Omada by tp-link

Datasheet

Omada BE5000 (US) / BE3600 (EU) Wi-Fi 7 Indoor / Outdoor Access Point with Directional / Omnidirectional Antennas

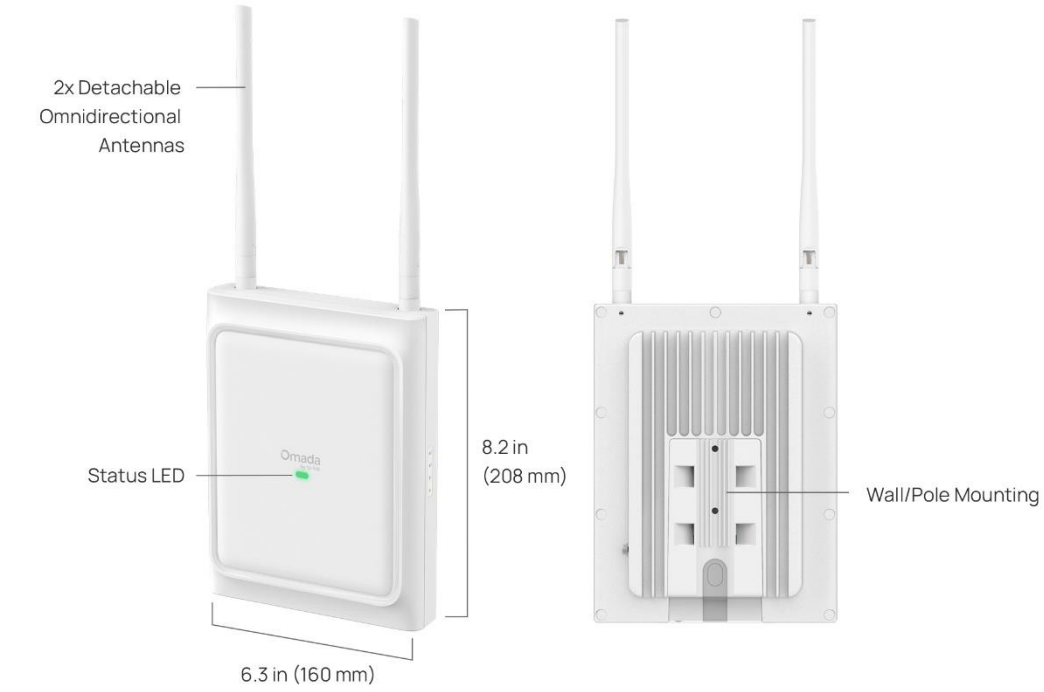
Model: EAP725-Outdoor

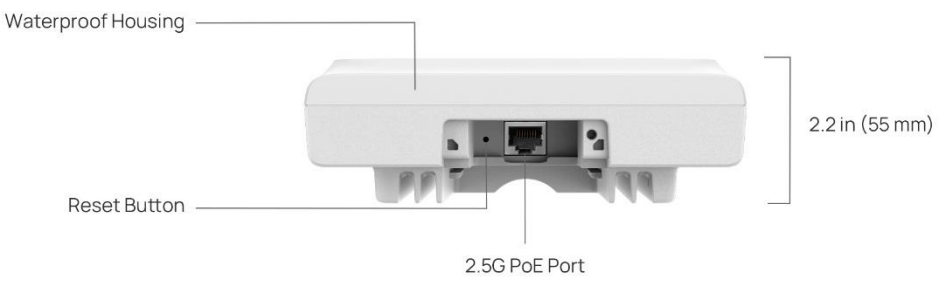
Product Overview

Omada BE5000 (US) / BE3600 (EU) Wi-Fi 7 Indoor/Outdoor Access Point EAP725-Outdoor is the dual-band business-grade Wi-Fi 7 Outdoor Access Point model. Features internal directional antennas and detachable omnidirectional antennas with flexible mode switching. Ideal for garage, swimming pools, and farms.

