

	Base Station		CPE					
Product Picture								
Model	WBS510	WBS210	CPE710	CPE610	CPE605	CPE510	CPE210	CPE220
Description	5GHz 300Mbps Outdoor Wireless Base Station	2.4GHz 300Mbps Outdoor Wireless Base Station	5GHz 867Mbps 23dBi Outdoor CPE	5GHz 300Mbps 23dBi Outdoor CPE	5GHz 150Mbps 23dBi Outdoor CPE	5GHz 300Mbps 13dBi Outdoor CPE	2.4GHz 300Mbps 9dBi Outdoor CPE	2.4GHz 300Mbps 12dBi Outdoor CPE
Memory Information	64MB DDR2, 8MB Flash		128MB DDR2, 16MB Flash		64MB DDR2, 8MB Flash			
Compatibility	802.11ah	802.11 b/g/n	802.11 a/n/ac		802.11 a/n		802.11 b/g/n	802.11 b/g/n
Frequency	5.15-5.85 GHz		2.4-2.483 GHz		5.15-5.85 GHz			2.4-2.483 GHz
Maximum Data Rate	300 Mbps		867 Mbps	300 Mbps	150 Mbps	300 Mbps		
Antenna	-	-	23 dBi			13 dBi	9 dBi	12 dBi
External Antenna Interface	2 RP-SMA connectors for MIMO antenna		-					
Transmission Power	27 dBm	27 dBm	25 dBm	23 dBm	26 dBm	25 dBm	30 dBm	
Weatherproof Enclosure	IP65						IPX5	
ESD Protection	15KV							
Lightning Protection	6KV							
MIMO		•					•	
Ethernet Ports	2x 10/100 Mbps		1x 10/100/1000 Mbps		1x 10/100 Mbps			2x 10/100 Mbps
Grounding Protection Terminal	•							
Power Supply Method	24V Passive PoE Adapter							
Operation Modes	AP / Client / AP Router / AP Client Router (WISP)							
Advanced Functions	MAXtream TDMA Technology (Time Division Multiple Access)*							
Remote Management	Central Network Management Applications; Web-based GUI management; SNMP V2c							
Utilities	Spectrum Analyzer; Wireless Statistics; Antenna Adjustment; Distance Adjustment; Ping Watch Dog; Throughput Monitor; Wireless Speed Monitor							
Certifications	CE, FCC, RoHS, IP65		CE, FCC, RoHS, IP65			CE, FCC, RoHS, IPX5		
Dimensions (W x D x H)	7.8 x 3.0 x 1.6 in. (198 x 75 x 40 mm)		14.4 x 11 x 8.1 in. (366 x 280 x 207 mm)		13.8 x 9.8 x 8.1 in. (350 x 255 x 207 mm)		8.8 x 3.1 x 2.4 in. (224.3 x 79 x 60 mm)	
Environment	Operating Temperature: -40°C~70°C (-40°F~158°F), Storage Temperature: -40°C~70°C (-40°F~158°F), Operating Humidity: 10%~90% non-condensing, Storage Humidity: 5%~95% non-condensing							

*CPE710 doesn't support MAXtream TDMA Technology

Case Study

TP-Link for WISPs - Providing Reliable Wireless Connectivity in Peru



Background

Kroton is a medium-sized communications equipment supplier in Latin America. Marlon, one of Kroton's most valued clients, recently needed to develop a solution that was capable of functioning in the challenging environments where larger internet service providers do not offer access. Marlon's small WISP business provides wireless internet access to approximately 150 users in the Villa Maria del Triunfo area of Lima, Peru. Marlon's goal was to provide internet access for remote subscribers whose homes are scattered throughout this suburban area, where a robust communications infrastructure does not yet exist.

Challenges

- Customers are dispersed over a wide area.
- There are a number of other WISPs that already serve the residents of Villa Maria.
- Efficient network management is required.
- The network must be reliable and stable.



Solution

Pharos Series devices met the stated performance demands and represented a cost-effective enterprise-class outdoor wireless solution. A series of WBS510 Base Stations and Dish Antennas provided wireless backhaul connections, and CPE510s allowed local subscribers to access the internet. Pharos Control allowed administrators to easily and efficiently manage the network.



Customer Benefits

The network has been providing excellent service since February 2015 and is greatly exceeding Marlon's initial expectations. Marlon has since undergone preparations for the installation of even more Pharos Series devices, and Kroton continues to recommend the TP-Link Pharos Solution to its WISP clients.

