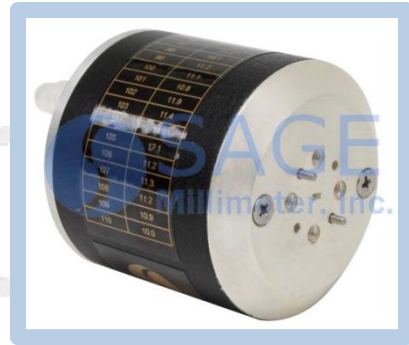




Full Waveguide Band, F-Band Noise Source

Description:

Model STZ-08-01 is an F-Band noise source that delivers a 14 dB nominal ENR with extreme flatness across the frequency range of 90 to 140 GHz. 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 |
|---------------------------------|----------------------------|----------------------------|----------------------------|
| Input Frequency Range | 90.0 GHz | | 140.0 GHz |
| ENR | 12.0 dB | 14.0 dB | |
| ENR Flatness | | ±2.0 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 Bias | +18 V _{DC} /50 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-08 Waveguide with UG-387/U-M Flange |
| Bias Port Connector Type | BNC (F) |
| AM Modulation Connector Type | SMA (F) |
| Size | 1.97" (L) x 1.97" (Ø) |
| Finish | Silver Plated and Black Paint |
| Weight | 7.0 Oz |
| Outline | TZ-OF |

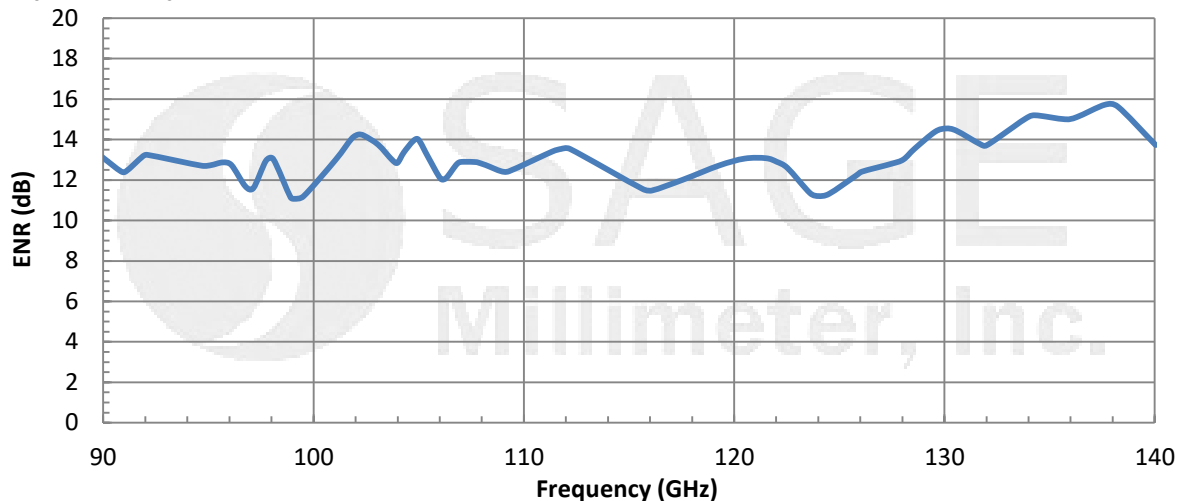




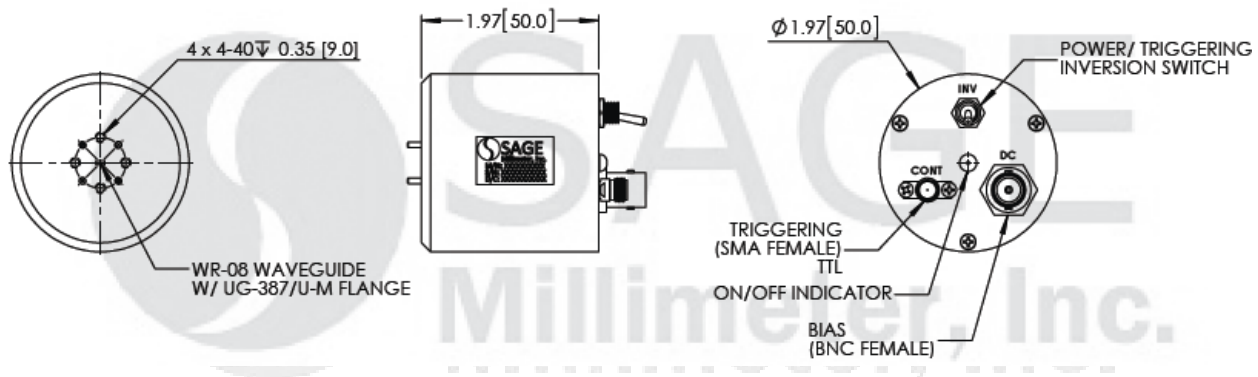
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Typical ENR vs. Frequency

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



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.



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

