Omada by tp-link

Datasheet

Omada BE5000 Ceiling Mount Wi-Fi 7 Access Point

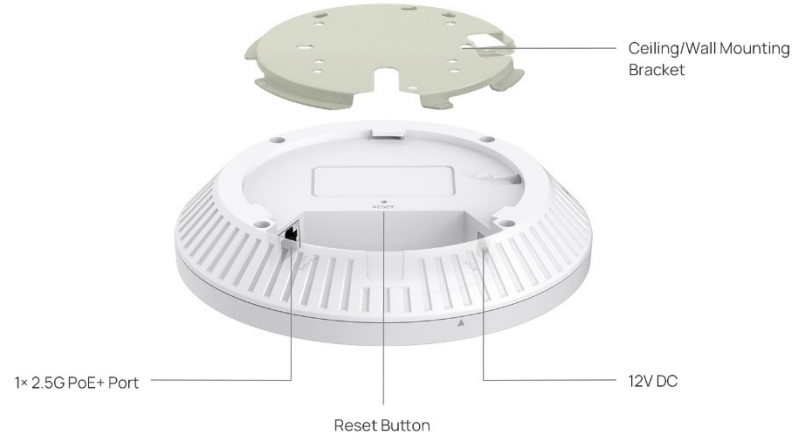
Model: EAP727

Product Overview

EAP727 delivers a fast, reliable, and secure network experience as a Wi-Fi 7 solution, ideal for offices, retail, MDUs, and hotels.

- **5-Stream Dual-Band Wi-Fi 7:** 4,324 Mbps on 5 GHz and 688 Mbps on 2.4 GHz.†
- **1× 2.5G PoE+ Port:** Ensures high-speed connectivity throughout your network.
- **Low Latency and Interference:** 160 MHz bandwidth, Multi-Link Operation, Multi-RUs, and 4K-QAM deliver high-performance connectivity.‡
- **Flexible Deployment and Easy Setup:** Supports 802.3at PoE or DC power supply for flexible installation with Omada SDN for one-click setup.
- **Advanced Features:** Supports centralized cloud management, PPSK, multiple portals, mesh, and seamless roaming. §
- **More Connections and Wider Coverage:** Supports 510+ concurrent connections** and covers up to 2,000 ft² (185 m²)* for reliable and extensive wireless connectivity.

Product Appearance

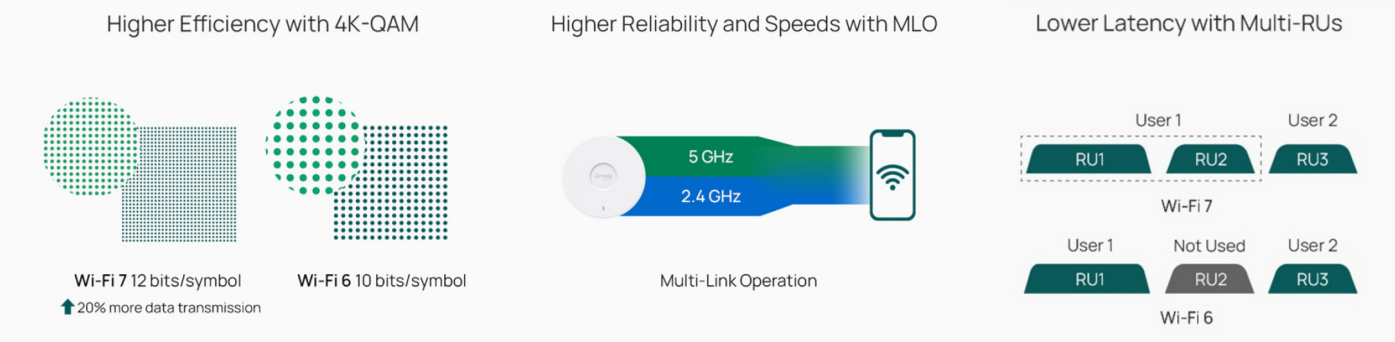


**The actual capacity depends on the wireless environment and client traffic and is generally less than the maximum number of client connections.
§Coverage value is calculated based on laboratory testing. Actual coverage is not guaranteed and will vary as a result of client limitations and environmental factors.

