Omada by tp-link

Datasheet



Omada 5 GHz 867 Mbps Long-Range Connectivity for Indoors/Outdoors Wireless Bridge

Model: Flex Bridge 5

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Product Overview

Omada 5 GHz 867 Mbps Wireless Bridge Flex Bridge 5 serves as a vital node or a flexible extension for any bridge network. Optimized for long-range performance, it provides stable point-to-point or point-to-multipoint links in the toughest outdoor settings—from remote mining sites to isolated islands—wherever robust connectivity is essential.

- **Long-Range Wireless Bridging (up to 5 km / 3.1 mi):** Delivers speeds up to 867 Mbps on 5 GHz with integrated 17 dBi high-gain dual-polarized directional antennas.*
- **Scalable Point-to-Point & Multipoint Bridging:** Optimized for point-to-multipoint deployments, delivering best performance when connecting up to 8 Flex Bridges per link.
- **Centralized Sector-Based Expansion:** Works with a Sector Bridge as a centralized hub, supporting connections to up to 32 Flex Bridges for large-scale networks.‡
- **3× Gigabit PoE Ports with 2× PoE Out Ports:** Easily power remote IPCs and simplify surveillance system expansion.
- **Role & DIP Switches for Simple Pairing:** Reduces configuration and deployment complexity.
- **Designed for Outdoor Durability & Reliability:** Features an IP66 weatherproof enclosure, 6kV lightning protection, and operating range of -40 °C to +70 °C.**
- **Wall & Pole-Mounted for Easy & Versatile Installation:** Supports wall or pole installations, with an optional ball-joint mount for fast and precise angle adjustment.
- **App-Guided Alignment:** Visual alignment guidance and instant speed testing simplify long-distance setup and verify performance.
- **Flexible Power Supply:** Supports 802.3at/af, Passive PoE (54V passive PoE adapter included), and 12V DC.△
- **Remote Monitoring & Management:** Standalone mode or Omada SDN mode enables remote centralized management via Web UI or app.†

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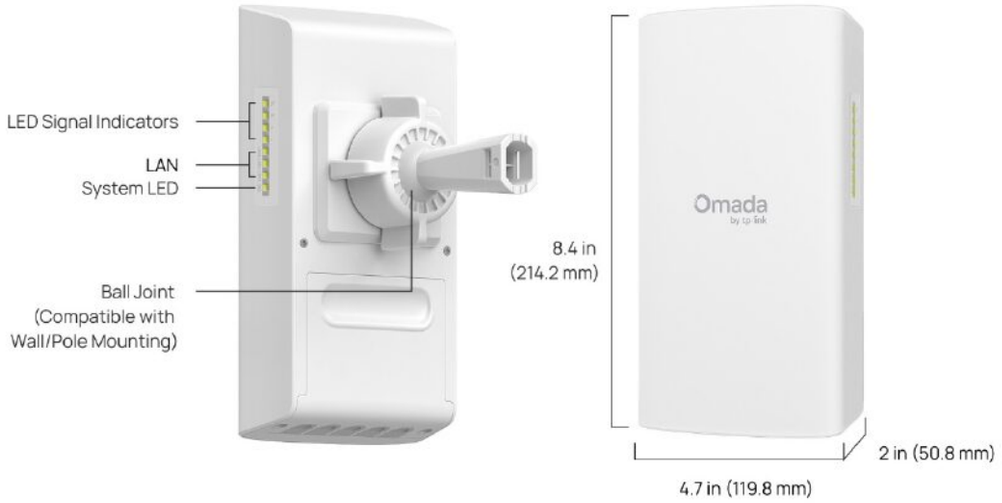
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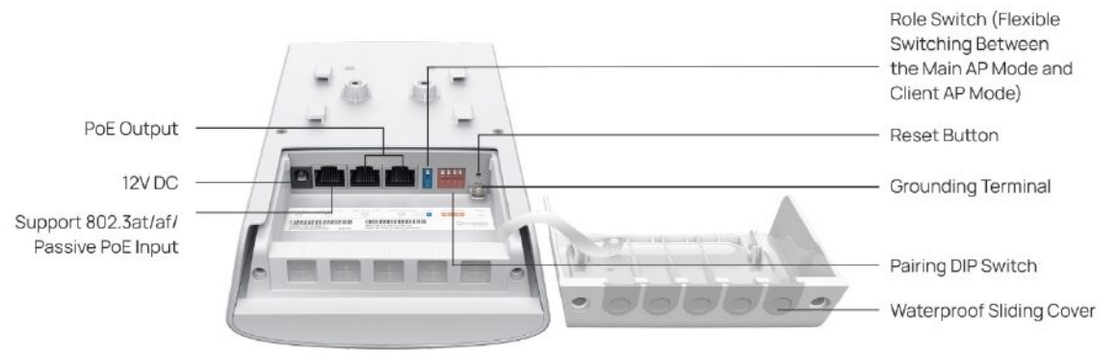
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Product Appearance





