# K60
## 60GHz Outdoor
## Wireless Network Radio Unit

The K60 is a 60GHz radio with integrated 128-element beamforming antenna that provides best-in-class link resiliency and full capacity range. It supports Point-to-Multi-Point (PtMP) and can be configured as either hub or remote for maximum flexibility.

The K60 is carrier-grade, manufactured in the USA and features IP67 weather-sealing for reliable operation outdoors and in harsh environments. It is ideal for both distribution and client applications where its second port can connect and power a collocated device.

## High Capacity
Up to 1Gbps symmetrical

## Low Latency
Sub 1ms latency

## Dynamic Resource Allocation
Network capacity is automatically adjusted based on per endpoint downlink and uplink utilization

## Adaptive Beamforming
128 element, phased array, beamforming antenna with 90° horizontal and 40° vertical scanning
for maximum link resiliency and ranges up to 400m at full capacity

## Gigabit Ethernet
Built-in gigabit Ethernet with PoE output for connecting a camera, Wi-Fi AP, or collocated Altowav radio unit

## Dense Network Ready
60GHz spectrum with beamforming and interference cancellation allows for extremely dense networks

## Security
AES 128 encryption with automatic secure key distribution

## Carrier-Grade
IP67 rated enclosure (requires Harting connectors) and built in USA for reliable, long-term operation in the field

## Simple and Rapid Installation
Altowav's antennas auto-align for easy installs, and our Open API and native layer 2 architecture enable easy integration into operators' existing networks

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# Specifications

## SYSTEM

| | |
|---|---|
| **Configuration** | Point to Point and Point to Multipoint |
| **Frequency and Duplexing** | 57.24 - 63.72GHz TDD |
| **Channel Bandwidths** | 3 non-overlapping 2.16GHz channels |
| **Modulation** | 8 levels of adaptive modulation and coding schemes |
| **Antenna** | Integrated beamforming antenna with wide scanning range: Horizontal:  90° Vertical:  40° |
| **Maximum Output Power to Antenna** | 20dBm |
| **Full Capacity Range** | 400m |
| **Capacity** | Up to 1Gbps symmetrical |
| **Ethernet Frame Type** | Transparent bridging of all Ethernet types including VLAN and VLAN stacking |
| **Latency** | 250µs average TDD |
| **L2 Switching** | Complete Layer 2 switching, including VLAN support |
| **Security** | AES 128 |
| **PtMP Remote Support** | Up to 8 remote stations |

## MECHANICAL

| | |
|---|---|
| **Dimensions (H x W x D)** | 6.2" x 3.9" x 1.9" (157 x 99 x 48mm) |
| **Weight** | 14oz (400g) |
| **Operating Temperature** | -30° to +55°C |
| **Ingress Protection** | IP67 (requires Harting connector) |
| **Regulatory** | FCC, IC |
| **ESD** | IEC EN 61000-4-2 |
| **EMC** | IEC EN 61000-4-3 |

## CONNECTIVITY

| | |
|---|---|
| **Ethernet** | 2 x 1000BASE-T HARTING PushPull V4 RJ45 |
| **Voltage** | 56VDC (802.3at, or 802.3bt PoE input) |
| **PoE Output** | Up to 802.3at |
| **Power Consumption** | 8W maximum (not including PoE output) |

## MANAGEMENT

| | |
|---|---|
| **Management** | Web GUI, CLI, REST API and Altowav Edge Controller (optional) |

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