Omada AX3000 Gigabit VPN Router

MODEL: ER706W



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

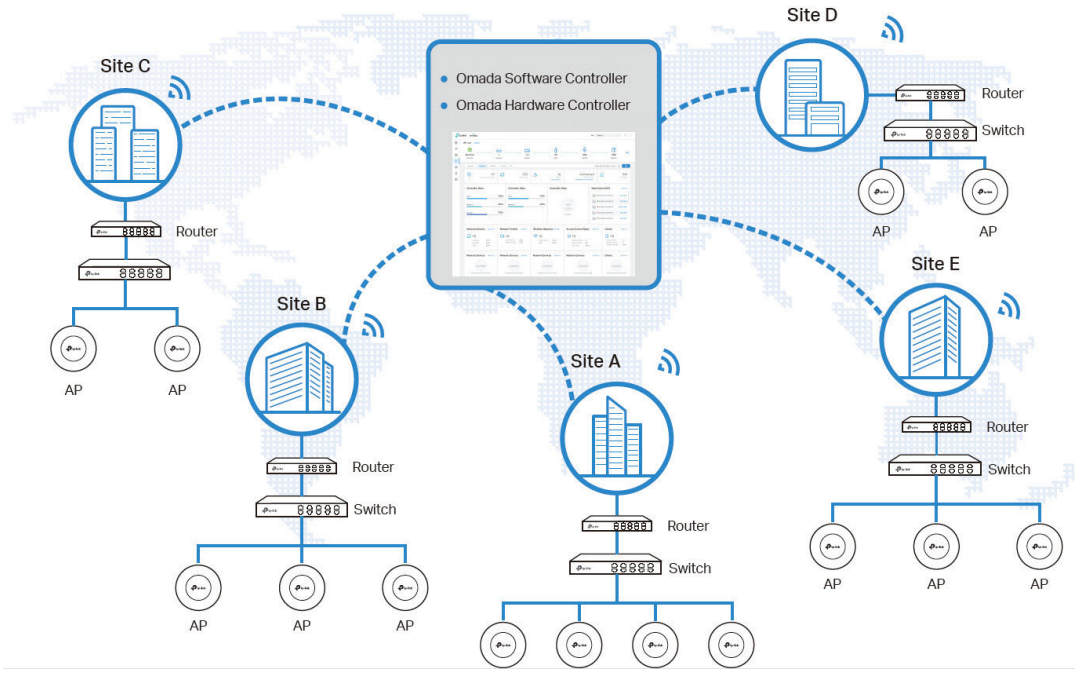


Catering

Full Wi-Fi Coverage in High-Density Environment

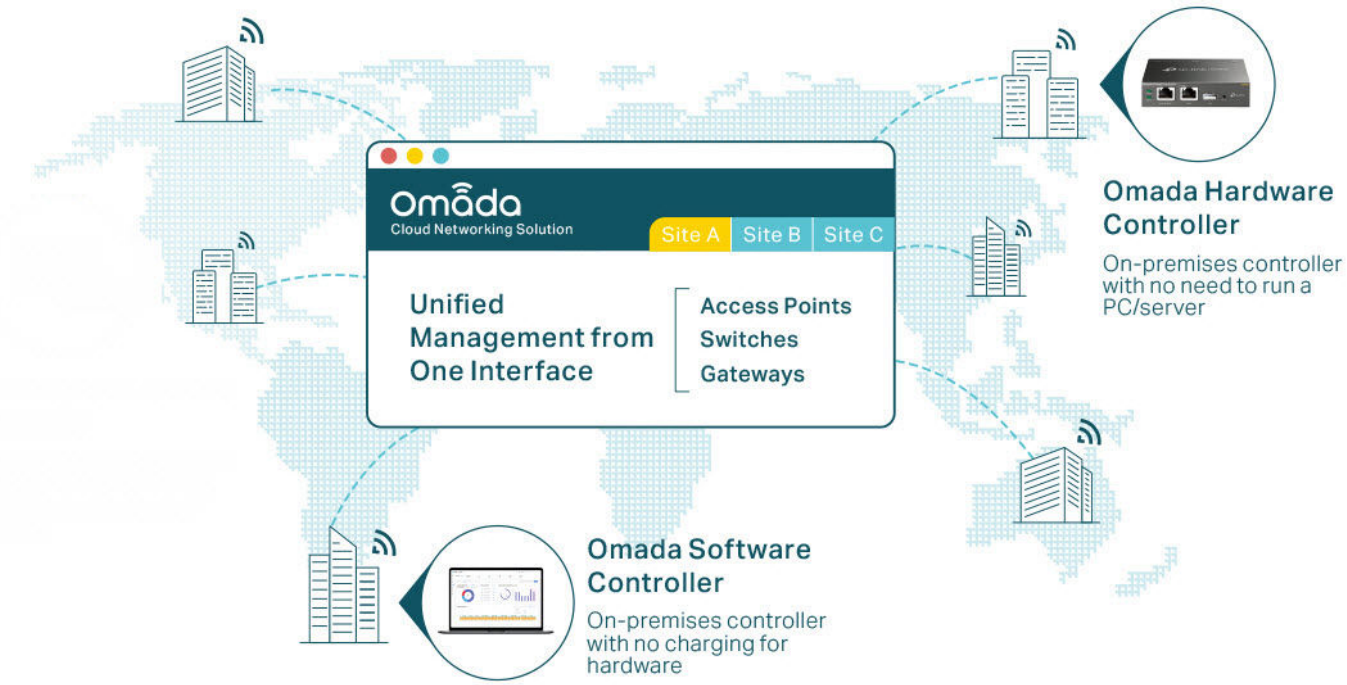
Software Defined Networking (SDN) with Cloud Access

