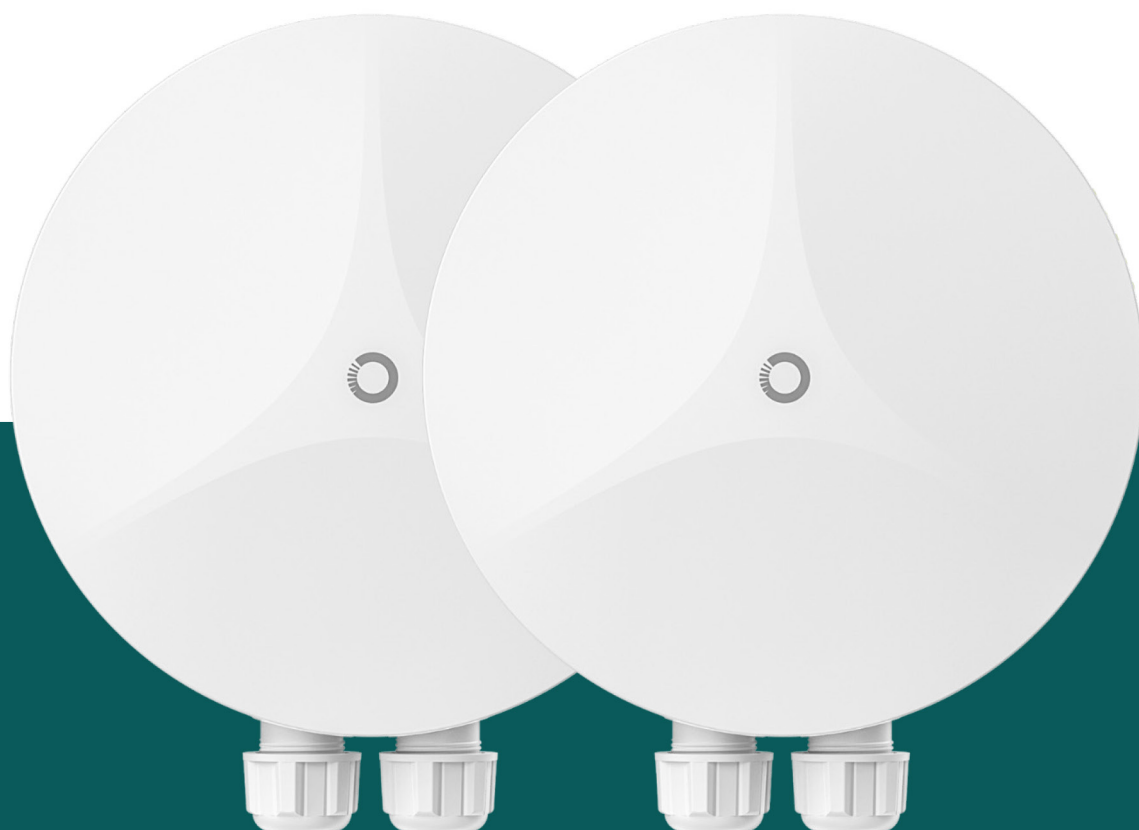




Omada Wi-Fi 7
5 GHz & 6 GHz MLO
PtP Wireless Bridge

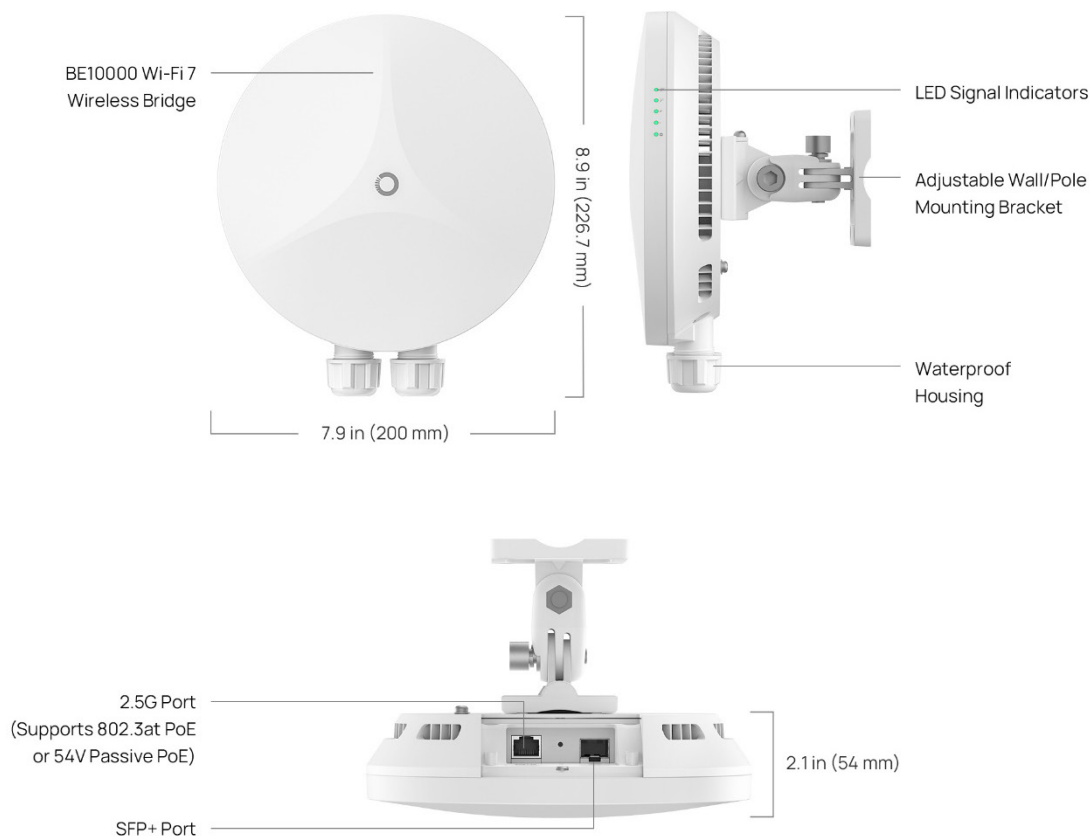
Model: Beam Bridge 7 KIT

Product Overview

The Beam Bridge 7 KIT is designed to serve as a fiber-grade wireless backbone, delivering multi-gigabit capacity for critical infrastructure without massive trenching costs.

- **Fiber-Grade Performance:** Delivers multi-gigabit wireless throughput within 0.6 mi (1 km).*
- **Plug-and-Play with Preconfigured Kit:** Preconfigured for instant PtP auto-pairing, the bridges deliver instant connectivity right out of the box.
- **6 GHz Band Unlocked by AFC:** AFC enables the 6 GHz band for outdoor uses, minimizing congestion and interference.**
- **Seamless 5 GHz / 6 GHz Auto-Failover:** Improve service continuity with 6 GHz/5 GHz MLO[‡] redundancy and 5 GHz static puncturing to retain high usable bandwidth.
- **Flexible Multi-Gigabit Connectivity:** Features 1× 2.5 GbE port and 1× SFP+ port to fully maximize Wi-Fi 7 bandwidth. Supports flexible deployments with standard 802.3at PoE+ or 54V Passive PoE.
- **Outdoor-Ready Durability:** Features an IP68-rated weatherproof enclosure, UV-resistant coating, and 6kV lightning protection.
- **App-Guided Alignment:** Visualized app-guided alignment for long-distance setups and instant speed testing for installation verification.
- **Remote Monitoring & Management:** Standalone mode or Omada SDN mode for remote centralized management via web UI or app.[†]

Product Appearance



Feature Descriptions

Fiber-Grade PtP Wireless Backbone

Powered by integrated 14 dBi directional antennas, Beam Bridge 7 KIT delivers multi-gigabit wireless throughput within 0.6 mi (1 km),* transforming your point-to-point link into a fiber-grade extension of your high-speed local network.

