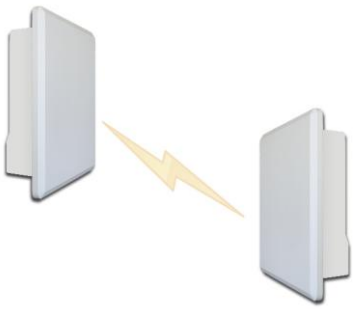
# Tsunami® QuickBridge 8100 Series

*High Speed Point-to-Point Wireless Bridge Bundle*



Tsunami® QuickBridge 8100 Series

**End-to-End Broadband Wireless Product Portfolio**

Proxim Wireless offers extremely reliable, secure and easily-deployed solutions for interconnecting corporate and telecommunications networks. This portfolio includes:

- ***Gigalink® –*** *Carrier-class alternative to fiber, up to 1.25Gbps*
- ***Lynx.GX® –*** *Cellular voice and data backhaul, up to DS3 interface*
- ***Tsunami®.GX® -*** *Carrier-class IP Ethernet Bridge for voice and data backhaul for service providers and enterprise applications*
- ***QuickBridge® –*** *Easiest-to-install "Hop-in a- box" complete kit Ethernet Bridge for campus and small business networks*

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

**Presenting a Wireless Backhaul Solution that Exceeds 4G Speed Requirements with 300Mbps Bandwidth!**

With over 20 years in wireless innovation, Proxim introduces the Tsunami® QB-8100, an incredibly costeffective, high performance and non-line-of-sight 4G point-to-point (PtP) wireless backhaul solution.With 300Mbps data rates in a complete "Hop-in-a-Box" solution, deployments in networks of all sizeswill enjoy a quick return on investment.

With incredible channel capacity & flexibility, excellent spectrum efficiency and a highly evolved prioritization platform tailored to deliver voice, video and data applications, the Tsunami® QB-8100 satisfies carriers, wireless service providers and Government organizations with requirements for fast and reliable 4G wireless backhaul.

Leveraging the advantages of OFDM and the latest MIMO radio innovations, the Tsunami® QB-8100 draws on Proxim's proprietaryWireless Outdoor Router Protocol (WORP) to deliver wireless performance in excess of 4G products on the markets today.

**World-class Performance**

- A Point-to-Point system that delivers a 300 Mbps data rate link at distances of over 5 miles (8 km)
- Very low latency of the order of 2 to 3 ms to support voice and video applications over long distances
- Built-in feature rich network protocols for bridging, routing and gateway functionality

**Non-Line-of-Sight and Advanced Features**

- Non-line-of-sight capable, utilizing OFDM and enhanced MIMO techniques to penetrate through obstructions better
- Features dual Gigabit Ethernet ports with PoE out to power other devices like surveillance cameras and additional radios
- Enables packet identification to create unique and sophisticated service rules and tiered service classes with ease

**Widest Range of Frequencies**

- Provides flexible channel planning with support for 4.9 - 6.0 GHz and 2.3 - 2.5 GHz frequencies
- Operates in licensed and unlicensed frequency spectrums and comes as a complete "Hop-In-A-Box" with a set of accessories for even greater ease of installation

**Carrier-Grade Security**

- Implements tiered security layers 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, SSH and SNMPv3
- Provides advanced AES encryption for military-grade over-the-air communications and radio mutual authentication eliminates unauthorized use of the system by rogue subscriber units and man-in-the middle attacks

**Cost Effective and Ease of Use for Quick Return on Investment**

- Complete "Hop-In-A-Box" compact outdoor form factor allows unprecedented ease of installation
- Suitable for the carriers, WISP and Government markets
- Certified for deployments in the Americas, Europe and Asia
- The most cost-effective, high performance point-to-point solution from Proxim, enabling any deployment to enjoy a quick return on investment

