

FlexWave™ WMX 5000

Carrier-Grade WiMAX Base Station



With the FlexWave™ WMX 5000, ADC delivers the industry's highest density, highest capacity, and highest performing base station. Designed for modular growth and service evolution, the FlexWave WMX 5000 sets a new standard for carrier-grade WiMAX base stations.

FlexWave WMX 5000 operates in licensed and license-exempt bands under virtually all wireless conditions, giving providers a versatile platform for maximizing WiMAX revenue opportunities.

The FlexWave WMX 5000 hardware is based on the ATCA open standard, incorporating the latest advances in reliability, availability, and serviceability for carrier-grade, high-speed telecommunications. Designed to accommodate up to 12 wireless sectors, the FlexWave WMX 5000 system requires just 5U of rack space — making it the highest density base station currently available. This versatile, space-saving solution allows operators to offer a broad range of voice, data, and multimedia services, while driving down the operational and capital outlays required to scale the network.

Features:

- Highest capacity; highest density WiMAX base station
- Modular design supporting pay-as-you-grow business model
- Seamless co-location with mini and micro base stations for expanded network coverage
- Comprehensive system redundancy for carrier-grade resilience
- Upgradeable to IEEE 802.16e based mobility

SPEC SHEET



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The FlexWave WMX 5000 modular design accommodates a large number of deployment options. With 1:1 or 1:N redundant wireless sectors, the FlexWave WMX 5000 can support: 12-sector base station, redundant 6-sector base stations, redundant four sector and other configurations within a single chassis.

The FlexWave WMX 5000 meets stringent operator deployment needs, while bridging gaps from pre-WiMAX to fixed WiMAX, indoor consumer WiMAX, and fully mobile WiMAX.

Typical Applications

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

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Specifications

RADIO AND SYSTEM SPECIFICATIONS

Compliance:

IEEE 802.16-2004 (3.5T1, 3.5T2), ETSI HiperMAN, IEEE 802.16e-2005 upgradeable

Duplexing Mode, PHY: Frequency:

TDD, OFDM 256 FFT: SOFDMA upgradeable
3.3 - 3.4 GHz, 3.4 - 3.6 GHz, 5.725 - 5.925 GHz
Future: 2.5 - 2.7 GHz, 3.6 - 3.8 GHz, 5.150 - 5.35 GHz, 5.475 - 5.725 GHz

Channel Bandwidth:

3.0 MHz, 3.5 MHz, 5.5 MHz, 7.0 MHz
Future: 1.75 MHz, 5 MHz, 10 MHz

Step Size:

250 KHz

Radio Output Power:

17 dBm, 20 dBm, 30 dBm options

Receiver Sensitivity:

-95.1 dBm (3.5 MHz)

Modulation:

BPSK, QPSK, 16QAM, 64QAM

Forward Error Correction:

Convolution coding 1/2, 2/3, 3/4

IP Networking Features/Options

IP Version:

IPv4 (RFC 791)

Bridging Mode:

IEEE 802.3d

Routing:

RIP V2, OSPF (future)

VLANs:

IEEE 802.1 P/Q

Security/Encryption

Authentication:

X.509 based authentication

Encryption:

3DES, AES CCM 128, 1024

MULTI-SERVICE/MULTI-USER SUPPORT

Traffic Classifier:

MAC DA/SA, 802.1 P/Q, IP SA/DA, IP Protection, IP TOS, TCP/UDP Port

Scheduling/QoS:

UGS, rtPS, nrtPS, BE, CIR, MIR

Max # Sectors:

12 non-redundant; 6 with 1:1 redundancy

Active Connected Subscriber Units:

up to 6144 (512 per sector)

Uni-directional Service Flows:

up to 7168 managed

CARRIER GRADE FEATURES

Chassis:

5U Advanced TCA; 19" telco rack mountable

Power Options:

-48 VDC; AC

Modularity:

Individually deployable wireless sectors, fan unit, main system controller units

Redundancy:

Wireless sectors: 1:1; 1:N (future)

Main system controllers: 1:1

Power Distribution: 1:1

PHYSICAL INTERFACES

RF sectors, IF Port:

up to 12 if port for connection to BSR (type-F, Female, 75 ohM)

Ethernet Backhaul:

1 x 100 BT, 1 x 1000 BT (RJ45); 1 x 1000 B FX

Management:

10/100 BT; RS-232 (RJ45); 10 BT (RJ45); RS-232

External clock, Synchronization:

1Hz Sync (BNC), 10 MHz Clock (BNC)

Optional GPS External Clock Input (future)

Antenna Port:

Type-N

IF Port:

Type-F

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MANAGEMENT

Remote Management and Monitoring:
Local Management and Monitoring:
Provisioning:
SNMP:

WaveCenter EMS Pro, CLI (Telnet), SNMP
 CLI (RS 232)
 Centralized using WaveCenter EMS Pro (SNMP)
 MIB II (RFC 1213), Enterprise MIB;
 SNMP V2 IEEE 802.16f MIB

MECHANICAL

Indoor Unit Dimensions (W x H x D):
Indoor Unit Weight:

19 x 8.6 x 17 (inches), 48.2 x 21.8 x 43.1 (cm)
 27 lbs / 12.2 kg (chassis only); 37 lbs / 16.8 kg
 (4 sector, 1 MSC, 1 Fan Unit, DC)

Outdoor Unit (W x H x D):
IDU-ODU Distance:

2.75 x 11.75 x 11.75 (inches), 7 x 29.8 x 29.8 (cm)
 up to 250 m

ELECTRICAL

Input DC Voltage:
Input AC Voltage:
Max Power Consumption:

-42 to -58 Volts (recommended), -36 to -72 Volts (maximum)
 85 to 264 VAC, 47 to 63 Hz
 530W DC & 550W AC

ENVIRONMENTAL

Weather Protection:
Operating Temperature (Outdoor Unit):
Humidity (Outdoor Unit):
RoHS Compliance:

INDOOR

na
 0° to 40° C (32° to 104° F)
 10–90%, non-condensing
 yes

OUTDOOR

IP65/NEMA-4
 -35° to 60° C (-31° to 149° F)
 5-95%, non-condensing
 yes



Web Site: www.adc.com

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