

## **BreezeULTRA**<sup>™</sup> Capacity Unleashed.



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Living in a Hyper-Dynamic World We live in a hyper-dynamic world of "instant on" and "anytime, anywhere" access. A world where it's all about capacity: the capacity to share ideas with new friends and business partners; the capacity to take advantage of new business opportunities; and the capacity to connect and deliver. But in rural communities from Kansas to Kenya, 60% - 90% of the people don't have broadband access due to the high costs and low profits of running wire. And in metropolitan areas, too many people compete for a finite amount of bandwidth that is affected by trees, tall buildings and electrical interference.

The challenge for operators, businesses and consumers is to find the right balance between connectivity, capacity and coverage; a balance that is practical, profitable and affordable.

## BreezeULTRA: Capacity Unleashed.

To help you meet the challenges of today's hyper-dynamic world, Alvarion brings you the BreezeULTRA family of products, the ultimate wireless broadband solution for the license-exempt market. BreezeULTRA offers you a bold combination of multiplicity, performance, organic growth and simplicity.

	Multiplicity	Benefit from a multiplicity of options to create the broadband wireless access solution that best fits your unique business needs. Whether you need point-to-point, point-to- multipoint or a hybrid backhaul-to-multipoint solution, BreezeULTRA delivers.
	Performance	Overcome your wireless deployment challenges with superior capacity and packet processing for voice, video and data. BreezeULTRA offers up to 300 Mbps gross throughput per radio and a range up to 75 km (46 mi).
•	Organic Growth	Pay for your network as your needs grow. Enable additional sectors with a software license. Support up to 150 CPEs per sector*.
•	Simplicity	Simple to order, install, and operate, Alvarion's BreezeULTRA is a powerful solution that reduces operating expenses. Use BreezeULTRA CPEs or the growing ecosystem of WiFi-compliant devices to quickly and easily expand your network.



### **Product Highlights**

- Transmit voice, video and data at 300 Mbps per radio (gross)
- Process small packets at 80,000 PPS
- Support non-line-of-sight coverage and mitigate interference with OFDM, MIMO, Diversity Techniques and DFS
- Optimize performance of voice, video and data using QoS
- Precisely meet bandwidth needs with fully flexible uplink/downlink
- Quickly add capacity by purchasing additional software licenses

Markets	Applications	Business Benefits
Smart Cities	<ul> <li>Voice, video and data for municipal offices</li> <li>Provide high-speed Internet to schools and neighborhoods</li> <li>Video surveillance for public spaces</li> <li>Traffic monitoring and control</li> </ul>	<ul> <li>Eliminate costly leased E1/T1 lines</li> <li>Transform municipalities from service consumers to service providers</li> <li>Rejuvenate city centers</li> <li>Increase quality of life and satisfaction</li> </ul>
Public Safety	<ul> <li>Video surveillance for public spaces</li> <li>Traffic monitoring and control</li> <li>Voice, video and data for departments and police</li> </ul>	<ul> <li>Enhance feeling of public security</li> <li>Improve security at sensitive facilities</li> <li>Eliminate costly leased E1/T1 lines</li> </ul>
Education	<ul> <li>Create high-speed educational networks</li> <li>Comply with digital inclusion initiatives</li> <li>Improve inter-facility communications and share resources</li> </ul>	<ul> <li>Improve educational services</li> <li>Bridge the digital divide</li> <li>Access remote resources for eLearning</li> </ul>
Corporate & Enterprise	<ul> <li>Voice, video and data for all offices</li> <li>Access to remote applications</li> <li>Video conferencing and remote training</li> </ul>	<ul> <li>Increase intra-office communication</li> <li>Reduce OPEX with VoIP</li> <li>Eliminate costly leased E1/T1 lines</li> </ul>
Transportation	<ul> <li>Support intelligent Traffic Systems (ITS)</li> <li>Offer Internet access in stations</li> <li>Support Passenger Information Systems (PIS)</li> <li>Provide voice, video and data for back office</li> </ul>	<ul> <li>Reduce fuel consumption</li> <li>Keep commuters connected and satisfied</li> <li>Streamline sales and business processes</li> <li>Eliminate costly leased E1/T1 lines</li> </ul>
Smart Utilities	<ul> <li>Video surveillance to protect assets</li> <li>Backhaul SCADA data for substations</li> <li>Support AMR for water, gas and electricity</li> <li>Deliver voice, video and data to mobile personnel</li> </ul>	<ul> <li>Improve security and detect leaks faster</li> <li>Better operation of substations</li> <li>Empower consumers and increase satisfaction</li> <li>Increase productivity of mobile workers</li> </ul>
Mining	<ul> <li>Monitor structural integrity of pits</li> <li>Stream Doppler radar to onsite office</li> <li>Monitor pump houses, power and more</li> <li>Provide voice, video and data to site</li> </ul>	<ul> <li>Improve safety and security</li> <li>Stay apprised of changing conditions</li> <li>Better manage resources and reduce downtime</li> <li>Eliminate costly leased E1/T1 lines</li> </ul>
Oil & Gas	<ul> <li>Support ship-to-rig and rig-to-shore connections</li> <li>Monitor pumps, power and more</li> <li>Enable voice, video and data communications</li> </ul>	<ul> <li>Provide secure, all-weather communications</li> <li>Better manage resources and reduce downtime</li> <li>Reduce costly satellite communication fees</li> </ul>
WISP	<ul> <li>High throughput for urban and rural areas</li> <li>Support multiple applications with different uplink/downlink needs</li> <li>Support up to 3 sectors (up to 450 CPEs)</li> </ul>	<ul> <li>Support high-quality services in low-profit areas</li> <li>Adjust bandwidth to meet the needs of your applications</li> <li>Reduce CAPEX and OPEX</li> </ul>

