Model: WR21000 1.0

BE21000 10G Tri-Band Mesh Wi-Fi 7 Router



Datasheet

Highlights

Tri-Band mesh Wi-Fi 7 router with 10 streams, supporting 20.8 Gbps Wi-Fi, and a 10G SFP+ port for latency-sensitive, speed-demanding, and large-scale scenarios.

- Qualcomm 1.5 GHz Quad-Core CPU
- 10-Stream Tri-Band Wi-Fi 7
- 11.5 Gbps + 8.6 Gbps + 688 Mbps
- 1× 10G SFP+
- 4× 2.5G Ethernet Ports
- 1× USB 3.0 Port
- 100 Connected Devices
- Cudy Mesh, VPN Server and Client
- Cudy App, Cloud Control

Actual wireless data throughput will vary as a result of network conditions, client limitations, and environmental factors including building layout, obstacles, and client location.

Actual performance for multiple devices may be affected by the types of applications used, the total available bandwidth, and the capabilities of your devices. Connecting older Wi-Fi devices (legacy standards) may reduce overall efficiency. Using efficiency features requires compatible client devices that also support those features. Find more information about supported efficiency features in the software section of the Specs spreadsheet.

Package Content

- WR21000
- Power Adapter
- Ethernet Cable
- Installation Guide

Hardware Specs

Model Version	WR21000 1.0	
CPU	CPU Details	1.5 GHz Quad-Core CPU, ARM Cortex-A53
Memory/Storage	Flash/ROM	128 MB (1 Gbit) NAND
	DDR/RAM	1 GB (8 Gbit) DDR4
Wireless	MLO Speeds	20891 Mbps (with EHT240 5 GHz) 17982 Mbps (with EHT160 5 GHz)
	6 GHz Wi-Fi Speed	11529 Mbps
	5 GHz Wi-Fi Speed	5765 Mbps (160 MHz) 8647 Mbps (240 MHz)
	2.4 GHz Wi-Fi Speed	688 Mbps
	6 GHz Wi-Fi Streams	4 Spatial Streams
	5 GHz Wi-Fi Streams	4 Spatial Streams
	2.4 GHz Wi-Fi Streams	2 Spatial Streams
	Wi-Fi Antennas	6× Fixed

Wireless	FEM or PA/LNA	6 GHz: 2× High-Power, 5 GHz: 2× High-Power, 2.4 GHz: 2× Standard
	Beamforming	True
	Range Performance	Max: 320 m (1050 ft) Tested in open-space environments with minimal interference. Actual WiFi range may vary depending on layout and wall materials. Refer to the Wall Performance specifications for placement suggestions.
	Wall Performance	Two wooden walls with thickness < 10 cm (4") One concrete wall with thickness < 20 cm (7") or two concrete walls with thickness < 10 cm (4")
Interfaces	10G SFP+ Slots	1
	2.5G RJ45 Ports	4

Hardware Specs

Interfaces	Ethernet Notes	The SFP+ slot is WAN/LAN configurable, 1× WAN port, and the rest ports are LAN ports.
	USB-A 3.0 Ports	1
Buttons and LEDs	LED	System, Wi-Fi, Mesh, LAN
	Physical Buttons	WPS Button, Reset Button
Power	Power Input Type	DC Jack
	Power Methods	DC
	Power Input	12V⎓3A
	Max Power Consumption (W)	36W
	Idle Power Consumption (W)	15W
	Power Adapter In the Box	Input: 100-240V~, 50/60Hz Output: 12V⎓3A

Reliability	Environment	• Operating Temperature: 0 ℃ ~ 40 ℃ (32 ℉ ~104 ℉) • Storage Temperature: -40 ℃ ~ 70 ℃ (-40 ℉ ~ 158 ℉) • Humidity: 10% ~ 90% non-condensing • Storage Humidity: 5% ~ 95% non-condensing
Certifications	FCC, CE	
Mechanical	Installation	Desktop
	Dimension	Φ116×202 mm Φ4.57×7.95 inches
Package Content	• WR21000 • Power Adapter • Ethernet Cable • Installation Guide	
Ordering Information	Retail Package Dimension	1-Pack: 313×152×132 mm 12.32×5.98×5.2 inches
	Units per Carton	1-Pack: 8

Hardware Specs

Ordering Information	Carton Dimension	1-Pack: 55.4×32.1×33.2 cm 21.81×12.64×13.07 inches

