STZ-60390320-12-I1

Rev. 1.0

Full Waveguide Band, E-Band High ENR Noise Source with Isolator

Description:

Model STZ-60390320-12-I1 is an E-Band, high ENR noise source that delivers a 20 dB typical ENR with extreme flatness across the frequency range of 60 to 90 GHz. The noise source is integrated with SAGE Millimeter's high quality Faraday isolator (STF-12-S1) to improve the port VSWR and load pull for more reliable and accurate noise figure measurements. The noise source can work in either CW or pulse AM mode by applying a TTL triggering signal via a female SMA connector. This feature can also be used in automatic test systems to remotely turn the noise source on and off. In addition, a toggle switch (power/triggering inversion switch) is provided to turn the noise source on and off manually.

Features:

- Full Waveguide Band Operation
- TTL or Manual Turn On and Off
- CW or Pulsed AM operation Modes
- Precision Calibrated and Flat ENR
- High ENR

Applications:

- Test Labs
- Instrumentations
- Radiometric Systems

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
RF Frequency Range	60 GHz		90 GHz
ENR	18 dB	20 dB	
ENR Flatness		±1.5 dB	
Temperature Stability		0.01 dB/°C	
Long Term Temperature Stability		0.05 dB/day	
AM Modulation Trigger		TTL	
AM Modulation Rate		1.0 KHz	
Port Return Loss		16 dB	
DC Bias	+18 V_{DC}/45 mA	+28 V_{DC}/75 mA	+30 V_{DC}/100 mA
Specification Temperature		+25˚C	
Case Temperature	0˚C		+50˚C

Mechanical Specifications:

Item	Specification
RF Output	WR-12 Waveguide with UG-387/U Flange
Bias Port Connector Type	BNC (F)
AM Modulation Connector Type	SMA (F)
Size	5.41" (L) x 1.97" (Ø)
Waveguide Flange Material	Brass
Noise Source Finish	Silver Plated and Black Paint
Isolator Finish	Gold Plated and Black Anodized
Weight	11.3 Oz
Outline	TZ-WE