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Feature Descriptions

Flexible, Long-Range Bridge Point (3.1 mi / 5 km, 5 GHz, 867 Mbps)*

Delivers reliable wireless connectivity with low latency and strong signal integrity. Equipped with 17dBi high-gain directional antennas, it enables long-range, uninterrupted wireless transmissions—ideal for connecting remote sites in rural and hard-to-wire environments.

Works with Sector Bridge for Point-to-Multipoint Bridging (up to 32 Flex Bridges)‡

Designed as a flexible bridge point, Flex Bridge scales easily in multi-bridge deployments. When paired with a Sector Bridge, it supports 1-to-32 connections from a single centralized hub.

Role & DIP Switches for Simple Pairing

Seamless role switching with DIP switches enables quick bridge pairing, reducing configuration time and simplifying deployment.

Simple Deployment with PoE Support

3× Gigabit PoE ports with 2× PoE Out ports delivering up to 10 W on a single port or 5 W per port when both are used, it easily powers remote IPCs and simplifies surveillance system expansion.

Supports 802.3at/af PoE and passive PoE, plus a 12 V DC input, enabling flexible power options via a PoE switch, the included 54 V passive PoE adapter, or solar power.△

Outdoor-Ready Design for Extreme Conditions

Flex Bridge 5 supports IP66 weatherproof and 6kV lightning protection to safeguard your network in harsh outdoor environments. Additionally, an extended temperature tolerance of -40 °C to 70 °C makes it ideal for extremely hot and cold environments.

Wall & Pole-Mounted for Easy & Versatile Installation

Flexible wall and pole mounting includes built-in leveling and an optional ball joint for quick angle adjustment and fast deployment in diverse environments.

App-Guided Alignment for Optimal Performance

Simplifies bridge alignment with real-time signal strength visualization in the Omada app. Ideal for long-distance deployments, it helps ensure precise alignment and stable connectivity. Installers can quickly verify setup, test throughput, and troubleshoot connections for optimal performance.

Remote Monitoring & Management

Supports standalone mode, allowing for easy on-site setup via the Omada app—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.

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Specifications

Hardware Specifications

Item		Description
Wi-Fi Standards		5 GHz: IEEE 802.11a/n/ac 2.4 GHz: IEEE 802.11b/g/n (Device Management Only)
Transmission Distance		5km
802.11ac	Spatial Streams	• 5 GHz: 2×2 Downlink 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
	Wireless Data Rate	• 5 GHz: 6.5 Mbps to 867 Mbps (MCS0-MCS9, NSS=1 to 2, VHT20/40/80)
	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
802.11n	Spatial Streams	• 2.4 GHz: 1 spatial stream (Device Management Only) • 5 GHz: 2×2 MIMO with 2 spatial streams
	Frequency Bands	2.400 to 2.4835 GHz ISM (Device Management Only) 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	• 2.4 GHz: 6.5Mbps to 150 Mbps (MCS0-MCS7, NSS=1, HT20/40) (Device Management Only) • 5 GHz: 6.5Mbps 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

