



# **PureWave Quantum 1000**

## **3.65GHz, 10MHz**

### **(FCC ID: XN3-Quantum1000)**

## **DataSheet**

**PureWave Networks**

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**Proprietary – Under NDA**



## PRODUCT DESCRIPTION

The PureWave Quantum 1000 product is a 2Tx, 4Rx WiMAX base station with peak EIRP power of 40dBm (10 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**

| <b>General</b>             |   |
|----------------------------|---|
| Standards Compliance       | IEEE 802.16e-2005   |
| Frequency Bands            | 3.65-3.675 GHz  |
| Channel Size               | 10 MHz  |
| Duplex Method              | TDD   |
| Number of Tx/Rx Antennas   | 2x4   |
| Peak RF Power per Antenna  | 30dBm   |
| 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  |

| <b>Capacity</b>        |   |
|------------------------|---|
| Active Users           | 256   |
| Service Flows per User | 16  |
| Sleep-Mode Users       | 1024  |
| Idle-Mode Users        | 2048  |
| Peak Throughput/Sector | Aggregate: Up to 50Mbps, DL: Up to 43Mbps, UL: Up to 20Mbps<br><br>Note: Typical TCP/IP Application Layer “goodput” 15-20% lower. |

| <b>Mechanical, Electrical, and Environmental</b> |   |
|--|---|
| 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  |

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