

# PureWave Quantum 2200

Affordable, all outdoor  
Mobile WiMAX base stations

## Making Mobile WiMAX Profitable

PureWave Quantum base stations are a family of carrier grade, outdoor 802.16e compliant compact base stations that combine power and performance in a small package and at a great price.

The PureWave Quantum 2200™ series of Mobile WiMAX base stations offers operators the ability to deliver advanced wireless services at an affordable price. With a full 2 Watts per antenna, the two antenna 2200 series offers best in class performance while maintaining the same features and services that are the hallmark of the PureWave Quantum family of base stations.

The 2200 series is ideally suited to small urban cell sites, campus environments, coverage of small communities, corporate private networks and the filling of wireless coverage gaps which do not require the full capabilities of a PureWave Quantum 6600 base station.

The 2200 series is part of the PureWave Quantum family of advanced, compact Mobile WiMAX base stations. PureWave Quantum base stations come in a fully integrated, small, elegant, yet rugged package. They are designed to be deployed outdoors without the need for a shelter and can be easily mounted on utility poles, walls, rooftops, cell towers – virtually anywhere – without the need for expensive remote radio heads.

PureWave Quantum base stations operate as part of an open, standards based eco-system that allows our customers to choose best-of-breed components; from standard Mobile WiMAX CPEs to ASN-GW. PureWave Quantum base stations are designed to support large mobile deployments but, uniquely, can also be deployed in “stand alone” mode without an ASN-GW, offering a simpler and more cost effective solution for operators that are interested in initially rolling-out fixed or nomadic services.

The PureWave Software Defined Radio (SDR) architecture allows operators to upgrade their networks by means of remote software updates. As new features and functionality become available, operators are assured of long term investment protection. All PureWave Quantum base stations are compatible with the powerful PureView Network Management System.





## HIGH POWER

Transmit power of up to 2W per antenna.

## EASY DEPLOYMENT

Field deployable by a single technician in well under 2 hours.

## ASN-GW OPTIONAL

Can operate in stand-alone mode, without an ASN-GW, making even small deployments affordable.

## FLEXIBLE MOUNTING

Can be deployed on towers, utility poles, walls, roof tops, etc. without the need for remote RF heads.

## COMPLETELY WEATHERPROOF

No shelter required.

## SOFTWARE DEFINED RADIO

Supports remote field upgrades of new functionalities and standards.

## POWERFUL MANAGEMENT OPTIONS

Fully supported by PureView NMS.

## Specifications

### Radio

**Frequency Bands**  
Available: 3.65GHz (U.S.)  
Call for availability: 2.3-2.4GHz,  
2.496-2.69GHz, 3.3-3.4GHz,  
3.4-3.6GHz, 3.6-3.8GHz

**Channel Size**  
3.5\*, 5, 7, 10 MHz

**Duplex Method**  
TDD

**Number of Tx/Rx Antennas**  
2x2

**Tx Power per Antenna**  
33dBm \*\*\* (RMS data power at maximum MCS level)

**Smart Antenna Capabilities**  
MIMO Matrix A, MIMO Matrix B, Cyclic Delay Diversity, MRC, UL Collaborative Spatial Multiplexing\*

**Air Link Optimization**  
HARQ, CTC, UL sub-channelization

### Capacity

**Active Users**  
200

**Service Flows per User**  
16

**Idle-Mode Users**  
1000\*

**Peak Throughput/Sector**  
Aggregate: Up to 53Mbps,  
DL: Up to 43Mbps, UL: Up to 20Mbps

### General

**Standards Compliance**  
IEEE 802.16e-2005

**Backhaul Interface Options**  
2x Gig-E RJ-45, 2x Multi-Mode Optical Fiber, or 2x Single-Mode Optical Fiber, all 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 Pass-Through

**VoIP MOS**  
up to 4.3

**Security**  
AES-128, EAP-TLS, EAP-TTLS, PKMv2

**Management**  
PureView EMS/NMS, Remote CLI, Web Interface, SNMP v2c & v3

### Mechanical, Electrical, and Environmental

**Dimensions**  
17.5" x 16.7" x 5.3"  
(44cm x 42cm x 13cm)

**Weight**  
32lbs (14.5kg)

**Power**  
-48 VDC or 110/220 VAC,  
90 Watts Max

**Temperature**  
-45C to +55C  
per ETSI EN 300 019-1.4 Class 4.1E\*\*

**Humidity**  
5-100%

**Altitude**  
To 10,000 feet above sea level

**Weatherproofing**  
IEC IP67

**Vibration and Dust**  
Meets ETSI EN 300 019-1-4 requirements for Class 4.1E

**Wind Loading**  
160km/hr operation,  
200km/hr survival

**Surge Protection**  
UL497B

**Lightning Protection**  
Min 10kA IEC 6100-4-5 †

**Safety and IEC IP**  
EN 300 019-2-2, GR487, IEC 60529

### Connectors

**DC Power**  
Weatherproof circular connector

**AC Power**  
Circular plastic multi-pin connector

**Grounding**  
M5 ground stud to chassis

**Ethernet Backhaul Port**  
2 x RJ-45, Weatherproof

**Optical Fiber Backhaul Port**  
2 x LC duplex

**RS-232 Maintenance Port**  
RJ-45, Weatherproof

**GPS**  
N-type

**Antenna**  
2x N-type

\* Future software upgrade

\*\* An available solar shield is required for ambient temperatures above +45C with full sun exposure

\*\*\* Transmit power subject to local rules and regulations

† Optional via external kit

## About PureWave Networks

PureWave Networks develops high performance, compact outdoor 4G LTE and WiMAX base stations. It is the only company that utilizes advanced beamforming technology to achieve the coverage and capacity of a macro base station in a small form factor that can be deployed anywhere.

The PureWave Networks Quantum family of WiMAX base stations offer an open end-to-end solution that also allows customers to select components from the broad WiMAX ecosystem in building their networks. Our solutions are designed for any type of operator, from small WISPs to large mobile service providers. PureWave provides customers the lowest total cost of ownership in the industry through superior performance, ease of installation, dramatically lower equipment and operational cost, and minimal power consumption. PureWave Networks is headquartered in Mountain View, California. [www.purewavenetworks.com](http://www.purewavenetworks.com)