STG-10-S2

Advanced

W-Band Noise Figure and Gain Test Extenders, Low Noise Figure



Description:

Model STG-10-S2 is a full W-Band noise figure and gain test extender that extends the noise and gain measurement capabilities of common and low frequency signal synthesizers and noise figure meters to the frequency range of 75 to 110 GHz . This extender offer low noise figure and is designed to interface with industry standard noise and gain test systems, such as Keysight 8970A/B, N8973A, and N8975A/B. It can also interface with any noise and gain analyzers in the 10.0 MHz to 26.5 GHz frequency range.

Features:

- Full Band Coverage
- Great ENR Flatness

Applications:

- Test Lab
- Instrumentations

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
RF Frequency	75.0 GHz		110.0 GHz
Noise Source ENR	11.0 dB	12.0 dB	
Noise Source Bias Voltage/Current	+18 V_{DC}/50 mA	+28 V_{DC}/60 mA	+30 V_{DC}/75 mA
Down Converter IF Frequency	10.0 MHz		26.5 GHz
Down Converter LO Frequency/Power	12.5 GHz/+3 dBm	15.4/+5 dBm	18.3 GHz/+20 dBm
Down Converter LO to IF Isolation	20 dB	25 dB	
Down Converter Noise Figure		6 dB	7 dB
Down Converter Input P_{-1dB}	-45 dBm	-40 dBm	
Down Converter Gain	15 dB	20 dB	
Down Converter LO Damage Level			+20 dBm
Down Converter RF Damage Level			0 dBm
Down Converter Bias Voltage	+8 V_{DC}	+12 V_{DC}	+15 V_{DC}
Down Converter Bias Current		450 mA	
Specification Temperature		+25 ˚C	
Operating Temperature	0 ˚C		+50 ˚C

Mechanical Specifications:

Item	Specification
Noise Source RF Port	WR-10 Waveguide with UG-387/U-M Flange
Noise Source Bias Port	BNC (F)
Noise Source Trigger	SMA(F)
Down Converter RF Port	WR-10 Waveguide with UG-387/U-M Flange
Down Converter LO Port	SMA (F)
Down Converter IF Port	K(F)
Down Converter Bias Port	Banana Jack
Weight	4 lb
Outline	TG-W

