**XLink-S**

**S Band Transceiver with SDR for Small Satellites**

→ Physical Layer according to **CCSDS**

### Highlights

- SDR high-speed data links
- Micro, nano or pico satellite usage
- Bidirectional communication links
- Downlink/TM & Payload up to 100 Mbps
- Uplink/Telecommand 56 kbps

**XLink-S** is an advanced transceiver system (Software Defined Radio – SDR) for S band communication links of small satellites in LEO environment. The mechanical dimensions fit a 1U CubeSat as well as larger satellites. The radio interface and radio protocol were developed according to standard CCSDS protocols.

Downlink data rates with very high net payload rates of up to 100 Mbps are possible. Supported modulation schemes include BPSK, QPSK and higher order types of modulation with appropriate FEC encoding schemes. Adaptive modulation and coding schemes (AMC) are applicable to maximize data throughput.

The satellite receiver (Uplink) used for telecommand purposes of the satellites is designed for a standard CCSDS BPSK with BCH coding and net data rates of at least 56 kbps. Two separate usable S band uplink receivers are available.

Data interface is based on CCSDS transfer frames.

A special feature of the **XLink-S** transceiver is the optional application of two separate Tx and Rx channels. They can be used either for an increase of the transmit power or for redundancy purposes.

### Features

- Fully featured and transparent bidirectional S band transceiver (SDR)
- CCSDS compliant for physical and synchronisation layer
- Flight grade tested design
- Compact case and low power consumption
- Extra flat patch antenna design matched to customer specific frequencies
- Low-cost COTS design
- Short delivery time

### Key Specifications

- **S band Tx operation:** 2.200-2.290 GHz
- **S band Rx operation:** 2.025-2.110 GHz
- **Operational mode:** FDD/Full duplex/Half duplex
- **Data rate Sat2Ground:** 0.5 ... 100 Mbps
- **Data rate Ground2Sat:** 56 kbps+
- **Linear RF output power:** up to +33 dBm (2 x up to +30 dBm)
- **Automatic Doppler shift compensation in Rx:** up to 200 kHz
- **Low power consumption max 12 W (Tx + Rx)**
- **DC supply voltage:** 6 – 18 V / 28 V
- **Ultra-small volume:** < 0.2U
- **Low mass:** 200 grams
- **TRL:** 7
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Product specification may be subject to change without notification.