aperto networks

Micro WiMAX Base Station

The economical PacketMAX® 3000 lowers the barrier for service providers seeking entry into the explosive WiMAX market and allows rapid expansion of an existing network.

PacketMAX 3000

The WiMAX Forum Certified™ PacketMAX 3000 delivers Aperto's industry-leading WiMAX technology into a single-sector "stackable" form factor. For service providers seeking entry into the WiMAX market or those expanding coverage of an existing network, the PacketMAX 3000 is an economical and elegant solution. Its space-saving design allows operators a carrier-grade platform from which to launch premium voice, multimedia, and data services.

PacketMAX 3000 seamlessly operates within a heterogeneous network by synchronizing with other base stations in the same cell. The system offers a broad range of deployment options including operation as a single sector base station or operation within a multi-sector cell site configured through WaveCenter EMS Pro™ provisioning. Fully compliant with the IEEE 802.16-2004 standard, PacketMAX 3000 supports fixed and nomadic WiMAX applications.

PacketMAX 3000 operates in licensed and license-exempt bands under virtually all wireless conditions including LOS, OLOS, and NLOS, giving providers a versatile platform for maximizing WiMAX revenue opportunities. The PacketMAX 3000 is an effective wireless access point for hundreds of simultaneously active subscriber units serving both outdoor and indoor applications.

PacketMAX 3000 uses a split IDU/ODU design with the 1U rack mountable indoor unit performing IP networking, backhaul, and radio control functions. The outdoor unit consist of a spectrum-specific radio and antenna connecting to the indoor unit via coax cable carrying power, timing, and control signals.

PacketMAX 3000

■ ■ KEY FEATURES

- WiMAX Forum Certified comprehensive 1U indoor unit
- Split design compatible with all PacketMAX outdoor radios
- Per-subscriber link management
- Stackable design supporting pay-as-you-grow business model
- Seamless co-location with multi-sector base stations for expanded network coverage

■ ■ Typical Applications

- Last-mile carrier deployments supporting small initial roll-outs, growing to support thousands of subscribers
- Converged fixed-mobile service offering including multi-user, multi-application, and multi-service simultaneously
- Scalable VoIP service with per-flow QoS and dynamic link adjustment
- Wireless applications desired by indoor consumers of WiMAX, including DSL bypass and extended WiFi coverage
- Fixed WiMAX service evolving to support mobile subscribers
- Bandwidth-hungry video and data applications requiring low latency and predictable performance

WiMAX FORUM CERTIFIED

A Decade of Wireless Broadband Leadership.

Radio and System Specifications

Compliance	: WiMAX Forum Certified™ IEEE 802.16-2004 (3.5T1, 3.5T2), ETSI HiperMANt
Duplexing Mode	: TDD, ODFM, 256 FFT
Frequency	: 3.3-3.4 GHz; 3.4-3.6 GHz; 3.65 GHz; 5.15-5.35 GHz; 5.475-5.725 GHz; 5.725-5.925 GHz
Radio Output Power	: 20 dBm (3 GHz), 20 dBm (5 GHz)
Modulation	: QPSK, 16QAM, 64QAM
Channel Bandwidth	: 3.5 MHz, 5.0 MHz, 7.0 MHz
Step Size	: 250 KHz (3 GHz); 500 KHz (5 GHz)
Receiver Sensitivity	: -96 dBm
Cyclic Prefix	: 1/16
Forward Error Correction	: Convolution coding 1/2, 2/3, 3/4, ARQv

IP Networking Features/Options

IP Version	: IPV4 (RFC 791)
Bridging Mode	: IEEE 802.1d
VLANs	: IEEE 802.1 P/Q

Security/Encryption

Authentication	: 509-based authentication
Encryption	: DES for data encryption; 3DES key encryption

Multi-Service/Multi-User Support

Traffic Classification	: L2, L3, L4 parameters
Scheduling/QoS	: UGS, nrtPS, BE
Max # Sectors	: Single (multiple BS can be synchronized to cover more sectors)
Active Connected Subscriber Units	: 256 per sector
Uni-Directional Service Flows	: Up to 7,168 per sector

Interfaces

Backhaul	: 1 x 10/100 BT (RJ45)
Management	: Audio RS-232
External Clock, Synchronization	: 10 MHz clock (BNC) /1 Hz sync (BNC)
Antenna Port	: Type N
Radio Interface	: IF Port (Type-F)

Management

Remote Management, Provisioning, & Monitoring	: Centralized using WaveCenter EMS Pro
Provisioning	: MIB II (RFC 1213), WiMAX (IEEE 802.16f) MIB, Aperto Enterprise MIB, SNMP V2

Mechanical

Indoor Unit Dimensions (l*h*w)/weight	: 27.0*4.2*42.0 (cm) / 12.0 lbs (5.5 Kg)
Outdoor Unit (l*h*w)	: 29.8*7.0*29.8 (cm) / 10 lbs (4.5 Kg)
IDU-ODU Distance	: up to 250 m

Electical

Input DC Voltage	: DC 40 - 60V
Input AC Voltage	: 85 VAC – 265 VAC
Max Power Consumption	: 70 W

Environmental

Weather Protection	: na
Operation Temperature	: 0 - 40°
Humidity	: 10 - 90%, non-condensing
RoHS Compliance	: yes

■■ About Aperto Networks

Aperto Networks helps leading service providers deliver affordable wireless voice and broadband profitably by building the world's most advanced WiMAX base stations and subscriber units. Aperto fundamentally changes the economics of delivering voice and broadband services through IP-rich, point-to-point and point-to-multipoint networks, allowing carriers to offer a wider variety of services to more customers using less equipment. Its carrier-class WiMAX technology offers industry-leading subscriber density, quality of service, ease of use and reliability. Aperto is a founding board member of the WiMAX Forum as well as a founder and lead contributor to IEEE 802.16 and the ETSI-BRAN standards. Serving more than 400 customers in over 90 countries, Aperto Networks is based in Milpitas, California. For more information on Aperto Networks, go to www.apertonet.com.

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