

# Omada AX3000 Gigabit VPN Router

MODEL: ER706W V1



## Highlights

- Dual-core ARM® Cortex-A53 processor and 512MB DDR4 high-speed memory for outstanding performance
- Wi-Fi 6 technology achieves up to 3x faster speeds, higher capacity and lower latency compared to the previous generation of Wi-Fi 5
- Equipped with 1 Gigabit SFP WAN/LAN port, 1 Gigabit RJ45 WAN port, 4 Gigabit RJ45 WAN/LAN ports and 1 USB3.0 port (supports USB LTE dongle and USB Storage)
- Supports multiple VPN protocols including SSL/ Wireguard/ OpenVPN/ GRE VPN/ IPSec/ PPTP/ L2TP/ L2TP over IPSec, helping users to establish VPN connections more flexibly
- Captive portal provides a convenient method for guest authentication
- Abundant features including load balance, bandwidth control and access control
- Professional 4 kV lightning protection keeps your investments as safe as possible

# Omada Solution



## Hospitality

High Quality and Full Coverage Wi-Fi



## Education

High-Density Wi-Fi



## Retail

Social Marketing for O2O



## Office

Wireless and Wired Connections

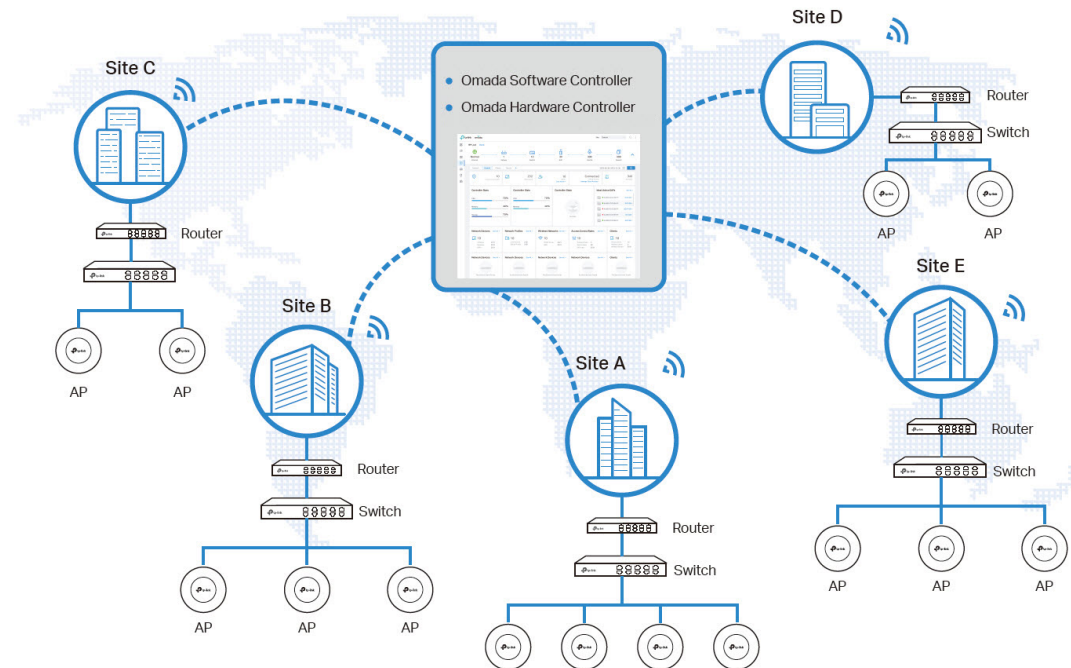


## Catering

Full Wi-Fi Coverage in High-Density Environment

## Software Defined Networking (SDN) with Cloud Access

Omada Software Defined Networking (SDN) platform integrates network devices, including access points, switches and gateways, providing 100% centralized cloud management. Omada creates a highly scalable network—all controlled from a single interface. Seamless wireless and wired connections are provided, ideal for use in hospitality, education, retail, offices, and more.



