STI-05-10-S1

W-Band Full Waveguide Band Phase Noise Analyzer Down-Converter

STI-05-10-S1 is a W-Band phase noise analyzer (PNA) down-converter that converts millimeterwave (mmW) signals from a frequency range of 75 to 110 GHz to the baseband at 10 MHz to 1.6 GHz. The down-converter requires two +3 dBm driving power as its LO input signals at 12.5 to 18.33 GHz from the PNA. The down-converter then convert the DUT mmW signals up to +10 dBm to two IF outputs feeding low frequency PNA, such as Anapico's APPH equipment, for phase noise analysis. The down-converter has low harmonic levels and excellent gain flatness, extending the microwave PNA to perform the phase noise testing beyond 50 GHz. Various models are available in full waveguide bands, from WR-15 to WR-03 are available to covering the frequency range of 50 to 330 GHz.

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
RF Input Frequency	75 GHz		110 GHz
IF Output Frequency	10 MHz	1 GHz	1.6 GHz
LO Input Frequency	12.5 GHz		18.33 GHz
LO Power		+3 dBm	+20 dBm
Conversion Gain		5 dB	
Harmonic Suppression		-20 dBc	
Input P1dB		+10 dBm	
RF Input Power Damage Level			+15 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-10 Waveguide with UG-387/U-M Precision Anti-Cocking Flange
LO Ports	SMA (F)
IF Ports	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	4.4 Lbs
Size	9.00" (L) x 3.00" (W) x 2.00" (H)
Outline	TI-W-A

ECCN

3A001.b.7

FEATURES

- Full Band Coverage

APPLICATIONS

- Frequency Extension
- Phase Noise Measurements
- Anapico APPH Phase Noise Analyzers

SUPPLEMENTAL DETAILS

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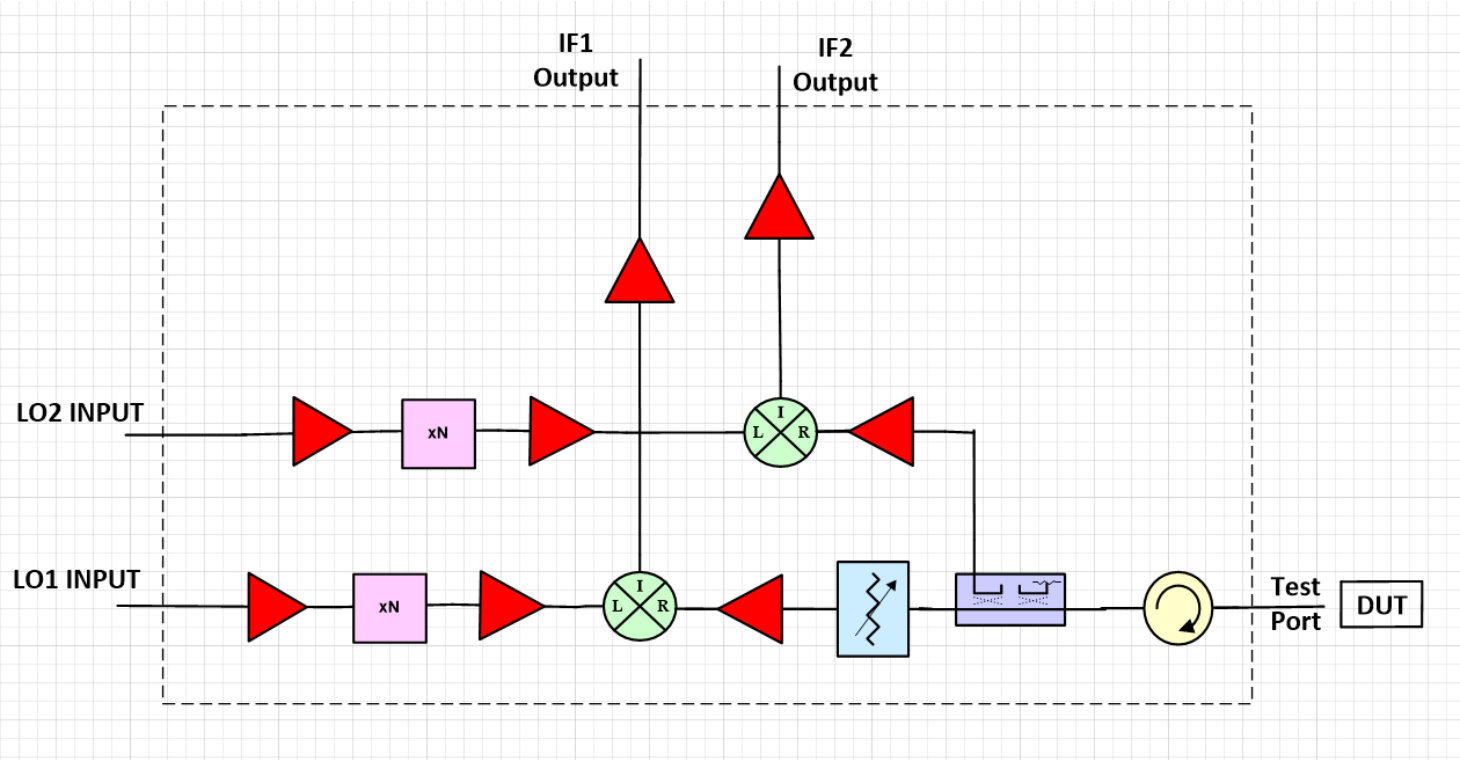
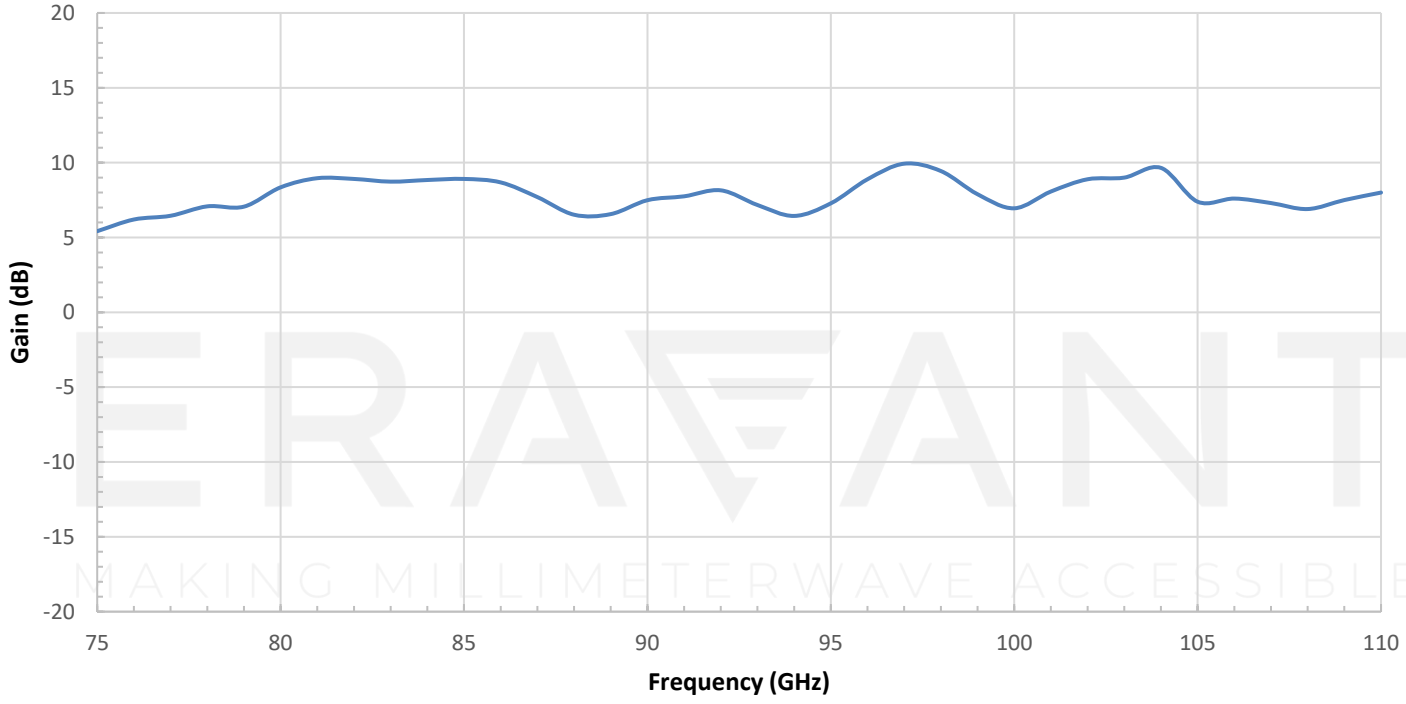
Block Diagram:



