**Presenting Proxim’s next generation video protection wireless solution**

Proxim Wireless is a leader and an early innovator in wireless technology providing high-speed, long-range broadband wireless solutions. Leveraging the advantages of OFDM, MIMO radio innovations along with Proxim’s proprietary Wireless Outdoor Routing Protocol (WORP®), the Tsunami® Multipoint 820 series is a feature rich evolving equipment specifically designed to address video protection market.

The compact and robust form factor of Tsunami® Multipoint 820 series is an ideal solution for urban wireless deployments. It is suitable for pole mounting, next to video camera, in order to ensure citizen protection.

Tsunami® Multipoint 820 series is also adapted for in vehicle mounting and supports seamless roaming at very high speed.

**World-class Performance**
- Features a very small form factor and an outdoor rated IP67 Metal enclosure
- Available with 15 dBi integrated antenna or N-Type connectors
- 50Mbps (license upgradable to 100Mbps) or 100 Mbps of throughput, with maximum data rates of 300Mbps
- Provides flexible channel planning with support for 4.900 to 5.925 GHz
- Comes with a 2x2 MIMO high power radio capable of 26 dBm transmit power
- Dynamic bandwidth allocation for service tiers
- Seamless roaming up to 285 km/h (196 mph)
- Powered via 802.3at PoE

**Video Ready and Highly Secure**
- Service flow based Quality of Service with advanced packet recognition (layer 2, 3 or 4)
- Multi-cast traffic compliant (no performance reduction) and built in IGMP snooping
- Advanced encryption protects over-the-air transmission via AES-128
- Radio mutual authentication eliminates unauthorized use of the system by rogue subscriber units and man-in-the-middle attacks
- MAC, Ether type, IP address packet filtering provides granular network security
- Uses Proxim’s Wireless Outdoor Routing Protocol (WORP) to prevent eavesdropping
- Features highly-secure remote management via SSL, SSH and SNMPv3

**Reducing Costs for Wireless ISPs**
- License-free frequency bands worldwide provide reliable wireless broadband without the high cost of licensed frequencies
- Low-cost bundle including both radio and mounting kit provides the industry’s most aggressive price point , enabling any deployment to enjoy a quick return on investment

**Easy to Install**
- Comes as a complete compact outdoor form factor offering unprecedented ease of installation
- Deployment tools include spectrum analyzer, antenna alignment and remote management configuration
- Non Line-of-Sight capability provided by Advanced Orthogonal Frequency Division Multiplexing (OFDM) along with 2x2 MIMO eases deployment in challenging areas
- Collocated Base Station synchronization ready (enabled via software upgrade in Q2-14)
- Connects to all existing Tsunami® MP.11, Tsunami® 8100 and Tsunami® 8200

Proxim Wireless is a global pioneer of broadband wireless systems that deliver the quadruple play of video, voice, data and mobility. Regardless of the application, our end-to-end product portfolio enables partners to custom-build the wireless solution that fits customer’s specific needs. Our point-to-point wireless backhaul products are available through our extensive global channel networks.
**PRODUCT MODELS**
- MP-820-BSU-100: Tsunami® MP 820 Base Station Unit, 100 Mbps, MIMO 2x2, N-Type Connectors
- MP-825-BSU-100: Tsunami® MP 825 Base Station Unit, 100 Mbps, MIMO 2x2, 15 dB Antenna
- MP-820-SUB-100: Tsunami® MP 820 Subscriber Unit, 50 Mbps (upgradable to 100 Mbps), MIMO 2x2, N-Type Connectors
- MP-825-SUB-100: Tsunami® MP 825 Subscriber Unit, 50 Mbps, MIMO 2x2, 15 dB Antenna
- MP-820-PRE-100: Tsunami® MP 820 Subscriber Unit, 100 Mbps, MIMO 2x2, 15 dB Antenna

**INTERFACES**
- Wired Ethernet: One auto MDI-X RJ4 10/100/1000 Mbps Ethernet with PoE in
- Wireless Protocol: WORP (Wireless Outdoor Router Protocol)
- Radio & TX Specs:
  - TDD: 2x2 MIMO
- Modulation:
  - OFDM with BPSK, QPSK, QAM16, QAM64
- Frequency: 4.900 – 5.925 GHz (Subject to Country Regulations)
- Channel Size:
  - SNR: 40 MHz, 20 MHz, 10 MHz, 5 MHz
  - More: 1 MHz, 250 kHz, 50 kHz

