

## 5 GHZ 2X2 MIMO LAST-MILE MULTIPOINT SYSTEM



**Base Station (Connectorized)**



**Client Unit  
(Integrated 16 dBi antenna)**

### Applications

- Remote Video Surveillance
- Government Data Network
- Corporate Campus Network
- Industrial Connectivity

### Feature Summary

- 2x2 MIMO OFDM Radio Technology
- 240 Mbps Data Rate for bandwidth hungry applications.
- High radio output power (400mW, 28 dBm) - extended coverage.
- Optimizable for video surveillance or enterprise applications.
- VideoCast™ – proprietary multicast support for video.
- Gigabit Ethernet Port (Base Station)
- Adaptive Coding and Modulation (ACM)
- PPM™ – Polling MAC Protocol for Multipoint
- Built-in Spectrum Analyzer
- Audio Tone Antenna Alignment Tool
- Wide Frequency range from 4.90 to 6.0 GHz.
- HyperARQ™ – Preserve system performance out to long distance

### Product Description

The WB5800 Series, SensorTec's third-generation OFDM multipoint product line in the 5GHz frequency band, represents a new class of last-mile connectivity solution for today's large bandwidth applications.

With MIMO data rates of 240 Mbps, the ST-WB5800 can serve a wide variety of bandwidth hungry applications, from transporting video traffic from a network of network video cameras to supporting enterprise connectivity.

At the heart of the system is the newly designed MAC protocol optimized for efficiency and scalability in dense subscriber deployments in multipoint systems. The PPM Protocol is based on deterministic polling algorithm that will enhance the system capacity and subscriber unit count per base station. This new protocol, based on SensorTec's successful 802.11d WiMAX product lines, is designed to provide utmost performance for carriers and enterprises.

The improved RF link performance allows more flexible deployments as well. The industry-leading 400mW high-output power radio extends the coverage area for a base station, while the advanced MIMO-based OFDM technology enhances near line-of-sight connections. SensorTec's HyperARQ protocol is designed to preserve the data throughput even at long link distances.

For data security, the ST-WB5800 system incorporates 128-bit AES hardware-based encryption at full line speed, without loss of data throughput. The AES algorithm was selected to be the standard encryption method by the US National Institute of Standards and Technology (NIST). In addition, the WB5800 Series provides up to two levels of AAA protection through the configurable use of 802.1x/RADIUS and RF MAC authentication.

## TECHNICAL SPECIFICATIONS

System	ST-WB5800	CPE (AS5810/20)
Operating Mode	TDD / Half-Duplex	
Data Rate	240 Mbps	
Link Range	Up to 15 miles, Antenna dependent	
Radio		
Frequency	4.9–6.0 GHz (2)	
RF Power	400mW Max, 200mW for 5820	
RF Channel Size	5,10, 20, and 40 MHz	
MIMO	2 x 2, 2 streams	
Modulation	OFDM – QAM64, QAM16, QPSK, BPSK	
Modulation Modes	Fixed or Adaptive Coding & Modulation (ACM)	
FEC	1/2, 2/3, 3/4	
Media Access	PPM™ – Multipoint Polling MAC	
Antenna	External Antenna	23 dBi – AS5810 17 dBi – AS5820
Networking		
Ethernet	Gigabit Ethernet	Fast Ethernet
	Auto-negotiation, Full/Half Duplex, Max 100m separation between radio and shelter/closet.	
QoS	<ul style="list-style-type: none"> <li>Proprietary frame aggregation</li> <li>HyperARQ™ – intelligent packet correction</li> <li>Line speed packet inspection of 802.1p tags</li> <li>4 queue prioritization engine</li> </ul>	
Protocol Support	<ul style="list-style-type: none"> <li>Transparent MAC layer bridging</li> <li>Transparent VLAN (802.1q)</li> </ul>	
Management	<ul style="list-style-type: none"> <li>HTTP web server &amp; Telnet</li> <li>SNMP v1, v2c with private MIB</li> <li>NTP for server-based time support</li> <li>Filterable event log</li> </ul>	
Security	<ul style="list-style-type: none"> <li>Line speed 128bit AES encryption</li> <li>802.1x/RADIUS authentication</li> <li>MAC-based network access control</li> </ul>	

Electrical		
Voltage	48V DC, nominal	
Dissipation	10W (avg), 15W (peak)	
POE	Integrated POE/Power Supply	
AC/DC Power		
Voltage	100-240 VAC / 50-60 Hz	
Efficiency	>85%	
AC Cord	3 prong, IEC 320 C13, country specific	
Mechanical		
	ST-WB5800	CPE (AS 5810/20)
Dimensions	9" x 9" x 3" in	15" x 15" x 4.5" in (10) 11" x 4.5" x 1" in (20)
Weight	5.5 lb (2.5 kg)	6.5 lb (3.5 kg) - (10) 1 lb (450 g) - (20)
Material	A380 Aluminum / ABS Plastic	
Finish	Powdercoat, Pantone 1C DuPont	
Network Ports	RJ45 via environmental seal, included	
Antenna Ports	2 N-type connector	None
Mounting Kits		
Dimensions	6.5" x 3.0" in / built-in for AS5820	
Deg. Freedom	3 deg (elevation, azimuth, rotation)	
Adjust Range	Elevation: +/- 75 degrees Azimuth: +/- 90 degrees Polarization: 360 degrees	
Mast Mount	Mast Diameter: 0.75 to 3 inches	
Wall Mount	4 x clamps through holes	
Environmental		
	Outdoor Radio	Indoor POE / PS
Temperature	-40 to 65 C	0 to 40 C
Humidity	5-95% None condensing	20-80% None condensing
Protection	NEMA4 / IP67	IP42
Regulatory		
FCC / IC	CFR47, Part 15, RSS-120	
EU	CE Mark	