



BreezeMAX[®] Extreme 5000

WiMAX[™] 16e pioneer for the license-exempt market



QoS Private Networks Secure Data
WiMAX 16e Video WISP Fast QoS Fast V
ordable Secure Secure Fast Fixed WISP Mobil
Fast Carrier Class Voice Video Private Networks

WiMAX 16e for the License-exempt Market

BreezeMAX Extreme 5000 is part of the carrier-class, field proven BreezeMAX product family and is the first wireless broadband solution to bring WiMAX 16e technology to the 5 GHz license-exempt market. This best-of-breed base station is designed for a variety of applications and business models and offers advanced air-protocol capabilities, superior performance and standard protocol support.

A highly integrated, all outdoor base station, BreezeMAX Extreme 5000 is designed for ease-of-deployment and reduced total cost of ownership. Built with the customer in mind this solution offers easy configuration and a self-sustained ecosystem, ideally suited for Wireless Internet Service Providers (WISPs), municipalities, utilities, enterprises and public safety networks.



Main Features and Highlights

Carrier-class WiMAX 16e Solution for the 5 GHz License-exempt Market

BreezeMAX Extreme 5000 brings state-of-the-art standardized technology to the license-exempt market providing WiMAX Quality of Service (QoS) and enhanced coverage and capacity. BreezeMAX Extreme 5000 is designed to support interoperability and certification and complies with WiMAX Forum® guidelines, enabling ecosystems to benefit from WiMAX 16e economy-of-scale.

All-in-One, All Outdoor Solution for Profitable Up & Go Services

The compact design of BreezeMAX Extreme 5000 enables reduced CAPEX and OPEX for low total cost of ownership (TCO) and accelerated ROI. This all-in-one solution integrates the base station, antenna, ASN-gateway and GPS receiver to provide an all outdoor solution that is easy to deploy on communication towers, rooftops and street poles.

Leverage WiMAX QoS for Enhanced and Swift Delivery of Triple Play Services

Featuring inherent WiMAX QoS, BreezeMAX Extreme 5000 enables simultaneous support of multiple applications using service differentiation for real-time triple play (voice, video and data) and non real-time applications.

BreezeMAX Extreme 5000 Supports a Wide Range of Applications



Powerful Interference Mitigation Techniques for Overcoming Obstacles

BreezeMAX Extreme 5000 supports MIMO, providing STC and MRC advanced antenna techniques in both the base station and end user devices. Designed with state-of-the-art error correction coding techniques leveraging 16e PHY (1024 FFT, HARQ, MAP repetition), BreezeMAX Extreme 5000 offers best Non-Line-of-Sight (NLOS) with OFDMA as well as Dynamic and Automatic Frequency Selection (AFS and DFS).

Efficient Delivery of Broadband Applications to Any Environment

BreezeMAX Extreme 5000 supports unmatched sector capacity, coverage and deployment variety for enhanced implementation of fixed, nomadic and mobile applications in rural and urban deployments. The ideal choice for WISPs, municipalities, utilities, enterprises and public safety networks, BreezeMAX Extreme 5000 with SISO/MIMO single or dual sector models, can maximize capacity over range or vice versa for better answering deployment needs.

BreezeMAX Extreme 5000 Advantages

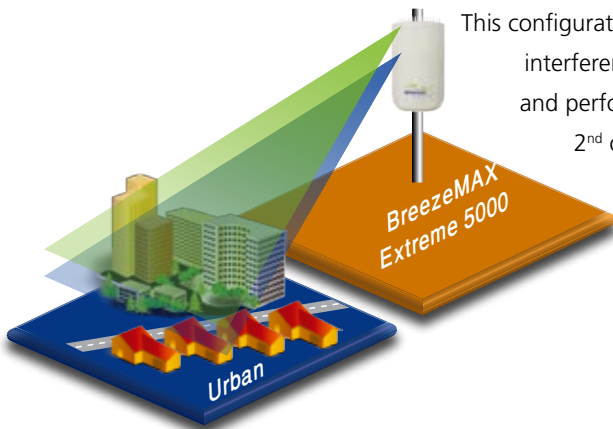
- WiMAX 16e QoS for license-exempt frequencies
- Advanced interference mitigation techniques for leading performance and reliability
- MIMO A/B support for increased coverage and capacity
- HARQ for significantly reducing errors at the PHY level
- Compact all-outdoor, easily installed single unit
- Secure connectivity with embedded encryption mechanisms
- Reliable and ruggedized infrastructure for extreme outdoor conditions
- Fast ROI with reduced TCO by utilizing an all-in-one, single platform with ASN gateway and dual sector support
- Mobile, portable and fixed services

