

Airvenue BA300 Converged Multi -Service Wireless Node

The BA300 Converged Multi-service Wireless Node is the first and only solution able to support GSM Cellular, Wi-Fi, WiMAX, and backhaul services in a compact, integrated package, and the only solution optimized to deliver carrier-grade voice services. By incorporating up to two 1800 or 1900 MHz IP-based GSM EDGE-enabled picocells within its industry-leading wireless mesh solution, Airvenue has again taken a leadership position and delivered the most compact, flexible and cost effective solution for wireless carriers.

The BA300 is a six-radio modular platform encased in a small, environmentally hardened outdoor package, and available in multiple configurations. It can be used to build cellular and wireless mesh networks throughout cities and across campuses. Deploy it as a standalone device, or through multiple point-to-point, point-to-multipoint, or multipoint-to-multipoint connectivity, as part of a larger mesh comprised of other BelAir300 nodes, or any combination of BelAir200, BelAir100, and BelAir50, all seamlessly managed by BelAir BelView Network Management System (NMS).

Modular architecture

The BelAir300 modular architecture provides six radio slots that can support any combination of Access Radio Modules (ARMs), Backhaul Radio Modules (BRMs), WiMAX Radio Modules (WRMs) and GSM Radio Modules in the same wireless mesh node. The ARMs, BRMs and WRMs support a broad range of Wi-Fi (IEEE 802.11a/b/g), WiMAX (IEEE 802.16d), 4.9 Public Safety and Cellular (via a T1/E1 Circuit Emulation Module) applications.

Layer 2/3 networking capabilities

The BelAir300 has an integrated Layer 2/3 Switch Router engine that provides extensive QoS, VLAN, Network Security and Traffic Management capabilities that are necessary for transporting mission critical, time-sensitive applications like voice and video.

Network Management

The BelAir300 can be managed via a Command Line Interface (CLI), WEB GUI or with View NMS. Both CLI and WEB GUI provide device-level support, and View NMS provides complete network-wide support for Fault, Configuration and Performance Management. View NMS works on either Windows XP or SUN Solaris platforms and can also be integrated into other management systems like HP OpenView or IBM NetView.

Airvenue Networks is the leading provider of mobile broadband mesh networking solutions. Cities around the world rely on Airvenue to deliver industry-leading broadband performance and scalability, and carrier-class capacity and reliability. Airvenue Networks teams with world class global partners to deploy proven, cost-effective wireless broadband mesh networks.



Features

- Industry's first converged GSM picocell / wireless mesh solution
- Modular architecture supporting up to six radios
- Supports Cellular, Wi-Fi, and WiMAX
- Highest performance available today
- Flexible coverage applications
- Network Management via CLI, WEB or View NMS

Radio module options

- GSM Radio Module (Model 1800 & 1900)
- ARM3 – Access Radio Module; supports IEEE 802.11 a/b/g & 4.9 GHz Public Safety bands
- BRM3 – Backhaul Radio Module; supports IEEE 802.11a & 4.9 GHz Public Safety bands
- WRM – WiMAX Radio Module; supports IEEE 802.16d

Frequency Bands

- Licensed: 2.3 GHz, 2.5 GHz and 4.9 GHz
- Unlicensed: 2.4 GHz and 5.25-5.825 GHz

GSM Specifications

- GSM Radio Transmit frequencies
 - GSM 1800 model: 1805 to 1880 MHz
 - GSM 1900 model: 1930 to 1990 MHz
 - Channel spacing: 200 kHz
 - Max. output power: GMSK (CS 1-4/MCS 1-4): +23 dBm 8PSK (MCS 5-9): +13 dBm
 - Static power control: 6 steps (2 dB each)
 - Dynamic power control: 6 steps (2 dB each)
- GSM Radio Receive frequencies
 - GSM 1800 model: 1710 to 1785 MHz
 - GSM 1900 model: 1850 to 1910 MHz
 - Channel spacing: 200 kHz
 - Performance: GSM 05:05
 - Gain control steps: 26
- GSM Antenna Options
 - Separate antennas for TX, RX
 - 0 dBi omni-directional (nominal)
 - External antenna connections (optional)

GSM Data

- Encryption support
 - A5/1
 - A5/2
- Circuit switched data
 - Single slot BS20 at up to 14.4 kb/s
 - BS21-26, plus BS61, BS81
- GPRS support
 - Coding schemes CS1-4
 - Multi-slot class 10
 - Dynamic PDCH for optimizing mix of service for voice/data
- E-GPRS support
 - Modulations coding schemes MCS1 -9
 - Link adaptation
 - Incremental redundancy

Networking

- 1-port 10/100BASE-TX (Cat.5 RJ-45) Ethernet Interface
- 1-port 100BASE-FX (SMF) Ethernet Interface
- 4 x T1 (CEM) Interface
- IEEE 802.1D MAC Bridging
- IEEE 802.1Q VLANs
- IEEE 802.1w (RSTP) and IEEE 802.1s (MSTP)
- IEEE 802.1p prioritization with 4 queues
- Ingress/Egress Rate Limiting
- IP TOS Re-write
- IP Filtering
- Flow Accounting
- 15 SSIDs per access radio. MBSSID support for 8 virtual APs per access radio
- Support for SNMP, ICMP, HTTP, ARP, TCP, UDP, Telnet, TFTP and IP traffic

Management

- Secure local and remote access
- Command line, HTTP and HTTPS Web GUI, SNMPv1/v2/v3 and SSHv2 management interfaces
- MIBs: MIB-II, SNMPv2/v3, 802.11, Ethernet-like, Interface Group, IP Forwarding Table, OSPFv2
- Multiple user privilege levels with RADIUS authentication
- Firmware upgrade through TFTP with support for automatic rollback
- RADIUS accounting

Security

- Authentication: 802.1x (RADIUS) and EAP methods
- Encryption: WEP 64 and 128 bit, TKIP / MIC per 802.1x, 802.11i AES
- MAC address access control lists
- Rogue AP detection

Approvals

- Radio: FCC part 15 and part 27, EN 300 328, EN 300 440, EN 301 893
- EMC: FCC 47 CFR part 15, subpart B Class B and EN 301 489-1/-17 Class B
- Safety: ANSI/UL std no. 60950-1, CSA-C22.2 std no. 60950-1, CB-60950-1
- Laser safety: Class 1 laser product complies with 21CFR 1040 and IEC60825
- Outdoor use: IP56/NEMA4/NEMA4X for wet and dusty conditions
- CE mark

Physical and electrical

- Size: 11.5 in. (29.2 cm) width by 14.25 in. (36.2 cm) length by 16 in. (40.6 cm) high
- Weight: 42 lbs (19 kg)
- Typical power consumption: 88 Watts
- Power supply: 100 to 240 V ac, 47 to 63 Hz
- Available wall or pole mounting kits with theft deterrent anti-tamper screws
- Power, Radio and Ethernet lamps

Protection circuits

- IEC 60000-4-5 level 4 surge
- GR1089 - 6 kV (3000 A) surge

Environmental

- Operating temperature: -40°C to +50°C
- Storage temperature: -40°C to +80°C
- Operating humidity: 5 to 95% non-condensing
- Shock and vibration: ETSI300-019-1-4