STC-20-28-S1

Ka-Band Full Waveguide Band Down-Converter

STC-20-28-S1 is a Ka-Band down-converter that converts millimeterwave signals from a frequency range of 26.5 to 40 GHz to the baseband at 10 MHz to 1.6 GHz. The down-converter requires 13.25 to 20 GHz at +3 dBm input power as its LO, which can be obtained from a standard 20 GHz synthesizer, such as Eravant model **SOT-02220313200-SF-B6.** The down-converter has low harmonic levels and excellent gain flatness, making it a good candidate to extend low frequency test equipment for millimeterwave testing purposes.

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
RF Input Frequency	26.5 GHz		40 GHz
IF Output Frequency	10 MHz	1 GHz	1.6 GHz
LO Input Frequency	13.25 GHz		20 GHz
LO Power		+3 dBm	+20 dBm
Conversion Gain		20 dB	
Harmonic Suppression		20 dBc	
Input P1dB		-5 dBm	
RF Input Power Damage Level			+18 dBm
Power Supply (AC Adapter Provided)	100 V_{AC}		240 V_{AC}
Specification Temperature		+25 ˚C	
Operating Temperature	0 ˚C		+50 ˚C

Mechanical Specifications:

Item	Specification
RF Port	WR-28 Waveguide with UG-599/U Compatible Flange
LO Port	SMA (F)
IF Port	SMA (F)
DC Bias Port	2.5 mm DC Jack (AC-to-DC power converter included)
DC Bias Switch	On-Off Latching Switch with Indicator Light
Enclosure Material	Black Anodized Aluminum
Weight	2.3 lbs
Size	4.89” (W) x 5.00” (L) x 1.90” (H)
Outline	TC-A-2

