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› HighZero Electronics WiFi 6E Adapter for Intel AX211 User Manual

HighZero Electronics AX211.NGWG

HighZero Electronics WiFi 6E Adapter User Manual

Model: AX211.NGWG

1. INTRODUCTION

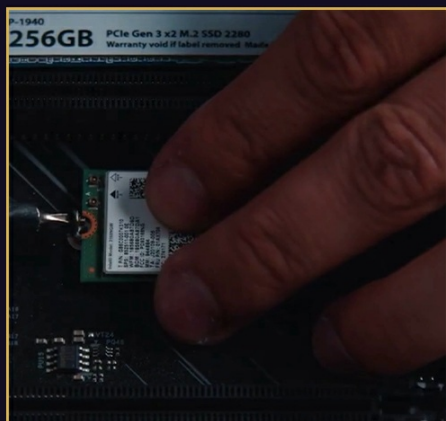
This user manual provides comprehensive instructions for the installation, operation, and maintenance of your HighZero Electronics WiFi 6E Adapter (Model: AX211.NGWG). This tri-band adapter offers high-speed wireless connectivity and Bluetooth 5.3 support, designed for compatible Intel 11th Gen and above laptop systems.



Image: The HighZero Electronics WiFi 6E Adapter, a compact M.2 card with Intel branding, designed for high-speed wireless connectivity.

Key Features

- **Speedy Connectivity:** Enjoy 3x faster speeds than Wi-Fi 5 (802.11ac) 2x2 with 160 MHz channels and 75% lower latency for responsive gaming and seamless video conferencing.



6

Now it's time to install your new network card! Insert your new card at a slight angle, then press flat against the motherboard

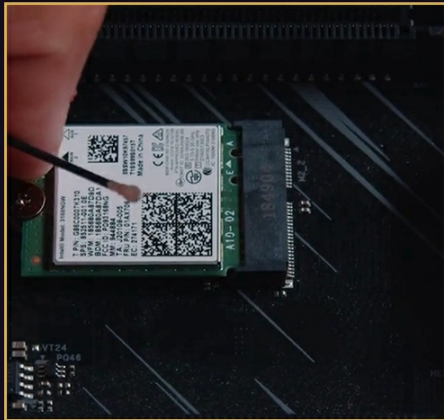
7

Reinstall the screw you removed earlier

Note: The card should easily slide into the slot without much resistance. If it does not fit, you likely ordered the wrong card

Image: A graphic highlighting the speedy connectivity features, including 3x faster Wi-Fi 5 performance and 2x faster Bluetooth transmission speeds across 2.4GHz, 5GHz, and 6GHz bands.

- **Built with the Best:** Based on the Wi-Fi 6E AX211 module, enabling smooth streaming of high-resolution videos, reduced dropped connections, and faster connections. Supports MU-MIMO, 1024QAM, OFDMA, and 160MHz channels with WPA3 in the less congested 6GHz band.



8

After installing your new card, gently reattach your existing antenna connectors

Be gentle! The connectors should pop right on

Image: A graphic detailing the advanced features of the adapter, such as MU-MIMO, 1024QAM, OFDMA, 160MHz channels, and WPA3 security, all available in the 6GHz band.

- **Speed Revolution:** Compatible with M.2 CNVio2 (NOT CNVio) interface with Key E. Features improved security with WPA3 and simplified passwords. Supports Wi-Fi frequencies: 2.412GHz-2.4835GHz, 5.150GHz-5.825GHz, and 6GHz.