# Tsunami® QuickBridge 8100 Series

*Technical Specifications*

| | | | | | |
|---|---|---|---|---|---|
| ***PRODUCT MODELS*** | | | | | |
| QB-8100-LNK | Tsunami QB 8100 Link, 300 Mbps, MIMO 3x3, Type-N Connectors (Two QB-8100-EPA) | | | | |
| QB-8150-LNK | Tsunami QB 8150 Link, 300 Mbps, MIMO 2x2, 23 dBi integrated antenna (Two QB-8150-EPR) | | | | |
| QB-8150-LNK-100 | Tsunami QB 8150 Link, 2x50 Mbps, MIMO 2x2, 23 dBi integrated antenna (Two QB-8150-EPR-100) | | | | |
| ***INTERFACES*** | | | | | |
| WIRED ETHERNET | One or two auto MDI-X RJ45 10/100/1000Mbps Ethernet<br>- Port #1 with PoE in & Data (all models)<br>- Port #2 with PoE out (802.3af pin out) & Data (Not available for QB-8150-EPR-100) | | | | |
| WIRELSS PROTOCOL | WORP™ (Wireless Outdoor Router Protocol) | | | | |
| ***RADIO & TX SPECS*** | | | | | |
| MIMO | 3x3 MIMO | | | | |
| MODULATION | OFDM | | | | |
| FREQUENCY | 2.3 – 2.5 GHz<br>4.9 – 6.0 GHz (Subject to Country Regulations) | | | | |
| CHANNEL SIZE | 40 MHz, 20 MHz, 10 MHz, 5 MHz channel bandwidths | | | | |
| DATA RATE | MCS 0 to 15 for High Throughput mode (6.5 – 300 Mbps) with Dynamic Data Rate Selection | | | | |
| TX POWER | Up to 21dBm (two Tx chain) | | | | |
| TX POWER CONTROL | 0 – 25 dB, in 0.5 dB steps. Automatic TPC with configurable EIRP limit | | | | |
| RX SENSITIVITY (BER=$10^{-6}$) | *Channel Size* | *40 MHz* | *20 MHz* | *10 MHz* | *5 MHz* |
| | *MCS 0* | -87 dBm | -93 dBm | -94 dBm | -96 dBm |
| | *MCS 7* | -71 dBm | -75 dBm | -78 dBm | -81 dBm |
| | *MCS 8* | -87 dBm | -93 dBm | -94 dBm | -95 dBm |
| | *MCS 15* | -69 dBm | -71 dBm | -74 dBm | -77 dBm |
| ***LATENCY*** | < 3 msec | | | | |
| ***ANTENNA*** | Model QB-8100-EPA includes three N-Type Antenna Connectors with built in Surge Protection<br>Model QB-8150-EPR(-100) includes an Integrated 2x2 MIMO 23dBi Dual Polarized Antenna | | | | |
| ***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 | | | | |
| ***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) | | | | |
| THROUGHPUT | Model QB-8100-EPA and QB-8150-EPR up to 200 Mbps<br>Model QB-8150-EPR-100 up to 50 Mbps (TCP) each direction (100 Mbps aggregated) | | | | |
| GATEWAY FEATURES | DHCP Server & relay, NAT with Std ALGs | | | | |
| 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 | | | | |
| ***ENVIRONMENTAL SPECS*** | | | | | |
| TEMPERATURE | | | | | |
| OPERATING | -40º to 60ºC (-40º to 140º Fahrenheit) | | | | |
| STORAGE | -55º to 80ºC (-67º to 176º Fahrenheit) | | | | |
| HUMIDITY | Max 100% relative humidity (non-condensing) | | | | |
| IP RATING | IP67 | | | | |
| WIND LOADING | 125 mph | | | | |
| ***PHYSICAL SPECS*** | | | | | |
| DIMENSIONS | | | | | |
| PACKAGED | Model QB-8100-EPA: 14.56 x 13.69 x 8.18 in. (370 x 348 x 208 mm)<br>Model QB-8150-EPR(-100): 15.94 x 15.94 x 9.21 in. (405 x 405 x 234 mm) | | | | |
| UNPACKAGED | Model QB-8100-EPA: 10.5 x 10.5 x 3.38 in (267 x 267 x 86 mm)<br>Model QB-8150-EPR(-100): 14.17 x 14.17 x 3.70 in (370 x 370 x 94 mm) | | | | |
| WEIGHT | | | | | |
| PACKAGED | Model QB-8100-EPA: 15 lbs (6.8 kg)<br>Model QB-8150-EPR(-100): 16.31 lbs (7.4 kg) | | | | |
| UNPACKAGED | Model QB-8100-EPA: 7.7 lbs (3.5 kg)<br>Model QB-8150-EPR(-100): 9.0 lbs (4.1 kg) | | | | |
| ***SAFETY STANDARDS*** | UL 60950, CAN/CSA-C22.2 No. 60950, IEC 60950, EN 60950 | | | | |
| ***PACKAGE CONTENTS*** | ■ One Tsunami® QB-8100-LNK<br>based on two QB-8100-EPA with three N-type surge protected connectors<br>or One Tsunami® QB-8150-LNK(-100)<br>based on two QB-8150-EPR(-100) with an integrated 23dBi dual polarized panel antenna<br>■ Two power injector and country specific power cord<br>■ Two Wall / Pole mounting kit<br>■ Two Connector weatherproofing kit (Includes all recommended weatherproofing material)<br>■ Two Serial (RJ-11 to DB9) dongle<br>■ Two Grounding kit<br>■ Two Gigabit PoE Surge Arrestor (Optional for QB-8150-LNK-100)<br>■ One Quick Installation Guide | | | | |
| ***MTBF and WARRANTY*** | 80,000 hours & 1-year on parts and labor; ServPak Extended Support available. | | | | |

## *APPLICATIONS*

- **Backhaul to a Central POP**
  Avoid expensive installation and recurring charge of a second wire line backhaul to a remote virtual POP
- **Leased Line Redundancy**
  Eliminate recurring DS-3 leased line charges with one time installation charge of a QuickBridge link
- **Repeater**
  Extend distance or overcome path blockage by adding point-to-point hops
- **High-bandwidth Last Mile Access**
  Use QuickBridge to deliver TLS (Transparent LAN Services) to corporate parks
- **Inter-POP Redundancy**
  Avoid downtimes caused by a wireline backhaul failure by adding a QuickBridge link as an inter-POP redundancy

For detailed technical specifications, please go to **http://proxim.com/products/ptpwireless-backhaul/tsunamir-qb-8100-series/tsunamir-qb-8100**





Proxim Wireless Corporation
**www.proxim.com**