AX3000 Gigabit Wi-Fi 6 OpenWrt Router

Model：WR3000U

I. Model and Version

Model: WR3000U
Version: V1.0

2. Product Overview and Features

Product Overview

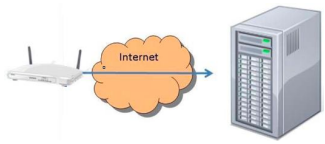
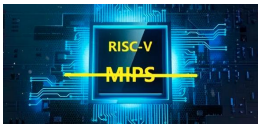
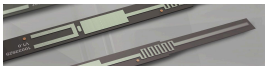
The WR3000U is an enterprise-grade Wi-Fi 6 (802.11ax) router powered by the high-performance MediaTek MT7981 (Filogic 820) dual-core chipset. It delivers ultra-fast dual-band wireless speeds of up to 3000 Mbps (2402 Mbps on 5GHz + 574 Mbps on 2.4GHz).

Designed for versatility, the WR3000U features a SuperSpeed USB 3.0 port, allowing users to connect external wireless network cards (such as 4G/5G USB modems) for cellular network backup or storage devices for file sharing. Pre-installed with the OpenWrt operating system, it offers extensive customization capabilities, making it ideal for commercial applications, IoT projects, and environments requiring flexible network access.

Main Features

- Next-Gen Wi-Fi 6 Speed: Dual-band concurrency up to 2976 Mbps (AX3000) handles 4K streaming and low-latency gaming with ease.
- USB 3.0 Expansion: Equipped with a versatile USB 3.0 interface that supports external wireless network cards (e.g., 4G/5G LTE Dongles) and USB storage sharing (SAMBA/FTP).
- High-Performance Chipset: Powered by the MediaTek MT7981BA + MT7976CN + MT7531AE architecture for robust processing.
- OpenWrt System: Fully supports OpenWrt firmware, allowing for deep software customization and secondary development.
- Superior Coverage: 5 x 5dBi omnidirectional antennas (3 for 5G, 2 for 2.4G) with Beamforming technology eliminate dead zones.
- Mesh Networking: Supports One-Key Easy Mesh to create a seamless roaming network across large areas.
- High Capacity: Supports OFDMA and MU-MIMO to connect 128+ devices simultaneously without congestion.

3. Supported Service fuctions are as follows:

	**TR069 ACS** TR069 is a protocol used for remote management of internet-connected devices. It enables service providers to remotely manage and monitor devices on their networks, and provides features such as auto-configuration, remote firmware upgrades, and diagnostics. TR069 helps reduce the need for on-site visits and improves customer service.
	**IPV6** IPv6 is the latest version of the Internet Protocol with a larger address space and improved security features. It allows for better end-to-end connectivity, quality of service, and easier address assignment.
	**Dual Core Processing** MT7621 is a powerful dual-core CPU chipset commonly used in routers and networking devices. It offers high clock speeds, multiple Gigabit Ethernet ports, and support for advanced features such as VPN and QoS, making it an ideal choice for high-performance networking applications.
 	**5dBi Antenna for Better WiFi Signal** WiFi omnidirectional antenna provides 360-degree coverage and can send and receive signals in all directions. It is commonly used in wireless networking devices and is an easy-to-install, cost-effective solution for providing wireless coverage over a large area without the need for multiple antennas or directional aiming.

