

Smart Switches Datasheet

MODEL: SG2005P-PD



The TP-Link Solution

One-Step Solution
Professional. Reliable. Secure.

Overview

TP-Link's brand new Omada gigabit smart switches provide huge upgrade comparing with previous versions. The switches can be managed by Omada SDN Controller, which provides professional and reliable one-step solutions. Integrated L2 and L2+ features such as 802.1Q VLAN, QoS, IGMP Snooping and static routing provide cost-effective networking solutions for small and medium-sized businesses without sacrificing enhanced usability and strong performance.

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

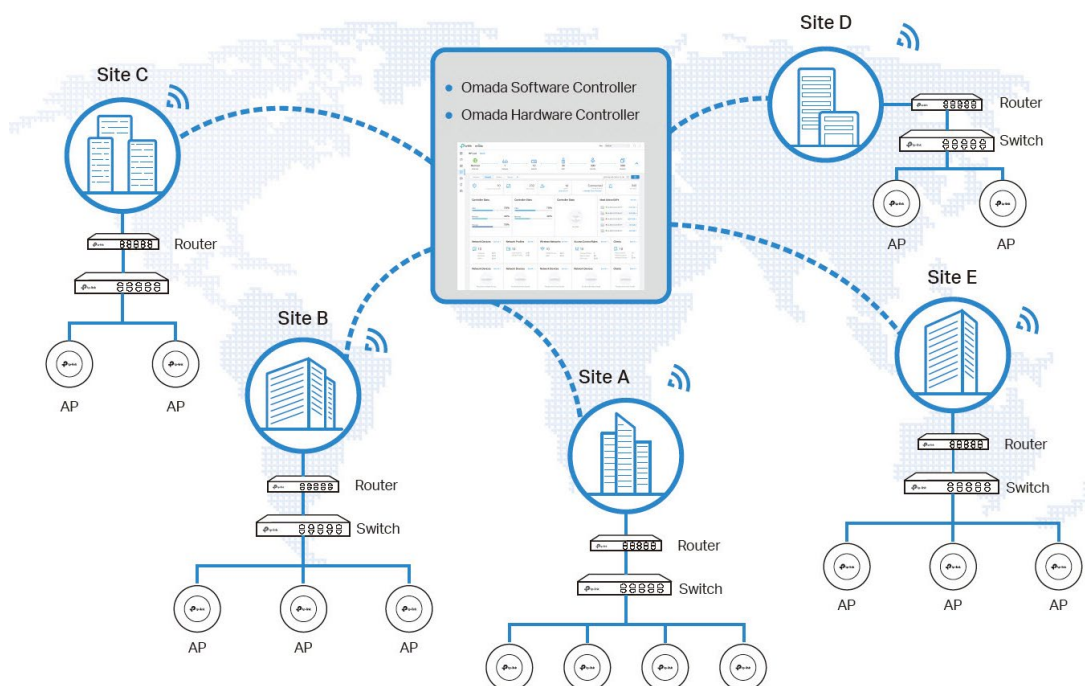


Catering

Full Wi-Fi Coverage in High-Density Environment

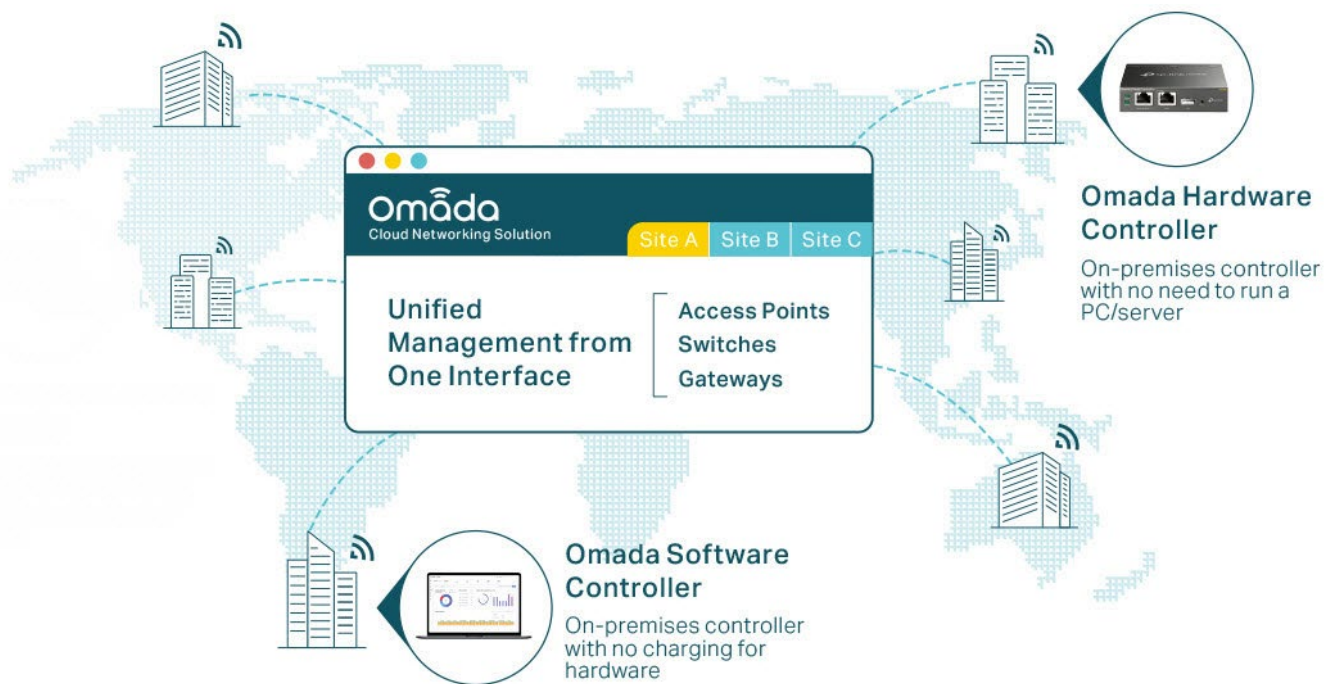
Software Defined Networking (SDN) with Cloud Access

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

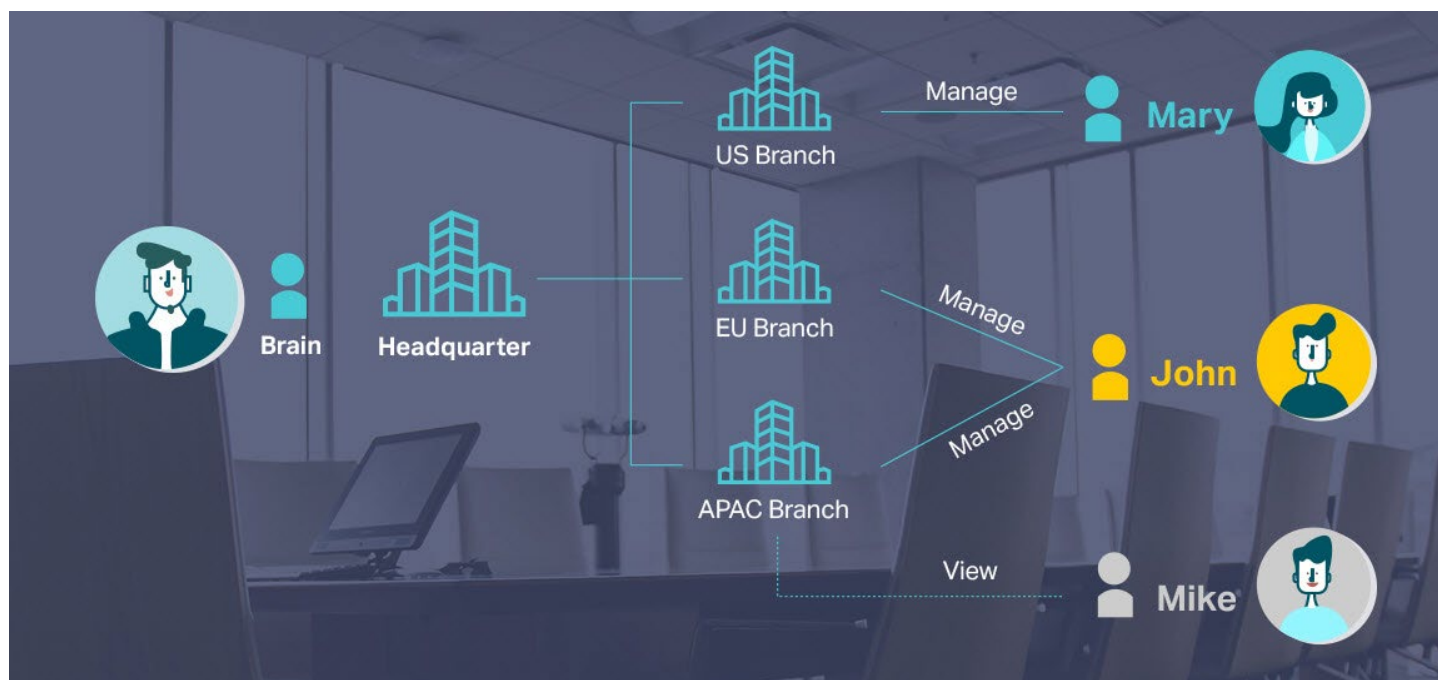
100% centralized cloud management of the whole network from different sites—all controlled from a single interface anywhere, anytime.



