

# Tsunami® MP-10100L Series

## High Throughput Point-to-Multipoint Wireless Solution



### Increase your multipoint capacity over 320 Mbps throughput with the all new Tsunami® MP-10100L series

Proxim Wireless is a leader and an early innovator in wireless technology providing high-speed, long-range and mobile broadband wireless solutions. Proxim introduces the Tsunami® MP-10100L, a software License controlled version of Tsunami® MP-10100 that delivers up to 400 Mbps data rate in a 40 MHz channel. The Tsunami® MP-10100L benefits from all advantages and features of Tsunami® MP-10100 and it can be field license upgraded to very high throughput mode of over 600Mbps of useable capacity.

The Tsunami® MP-10100 supports the following features specifically for last miles access, video surveillance or mobility application that need very high-speed broadband wireless access:

### Near-Line-of-Sight and Advanced Features

- Features dual Gigabit Ethernet ports with PoE out to power other devices such as surveillance cameras or additional radios
- Performs deep packet inspection (DPI) 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 continuity of services whatever the condition
- Spectrum analyzer to analyze frequency bands for interference, and select the best available channel

### Carrier-Grade Backhaul

- Implements AES encryption and Radius authentication 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/TLS1.2, SSH and SNMPv3
- Features Ethernet ports with pass-through IEEE 1588v2 synchronization and support for 9k Jumbo frame

### Product Line Compatibility

- Connects to all existing Tsunami® MP-10100, MP-8200, MP-820 and MP-830 products
- Fully integrates within ProximVision® Advanced Cloud Based Carrier Management System and Controller

### World Class Performance

- Point-to-Multipoint system that delivers up to 400 Mbps data rate and covers distances up to 10 miles (16 km)
- Dual IPv4 and IPv6 stack for transparent evolution to tomorrow's networks
- Triple level login with monitoring, simplified or advanced web interface
- Built-in feature rich network protocols for bridging, routing and gateway functionality
- Railway certified High Speed Mobility up to 185 mph (295 km/h)



Proxim WORP®, a highly evolved QoS platform tailored to deliver voice, video and data applications



Proxim ClearConnect™, a suite of different techniques all working together to ensure robust and reliable radio communications in noisy deployments



Proxim FastConnect™, a High Speed Mobility solution for Buses, Trains, Metros and Ferries

PRODUCT MODELS	PART NUMBERS
MP-10100L-BSU	Tsunami® MP 10100 Base Station Lite, 400 Mbps, MIMO 2x2, Type-N Connectors
MP-10150L-BS9	Tsunami® MP 10150 Base Station Lite, 400 Mbps, MIMO 2x2, 90° sector antenna
MP-10150L-BS1	Tsunami® MP 10150 Base Station Lite, 400 Mbps, MIMO 2x2, 22 dBi panel antenna
MP-10100L-BSx-866-UPG	Tsunami® MP 10100 Base Station Lite, 400 Mbps to 866 Mbps license upgrade
MP-10100L-SUA	Tsunami® MP 10100 Subscriber Unit Lite, 400 Mbps, MIMO 2x2, Type-N Connectors
MP-10150L-SUR	Tsunami® MP 10150 Subscriber Unit Lite, 400 Mbps, MIMO 2x2, 22 dBi panel antenna
MP-10100L-SUX-866-UPG	Tsunami® MP 10100 Subscriber Unit Lite, 400 Mbps to 866 Mbps license upgrade

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

RADIO & TX SPECS					
MIMO	2x2:2				
MODULATION	OFDM with BPSK, QPSK, QAM16, QAM64, QAM256				
FREQUENCY	4.900 – 5.925 GHz (Subject to Country Regulations)				
CHANNEL SIZE	40 MHz and 20 MHz (±5ppm channel accuracy)				
DATA RATE	MCS 0 to 9 with Dynamic Data Rate Selection				
TX POWER	Up to 28 dBm (dual chain)				
TX POWER CONTROL	0 - 27 dB, in 1 dB steps. Automatic TPC with configurable EIRP limit				
	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">40 MHz</td> <td style="width: 50%;">20 MHz</td> </tr> </table>	40 MHz	20 MHz		
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TX POWER	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">MCS0: 28</td> <td style="width: 50%;">MCS0: 29</td> </tr> <tr> <td>MCS9: 22</td> <td>MCS8: 25</td> </tr> </table>	MCS0: 28	MCS0: 29	MCS9: 22	MCS8: 25
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MCS9: 22	MCS8: 25				
RX SENSITIVITY (Per=10%)	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">MCS0: -93</td> <td style="width: 50%;">MCS0: -94</td> </tr> <tr> <td>MCS9: -71</td> <td>MCS8: -74</td> </tr> </table>	MCS0: -93	MCS0: -94	MCS9: -71	MCS8: -74
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MCS9: -71	MCS8: -74				
THROUGHPUT	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Up to 324 Mbps</td> <td style="width: 50%;">Up to 137 Mbps</td> </tr> </table>	Up to 324 Mbps	Up to 137 Mbps		
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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				