Feature Descriptions

Omada Wi-Fi 7 Technology: Swifter, Smoother, Stronger

Featuring superb Wi-Fi 7 technologies, including Multi-Link Operation, Multi-RUs, and 4K-QAM, Omada EAP727 significantly enhances throughput, connection stability, and concurrent capacity, ensuring faster, higher-quality connections for more devices.



2.5G PoE+ Port for Optimized Wired Performance

With a 2.5 Gigabit Ethernet port, EAP727 delivers remarkable performance for higher bandwidth and faster networking, perfect for seamless streaming, gaming, and multitasking across multiple devices. Compatible with 802.3at PoE for flexible deployment.

Easy Setup via the Omada App or Web Browser

Omada SDN supports quick setup of EAP727 through automatic device identification and one-click adoption. Configure and manage on the go via the Omada app or web browser.

Boosted Network Security

Advanced security features include a secure guest network with up to 16× SSIDs, SMS login, WPA3-Enterprise encryption, and rogue AP detection, ensuring safe, reliable connectivity for both guests and business operations.

Cloud-Based Centralized Management

As part of Omada's unified SDN ecosystem, EAP727 works with Omada switches, gateways, and controllers. Businesses gain end-to-end visibility, automated optimization, zero-touch provisioning, and batch configuration—all managed from a single cloud interface.

Specifications

Hardware Specifications

Item	Description	
Wi-Fi Standards	5 GHz: IEEE 802.11a/n/ac/ax/be 2.4 GHz: IEEE 802.11b/g/n/ax/be	
802.11be	Spatial Streams	• 2.4 GHz: 2×2 MIMO with 2 spatial streams • 5 GHz: 3×3 MIMO with 3 spatial streams
	Frequency Bands	2.400 to 2.4835 GHz ISM 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	2.4 GHz: 20 MHz/40 MHz 5 GHz: 20 MHz/40 MHz/80 MHz/160 MHz *Note: Country-Specific Restriction Apply
	Wireless Data Rate	2.4 GHz + 5 GHz: 5012 Mbps • 2.4 GHz: 8.6 Mbps to 688 Mbps (MCS0-MCS13, NSS=1 to 2, EHT20/40) • 5 GHz: 8.6 Mbps to 4324 Mbps (MCS0-MCS13, NSS=1 to 3, EHT20/40/80/160)
	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	• BSS Coloring • Multi-Link Operation (MLO) • Maximal Ratio Combining (MRC) • Transmit Beamforming (TxBF) • Wi-Fi Protect Access 3 (WPA3) • Dynamic Frequency Selection (DFS) • Cycle Delay Diversity (CDD) • Cycle Shift Diversity (CSD) • Space-Time Block Coding (STBC) • Low-Density Parity Check (LDPC)
802.11ax	Spatial Streams	• 2.4 GHz: 2×2 MIMO with 2 spatial streams • 5 GHz: 3×3 MIMO with 3 spatial streams
	Frequency Bands	2.400 to 2.4835 GHz ISM 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

Item	Description	
	Bandwidth	2.4 GHz: 20 MHz/40 MHz 5 GHz: 20 MHz/40 MHz/80 MHz/160 MHz *Note: Country-Specific Restriction Apply
	Wireless Data Rate	• 2.4 GHz: 8.6 Mbps to 574 Mbps (MCS0-MCS11, NSS=1 to 2, HE20/40) • 5 GHz: 8.6 Mbps to 3603 Mbps (MCS0-MCS11, NSS=1 to 3, 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	• 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: 3×3 MIMO with 3 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: 6.5 Mbps to 2600 Mbps (MCS0-MCS9, NSS=1 to 3, 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
	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	• 2.4 GHz: 2×2 MIMO with 2 spatial streams • 5 GHz: 3×3 MIMO with 3 spatial streams