- ✓ 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.

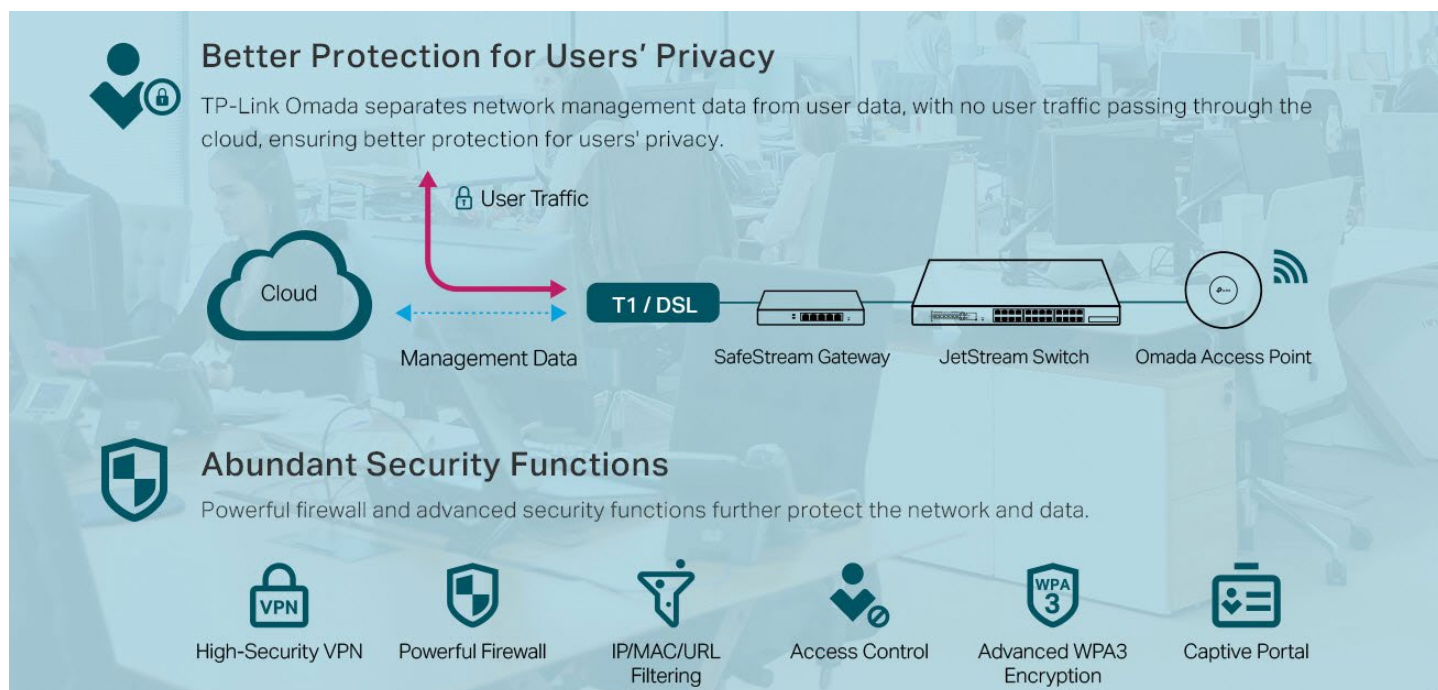


Easy and Intelligent Network Monitoring

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



Switch Product Features

Highlights

- Gigabit Ethernet connections on all ports provide full speed of data transferring
- L2+ Feature ——Static Routing, helps route internal traffic for more efficient use of network resources
- Advanced security features include IP-MAC-Port Binding, ACL, Port Security, DoS Defend, Storm Control, DHCP Snooping, 802.1X and Radius Authentication
- L2/L3/L4 QoS and IGMP Snooping optimize voice and video applications
- Comprehensive IPv6 support for management, QoS and ACL
- Web/CLI managed modes, SNMP, RMON and Dual Image bring abundant management features

Advanced QoS features

To integrate voice, data and video service on one network, the switch applies rich QoS policies. Administrator can designate the priority of the traffic based on a variety of means including Port Priority, 802.1P Priority and DSCP Priority, to ensure that voice and video are always clear, smooth and jitter free. In conjunction with the Voice VLAN that the switches support, Voice Applications will perform better and smoother.

Abundant L2 and L2+ features

TP-Link Omada smart switches support a complete lineup of L2 features, including IGMP Snooping/MLD Snooping, 802.1Q/MAC/Protocol VLAN, STP/RSTP/MSTP, Link Aggregation Group (LAG), Port Isolation, Port Mirroring, and 802.3x Flow control function. IGMP Snooping ensures the multicast stream be forwarded intelligently to the appropriate subscribers by the switch, while IGMP Throttling & Filtering restricts each subscriber on a certain level to prevent unauthorized multicast access. Besides, these smart switches also support L2+ features like static routing. It is a simple way to provide segmentation of the network with internal routing through the switch and helps network traffic to be more efficient.

Enterprise Level Management Features