# Hassle-Free Centralized Cloud Management

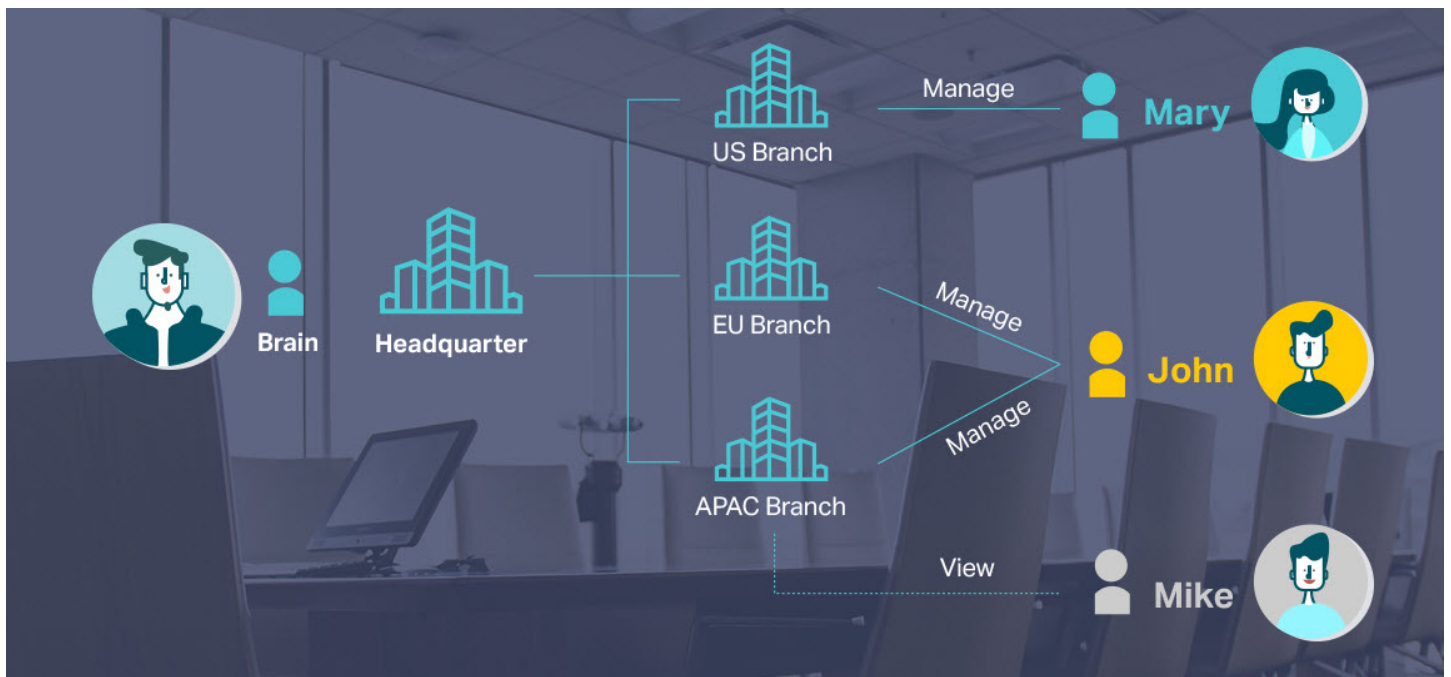
100% centralized cloud management of the whole network from different sites—all controlled from a single interface anywhere, anytime.



- ✓ No additional training needed
- ✓ Unlimited scalability
- ✓ Batch management
- ✓ Devices still work even when not connected to the Cloud

## Assign Different Management Roles

Multi-user privilege assignment is available to increase management efficiency and security. Multi-person management, multi-level permissions, and the ability to add admins as needed, enable flexible network operation and maintenance.

