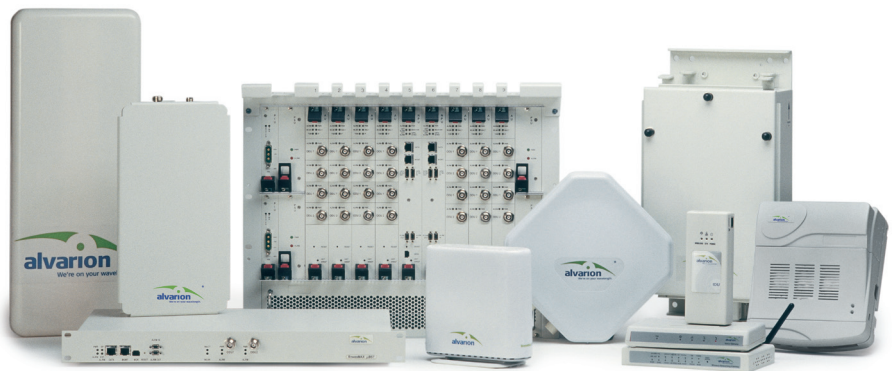


BreezeMAX[®] 3650

Future-Proof WiMAX[™] with 802.16e Performance

BreezeMAX 3650 is a complete, end-to-end 802.16e-based WiMAX solution for the US FCC 3650-3700 MHz frequency band allocated for wireless broadband. Incorporating Alvarion's field-proven and mature WiMAX technology, which is one of the market's most popular 802.16e WiMAX solutions, BreezeMAX 3650 provides superior coverage and capacity that results in fewer cell sites for reduced capex and opex. Furthermore, as an 802.16e-based solution, BreezeMAX 3650 presents a future-proof network with optimized value of investment.



BreezeMAX 3650 Main Features

- Advanced antenna technology, including 2nd and 4th order diversity and MIMO for increased coverage and capacity and improved operator business case
- Range of BreezeMAX base station configurations
- Variety of CPEs, for both outdoor and indoor usage
- Self-install CPE with patent-pending technology for stable connections
- Future accessibility of WiMAX 802.16e standard equipment
- Fixed and portable services to residential and business users located in rural, suburban and urban areas
- Cost-effective, next generation broadband wireless access (BWA) for high-bandwidth, IP-based voice, data and multimedia services

Advanced, Self-Install Solution

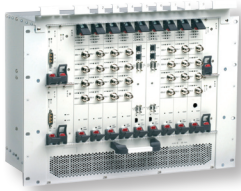
Using high-power orthogonal frequency division multiplexing access (OFDMA) technology and six fast-switching, industry-leading antennas, the BreezeMAX Si CPE supports non-line-of-sight (NLOS) operation and the most stable indoor links for the highest subscriber satisfaction. Improving the operator business case by minimizing truck rolls and installation costs, BreezeMAX Si also offers longer ranges and superior capacities, giving operators a higher ROI. Typical customers include small operators using the upgradeable BTS configuration for deployments in small communities, and large scale IOCs (independent operating companies) using BreezeMAX Si as a way to compete with basic, primary data and voice services in fixed applications.

System Components

Base Station Equipment

High density, modular chassis configuration scalable for deployments of various sizes.

Modular Base Station



Carrier class 8U high cPCI shelf that fits into a standard 19" or 22" (ETSI) rack and contains a network processor unit, hot-swappable multiple access unit modules (up to 6 in a single chassis), a power supply and power supply modules.



Network Processing Unit (NPU)



The heart of the base station, managing the base station components and all connected subscriber units.

Indoor/Outdoor Access Units



Utilizes wireless IEEE 802.16e/HiperMAN MAC and modem for the establishment of wireless network connections and bandwidth management. Each indoor access unit includes four 3.5 or 5 MHz PHY channels for support of RF 2nd and 4th order diversity combining functionality and radio link redundancy. Alvarion's unique technology allows each such Access Unit to support up to four different frequencies.

WiMAX architecture based on the WiMAX Forum® standard implementation of the IEEE 802.16e and ETSI HiperMAN industry specifications for wireless access in metropolitan area networks (MAN).

Plug and play solution utilizing self-installable CPE with automatic provisioning traffic management.

Scalable high-density macro base station configurations.

High power, multiple diversity radios using space time coding (STC), cyclic delay diversity (CDD) and maximum ratio combining (MRC).

Range of CPEs for managing tiered services for residential, business, MDU/MTU, hotspot, backhaul, and wireless home networking applications.

Low cost of ownership through simple self-installation and demand-based, pay-as-you-grow build-outs.