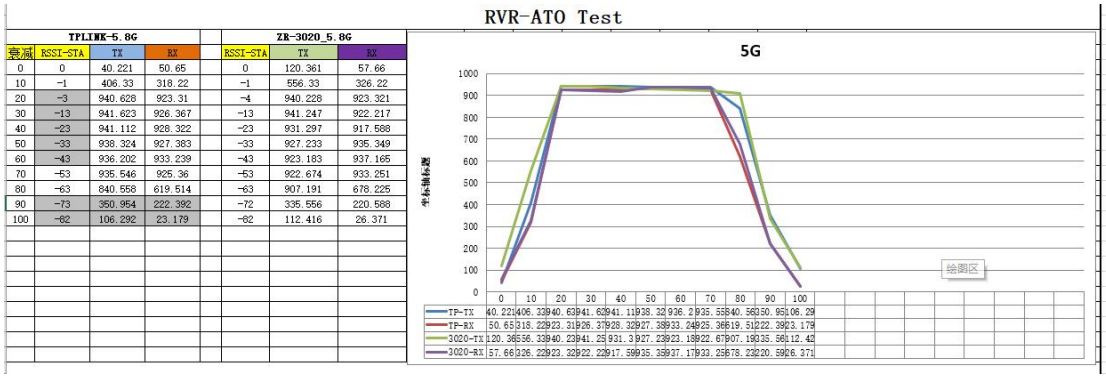
Hight Speed Transfer Rate

The Gigabit Ethernet ports on the MT7621 support a data transfer rate of up to 1000Mbps, which is 10 times faster than standard Ethernet. it is supports multiple Gigabit Ethernet ports, providing flexible integration with a variety of networking devices.

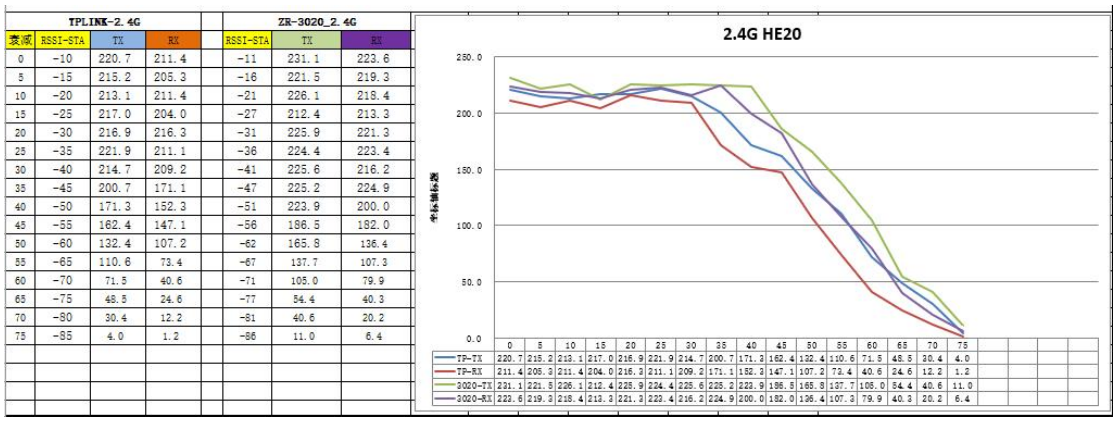
One-key Mesh

Mesh is a simplified method for setting up a wireless mesh network that allows devices to communicate and access the internet without a central router. Users can easily create a mesh network by pressing a button on their network device, and the system automatically configures the network settings, creating a secure connection between devices. This technology is becoming popular for its ease of use in extending Wi-Fi coverage and improving network performance in homes and small businesses, particularly with the increasing use of smart home devices.

4. Hardware Performance



TPLINK-5.8G				ZR-3020_5.8G		
衰减	RSSI-STA	TX	RX	RSSI-STA	TX	RX
0	0	40.221	50.65	0	120.361	57.66
10	-1	406.33	318.22	-1	556.33	326.22
20	-3	940.628	923.31	-4	940.228	923.321
30	-13	941.623	926.367	-13	941.247	922.217
40	-23	941.112	928.322	-23	931.297	917.588
50	-33	938.324	927.383	-33	927.233	935.349
60	-43	936.202	933.239	-43	923.183	937.165
70	-53	935.546	925.36	-53	922.674	933.251
80	-63	840.558	619.514	-63	907.191	678.225
90	-73	350.954	222.392	-72	335.556	220.588
100	-82	106.292	23.179	-82	112.416	26.371



