Tsunami® Multipoint 8200 Series

Wireless Point-to-Multipoint Systems Delivering 300Mbps Data Rate

Experience superior performance and unparalleled flexibility 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 Tsunami® 8200 series. The Tsunami® MP-8200 delivers data rates of 300 Mbps along with excellent spectrum flexibility and high power radios capable of 25.8 dBm Tx power for extended coverage.

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.

World Class Performance

- Point to Multipoint solution that can deliver 300 Mbps data rates
- High power radio capable of up to 25.8 dBm Tx power to extend the range and coverage
- Provides reliable high performance under all traffic loads using Proxim’s Wireless Outdoor Routing Protocol (WORP®)
- Dual IPv4 and IPv6 stack for transparent evolution to tomorrow networks
- Seamless roaming up to 295 km/h (185 mph)
- Enables packet identification to create unique and sophisticated service rules and tiered service classes with ease
- BSU redundancy (500 milliseconds switch over time) and Dynamic Channel Selection to ensure continity of services whatever the condition
- Spectrum analysis feature helps to study frequency bands for interference, and select a relatively low interference channel

Frequency Agnostic

- Operates in licensed and unlicensed frequency bands
- Flexible channel planning with 5, 10, 20 and 40MHz size
- Provides support for extended frequency bands from 4.900 to 5.925 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-8100 and Tsunami® MP11

Non-Line-of-Sight and Advanced Features

- Non-line-of-sight capable, utilizing OFDM and 3x3 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
Specifications: Tsunami® Multipoint 8200 Series

PRODUCT MODELS

- MP-8200-BSU
  - Tsunami® MP-8200 Base Station Unit, 300 Mbps, MIMO 3x3, Type-N Connectors
- MP-8250-BS1
  - Tsunami® MP-8250 Base Station Unit, 300 Mbps, MIMO 2x2, 23 dB, 10° panel antenna
- MP-8250-BS5
  - Tsunami® MP-8250 Base Station Unit, 300 Mbps, MIMO 2x2, 16 dB, 90° sector antenna
- MP-8200-SUA
  - Tsunami® MP-8200 Subscriber Unit, 300 Mbps, MIMO 3x3, Type-N Connectors
- MP-8250-SUR
  - Tsunami® MP-8250 Subscriber Unit, 300 Mbps, MIMO 2x2, 23 dB Integrated Antenna

INTERFACES

- WIRED ETHERNET: Two auto MDI-X RJ45 10/100/1000 Mbps Ethernet (Port #1 with PoE in & Data, Port #2 with PoE out & Data)
- WIRELESS PROTOCOL: WORP™ (Wireless Outdoor Router Protocol)

RADIO & TX SPECS

- MIMO: 3x3 MIMO with 2 data streams
- MODULATION: OFDM with BPSK, QPSK, QAM16, QAM64
- FREQUENCY: 4.900 – 5.925 GHz (Subject to Country Regulations)
- CHANNEL SIZE: 40 MHz, 20 MHz, 10 MHz*, 5 MHz* channel bandwidths
- DATA RATE: MCS 0 to 15 for High Throughput mode (6.5 – 300 Mbps) with Dynamic Rate Selection. BPSK, QPSK, 16-QAM and 64-QAM for legacy mode (6Mbps - 54Mbps)
- TX POWER: Up to 25.8dBm (Triple chain)
- TX POWER CONTROL: 0 – 25 dB, in 0.5 dB steps. Automatic TPC with configurable ERP limit
- OTHER: Dynamic Channel Selection (DCS) based on interference detection. Dynamic Frequency Selection (DFS) based on radar signature. Automatic Transmit Power Control (ATPC) with ERP limit support

RX SENSITIVITY (Typ%;%)

<table>
<thead>
<tr>
<th>Channel Size</th>
<th>40 MHz</th>
<th>20 MHz</th>
<th>10 MHz</th>
<th>5 MHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCS 0</td>
<td>-87 dBm</td>
<td>-93 dBm</td>
<td>-95 dBm</td>
<td>-98 dBm</td>
</tr>
<tr>
<td>MCS 7</td>
<td>-71 dBm</td>
<td>-74 dBm</td>
<td>-76 dBm</td>
<td>-79 dBm</td>
</tr>
<tr>
<td>MCS 8</td>
<td>-87 dBm</td>
<td>-91 dBm</td>
<td>-93 dBm</td>
<td>-96 dBm</td>
</tr>
<tr>
<td>MCS 15</td>
<td>-68 dBm</td>
<td>-72 dBm</td>
<td>-74 dBm</td>
<td>-77 dBm</td>
</tr>
</tbody>
</table>

