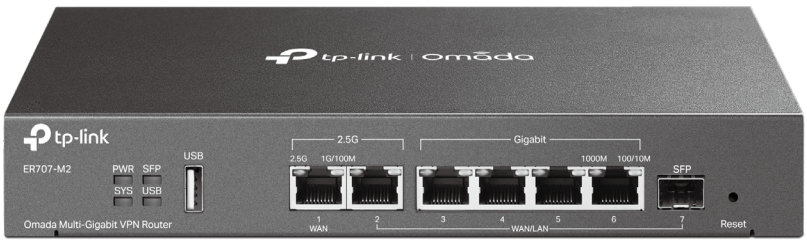
Omada Multi-Gigabit VPN Router

MODEL: ER707-M2



Highlights

- Dedicated Dual-core CPU for outstanding performance
- 1GB DDR4 high-speed memory for high concurrent connections
- Equipped with 1× 2.5G RJ45 WAN Port, 1× 2.5G RJ45 WAN/LAN Port, 1× Gigabit SFP WAN/LAN Port, 4× Gigabit RJ45 WAN/LAN Ports, 1× USB2.0 (Storage & LTE) Port
- Supports multiple VPN protocols including SSL VPN/ GRE VPN/ OpenVPN/ IPSec/ PPTP/ L2TP/ L2TP over IPSec, helping users to establish VPN connections more flexibly
- Supports up to 500,000 concurrent connections
- 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

