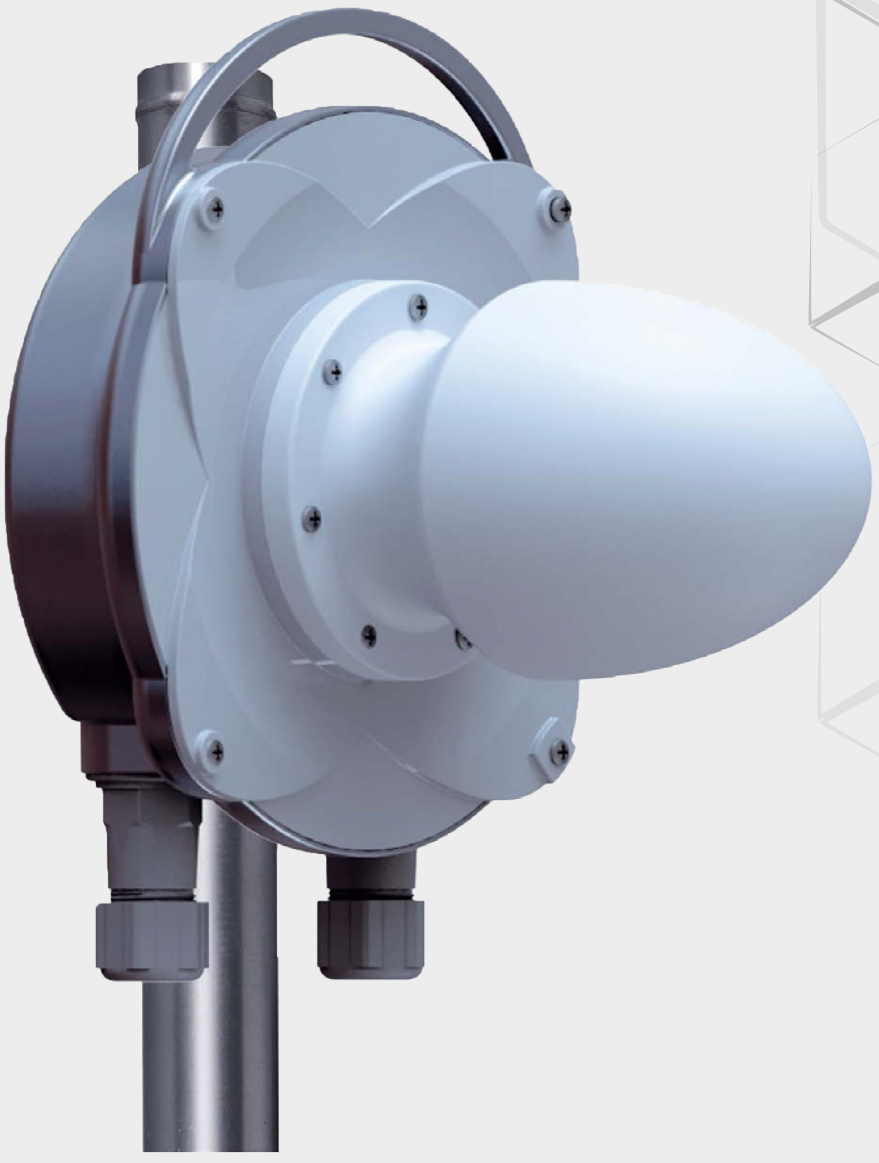
SensorTec



ST-SP70
Spectrum 70

Product description

Spectrum 70 is a brand new addition to the SensorTec Wireless Point-to-Point product portfolio, operating in the 70.5-76 GHz frequency band. Spectrum 70 delivers real throughput of up to 480 Mbps using a 125 MHz channel size and can operate at distances of up to 20 km.

The 70.5-76 GHz spectrum has much lower utilization as compared to the 5 GHz license-exempt frequency bands, but offers much better propagation than 60 GHz (V-band). This spectrum is lightly licensed or sometimes even unlicensed in a number of countries and therefore enables the deployment of high-density networks in urban areas, with nearly zero interference.

Mesh SDR Platform

SensorTec's latest Mesh Software Defined Radio (SDR) platform has been designed using a state-of-the-art proprietary SDR technology specifically aimed at increasing link performance several-fold.

Addressing challenges such as limited spectrum availability, growing interference and demands for yet more capacity, Spectrum 70 combines the best features from SensorTec's well-proven MIMO families, as well as numerous cutting-edge wireless breakthroughs, to deliver unparalleled performance in all weather conditions.

Spectrum 70 is based on the brand new Mesh SDR platform, making this family of PTP solutions fully future proof and allowing it to improve its PHY, MAC and upper layer features remotely via a simple firmware upgrade, including for units already deployed in the field.

Minimal or zero interference

Supporting 40 non-overlapping frequency channels and built with an integrated antenna having a pencil-wide narrow beam, Spectrum 70 has minimal or zero impact from external interference, allowing it to achieve much higher density of collocated wireless units when compared to lower frequency bands.

Simplified regulatory requirements

The 70.5-76 GHz frequency band is lightly licensed or even unlicensed, depending on local regulations. Please contact your regulatory body for more information.

