

# AltoPlex P421 Bridge Kit

## 60GHz Outdoor Wireless Gigabit Network Bridge

The P421 Bridge Kit is a pair of 60GHz radios with integrated 128-element beamforming antennas that provide best-in-class link resiliency and full capacity range in a very compact form factor. It is pre-configured for point-to-point (PtP) connectivity.

P421 radios are carrier-grade, manufactured in the USA and feature IP67 weather-sealing for reliable operation outdoors and in harsh environments.

The P421 Bridge Kit includes everything needed to quickly install a multi-gigabit point-to-point link.



### High Capacity

Up to 2Gbps aggregate

### Low Latency

Sub 1ms latency

### Adaptive Beamforming

128-element, phased array, beamforming antenna with 90° azimuth and 40° elevation scanning for maximum link resiliency and ranges up to 1312ft (400m) MCS-9

### Gigabit Ethernet

Built-in gigabit RJ45 port

### Wi-Fi Management and GPS Location

Connect locally using the Wi-Fi network interface to manage the radio directly. Easily locate the radio using the integrated GPS receiver.

### Dense Network Ready

60GHz spectrum with beamforming and TDMA for extremely reliable dense networks

### Security

AES 128 encryption with automatic secure key distribution

### Carrier-Grade

IP67 rated enclosure and built in USA for reliable, long-term operation in the field

### Simple and Rapid Installation

Altowav's antennas auto-align for easy installs. Our Open API and native Layer 2 architecture enable easy integration into operators' existing networks

# Specifications

## SYSTEM

<b>Configuration</b>	Point-to-Point
<b>Frequencies</b>	57 - 66GHz
<b>Channel Bandwidths</b>	4 non-overlapping 2.16GHz channels
<b>Channel Access</b>	TDMA/TDD
<b>Modulation and Coding Schemes</b>	12 levels, adaptive—MCS-0 (BPSK) to MCS-12 (16QAM)
<b>Antenna</b>	Integrated 128-element beamforming antenna with wide scanning range: 90° azimuth, 40° elevation
<b>Maximum EIRP</b>	40dBm
<b>Range</b>	Up to 400m (MCS9)
<b>Capacity</b>	Up to 2Gbps aggregate
<b>Ethernet Frame Type</b>	Transparent bridging of all Ethernet types including VLAN and VLAN stacking
<b>Latency</b>	< 1ms
<b>L2 switching</b>	Complete Layer 2 switching, including VLAN support
<b>Security</b>	AES 128
<b>Location</b>	Integrated GPS receiver to identify and locate individual radios

## CONNECTIVITY

<b>Ethernet</b>	1 x 1GbE RJ45
<b>Voltage</b>	56VDC
<b>PoE Input</b>	802.3af
<b>Power Consumption</b>	11W maximum
<b>Included PoE Injectors</b>	Indoor 802.3af (15W) 1GbE PoE injector with 2.6ft (0.8m) US power cord

## MANAGEMENT

<b>Management</b>	Web GUI, CLI, REST API and AltoCommand (optional)
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## MECHANICAL

<b>Dimensions (H x W x D)</b>	5.9" x 3.8" x 1.4" (150 x 95 x 35mm)
<b>Weight</b>	14oz (400g)
<b>Operating Temperature</b>	-40° to +131°F (-40° to +55°C) -22°F (-30°C) cold start
<b>Casing</b>	Die-cast powder-coated aluminum chassis with PC-ABS radome
<b>Ingress Protection</b>	IP67
<b>Regulatory</b>	FCC, IC
<b>ESD</b>	IEC EN 61000-4-2
<b>EMC</b>	IEC EN 61000-4-3
<b>Mounting</b>	Integrated wall and pole mount supporting .5" band clamps. Additional mounting accessories supporting elevation adjustment are available.

## INCLUDED ACCESSORIES (2 ea.)

<b>AX-P-IN-AF-1G-US</b>	Indoor 802.3af (15W) 1GbE PoE injector with 0.8m US power cord
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## ACCESSORIES

<b>AX-AW3-MT-WALL</b>	Wall standoff bracket that enables azimuth adjustment
<b>AX-AW3-EXT-MOUNT</b>	Extended range pole mounting kit for AltoPlex radios, enabling up to +60/-45° elevation adjustment
<b>AX-PSW-OD-4AT-4C25</b>	Outdoor 4 port PoE 2.5GbE switch
<b>AX-PSW-OD-MOUNT</b>	Pole mount bracket for Outdoor PoE switch