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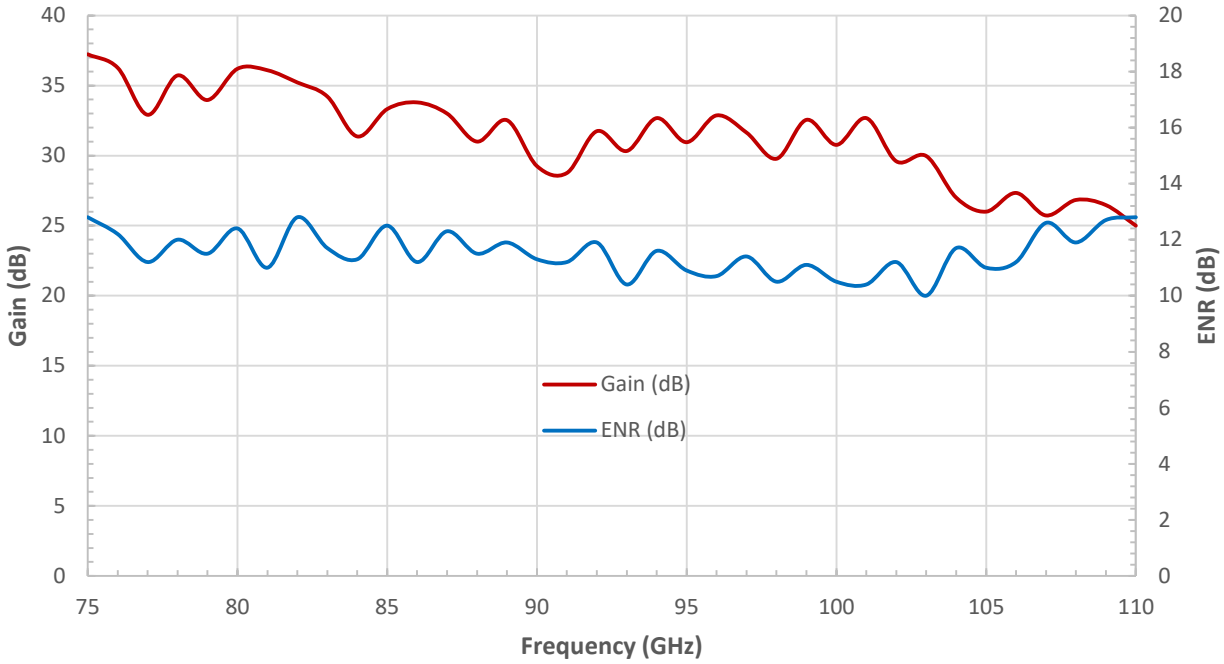
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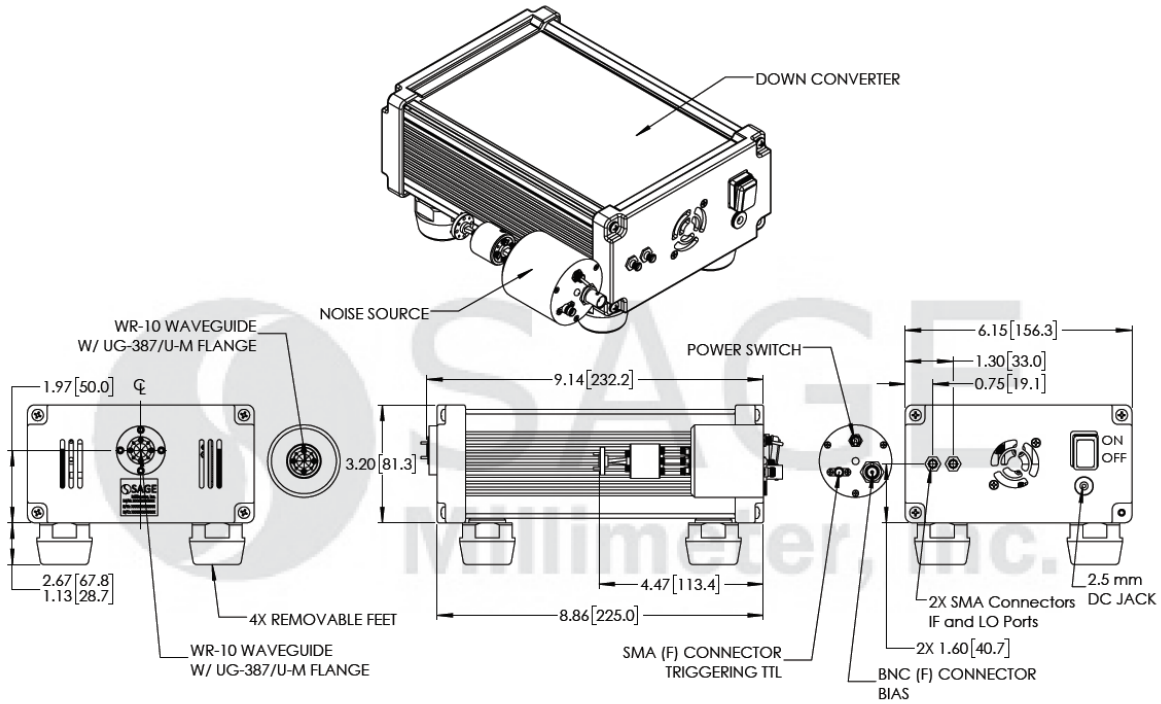
W-Band Noise Figure and Gain Test Extenders, Low Noise Figure

