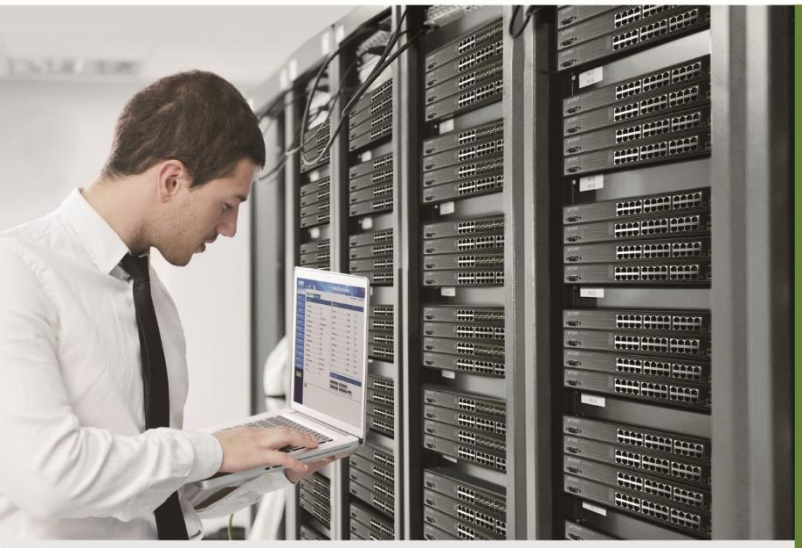
PLANET
Networking & Communication

User's Manual

802.11be Wi-Fi 7 Tri-band Wireless PCI Express Adapter

▶ WTL-5800BE



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FCC Warning

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.

CE Mark Warning

This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

WEEE Warning

To avoid the potential effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment, end users of electrical and electronic equipment should understand the meaning of the crossed-out wheeled bin symbol. Do not dispose of WEEE as unsorted municipal waste and have to collect such WEEE separately.

Revision

User Manual of PLANET Wi-Fi 7 Desktop PCIe Adapter

Models: WTL-5800BE

Revision: 1.0 (September 2025)

Part No.: EM-WTL-5800BE_v1.0

Table of Contents

Chapter 1 Introduction

Thank you for purchasing PLANET WTL-5800BE tri-band desktop adapter. It is designed with the Intel® BE200 2×2 controller to provide Wi-Fi 7 connectivity across 2.4, 5 and 6 GHz bands with 320 MHz channel support, OFDMA/MUMIMO and WPA3-SAE security. This Quick Installation Guide (QIG) helps you complete the physical installation, driver setup, and initial wireless/Bluetooth® connection.

Upgrade Desktops to Fast, Low-Latency Wi-Fi 7

PLANET **WTL-5800BE** is a tri-band 802.11be/EHT **Wi-Fi 7** PCI Express x1 wireless adapter powered by the Intel® **BE200NGW** chipset. It brings next-generation connectivity to desktop PCs with **2×2 MIMO** and **OFDMA** for high efficiency and lower latency. The adapter supports speeds **up to 574 Mbps (2.4 GHz), 2400 Mbps (5 GHz) and 5800 Mbps (6 GHz)**, opening the new 6 GHz band for cleaner spectrum and reduced interference in dense environments.

With **Bluetooth® 5.4** (via onboard USB interface), users can connect keyboards, mice, headsets and other peripherals without a separate dongle, simplifying the workspace.

Designed for easy deployment in business and home offices, WTL-5800BE includes two external **5 dBi antennas** to enhance signal coverage. It operates seamlessly on **Windows 10/11 and Linux** making it an ideal upgrade for high-bandwidth applications such as 4K/8K streaming, cloud collaboration, AR/VR trials and online gaming.

Hassle-free Installation for Tri-Band Wi-Fi

WTL-5800BE uses a standard **PCI Express x1** interface for Wi-Fi data and an internal **USB** connection for Bluetooth functionality. Once installed, your desktop gains simultaneous access to **2.4, 5 and 6 GHz** bands under the Wi-Fi 7 standard, maximizing spectrum choices and minimizing contention with legacy devices.