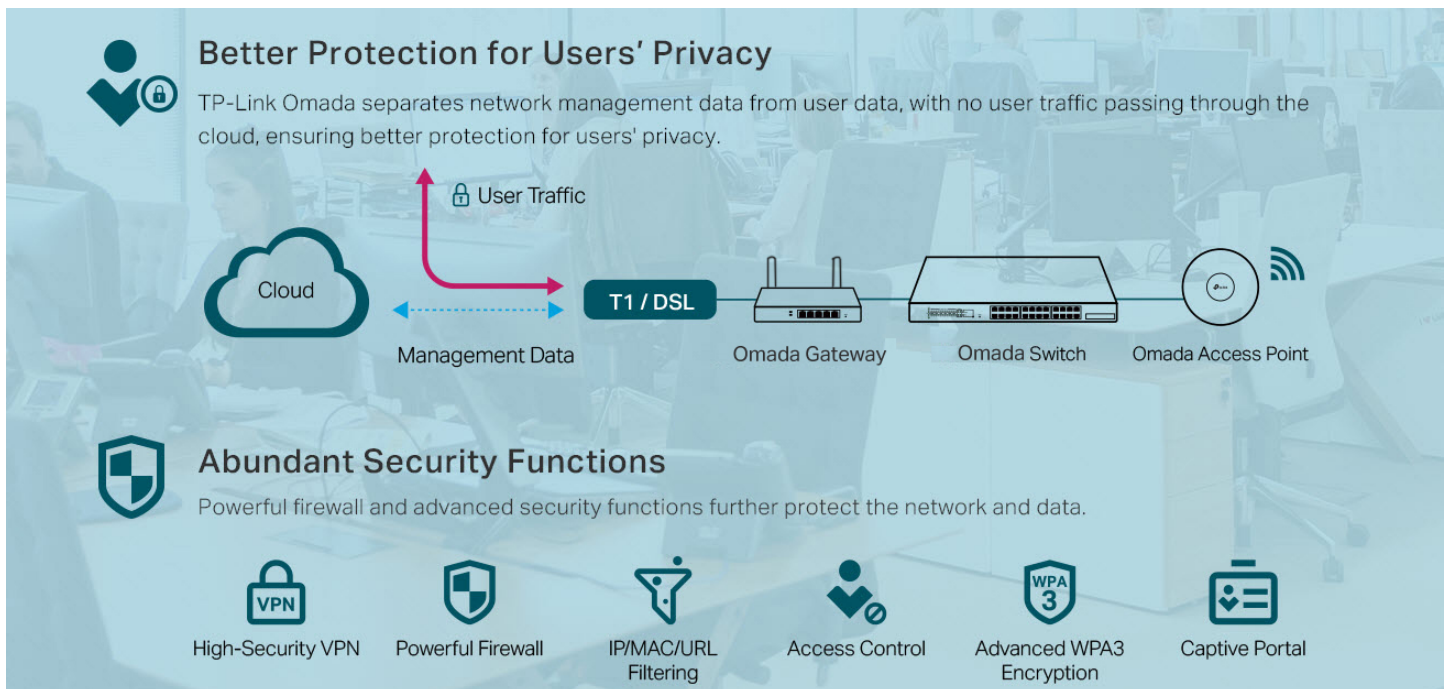


# Easy and Intelligent Network Monitoring


The easy-to-use dashboard makes it easy to see your real-time network status; check network usage and traffic distribution; receive network condition logs, abnormal event warnings, and notifications; or even track key data for better business results. Network topology helps IP admins quickly see and troubleshoot connection at a glance.



