



# Libra MAX-LT

All-in-one Outdoor Base Station



A fully-featured WiMAX Base Station - in a convenient all-outdoor enclosure for the cost-effective delivery of broadband wireless applications. Capable of broadband WiMAX speeds for last-mile communication in the licensed 3.3-3.8 GHz range. Libra MAX-LT takes all of the popular features from EION's Libra MAX-HD chassis based system and repackages them into an outdoor enclosure for the rapid deployment of point-to-point and point-to-multipoint WiMAX networks.

## All-in-one Outdoor Base Station



## Libra MAX Family

Libra MAX-LT is a member of the award winning Libra MAX family of WiMAX products is designed to provide carrier grade reliability. Whether you offer simple broadband access, Voice over IP, virtual private networks or video services, a Libra MAX solution lets you roll-out cost effective services that meet stringent service level agreements. For operators serving the business and residential sectors, large or small enterprises, or public sector Libra MAX has the features to meet the performance, cost and security required. Libra MAX delivers industry standard 802.16-2004 WiMAX with an architecture that ensures a seamless path to 802.16e mobility.

## Low Cost of Ownership

Libra MAX-LT delivers Lower Cost of Ownership with savings on both Capex and Opex for smart and innovative service providers. The low Opex is due to the fact that Libra MAX-LT does not require an IDU chassis. In addition, MAX-Lite's ODU-only form factor, combined with the simple to use GUI network management system, reduces Opex to the bare minimum.

## Simple System Architecture

The Libra MAX-LT was designed to be installed easily and rapidly. The diagram at right shows the basic architecture of a single Libra MAX-LT WiMAX sector. Your choice of antenna is attached using a standard N-type female connector and power is supplied to the Libra MAX-LT unit using power over Ethernet via an outdoor rated Cat 5E cable.

## Advanced Non-Line-of-Sight

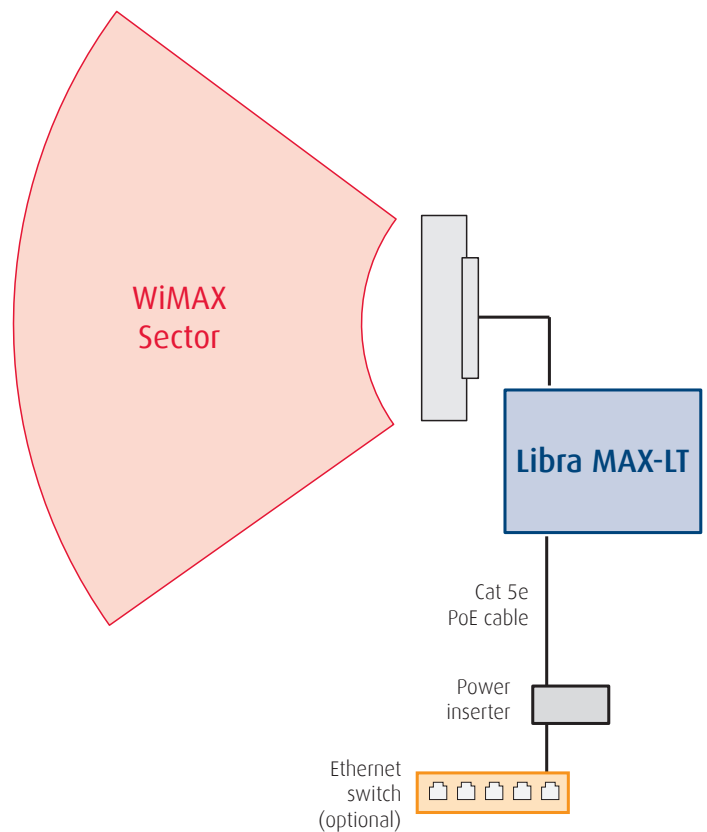
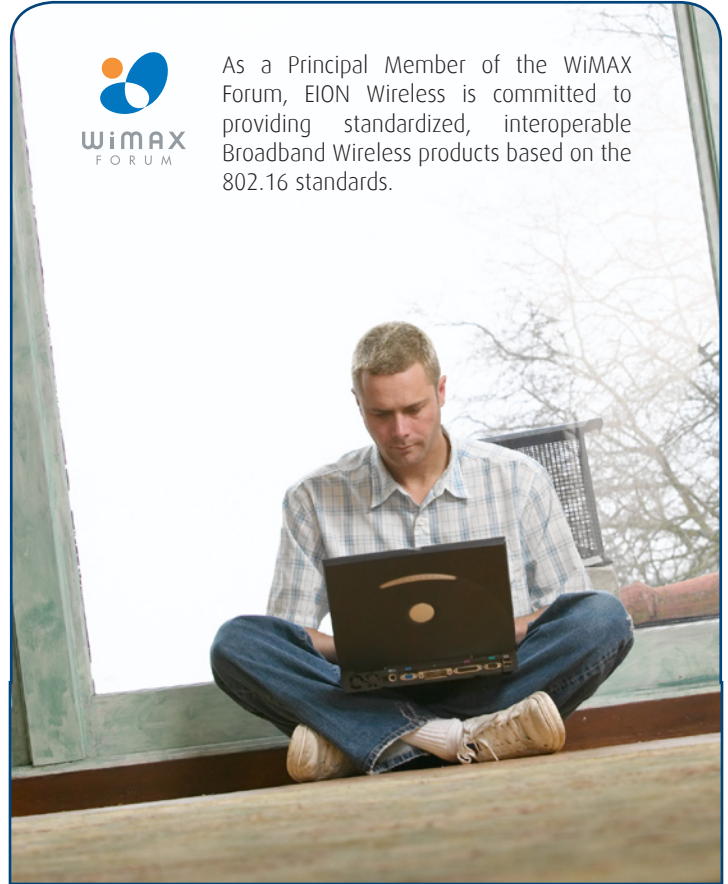
The Libra MAX-LT Base Station uses WiMAX technology to deliver high-speed non-line-of-sight (NLOS) performance in the licensed 3.3 to 3.8 GHz range. Optimized for outdoor environments, WiMAX offers superior range and throughput to subscribers who are not in a direct line of sight to the base station.