Wi-Fi 7 Technology Highlights

The WTL-5800BE brings the latest **Wi-Fi 7 (IEEE 802.11be/EHT)** to desktops with **2×2 MIMO**, **OFDMA**, **MU-MIMO**, **BSS Coloring**, **4096-QAM, Multi-RU, and MLO (Multi-Link Operation)**. It supports channel widths **up to 320 MHz on 6 GHz and 160 MHz on 5 GHz** with WPA3-SAE security. It delivers up to **574 Mbps (2.4 GHz), 2400 Mbps (5 GHz), and 5800 Mbps (6 GHz)**, helping reduce interference and latency in high-density environments.

Multiple OS Support

The WTL-5800BE works seamlessly with **Windows® 11 64-bit** (2.4, 5 and 6 GHz) and **Windows® 10 64-bit** (2.4, 5 and 6 GHz).

It is also compatible with **Linux** distributions using the **iwlwifi** driver (kernel **6.16+**); 6 GHz availability depends on regulatory domain and distro enablement. Bluetooth 5.4 is supported via the onboard USB interface.

Low-profile design

The adapter supports both **full-height and low-profile** PCI Express slots, making it easy to deploy in compact desktops and IPCs.

Package includes full-height bracket and **low-profile bracket** for flexible installation.

1.1 Package Contents

Make sure your package contains the following items:

- 1 × WTL-5800BE Wi-Fi 7 PCIe x1 adapter (full-height bracket pre-installed)
- 1 × Low-profile bracket
- 2 × External 5 dBi antennas
- 1 × Bluetooth® USB header cable (9-pin)
- 1 × QR code sheet

If any of these are missing or damaged, please contact your dealer immediately. If possible, retain the carton including the original packing material, and use it again to repack the product in case there is a need to return it to us for repair.

1.2 Product Features

- Intel® BE200NGW Wi-Fi 7 2×2 chipset for performance and reliability
- Tri-band 2.4, 5 and 6 GHz 802.11be/EHT with OFDMA and MU-MIMO for higher efficiency
- Throughput: up to 574 Mbps (2.4 GHz); up to 2400 Mbps (5 GHz); up to 5800 Mbps (6 GHz).
- PCI Express x1 interface for Wi-Fi data; USB interface for Bluetooth function
- Bluetooth® 5.4 for seamless connection to headsets, keyboards, mice, etc.
- Two 5 dBi external antennas to enhance signal coverage and stability
- Security-ready with modern Wi-Fi encryption (802.11be/EHT standard compliant)
- Operating temperature 0–55 °C for daily office and SOHO environments
- Windows 10/11 and Linux driver support for quick integration

1.3 Product Specifications

Product	WTL-5800BE
Hardware Specifications	
Controller	Intel® BE200NGW
Interface	PCIe 2.0 x1（Wi-Fi via PCIe, Bluetooth via USB）*
Antenna	2 × external 5 dBi
Dimensions (W x D x H)	71.5 × 58 × 1.6 mm
Weight	55g
Power Supply	PCI Express bus-powered (3.3V) USB 5V (internal header) for Bluetooth function No external power connector required
Power Consumption	No Load: 0.36W (3.3V@110mA) Full Load: 0.69W (3.3V@210mA)
Wireless	
Standard	IEEE 802.11be, 802.11ax, 802.11ac, 802.11n, 802.11b, 802.11g and 802.11a
Bands	2.4 GHz: 2400–2483.5 MHz 5 GHz: 5150–5850 MHz 6 GHz: 5925–7125 MHz Region-dependent; actual channels and EIRP follow local regulations.
Data Rate	2.4 GHz up to 574 Mbps; 5 GHz up to 2400 Mbps; 6 GHz up to 5800 Mbps
MIMO	2×2 spatial streams
Bluetooth	
Version	Bluetooth 5.4 (via USB interface)
Advanced Functions	
Operating System Support	Windows 10 (64-bit) Windows 11 (64-bit) Linux (64-bit, kernel 6.16+ with iwlwifi & Intel firmware)
Standards Conformance	
Standards Compliance	IEEE 802.11be/EHT; backward compatible with 802.11ax/ac/a/b/g/n Bluetooth 5.4 (via internal USB) PCI Express x1 (Wi-Fi) and USB (Bluetooth)

Regulatory Compliance	FCC Part 15 Class B, CE
Environment	
Operating Temperature	0 ~ 55 °C
Storage Temperature	-10 ~ 70 °C
Operating Humidity	5 ~ 90%, relative humidity, non-condensing
Storage Humidity	5 ~ 90%, relative humidity, non-condensing
Standard Accessories	
Package Contents	● 1 × WTL-5800BE Wi-Fi 7 PCIe x1 adapter (full-height bracket pre-installed) ● 1 × Low-profile bracket ● 2 × External 5 dBi antennas ● 1 × Bluetooth® USB header cable (9-pin) ● 1 × QR code sheet

