

IMPORTANT!

Visit <http://support.proxim.com> for the latest safety and regulatory compliance information for this product.



Regulatory Compliance

**ORiNOCO AP-4000MR-LR and AP-4900MR-LR Access Points
Safety and Regulatory Compliance Information
(November 2006)**



Copyright

© 2006 Proxim Corporation. All rights reserved. Covered by one or more of the following U.S. patents: 5,231,634; 5,875,179; 6,006,090; 5,809,060; 6,075,812; 5,077,753. This user's guide and the software described in it are copyrighted with all rights reserved. No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language in any form by any means without the written permission of Proxim Corporation.

Trademarks

ORiNOCO and Proxim are registered trademarks, and the Proxim logo is a trademark, of Proxim Wireless Corporation.

All other trademarks mentioned herein are the property of their respective owners.

IMPORTANT!

Visit <http://support.proxim.com> for the latest safety and regulatory compliance information for this product.

Please read this document before installing and using your product, and save these instructions.

Products Covered in the Guide

This document contains important safety and regulatory compliance information for the following products:

Product	Model Numbers
ORiNOCO Tri-Mode Ruggedized Access Point AP-4000MR-LR	8670-MR-LR-US
ORiNOCO Tri-Mode Ruggedized Access Point AP-4900MR-LR	8670-MR-LR-PS-US

Please see the following sections for more information:

- [Safety Information](#)
- [FCC Compliance Information](#)
- [Information for Professional Installers](#)

Safety Information

These products have been evaluated to, and comply with, IEC60950: 1999.

When using this device, basic safety precautions should always be followed to reduce the risk of fire, electrical shock, and injury to persons, including the following:

- All products are intended to be installed, used, and maintained by experienced telecommunications personnel only.
- These products have been evaluated for outdoor use.
- Operate and install these products as described in this manual. Equipment must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation provided.
- Installation of these products must conform to local regulations and codes.
- Use only the AC/DC power supply adapter provided. For replacement, contact your local supplier or distributor.

WARNING: This equipment is intended to be grounded. A 10 AWG earthing conductor at a minimum is to be used for this purpose.

- Do not connect or disconnect the power cable to the equipment when the power injector is plugged into an AC power outlet.
- To avoid the risk of electric shock from lightning, do not use this product during an electrical storm.
- When using this product with external antenna, see the installation documentation provided with the antenna system.
- No user serviceable parts; all repairs and service must be handled by a qualified service center.
- Do not remove or alter the Marking label provided on these products.

FCC Compliance Information

AP-4000MR-LR

This device operates in the 2.4 GHz and 5.725 - 5.85 GHz bands in compliance with Part 15 of the FCC Rules. Operation is subject to the following two conditions: 1) this device may not cause harmful interference, and 2) this device must accept any interference received, including interference that may cause undesired operation.

To comply with the FCC radio frequency exposure requirements, the following antenna installation and device operating configurations must be satisfied:

- **Product models using external antennas require professional installation.**
- The antennas used for professional installation must be fixed-mounted on indoor/outdoor permanent structures with a separation distance of at least **123 cm** from all persons.
- Antennas must not be co-located and must not operate in conjunction with any other antenna or transmitter.

AP-4900MR-LR

This device operates in the 2.4 GHz band in compliance with Part 15 of the FCC Rules and in the licensed 4.9 GHz band in compliance with Part 90 of the FCC Rules.

Operation in the **2.4 GHz** band is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

Operation in the **4.9 GHz** band requires an FCC license. As specified in Part 90.1203 of the FCC rules, eligibility requirements are as follows:

1. Entities providing public safety services as defined under section 90.523 are eligible to hold a Commission license for systems operating in the 4940–4990 MHz band. All of the requirements and conditions set forth in that section also govern authorizations in the 4940–4990 MHz band.
2. 4.9 GHz band licensees may enter into sharing agreements or other arrangements for use of the spectrum with entities that do not meet these eligibility requirements. However, all applications in the band are limited to operations in support of public safety.

To comply with the FCC radio frequency exposure requirements, the following antenna installation and device operating configurations must be satisfied:

- **Product models using external antennas require professional installation.**
- The antennas used for professional installation must be fixed-mounted on indoor/outdoor permanent structures with a separation distance of at least **123 cm** from all persons.
- Antennas must not be co-located and must not operate in conjunction with any other antenna or transmitter.

Modifications

Changes or modifications to this device that are not expressly approved by the manufacturer of the product could void the user's authority to operate the equipment.

Warnings

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to

radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Information for Professional Installers

Adjusting Tx Output Power

Use the following formula in combination with the table of EIRP limits to calculate system transmit power (based on EIRP limits):

$$\text{Tx Power Allowed (dBm)} = \text{EIRP Limit (dBm)} + \text{CL (dB)} - \text{G (dB)}$$

where:

Tx Power = Output power measured at the antenna input

EIRP Limit = EIRP limits specified below

CL = Coax cable loss including loss of connectors

G = Antenna Gain

Band	EIRP Limit (dBm)
2.4 GHz (Point-to-Multipoint)	36
2.4 GHz (Point-to-Point)	When $G < 6$: 36 When $G \geq 6$, use the following equation: $36 - \frac{G - 6}{3}$
5.725 - 5.850 GHz (Point-to-Multipoint)	36
5.725 - 5.850 GHz (Point-to-Point)	No limit
4.9 GHz	10 MHz channel: 26 20 MHz channel: 29

Antenna Types and Maximum Gain

Professional installers should select only the antenna types listed in the following table, with gain not exceeding the listed maximum gain for each type.

Frequency Band	Antenna Type	Maximum Gain (dBi)
2.4 GHz	Omni Directional	12
	Flat Panel	14
	Sector	17
5.725 - 5.850 GHz	Omni Directional	12
	Flat Panel	28
	Sector	18
4.9 GHz	Any	10 MHz channel: 6 dBi 20 MHz channel: 9 dBi