

High Capacity
Point-to-Point
Solution for
License-exempt
Frequencies

BreezeNET[®] B300

BreezeNET B300 answers the growing need for higher bandwidth capacity, by combining up to 250 Mbps throughput with TDM and Ethernet transport which maximizes spectral efficiency for high performance and long distance connectivity. An all-outdoor, high-performance solution with more effective throughput, BreezeNET B300 operates in both LOS (line-of-sight) and NLOS (non-line-of-sight) environments and offers increased link availability for enhanced QoS. The BreezeNET B product family of wireless point-to-point bridging solutions for license-exempt bands, provides an efficient and highly secure solution for enterprise wireless connectivity applications and backhaul services between two remote locations and co-location applications.



Range of Applications

The modular BreezeNET B300 offers single or dual-radio split system design with integrated or external antennas and supports an array of LOS and NLOS applications including:

- Access backhauling
- Video surveillance applications
- Leased-line replacement
- Disaster recovery
- IP telephony
- Video conferencing and remote training
- Building to building connectivity
- Redundant mobile backhaul

Main Features and Highlights

Range of Frequencies

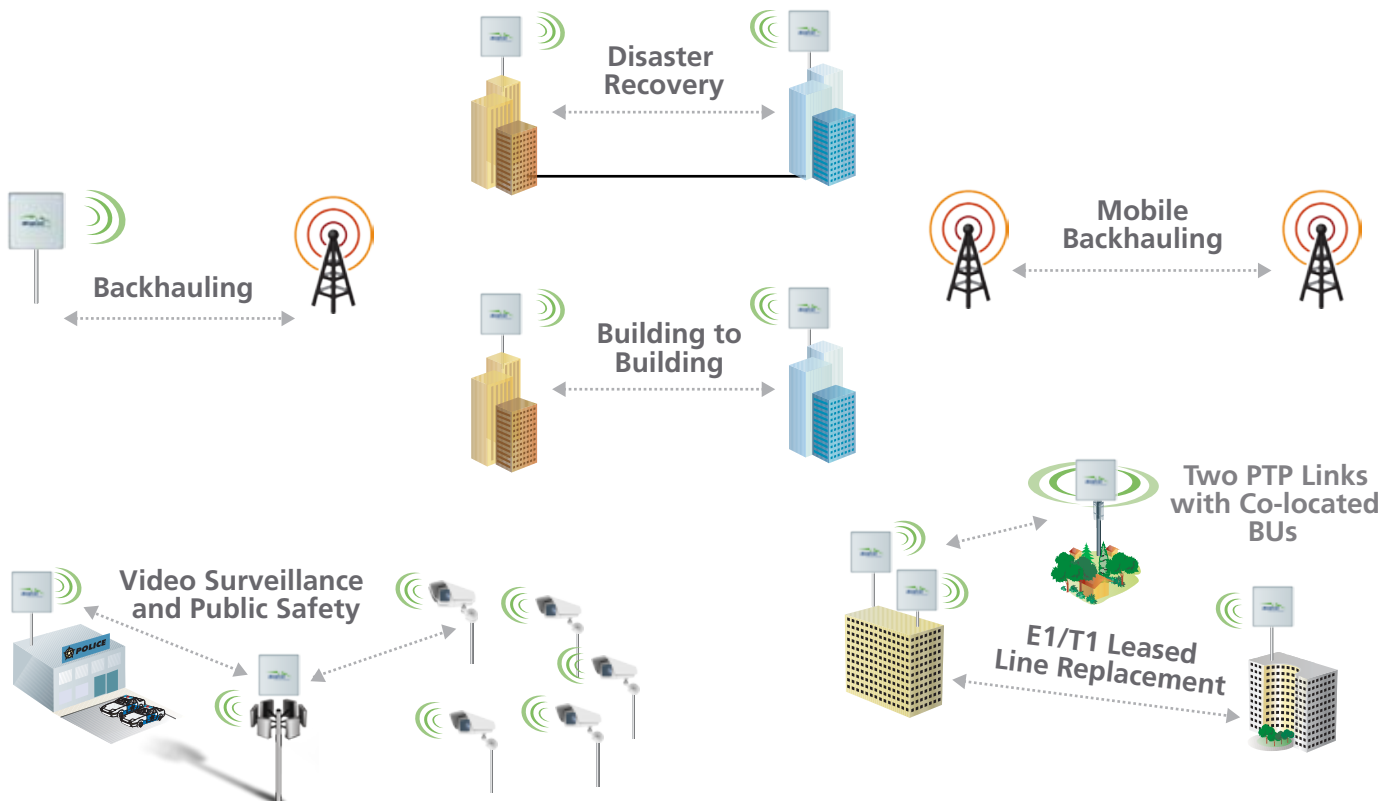
Available in a range of frequency bands from 4.9 - 5.9 GHz, BreezeNET B300 features several region-specific output power versions and can be configured to support these frequencies from a single platform. A versatile solution, BreezeNET B300 utilizes DFS (Dynamic Frequency Selection) to select license-exempt channels with low occupancy, radar detection and avoidance to comply with FCC/CE regulations.

