



POINT-TO-POINT

Atlas 4900™

45 Mbps OFDM Wireless Ethernet Bridge
Licensed 4.9 GHz Public Safety Band

POINT-TO-POINT HIGH-CAPACITY BACKHAUL NETWORKS

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 carrier grade 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.

Management & Site Survey Features

- » Remote & local management via Telnet, SNMP and HTTP
- » Asymmetrical bandwidth control, and remote temperature and input voltage measurements
- » Built-in LED alignment tool, universal mounting bracket to minimize deployment costs

Compact/Rugged Designed for Outdoor Deployment

- » Fully weatherized outdoor units operate from -40° to 140° F
- » Encased in a heavy-duty aluminum housing
- » Rugged conduit adapter, while offering a small footprint
- » Powered using Power-over-Ethernet (PoE) ensuring ease of installation and quick deployment

Antenna Versatility

- » INT models feature built-in dual-polarity panel antenna
- » EXT model features two connectors for external antenna
- » All models feature software-selectable antenna polarity (H/V)

Security and Authentication

- » MAC level address authentication
- » 128-bit proprietary encryption, over-the-air data scrambling
- » Two-level password control via SSL for secure operation

Highlights

- Up to 45 Mbps usable data throughput
- Up to 30-mile range
- Orthogonal Frequency Division Multiplexing (OFDM)
- Adaptable Rate Modulation
- ARQ and FEC for interference mitigation

Performance & Flexibility

- » OFDM radio with a contention-free point-to-point protocol
- » User-selectable data rates of 6, 12, 18, 24, 36, 48 and 54 Mbps
- » Packet aggregation allows superior FTP performance over long transmission ranges

Channel Flexibility & Frequency Agility

- » 24 possible non-overlapping channels across the U-NII and ISM bands *
- » Up to 24 channels combined with dual-polarized antennas allows for exceptional frequency agility *

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.

Compatibility / Range Chart

MODEL	PART NUMBER	MODEL TYPE	ANTENNA	RANGE / FADE MARGIN †	
				5 MBPS	45 MBPS
Atlas 4900™ INT18	ATLAS P4900M-INT-18	Radio w/ integrated antenna	Integrated, 18 dBi	10 miles / 12 dB	1 miles / 11 dB
Atlas 4900™ INT22	ATLAS P4900M-INT-22	Radio w/ integrated antenna	Integrated, 22 dBi	20 miles / 14 dB	3 miles / 10 dB
Atlas 4900™ EXT	ATLAS P4900M-EXT	Connectorized radio	External, 27 dBi	30 miles / 19 dB	7 miles / 10 dB

Specifications

RADIO PARAMETERS	
Frequency of Operation	4940 MHz - 4990 MHz
Channels	2 Non-Overlapping Channels
Channel Spacing	20 MHz
RF Power Output	+17 dBm (6 Mbps), +15 dBm (54 Mbps)
Antenna Polarizations	Horizontal/Vertical (software switchable)
Modulation Format	OFDM
Modulation Speeds	6, 12, 18, 24, 36, 48, 54 Mbps. Max Conducted power output +17 dBm @54 Mbps, 22 dBm @ 6 Mbps
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 ⁻³ BER)	-90 dBm (6 Mbps mode) to -71 dBm (54 Mbps 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 adjusts 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 Trango 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
Radio dimensions	ATLAS P4900M-EXT stand-alone radio: 7" x 7"; ATLAS P4900M-INT-18 and ATLAS P4900M-INT-22 models: see <i>Antenna Options</i>
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)

Contact



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