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Item		Description
Antenna	Wi-Fi	• 2.4 GHz: 1 × 1 dBi (peak gain), internal omnidirectional antennas (Device Management Only) • 5 GHz: 2 × 17 dBi (peak gain), internal directional antennas Beamwidth: Horizontal 40°, Vertical 18° Note: The gains above are the single-antenna peak gains.
Interfaces		• 1 x DC power interface: 12VDC • 1 x 10M/100M/1000M Multigigabit Ethernet Port (RJ45); PoE in • 2 x 10M/100M/1000M Multigigabit Ethernet Port (RJ45); PoE out • 1 x Role Switch; Toggle the switch to switch the device roles (Main AP or Client AP) • 1 x 4 Paring Code Switch; Toggle the Pairing Code switches to set the same pairing code (e.g., 0101). • 1 x Grounding Terminal;
Memory		• Flash: 128Mbit • DRAM: 1024Mbit
Button		1 × Reset button: Press the button for longer than 5 seconds to make the device restore to factory settings.
Indicator		1 x system LED: • On: Working normally/Initializing • Off: Working abnormally/Power off/LED is turned off. • Flash: ◦ Flashes twice: Initialization is complete. ◦ Flashes quickly: The AP is resetting, or the Omada Controller is locating the device ◦ Flashes once per second: The AP is upgrading. ◦ On with periodic off: The AP is in the isolated state. 3 × LAN LEDs On: The port is connected but not active. Flash: The port is connected and active. Off: The port is not connected. 4 × Singal LEDs • On: ◦ Working as Main AP: All LEDs remain solid during normal operation. ◦ Working as Client AP: More lit LEDs indicates better wireless signal strength. • Blinking: Pairing • Off: No signal
Reliability	MTBF (Mean Time between Failure)	NA
Power Supply	Input△	• 54V Passive PoE or 802.3at PoE • DC: 12V/1A (Supported Voltage Range: 12V±10%) • 24V Passive PoE • 802.3af
	Output△	• Powered by 54V Passive PoE or 802.3at PoE: PoE output single port 10W or dual port 5W x 2 • Powered by DC 12V/1A: NA • Powered by 24V Passive PoE: NA • Powered by 802.3af: NA

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Item	Description	
Power Consumption	• Max with DC: 12W • Max with PoE: 14.82W without PoE out; 26.06W with PoE out; • Standby with DC: 4.63W • Standby with PoE: 5.96W Note: Actual power consumption may vary depending on the AP usage.	
Surge/Lightning Protection	Ethernet Ports: ±6 kV	
ESD/EMP Protection	• Air discharge: ±8 kV • Contact discharge: ±4 kV Note: ESD/EMP Protection means Electrostatic Discharge/Electromagnetic Pulse Protection independently.	
Tx Power	Maximum transmit power	CE (EIRP) • 5 GHz: 23 dBm in U-NII-1, 23 dBm in U-NII-2A, 30 dBm in U-NII-2C, FCC (Conducted Power) • 5 GHz: 23 dBm in U-NII-1, 25 dBm in U-NII-3 Note: MIMO combined power, excluding antenna gains. The actual transmit power depends on local laws and regulations.
	Minimum transmit power	CE (EIRP) • 5 GHz: 6 dBm in U-NII-1, 6 dBm in U-NII-2A, 6 dBm in U-NII-2C, 6 dBm in U-NII-3 • FCC (Conducted Power) • 5 GHz: 4 dBm in U-NII-1, 4dBm in U-NII-3 Note: MIMO combined power, excluding antenna gains. The actual transmit power depends on local laws and regulations.
	Adjustable power increment	1 dB
Environment	Temperature	• Operating: -40℃ to +70℃ (-40℉ to +158℉) • Storage: -40℃ to +70℃ (-40℉ to +158℉)
	Humidity	• Operating: 10% to 90% (non-condensing) • Storage: 5% to 90% (non-condensing)
	Altitude	• Storage: up to + 2000 m (6561feet) • Operating: up to + 2000 m (6561feet)
	Windproof	/
	Weatherproof Enclosure	IP66
Unit	Dimensions (W×D×H)	• Main Unit: 8.4 × 2 × 4.7 in (214.2 × 50.8 × 119.8 mm) • Shipping Unit: 12.2 × 10.6 × 3.2 in (310 × 270 × 81 mm)
	Weight	• Main Unit: 0.59 kg (1.3 lbs) • Mounting Unit: 0.113 kg (0.25 lbs) • Shipping Unit: 2 kg (4.4 lbs)
	Mounting	• Pole Mount (Kits included) • Wall Mount (Kits included)

