



PacketMAX™ 5000 Base Station

Carrier-Class WiMAX Base Station

Built for performance, reliability and scale, Aperto's PacketMAX 5000 is the world's first base station certified by the WiMAX Forum®.

Product Brief



PacketMAX 5000

KEY FEATURES

- WiMAX Forum Certified
- Highest capacity, highest density WiMAX base station
- IEEE 802.16-2004 and 802.16-2005 sector in a single chassis
- Comprehensive system redundancy for carrier-grade resilience
- Suitable for fixed, nomadic, portable, and mobile applications
- Compatible with all PacketMAX outdoor radios
- Common device management with WaveCenter™ EMS Pro console

PacketMAX 5000

With PacketMAX 5000, Aperto delivers the industry's highest density, highest capacity, and highest performing base station. Designed for modular growth and service evolution, the PacketMAX 5000 sets a new standard for carrier-class WiMAX base stations.

The WiMAX Forum® Certified PacketMAX 5000 base station series operates in licensed and license-exempt bands. It can host both IEEE 802.16-2004 and IEEE 802.16-2005 subscribers within a single chassis—giving providers a versatile platform from which to launch fixed, nomadic, portable, and fully mobile services.

Designed to accommodate up to 12 wireless sectors, the ATCA carrier-grade chassis for PacketMAX 5000 system requires just 5U of rack space. This space-saving solution allows operators to offer a broad range of voice, data, and multimedia services in dense urban areas, while driving down the operational and capital outlays required to scale the network.

The PacketMAX 5000 modular design accommodates a large number of deployment options. Redundant 6-sector base stations, redundant 4-sector base stations or an IEEE 802.16-2005 network overlaid onto an existing IEEE 802.16-2004 footprint can be supported within a single chassis. Carrier-grade design elements in the PacketMAX 5000 include redundant sub-systems for power, main system controller, and wireless sectors, as well as open-standard OBSAI interface on the base station and radios.

PacketMAX 5000 is part of the Access Service Network (ASN) in the IEEE 802.16-2005 Network Reference Model. PacketMAX 5000 supports the WiMAX Profile C reference point (R6) between the base station and the ASN Gateway, as well as the WiMAX Forum 802.16-2005 Certification Wave 2 feature set.

The PacketMAX 5000 meets WiMAX operator service needs today and gracefully evolves towards the future. Operators offering fixed WiMAX services can leverage PacketMAX flexibility to inter-operate with other standards-based 802.16 CPEs to generate immediate revenues while maintaining an elegant migration strategy for nomadic, portable, and fully mobile services.

Typical Applications:

- Last mile, carrier deployments supporting small initial rollouts, growing to support thousands of subscribers in a single 5U platform
- Converged fixed-mobile for including multi-user, and multi-service business and consumer
- Scalable VoIP service with per-subscriber QoS and dynamic link adjustment
- Licensed or unlicensed WiMAX backhaul for municipal (mesh) network or cellular network (remote site traffic)
- Bandwidth-hungry video and data applications requiring low latency and predictable performance



Wireless to the MAX

PacketMAX 5000 System Specifications

Radio and System Specifications

Compliance	: WiMAX Forum Certified, IEEE 802.16-2004, ETSI HiperMAN, IEEE 802.16e-2005
Duplexing Mode, PHY	: TDD; OFDM 256 FFT (802.16d), OFDMA 512/ 1024 FFT (802.16e)
Frequency	: 2.5 GHz, 3.3 GHz, 3.5 GHz, 5.4 GHz, 5.8 GHz bands
Radio Output Power	: 17 dBm, 23dBm, 30 dBm options
Modulation	: BPSK, QPSK, 16QAM, 64QAM
Antenna Configurations	: 2X2 MIMO; upgradable to 4X4 MIMO
Antenna Diversity	: Yes; STC/MRC supported

IP Networking Features/Options

IP Version	: IPV4 (RFC 791)
Bridging Mode	: IEEE 802.3d
Routing	: RIP V2
VLANs	: IEEE 802.1 P/Q

Multi-Service/Multi-User Support

Traffic Classifier	: L2, L3, L4 parameters
Scheduling/QoS	: UGS, rtPS, nrtPS, enrtPS, BE
Maximum # Sectors	: 12 non-redundant; 6 with 1:1 redundancy
Active Connected Subscriber Units	: up to 6144 (512 per sector)

Carrier Grade Features

Chassis	: ATCA standard hardware
Modularity	: Individually deployable wireless sectors, fan unit, main system controller units
Redundancy	: Redundant system control, wireless sectors, power distribution

Interfaces

Ethernet Backhaul	: 100BaseT + 1000BaseT; 1000BaseFx
Radio Interface	: OBSAI standards-based
Management	: 10/100 BT; RS-232 (RJ45)
External clock, Synchronization	: 1Hz Sync (BNC), 10 MHz Clock (BNC) : Optional GPS external clock input

Management

Remote Management and Monitoring	: WaveCenter™ EMS Pro CLI (Telnet), SNMP
Local Management and Monitoring	: CLI (RS232)
Provisioning	: Centralized using WaveCenter EMS Pro (SNMP v2)

Mechanical

Indoor Unit	: 5U; 19" rack mountable
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Electrical

Input DC Voltage	: -42 to -58 VDC
Input AC Voltage	: 85 to 264 VAC, 47 to 63 Hz

Environmental

Weather Protection	: Yes
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.