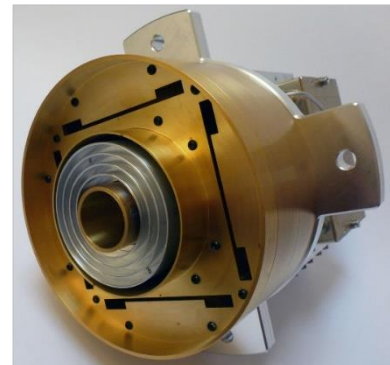

Dual-Band Dual-Polarization Auto-Track S+X-band Feed for LEO and MEO Ground Stations

FSXD is a high-performance prime-focus feed for the auto-tracking ground stations. Operating in the receiving or transmitting mode, a simultaneous S-band and X-band data transmission or reception is possible. The CONSCAN functionality on the X-band frequency range enables an auto-tracking receive capability. Switchable dual polarizations on S-band (RHCP or LHCP) and simultaneous dual polarizations on X-band (RHCP and LHCP) make an added flexibility to the ground station capabilities. Aimed for the *New-Space* future with numerous ground stations across the globe, the **FSXD** enables precise and autonomous data downlink from the LEO or MEO spacecraft to the data storage cluster on the ground.

SPECIFICATIONS:

- Prime-focus reflector antenna installation ($f/d=0.4$)
- Auto-track CONSCAN operation on X-band
- Simultaneous S-band and X-band
- TX or RX mode on either band
- Switchable RHCP or LHCP polarization on S-band
- Simultaneous RHCP and LHCP polarizations on X-band
- Low-noise amplifiers (LNAs) included for both bands
- Optimized for maximum G/T on X-band
- Rugged and reliable



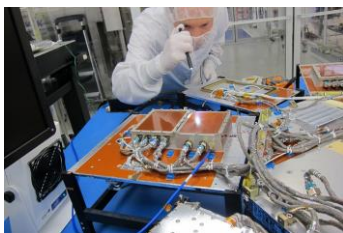
LEO tracking ground station @SPACE-SI

APPLICATIONS:

- a. LEO and MEO GROUND STATIONS
- b. TT&C OPERATION ROOMS and COMMAND CENTERS
- c. TRACKING of LAUNCH VEHICLES, UAVs and AIRBORNE VEHICLES
- d. TACTICAL/MILITARY INSTALLATIONS

Company's profile:

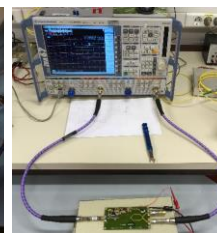
ELEP Electronics is a small company active in the field of advanced radio communication technologies. Its strength is in an innovative R&D, proven expertise in the RF/microwave/millimeter-wave engineering and high-performance hardware manufacturing. We specialize in the custom developments from DC to 1+ THz. ELEP had actively participated in the first Slovenian microsatellite development (NEMO-HD @SPACE-SI, launched in 2020). In addition, ELEP designed and manufactured a X-band high-speed data downlink transmitter payload for the NEMO-HD spacecraft - TRL9 achieved in 2021. Company's current focus are ground-segment SATCOM technologies and on-board spacecraft communication payloads. ELEP released a new world-class product: X-band data downlink transmitter payload for the micro- and nano-satellites with the data rates up to 200 Mbps. For the low Earth orbit (LEO) ground stations ELEP Electronics designed and manufactured a state-of-the-art auto-track dual-band feed (S-band: TX/RX, X-band: simultaneous RHCP/LHCP RX). Along with the dual-band feed, other RF receiving-chain hardware have been developed (LNAs, downconverters, filters, etc).



NEMO-HD microsatellite integration and testing ©SPACE-SI, ELEP 2016



X-band transmitter TVAC testing

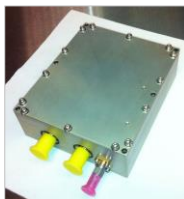


RFµwave evaluation



X-band transmitter payload final testing

ELEP Electronics' dedicated R&D for the SATCOM and aerospace market resulted in various products:



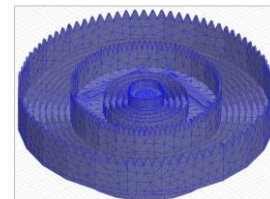
Microsatellite X-band transmitter payload (TRL9)



200Mbit/s nanosatellite X-band transmitter payload



RF signal processing HW (X-band downconverter)



Advanced design and simulation of electromagnetic structures