

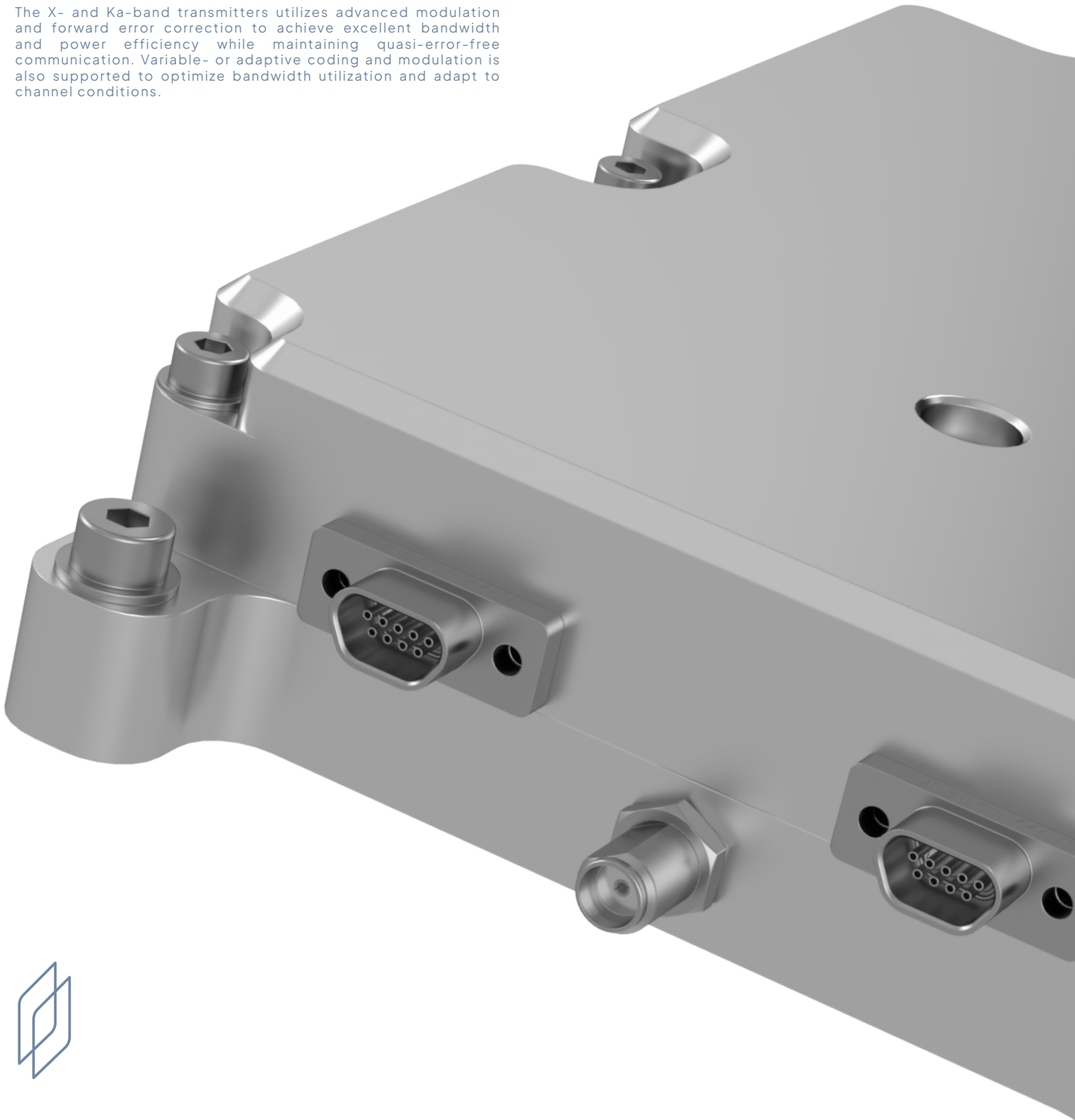
COMMUNICATE

LYNX RF TRANSMITTERS & TRANSCEIVERS

NewSpace Systems offers a suite of RF products targeting the earth exploration satellite service. A S-band tracking, telemetry, and command (TT&C) transceiver is available, as well as high data-rate transmitters in the X- and Ka-bands. All RF products are fully CCSDS compliant.

The S-band transceiver is a highly configurable software-defined radio that offers reliable and secure full-duplex communication. Pseudo-noise ranging and data encryption are available as options.

