



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

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

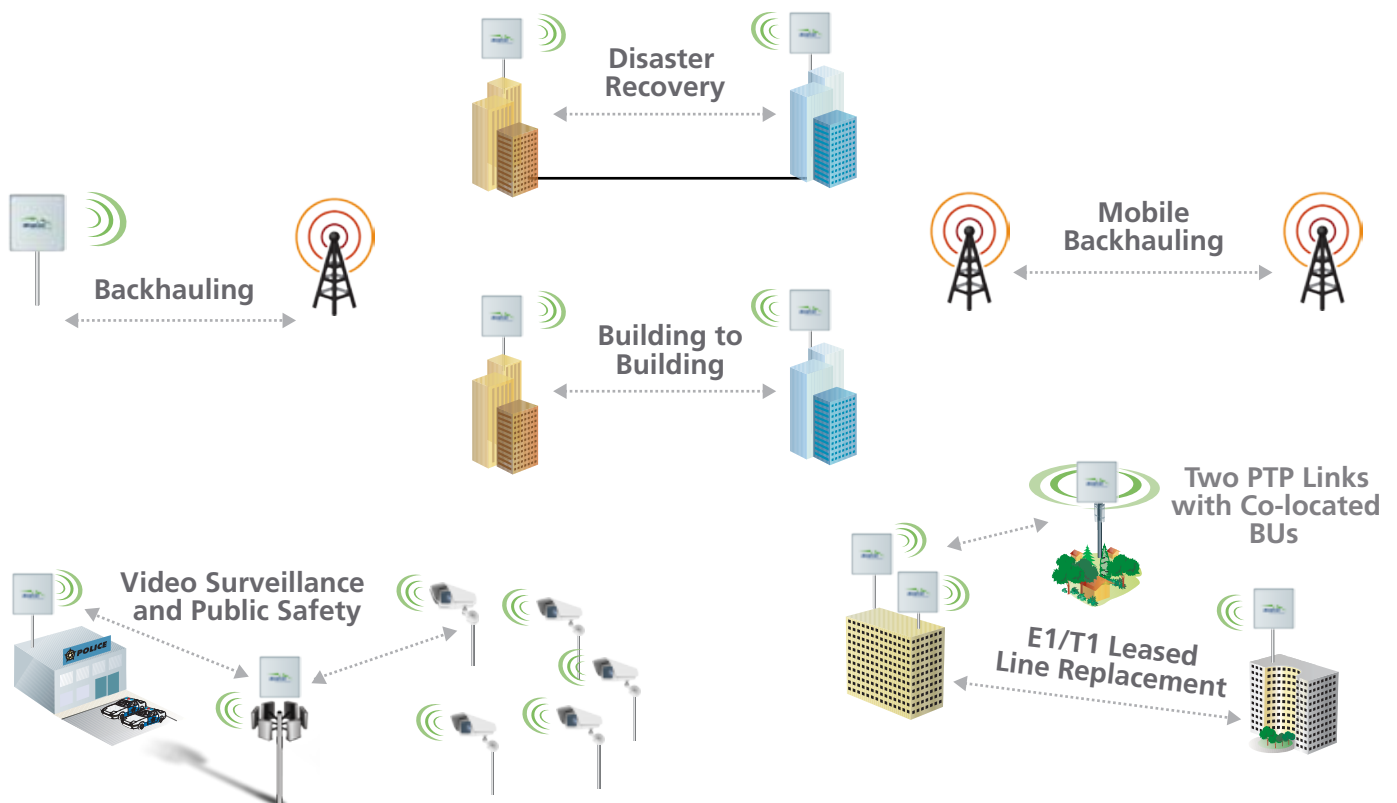
Available in a range of frequency bands from 4.9 - 5.9 GHz, BreezeNET B300 features several region-specific output power versions and can be configured to support these frequencies from a single platform. A versatile solution, BreezeNET B300 utilizes DFS (Dynamic Frequency Selection) to select license-exempt 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.

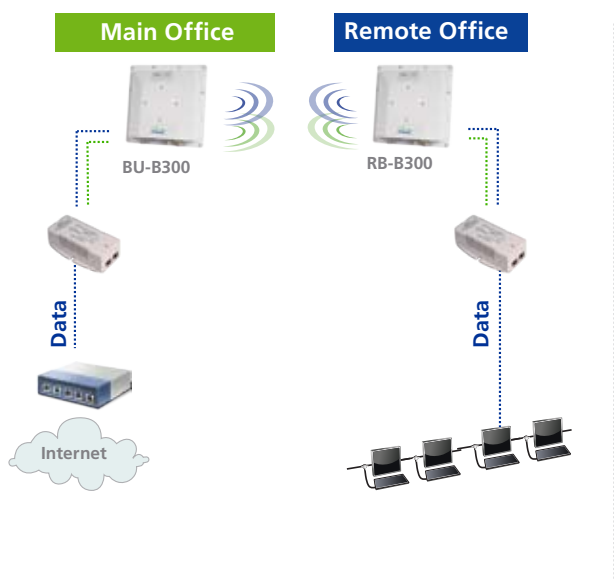
### Modular and Scalable Architecture

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.

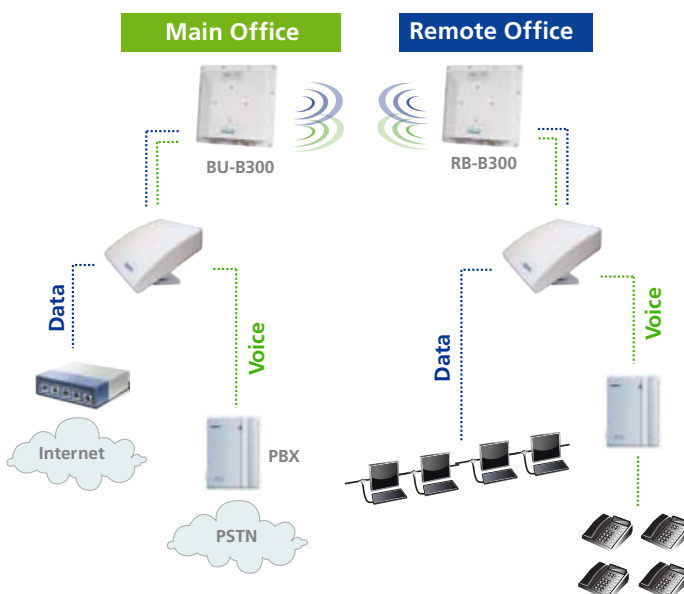
### BreezeNET B300 System Components

 <p><b>ODU</b></p>	 <p><b>ODU with Integrated Antenna</b></p>	 <p><b>IDU</b></p>	 <p><b>PoE</b></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 250 Mbps (2x20 MHz channels,  
non-compressible data)

**Output power**  
Up to 18 dBm

**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 2<sup>nd</sup> 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
- Backhaul 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

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

### 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

### Electrical Characteristics

**Power**

Up to 20 watts

Consumption: 110-240 VAC @ 50/60 Hz

### 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.