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

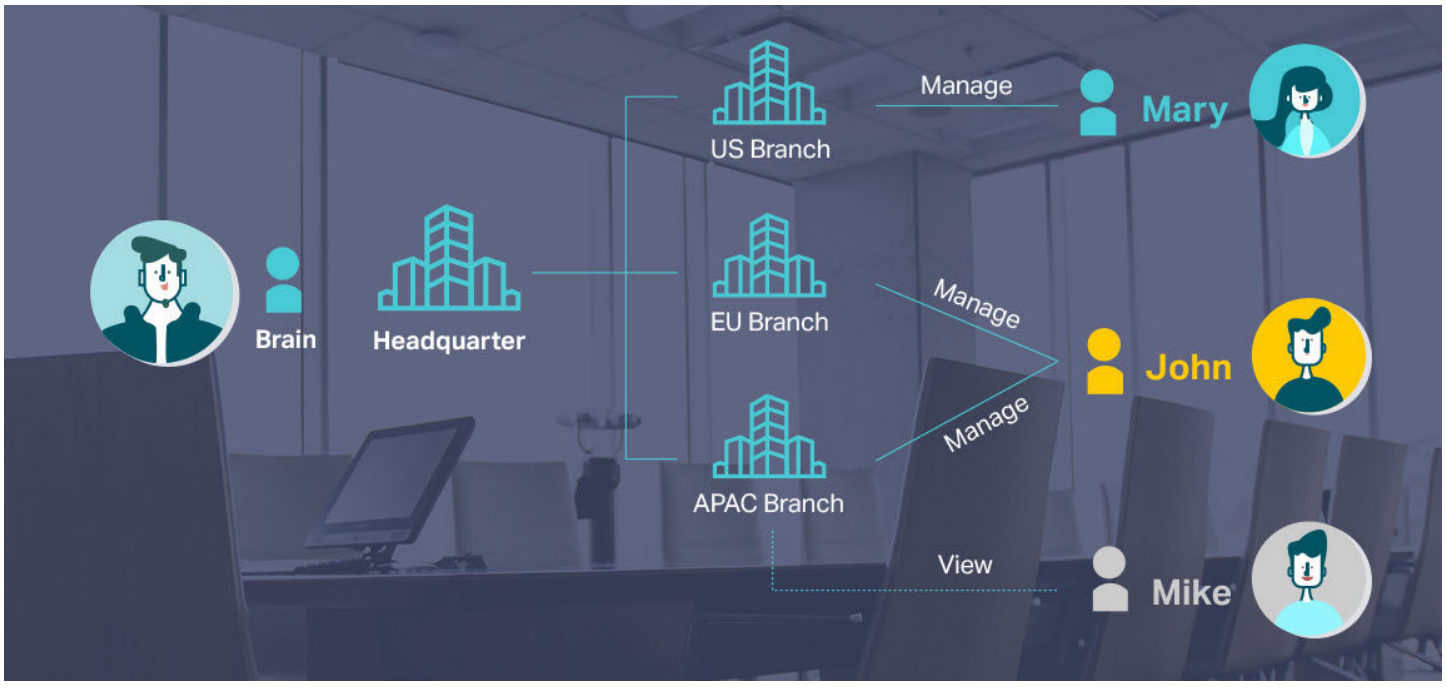
100% centralized cloud management of the whole network from different sites——all controlled from a single interface anywhere, anytime.



