



WBS-5800 Base Station

Wavion WBS-5800 base station is a member of Wavion's advanced wireless broadband base station portfolio operating in the 5.8 GHz unlicensed band.

Based on an array of six antennas and six radios, the WBS-5800 leverages Wavion's Beamforming technology to provide extended range and superior connectivity under 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 complies with the 802.11a standard, and enables network operators to use any off-the-shelf 802.11a/n based client and therefore tailor their solution to the specific needs of each individual end user.

Based on Wavion's unique and powerful spatially adaptive Beamforming technology, the WBS-5800 provides significant performance gains in terms of range, throughput and interference mitigation. This enables service providers to offer a highly cost effective broadband wireless service without compromising quality.



Wavion Base Station 5800

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Benefits

- **Uniform coverage**
Wavion's 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 therefore a larger network capacity.
- **Superior interference mitigation**
The inherent directivity of the Beamforming technology coupled with the unique dynamic interference handling capabilities ensure high-quality 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 base station extended coverage and increased throughput, coupled with the ability to use standard off-the-shelf Wi-Fi CPEs, provide 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 significantly increases 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 fullest 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 and market segments including:

- Business and residential access
- Municipal networks and Metro coverage
- Public safety (video surveillance)
- Education campuses
- Rural communities
- Healthcare facilities
- PTMP backhaul

Typical application

Wavion's WBS-5800 is ideal for urban and suburban installations. When properly positioned, the WBS-5800 can provide coverage for a radius of up to 15Km and deliver high quality broadband wireless service to multiple CPEs under LOS or NLOS conditions.

Using the WBS-5800 with outdoor CPEs enables high quality broadband wireless service for business and residential customers. The same network can be used for supporting multiple video surveillance cameras.

WBS-5800 rich management and security capabilities, such as seamless RADIUS authentication and accounting, makes WBS-5800 suitable for metro zone network applications such as outdoor wireless access and cellular data offloading through Wi-Fi.

The WBS-5800 can also be used to provide backhaul to a 2.4 GHz base station.



WBS-5800 - Typical Application

Specifications WBS-5800

Security

- Open, 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, EAP-SIM, EAP-AKA)
- MAC Authentication with RADIUS server for open sessions
- Time and throughput RADIUS Accounting
- 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)

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 and 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 (802.11a)

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