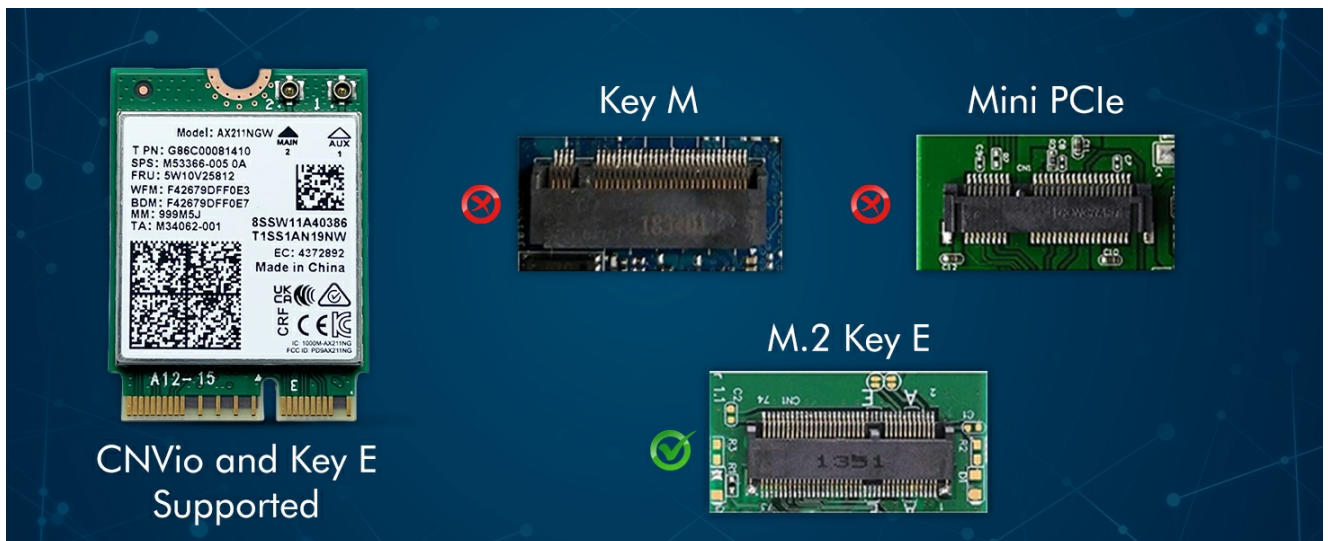


Image: A graphic illustrating the speed revolution brought by the adapter, emphasizing M.2 CNVio2 Key E compatibility, WPA3 security, and its supported Wi-Fi frequency ranges.

2. SAFETY INFORMATION

Please read and understand all safety precautions before installing or operating this device. Failure to do so may result in damage to the product, your computer, or personal injury.

- Ensure your computer is powered off and unplugged from the power source before installation.
- Discharge any static electricity from your body by touching a grounded metal object (e.g., computer chassis) before handling the adapter.

- Handle the adapter by its edges to avoid touching the gold connectors or components.
- Keep the adapter away from moisture, extreme temperatures, and direct sunlight.
- Do not attempt to disassemble or modify the adapter.

3. PACKAGE CONTENTS

Your package should contain the following item:

- Network Card (HighZero Electronics WiFi 6E Adapter AX211.NGWG)

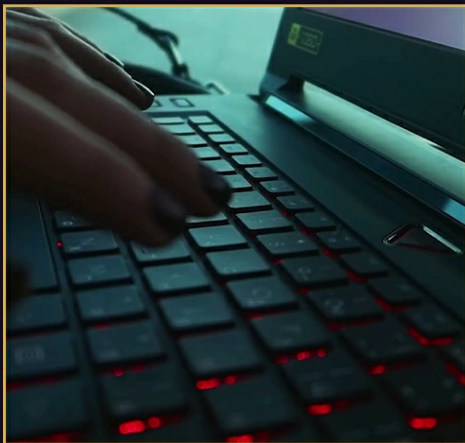
Note: Antennas and screws are NOT included and must be purchased separately if needed.

4. COMPATIBILITY

This WiFi 6E Adapter is specifically designed for systems with particular hardware and software configurations. Please verify compatibility before installation.

- **Processor Requirement:** ONLY compatible with 11th Gen and above Intel Laptop systems.
- **Interface Requirement:** Requires M.2 CNVio2 2230 form factor and a standard Key E socket. It WILL NOT work in the M.2 slot in a Desktop.
- **Operating System:** Compatible with select laptops running Windows 10 (64-bit), Windows 11 (64-bit), or Linux.
- **Bluetooth:** Supports Bluetooth 5.3 and is backwards compatible with earlier versions.

WARNING: PC may fail to boot and/or fail to recognize this adapter if not compatible. If unsure, purchase AX210.



9

Power on your system and test your new Wi-Fi card. You can use Speedtest or the site of your choosing

If your system does not automatically install the drivers, you will need to manually download and install BOTH the Wi-Fi and Bluetooth packages

Note: If you experience boot failure, or your system fails to recognize your new adapter, you likely purchased an incompatible model

Image: Visual representation emphasizing the importance of verifying compatibility for the WiFi 6E adapter with Intel 11th+ Gen CPUs and Windows/Linux operating systems.

