WR1800K SPEC SHEET V1.0

802.11AX WiFi6 1800M Wireless Router

1. Product Introduction

The WR1800K is a high-performance enterprise-grade WiFi 6 router that supports 802.11ax technology. It operates in the 2.4GHz and 5.8GHz wireless frequency bands, meeting the demand for simultaneous high-speed wireless internet access for up to 128 users. With full Gigabit network interfaces, it can achieve a maximum wireless access speed of 573Mbps in 2.4GHz 802.11ax mode and 1201Mbps in 5.8GHz 802.11ax mode, with a total wireless rate of up to 1800Mbps. It features high performance, high gain, high reception sensitivity, high bandwidth, low latency, high density, and high connection count, enabling it to cover a larger range and provide superior wireless transmission performance and stability. With its stylish design and easy installation, it supports MESH self-organizing network and relay functions, allowing for rapid expansion of wireless coverage. It is the ideal choice for wireless access in high-density, high-bandwidth environments such as homes, shops, restaurants, and enterprises.

2. Product Image

3. Product Features

1) Based on standard hardware design for telecom operators, it meets the requirements for electromagnetic interference resistance specified in YD/T968–2010 'Requirements and measurement methods for electromagnetic compatibility of telecom terminal equipment.' It provides overvoltage and overcurrent protection in compliance with the

requirements specified in YD/T 993–2006 'Technical requirements and test methods for lightning protection of telecom terminal equipment' for simulated lightning shocks, power line induction, power line contact, and other indicators, with a protection capability of 6KV common mode and 1.5KV differential mode. Its surge protection capability meets the requirements of YD/T1082–2011 'Technical requirements and test methods for overvoltage and overcurrent protection and basic environmental adaptability of access network equipment.' With enhanced heat sink and optimized airflow, it ensures uninterrupted operation even in hot summer months, guaranteeing real–time, long–term, stable, and efficient transmission of user network data, thus enhancing user experience.

2) It supports the 802.11AX protocol and can provide wireless access speeds of 573Mbps in the 2.4GHz band and 1201Mbps in the 5GHz band, with a maximum total wireless access speed of 1800Mbps.

3) It features an external professional WiFi 6 MIMO RF chip to ensure broader signal coverage, higher rates, and longer transmission distances.

4) It supports HNAT hardware acceleration for fast forwarding, with bidirectional wired forwarding performance of up to 2Gbps on the WAN port.

5) It incorporates MU-MIMO, OFDMA, BSS Color, high rates, better coverage, and low latency to provide improved wireless network performance and user experience in high-density network environments with a large number of connected devices.

6) It supports various network functions including router mode, bridge mode, IPV4/IPV6, IPTV, relay, MESH, DDNS, VPN client, port forwarding/DMZ, and traffic control, enabling easy adaptation to diverse and complex network scenarios.

7) It provides security protection including WPS, WPA/WPA2/WPA3, SSID hiding, guest network, MAC filtering, IP filtering, URL control, and defense against DDOS attacks, ensuring continuous protection of user data.

8) It comes with a built-in quick setup guide for easy router and WiFi usage without the need for specialized knowledge.

9) It continuously receives product updates, functionality improvements, and performance optimizations to adapt to various network environments and enhance user experience.

4. Technical Specifications

Hardware configuration	
Main Chip	MT7621A+MT7905DAN+MT7975DN High-performance enterprise-level chip
Frequency	MIPS dual-core 880MHz
Memory	256MB
Flash	128MB
Wireless Technology	- 2.4G WiFi 2*2 802.11b/g/n/ax (theoretical maximum speed up to 573Mbps) - 5.8G WiFi 2*2 802.11a/n/ac/ax (theoretical maximum speed up to 1201Mbps) - 1024QAM high-speed access rate, OFDMA high-density user access - OFDMA/MU-MIMO uplink/downlink - BSS Color spatial reuse - Space-time block code (STBC), low-density parity check (LDPC), beamforming TX/RX for uplink and downlink Power-saving features: single antenna standby technology, dynamic MIMO power-saving technology,