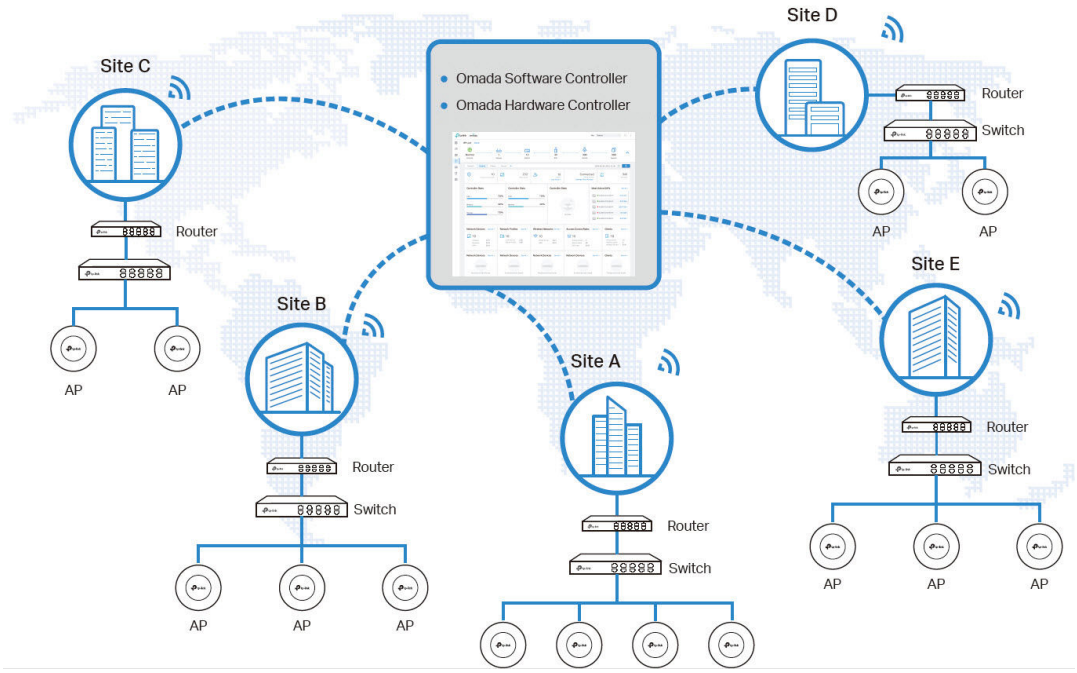
Wireless and Wired Connections

Catering

Full Wi-Fi Coverage in High-Density Environment

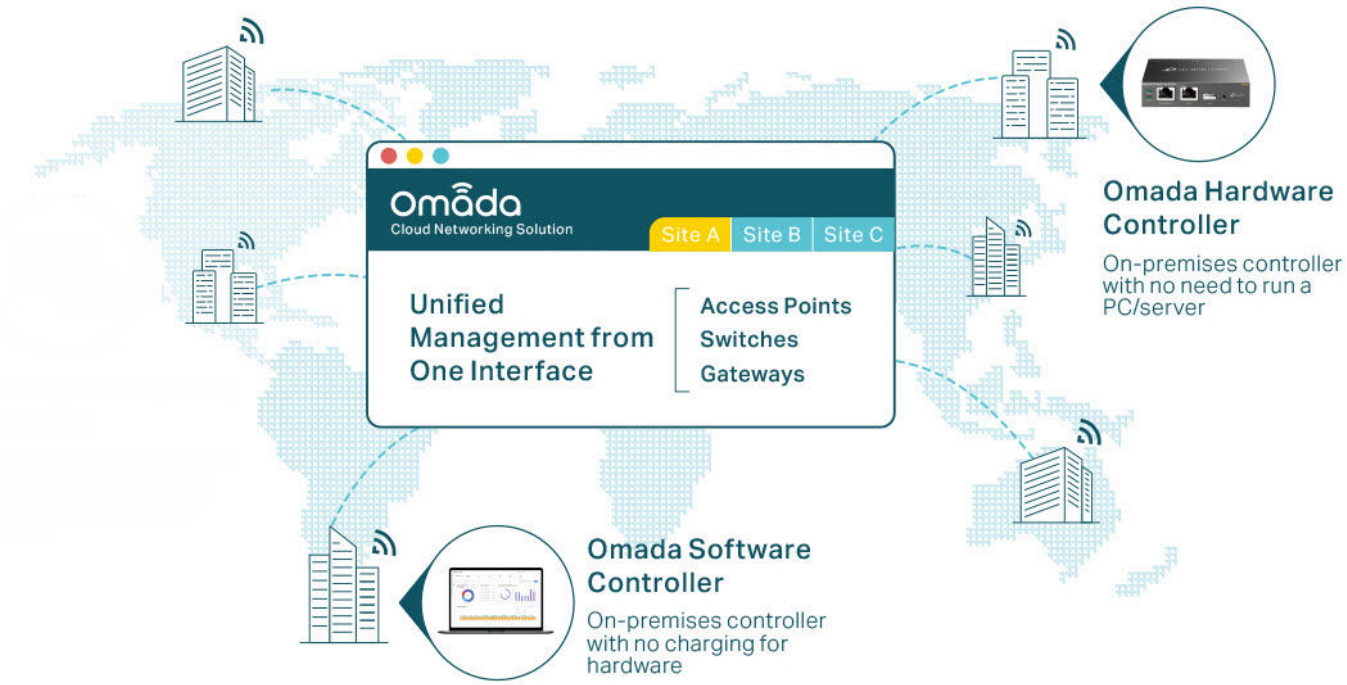
Software Defined Networking (SDN) with Cloud Access

