



## U-Band Full Waveguide Band Down-Converter

### Description:

**Model STC-30-19-C1** is a U-Band down-converter that converts millimeterwave signals from a frequency range of 40 to 60 GHz to the IF frequencies at 10 MHz to 8 GHz. The down-converter requires 10 to 15 GHz at 0 dBm input power, 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.



### Features:

- Full Band Coverage
- -3 dBm Nominal Input P<sub>-1dB</sub>
- 12 dB Typical Noise Figure

### Applications:

- Test Lab
- Instrumentations
- Auto Test Set

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
RF Input Frequency	40 GHz		60 GHz
IF Frequency Output	10 MHz		8 GHz
LO Input Frequency	10 GHz		15 GHz
LO Power		0 dBm	+10 dBm
Conversion Gain		30 dB	
Harmonic Suppression		20 dBc	
LO or RF Input Power Damage Level			+18 dBm
Power Supply (AC Adapter Provided)	100 V <sub>AC</sub>		240 V <sub>AC</sub>
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

### Mechanical Specifications:

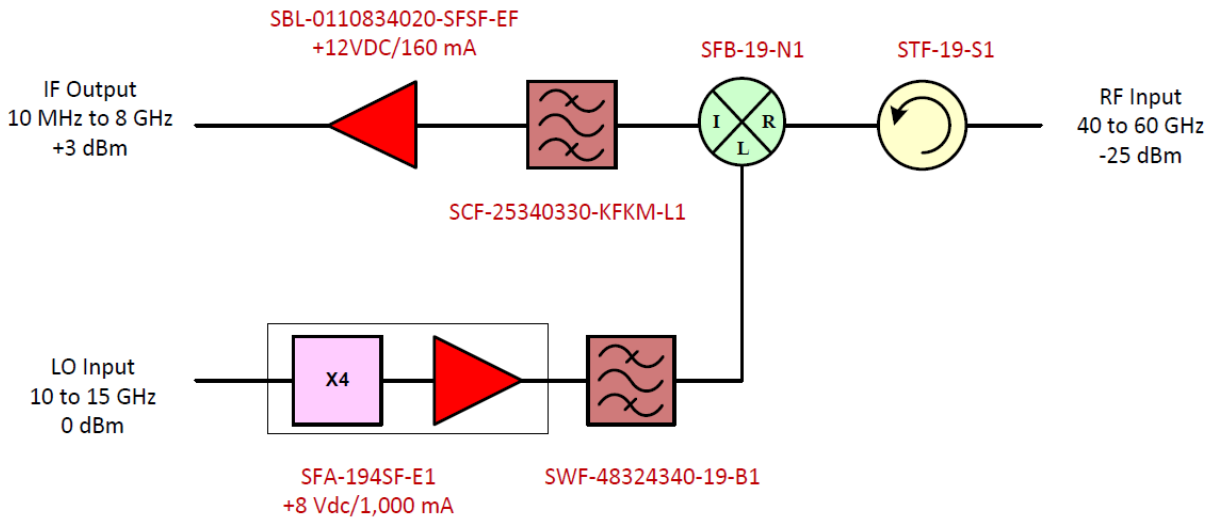
Port	Connector
RF Port	WR-19 Waveguide with UG-383/U-M Anti-Cocking Flange
LO Port	SMA (F)
IF Port	SMA (F)
DC Bias Port	2.5 mm DC Jack (AC-to-DC power converter included)
DC Bias Switch	On-Off Rocker Switch with Indicator Light
Enclosure Material	Extruded Aluminum Finish Black Anodized
Weight	3.5 lb
Size	6.15" (W) x 8.86" (L) x 3.20" to 5.82" (H)
Outline	TC-U-A



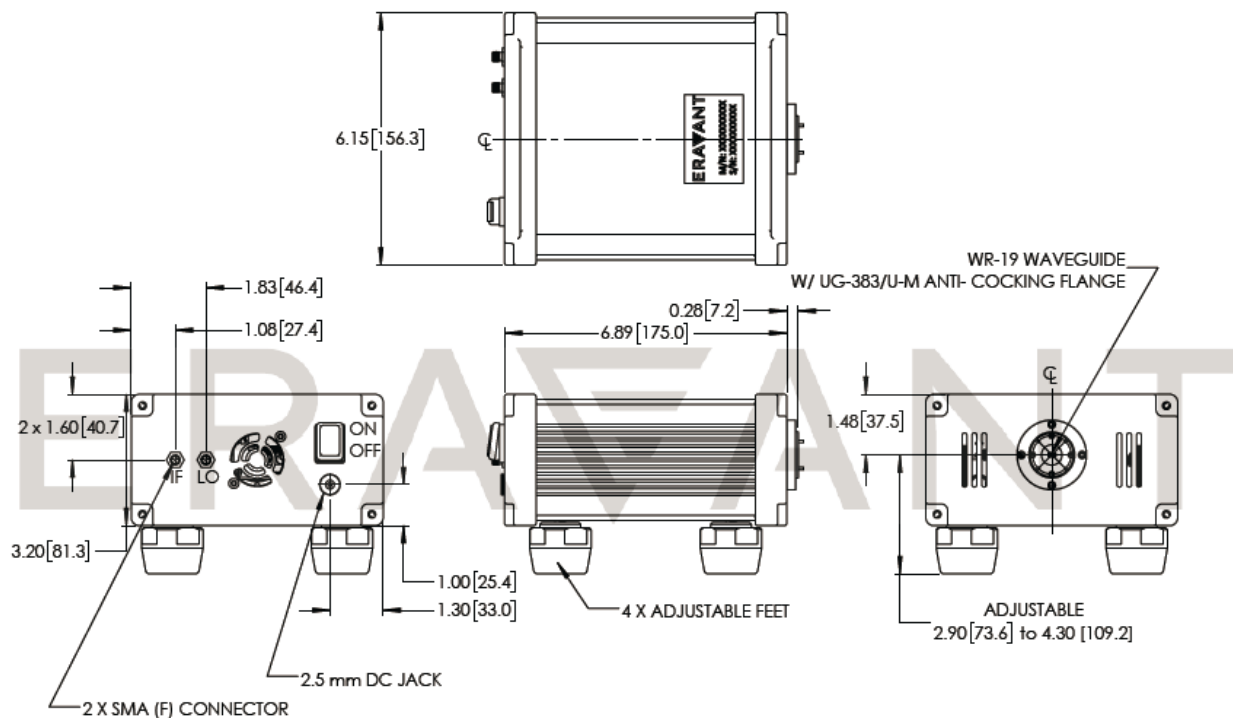
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### Block Diagram:



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



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### 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.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

### Caution:

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

