

Full Waveguide Band, Q-Band Noise Source with Isolator, +15 V_{DC} Bias

STZ-22-I1-CWI is a custom-built Q-Band noise source that delivers a 13 dB ENR with extreme flatness across the frequency range of 33 to 50 GHz. The noise source is integrated with Eravant's high quality Faraday isolator (**STF-22-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. A Calibration Certificate for ENR values will be included.



Electrical Specifications:

Parameter	Minimum	Typical	Maximum
RF Frequency Range	33 GHz		50 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 kHz	
Port Return Loss		14 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 Port	WR-22 Waveguide with UG-383/U Flange
Bias Port Connector Type	BNC (F)
AM Modulation Connector Type	SMA (F)
Noise Source Finish	Silver Plated and Black Paint
Isolator Finish	Gold Plated and Black Anodized
Waveguide Flange Material	Brass
Weight	15 Oz
Size	6.44" (L) x 1.97" (Ø)
Outline	TZ-WQ

ECCN

EAR99

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

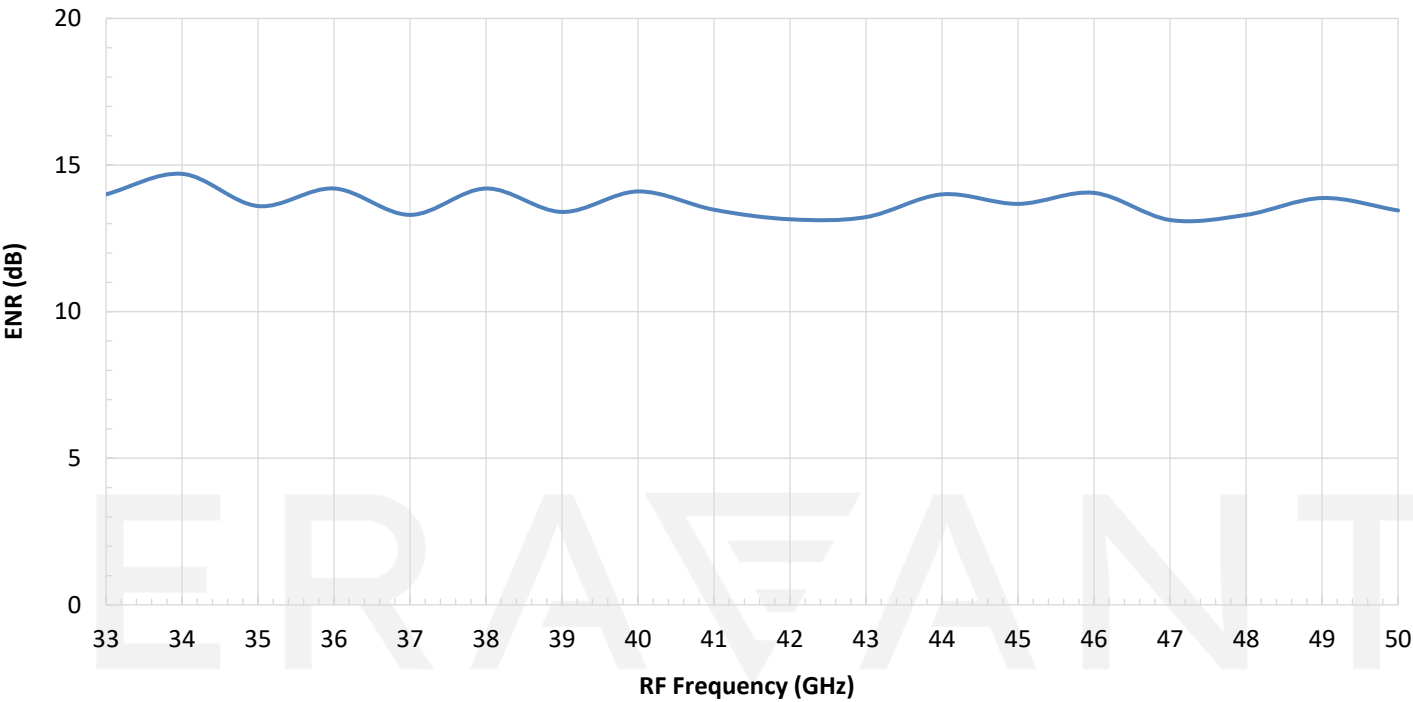
SUPPLEMENTAL DETAILS



STZ-22-I1-CWI

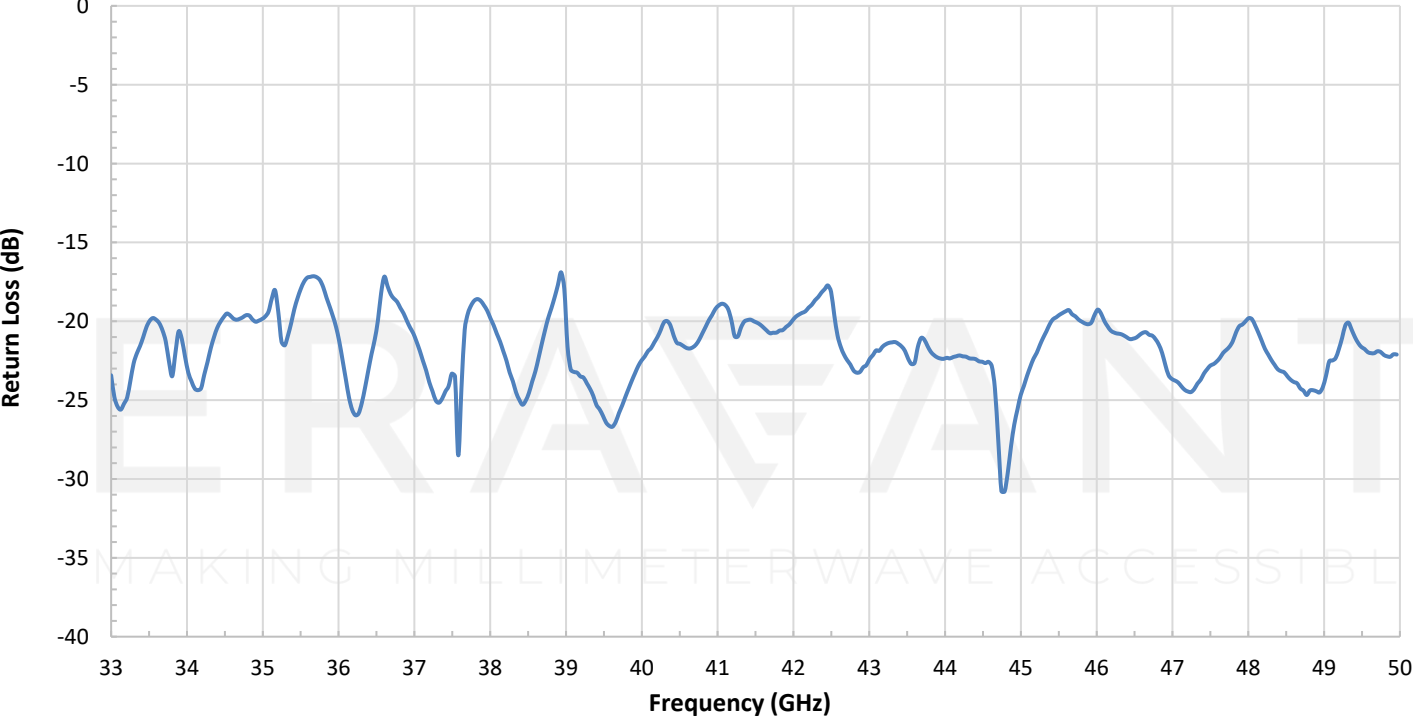
