



User Manual

AX3000 Wi-Fi 6 PCIe Adapter with Bluetooth 5.1

Table of Contents

Product Overview	3
Package Contents.....	3
System Requirements.....	3
Introduction	4
Hardware Overview.....	5
Installation	6
Getting Started.....	6
Remove Existing Installations	6
Disable Other Wireless Adapters.....	7
Wireless Installation Considerations.....	9
Installation	10
Connecting to a Wireless Network.....	11
Using Windows 10.....	11
Troubleshooting	12
Wireless Basics	13
Networking Basics	17
Check your IP address.....	17
Statically Assign an IP address.....	18
Technical Specifications	19

Product Overview

Package Contents

- DWA-X3000 || AX3000 Wi-Fi 6 PCIe Adapter with Bluetooth® 5.1
- 2 x High Performance Antennas
- Magnetised Antenna Base with 1 m (3 ft) RF Cable
- Low Profile Bracket
- Bluetooth® Header Cable
- Quick Installation Guide
- CD-ROM

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

System Requirements

- An available PCIe X1 slot
- An available F_USB port (For optional Bluetooth functionality - not required for Wi-Fi 6)
- Windows 10 (64-bit)
- An 802.11ax or 802.11ac wireless network
- CD-ROM Drive

Introduction

The DWA-X3000 AX3000 Wi-Fi 6 PCIe Adapter with Bluetooth 5.1 connects your computer to a high-speed network and provides a blazing-fast Wireless AX connection with superior reception. Once connected, you can access your network's high-speed Internet connection while also getting secure access to shared photos, files, music, video, printers, and storage.

The Benefits of PCI Express

PCI Express provides a high-bandwidth connection with superior performance over the legacy PCI interface. You can connect the AX3000 Wi-Fi 6 PCIe Adapter with Bluetooth 5.1 to any PCIe slot in your computer, whether it is a x1, x4, x8, or x16 slot.

Get Connected and Stay Connected

Powered by the latest Wireless AX technology, this adapter provides high-performance wireless connectivity. The DWA-X3000 is designed for use in bigger homes and for users that demand higher networking performance. Maximize your wireless performance by connecting this adapter to a Wireless AX router and stay connected from virtually anywhere in your home. The DWA-X3000 is also backward compatible with 802.11ac/n/g/a/b technology, allowing you to connect to your older devices.

Bluetooth® 5.1 Connectivity

Take advantage of Bluetooth® 5.1 connectivity with faster connection initiation while being more energy efficient. Add DWA-X3000 to your PC so you can easily connect to Bluetooth devices like game controllers, headphones, and keyboards without any additional adapters.