Effortless Plug-and-Play Setup

Preconfigured for instant PtP auto-pairing, the bridges deliver instant connectivity right out of the box. Simply power on and go—ideal for quick and easy deployments.

6 GHz Band Unlocked by AFC for Outdoor Use

AFC enables standard-power outdoor 6GHz operation, offering cleaner spectrum and minimized interference essential for reliable outdoor connectivity.**

For more details on AFC, visit: <https://www.omadanetworks.com/support/faq/4373/>

Ultra-Reliable, Always-On Dual-Band PtP Link

Minimize connectivity downtime through dual-layer link protection. 6 GHz & 5 GHz MLO[†] intelligently aggregates and switches between bands for seamless backup, while Static Puncturing precisely excludes unavailable sub-channels to retain high usable bandwidth, maximizing your overall network stability.

Versatile Connectivity Options for Seamless Integration

Equipped with a 2.5G PoE+ port and an SFP+ port, it eliminates wired bottlenecks to fully unleash Wi-Fi 7 speeds. Streamline deployment with convenient single-cable PoE power for local installs, or leverage fiber connectivity for long-distance runs.

App-Guided Alignment for Optimal Performance

Simply align the bridges with real-time signal strength visualization on the Omada app. Perfect for installations where bridges are far apart. This feature ensures optimal alignment and connectivity. The Omada app also allows users to easily verify installations, test transmission speeds, and troubleshoot connections for optimal performance.

Rugged Design for Harsh Outdoor Condition

Beam Bridge 7 KIT features IP68 weatherproof enclosures, UV-resistant coating, and 6kV lightning protection to safeguard your network in harsh outdoor environments. Additionally, an extended operation temperature range of -30 °C to 70 °C makes it ideal for extremely hot and cold environments.

Remote Monitoring & Management

Use the Omada app for easy on-site setup—no internet required. For additional flexibility, switch to Omada SDN, enabling cloud management via the Omada app or web portal for seamless control, and monitor from anywhere.

Specifications

Hardware Specifications

Item	Description	
Wi-Fi Standards	6 GHz: IEEE 802.11ax/be 5 GHz: IEEE 802.11a/n/ac/ax/be	
802.11be	Spatial Streams	5 GHz: 2×2 Uplink/Downlink MU-MIMO with 2 spatial streams 6 GHz: 2×2 Uplink/Downlink MU-MIMO with 2 spatial streams
	Frequency Bands	5.150 to 5.250 GHz U-NII-1 5.250 to 5.350 GHz U-NII-2A 5.470 to 5.725 GHz U-NII-2C 5.725 to 5.850 GHz U-NII-3/ISM 6.105 to 6.425 GHz U-NII-5 6.525 to 6.875 GHz U-NII-7 *Note: Country-Specific Restriction Apply
	Bandwidth	5 GHz: 20 MHz/40 MHz/80 MHz/160 MHz/240 MHz 6 GHz: 20 MHz/40 MHz/80 MHz/160 MHz/320 MHz *Note: Country-Specific Restriction Apply
	Wireless Data Rate	5 GHz + 6 GHz: 10089 Mbps 5 GHz: 8.6 Mbps to 4324 Mbps (MCS0-MCS13, NSS=1 to 2, EHT20/40/80/160/240) 6 GHz: 8.6 Mbps to 5765 Mbps (MCS0-MCS13, NSS=1 to 2, EHT20/40/80/160/320)
	Radio Technology	Uplink/downlink OFDMA (Orthogonal Frequency-Division Multiple Access)
	Modulation Type	4096-QAM, 1024-QAM, 256-QAM. 64-QAM, 16-QAM, QPSK, BPSK
	Frame Aggregation	- A-MPDU (Aggregate MAC Protocol Data Unit) for Tx/Rx - A-MSDU (Aggregate MAC Service Data Unit) for Tx/Rx
	Others	- Preamble Puncturing - BSS Coloring - MLO (Multi-Link Operation) - TWT (Target Wake Time) - MRC (Maximal Ratio Combining) - TxBF (Transmit Beamforming) - WPA3 (Wi-Fi Protect Access 3) - DFS (Dynamic Frequency Selection) - CDD (Cycle Delay Diversity) - CSD (Cycle Shift Diversity) - STBC (Space-Time Block Coding) - LDPC (Low-Density Parity Check)
802.11ax	Spatial Streams	5 GHz: 2×2 Uplink/Downlink MU-MIMO with 2 spatial streams 6 GHz: 2×2 Uplink/Downlink MU-MIMO with 2 spatial streams