- **Directional and Omnidirectional Antennas:** Freely switch between modes via software for optimal signal control.**
- **Plug & Play Auto-Sensing Antennas:** Automatically detects antenna changes and switches between internal and external antennas as needed.
- **4-Stream Dual-Band Wi-Fi 7:** Up to 5 Gbps for the US and up to 3.6 Gbps for the EU.†
- **1× 2.5G PoE Port:** Flexible PoE deployment reduces costs by delivering power and data over a single Ethernet cable.
- **Outdoor-Ready Durability:** Features an IP66-rated weatherproof enclosure and 6kV lightning protection.
- **Quick and Easy Setup:** Features wall/pole mounting with Omada SDN for one-click setup.
- **Advanced Features:** Centralized management, mesh, and seamless roaming.Δ

Product Appearance





Feature Descriptions

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

Featuring superb Wi-Fi 7 technology, including Multi-Link Operation, Multi-RUs, and 4K-QAM, Omada EAP725-Outdoor significantly enhances throughput, connection stability, and concurrent capacity, ensuring faster and higher quality connections for more devices.

Versatile Directional/Omni Antennas to Meet Diverse Deployment Needs

EAP725-Outdoor is Omada's first outdoor access point featuring both internal and detachable antennas. It offers four selectable antenna modes: External Omni, Internal Directional, Custom, and Auto.

In Custom mode, professional users can independently choose the internal or external antenna for 2.4 GHz and 5 GHz bands and configure antenna gain for each, enabling highly flexible, scenario-specific deployments.

In factory-default Auto mode, the AP automatically detects antenna changes and seamlessly switches between internal and external antennas, delivering true plug-and-play convenience.

Flexible Deployment with PoE Support

1× 2.5G PoE+ port delivers both power and data through a single cable, cutting deployment costs and outdoor wiring complexity.

Outdoor-Ready Design for Extreme Conditions

EAP725-Outdoor offers complete dustproof protection and the ability to withstand prolonged submersion in water. It supports IP66 weatherproof and 6kV lightning protection. Additionally, an extended temperature tolerance of -30 °C to 70 °C makes it ideal for extremely hot and cold environments.

Quick and Easy Setup

Flexible installation options, including wall and pole mounts, enable quick deployment in diverse settings. Integration with Omada SDN allows for one-click adoption and automatic device discovery, streamlining the setup process.

Cloud-Based Centralized Management

As part of Omada's unified SDN ecosystem, EAP725-Outdoor 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.

Seamless Connectivity with Mesh and Roaming

Ensures customers enjoy uninterrupted streaming when moving around by switching clients automatically to the access points with the optimal signal.

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 Uplink/Downlink MU-MIMO with 2 spatial streams • 5 GHz: 2×2 Uplink/Downlink MU-MIMO with 2 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/160/240 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 2, EHT20/40/80/160/240)
	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 • Multi-Link Operation (MLO) • TWT (Target Wake Time) • 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 Uplink/Downlink MU-MIMO with 2 spatial streams • 5 GHz: 2×2 Uplink/Downlink MU-MIMO with 2 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	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 573 Mbps (MCS0-MCS11, NSS=1 to 2, HE20/40) • 5 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: 2×2 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/80/160 MHz
	Wireless Data Rate	• 5 GHz: 8.6 Mbps to 1733M 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	• 2.4 GHz: 2×2 MIMO with 2 spatial streams • 5 GHz: 2×2 MIMO with 2 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	20 MHz/40 MHz
	Wireless Data Rate	• 2.4 GHz: 8.6 Mbps to 300 Mbps (MCS0-MCS7, NSS=1 to 2, HT20/40) • 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	2.4 GHz: • 2 × 4.5 dBi (peak gain), external omnidirectional antennas • 2 × 8.3 dBi (peak gain), internal directional antennas (antenna beamwidth 90°) 5 GHz: • 2 × 5.3 dBi (peak gain), external omnidirectional antennas • 2 × 13.2 dBi (peak gain), internal directional antennas (antenna beamwidth 45°) *Note: The gains above are the single-antenna peak gains.
	IoT	• Bluetooth: 1 × 3.6 dBi (peak gain), internal omnidirectional antennas
Interfaces	• 1 x 10M/100M/1000M/2.5Gbps Ethernet Port (RJ45); PoE in • 1 x Grounding Terminal	
IoT	BLE 5.2, 1Mbps	