Highlights from Marlon's feedback:

- Better Coverage** — Service has been extended into areas where access was previously unavailable.
- Security** — The network is notably more stable and the signal is better than that offered by the competitors.

Powerful Support

In addition to the Pharos solution and high-quality products, TP-Link also provides whole service for complete client satisfaction.

► Certification and Training

The TP-Link Certification and Training system is a free online, on-demand training program that provides professional coursework and exams focused on specific technologies. Access professional training to develop your skills and gain certification to enhance your business.



Designed for sales professionals, the TPNA SMB (TP-Link Network Associate for SMB) Certification attests to your acquired advanced network and wireless knowledge. It also certifies that you can explain and differentiate TP-Link SMB products based on criteria such as usage scenarios, configuration methods, software functions, and involved technologies.



Designed for technical professionals, the TPNP (TP-Link Network Professional) SMB Routing & Switching and Business Wi-Fi Certifications attest to your knowledge of Routing & Switching related to TP-Link Switches. Both also certify your ability to deploy indoor and outdoor business Wi-Fi, including assessment, installation, and maintenance.

► TP-Link Partner Program

<https://partner.tp-link.com/>

TP-Link's success as a provider of network solutions has been built on its relationship and unrivaled commitment to its partners. For Value-added Resellers (VARs) and System Integrators (SIs) looking for access to even better deals and internet access for remote subscribers whose homes are scattered throughout this suburban area, where a robust communications infrastructure does not yet exist.



- Deal Registration
- Marketing Materials
- Sales Tools
- Knowledge Base
- Training & Certification
- Support
- Promotions

Join TP-Link Partner Program, Earn More Margin

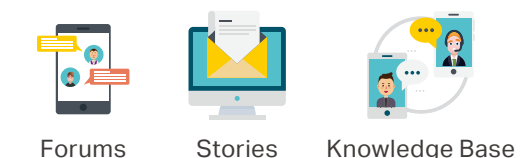
The Partner Program and benefits vary according to your region. Please contact your local TP-Link representative for more information.

► SMB Community

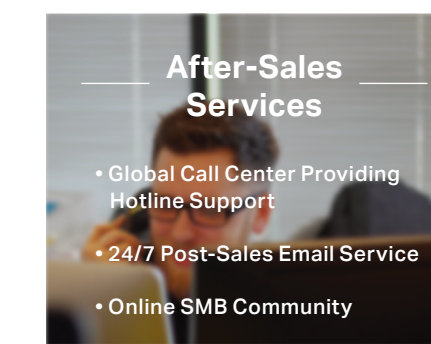
<https://community.tp-link.com/en/business/>



Technical support and case sharing. Your direct dialogue with TP-Link. When it comes to SMB, we know you want to learn more...



► Excellent Pre- and After-Sales Services



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*Actual products may vary from image.

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PHAROS Solution

Apr. 2020

WISP | PtP | PtMP Solutions
Ideal for Wireless Broadband Networking

Professional
Reliable
Secure



PHAROS Solution

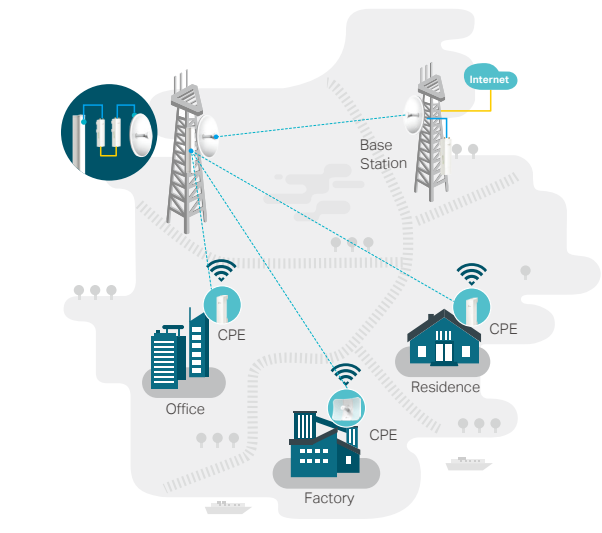
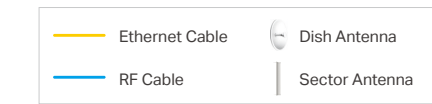
Pharos is TP-Link's next-generation outdoor product series, providing long-range outdoor wireless networking solutions for applications such as WISP, Enterprise Bridge (P2P), and Wireless Surveillance (PtMP). The line consists of professional outdoor hardware devices, including CPEs, base stations, and MIMO antennas. Each device is also compatible with the powerful PharOS web-based interface and the Pharos Control centralized management platform.