ECCN

EAR99

FEATURES

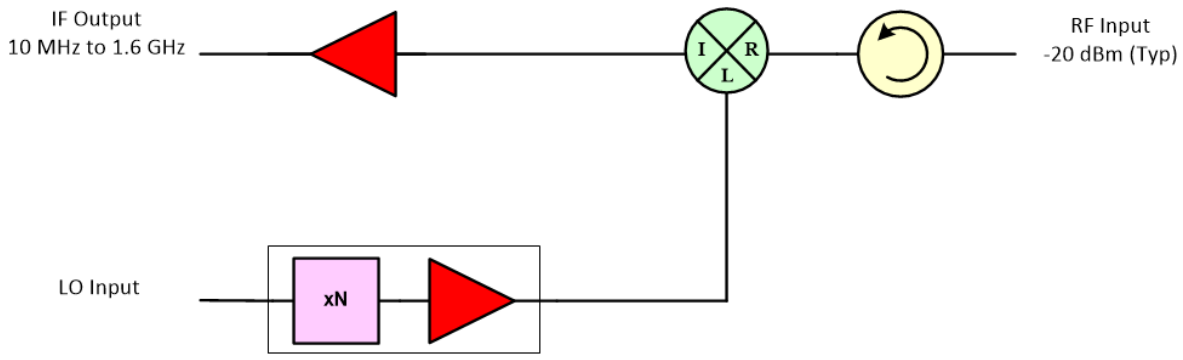
- Full Band Coverage

APPLICATIONS

- Test Lab
- Instrumentations
- Auto Test Set

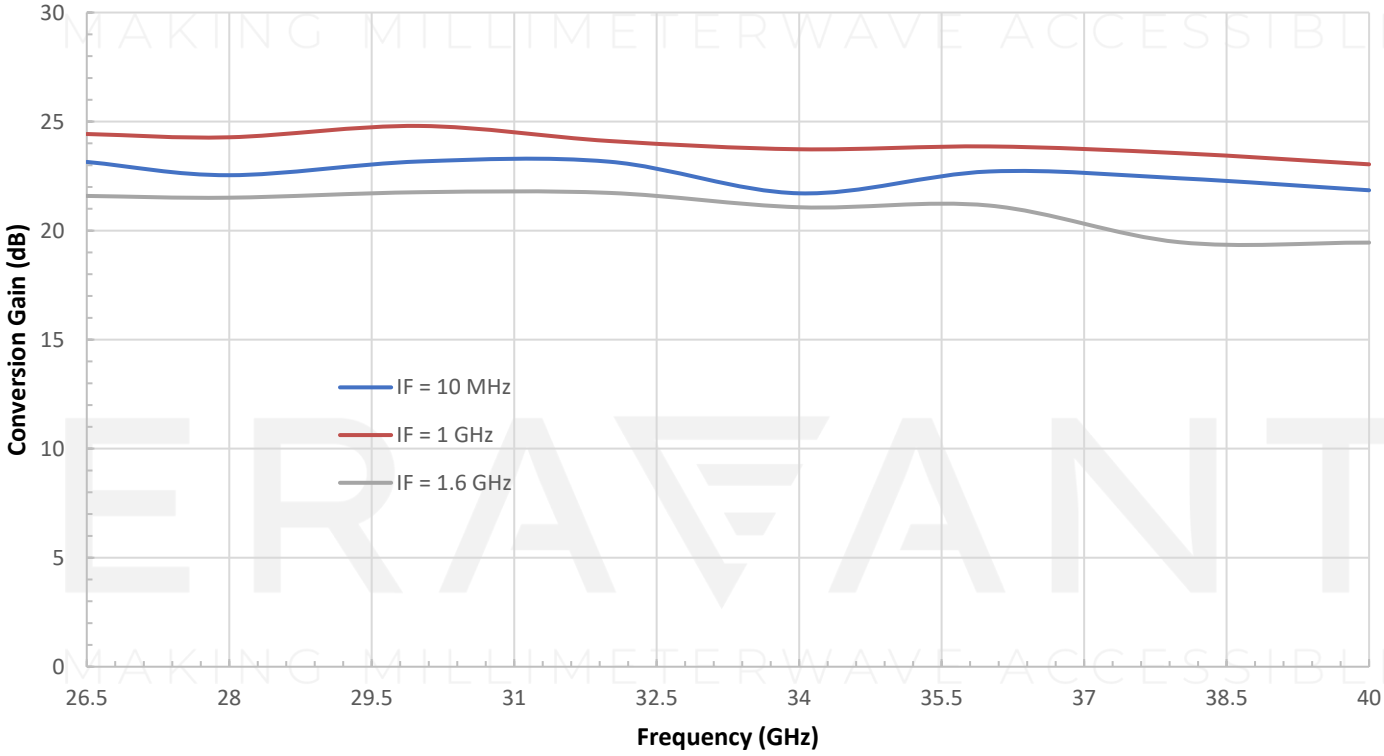
SUPPLEMENTAL DETAILS

Block Diagram:

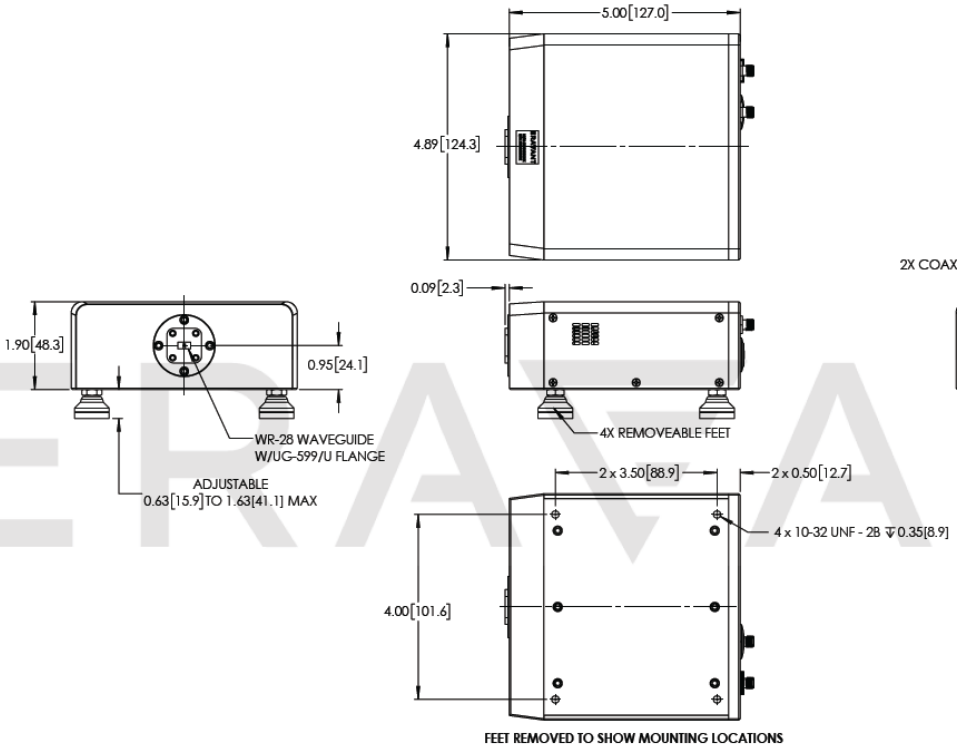


Typical Conversion Gain vs. Frequency

RF = -20 dBm



Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])



NOTE:

- All data presented is collected from a sample lot. Actual data may vary unit to unit.
- All testing was performed under +25 ˚C case temperature.
- Eravant reserves the right to change the information presented without notice.

CAUTION:

- Exceeding absolute maximum ratings of the device will damage the device.
- Proper torque, 8.0 ± 0.4 inch-pounds (0.90 ± 0.02 Nm), should be applied. Eravant torque wrench, model SCH-08008-S1, is highly recommended.
- Any foreign objects in the waveguide will cause performance degradation or damage the device.