Item	Description	
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.	
Indicator	1 × multi-color system LED indicates on the front: • Power-on status • Firmware initialization or upgrade status • Uplink service status • Error status 4 × green system LED indicates on the side: • Signal strength of Uplink	
Reliability	MTBF (Mean Time between Failure)	CE: • 584455 hours at the operating temperature of 25℃（77℉） • 295200 hours at the operating temperature of 40℃（104℉） FCC: • 392111 hours at the operating temperature of 25℃（77℉） • 235084 hours at the operating temperature of 40℃（104℉）
Power Supply	Input	802.3at PoE+: 42.5 - 57 V ⎓ 0.6 A
	Output	/
Power Consumption	• 802.3at (PoE+): 18.4 W, 2.4GHz radio 2×2, 5GHz radio 2×2, wired link rate can be up to 2.5 Gbps, etc. • Idle mode: 7.6 W (PoE)	
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) • 2.4 GHz: 20 dBm • 5 GHz: 23 dBm in U-NII-1, 23 dBm in U-NII-2A, 30 dBm in U-NII-2C, FCC (Conducted Power) • 2.4 GHz: 25 dBm • 5 GHz: 26 dBm in U-NII-1, 24 dBm in U-NII-2A, 24 dBm in U-NII-2C, 26 dBm in U-NII-3 *Note: MIMO combined power, excluding antenna gains. The actual transmit power depends on local laws and regulations.

Item	Description	
	Minimum transmit power	CE (EIRP) • 2.4 GHz: 7 dBm • 5 GHz: 7 dBm in U-NII-1, 7 dBm in U-NII-2A, 7 dBm in U-NII-2C FCC (Conducted Power) • 2.4 GHz: 4 dBm • 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 *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: -30℃ to +70℃ (-22℉ 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 + 2000m(6561feet) • Operating: up to + 2000m(6561feet)
	Windproof	Class 16
	Weatherproof Enclosure	IP66
Unit	Dimensions (W×D×H)	• Main Unit: 208.0 × 160.0 × 55.0 mm (8.19 in. x 6.30 in. x 2.17 in.) • Shipping Unit: 248.0 × 202.0 × 83.0 mm (9.76 in. x 7.95 in. x 3.27 in.)
	Weight	• Main Unit: 1.33 kg (2.92 lbs) • Mounting Bracket: 0.09 kg (0.20 lbs) • Shipping Unit: 1.75 kg (3.86 lbs)
	Mounting	• Pole Mount (Kits included) • Wall Mount (Kits included)

Software Specifications

Item	Description	
Wireless Functions	Maximum number of BSSIDs	16 (8 on each band)
	Maximum number of associated STAs	256
	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 • Non-Stick Roaming • Ping-Pong Roaming Suppression • AI Roaming *Note: Only support Layer 2 Roaming currently.
	Multicast/Broadcast Management	• Multicast-to-Unicast Conversion • ARP-to-Unicast Conversation • Multicast Filtering • Multicast/Broadcast Rate Limit

Item	Description	
	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	
	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 V5.15 and above • Omada Essential V5.15 and above
	App	Omada App V4.25 and above
	Standalone Management	Yes