Management / Products



WISP Solution

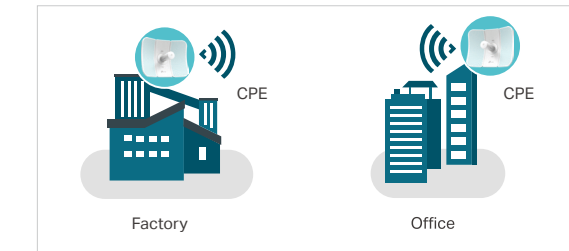
TP-Link Pharos Series offers excellent performance and value, allowing providers to offer excellent quality of service and create satisfying experiences for customers. This solution allows WISPs to effectively transmit internet connections from a remote service center to local markets and reach customers who live in sparsely populated areas.



Note: Please find the detailed specifications on page 6.

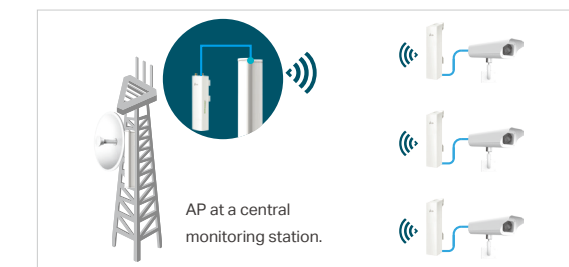
Enterprise Bridge

Simple PtP links can be used to transmit an internet connection from one place to another or to transmit data between two distant locations.



Wireless Surveillance

PtMP coverage provides a perfect wireless surveillance solution for construction sites, mining sites, logging sites, and more. It is suitable for deployment in areas where wired surveillance systems may be inconvenient.



Solution Features

Enterprise-Level Hardware Design Provides Maximum Performance

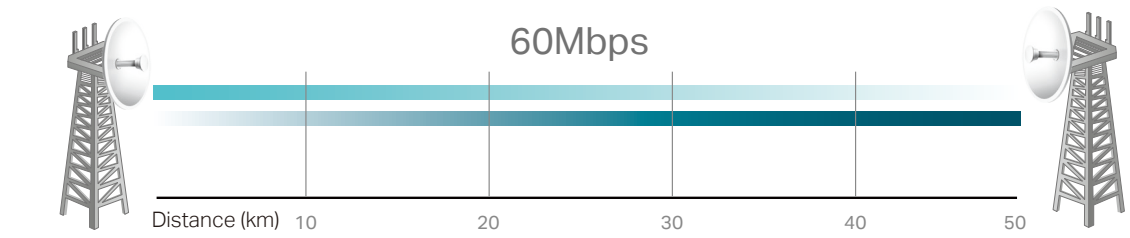
In order to maximize the performance and stability of the wireless network, Pharos Base Stations contain Qualcomm Atheros enterprise-level chipsets, high-gain antennas, and high-power amplifiers.



*CPE710 is equipped with Qualcomm Atheros Enterprise 750 MHz CPU.

