



## Orbital 26 GHz Space-Based SmallSat Receiver

The 26 GHz space-based small satellite receiver from Orbital Research delivers high performance for big-bandwidth LEO missions and earth observation (EO) systems. This agile frequency converter is a perfect front-end for software defined radios (SDRs) and on-board processors in the K-band SmallSat market.

When paired with a Tethers International SWIFT SDR, our SmallSat receiver is a complete turn-key communications payload system – or it can be customized to suit your form factor. The device can be used for LEO, MEO, sun synchronous or polar orbit missions and allows for in-orbit changes to mission profiles.

To be used in space-to-space crosslinks, earth-to-space telemetry, tracking and control (TT&C), and earth-to-space communications uplinks/downlinks, among others.

- Low noise figure
- Ultra-low phase noise
- Phase locked frequency synthesized local oscillator (LO)
- DVB-S2X compliant
- CubeSat form factor 4 x 4 inches

**A companion ground terminal LNB will be available in Q4 2019**



## SPECIFICATIONS

RF Frequency Band	From 24 to 27 GHz
IF Frequency Band	4000 to 4500 MHz
Bandwidth	500 MHz bands
Local Oscillator	Frequency synthesized
Noise Figure	2.5 dB
Gain	50 dB $\pm$ 2 dB
Max Ripple 10 MHz	$\pm$ 0.5 dB
In Band Spurs Signal	-65 dBc
Image Rejection	-35 dBc
LO Leakage Input	-60 dBm
LO Leakage Output	-45 dBm
P1DB Output	10 dBm
OIP3	20 dBm

## MECHANICAL

Weight	142 g
Length	82 mm
Width	93 mm
Height	19 mm
Input Connector	K-Connector
Output Connector	SMP Connector

## VSWR

Input	2.0 : 1
Output	2.0 : 1

## POWER

DC Input Voltage Range	6 to 8 VDC
DC Current	600 mA (@ 6 VDC)

## PHASE NOISE

10 Hz	-32 dBc/Hz
100 Hz	-62 dBc/Hz
1 kHz	-72 dBc/Hz
10 kHz	-82 dBc/Hz
100 kHz	-92 dBc/Hz
1000 kHz	-102 dBc/Hz

## K-BANDS COVERED

22.55 to 23.15 GHz*	Earth to Space
24.65 to 24.75 GHz	Earth to Space, Inter-Satellite
24.75 to 25.25 GHz	Earth to Space
25.25 to 25.50 GHz	Inter-Satellite
25.50 to 27.00 GHz	EO Space to Earth, Inter-Satellite

\* Customizable to frequency band required

For more information to order or a full technical report, please contact us at [sales@orbitalresearch.net](mailto:sales@orbitalresearch.net)