Item	Description	
	Frequency Bands	5.150 to 5.250 GHz U-NII-1 5.250 to 5.350 GHz U-NII-2A 5.470 to 5.725 GHz U-NII-2C 5.725 to 5.850 GHz U-NII-3/ISM 6.105 to 6.425 GHz U-NII-5 6.525 to 6.875 GHz U-NII-7 *Note: Country-Specific Restriction Apply
	Bandwidth	5 GHz: 20 MHz/40 MHz/80 MHz/160 MHz 6 GHz: 20 MHz/40 MHz/80 MHz/160 MHz *Note: Country-Specific Restriction Apply
	Wireless Data Rate	5 GHz: 8.6 Mbps to 2402 Mbps (MCS0-MCS11, NSS=1 to 2, HE20/40/80/160) 6 GHz: 8.6 Mbps to 2402 Mbps (MCS0-MCS11, NSS=1 to 2, HE20/40/80/160) *Note: Country-Specific Restriction Apply
	Radio Technology	Uplink/downlink OFDMA (Orthogonal Frequency-Division Multiple Access)
	Modulation Type	1024-QAM, 256-QAM, 64-QAM, 16-QAM, QPSK, BPSK
	Frame Aggregation	- A-MPDU (Aggregate MAC Protocol Data Unit) for Tx/Rx - A-MSDU (Aggregate MAC Service Data Unit) for Tx/Rx
	Others	- TWT (Target Wake Time) - MRC (Maximal Ratio Combining) - TxBF (Transmit Beamforming) - WPA3 (Wi-Fi Protect Access 3) - DFS (Dynamic Frequency Selection) - CDD (Cycle Delay Diversity) - CSD (Cycle Shift Diversity) - STBC (Space-Time Block Coding) - LDPC (Low-Density Parity-Check)
802.11ac	Spatial Streams	5 GHz: 2x2 Downlink MU-MIMO with 2 spatial streams
	Frequency Bands	5.150 to 5.250 GHz U-NII-1 5.250 to 5.350 GHz U-NII-2A 5.470 to 5.725 GHz U-NII-2C 5.725 to 5.850 GHz U-NII-3/ISM *Note: Country-Specific Restriction Apply
	Bandwidth	5 GHz: 20 MHz/40 MHz/80 MHz/160 MHz
	Wireless Data Rate	5 GHz: 8.6 Mbps to 1733 Mbps (MCS0-MCS9, NSS=1 to 2, VHT20/40/80/160)
	Radio Technology	OFDM (Orthogonal Frequency-Division Multiplexing)
	Modulation Type	256-QAM, 64-QAM, 16-QAM, QPSK, BPSK
	Frame Aggregation	- A-MPDU (Aggregate MAC Protocol Data Unit) for Tx/Rx - A-MSDU (Aggregate MAC Service Data Unit) for Tx/Rx

