

PERFORMANCE

- Processing
 - Low-power flash-based FPGA
 - CCSDS FEC and scrambler
 - ½ rate convolutional encoding (K=7)
 - Reed Solomon (255,233)
 - Pulse shaping filter
- Interfaces
 - Low-speed I²C Bus or CAN 2.0 (telemetry and control)
 - SPI payload data bus or optional Quad SPI bus for high data rates
 - 50 Ω SMP connector
- Modulation
 - OQPSK or QPSK
 - CCSDS
 - Conforms to SFCG 21-2R4 emissions mask specification

MAIN FEATURES

- Low Power Consumption
 - Total power consumption of 15 W at maximum 2W RF output power
- Transmission data rates from 5 to 50 Mbps
 - In-flight configurable in 100kbps steps
- Covers the 8.025 – 8.4 GHz frequency range
 - In-flight configurable in 1MHz steps
- Industry standard encoding and modulation techniques
 - Compatible with commercial off-the-shelf Teledyne Qubeflex demodulators
 - Based on CCSDS specification
 - OQPSK or QPSK
- Transmit output power adjustable from 27dBm to 33dBm in 1dB steps

SPECIFICATIONS

| | |
|-------------------|----------------|
| Temperature | -25°C to +51°C |
| Power Consumption | < 15 W |
| Mass | < 150 g |
| Dimensions | 96 mm x 90 mm |
| Input Voltage | 6.2 V – 17 V |

RF Section

| | |
|-------------------|---------------------|
| Frequency | 8.025 GHz – 8.4 GHz |
| Maximum RF Power | 2 Watt (33 dBm) |
| Channel Spacing | 1 MHz |
| TX SNR | > 20 dB |
| Spurious Response | < -60 dBc (TBC) |

SUPPLIED WITH:

- Flight Board
- User manual
- STEP model

CubeSat X-Band Transmitter Overview

The XTX is an extremely compact X-Band transmitter designed for CubeSat missions. It is compatible with the CubeSat standard, with a CubeSat Kit PC/104 form factor. The transmitter implements OQPSK and QPSK modulation with transmission data rates of up to 50 Mbps.

The transmitter is ideal for space missions where a high data rate downlink is required. It implements a CCSDS specification which allows this product to be compatible with commercial off-the-shelf satellite demodulators.

A nadir facing X-Band patch antenna is available and is easily incorporated into the CubeSat design. Its small size, low profile, rugged design and high directionality make it an excellent addition to the system.

10 to 50 Mbps X-Band Transmitter 2 Watt RF Output Power

