



# ORiNOCO® AP-4900MR-LR

## Public Safety Broadband Wireless Solutions

### Outdoor Broadband Wireless Access

Proxim Wireless offers the industry's most complete suite of outdoor broadband wireless access products. This portfolio includes:

- **ORiNOCO® AP-4000MR-LR** – outdoor Wi-Fi mesh for service providers and municipalities
- **Tsunami® MP.11** – capabilities of fixed and mobile WiMAX for U.S. and global markets
- **Tsunami® MP.16** – WiMAX for the 3.5 GHz frequency band

Proxim Wireless is a global pioneer in scalable broadband wireless networking. From Wi-Fi to wireless Gigabit Ethernet – our WLAN, mesh, point-to-multipoint and point-to-point products are available through our extensive global channel network.

### Highest-Performance Mesh Access Point Delivers Scalability for Large Public Safety and Wi-Fi Deployments

Supporting both 4.9 GHz public safety and 2.4 GHz metropolitan Wi-Fi networks through dual 4.9/2.4 GHz radios, the ORiNOCO AP-4900MR-LR tri-mode outdoor mesh access point delivers the versatility and feature robustness required by today's demanding emergency response and metro Wi-Fi applications. The AP-4900MR-LR delivers unparalleled enterprise-scale security, management and QoS features, and is pre-configured with tri mode for best-in-class performance and flexibility in large outdoor deployments. The ruggedized form factor is designed for outdoor installations enabling deployments in severe weather conditions.

- Outdoor, Dual Radio, multi-band mesh system
- Tri-mode (802.11b/g and 4.9GHz support) and a dual radio AP-to-AP communication for deployment in large or hard-to-reach areas
- Unique scalability – external antenna connectors for increased transmit distance, and maximum system gain on baseband radio for repeating configurations
- Industry-leading throughput with 802.11b/g and 4.9 GHz operation
- New level of intrusion detection
- Sophisticated hotspot interfaces with RADIUS integration
- Pre-standard IEEE 802.11e quality of service support for latency-sensitive applications
- Higher output power for extended range

### Proactive Security Measures to Protect Your Network

ORiNOCO access points support the latest security standards, including IEEE 802.11i and AES encryption, and add proactive security measures.

- IEEE 802.1x mutual authentication

- Dynamic per-user, per-session rotating keys
- Rogue Access Point and client identification
- Secure management interfaces: SNMPv3, SSL and SSH
- Intra-cell blocking to prevent client-to-client snooping

### Easy to Deploy and Manage

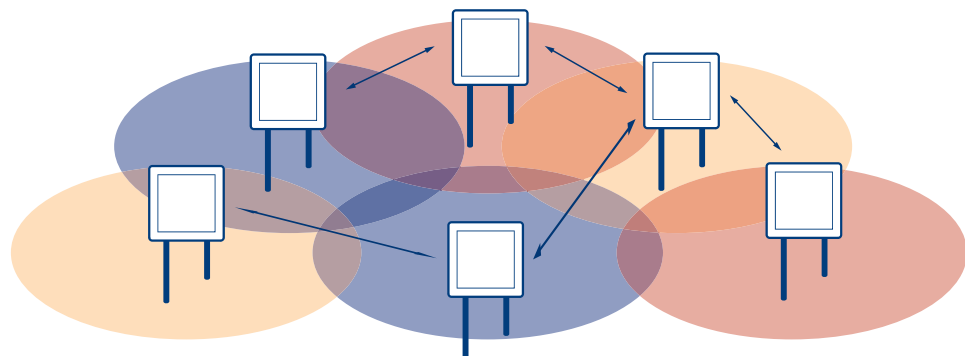
Ease of deployment and integration with the wired network are critical factors in a successful, profitable wireless LAN rollout. ORiNOCO access points excel with key capabilities that simplify WLAN deployment.

- Tools to speed installation and optimization: automatic channel selection, adjustable transmit power, external antenna connectors
- ORiNOCO Mesh Creation Protocol for maximum coverage, flexibility, reliability, and lowest infrastructure costs.
- Wireless repeating functionality in areas without Ethernet wiring
- Remote management via SNMP, HTTP and Telnet
- Extensive RADIUS accounting support

### Reliable by Design

With over 25 years of experience in the design and manufacture of wireless LANs, Proxim understands that public safety, service providers, and enterprises require the same uptime and reliability in a wireless network as in a wired network

- Robust features for enterprise, public access – compared to consumer grade APs
- Automatic reconfiguration of security policy in the event of power loss
- Dual firmware image support – for rollback in the event of software or configuration change problems
- IEEE 802.3af Power-over-Ethernet for tower/rooftop installations and AC Power options for light pole installations



The ORiNOCO Mesh Creation Protocol uses one radio for simultaneous mesh backhaul and Wi-Fi coverage and the other radio for Wi-Fi coverage.

## APPLICATIONS

- **Emergency services**  
Real-time computer-aided-dispatch on the move. Mobile office, voice, live-streaming video, and data connectivity for first responder vehicles.
- **Metro Wi-Fi & 4.9 GHz public safety**  
Simultaneous 4.9 GHz Public Safety access and 2.4 GHz Metro Wi-Fi coverage on a single, dual-radio platform.

