SL200 Mobile Data Link Modem

Long-range Radio Link Modem for Mobile Data and Live HD Video

The **SL200 mobile data link modem** is dedicated to mobile bi-directional data and video transmission for very long distance and challenging environments.

The **SL200** modem demonstrates unrivaled reception sensitivity while benefiting from a robust and reliable link. High sensitivity allows to use low transmission power to remain in compliance with local regulations, and to gain in distance range and compactness. Associated with SIMPULSE's ground tracking antenna GRS-T200, the solution has proven its high performance in the field in number of very long-distance missions.

SL200 is based on a proprietary SDR (Software Defined Radio) platform. This technology allows to constantly improve the system through simple software updates. Today, SIMPULSE's powerful and innovative algorithms have achieved unmatched performance. In addition, SIMPULSE can smoothly adapt the SL200 modem to customers' requirements thanks to the flexibility offered by the SDR technology.

The **SL200** SDR adaptive algorithms are also designed by SIMPULSE to provide superior performance in NLOS (Non-Line Of Sight) applications in urban areas or indoor.

The **SL200** modem is the ideal solution for very long range wireless Ground-to-Air or Air-to-Air communications (UAV, aircraft...) or in challenging mobile environments (robots, vehicles, ships...) where link reliability and security are critical.

Key Features

- **Very Long Transmission Range** Up to 80 km (HD video) or 130 km (Low res. video) in LOS and reduced RF power (0.5W)
- **Unrivaled sensitivity** extending the distance range or enabling reduced transmit power
- **Excellent robustness** even in NLOS and mobile environments
- **Keep a control link** under extreme conditions
- **Flexibility of adaptation** to customers' specificities and requests thanks to SDR
- **High security** using proprietary waveforms in addition to AES 128/256 encryption
- **Powerful Analysis tool** to configure and analyze the transmission
- **Easy to integrate** with standard interfaces and protocols
- **Multiple logical links** with QoS and priority management
- **Many frequency bands available** from 70 MHz to 6 GHz
- **Compact,** lightweight and low power

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Specifications

Downlink (video, data, telemetry, control)	Up to 4.5 Mbit/s in TDD 90-10 mode Latency < 40 ms
Uplink (control, commands)	Up to 40 kbit/s in TDD 90-10 mode, latency < 40 ms Higher data rate possible with different TDD modes
Transmission Range in LOS	Up to 80 km for compressed HD video with 500mW transmit power, with GRS-T200 tracking ground station and SL200 in drone with simple antennas setup Up to 130km with lower bitrate
Robustness in Non-LOS and mobile channels	COFDM and spread spectrum waveforms Supports high speed with multipaths
QoS in logical channels	Quality of Service management of up to 8 logical channels upstream and 8 logical channels downstream
Data Protocol	IP (Ethernet 10/100BaseT), UART/Serial bus, Mavlink
Duplex Mechanism	Adjustable Time Division Duplex (TDD), 90-10 by default
Security	Optional AES 128/256 Encryption, subject to export license Proprietary waveform to prevent radio interception
Sensitivity	- 105 dBm for 3,2 Mbit/s downlink with 2 MRC antennas Down to - 116,5 dBm for low bitrate uplink and downlink with 2 MRC antennas
Radio Frequency	Standard version: 2390 MHz to 2490 MHz Available frequencies: see below 'Ordering information' Other frequency bands from 70 MHz to 6 GHz: on demand
Radio Transmit Power	Adjustable with 1 dB step from - 24 to + 27 dBm
Multi Antennas	MIMO with up to 4 antennas
Network	Features like Point-to-Multipoint or relay can be added by software upgrade. Contact us
Power supply	5 to 14V DC, 11W max
Operating temperature	0°C to +65°C

Physical Interfaces, Size and Weight

RF connectors	4 SMA female
Ethernet Connector	RJ45
Power Supply	3 pins Connector (Micro-Fit 3.0)
Software Upgrade connector	USB-3 (USB-2 compatible)
Configurable serial data port	20 pins shrouded IDC header
Dimension without fan	61 x 34 x 74 mm
Weight without fan	150 g

Accessories

Supplied accessories	4 x SMA 50 Ohm terminations
Optional accessories	Power supply (AC 220v – DC 12v) RJ45 interface board with cable UART isolation board with cable

Analysis tool

This is an advanced software tool supplied with SL200. It can help you select and optimize the antennas in your environment, monitor data bitrates and latencies, create log files during missions...

Ordering information

SL200 - XXX - X

ENCRYPTION:
F = No encryption
E = AES 128/256

FREQUENCY BANDS:
070 = 700 – 800 MHz
079 = 791 – 821 MHz
080 = 800 – 900 MHz
090 = 900 – 990 MHz
180 = 1805 – 1880 MHz
190 = 1900 – 2000 MHz
200 = 2000 – 2300 MHz
230 = 2300 – 2400 MHz
239 = 2390 – 2490 MHz (Standard)
249 = 2490 – 2690 MHz
340 = 3400 – 3800 MHz
515 = 5150 – 5925 MHz

Other frequencies upon request.
For OEM version without casing, please contact us.

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