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

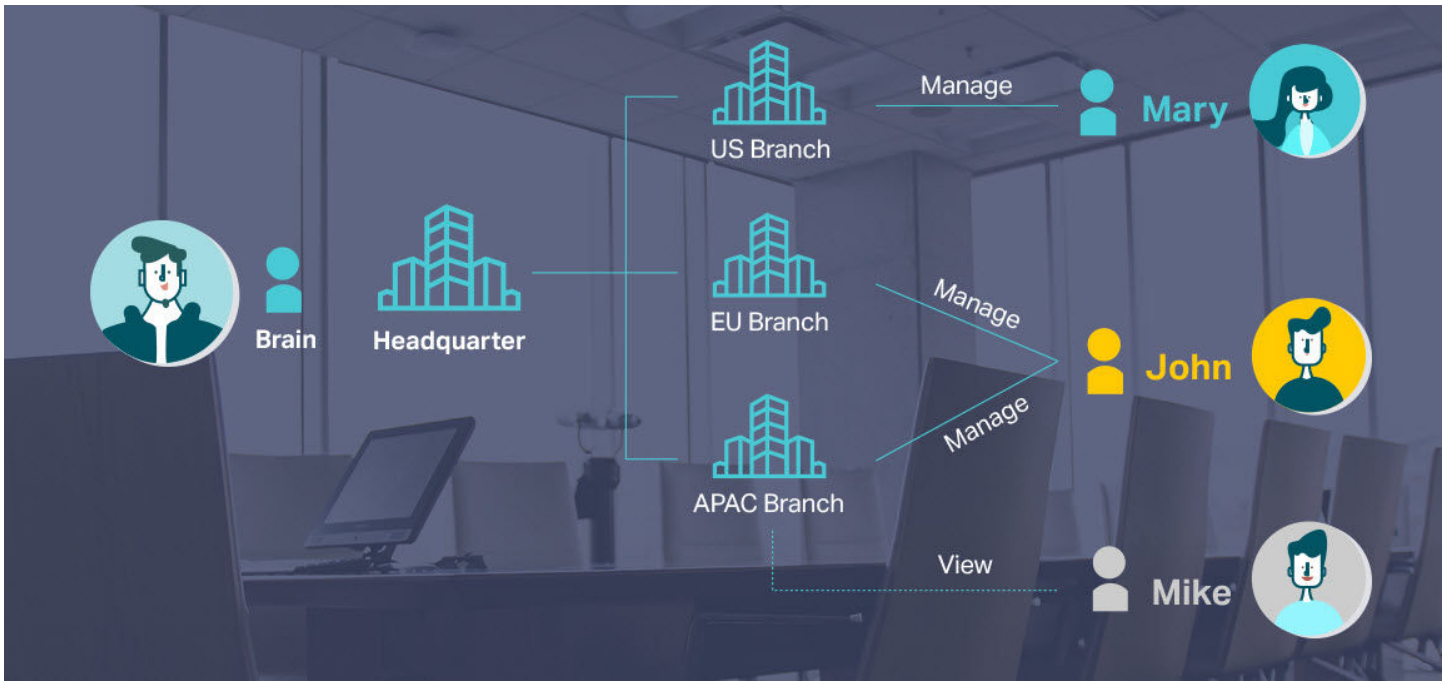
100% centralized cloud management of the whole network from different sites——all controlled from a single interface anywhere, anytime.



