



## **ST-GB Series**

**1 GBPS FULL-DUPLEX 70/80  
GHZ UNLICENSED PTP LINK**

# Product Summary

Sensortec ST-GB series millimeter wave radio links represent a new class of feature-rich backbone links for carrier, government and enterprise users.

The ST-GB Series features a full-gigabit, full-duplex throughput with fiber interface using robust BPSK modulation for preserving maximum link budget.

ST-GB Series offers two additional features -(1) adaptive rate adjustment allows rate fallback to 100mbps in cases of adverse RF conditions, using a much smaller channel size and improved Rx sensitivity and (2) AES Encryption for secure transmission of data at line speed and with little latency.

ST-GB series systems are available with either 1FT low profile antennas or 2FT antennas for extended distance coverage.

## Features and Advantages

- Full-Duplex Gigabit Ethernet - 1Gbps data rate
- Up to 99.999% carrier-grade availability
- Highly secure narrow-beam antenna
- Gigabit Fiber interface (1000base-SX with LC connectors)
- High density deployment without co-location problem
- All-in-one outdoor, compact design-no IDU required

- IP66 Outdoor Rate Enclosure
- Easy antenna alignment using voltmeter RSSI test points
- Secure HTTPS management access
- RADIUS authentication support
- Adaptive Rate Adjustment (ST-GB-A Models only)
- 256-bit AES Encryption (ST-GB-A Models only)

Note: Maximum link distances depend on antenna sizes and your region of deployment. Please consult SensorTec sales and support for guidance on correct choices of equipment.

## Applications

- Mobile Backhaul - large capacity backhaul for 4G LTE networks
- Network operator - Gigabit Ethernet backbone
- Government - Video surveillance, traffic monitoring, public safety network backhaul
- Enterprise - Server centralization, remote data storage and backup, lease line replacement
- Education - high capacity campus network for Wi-Fi and security video

## Technical Specification

Model	ST-GB-80 Series	ST-GB-80-A Series
Base Rate ACM operation	1000 Mbps	1000 Mbps 100 Mbps
Latency	Less than 40 $\mu$ sec (GE Mode)	Less than 40 $\mu$ sec (GE Mode)  Less than 220 $\mu$ sec (FE Mode)
Link Budget GE Mode (1FT / 2 FT) FE Mode (1FT / 2FT)	172 / 186 dB @ 10-12 BER 174 / 188 dB @ 10-6 BER	172 / 186 dB @ 10-12 BER 174 / 188 dB @ 10-6 BER 183 / 197 dB @ 10-12 BER 185 / 199 dB @ 10-6 BER
Frequency Band	72.5 / 82.5 GHz, Full Duplex (FDD)	
Modulation	BPSK with Forward Error Correction RS (204, 188)	
Bandwidth	1.4 GHz	1.4 GHz (GE Mode), 280 MHz (FE Mode)
Min. Distance	328 ft (100m) with 1 FT ant; 1,312 ft (400m) with 2 FT ant	
Ethernet Interface	1000Base-SX with LC connectors, up to 270m with 62.5/125 $\mu$ m MMF, 500m with 50/125 $\mu$ m MMF 10/100Base-TX w/ RJ-45 connector (w/ integrated surge suppressor), up to 100m CAT5 cable Maximum Ethernet frame size — 1632 bytes	
Management	<p>Web-based (HTM) embedded management agent with HTTPS Secure Management Access</p> <p>SNMP Support: MIB II and enterprise MIB</p> <p>Syslog (RFC 3164, RFC 3195) event support</p> <p>RADIUS Authentication</p> <p>Voltmeter test points, receive Signal Level and Link Quality</p>	
Power	-48 VDC input on the radio, AC/DC power supply (100-240 VAC to -48VDC) included Max cable length: 650 ft (200m) with 12AWG, 400 ft (125m) with 14AWG	

## Technical Specification

Antenna	External 1 FT Cassegrain (V/H), 40 dBi, 0.9° beam	External 2 FT Cassegrain (V/H), 46 dBi, 0.4° beam
Pole Mount	2" - 4.5" diameter pole, wall mount kit included	3.5" - 4.5" diameter pole
Size (h x w x d)	11.5 x 11.5 x 4 in (radio), 20 x 14 x 10 in (1FT Ant), 24 x 24 x 20 in (2FT Ant)	
Weight	8lbs (3.6 kg) for radio, 14 lbs (6.4 kg) for 1FT Ant, 30.5 lbs (13.9 kg) for 2FT Ant	
Wind loading	46 lbs force @ 125 MPH (1FT Ant), 202 lbs force @ 125 MPH (2FT Ant)	
Environmental	-33 to 55 °C, 100% humidity all weather operation	
Regulatory	US FCC Part 101, EN 302 217-3 V1 3.1, CE Mark EN60950, EN 301 489, EN 62311	
Installation Kit	Voltmeter test cable, power connectors, AC/DC power supply	





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