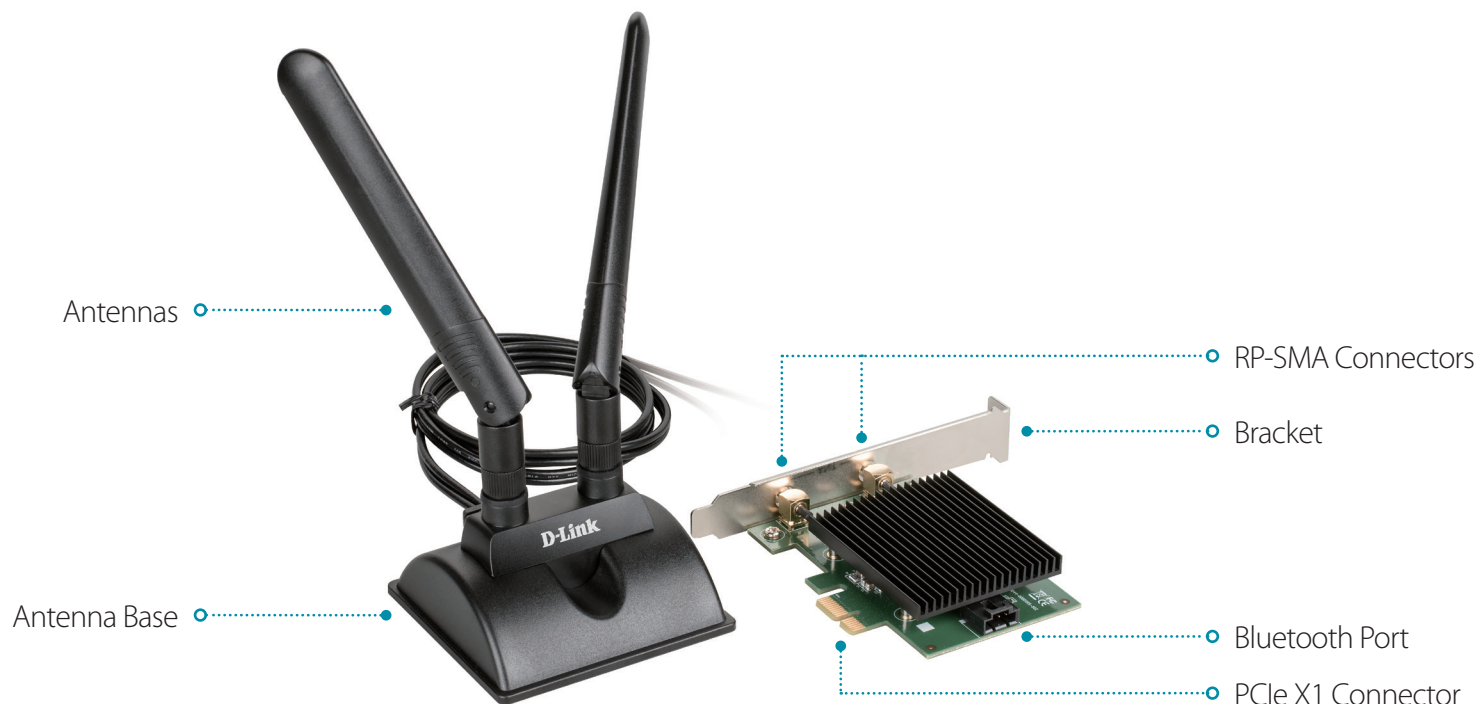
Robust Security Options

The DWA-X3000 supports WPA3™, allowing you to connect securely to a wireless network while also keeping out intruders, so that you can browse the Internet without worries.

Easy to Set Up and Use

A quick setup wizard guides users through a simplified installation process so that you can configure the DWA-X3000 without having to call a networking expert for help. With incredible wireless performance, reception, and security, this adapter is a great choice for easily adding or upgrading wireless connectivity to desktop computers.

Hardware Overview



Antennas	Omni-directional high-performance antennas for increased coverage.
Antenna Base	Magnetized antenna base for optimal antenna placement.
RP-SMA Connectors	Connect the base cable to the RP-SMA connectors.
Bracket	Full height and low profile bracket included in the packaging for flexible installation.
Bluetooth Port	For Bluetooth support, connect the Bluetooth Header Cable to the DWA-X3000 and the other end to an available F_USB connector on your motherboard. Note: The DWA-X3000 supports both Wi-Fi 6 and Bluetooth 5.1. The Bluetooth function is optional and not required for Wi-Fi 6 functionality.
PCIe X1 Connector	Connect to a PCIe X1 slot on a motherboard.

Installation

This section will walk you through the installation process. If you have a built-in wireless adapter, disable it in the Device Manager before installing your D-Link adapter. If you have previously installed another wireless adapter, uninstall it before proceeding.

Getting Started

Verify the following before installing your new D-Link wireless adapter:

- Disable any built-in wireless and/or Ethernet Adapters
- Verify the settings such as the wireless network name (SSID) and security settings of the network(s) you want to connect to

Remove Existing Installations

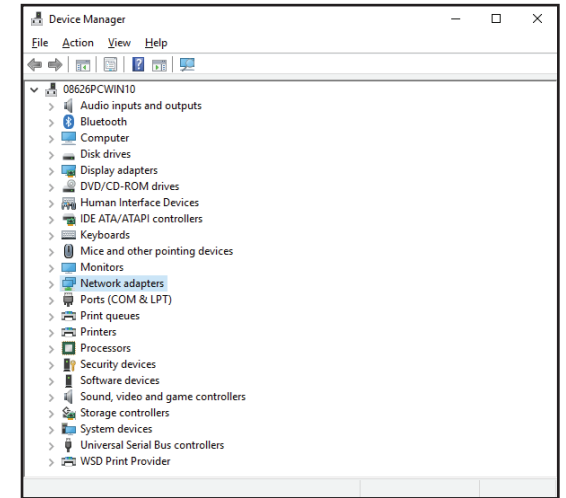
If you've previously installed another wireless adapter, make sure that the software is uninstalled before installing the new software. Some utilities may cause a conflict with the new software. If you plan to use multiple adapters at different times, make sure that the utilities are not set to load when your computer boots up. To remove any old software, click **Start > Control Panel > Uninstall Programs**.