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

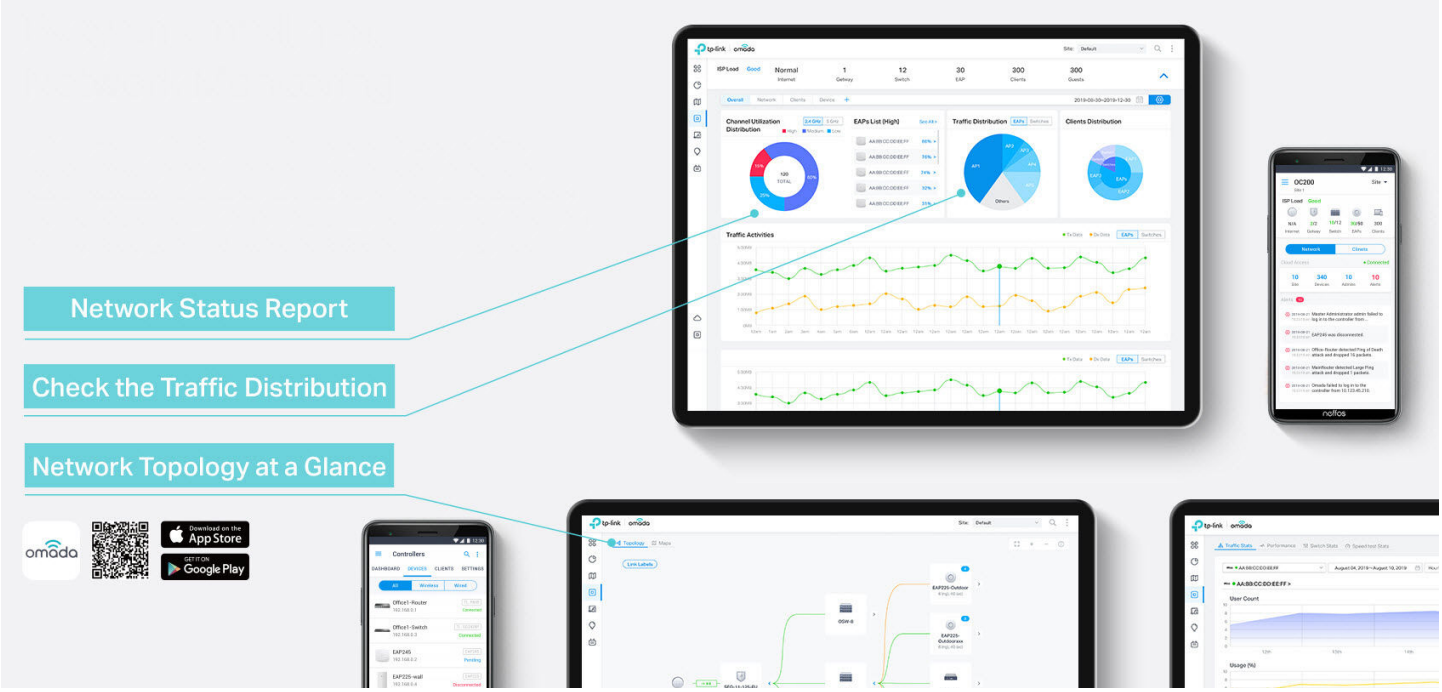
Assign Different Management Roles

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

Better Protection for Users' Privacy

TP-Link Omada separates network management data from user data, with no user traffic passing through the cloud, ensuring better protection for users' privacy.

Abundant Security Functions

Powerful firewall and advanced security functions further protect the network and data.

- High-Security VPN
- Powerful Firewall
- IP/MAC/URL Filtering
- Access Control
- Advanced WPA3 Encryption
- Captive Portal

Specifications

Model		ER707-M2
Product Picture		
Product Description		Omada Multi-Gigabit VPN Router
General	CPU	Dual-core ARMv8
	Interface	1× 2.5G RJ45 WAN Port, 1× 2.5G RJ45 WAN/LAN Port, 1× Gigabit SFP WAN/LAN Port, 4× Gigabit RJ45 WAN/LAN Ports
	USB	1 USB2.0 (Supports LTE backup with LTE dongle, and USB Storage)
	Button	Reset button
	Power Supply	12V / 1.5A Adapter
	Flash	128 MB NAND
	DRAM	1 GB DDR4
	Surge Protection	4 kV surge protection
	Max Power Consumption	14.2 W (with USB2.0 connected) 7.1 W (without USB2.0 connected)
	Dimensions (W x D x H)	8.9 × 5.2 × 1.4 in (226 × 131 × 35 mm)
SDN Support	Hardware Controller (OC200/ OC300)	Automatic Device Discovery Intelligent Network Monitoring Abnormal Event Warnings Unified Configuration Reboot Schedule Captive Portal Configuration ZTP (Zero-Touch Provisioning)[1]
	Software Controller	
	Cloud-Based Controller	