**DATA RATE**
- MCS 0 to 15 (for High Throughput mode) (5.5 – 100 Mbps) with Dynamic Data Rate Selection
- BPSK, QPSK, 16-QAM and 64-QAM for legacy mode (6Mbps - 54Mbps)

**POWER CONSUMPTION**
- Up to 26 Watt (digital chain)
- Up to 2.0 Watt typical (15 Watt max)

**RX SENSITIVITY (PER 10%)**

<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>-8 dBm</td>
<td>-92 dBm</td>
<td>-93 dBm</td>
<td>-94 dBm</td>
</tr>
<tr>
<td>MCS 7</td>
<td>-72 dBm</td>
<td>-74 dBm</td>
<td>-75 dBm</td>
<td>-77 dBm</td>
</tr>
<tr>
<td>MCS 8</td>
<td>-88 dBm</td>
<td>-91 dBm</td>
<td>-93 dBm</td>
<td>-94 dBm</td>
</tr>
<tr>
<td>MCS 15</td>
<td>-69 dBm</td>
<td>-71 dBm</td>
<td>-72 dBm</td>
<td>-75 dBm</td>
</tr>
</tbody>
</table>

**OTHER**
- Dynamic Channel Selection (DCS) based on interference detection
- Automatic Transmit Power Control (ATPC) with EIRP limit support

**ANTENNA**
- Tsunami® MP 820-BSU-100/825-BSU-100: Two N-type connectors
- Tsunami® MP 820-BSU-100/825-BSU-100: Integrated 15 dB dual Polarized (H+V) panel antenna (14 dB beyond 5.850 GHz)

**MANAGEMENT**
- CLI: RS-232 serial (RJ11 to DB9 dongle provided)
- Remote:
  - Telnet and SSH, Web GUI and SSL, TFTP, SNMPv3
- SNMP:
- QoS:
  - 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**
- IPv4 and IPv6 simultaneously

**THROUGHPUT**
- MP-820-BSU-100/100: Up to 100 Mbps, 10 subscriber max
- MP-820-SUB-50/100/SUB-100: Up to 50 Mbps (license upgradable to 100 Mbps)

**QoS**
- Asymmetric Bandwidth Control
- Packet Classification Capabilities
- Uplink and Downlink CIR Control “committed information rate” and MRR Control “maximum information rate” per service flow
- Up to 10/80/1:0/81:0-priority, IÖPD, VLAN ID, IP protocol, IP source/destination address, Ethernet source/destination address, source/destination port, and Etherertype

**DHCP SERVER & RELAY**
- NAT with 3d ALGs, PPPoE end point with Proxy DNS

**POWER SUPPLY**
- Via provided PoE injector

**APPLICATIONS**
- Wireless Broadband/ISP: High service availability, superior subscriber per sector support and ultrafast 4G connectivity help ISPs to quickly scale their network coverage as well as meet the rising demand for high-bandwidth, multimedia services effortlessly
- Last Mile Access: Competitive broadband service access alternative to DSL or cable for residences and T1 or Ethernet for businesses
- Metropermit Network Areas: 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/tsunami-mp-820-series

<table>
<thead>
<tr>
<th>Product</th>
<th>Model</th>
<th>Description</th>
<th>Bandwidth</th>
<th>Power Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>MP-820-BSU-100</td>
<td>Tsunami® MP 820 Base Station Unit</td>
<td>100 Mbps, MIMO 2x2, N-Type Connectors</td>
<td>2.0 Watt</td>
<td>15 Watt max</td>
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<td>Tsunami® MP 825 Base Station Unit</td>
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<td>MP-820-BSU-100/825-BSU-100</td>
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<td>15 Watt max</td>
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<td>MP-820-SUB-50/100/SUB-100</td>
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<td>Up to 50 Mbps</td>
<td>2.0 Watt</td>
<td>15 Watt max</td>
</tr>
<tr>
<td>MP-820-BSU-100/825-BSU-100</td>
<td>Up to 100 Mbps, 10 subscriber max</td>
<td>2.0 Watt</td>
<td>15 Watt max</td>
<td></td>
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