Disable Other Wireless Adapters

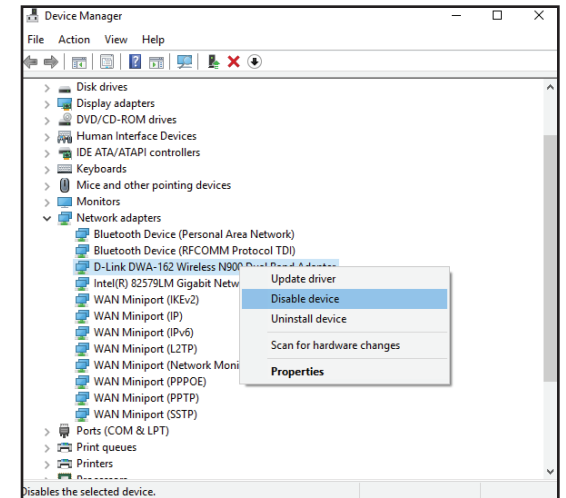
To prevent any conflicts with the D-Link wireless adapter, it is recommended to disable other wireless adapters (as well as any unused Ethernet adapters).

Access **File Explorer** and right-click on **This PC**, then select **Properties**.

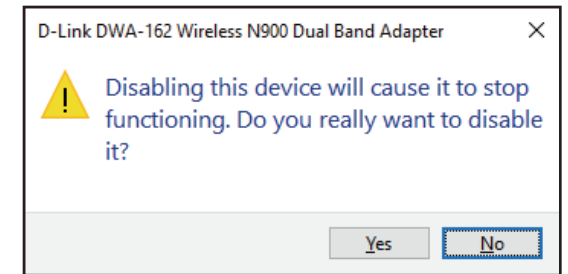
Click **Device Manager**. Scroll down the list and click the > sign to the left of **Network Adapters**.



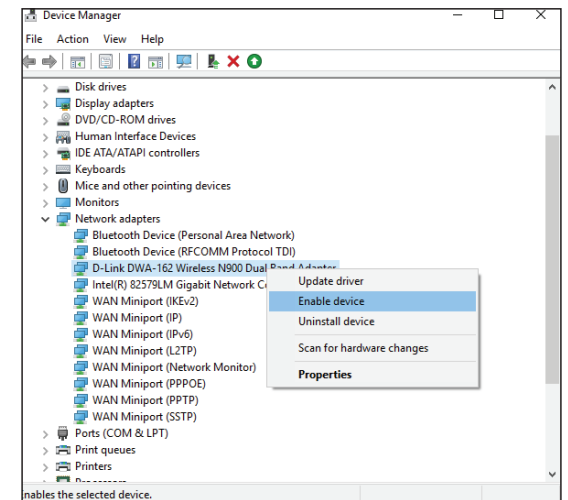
Right-click the adapter you would like to disable and select **Disable device**.



Click **Yes** to disable the adapter.



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



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 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 2.4 GHz 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 2.4 GHz 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.

Installation

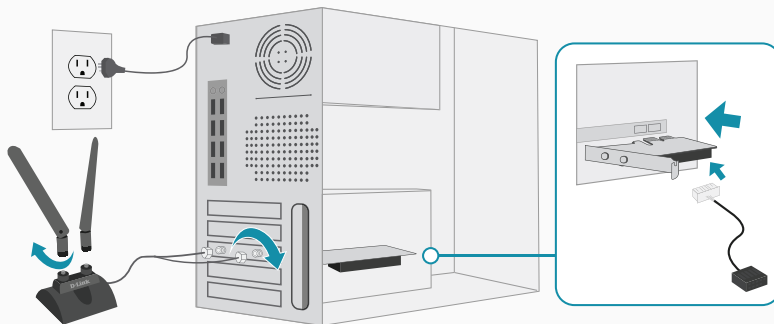
Note: Please install the drivers before physically installing the adapter into your computer.

