



PureWave Quantum 1000

3.65GHz, 5MHz

(FCC ID: XN3-Quantum1000)

DataSheet

PureWave Networks

Feb 2010

Proprietary – Under NDA



PRODUCT DESCRIPTION

The PureWave Quantum 1000 product is a 2Tx, 4Rx WiMAX base station with peak EIRP power of 37dBm (5 Watts) total for its 2 antennas. Its compact size and all-in-one weatherproof outdoor enclosure further facilitate its deployment in virtually any environment.

The PureWave Quantum 1000 can support MIMO-A/B as well as a host of additional multi-antenna capabilities. The PureWave Quantum 1000 is highly compact, fully-integrated (except for antennas), and is designed for all-outdoor, all-weather operation.

The PureWave Quantum 1000 is fully 802.16e (Mobile WiMAX) compliant and is designed to interoperate seamlessly with standard, off-the-shelf, WiMAX-certified subscriber devices. It features a software-defined radio (SDR) architecture that allows it to continuously evolve and take on new features as they become available. Some of the key differentiating highlights of the PureWave Quantum 1000 product include the following:

- **Superior Range** - An antenna array of up to 4 receive antennas extend the range of each base station by significantly and provide improved uplink throughput.
- **Software Defined Radio** - Protects operators' investment and will allow for over-the-air, field upgrades of existing networks as standards evolve and new features and capabilities are released.
- **Completely Weatherproof** - PureWave Quantum 1000 base stations do not require shelter and can be installed completely outdoors. This eliminates the capital cost of building a shelter and the recurring cost of leasing or running an air-conditioned site.
- **Flexibly Mounts Virtually Anywhere** - PureWave Quantum 1000 base stations can be deployed on towers, utility poles, walls, rooftops, etc, without the need for remote RF heads.
- **ASN-GW Optional** - PureWave Quantum 1000 base stations can optionally operate in stand-alone mode, without an ASN-GW, making even small deployments affordable.

The PureWave Quantum 1000 base stations can utilize virtually any off the shelf antennas, from omni to sectored, however, PureWave offers our own line of highly affordable, compact, multi-antenna panels designed specifically to complement the performance of our base stations.

TECHNICAL DATA

General	
Standards Compliance	IEEE 802.16e-2005
Frequency Bands	3.65-3.675 GHz
Channel Size	5 MHz
Duplex Method	TDD
Number of Tx/Rx Antennas	2x4
Peak RF Power per Antenna	27dBm
Smart Antenna Capabilities	Beamforming, MIMO Matrix A, MIMO Matrix B, Cyclic Delay Diversity, MRC, UL Collaborative Spatial Multiplexing*, UL SDMA* (Future)
Backhaul Interface Options	2x Gig-E RJ-45 with inter-sector daisy-chain support.
Inter-BS Synchronization	Integrated GPS
Modulation	QPSK, 16QAM, 64QAM
QoS	BE, UGS, rtPS, ErtPS, nrtPS
Convergence Sublayer	IP-CS, Eth-CS, PHS*, IPv4, IPv6*, IPv6 Transparency (*Future)
Security	AES-128, EAP-TLS, EAP-TTLS, PKMv2
Management	PureView EMS/NMS, Remote CLI, Web Interface, SNMPv2c

Capacity	
Active Users	256
Service Flows per User	16
Sleep-Mode Users	1024
Idle-Mode Users	2048
Peak Throughput/Sector	Aggregate: Up to 25Mbps, DL: Up to 22Mbps, UL: Up to 10Mbps Note: Typical TCP/IP Application Layer “goodput” 15-20% lower.

Mechanical, Electrical, and Environmental	
Dimensions	24.6" x 17.4" x 4.5" (62.5cm x 44.2cm x 11.4cm)
Weight	23lbs (10.45kg)
Power	-48 VDC, 65 Watts
Temperature	-33 to +55 degrees C
Humidity	5-95%
Altitude	To 10,000 feet above sea level
Weatherproofing	IEC IP67
Surge Protection	UL497B

PureWave Networks, the PureWave Networks Logo, and PureMax are trademarks of PureWave Networks, Inc. Information in this document is subject to change without notice. PureWave Networks assumes no responsibility for any errors that may appear in this document. Copyright © 2010 PureWave Networks, Inc. All rights reserved.

Lightning Protection	Min 10kA IEC 6100-4-5 (*optional via external kit)
----------------------	--

Connectors	
DC Power	4 conductor 14-18AWG guage, 796095-2 Tyco Connector
Grounding	Bulkhead mounting screw
Cat-5 Backhaul Port	2x RJ-45
RS-232 Maintenance Port	RJ-45
GPS	SMA Jack with 3.3VDC power on center pin
Antenna	4 x N-type