Simplifying dense network backhauling with multiple QuickBridge synchronization

With the increase of wireless network using the 5 GHz band, finding interference free channel is becoming a challenge. To simplify channel planning task, Proxim wireless introduces Tsunami® QB-8200-LNK-G which adds multiple Link synchronization to the versatile and high performance Tsunami® 8200 series.

Tsunami® QB-8200-LNK-G includes the capability to synchronize its internal clock to the one pulse per second signal of an external GPS receiver or an Ethernet based synchronization module. When loaded with Proxim’s optional WORP® Sync software, multiple QB-8200-LNK-G start following the same transmit/receive pattern and avoid interfering with each other even when using adjacent channels. Tsunami® QB-8200-LNK-G synchronization mechanism added to MIMO 3x3 nLOS functionality, advanced channel management capability and cutting edge QoS class of service ensures optimal delivery of voice, video and data applications.

With its incredible channel capacity & flexibility, high power radio, excellent spectrum efficiency and a highly evolved prioritization platform, Tsunami® QB-8200-G-LNK satisfies carriers, wireless service providers and Government organizations with requirements for fast and reliable wireless backhaul.

World Class Performance

- Point-to-Point system that delivers 300 Mbps data rate at distances of over 5 miles (8 km)
- Very low latency of 2 to 3 ms to support voice and video applications over long distances
- Dual IPv4 and IPv6 stack for transparent evolution to tomorrow networks

Optimal RF Management

- Multiple Link synchronization based on PPS signal from GPS of Ethernet based Synchronization Module
- Non-line-of-sight capable, utilizing OFDM and 3x3 MIMO techniques to improve link performance and penetrate through or around obstructions better
- Spectrum analysis feature helps to study frequency bands for interference, and select a relatively low interference channel

- Operates in licensed and unlicensed frequency bands from 4.900 to 5.925 GHz with support for 5, 10, 20 and 40MHz channel size

Enhanced Feature Set

- Choice of WORP® or WORP® Sync protocol based on application requirements
- Dual Gigabit Ethernet ports with PoE in/out to power other devices like surveillance cameras and wireless access points
- Service flow based QoS with comprehensive packet identification to create unique and sophisticated service rules and tiered service classes with ease
- Compatibility with LACP switches for link aggregation

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

Cost Effective and Ease of Use for Quick Return on Investment

- 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

Product Line Compatibility

- Connects to existing Tsunami® QB-8100
Specifications: Tsunami QuickBridge® 8200-G Series

**PRODUCT MODELS**
- QB-8200-G-LNK: Tsunami® QB 8200 Link, 300 Mbps, MIMO 3x3, GPS Sync ready, Type-N Connectors
- QB-8250-G-LNK: Tsunami® QB 8250 Link, 300 Mbps, MIMO 2x2, GPS Sync ready, 23 dBi Integrated Antenna

**INTERFACES**
- **WIREDED ETHERNET**: Two auto MDI-X RJ45 10/100/1000 Mbps Ethernet (Port #1 with PoE in & Data. Port #2 with PoE out (802.3af pin out) & Data)
- **WIRELESS PROTOCOL**: WORP® (Wireless Outdoor Router Protocol) or WORP sync

**RADIO & TX SPECS**
- **MIMO**: 3x3 MIMO with 2 data streams
- **MODULATION**: OFDM
- **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
- **TX POWER**: Up to 25.8 dBm (Triple chain)
- **TX POWER CONTROL**: 0 – 25 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

<table>
<thead>
<tr>
<th>RX SENSITIVITY (PER=10%)</th>
<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>-87 dBm</td>
<td>-93 dBm</td>
<td>-95 dBm</td>
<td>-98 dBm</td>
<td></td>
</tr>
<tr>
<td>MCS 7</td>
<td>-71 dBm</td>
<td>-74 dBm</td>
<td>-76 dBm</td>
<td>-79 dBm</td>
<td></td>
</tr>
<tr>
<td>MCS 8</td>
<td>-87 dBm</td>
<td>-91 dBm</td>
<td>-93 dBm</td>
<td>-96 dBm</td>
<td></td>
</tr>
<tr>
<td>MCS 15</td>
<td>-58 dBm</td>
<td>-72 dBm</td>
<td>-74 dBm</td>
<td>-77 dBm</td>
<td></td>
</tr>
</tbody>
</table>

**LATENCY**
- < 3 msec

**ANTENNA**
- **QB-8200-G-EPA**: Three N-type Connectors with built-in Surge Protection
- **QB-8250-G-EPR**: 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, 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**: Up to 246 Mbps
- **QoS**: Asymmetric Bandwidth Control
- **Packet Classification Capabilities**: 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 CONSUMPTION**
- 12 Watt typical (22 Watt max)

**ENVIRONMENTAL SPECS**
- **OPERATING TEMPERATURE**: -40º to 60ºC (-40º to 140º Fahrenheit)
- Will continue operating if temperature temporarily varies between -50º and 70ºC (58º and 158º Fahrenheit)
- **STORAGE TEMPERATURE**: -55º to 80ºC (-67º to 176º Fahrenheit)
- **HUMIDITY, IP RATINGS, WIND LOADING**: 100% relative humidity, IP67, 200 km/h (125 mph)

**PHYSICAL SPECS**
- **DIMENSIONS (PACKAGED)**: QB-8200-G-EPA: 14.56 x 13.69 x 8.18 in. (370 x 348 x 208 mm)
  - QB-8250-G-EPR: 10.79 x 11.14 x 3.38 in. (274 x 283 x 86 mm)
- **DIMENSIONS (UNPACKAGED)**: QB-8200-G-EPA: 15.4 x 15.4 x 9.21 in. (405 x 405 x 234 mm)
  - QB-8250-G-EPR: 14.17 x 14.17 x 3.70 in. (370 x 370 x 94 mm)
- **WEIGHT (PACKAGED)**: QB-8200-G-EPA: 15 lbs (6.8 kg)
  - QB-8250-G-EPR: 16.31 lbs (74 kg)
- **WEIGHT (UNPACKAGED)**: QB-8200-G-EPA: 77 lbs (3.5 kg)
  - QB-8250-G-EPR: 9.0 lbs (4.1 kg)

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

**PACKAGE CONTENTS**
- 1 One Tsunami® QB-8200-G-LNK based on two QB-8200-G-EPA with three N-type surge protected connectors or One Tsunami® QB-8200-G-LNK based on two QB-8250-G-EPR with an integrated 23dBi dual polarized panel antenna
- 2 Two power injector and country specific power cord
- 2 Two Wall / Pole mounting kit
- 2 Two Connector weatherproofing kit (includes all recommended weatherproofing material)
- 2 Two Serial (RJ11 to DB9) dongle
- 2 Two Antenna alignment (RJ11) dongle
- 2 Two Grounding kit
- 2 Two Gigabit PoE Surge Arrestor
- 2 Two Quick Installation Guide

**MTBF & WARRANTY**
- >250,000 hours & 1-year on parts and labor; ServPak Extended Support available

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