

AX1800 WR1800L Product Specification V1.0

802.11AX WiFi6 1800M Wireless Router

I. Product Overview

The WR1800L is a high-performance, enterprise-grade WiFi6 router. It adheres to the 802.11ax standard and operates on the 2.4G and 5.8G wireless frequency bands. Capable of supporting 128 users to access high-speed wireless internet simultaneously, this router is well-suited for high-density network environments.

Equipped with full Gigabit network interfaces, it offers remarkable wireless access speeds. In the 2.4G 802.11ax mode, the maximum speed reaches 573Mbps, while in the 5.8G 802.11ax mode, it can reach up to 1201Mbps, resulting in an overall wireless rate of 1800Mbps.

Featuring high performance, high gain, high receive sensitivity, high bandwidth, low latency, and the ability to handle a high density of connections, the WR1810KD not only provides extensive coverage but also ensures stable and efficient wireless transmission. Its sleek design and straightforward installation process, combined with support for MESH self-networking and relay functions, enable easy expansion of wireless coverage. Whether for homes, stores, restaurants, or enterprises, the WR1800L is the ideal choice for reliable wireless access.

II. Product Images



III. Product Features

- 1. Robust Hardware Design:** Built based on operator-standard hardware, the WR1800L meets strict electromagnetic compatibility requirements. Its anti-electromagnetic interference performance complies with YD/T968 - 2010 *Electromagnetic Compatibility Requirements and Measurement Methods for Telecommunication Terminal Equipment*. The overvoltage and overcurrent protection adheres to the indicators of YD/T 993 - 2006 *Lightning Protection Technical Requirements and Test Methods for Telecommunication Terminal Equipment*, offering 6KV common-mode protection and 1.5KV differential-mode protection against simulated lightning impulses, power line induction, and contacts. The surge protection meets YD/T1082 - 2011 standards. With an enhanced heat sink and optimized air duct, the router ensures stable operation even in high-temperature conditions, safeguarding the continuous and efficient transmission of user network data.
- 2. High-Speed Wireless Connectivity:** Supporting the 802.11AX protocol, the router provides fast wireless access speeds of 573Mbps for the 2.4G band and 1201Mbps for the 5G band, with a combined wireless access speed of 1800Mbps.
- 3. Superior Signal Performance:** Outfitted with an external professional WiFi6 MIMO radio frequency chip, it guarantees broader signal coverage, higher data transfer speeds, and extended transmission distances.
- 4. Efficient Data Forwarding:** The HNAT hardware fast forwarding feature enables a WAN port wired two-way forwarding performance of up to 2Gbps, ensuring smooth data flow.
- 5. Advanced Wireless Technologies:** Incorporating MU-MIMO, OFDMA, and BSS Color technologies, the router delivers excellent performance in high-density network environments. It offers high speed, extensive coverage, and low latency, enhancing the overall wireless network experience for multiple connected devices.
- 6. Versatile Network Functions:** It supports a wide range of network functions, including routing mode, bridge mode, IPV4/IPV6, IPTV, relay, MESH, DDNS, VPN client (PPTP, L2TP), port mapping/DMZ, and traffic control, making it adaptable to various complex network scenarios.
- 7. Comprehensive Security:** Multiple security measures, such as WPS, WPA/WPA2/WPA3 encryption, SSID hiding, guest network isolation, MAC filtering, IP filtering, URL control, and anti-DDoS attacks, are in place to protect user data security.
- 8. User-Friendly Setup:** The built-in quick setup wizard allows users to easily configure and use the router's WiFi without professional technical knowledge.
- 9. Continuous Improvement:** Regular product updates and optimizations ensure that the router can adapt to different network environments and continuously enhance the user experience.

IV. Technical Specifications

Hardware Specifications

Hardware Specification	Details
Main Chip	MT7621A + MT7905DAN + MT7975DNHigh-performance enterprise-grade chip
Main Frequency	MIPS dual-core 880MHz
Memory	512MB + 128G (SD card)
Flash Memory	16MB
Wireless Technology	2.4G WiFi 22 802.11b/g/n/ax (<i>Theoretical maximum rate up to 573Mbps</i>)5.8G WiFi 22 802.11a/n/ac/ax (Theoretical maximum rate up to 1201Mbps)1024QAM ultra-high-speed access rate, OFDMA ultra-high-density user accessOFDMA / MU-MIMO uplink/downlinkBSS Color spatial reuseSpace-time block code (STBC), low-density parity-check (LDPC), uplink/downlink beamforming (Beamformer TX/RX)Energy saving: single-antenna standby technology, dynamic MIMO power-saving technology, enhanced automatic power-saving transmission technology, per-packet power control technology, etc.
Device Interfaces	WAN1/LAN3 10/100/1000Mbps adaptive network portsDC power interface, suitable for power plugs with an outer diameter of 5.5mm, an inner diameter of 2.1mm, and a length of more than 9.5mm
Buttons	Reset button (Long-press for 6 seconds to restore factory settings)WPS button for password-free interconnection
Indicators	Status indicator
Antennas	External 2.4G 5dBi rubber rod antennas2External 5G 5dBi rubber rod antennas2
Power Supply	DC 12V/1A, positive outside and negative inside
Operating/Storage Temperature	-10°C ~ 45°C / -20°C ~ 70°C
Operating/Storage	10% ~ 90% (non-condensing) / 5% ~ 90% (non-condensing)