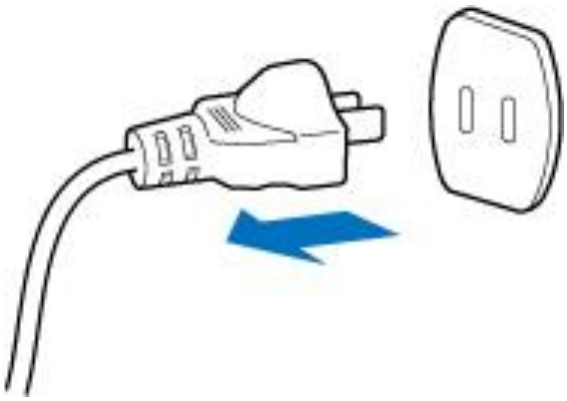
*On certain small-form-factor business desktops with a **single chipset-attached (PCH) PCIe slot**, **PCIe 2.x** fallback compatibility may be limited, which can prevent proper detection. We recommend using **PCIe 3.0 or newer** adapters on such platforms, or a motherboard with a **CPU-attached x16** slot.

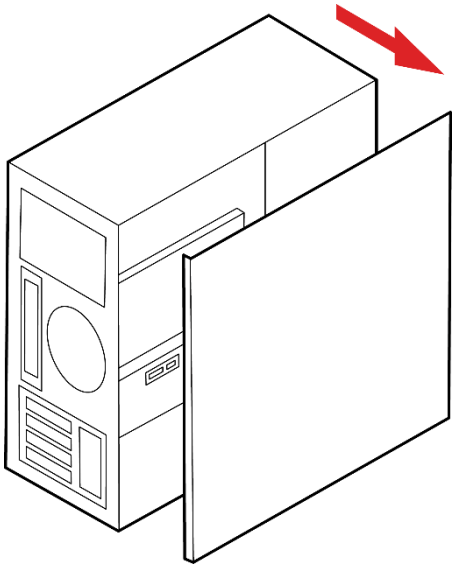
1.4 System Requirements

- Windows 11 (64-bit) — supports Wi-Fi 7 (2.4, 5 and 6 GHz, incl. MLO with supported AP)
- Windows 10 (64-bit) — supports 2.4/5 GHz (6 GHz/Wi-Fi 7 features are not supported on Windows 10)
- Linux® (64-bit, kernel 6.16+ with iwlwifi & Intel firmware for BE200) — 6 GHz availability depends on OS/distribution and regulatory domain
- One available PCI Express x1 slot (short). Using a PCIe x1 slot is recommended.
- Available internal 9-pin USB (F_USB) header on the motherboard for Bluetooth® function.
- Internet connection for downloading the latest Intel Wi-Fi and Bluetooth® drivers (if needed).

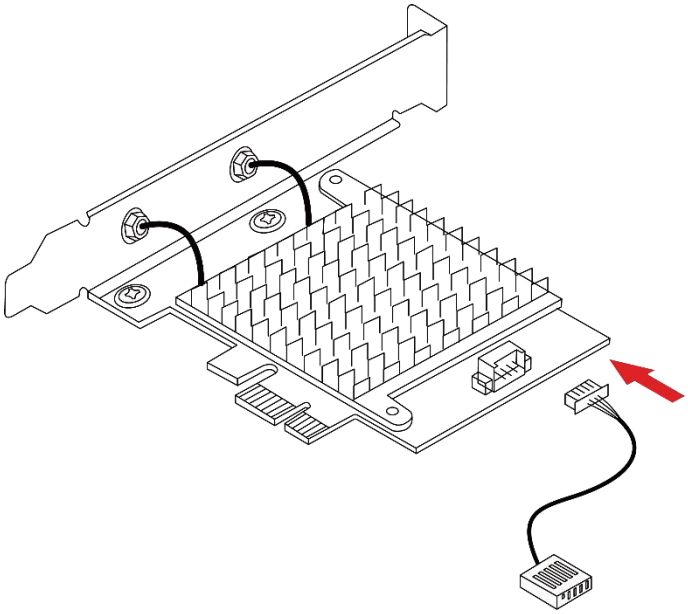
Chapter 2 Hardware Installation

Before you begin: Power off the computer, unplug the power cord, and remove the side cover. Discharge any static electricity by touching a grounded metal object.