Typical ENR vs. Frequency

$V_{DC} = +15\text{ V}_{DC}$, $I_{DC} = 35\text{ mA}$



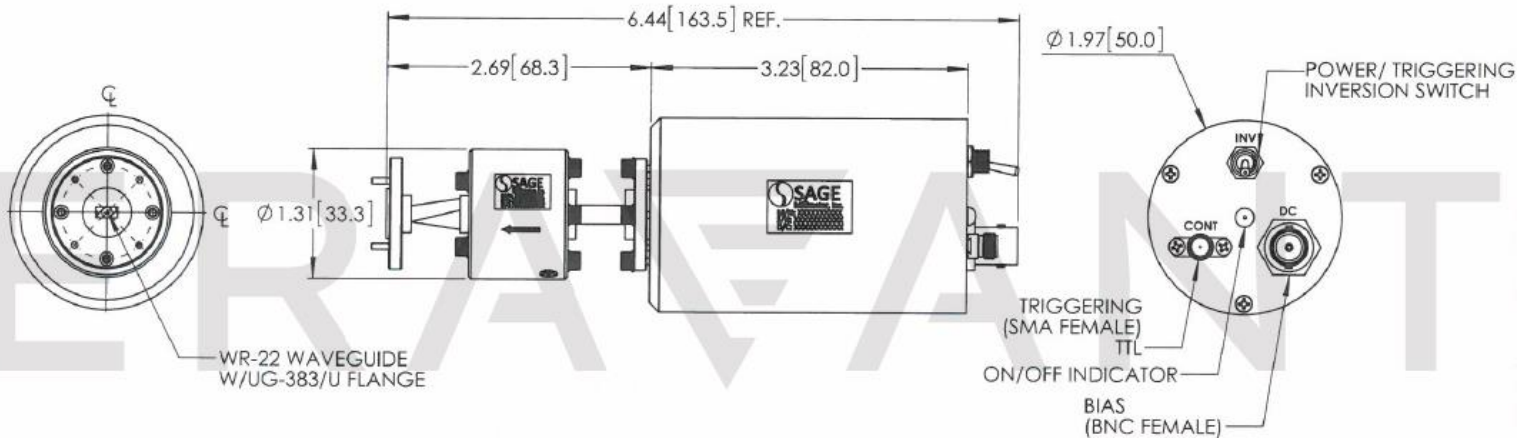
Typical Return Loss vs. Frequency

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



NOTE:

- On condition that test data is provided it is collected from a sample lot. Actual data may vary slightly from unit to unit. All testing is performed under +25 °C room temperature.
- The **Triggering Port** (female SMA connector) of the noise source is provided to turn the noise source on the 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 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.
- Eravant reserves the right to change the information presented without notice.

CAUTION:

- Exceeding absolute maximum rating will damage the device.
- If a waveguide is present, any foreign objects in the waveguide will cause performance degradation and may damage or destroy the unit.
- For 1.35 mm, 1.85 mm, 2.4 mm, 2.92 mm, and SMA connectors proper torque should be applied: 8.0 ± 0.15 inch-pounds (0.90 ± 0.02 Nm). Torque wrench model SCH-08008-S1 is highly recommended.