XYGStudy AW-CB375NF

XYGStudy AW-CB375NF Dual-Band Wireless NIC User Manual

Model: AW-CB375NF

1. Introduction

This manual provides instructions for the installation, operation, and maintenance of the XYGStudy AW-CB375NF Dual-Band Wireless NIC. This network interface card integrates Wi-Fi 5 (802.11ac) and Bluetooth 5.0 capabilities, offering high-speed wireless connectivity for compatible devices.

1.1 Key Features

- **Dual-Band Wireless:** Supports 2.4GHz and 5GHz frequencies.
- **High Speed Wi-Fi 5:** Up to 300Mbps on 2.4GHz and 867Mbps on 5GHz.
- **Bluetooth 5.0:** Compatible with Bluetooth 2.1+EDR and supports BLE (Bluetooth Low Energy).
- **Interface:** NGFF (M.2 A/E Key).
- **Core:** RTL8822CE-CG.
- **Technology:** IEEE 802.11ac/m MIMO OFDM wireless technology with two transmit and two receive paths.



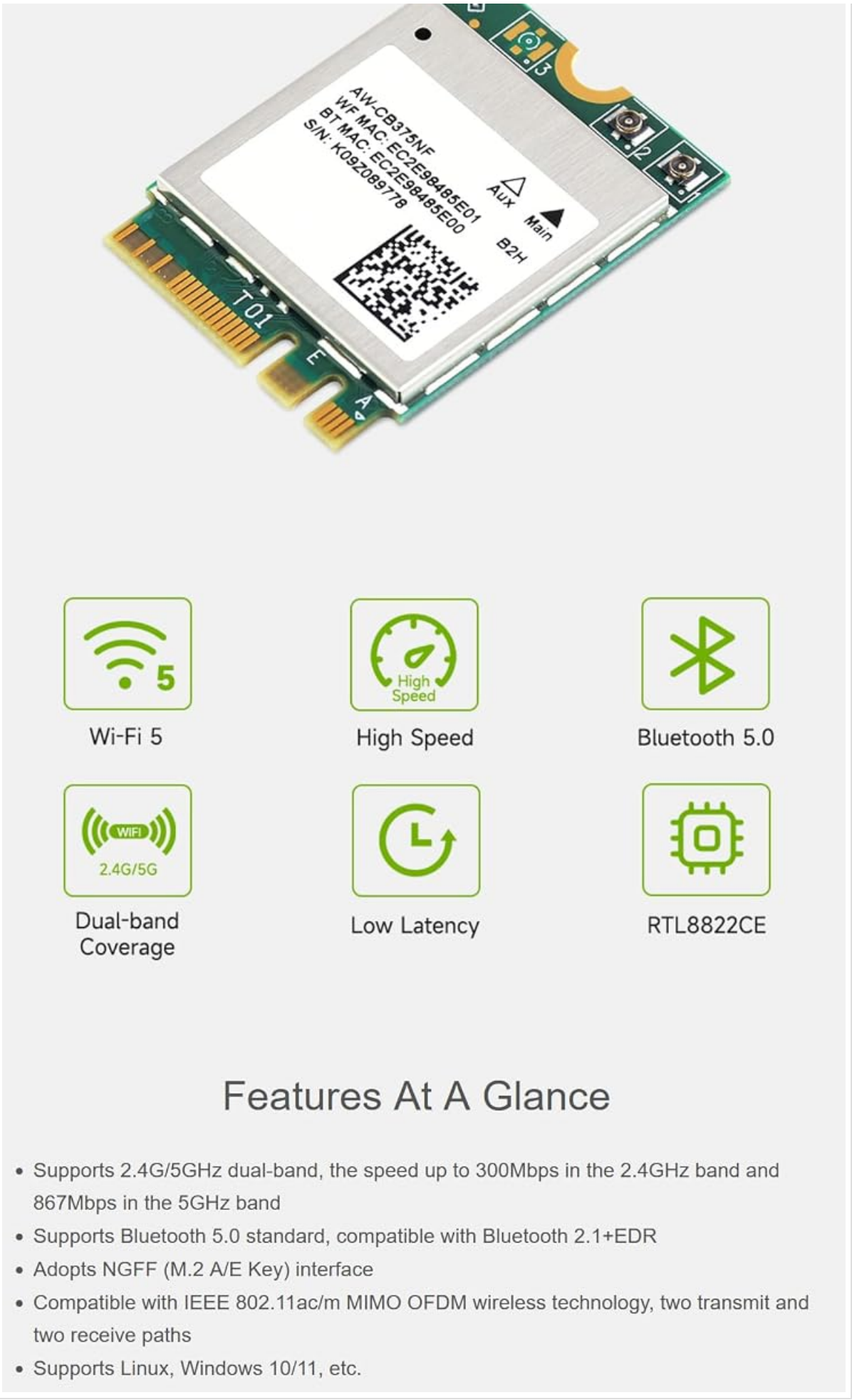


Figure 1.1: AW-CB375NF Wireless NIC highlighting its dual-band, Wi-Fi 5, Bluetooth 5.0, high speed, low latency, and RTL8822CE features.

1.2 Package Contents

Verify that all items are present in the package before proceeding with installation.