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Software Specifications

Item	Description	
Wireless Functions	Maximum number of associated STAs	8
	Guest Network	No
	ACS (Automatic Channel Selection)	Yes
	Airtime Fairness	No
	TDMA	Yes
	Speed Test	Yes
	PtP	Yes
	PtMP(recommend)	8
	PtMP(max)	8
	Channel Optimization	Yes
	Antenna Alignment	Yes
	802.11 Rate Control	No
	Rogue AP Detection	Yes
	WLAN Optimization	No
	Lock to AP	No
	Rate Limit	• Client Rate Limit
	Load Balance	No
	MLO	No
	Multicast/Broadcast Management	• Multicast/Broadcast Rate Limit
Security and Authentication	ACL	• None • WPA/WPA2
	Radius Accounting	
	EAP Types	• EAP-TLS • EAP-TTLS • EAP-PEAP • EAP-CHAP • EAP-SIM • EAP-AKA • EAP-GTC • EAP-FAST • EAP-PEAP • EAP-MD5

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Item	Description	
		• EAP-MSCHAPv2 • PEAPv0 • PEAPv1
	Omada Controller	• Omada Controller V6.2 and above • Omada Essential V6.2 and above
Management methods	App	Omada App V5.1 and above
	Standalone Management	Yes
	Standalone Mesh	No
	SSH	Yes
	SNMP	v1, v2c, v3
	AP	Yes
Operating Modes	Repeater	No
	Mesh	No
	System Log	Yes
	Reboot Schedule	Yes
	WLAN Schedule	No
	NTP (Network Time Protocol)	Yes
System Feature	Email Alerts	Yes
	Firmware Upgrade	Yes
	Restore & Backup	Yes
	LED Control	Yes
	VLAN	• SSID VLAN • Management VLAN • Port VLAN
	Static IP / DHCP Client	Yes
	IPv4	Yes
Network Features	LLDP (Link Layer Discovery Protocol)	Yes
	mDNS	Yes
	Tools	• Ping / Traceroute • Packet Capture • Terminal

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Standards Compliance and Certifications

Item	Category	Description
Standards Compliance	IEEE Standards	• IEEE 802.11a/n/ac • IEEE 802.1q • IEEE 802.3at • IEEE 802.3ab • IEEE 802.3x
	Radio Standards	• RSS-247, RSS-Gen • ETSI EN 300 328, EN 301 893, EN 62311& EN 50665 • LP0002 • FCC Part 15E, FCC Part 15C
	EMC Standards	• EN 55032 • EN 55035 • ICES-003 • EN 301489-1 • EN 301489-17 • FCC Part 15B • CNS 15936 • VCCI-CISPR 32
	Safety Standards	• EN IEC 62368-1 • IEC 60950-22 • CNS15598-1
	RoHS	• Directive 2011/65/EU, Directive (EU) 2015/863 • EN IEC 63000: 2018
	Others	• Equipment Radio Regulations: 2008 (including amendments)
Certifications	• FCC/IC/NCC/BSMI/CE/JRF/VCCI/KC/ISED	

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RF Performance

Frequency Band	Wi-Fi Protocol & Bandwidth	MCS Index / Data Rate	EU/US Maximum Transmit Power (dBm) per transmit chain	Receiver Sensitivity (dBm) per receive chain
2.4 GHz (Device Management Only)	802.11n, HT20	MCS0	16/16	-90
		MCS7	16/16	-74
	802.11n, HT40	MCS0	13/13	-93
		MCS7	13/13	-74
5 GHz	802.11n, HT20	MCS0	22/19	-93
		MCS7	18/18	-74
	802.11n, HT40	MCS0	22/19	-91
		MCS7	18/18	-71
	802.11ac, HT20	MCS0	22/19	-93
		MCS8	17.5/17.5	-75
	802.11ac, HT40	MCS0	22/19	-90
		MCS9	16.5/16.5	-66
	802.11ac, HT80	MCS0	22/19	-87
		MCS9	16.5/16.5	-62

