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Datasheet



Omada Omnidirectional AX1800 Wi-Fi 6 Indoor/Outdoor Access Point

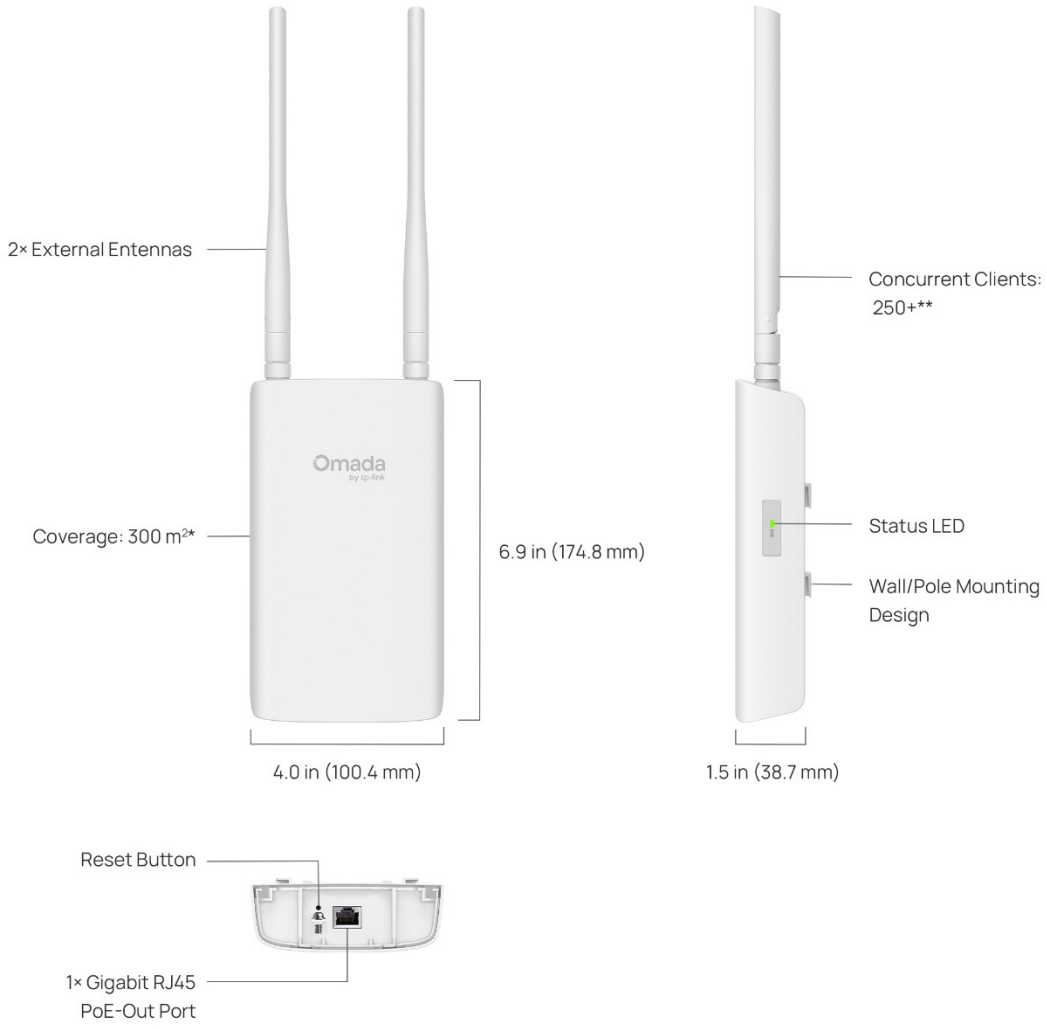
Model: EAP603-Outdoor

Product Overview

EAP603-Outdoor is an Omada Omnidirectional AX1800 Wi-Fi 6 Indoor/Outdoor Access Point, providing reliable and stable outdoor network connections. It is suitable for outdoor scenarios such as yards, swimming pools, and parks.

- **Dual-Band 4-Stream Wi-Fi 6:** Up to 1.8 Gbps†
- **Long-Range Omnidirectional Coverage:** Features 2× external dual-band antennas with MU-MIMO technology, delivering extended coverage up to 3,200 ft (300 m)‡
- **Outdoor-Ready Durability:** Features an IP65-rated weatherproof enclosure and 6kV lightning protection
- **Flexible Deployment with PoE Support:** 1× Gigabit PoE+ port reduces costs by delivering power and data over a single Ethernet cable
- **Quick and Easy Setup:** Features wall/pole mounting with Omada SDN for one-click setup
- **Advanced Features:** Centralized management, mesh, and seamless roaming△

Product Appearance



*Actual coverage is not guaranteed and will vary as a result of the performance of the equipped antennas, client limitations, and environmental factors.
**The actual capacity depends on the wireless environment and client traffic and is generally less than the maximum number of client connections.
△ Length does not include antenna, waterproof kit and mounting kit

Feature Descriptions

Omada Wi-Fi 6 Technology*

Wi-Fi 6 (802.11ax) supports up to 8×8 UL/DL MU-MIMO, OFDMA, and 1024-QAM. Its 4× longer OFDM symbol provides increased coverage and makes it 11% faster — making it an ideal choice for high-performance, high-density wireless networks.



