**PROXIM** wireless®
Performance Matters. Proxim Delivers.®

# ORiNOCO® QB-9100 Series

## Access Point with built-in Backhaul

## Proxim introduces the ORiNOCO® Quickbridge® 9100, the first wireless solution that combines a 2.4 GHz Access Point and 5 GHz Backhaul

ORiNOCO® Quickbridge® 9100 takes advantage of Proxim's expertise in both Wi-Fi and long haul point-to-point systems to deliver a 2.4 GHz 802.11n Access Point with a built-in 5 GHz high capacity backhaul solution.

With dual radio support, one for Wi-Fi and one for high capacity backhaul the, ORiNOCO ® QB-9100 is ideal for Carriers who need wireless backhaul for their 3G/4G small cell and can have the backhaul and Wi-Fi offload in a single unit ORiNOCO® QB-9100 also offers new capability to Video Protection or ITS network by providing operators with secure Wi-Fi access to information from the unit while in the field, on standard Wi-Fi devices.

ORiNOCO® Quickbridge® 9100 leverages the benefits of OFDM, MIMO radio innovations and Proxim's proprietary Wireless Outdoor Routing Protocol (WORP®) to provide wireless performance in excess of 4G or Wi-Fi based backhaul products today.

### World Class Performance

- 802.11b/g/n Access Point that delivers 300 Mbps data rate
- Point-to-Point Backhaul that delivers 866 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
- Built-in feature rich network protocols for bridging, routing and gateway functionality

### Highly Secure

- Implements AES encryption and Radius authentication for secure outdoor wireless communications
- Secure management (SSL, SSH and SNMPv3) preventing unwanted configuration changes

### Advanced Features

- Features dual Gigabit Ethernet ports with PoE out to power other devices such as surveillance cameras or additional radios
- Supports Deep packet inspection to create unique and sophisticated service rules and tiered service classes with ease
- Compatibility with LACP switches for link aggregation
- Built in spectrum analyzer to scan frequency bands for interference, and select a channel appropriately

### Carrier-Grade Backhaul

- Features Ethernet ports with IEEE 1588v2 synchronization and support for Jumbo frames
- HotSpot2.0 rev2, allowing seamless roaming between cellular network and Wi-Fi access. (via future firmware release)

### Unparalleled Flexibility and Convenience with Centralized Management

- ProximVision® Advanced supports ORiNOCO® QB-9100 giving network architects unparalleled flexibility and control of the units
  - Rapid Network Deployment: Automates configuration processes for faster, more efficient deployment of Proxim Wireless networks
  - Advanced Configuration Capabilities: Gives network managers an option for exhaustive device configuration with a software-based tool
  - Greater Ease of Use and Upgradability: Supports a greater number of devices than competitively priced solutions and provides the simplest path to configuration and upgrade

## PRODUCT MODELS

| | |
|---|---|
| QB-9100 | ORiNOCO® QB-9100, MIMO 2x2, 802.11g/n AP with link, 867 Mbps, MIMO 2x2, Type-N Connectors |
| QB-9150 | ORiNOCO® QB-9150, MIMO 2x2, 802.11g/n AP with link, 867 Mbps, MIMO 2x2, 22 dBi panel |

## 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 | - Radio #1: WORP®   - Radio #2: 802.11b/g/n (Remote end only) |

## RADIO

| | Radio #1 | | | Radio #2 (Remote end only) | | | |
|---|---|---|---|---|---|---|---|
| FREQUENCY | 5.150 – 5.925 GHz (Subject to Country Regulations) | | | 2.400 – 2.484 (Subject to Country Regulations) | | | |
| | | | | 802.11n | | 802.11g | 802.11b |
| MIMO | 2x2:2 | | | 2x2:2 | | N/A | N/A |
| MODULATION | OFDM BPSK - QAM256 | | | OFDM BPSK - QAM64 | | OFDM BPSK-QAM64 | DSSS DBPSK-CCK |
| DATA RATE | Up to 866 Mbps | | | Up to 300Mbps | | Up to 54Mbps | Up to 11Mbps |
| | 80 MHz | 40 MHz | 20 MHz | 40 MHz | 20 MHz | 20 MHz | 20 MHz |
| TX POWER | MCS0: 28 | MCS0: 28 | MCS0: 29 | MCS0/8: 26 | MCS0/8: 26 | 6 Mbps: 26 | 1 Mbps: 26 |
| | MCS9: 21 | MCS9: 22 | MCS8: 25 | MCS7/15: 20 | MCS7/15: 21 | 54 Mbps: 22 | 11 Mbps: 26 |
| RX SENSITIVITY (BER=10^{-6}) | MCS0: -89 | MCS0: -93 | MCS0: -94 | MCS0/8: -88/90 | MCS0/8: -92/91 | 6 Mbps: -93 | 1 Mbps: -93 |
| | MCS9: -68 | MCS9: -71 | MCS8: -74 | MCS7/15: -72/69 | MCS7/15: -74/72 | 54 Mbps: -77 | 11 Mbps: -89 |
| OTHER | Dynamic Channel Selection (DCS) based on interference detection<br>Dynamic Frequency Selection (DFS) based on radar signature<br>Automatic Transmit Power Control (ATPC) with EIRP limit support | | | Automatic Channel Selection (ACS) | | | |

