

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



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 **2x2 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, Windows® 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.

- Intel® BE200NGW Wi-Fi 7 2x2 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, Windows® 11 and Linux® driver support for quick integration



Wi-Fi 7 Technology Highlights

The WTL-5800BE brings the latest Wi-Fi 7 (IEEE 802.11be/EHT) to desktops with 2x2 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.

Applications

Wi-Fi 7 Desktop Adapters

PLANET WTL-5800BE upgrades desktops and IPCs to next-generation Wi-Fi 7, providing tri-band 2.4, 5 and 6 GHz connectivity and Bluetooth® 5.4 for everyday collaboration. Leveraging the cleaner 6 GHz spectrum and 2x2 EHT, it enables multi-gigabit wireless (up to 5800 Mbps PHY on 6 GHz) with lower interference for **video conferencing, cloud apps, 4K/8K media and large-file sync in high-density offices and classrooms**. Two external 5 dBi antennas and the included low-profile bracket make installation flexible in compact business PCs and industrial chassis, and it also serves as a convenient 6 GHz client for validating Wi-Fi 7 AP performance (availability depends on region/AP/OS).



Product Specifications

Product	WTL-5800BE
Hardware Specifications	
Controller	Intel® BE200NGW
Interface	PCIe 2.0 x1 (Wi-Fi via PCIe, Bluetooth via USB) *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.
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	Max. 0.36 watts / 1.23 BTU/h (Power on without any connection; Wi-Fi only, 3.3 V@110 mA) Max. 0.69 watts / 2.35 BTU/h (Full loading; Wi-Fi only, 3.3 V@210 mA)
Wireless	
Standard	IEEE 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® Kernel 6.16+
Standards Conformance	
Standards Compliance	IEEE 802.11be/EHT; backward compatible with 802.11ax/ac/a/b/g/n and amendments (a,b,d,e,g,h,i,k,n,r,u,v,w) 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 degrees C
Storage Temperature	-10 ~ 70 degrees 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

Ordering Information

WTL-5800BE	802.11be Wi-Fi 7 Tri-band Wireless PCI Express Adapter (Intel)
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Related Product

WTL-2400AXE	802.11AXE Wi-Fi 6E Tri-band Wireless PCI Express Adapter (Intel)
WDAP-C5100BE	Dual Band 802.11be 5100 Mbps Ceiling-mount AP (PoE+)
WDAP-3000AX	Dual Band 802.11ax 3000 Mbps Outdoor AP (PoE+)
WDAP-W3000AX	Dual Band 802.11ax 3000 Mbps In-wall AP (PoE+)
WDAP-C3000AX	Dual Band 802.11ax 3000 Mbps Ceiling-mount AP (PoE+)

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