- 1 x Wireless-AW-CB375NF Module
- 2 x IPEX to SMA Cable
- 2 x Antenna



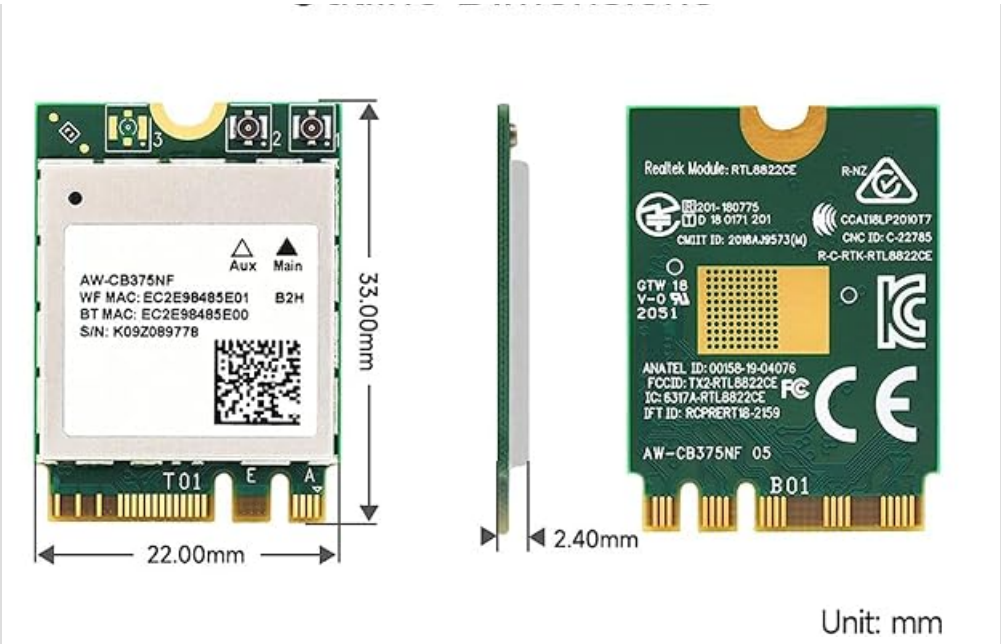


Figure 1.2: The AW-CB375NF module showing the NGFF (M.2 A/E Key) interface, screw hole, and IPEX MHF4 antenna connectors.

2. Setup

2.1 Physical Installation

1. **Prepare your device:** Ensure your computer or compatible device is powered off and disconnected from the power source. Open the device casing to access the M.2 slot.
2. **Insert the NIC:** Locate an available NGFF (M.2 A/E Key) slot on your device's motherboard. Carefully align the AW-CB375NF module with the slot and insert it at an angle. Gently press down until it is flush with the motherboard.
3. **Secure the NIC:** Use a small screw (not included, typically provided with the motherboard) to secure the module in place at the screw hole.
4. **Connect Antennas:** Attach the IPEX to SMA cables to the IPEX MHF4 connectors on the AW-CB375NF module. Ensure a firm connection.
5. **Install External Antennas:** Connect the provided external antennas to the SMA connectors of the cables. Position the antennas for optimal signal reception.

