Tsunami® Multipoint 820 series

Wireless Product Portfolio

• **Tsunami® 8000 Series** – *PtP & PtMP product line delivering 300 Mbps plus data rate*

• **Tsunami® 800 Series**
Compact and robust, high performance, PtP & PtMP product line

• **Tsunami® .11 Series** – *Our best selling Point-to-point and multipoint product line*

• **Tsunami® GX800**– *Carrier-class IP Ethernet bridge for voice and data backhaul for service providers and enterprise applications*

• **ORiNOCO® AP** - *The industry's highest performance 802.11a/b/g/n access points*

Proxim Wireless is a global pioneer of broadband wireless systems that deliver the quadruple play of video, voice, data and mobility. From Wi-Fi to wireless Gigabit Ethernet – our WLAN, Wi-Fi Mesh, WiMAX and point-to-point wireless backhaul products are available through our extensive global channel networks.

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
- 50Mbps of throughput, license upgradable to 100Mbps, 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 or directly from 12 VDC source for in-vehicle installation

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 Q1-14)
- Connects to all existing Tsunami® MP.11, Tsunami® 8100 and Tsunami® 8200

PRODUCT MODELS	
MP-820-BSU-100	Tsunami® MP 820 Base Station Unit, 100 Mbps, MIMO 2x2, N-Type Connectors
MP-820-SUA-50⁺	Tsunami® MP 820 Subscriber Unit , 50 Mbps (upgradable to 100 Mbps), MIMO 2x2, N-Type Connectors
MP-825-SUR-50⁺	Tsunami® MP 825 Subscriber Unit , 50 Mbps (upgradable to 100 Mbps), MIMO 2x2, 15 dBi Antenna
INTERFACES	
WIRED ETHERNET	One auto MDI-X RJ45 10/100/1000Mbps Ethernet with PoE in
WIRELSS PROTOCOL	WORP® (Wireless Outdoor Router Protocol)
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

RX SENSITIVITY (PER=10%)	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

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
SYNCHRONIZATION	Synchronize internal clock to Pulse Per Second signal recieved from either GPS module connected to RJ11 serial port or Ethernet Synchronization module connected to RJ45 ethernet port

ANTENNA	MP-820-BSU-100 or MP-820-SUA-50⁺	Two N-type connectors
	MP-825-SUR-50⁺	Integrated 15 dBi dual Polarized (H+V) panel antenna (14 dBi beyond 5.850 GHz)

MANAGEMENT	
LOCAL	RS-232 serial (RJ11 to DB-9 dongle provided)
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)
IP STACK	IPv4 and IPv6 simultaneously

THROUGHPUT	MP-820-BSU-100	Up to 100 Mbps, 10 subscriber max
	MP-820-SUA-50⁺ or MP-825-SUR-50⁺	Up to 50 Mbps (license upgradable to 100 Mbps)

GATEWAY FEATURES	DHCP Server & relay, NAT with Std ALGs, PPPoE end point with Proxy DNS

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 SUPPLY	Via provided PoE injector or directly from 12 VDC source through serial port
POWER CONSUMPTION	6 Watt typical (15 Watt max)
ENVIRONMENTAL SPECS	
TEMPERATURE	
OPERATING	-40º to 55ºC (-40º to 131º Fahrenheit)
STORAGE	-55º to 70ºC (-67º to 158º Fahrenheit)
HUMIDITY	Max 100% relative humidity (non-condensing)
WIND LOADING	180 km/h (112 mph)
WATER & DUST PROOF	IP67

PHYSICAL SPECS		DIMENSIONS	WEIGHT
PACKAGED	MP-820-BSU-100 or MP-820-SUA-50⁺	11.81 x 10.83 x 5.31 in (300 x 275 x 135 mm)	7.93 lbs (3.6 kg)
	MP-825-SUR-50⁺	11.81 x 10.83 x 5.31 in (300 x 275 x 135 mm)	7.27 lbs (3.3 Kg)
UNPACKAGED	MP-820-BSU-100 or MP-820-SUA-50⁺	5.02 x 8.68 x 2.85 in (127.5 x 220.5 x 72.5 mm)	2.75 lbs (1.250 kg)
	MP-825-SUR-50⁺	4.96 x 8.62 x 2.58 in (126 x 219 x 65.5 mm)	2.10 lbs (0.950 kg)

SAFETY STANDARDS	UL 60950-1/22, CAN/CSA-C22.2 No. 60950-1/22, IEC 60950-1/22, EN 60950-1/22
PACKAGE CONTENTS	▪ One Tsunami® MP-820-BSU-100 with two N-type surge protected connectors Or One Tsunami® MP-820-SUA-50⁺ with two N-type surge protected connectors Or One Tsunami® MP-825-SUR-50⁺ with 15 dBi integrated antenna ▪ One 32 W power injector with reload button and country specific power cord ▪ One Wall / Pole mounting kit ▪ One Connector weatherproofing kit (Includes all recommended weatherproofing material) ▪ One Serial (RJ-11 to DB9) dongle ▪ One Grounding kit ▪ One Quick Installation Guide
MTBF & WARRANTY	>350,000 hours & 1-year on parts and labor; ServPak Extended Support available.

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

- **Security and Surveillance**
  High definition IP-surveillance cameras for monitoring city streets, airports, bridges, seaports, transportation hubs, offices and warehouses

- **Metropolitan Area Networks**
  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/tsunamir-mp-820-series