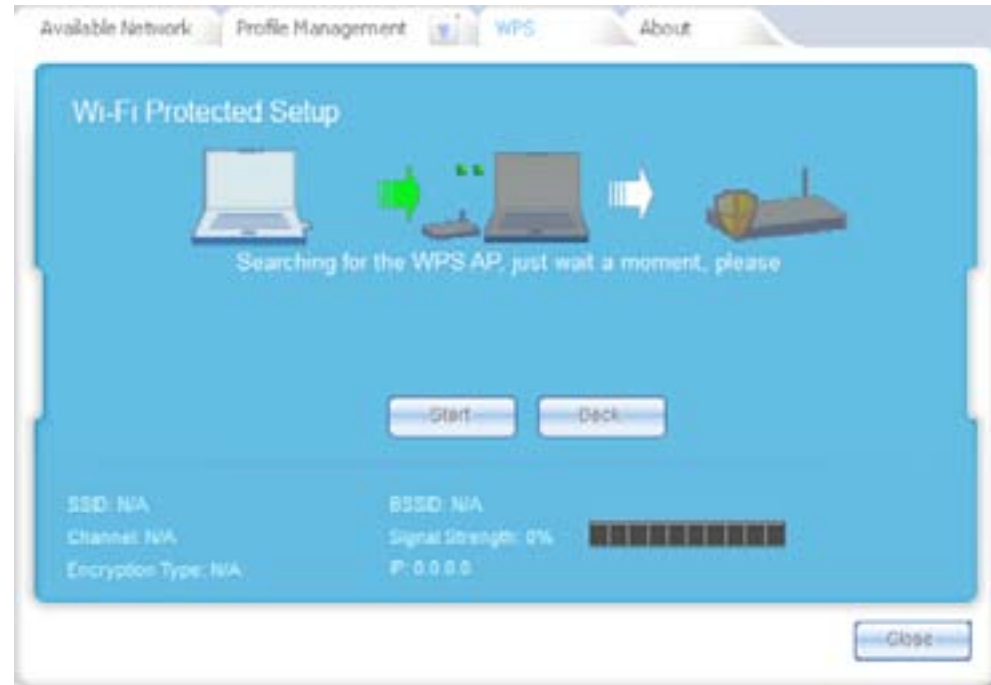
Click the Add A Wireless Device with WPS button



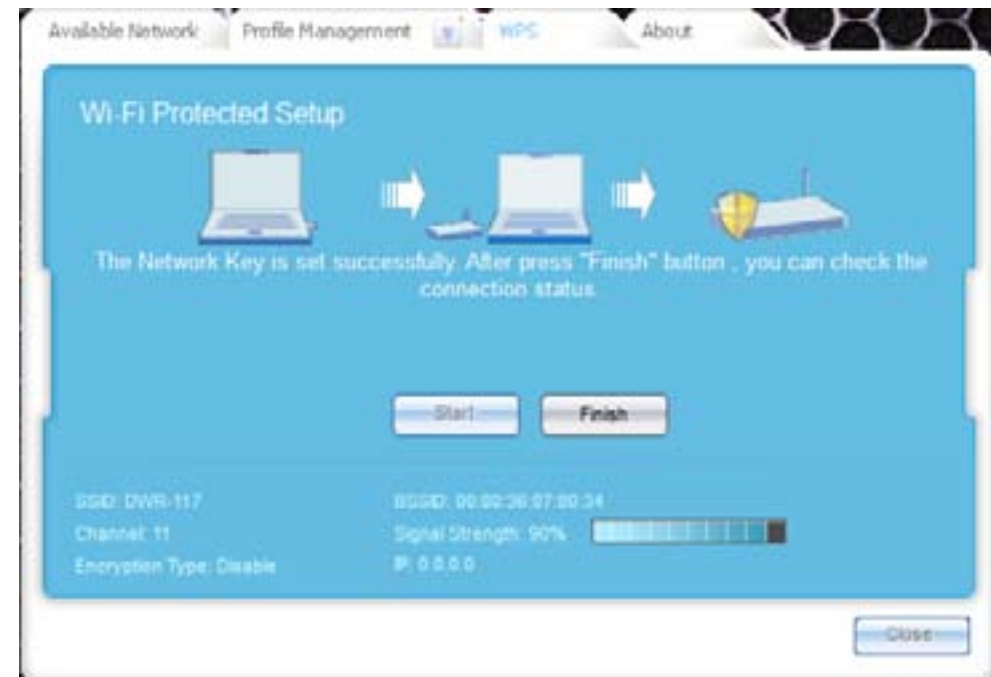
Step 7: Click the PBC radio button and click Connect



Step 8: The LG-Ericsson PCI-1020 Adapter will now search for a WPS Access Point.



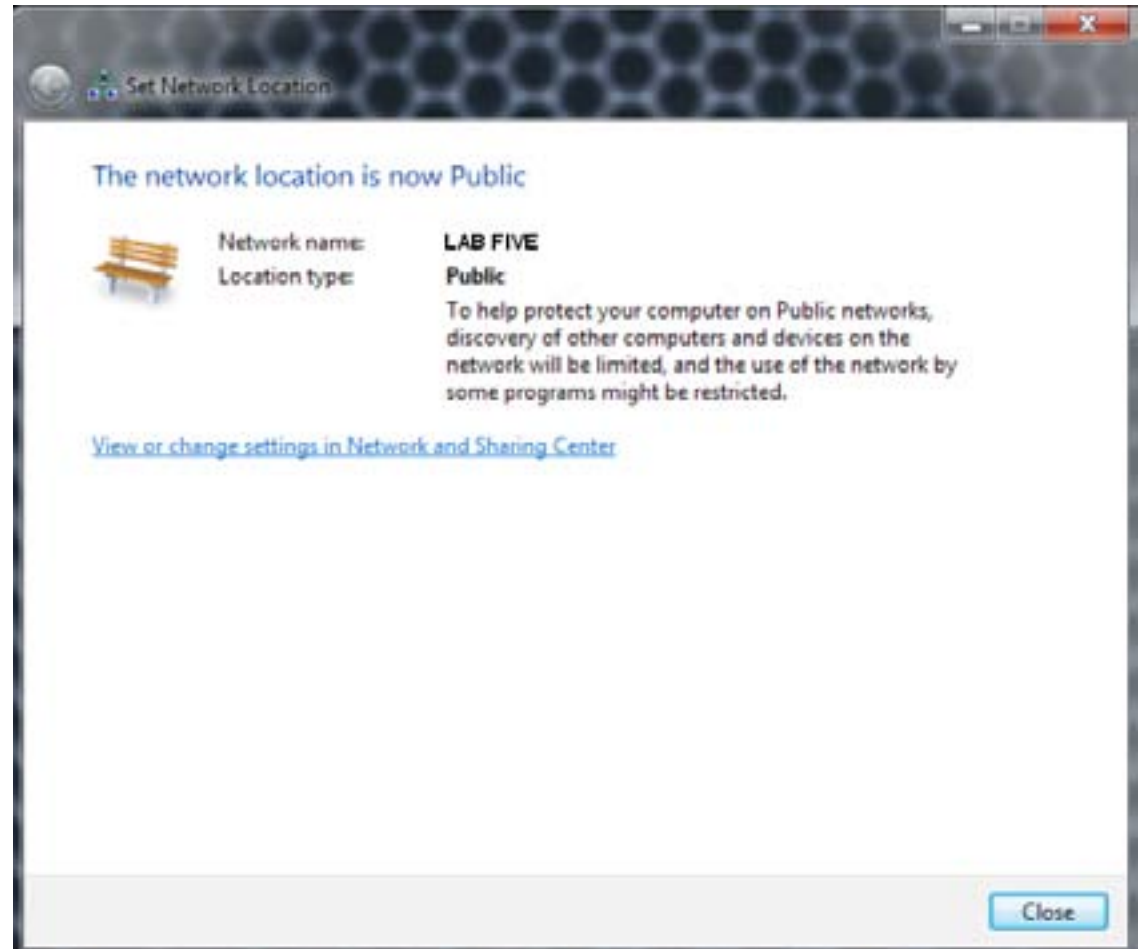
Step 9: Once the LG-Ericsson PCI-1020 has found a WPS device, it will register it and confirm the connection to the router by sending a network key to the access point.



