



# BreezeMAX<sup>®</sup> Extreme 3650

*WiMAX<sup>™</sup> 16e leader in America*



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 Rural America

BreezeMAX Extreme 3650 is an all outdoor zero footprint WiMAX 16e wireless broadband solution for rural America and is part of Alvarion's carrier-class, field proven BreezeMAX product family. This base station is designed for a variety of applications and business models and offers advanced air-protocol capabilities, superior performance and standard protocol support.

With an integrated antenna, ASN gateway and GPS receiver, BreezeMAX Extreme 3650 is designed for ease-of-deployment and reduced total cost of ownership. BreezeMAX Extreme 3650 offers easy configuration and a self sustained ecosystem, ideally suited for operators, municipalities, utilities, enterprises and public safety networks.



## Main Features and Highlights

### All Outdoor, Zero Footprint Solution for Easy Deployment

The compact design of BreezeMAX Extreme 3650 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 light poles.

### Enhanced Coverage and Capacity Capabilities with Advanced Interference Mitigation Techniques

BreezeMAX Extreme 3650 provides MIMO A and MRRC advanced antenna techniques with a 10 MHz channel to deliver high capacity broadband services. Designed with state-of-the-art error correction coding techniques leveraging 16e PHY (1024 FFT and HARQ), BreezeMAX Extreme 3650 offers best Non-Line-of-Sight (NLOS) with OFDMA.

### Leverage WiMAX 16e QoS for Enhanced and Swift Delivery of Triple Play Services

Featuring inherent WiMAX QoS, BreezeMAX Extreme 3650 enables simultaneous support of multiple applications using service differentiation for real-time triple play (voice, video and data) applications.

## BreezeMAX Extreme 3650 Supports a Wide Range of Applications



### Carrier-class WiMAX 16e for Rural America

BreezeMAX Extreme 3650 brings state-of-the-art standardized technology to the quasi-licensed market. BreezeMAX Extreme 3650 is designed to support interoperability and certification and complies with WiMAX Forum® guidelines, enabling ecosystems to benefit from WiMAX 16e economy-of-scale.

### Efficient Delivery of Broadband Applications to Any Environment

BreezeMAX Extreme 3650 supports unmatched sector capacity, coverage and deployment variety for enhanced implementation of fixed, nomadic and mobile applications in rural and urban deployments. It is the ideal choice for WISPs, municipalities, utilities, enterprises and public safety networks.

### BreezeMAX Extreme 3650 Advantages

- All-outdoor, zero footprint, easily installed unit
- MIMO A support for increased coverage and capacity
- Advanced interference mitigation techniques for leading performance and reliability
- Secure connectivity with embedded encryption mechanisms
- WiMAX 16e QoS for license-exempt frequencies
- Reliable and ruggedized infrastructure for extreme outdoor conditions
- Fast ROI with reduced TCO by utilizing an all-in-one, single platform with ASN gateway
- Mobile, portable and fixed services

### BreezeMAX Extreme 3650 Model



### MIMO Single Sector 2x2

- Suitable for high capacity urban and rural deployments
- Maximum interference mitigation and high performance using 2<sup>nd</sup> order diversity

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## Specifications

### Radio & Modem

Unit type  
Configuration options  
  
Frequency  
Channel bandwidth  
Number of channels  
Radio access method  
Operational mode  
Central frequency resolution  
FFT size  
Supported modulation

Air link optimization support  
Diversity

All outdoor base station  
Single sector MIMO – integrated / external antenna

| Base Station   | CPE           |
|--|---------------|
| 3650-3700 GHz  | 3650-3700 GHz |
| 5 MHz, 10 MHz  | 5 MHz, 10 MHz |
| MIMO: 2Rx, 2Tx   | 1Rx, 1Tx      |
| IEEE 802.16-2005 (16e OFDMA)                           |               |
| TDD  |               |
| 250 KHz  |               |
| 512/1024   |               |
| QPSK 1/2, 3/4 + Rep                                    |               |
| QAM16 1/2, 3/4   |               |
| QAM64 2/3, 3/4, 5/6                                    |               |
| HARQ, CTC, compressed DL / UL Maps.                    |               |
| 2x2, MIMO Matrix A, MRC, MIMO Matrix B* (Base Station) |               |

### Transmit Power

Max transmit power

Integrated antenna gain

| Base Station               | CPE                            |
|----------------------------|--------------------------------|
| 17-30 dBm, 1 dB resolution | QAM64 :20/-26 dBm              |
|                            | QAM16: 20/-26 dBm              |
|                            | QPSK: :20/-26 dBm              |
|                            | ATPC of 46 dB, 1 dB resolution |
|                            | 16 dBi                         |

### Security

Authentication  
Data encryption

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

### Interfaces

Network  
Standard compliance  
Data interface  
Power

GPS

IEEE 802.3 CSMA/CD  
10/100 Mbps, half/full duplex with auto negotiation  
PoE  
48V DC  
Antenna (TNC), receiver integrated in unit

### Mechanical

Dimensions (H x D x W)  
Weight  
Extreme unit  
Mounting Kit

| Base Station      | CPE              |
|-------------------|------------------|
| 51 x 28 x 14.7 cm | 23 x 23 x 6.3 cm |
| 11 kg             | 2 kg             |
| 5 kg              |                  |

### Environmental

Operating temperature  
Operating humidity

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

### Standard Compliance

EMC  
Safety  
Environmental  
Radio  
Humidity  
Regulatory compliance

FCC p15  
CE EN 60950-1/22, UL 60950-1/22  
ETS 300 019 part 2-1, 2-2, 2-4, IP67  
FCC part 90, FCC part 2  
ETSI 300 019-2-4 Class T4.1E (IEC-60068-2-56)  
ROHS



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## 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.