ANTENNA	
MP-10100L-BSU/SUA	Two N-type Connectors with built-in Surge Protection
MP-10150L-BS9	Integrated 2x2 MIMO 16dBi Dual Polarized 90 degree Sector Antenna
MP-10150L-BS1/SUR	Integrated 2x2 MIMO 22dBi Dual Polarized 1 foot Panel Antenna

MANAGEMENT	
REMOTE	Telnet and SSH, Web GUI and SSL/TLS, 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, SNMP and local time, Spectrum analyzer

SYNCHRONIZATION	
	Pass-through IEEE 1588v2 Ethernet Synchronization

SECURITY	
ENCRYPTION	AES 128
AUTHENTICATION	Internal MAC Address Control List, Radius based Authentication (with VLAN and QoS provisioning)

QoS	
	Asymmetric Bandwidth Control
	Asymmetric UL/DL committed and maximum information rate per service flow
	Packet Classification Capabilities
	802.1p priority, IPTOS, VLAN ID, IP addresses, ports, Ethernet addresses, IP protocol, and EtherType
	Scheduling
	Best Effort, Real Time Polling Services

NETWORK	
MODES	Bridging, Routing (RIP v2 and IP tunneling)
IP STACK	IPv4 and IPv6 simultaneously
GATEWAY FEATURES	DHCP Server & relay, NAT with Std ALGs, PPPoE end point with Proxy DNS
VLAN	802.1Q: Management VLAN. Transparent, Access, Trunk and Mixed mode. QinQ double tagging

POWER	INPUT	OUTPUT
	36 to 57 VDC via Ethernet port1 (Power over Ethernet) 12 VDC via Access port Power should not be provided simultaneously on both ports.	48 to 57 VDC – 25 Watt on Ethernet port2 (PoE – software controlled) 12 VDC on Access port

POWER CONSUMPTION	
	17 Watt typical

ENVIRONMENTAL SPECS		
OPERATING TEMPERATURE	STORAGE TEMPERATURE	HUMIDITY, IP RATING, WIND LOADING
-40° to 60°C (-40° to 140° Fahrenheit)	-50° to 70°C (-58° to 158° Fahrenheit)	100% relative humidity, IP67, 200 km/h (125 Mph)

PHYSICAL SPECS				
PRODUCT MODELS	DIMENSIONS PACKAGED (per unit)	DIMENSIONS UNPACKAGED (per unit)	WEIGHT (PACKAGED)	WEIGHT (UNPACKAGED)
MP-10100L-BSU/SUA	14.56 x 13.0 x 7.87 in (370 x 331 x 200 mm)	9.84 x 8.66 x 2.83 in (250 x 220 x 72 mm)	9.92 lbs (4.5 kg)	4.20 lbs (1.9 kg)
MP-10150L-BS9	18.46 x 7.05 x 21.57 in (469 x 179 x 548 mm)	14.57 x 14.57 x 4.21 inches (370 x 370 x107 mm)	13.67 lbs (6.2 kg)	7.27 lbs (3.3 kg)
MP-10150L-BS1/SUR	14.56 x 13.0 x 7.87 in (370 x 331 x 200 mm)	12 x 12 x 3.40 in (305 x 305 x 85 mm)	10.91 lbs (4.95 kg)	5.30 lbs (2.4 kg)

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

CERTIFICATIONS	
	USA: FCC 90Y + 15E (UNII 15.247); Canada: IC RSS 102 + RSS 111 + RSS 247
	Europe: RED EN 301 489-1 + EN 301-489-17 + EN 301 893 + EN 302 502; Railway: EN 50155 + EN 50121 + EN

PACKAGE CONTENTS	
<ul style="list-style-type: none"> <li>One Tsunami® MP-10100L-BSU/SUA with two N-type surge protected connectors</li> <li>Or One Tsunami® MP-10150L-BS9/BS1/SUR with integrated dual polarized antenna</li> <li>One power injector and country specific power cord</li> <li>One Connector weatherproofing kit (Includes all recommended weatherproofing material)</li> </ul>	<ul style="list-style-type: none"> <li>One Wall / Pole mounting kit</li> <li>One Antenna alignment (RJ11) dongle</li> <li>One Grounding kit</li> <li>One Quick Installation Guide</li> </ul>

MTBF & WARRANTY	
	MTBF over 250 000 hours & 2-year warranty with ServPak Extended Support available.