Step 10: Windows automatically recognizes the new wireless location and prompts you to select a location.

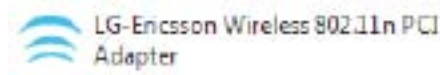


Step 11: Windows registers the new wireless location

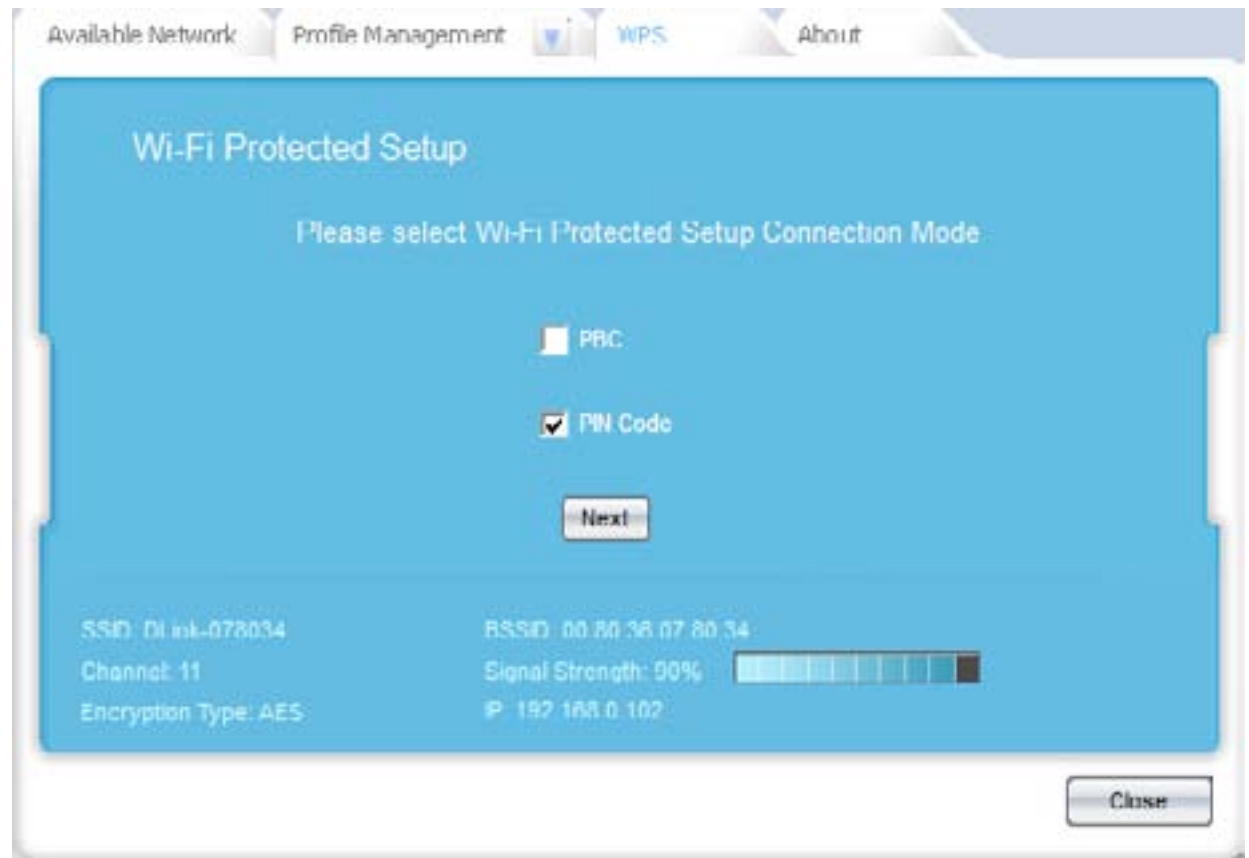


Connect to the Wireless Network using a PIN code

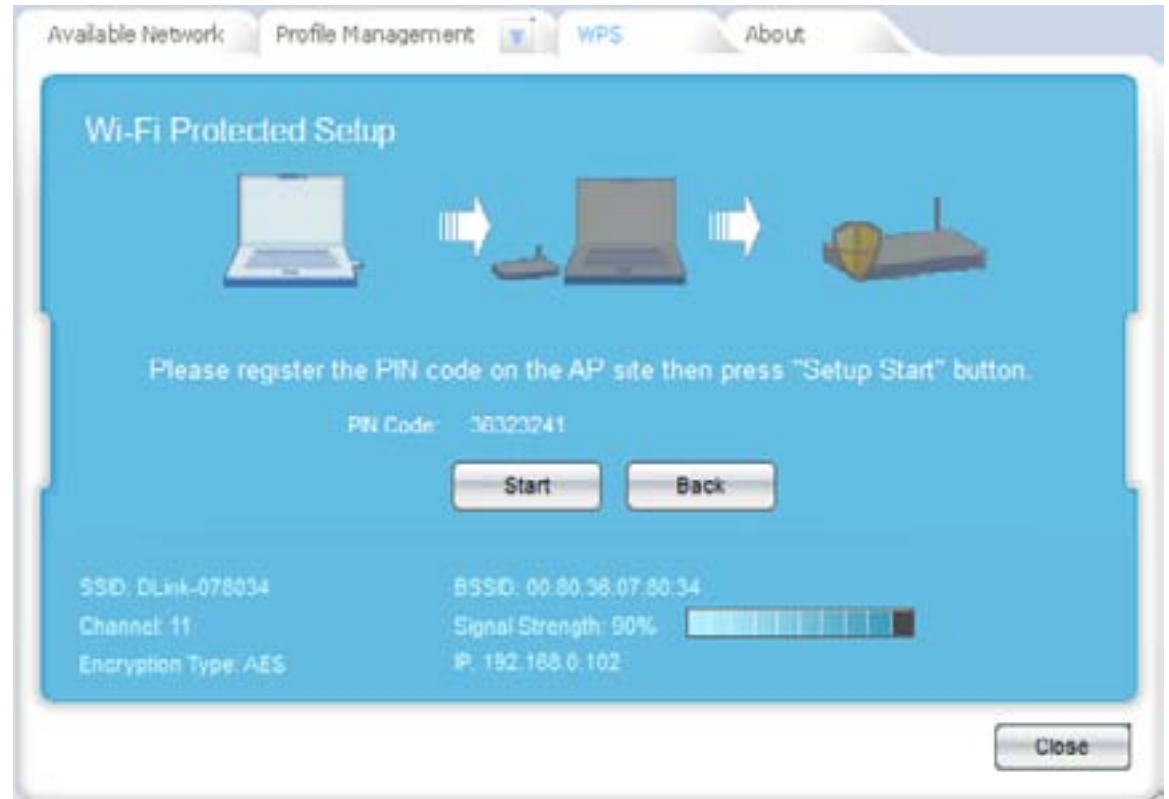
Step 1: Click Start, All Programs, LG-Ericsson Wireless 802.11n PCI Adapter.



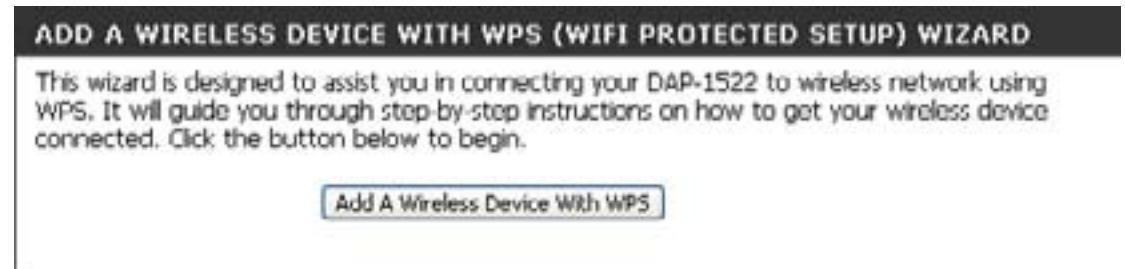
Step 2: Check the PIN Code box under the WPS Tab.
Click Next.



Step 3: The LG-Ericsson adapter software identifies the PIN code and provides a PIN code. Use this PIN code to authenticate with your router.