Item	Description	
	Others	• MRC (Maximal Ratio Combining) • TxBF (Transmit Beamforming) • DFS (Dynamic Frequency Selection) • CDD (Cycle Delay Diversity) • CSD (Cycle Shift Diversity) • STBC (Space-Time Block Coding) • LDPC (Low-Density Parity-Check)
802.11n	Spatial Streams	• 5 GHz: 2×2 MIMO with 2 spatial streams
	Frequency Bands	5.150 to 5.250 GHz U-NII-1 5.250 to 5.350 GHz U-NII-2A 5.470 to 5.725 GHz U-NII-2C 5.725 to 5.850 GHz U-NII-3/ISM *Note: Country-Specific Restriction Apply
	Bandwidth	20 MHz/40 MHz
	Wireless Data Rate	• 5 GHz: 8.6 Mbps to 300 Mbps (MCS0-MCS7, NSS=1 to 2, HT20/40)
	Radio Technology	OFDM (Orthogonal Frequency-Division Multiplexing)
	Modulation Type	64-QAM, 16-QAM, QPSK, BPSK
	Frame Aggregation	• A-MPDU (Aggregate MAC Protocol Data Unit) for Tx/Rx • A-MSDU (Aggregate MAC Service Data Unit) for Tx/Rx
	Others	• MRC (Maximal Ratio Combining) • TxBF (Transmit Beamforming) • DFS (Dynamic Frequency Selection) • CDD (Cycle Delay Diversity) • CSD (Cycle Shift Diversity) • STBC (Space-Time Block Coding) • LDPC (Low-Density Parity-Check)
Antenna	Wi-Fi	• 5 GHz: 14dBi, internal directional antennas • 6 GHz: 14dBi, internal directional antennas
	IoT	• Bluetooth: 1 × 4.52 dBi (peak gain), internal omnidirectional antenna
	GNSS	1× 3.62 dBi (peak gain), integrated directional antenna
Interfaces	• 1 x 10M/100M/1000M/2.5Gbps Multigigabit Ethernet Port (RJ45); PoE in • 1 x 10G SFP+ • 1 x Grounding Terminal	
IoT	BLE 5.2, 1Mbps	
GNSS	GPS (L1: 1574.2MHz), Galileo, GLOANASS, BDS (B1)	
Memory	• Flash: 1024 Mbit • DRAM: 4096 Mbit	
Button	1 × Reset button: Press the button for longer than 5 seconds to make the device restore to factory settings.	

Item	Description	
Indicator	5 × green system LED indicates on the side: • Power-on status • Firmware initialization or upgrade status • Uplink service status • Error status • Signal strength of Uplink	
Reliability	MTBF (Mean Time between Failure)	FCC: 361055 hours at the operating temperature of 25°C (77°F) 213645 hours at the operating temperature of 40°C (104°F)
Power Supply	Input	802.3at PoE+: 42.5 - 57V, 0.6A or 54V/0.56A Passive PoE
	Output	/
Power Consumption	• 802.3at (PoE+): 18.18W, 5GHz radio 2×2, 6GHz radio 2×2, wired link rate can be up to 2.5 Gbps, etc. • Idle mode: 9.5W(PoE)	
Surge/Lightning Protection	Ethernet Ports: ±6 kV	
ESD/EMP Protection	• Air discharge: ±8 kV • Contact discharge: ±4 kV <i>*Note: ESD/EMP Protection means Electrostatic Discharge/Electromagnetic Pulse Protection independently.</i>	
Tx Power	Maximum transmit power	FCC (Conducted Power) • 5 GHz: 25 dBm in U-NII-1, 21 dBm in U-NII-2A, 21 dBm in U-NII-2C, 25 dBm in U-NII-3 • 6 GHz: 25 dBm <i>*Note: MIMO combined power, excluding antenna gains. The actual transmit power depends on local laws and regulations.</i>
	Minimum transmit power	FCC (Conducted Power) • 5 GHz: 4 dBm in U-NII-1, 4 dBm in U-NII-2A, 4 dBm in U-NII-2C, 4dBm in U-NII-3 • 6 GHz: 4 dBm <i>*Note: MIMO combined power, excluding antenna gains. The actual transmit power depends on local laws and regulations.</i>
	Adjustable power increment	1 dBm
Environment	Temperature	• Operating: -30°C to +70°C (-22°F to +158°F) • Storage: -40°C to +70°C (-40°F to +158°F)
	Humidity	• Operating: 10% to 90% (non-condensing) • Storage: 5% to 90% (non-condensing)
	Altitude	• Storage: up to + 2000m(6561feet) • Operating: up to + 2000m(6561feet)
	Windproof	/

