



Full Waveguide Band, E-Band Noise Source with Isolator

Description:

Model STZ-12-I1 is a full E-Band noise source that delivers a 13 dB ENR with exceptional 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 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:

- Full 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	60 GHz		90 GHz
ENR		13 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	
DC Voltage	+18 V _{DC}		+30 V _{DC}
DC Current	50 mA		75 mA
Specification Temperature		+25 °C	
Operating Temperature	0 °C		+50 °C

Mechanical Specifications:

Item	Specification
RF Output Port	WR-12 Waveguide with UG-387/U Flange
Bias Port	BNC (F)
AM Modulation Port	SMA (F)
Waveguide Flange	Brass
Noise Source Finish	Silver Plated and Black Paint
Isolator Finish	Gold Plated and Black Anodized
Weight	11.3 Oz
Size	5.38" (L) x 1.97" (Ø)
Outline	TZ-WE

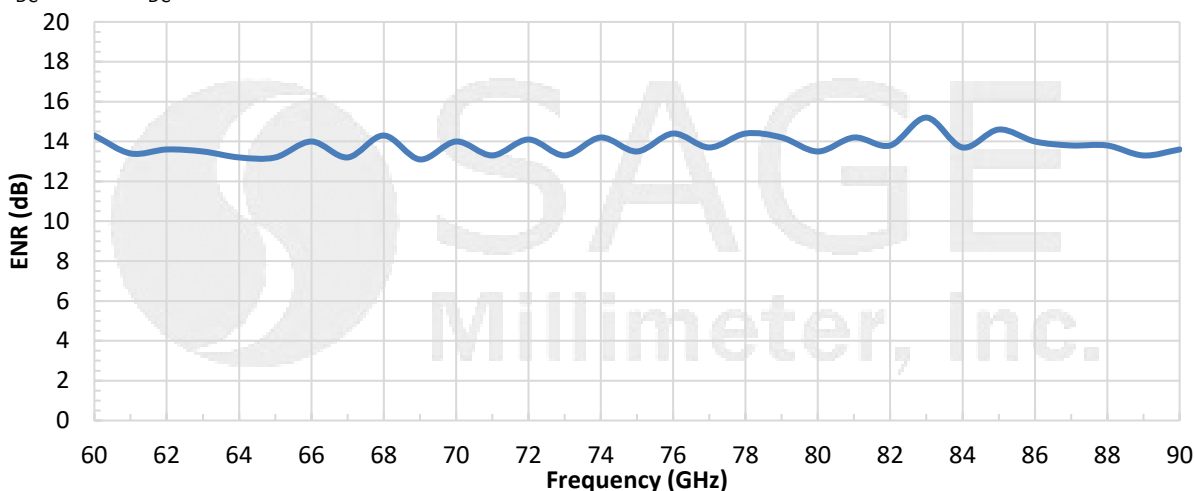


www.sagemillimeter.com | 3043 Kashiwa Street, Torrance, CA 90505
 Phone: 424-757-0168 | Fax: 424-757-0188 | Email: sales@sagemillimeter.com

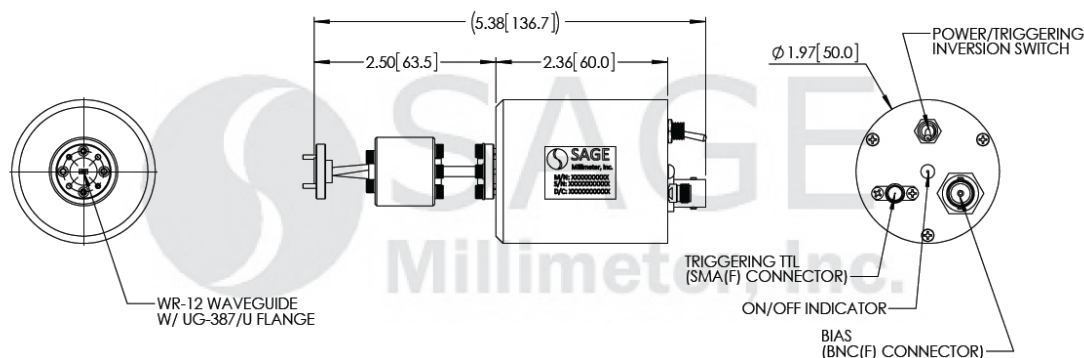
Full Waveguide Band, E-Band Noise Source with Isolator

Typical ENR vs. Frequency

$V_{DC} = +28 \text{ V}$, $I_{DC} = 60 \text{ mA}$



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 of shown will damage the device.
- Any foreign objects in the waveguide will degrade performance and may damage the device.



www.sagemillimeter.com | 3043 Kashiwa Street, Torrance, CA 90505
 Phone: 424-757-0168 | Fax: 424-757-0188 | Email: sales@sagemillimeter.com