

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 4.900 - 5.000 GHz (L mask) and 5.150 - 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)

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

- 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® MP:11 5054, Tsunami® 8100 and Tsunami® 8200

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

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|------------------|--|
| MIMO | 2x2 MIMO |
| 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 * 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=10⁻⁹)

| Channel Size | 40 MHz | 20 MHz | 10 MHz | 5 MHz |
|--------------|---------|---------|---------|---------|
| MCS 0 | -88 dBm | -92 dBm | -93 dBm | -94 dBm |
| MCS 7 | -72 dBm | -74 dBm | -75 dBm | -77 dBm |
| MCS 8 | -88 dBm | -91 dBm | -93 dBm | -94 dBm |
| MCS 15 | -69 dBm | -71 dBm | -72 dBm | -75 dBm |

ANTENNA

Integrated 15 dBi dual Polarized (H+V) panel antenna (12 dBi before 5.000 GHz and 14 dBi beyond 5.850 GHz)

MANAGEMENT

| | |
|--------|---|
| REMOTE | Telnet and SSH, Web GUI 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, 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 |
| THROUGHPUT | MP-835-CPE-10 - Up to 10 Mbps, MP-835-CPE-25 - Up to 25 Mbps |

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

POWER CONSUMPTION

6 Watt typical

ENVIRONMENTAL SPECS

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|--|--|---|
| OPERATING TEMPERATURE | STORAGE TEMPERATURE | HUMIDITY, WATER & DUST PROOF, WIND LOADING |
| -30° to 50°C (-22° to 122° Fahrenheit) Cold start at -20°C (-4° Fahrenheit) | -55° to 70°C (-67° to 158° Fahrenheit) | Max 100% relative humidity (non-condensing), IP67, 180 km/h (112 mph) |

PHYSICAL SPECS

| | | | |
|--|---|--------------------|---------------------|
| DIMENSIONS (PACKAGED) | DIMENSIONS (UNPACKAGED) | WEIGHT (PACKAGED) | WEIGHT (UNPACKAGED) |
| 13.97 x 8.86 x 3.46 in (355 x 225 x 88 mm) | 4.96 x 8.62 x 2.58 in (126 x 219 x 65.5 mm) | 4.9 lbs (2.225 Kg) | 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 & 1-year; ServPak Extended Support available.