Step 4: On your router, locate the WPS settings.
Click the Add A Wireless Device with WPS button.



Step 5: Enter the PIN code on your LG-Ericsson PCI-1020 device and click Connect.

The wireless adapter syncs with the router.

CONNECT TO WIRELESS DEVICE WITH WPS

There are two ways to add wireless device to your wireless network:

- PIN (Personal Identification Number)
- PBC (Push Button Configuration)

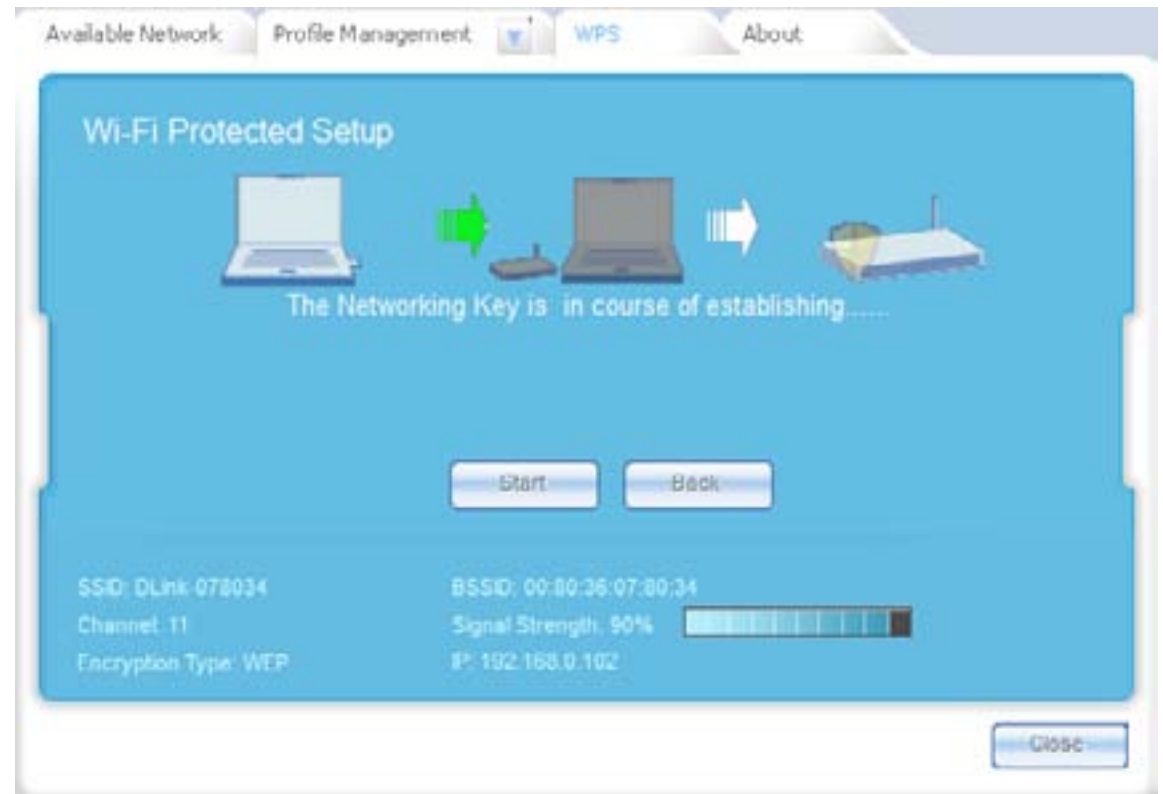
PIN :

Please Enter the above PIN information into your Acces Point and click the below "Connect" button.

PBC

Please press the push button on your wireless device and press the "Connect" button below within 120 seconds.

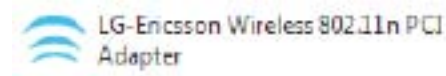
Step 6: The LG-Ericsson PCI-1020 adapter establishes a relationship with the Network key



Once the connection is established the PIN Code activation is set.

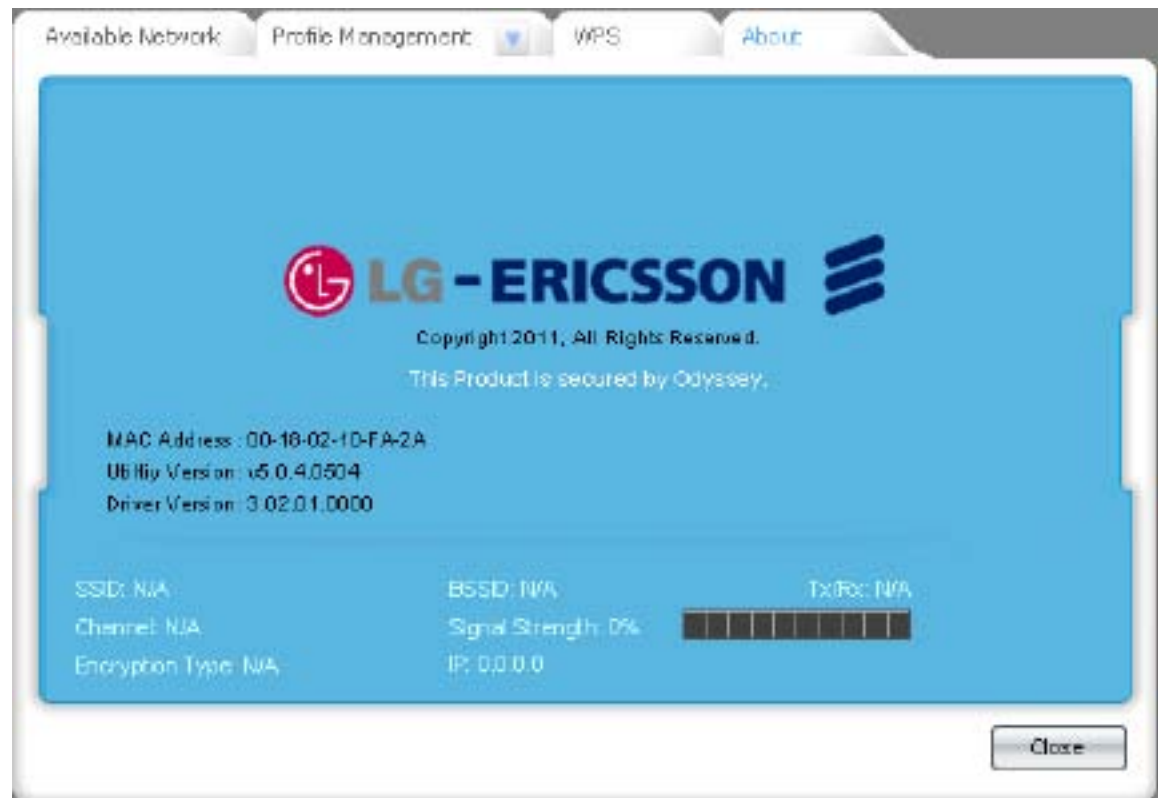
LG-Ericsson PCI-1020 - About

Step 1: Click Start, All Programs, LG-Ericsson Wireless 802.11n PCI Adapter.



Step 2: Click the About Tab to see details about the MAC Address, Utility Version, and driver Version.

Here it also shows the SSID, Channel and Encryption Type of the Access Point you are connected to.