## Intelligence in WiMAX

EION Wireless is bringing advanced networking capabilities to the WiMAX stage. QoS features in the subscriber station are designed for the provisioning of voice video and data services. With the ability to support up to 16 different service flows per subscriber station, operators can offer service packages tailored for unique customer requirements and SLAs.



As a Principal Member of the WiMAX Forum, EION Wireless is committed to providing standardized, interoperable Broadband Wireless products based on the 802.16 standards.





## Rugged All-in-One Design

Libra MAX-LT is designed for deployment in difficult and remote locations. All of the electronics are secured in a rugged metal die cast enclosure designed to the IP67 specification. The enclosure is rated for outdoor operation in temperatures from -50° C to +60° C, and sealed against all environmental conditions.

With the included hardware, the outdoor unit can be mounted to a wall, pole or tower.

## Enterprise Network Management

Libra MAX takes a carrier-grade approach to network management with a rich Graphical User Interface (GUI) for element management and SNMPv2 with enterprise MIBs for Network Management. Using these management features, a network administrator can easily control a large Libra MAX network from a single central location. EION's Enterprise MIB allows the monitoring of RF statistics like power, RSSI, and modulation.

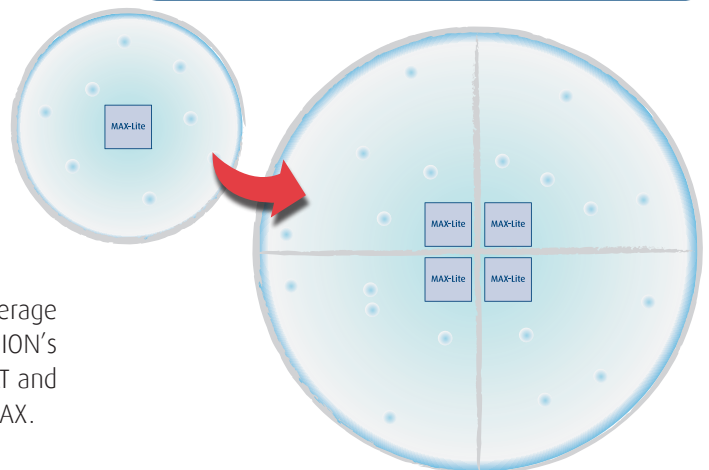
## Flexible Deployment Options

A single Libra MAX-LT Base Station can be deployed with an omni antenna to serve a small or growing subscriber base. As the service provider adds new subscribers, further sectors can be added by co-locating additional Libra MAX-LT units. In this way the Libra MAX-LT system is capable of supporting hundreds of WIMAX CPEs. Using this method for controlled sustainable network expansions, service providers are able to easily enter new markets and realize significant revenue growth without incurring a large upfront equipment cost.

To further extend the range of your WiMAX network, or to provide coverage across difficult geographies, the Libra MAX-LT can be combined with EION's MAX-RBS Rapid Backhaul System. The combination of the Libra MAX-LT and MAX-RBS unlocks Mesh, Ring and Jumbo-Sector topologies using WiMAX.

## Features

- Rugged all-in-one ODU design
- Low latency solution
- 10/100 Ethernet Port
- Minimal indoor footprint simplifies deployment
- IEEE 802.16d WiMAX compliant
- Best in class spectral efficiency
- Non-Line-of-Sight operation
- Part of the award winning Libra MAX family
- Web-GUI Interface for Network Configuration and Management
- WiMAX Level QoS: BE, nrtPS, UGS and rtPS
- SNMP Management Support with Enterprise MIB



More Subscribers. More Reach. More Performance.

