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Specifications

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900 MHz Radio

Frequency	902- 928 MHz ISM band	
Operation Mode	Time Division Duplex (TDD)	
Radio Access Method	FH-CDMA	
Standard Compliance	FCC Part 15.247	
Channel Bandwidth	2 MHz	
Central Frequency Resolution	1 MHz	
SU Antenna	10 dBi, 65° x 65° VPOL/HPOL	
AU Antenna	13 dBi, 90° x 16°, Sector - Dual polarity	
	10 dBi, 65° x 65°, Flat Panel (H/V)	
	9 dBi Omni, 360° x 10°, VPOL	
Maximum Input Power (at antenna port)	-20 dBm	
Output Power (at antenna port)	23 dBm typical	
Gross Bit Rate	1, 2, 3 Mbps	
Sensitivity, typical (dBm at antenna port, BER 10E-6)	Gross Rate	Sensitivity
	1 Mbps	-90 dBm
	2 Mbps	-84 dBm
	3 Mbps	-77 dBm
Modulation	GFSK modulation, 2, 4, 8 level (1, 2, 3 bits/symbol)	
Symbol Rate	1 Msymbol/sec	

Data Communication

Standard compliance	IEEE 802.3 CSMA/CD
VLAN Support	Based on IEEE 802.1Q
Traffic Prioritization	Based on IEEE 802.1p, IP ToS according to RFC791

Configuration and Management

Management	Via Telnet, SNMP, TFTP
SNMP Agents	SNMP ver 1, MIB II, Bridge & Private MIBs
Security	RC4 WEP option (encryption of the authentication process)
	VLAN according to IEEE 802.1Q
	IP address filtering for management
Authentication and Accounting	RADIUS client in the SU according to RFC 2865 and 2866
Allocation of IP parameters	Configurable or automatic (DHCP client)

Standards Compliance, General

EMC	FCC Parts 15.203,15.204,15.207,15.209	
Safety	IEC 60 950 US/C (TUV), FCC 1.1307	
Environmental	Operation	ETS 300 019 part 2-3 class 3.2E for indoor units
		ETS 300 019 part 2-4 class 4.1E for outdoor units
	Storage	ETS 300 019-2-1 class 1.2E
	Transportation	ETS 300 019-2-2 class 2.3
Lightning protection (CX antenna connections)	EN 61000-4-5, Class 3 (2kV)	
Radio	FCC part 15.247, 15.203	

Subscriber Unit Environmental

Operating temperature	0°C to 40°C (32°F to 104° F)
Operating humidity	5%-95% non condensing

Subscriber Unit Mechanical

Metal box, desktop or wall mountable	Dimensions (cm)	Weight (kg)
	15 x 8.7 x 3.7	0.35

Subscriber Unit Electrical

External power supply; AC	100-240 Vr.m.s.,47-63 Hz
DC power output	5.1V, 2A max.

Cell Extender Specifications

Refer to the 2.4 GHz BreezeACCESS II for radio specifications on the 2.4 GHz side.
900 MHz specification are as above.

IF Interface (2.4 GHz ODU only)

IF Frequency	440 MHz
IF Cable Impedance	50 ohm
Maximum IF Cable Attenuation	15dB
Maximum IF Cable DC Resistance	1.5 ohm

Environmental

Operating temperature	Interface Unit	-10°C to 55°C (-14°F to 131°F)
	Outdoor unit	-40°C to 55°C (-40°F to 131°F)
Operating humidity	Outdoor unit	100% RH Condensing

Mechanical

	Dimensions (cm)	Weight (kg/Lbs)	
Interface Unit	Metal box, wall mountable	28 x 23 x 11	5.9 / 13
Outdoor unit	Metal box, 2"-3" pole mountable	30.6 x 30.6 x 7. 2	2.5 / 5.5

Electrical

110-240 VAC, 50-60Hz, 1.4A max

Features and specifications are subject to change without further notice.

BreezeACCESS™ 900

Broadband Access for Foliage-Dense Areas

Designed specifically to connect customer locations blocked by trees, the BreezeACCESS 900 is an important network complement for broadband wireless carriers who want to grow their customer base and improve their service reputation.

Every day, foliage obstructions force wireless broadband carriers to incur unnecessary costs and, ultimately, turn away customers who want service. Since the inability to provide service is usually discovered after a technician arrives at the user's location, foliage blocked areas can damage an operator's reputation.

In addition, given that the majority of potential customers in a market are typically located in foliage-dense areas, the BreezeACCESS 900 immediately increases the percentage of servable customers, resulting in the ability to tap a significant new source of revenue.

Even better, the BreezeACCESS 900 allows existing Alvarion operators to serve these customers with no modification of their base station sites at all. Deployed as a Cell Extender (CX), the BreezeACCESS 900 requires minimal capital investment while fully leveraging existing BreezeACCESS deployments in both the 2.4 and 5 GHz bands. Operating in the unlicensed 902-928 MHz bands and supporting data rates up to 3 Mbps, the BreezeACCESS 900 incorporates the rich features and field proven reliability of Alvarion's other BreezeACCESS solutions while including additional features that meet the unique needs of 900MHz operation.

Designed with field-proven features, it uses Hybrid Digital Modulation to achieve superior range, reliability, and flexibility while enabling carriers to customize frequency operation away from sources of interference. It also features variable antenna polarity, as well as a comprehensive built-in spectrum analyzer utility for site surveys, network planning, system configuration, and troubleshooting.

Part of Alvarion's Complete Spectrum™ solution, the BreezeACCESS 900 integrates seamlessly with existing BreezeACCESS deployments and leverages the capacity of BreezeACCESS 2.4 and 5 GHz networks. As a result, operators can significantly increase their revenues by growing their networks and subscriber base with little additional investment.

Product Highlights

To ensure fast, consistent, and reliable data and voice services, the BreezeACCESS 900 delivers a comprehensive range of product features including:

- CX architecture to leverage operational BreezeACCESS networks
- Range of 2-3 miles in NLOS and 1/2 mile through very heavy foliage
- Customizable frequency agility and time diversity for unmatched interference immunity
- Excellent sensitivity for longer links and better foliage penetration
- Spectrum analyzer utility and full LED diagnostics for easy antenna alignment and association count
- Ethernet port for local subscriber acquisition
- Remote telnet, SNMP, or local serial port management
- Integrated 16 dBI antenna on backhaul radio for faster deployment
- External antennas on Access Units for flexible deployment of coverage

BreezeACCESS 900 System Components

Requirements: The BreezeACCESS 900 works in conjunction with other BreezeACCESS products. The 2.4 GHz to 900 MHz Cell Extender unit (CX-2.4-900) requires 120V AC power, and includes an interface unit, a 2.4 GHz ODU with integrated 16dBi antenna, a 30m IF cable, a 15m LMR-400 RF cable, a dual monitor cable, an outdoor Ethernet connector kit, a sun shield, and manuals on CD-ROM. The 900 MHz subscriber unit (SU-I-A10-900) includes a 900 MHz radio with a 10 dBi flat panel antenna, 10 and 20 foot LMR-240 cables, and a grounding bracket.

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