Item	Description	
	Frequency Bands	2.400 to 2.4835 GHz ISM 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: 6.5 Mbps to 300 Mbps (MCS0-MCS7, NSS=1 to 2, HT20/40) • 5 GHz: 6.5 Mbps to 450 Mbps (MCS0-MCS7, NSS=1 to 3, 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	• 2.4 GHz: 2 × 4 dBi (peak gain), Internal Onboard antenna • 5 GHz: 3 × 6 dBi (peak gain), Internal Onboard antenna *Note: The gains above are the single-antenna peak gains.
	IoT	• Bluetooth: 1 × 4 dBi (peak gain), internal antenna
Interfaces	• 1 x 10M/100M/1000M/2.5Gbps Multigigabit Ethernet Port (RJ45); PoE in	
IoT	BLE 5.2, 1Mbps	
Memory	• Flash: 1024Mbit • DRAM: 4096Mbit	
Button	1 × Reset button: Press the button for longer than 5 seconds to make the device restore to factory settings.	
Indicator	1 × blue LED on the front: • Power-on status • Firmware initialization or upgrade status • Error status	
Reliability	MTBF (Mean Time between Failure)	286490 hours at the operating temperature of 25℃ (77℉)
Power Supply	Input	802.3at PoE+: 42.5 - 57 V, 0.6A ;DC: 12V, 1.5A
	Output	/

Item	Description	
Power Consumption	• 802.3at (PoE+): 17.5W, 2.4GHz radio 2×2, 5GHz radio 3×3 , wired link rate can be up to 2.5 Gbps, etc. • Idle mode: 6W(PoE)	
Surge/Lightning Protection	Ethernet Ports: ±4 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) • 2.4 GHz: 20 dBm • 5 GHz: 24 dBm in U-NII-1, 24 dBm in U-NII-2A, 30 dBm in U-NII-2C, FCC (Conducted Power) • 2.4 GHz: 26 dBm • 5 GHz: 27 dBm in U-NII-1, 27 dBm in U-NII-2A, 27 dBm in U-NII-2C, 27 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) • 2.4 GHz: 7 dBm • 5 GHz: 9 dBm in U-NII-1, 9 dBm in U-NII-2A, 9 dBm in U-NII-2C FCC (Conducted Power) • 2.4 GHz: 4 dBm • 5 GHz: 6 dBm in U-NII-1, 6 dBm in U-NII-2A, 6 dBm in U-NII-2C, 6dBm 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 dBm
Environment	Temperature	• Operating: 0℃ to +40℃ (32℉ to +104℉) • 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 (6561 feet) • Operating: up to + 2000 m (6561 feet)
Unit	Dimensions (W×D×H)	• Main Unit: 160 × 160 × 36.7 mm (6.3 × 6.3 × 1.4 in.) • Shipping Unit: 245 × 228 × 65 mm (9.7 × 9.0 × 2.6 in.)
	Weight	• Main Unit: 0.47 kg (1.04 lb) • Mounting Bracket: 0.05 kg (0.11 lb) • Shipping Unit: 0.79 kg (1.74 lb)
	Mounting	• Ceiling /Wall/Junction Box/T-Bar Mounting (Kits included)

Software Specifications

Item	Description	
Wireless Functions	Maximum number of BSSIDs	16 (8 on each band)
	Maximum number of associated STAs	512
	Guest Network	Yes
	ACS (Automatic Channel Selection)	Yes
	Airtime Fairness	Yes
	Band Steering	Yes
	802.11 Rate Control	Yes
	Rogue AP Detection	Yes
	URL Filtering	Yes
	RF Scan	Yes
	WLAN Optimization	Yes
	WIDS/WIPS	No
	Lock to AP	Yes
	Rate Limit	• SSID Rate Limit • Client Rate Limit
	Load Balance	• Maximum Associated Clients • RSSI Threshold
	MLO	• 2.4 GHz+5 GHz
	Roaming	• 802.11 k • 802.11v • 802.11r • AI Roaming *Note: Only support Layer 2 Roaming currently.
	Multicast/Broadcast Management	• Multicast-to-Unicast Conversion • ARP-to-Unicast Conversation • Multicast Filtering
	QoS (Quality of Service)	• WMM (Wi-Fi Multimedia) • DSCP (Differentiated Services Code Point) • U-APSD (Unscheduled Automatic Power Save Delivery)
Security and Authentication	ACL	
	MAC Filter	
	802.1X Authentication	

