As far As Wi-Fi can go

WBS-5800 Base Station

Wavion WBS-5800 base station is an advanced wireless broadband base station operating in the 5.8 GHz unlicensed band.

Based on an array of 6 antennas and 6 radios, the WBS-5800 leverages Wavion's beamforming technology to provide extended range and superior connectivity in both Line-of-Sight (LOS) and Non-Line-of-Sight (NLOS) conditions.

These unmatched characteristics enable service providers, municipalities, and enterprises to deliver high quality and high capacity broadband wireless service with significantly fewer base stations at a much lower cost.

Beamforming technology

The WBS-5800 base station is based on the 802.11a standard, which enables network operators to use it with any off-the-shelf 802.11a based client and thus tailor their solution to the specific needs of each individual user.

Based on Wavion's unique and powerful spatially adaptive beamforming technology, the WBS-5800 provides significant performancegains in terms of range, throughput and interference mitigation.

This enables service providers to offer highly cost effective broadband wireless service without compromising quality.

Wavion Base Station 5800

WAVION
WIRELESS NETWORKS

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WBS-5800 Base Station

Benefits

- **Uniform coverage**
  Wavion beamforming technology provides high quality NLOS coverage, thus enlarging the addressable market per base station.

- **Increased throughput**
  The superior link gain provides higher throughput and enables larger network capacity.

- **Superior interference mitigation**
  The inherent spatial filtering of the beamforming technology and the unique dynamic interference handling capabilities ensure good operation even in noisy environments.

- **Standards based platform**
  Enables service providers to select standard off-the-shelf, cost-effective network components including CPEs, billing and provisioning systems.

- **Cost effective**
  The increased addressable market per base station, coupled with the low cost CPEs, enabled by Wavion's standard based solution, yield the lowest cost per line.

- **Carrier grade**
  Robust and weatherproof IP-67 platform, designed to withstand extreme weather conditions.

Technology

Wavion beamforming technology focuses the energy to and from the client on a per-packet basis.

This focusing process increases significantly the link gain and the interference resiliency of the base station.

Moreover, while conventional technology suffers from the destructive effect of multipath propagation, Wavion's digital beamforming technology exploits multipath to its advantage by coherently combining the signals along the different propagation paths to and from the client.

Applications

The WBS-5800 base station has been optimized for a wide range of applications including:

- Business and residential connectivity
- Municipalities and Metro coverage
- Public safety (video over wireless)
- Backhaul solution for PtP and PtMP applications

Typical application

Wavion's WBS-5800 is ideal for urban and suburban installations.

When properly positioned, the WBS-5800 can provide coverage in a radius of up to 15Km and deliver high quality broadband wireless service for business and residential customers.

WBS-5800 - Typical Application

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Specifications WBS-5800

Security
WEP (64 bit or 128 bit)

WPA, WPA2:
- Encryption: TKIP, AES
- Authentication: Pre-Shared Key or 802.1x with RADIUS Server (EAP-TLS, PEAP, EAP-TTLS)
- VPN pass-through

Management
- Web-based configuration and management tool
- SNMPv2 with standard and Wavion MIB support
- Configuration save and restore
- Network and clients statistics
- HTTPS for Web-based management tools

Networking and QoS
- Multiple SSIDs / BSSIDs
- 802.1q VLAN support
- 802.1p, ToS or DSCP QoS support
- WMM support

Physical specifications
Network Interface:
- 1 Auto-sensing 10/100 Ethernet

Indicators:
- One Ethernet port LINK\ACT LED indicator
- System Status LED indicator
- RF channel status indicator

Power input:
- PoE: 55VDC, 43 W (only with Wavion PoE injector)
- AC option: 110 – 220VAC, 43W

Environmental
- Operating temperature range: -40°C to +55°C (up to +60°C with optional sunshield)
- Storage temperature range: -45°C to +85°C
- Weather rating: IP67
- Wind survivability: 165 mph
- Shock & Vibration: ESTI 300-192-4 spec T41.E
- Transportation: ISTA2A

Approvals
- RF: FCC 47 CFR part 15, Class C
- Safety: TUVus, UL 60950-1:2003, CAN/CSA-C22.2 No. 60950-1-03
- EMC: 47 CFR Part 15, Sub Part B, Class B (USA)

Physical Dimensions (without mounting brackets):
- Height: 5.5 cm
- Length: 39 cm
- Width: 36 cm
- Weight: 4.2 Kg

Wireless
- IEEE 802.11a compliant
- Frequency band: 5.725–5.850 GHz

Modulation:
- 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK)

TX Power Maximum (802.11b/g):
- Max. power per antenna: 20 dbm (FCC version)
- Total EIRP: 36 dBm (from 6 antennas)

Antenna Array:
- Six 8.5 dBi omni-directional antennas

RX Sensitivity (typical):

Rate (802.11g)(Mbps)	Sensitivity (dBm)
6	-102.5
9	-100.5
12	-99.5
18	-98
24	-95
36	-92
48	-88
54	-86