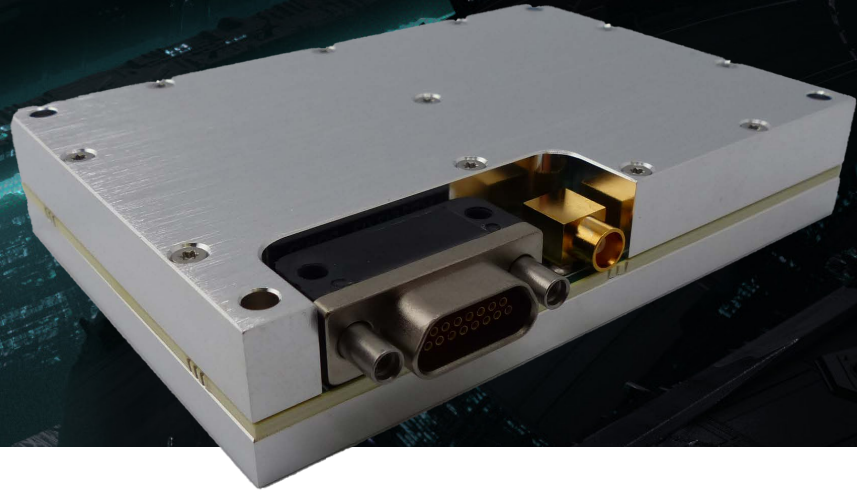


CUSTOMIZABLE COMPACT COMMUNICATIONS



The AAC SpaceQuest next generation TRX-U is a compact single board transceiver for satellite communications in the UHF Band. Designed for CubeSat and SmallSat missions our high-performance TRX-U satellite UHF transceiver is ideal for space missions where a low data-rate uplink and downlink are required and can be used as a robust lower data-rate back-up radio for a higher data-rate radio.

This firmware of this legacy component is changeable on-orbit enabling upgrades over the lifetime of a mission, avoiding natural decreases in performance and adaptability to changing mission requirements.

With up to 20 programmable channels, which can be custom programmed, this solution has been designed for ease of use and offers transmit and receive frequencies covering both amateur and commercial bands. The flight-proven TRX-U is an ideal satellite TT&C Radio or Narrow Band Communication Payload for CubeSat and SmallSat missions.

KEY HIGHLIGHTS:

- Space Qualified (Multiple Units On Orbit)
- Firmware changeable on-orbit
- Up to 20 Programmable Channels
- Up to 5 Watts RF Output
- CubeSat Compatible



FREQUENCIES

With UHF uplink & downlink the TRX-U serve both the commercial and amateur frequencies respectively.



CUSTOM CONFIGURATION

The firmware of the component is changeable on-orbit enabling upgrades over the lifetime of a mission, thus avoiding natural decreases in performance. With up to 20 Channels, which can be custom programmed in 1KHz Steps. With transmit/receive data rates of 2.4 and 19.2 Kbps this solution is highly adaptable to meet your mission needs.



HERITAGE

These units have been extensively tested and are in use by clients around the world. They have been deployed on orbit in various configurations for two decades of successful operations.

TECHNICAL SPECIFICATIONS

General	
Frequency	370 MHz to 470 MHz
Transmit Power:	250mW – 5 Watts RF Output
Transmit Data Rate:	Customer Defined Between 2.4 and 19.2 Kbps
Receive Data Rate:	Customer Defined Between 2.4 and 19.2 Kbps
Channels:	Channels 20 Channels @ 1KHz Steps
Modulation:	FSK, GFSK

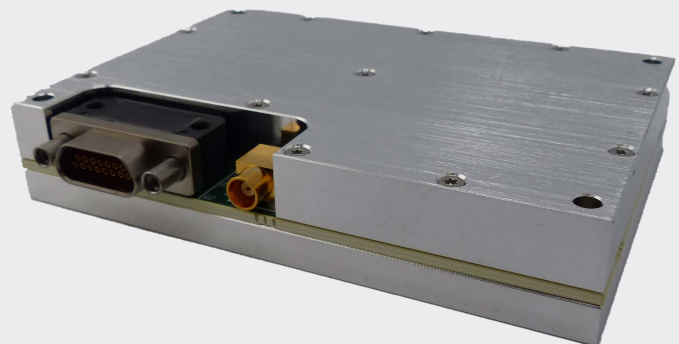
Electrical and RF Specifications	
Input Voltage:	3.3 to 42VDC
Power Consumption:	RX: 230 mW TX: 8W for >5W RF Output with 6V Input
Clock and Data Output:	3.3 Volt CMOS
Power and Data Connector:	15 Pin Micro-D Socket
RF Connector:	MCX Socket
Nominal Sensitivity (BER 10 ⁻⁴):	-113dBm @ 9600 bps -108dBm @ 19.2 Kbps
Front-end Noise Figure:	<1.3dB with Built in LNA and Filter
Carrier Stability:	2.5 ppm from -30°C to +80°C
RF Impedance:	50 Ohms Nominal (Input and Output)
Max VSWR:	>10:1 at All Phase Angles
Automatic Control:	Built in AGC and AFC for Gain and Doppler Control
Digital RSSI:	-120 dBm to 60 dBm

Mechanical and Environmental	
Mass:	125 grams
Size:	83 mm x 57 mm x 16 mm (3.27" x 2.25" x 0.63")
Operating Temperature:	-35°C to +80°C
Storage Temperature:	-35°C to +80°C
Vibration:	14.1G RMS (20 – 2000Hz) per GEVS NASA Std

Full Environmental Testing to include TVAC – Report upon request.

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

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