Interface Compatibility

POSSIBLE UPGRADE FOR

- Ideal upgrade for most laptops/notebook with WiFi 4 or WiFi 5 cards including: AX-201.
- Please refer to the compatibility chart for full list of possible models.



Image: A diagram illustrating the compatible M.2 Key E slot and incompatible Key M and Mini PCIe slots for the AX211NGW adapter, highlighting that CNVio and Key E are supported.

Wireless Card Model Compatibility Table



1

Download both the Wi-Fi and Bluetooth drivers to your system (but don't install yet!)

2

Turn off your system's power and open the back cover of your system

3

Locate your current wireless card

Note: Refer to your system's manual for additional details on removing the back cover of your system

Image: A detailed table outlining compatibility requirements for various wireless card models, specifying the required Intel processor generation, M.2 interface type, and supported operating systems (Windows 10/11 64-bit or Linux).

Possible Upgrade For

	LEGACY WIFI*	AX200 OR AX1650X	AX201 OR AX1650I	AX210 OR AX1675X	AX211 OR AX1675I	AX411 OR AX1690I	BE200 OR BE1750X
LEGACY WIFI*		✓	✗	Maybe	✗	✗	Maybe
AX200 OR AX1650X		✓	✗	✓	✗	✗	✓
AX201 OR AX1650I		✓		✓	Maybe	Maybe	✓
AX210 OR AX1675X		✓	✗		✗	✗	✓
AX211 OR AX1675I		✓	✓	✓		Maybe	✓
AX411 OR AX1690I		✓	✓	✓	✓		✓
BE200 OR BE1750X		✓	✗	✓	✗	✗	

*Legacy WIFI Adapters generally consists of the following models: AC-3160, AC-3165, AC-7260, AC-7265, AC-8260, AC-8265, AC 9260, AC 1550, AC9560

Image: A graphic suggesting the adapter as an ideal upgrade for most laptops/notebooks with WiFi 4 or WiFi 5 cards, specifically mentioning AX-201 as a possible replacement.

5. SETUP AND INSTALLATION

Follow these steps carefully to install your new WiFi 6E Adapter. It is recommended to watch the installation video for visual guidance.

Installation Video Guide

Your browser does not support the video tag.

Video: Official installation instructions for the HighZer0 Electronics Laptop Wireless Adapter. This video guides you through the step-by-step process of setting up your new wireless network card.

Step-by-Step Installation

1. Download Drivers:

Download both the Wi-Fi and Bluetooth drivers for your specific operating system (Windows 10/11 or Linux) from the manufacturer's website. Do NOT install them yet!



Image: Step 1-3 of the installation process, including downloading drivers, powering off the system, and locating the existing wireless card.

2. Power Off and Open System:

Turn off your system's power completely and open the back cover of your laptop. Refer to your system's manual for additional details on removing the back cover.

3. Locate Current Wireless Card:

Identify the existing wireless card in your laptop's M.2 slot.

4. Disconnect Antennas:

Gently disconnect your old antennas from the existing wireless card. Be careful not to damage the small connectors.

SPEEDY CONNECTIVITY

- 3x faster than Wi-Fi 5 (802.11ac) 2x2 with 160 MHz channels and 75% lower latency for more responsive gaming and seamless video conferencing
- 2X faster transmission speeds and 4X the range over Bluetooth 4x versions with a transmission rate of 2.4GHz: 574Mbps, 5GHz: 2400Mbps and 6GHz: 2400Mbps



Image: Steps 4-5 of the installation process, detailing how to gently disconnect antennas and remove the holding screw from the wireless card.

5. Remove Holding Screw:

Remove the holding screw with a small screwdriver and set it aside for later. A small eyeglass screwdriver is an easy way to gently leverage the connectors free and remove the screw.

6. Install New Network Card:

Insert your new HighZero Electronics WiFi 6E Adapter at a slight angle into the M.2 Key E slot, then press it flat against the motherboard. The card should easily slide into the slot without much resistance. If it does not fit, you likely ordered the wrong card.