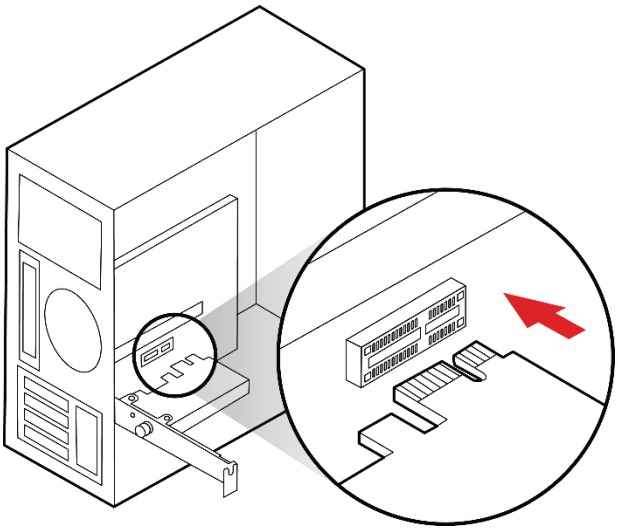




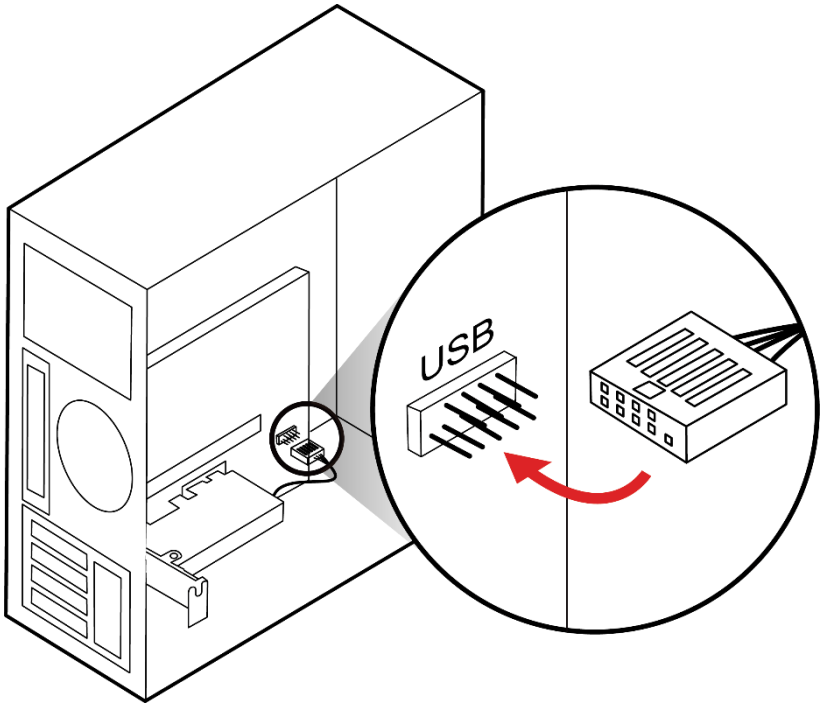
Step 1: Locate the PCI-E slot on the motherboard. Insert the PCI-E network card into the PCI Express x1 (short) slot and make sure it is firmly seated.