MAKING MILLIMETERWAVE ACCESSIBLE

Gain vs. Frequency



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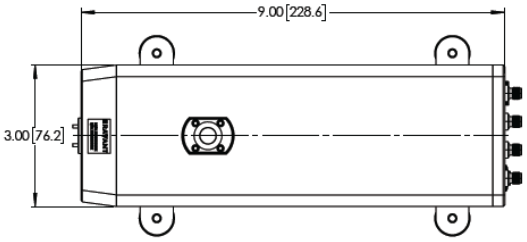
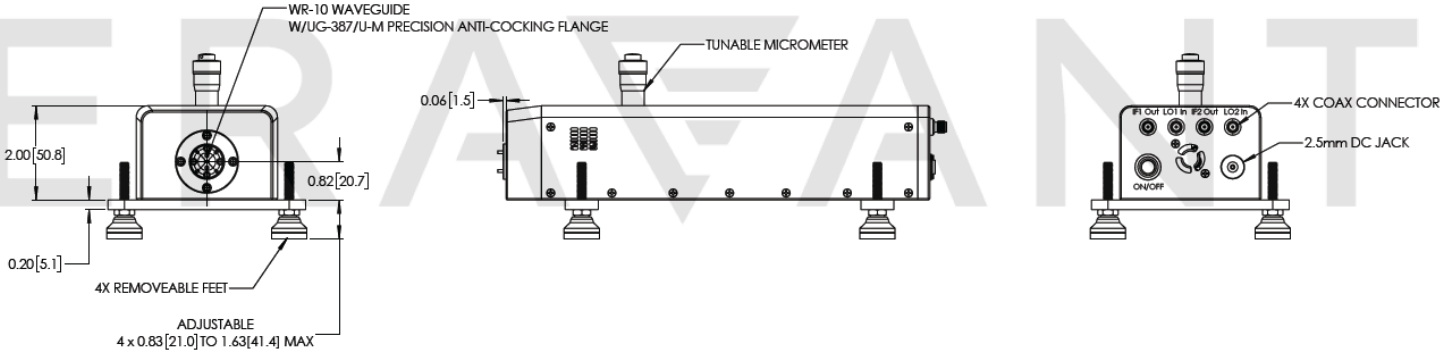
Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])





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.
- Eravant reserves the right to change the information presented without notice.

CAUTION:

- Exceeding absolute maximum ratings of the device will damage the device.
- 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 ± 0.15 inch-pounds (0.90 ± 0.02 Nm). Torque wrench model SCH-08008-S1 is highly recommended

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