TP-Link Omada smart switches support multiple user-friendly standard management features such as intuitive web-based Graphical User Interface (GUI), industrially standard Command Line Interface (CLI) and SNMP (v1/v2c/v3). These switches support RMON (Remote Network Monitoring), which enables the switch to be polled for valuable status information and send traps when encountering abnormal events. Also, this series of switches support Dual Image function, which makes there be less 'down-time' when switches are being upgraded/downgraded.

IPv6 Support

TP-Link Omada smart switches support comprehensive IPv6 features including IPv6 management, ACL, QoS and MLD Snooping, all of these features help to ensure a smooth migration to IPv6-based network without changing switches in the future.

Specifications

Hardware Features & Performance

Product Picture		
Model		SG2005P-PD
General	Interface	5 10/100/1000Mbps
	Flash	32 MB
	DRAM	256 MB
	Port Standard	IEEE 802.3i:10BASE-T Ethernet; IEEE 802.3u:100BASE-X Fast Ethernet; IEEE 802.3ab:1000BASE-T Gigabit Ethernet;
PoE	PoE Standard	802.3af/at/bt PoE in for port 5 802.3af/at PoE out for port 1-4
	PoE Power Budget	64 W when powered by 802.3bt Type 4 (90 W) 44 W when powered by 802.3bt Type 3 (60 W) 19 W when powered by 802.3at 6 W when powered by 802.3at
Performance	Switching Capacity	10 Gbps
	Packet Forwarding Rate	7.44 Mpps
	MAC Address Table	8K
	Packet Buffer	4.1 Mbit
	Transmission Method	Store and Forward
	Number of IP Interfaces	16
	Number of Static Routers	32 (IPv4, IPv6)
	Jumbo Frame	9 KB
Physical & Environment	Power Supply	Obtain Power from 802.3af/at/bt PoE Source
	Max Power Consumption	71.5 W (when powered by 802.3bt Type 4 (90 W))
	Max Heat Dissipation	243.99 BTU/hr (when powered by 802.3bt Type 4 (90 W))
	Standby Power Consumption	6.7 W
	Dimensions (W x D x H)	6.7 × 3.9 × 1.5 in (170 × 100 × 38.5 mm)
	IP Rating	IP55
	Surge Protection	4 kV
	Fan Quantity	Fanless
	Installation	Pole-Mounting/Wall-Mounting
	Operating Temperature	-40 to 60 °C (-40 to 140 °F)
	Storage Temperature	-40 °C to 70 °C (-40 °F to 158 °F)
	Operation Humidity	10% to 90% RH, non-condensing
	Storage Humidity	5% to 90% RH, non-condensing
	Certification	CE, FCC, RoHS