Item	Description	
	Weatherproof Enclosure	IP68
Unit	Dimensions (W×D×H)	• Main Unit: 200 × 226.7 × 54mm (7.87 × 8.92 × 2.12in.) (without mount) • Shipping Unit: 382 × 275 × 170 mm (15.04 × 10.83 × 6.69 in.)
	Weight	• Main Unit: 1.1 kg (2.43 lbs) • Mounting Unit: 0.133kg (0.29 lbs) • Shipping Unit: 3.9 kg (8.6 lbs)
	Mounting	• Pole /Wall Mount (Kits included)

Software Specifications

Item	Description	
	Maximum number of BSSIDs	16 (8 on each band)
	Maximum number of associated STAs	16 (8 on each band)
	Guest Network	Yes
	ACS (Automatic Channel Selection)	Yes
	Airtime Fairness	No
	Band Steering	No
	TDMA	No
	Speed Test	Yes
	PtP	Yes
	PtMP	4
	Channel Optimization	Yes
	Antenna Alignment	Yes
	802.11 Rate Control	No
	Rogue AP Detection	Yes
	URL Filtering	No
	RF Scan	Yes
	WLAN Optimization	No
	WIDS/WIPS	No
	Lock to AP	No
	Rate Limit	• SSID Rate Limit • Client Rate Limit
	Load Balance	No
	MLO	• 5 GHz+6GHz
	Roaming	No
	Multicast/Broadcast Management	• Multicast/Broadcast Rate Limit • Multicast Filtering • Multicast-to-Unicast Conversion • ARP to Unicast Conversion • Support for Multicast and Broadcast Data Statistics
	QoS (Quality of Service)	No
Security and Authentication	ACL	

Item	Description	
	• None • Enhanced Open • WPA/WPA2/WPA3-Personal • WPA/WPA2/WPA3-Enterprise	
	Radius Accounting	
	EAP Types	• EAP-TLS • EAP-TTLS • EAP-PEAP • EAP-CHAP • EAP-SIM • EAP-AKA • EAP-GTC • EAP-FAST • EAP-PEAP • EAP-MD5 • EAP-MSCHAPv2 • PEAPv0 • PEAPv1
Management methods	Omada Controller	• Omada Controller V6.3 and above • Omada Essential V6.3 and above
	App	Omada App V5.3 and above
	Standalone Management	Yes
	Standalone Mesh	No
	SSH	Yes
	SNMP	v1, v2c, v3
Operating Modes	AP	Yes
	Repeater	No
	Mesh	No
System Feature	System Log	Yes
	Reboot Schedule	Yes
	WLAN Schedule	No
	NTP (Network Time Protocol)	Yes
	Email Alerts	Yes
	Firmware Upgrade	Yes
	Restore & Backup	Yes
	LED Control	Yes
Network Features	VLAN	• SSID VLAN • Management VLAN • Port VLAN

Item	Description	
	Static IP / DHCP Client	Yes
	IPv4 / IPv6	Yes
	LLDP (Link Layer Discovery Protocol)	Yes
	mDNS	Yes
	Tools	• Ping / Traceroute / DNSLookup • Packet Capture • Terminal

Standards Compliance and Certifications

Item	Category	Description
Standards compliance	IEEE Standards	• IEEE 802.11a/n/ac/ax/be • IEEE 802.1q • IEEE 802.3at • IEEE 802.3ab • IEEE 802.3x
	Radio Standards	• FCC Part 15E • FCC Part 15C • RSS-247 • RSS-248 • LP0002
	EMC standards	• FCC Part 15B • ICES-003 • CNS 15936
	Safety Standards	• CNS 15598-1
	RoHS	• Directive 2011/65/EU, Directive (EU) 2015/863
	Others	/
Certifications	• FCC/ IC/BSMI/NCC	

