Model: WR6500H 1.0

BE6500 2.5G Mesh Wi-Fi 7 Router



Datasheet

Highlights

A dual-band Wi-Fi 7 router with an aggregate of 6.5 Gbps speed, one 2.5G WAN, and four Gigabit LAN, catering to multi-Gig internet access, gaming, and entertainment scenarios.

- Broadcom 2 GHz Quad-Core CPU
- 6-Stream Dual-Band Wi-Fi 7
- 5765 Mbps + 688 Mbps Wi-Fi
- 1× 2.5GbE and 4× GbE
- 200 Connected Devices
- VPN Server and Client
- Covers 140 m² (1,500 ft²)
- 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.

The wireless coverage claim serves as a reference only. Coverage performance will vary due to environmental factors including building layout, obstacles, traffic volume and density, and device location. For optimal coverage, please place the device in a central location within the area requiring Wi-Fi.

Package Content

- WR6500H
- Power Adapter
- Ethernet Cable
- Installation Guide

Hardware Specs

Model Version	WR6500H 1.0	
CPU	CPU Details	2.0 GHz Quad-core, ARM Cortex-A7
Memory/Storage	Flash/ROM	128 MB (1 Gbit) NAND
	DDR/RAM	512 MB (4 Gbit) DDR4
Wireless	MLO Speeds	6453 Mbps
	5 GHz Wi-Fi Speed	5765 Mbps
	2.4 GHz Wi-Fi Speed	688 Mbps
	5 GHz Wi-Fi Streams	4 Spatial Streams
	2.4 GHz Wi-Fi Streams	2 Spatial Streams
	Wi-Fi Antennas	6× Fixed
	FEM or PA/LNA	5 GHz: 4× External, 2.4 GHz: 2× Internal
	Beamforming	True

Wireless	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	2.5G RJ45 Ports	1
	Gigabit RJ45 Ports	4
	Ethernet Notes	The 2.5G port is WAN port, the Gigabit ports are LAN ports
Buttons and LEDs	LED	System, Internet, Wi-Fi, WPS

Hardware Specs

Buttons and LEDs	Physical Buttons	Power On/Off Button, WPS Button, Reset Button
Power	Power Input Type	DC Jack
	Power Methods	DC
	Power Input	12V⎓1.5A
	Max Power Consumption (W)	17W
	Power Adapter In the Box	Input: 100-240V~, 50/60Hz Output: 12V⎓1.5A
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 • Wall-mount

Mechanical	Dimension	Main Part: 253×152.5×48.2 mm 9.96×6×1.9 inches Antenna: 175 mm 6.89 inches
	Product Weight	580.4 g (20.47 oz.)
Package Content	• WR6500H • Power Adapter • Ethernet Cable • Installation Guide	
Ordering Information	Retail Package Weight	EU: 1184.0 g (41.76 oz.)
	Retail Package Dimension	431×324×58 mm 16.97×12.76×2.28 inches
	Units per Carton	8
	Carton Dimension	49.2×44.5×34.4 cm 19.37×17.52×13.54 inches
	Carton Gross Weight	EU: 10.4 kg (22.93 lbs)
	Carton Net Weight	EU: 9.5 kg (20.94 lbs)

Software Specs

Model Version	WR6500H 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	512
	Recommended Client Upper Limit	200
	Wi-Fi Channel Width	Auto/20/40/80/160 MHz
	Wi-Fi Security	WPA/WPA2/WPA3
	Guest Network	2.4 GHz, 5 GHz
	Separate Client	True
	WPS	True

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 • Guest Network Rate LImiting
	DHCP	• Address Reservation • DHCP Client List • Server
	IP Versions	IPv4/IPv6

Software Specs

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

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

Software Specs

Utilities	VPN Performance	• OpenVPN Client (UL/DL): 63 / 66 Mbps • OpenVPN Server (UL/DL): 62 / 62 Mbps • WireGuard Client (UL/DL): 173 / 221 Mbps • WireGuard Server (UL/DL): 217 / 168 Mbps
	DNS Options	• DNS over TLS • Manual DNS • Rebind Protection • Override Clients' DNS
	DNS over TLS Providers	• Cloudflare • Google • Quad9 • Custom
	Wake on LAN	True
	Online Detection	True
Management	Parental Controls	• Profiles Settings • Offline Time • Online Time • Pause the Internet • Web Filter

Management	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
	Firmware Upgrade	• Local Update • App (Over the Air) • Online Update
	Reliability	• Timed Reboot • Backup and Restore

Software Specs

System	Diagnostic Tools	• Diagnosis • Ping • Traceroute • NSLookup • System Log

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

Software Specs

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