# Comprehensive Protection for the Whole Network



# Specifications

| Model                    |  | ER706W V1   |
|--------------------------|--|---|
| Product Picture          |  |    |
| Product Description      |  | Omada AX3000 Gigabit VPN Router   |
| Hardware                 | Standards and Protocols  | IEEE 802.3, IEEE802.3u, IEEE802.3ab, IEEE802.3z, IEEE 802.3x, IEEE 802.1q, TCP/IP, DHCP, ICMP, NAT, PPPoE, NTP, HTTP, HTTPS, DNS, IPSec, PPTP, L2TP, OpenVPN, WireGuard VPN, GRE VPN, SNMP, 802.11a/b/g/n/ac/ax                     |
|                          | Interface  | 1 Gigabit SFP WAN/LAN Port<br>1 Gigabit WAN port<br>4 Gigabit LAN/WAN ports   |
|                          | USB  | 1 USB3.0 (supports USB LTE dongle and USB Storage)  |
|                          | Wi-Fi Speed  | 2.4 GHz: 574 Mbps<br>5 GHz: 2402 Mbps HE160   |
|                          | Antennas   | 2.4 GHz: 2x 3 dBi dual-band detachable antennas<br>5 GHz: 3x 4.5 dBi dual-band detachable antennas  |
|                          | Network Media  | 10BASE-T: UTP category 3, 4, 5 cable (Max 100 m)<br>EIA/TIA-568 100Ω STP (Max 100 m)<br>100BASE-TX: UTP category 5, 5e cable (Max 100 m)<br>EIA/TIA-568 100Ω STP (Max 100 m)<br>1000BASE-T: UTP category 5, 5e, 6 cable (Max 100 m) |
|                          | Button   | Reset button  |
|                          | Power Supply   | 12VDC / 2A Power Adapter  |
|                          | Flash  | 128 MB NAND   |
|                          | DRAM   | 512 MB DDR4   |
|                          | LED  | SYS, WLAN, SFP, USB, WAN (1000M Link/Act, 100/10M Link/Act), WAN/LAN (1000M Link/Act, 100/10M Link/Act)   |
|                          | Max Power Consumption  | EU: 16.8W (with USB 3.0 connected), 11.8W (without USB 3.0 connected)<br>US: 22.7W (with USB 3.0 connected) 18.2W (without USB 3.0 connected)   |
|                          | Surge Protection   | 4 kV surge protection   |
|                          | Mounting   | Desktop/ Wall-mounting  |
| Dimensions ( W x D x H ) | 8.9 × 5.2 × 1.4 in (226 × 131 × 35 mm) (Antenna dimensions not included) |   |
| SDN Support              | Hardware Controller (OC200/OC300)  | Automatic Device Discovery<br>Intelligent Network Monitoring<br>Abnormal Event Warnings<br>Unified Configuration<br>Reboot Schedule<br>Captive Portal Configuration   |
|                          | Software Controller  |   |
|                          | Omada App  |   |



| Model                    |   | ER706W V1  |
|--------------------------|---|--|
| Performance <sup>1</sup> | Concurrent Session                                    | 150,000  |
|                          | New Sessions /Second                                  | 5,100  |
|                          | Static IP NAT Throughput (Upload / Download)          | 937.2 Mbps/936.1Mbps   |
|                          | DHCP NAT Throughput (Upload / Download)               | 945.8 Mbps /940.6Mbps  |
|                          | PPPoE NAT Throughput (Upload / Download)              | 942.9 Mbps/942.9Mbps   |
|                          | L2TP NAT Throughput (Upload / Download)               | 837.4 Mbps /881.5Mbps  |
|                          | PPTP NAT Throughput (Upload / Download)               | 803.0 Mbps/910.5 Mbps  |
|                          | 66 Byte Packet forwarding rate (Upload / Download)    | 1,453,489 pps / 1,453,488 pps  |
|                          | 1,518 Byte Packet forwarding rate (Upload / Download) | 81274 pps/ 91275 pps   |
|                          | IPSec VPN Throughput                                  | ESP-SHA1-AES256: 646.9Mbps<br>ESP-SHA256-AES256: 642.8Mbps<br>ESP-SHA384-AES256: 648.9Mbps<br>ESP-SHA512-AES256: 658.4 Mbps                                  |
|                          | GRE   | Unencrypted: 624.2Mbps<br>Encrypted: 301.5Mbps   |
|                          | WireGuard VPN   | 393.5Mbps  |
|                          | SSL VPN   | 126.7Mbps  |
|                          | OpenVPN   | 129.3Mbps  |
|                          | Basic Functions                                       | L2TP VPN Throughput  |
| PPTP VPN Throughput      |   | Unencrypted: 1165.0 Mbps<br>Encrypted: 209.0 Mbps  |
| WAN Connection Type      |   | Static IP<br>Dynamic IP<br>PPPoE (supports MRU Configuration)<br>PPTP<br>L2TP  |
| DHCP                     |   | DHCP Server<br>DHCPv6 PD Server (only in Standalone Mode)<br>DHCP Options Customization<br>DHCP Address Reservation<br>Multi-IP Interfaces<br>Multi-Net DHCP |
| MAC Clone                |   | Modify WAN Address   |
| IPTV                     |   | IGMP v2/v3 Proxy, Custom Mode, Bridge Mode   |
| IPv6                     |   | StaticIP / SLAAC / DHCPv6 / PPPoE / 6to4Tunnel / PassThrough / Non-Address mode  |
| Stateful ACL             | √   |  |

