

BelAir I00SP Strand Picocell

BelAir Networks is focused on enabling Mobile Carriers to deliver a better user experience and providing Cable Operators with ways to leverage their existing infrastructure to deliver mobile broadband services. The BelAir I00SP Strand Picocell brings Mobile Carriers and Cable Operators together to benefit both.

The BelAir I00SP Strand Picocell is a compact wireless base station for small cell deployments that leverages available broadband infrastructure to deliver mobile broadband internet via both licensed and unlicensed wireless spectrum. The BelAir I00SP delivers the capacity that Mobile Carriers need to address the exponential growth in data traffic while reducing both the cost and time associated with deploying wireless base stations.

Multi-radio architecture

The BelAir I00SP is a multi-radio compact base station supporting a combination of licensed cellular technologies along with 802.11n Wi-Fi in one rugged, carrier-grade product. It can be mounted on aerial plant or in pedestals, cabinets or underground vaults. For power and backhaul, it supports DOCSIS® 3.0 and Euro- DOCSIS 3.0 interfaces and is plant-powered at 40 to 90 V AC. The BelAir I00SP allow Cable Operators to extend licensed wireless and unlicensed Wi-Fi services from any available cable plant.

Driven by the same BelAirOS operating system as the rest of the BelAir Networks portfolio, the BelAir I00SP delivers state-of-the-art edge policy enforcement with centralized authentication, touchless automatic configuration, hugely scalable monitoring and diagnostics, end-to-end quality of service (both over the air and on the network) and network-wide mobility.

The BelAir I00SP is seamlessly managed by BelView NMS network management system and fully interworks with the existing infrastructure. The rugged BelAir I00SP features an outdoor enclosure, two Wi-Fi access antennas and two



Features

- Picocellular architecture maximizes capacity to improve user experience and address growth in data traffic
- Strand-mounted on aerial, pedestal, cabinet or underground cable plant
- Supports DOCSIS 3.0, Euro-DOCSIS 3.0
- Seamless mobility for uninterrupted service
- Network management via CLI, WEB or SNMP using BelView NMS
- 10/100/1000 BASE-TX Ethernet interfaces
- Combines licensed and unlicensed bands:
 - EV-DO Rev 0/Rev A/RevB
 - HSPA/HSPA+
 - UMTS
 - GSM/EDGE
 - Evolution to LTE
 - 802.16e WiMAX
 - 802.11n Wi-Fi

Radio Specifications

Cellular radio specifications:

- Supports the DCS 1.8 GHz, PCS 1.9 GHz, AWS 1.7/1.9/2.1 GHz, 802.16e 2.6GHz (Other frequencies under consideration)
- Power Output in the range of 20 to 30dBm (depending on the cellular type and range required)

Wi-Fi radio specifications:

- 2.4 GHz Radio Module
 - 2400 – 2483.5 MHz up to 25dBm conducted per chain
 - Receive Sensitivity up to -97dBm per chain
- 4.9 - 5.9 GHz Radio Module
 - Up to 20 dBm conducted per chain
 - Receive Sensitivity up to -91dBm per chain

cellular antennas. A high performance network processing core complete with an embedded software environment is standard.

Layer 2 networking capabilities

The BelAir I00SP has an integrated Layer 2 Switch 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 BelAir I00SP can be managed via a Command Line Interface (CLI), Web GUI or with BelViewNMS. Both the CLI and WEB GUI provide for device level support, and BelViewNMS provides complete network-wide support for Fault, Configuration and Performance Management. BelView NMS works on either Windows, Linux or SUN Solaris platforms and can also be integrated into other management systems.

Networking

- 1-port 10/100/1000 BASE-TX (Cat. 5 RJ-45)
- DOCSIS 3.0 4x4 bonded US/DS channels
- IEEE 802.1D MAC bridging
- IEEE 802.1Q VLANs
- Layer 2 (802.1p) and layer 3 (DSCP) QoS
- L2TP, L2VPN with redundant tunnels
- 8 BSSIDs per Wi-Fi radio. MSSID support for 8 virtual APs per Wi-Fi radio
- Support for SNMP, ICMP, HTTP, ARP, TCP, UDP, Telnet

Management

- Secure local and remote access
- Command line, HTTP and HTTPS Web GUI, SNMPv1/v2/v3 and SSHv2 management interfaces
- MIBs: MIB-II, SNMPv2, 802.11, Ethernet-like, Interface Group
- Firmware upgrade through TFTP with dual banks and support for automatic rollback

Policy Enforcement

- Multiple user privilege levels with RADIUS authentication
- RADIUS accounting

Security

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

Approvals

- Radio: FCC part 15.247C, part 15.407, part 90 (PSB), part 90 (ITS), part 90 subparts Y and M, EN 300-328, EN 301-893, IR2005/IR2006/IR2007, Industry Canada RSS 210 Issue 7, RSS 211 Issue 2
- EMC: FCC 47 CFR part 15, subpart B Class B, FCC 47 CFR Part 76.614, 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
- RF safety: FCC OET Bulletin 65, Health Canada Safety code 6
- Outdoor use: IP66/NEMA4X for wet and dusty conditions
- Wi-Fi Alliance certification: 802.11n, WPA, WPA2, WMM, WMM-PS

Physical and Electrical

- Size: 18"(L) x 11.5"(W) x 11"(H)
- Weight: 32lbs
- Typical power consumption: < 50W
- Power supply: 40 to 87 V ac quasi-square wave, 47 to 63 Hz, through KS threaded interface
- Product shipped with F-adapter
- Power, radio and Ethernet LEDs

Protection circuits

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

Environmental

- Operating temperature: -40°C to +60°C
- Storage temperature: -40°C to +80°C
- Operating humidity: 5 to 95% non-condensing
- Shock and vibration: ETSI300-019-1-4



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