Humidity	
Dimensions	To be filled
Weight	To be filled

WiFi Wireless Specifications

WiFi Wireless Specification	Details
Frequency Range	2.4G: 2.4~2.4835GHz 5G: UNII - 1: 5.15~5.35GHz UNII - 2: 5.47~5.725GHz UNII - 3: 5.725~5.825GHz
Channel Distribution	2.4G: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 5G: 36, 40, 44, 48, 52, 60, 64, 149, 153, 157, 161, 165
Modulation Modes	802.11b: DSSS (DQPSK, DBPSK, CCK) 802.11g: OFDM (BPSK, QPSK, 16 - QAM) 802.11n: OFDM (BPSK, QPSK, 16 - QAM, 64 - QAM) 802.11ac: OFDM (BPSK, QPSK, 64 - QAM, 256 - QAM) 802.11ax: OFDMA (BPSK, 256 - QAM, 1024 - QAM)
Transmission Speeds	11b maximum 11Mbps, 11g maximum 54Mbps, 11n maximum 300Mbps 11ac maximum 864.7Mbps, 11ax 2.4G maximum 573Mbps, 11ax 5G maximum 1201Mbps
Receive Sensitivity	2.4G: 11b: < -119±1.5dBm @1Mbps, < -90±1.5dBm @11Mbps 11g: < -96±1.5dBm @6Mbps, < -78±1.5dBm @54Mbps 11n 20MHz: < -96±1.5dBm @MCS0, < -76±1.5dBm @MCS7 11n 40MHz: < -92±1.5dBm @MCS0, < -74±1.5dBm @MCS7 11ax 20MHz: < -96±1.5dBm @MCS0, < -66±1.5dBm @MCS11 11ax 40MHz: < -94±1.5dBm @MCS0, < -63±1.5dBm @MCS11 5G: 11a: < -94±1.5dBm @6Mbps, < -78±1.5dBm @54Mbps 11n 20MHz: < -94±1.5dBm @MCS0, < -74±1.5dBm @MCS7 11n 40MHz: < -90±1.5dBm @MCS0, < -72±1.5dBm @MCS7 11ac 20MHz: < -94±1.5dBm @MCS0, < -72±1.5dBm @MCS8 11ac 40MHz: < -90±1.5dBm @MCS0, < -66±1.5dBm @MCS9 11ac 80MHz: < -88±1.5dBm @MCS0, < -62±1.5dBm @MCS9 11ax 20MHz: < -94±1.5dBm @MCS0

	@MCS0, < -64±1.5dBm @MCS1111ax 40MHz: < -92±1.5dBm @MCS0, < -60±1.5dBm @MCS1111ax 80MHz: < -88±1.5dBm @MCS0, < -58±1.5dBm @MCS11
Transmit Power	11b: 20dBm±1.5dBm@11Mbps11g: 20dBm±1.5dBm@54Mbps11n(20/40MHz): 20dBm±1.5dBm@MCS711ac(40/80MHz): 20dBm±1.5dBm@MCS911ax(20/40/80MHz) : 20dBm±1.5dBm@MCS11

Software Functions

Software Function	Details
Working Modes	Routing mode, bridge mode
Number of Connected Devices	128 users
Management Methods	Chinese WEB remote management / supports TR069 remote management
Status Display	Internet, router, WiFi, main network users, guest network users, topology, DHCP list
Network Settings	Ethernet: mode (routing mode, bridge mode), network settings (dynamic IP, static IP, broadband dial-up), network statusLAN: address, subnet mask, address pool, DNS server address, lease period, guest address pool
Wireless Settings	WiFi: dual-band integration, 2.4G&5G: WPS switch, status, hide network name, SSID, encryption method, encryption mode, WiFi password, protocol, frequency band width, channel, powerBlack and White Lists: switch, black and white list mode switching, blacklist listWPS: 2.4G&5G switch, PBCMesh: switch, role (automatic, main router, slave router), add slave router, fast roamingRelay Mode: switch, frequency band (automatic, 2G, 5G), SSID, encryption method, passwordWireless Advanced Configuration: 5G priority, QOS (WMM), WiFi5 compatibility mode, WiFi scheduled restart
Advanced Network	IPV6, DDNS, IPTV, guest network, parental control, VPN

Settings	client (PPTP, L2TP), hardware HNAT fast forwarding
Firewall	ALG, port mapping, DMZ settings, MAC filtering, IP filtering, DDoS protection, URL control
Management Functions	SNTP, modify user information, backup/upgrade, restart/reset, LED switch, traffic control, logs
Setup Wizard	WiFi - network configuration - summary
Router Topology	Overall network device topology (IP, MAC, connection method)

|