Long-Range Omnidirectional Coverage

Two external antennas equipped with high-power amplifiers utilize Wi-Fi 6 technology to provide strong and expansive wireless coverage to various outdoor environments, delivering extended coverage up to 2,150 ft (200 m) over 2.4 GHz and 3,200 ft (300 m) over 5 GHz.

Outdoor-Ready Design for Extreme Conditions

EAP603-Outdoor offers complete dustproof protection and the ability to withstand prolonged submersion in water. It supports IP65 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.

Flexible Deployment with PoE Support

1× Gigabit PoE+ port delivers both power and data through a single cable, cutting deployment costs and outdoor wiring complexity. Works with standard PoE+ switches or the included passive PoE adapter for flexible installation.

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, EAP603-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 2.4 GHz: IEEE 802.11b/g/n/ax	
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
	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 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 1201 Mbps (MCS0-MCS11, NSS=1 to 2, HE20/40/80) 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 MHz

Item	Description	
	Wireless Data Rate	• 5 GHz: 8.6 Mbps to 866 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
	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 dBi (peak gain), external omnidirectional antennas • 5 GHz: 2 × 5 dBi (peak gain), external omnidirectional antennas Note: The gains above are the single-antenna peak gains.
	IoT	• Bluetooth: 1 × 4 dBi (peak gain), internal omnidirectional antennas

Item	Description	
Interfaces	• 1 x 10M/100M/1000Mbps Gigabit Ethernet Port (RJ45); PoE in • 1 x Grounding Terminal	
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 × multi-color system LED indicates on the front: • Power-on status • Firmware initialization or upgrade status • Uplink service status • Error status	
Reliability	MTBF (Mean Time between Failure)	360000- hours at the operating temperature of 25℃ (77℉)
Power Supply	Input	802.3at PoE+: 42.5 - 57 V, 0.36A
	Output	/
Power Consumption	• 802.3at (PoE+): 15.8w, 2.4GHz radio 2×2, 5GHz radio 2×2, wired link rate can be up to 1 Gbps, etc. • Idle mode: 4.8W(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, 29 dBm in U-NII-2C, FCC (Conducted Power) • 2.4 GHz: 25 dBm • 5 GHz: 27 dBm in U-NII-1, 24 dBm in U-NII-2A, 24 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.

Item	Description	
	Minimum transmit power	CE (EIRP) • 2.4 GHz: 7 dBm • 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) • 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 + 2000 m (6561 feet) • Operating: up to + 2000 m (6561 feet)
	Windproof	Class 16
	Weatherproof Enclosure	IP66 for Wall Mount IP65 for Pole Mount
Unit	Dimensions (W×D×H)	• Main Unit: 174.8 × 100.4 × 38.7 mm (6.9 × 4.0 × 1.5 in.) • Shipping Unit: 218 × 218 × 70 mm (8.6 × 8.6 × 2.8 in.)
	Weight	• Main Unit: 1.41 kg (3.11 lb) • Mounting Bracket: 0.048 kg (0.11 lb) • Shipping Unit: 1.83 kg (4.1 lb)
	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	250+
	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	No
	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	No
	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
	QoS (Quality of Service)	• WMM (Wi-Fi Multimedia) • DSCP (Differentiated Services Code Point) • U-APSD (Unscheduled Automatic Power Save Delivery)
Security and Authentication	ACL	

Item	Description	
	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 V5.15.24 and above • Omada Essential V5.15.24 and above
	App	Omada App V4.24 and above
	Standalone Management	Yes
	Standalone Mesh	No
	SSH	Yes
	SNMP	v1, v2c, v3
Operating Modes	AP	Yes