1. Rated specifications are based on test results using software version 1.0.0 Build 20230712 Rel.61639. Device performance may vary as a result of the actual scenario.

| Model              |   | ER706W V1  |
|--------------------|---|--|
| Basic Functions    | mDNS Repeater   | √  |
|                    | Quality of Service  | √  |
|                    | Bridge VLAN   | √  |
|                    | VLAN  | 802.1Q VLAN                                      |
| Wireless Function  | Wireless Encryption   | WPA/WPA2/WPA3 Personal, WPA/WPA2/WPA3 Enterprise |
|                    | Multiple SSIDs  | 16 in total (8 per radio)                        |
|                    | Enable/Disable Wireless Radio   | √  |
|                    | Enable/Disable SSID Broadcast   | √  |
|                    | Guest Network   | √  |
|                    | Automatic Channel Selection Algorithm   | √  |
|                    | Transmit Power Control  | Adjust transmit Power on dBm                     |
|                    | Seamless Roaming  | √  |
|                    | Mesh  | √ (with EAP that supports Mesh)                  |
|                    | OFDMA   | √  |
|                    | Beamforming   | √  |
|                    | MU-MIMO   | √  |
|                    | Rate Limit  | Based on SSID/Client                             |
|                    | Load Balance  | √  |
|                    | Airtime Fairness  | √  |
|                    | Band Steering   | √  |
|                    | RADIUS Accounting   | √  |
|                    | MAC Authentication  | √  |
|                    | Reboot Schedule   | √  |
|                    | Wireless Schedule   | √  |
| Support Data Rates | 802.11ax: 8 Mbps to 2402 Mbps (MCS0-MCS11, NSS = 1 to 2 HE20/40/80/160)<br>802.11ac: 6.5 Mbps to 2166.7 Mbps (MCS0-MCS11, NSS = 1 to 2 VHT20/40/80/160)<br>802.11n: 6.5 Mbps to 300 Mbps (MCS0-MCS15, HT20/40)<br>802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps<br>802.11b: 1, 2, 5.5, 11 Mbps<br>802.11a: 6, 9, 12, 18, 24, 36, 48, 54 Mbps |  |

| Model        |                   | ER706W V1  |
|--------------|-------------------|--|
| Transmission | Load Balance      | Intelligent Load Balance<br>Application Optimized Routing<br>Link Backup (Timing, Failover)<br>Online Detection  |
|              | NAT               | One-to-One NAT<br>Multi-Net NAT<br>Virtual Server<br>Port Triggering <sup>1</sup><br>NAT-DMZ<br>FTP/H.323/SIP/IPSec/PPTP ALG<br>UPnP   |
|              | Routing           | Static Routing<br>Policy Routing<br>RIP <sup>2</sup><br>OSPF <sup>2</sup>  |
|              | Session Limit     | IP-based Session Limit   |
|              | Bandwidth Control | IP-based Bandwidth Control   |
| VPN          | IPSec VPN         | 100 IPSec VPN Tunnels<br>LAN-to-LAN, Client-to-LAN<br>Main, Aggressive Negotiation Mode<br>DES, 3DES, AES128, AES192, AES256 Encryption Algorithm<br>IPsec Failover<br>IKE v1/v2<br>MD5, SHA1, SHA2-384 and SHA2-512 Authentication Algorithm<br>NAT Traversal (NAT-T)<br>Dead Peer Detection (DPD)<br>Perfect Forward Secrecy (PFS) |
|              | PPTP VPN          | PPTP VPN Server<br>PPTP VPN Client (10) <sup>3</sup><br>50 Tunnels<br>PPTP with MPPE Encryption  |
|              | L2TP VPN          | L2TP VPN Server<br>L2TP VPN Client (10) <sup>3</sup><br>50 Tunnels<br>L2TP over IPSec  |
|              | GRE               | Only in Standalone Mode  |
|              | WireGuard VPN     | √  |
|              | SSL VPN           | 50 Tunnels   |
|              | OpenVPN           | OpenVPN Server<br>OpenVPN Client (5) <sup>3</sup><br>55 OpenVPN Tunnels<br>"Certificate + Account" Mode<br>Full Mode   |