### Specifications

#### International Corporate HQ Alvarion Ltd. 21a HaBarzel Street P.O. Box 13139 Tel Aviv, Israel 69710

Contact us at: sales@alvarion.com

For local contact information in your area, please visit www.alvarion.com



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PTP (P6000)	
Configurations No. of Radios	P6000-350: 1 Radio P6000-600: 2 Radios* P6000-LE: 2 Radios*
Radio & Modem Gross Throughput	P6000-350: 300Mbps P6000-600: 600Mbps* P6000-LE: 2x300Mbps*
Range	Up to 50Km / 31 miles 120 km / 75 miles* (w/high high-gain antenna) Note: For P6000-LE the range is per direction
Frequency	4.9 GHz*, 5.1-5.9 GHz
Radio Type	MIMO (2x2), OFDM TDD
Modulation	OFDM, BPSK, QPSK, QAM16, QAM64
Channel BW	5*, 10*, 20, 40 MHz
Output Power (at antenna port)	Up to 24 dBm (dependent upon regulation) (Up to 27dBm two Tx chain)
Antenna	Internal Antenna: 4.9 -5.9 GHz, 8° dual polarized, 23 dBi
	External Antenna: 4.9-5.9 GHz, 8°/ 6°, dual polarized, 23 / 28 dBi, N-Type 50 ohm
Networking & Management Standards	802.1p/Q, IEEE 802.3 CSMA/CD, 802.3at (PoE Out), SNMP v2, MIB II, WMM
	DSCP, fast packet processing, MIR per direction (UL/DL), concatenation, burst mode, small packet optimization to support voice, QoS, Ethernet type, TCP/UDP port, VLAN-ID
Security	Authentication: ESSID, password protection, Pre-shared key (PSK) Data encryption: WPA2 AES 128 bit - 802.11i
Management	Local/remote monitoring via Web interface, Telnet, CLI, SNMP and configuration upload/download
Remote Management	Via LAN or wireless link
Access Control	Multilevel password, configuration of remote direction (from Ethernet only, wireless only, or both sides)
Upgrade & Configuration	Via TFTP, Web
Physical & Environmental Dimensions	44 x 38 x 13 cm (17.32 x 14.96 x 5.12 in.)
Weight Temperature	P6000-350: 7 kg (15.43 lbs.); all others: 6.2 kg (13.67 lbs.) -40°C to 55°C (-40°F to 130°F)
Humidity	5% - 95% non-condensing, weather-protected
Electrical	one for the condensing, weather protected
Power Consumption	40W
Input Power	100-240 VAC, 50-60Hz
Interfaces	1 x 10/100/1000BaseT (PoE In), 1 x 10/100/1000BaseT 802.3at (PoE out)
Compliance Radio	FCC P15.247, FCC P15.407, ETSI: EN 302 502 (v1.2.1), EN 301 893 (v1.5.1), IC RSS-210 (Canada)
EMC	FCC P15 Class B, EN55022 Class B, ETSI: EN 301 489-1/-17
••••••	EN 60950-1, EN 60950-22
Safety	

#### **About Alvarion**

Alvarion Ltd. (NASDAQ:ALVR) provides optimized wireless broadband solutions addressing the connectivity, coverage and capacity challenges of telecom operators, smart cities, security, and enterprise customers. Our innovative solutions are based on multiple technologies across licensed and unlicensed spectrums. (www.alvarion.com)