Proven Stable Throughput That Exceeds Your Expectations

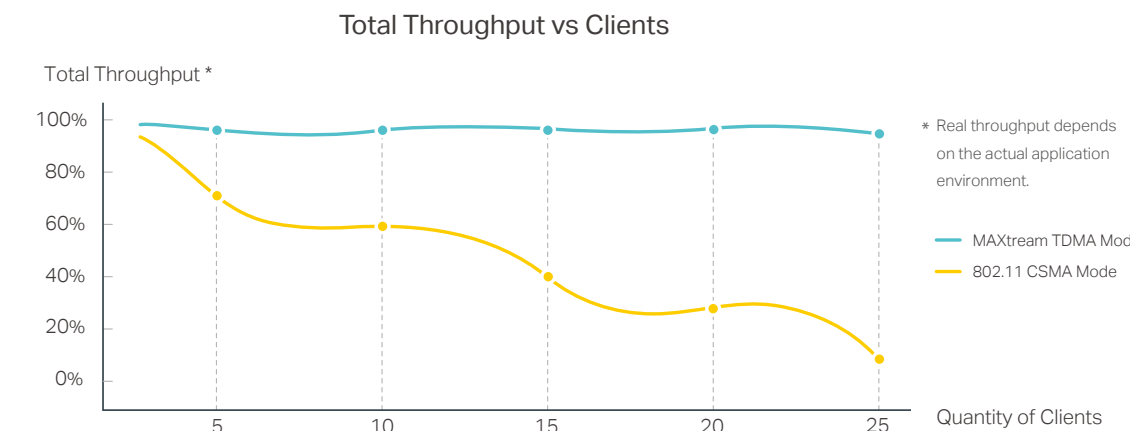
Pharos Series devices are proven to provide exceptional network speeds, helping you overcome the bottleneck effect that plagues most existing networks. The real throughput of a Pharos Base Station in a Point-to-Point link usually exceeds 60 Mbps—a feat that no other product its price range can achieve.



Note: Actual range and throughput may vary and depend on the transmit power and environmental factors such as wireless interference, obstacles, weather etc.

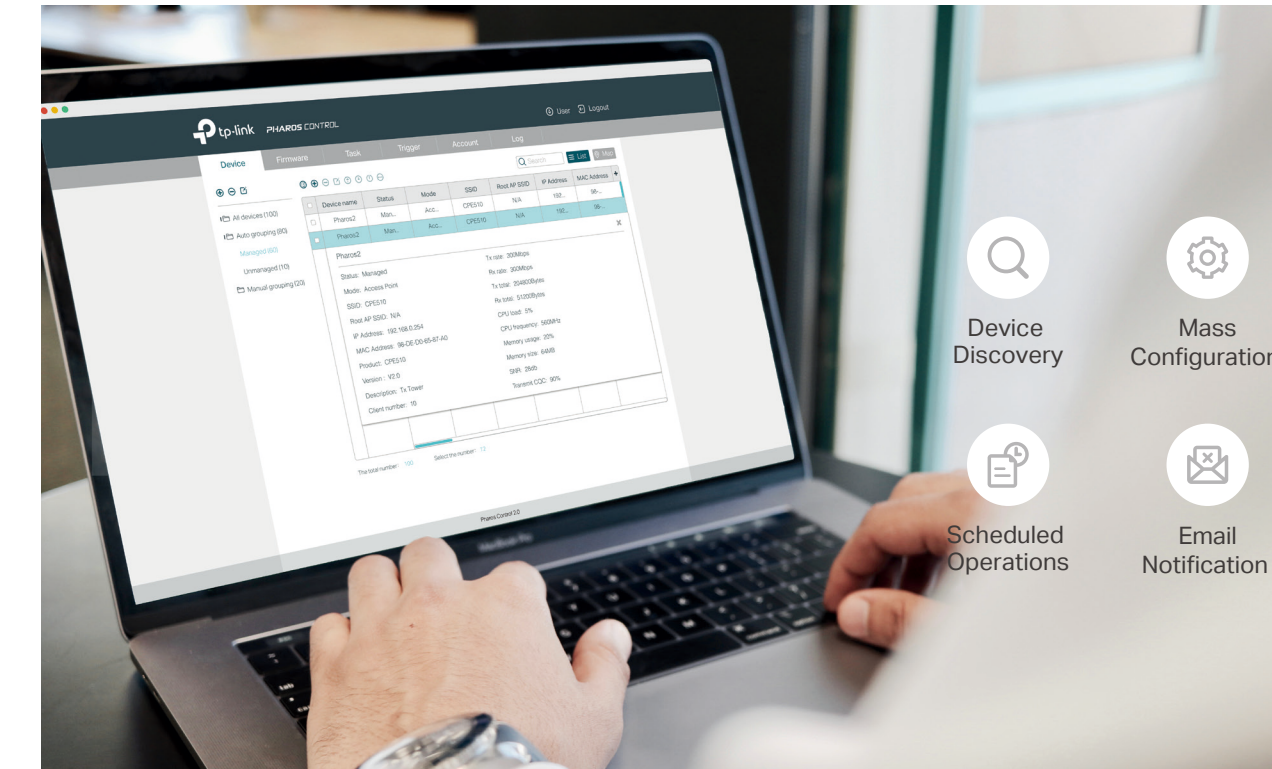
MAXtream TDMA Technology Brings Performance to a Whole New Level

To ensure optimal network performance, TP-Link has incorporated MAXtream TDMA Technology into the Pharos solution. This helps mitigate the effects of signal competition and collisions, which frequently occur on large networks with many client devices. It also enhances and protects the effective throughput of crowded networks.



