



HIGH DATA RATE LOW POWER CONSUMPTION

The PULSAR-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.

The PULSAR-XTX range is compatible with our X-band antenna. 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. The antenna is circularly polarized and ideal for space missions where a high data rate downlink is required.



FREQUENCIES

The PULSAR-XTX is in-flight configurable in 100kbps steps, covers the 8.025 – 8.375 GHz frequency range in-flight configurable in 1 MHz steps.



PERFORMANCE

The PULSAR-XTX has a low power requirement of <10 W and is powered from unregulated battery bus or regulated 5V.



RELIABILITY

The PULSAR-XTX solution has been tried, tested and trusted on an array of on orbit missions proving to be not only reliable but efficient.

TECHNICAL SPECIFICATIONS

General;	
Temperature	-25°C to +61°C
Power Consumption	< 15 W
Mass	< 130 g
Input Voltage	6.2 V - 17 V
Frequency	8.025 GHz – 8.375 GHz
Maximum RF Power	2 Watt (33 dBm)
Channel Spacing Frequency	1 MHz
TX SNR	> 20 dB
Spurious Response	< -60 dBc
Design Life	2 years in LEO
Transmit Frequency Stability	50 ppm
Output Spectral Mask	SFCG 21-2R4
Configuration	HPA included (2W)
Unit Telemetries	3x currents sensors, 3x temperature sensors, RF Power, P-LL status
Tx Data Rate	10-50 Mbps

Dimensions	
Length	96 mm
Width	90 mm
Height	11.7 mm

*Height from top PCB to lowest component

performance	
Processing	<ul style="list-style-type: none">• Low-power flash-based FPGA• 1/2 rate convolutional encoding (K=7)• CCSDS FEC and scrambler• Pulse shaping filter
Interfaces	<ul style="list-style-type: none">• SPI payload data bus or optional LVDS interface using quad SPI for high data rates• 50 Ω SMP connector
Modulation	<ul style="list-style-type: none">• OQPSK or QPSK• CCSDS• Conforms to SFCG 21-2R4 emissions mask specification



To make an enquiry, request a quotation or learn about AAC Clyde Space's other products and services, please contact:

enquiries@aac-clydespace.com



#SPACEISAWESOME

www.aac-clyde.space

Copyright AAC Clyde Space 2021. All rights reserved. All information subject to change. Release date 6 August 2021.