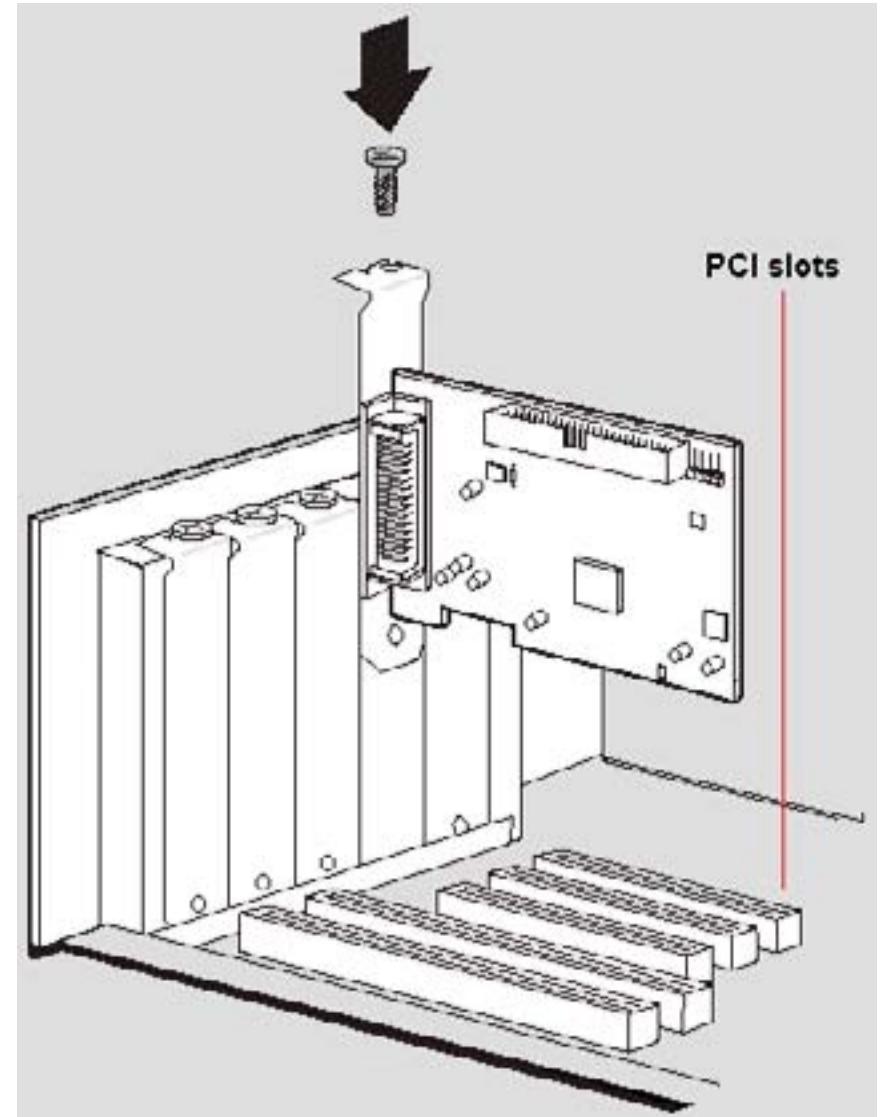


Installing the LG-Ericsson PCI-1020 in Windows XP

This section shows you how to install the LG-Ericsson PCI-1020 using Windows XP

Step 1: Install the LG-Ericsson PCI-1020 into a PCI slot on your Windows XP machine.

Make sure the device is secured in the PCI slot by screwing it in place.



Step 2: Once you turn on your PC, Windows XP automatically recognizes the new hardware and provides a Found New Hardware Wizard.

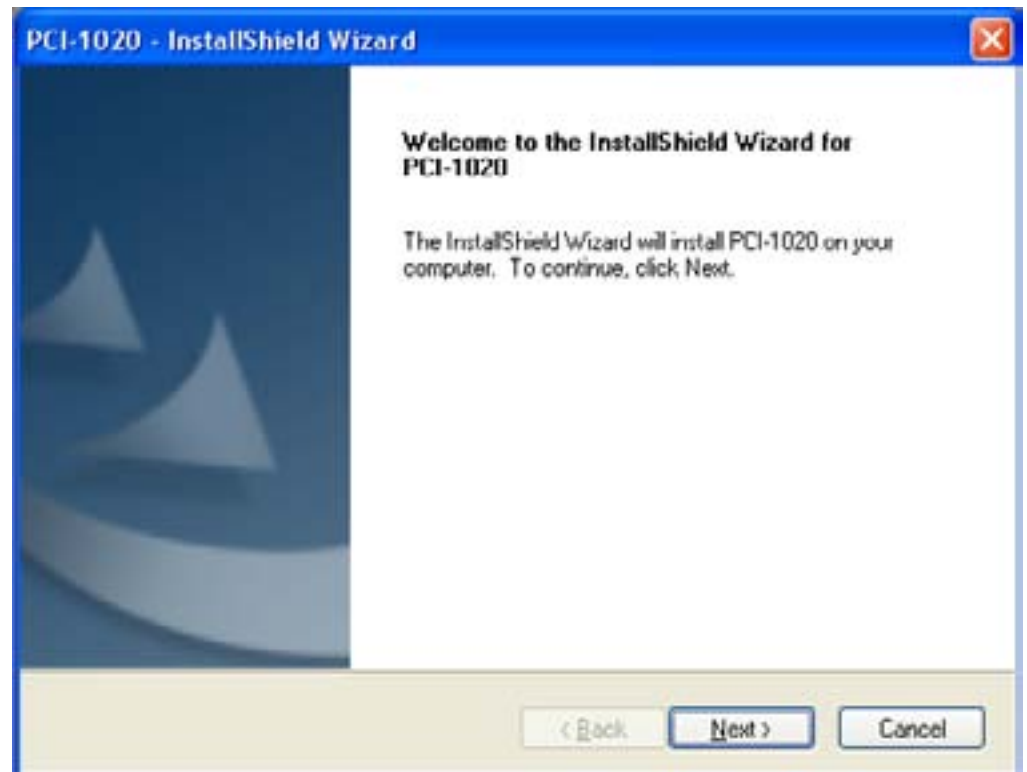


Step 3: In the Wizard, select Cancel.

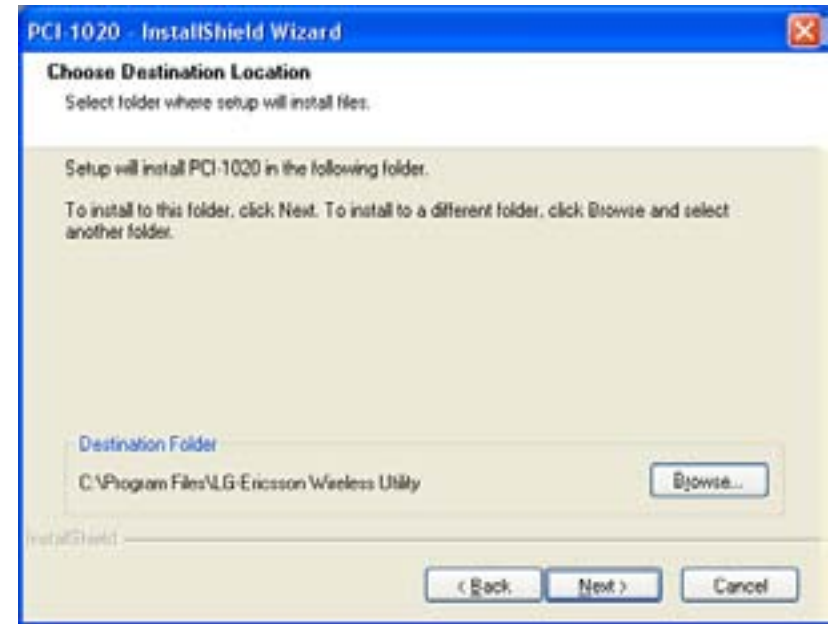
Step 4: Put the LG-Ericsson PCI-1020 PCI Adapter CD in your CD-ROM. The CD will autorun.



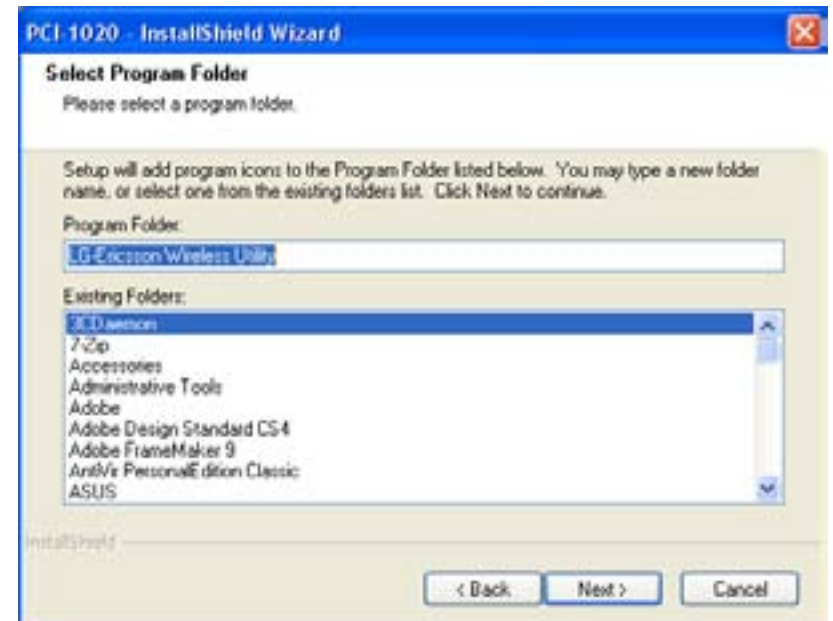
Step 5: The PCI-1020 InstallShield Wizard appears. Click Next.



