# PHAROS⬛ Solution

*2021*

## WISP | PtP | PtMP Solutions

Ideal for Long Range Wireless Broadband Networking
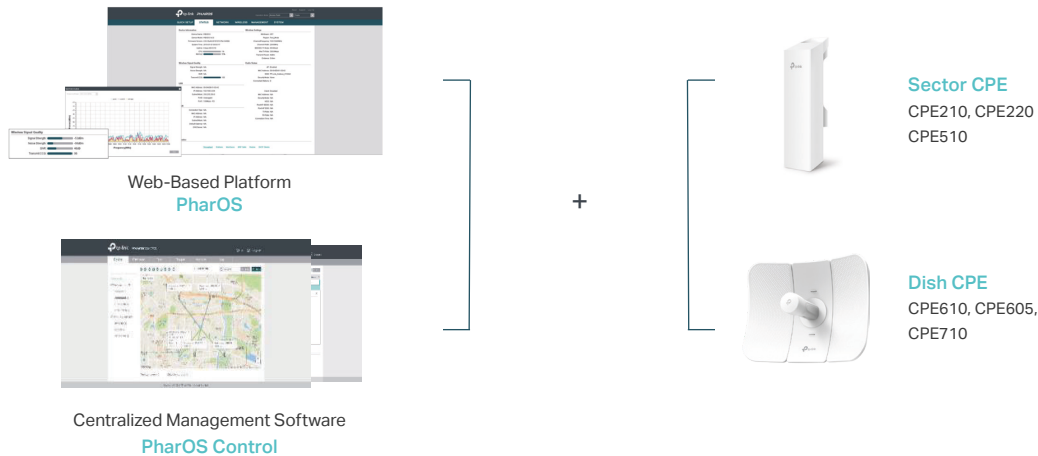
Professional
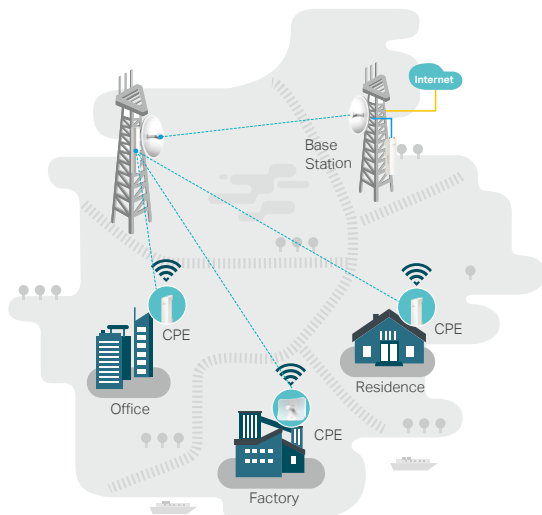Reliable
Secure

tp-link

# PHAROS Wireless Broadband

Pharos is TP-Link's next-generation outdoor product series, providing long-range outdoor wireless networking for applications such as WISP, Enterprise Bridge (PtP), and Wireless Surveillance (PtMP). The line consists of professional outdoor directional CPEs, and powerful PharOS web-based interface and the Pharos Control centralized management platform are available.

