

# TRX-V Satellite VHF Transceiver

The SpaceQuest TRX-V is a compact single board transceiver for satellite communications in the VHF Band. Similar to the TRX-U, the TRX-V is an ideal satellite TT&C Radio or Narrow Band Communication Payload for CubeSat and SmallSat missions.

## Key Features

- Space Qualified (2 Units On Orbit)
- Compact Single Board Design
- Up to 16 Programmable Channels
- Built in Voltage Regulation
- Up to 6 Watts RF Output
- CubeSat Compatible



## General Specifications

Frequency:	130 MHz to 170 MHz
Transmit Power:	1 – 6 Watts RF Output
Transmit Data Rate:	2.4, 4.8, 9.6, and 19.2 Kbps
Receive Data Rate:	2.4, 4.8, 9.6, and 19.2 Kbps
Channels:	1 to 16 Channels, Customer Programed in 300 Hz Steps
Modulation:	FSK, GFSK

# TRX-U

## Electrical and RF Specifications

Input Voltage:	7.0 to 14.0 Volts
Power Consumption:	RX: 100 mW TX: 4-16 W
Clock and Data Output:	3.3 Volt LVCMOS
Power and Data Connector:	15 Pin Micro-D Socket
RF Connector:	MMCX Socket
Sensitivity:	-120 dBm @ 2400 bps, zero errors -111 dBm @ 19.2 Kbps, zero errors
Front-end Noise Figure:	< 2 dB with built in LNA and Filter
RX Dynamic Range:	120 dB (-120 dBm to 0 dBm reception)
Carrier Stability:	2 ppm from -20°C to +60°C
Impedance:	50 Ohms Nominal (Input and Output)
VSWR:	10:1 at All Phase Angles
Automatic Control:	Built in AGC and AFC for Gain and Doppler Control
Linear Digital RSSI:	-110 dBm to -50 dBm

## Mechanical and Environmental

Mass:	140 grams
Size:	83 mm x 57 mm x 16 mm (3.27" x 2.25" x 0.63")
Operating Temperature:	-20°C to +60°C
Storage Temperature:	-30°C to +80°C
Vibration:	15G RMS (20 – 2000 Hz)