Item	Description	
	Standalone Mesh	No
	SSH	Yes
	SNMP	v1, v2c, v3
Operating Modes	AP	Yes
	Repeater	Yes
	Mesh	Yes
System Feature	System Log	Yes
	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 / ARP Table • 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 • RSS-247, RSS-GEN • LP0002
	EMC standards	• EN 55032 • EN 55035 • EN 301489-1 • EN 301489-17 • EN 301489-19 • FCC Part 15C • ICES-003 issue7 • CNS 15936
	Safety Standards	• EN 62368-1 • IEC 62368-1 • CNS 15598-1
	Security Standards	• WPA-Personal/Enterprise • WPA2-Personal/Enterprise • WPA3-Personal/Enterprise • OWE
	RoHS	• Directive 2011/65/EU, Directive (EU) 2015/863 • EN IEC 63000: 2018
	Others	• Equipment Radio Regulations: 2008 (including amendments) • VCCI-CISPR 32
Certifications	• Wi-Fi Alliance: Wi-Fi 7 (R1), Wi-Fi 6 (R2), Wi-Fi 6E, WPA3-R3, WPA3-Suite B, Enhanced Open Security • FCC/CE/NCC/VCCI/JRF/BSMI	

RF Performance

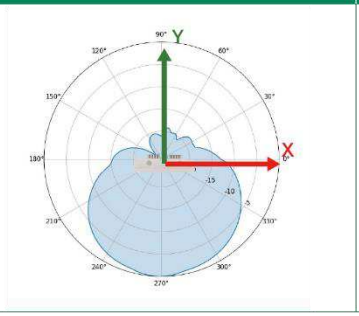
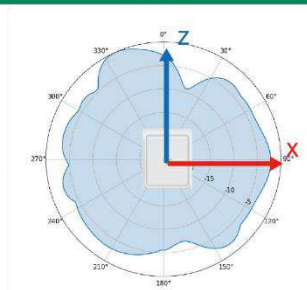
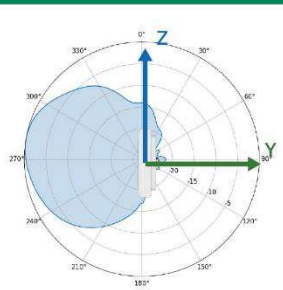
Frequency Band	Wi-Fi Protocol & Bandwidth	MCS Index / Data Rate	EU/US Maximum Transmit Power (dBm) per transmit chain	Receiver Sensitivity (dBm) per receive chain
2.4 GHz	802.11n, HT20	MCS0	15/22	-97.0
		MCS7	15/21	-78.0
	802.11n, HT40	MCS0	15/22	-93.5
		MCS7	15/21	-75.5
	802.11ax, HE20	MCS0	15/22	-97.0
		MCS11	15/19	-66.5
	802.11ax, HE40	MCS0	15/22	-93.0
		MCS11	15/19	-66.0
	802.11be, EHT20	MCS0	15/22	-97.0
		MCS13	15/19	NA
	802.11be, EHT40	MCS0	15/22	-93.5
		MCS13	15/19	NA
5 GHz	802.11n, HT20	MCS0	23/23	-96.5
		MCS7	21/21	-76.5
	802.11n, HT40	MCS0	23/23	-92.5
		MCS7	21/21	-72.5
	802.11ac, VHT20	MCS0	23/23	-96.5
		MCS8	20/20	-77.0
	802.11ac, VHT40	MCS0	23/23	-93.5
		MCS9	20/20	-69.0
	802.11ac, VHT80	MCS0	23/23	-89.5
		MCS9	20/20	-64.5
	802.11ax, HE20	MCS0	23/23	-96.5
		MCS11	19/19	-67.0
	802.11ax, HE40	MCS0	23/23	-93.0
		MCS11	19/19	-65.0
	802.11ax, HE80	MCS0	23/23	-89.5
		MCS11	19/19	-62.0
	802.11ax, HE160	MCS0	23/23	-88.5

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	18/18	-61.5
	802.11be, EHT20	MCS0	23/23	-96.5
		MCS13	18/18	-62.0
	802.11be, EHT40	MCS0	23/23	-93.5
		MCS13	18/18	-58.0
	802.11be, EHT80	MCS0	23/23	-90.0
		MCS13	18/18	-57.5
	802.11be, EHT160	MCS0	23/23	-87.5
		MCS13	17/17	-55.0

