Tsunami® MP-8200 Series

End-to-End Broadband Wireless Product Portfolio

- **Tsunami®MP.11 –** *Our best selling Point-to- Multipoint product line*

- **MeshMAX –** *An all-in-one solution containing Point-to-Multipoint,Wi-Fi mesh, and Wi-Fi access point radios*

- **ORiNOCO® AP -** *The industry's highest performance 802.11a/b/g/n access points*

- **Tsunami®MP.16 –** *WiMAX for the 3.3 – 3.65 GHz frequency bands*

Proxim Wireless is a global pioneer of end-to-end broadband wireless systems that deliver the quadruple play of video, voice, data and mobility. From Wi-Fi to wireless Gigabit Ethernet – our WLAN, Wi-Fi Mesh, WiMAX and point-to-point wireless backhaul products are available through our extensive global channel networks.

Experience superior performance with unparalleled flexibility of upto 1 Mhz channel spacing with our Tsunami® MP-8200 wireless series

Paving a new path in the wireless industry, Proxim addresses the requirement for a versatile and a high performance wireless solution, with the Tsunami® 8200 series. The Tsunami® MP-8200 delivers data rates of 300 Mbps along with excellent spectrum flexibility of upto 1MHz channel spacing and high power radios capable of 27 dBm Tx power for extend coverage.

The Tsunami® MP-8200 features nLoS functionality and leverages the advantages of OFDM, MIMO radio innovations and Proxim's proprietary Wireless Outdoor Routing Protocol (WORP) to provide in excess of 4G speeds with QoS class of service for delivering voice, video and data applications

With supreme throughput, high power radio, flexible channel features and dual Gigabit Ethernet ports with PoE out, for powering additional devices, the Tsunami® MP-8200 series is an ideal solution for service providers and government organizations with requirements of all kinds, from last mile broadband wireless access (BWA) to wireless video surveillance and more.

Supreme Performance

- A fixed PtMP solution that can deliver 300 Mbps data rates
- High power radio capable of up to 27 dBm Tx power to extend the range and coverage
- The only PtMP product in the market to include dual Gigabit Ethernet ports, enabling higher throughput which would otherwise be limited by the 10/100 Ethernet ports seen in other devices
- Provides reliable high performance under all traffic loads using Proxim's Wireless Outdoor Routing Protocol (WORP)

Non-Line-of-Sight and Advanced Features

- Non-line-of-sight capable, utilizing OFDM and 2x2 MIMO techniques to improve link performance and penetrate through or around obstructions better
- Features dual Gigabit Ethernet ports with PoE in/out to power other devices like surveillance cameras and wireless access points
- Create tiered QoS service classes with ease

Frequency Agnostic

- Operates in licensed and unlicensed frequency bands
- Flexible channel planning with 5, 10, 20 and 40MHz support with 1MHz channel spacing
- Provides support for extended frequency bands from 4.9 to 5.9 GHz

Carrier-Grade Security

- Implements tiered security layers for the most secure outdoor wireless communications in the unlicensed frequency spectrum
- Utilizes Proxim's Wireless Outdoor Routing Protocol (WORP), which prevents snooping, and features highly-secure remote management via SSL, SSH and SNMPv3
- Provides military-grade security with AES encryption technology, prevents unsecure client-to-client communications and leverages MAC, Ethertype and IP address packet filtering for granular network security

Product Line Compatibility

- Connects to all existing Tsunami® MP.11, Tsunami® 8100, and MeshMAX products
- Can utilize existing mounting kits of the Tsunami product line

PRODUCT MODELS	
MP-8200-BSU	Tsunami® MP 8200 Base Station Unit, 300 Mbps, MIMO 2x2, Type-N Connectors
MP-8250-BS9	Tsunami® MP 8250 Base Station Unit, 300 Mbps, MIMO 2x2, 16 dBi, 90° sector antenna
MP-8200-SUA	Tsunami® MP 8200 Subscriber Unit, 300 Mbps, MIMO 2x2, Type-N Connectors
MP-8250-SUR	Tsunami® MP 8250 Subscriber Unit, 300 Mbps, MIMO 2x2, 23 dBi, panel antenna
INTERFACES	
WIRED ETHERNET	Two auto MDI-X RJ45 10/100/1000Mbps Ethernet - Port #1 with PoE in & Data - Port #2 with PoE out (802.3af pin out) & Data
WIRELSS PROTOCOL	WORP (Wireless Outdoor Router Protocol)
RADIO & TX SPECS	
MIMO	2x2 MIMO
MODULATION	OFDM
FREQUENCY	4.900 – 5.925 GHz (Subject to Country Regulations)
CHANNEL SIZE	40 MHz, 20 MHz, 10 MHz, 5MHz channel bandwidths with support for 1MHz channel spacing
DATA RATE	MCS 0 to 15 for High Throughput mode (6.5 – 300 Mbps) with Dynamic Data Rate Selection BPSK, QPSK, 16-QAM and 64-QAM for legacy mode (6Mbps - 54Mbps)
TX POWER	Up to 27 dBm (two Tx chain)
TX POWER CONTROL	0 – 25 dB, in 0.5 dB steps. Automatic TPC with configurable EIRP limit

