

MT7902 Wi-Fi 6E and Bluetooth 5.3 Module - Product Specification



Overview

The MT7902 is a high-performance M.2 2230-E Key Wi-Fi 6E and Bluetooth 5.3 module developed by MediaTek. It is designed for a wide range of devices including laptops, mini PCs, and smart devices. Offering advanced wireless connectivity with low power consumption, high throughput, and reliable long-range performance, this module supports tri-band operation (2.4GHz, 5GHz, and 6GHz), ensuring fast and efficient data transfer across a variety of use cases.

Key Features

- ◆ Tri-band operation: 2.4GHz / 5GHz / 6GHz, providing a broader spectrum, reduced latency, and higher throughput for seamless performance.
- ◆ Reduced interference in the 6GHz band, enhancing both network stability and capacity.
- ◆ Ideal for high-density environments: Perfect for offices, conference centers, and campuses where stable and high-speed connectivity is critical.
- ◆ Wi-Fi 6E support: Delivers up to 2400 Mbps for large file transfers, 4K/8K streaming, and low-latency gaming, offering top-tier performance.
- ◆ Advanced modulation technologies: Includes OFDMA and 1024-QAM, ensuring efficient signal utilization and optimized throughput.
- ◆ Bluetooth 5.3: Features low energy consumption, extended range, fast pairing, and stable connections, making it ideal for various wireless peripherals.

- ◆ Supports BLE (Low Energy) and EDR (Enhanced Data Rate) for seamless connectivity with devices like headphones, controllers, and other Bluetooth peripherals.
- ◆ Standard M.2 2230-E Key form factor, making it ideal for laptops, mini PCs, and embedded devices.
- ◆ Full compatibility with Windows 10/11 ensures broad platform support.
- ◆ Wi-Fi security protocols: Fully supports WPA3, WPA2, WPA/WPA2 personal/enterprise, WPS2.0, WAPI, AES128, and ECC256 encryption for secure wireless communication.

Performance Specifications

Feature	Details
Wireless Standards	IEEE802.11a/b/g/n/ac/ax(Wi-Fi 6E)
Frequency Bands	2.4GHz/5GHz/6GHz(Tri-Band)
Max Wi-Fi Speed	2400Mbps(6GHz) 2400Mbps(5GHz) 574Mbps(2.4GHz)
Interface Standard	M.2 2230-E Key/PCIe
OS Compatibility	Windows 10/11
Antenna Interface	I-PEX MHF4 Antenna Connector
Wi-Fi Security	WPA3, WPA2, WPA/WPA2 personal/enterprise, WPS2.0, WAPI, AES128, ECC256 encryption.
Dimensions	22mm x30mm x 2.40mm
Operating Temperature Range	0°C to 70°C
Storage Temperature Range	-30°C to 80°C
Weight	2.5 g

Application Scenarios

- ◆ Business / Education Laptop Wireless Communication: Ideal for seamless, high-speed wireless networking in professional and educational settings.

- ◆ **Home Entertainment and Smart Devices:** Perfect for wireless communication in home entertainment setups, including smart TVs, set-top boxes, and other connected devices.
- ◆ **Wireless Expansion Cards / Embedded Wireless Modules:** Suitable for adding Wi-Fi 6E and Bluetooth 5.3 capabilities to a variety of systems, from consumer electronics to industrial applications.
- ◆ **IoT (Internet of Things) Device Network Connectivity:** Provides reliable, low-latency connectivity for IoT devices, ensuring smooth data transfer and communication.