

FlexWave™ WMX 3000

WiMAX Single-sector Base Station



The FlexWave™ WMX 3000 delivers 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 FlexWave WMX 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.

The FlexWave WMX 3000 operates seamlessly within a heterogeneous network by synchronizing with other FlexWave WMX 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, FlexWave WMX 3000 supports fixed and nomadic WiMAX applications and seamlessly integrates into a network consisting of mobile 802.16e-2005 WiMAX.

Features

- Comprehensive 1U indoor unit
- Split design compatible with all FlexWave WMX 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

SPEC SHEET



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The FlexWave™ WMX 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 FlexWave WMX 3000 is an effective wireless access point for hundreds of simultaneously active subscriber units serving both outdoor and indoor applications.

The FlexWave WMX 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 consists of a spectrum-specific radio and antenna connecting to the indoor unit via coax cable carrying power, timing, and control signals.

Typical Applications

- Last mile, carrier deployments supporting small initial roll outs, growing to support hundreds 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 Wi-Fi coverage
- Fixed WiMAX service evolving to support mobile subscribers
- Bandwidth hungry video and data applications requiring low latency and predictable performance

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Specifications

RADIO AND SYSTEM SPECIFICATIONS

Compliance:

Duplexing Mode, PHY:

Frequency:

IEEE 802.16-2004 (3.5T1, 3.5T2), ETSI HiperMAN
TDD, OFDM 256 FFT
3.3 – 3.4 GHz, 3.4 – 3.6 GHz, 5.725 – 5.925 GHz
Future: 3.6 – 3.8 GHz, 5.15 – 5.35 GHz, 5.475
– 5.725 GHz

Channel Bandwidth:

1.75 MHz, 3 Mhz, 3.5 MHz, 5.0 Mhz, 5.5 MHz,
and 7.0 MHz,
250 KHz

Step Size:

Radio Output Power:

17 dBm, 20 dBm, 30 dBm options

Receiver Sensitivity:

-95.1 dBm

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 Classification:

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
single

Max # Sectors:

512 per sector

Active Connected Subscriber Units:

up to 7168 per sector

Uni-directional Service Flows:

PHYSICAL INTERFACES

RF Sectors, IF Port:

1 x IF Port for connection to BSR
(Type-F, Female, 75 Ohm)

Backhaul:

1 x 10/100 BT (RJ45)

Management:

RS-232 (DB9)

External clock, Synchronization:

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

MANAGEMENT

Remote Management and Monitoring:

WaveCenter EMS Pro, CLI (Telnet), SNMP

Local Management and Monitoring:

CLI (RS 232)

Provisioning:

Centralized using WaveCenter EMS Pro (SNMP)

SNMP:

MIB II (RFC 1213), Enterprise MIB;

SNMP V2, IEEE 802.16f MIB

MECHANICAL

Indoor Unit Dimensions (W*H*D)/weight:

42.0 x 4.2 x 27.0 cm / 16.5" x 1.65" x 10.6"/5.5 kg
(12 lbs.)

Outdoor Unit (W*H*D)/weight:

29.8 x 7.0 x 29.8 cm / 11.75" x 2.75" x 11.75"/4.5 kg
(10 lbs.)

IDU-ODU Distance:

up to 250 m

ELECTRICAL

Input DC Voltage:

DC 40 – 60V

Input AC Voltage:

85 VAC – 265 VAC

Max Power Consumption:

70 W

ENVIRONMENTAL

Weather Protection:

Indoor

na

Outdoor

IP65/NEMA-4

Operation Temperature:

0° to 40° C

- 35° to 60° C

Humidity:

10 - 90%, non-condensing

0 - 95%, non-condensing

RoHS Compliance:

yes

yes

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