

Unparalleled Access Point

IP67 Gigabit Point-to-Multipoint



Overview

The Shogun backhaul is the easiest to deploy and highest capacity unlicensed 5 GHz backhaul solution for short and mid-range link applications*.

*Approximately 0 to 10km, distances and speeds may vary due to local regulatory restrictions

Function

Ultra Rugged

Carrier grade IP67 design allows the Backhaul Access Point to withstand the harshest of environmental conditions

Just Mount and Go

The integrated high gain antenna, and super easy quick mount lets you install the Backhaul Access Point in minutes, and accurately aim it with your smartphone via Wi-Fi.

Easily add new Links

Typical backhaul solutions waste spectrum with every link installed and impacting network capacity. Unique high precision GPS Sync technology allows Shogun products to reuse the same channel network wide, and up to 4 links can auto-coordinate.

Double Reliability

Unlicensed spectrum can be unpredictable. So Shogun custom engineered unique multi-channel and auto-everything technology to protect your links when you encounter interference. The Backhaul Access Point automatically keep your links up with two independent operating channels, and adapting using our auto-everything technology to resolve problems proactively to deliver optimal link speed and reliability. It's like 2 smart links in a single radio!

Incredibly Fast. Incredibly Flexible.

Awarded the fastest unlicensed backhaul in the industry, the Backhaul Access Point also provide extensive bandwidth control options. Dynamic modes automatically adapt with traffic demand and provide ultra low ~1ms link latency for sensitive voice and video communications services. While reserved bandwidth and GPS sync modes allow symmetric or 75/25 traffic direction reservation.

Application



Building to Building

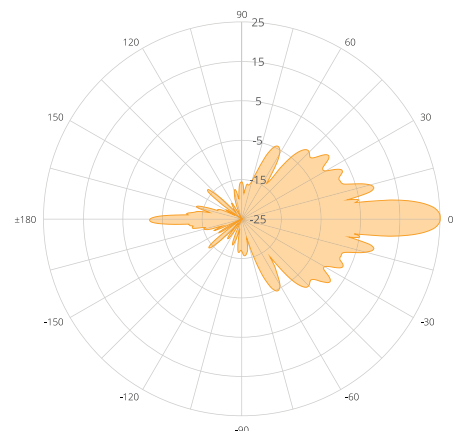


Relay Sites



Tower and Collocation Sites

Plot



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Technical Specification

Performance

Max Throughput	Up to 1.5 Gbps IP aggregate UL/DL (1.7 Gbps PHY)
Low Latency	< 1 ms in Auto Mode
Wireless Protocols	TDMA, TDMA-FD, AUTO TDMA

Radio

MIMO & Modulation	4x4:4 MIMO OFDM up to 256QAM
Bandwidth	Single or Dual 20/40/80 MHz channels
Frequency Range	5150-5875 MHz restricted by country of operation (*new* US/FCC 5600-5650 support)
Max Output Power	30 dBm (2-stream), 27 dBm (4-stream)
Sensitivity (MCS 0)	-87 dBm @ 80 MHz -90 dBm @ 40 MHz -93 dBm @ 20 MHz

Antenna

Gain	25 dBi (Internal)
Beamwidth (3dB)	8° (HPOL and VPOL)
Elevation Adjust	± 20° mechanical adjust
Front-to-Back Ratio	>30 dB
Cross-Polar Isolation	>20 dB
Polarization	Dual-Linear (horizontal & vertical)

Power

Max Power Consumption	20W
System Power Method	48 V DC 802.3 at compliant power injectors
System Lightning & ESD Protection	6 kV
PoE Power Supply	Passive POE compliant, 48-56 V Power over Ethernet supply with IEC61000-4-5 surge protection

Physical

Dimensions	Diameter: 442 mm (17.4") Depth: 362 mm (14.3") with bracket
Weight	4.9 kg (10.8 lbs) with bracket

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Enclosure Characteristics	Single enclosure with radome Outdoor UV stabilized plastic Painted steel bracket plate
Wind Survivability	200 km/h (125 mph)
Wind Loading	39 kg @ 160 km/h (86 lbs @ 100 mph)
Mounting	Pole mounting kit included for 30mm (1.18") to 90mm (3.54") OD pipes
Environmental	
Outdoor Ingress Protection Rating	IP67
Operating Temperature	-40°C to +60°C (-40°F to 140°F)
Operating Humidity	5 to 100% condensing
Operating Altitude	4420 m (14500') maximum
Shock & Vibration	ETS 300-019-2-4 class 4M5
Features	
Gigabit Ethernet	10/100/1000-BASE-T
Dual Link Operation	2 independent dual-stream radios operating on non-contiguous frequencies Automatic load balancing of traffic across 4 total MIMO streams with individual stream encoding up to 256 QAM
Management Services	Cloud monitoring and management SNMPv2 & Syslog IEEE 802.1Q VLAN support legacy monitoring HTTPS HTML 5 based Web UI 2.4 GHz 802.11b/g/n radio for local management access IPv4 Support
Smart Antenna Alignment	Hands-Free dedicated 2.4 GHz Wifi-management radio
Smart Spectrum Management	Active scan monitors/logs ongoing RF interference across channels (no service impact) Dynamic auto-optimization of channel and bandwidth use

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Security	128-bit AES PSK with hardware acceleration
QoS	Supports 4 pre-configured QoS levels
GPS Location	GNSS-1 (GPS + GLONASS)
Colocation Synchronization	1PPS GPS TX/RX synchronization for colocated co-channel radios Adjustable up/downstream bandwidth ratio
Regulatory & Compliance	
Approvals	FCC Part 15.407, IC RSS210, CE, ETSI 301 893/302 502
Other National Regulations (/othernationalregulations)	
RoHS Compliance	Yes