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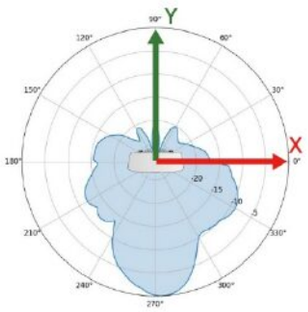
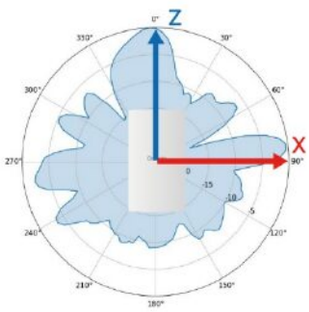
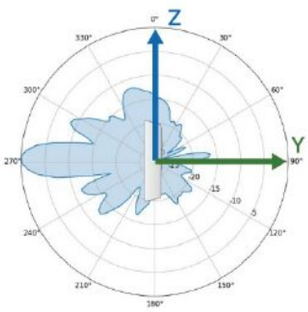
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Antenna Radiation Patterns

5 GHz

XY Plane	XZ Plane	YZ Plane
		

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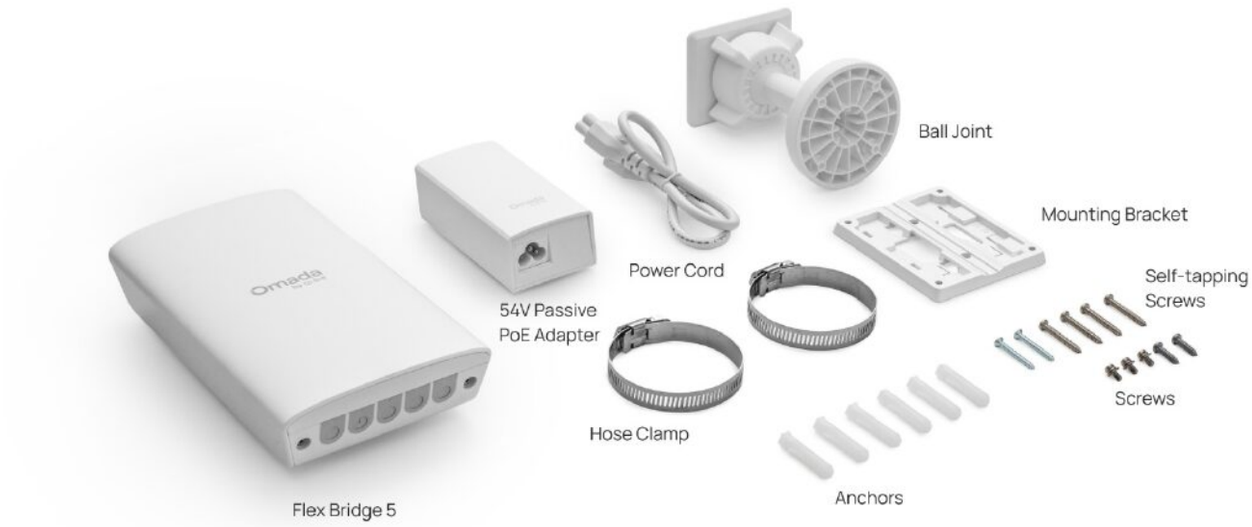
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Package Contents

Item	Quantity
Flex Bridge 5	1
Passive PoE Adapter	1
Power Cord	1
Mounting Kit	1
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/

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Revision History

Version	Date	Description
V1.0	2026-10-16	Initial release.

Note: Maximum wireless signal rates are the physical rates derived from IEEE Standard 802.11 specifications. Actual wireless data throughput and wireless coverage are not guaranteed and will vary as a result of 1) environmental factors, including building materials, physical objects, and obstacles, 2) network conditions, including local interference, volume and density of traffic, product location, network complexity, and network overhead, and 3) client limitations, including rated performance, location, connection, quality, and client condition.

*The advertised coverage is calculated based on laboratory testing. Actual coverage is not guaranteed and will vary as a result of the performance of the equipped antennas, client limitations, and environmental factors.

‡This capacity is achievable only when used with Sector Bridge 5. The stated value is based on laboratory testing. Actual capacity may vary due to installation conditions, mounting location, network traffic, radio frequency interference (RFI), and other factors.

**Protection against lightning and electro-static discharge may be achieved through proper product setup, grounding, and cable shielding. Refer to the instruction manual and consult an IT professional to assist with setting up this product.

†These functions require the use of an Omada controller.

△PoE Passthrough functionality is guaranteed only under 54V Passive PoE or IEEE 802.3at power input. When powered by DC 12V, 24V Passive PoE, or IEEE 802.3af, PoE Passthrough is not supported and may cause unstable operation if attempted.

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