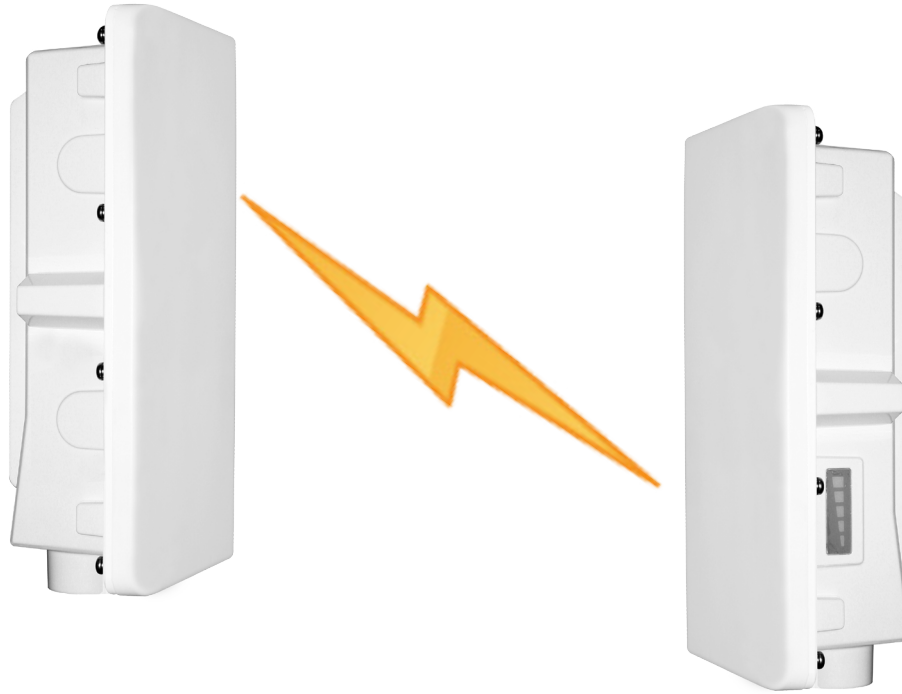# Tsunami Quickbridge® 825 series

Compact Point-to-Point Wireless Bridge Bundle

Presenting Proxim's newest compact Point-to-Point wireless backhaul solution.

Proxim Wireless is a leader and an early innovator in wireless technology providing high-speed, long-range broadband wireless solutions. Proxim introduces Tsunami Quickbridge® 825 series, an incredibly cost-effective, non Line-of-Sight Point-to-Point (PtP) wireless backhaul solution. With this complete "Hop-in-a-Box" solution delivering up to 100 Mbps throughput, deployments of all sizes will enjoy a quick return on investment.

With excellent spectrum efficiency and a highly evolved prioritization platform tailored to deliver voice, video and data applications, Tsunami Quickbridge® 825 series satisfies carriers, wireless service providers and Government organizations with requirements for reliable cost optimized high performance wireless backhaul.

Leveraging the advantages of OFDM and the latest MIMO radio innovations, Tsunami Quickbridge® 825 series draws on Proxim's proprietary Wireless Outdoor Router Protocol (WORP®) to deliver an unmatched outdoor wireless performance when compared to other products in the market today.

World Class Performance

- Features a very small form factor and an outdoor rated IP67 Metal enclosure
- Available with 15 dBi integrated antenna
- 50 Mbps (license upgradable to 100 Mbps) or directly 100 Mbps of throughput with maximum data rates of 300Mbps
- 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
- Spectrum analysis feature helps to study frequency bands for interference, and select a relatively low interference channel

All-in-One Link with Security Features

- Built-in feature rich network protocols for Bridging and Routing
- Advanced encryption protects over-the-air transmission via AES-128
- Radio mutual authentication eliminates unauthorized use of the system by rogue End Point 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

Cost Effective and Ease of Installation for Quick Return on Investment

- 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
- License-free frequency bands worldwide provide reliable wireless broadband without the high cost of licensed frequencies
- Comes as a complete "Hop-In-A-Box" compact outdoor form factor offering unprecedented ease of installation
- Non Line-of-Sight capability provided by Advanced Orthogonal Frequency Division Multiplexing (OFDM) along with 2x2 MIMO eases deployment in challenging areas
- Synchronization ready to optimize channel usage of collocated link

PRODUCT MODELS

QB-825-LNK-50⁺	Tsunami® QB 825 Link , 50 Mbps (upgradable to 100 Mbps), MIMO 2x2, 15 dBi antenna (Two QB-825-EPR-50⁺)
QB-825-LNK-100	Tsunami® QB 825 Link , 100 Mbps, MIMO 2x2, 15 dBi antenna (Two QB-825-EPR-100)

INTERFACES

WIRED ETHERNET	One auto MDI-X RJ45 10/100/1000 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	5.150 – 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
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)

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

SYNCHRONIZATION

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

ANTENNA

QB-825-EPR-50⁺ and QB-825-EPR-100   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

NETWORK

MODES	Bridging (support LACP through external switches), Routing (RIP v2 and IP tunneling)
GATEWAY FEATURES	DHCP Server & relay, NAT with Std ALGs
IP STACK	IPv4 and IPv6 simultaneously
THROUGHPUT	QB-825-EPR-50⁺: Up to 50 Mbps (license upgradable to 100 Mbps), QB-825-EPR-100: Up to 100 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 SUPPLY

Via provided PoE injector or directly from 12 VDC source through serial port

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)	WEIGHT (UNPACKAGED)
11.81 x 10.83 x 5.31 in (300 x 275 x 135 mm)	4.96 x 8.62 x 2.58 in (126 x 219 x 65.5 mm)	7.27 lbs (3.3 Kg)	2.1 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® QB-825-LNK-50⁺ / 100 with integrated antennas (Two Tsunami® QB-825-EPR-50⁺ / 100)
- Two 32 W power injector with reload button and country specific power cord
- Two Connector weatherproofing kit (Includes all recommended weatherproofing material)
- Two Quick Installation Guide
- Two Wall / Pole mounting kit
- Two Serial (RJ-11 to DB9) dongle
- Two Grounding kit

MTBF & WARRANTY

>350,000 hours & 1-year on parts and labor; ServPak Extended Support available