



**User Manual**

**Wireless N600 Dual Band USB Adapter**

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# Package Contents



D-Link DWA-160 Wireless N600 Dual Band USB Adapter



Mini CD with drivers and user manual



Quick install Guide

# System Requirements

- Windows® 8, 7, Vista®, or XP (32/64-bit)
- CD-ROM Drive (must support 80mm Mini CD)
- An 802.11n, 802.11g, or 802.11a wireless network
- 20MB hard drive space
- An available USB port

# Introduction

The DWA-160 Wireless N600 Dual Band USB Adapter is a convenient wireless connectivity solution for desktop or notebook PCs. Instead of stringing Ethernet cables to your PC or dismantling your desktop computer case, the DWA-160 can enable 802.11n wireless connectivity by simply utilizing your desktop or notebook PC's USB port.

Powered by Wireless N900 Dual Band technology, the DWA-160 provides a faster wireless connection and superior reception than 802.11a or 802.11g\*. The DWA-160 is designed for use in bigger homes and for those that demand higher networking, and its 5GHz Mediband helps avoid interference by providing a clearer wireless band for signals than existing 802.11g products. Maximize wireless performance by connecting this USB Adapter to a Wireless N Dual Band Media router or an Wireless N Gaming router, and stay connected from virtually anywhere in the home. This USB Adapter supports WPA™ and WPA2™ encryption to prevent outside intrusion and protect your personal information from being exposed.

\* Maximum wireless signal rate derived from IEEE Standard 802.11a, 802.11g and 802.11n specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lowers actual data throughput rate. Environmental conditions will adversely affect wireless signal range.

# Features

- Compact size for placement anywhere.
- Fully 802.11g and 802.11a compatible.
- 802.11n compliant.
- USB 2.0 standard\*.
- You can securely connect to a wireless network using WPA™ / WPA2™ (Wi-Fi® Protected Access) providing you a much higher level of security for your data and communication than has previously been available.
- Position the DWA-160 almost anywhere in your workspace to achieve the best reception possible.
- Supports Infrastructure networks via an access point or wireless router.

\* Using a USB 1.1 port will adversely affect throughput.

# Hardware Overview



<b>1</b>	<b>LED</b>	A blinking orange light indicates the adapter is installed and working correctly. A fast blinking light indicates the adapter is scanning for an available wireless network. If the light is off, the adapter is not properly installed.
<b>2</b>	<b>WPS Button</b>	Press the WPS button to automatically connect to a WPS-enabled wireless router or access point and establish connectivity. Refer to page 14.

# Installation

This section will walk you through the installation process. If you have a built-in wireless adapter, please disable it in device manager before installing your D-Link adapter. Also, if you have previously installed another wireless adapter, please make sure any software is uninstalled.

## Getting Started

Before installing your new D-Link wireless adapter, please verify the following:

- Remove any previous installations of wireless adapters.
- Disable any built-in wireless and Ethernet adapters.
- Verify the settings such as the SSID and security settings of the network(s) you want to connect to.

## Remove Existing Installations

If you've installed a different manufacturer's adapter or a different model D-Link adapter, make sure the software is uninstalled before installing the new software. Some utilities may cause a conflict with the new software. If you plan to use multiple adapters at different times, make sure the utilities are not set to load when your computer boots up. Windows® users may use the built-in wireless utility for all adapters.

To remove any old software:

Windows® 8 users: Press **Windows Key + Q** > **Control Panel** > **Uninstall Programs**.

Windows® 7 users: Click **Start** > **Control Panel** > **Uninstall Programs**.

Windows Vista® users: Click **Start** > **Control Panel** > **Add or Remove Programs**.

Windows® XP users: Click **Start** > **Control Panel** > **Add or Remove Programs**.

# Disable Other Adapters

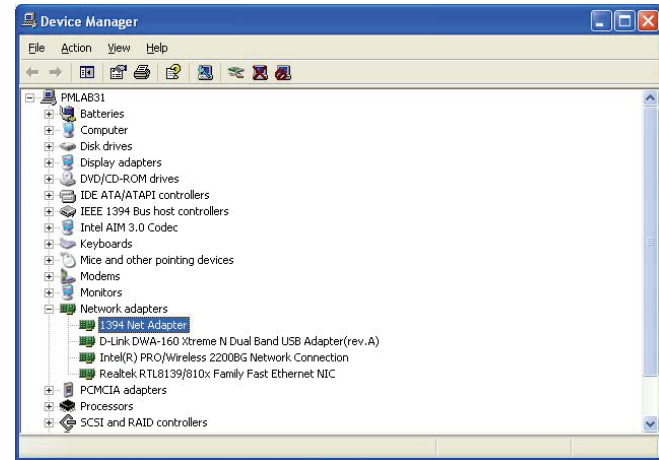
Most newer laptops may include a built-in wireless adapter. To prevent any conflicts with the D-Link wireless adapter, it is recommended to disable the wireless adapter (as well as any unused Ethernet adapters).

Windows XP - Go to **Start > My Computer > Properties > Hardware > Device Manager**.

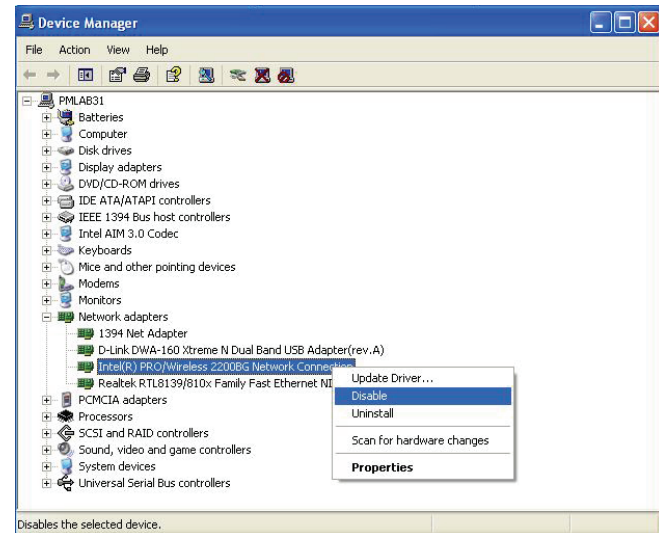
Windows Vista/7 - Go to **Start > Device Manager**.

Windows 8 - Press the **Windows key** and **X** together and then click **Device Manager**.