Software Features

Model	SG2005P-PD	
SDN Support	<ul style="list-style-type: none"> • Support Omada Hardware Controller (OC200/OC300), Software Controller • Automatic Device Discovery • Batch Configuration • Batch Firmware Upgrading 	<ul style="list-style-type: none"> • Intelligent Network Monitoring • Abnormal Event Warnings • Unified Configuration • Reboot Schedule
L2+ Features	<ul style="list-style-type: none"> • 16 IP Interfaces <ul style="list-style-type: none"> - Support IPv4/IPv6 Interface • Static Routing <ul style="list-style-type: none"> - 32 IPv4/IPv6 Static Routes • DHCP Server • DHCP Relay <ul style="list-style-type: none"> - DHCP Interface Relay - DHCP VLAN Relay • DHCP L2 Relay 	<ul style="list-style-type: none"> • Static ARP • Proxy ARP • Gratuitous ARP
L2 Features	<ul style="list-style-type: none"> • Link Aggregation <ul style="list-style-type: none"> - Static link aggregation - 802.3ad LACP - Up to 8 aggregation groups and up to 8 ports per group • Spanning Tree Protocol <ul style="list-style-type: none"> - 802.1D STP - 802.1w RSTP - 802.1s MSTP - STP Security: TC Protect, BPDU Filter/Protect, Root Protect • Loopback Detection 	<ul style="list-style-type: none"> • Flow Control <ul style="list-style-type: none"> - 802.3x Flow Control • Mirroring <ul style="list-style-type: none"> - Port Mirroring - CPU Mirroring - One-to-One - Many-to-One - Flow-Based - Ingress/Egress/Both • Device Link Detect Protocol (DLDP) • 802.1ab LLDP/LLDP-MED
L2 Multicast	<ul style="list-style-type: none"> • 511 IPv4, IPv6 shared multicast groups • IGMP Snooping <ul style="list-style-type: none"> - IGMP v1/v2/v3 Snooping - Fast Leave - IGMP Snooping Querier - Static Group Config • Multicast VLAN Registration (MVR) • Multicast Filtering 	<ul style="list-style-type: none"> • MLD Snooping <ul style="list-style-type: none"> - MLD v1/v2 Snooping - Fast Leave - MLD Snooping Querier - Static Group Config • Limited IP Multicast (256 profiles and 16 entries per profile)
VLAN	<ul style="list-style-type: none"> • VLAN Group <ul style="list-style-type: none"> - Max. 4K VLAN Groups • 802.1Q tag VLAN • MAC VLAN (12 entries) 	<ul style="list-style-type: none"> • Protocol VLAN • GVRP • Voice VLAN
QoS	<ul style="list-style-type: none"> • 802.1p CoS/DSCP priority • 8 priority queues • Priority Schedule Mode <ul style="list-style-type: none"> - SP (Strict Priority) - WRR (Weighted Round Robin) • Queue Weight Config 	<ul style="list-style-type: none"> • Bandwidth Control <ul style="list-style-type: none"> - Port/Flow based Rating Limit • Smoother Performance • Storm Control <ul style="list-style-type: none"> - Multiple Control Modes(kbps/ratio) - Broadcast/Multicast/Unknown-Unicast Control

