

WAViON
WIRELESS NETWORKS



As far as Wi-Fi can go

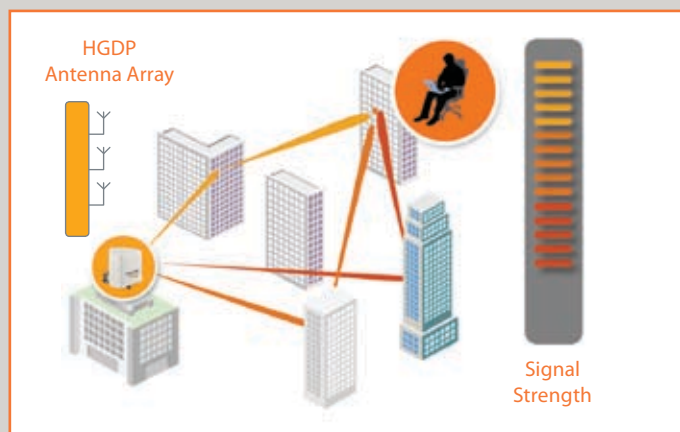
WAVION'S TECHNOLOGY EDGE

Two-way Beamforming with 802.11n

Wavion's technology combines Tx and Rx spatially adaptive Beamforming and 802.11n 3x3:3 MIMO for best coverage and capacity.

The true spatially adaptive Beamforming technology leverages a unique High Gain Diversely Polarized (HGDP) antenna array for maximum performance. The Beamforming significantly increases the link gain and interference immunity. Moreover, it exploits multipath to its advantage by coherently combining signals traveling in different propagation paths, providing superior Line-of sight (LOS) and non-line-of-sight (NLOS) coverage, and indoor penetration.

With up to nine embedded radios, 3x3 MIMO and three spatial data streams, Wavion's base stations set up a new market milestone delivering up to Gigabit per second capacity and 450 Mbps data speeds.



Wavion's Beamforming 802.11n in Urban NLOS

Interference Immunity Suite

Wavion's Interference Immunity Suite combines the Beamforming inherent ability to suppress interference, the Dynamic Interference Handling (DIH) algorithm for continuous receiver's parameters optimization according to the noise level, the Automatic Channel Selection (ACS) algorithm for optimal selection of the best operating channel, the Wavion Rate Adaptation (WARA) for optimal rate selection for any environment, and the Down Tilted Antennas (DTA) and sector antennas capability to reject interference out of their field-of-view. Wavion's Interference Immunity Suite leverages over a decade of outdoor Wi-Fi experience.

Multi-band Access

Simultaneous 2.4 and 5 GHz bands support for access services, addressing the growing usage of 5 GHz in handheld devices and laptops.

Integrated Backhaul

Built-in Integrated backhaul in 2.4 and 5 GHz, with self-forming and self healing. Providing outstanding performance in both LOS and NLOS by leveraging Wavion's Beamforming and 3x3:3 MIMO technologies.



Wavion's self-backhaul in 2.4 and 5 GHz

Carrier Grade

Wavion's base stations are IP-68 outdoor rated and are designed for high reliability, quality of service and security. Wavion base stations come with a complete set of FCAPS management and service provisioning tools.

Technology Benefits

• Extended Coverage and NLOS Operation

Up to three times the coverage as compared to competing products, with homogenous coverage, even in NLOS conditions.

• Enhanced Capacity and Throughputs

More users per node, and with better QoS.

• Superior Indoor Penetration

Superior connectivity to indoor users from outdoor-located base stations.

• Fastest Return On Investment

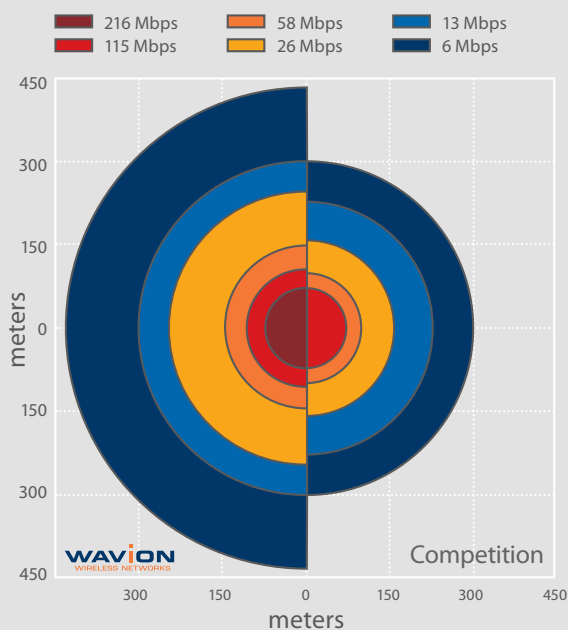
With fewer sites per sq-km, higher network reliability and enhanced quality of service, WBSn provides up to 50% savings in CAPEX and OPEX and the fastest ROI.