Click the **Hardware** tab and then click **Device Manager**. Scroll down the list and click the **+** sign to the left of **Network Adapters**.

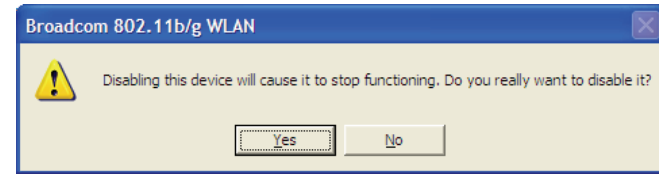


Right-click the adapter you would like to disable and select **Disable**.



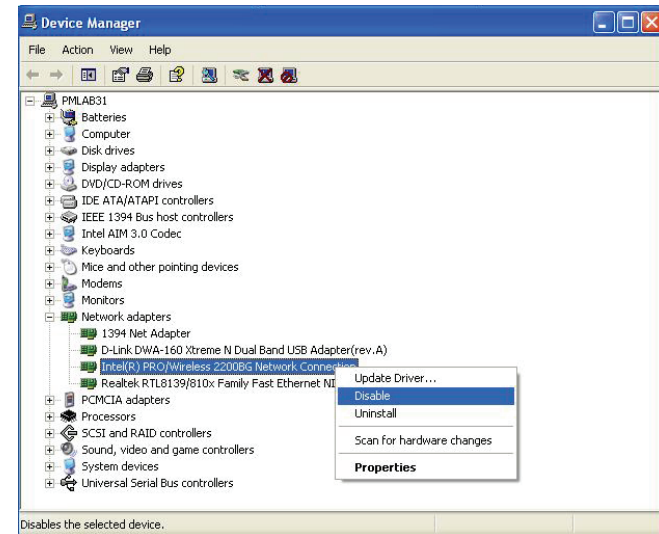


Click **Yes** to disable the adapter.



When the adapter is disabled, a down arrow or a grayed icon will be displayed.

Disabling the adapter will not remove the drivers. If you would like to use the adapter, simply right-click it and select **Enable**.



# Wireless Installation Considerations

The D-Link wireless adapter lets you access your network using a wireless connection from virtually anywhere within the operating range of your wireless network. Keep in mind, however, that the number, thickness and location of walls, ceilings, or other objects that the wireless signals must pass through, may limit the range. Typical ranges vary depending on the types of materials and background RF (radio frequency) noise in your home or business. The key to maximizing wireless range is to follow these basic guidelines:

1. Keep the number of walls and ceilings between the D-Link adapter and other network devices to a minimum - each wall or ceiling can reduce your adapter's range from 3-90 feet (1-30 meters.) Position your devices so that the number of walls or ceilings is minimized.
2. Be aware of the direct line between network devices. A wall that is 1.5 feet thick (.5 meters), at a 45-degree angle appears to be almost 3 feet (1 meter) thick. At a 2-degree angle it looks over 42 feet (14 meters) thick! Position devices so that the signal will travel straight through a wall or ceiling (instead of at an angle) for better reception.
3. Building materials make a difference. A solid metal door or aluminum studs may have a negative effect on range. Try to position access points, wireless routers, and computers so that the signal passes through drywall or open doorways. Materials and objects such as glass, steel, metal, walls with insulation, water (fish tanks), mirrors, file cabinets, brick, and concrete will degrade your wireless signal.
4. Keep your product away (at least 3-6 feet or 1-2 meters) from electrical devices or appliances that generate RF noise.
5. If you are using 2.4GHz cordless phones or X-10 (wireless products such as ceiling fans, lights, and home security systems), your wireless connection may degrade dramatically or drop completely. Make sure your 2.4GHz phone base is as far away from your wireless devices as possible. The base transmits a signal even if the phone is not in use.

# Adapter Installation

**Warning: Do NOT connect the DWA-160 Wireless N600 Dual Band USB Adapter to your computer before installing the driver software from the D-Link CD.**

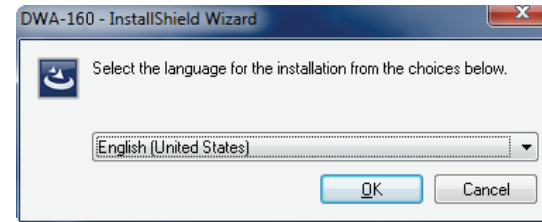
Turn on the computer and insert the D-Link DWA-160 Driver CD in the CD-ROM drive.

If the CD Autorun function does not automatically start on your computer, go to **Start > Run**. In the run box type "**D:\autorun.exe**" (where **D:** represents the drive letter of your CD-ROM drive).

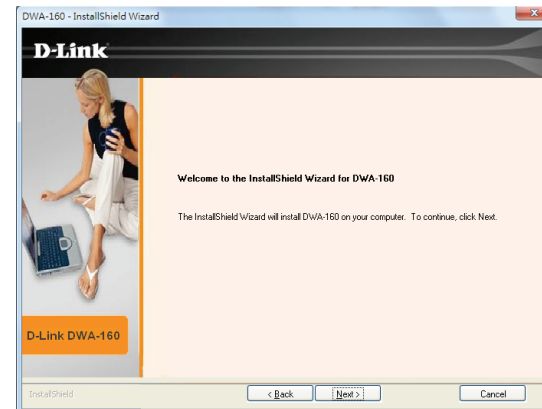
When the autorun screen appears, click **Install**.



The *InstallShield Wizard* window will appear. Select your language from the drop-down menu and click **OK** to continue.



Once the Welcome screen appears, click **Next** to continue.

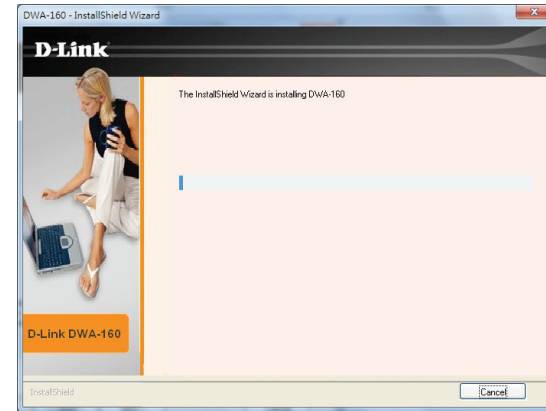


Connect the DWA-160 adapter to an available USB slot on your computer.