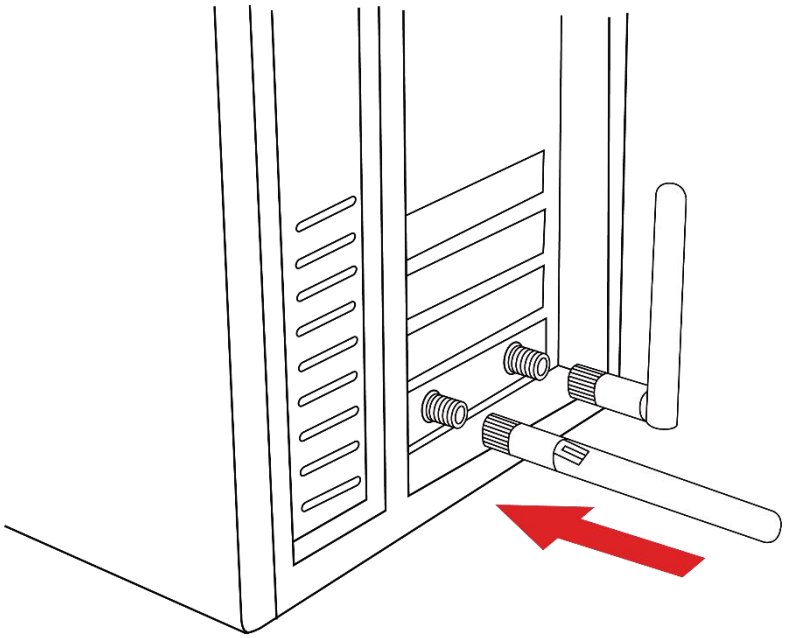
Step 2: Insert the Bluetooth® interface cable into the USB header on the accessory end of the network card. Pay attention to the pin-1 orientation.



Step 3: Connect the other end of the Bluetooth® cable to the motherboard F_USB (front USB) 9-pin header. Ensure correct keying—incorrect insertion will cause Bluetooth to malfunction.



Step 4: Secure the card by screwing the bracket in place. Attach both external antennas to the rear bracket and adjust them to a suitable angle. When handling the adapter, hold it by the bracket and avoid touching the gold connectors.



Step 5: Reinstall the side cover, plug in the power cord, and power on the computer.

Chapter 3 Support / Driver Download

Download the latest Intel® drivers or use the bundled package.

a. Wireless network card driver installation

1) Run the Intel Wireless driver: WiFi_23.160.0-Driver64-Win10-Win11.exe

2) Click “Next”, check “I agree to the license terms and conditions”, choose “Typical”, click “Install”, and wait for completion.

3) Click “Finish” to exit the installer.

b. Bluetooth® driver installation

1) Run the Intel® Bluetooth® driver: BT_23.160.0-64-Win10-Win11.exe

2) Click “Next” in sequence, accept the license agreement, then click “Install”.

3) When installation completes, click “Finish”.

Note: If the adapter is not detected or driver installation is blocked, ensure the card is firmly seated in a PCIe x1 slot and that the Bluetooth® cable is connected to the motherboard F_USB header.

3.1 Driver for the WTL-5800BE

https://www.planet.com.tw/en/support/downloads?&method=keyword&keyword=ENW-97&view=4#list(

3.2 Get the Latest Drivers

• Wi-Fi driver（Windows 10 and Windows 11）

• Wireless Bluetooth driver（Windows 10 and Windows 11）

• Intel® Driver & Support Assistant (auto-detect)

Tip: In Word, hold Ctrl and click to open links. When exporting to PDF, use File → Export → PDF to preserve clickable hyperlinks.

Chapter 4 Connect to a Wi-Fi Network

1) Click the network icon in the Windows taskbar.

2) Select an available SSID in your environment.

3) Choose the 2.4 GHz or 5 GHz network, or a 6 GHz network when using Windows 11 and a Wi-Fi 7 router.

4) Enter the Wi-Fi password and click “Connect”. Once connected, you can enjoy high-speed wireless networking.

Chapter 5 Connect Your Bluetooth® Device

Method A (taskbar): Right-click the Bluetooth icon → “Add a Bluetooth device” → select your device and follow the prompts.

Method B (Settings): Start → Settings → Devices → Bluetooth & other devices → “Add Bluetooth or other device” → Bluetooth → select your device and follow the prompts.

Chapter 6 Troubleshooting

Q1: The driver installs successfully, but Windows does not detect the PCIe network card. What should I do?

A1: Reseat the card into a PCIe x1 slot and ensure the bracket is properly secured with the screw. Also, make sure the Bluetooth® cable is connected to the 9-pin F_USB header with the correct orientation.

Q2: Why is Wi-Fi 7 (6 GHz) not listed as an available network?

A2: The 6 GHz band requires the following:

- Windows 11 operating system
- A Wi-Fi 7–compatible router or access point
- Regional regulatory approval for 6 GHz operation

Q3: What can I do if I'm experiencing slow speeds or weak wireless signals?

A3: Adjust the antennas to form a perpendicular “L” shape to improve signal reception. Avoid placing obstacles between the adapter and the router. If supported, use the 320 MHz bandwidth on the 5 GHz or 6 GHz bands for optimal performance.