STZ-675312412-10-I1

Rev 1.1

Extended W-Band Waveguide, 65-116 GHz Noise Source w/ Isolator

Description:

Model STZ-675312412-10-I1 is an extended W-Band noise source that delivers a 12 dB ENR with extreme flatness across the frequency range of 65 to 116 GHz. The noise source is integrated with SAGE Millimeter's high-quality Faraday isolator (STF-10-S1) to improve the port return loss 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:

- Extended Waveguide Band Operation
- TTL or Manual On and Off Switches
- CW or Pulsed AM Operation Modes
- Precision Calibrated and Flat ENR

Applications:

- Test Labs
- Instrumentations
- Radiometric Systems

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
RF Frequency Range	65.0 GHz		116.0 GHz
ENR	10.0 dB	12.0 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		15 dB	
DC Bias	+15 V_{DC}/35 mA	+28 V_{DC}/60 mA	+30 V_{DC}/75 mA
Specification Temperature		+25˚C	
Case Temperature	0˚C		+50˚C

Mechanical Specifications:

Item	Specification
RF Output	WR-10 Waveguide with UG-387/U-M Flange
Bias Port Connector Type	BNC (F)
AM Modulation Connector Type	SMA (F)
Waveguide Flange Material	Brass
Noise Source Finish	Silver Plated and Black Paint
Isolator Finish	Gold Plated and Black Anodized
Weight	9.5 Oz
Size	4.99" (L) x 1.97" (Ø)
Outline	TZ-WW

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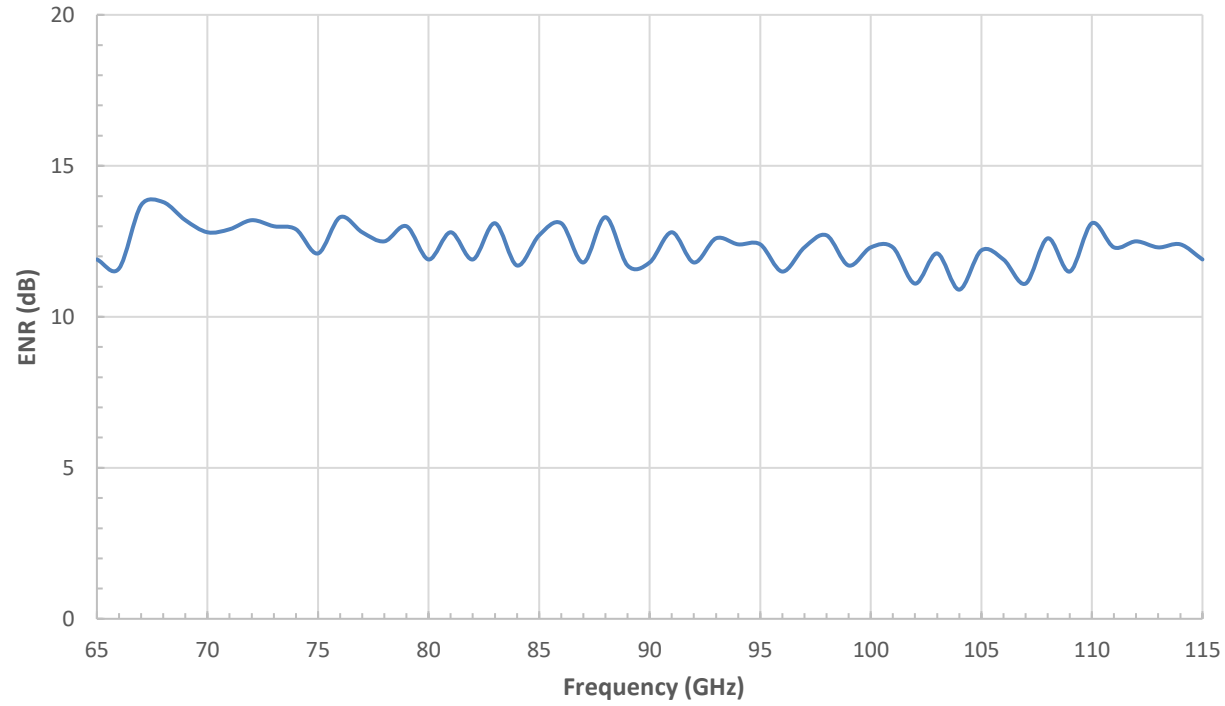
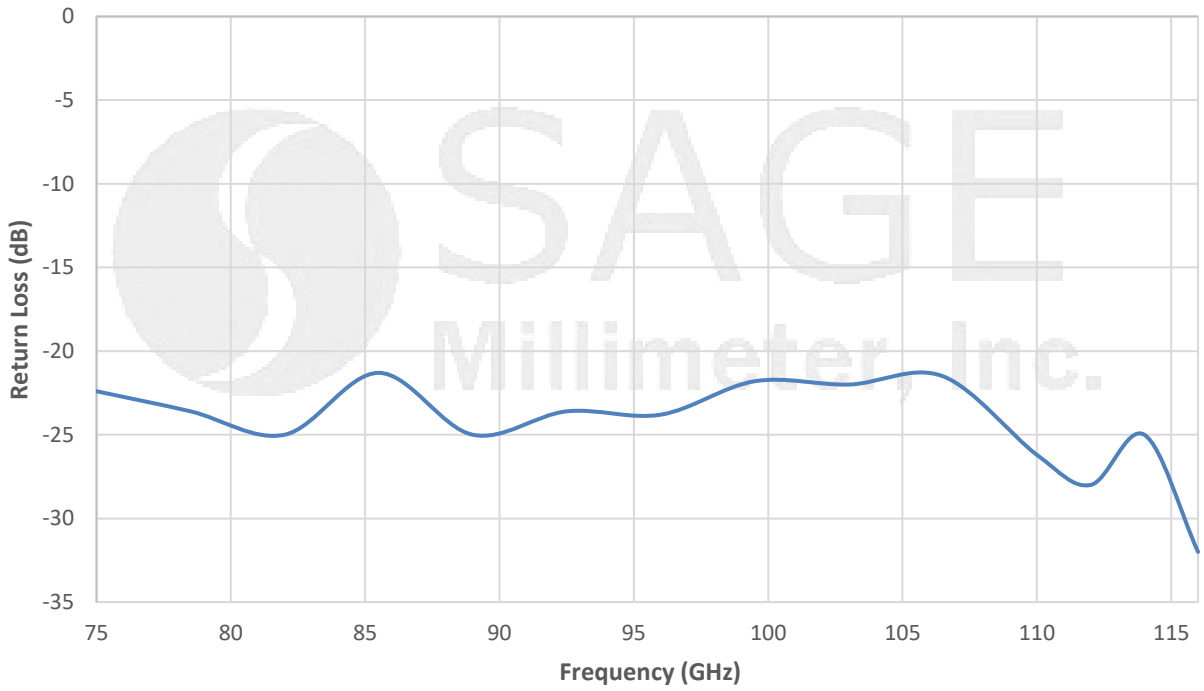
Typical ENR vs. Frequency