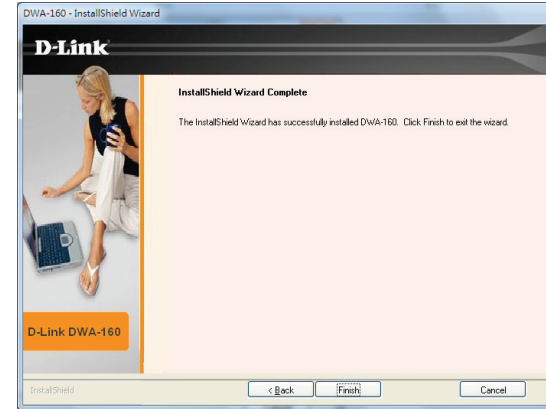
Click **Next** to continue.



The DWA-160 drivers will now be installed. This may take up to one minute.



Your DWA-160 adapter is now installed.



# Connect to a Wireless Network

## Wi-Fi® Protected Setup (WPS)

Wi-Fi Protected Setup (WPS) System is designed for easy setup of security-enabled Wi-Fi networks. It is recommended to have the access point or wireless router nearby during setup.

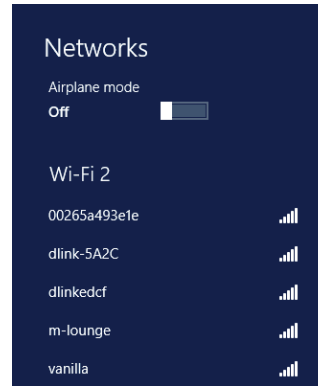
“**Push Button Configuration**” (PBC) is a physical button on the DWA-160 and most wireless devices such as routers. A connection can be established by pressing the WPS button on the DWA-160 and then pushing the button on your access point or wireless router within 120 seconds.

1. Press the WPS button located on your wireless router or access point. Please refer to the user manual of your router or access point if you do not know how to start the WPS process.
2. To connect to your network, press the WPS button on the adapter and hold for two seconds. Allow up to two minutes for the devices to connect.

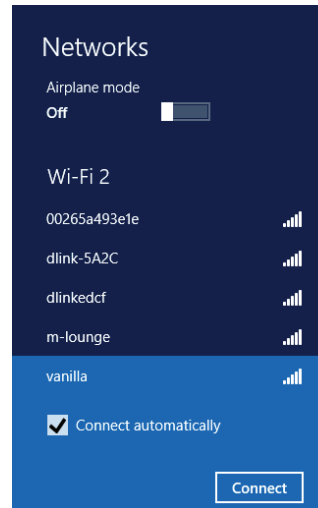


# Windows® 8

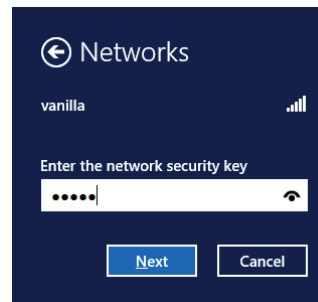
1. Click on the wireless computer icon in your system tray (lower-right corner next to the time).
2. A list of available wireless networks will appear.



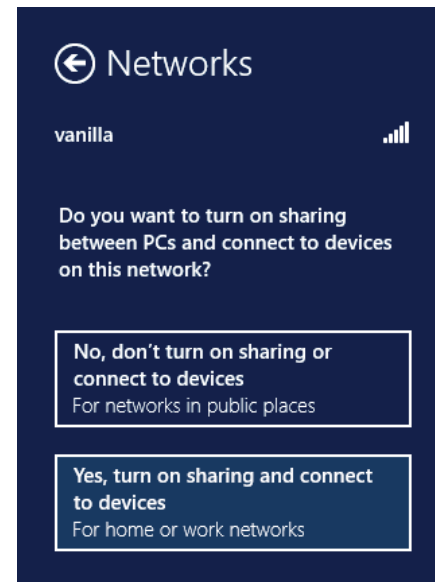
3. Click the wireless network (SSID) you want to connect to and then click **Connect**.



4. If the network is secure/encrypted, enter the Wi-Fi password (security key) and click **Next**.



5. Click either to enable or disable file sharing.
6. You will now be connected to your wireless network.

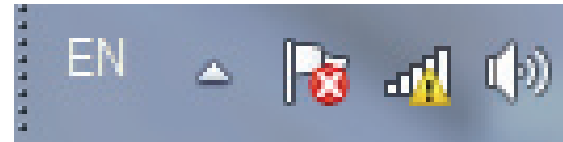


If you get a good signal but cannot access the Internet, confirm the encryption by reviewing the profile or check the TCP/IP settings for your wireless adapter. Refer to the *Networking Basics* section in this manual for more information.



# Windows® 7

1. Click on the wireless icon in your system tray (lower-right corner).



2. The utility will display any available wireless networks in your area.



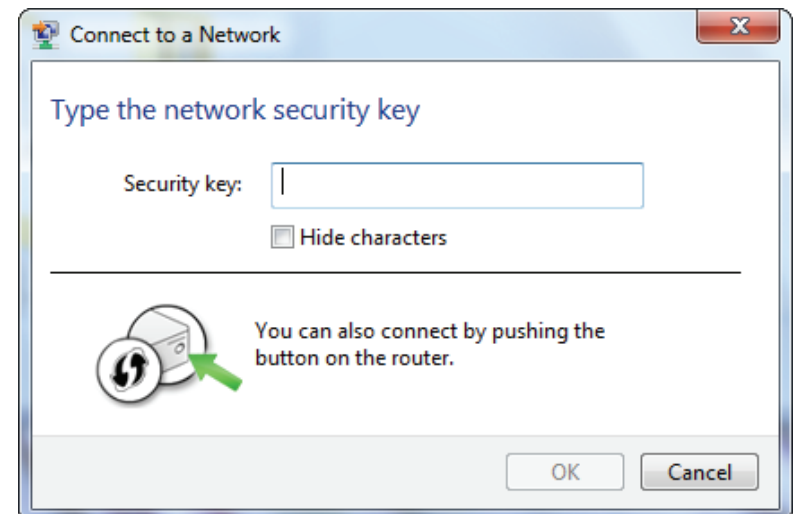
3. Highlight the wireless network (SSID) you would like to connect to and click the **Connect** button.

If you get a good signal but cannot access the Internet, check your TCP/IP settings for your wireless adapter. Refer to the *Networking Basics* section in this manual for more information.