WAVION BASE STATIONS

WBSn Base Stations

WBSn is a family of advanced outdoor Wi-Fi base stations suitable for broad range of applications. Operating in the 2.4 and the 5 GHz bands, and leveraging spatially adaptive Beamforming together with 3x3:3 MIMO technology, the WBSn family delivers the best range and capacity in the market. This outstanding performance addresses the rapidly growing needs of operators to deliver new content-rich services, while maintaining quality of service and profitability.

The WBSn base stations are carrier grade IP-68 solutions, with rich set of security, QoS and management tools, and with a built-in Access Controller, thus reducing cost and increasing availability. The WBSn family is environmentally-friendly with low power consumption, ideal for off-grid powering, and with green standards compliance.



Wavion superior coverage over conventional access points

WBSn Models

- **WBSn-2400-O and WBSn-2400-S**
Omni and Sector base stations, operating in the 2.4 GHz band.
- **WBSn-5000-O and WBSn-S**
Omni and Sector base stations, operating in the 5 GHz band.
- **WBSn-2450-O, WBSn-2450-S**
Omni and Sector base stations, operating in 2.4 and 5 GHz bands simultaneously.
- **WBSn-2450-OS, WBSn-2450-SO**
Omni in 2.4 GHz with Sector in 5 GHz, and Sector in 2.4 GHz with Omni in 5GHz.
- **WBSn-2400-E**
Enhanced capacity Omni base station, operating in the 2.4 GHz band.
- **WBSn-2450-E**
Enhanced capacity Omni base station, operating in 2.4 and 5 GHz bands simultaneously.



Extended coverage in 2.4 and 5 GHz

WBSn From Factors

The WBSn family includes ten base stations in four basic form factors, all IP-68, designed for harsh outdoor environments, with easy pole and wall installations

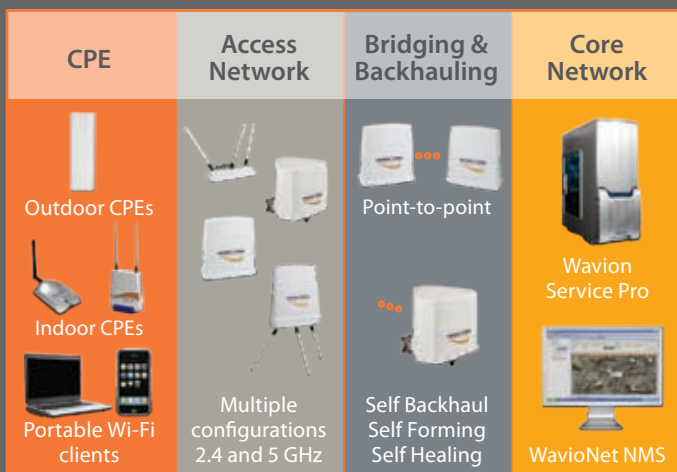
Sector	Omni	Combined Sector-Omni	Enhanced Omni
			
WBSn-2400-S WBSn-5000-S WBSn-2450-S	WBSn-2400-O WBSn-5000-O WBSn-2450-O	WBSn-2450-OS WBSn-2450-SO	WBSn-2400-E WBSn-2450-E

WAVION COMPLETE SOLUTIONS

Single Stop Shop

Wavion offers a complete solution including access, built-in and external backhaul, access control, service provisioning tools, network management, radio planning, and a span of Wavion CPEs, enabling deployments with lowest cost per bit.

Wavion's complete solution ensures that carriers, service providers, governments and enterprises are able to deploy their wireless networks quickly and effectively.



Wavion's Complete Solution

Access Network

Wavion's WBSn base stations operate in the 2.4 and 5 GHz bands and are fully compliant with the 802.11a/b/g/n standard.

Transport and Backhaul

Wavion's solution includes multiple backhauling options, addressing various customers' needs.

- **Integrated Dedicated Backhaul**
Integrated backhaul in 5 GHz while access is in 2.4 GHz.
- **Integrated Shared Backhaul**
Integrated backhaul over the same band used for access, 2.4 or 5 GHz.
- **External Backhaul**
Dedicated Point-to-Point link, WiMAX, VSAT and Cellular.

CPEs and Wi-Fi clients

Wavion's solution includes a span of Wavion's own and Wavion's certified CPEs.

- **Outdoor CPEs**
Best speeds and reach, require professional installation.
- **Indoor CPEs**
Dual-zone "plug and play", leveraging Beamforming, high power, 2x2 MIMO and high gain antennas.

