

G-Band Waveguide Down-Converter

**STC-N20-05-S1-IDP** is a G-Band down-converter that converts sub-THz wave signals from a frequency range of 140 to 220 GHz to the baseband at 1.875 GHz. The down-converter requires 5.83 to 9.17 GHz at +10 dBm input power as its LO. An internal diplexer is included resulting in a single connectorized port for LO and IF configured for compatible spectrum analyzers, such as [Anritsu's MS2850A](#). The down-converter has low harmonic levels and excellent gain flatness, making it a good candidate to extend low frequency test equipment for millimeter wave testing purposes.



Electrical Specifications:

Parameter	Minimum	Typical	Maximum
RF Input Frequency	140 GHz		220 GHz
IF Frequency Output	10 MHz	1.875 GHz	2 GHz
LO Input Frequency	5.83 GHz		9.17 GHz
LO Power	+10 dBm		+12 dBm
LO Damage Power			+20 dBm
Conversion Loss		20 dB	
Harmonic Suppression		-20 dBc	
RF Input Power Damage Level			+10 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:

Item	Specification
RF Port	WR-05 Waveguide with UG-387/U-M Precision Anti-Cocking Flange
LO/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-G-A-IDP

ECCN

3A001.b.7

FEATURES

- Full Band Coverage

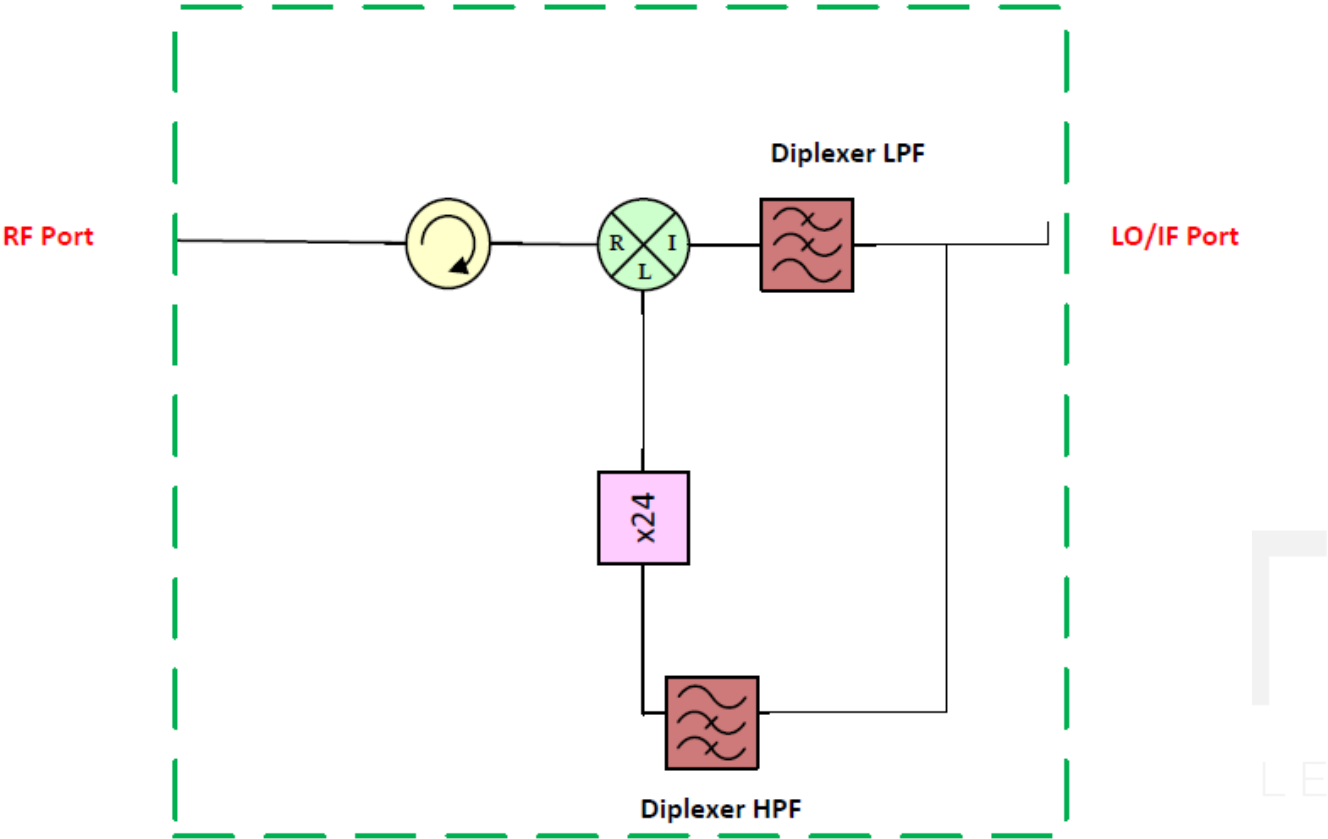
APPLICATIONS

- Test Lab
- Instrumentations
- Auto Test Set
- [Anritsu MS2850A](#)