1. Zero-Touch Provisioning is supported only when using Omada Cloud-Based Controller.

Model		ER707-M2
Performance[3]	Concurrent Session	500,000
	New Sessions /Second	6,000
	Static IP NAT Throughput (Upload / Download)	2365.17 Mbps / 2364.45 Mbps
	DHCP NAT Throughput (Upload / Download)	2364.45 Mbps / 2366.04 Mbps
	PPPoE NAT Throughput (Upload / Download)	2347.14 Mbps / 2348.29 Mbps
	L2TP NAT Throughput (Upload / Download)	1308.86 Mbps / 974.10 Mbps
	PPTP NAT Throughput (Upload / Download)	1236.27 Mbps / 1280.99 Mbps
	66 Byte Packet forwarding rate (Upload / Download)	1832.69 Mbps / 1741.84 Mbps
	1,518 Byte Packet forwarding rate (Upload / Download)	2461.18 Mbps / 2457.32 Mbps
	SSL VPN Throughput	132.24 Mbps
	GRE VPN[1] Throughput	286.84 Mbps
	IPSec VPN Throughput	ESP-SHA1-AES256: 673.3 Mbps, ESP-SHA256-AES256: 650.2 Mbps ESP-SHA384-AES256: 629.3 Mbps, ESP-SHA512-AES256: 633.8 Mbps
	L2TP VPN Throughput	Unencrypted: 1243.7 Mbps; Encrypted: 561.0 Mbps
	OpenVPN Throughput	135.0 Mbps
Basic Functions	WAN Connection Type	IPv4_Static IP; IPv4_Dynamic IP; IPv4_PPPOE; IPv4_L2TP; IPv4_PPTP IPv6_PPP; IPv6_DHCPv6; IPv6_Static IP; IPv6_6in4; IPv6_Pass-Through Mobile Broadband: 4G/3G modem for backup via USB port
	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/LAN MAC Address[2]
	IPTV	IGMP v2/v3 Proxy, Custom Mode, Bridge Mode
	IPv6	StaticIP / SLAAC / DHCPv6 / PPPoE / 6to4Tunnel / PassThrough / Non-Address mode
	Stateful ACL	√
	mDNS Repeater	√
	Quality of Service	√
	Bridge VLAN	√
	VLAN	802.1Q VLAN

1. GRE VPN is supported only in Standalone Mode.
2. LAN MAC Address can be modified only in Standalone Mode.
3. Rated specifications are based on test results using software version 1.1.0 Build 20230609 Rel. 34068. Device performance may vary as a result of the actual scenario.

Model		ER707-M2
Transmission	Load Balance	Intelligent Load Balance Application Optimized Routing Link Backup (Timing[1], Failover) Online Detection
	NAT	One-to-One NAT Multi-Net NAT Port Forwarding Port Triggering[2] NAT-DMZ FTP/H.323/SIP/IPSec/PPTP ALG UPnP
	Routing	Static Routing Policy Routing RIP (only in Standalone Mode) OSPF (only in Standalone Mode)
	Session Limit	IP-based Session Limit
	Bandwidth Control	IP/Port-based Bandwidth Control Guarantee & Limited Bandwidth
VPN	SSL VPN	SSL VPN Server 60 SSL VPN Tunnels
	IPSec VPN	100 IPSec VPN Tunnels LAN-to-LAN, Client-to-LAN Main, Aggressive Negotiation Mode DES, 3DES, SHA1, AES128, AES192, AES256 Encryption Algorithm IKE v1/v2 MD5, SHA1, SHA2-384 and SHA2-512 Authentication Algorithm NAT Traversal (NAT-T) Dead Peer Detection (DPD) Perfect Forward Secrecy (PFS)
	GRE	Only in Standalone Mode
	WireGuard VPN	√
	PPTP VPN	PPTP VPN Server PPTP VPN Client (12)[3] 60 Tunnels (Shared with L2TP) PPTP with MPPE Encryption
	L2TP VPN	L2TP VPN Server L2TP VPN Client (12)[3] 60 Tunnels (Shared with PPTP) L2TP over IPSec
	OpenVPN	OpenVPN Server OpenVPN Client (6)[3] 66 OpenVPN Tunnels

1. The Timing mode in Link Backup is supported only in Standalone Mode.
2. Port Triggering is supported only in Standalone Mode.
3. ER707-M2 can work as a VPN client and can connect with up to 12 PPTP/L2TP VPN servers and 6 OpenVPN servers.

Model		ER707-M2
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[3]
Management	Service	Dynamic DNS (Dyndns, No-IP, Peanuthull, Comexe)
	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	ER707-M2, Power Adapter, Quick Installation Guide
	System Requirements	Microsoft Windows 98SE, NT, 2000, XP, Vista™ or Windows 7/8/8.1/10 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, External Portal Server, and LDAP.
4. Diagnostics (Ping & Traceroute) and NTP Synchronize are supported only in Standalone Mode.

Ordering Information

Host Router	
Model	Description
ER707-M2	Omada Multi-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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