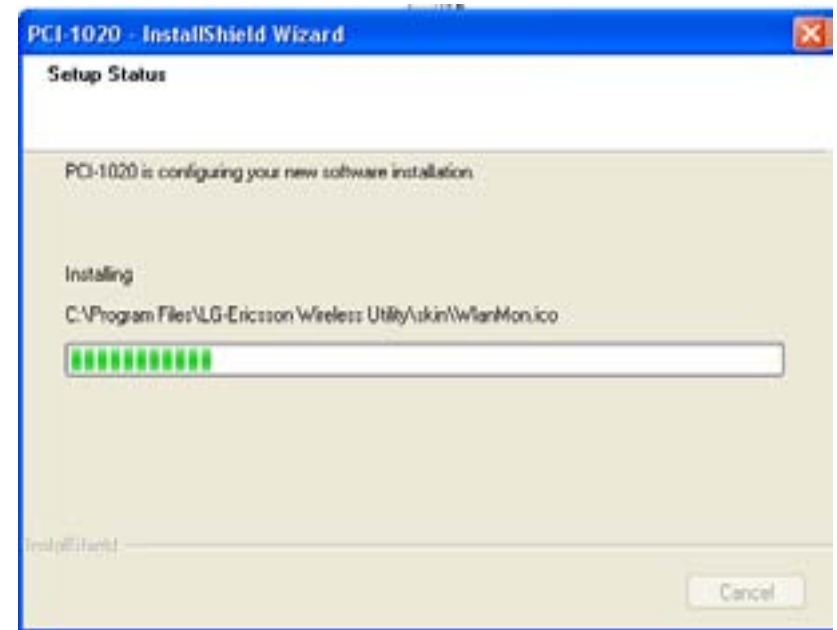
Step 6: Select the Destination Folder where you want the software to reside. Otherwise leave the default settings and click Next



Step 7: Select the Program Folder and click Next.



Step 8: The program installs on your drive.



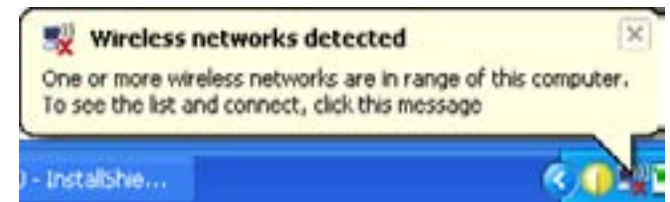
Step 9: Windows prompts you to verify the software. Click Continue Anyway.



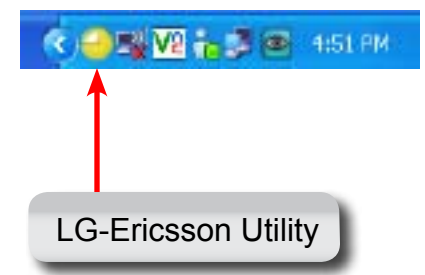
Step 10: Click Finish when the software is complete.



Step 11: Windows detects a new wireless network and prompts you to view a list of Access Points.



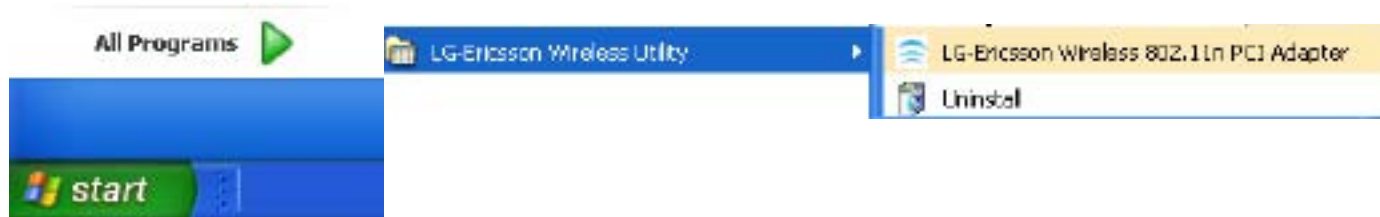
Step 12: The LG-Ericsson utility also appears in the toolbar.



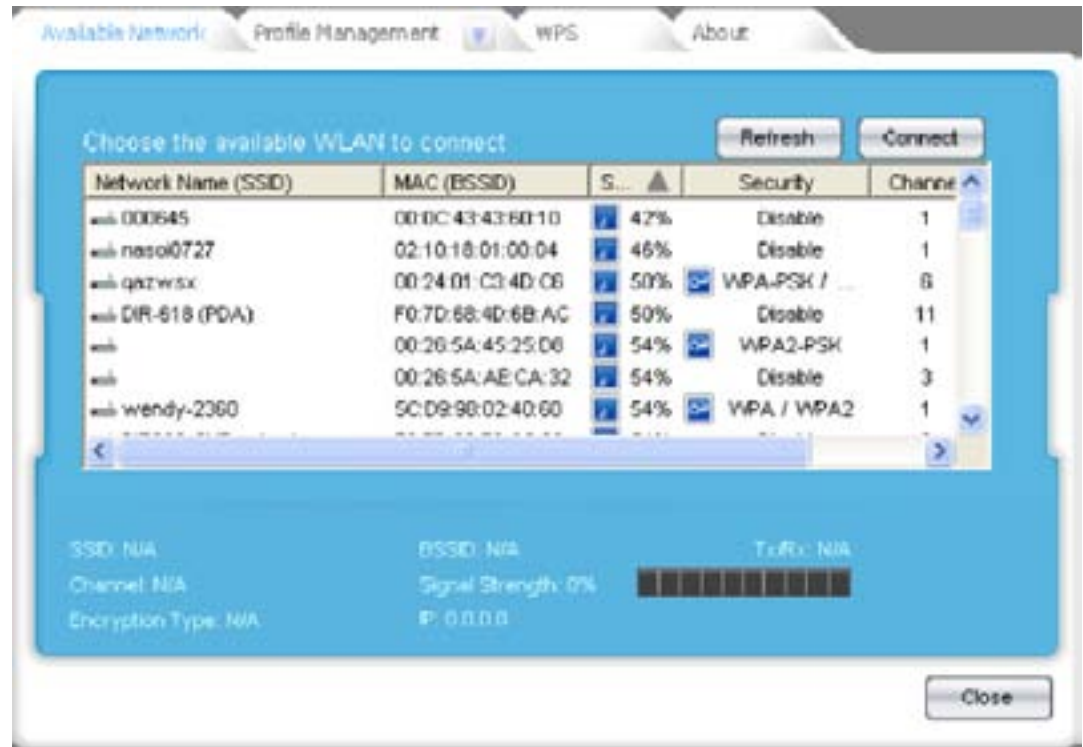
Setting up the LG-Ericsson PCI-1020 in Windows XP

This section shows you how to configure the LG-Ericsson PCI-1020 using Windows XP

Step 1: Click Start, All Programs, LG-Ericsson Wireless Utility. LG-Ericsson Wireless 802.11n PCI Adapter.