## ANTENNA

| | Radio #1 | Radio #2 (Remote end only) |
|---|---|---|
| QB-9100 | Two N-type Connectors with built-in Surge Protection | Two N-type Connectors with built-in Surge Protection |
| QB-9150 | Integrated 2x2 MIMO 22dBi Dual Polarized 1 foot Panel Antenna | Two N-type Connectors with built-in Surge Protection |

## SECURITY

| | Radio #1 | Radio #2 (Remote end only) |
|---|---|---|
| ENCRYPTION | AES 128 | 802.11i Wireless Security with AES-128, TKIP or WEP |
| AUTHENTICATION | Internal MAC Address Control List, Radius based Authentication | Enterprise (Radius based) or Pre-Shared Key |
| 802.1X  SUPPORT | | PEAP, LEAP, EAP-FAST, EAP-SIM, EAP-TTLS, EAP-AKA |

## QOS

| | Radio #1 | Radio #2 (Remote end only) |
|---|---|---|
| | Asymmetric UL/DL CIR (committed) and MIR (maximum) information rate<br>per service flow with Best Effort and Real Time Polling Services | 802.11e Enhanced Distributed Channel Access |
| Packet Classification Capabilities | 802.1p priority, IPTOS, VLAN ID, IP addresses, ports, Ethernet addresses, IP protocol,<br>and EtherType | 802.1p priority, IPTOS |

## THROUGHPUT

| Radio #1 | Radio #2 (Remote end only) |
|---|---|
| Up to 633 Mbps @ 80 MHz | Up to 150 Mbps |

## MANAGEMENT

| | |
|---|---|
| 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 |

## SYNCHRONIZATION

IEEE 1588v2 Ethernet Synchronization

## NETWORK

| | Radio #1 | Radio #2 (Remote end only) |
|---|---|---|
| MODES | Bridging (support LACP through external switches), Routing (RIP v2 and IP tunneling) | Access Point |
| IP STACK | IPv4 and IPv6 simultaneously | |
| GATEWAY FEATURES | DHCP Server & relay, NAT with Std ALGs | |
| 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) (PoE)<br>12 VDC via Access port<br>Power should not be provided simultaneously on both ports. | 48 to 57 VDC – 25 Watt max on Ethernet port2 (PoE – software controlled)<br>12 VDC on Access port |

## POWER CONSUMPTION

Local end: 17 Watt typical, remote end 23 Watt typical

## ENVIRONMENTAL SPECS

| | |
|---|---|
| OPERATING TEMPERATURE | -40º to 60ºC (-40º to 140º Fahrenheit) |
| STORAGE  TEMPERATURE | -50º to 70ºC (-58º to 158º Fahrenheit) |
| HUMIDITY - IP RATING | 100% relative humidity - IP67 |
| WIND LOADING | 180 km/h (112.5 mph) |

## PHYSICAL SPECS

| | | DIMENSIONS | WEIGHT (Local / Remote end) |
|---|---|---|---|
| PACKAGED  (per unit) | QB-9100 | 14.56 x 13.0 x 7.87 in (370 x 331 x 200 mm) | 9.92 lbs ( 4.5 kg) / 10.91 lbs (4.95 kg) |
| | QB-9150 | 14.56 x 13.0 x 7.87 in (370 x 331 x 200 mm) | 10.91 lbs (4.95 kg) / 11.90 lbs ( 5.4 kg) |
| UNPACKAGED (per unit) | QB-9100 | 9.84 x 8.66  x 2.83 in (250 x 220 x 72 mm) | 4.20 lbs (1.9  kg) / 5.07 lbs (2.3 kg) |
| | QB-9150 | 12  x 12 x 3.40 in (305 x 305 x 85 mm) | 5.30 lbs (246 kg) / 6.17 lbs (2.8 kg) |

## SAFETY STANDARDS

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

## PACKAGE CONTENTS

- One ORiNOCO® QB-9100 link with two (local) / four four (remote) N-type surge protected connectors
  Or  One ORiNOCO® QB-9150 link with integrated 22 dBi panel antenna (local and remote)
  plus  Two N-type surge protected connectors (remote only)
- Two power injector and country specific power cord
- Two Connector weatherproofing kit (Includes all recommended weatherproofing material)

- Two 2.4 GHz, 5 dBi omni antennas
- Two Grounding kit
- One Antenna alignment (RJ11) dongle
- One Quick Installation Guide
- Two Wall / Pole mounting kit

## MTBF and WARRANTY

>250 000 hours, 2-year; ServPak Extended Support available.