## Management / Products

Web-Based Platform
**PharOS**

Centralized Management Software
**PharOS Control**

+

**Sector CPE**
CPE210, CPE220
CPE510

**Dish CPE**
CPE610, CPE605,
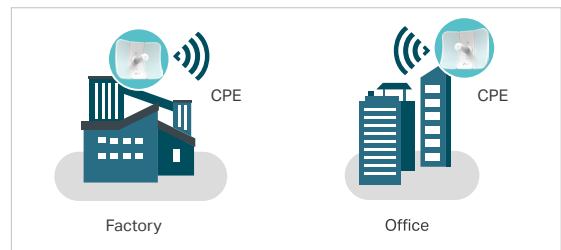CPE710

## 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.

Internet

Base
Station

CPE

CPE

Office
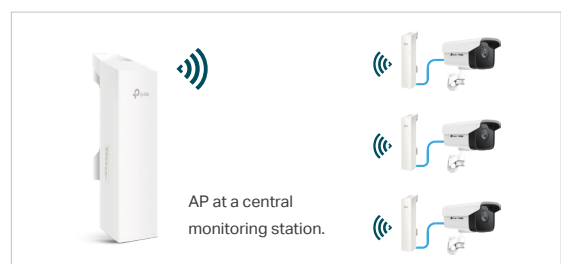
CPE

Residence

Factory

## Enterprise Bridge (PtP)

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

CPE

CPE

Factory

Office

## Wireless Surveillance (PtMP)

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.
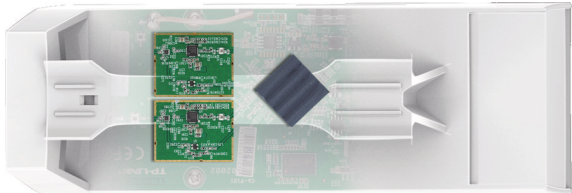
AP at a central
monitoring station.

Note: Please find the detailed specifications on page 5.

# Solution Features

## ❯ Enterprise-Level Hardware Design Provides Maximum Performance

In order to maximize the performance and stability of the wireless network, Pharos products contain Qualcomm Atheros enterprise-level chipsets, high-gain antennas, and high-power amplifiers.
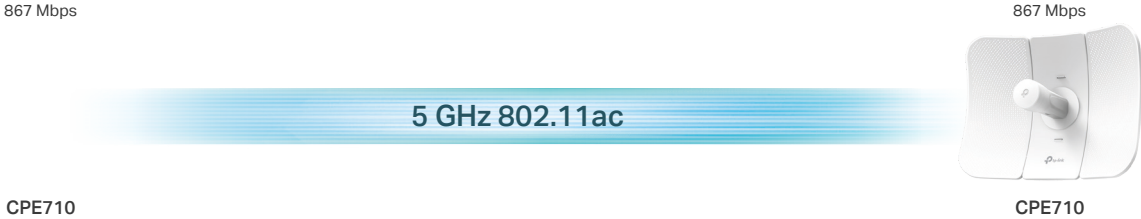
Qualcomm Atheros
Enterprise 560 MHz CPU*

High power Tx and high
sensitivity Rx radio front-end design

*CPE710 is equipped wiht 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 product in a Point-to-Point link usually exceeds expectations—a feat that no other product its price range can achieve.

867 Mbps                                                                 867 Mbps

**5 GHz 802.11ac**

CPE710                                                                    CPE710

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

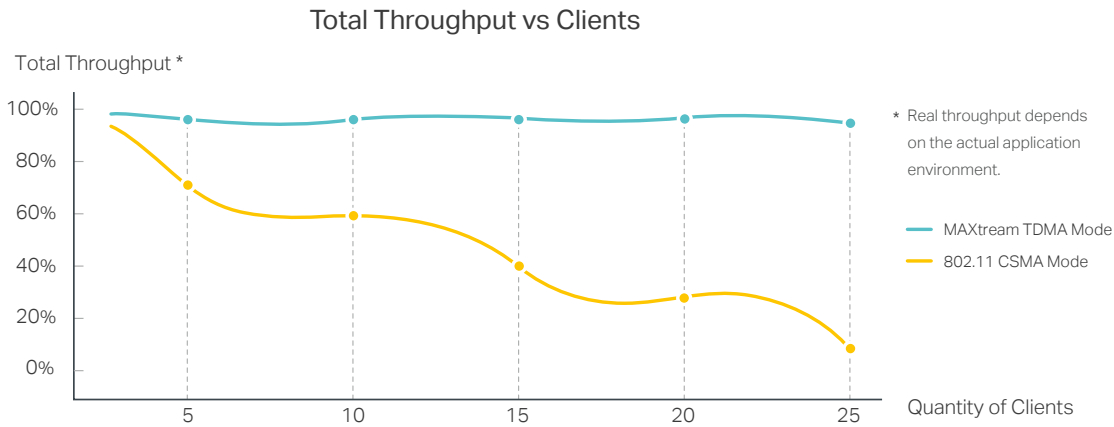## ❯ Directional Antenna for Long-Distance Wi-Fi Transmission

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 |
|---|---|---|
| | 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 |

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.