Step 2: The Program starts with four main tabs. Available Networks, Profile Management, WPS, About



Understanding the Interface

The screenshot shows a wireless network selection interface with the following components and labels:

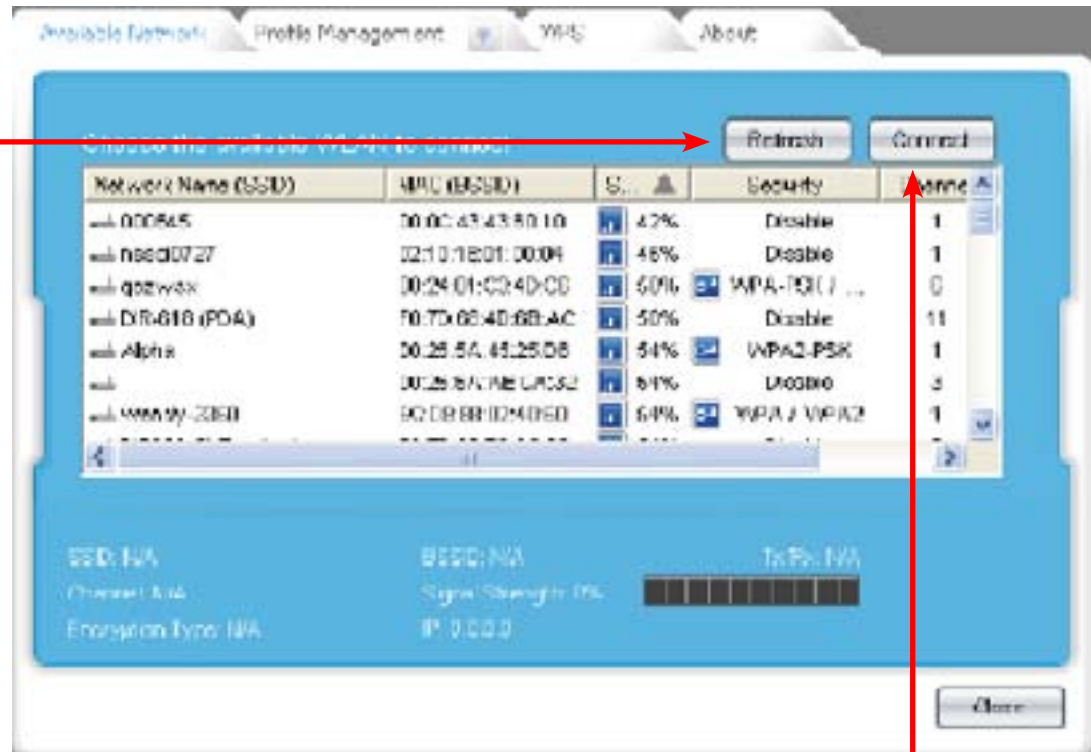
- Available Network Tab**: Points to the 'Available Network' tab in the top navigation bar.
- Profile Management Tab**: Points to the 'Profile Management' tab in the top navigation bar.
- WPS Tab**: Points to the 'WPS' tab in the top navigation bar.
- About Tab**: Points to the 'About' tab in the top navigation bar.
- Refresh Button**: Points to the 'Refresh' button in the top right of the network list.
- Connect Button**: Points to the 'Connect' button in the top right of the network list.
- Network Name**: Points to the 'Network Name (SSID)' column in the table.
- Channel Number**: Points to the 'Channel' column in the table.
- MAC Address**: Points to the 'MAC (BSSID)' column in the table.
- Security**: Points to the 'Security' column in the table.
- SSID**: Points to the 'SSID: N/A' field in the details section.
- Channel**: Points to the 'Channel: N/A' field in the details section.
- Encryption Type**: Points to the 'Encryption Type: N/A' field in the details section.
- Signal Strength**: Points to the 'Signal Strength: 0%' text in the details section.
- Signal Strength Bar**: Points to the signal strength indicator bar in the details section.
- Close Button**: Points to the 'Close' button at the bottom right of the interface.

Network Name (SSID)	MAC (BSSID)	Signal Strength	Security	Channel
588888	00:E0:4C:81:98:C1	80%	WEP	11
SD5	00:18:02:6D:B3:62	84%	WPA-PSK /	4
james1522b	F0:7D:68:72:CB:F0	84%	WPA2-PSK	6
SD2_AP	00:1B:11:CC:DB:55	84%	WPA2-PSK	10
J-Mon-HTC	F8:DB:7F:DD:1B:63	88%	WPA2-PSK	6
	F0:7D:60:02:00:FA	92%	Disable	9
superbug	00:26:5A:19:12:D4	10...	WEP	11

Connecting to an Access Point

Step 3: Click the Refresh button to get the latest view of Access Points available.

Refresh Button



Step 4: Select the Access Point you wish to connect to and click the Connect button.

Connect Button

Step 5: Windows warns you that the network is unsecured. Click OK.

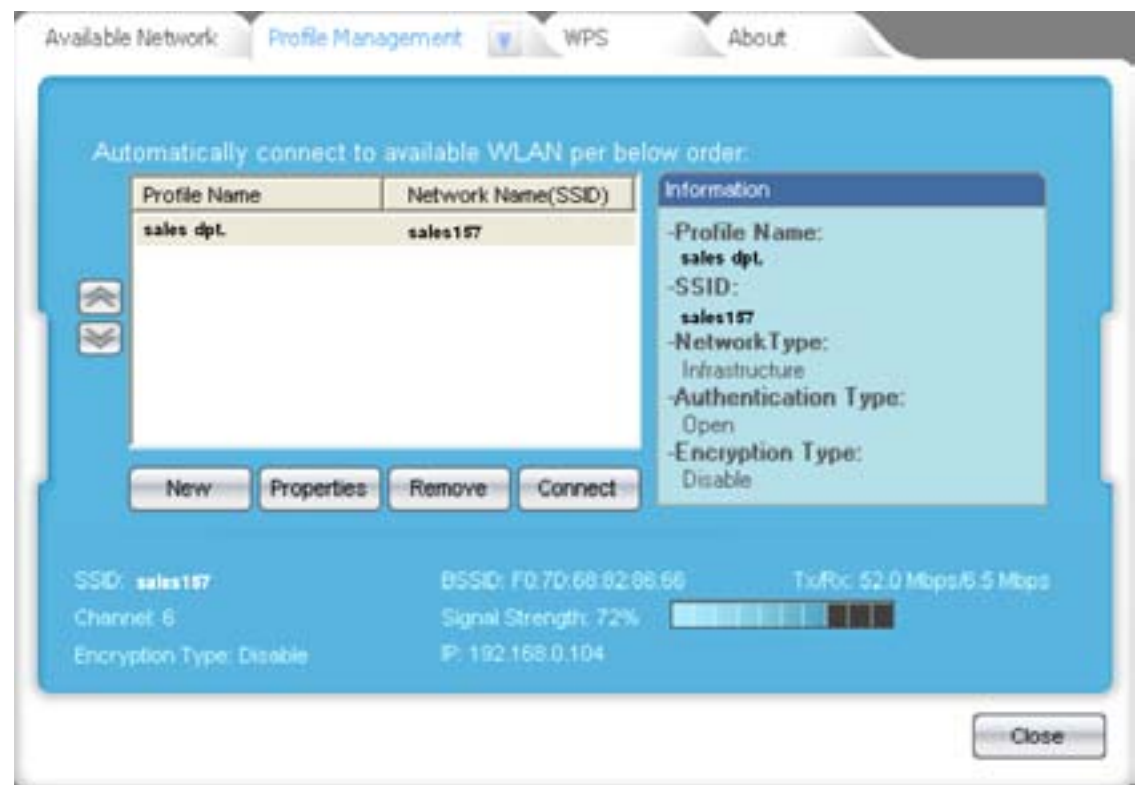


Step 6: The software automatically directs you to the Profile Management Tab. It shows the Access Point you connected to.

Please be patient as the device authenticates.

