SensorTec Canada

TurboLink

TurboLink is SensorTec's most recent addition to our wireless portfolio. It is a record-breaking and innovative Point-to-Point solution in the sub-7 GHz frequency band, boasting the best-in-breed spectral efficiency, higher-than-ever-before processing power and distance vs. performance ratio. Reaching a peak of 500 Mbps of net throughput in 40 MHz of spectrum, and more than 130 Mbps in only 10 MHz, it is the fastest Point-to-Point system available in the marketplace today.

Available with a wide range of integrated antennas, as well as a connectorized version for use with 3rd party external antennas, and coupled with improved transmit power and sensitivity, the TurboLink family will fit perfectly into a large array of applications such as backhaul in the telecom market, education, oil and gas, smart cities, video surveillance and public safety. It was designed by SensorTec to meet the exact requirements of the most demanding customers, most complex projects and most challenging environments.

Applications

- High capacity short-, medium- and longhauls for 3G/4G operations and service provider
- Full-Fledged Fiber/FSO/Millimeter – wave replacement, extension or backaul
- LOS and NLOS MACRO- and small-cell backaul
- Video surveillance over medium and long distances
- Disaster Recovery
- Building-to-Building connectivity
- Rural/ Suburban last mile access

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SensorTec TurboLink Technical Specifications	
PERFORMANCE	
Throughput	Up to 500 Mbps, net aggregate
Packet performance	More than 1 million packets per second (line rate)
Latency	0.5-3 ms one-way, typical (depending on air frame period)
RADIO TECHNOLOGY	
Modulation	Cyclic single carrier
Cyclic prefix	1/8 and 1/16 (for 20 and 40 MHz channel width)
Modulation schemes	Eleven modulation/coding schemes from QPSK to QAM256, as well as QAM1024
Frequency range	GHz 4.9-6.0 Other frequency bands could be supported upon request
Channel widths	10, 20 and 40 MHz
Spectral efficiency	Up to 13 bps/Hz
Transmit power	Up to 27 dBm (average, per Tx chain) @ QPSK to QAM64 Up to 26 dBm @ QAM256, Up to 18 dBm @ QAM1024
Receiver sensitivity	down to -95 dBm @ 10 MHz, QPSK (4.9-6.0 GHz
System gain	Up to 178 dB (based on a 28 dBi integrated antenna in 10 MHz channel width)
Duplex Scheme	TDD, Hybrid-FDD
Antenna	Integrated: dual-polarization flat panel 23, 26, 28 dBi (selectable at time of ordering and model-dependent)
	Connectorized: 2x N-type (Female) connectors for external dual-polarization antenna
Maximal range	In excess of 100 km in clear line-of-sight conditions, with use of high gain external antennas
AIR PROTOCOL	
Air frame	Configurable, 2 to 10 ms
Uplink/downlink ratio	Configurable, from 50:50 to 90:10 in any direction
Automatic modulation control	Fully supported
Automatic ranging	Fully supported
TDD synchronization	Fully supported, via built-in GLONASS/GPS receiver or IEEE1588 PTP

WIRED INTERFACES	
Ethernet	2x 10/100/1000-BaseT copper ports, RJ-45: GE0 – Data+PoE input GE1 – Data only SFP port: various 3rd party single and multi-mode fibre module sare supported Either of the ports can be configured independently for management, user data or for a hybrid mode
PoE	802.3at or SensorTec-proprietary “passive” PoE
Cable length	Copper Ethernet cable length: up to 100 m between outdoor unit and the primary network connection Fibre cable length: up to 300 m or more depending on the SFP module type
QOS AND NETWORK PROTOCOLS	
QoS	4 queues
Prioritization	“Strict” and “Weighted Round Robin” modes
Packet classification	802.1p
Network protocols	VLAN, IGMP, STP
Timing Transport	IEEE 1588 v2, transparent clock
MANAGEMENT AND INSTALLATION	
LED Indication	Power status, wireless and wired link status, RSSI indication, TDD sync status
Management Protocols	HTTP, telnet, SNMP v1/2c/3 (MIB-II and proprietary MIBs)
Web GUI Tools	Antenna alignment tool, Spectrum Analyzer
PHYSICAL	
Weight and dimensions	Please refer to the model matrix
Operating temperature range	-40° to +60°C
Dust and water protection	IP66, IP67
Wind load	160 kph, operational; 200 kph, survival
Power supply	IDU-BS-G: 90-240 VAC, 50/60 Hz, 0°C to +40°C, 125x72x38 mm, 0.3 kg
Input DC range	±43 to ±56 VDC
Consumption	Up to a maximum of 30 W
ACCESSORIES	
Spare mounting brackets	MONT-KIT-85 or MONT-KIT-85s
DC injector	AUX-ODU-INJ-G (indoor/outdoor installation)
External lightning protection	AUX-ODU-LPU-G

COMPLIANCE	
Safety	EN 60950-1:2006, UL 60950-1 2nd ed.
Radio	EN 301 893 v.1.8.1, EN 302 502, v.1.2.1, FCC part 15.247
EMC	ETSI EN 301 489-1, ETSI EN 301 489-17, FCC Part 15 Class B
RoHS	Directive 2002/95/EC

MODEL RANGE
Integrated Antenna Models

PART NUMBER	FREQUENC BAND	INTEGRATED ANTENNA	WEIGHT AND SIZE	Product photo
ST-XPH5400i-23dbi	4900-6000 MHz	Flat-panel, 23 dBi, 10x10deg	305x305x67 mm 2.4 kg	
ST-XPH5400i-26dbi	4900-6000 MHz	Flat-panel, 26 dBi, 8x8 deg	371x371x89 mm 3.3 kg	
ST-XPH5400i-28dbi	4900-6000 MHz	Flat-panel, 28 dBi, 5x5 deg	600x600x74 mm 6.3 kg	

External Antenna Option

PART NUMBER	FREQUENC BAND	ANTENNA CONNECTION	WEIGHT AND SIZE	Product photo
ST-XPH5400i	4900-6000 MHz	2xN-type (Female)	256x240x86 mm 2.1 kg