



MeshMAX 5054

Supports unlicensed WiMAX, Wi-Fi Mesh and Wi-Fi

As the market demand for city or campus wide mobile connectivity, security, and network scalability increases, there is an escalating need for carrier-grade wireless broadband solutions to provide best of breed in wireless distribution and access technologies. Proxim's MeshMAX 5054 integrates three technologies in one unit! The new MeshMAX 5054 product is a tri-radio outdoor device, offering Wi-Fi connectivity for access, Wi-Fi mesh gateway for network redundancy and a high capacity, carrier-class, WiMAX link in the unlicensed 5GHz frequencies for backhaul and high speed vehicular roaming. The convergence of these three technologies delivers end-to-end QoS for triple-play applications and reduction in total cost of ownership.

The MeshMAX 5054WM consists of one radio for WiMAX backhaul in the unlicensed 5 GHz range, one radio for Wi-Fi Mesh and one radio for 802.11b/g Wi-Fi access. Expanding Wi-Fi coverage, the 5054V includes one radio for WiMAX backhaul and two radios for tri-mode Wi-Fi access, supporting 802.11a and 802.11 b/g clients. The MeshMAX 5054 provides an optimal solution which brings internet connectivity and applications to where the customers are and where they want to be.

Outdoor Broadband Wireless Access Portfolio of Products:

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

- **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
- **ORiNOCO® Wi-Fi Mesh** – Outdoor and indoor Wi-Fi mesh for service providers and municipalities

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.

Enables WiMAX and Wi-Fi Applications with Mobile Roaming

Drawing on Proxim's expertise in WiMAX and Wi-Fi Mesh Technologies, the MeshMAX product line encapsulates the best in class features of the award winning Tsunami point to point and ORiNOCO mesh product families. Proxim is uniquely positioned to offer this leading-edge product given our extensive experience in delivering Wi-Fi and WiMAX solutions.

- End-to-end product portfolio consisting of WLAN, Wi-Fi Mesh, WiMAX and Point-to-Point
- Based on the award winning Tsunami MP.11 and Wi-Fi certified ORiNOCO access points
- Tri-radio design provides one radio for unlicensed 5 MHz WiMAX backhaul for distribution, one radio for Wi-Fi mesh link and one radio for exclusive Wi-Fi access traffic
- End-to-end QoS from access to distribution to support voice and video
 - IEEE 802.11e draft QoS support for access and enhanced QoS on mesh link
 - IEEE 802.16e QoS support for WiMAX wireless backhaul link
 - 802.1d to 802.1p priority mapping and 802.1d to IP DSCP mapping
- Low latency enables VoIP
- Enhanced security with AES encryption protects over the air transmission on all three links
- Fast handoff at speeds up to 200 km per hour (120 miles per hour) with handoff times as low as 40 ms enables mobile roaming applications such as public safety networks, transportation systems monitoring and mobile security and surveillance
- Scalable, flexible end to end Proxim solutions allow for ease in expansion of network
 - Service Provider can expand WiMAX network coverage with MeshMAX by extending their network utilizing Wi-Fi mesh
 - Enterprise WiMAX subscribers can extend internet access to local clients through Wi-Fi hotspot

Simplifies Network Architecture, Deployment and Management

Reducing network complexity, minimizing time of deployment and increasing ease of installation, the MeshMAX accelerates the network operator's time to money.

- Less nodes to install, deploy and manage
- Centralized remote management support with ProximVision™ Network Management System
- Provides consistent deployment and user experience to Tsunami™ MP.11 and ORiNOCO Mesh Access Point product lines
- Reduces downtime and network troubleshooting compared to multi-vendor WiMAX and Wi-Fi Mesh network

Significantly Reduces Total Cost of Ownership (TCO)

- Lowest deployment cost per square mile
- Reducing the number of nodes decreases installation and management time and minimizes associated costs
- Low power consumption and solar power options reduce operating expenses