Item	Description	
	MAC-Based Authentication	
	• None • Enhanced Open • WPA/WPA2/WPA3-Personal • WPA/WPA2/WPA3-Enterprise	
	Radius Accounting	
	• PPSK without Radius • PPSK with Radius (Generic Radius with bound MAC/EKMS/Generic Radius with unbound MAC)	
	Captive Portal	• No Authentication • Simple Password • Hotspot (Voucher / Local User / SMS / RADIUS / Form Auth) • RADIUS Server • External LDAP Server • External Portal Server • Pre-Authentication Access • Authentication-Free Client
	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 V6.1.X and above • Omada Essential V6.1.X and above
	App	Omada App V5.0 and above
	Standalone Management	Yes
	Standalone Mesh	No
	SSH	Yes
	SNMP	v1, v2c, v3
Operating Modes	AP	Yes
	Mesh	Yes
System Feature	System Log	Yes

Item	Description	
	Reboot Schedule	Yes
	WLAN Schedule	Yes
	NTP (Network Time Protocol)	Yes
	Email Alerts	Yes
	Firmware Upgrade	Yes
	Restore & Backup	Yes
	LED Control	Yes
Network Features	VLAN	• SSID VLAN • Dynamic VLAN • Management VLAN
	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/b/g/n/ac/ax/be • IEEE 802.11e/i/k/v/r • IEEE 802.1x/q • IEEE 802.3at • IEEE 802.3ab • IEEE 802.3bz • IEEE 802.3x
	Radio Standards	• ETSI EN 300 328 • ETSI EN 301 893 • EN 50385 EN50665 EN IEC 62311 • FCC Part 15E FCC Part 15C • RSS-247, RSS-GEN
	EMC standards	• EN 55032 • EN 55035 • EN 301489-1 • EN 301489-17 • EN 301489-19 • FCC Part 15B • ICES-003
	Safety Standards	• EN IEC 62368-1
	RoHS	• Directive 2011/65/EU, Directive (EU) 2015/863 • EN IEC 63000: 2018
	Others	• Equipment Radio Regulations: 2008 (including amendments) • VCCI-CISPR 32
Certifications	• FCC/CE/VCCI/JRF/ICES	

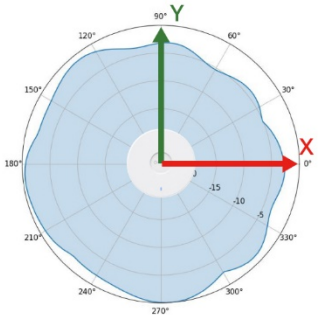
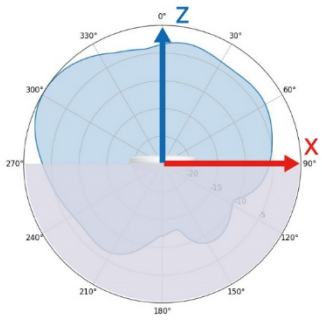
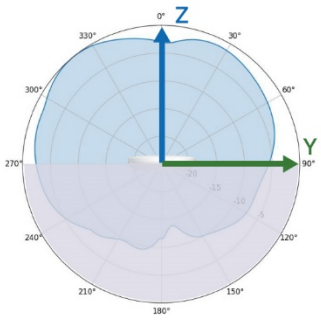
RF Performance

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	802.11n, HT20	MCS0	14/22	-97
		MCS7	14/22	-79
	802.11n, HT40	MCS0	14/22	-94
		MCS7	14/22	-76
	802.11ax, HE20	MCS0	14/22	-97
		MCS11	14/20	-68
	802.11ax, HE40	MCS0	14/22	-95
		MCS11	14/20	-65
	802.11be, EHT20	MCS0	14/22	-97.5
		MCS13	14/20	-63
	802.11be, EHT40	MCS0	14/22	-95
		MCS13	14/20	-59.5
5 GHz	802.11n, HT20	MCS0	22/22	-96
		MCS7	21/21	-78
	802.11n, HT40	MCS0	22/22	-93
		MCS7	21/21	-75
	802.11ac, VHT20	MCS0	22/22	-97
		MCS7	21/21	-78
	802.11ac, VHT40	MCS0	22/22	-94
		MCS9	20/20	-70
	802.11ac, VHT80	MCS0	22/22	-91
		MCS9	20/20	-67
	802.11ax, HE20	MCS0	22/22	-96.5
		MCS11	19/19	-68
	802.11ax, HE40	MCS0	22/22	-93.5
		MCS11	19/19	-65.5
	802.11ax, HE80	MCS0	22/22	-90.5
		MCS11	19/19	-62.5
	802.11ax, HE160	MCS0	22/19.5	-89