High capacity and throughput using efficient and robust 802.16e-based air protocol.

End-to-end QoS essential for high quality data, voice and video services.

Adaptive modulation technology to maximize system bandwidth throughput.

AlvariSTAR management system which simplifies network deployment and enables fast customer-based expansion with effective fault management for quick resolution.

Customer Premises Equipment (CPE)

BreezeMAX self-install CPEs are powered by Intel's 802.16e WiMAX chip. Providing operators the flexibility to cost-effectively serve different business and residential customers, the BreezeMAX CPE portfolio allows for both outdoor (professional) and indoor (self-install) deployments.

BreezeMAX PRO-S



BreezeMAX PRO-S consists of an indoor unit (IDU) and an outdoor unit (ODU) that contains the modem, radio, data processing and management components, as well as an integral high-gain flat antenna with either vertical or horizontal polarization. An ODU with a connector to an external antenna is also available.

BreezeMAX Si



BreezeMAX Si is a self-installable, WiMAX subscriber unit providing broadband data services in a compact design. Ideal for residential and SOHO users, it is a complete indoor solution (without the need for an outdoor unit) supplied with installation software and/or a smart card for simple self-installation and automatic service operation. The smart card option permits operators to ship this CPE to end users and then separately enable the type of service purchased by online smart card configuration, making installation easier than ever.

BreezeMAX Voice Gateway



BreezeMAX Voice Gateway is a single box solution providing integrated voice and data services. Available with one or two RJ-11 POTS ports, it features advanced voice and data functions such as VLAN tagging, traffic prioritization by IP DiffServ, SIP protocols, Class 5 voice services (third party conference call waiting, call hold), and integrated management.

Networking Gateway



Networking Gateway is the optimal networking solution for both home and small business users. Featuring an advanced, integrated broadband router with comprehensive IP-sharing and security capabilities, it has four 10/100 BaseT ports and an 802.11g wireless access point.

Specifications

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



www.alvarion.com

Radio and Modem

Frequency
3.650-3.675 GHz
(hardware ready for 3.650-3.700)

Radio access method
TDMA TDD

Modulation
OFDM 256 FFT with adaptive sub-carrier modulation:
BPSK, QPSK, 16QAM, 64QAM and upstream OFDMA

Channel bandwidth
3.5 MHz, 5 MHz, 7 MHz*, 10 MHz*
(SW selectable)

Central frequency resolution
125 KHz

Antenna for CPE
Integrated vertical and horizontal antenna

Outdoor CPE
17 dBi at 3.65-3.7 GHz

Indoor Si CPE
Six integrated antennas with 9 dBi, plus external port for window patch and support of OFDMA to allow full EIRP

Sensitivity typical values
-80 dBm for highest modulation (QAM64) @ 5 MHz
-98 dBm for lowest modulation (BPSK) @ 5 MHz

Data Communications

Data
IEEE 802.3 CSMA/CD

Air Interface
IEEE 802.16-2004 / IEEE 802.16-2005

VLAN support
IEEE 802.1Q

Traffic classification
Layer 2/3 IEEE 802.1p, IP DiffServ Code Points DSCP

Voice Gateways

Primary voice
1.5 hours, battery backup

Managed voice
For QoS management and admission control

Data and voice services
Integrated in single box

Interfaces
One of two RJ11 connectors for analog phones

Services
Class 5

VoIP protocol
SIP

Speech codecs
6.711, 6.729ab, AMR

Environmental

Parameter	Indoor Unit	Outdoor Unit
Operating Temperature	0°C to 40°C (32°F to 104°F)	-40°C to 55°C (-40°F to 131°F)
Operating Humidity	5-95% non-condensing	5-95% non condensing, weather protected

Standard Compliance

EMC
ETSI EN 301 489-1

Safety
EN 60950 (CE), CB, IEC 60 950 US/C (TUV)

Environmental
ETS 300 019
(part 2-1 T 1.2 & part 2-2 T 2.3 for indoor & outdoor)

(part 2-3 T 3.2 for indoor, part 2-4 T 4.1E for outdoor)

Radio
FCC part 27, ETSI EN 301 021 V1.4.1, ETSI EN 301 753 V1.1.1

* Future channel bandwidth options

About Alvarion

Alvarion is the largest WiMAX pure player, ensuring customer's long-term success with fixed and mobile solutions for the full range of frequency bands. Based on its OPEN™ WiMAX strategy, Alvarion offers a superior wireless broadband infrastructure and an all-IP best-of-breed ecosystem in cooperation with its strategic partners. Alvarion has more than 200 commercial WiMAX deployments worldwide.