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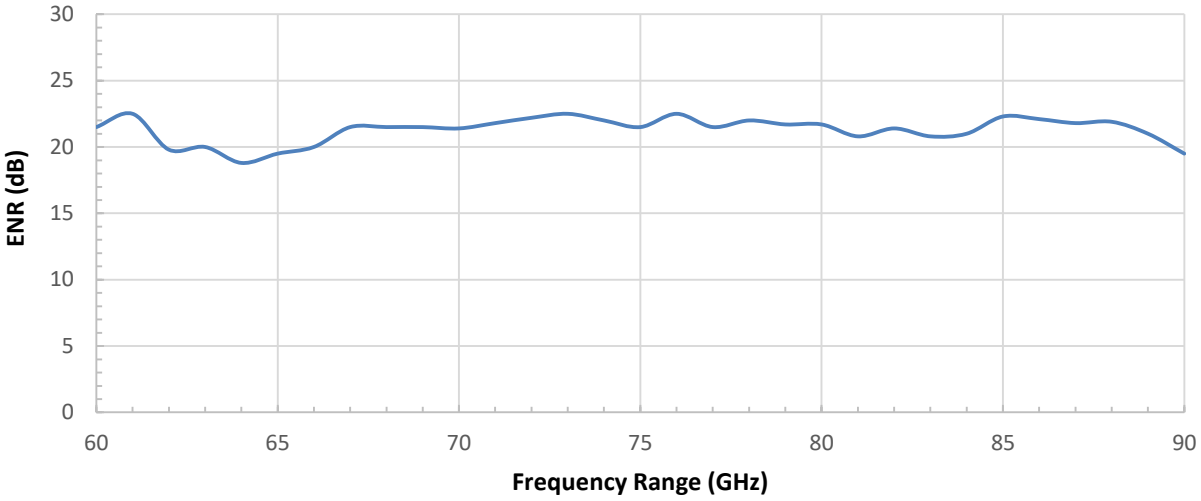
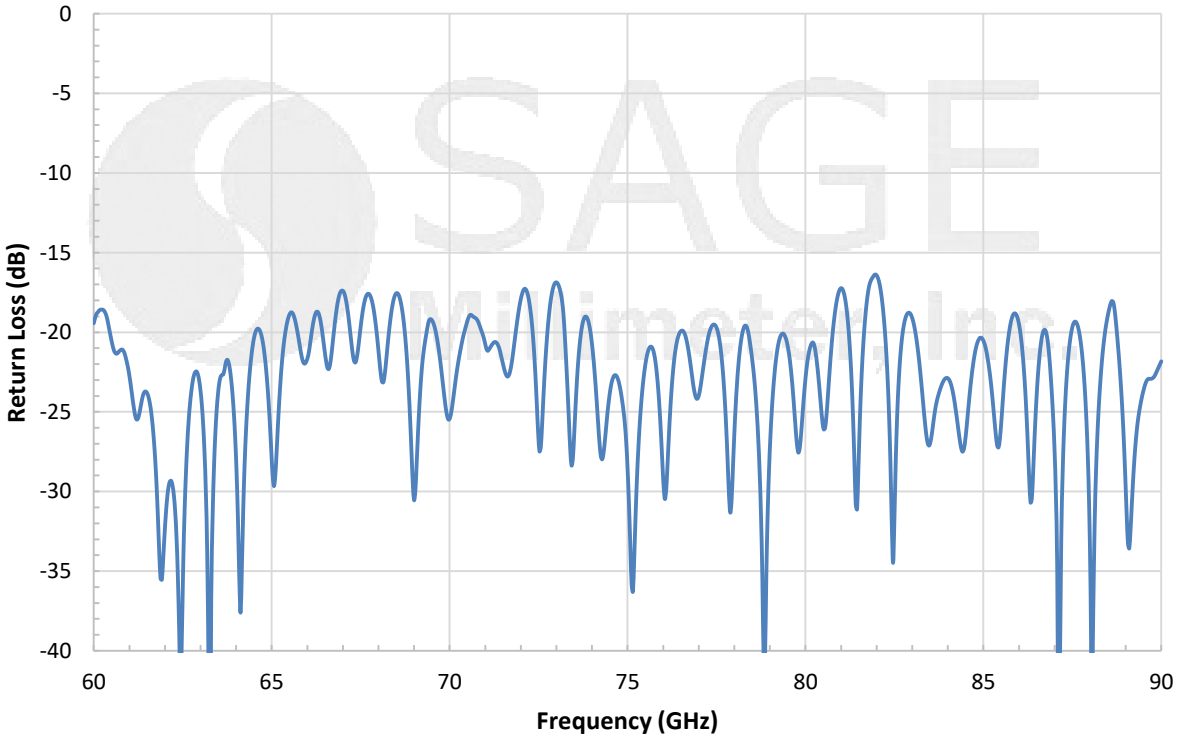
Typical ENR vs. Frequency

V_{DC}: +28 V, $I_{DC:}$ 75 mA



Typical Return Loss vs. Frequency



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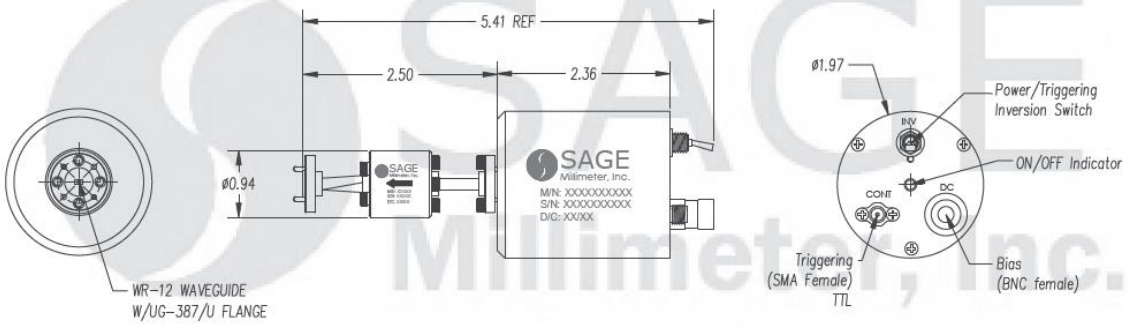
Mechanical Outline: (Unless otherwise specified, all dimensions are in inches)



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 will damage the device.
- Any foreign objects in the waveguide will cause performance degradation and possible device damage.

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