BreezeMAX Extreme 5000 Models

MIMO Single Sector 2x2

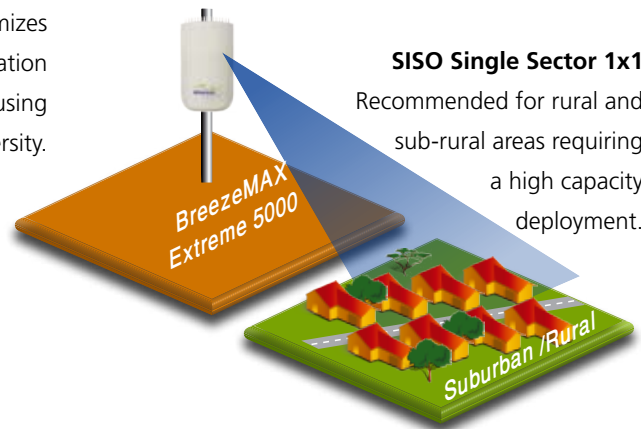
Recommended for high capacity urban, video driven and NLOS deployments.

This configuration maximizes interference mitigation and performance using 2nd order diversity.



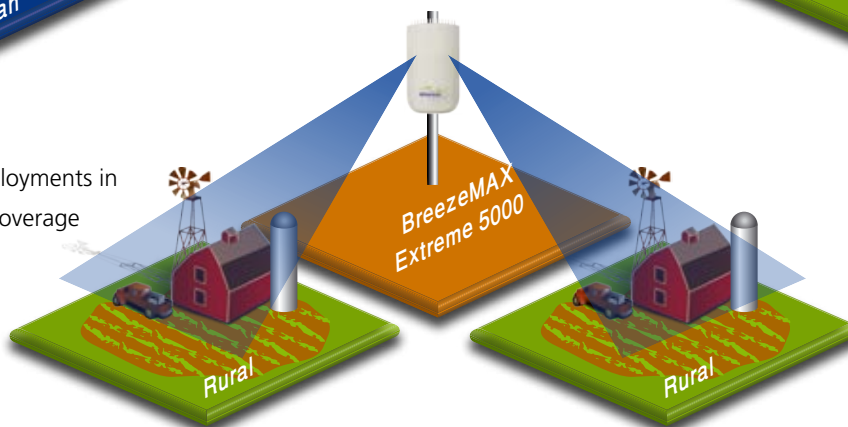
SISO Single Sector 1x1

Recommended for rural and sub-rural areas requiring a high capacity deployment.



SISO Dual Sector 1x1

Recommended for deployments in rural areas with large coverage requirements and low capacity demands per sector.



Headquarters

International Corporate HQ
Tel: +972.3.645.6262
Email: corporate-sales@alvarion.com

