



WBS-5000P Base Station

Wavion WBS-5000P base station is an advanced omni-directional wireless broadband base station operating in the 4.9–5.9 GHz unlicensed band.

Based on an array of three antennas and three radios, the WBS-5000P leverages Wavion's unique 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, governments and enterprise customers to deliver high quality and high capacity broadband wireless service, with significantly fewer base stations, and at a much lower cost.

Beamforming technology

The WBS-5000P base station complies with the 802.11a standard, and enables network operators to serve any off-the-shelf 802.11a/n clients.

Based on Wavion's unique and powerful spatially adaptive Beamforming technology, the WBS-5000P provides significant performance gain in range, throughput and interference mitigation. This enables service providers to offer a highly cost effective broadband wireless service without compromising quality.



Wavion Base Station 5000P

WBS-5000P Base Station

Benefits

• Extended coverage

Wavion's Beamforming technology provides high quality coverage, in LOS and NLOS, thus enlarging the coverage area of the base station.

• Increased throughput

The superior link gain enables 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. Furthermore, the wide spectrum coverage and the choice of channel bandwidth (10/20 MHz) enable further interference mitigation by proper channel selection.

• Cost effective

The base station extended coverage and increased throughput, coupled with the ability to use standard off-the-shelf Wi-Fi CPEs, result in an attractive low price per line and rapid ROI.

• Carrier grade

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

Technology

Wavion's 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 spatially adaptive 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-5000P base station has been optimized for a wide range of applications and market segments including:

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

Typical application

Wavion's WBS-5000P is ideal for urban and suburban deployments.

When the entire 4.9-5.9 GHz band is opened, 200 channels are available.

The WBS-5000P can cover a radius of up to 10Km and deliver high quality broadband wireless services for business and residential customers. It can be also be used for other applications such as remote video surveillance and backhaul to 2.4 GHz base stations.



WBS-5000P - Typical Application

Specifications for WBS-5000P

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
- RADIUS time and throughput 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 & vibration: ESTI 300-192-4 spec T41.E
- Transportation: ISTA2A

Approvals

- Safety: TUVus, UL 60950-1:2003, CAN/CSA-C22.2 No. 60950-1-03
- EMC: EN 301 489-03 V1.4.1

Physical Dimensions (without mounting brackets)

- Height: 5.5 cm (without antennas)
- Length: 39 cm
- Width: 36 cm
- Weight: 4.2 Kg

Wireless

- IEEE 802.11a compliance
- Multiple Bandwidth: 10/20MHz
- Frequency bands: 4.900-5.900 GHz (factory default)

Can be configured to be limited to 5.470-5.725 GHz

Modulation

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

TX Power Maximum (802.11a)

Universal Mode (4.9-5.9 GHz):

- Max. power per antenna: 22 dbm
- Total EIRP: 40 dBm (from 3 antennas)

Can be configured to lower power to meet ETSI 30 dBm power regulation

Antenna Array

- Three 8.5 dBi omni-directional antennas

RX Sensitivity (typical)

20 MHz	
Rate (Mbps)	Sensitivity (dBm)
6	-99.5
9	-97.5
12	-96.5
18	-95
24	-92
36	-89
48	-85
54	-83
10 MHz	
Rate (Mbps)	Sensitivity (dBm)
3	-102.5
4.5	-100.5
6	-99.5
9	-98
12	-95
18	-92
24	-88
27	-85