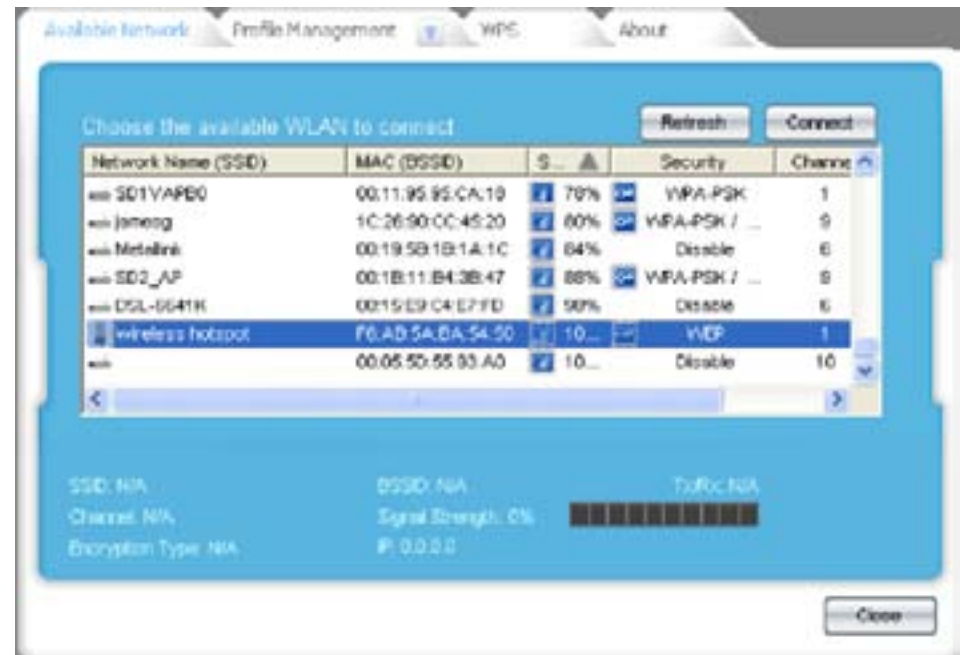
Once connected, the LG-Ericsson PCI-1020 software will show the SSID, Channel number, Encryption Type, MAC Address, Signal Strength, and IP Address.

The LG-Ericsson PCI-1020 Taskbar icon will turn green to indicate it's connected to the Access Point.



Connecting to a Secured Access Point

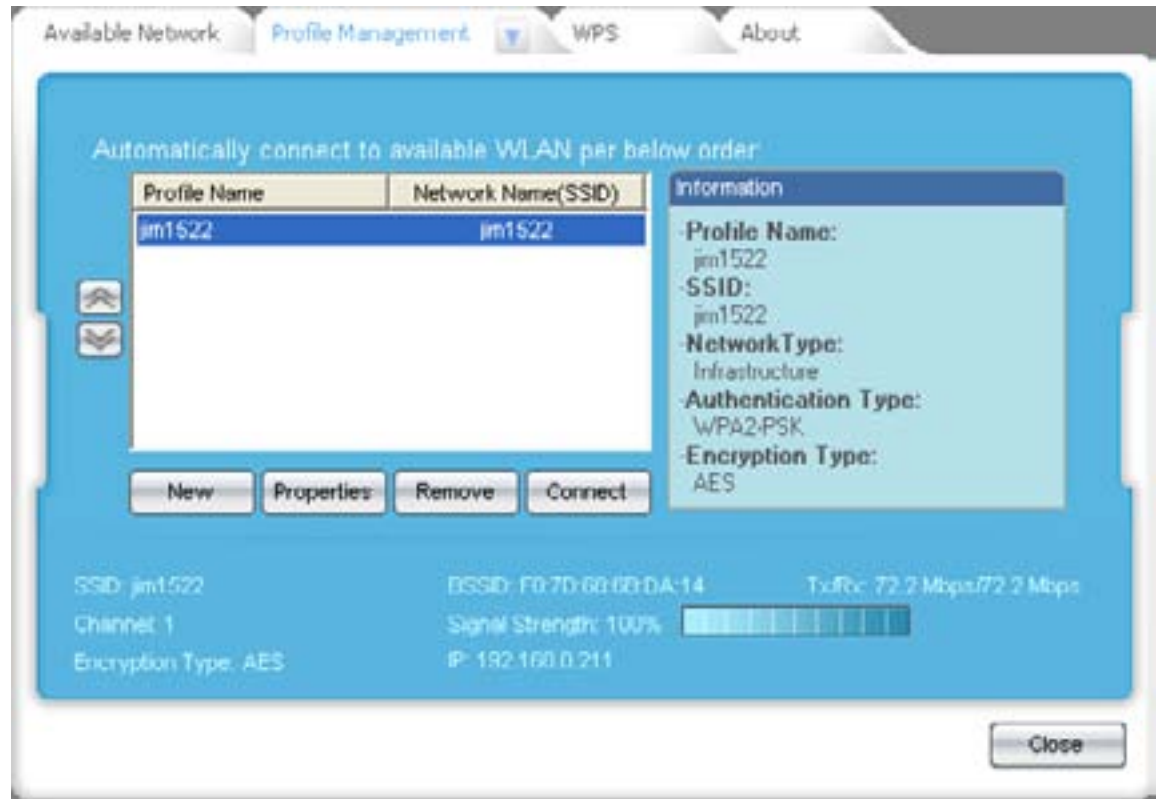
Step 1: Connect to a secured wired network



Step 2: Follow all the instructions as above. When prompted to enter a Network Key, enter the details or ask your network administrator for assistance. Click Connect when complete.



Step 3: The LG-Ericsson Wireless Utility will show all connection details.



Using WPS in Windows XP

The WPS setup under Windows® XP is the same as Windows® 7. Please refer to the configuration method for WPS under the Windows 7 section above.

LG-Ericsson PCI-1020 Shortcuts

This section shows you how to access the LG-Ericsson PCI-1020 using shortcuts.

Step 1: Right-click the LG-Ericsson PCI-1020 icon in the Taskbar.



LG-Ericsson Utility

Step 2: A box appears with a few shortcut connections.

Preferred WLANS - Are networks you have already connected to and it's on your shortlist.

Available Networks - Is a shortcut to the programs Available Networks Tab.

Use Zero Configuration as Configuration Utility - This uses Windows wireless detection tools to override LG-Ericsson's PCI-1020 to connect to a wireless network.

Right-clicking it again returns you to the LG-Ericsson utility, referred to as: Use WLAN Monitor as Configuration Utility.

A screenshot of a context menu that appears when the LG-Ericsson PCI-1020 icon is right-clicked. The menu is white with a thin border and contains four items: 'Preferred WLANS', 'Available Networks', 'Use Zero Configuration as Configuration Utility', and 'Exit'. A small right-pointing arrow is visible to the right of the 'Preferred WLANS' item.

Preferred WLANS
Available Networks
Use Zero Configuration as Configuration Utility
Exit

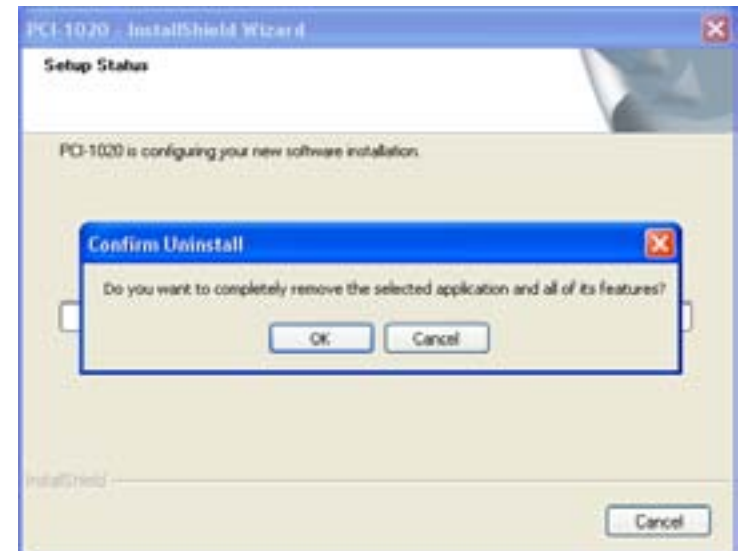
Uninstalling the LG Ericsson PCI-1020 Utility

This section shows you how to uninstall the LG-Ericsson PCI-1020 Utility.

