

IMPORTANT!

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



Regulatory Compliance

MeshMAX 5054 Series Safety and Regulatory Compliance Guide

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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
MeshMAX 5054WM Tri-radio, WiMAX subscriber and Wi-Fi mesh access point	9200-XX
MeshMAX 5054W Tri-radio, WiMAX subscriber and Wi-Fi access point	9201-XX

Please see the following sections for more information:

- [Safety Information \(USA, Canada, & European Union\)](#)
- [Federal Communications Commission \(FCC\) Compliance](#)
 - [Modifications](#)
 - [Warnings](#)
- [Information for Professional Installers](#)
- [Regulatory Compliance Certifications Summary](#)

Safety Information (USA, Canada, & European Union)

This product has been evaluated to, and comply with IEC60950-1:2001, the Standard for the Safety of Information Technology Equipment.

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:

The product is intended to be installed, used, and maintained by experienced telecommunications personnel only.

WARNING: These units are intended for installation in accordance with Articles 110–18, 110-26, and 110-27, 725, 800, and 810 of the United States National Electric Code ANSINFP 70, and per the applicable Articles in the Canadian National Electric Code.

- 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.
- Products are to be used with and powered by only the power injector provided.
- A 15-amp circuit breaker is required at the power source.
- Use only the AC/DC power supply adapter provided. For replacement, contact your local supplier and 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.
- Servicing of these products should be performed only by trained personnel. Do not disassemble. By opening or removing any covers, you may expose yourself to hazardous energy parts. Incorrect reassembly of these products can cause a malfunction and/or electric shock when the units are subsequently used. No user serviceable parts; all repairs and service must be handled by a qualified service center.
- Do not insert any objects of any shape or size inside these products while powered on. Object may contact hazardous energy parts that could result in a risk of fire or personal injury.
- Do not remove or alter the Marking label provided on these products.
- To avoid the risk of electric shock from lightning, do not use these products during an electrical storm.
- When using these products with an external antenna, see the installation documentation provided with the antenna.
- These products have been evaluated for outdoor use.
- No user serviceable parts; all repairs and service must be handled by a qualified service center.

Federal Communications Commission (FCC) Compliance

The MeshMAX 5054 operates at the following frequencies in compliance with Part 15 of the FCC Rules:

- 5.15 - 6.08 GHz for WORP radio
- 5.15 - 5.85 GHz and 2.412 - 2.472 GHz for Mesh and Wi-Fi radios

Operation is subject to the following two conditions:

1. this device may not cause harmful interference,
2. this device must accept any interference received, including 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 20 and 380 cm depending on the antennas selected and the simultaneous transmission operation.
- Antennas must not be co-located and must not operate in conjunction with any other antenna or transmitter.

Modifications

The FCC requires the user to be notified that any changes or modifications to this device that are not expressly approved by the manufacturer may void the user's authority to operate the equipment. The correction of interference caused by unauthorized modification, substitution or attachment will be the responsibility of the user. The manufacturer and its authorized resellers or distributors are not liable for any damage or violation of government regulations that may arise from failing to comply with these guidelines.

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

In some situations or environments, the use of wireless devices may be restricted by the proprietor of the building or responsible representatives of the organization. These situations may, for example, include the use of wireless equipment on board airplanes, or in any other environment where the risk of interference to other devices or services is perceived or identified as harmful.

If you are uncertain of the policy that applies on the use of wireless equipment in a specific organization or environment (such as airports), you are encouraged to ask for authorization to use this device prior to turning on the equipment.

Information for Professional Installers

The product must be installed professionally, and the transmit power of the system must be adjusted by the professional installers to ensure that the system EIRP is in compliance with the limit specified by the regulatory authority of the country of application.

See the following sections for more information:

- [Adjusting Tx Output Power](#)
- [Antenna Types and Maximum Gain](#)
- [Separation Distance](#)

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

Adjusting Tx Output Power for Subscriber Module

Band	EIRP Limit (dBm) (USA and Canada)	EIRP Limit (dBm) (EU)
5.15 - 5.25 GHz*	23	23
5.25 - 5.35 GHz*	30	23
5.47 - 5.725 GHz	30	30
5.725 - 5.850 GHz	36	14

Adjusting Tx Output Power for Mesh and Access Point Module

Band	EIRP Limit (dBm)
2.4 GHz	20
5.15 - 5.25 GHz*	23
5.25 - 5.35 GHz*	23
5.47 - 5.725 GHz	30

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	10
5.0 GHz	Omni Directional	10
	Flat Panel	28.2
	Parabolic	33.4

Separation Distance

The product models using external antennas must be fixed-mounted on indoor/outdoor permanent structures with separation distance depending on the antenna configuration:

- For MeshMAX AP: 380 cm
- For MeshMAX Subscriber: 264 cm

Regulatory Compliance Certifications Summary

Country	Certification/Reference No.

* European Union includes the following countries: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and the United Kingdom; also applies to Iceland, Liechtenstein, Norway, and Switzerland.