SOFTWARE INSTALLATION



1. Insert the CD into the CD-ROM drive. When the autorun screen appears, click **Install Wi-Fi Driver** and follow the on-screen instructions to complete the installation. **Note:** If the autorun screen does not automatically appear, go to **Start > Run**. In the run box, type "**D:\autorun.exe**" where **D:** represents the drive letter of your CD-ROM drive.
2. [Optional] For Bluetooth support, click **Install Bluetooth Driver** and follow the on-screen instructions to complete the installation.
3. Alternatively, download the drivers from our website <https://www.dlink.com/en/support>

HARDWARE INSTALLATION



1. Turn off your computer, unplug the power cord and open the computer to access the motherboard.
2. Insert the DWA-X3000 into a PCIe X1 slot on the motherboard.
3. [Optional] For Bluetooth support, connect the Bluetooth Header Cable to the DWA-X3000 and the other end to an available F_USB connector on your motherboard.
4. Connect the antennas to the base. Then connect the base cable to the two RP-SMA connectors on the DWA-X3000.
5. Close the computer case, plug the power cord back in and power on the computer.
6. Follow the instructions in the Software Installation section to install the device drivers.

Connecting to a Wireless Network

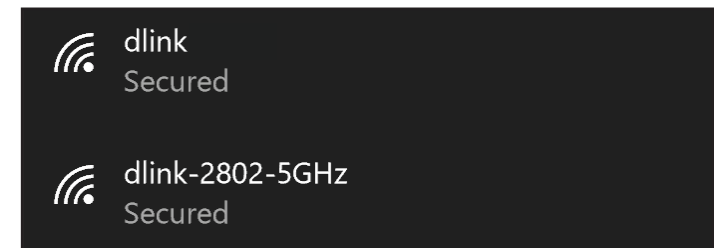
Using Windows 10

To join an existing network, locate the wireless network icon in the taskbar, next to the time display and click on it.

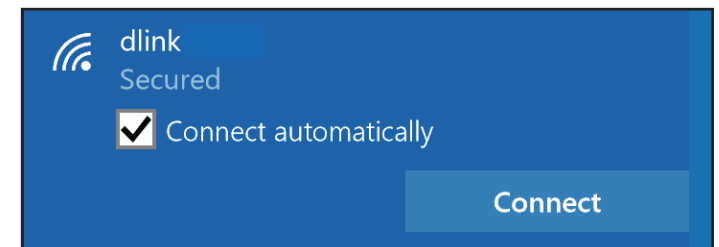


Wireless Icon

Clicking on this icon will display a list of wireless networks which are within range of your computer. Select the desired network by clicking on the SSID.

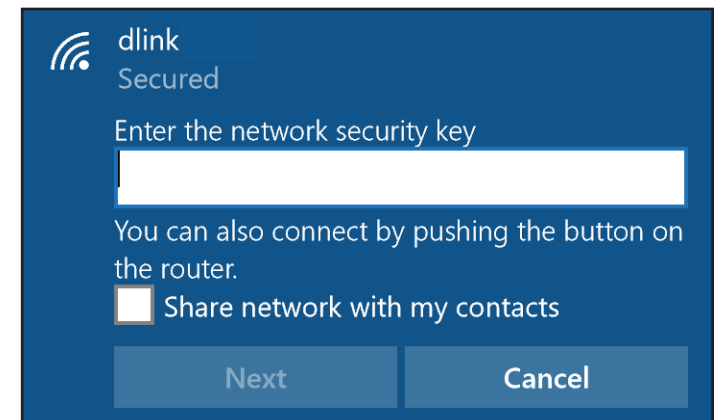


To connect to the SSID, click **Connect**.



To automatically connect with the router when your device next detects the SSID, check the **Connect Automatically** check box.

You will then be prompted to enter the Wi-Fi password (network security key) for the wireless network. Enter the password into the box and click **Next** to connect to the network. Your computer will now automatically connect to this wireless network when it is detected.



Troubleshooting

This chapter provides solutions to problems that can occur during the installation and operation of the DWA-X3000. Read the following descriptions if you are having problems.

Why is my DWA-X3000 not being detected or not working?