The X- and Ka-band transmitters utilize advanced modulation and forward error correction to achieve excellent bandwidth and power efficiency while maintaining quasi-error-free communication. Variable- or adaptive coding and modulation is also supported to optimize bandwidth utilization and adapt to channel conditions.



KEY FEATURES (S-BAND TRANSCEIVERS)

- Full Duplex Operation
- CCSDS Compliant Framing and Error-Correction coding
- Optional Encryption

APPLICATION (S-BAND TRANSCEIVERS)

- TT & C: Telemetry Tracking
Telecommunication & Control

QUALIFICATIONS (S-BAND TRANSCEIVERS)

The Lynx series Transmitters and Transceivers were designed with a radiation level >30 krad TID at component level, making it suitable for LEO missions of up to 10 years. The X-Band TX is operational over a temperature range from -35 to +65 degrees celsius and can survive temperatures of -40 to +85. To be fully compliant the transmitter was designed and tested in accordance with MIL-STD-461F Electromagnetic compatibility.

APPLICATION (LYNX)

KEY FEATURES (LYNX)

- Earth Exploration - Satellite Service: X- and Ka-band high data - rate transmitter for payload data downlink
 - Intersatellite Data Links: X- and Ka-b and high data-rate transmitter for intersatellite data links
- Quasi-error-free (QEF) communication
 - Variable and adaptive coding and modulation

FUNCTIONAL	S-BAND (DOWNLINK)	S-BAND (UPLINK)	LYNX-X (X-BAND TRANSMITTER)	LYNX-KA (KA-BAND TRANSMITTER)
Frequency	2200 to 2290 MHz	2225 to 2110 MHz	8.025 to 8.4 GHz	25.5 to 27 GHz
Output Power	Adjustable from 0.5 to 2 W	Adjustable from 0.5 to 2 W	Adjustable from 0.5 to 2 W	Adjustable from 0.5 to 2 W
User Data Rate	Up to 10 Mbps	32 kbps to 2.048 Mbps	400 Mbps	1 Gbps
Sensitivity		-105 to -87 dBm		
PHYSICAL	S-BAND (DOWNLINK)	S-BAND (UPLINK)	LYNX-X	LYNX-KA
Dimension	150mm x 100 mm x 30 mm	150mm x 100 mm x 30 mm	150 mm x 120 mm x 30 mm	150 mm x 120 mm x 30 mm
Mass	< 350 g	< 350 g	< 450 g	< 450 g
Power			< 25 W	< 25 W
ENVIRONMENTAL	S-BAND (DOWNLINK)	S-BAND (UPLINK)	LYNX-X	LYNX-KA
Thermal (acceptance/ operational)	-35 °C to +65 °C	-35 °C to +65 °C	-35 °C to + 65 °C	-35 °C to + 65 °C
Mechanical Tests (qualification)	4.93 g _{RMS} (random), 26.25 g (sine), 2000 g (shock)	4.93 g _{RMS} (random), 26.25 g (sine), 2000 g (shock)	4.93 g _{RMS} (random), 26.25 g (sine), 2000 g (shock)	4.93 g _{RMS} (random), 26.25 g (sine), 2000 g (shock)
Radiation (TID) (qualification)	30 krad (component level)	30 krad (component level)	30 krad (component level)	30 krad (component level)
INTERFACE	S-BAND (DOWNLINK)	S-BAND (UPLINK)	LYNX-X	LYNX-KA
Power Supply	9 V _{DC} to 34 V _{DC} (16 W max, 3.5 W receive only)	9 V _{DC} to 34 V _{DC} (16 W max, 3.5 W receive only)	9 V _{DC} to 34 V _{DC}	9 V _{DC} to 34 V _{DC}
Data Interface	LVDS, GbE	LVDS, GbE	Ethernet, SpaceWire	Ethernet, SpaceWire
Control and Telemetry	RS-485, CAN	RS-485, CAN	RS-485, CAN	RS-485, CAN
Connector			25-way female Micro-D	25-way female Micro-D

ACCEPTANCE TESTING: All FM parts undergo random vibration (10 RMS) as well as thermal cycling (four-cycle ambient pressure) to five degrees beyond operational thermal specifications. However, NewSpace can perform additional environmental testing if required by a client.

CONFIGURATION MANAGEMENT: Specifications are subject to change. Please refer to the latest version