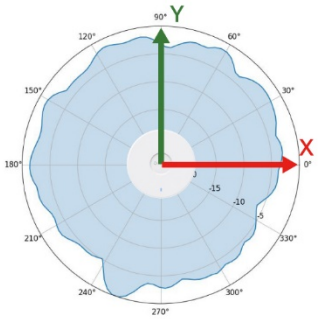
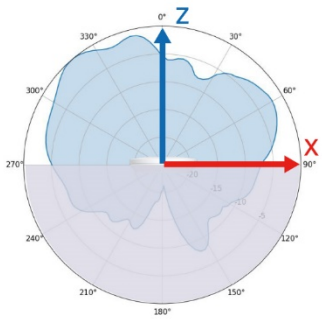
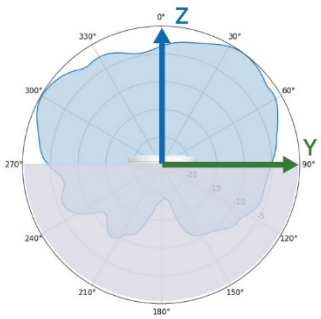
Frequency Band	Wi-Fi Protocol & Bandwidth	MCS Index / Data Rate	EU/US Maximum Transmit Power (dBm) per transmit chain	Receiver Sensitivity (dBm) per receive chain
		MCS11	19/19	-60
	802.11be, EHT20	MCS0	22/22	-96
		MCS13	19/19	-60
	802.11be, EHT40	MCS0	22/22	-93.5
		MCS13	19/19	-57
	802.11be, EHT80	MCS0	22/22	-90.5
		MCS13	19/19	-54
	802.11be, EHT160	MCS0	22/19.5	-89
		MCS13	19/19	-54.5