# Libra MAX-LT

## RADIO SPECIFICATIONS

Technology	802.16-2004, Corr D5 & D12
PHY Profile	256 FFT OFDM
Frequency Range	3.3 to 3.5 GHz; 3.4 to 3.6 GHz; 3.6 to 3.8 GHz; 5.725 to 5.875 GHz
Duplex Scheme	TDD
Channel Size	3.5 and 7 MHz; 10 MHz (5.725-5.875 GHz)
Receive Sensitivity (at 10E-6 BER)	BPSK ½      64QAM ¾
Min Sensitivity - 3.5 MHz	-91 dBm    -74 dBm
Min Sensitivity - 7 MHz	-88 dBm    -71 dBm
Min Sensitivity - 10 MHz	-89 dBm    -70.5 dBm
Tx Power	+22 dBm (3.x GHz), +18 dBm (5.725-5.875 GHz)
Ranging	Initial

## SYSTEM FEATURES

Configurable Frame Sizes	2.5, 4, 5, 8, 10, 12.5, 20 ms, with configurable cyclic prefix
Antenna	N-type female
Network Connection	10/100/BaseT

## WIRELESS NETWORKING

Scheduling (QoS)	BE, nrtPS, UGS, rtPS
Service Flow Management	16 Service Flows per SS
Classification	IPv4, 802.3
Service Classes	Supported
Polling	Unicast, Broadcast
Service Provisioning	Dynamic

## NETWORKING FEATURES

Routing Support	Static
Supported Topologies	Point-to-Point, Point-to-Multipoint
Bridge Functionality	Yes
VLAN (802.1q)	Yes
Intrasector Bridging	Yes

## SECURITY

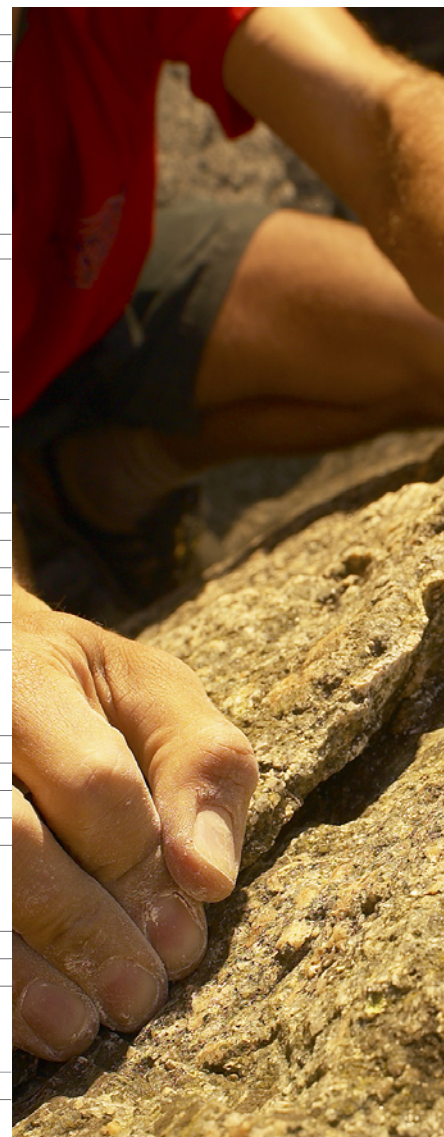
Encryption	DES, 3DES, Configuration Security
Data Security Password	Yes
Configuration Security	Yes

## MANAGEMENT

Management	GUI based
Remote Upgrade	Yes

## PHYSICAL ELECTRICAL & ENVIRONMENTAL

Extended Temperature Range	-50° C to + 60° C
Input Voltage	48 VDC supplied via 100-240 VAC PoE
Dimensions	240 mm (9.5") × 200 mm (7.9") × 120 mm (4.7")
Weight	5.8 kg (12.8 lbs)
Enclosure	fully weatherproof, designed to IP67 standards
Relative Humidity	0-95%
Regulatory Compliance	ETSI EN 301, 489-1, 302, 326-2; EN50385, EN55022 (EU) UL 60950, equivalent EN60950 (EU) RoHS; CE; WiMAX Certified Chipset



EION Wireless, a division of EION Inc., is a global provider of Broadband Wireless Access products that enable effective, economic and secure wireless high-speed communications solutions. EION is a Principal Member of the WiMAX Forum and was named one of the fastest fifty growing wireless companies in North America by Deloitte and Touche. With over ten thousand broadband wireless installations worldwide, the company's licensed and unlicensed frequency products are used by wireless ISPs, private network operators, and remote rural networks and in voice and data backhaul applications to solve last mile challenges. EION Wireless works with more than 165 worldwide channel partners to support its diverse global customer base.