Item	Description	
	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

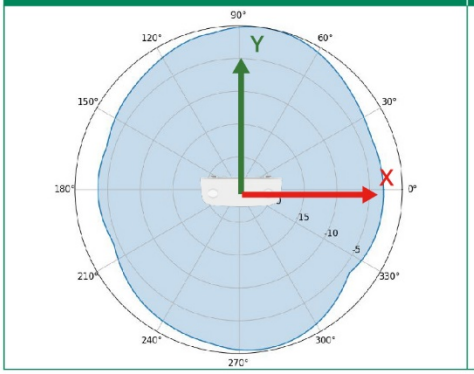
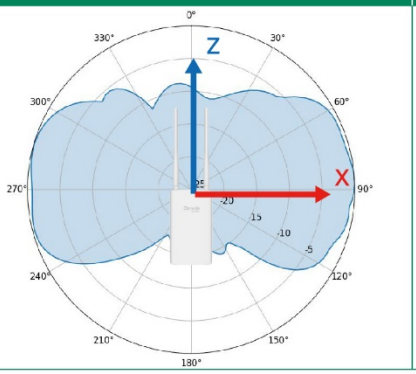
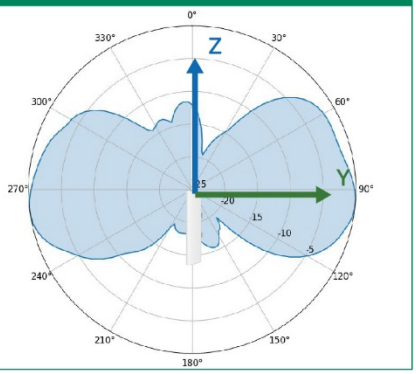
Item	Category	Description
Standards compliance	IEEE Standards	• IEEE 802.11a/b/g/n/ac/ax • IEEE 802.11e/i/k/v/r • IEEE 802.1x/q • IEEE 802.3at • IEEE 802.3ab • IEEE 802.3x
	Radio Standards	• ETSI EN 300 328 • ETSI EN 301 893 • FCC Part 15E • FCC Part 15C
	EMC standards	• EN 55032 • EN 55035 • EN 301489-1 • EN 301489-17 • FCC Part 15B
	Safety Standards	• EN IEC 62368-1
	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	
Certifications	• FCC/CE	

RF Performance

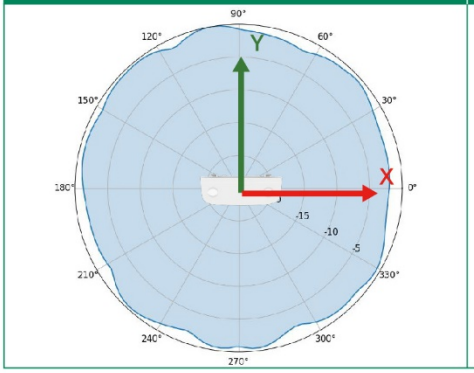
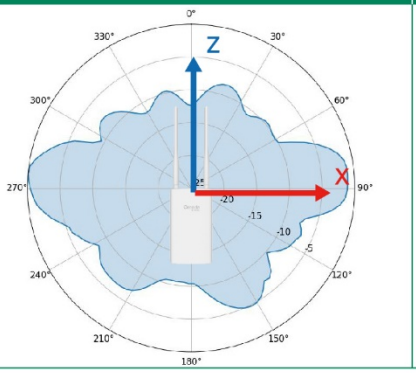
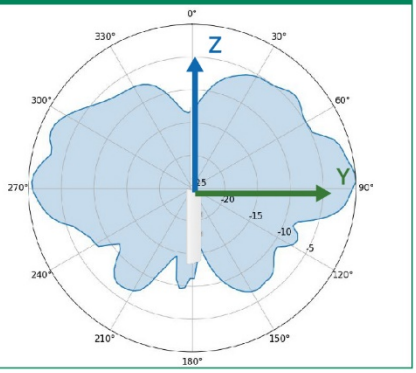
Frequency Band	Wi-Fi Protocol & Bandwidth	MCS Index / Data Rate	EU/US Maximum Transmit Power (dBm) per transmit chain	Receiver Sensitivity (dBm) per receive chain
2.4 GHz	802.11n, HT20	MCS0	14/22	-96
		MCS7	14/20	-78
	802.11n, HT40	MCS0	14/22	-93
		MCS7	14/20	-75
	802.11ax, HE20	MCS0	14/22	-96
		MCS11	14/18	-66
	802.11ax, HE40	MCS0	14/22	-93.0
		MCS11	14/18	-66.0
5 GHz	802.11n, HT20	MCS0	16/22	-95
		MCS7	16/20	-76
	802.11n, HT40	MCS0	16/22	-92
		MCS7	16/20	-72
	802.11ac, HT20	MCS0	16/22	-95.5
		MCS7	16/19	-76
	802.11ac, HT40	MCS0	16/22	-93
		MCS9	16/19	-67
	802.11ac, HT80	MCS0	16/22	-89.5
		MCS9	16/19	-64
	802.11ax, HE20	MCS0	16/22	-95
		MCS11	16/18	-66
	802.11ax, HE40	MCS0	16/22	-93
		MCS11	16/18	-64.5
	802.11ax, HE80	MCS0	16/22	-89
		MCS11	16/18	-61
	802.11ax, HE80	MCS0	16/22	-89
		MCS11	16/18	-60.5

Antenna Radiation Patterns

2.4 GHz

XY Plane	XZ Plane	YZ Plane
		

5 GHz

XY Plane	XZ Plane	YZ Plane
		

Package Contents

Item	Quantity
EAP603-Outdoor	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/

Revision History

Version	Date	Description
V1.0	2025-06-13	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.

‡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.

△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 6 (802.11ax) and its features, including OFDMA, 1024-QAM, and more, requires clients to support the corresponding features.

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.
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