Antenna Radiation Patterns

2.4 GHz

XY Plane	XZ Plane	YZ Plane
		

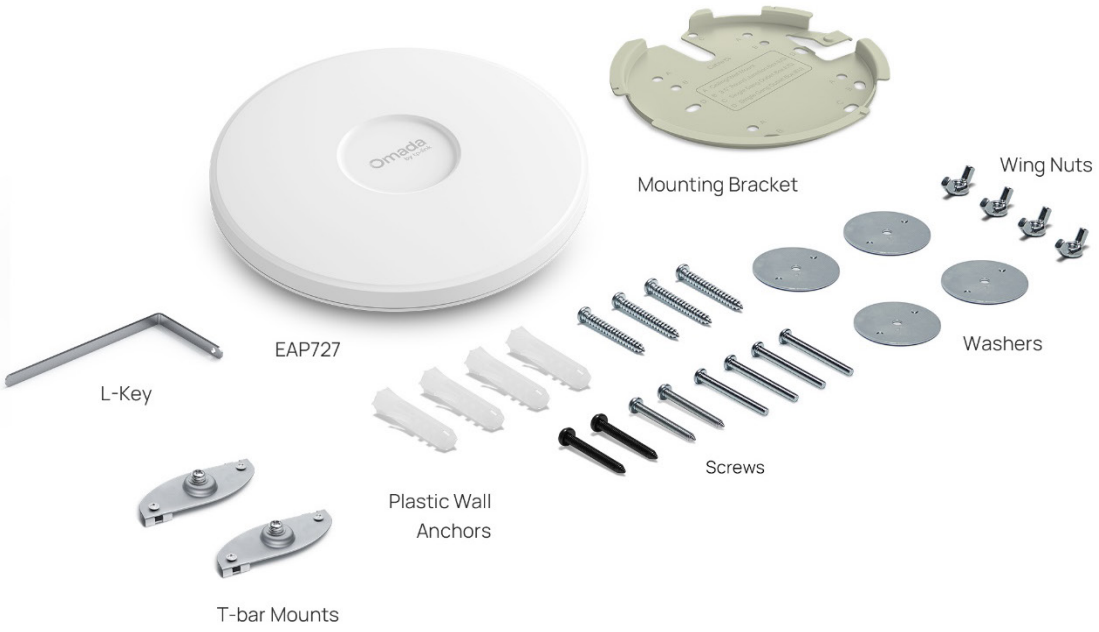
5 GHz

XY Plane	XZ Plane	YZ Plane
		

Package Contents

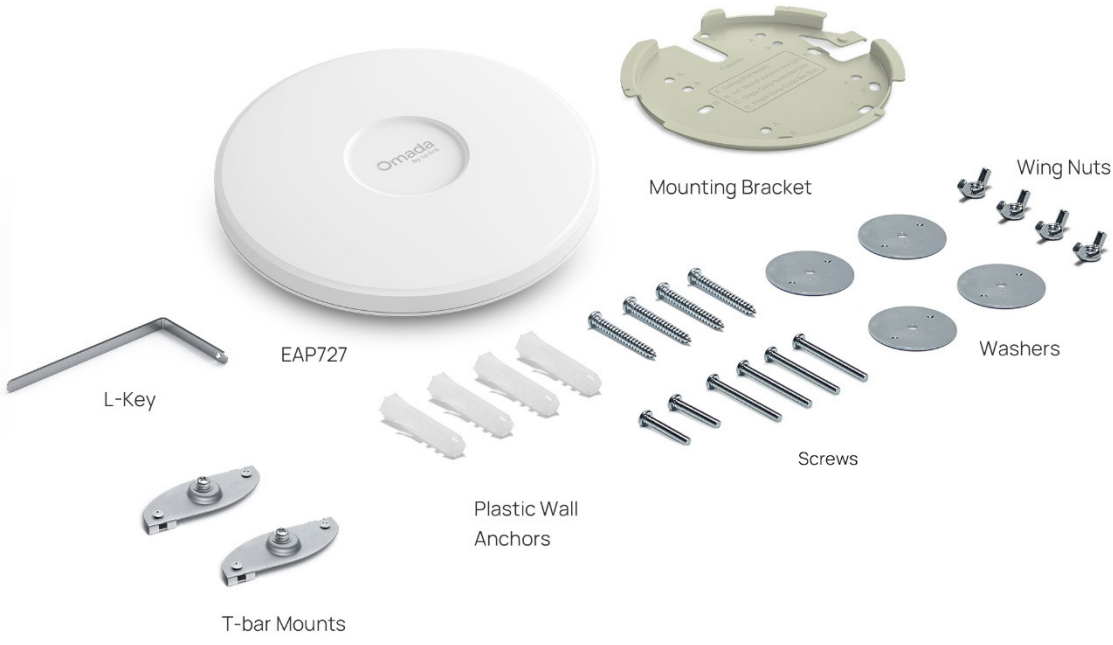
Item	Quantity
EAP727	1
Installation Guide	1
Mounting Kit	1

EU:



*The accessories may vary by country/region. Please refer to the actual product.

US:



*The accessories may vary by country/region. Please refer to the actual product.

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	2026-01-20	Initial release.

†Maximum wireless signal rates are the physical rates derived from IEEE Standard 802.11 specifications. Actual wireless data throughput, wireless coverage, and number of connected devices are not guaranteed and will vary as a result of internet service provider factors, network conditions, client limitations, and environmental factors, including building materials, obstacles, volume and density of traffic, and client location.

‡Use of Wi-Fi 7 (802.11be) and its features including Multi-Link Operation (MLO), 160 MHz bandwidth, 4K-QAM, Multi-RUs, OFDMA, and MU-MIMO requires clients to also support the corresponding features.

§These features require the use of an Omada controller.

*Coverage is calculated based on laboratory testing. Actual coverage is not guaranteed and will vary as a result of client limitations and environmental factors.

**Actual capacity depends on the wireless environment and client traffic and is generally less than the maximum number of client connections.

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.