PacketMAX® 5000 Base Station

Carrier-Grade 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®.

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-grade WiMAX base stations.

The WiMAX Forum® Certified PacketMAX 5000 base station series operates in licensed and license-exempt bands. It supports deployment in the 2.3 GHz, 2.5 GHz, 2.8 GHz, 3.3GHz, 3.5GHz, 3.65GHz, 4.9 GHz, 5.2 GHz, 5.6GHz and 5.8GHz frequency bands.

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 and redundant 4-sector base stations. Carrier-grade design elements in the PacketMAX 5000 include redundant sub-systems for power and main system controller.

The service intelligent PacketMax system can handle thousands of subscribers, whether they're spread out in suburban neighborhoods or located in densely populated urban areas. As bandwidth and subscriber needs increase, network operators can easily add channels or new sectors within the cell. And additional cells can be deployed to extend the service capacity and coverage footprint.

PacketMAX 5000 is fully remote managed by Aperto WaveCenter EMS Pro, including subscriber provisioning and over-the-air fail-safe software upgrades. The SNMP-compliant network management software can be used for configuration, fault, performance, and security management.

KEY FEATURES

- WiMAX Forum certified
- Highest capacity, highest density WiMAX base station
- IEEE 802.16-2004
- Comprehensive system redundancy for carrier-grade resilience
- Suitable for fixed, nomadic, applications
- Compatible with all PacketMAX outdoor radios
- Full remote management capability with WaveCenter™ EMS Pro console

Typical Applications

- Last mile, carrier deployments supporting small initial rollouts, growing to support thousands of subscribers in a single 5U platform
- Ideal for multi-user and multi-service business and consumer applications
- 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

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
Duplex Mod PHY	:	TDD, OFDM 256 FFT
Frequency Bands Supported	:	2.3-2.9 GHz; 3.3-3.8 GHz; 4.9-5.925 GHz
Radio Output Power	:	20 dBm
Modulation	:	QPSK, 16QAM, 64QAM
Channel Bandwidth	:	3.5 & 7 MHz (2 GHz, 3 GHz, 5 GHz), 5 MHz (5 GHz) Selectable
Frequency Resolution	:	250 KHz (2 GHz, 3GHz), 500KHz (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
VLAN Mode	:	IEEE 802.1P/Q

Security / Encryption

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

Multi-Service/Multi-User Support

Traffic Classifier	:	L2, L3 and L4 parameters
Scheduling/QoS	:	BE, CIR (nrTPS), CBR (UGS)
Max # Sectors	:	Up to 12 Sectors
Active Connected Subscriber Units	:	Up to 6,144 (512 per sector)
Uni-Directional Service Flows	:	Up to 7,168 managed per Sector

Carrier Grade Features

Chassis	:	5U advanced TCA 19" telco rack mountable
Modularity	:	Individually deployable wireless sectors, fan unit, main system controller units
Redundancy	:	Main system controllers: 1:1; power distribution: 1:1; for load sharing

Interface

External Backhaul	:	1 x 100 BT; 1 x 1,000 BT (RJ45)
Management	:	10/100 BT (RJ45); RS-232 (RJ11)
External Clock, Synchronization	:	10 MHz Clock (BNC) / 1 PPS Sync (BNC); Optional GPS external clock input
Antenna Port	:	Type N
Radio Interface	:	IF Port (Type-F)

Management

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

Mechanical

Indoor Unit	:	5U; 19" rack mountable
Outdoor Unit Dimensions (L x H x W)	:	29.8 x 7.0 x 29.8 cm / 10 lbs (4.5 Kg)
IDU-ODU Distance	:	Up to 250 Meters

Electrical

Input DC Voltage	:	DC -42 – -58 VDC
Input AC Voltage	:	85 – 265 VAC, 47 – 63 Hz

Environmental

Operating Temperature	:	0^0 to 40^0 Celsius
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.

Aperto Networks I 598 Gibraltar Drive, Milpitas, CA 95035, USA I Phone: +1.408.719.9977 I Fax: +1.408.719.9970
Visit our website at: www.apertonet.com I Sales and Product Inquiries: sales@apertonet.com I