North America HQ
Tel: +1.650.314.2500
Email: n.america-sales@alvarion.com

Sales Contacts

Australia:
anz-sales@alvarion.com

Asia Pacific:
ap-sales@alvarion.com

Brazil:
brazil-sales@alvarion.com

Canada:
canada-sales@alvarion.com

Caribbean:
caribbean-sales@alvarion.com

China:
cn-sales@alvarion.com

Czech Republic:
czech-sales@alvarion.com

France:
france-sales@alvarion.com

Germany:
germany-sales@alvarion.com

Italy:
italy-sales@alvarion.com

Ireland:
uk-sales@alvarion.com

Japan:
jp-sales@alvarion.com

Latin America:
lasales@alvarion.com

Mexico:
mexico-sales@alvarion.com

Nigeria:
nigeria-sales@alvarion.com

Philippines:
ph-sales@alvarion.com

Poland:
poland-sales@alvarion.com

Portugal:
sales-portugal@alvarion.com

Romania:
romania-sales@alvarion.com

Russia:
info@alvarion.ru

Singapore:
asean-sales@alvarion.com

South Africa:
africa-sales@alvarion.com

Spain:
spain-sales@alvarion.com

U.K.:
uk-sales@alvarion.com

Uruguay:
uruguay-sales@alvarion.com

For the latest contact information
in your area, please visit:
www.alvarion.com/company/locations



www.alvarion.com

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Specifications

Radio & Modem

Unit type	All outdoor base station	
Configuration options	Single sector MIMO – integrated / external antenna Single sector SISO – integrated / external antenna * Dual sector SISO – external antenna * *	
Frequency	Base station 4900-5350 GHz 5470-5950 GHz	CPE 4900-5950 GHz
Channel bandwidth	5 MHz, 10 MHz, 2x10 MHz*	5 MHz, 10 MHz
Number of channels	MIMO: 2Rx, 2Tx SISO: 1Rx, 1Tx	2Rx, 1Tx
Radio access method	IEEE 802.16-2005 (16e OFDMA)	
Operational mode	TDD	
Central frequency resolution	2.5 MHz (for 5 MHz channel), 5 MHz (for 10,2x10 MHz channel)	
FFT size	512/1024	
Supported modulation	QPSK 1/2, 3/4 + Rep QAM16 1/2, 3/4 QAM64 2/3, 3/4, 5/6	
Air link optimization support	HARQ, CTC, compressed DL / UL Maps.	
Diversity	2x2, MIMO Matrix A, MRC, MIMO Matrix B*	

Transmit Power

Transmit power	Base Station 0-21 dBm, 1dB resolution	CPE QAM64: 18 dBm QAM16: 20 dBm QPSK: 21 dBm ATPC of 20 dB, 1 dB resolution 16 dBi
Integrated antenna gain	14.5 dBi	

Security

Authentication	Centralized over RADIUS, MS chap v.2 EAP TTLS over RFC-2865
Data encryption	AES WiMAX 16e

Interfaces

Network	IEEE 802.3 CSMA/CD
Standard compliance	10/100 Mbps, half/full duplex with auto negotiation
Data interface	PoE (55V DC), 48V DC
Power	Antenna (TNC), receiver integrated in unit
GPS	

Mechanical

Dimensions (H x D x W)	Base Station 51 x 28 x 14.7 cm	CPE 23 x 23 x 6.3 cm
Weight		
Extreme 5000 unit	11 kg	2 kg
Mounting Kit	5 kg	

Environmental

Operating temperature	-40°C to 55°C
Operating humidity	5%-95% non condensing, weather protected

Standard Compliance

EMC	ETSI EN 301 489-1, FCC p15
Safety	CE EN 60950-1/22, UL 60950-1/22
Environmental	ETS 300 019 part 2-1, 2-2, 2-4, IP67
Radio	ETSI EN 302 326, ETSI EN 301 390 ETSI EN 301 893, ETSI EN 302 502 FCC part 15.247, FCC part 15.407 ETSI 300 019-2-4 Class T4.1E (IEC-60068-2-56) ROHS

* Future
+ Not available in North America

About Alvarion

Alvarion (NASDAQ: ALVR) is the largest WiMAX pure-player with the most extensive WiMAX customer base and over 250 commercial deployments around the globe. Committed to growing the WiMAX market, the company offers solutions for a wide range of frequency bands supporting a variety of business cases. Through its OPEN WiMAX strategy, superior IP and OFDMA know-how, and proven ability to deploy end-to-end turnkey WiMAX projects, Alvarion is shaping the new wireless broadband experience.