

Solution Description

OmniMAX™ is a powerful base station solution of compact size that operates in both 2.5 GHz and 3.5 GHz frequency bands. Being fully compliant with the IEEE 802.16e-2005 standard and the WiMAX Forum® Wave II certification profile, it incorporates a unique blend of design characteristics, such as Advanced Antenna Systems (AAS) and Radio Resource Management techniques.

With OmniMAX™, operators can serve different types of end-users – fixed, nomadic, portable and mobile – not reachable through other technologies.

OmniMAX™ is offered in split indoor – outdoor configuration suitable for urban, suburban and rural coverage, and is best fit for all contemporary wireless access applications, including residential, SOHO, SME, Corporate, Public sector and MTUs / MDUs.

The small form factor indoor unit combines the high sector capacity – up to three protected MIMO sectors – with great agility and unsurpassed ease of installation. The indoor unit is unique in offering electrical and optical OBSAI interfaces. The outdoor unit is a high-power radio that accommodates all its electronics in a robust, environmentally-hardened housing. Regarding components redundancy, multiple options are available to provide module or full path protection (i.e. from the antennas down to the network interfaces).

OmniMAX™ seamlessly integrates with other wireless backhauling offerings available from INTRACOM TELECOM, such as the Point-to-MultiPoint (PtMP) WiBAS™-2X/Pro, the Point-to-Point (PtP) family of products (INTRALINK™, OmniBAS™), establishing a one-stop framework for all the wireless needs the operators may have.



OmniMAX™
Outdoor Unit



OmniMAX™ Indoor Unit (Optical version)



OmniMAX™ Indoor Unit (Electrical version)

Highlights

- High sector capacity – up to three protected MIMO sectors from a single 1 RU indoor unit
- Cost-competitive form factor
- Electrical and optical OBSAI interface variety for unique network deployment flexibility
- Green technology – energy efficient and environmental friendly
- High output power & superior radio performance
- Advanced multiple antenna technology (MIMO) for delivering higher bandwidth and link robustness at the lowest possible cost
- Space saving & lightweight for easy installation; one-man lift outdoor unit
- Multiple redundancy options for partial or full system protection
- Fan-aided sun shield for operation in very hot climates
- Software-implemented MAC and PHY – future upgradeable

High-Speed Access Anywhere, Anytime

General

Configuration:

- Split architecture (OBSAI RP3-01)

Compliance:

- Fully compliant with IEEE 802.16e-2005 standard and the WiMAX Forum® Wave II certification profile

Operating Bands:

- 2.5 GHz (2.3 - 2.4 GHz, 2.5 - 2.7 GHz)
- 3.5 GHz (3.3 - 3.8 GHz)

Channel size: 5 MHz / 7 MHz / 10 MHz (TDD duplexing)

Antenna Diversity Support:

- MRC
- 2x2 MIMO-A (Space Time Coding)
- MIMO-B (Spatial Multiplexing)

Output Power (Max.):

- 40 dBm - DPD

Redundancy Options:

- N+1 ODU
- 1+1 ODU
- 1+1 IDU, N+1 ODU
- 1+1 IDU, 1+1 ODU

Convergence Sublayers: IPv4, IPv6, ETH

Dynamic QoS: BE, nrtPS, rtPS, ertPS, UGS

ASN Gateway Interface: R6 Profile C

Networking L2 / L3 Functions:

- L2 / L3 forwarding
- IEEE 802.1q
- GRE tunneling

Interfaces

Network:

- 2 x GbE (electrical, optical)

OBSAI:

- IDU: Six optical or three electrical
- ODU: Two optical and/or one electrical

Other:

- GPS antenna input
- Synchronization IN / OUT / PPS
- Console input (Ethernet 10/100BaseT and serial, RJ-45)
- External alarms (mini DB9)
- Network management (RJ-45)
- IDU protection link (RJ-45)

Management

- SNMP-based management with FCAPS functionality
- Command Line Interface (CLI)
- Element Management System (EMS)

PHY Specifications

- SOFDMA support
- MIMO support: Matrix A, Matrix B, Collaborative Spatial Multiplexing
- Adaptive modulation & coding: QPSK, 16QAM, 64QAM
- Re-transmission support: H-ARQ & ARQ
- Integrated GPS module for synchronization and IEEE 1588

MAC Specifications

- L2 / L4 classifiers support: MAC address, VLAN / 802.1p, IP address, DSCP / TOS, UDP / TCP
- Up to eight priority queues per QoS class
- Advanced radio resource management algorithms to exploit bandwidth allocation techniques: per subscriber, per CID, up to eight priorities
- Advanced security mechanisms support

Mechanical

Dimensions (W x D x H):

- 483 mm (19") x 245 mm x 44 mm (1U) (IDU)
- 390 mm x 140 mm x 625 mm (ODU)

Weight:

- 2.8 kg (IDU)
- 15 kg (ODU)

Ingress Protection (ODU): IP65

Electrical

Input Voltage (DC): -40 V to -60 V

Power Consumption: 290 W typical (three-sectored base station)

Environmental

Operating Temperature:

- -50 °C to +45 °C (IDU)
- -33 °C to +55 °C (ODU)

Relative Humidity (RH):

- 10% to 95%, non-condensing (IDU)
- 0% to 95%, non-condensing / 10% to 100%, condensing (ODU)

Wind Speed (ODU):

- 164 km/h (operational)
- 250 km/h (survival)

Standards:

- ETS 300 019-1-3, Class 3.2 (IDU operation)
- ETS 300 019-1-4E (ODU operation)
- ETSI EN 300 019-2-2 v2.1.2:1999, Class 2.3 (IDU & ODU transportation)
- ETSI EN 300 019-2-1 v2.1.2:2000, Class 1.1 (IDU & ODU storage)
- ETSI EN 300 019-2-3 v2.2.2:2003, Class 3.2 (IDU stationary use)
- ETSI EN 300 019-2-4 v2.2.2:2003, Class 4.1 (ODU stationary use)