

# XLink-X / XLink-S

## X and S Band Transceiver for Small Satellites with physical layer according to CCSDS

04.2021

### Highlights

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



**XLink-X** and **XLink-S** are advanced transceiver systems (Software Defined Radio - SDR) for X band and S band communication links of small satellites in LEO environment. The radio interface and protocol are developed according to standard CCSDS protocols. Downlink data rates with net payload rates of up to 100Mbps are possible. 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 BPSK with BCH coding and data rate of at least 56 kbps.

**XLink-X** provides up to two X band Tx output, one X band Rx input and one S band Rx input. **XLink-S** can be equipped with up to two S band Tx outputs and two S band Rx inputs.

### Key Specifications

X Band Tx Operation: 8.025-8.400 GHz  
X Band Rx Operation: 7.145-7.250 GHz  
S Band Tx Operation: 2.200-2.290 GHz  
S Band Rx Operation: 2.025-2.120 GHz  
Data Rate Sat2Ground: 0.5 ... 100 Mbps  
Data Rate Ground2Sat: 56 kbps+

Linear RF Output Power XLink-X: 2 Tx channels up to +27 dBm  
(combined up to +30 dBm)

Linear RF Output Power XLink-S: 2 Tx channels up to +30 dBm  
(combined up to +33 dBm)

Low Power Consumption XLink-X: <16 W (Tx + Rx), <4 W (Rx-S), <5.5 W (Rx-X)

Low Power Consumption XLink-S: <12 W (Tx + Rx), <4 W (Rx-S)

DC Supply Voltage: 6 - 18 V (opt. 28 V)

Ultra Small Volume: <0.2 U

Low Mass: 200 grams

Technology Readiness Level (TRL): 9