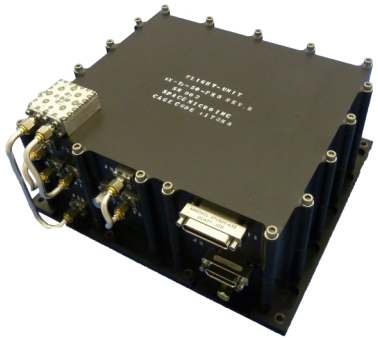
μXTx-100 X-Band Transmitter

SPACE MICRO



FEATURES

- Radiation Hardened (TID —100 krad, SEU, SEL)
- Reconfigurable Center Frequency
- Convolutional Encoding, Standard
- Various Parts Level from Commercial Space to NASA Level 2
- Heritage on NASA IRIS

SPECIFICATIONS

RF Output Characteristics	
Output Frequency Range	X-Band, 8.025 to 8.5 GHz
Frequency Stability	
Short Term (1 second)	≤ 10^{-9}
Over 8 Years	< ±5 ppm maximum
Output Power	1W-10W
Operating Modes	BPSK, QPSK, OQPSK
Modulation Imbalance	
Phase	±2º
Amplitude	±0.1dB
I/Q Offset (stagger) Ratio	50±5%
Input Interface	
Parallel or Serial Data and Clock	RS-422, LVDS 8/16 bit, LVDS Serial
Optional User Specified Commands	SEI (Flexible, Single Ended Interface) TX Power ON/OFF 7/8 LDPC or Reed-Solomon Encode/Bypass Randomize Encode/Bypass Data Input Select RF Power Adjust Data rate Select NRZ-L to M Conversion Select Playback Enable/Disable
Data Rate	100 kbps to 50 Mbps
Telemetry Output Interface	Serial RS422 or analog Encoding Mode Converter Secondary Voltage RF Output Power Temperature Phase Lock
Power Requirements	
Input Voltage	28V ± 6 Volts
Output Power	100 mW to 10 W
Dimensions	7”(W) x 6.0’’(D) x 5’’(H)
Mass	<7.5 lbs.
Environmental Specifications	
Operating Temperature	-24ºC to +65ºC
Random Vibration	> 14.1 Grms, 3-axis
Thermal Cycles	> 23,000
EMI/EMC	Tailored MIL-STD-461

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