BUILT WITH THE BEST

- Built on the Wi-Fi 6E AX211 module to enable smooth streaming of high resolution videos, reduce dropped connections, and ensure faster connections
- Built with MU-MIMO, 1024QAM, OFDMA, 160MHz channels and WPA3 all available in the less congested 6GHz band
- Antennas/Screws NOT included

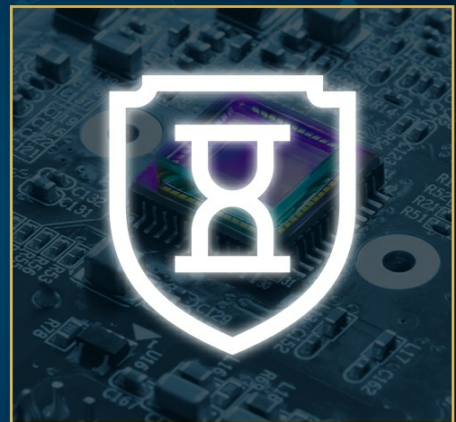


Image: Steps 6-7 of the installation process, illustrating how to insert the new network card into the M.2 slot and reinstall the holding screw.

7. Reinstall Screw:

Reinstall the screw you removed earlier to secure the new adapter.

8. Reattach Antennas:

After installing your new card, gently reattach your existing antenna connectors. Be gentle! The connectors should pop right on.

VERIFY COMPATIBILITY

- Requires 11th+ Generation Intel based laptops/notebooks with M.2 CNVio2 interface with Windows 10/11 and Linux
- Compatible with Bluetooth 5.3 and backwards compatible with earlier versions
- Most systems are not compatible. Please verify compatibility or the WiFi card will not work

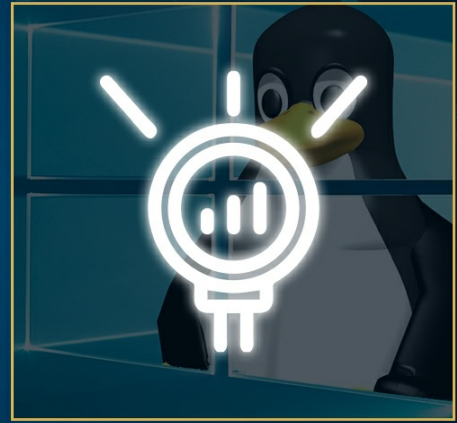


Image: Step 8 of the installation process, demonstrating how to gently reattach the antenna connectors to the newly installed wireless card.

9. Power On and Test:

Power on your system and test your new Wi-Fi card. You can use a Speedtest or a site of your choosing to verify connectivity. If your system does not automatically install the drivers, you will need to manually download and install BOTH the Wi-Fi and Bluetooth packages. If you experience boot failure, or your system fails to recognize your new adapter, you likely purchased an incompatible model.

SPEED REVOLUTION

- Compatible with M.2 CNVio2 (NOT CNVio) interface with Key E
- Improved security with WPA3 and simplified passwords
- WiFi Frequency: 2.412GHz-2.4835GHz 5.150GHz-5.825GHz and 6GHz
- NOTE: this is NOT the same as M.2 WiFi PCIe or CNVio.



Image: Step 9 of the installation process, showing a user typing on a laptop keyboard, indicating powering on the system and testing the newly installed WiFi card.

6. OPERATING INSTRUCTIONS

Driver Installation

After physical installation, ensure the correct drivers are installed for optimal performance. If your operating system does not automatically detect and install the drivers, you must manually install them. Visit the official Intel support website or your laptop manufacturer's website to download the latest Wi-Fi and Bluetooth drivers for the Intel AX211 (or equivalent for AX211.NGWG) for your specific operating system (Windows 10/11 64-bit or Linux).

It is crucial to install both the Wi-Fi and Bluetooth driver packages.

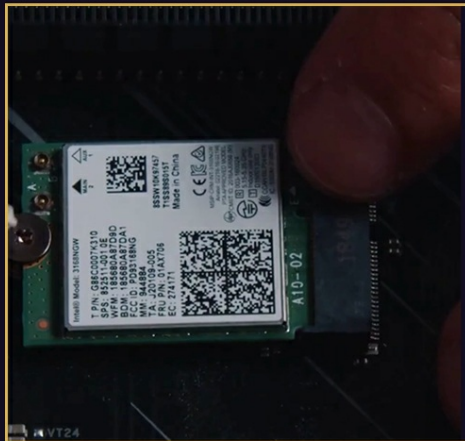
Connecting to a Wireless Network

Once drivers are installed, your system should recognize the new adapter. You can then connect to available Wi-Fi networks:

1. Open your operating system's network settings.
2. Select the desired Wi-Fi network from the list of available networks.
3. Enter the network password (if required) and click "Connect."