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

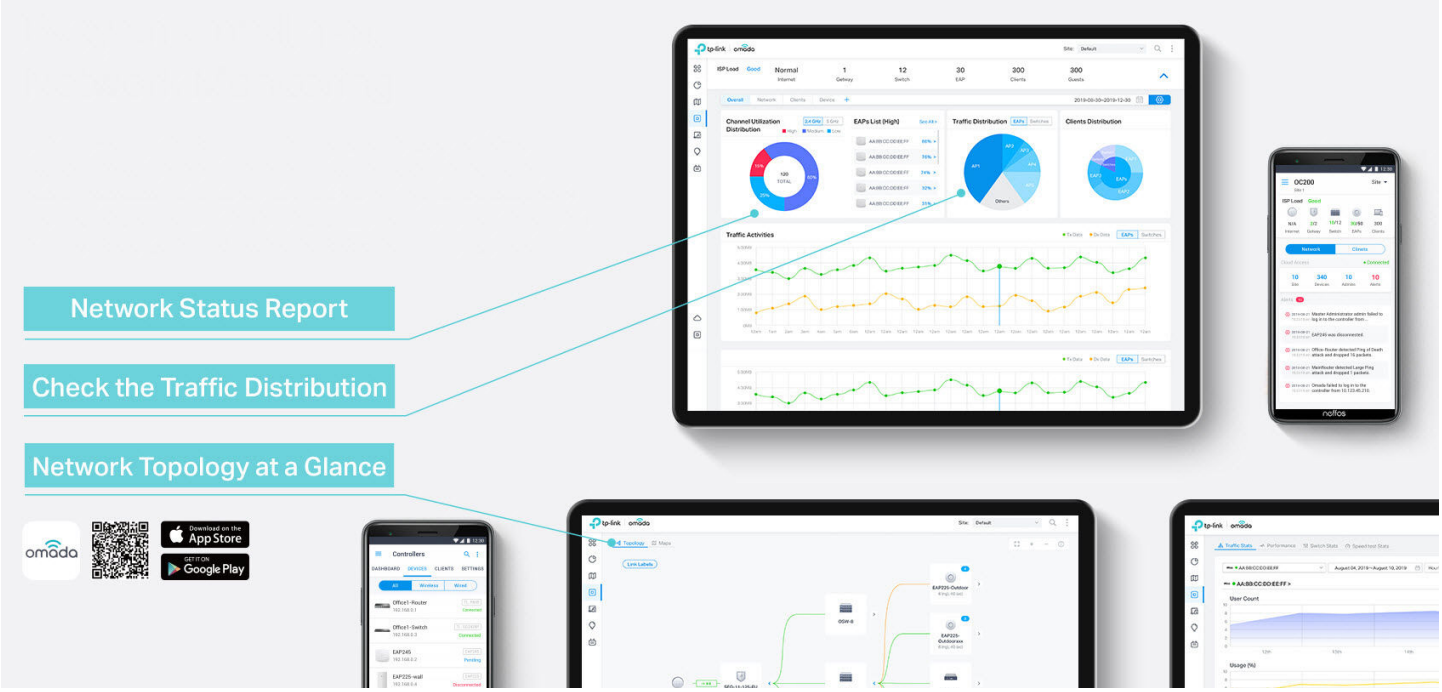
Assign Different Management Roles

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.