1. Port Triggering is supported only in Standalone Mode.

2. RIP and OSPF are supported only in Standalone Mode.

3. For PPTP VPN and L2TP VPN, ER706W V1 can connect with up to 10 VPN servers. For OpenVPN, ER706W V1 can connect with up to 5 VPN servers.



| Model          |                     | ER706W V1   |
|----------------|---------------------|---|
| Security       | Attack Defense      | TCP/UDP/ICMP Flood Defense<br>Block TCP Scan (Stealth FIN/Xmas/Null)<br>Block Ping from WAN   |
|                | Filtering           | Web Group Filtering <sup>1</sup><br>URL Filtering<br>Web Security <sup>1</sup>  |
|                | DNS Proxy           | DNSSEC, DoH, and DoT  |
|                | ARP Inspection      | Sending GARP Packets<br>ARP Scanning <sup>2</sup><br>IP-MAC Binding   |
|                | Access Control      | Source/Destination IP Based Access Control  |
| Authentication | Web Authentication  | No Authentication<br>Simple Password <sup>3</sup><br>Hotspot (Local User / Voucher <sup>3</sup> / SMS <sup>3</sup> / Radius <sup>3</sup> )<br>External Radius Server<br>External Portal Server <sup>3</sup><br>LDAP                                   |
| Management     | Service             | Dynamic DNS (Dyndns, No-IP, Peanuthull, Comexe, DDNS Customization)   |
|                | Maintenance         | Web Management Interface<br>Remote Management<br>Export & Import Configuration<br>SNMP v1/v2c/v3<br>Diagnostics (Ping & Traceroute) <sup>4</sup><br>NTP Synchronize <sup>4</sup><br>Port Mirroring<br>CLI (only in Standalone Mode)<br>Syslog Support |
| Others         | Certification       | CE, FCC, RoHS   |
|                | Package Contents    | ER706W V1, Power Adapter, Quick Installation Guide  |
|                | System Requirements | Microsoft Windows 98SE, NT, 2000, XP, Vista™ or Windows 7/8/8.1/10/11<br>MAC OS, NetWare, UNIX or Linux   |
|                | Environment         | Operating Temperature: 0 °C to 40 °C (32 °F to 104 °F)<br>Storage Temperature: -40 °C to 70 °C (-40 °F to 158 °F)<br>Operating Humidity: 10% to 90% non-condensing<br>Storage Humidity: 5% to 90% non-condensing                                      |

1. Web Group Filtering and Web Security are supported only in Standalone Mode.
2. ARP Scanning is supported only in Standalone Mode.
3. The following web authentication methods are supported only in Controller Mode: Simple Password, Voucher, SMS, Radius, and External Portal Server.
4. Diagnostics (Ping & Traceroute) and NTP Synchronize are supported only in Standalone Mode.

# Ordering Information

## Host Router

| Model     | Description                     |
|-----------|---------------------------------|
| ER706W V1 | Omada AX3000 Gigabit VPN Router |

## SFP Modules

| Model       | Description  |
|-------------|--|
| TL-SM311LS  | Gigabit SFP module, Single-mode, LC interface, Up to 20km distance                               |
| TL-SM311LM  | Gigabit SFP module, Multi-mode, LC interface, Up to 550m distance                                |
| TL-SM321A   | Gigabit WDM Bi-Directional SFP Module, single-mode, LC connector, TX: 1550 nm/RX: 1310 nm, 20 km |
| TL-SM321A-2 | Gigabit WDM Bi-Directional SFP Module, single-mode, LC connector, TX: 1550 nm/RX: 1310 nm, 2 km  |
| TL-SM321B   | Gigabit WDM Bi-Directional SFP Module, single-mode, LC connector, TX: 1310 nm/RX: 1550 nm, 20 km |
| TL-SM321B-2 | Gigabit WDM Bi-Directional SFP Module, single-mode, LC connector, TX: 1310 nm/RX: 1550 nm, 2 km  |

## RJ45 SFP Modules

| Model     | Description                |
|-----------|----------------------------|
| TL-SM331T | 1000BASE-T RJ45 SFP Module |

\* Some models featured in this guide may be unavailable in your country or region. Visit TP-Link website for local sales information: [www.tp-link.com](http://www.tp-link.com).

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