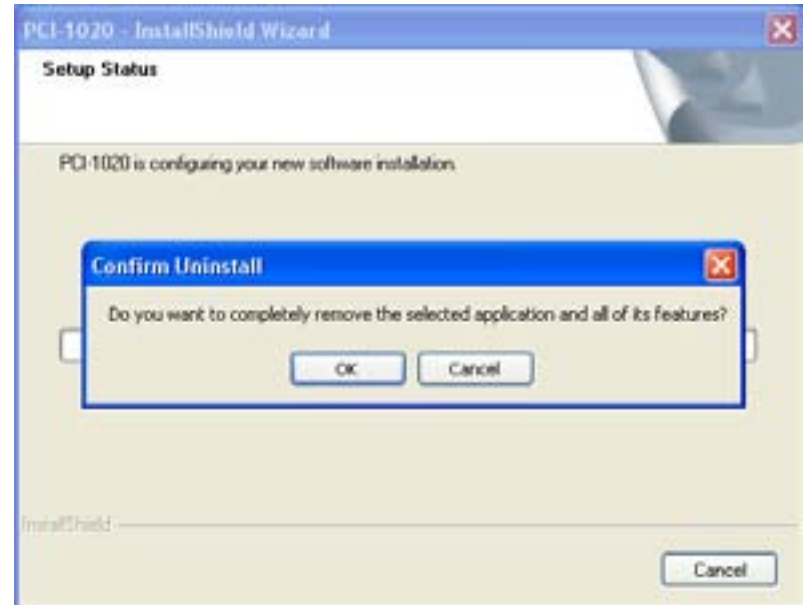
Step 1: Click Start, All Programs, LG-Ericsson Wireless Utility, Uninstall.



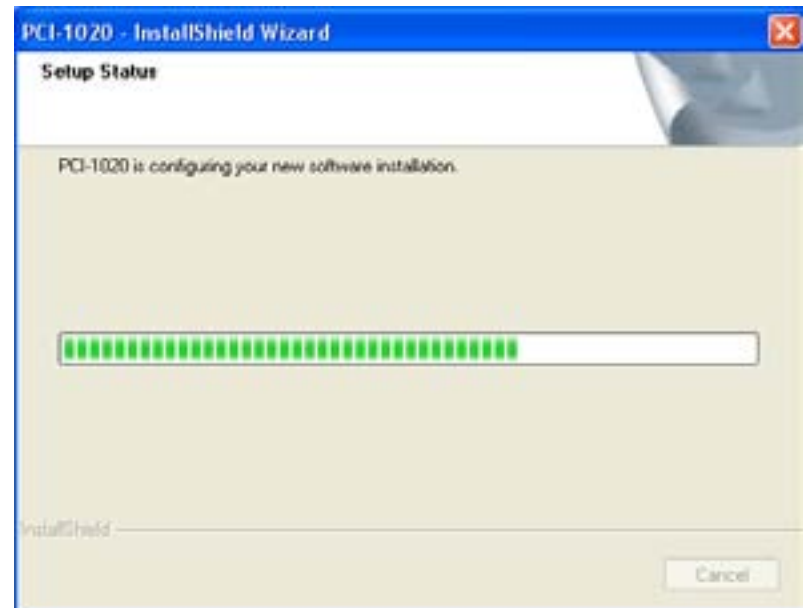
Step 2: Click Start, All Programs, LG-Ericsson Wireless Utility, Uninstall. Click OK to confirm.



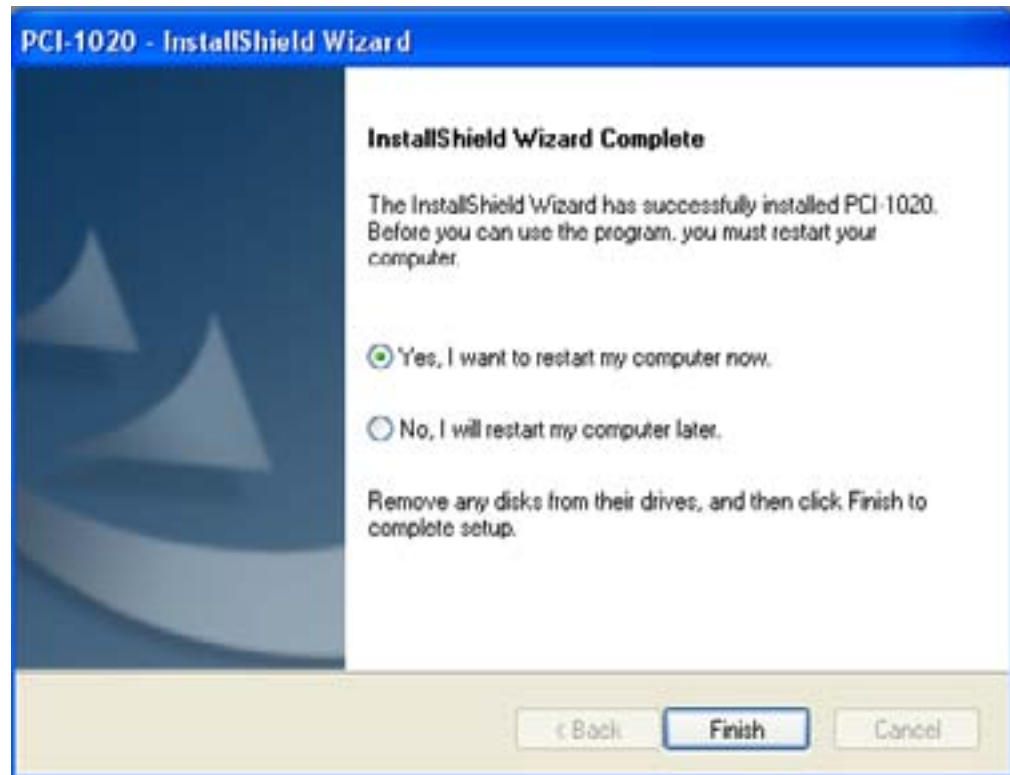
Step 3: Click OK to confirm the uninstall.



Step 4: The wizard continues deleting the program.



Step 5: The wizard prompts you to restart the PC for the changes to take effect.



Glossary

WEP - WEP is designed to provide the same level of security as that of a wired LAN. WLANs, which are over radio waves, do not have the same physical structure and therefore are more vulnerable to tampering. WEP aims to provide security by encrypting data over radio waves so that it is protected as it is transmitted from one end point to another.

WPA - a Wi-Fi standard that was designed to improve upon the security features of WEP. The technology includes two improvements over WEP: Improved data encryption through the temporal key integrity protocol (TKIP).

TKIP - scrambles the keys using a hashing algorithm and, by adding an integrity-checking feature, ensures that the keys haven't been tampered with. User authentication, which is generally missing in WEP, through the extensible authentication protocol (EAP). EAP is built on a more secure public-key encryption system to ensure that only authorized network users can access the network.

WPA2-PSK - Short for Wi-Fi Protected Access 2 - Pre-Shared Key, and also called WPA or WPA2 Personal, it is a method of securing your network using WPA2 with the use of the optional Pre-Shared Key (PSK) authentication, which was designed for home users without an enterprise authentication server. To encrypt a network with WPA2-PSK you provide your router with a plain-English passphrase between 8 and 63 characters long. Using a technology called TKIP (for Temporal Key Integrity Protocol), that passphrase, along with the network SSID, is used to generate unique encryption keys for each wireless client.

PSK - Short for phase-shift keying, in which different phase angles in the carrier signal are used to represent the binary states of 0 and 1.

AES - Short for Advanced Encryption Standard, is a symmetric 128-bit block data encryption technique. AES works at multiple network layers simultaneously. AES has a fixed block size of 128-bits and a key size of 128, 192, or 256-bits.

EAP - Short for Extensible Authentication Protocol, an extension to PPP. EAP is a general protocol for authentication that also supports multiple authentication methods, such as token cards, Kerberos, one-time passwords, certificates, public key authentication and smart cards. IEEE 802.1x specifies how EAP should be encapsulated in LAN frames.

802.11n - The additional transmitter and receiver antennas allow for increased data throughput through spatial multiplexing and increased range by exploiting the spatial diversity. The speed is 100 Mbit/s, and so up to 4-5 times faster than 802.11g. 802.11n also offers a better operating distance than current networks.

Warranty and Technical Support

The following warranty only applies in the USA

To register LG-Ericsson products and to review a detailed warranty statement, please refer to the LG-Ericsson US website at:

<http://www.lgericssonus.com>

For technical support assistance, call 1(877)828-2673.

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Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

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

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

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE:

Radiation Exposure Statement:

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

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