Centralized Management Platform Easily Controls All Devices

CPEs and base stations are usually distributed and installed throughout vast geographic areas. Therefore, individual, on-site management of devices represents a major inconvenience. Pharos Control is a free centralized management platform that allows WISPs to manage and control every network device from any connected PC.



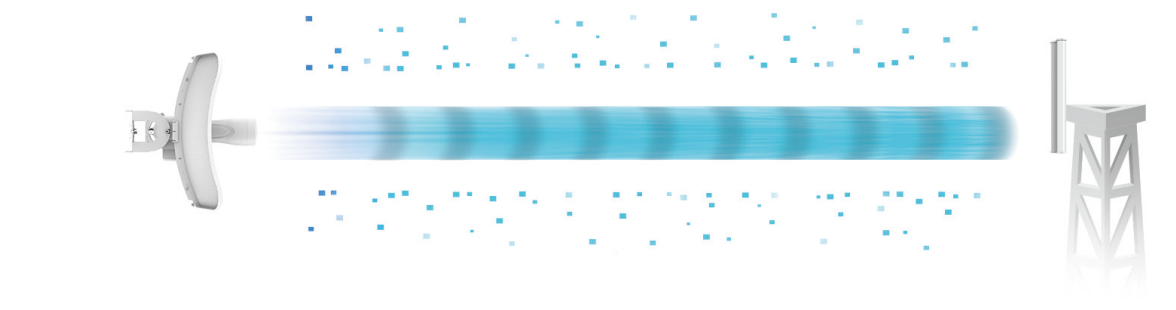
Exceptional Industrial Design for Harsh Environments

To maximize performance and stabilize long distance wireless transmissions, the Pharos Series features specially designed weatherproof enclosures and PoE capability. This industry-leading hardware ensures that the Pharos Series can be deployed in a wide variety of environments, withstanding broad ranges of humidity and temperature (-40~70°C) (-40~158°F).



Directional Antenna for Long-Distance Wi-Fi Transmission

With a 23 dBi high-gain directional Cassegrain antenna and dedicated metal reflector, CPE710, CPE610, and CPE605 provide excellent beam directivity, improved latency, and noise cancellation. Professional performance, coupled with user-friendly design, makes the CPE an ideal choice and cost effective solution for long-distance outdoor wireless networking applications.



Frequency	Products	Max Range
WISP Backhaul		
2.4 GHz	WBS210 and TL-ANT2424MD + WBS210 and TL-ANT2424MD	30 km
5 GHz	WBS510 and TL-ANT5830MD + WBS510 and TL-ANT5830MD	50 km
WISP Coverage		
2.4 GHz	WBS210 and TL-ANT2415MS + CPE210	5 km
	WBS210 and TL-ANT2415MS + CPE220	13 km
5 GHz	WBS510 and TL-ANT5819MS + CPE510	15 km
	WBS510 and TL-ANT5819MS + CPE605	20 km
	WBS510 and TL-ANT5819MS + CPE610	25 km
	WBS510 and TL-ANT5819MS + CPE710	25 km
Enterprise Bridge		
2.4 GHz	CPE210+CPE210	5 km
	CPE220+CPE220	13 km
5 GHz	CPE510+CPE510	15 km
	CPE605+CPE605	20 km
	CPE610+CPE610	30 km
	CPE710+CPE710	30 km
Wireless Video Surveillance Data Link		
2.4 GHz	WBS210 and TL-ANT2415MS + CPE210	5 km
	WBS210 and TL-ANT2415MS + CPE220	13 km
5 GHz	WBS510 and TL-ANT5819MS + CPE510	15 km
	WBS510 and TL-ANT5819MS + CPE605	20 km
	WBS510 and TL-ANT5819MS + CPE610	25 km
	WBS510 and TL-ANT5819MS + CPE710	25 km

Note: All products are tested in real outdoor environments. Actual range and throughput depend on the transmit power and environmental factors such as wireless interference, obstacles, weather, etc.