Easy installation and fine tuning

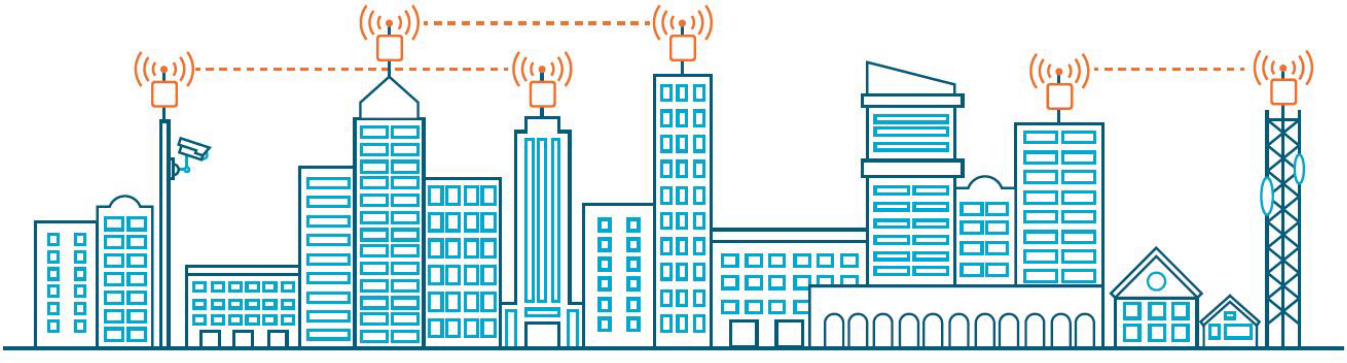
A new high-precision mounting bracket has been specifically designed to reduce the installation time and complexity, whilst achieving maximal performance. Additionally, the fully outdoor unit is fitted with an LED display showing the RSSI level in dBm.

Reliability

Automatic Repeat reQuest (ARQ) is instrumental in maintaining link capacity during drizzling rain, while the Automatic Modulation Control (AMC) algorithm managing as many as 8 Modulation-Coding Schemes (MCS) helps to maintain reliable connectivity in case of heavier precipitations. Ruggedized outdoor units have been designed to operate in temperatures ranging from -40 to +60°C, and at wind speeds of up to 160 km/h.

Application

Spectrum 70 has been designed to operate either as a high-capacity access solution or as a backhaul for WISP networks deployed in urban areas. It is also fully suitable for building-to-building connectivity and in campus networks for enterprises of all types and sizes.



Performance	
Throughput	Up to 480 Mbps, net aggregated
Packet performance	930,000 packets per second
Latency	Between 0.3 and 8.1 ms maximum, each way
Radio Technology	
Modulation	SC-FDE
Modulation coding schemes	8x MCS— from BPSK 1/4 to QAM64 5/6
Frequency range	70.5 - 76 GHz
Channel width	125 MHz
Center frequency adjustment step	125 MHz
Transmit power	Up to 11 dBm
Receiver sensitivity	Up to -86 dBm
Duplex scheme	TDD
Antenna	Lens antenna 39 dBi - Cassegrain antenna 44 dBi and 50 dBi
Maximal range	Up to 10 km for SP70-39, up to 15 km - SP70-44, up to 20 km - SP70-50*

Air Protocol	
Air frame	0.1, 0.2, 0.5, 1, 2 and 5 ms
Uplink/Downlink ratio	2:98, 5:95, 8:92, 10:90, 25:75, 27:73, 28:72, 29:71, 30:70, 50:50 in any direction, depending on air frame. Automatic mode supported
Automatic modulation control	Supported
Automatic ranging	Supported
Wired Interfaces	
Ethernet	Combo: 1x Gigabit Ethernet port (RJ45), 1x SFP
PoE	802.3at or Infinet Wireless proprietary passive PoE
QoS and Network Protocols	
QoS	8 Queues
Prioritization	Strict and Weighted
Packet classification	802.1p
Network protocols	VLAN, Q-in-Q
Network timing	IEEE 1588v2, transparent clock
Management and Installation	
LED indication	Power status, wired and wireless link status, RSSI value indication
Management protocols	HTTP, HTTPS, SSH, SNMP, FTP, Telnet
Installation tools	Antenna alignment web GUI tool RSSI level indicator on the device enclosure
Physical	
Operating temperature range	From -40°C to +60°C
Dust and water protection	IP66, IP67
Wind load	160 km/h - operational; 200 km/h - survival
Power supply	IDU-CPE-G, IDU-CPE-G(24W), IDU-LA-G(V.01), AUX -ODU-INJ-G, IDU-BS-G(60W)
Power consumption	Up to 15 W

Model Configuration

	ST70-39	ST70-44	ST70-50
Antenna	39 dBi 2x2 deg	44 dBi 1x1 deg, Ø 30 cm	50 dBi 0.5x0.5 deg, Ø 60 cm
Size and weight	255x226x189 mm 3.1 kg	Ø 385x210 mm 9.3 kg	Ø 655x430 mm 13.2 kg

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