High-capacity and Spectrum Efficiency

BreezeNET B300 provides enhanced capacity of up to 250 Mbps and 5/10/20/40 MHz optional channel size, maintaining cost-effective spectrum use and reduced interference. Adaptive modulation for monitoring link directions reduces errors in operation and flexible bandwidth allocation enables asymmetric or fully symmetric, fixed or dynamically adjusted allocation.

Long Range

Supporting long-range backhaul reaching more than 60 km, BreezeNET B300 can also reduce roll-out costs by utilizing multiple radios for less power and antenna size to reach remote sites.



Premium Networking Features

Featuring a best-of-breed set of networking features, BreezeNET B300 is designed with an integrated switch/router for reducing network overhead as well as an intelligent Layer 2 and 3 switch and QoS enforcer.





Secure and Reliable

BreezeNET B300 is a reliable solution enabling up to 4 separate signal paths by utilizing diverse, physically separated antennas to minimize downtime during extra-fade periods. A robust solution, it features one-plus-one hot-standby link that seamlessly switches to alternative equipment in case of hardware failure, small footprint antenna and all-outdoor design which ensures operation in all weather conditions. BreezeNET B300 is designed with enhanced security capabilities including always-on digital and signature-based mutual authentication between link-ends, and out and in-band, secure, password-protected management GUI and SNMP.

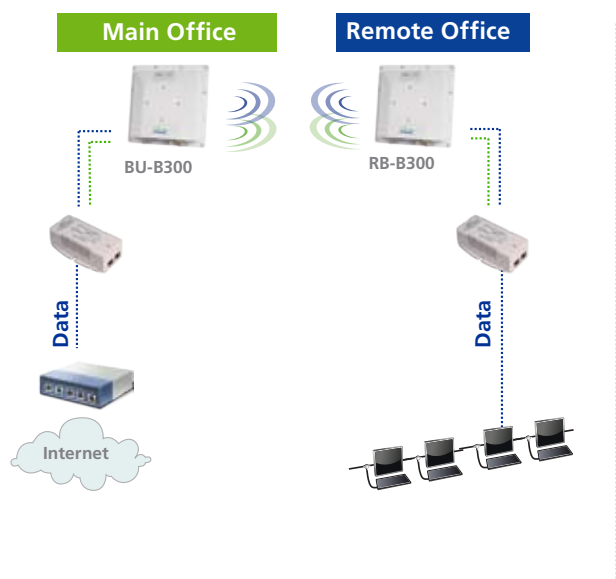
Modular and Scalable Architecture

BreezeNET B300 offers integrated or external detachable antennas and easy-to-deploy mounting hardware and form factor. Automatic and manual, fault proof over-the-air firmware upgrade ensures ultimate modularity and scalability.

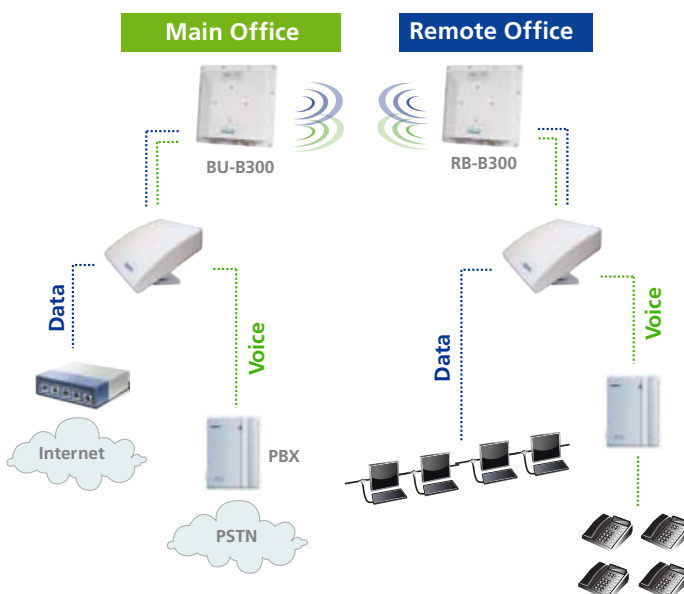
BreezeNET B300 System Components

 <p>ODU</p>	 <p>ODU with Integrated Antenna</p>	 <p>IDU</p>	 <p>PoE</p>
<p>Outdoor unit 2x2, includes N-Type connector to an external antenna and PoE device</p>	<p>Outdoor unit with integrated 23 dBi flat panel antenna and PoE device supporting 4.920-5.920 GHz</p>	<p>Subscriber unit With up to 4 E1/T1 ports and an Ethernet port</p>	<p>Power over Ethernet (PoE) device for data services</p>