Wavion Coverage Tool (WCT)

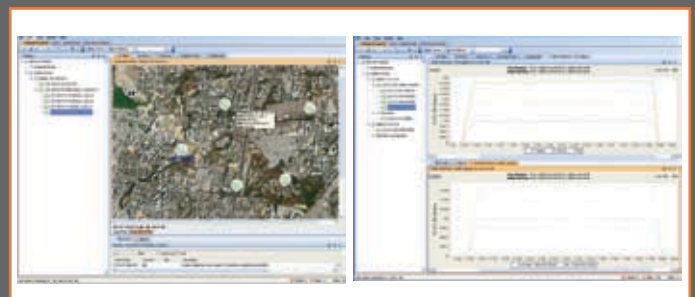
Enables service providers to test and validate the WBSn base stations coverage in real-life conditions.



Wavion WCT Mapping Example

WavioNet - NMS

A comprehensive, carrier-grade tool, enabling operators to effectively control and monitor their Wi-Fi network. It supports various network operation and control activities and allows day-to-day monitoring, as well as planning the network expansion.



WavioNet Network Management

Wavion Service-Pro

A comprehensive OSS/BSS service management solution for broadband wireless providers, based on three components – a RADIUS server, a payments management module, and an access controller. It offers a wide range of capabilities including subscriber management, bandwidth management, billing, service plans and captive portals.

APPLICATIONS

- **Seamless cellular offloading**

Relieving the cellular data congestion with a complementary Wi-Fi network. Servicing smart phones and tablets with seamless roaming and integration with the Carriers' management.

- **Business connectivity**

Providing broadband access with high quality of service to business users.

- **Residential access**

A cost effective solution with self-installed indoor CPEs for broadband wireless service.

- **Digital city**

Providing a broadband wireless network for multiple citywide applications including intranet connectivity to municipal buildings, internet access in public places, automatic meter reading (AMR), traffic control and video surveillance.

- **Video surveillance**

Leveraging high capacity, long reach and interference immunity to provide reliable HD video connectivity from multiple video cameras.

- **Internet to schools and universities**

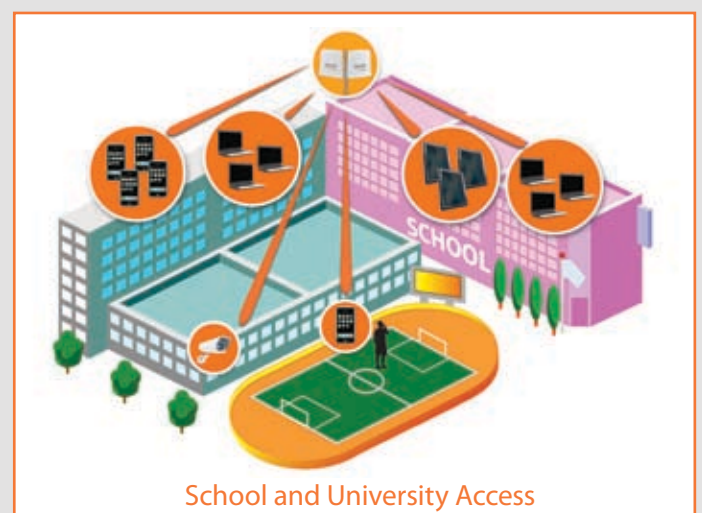
Providing internet access to students and staff, to both fix terminals and handheld devices, thus enhancing online curriculum and greater educational usage of e-literature. Enabling, indoor and outdoor coverage with minimal number of base stations - less radiation and safer.

- **Hotels and resorts**

Providing indoor and outdoor internet access with minimal infrastructure cost.

- **Terminal hubs, malls, large venues**

Providing internet access to visitors, location based information and advertisement, video surveillance and VoIP for staff and Public Safety teams.



ABOUT WAVION

Wavion is a technology leader in outdoor Wi-Fi applications for metro and rural areas with deployments in more than 70 countries. The company's two-way digital Beamforming and powerful Interference Immunity Suite are the first and only technology to resolve the significant performance, penetration and profitability challenges facing large-scale metro and rural deployments. Featuring Wavion Base Stations with 802.11n (WBSn) in 2.4 GHz and 5 GHz unlicensed bands and in 700MHz licensed band, Wavion offers end-to-end solutions including access, backhaul, CPEs, management and service provisioning tools.

Wavion is privately held and backed by Tel Aviv-based investors Elron Electronic Industries Ltd. and BRM Capital. Wavion's headquarter is located in Yoqne'am Israel, with worldwide offices in US, Brazil, Mexico, Colombia, India, China, Philippines, Singapore, South Korea, Africa and Russia.

Additional information about Wavion is available at www.wavionnetworks.com.

Sales: sales@wavionnetworks.com • **General Information:** info@wavionnetworks.com
Support: support@wavionnetworks.com • **Public Relations:** pr@wavionnetworks.com
Careers: careers@wavionnetworks.com

Wavion Corporate Headquarters Wavion Ltd. 5 Ha'mada Street.
PO Box 580 Yoqne'am-Illit 20692 Israel, Tel: 972.4.909.7300, Fax: 972.4.909.7322
www.wavionnetworks.com

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