## ❯ 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.

### Total Throughput vs Clients

Total Throughput *

| | |
|---|---|
| 100% | |
| 80% | |
| 60% | |
| 40% | |
| 20% | |
| 0% | |

5   10   15   20   25    Quantity of Clients

* Real throughput depends on the actual application environment.

— MAXtream TDMA Mode
— 802.11 CSMA Mode

## ❯ Centralized Management Platform Easily Controls All Devices

CPEs 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.

Device Discovery

Scheduled Operations

Mass Configuration

Email Notification

## ❯ 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℃) (-40~158°F).

Wind-resistant Construction

Easy Assembly & Flexible Installation

Weatherproof Enclosure

6KV Lightning Protection

15KV ESD Protection

Survive in -40~70℃

| | CPE | | | | | |
|---|---|---|---|---|---|---|
| Product Picture |  |  |  |  |  |  |
| Model | CPE710 | CPE610 | CPE605 | CPE510 | CPE210 | CPE220 |
| Description | 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 | 128MB DDR2, 16MB Flash | 64MB DDR2, 8MB Flash | | | | |
| Compatibility | 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 | |
| Maximum Date Rate | 867 Mbps | 300 Mbps | 150 Mbps | 300 Mbps | | |
| Antenna | 23 dBi | | | 13 dBi | 9 dBi | 12 dBi |
| Transmission Power | 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 | 1× 10/100/1000 Mbps | 1× 10/100 Mbps | | | | 2× 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, IPX5 | | |
| Dimensions (W × D × H) | 14.4 × 11 × 8.1 in (366 × 280 × 207 mm) | 13.8 × 9.8 × 8.1 in (350 × 255 × 207 mm) | | 8.8 × 3.1 × 2.4 in (224.3 × 79 × 60 mm) | | 10.9 × 3.1 × 2.4 in (275.8 × 79 × 60 mm) |
| Environment | Operating Temperature: -40~70 °C (-40~158 °F); Storage Temperature: -40~70 °C (-40~158 °F) Operating Humidity: 10~90% RH Non-Condensing; Storage Humidity: 5~90% RH Non-Condensing | | | | | |

# Case Study



Scan for more info

## WISPs in Peru

**Location:** Peru, South America
**Products:** CPE510, and a series of TP-Link products for 150 subscribers
**Solution:** Pharos Series devices met the stated performance demands and represented a cost-effective enterprise-class outdoor wireless solution. Pharos products provided wireless backhaul connections, and allowed local subscribers to access the internet. Pharos Control allowed administrators to easily and efficiently manage the network.

### Testimonial

"The performance of CPE was better than expected, working stable even with -85 dBm of received power."
—David Grillo, Engineer, Kroton



Scan for more info

## WISP in Indonesia

**Location:** Jakarta, Indonesia
**Products:** CPE210, and a series of TP-Link products
**Solution:** TP-Link's Pharos Series provides a high performance, enterprise class outdoor wireless solution that is also cost-effective. The point-to-point long distance wireless backhaul and point-to-multipoint wireless coverage is created using Pharos products.

### Testimonial

"Amazing! The performance of the Pharos Wireless Broadband Solution has exceeded even our wildest expectations."

– Bagus Prakoso, owerner of the local ISP.

# Powerful Support

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

## ❯ 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 tailored support, TP-Link has designed the TP-Link Partner Program to reward loyalty and help grow business.

## ❯ 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...

Forums      Stories      Knowledge Base

## ❯ Excellent Pre- and After-Sales Services

### After-Sales Services

• Global Call Center Providing Hotline Support

• 24/7 Post-Sales Email Service

• Online SMB Community

### Quality of Service

• Replacement and Warranty

• Constant Firmware Updates from Cloud Service

### Tech Solutions

• Online Training and Certifications—TPNA & TPNP

• Specialized Support Team Locally and Abroad

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