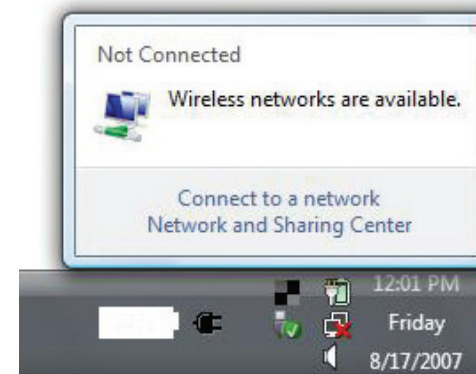
4. Enter the same security key or passphrase that is on your router and click **Connect**. You can also connect by pushing the WPS button on the router.

It may take 20-30 seconds to connect to the wireless network. If the connection fails, please verify that the security settings are correct. The key or passphrase must be exactly the same as on the wireless router.

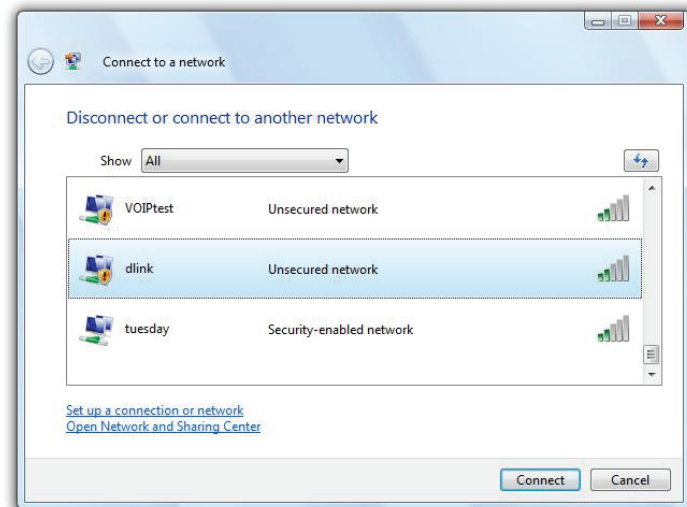


# Windows Vista®

1. Open the Wireless Utility by right-clicking on the wireless computer icon in your system tray (lower right corner of screen). Select **Connect to a network**.

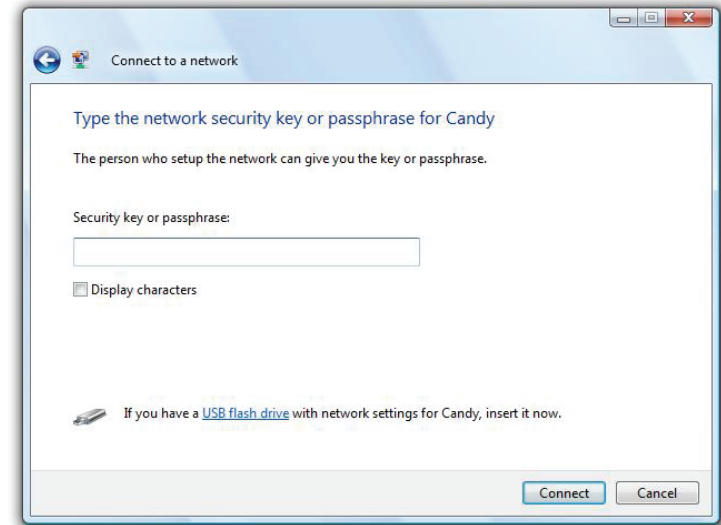


2. Highlight the wireless network (SSID) you would like to connect to and click **Connect**.



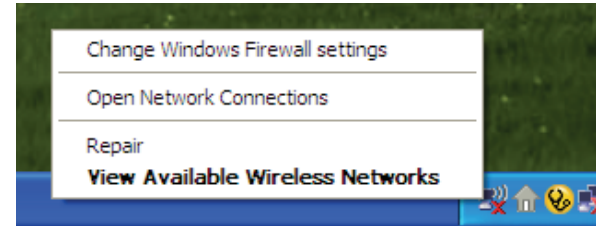
3. Enter the same security key or passphrase that is on your router and click **Connect**.

It may take 20-30 seconds to connect to the wireless network. If the connection fails, please verify that the security settings are correct. The key or passphrase must be exactly the same as on the wireless router.

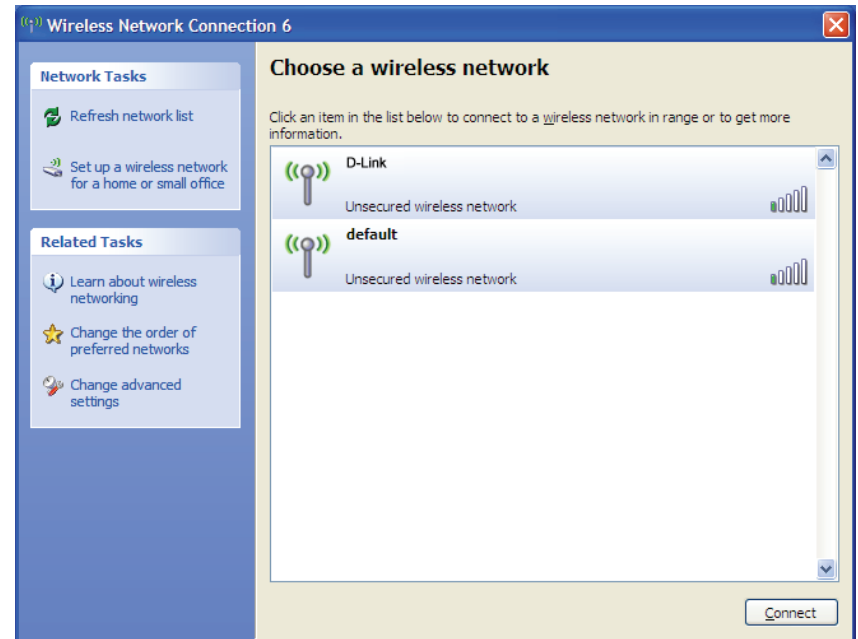


# Windows® XP

1. Open the Windows XP Wireless Utility by right-clicking on the wireless computer icon in your system tray (lower-right corner of screen). Select **View Available Wireless Networks**.