Software Specs

Model Version	WR21000 1.0	
Wireless	Wi-Fi Standards	Wi-Fi 7
	Max Wi-Fi Modulation	4K-QAM
	Wi-Fi Efficiency	• MLO • MRU • Puncturing • OFDMA • MU-MIMO • BSS Color
	Max Capacity	384
	Recommended Client Upper Limit	200
	Wi-Fi Channel Width	Auto/20/40/80/160/320 MHz
	Wi-Fi Security	WPA/WPA2/WPA3
	Guest Network	2.4 GHz, 5 GHz, 6 GHz
	Separate Client	True
	WPS	True

Software Specs

General	Operation Modes	• Wi-Fi Router • Access Point • Range Extender • WISP • Client
	Mesh	Cudy Mesh
	Mesh Backhaul	• Wireless Backhaul • Wired Backhaul
	Multi-Band Backhaul	True
	WAN Mode	• DHCP • Static IP • PPPOE • PPTP • L2TP
Network	QoS	Per-User Rate Limiting
	DHCP	• Address Reservation • DHCP Client List • Server
	IP Versions	IPv4/IPv6

Network	IPv6 Protocols	• Relay • Dynamic (SLAAC/DHCPv6) • Static (Fixed IP) • Passthrough • 464XLAT • MAP-E • DS-Lite
	Multicast	True
	IPTV/VLAN	• Bridge • Tag VLAN • VoIP VLAN • IPTV VLAN
	TTL Customization	• Extend • Spoof • Custom
	IGMP	• IGMP Proxy • IGMP Snooping
	Forwarding	• Port Forwarding • Port Triggering • UPnP • DMZ

Software Specs

Network	Firewall	• SPI Firewall • DoS Protection • Block PING
	Application Layer Gateway	• IPSec Passthrough • L2TP Passthrough • PPTP Passthrough • FTP Passthrough • TFTP Passthrough • H323 Passthrough • SIP Passthrough • RTSP Passthrough
Utilities	VPN Server	• WireGuard • OpenVPN • IPsec • Zerotier • PPTP • L2TP
	VPN Client	• WireGuard • OpenVPN • IPsec • Zerotier • PPTP • L2TP

Utilities	VPN Performance	• OpenVPN Client (UL/DL): 161 / 130 Mbps • OpenVPN Server (UL/DL): 153 / 119 Mbps • WireGuard Client (UL/DL): 771 / 671 Mbps • WireGuard Server (UL/DL): 789 / 658 Mbps
	DNS Options	• DNS over TLS • Manual DNS • Rebind Protection • Override Clients' DNS
	DNS over TLS Providers	• Cloudflare • Google • Quad9 • Custom
	USB Functions	Samba Server
	Wake on LAN	True
	Online Detection	True

Software Specs

Management	Parental Controls	• Profiles Settings • Offline Time • Online Time • Pause the Internet • Web Filter
	All Devices Management	• Wi-Fi Time Schedule • MAC Filter • IP/MAC Binding
	Per-Devices Management	• Internet On/Off • VPN On/Off • Online Time Schedule • Device Rename
	Content Management	• Domain Filtering • IP Filtering
System	LED Control	True
	Local Control Method	• Config Web Page • App Control
	Remote Control Method	• Config Page via HTTPS • App Control • TR069/TR098/TR111/TR143/TR181/TR369

System	Firmware Upgrade	• Local Update • App (Over the Air) • Online Update
	Reliability	• Timed Reboot • Backup and Restore
	Diagnostic Tools	• Diagnosis • Ping • Traceroute • NSLookup • System Log

Software Specs

System	Languages	• English • Bengali • Catalan • Czech • German • Greek • Spanish • French • Hebrew • Croatian • Hungarian • Italian • Japanese • Khmer • Korean • Dutch • Norwegian • Polish • Portuguese • Romanian • Russian • Slovak • Swedish • Thai • Turkish • Ukrainian • Vietnamese • Simplified Chinese • Traditional Chinese

Dashboard	Panel	• Internet Status • Mesh Status • Devices Management • WAN Status • LAN Status • WISP Status • Wi-Fi Status • VPN Status • DHCP Server Status • System Version
	Charts	• Mesh Topology • Internet Speed • WISP Speed • Wi-Fi Speed