	enhanced automatic power-saving transmission technology, packet-by-packet power control technology, etc.
Device Interfaces	– WAN*1/LAN*3 10/100/1000Mbps adaptive – DC power interface compatible with power plug with outer diameter of 5.5mm, inner diameter of 2.1mm, and length above 9.5mm
Buttons	– Reset button for factory reset (long press for 6 seconds to reset) – WPS button for easy password-free connection
Indicators	Status indicators
Antennas	– External 2.4G 5dBi rubber rod antennas * 2 – External 5G 5dBi rubber rod antennas * 4
Power	DC 12V/1A, positive outer and negative inner
Operating/Storage Temperature	-10℃～45℃/-20℃～70℃
Operating/Storage Humidity	10% to 90% (non-condensing) / 5% to 90% (non-condensing)
Dimensions	262*177*180mm (including antennas)
Weight	680g

WiFi Spec

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	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	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 Rate	11b up 11Mbps，11g up 54Mbps，11n up 300Mbps 11ac up 864.7Mbps，11ax 2.4G up 573Mbps， 11ax 5G up 1201Mbps
Receiver Sensitivity	2.4G: 11b：＜-119±1.5dBm @1Mbps， ＜-90±1.5dBm dBm@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, ＜-64±1.5dBm @MCS11 11ax 40MHz：＜-92±1.5dBm @MCS0,

	＜-60±1.5dBm @MCS11 11ax 80MHz：＜-88±1.5dBm @MCS0, ＜-58±1.5dBm @MCS11
Transmit Power	11b: 20dBm±1.5dBm@11Mbps 11g: 20dBm±1.5dBm@54Mbps 11n(20/40MHz): 20dBm±1.5dBm@MCS7 11ac(40/80MHz): 20dBm±1.5dBm@MCS9 11ax(20/40/80MHz)：20dBm±1.5dBm@MCS11

Software Functions	
Working Mode	Routing mode/Bridge mode
Number of connected users	128 Peoples
Management mode	English web remote management/support for TR069 remote management
Status	Internet\Router\WiFi\Primary Network User\ Guest User\DHCP List
Network	Ethernet：Network (Routing\Bridge) \ Ethernet Setting (Dynamic IP\Static IP\PPPoE)\ Ethernet Status LAN Setup: Lan: IP Address\Subnet Mask\DHCP setting\DNS\

	Lease time Guest Network Address Pool
Wireless	–WiFi: Dual frequency in one\2.4G&5G WPS switch\ 2.4G&5G: Status switch\Hide SSID\SSID\Security\ Encryption Mode\Password\ Advanced Settings: Protocol\Channel Bandwidth\ Channel\Tx power –Black and White List: Switch\ Mode switch (Blacklist\Whitelist) \Blacklist –WPS: 2.4G&5G Switch\PBC –Mesh: Switch\Role (Automatic\Main route\Satellite) \ Add satellite\Fast roaming\ 2.4G&5G Set signal strength threshold –Relay mode: Switch\Frequency band\SSID(Scan)\ Security\Password\Status –Advanced Configuration: Band Streering\WLAN QOS\ WiFi5 Compatibility mode\WiFi timed reboot
Network Advanced	IPV6\DDNS\IPTV\Guest Network\Parental Control\ VPN Client(PPTP\L2TP)\Hardware HNAT
Features	ALG\Port Forwarding\DMZ Settings\MAC Filtering\

	IP Filtering\DDOS\URL Control
Management	SNTP\Change User Info\Backup & Upgrade\ Restart & Reset\LED Switch\Flow Control\System Log
Setup Wizard	WiFi–Network Configuration–Summary
Mesh Topo	Overall network device topology(IP\MAC\Medium)

5. Packaging information

WR1800K*1, DC 12V/1A power adapter*1, Ethernet cable*1, user manual