

# PICOSATS

SPACE TECHNOLOGIES SOLUTIONS

## RADIOSAT

### SOFTWARE DEFINED RADIO



MINIATURIZED HIGH THROUGHPUT TWO CHANNELS MODEM/SDR DESIGNED FOR CUBESAT AND SMALL SATELLITES FOR LEO AND GEO APPLICATIONS

### OVERVIEW

A **miniaturized modem/SDR** designed for CubeSat and Small Satellites for **LEO** and **GEO** applications. With a volume **< 0.5 U** and a mass **< 500 g**, it can reach **up to 4 Gbps in transmission and 1 Gbps in reception** making it unique in size and performance ratio.

The SDR is compatible with **DVB-S2X** (with **ACM**) in transmission and **CCSDS** in reception, but also supports custom waveforms and protocols. The interface frequency can be programmed **from 300 MHz to 7 GHz** with instantaneous **bandwidth up to 1 GHz**.

### APPLICATIONS

- Earth observation data downlink
- Constellation ISL
- Satellite communication
- TT&C



---

# KEY FEATURES

---

## PERFORMANCE

- 2 x 1 GHz IBW Rx channels
- 2 x 1 GHz IBW Tx channels
- Frequency range: 300 - 7000 MHz
- TX datarate: up to 4 Gbps
- RX datarate: up to 1 Gbps

## WORK ENVIRONMENT and TESTING

- Operating temperature range: -20 °C to +70 °C
- Non-operating temperature range: -30 °C to +90 °C
- Vibration and TVAC qualified by ECSS-E-ST-10-03C

---

## INTERFACES

- SMP gold plated RF connectors
- Space qualified data and power connector
- System telemetry and control with CSP over CAN (opt. Ethernet or RS422)
- Data over SpaceFibre (opt. SpaceWire or Ethernet)
- Other interfaces: UART, SPI, I2C

## ADDITIONAL FEATURES

- Already compatible with DVB-S2X with ACM and pre-distortion transmission and CCSDS reception
- Optional DVB-RCS2 or custom protocols
- In orbit FW and protocols reprogramming
- Redundant boot flash with automatic failover and watchdog timers

---

## POWER SUPPLY

- Power consumption: < 35 W
- Input supply: from 12 V to 24 V

## ACCOMODATION

- Mass: < 500 g
  - Volume: 83.50 x 96 x 25 mm
- 