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Technical Specifications

MESHMAX																												
PRODUCT MODELS	9200-XX MeshMAX 5054WM Tri-radio, WiMAX 5 GHz subscriber and Wi-Fi Mesh access point 9201-XX MeshMAX 5054W Tri-radio, WiMAX 5 GHz subscriber and Wi-Fi access point																											
RADIO & TRANSMISSION																												
FREQUENCY BANDS¹	5.15 – 6.08 GHz for unlicensed WiMAX 5.15 – 5.85 GHz and 2.412 - 2.472 for Mesh and Wi-Fi																											
RF MODULATION AND OVER THE AIR DATA RATES	OFDM (Orthogonal Frequency Division Multiplexing)																											
	<table border="1"> <thead> <tr> <th></th> <th>5 GHz Band</th> <th>2.4 GHz Band</th> </tr> </thead> <tbody> <tr> <td>BPSK</td> <td>6 and 9 Mbps</td> <td>6 and 9 Mbps</td> </tr> <tr> <td>QPSK</td> <td>12 and 18 Mbps</td> <td>12 and 18 Mbps</td> </tr> <tr> <td>16-QAM</td> <td>24 and 36 Mbps</td> <td>24 and 36 Mbps</td> </tr> <tr> <td>64-QAM</td> <td>48 and 54 Mbps</td> <td>48 and 54 Mbps</td> </tr> <tr> <td colspan="3">DSSS (For 2.4 GHz radio only)</td> </tr> <tr> <td>BPSK</td> <td>N/A</td> <td>1 Mbps</td> </tr> <tr> <td>QPSK</td> <td>N/A</td> <td>2 Mbps</td> </tr> <tr> <td>CCK</td> <td>N/A</td> <td>5.5 and 11 Mbps</td> </tr> </tbody> </table>		5 GHz Band	2.4 GHz Band	BPSK	6 and 9 Mbps	6 and 9 Mbps	QPSK	12 and 18 Mbps	12 and 18 Mbps	16-QAM	24 and 36 Mbps	24 and 36 Mbps	64-QAM	48 and 54 Mbps	48 and 54 Mbps	DSSS (For 2.4 GHz radio only)			BPSK	N/A	1 Mbps	QPSK	N/A	2 Mbps	CCK	N/A	5.5 and 11 Mbps
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CHANNEL BANDWIDTH	5,10 and 20 MHz for WiMAX radio 20 MHz for mesh backhaul and Wi-Fi access																											
OUTPUT POWER²	5 GHz: +18dBm 2.4 GHz: +20dBm																											
INTERFACES																												
WIRED ETHERNET	10/100 Base-T Ethernet (RJ-45)																											
ANTENNA CONNECTOR	Three Type-N Female connectors (two for 5 GHz and one for 2.4 GHz)																											
PHYSICAL																												
DIMENSIONS																												
PACKAGED	14.57 in x 13.70 in x 8.19 in (370 mm x 348 mm x 208 mm)																											
UNPACKAGED	10.5 in x 10.5 in x 3.25 in (267 mm x 267 mm x 83 mm)																											
WEIGHT																												
PACKAGED	12 lbs (5.44 kg)																											
UNPACKAGED	5.5 lbs (2.49 kg)																											
ENVIRONMENTAL																												
TEMPERATURE																												
OPERATING	-35° to 60°C																											
STORAGE	-55° to 80°C																											
HUMIDITY	Max 100% relative humidity (non-condensing)																											
WIND LOADING	125 mph																											
ELECTRICAL																												
POWER SUPPLY	PoE: 110/240 VAC (input); 48 VDC 48V @ 420mA MAX (output)																											
(OPT) POWER SUPPLY	110/240 VAC light pole power tap (purchased separately)																											
LEDS	Two indicators on the RJ-45 connector to indicate power/Ethernet traffic and mesh traffic																											
MANAGEMENT																												
LOCAL	RS-232 Serial Port; DB9 Female																											
REMOTE	WiMAX: Telnet/CLI, HTTP, TFTP; SNMP v1, v2 (MIBII,ORINOCO MIB, rfc1213, rfc1493, rfc1643) Mesh and Wi-Fi: SNMP v1; SNMP v2c and SNMP v3 (ORINOCO MIB; rfc1213; rfc1643; 802.11i-D3; IANAIfType-MIB; MIB802), DHCP, Telnet, HTTP, TFTP, BootP																											
MTBF AND WARRANTY	100,000 hours; 1 Year Parts and Labor (extended warranty and enhanced support available with purchase of ServPak)																											
PACKAGE CONTENTS	<ul style="list-style-type: none"> One MeshMAX 5054WM Tri-radio, WiMAX subscriber and Wi-Fi Mesh access point² or one MeshMAX 5054W tri-radio, WiMAX subscriber and Wi-Fi access point² One wall/pole mounting bracket One Power over Ethernet injector and power cord One serial Y-cable for local configuration One Ethernet cable weather-proof plug One Installation CD-ROM with Software and Documentation 																											
RELATED PRODUCTS	Tsunami MP.11 Base Station; ORINOCO AP-4000MR(-LR) Mesh Access Points to extend mesh network; 5 GHz and 2.4 GHz antennas; AC power kit for light pole installation; Wide Light Pole Mounting Kit; ORINOCO Wi-Fi clients; ProximVision Network Management System; ServPak for enhanced service and support																											

¹Frequency Band support may vary depending on regional regulatory body and country.

²Output power values will have a tolerance of +/- 1.5 dB. Output power attenuation 0-12dB, in 1 dB steps.

APPLICATIONS

- Security and Surveillance**
 Wireless solutions for bandwidth-intensive and high definition IP-surveillance cameras located at important city and transportation infrastructure, such as airports, bridges and trains
- Metropolitan Area Networks**
 Secure and reliable backhaul of Wi-Fi Mesh traffic
- Enterprise**
 Lowers infrastructure costs by not requiring Ethernet cabling to each access point.
- Mobile Hot Spot**
 On demand entertainment and broadband access solutions for public transportation and local businesses
- Triple Play**
 Network operator can deliver bundle of IPTV, VoIP and Internet access to subscribers through broadband wireless connection

For detailed technical specifications, please go to <http://www.proxim.com/products/meshmax>

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DS_0408_MESHMAX_5054_US



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