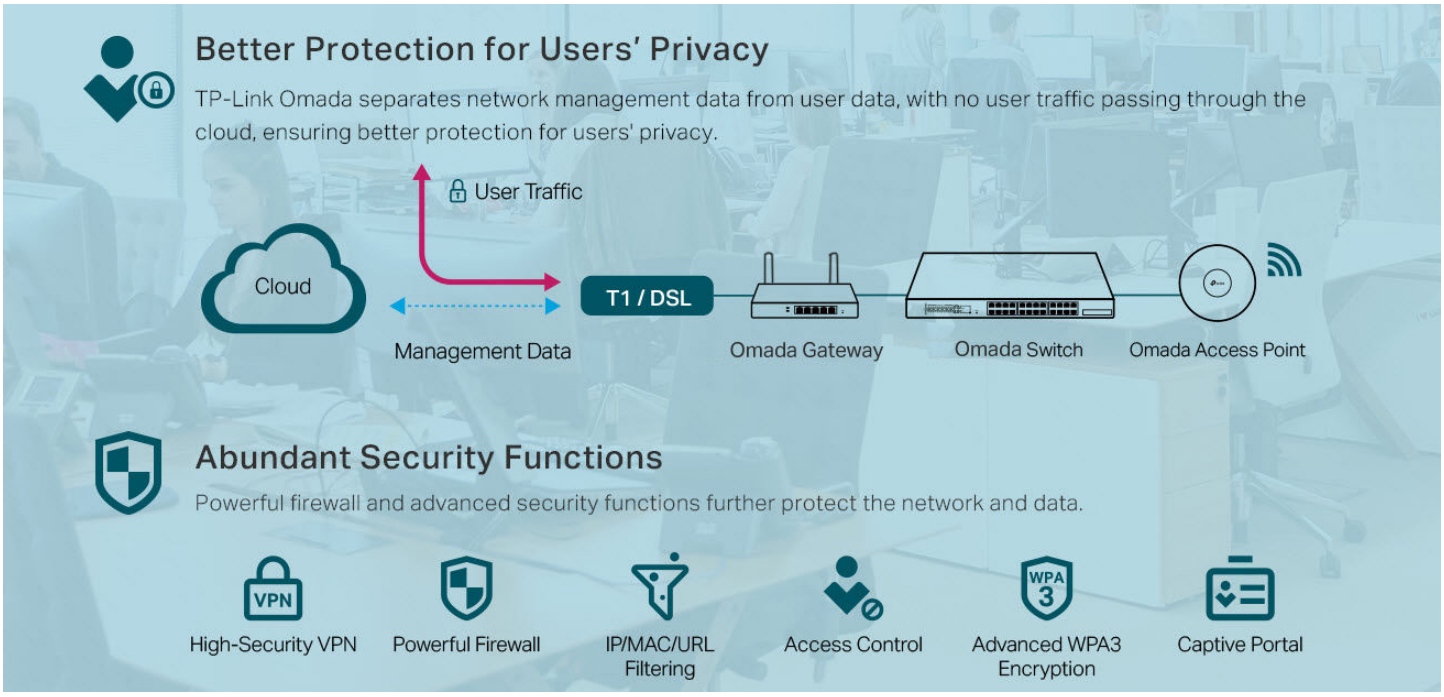


Easy and Intelligent Network Monitoring

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
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 1 Gigabit WAN port 4 Gigabit LAN/WAN ports
	USB	1 USB3.0 (supports USB LTE dongle and USB Storage)
	Wi-Fi Speed	2.4 GHz: 574 Mbps 5 GHz: 2402 Mbps HE160
	Antennas	2.4 GHz: 2x 3 dBi dual-band detachable antennas 5 GHz: 3x 4.5 dBi dual-band detachable antennas
	Network Media	10BASE-T: UTP category 3, 4, 5 cable (Max 100 m) EIA/TIA-568 100Ω STP (Max 100 m) 100BASE-TX: UTP category 5, 5e cable (Max 100 m) EIA/TIA-568 100Ω STP (Max 100 m) 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) 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 Intelligent Network Monitoring Abnormal Event Warnings Unified Configuration Reboot Schedule Captive Portal Configuration
	Software Controller	
	Omada App	

Model		ER706W
Performance[1]	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 ESP-SHA256-AES256: 642.8Mbps ESP-SHA384-AES256: 648.9Mbps ESP-SHA512-AES256: 658.4 Mbps
	GRE	Unencrypted: 624.2Mbps Encrypted: 301.5Mbps
	WireGuard VPN	393.5Mbps
	SSL VPN	126.7Mbps
	OpenVPN	129.3Mbps
	L2TP VPN Throughput	Unencrypted: 1034.0 Mbps Encrypted: 570.0 Mbps
	PPTP VPN Throughput	Unencrypted: 1165.0 Mbps Encrypted: 209.0 Mbps
Basic Functions	WAN Connection Type	Static IP Dynamic IP PPPoE (supports MRU Configuration) PPTP L2TP
	DHCP	DHCP Server DHCPv6 PD Server (only in Standalone Mode) DHCP Options Customization DHCP Address Reservation Multi-IP Interfaces 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
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) 802.11ac: 6.5 Mbps to 2166.7 Mbps (MCS0-MCS11, NSS = 1 to 2 VHT20/40/80/160) 802.11n: 6.5 Mbps to 300 Mbps (MCS0-MCS15, HT20/40) 802.11g: 6, 9, 12, 18, 24, 36, 48 ,54 Mbps 802.11b: 1, 2, 5.5, 11 Mbps 802.11a: 6, 9, 12, 18, 24, 36, 48 ,54 Mbps

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

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

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