

Atlas Series™

Licensed 4.9 GHz

45 Mbps Wireless Ethernet Bridge for Public Safety



The Atlas P4900M is a rugged, outdoor, point-to-point solution that delivers sustained throughput up to 45 Mbps in the 4.9 GHz licensed band (4940–4990 MHz). This high-performance OFDM radio system is an ideal backhaul solution for long-range data connectivity and IP-video applications for public safety agencies and other 4.9 GHz license holders to build secure, interference-free wireless communications infrastructure with best-in-class features and performance.

Product Highlights

» PERFORMANCE & FLEXIBILITY

The Atlas P4900M is a carrier grade, point-to-point backhaul solution that delivers up to 45 Mbps using the 4.9 GHz licensed band. The P4900M uses a contention-free point-to-point protocol and user-selectable data rates of 6, 12, 18, 24, 36, 48 and 54 Mbps. Outstanding features include electronically switchable dual-polarized antennas, adaptable rate modulation, and automatic retransmit request (ARQ). Packet aggregation allows superior FTP performance over long transmission ranges.

» ANTENNA OPTIONS

The P4900M is available in three versions including two with integrated dual polarized antennas (18 or 22 dBi) as well as a connectorized version for external antennas.

» COMPACT/RUGGED DESIGN

The P4900M is designed to withstand the harshest environments, encased in a heavy-duty aluminum housing. These durable fully weatherized outdoor units offer a small footprint and operate from -40° to 140° F. Radios are powered using Power-over-Ethernet (PoE) ensuring ease of installation and quick deployment.

» SECURITY AND AUTHENTICATION

The Atlas Series features MAC level address authentication, 128-bit proprietary encryption, over-the-air data scrambling, and two-level password control via SSL for secure operation.

» MANAGEMENT FEATURES

The Atlas Series enables remote and local management via Telnet, SNMP and HTTP via browser. Powerful tools such as site survey, asymmetrical bandwidth control, and remote temperature and input voltage measurements allow operators total control/flexibility to monitor and manage their network. The radios also feature a built-in LED alignment tool and a universal mounting bracket to minimize deployment costs.

- Up to 45 Mbps
- 4.9 GHz Public Safety Band
- 30-mile Range
- OFDM, DFS

4.9-GHZ LICENSE GUIDELINES

State and local government entities that provide public safety services are eligible to apply for a 4.9-GHz license. Private entities that provide support services for public safety (such as private service providers), may be eligible for sharing agreements with license holders. The 4.9 MHz band is shared by all licensees, who must coordinate usage of the band with other licensees within their areas of authority.

Atlas P4900M™ Specifications

COMPATIBILITY / RANGE CHART

Model / Part Number	Model Type	Antenna	Range / Fade Margin	
			5 Mbps	45 Mbps
Atlas P4900M-INT-18	Radio w/ integrated antenna	Integrated, 18 dBi	15 miles / 15 dB	2 miles / 10 dB
Atlas P4900M-INT-22	Radio w/ integrated antenna	Integrated, 22 dBi	20 miles / 20 dB	5 miles / 10 dB
Atlas P4900M-EXT	Connectorized radio	External, 27 dBi	30 miles / 26 dB	15 miles / 10 dB

RADIO PARAMETERS

Frequency of Operation	4940 MHz - 4990 MHz
Channels	2 Non-Overlapping Channels
Channel Spacing	20 MHz
RF Power Output	+22 dBm (6Mbps) +18 dBm (54Mbps)
Antenna Polarizations	Horizontal/Vertical (software switchable)
Modulation Format	OFDM
Modulation Speeds	6, 12, 18, 24, 36, 48, 54 Max Conducted power output +17dBm @54Mbps, 22dBm @ 6Mbps
Certification / Compliance	FCC 15.109, FCC 15.203, FCC 15.205, FCC 15.207, FCC 15.209, FCC 15.247, Class B Digital device verification
Receiver Sensitivity (1E10 ⁻⁵ BER)	-90 dBm (6Mbps mode) to -71 dBm (54Mbps mode) typical

DATA AND OPERATIONAL PARAMETERS

User Data throughput	5 Mbps (6 Mbps mode) to 45 Mbps (54 Mbps mode)
Upstream/Downstream Throughput	Dynamic, automatically adjust to suit demand
Bandwidth Control	Asymmetrical MIR bandwidth control
Latency	< 5 ms
Interference Handling	Forward Error Correction (FEC) & Automatic Retransmit Request (ARQ)
Security	Proprietary MAC address authentication; over the air data scrambling; two-level password control.
Encryption	128-bit STEP (Secure Encryption Protocol)
Configuration & Management	Telnet, SNMP, HTTP; TFTP server daemon for firmware upgrades; Built-in Link Performance tests; Remote temperature and input voltage measurement.

PHYSICAL INTERFACES

Ethernet (via shielded RJ45)	10/100 BaseT, auto-sense, auto-negotiate
Reset Switch	Resets radio to factory default IP address, subnet mask, gateway and password
LED Indicators	7 LEDs including 4 RSSI

ANTENNA PARAMETERS

P4900M-INT-18	Gain: 18 dBi, E-plane Beamwidth: 18°, H-Plane Beamwidth: 18° Dimensions: 8.5" x 7.75" x 1.25" (371 mm x 371 mm x 40 mm); Weight: 2 lbs (.91Kg)
P4900M-INT-22	Gain: 22 dBi, E-plane Beamwidth: 9°, H-Plane Beamwidth: 9° Dimensions: 14.6" x 14.6" x 1.58" (371 mm x 371 mm x 40 mm); Weight: 5.5 lbs (2.51Kg)
External Antenna	Gain: 27 dBi Dish, E-plane Beamwidth: 7°, H-Plane Beamwidth: 7° Dimensions: 2' Dish (.6 m); Weight: 15 lbs (8.2 Kg)

POWER PARAMETERS

Power Method	Power-over-Ethernet (PoE) via DC voltage injected at PoE J-box
Voltage Input Limits into Radio	10.5 VDC to 24 VDC max
Standard Power Supply Output	90 - 260 VAC
PoE Cat-5 max Cable Length	300 feet on 24AWG STP Cat-5 cable
Current Draw / Power	350 mA

PHYSICAL AND ENVIRONMENTAL

Radio enclosure	All-weather, polycarbonate
Mounting Provision	Mounts to wall or pole (1" diameter or greater)
Temperature Range	-40 to 60 deg C (-40 to 140 deg F)
User Interface	RJ45 (shielded)

Specifications are typical and subject to change without notice.

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