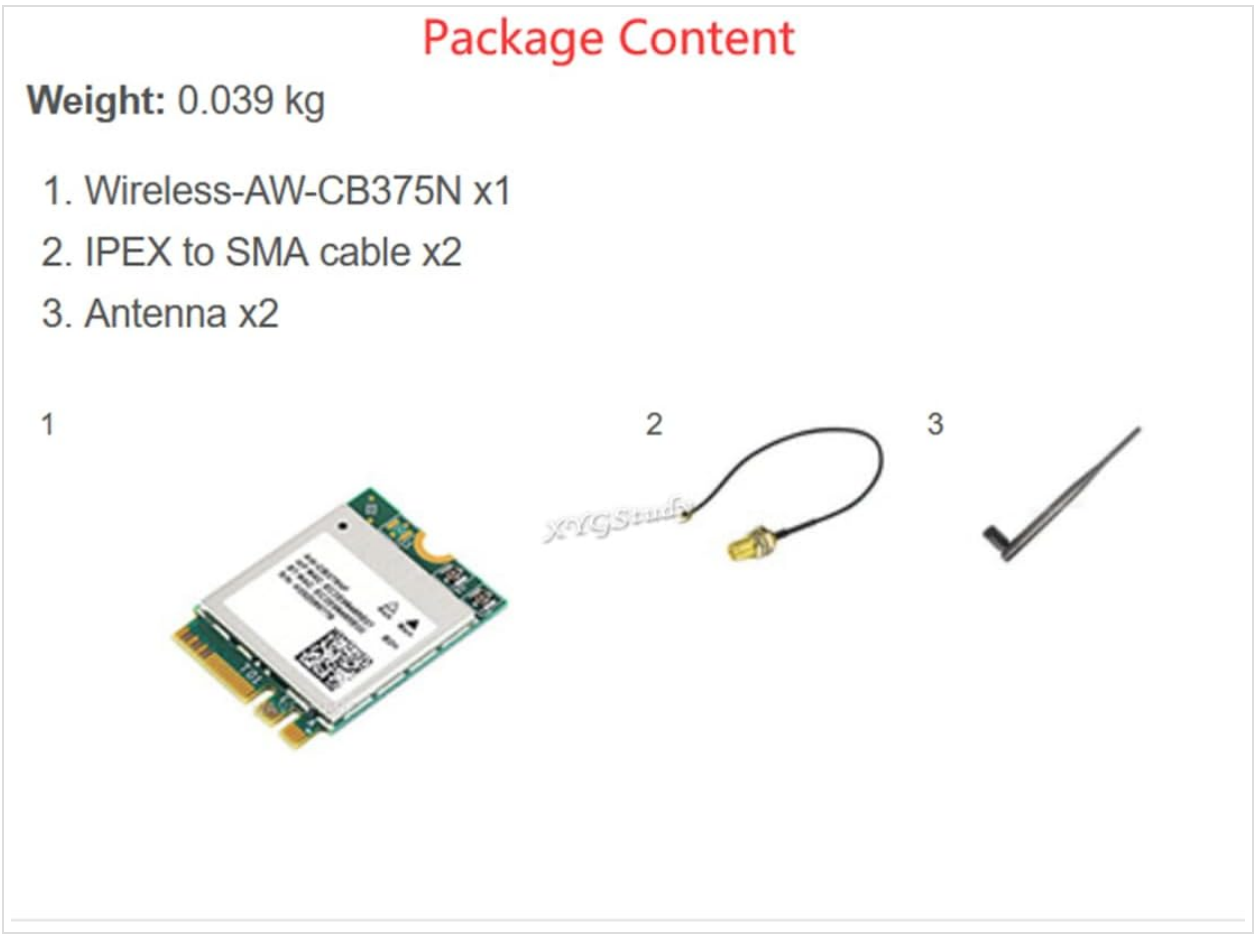


Figure 2.1: Illustration of connecting the IPEX to SMA adapter cables and antennas to the AW-CB375NF module.