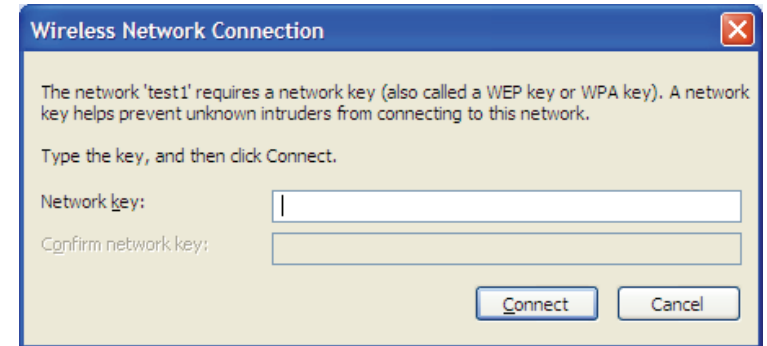


2. Highlight the wireless network (SSID) you would like to connect to and click **Connect**.



3. The *Wireless Network Connection* box will appear. Enter the WPA/WPA2-Personal passphrase and click **Connect**.

It may take 20-30 seconds to connect to the wireless network. If the connection fails, please verify that the WPA/WPA2-Personal settings are correct. The WPA/WPA2-Personal passphrase must be exactly the same as on the wireless router or access point.



# Troubleshooting

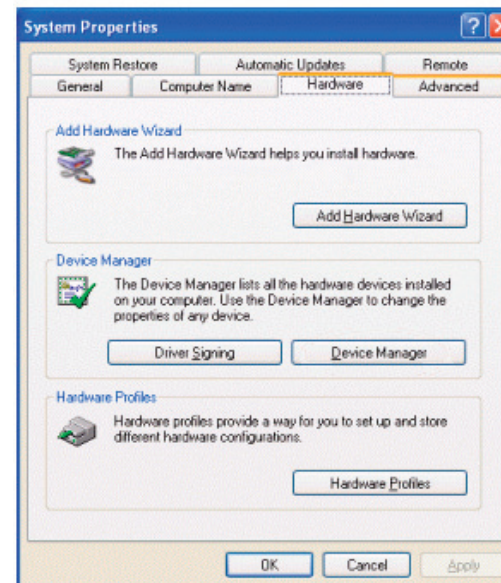
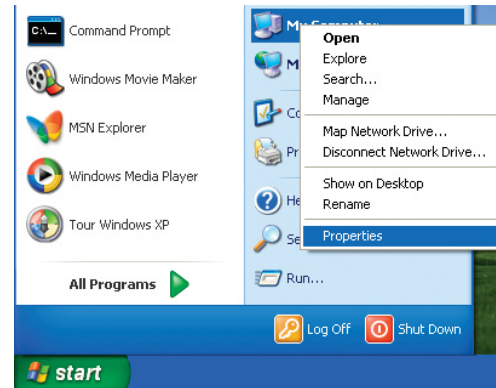
This chapter provides solutions to problems that can occur during the installation and operation of the DWA-160. Read the following descriptions if you are having problems.

## 1. How do I know if my adapter is installed properly?

Windows XP - Go to **Start > My Computer > Properties > Hardware > Device Manager**.

Windows Vista/7 - Go to **Start > Device Manager**.

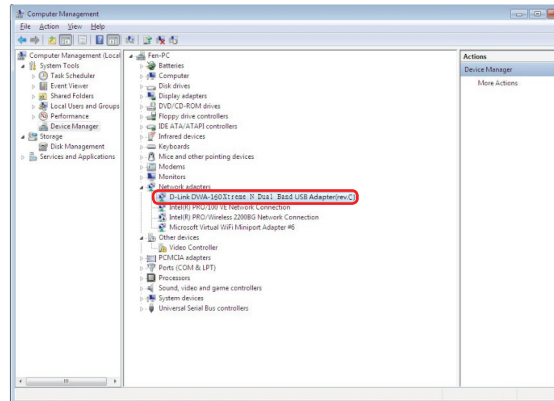
Windows 8 - Press the **Windows key** and **X** together and then click **Device Manager**.



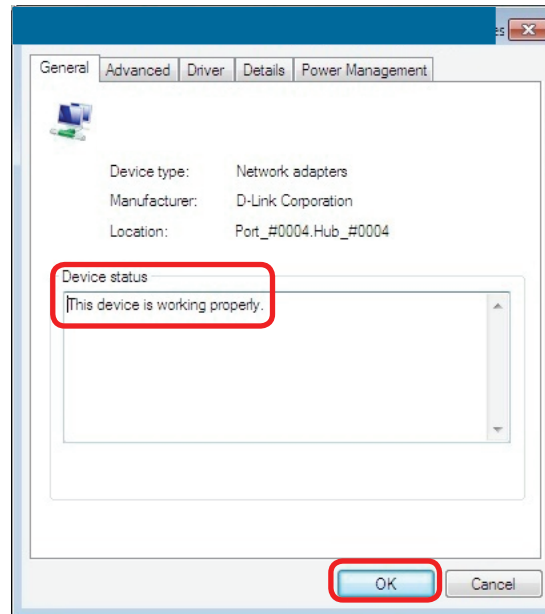
Click the + sign next to **Network Adapters**.

Right-click on **D-Link DWA-160 Wireless N600 Dual Band USB Adapter**.

Select **Properties** to check that the drivers are installed properly.



Look under *Device Status* to check that the device is working properly. Click **OK** to continue.





## 2. The computer does not recognize the DWA-160 Wireless Adapter.

Make sure that the DWA-160 Wireless Adapter is properly seated in the computer's USB port.

If Windows® does not detect the hardware upon insertion of the adapter, make sure to completely remove drivers that were previously loaded.

## 3. The computer with the DWA-160 installed is unable to connect to the wireless network and/or the Internet.

- Check that the LED indicators for the broadband modem are indicating normal activity. If not, there may be a problem with the broadband connection.
- Check that the LED indicators on the wireless router are functioning properly. If not, check that the AC power and Ethernet cables are firmly connected.
- Check that the IP Address, subnet mask, gateway, and DNS settings are correctly entered for the network
- In **Infrastructure** mode, make sure the same **Service Set Identifier (SSID)** is specified on the settings for the wireless clients and access points. By default, the SSID factory setting for D-Link products is blank. (Double-click on the WLAN icon in the taskbar. The *Link Info* screen will display the SSID setting.)

# Wireless Basics

D-Link wireless products are based on industry standards to provide easy-to-use and compatible high-speed wireless connectivity within your home, business or public access wireless networks. Strictly adhering to the IEEE standard, the D-Link wireless family of products will allow you to securely access the data you want, when and where you want it. You will be able to enjoy the freedom that wireless networking delivers.