1. Ensure your computer meets the minimum system requirements for the DWA-X3000. The DWA-X3000 supports Windows 10 (64-bit) only.
2. Make sure the adapter is properly seated in the PCIe X1 slot on your motherboard.
3. Ensure the latest device drivers are installed. The latest drivers can be found and downloaded from the D-Link support website: <https://www.dlink.com/en/support>
4. Install the DWA-X3000 in a different PCIe X1 slot on your computer (if applicable).
5. Try restarting the computer or try installing the DWA-X3000 on a different computer to verify if the device is functional.

How can I improve the performance of my DWA-X3000?

For optimal performance and to reduce interference, keep the antenna base clear of any obstructions.

What do I do if the DWA-X3000 bracket is not the correct size for my computer?

If the attached bracket is not the correct size for your computer, detach it from the adapters board and replace it with the included low-profile bracket.

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 as seen in the picture, 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, 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 office
- Remotely access your office network from home
- Share 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 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 wireless desktop adapter with your laptop, you can access the hotspot to connect to Internet from remote locations, such as airports, hotels, coffee shops, libraries, restaurants, and convention centers.

Wireless network is 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 would significantly reduce any interference that the appliances might cause since they operate on same frequency.

Security

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

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.

- Click **Start > All Programs > Accessories > Command Prompt**. You may need administrative access to run this application.
- For all additional prompt windows inquiring of running the command prompt application, select **Yes, OK, or Continue**.
- 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.

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

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix  . : public.pnlab
    Link-local IPv6 Address . . . . . : fe80::80a1:34a3:f8f6:470a28
    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.pnlab
    Link-local IPv6 Address . . . . . : fe80::8efe:192.168.0.197%28
    Default Gateway . . . . . :

Tunnel adapter Local Area Connection* 7:

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

E:\Users\admin>
```

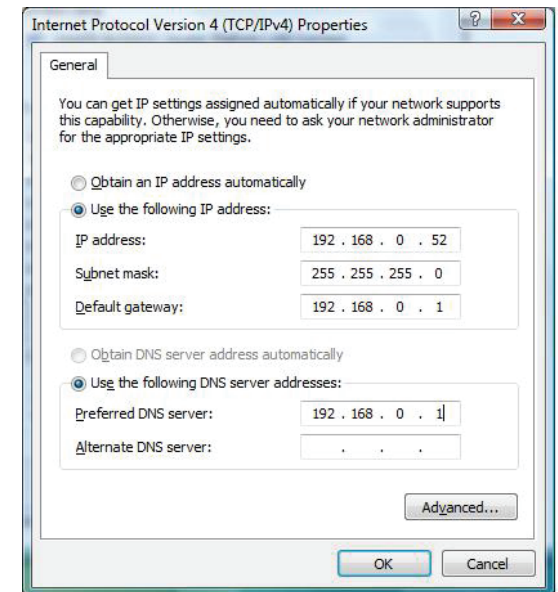
Statically Assign an IP address

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

- Click on **Start > Control Panel**. Double-click on the **Network and Sharing Center** icon, then 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.



Technical Specifications

Technical Specifications	
General	
Interface	<ul style="list-style-type: none"> • PCI Express (PCIe) • 2 x RP-SMA Connectors • F_USB
Antennas	<ul style="list-style-type: none"> • Two 3.76 dBi external dipole antennas
Wireless Frequency	<ul style="list-style-type: none"> • 2.4 GHz • 5 GHz
Wireless Standards	<ul style="list-style-type: none"> • IEEE 802.11ax/ac/n/a 5 GHz • IEEE 802.11ax/n/g/b 2.4 GHz • BT 5.1
Security	<ul style="list-style-type: none"> • WEP/WPA/WPA2/WPA3
Advanced Features	<ul style="list-style-type: none"> • Bluetooth 5.1
System Requirements	<ul style="list-style-type: none"> • Windows 10 64-bit
Physical	
Dimensions ¹	<ul style="list-style-type: none"> • 121 x 79 x 25 mm (4.76 x 3.11 x 0.98 in)
Weight ²	<ul style="list-style-type: none"> • 87 g (3.07 oz)
Temperature	<ul style="list-style-type: none"> • Operating: 0 to 40 °C (32 to 103 °F) • Storage: -20 to 65 °C (-4 to 149 °F)
Humidity	<ul style="list-style-type: none"> • Operating: 10% to 90% non-condensing • Storage: 5% to 95% non-condensing
Certifications	<ul style="list-style-type: none"> • CE • FCC • IC

¹ PCB only

² Includes heatsink