2.2 Driver Installation

After physical installation, power on your device. The operating system may automatically detect and install the necessary drivers. If not, you may need to download the latest drivers for the Realtek RTL8822CE chipset from your device manufacturer's website or Realtek's official support page. Follow the on-screen instructions for driver installation.

3. Operating

3.1 Wi-Fi Connection

Once the drivers are installed, your device should detect available Wi-Fi networks. Navigate to your operating system's network settings:

1. Open Wi-Fi settings.
2. Select your desired network (SSID) from the list.
3. Enter the network password if prompted.
4. Click 'Connect'.

The AW-CB375NF supports both 2.4GHz and 5GHz bands, allowing connection to a wide range of routers and access points.



Figure 3.1: The AW-CB375NF module illustrating its dual-band Wi-Fi capability, supporting both 2.4GHz and 5GHz frequencies.

3.2 Bluetooth Connection

To connect Bluetooth devices:

1. Ensure Bluetooth is enabled in your device's settings.
2. Put your Bluetooth device (e.g., mobile phone, laptop, gamepad) into pairing mode.
3. In your device's Bluetooth settings, search for new devices.
4. Select your Bluetooth device from the list and follow any on-screen prompts to complete pairing.







Figure 3.2: The AW-CB375NF module demonstrating its Bluetooth 5.0 capability, allowing connection to various devices like

mobile phones, laptops, and gamepads.

4. Maintenance

The AW-CB375NF Wireless NIC is designed for reliable operation with minimal maintenance. To ensure optimal performance:

- Keep your device's operating system and drivers updated to the latest versions.
- Ensure proper airflow within your device to prevent overheating.
- Avoid exposing the module to extreme temperatures or humidity.
- Periodically check antenna connections to ensure they are secure.

5. Troubleshooting

If you encounter issues with your AW-CB375NF Wireless NIC, consider the following troubleshooting steps:

- **No Wi-Fi or Bluetooth:**
  - Verify that the module is correctly seated in the M.2 slot.
  - Check if the antennas are securely connected.
  - Ensure drivers are properly installed and updated. Check Device Manager (Windows) or equivalent system information (Linux) for any error indicators.
  - Restart your computer.
- **Slow Wi-Fi Speed:**
  - Ensure you are connected to the 5GHz band if your router supports it, as it generally offers higher speeds.
  - Check for interference from other wireless devices.
  - Update your router's firmware.
  - Ensure your device is within optimal range of your Wi-Fi router.
- **Bluetooth Device Not Pairing:**
  - Ensure the Bluetooth device is in pairing mode.
  - Check if Bluetooth is enabled on your computer.
  - Remove previous pairings of the device from your computer and try again.
  - Ensure the Bluetooth device is charged and within range.

If problems persist, consult your device manufacturer's support resources or contact XYGStudy customer support.

6. Specifications

Feature	Specification
Model	AW-CB375NF
Wireless Standard	IEEE 802.11ac/a/b/g/n

Feature	Specification
Wi-Fi Frequency	2.4GHz / 5GHz (Dual-Band)
Wi-Fi Data Rate (Max)	2.4GHz: 300Mbps, 5GHz: 867Mbps
Bluetooth Standard	Bluetooth 5.0 (compatible with 2.1+EDR, supports BLE)
Hardware Interface	NGFF (M.2 A/E Key)
Chipset	RTL8822CE-CG Core
Antenna Connectors	IPEX MHF4
Dimensions	22.00mm x 30.00mm x 2.40mm (approx.)
Weight	0.039 kg (approx.)
Operating Systems	Supports Linux, Windows 10/11
UPC	719704483988



Figure 6.1: Outline dimensions of the AW-CB375NF Wireless NIC module.