A wireless local area network (WLAN) is a cellular computer network that transmits and receives data with radio signals instead of wires. Wireless LANs are used increasingly in both home and office environments, and public areas such as airports, coffee shops and universities. Innovative ways to utilize WLAN technology are helping people to work and communicate more efficiently. Increased mobility and the absence of cabling and other fixed infrastructure have proven to be beneficial for many users.

Wireless users can use the same applications they use on a wired network. Wireless adapter cards used on laptop and desktop systems support the same protocols as Ethernet adapter cards.

Under many circumstances, it may be desirable for mobile network devices to link to a conventional Ethernet LAN in order to use servers, printers or an Internet connection supplied through the wired LAN. A Wireless Router is a device used to provide this link.

## **What is Wireless?**

Wireless or Wi-Fi® technology is another way of connecting your computer to the network without using wires. Wi-Fi uses radio frequency to connect wirelessly, so you have the freedom to connect computers anywhere in your home or office network.

## **Why D-Link Wireless?**

D-Link is the worldwide leader and award winning designer, developer, and manufacturer of networking products. D-Link delivers the performance you need at a price you can afford. D-Link has all the products you need to build your network.

## **How does wireless work?**

Wireless works similar to how cordless phone work, through radio signals to transmit data from one point A to point B. But wireless technology has restrictions as to how you can access the network. You must be within the wireless network range area to be able to connect your computer. There are two different types of wireless networks Wireless Local Area Network (WLAN), and Wireless Personal Area Network (WPAN).

## **Wireless Local Area Network (WLAN)**

In a wireless local area network, a device called an Access Point (AP) connects computers to the network. The access point has a small antenna attached to it, which allows it to transmit data back and forth over radio signals. With an indoor access point, the signal can travel up to 300 feet. With an outdoor access point the signal can reach out up to 30 miles to serve places like manufacturing plants, industrial locations, college and high school campuses, airports, golf courses, and many other outdoor venues.

## **Wireless Personal Area Network (WPAN)**

Bluetooth® is the industry standard wireless technology used for WPAN. Bluetooth devices in WPAN operate in a range up to 30 feet away.

Compared to WLAN the speed and wireless operation range are both less than WLAN, but in return it doesn't use nearly as much power which makes it ideal for personal devices, such as mobile phones, PDAs, headphones, laptops, speakers, and other devices that operate on batteries.

## Who uses wireless?

Wireless technology has become so popular in recent years that almost everyone is using it, whether it's for home, office, or business, D-Link has a wireless solution for it.

### Home

- Gives everyone at home broadband access
- Surf the web, check email, instant message, and etc
- Gets rid of the cables around the house
- Simple and easy to use

### Small Office and Home Office

- Stay on top of everything at home as you would at the office
- Remotely access your office network from home
- Share an Internet connection and printer with multiple computers
- No need to dedicate office space

### **Where is wireless used?**

Wireless technology is expanding everywhere not just at home or the office. People like the freedom of mobility and it's becoming so popular that more and more public facilities now provide wireless access to attract people. The wireless connection in public places is usually called "hotspots".

Using a D-Link USB Adapter with your laptop, you can access the hotspot to connect to the Internet from remote locations like: Airports, Hotels, Coffee Shops, Libraries, Restaurants, and Convention Centers.

Wireless networks are easy to setup, but if you're installing it for the first time it could be quite a task not knowing where to start. That's why we've put together a few setup steps and tips to help you through the process of setting up a wireless network.

### **Tips**

Here are a few things to keep in mind, when you install a wireless network.

#### **Centralize your router or Access Point**

Make sure you place the router/access point in a centralized location within your network for the best performance. Try to place the router/access point as high as possible in the room, so the signal gets dispersed throughout your home. If you have a two-story home, you may need a repeater to boost the signal to extend the range.

#### **Eliminate Interference**

Place home appliances such as cordless telephones, microwaves, and televisions as far away as possible from the router/access point. This can significantly reduce any interference that the appliances might cause since they operate on the same frequency.

#### **Security**

Don't let your next-door neighbors or intruders connect to your wireless network. Secure your wireless network by turning on WPA™/WPA2™ security features on the router. Refer to the product manual for detailed information on how to set it up.

# Wireless Modes

There are basically two modes of networking:

- **Infrastructure** – All wireless clients will connect to an access point or wireless router.
- **Ad-Hoc** – Directly connecting to another computer, for peer-to-peer communication, using wireless network adapters on each computer.

An Infrastructure network contains an Access Point or wireless router. All the wireless devices, or clients, will connect to the wireless router or access point.

An Ad-Hoc network contains only clients, such as laptops with wireless USB Adapters. All the adapters must be in Ad-Hoc mode to communicate.

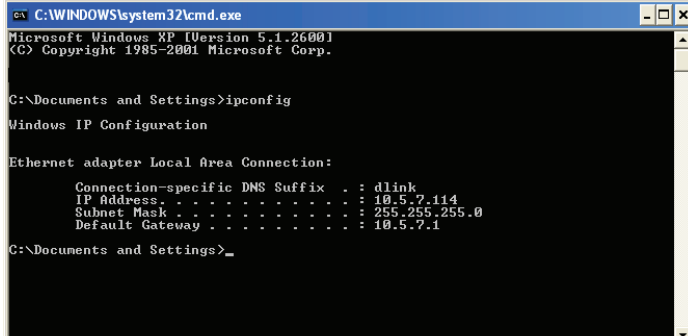
# Networking Basics

## Check your IP address

After you install your new D-Link wireless adapter and have established a wireless connection, by default, the TCP/IP settings should be set to obtain an IP address from a DHCP server (i.e., router) automatically. To verify your IP address, please follow the steps below.