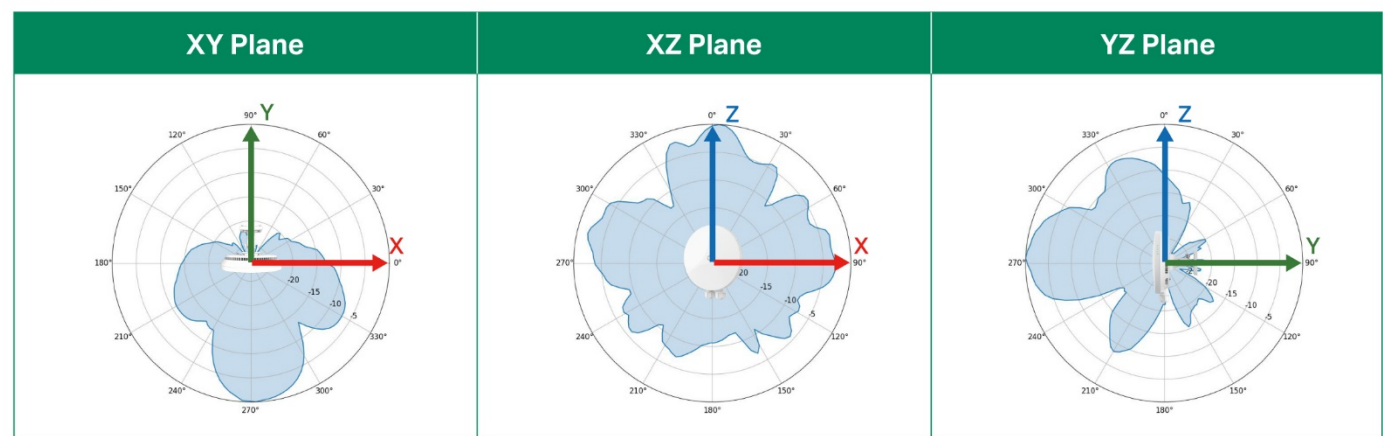
RF Performance

Frequency Band	Wi-Fi Protocol & Bandwidth	MCS Index / Data Rate	US Maximum Transmit Power (dBm) per transmit chain	Receiver Sensitivity (dBm) per receive chain
5 GHz	802.11n, HT20	MCS0	22	-94
		MCS7	19	-74
	802.11n, HT40	MCS0	22	-91
		MCS7	20	-71.5
	802.11ac, VHT20	MCS0	22	-94
		MCS7	19	-75
	802.11ac, VHT40	MCS0	22	-91
		MCS9	18	-67.5
	802.11ac, VHT80	MCS0	22	-89
		MCS9	18	-64
	802.11ax, HE20	MCS0	22	-94
		MCS11	17	-65
	802.11ax, HE40	MCS0	22	-90.5
		MCS11	17	-62
	802.11ax, HE80	MCS0	22	-88
		MCS11	17	-60
	802.11ax, HE160	MCS0	22	-86
		MCS11	17	-58.5
	802.11be, EHT20	MCS0	22	-94
		MCS13	17	-60
	802.11be, EHT40	MCS0	22	-91
		MCS13	17	-57
	802.11be, EHT80	MCS0	22	-88.5
		MCS13	17	-54
	802.11be, EHT160	MCS0	22	-87
		MCS13	17	-52
6 GHz	802.11ax, HE20	MCS0	22	-94.5
		MCS11	17	-65
	802.11ax, HE40	MCS0	22	-92

