

The TXMission™ Ka-band Receiver is the standalone receiver module from our Ka-band Transceiver and is designed for CubeSats and other smallsat applications. It incorporates a single-conversion super heterodyne receiver with low-side local oscillator.

Electrical and RF Specification

Frequency range	27.5 to 30GHz
Receiver sensitivity	$\leq -114.8\text{dBm}$
Noise figure	3dB
IP3	$>60\text{dB}$
Rejection of unwanted signals	$>-40\text{dBm}$
1dB compression point	$>-50\text{dBm}$
Spurious free dynamic range	$>35\text{dB}$
Image rejection	$>40\text{dB}$
IF	3.65GHz (variable in range 3.65 to 6GHz)

SPECIFICATIONS

- Frequency range: 27.5 to 30.0GHz
- Power consumption: 3W
- Power supply: 3.1 to 18V (unregulated)
- 1dB compression point: $>-50\text{dBm}$
- Size: 95 x 95 x 20mm
- Mass (& volume): $< 0.25\text{kg}$ ($< 0.25\text{U}$)
- Case material: AL 7075-T6
- Metal surface treatment: Alodine 1200S or Hard Gold on request
- RF input: waveguide WR28 with adapter K 2.92mm coax connector
- IF output: 50ohm, SMP coax connector
- Operating temperature: -20°C to $+70^{\circ}\text{C}$ (non-operating: -30°C to $+80^{\circ}\text{C}$)
- Radiation tolerant design
- Receiver module can be fitted together with horn antenna in a 2U CubeSat
- Space qualified connectors

Block Diagram