# ORiNOCO AP-4900MR-LR Specifications

## ADDITIONAL FEATURES

Tri-mode 802.11b, 802.11g, and 4.9 GHz support	Pre-configured simultaneous 802.11b/g and 4.9 GHz support. May also be configured to support simultaneous 802.11b/g
Frequency Band	4.9 GHz; 2.4 GHz (802.11b/g)
Field Upgradeable	Software upgradeable to support new standards
ORiNOCO Mesh Creation Protocol	AP mesh networking allows quick installation, expanded network coverage, and self-healing capabilities for maximum network reliability.
IEEE 802.11i and AES encryption	Highest authentication and encryption methods including mutual authentication, message integrity check (MIC), per-packet keys initialization vector hashing and broadcast key rotation
Intrusion Detection	Detects and alerts unauthorized rogue Access Points and clients in the 2.4, 4.9, and 5 GHz bands
Secure Management Interfaces	SNMPv3 and SSL protect against unauthorized AP changes via the management interface
Multiple VLAN Support with different security settings	Up to 16 separate VLANs per radio, each able to support multiple different authentication and encryption algorithms simultaneously
Auto configuration via DHCP	Ensures new APs automatically receive correct configuration and prevents security vulnerabilities with deliberate resets
Multiple BSSID Support	Up to 4 Basic Service Set Identifiers (BSSIDs) per radio
Central management and configuration	Allows centralized management of AP settings including group updates of firmware <sup>1</sup>
Assured Software Upgrades	Guarantees new AP configuration file is valid before deleting current image - dual image support
Quality of Service	Draft IEEE 802.11e along with 802.1p and 802.1q improve performance of video and voice applications
Output Power	+24 dBm for 802.11b/g; +24 dBm for 4.9 GHz
Transmit Power Control	Supports settable transmit power levels to adjust coverage cell size
Automatic Channel Selection	Simplifies installation by choosing best possible channel upon installation
RADIUS Support	Extensive RADIUS Accounting support, intra-cell blocking to prevent client-to-client snooping, multiple VLAN support with different security modes
Super Mode	Delivers greater than 30 Mbps throughput for ORiNOCO and Atheros-based clients while simultaneously compatible with non-Atheros clients
Designed for Metro 4.9 GHz & Wi-Fi	AP-to-AP communication for extension of wireless LAN to areas without Ethernet wiring (parking lots, long corridors, etc) for 802.11b, 802.11g, and 4.9 GHz public safety
Advanced Filtering Capabilities	IEEE 802.1d bridging with static MAC address filtering, network protocol filtering, Proxy ARP, multicast/broadcast storm threshold filtering, TCP/UDP port filtering, intra-cell traffic filtering, and Spanning Tree support
External antenna connectors for 802.11b/g, and 4.9 GHz	Allows use of shaped and higher gain antennas to design for most efficient AP placement
Compliance	Wi-Fi, UL50, IP65
Remote Reboot System	Reboot or reset to factory default can be performed remotely via a power injector button
Fast boot-up in cold climate	Sophisticated heating technology automatically heats the system to shorten boot-up time
Near line of sight capable	Line of sight and near line of sight connectivity extends deployment flexibility in rural as well as high-density urban areas
Extended Operating Temperature	Rated for -35° to 60° Celcius, can be deployed in hot or cold outdoor climates

## INTERFACE

Wired Ethernet	10/100 base-T Ethernet (RJ-45)
Wireless Ethernet	1 integrated 802.11b/g radio and 1 integrated 4.9 GHz radio
RS-232	Unit configuration
Antenna Connector	2 Standard N-Female, 1 for each radio

## HARDWARE SPECIFICATION

Memory	64 MB SDRAM; 8 MB Flash
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## PHYSICAL SPECIFICATIONS

Dimensions (unpackaged)	10.5 x 10.5 x 3.25 in (267 x 267 x 83 mm)
Weight (unpackaged)	6 lbs (2.49 kg)

## ENVIRONMENTAL SPECIFICATIONS

Temperature	Operating -35°C to 60°C Storage -55°C to 80°C
Relative Humidity	Operating Max 95% (non-condensing) Storage Max 95% (non-condensing)
Wind Loading	125 mph
Water and dust proof	IP65

## POWER SUPPLY

Power Injector	Input: 42 to 60 VDC Output: 48 VDC
Power Consumption	Maximum 20 Watts

## LEDs

Type:	Power, Ethernet LAN Link
Line Feed:	Wireless Link

## MANAGEMENT

- SNMPv1, SNMPv2c and secure SNMPv3 management
- Standard & ORiNOCO traps
- ORiNOCO MIB, Etherlike MIB, 802.11 MIB, Bridge MIB, MIB-II
- TFTP support
- Telnet CLI, Serial Port CLI (no proxy required)
- HTTPS (SSL) server for secure web-based management
- Proxim WaveLink Mobile Manager for group management (not included)
- Syslog
- DHCP Server and Client

## MTBF AND WARRANTY

100,000 hours; 1 year on parts and labor

## PACKAGE CONTENTS

ORiNOCO AP-4900MR-LR, wall/pole mounting bracket, PoE power injector, Cable termination kit, one mini-DIN to DB9 connector cable for serial connection, documentation and software CD-ROM. Available Options: AC Power Kit with twist lock power cord and Wide Pole Mounting Kit for light pole installation

## RELATED PRODUCTS

Proxim Wireless CommUNITY is designed for metropolitan networks:

- Tsunami MP.11 for backhaul between groups of AP-4000MRs connected to each other through the ORiNOCO Mesh Creation Protocol
- Ekahau Site Survey to predict Wi-Fi coverage area after installation



Proxim Wireless Corporation  
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