V_{DC} = +18 V, I_{DC} = 35 mA



Typical Return Loss vs. Frequency



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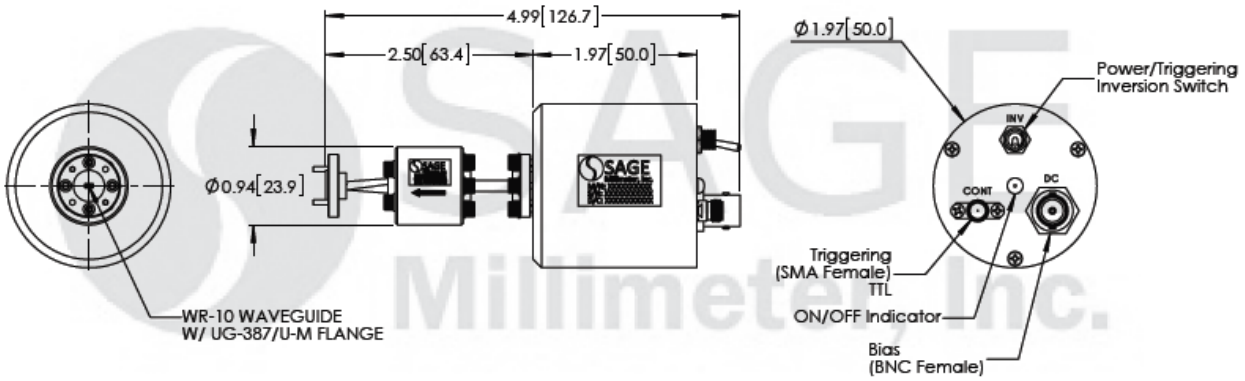
Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])



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 or magnetic field presented will cause performance degradation and possible device damage. Always keep magnetic fields 6 inches away.

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