SUPPLEMENTAL DETAILS



Simplified Block Diagram:

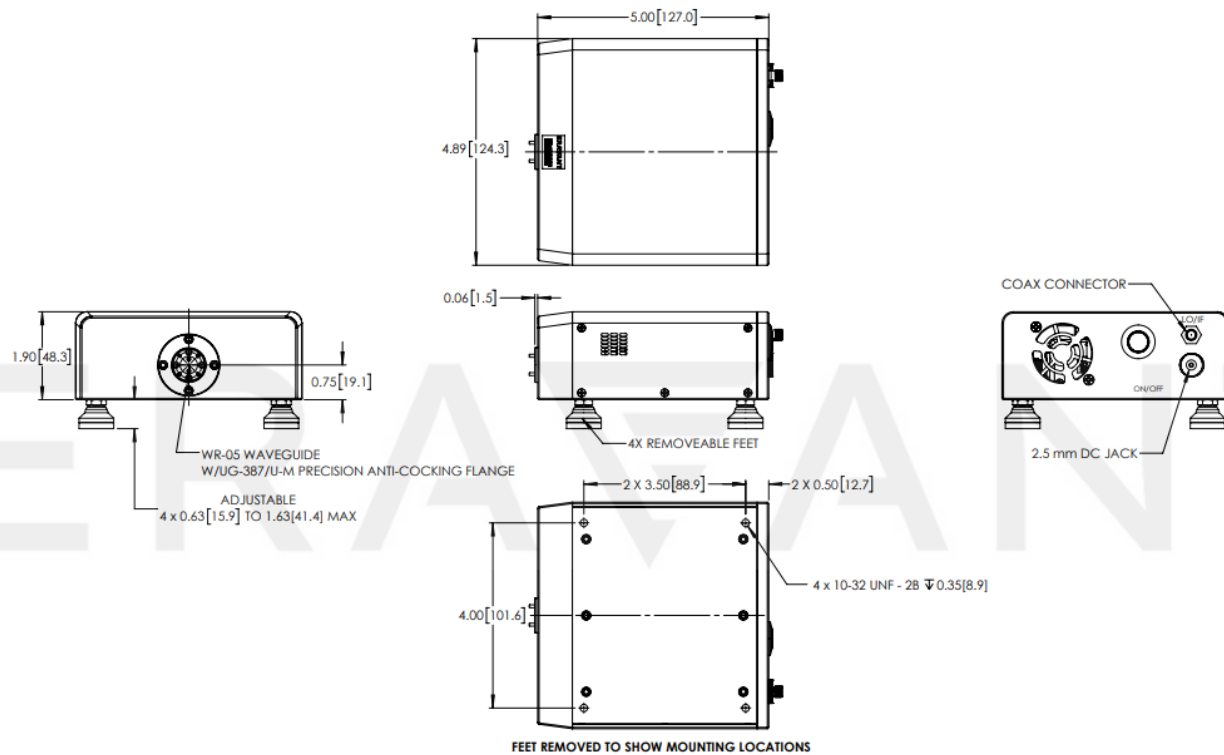


ERAVANT

MAKING MILLIMETERWAVE ACCESSIBLE

## STC-N20-05-S1-IDP

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



### NOTE:

- On condition that test data is provided it is collected from a sample lot. Actual data may vary slightly from unit to unit. All testing is performed under +25 °C room temperature.
- On condition that simulated test data is provided, actual measured data may slightly vary.
- Eravant reserves the right to change the information presented without notice.

### CAUTION:

- If a waveguide is present, any foreign objects in the waveguide will cause performance degradation and may damage or destroy the unit.
- For 1.35 mm, 1.85 mm, 2.4 mm, 2.92 mm, and SMA connectors proper torque should be applied:  $8.0 \pm 0.15$  inch-pounds ( $0.90 \pm 0.02$  Nm). Torque wrench model SCH-08008-S1 is highly recommended.

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