SC3500-sf

MIMO Radio – Dual Band (short fin)

Silvus has developed an advanced radio solution for high-speed wireless communications in harsh propagation environments, where traditional radios fail.

The SC3500 is the world's first MIMO radio ruggedized for military applications. MIMO is the breakthrough technology that is ushering in the 4G revolution in commercial wireless data communications and enabling WLANs of supporting high definition video. The SC3500 borrows the best of these commercial technologies while extending and improving the capacity, range and reliability of wireless communications for mission critical needs in the military, first responder and industrial markets.

The SC3500 transceiver, a stand-alone IP based packet MIMO radio, will surpass the capabilities of traditional single antenna solutions in many aspects and will deliver capabilities unique to the target end user such as:

- Connectivity in NLOS (non-line-of-sight) multipath rich environments typical of urban canyons
- Connectivity under highly mobile conditions on the ground and in the air
- High data throughput rates
- Mesh network relay
- Use of low gain omni antennas (no need for high gain directional antennas)
- Cognitive Interference Avoidance

Compared to conventional single antenna solutions, the SC3500 delivers the following field validated gains:

- 4.5x coverage increase in dense urban terrain
- 10x less transmit power for same range and throughput
- 2.5x increase in LOS range
- 3x increase in data rate

Missions Benefiting from the SC3500

The SC3500 is ideal for missions that require superior communications of voice/video/data in NLOS multipath rich environments. Examples of such missions include:

- Telerobotic / UGV for EOD / IED, recon, surveillance
- Below-deck wireless networking / ship-boarding
- UAV air-to-air & air-to-ground
- Urban ops, requiring video links within a building and with units outside the building
- Autonomous convoy
- Ship-to-shore high data rate transfer / comms
- First Responder urban network / relay

Ease of Use

Attention to detail and ease of use is what sets the SC3500 apart from its competition. Each radio contains both transmit and receive functions, enabling bidirectional networking to simplify logistics. As an Ethernet bridge the SC3500 can be interfaced with countless third party applications. Automatic link adaptation changes the radio operating parameters in real time to provide performance as close to capacity as possible while not losing the link when abrupt changes in channel conditions occur such as moving around a corner or entering a building.

Contact us at: info@silvustechnologies.com +1-310-479-3333 Visit our website: www.silvustechnologies.com

SC3500-sf Specifications

General

Dual Band Frequency Operation	• 2.4 - 2.4835 GHz and • L: 4.9 – 5.275 or • U: 5.15 – 5.875 GHz (*additional bands available)
Bandwidth	5 and 20 MHz
Frequency Tuning	1 KHz
Data Rates	1.625 Mbps to 104 Mbps
Waveform	MIMO / Coded-OFDM
Antenna Processing	• Spatial Multiplexing • Space-Time Coding • Eigen beam forming • Diversity
Number of Antennas	1 to 4
Security	AES 128
Max Transmit Power	1W

Data Transmission

Error Correction Coding	Rate: 1/2, 2/3, 3/4

Power

Power Input	9-20 VDC
Rx Power Consumption	11.8W
Tx Power Consumption	13.5W to 20W

Performance

Latency	30 ms typical
Latency w/out Retrans	Less than 10 ms
Max Receive Sensitivity	-100 dBm for 1.5 Mbps

Additional Capabilities

Cognitive Interference Avoidance	Sense and Jump
Link Adaptation	Yes
Bi-Directional	Yes
Transceiver	Yes
Mesh Network Relay	Yes – Self Forming
MAC protocols	CSMA or TDMA

Packaging Options:

Ruggedized Enclosure

Dimensions	3.25” H x 5.75” L x 4” W
Weight	3.7 lbs
Color / Paint	FED-STD-595B - 34094 (camo green 383) - CARC
Operating Ambient Temp	• Min temp -40C • Max temp +40C to +65C (* dependent on TX power and duty cycle)
Environmental	IP-67
RF Connectors	TNC
Data/Control Connector*	• Mighty-Mouse 801 (m) • (RS232 optional)
Power Connector*	Mighty-Mouse 801 (f)

* Connector types are configurable based on end user requirements

OEM PCB

Dimensions	1.9” H x 5.25” L x 2.9” W
Data Connector	10/100/1000 Ethernet RJ45 (RS232 optional)
RF Connectors	Female SMA or UFL
Weight	8 oz

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