HaulPass V60s™

Gigabit Ethernet Wireless Link

PRODUCT BRIEF

The HaulPass V60s is an advanced 60 GHz V-Band millimeter wave broadband wireless data connectivity solution that delivers low-latency, full-duplex Gigabit Ethernet transport speeds in a small, ruggedized, easy-to-install enclosure.

Full Duplex, One Gigabit Wireless Ethernet
(Two Gigabit Aggregate)

Advanced Wireless Technology

The HaulPass V60s supports full-duplex, V-Band millimeter wave wireless links with 7 GHz of allocated spectrum bandwidth, advanced intelligence, and comprehensive Ethernet switching functionality. Integrated low-latency forward error correction (< 50 µs) assures data transmission reliability.

Line-of-sight wireless connections can span up to 750 meters (0.5 miles). Multiple HaulPass V60s can be daisy-chained for longer distances. The V60s features a fully integrated dual-port Gigabit Ethernet switch.

Weighing only 2.4 kg (5.2 lbs), the HaulPass V60s is housed in a ruggedized outdoor enclosure, designed for extreme weather operation. Powered via POE+, the system draws less than 15 watts.

Typical Use Cases

The HaulPass V60s provides an ideal solution for a variety of networking applications. Typical deployments include line-of-sight data links that would otherwise be impossible or cost prohibitive with fiber-optic cable, such as:

- Connecting LANs between buildings
- Extending fiber backbones
- Wireless backhaul for mobile networks

HaulPass V60s Features

- High-bandwidth, point-to-point wireless links
- V-Band license-free operation
- 750-meter range for line-of-sight applications
- Small, lightweight footprint
- Cost-effective, easy-to-deploy solution
- Full duplex (FDD), wire-speed Gigabit Ethernet
- Low power requirements via POE+
- Fully integrated dual-port Ethernet switch

Efficient V-Band Operation

The HaulPass V60s operates at 60 GHz, the de facto standard for mobility backhaul. V-Band wireless technology provides a number of inherent benefits, including license-free operation, interference immunity, and ease of deployment.

Bandwidth for Today and the Future

Benefit from a future-proof solution that meets the high-speed wireless needs of today and into the future. Full-duplex, Gigabit Ethernet support eliminates the need to replace hardware in a year or two as bandwidth requirements grow.

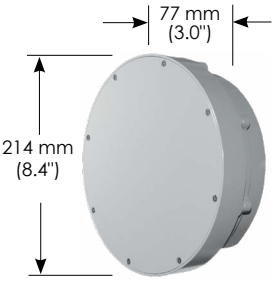
Save Time and Money

Achieve immediate ROI with an economic price point and rapid deployment. Enterprises, carriers and service providers will save thousands of dollars in trenching and fiber installation costs, as well as ongoing data communications charges.

Vubiq Networks

Vubiq Networks is a recognized innovator in V-Band technology. Our team has over 35 years of wireless experience and more than a decade in V-Band broadband wireless innovation.

Carrier Frequencies	• Low 58.85 GHz, High 63.17 GHz
Channel Bandwidth	• 1.5 GHz
Modulation	• Vector modulated OOK – US Patent No. US 8,385,461 B1
Throughput	• Full Duplex (FDD), wire-speed one gigabit Ethernet (two gigabit aggregate)
Transmit Power	• +10 dBm maximum
Receive Noise Figure	• 6 dB
Antenna Gain	• 38 dBi
Antenna Beamwidth	• 1.8° at -3 dB
FEC	• Reed-Solomon
Overall Latency	• <50 µs delay
Status LEDs	• LEDs provide Link connectivity and Bit Error Rate (BER) for easy alignment
Ethernet Interfaces	• Two Full Duplex • 1000Base-T RJ45 • Auto-negotiation, MDI/MDI-X • Address learning, aging and lookup • Jumbo frame support to 10K
Carrier Ethernet Options	• Feature rich CE networking with QoS, VLAN, MPLS-TP, policers, MEF CE 2.0 compliant • TCAM-based QoS classification • L2 switching/L2 multicast
Network Topologies	• Ring, daisy chain, mesh
Network Management	• HTTP web server with GUI client • Command line interface (CLI) • Simple Network Management Protocol (SNMP) v 2.0 with private MIB and radio MIB
Software Features	• Enhanced Automatic Gain Control (AGC) provides stability and performance enhancements for easier alignment, near zero packet loss, and greater link quality • Digital Signal Strength Indicator (DSSI) improves measurement of link quality, accounting for multipath, noise, and environmental barriers • Remote update provides easy and seamless updating of firmware and software
Link Range	• Up to 750 meters (0.5 miles) line of site (LOS)
Power Requirements	• 15 watts maximum, POE+ on RJ45 port 1, 802.3at Type 2
Weight	• 2.4 kg (5.2 lbs), less mounting bracket
Dimensions	• 214 mm (8.4") diameter • 77 mm (3.0") length
Water/Dust Ingress	• IP67
Operating Temperature	• -40°C to 55°C (-40°F to 130°F)



HaulPass V60s Dimensions


Rear View Detail Showing
Link (Blue) and BER (Red) LEDs

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