### Windows® XP Users

- Click on **Start > Run**. In the run box type **cmd** and click **OK**.
- At the prompt, type **ipconfig** and press **Enter**.
- This will display the IP address, subnet mask, and the default gateway of your adapter.



```

C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings>ipconfig

Windows IP Configuration

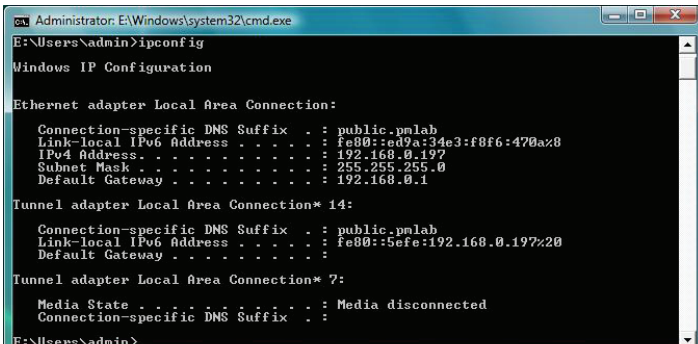
Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : dlink
    IP Address. . . . .               : 10.5.7.114
    Subnet Mask . . . . .             : 255.255.255.0
    Default Gateway . . . . .         : 10.5.7.1

C:\Documents and Settings>_
  
```

### Windows® 7/Vista® Users

- Click **Start**, type **cmd** in the search box and then click **OK**.
- At the prompt, type **ipconfig** and press **Enter**.
- This will display the IP address, subnet mask, and default gateway of your adapter.



```

Administrator: E:\Windows\system32\cmd.exe
E:\Users\admin>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : public.pmlab
    Link-local IPv6 Address . . . . . : fe80::ed9a:34e3:f8f6:470a%8
    IPv4 Address. . . . .             : 192.168.0.197
    Subnet Mask . . . . .             : 255.255.255.0
    Default Gateway . . . . .         : 192.168.0.1

Tunnel adapter Local Area Connection* 14:

    Connection-specific DNS Suffix  . : public.pmlab
    Link-local IPv6 Address . . . . . : fe80::5efe:192.168.0.197%20
    Default Gateway . . . . .         :

Tunnel adapter Local Area Connection* 7:

    Media State . . . . .              : Media disconnected
    Connection-specific DNS Suffix  . :

E:\Users\admin>
  
```

### Windows® 8 Users

- Press the **Windows key** and **R** together. Type **cmd** in the box and click **OK**.
- At the prompt, type **ipconfig** and press **Enter**.
- This will display the IP address, subnet mask, and default gateway of your adapter.

If the address is 0.0.0.0, check your adapter installation, security settings, and the settings on your router. Some firewall software programs may block a DHCP request on newly installed adapters.

# Statically Assign an IP Address

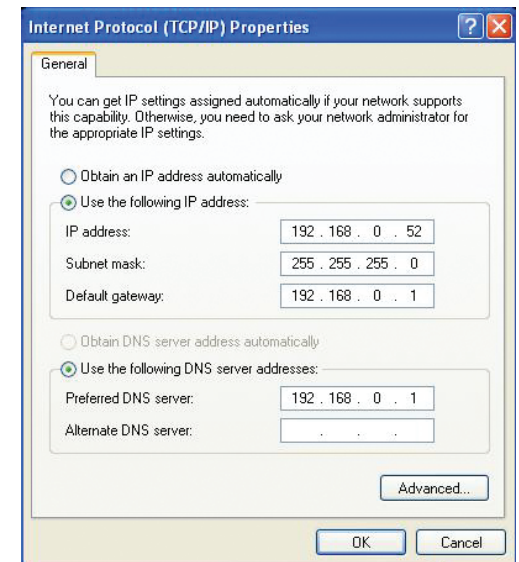
If you are not using a DHCP capable gateway/router, or you need to assign a static IP address, please follow the steps below:

## Windows® XP Users

- Click on **Start > Control Panel**. Make sure you are in Classic View. Double-click on the Network Connections icon.
- Right-click on the **Local Area Connection** which represents your D-Link wireless network adapter (or other adapter) which will be connected to your router.
- Highlight **Internet Protocol (TCP/IP)** and click **Properties**.
- Click **Use the following IP address** and enter an IP address that is on the same subnet as your network or LAN IP address on your router.

**Example:** If the router's LAN IP address is 192.168.0.1, make your IP address 192.168.0.X where X is a number between 2 and 99. Make sure that the number you choose is not in use on the network.

- Set **Default Gateway** the same as the LAN IP address of your router or gateway.
- Set **Primary DNS** as the LAN IP address of your router or gateway.
- The **Secondary DNS** is optional (you may enter a DNS server from your ISP).
- Click **OK** to save your settings.



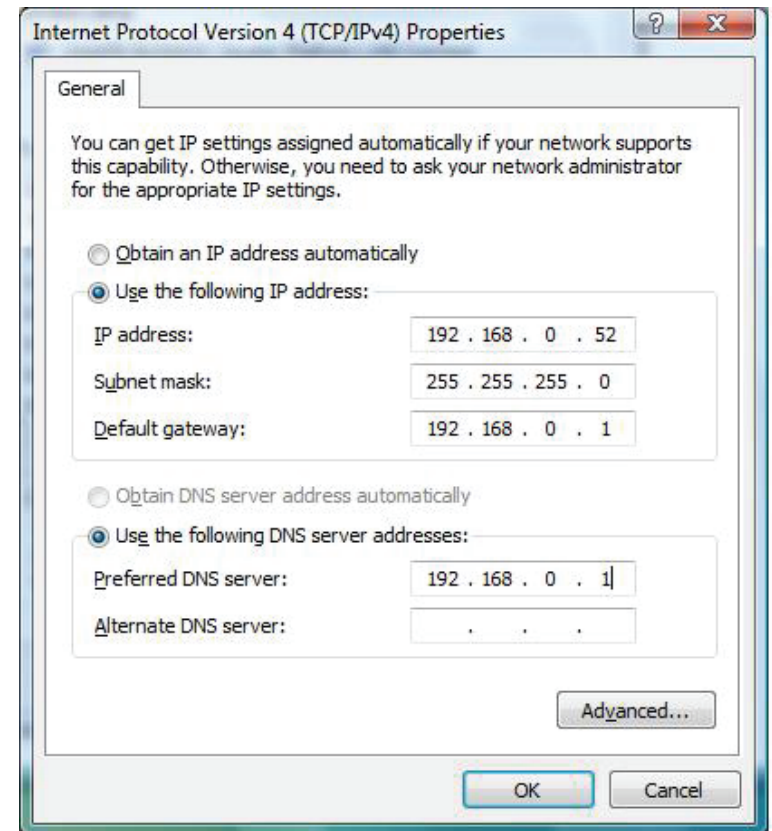


## Windows® 7/ Vista® Users

- Click on **Start > Control Panel** (make sure you are in Classic View). Double-click on the **Network and Sharing Center** icon. If you are using Windows Vista, click on **Manage network connections** along the left panel in the window. For Windows® 7, click on **Change adapter settings**.
- Right-click on the **Local Area Connection** which represents your D-Link wireless network adapter which will be connected to your network.
- Highlight **Internet Protocol Version 4 (TCP /IPv4)** and click **Properties**.
- Click **Use the following IP address** and enter an IP address that is on the same subnet as your network or LAN IP address on your router or network.