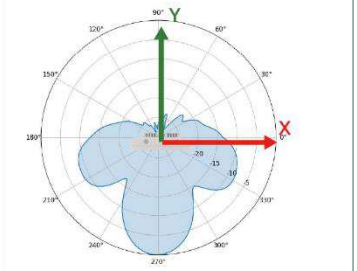
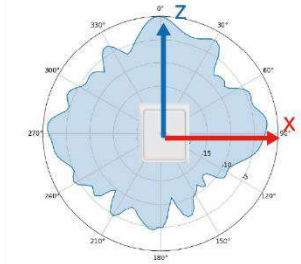
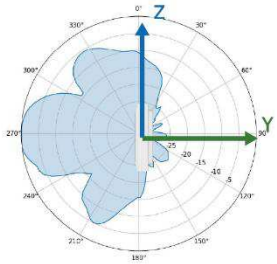
Antenna Radiation Patterns

Internal Antenna

2.4 GHz

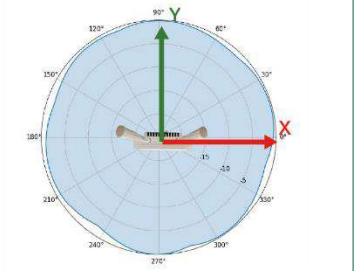
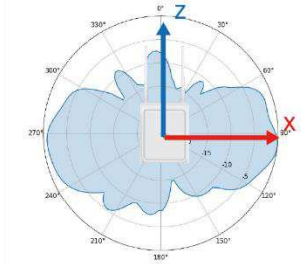
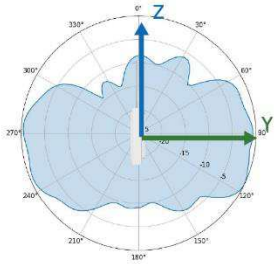
XY Plane	XZ Plane	YZ Plane
		

5 GHz

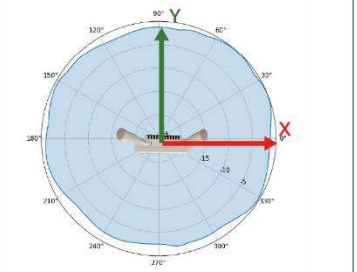
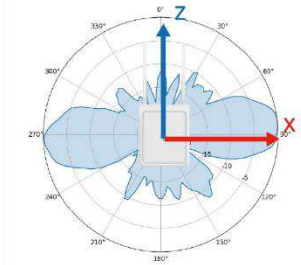
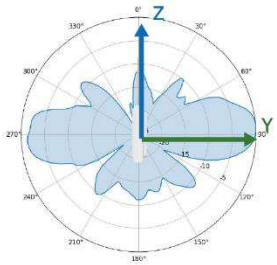
XY Plane	XZ Plane	YZ Plane
		

External Antenna

2.4 GHz

XY Plane	XZ Plane	YZ Plane
		

5 GHz

XY Plane	XZ Plane	YZ Plane
		

Package Contents

Item	Quantity
EAP725-Outdoor	1
Mounting Kit	1 (See the picture below for details)
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	2025-09-19	Initial release.

†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 network conditions, client limitations, and environmental factors, including building materials, obstacles, volume and density of traffic, and client location.

△Omada Mesh, Seamless Roaming, Captive Portal, and Cloud Access require the use of an Omada controller. Please refer to the User Guides of Omada controllers for configuration methods.

*Use of Wi-Fi 7 (802.11be), Wi-Fi 6 (802.11ax), and features, including Multi-Link Operation (MLO), 240 MHz Bandwidth, 160 MHz Bandwidth, 4K-QAM, Multi-RUs, and OFDMA, requires clients to also support the corresponding features.

**Switching antenna modes via an Omada Controller requires version 6.1 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.