Tsunami® Multipoint 835-CPE
A High Performance Customer Premises Equipment for WISPs

Presenting Proxim’s next generation Point-to-Multipoint Customer Premises Equipment

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®), Tsunami® Multipoint 835 CPE is a feature rich customer premises equipment specifically designed for the carrier, service provider and WISP market.

The low cost outdoor form factor of Tsunami® Multipoint 835 CPE is an ideal solution for large-scale wireless deployments suitable for all last-mile broadband wireless access deployments.

This CPE is also feature rich with a carrier-grade prioritization platform supporting multiple service classes that can prioritize voice, video and data applications over the widest range of operating frequencies.

World Class Performance
- Features a very small form factor and an outdoor rated IP67 Metal enclosure
- Available with 15 dBi integrated antenna
- Field upgradable 10 or 25 Mbps of throughput with maximum data rates of 300 Mbps
- Provides flexible channel planning with support for 5.150 to 5.925 GHz
- Comes with a 2x2 MIMO high power radio capable of 26 dBm transmit power
- Allows flexible bandwidth allocation for service tiers
- Seamless mobility up to 295 km/h (185 mph)
- 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 snooping
- Supports either WORP® or WORP® sync to adapt to RF condition and deliver optimum performances.
- 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
- Connects to all existing Tsunami® MP11 5054, Tsunami® 8100 and Tsunami® 8200

All-in-One CPE with Security & Gateway Features
- Built-in feature rich network protocols for Bridging, Routing and Gateway functionality
- Advanced encryption protects over-the-air transmission via AES-128
Specifications: Tsunami® Multipoint 835-CPE

PRODUCT MODELS
MP-835-CPE-10: Tsunami® MP 835 Customer Premise Equipment, 10 Mbps, MIMO 2x2, 15 dBi integrated antenna
MP-835-CPE-25: Tsunami® MP 835 Customer Premise Equipment, 25 Mbps, MIMO 2x2, 15 dBi integrated antenna

INTERFACES
WIRED ETHERNET: One auto MDI-X RJ45 10/100 Mbps Ethernet with PoE in
WIRELESS PROTOCOL: WORP® (Wireless Outdoor Router Protocol) or WORP sync

RADIO & TX SPECS
MIMO: 2x2 MIMO
MODULATION: OFDM with BPSK, QPSK, QAM16, QAM64
FREQUENCY: 5/15 – 5.925 GHz (Subject to Country Regulations)
CHANNEL SIZE: 40 MHz, 20 MHz, 10 MHz*, 5 MHz* channel bandwidths *Not applicable for DFS band
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 26 dBm (dual chain)
TX POWER CONTROL: 0 – 15 dB, in 0.5 dB steps. Automatic TPC with configurable EIRP limit
OTHER: Dynamic Channel Selection (DCS) based on interference detection. Dynamic Frequency Selection (DFS) based on radar signature. Automatic Transmit Power Control (ATPC) with EIRP limit support

RX SENSITIVITY (BER=10^-6)

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

ANTENNA
Integrated 15 dBi dual Polarized (H+V) panel antenna (14 dBi beyond 5.850 GHz)

MANAGEMENT
REMOTE: Telnet and SSH, Web GUI and SSL, TFTP, SNMPv3
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 and point with Proxy DNS
THROUGHPUT: MP-835-CPE-10 - Up to 10 Mbps, MP-835-CPE-25 - Up to 25 Mbps
QoS: Asymmetric Bandwidth Control

VLAN: 802.1Q: Management VLAN. Transparent, Access, Trunk and Mixed mode. QnQ double tagging

POWER CONSUMPTION
6 Watt typical

ENVIRONMENTAL SPECS
OPERATING TEMPERATURE: -30º to 50ºC (-22º to 122º Fahrenheit)
STORAGE TEMPERATURE: -55º to 70ºC (-67º to 158º Fahrenheit)
HUMIDITY, WATER & DUST PROOF: Max 100% relative humidity (non-condensing), IP67, 180 km/h (112 mph)

PHYSICAL SPECS
DIMENSIONS (PACKAGED): 13.97 x 8.86 x 3.46 in (355 x 225 x 88 mm)
DIMENSIONS (UNPACKAGED): 4.96 x 8.62 x 2.58 in (126 x 219 x 65.5 mm)
WEIGHT (PACKAGED): 4.9 lbs (2.225 Kg)
WEIGHT (UNPACKAGED): 2.1 lbs (0.950 kg)

SAFETY STANDARDS
UL 60950-1/22

PACKAGE CONTENTS
- One Tsunami® MP-835-CPE-10/25 with integrated antenna
- One 20 W power injector and country specific power cord
- One Connector weatherproofing kit (includes all recommended weatherproofing material)
- One Grounding kit
- One basic Pole mounting kit
- One Quick Installation Guide

MTBF & WARRANTY
>350,000 hours & 2 year on parts and labor; ServPak Extended Support available