Bluetooth Connectivity

The adapter supports Bluetooth 5.3, allowing connection to various Bluetooth devices.



4

Gentle disconnect your old antennas

5

Remove the holding screw with a small screwdriver, set aside for later

Note: A small eyeglass screwdriver is an easy way to gently leverage the connectors free & remove the screw

Image: A visual representation of the AX211NGW adapter's Bluetooth 5.3 capabilities, showing connections to a variety of devices including Bluetooth speakers, remote controllers, earphones, printers, smartphones, mice, and tablets.

To pair a Bluetooth device:

1. Ensure Bluetooth is enabled on your system.
2. Put your Bluetooth device into pairing mode.
3. Go to your system's Bluetooth settings and search for new devices.
4. Select your device from the list and follow any on-screen prompts to complete pairing.

7. MAINTENANCE

The HighZer0 Electronics WiFi 6E Adapter is a low-maintenance component. Follow these general guidelines to ensure its longevity:

- Keep your laptop's internal components clean from dust. Use compressed air to gently clear dust from vents and internal areas periodically.
- Ensure proper airflow around your laptop to prevent overheating, which can affect component performance.
- Keep your operating system and drivers updated to benefit from performance improvements and security patches.

8. TROUBLESHOOTING

If you encounter issues with your WiFi 6E Adapter, refer to the following common troubleshooting steps:

Problem	Possible Cause / Solution
Adapter not recognized / System fails to boot	Incompatibility: This is the most common cause. Ensure your laptop has an 11th Gen+ Intel CPU and an M.2 CNVio2 Key E slot. This adapter is NOT compatible with desktop systems or older Intel CPUs. Incorrect Installation: Re-check that the card is seated correctly in the M.2 slot and the screw is secured.
No Wi-Fi or Bluetooth connectivity	Missing/Incorrect Drivers: Manually download and install the latest Wi-Fi and Bluetooth drivers from Intel's website or your laptop manufacturer's support page. Antenna Connection: Ensure both Wi-Fi antenna cables are securely connected to the adapter's MAIN and AUX ports. Device Manager Check: In Windows Device Manager, check if the adapter is listed without any error symbols. If errors exist, try updating or reinstalling drivers.
Slow Wi-Fi speeds or frequent disconnections	Router Compatibility: Ensure your Wi-Fi router supports Wi-Fi 6E (802.11AX) and is configured for 160MHz channel width for optimal speeds. Interference: Move closer to your router or check for sources of interference. Driver Update: Ensure you have the latest drivers installed.

9. SPECIFICATIONS

Feature	Detail
Model Number	AX211.NGWWG
Brand	HighZer0 Electronics
Hardware Interface	M.2 CNVio2 2230 (Key E)
Wireless Standard	IEEE 802.11ax (Wi-Fi 6E)
Data Link Protocol	IEEE 802.11ax, IEEE 802.11 ac, IEEE 802.11n, IEEE 802.11g, IEEE 802.11b, IEEE 802.11a, Bluetooth
Data Transfer Rate	Up to 2.4 Gigabits Per Second (5GHz/6GHz), 574Mbps (2.4GHz)
Bluetooth Version	5.3
Product Dimensions	1.18 x 0.87 x 0.1 inches (30 x 22 x 2.5 mm)
Item Weight	0.102 ounces (2.9 Grams)
Color	Green & White

Feature	Detail
Compatible Devices	Laptop (with compatible Intel CPU and M.2 CNVio2 Key E slot)

Wireless Technology Comparison



Image: A comparative table detailing the differences between Wi-Fi 5 (802.11ac), Wi-Fi 6 (802.11ax), Wi-Fi 6E (802.11ax), and Wi-Fi 7 (802.11be) standards, including frequency bands, bandwidth, access methods, modulation, antenna configurations, security, and key innovations.

10. WARRANTY AND SUPPORT

HighZer0 Electronics stands behind the quality of its products. For warranty information, technical support, or to report any issues, please contact HighZer0 Electronics customer service through the retailer where you purchased the product or visit the official HighZer0 Electronics website.
Please retain your proof of purchase for warranty claims.

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Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question