Deployment Scenario for Ethernet Services



Deployment Scenario for E1/T1 Services



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Specifications

Radio

Radio interface options:
Modulation types

OFDM with BPSK, QPSK, QAM16,
QAM64

Supported channel widths
40 MHz, 20 MHz, 10 MHz, 5 MHz

Maximal net throughput
up to 300 Mbps (2x20 MHz channels,
non-compressible data)

Output power
Up to 27 dBm, high power modification
Up to 18 dBm, regular-power
modification 1W EIRP, European version

Operating frequencies
4.9 - 5.9 GHz

Typical link distance
60+ km with external high-gain
antennas and high-power models, LOS
30+ km with integrated flat panel
antennas and high-power models, LOS

Radio interface connection
2xN-type female or internally connected
antenna

Radio interface features

Multiple antenna system
Superpacketting (voice/RTP
recognition)
Channel time adjustment
DFS and radar detection (where
applicable)

Antenna parameters
Integrated flat panel antenna (4.920-
5.920GHz only) 23 dBi gain
Dual linear polarization
Radiation pattern width: 9 degrees
vertical, 9 degrees horizontal F/B
ratio: 30 dB (min)

Data Communications

MAC layer features
ARP filter/proxy MAC/IP filtering
Full-fledged 2nd layer switch
Intelligent Layer 2 switch

- 802.1q VLAN support, transparent or
frame tagging and re-tagging
- Multiple trunk groups
- Automatic storm/flood/bridge loop
protection
- Pseudo-radio interface
- (backhauls connected via wired
interfaces can be kept in the same
management domain)

Wired interfaces

Wired network connection: 1x or 2x
Ethernet 10/100BaseT (RJ-45)
Wired network interface: IEEE 802.3
CSMA CD,
Ethernet Blue Book Serial interface: RS-
232 system console port

E1/T1 interfaces (optional)

Framing: framed/unframed (transparent)
Number of E1 ports: 2, 3, 4 Standard
compliance ITU-T G.703, G.704, G.823
Line code E1: HDB3 @2.048 Mbps
Line code T1: B8ZS @1.544 Mbps

Latency: 8 msec (typical)
Connector: RJ-45

Jitter/wander compliance: G.823,
G.824 Accurate TDM clock recovery
Loopback, internal, external and
adaptive timing
Separate CAS data channel DM data
is strictly prioritized over Ethernet
traffic

Configuration and Management

Networking features
RIPv2/OSPFv2/static routing
Tunneling (Ethernet over IP capable)
IP-Firewall
NAT (multipool, H.323-aware)
DHCP client /server/relay
QoS enforcer supports frame/packet
classification and traffic limiting based
on:
IP ToS/DSCP/802.1p tags
VLAN/IP/MAC address and protocol/

port combinations RTP voice and TDM
payload

Security features

Mutual key-based authentication
Storm/flood protection
Password protection
Protocol messages encryption
Over-the-air payload encryption
(optional)

Management features

SNMPv1/SNMPv3 support MIB II,
private MIB
Configurable SNMP Traps
16 QoS priorities mapping (without
third-party routers)
Telnet Windows-based GUI
configuration and monitoring tool
Remote Shell

Electrical Characteristics

Power

Up to 20 watts
Up to 40 watts
Consumption: 110-240 VAC @ 50/60 Hz

Physical and Environmental

Dimensions	ODU (external antenna) 240x240x51 mm	ODU (integrated antenna) 305x305x85 mm	SU 50x46x23 mm
Weight	2.1 kg	3.7 kg	0.14 kg

Outdoor units: -40°C-60°C, 100% humidity, condensing (exceeds IP65 rating)
Indoor unit: 0°C-40°C, 95% humidity, non-condensing

Standards Compliance

Radio

FCC pending part 15.247,
ETSI: EN 301 753,
EN 301 893 (1.4.1) (1.5.1),

EMC

FCC pending part 15 class B,
ETSI: EN 301 489-1

Safety

UL 60950-1, EN 60950-1

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 ability to deploy end-to-end turnkey WiMAX projects, Alvarion is shaping the new wireless broadband experience.