ANTENNA

- MP-8200-BSU or SUA
  - Three N-type Connectors with built-in Surge Protection
- MP-8250-BS1 or SUR
  - Integrated 2x2 MIMO 23dB Dual Polarized Panel Antenna
- MP-8250-BS5
  - Integrated 2x2 MIMO 16dB Dual Polarized 90 degree Sector Antenna

MANAGEMENT

- LOCAL: RS-232 serial (RJ11 to DB-9 dongle provided)
- REMOTE: Telnet and SSH, Web GUI and SSL, TFTP, SNMP,3
- OTHER: Syslog, sFlow™ agent, SNTP and local time, Spectrum analyzer

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 with Proxy DNS
- IP STACK: IPv4 and IPv6 simultaneously
- THROUGHPUT: Up to 240 Mbps

QoS

- Asymmetric Bandwidth Control
- Packet Classification Capabilities
- Scheduling
- UL and DL CIR Control “committed information rate” per service flow
- UL and DL MR Control “maximum information rate” per service flow
- 802.1Q/802.1Qb priority, IFTOS, VLAN ID, IP source/destination address, source/destination port, Ethernet source/destination address, IP protocol, and Ethertype
- Best Effort, Real Time Polling Services

VLAN

- 802.1Q Management VLAN. Transparent, Access, Trunk and Mixed mode. QinQ double tagging

POWER CONSUMPTION

- 12 Watt typical (22 Watt max)

ENVIRONMENTAL SPECS

- OPERATING TEMPERATURE: -40º to 60ºC (-40º to 140º Fahrenheit) Will continue operating if temperature temporarily varies between -50º and 70ºC (-58º and 158º Fahrenheit)
- STORAGE TEMPERATURE: -55º to 80ºC (-67º to 176º Fahrenheit)
- HUMIDITY, P.RATING, WIND LOADING: 100% relative humidity, IP67, 200 km/h (125 mph)

PHYSICAL SPECS

- DIMENSIONS (PACKAGED):
  - MP-8200-BSU or MP-8200-SUA: 14.56 x 13.69 x 8.18 in. (370 x 348 x 208 mm)
  - MP-8250-SUR: 15.94 x 15.94 x 9.21 in. (405 x 405 x 234 mm)
- DIMENSIONS (UNPACKAGED):
  - MP-8200-BSU or MP-8200-SUA: 10.79 x 11.14 x 3.38 in. (274 x 283 x 86 mm)
  - MP-8250-SUR: 14.17 x 14.17 x 3.70 in. (370 x 370 x 94 mm)
- WEIGHT (PACKAGED):
  - MP-8200-BSU or MP-8200-SUA: 15 lbs (6.8 kg)
  - MP-8250-SUR: 16.31 lbs (7.4 kg)
- WEIGHT (UNPACKAGED):
  - MP-8200-BSU or MP-8200-SUA: 7 lbs (3.5 kg)
  - MP-8250-SUR: 9.0 lbs (4.1 kg)

SAFETY STANDARDS

- UL 60950, CAN/CSA-C22.2 No. 60950, IEC 60950, EN 60950 (part -1 and -22)

PACKAGE CONTENTS

- One Tsunami® MP-8200-BSU with three N-type surge protected connectors
- One Tsunami® MP-8200-BSU with three N-type surge protected connectors
- One Tsunami® MP-8200-BSU with integrated 23 dB dual polarized antenna
- One Serial (RJ-11 to DB9) dongle
- One power injector and country specific power cord
- One Wall / Pole mounting kit
- One Connector weatherproofing kit (Includes all recommended weatherproofing material)
- One Grounding kit
- One Gigabit PoE Surge Arrester
- One Quick installation Guide

MTBF & WARRANTY

- >250,000 hours & 1-year on parts and labor; SenPak Extended Support available.

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