Typical Performance vs. Frequency

IF=1 GHz, LO= +5 dBm, RF= - 40 dBm



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



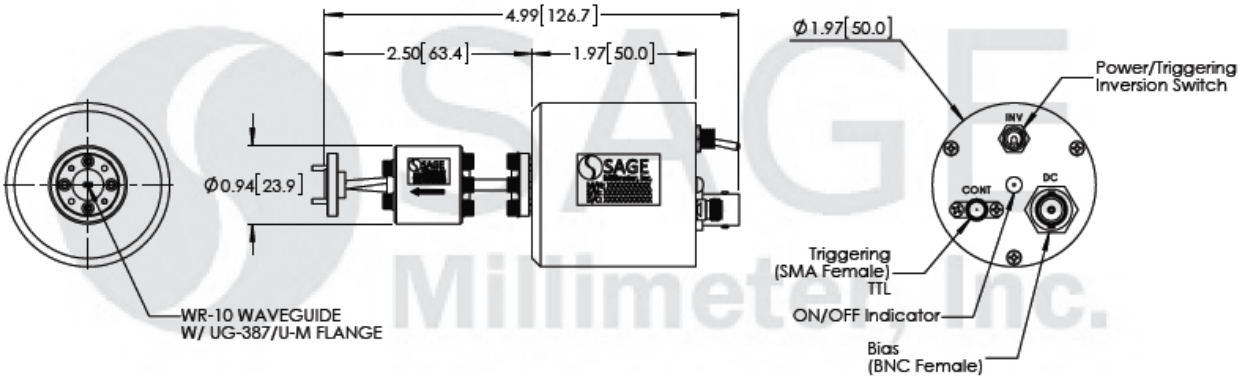
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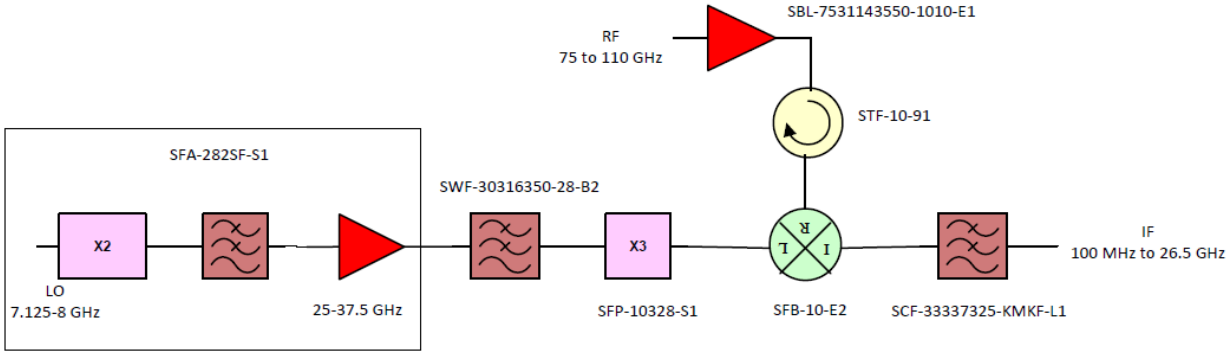
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W-Band Noise Figure and Gain Test Extenders, Low Noise Figure

Outline of Noise Source (STZ-10-I1)



System Simplified Block Diagram:



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.
- The **Triggering Port** (female SMA connector) of the noise source is provided to turn the noise source on and off via a TTL control signal any time the **Bias** is applied. The switching frequency is limited to 1 KHz.
- The **Power/Triggering Inversion Switch** of the noise source is provided to manually turn the noise source on and off any time the **Bias** is applied. When the switch is in the "ON" position, the LED light will be illuminated.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

Caution:

- Exceeding absolute maximum ratings shown will damage the device.
- Any foreign objects in the waveguide will cause performance degradation and possible device damage.

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