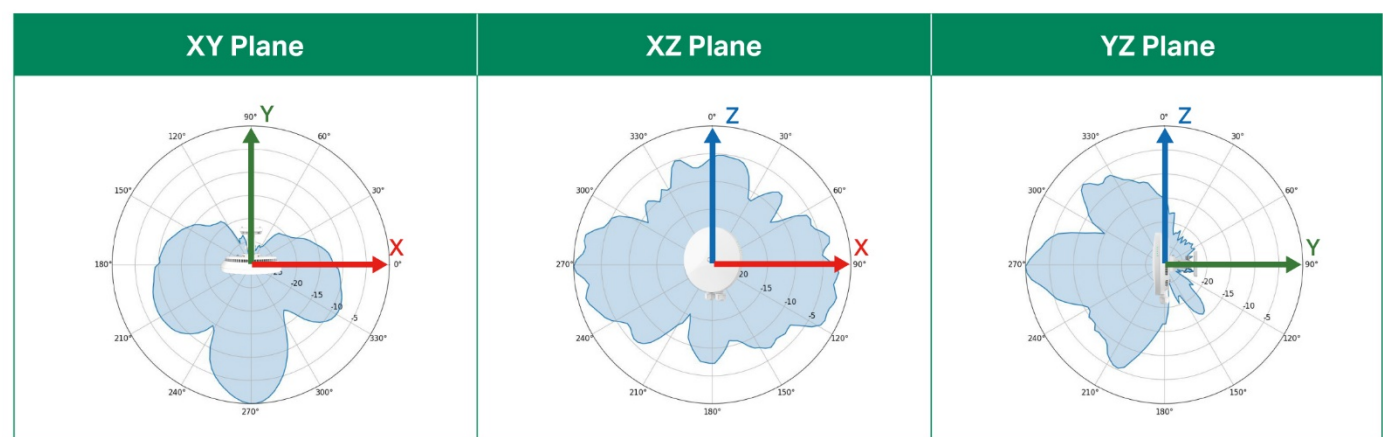
Frequency Band	Wi-Fi Protocol & Bandwidth	MCS Index / Data Rate	US Maximum Transmit Power (dBm) per transmit chain	Receiver Sensitivity (dBm) per receive chain
	802.11ax, HE80	MCS11	17	-64.5
		MCS0	22	-89
	802.11ax, HE160	MCS11	17	-60.5
		MCS0	22	-87
	802.11be, EHT20	MCS11	17	-57
		MCS0	22	-94
	802.11be, EHT40	MCS13	16	-61
		MCS0	22	-91
	802.11be, EHT80	MCS13	16	-59
		MCS0	22	-88
	802.11be, EHT160	MCS13	16	-57
		MCS0	22	-86
	802.11be, EHT320	MCS13	16	-55
		MCS0	22	-84
	802.11be, EHT320	MCS13	15	-52
		MCS0	22	-84

Antenna Radiation Patterns

5 GHz



6 GHz



Package Contents

Item	Quantity
Beam Bridge 7	2
Passive PoE Adapter	2
Power Cord	2
Waterproof Seals	8
Mounting Kit	2
Installation Guide	1

Support Services

We are committed to providing you with comprehensive and reliable support services to ensure seamless experience with Omada products.

- Contact Support: <https://support.omadanetworks.com/#contact-us>
- Warranty Services: <https://www.omadanetworks.com/support/replacement-warranty/>

Revision History

Version	Date	Description
V1.0	2026-08-20	Initial release.

*Based on TP-Link's real field testing, the bidirectional wireless transmission is over 3.5 Gbps at 0.6 mi (1 km) using Wi-Fi 7's 5 + 6 GHz MLO technology, while over 1.4 Gbps at the same distance with 5 GHz only. Actual performance varies as a result of local regulations, environmental factors, and network configuration.

** An active internet connection is required for initial AFC verification to enable 6 GHz transmission. AFC availability varies by region and country. For supported areas, refer to: <https://www.omadanetworks.com/support/faq/4373/>

† These functions require the use of an Omada controller.

‡ This function requires the use of an Omada controller (V6.3 or above).

Some models featured in this guide may be unavailable in your country or region. Visit TP-Link website for local sales information: <https://www.omadanetworks.com>. Specifications are subject to change without notice.