RX SENSITIVITY (BER=10^{-6})	Channel Size	40 MHz	20 MHz	10 MHz	5 MHz
	MCS 0	-87 dBm	-91 dBm	-93 dBm	-96 dBm
	MCS 7	-69 dBm	-72 dBm	-74 dBm	-76 dBm
	MCS 8	-86 dBm	-89 dBm	-91 dBm	-94 dBm
	MCS 15	-67 dBm	-69 dBm	-72 dBm	-74 dBm

ANTENNA	Model MP-8200-BSU and MP-8200-SUA include two N-type Connectors with built-in Surge Protection Model MP-8250-BS9 includes an integrated 2x2 MIMO 16 dBi Dual Polarized 90° sector Antenna Model MP-8250-SUR includes an integrated 2x2 MIMO 23 dBi Dual Polarized panel Antenna
MANAGEMENT	
LOCAL	RS-232 serial (RJ11 to DB-9 dongle provided)
REMOTE	Telnet and SSH, WebGUI and SSL, TFTP, SNMPv3
SNMP	SNMP v1-v2c-v3, RFC-1213, RFC-1215, RFC-2790, RFC-2571, RFC-3412, RFC-3414, Private MIB
OTHER	Syslog, sFlow™ agent, SNTP and local time
SECURITY	
ENCRYPTION	AES-CCM 128 bits
AUTHENTICATION	Internal MAC Address Control List, Radius based Authentication (with VLAN and QoS provisioning)
NETWORK	
MODES	Bridging, Routing (RIP v2 and IP tunneling)
GATEWAY FEATURES	DHCP Server & relay, NAT with Std ALGs, PPPoE end point

QoS	Asymmetric Bandwidth Control	Uplink and Downlink CIR Control "committed information rate" per service flow Uplink and Downlink MIR Control "maximum information rate" per service flow
	Packet Classification Capabilities	802.1D/802.1Q/802.1p priority, IPTOS, VLAN ID, IP source/destination address, source/destination port, Ethernet source/destination address, IP protocol, and Ethertype
	Scheduling	Best Effort, Real Time Polling Services

VLAN	802.1Q: Management VLAN. Transparent, Access, Trunk and Mixed mode. QinQ double tagging
ENVIRONMENTAL SPECS	
TEMPERATURE	
OPERATING	-40º to 60ºC (-40º to 140º Fahrenheit)
STORAGE	-55º to 80ºC (-67º to 176º Fahrenheit)
HUMIDITY	Max 100% relative humidity (non-condensing)
IP RATING	IP67
WIND LOADING	125 mph
POWER CONSUMPTION	8.1 Watt typical (18.1 Watt max)
PHYSICAL SPECS	
DIMENSIONS	
PACKAGED	Model MP-8200-BSU or MP-8200-SUA: 14.56 x 13.69 x 8.18 in. (370 x 348 x 208 mm) Model MP-8250-BS9 or MP-8250-SUR: 15.94 x 15.94 x 9.21 in. (405 x 405 x 234 mm)
UNPACKAGED	Model MP-8200-BSU or MP-8200-SUA: 10.5 x 10.5 x 3.38 in (267 x 267 x 86 mm) Model MP-8250-BS9 or MP-8250-SUR: 14.17 x 14.17 x 3.70 in (370 x 370 x 94 mm)
WEIGHT	
PACKAGED	Model MP-8200-BSU or MP-8200-SUA: 16.75 lbs (7.6 kg) Model MP-8250-BS9 or MP-8250-SUR: 18.30 lbs (8.3 kg)
UNPACKAGED	Model MP-8200-BSU or MP-8200-SUA: 7.27 lbs (3.3 kg) Model MP-8250-BS9 or MP-8250-SUR: 9.26 lbs (4.2 kg)
SAFETY STANDARDS	UL 60950, CAN/CSA-C22.2 No. 60950, IEC 60950, EN 60950

PACKAGE CONTENTS	■ One Tsunami® MP 8200-BSU with two N-type surge protected connectors,
	  or One Tsunami® MP-8250-BS9 with an integrated 16 dBi dual polarized 90° sector Antenna
	  or One Tsunami® MP 8200-SUA with two N-type surge protected connectors,
	  or One Tsunami® MP-8250-SUR with an integrated 23dBi dual polarized panel antenna
	■ One power injector and country specific power cord
	■ One Wall/Pole mounting kit
	■ One Connector weatherproofing kit (Includes all recommended weatherproofing material)
	■ One Serial (RJ-11 to DB9) dongle
	■ One Grounding kit
	■ One Gigabit PoE Surge Arrestor
	■ One Quick Installation Guide

WARRANTY	1-year on parts and labor; ServPak Extended Support available

APPLICATIONS

- **Last Mile Access**
  Competitive broadband service access alternative to DSL or cable for residences and T1 or Ethernet for businesses

- **Security and Surveillance**
  High definition IP-surveillance cameras for monitoring city streets, airports, bridges, seaports, transportation hubs, offices and warehouses

- **Metropolitan Area Networks**
  Secure and reliable connectivity between city buildings

- **Emergency First Responders**
  Critical information delivery such as medical data and video feeds during in-progress events

- **Enterprise Campus Connectivity**
  Extend the main network to remote offices, warehouses or other buildings without leased lines

For detailed technical specifications, please go to http://proxim.com/products/point-to-multipoint/tsunamir-mp-8200-series