

# Tsunami® Multipoint 825 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 825 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 825 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
- 50Mbps or 100Mbps of throughput with maximum data rates of 300Mbps
- Provides flexible channel planning with support for 4.900 - 5.000 (L mask) and 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 roaming 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
- Features highly-secure remote management via SSL, SSH and SNMPv3
- Supports either WORP® or WORP® sync to adapt to RF condition and deliver optimum performances

### 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, Tsunami® 8100 and Tsunami® 8200

PRODUCT MODELS		PART NUMBER																												
MP-825-CPE-50	Tsunami® MP 825 Customer Premise Equipment , 50 Mbps, MIMO 2x2, 15 dBi integrated antenna	901-00137	MP-825-CPE-50-US	901-00138	MP-825-CPE-50-WD																									
MP-825-CPE-100	Tsunami® MP 825 Customer Premise Equipment , 100 Mbps, MIMO 2x2, 15 dBi integrated antenna	901-00188	MP-825-CPE-100-US	901-00187	MP-825-CPE-100-WD																									
INTERFACES																														
WIRED ETHERNET	One auto MDI-X RJ45 10/100Mbps 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	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 (Per=10%)	<table border="1"> <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> </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>					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
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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-825-CPE-50 - Up to 50 Mbps, MP-825-CPE-100 - Up to 100 Mbps																													
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VLAN	802.1Q: Management VLAN. Transparent, Access, Trunk and Mixed mode. QinQ double tagging																													
POWER CONSUMPTION																														
6 Watt typical (15 Watt max)																														
ENVIRONMENTAL SPECS																														
OPERATING TEMPERATURE		STORAGE TEMPERATURE		HUMIDITY, WATER & DUST PROOF, WIND LOADING																										
-40° to 55°C (-40° to 131°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)																										
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)																										
				WEIGHT (UNPACKAGED)																										
				2.1 lbs (0.950 kg)																										
SAFETY STANDARDS																														
UL 60950-1/22																														
PACKAGE CONTENTS																														
<ul style="list-style-type: none"> <li>• One Tsunami® MP-825-CPE-50 with integrated antenna Or One Tsunami® MP-825-CPE-100 with integrated antenna</li> <li>• One 20 W power injector and country specific power cord</li> <li>• One Connector weatherproofing kit (Includes all recommended weatherproofing material)</li> <li>• One Grounding kit</li> <li>• One Quick Installation Guide</li> <li>• One basic Pole mounting kit</li> </ul>																														
MTBF & WARRANTY																														
>350,000 hours & 1-year; ServPak Extended Support available.																														