7. Compatibility

The AW-CB375NF Wireless NIC is designed for use with devices featuring an NGFF (M.2 A/E Key) slot and compatible operating systems. It has been tested for compatibility with various products, including:

- Jetson Xavier NX
- Jetson Orin NX
- Jetson Orin Nano
- Jetson Xavier NX Development Board
- Jetson Orin NX/Nano Development Board

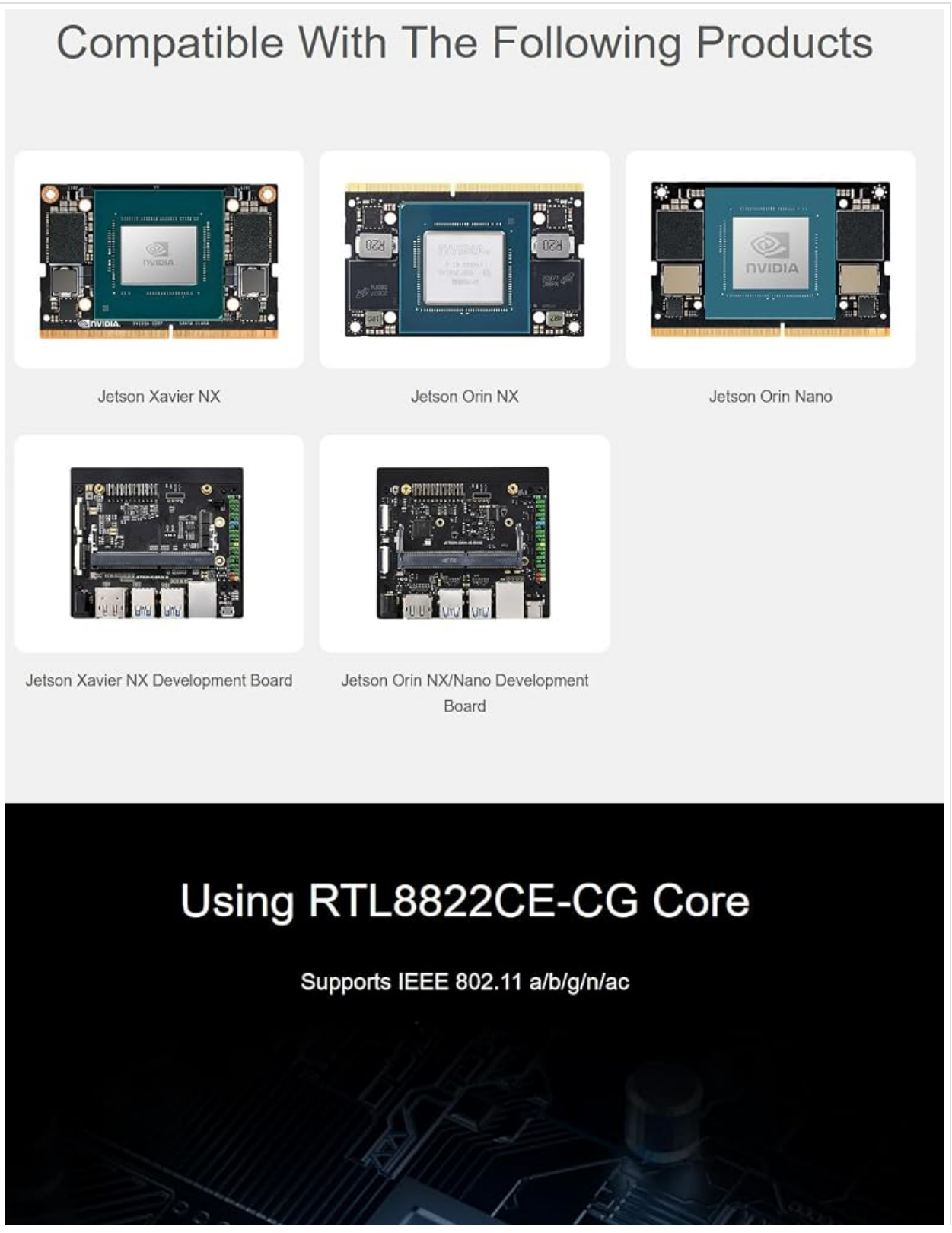




Figure 7.1: Examples of products compatible with the AW-CB375NF Wireless NIC, including various Jetson development boards.



Figure 7.2: Close-up view of the RTL8822CE-CG core, which supports IEEE 802.11 a/b/g/n/ac standards.

8. Warranty and Support

For warranty information and technical support, please refer to the documentation provided with your purchase or contact XYGStudy customer service through the platform where the product was purchased. Ensure you have your product model number (AW-CB375NF) and purchase details ready when contacting support.

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