TPLINK-2.4G				ZR-3020_2.4G		
衰减	RSSI-STA	TX	RX	RSSI-STA	TX	RX
0	-10	220.7	211.4	-11	231.1	223.6
5	-15	215.2	205.3	-16	221.5	219.3
10	-20	213.1	211.4	-21	226.1	218.4
15	-25	217.0	204.0	-27	212.4	213.3
20	-30	216.9	216.3	-31	225.9	221.3
25	-35	221.9	211.1	-36	224.4	223.4
30	-40	214.7	209.2	-41	225.6	216.2
35	-45	200.7	171.1	-47	225.2	224.9
40	-50	171.3	152.3	-51	223.9	200.0
45	-55	162.4	147.1	-56	186.5	182.0
50	-60	132.4	107.2	-62	165.8	136.4
55	-65	110.6	73.4	-67	137.7	107.3
60	-70	71.5	40.6	-71	105.0	79.9
65	-75	48.5	24.6	-77	54.4	40.3
70	-80	30.4	12.2	-81	40.6	20.2
75	-85	4.0	1.2	-86	11.0	6.4

5. Technical Parameters

Hardware Feature		
Main Chip	MT7981BA+MT7976CN+MT7531AE	
Application Scenarios	Home，Office，IoT，Shopping Mall, Restaurant	
Flash	128MB(maximum 1GB)	
DDR	256 MB(maximum 4GB)	
Antenna	3 * 5DBi 5G 2 * 5DBi 2.4G	
Antenna frequecy	2.4G/5G	
WAN Interface	1 *10/100/1000 M	
Lan Interface	3 x 10/100/1000 M	
Wan Interface	10/100/1000Mbps	
LED	Power,WAN 2.4G,5G,LAN1,LAN2,LAN3 Status	
Button	1* Reset , 1* WPS/Mesh	
USB	USB3.0	
Power Connector	12V/1.5A	
Wireless Features		
Wireless Standards	IEEE802.11 a/n/ac/ax 5GHz	
	IEEE802.11 b/g/n/ac/ax 2.4GHz	
Basic Features	Multiple Antennas	
	Beamforming Technology	
	MU-MIMO Technology	
	Band Streeing	
Wireless Security	WPA-PSK/WPA2-PSK/WPA3-PSK WEP WPA/WPA2/WPA3 WPS	
Speed	5GHz: Up to2400MHZ	
	2.4GHz: Up to 600MHz	
Software Feature		
Work Mode	Router/Bridge/repeate	
Network Setting	STATIC/DHCP/PPPOE/VPN	VLAN
IPV6/IPV4	IPv6v4 dual stack Ipv4 only	
VPN	Support PPTP/L2TP/IPSEC Service Support PPTP/L2TP/IPSEC Client	
DHCP Server	DHCP Server Client List Static Address allocation	

System	Openwrt	
Sercurity Setting	Client Filter Mac Filter URL Filter Sercurity Level Port forwarding DMZ Service Upnp Service ALG setting	Please contact sales@moss-link.com for more support
DDNS	Support	
System Log	Support	
Mesh	Easy Mesh	
Web Browser	Phone web/PC web	
IPTV	Support	
Wireless Security	WPA-PSK/WPA2-PSK/WPA3 SSID hiding, intelligent anti-scratch	
Smart QOS	Support	
WPS	Support	
Parental Control	Support	
Workingenvironment	Working temperature: -30--50℃ Working humidity: 10%-90%RH Storage temperature: -40-70℃ Storage humidity: 5%-90%RH	

6. Software function

Operating System	OpenWrt
USB Functions	Support for External Wireless Adapters (4G/5G Modem Drivers)
Working Modes	Router, Access Point (Bridge), Repeater
Management	Web-based GUI, TR-069 ACS Remote Management
Security	WPA-PSK, WPA2-PSK, WPA3-PSK Firewall, IP/MAC Filtering, URL Filtering
Network Functions	IPv6/IPv4 Dual Stack, VLAN, QoS, IPTV, DDNS, UPnP
Mesh	Easy Mesh Support (One-key pairing)

Interface diagram

7. Attachment list

1 x WR3000U Wireless Router

1 x Power Adapter (12V/1.5A)

1 x Ethernet Cable