**Example:** If the router's LAN IP address is 192.168.0.1, make your IP address 192.168.0.X where X is a number between 2 and 99. Make sure that the number you choose is not in use on the network.

- Set **Default Gateway** the same as the LAN IP address of your router or gateway.
- Set **Primary DNS** the same as the LAN IP address of your router or gateway.
- The **Secondary DNS** is optional (you may enter a DNS server from your ISP).
- Click **OK** to save your settings.

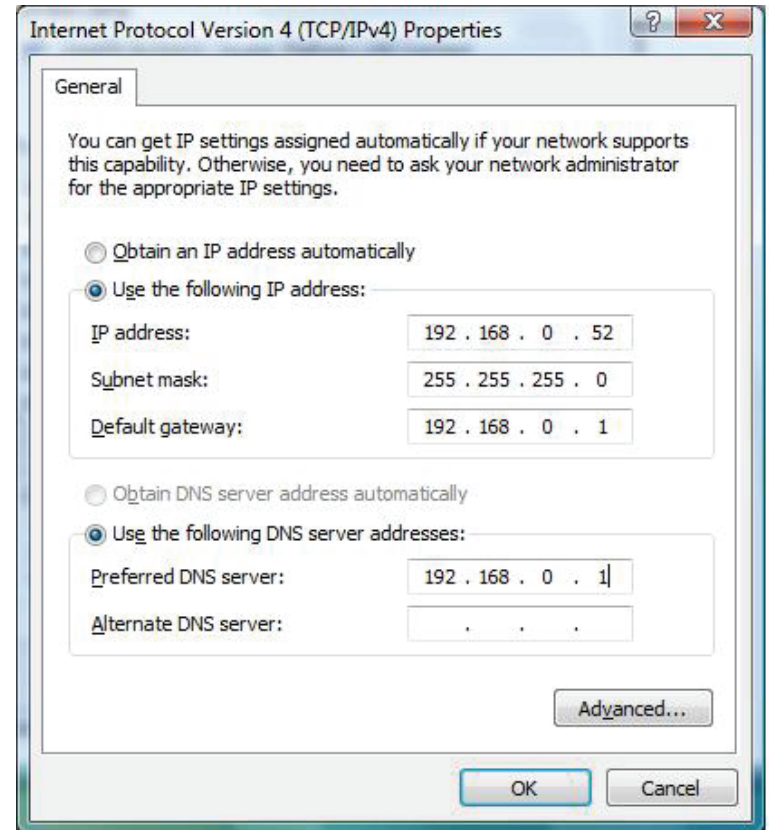


## Windows® 8 Users

- Press the **Windows** key and then type **IP**. Click **Settings** on the right side and then click **View Network Connections**.
- Right-click on the adapter which represents your D-Link wireless network adapter.
- Highlight **Internet Protocol Version 4 (TCP /IPv4)** and click **Properties**.
- Click **Use the following IP address** and enter an IP address that is on the same subnet as your network or LAN IP address on your router or network.

**Example:** If the router's LAN IP address is 192.168.0.1, make your IP address 192.168.0.X where X is a number between 2 and 99. Make sure that the number you choose is not in use on the network.

- Set **Default Gateway** the same as the LAN IP address of your router or gateway.
- Set **Primary DNS** the same as the LAN IP address of your router or gateway.
- The **Secondary DNS** is optional (you may enter a DNS server from your ISP).
- Click **OK** to save your settings.



# Technical Specifications

## Standards

- IEEE 802.11n
- IEEE 802.11g
- IEEE 802.11a

## Bus Type

- USB 2.0 (1.1 compatible)

## Security

- WPA™/WPA2™ - Wi-Fi Protected Access
- WPS (PIN and PBC)

## Media Access Control

- CSMA/CA with ACK

## Frequency Range

- 2.4GHz to 2.483GHz
- 5.15GHz to 5.85GHz

## Modulation Technology

- Orthogonal Frequency

## Division Multiplexing (OFDM)

- Complementary Code Keying (CCK)

## Operating Voltage

- 5 VDC +/- 10%

## Operating Temperature

- 32°F to 104°F ( 0°C to 40°C)

## Operating Humidity

- 10% to 90% maximum (non-condensing)

## Dimensions

- 79.5x23x10.8mm

## Weight

- 11.8g

## Certifications

- CE
- Wi-Fi®
- FCC
- IC
- C-tick

*\* Maximum wireless signal rate derived from IEEE Standard 802.11n and 802.11g specifications. Actual data throughput will vary. Network conditions and environmental factors, including volume of network traffic, building materials and construction, and network overhead, lower actual data throughput rate. Environmental factors will adversely affect wireless signal range.*

# Warranty

## **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.

For operation within 5.15 ~ 5.25GHz frequency range, it is restricted to indoor environment.

IEEE 802.11b or 802.11g operation of this product in the U.S.A. is firmware-limited to channels 1 through 11.

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:**

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. To maintain compliance with FCC RF exposure compliance requirements, please follow operation instruction as documented in this manual. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

SAR compliance has been established in typical laptop computer(s) with USB slot, and product could be used in typical laptop computer with USB slot. Other application like handheld PC or similar device has not been verified and may not compliance with related RF exposure rule an such use shall be prohibited.

### Industry Canada statement

This device complies with RSS-210 of the Industry Canada Rules. Operation is subject to the following two conditions:

- 1) this device may not cause interference and
- 2) this device must accept any interference, including interference that may cause undesired operation of the device

Caution:

The device for the band 5150-5250 MHz is only for indoor usage to reduce potential for harmful interference to co-channel mobile satellite systems.

Because high power radars are allocated as primary users (meaning they have priority) in 5250-5350 MHz and 5650-5850 MHz, these radars could cause interference and/or damage to license exempt LAN devices.

### IMPORTANT NOTE:

IC Radiation Exposure Statement:

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. To maintain compliance with IC RF exposure compliance requirements, please follow operation instruction as documented in this manual.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

### C-Tick Warning:

In order to use the product safely, it is recommended that you stay at least 1 cm away from the device when using it to limit exposure to electromagnetic radiation emitted during operation.

### 以下警語適用台灣地區

經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。