Software Features

Model	SG2005P-PD	
ACL	<ul style="list-style-type: none"> • Support up to 230 entries • Time-Range <ul style="list-style-type: none"> - Time Slice - Week Time-Range - Absolute Time-Range - Holiday • Time-based ACL • MAC ACL <ul style="list-style-type: none"> - Source MAC - Destination MAC - VLAN ID - User Priority - Ether Type • IP ACL <ul style="list-style-type: none"> - Source IP - Destination IP - IP Protocol - TCP Flag - TCP/UDP Source Port - TCP/UDP Destination Port - DSCP/IP TOS 	
Security	<ul style="list-style-type: none"> • IPv6 ACL • Combined ACL • Rule Operation <ul style="list-style-type: none"> - Permit/Deny • Policy Action <ul style="list-style-type: none"> - Mirror - Rate Limit - Redirect - QoS Remark • ACL Rules Binding <ul style="list-style-type: none"> - Port Binding - VLAN Binding • Actions for flows <ul style="list-style-type: none"> - Mirror (to supported interface) - Redirect (to supported interface) - Rate Limit - QoS Remark 	
	<ul style="list-style-type: none"> • AAA • 802.1X <ul style="list-style-type: none"> - Port based authentication - MAC (Host) based authentication - Authentication Method includes PAP/EAP-MD5 - MAB - Guest VLAN - Support Radius authentication and accountability • IP/IPv6-MAC Binding <ul style="list-style-type: none"> - 512 Binding Entries - DHCP Snooping - DHCPv6 Snooping - ARP Inspection - ND Detection - ND Snooping • IP Source Guard <ul style="list-style-type: none"> - 253 Entries - Source IP+Source MAC 	
	<ul style="list-style-type: none"> • IPv6 Source Guard <ul style="list-style-type: none"> - 183 Entries - Source IPv6 Address+Source MAC • DoS Defend • DHCP Filter • Static/Dynamic/Permanent Port Security <ul style="list-style-type: none"> - Up to 64 MAC addresses per port • Broadcast/Multicast/Unicast Storm Control <ul style="list-style-type: none"> - kbps/ratio control mode • Port Isolation • Secure web management through HTTPS with SSLv3/TLS 1.2 • Secure Command Line Interface (CLI) management with SSHv1/SSHv2 • IP/Port/MAC based access control 	

Software Features

Model	SG2005P-PD	
IPv6 Support	<ul style="list-style-type: none"> • IPv6 Static Routing and ACL • IPv6 Dual IPv4/IPv6 • IPv6 Interface • Multicast Listener Discovery (MLD) Snooping • IPv6 neighbor discovery (ND) • Path maximum transmission unit (MTU) discovery • Internet Control Message Protocol (ICMP) version 6 • TCPv6/UDPv6 • IPv6 applications <ul style="list-style-type: none"> - DHCPv6 Client - Ping6 - Tracert6 - Telnet(v6) - IPv6 SNMP - IPv6 SSH - IPv6 SSL - Http/Https - IPv6 TFTP 	
Management	<ul style="list-style-type: none"> • Web-based GUI • Command Line Interface (CLI) through telnet • SNMPv1/v2c/v3 • SNMP Trap/Inform • RMON (1,2,3,9 groups) • SDM Template • DHCP/BOOTP Client 	<ul style="list-style-type: none"> • Dual Image, Dual Configuration • CPU Monitoring • Cable Diagnostics • EEE • SNTP • System Log
MIBs	<ul style="list-style-type: none"> • MIB II (RFC1213) • Bridge MIB (RFC1493) • P/Q-Bridge MIB (RFC2674) • Radius Accounting Client MIB (RFC2620) 	<ul style="list-style-type: none"> • Radius Authentication Client MIB (RFC2618) • Remote Ping, Traceroute MIB (RFC2925) • Support TP-Link private MIBs • RMON MIB(RFC1757, rmon 1,2,3,9)

Ordering Information

Host Switch

Model	Description
SG2005P-PD	Omada 5-Port Gigabit Smart Switch with 1-Port PoE++ in and 4-Port PoE+ out

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.

PoE budget calculations are based on laboratory testing. Actual PoE power budget is not guaranteed and will vary as a result of client limitations and environmental factors.

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