

## 3.5mm Precision Calibrated Noise Source Module, Output ENR of 13 dB, +28 VDC, 10 MHz to 26 GHz, Calibration Standard

The FMNS1007 is a coaxial packaged calibrated precision Noise Source module which operates over a wide frequency range from 0.01 GHz to 18 GHz. The design features very low VSWR < 1.35:1 that significantly increases measurement accuracy and is ideal for Noise Figure measurements and built-in applications. This model operates at +28 Vdc and features an output ENR level ranging from 13 to 17 dB with 10 MHz calibration points every GHz. Highly stable and accurate performance is specified over -55°C to +85°C with Noise Output Temperature Variation <0.009 dB/°C and Noise Output Variation < 0.002 dB/%V. Maximum Reverse Power is 1 Watt. The rugged industry standard profile package design supports an input Female BNC connector for DC bias and an output Male 3.5mm connector. Additionally, the model is designed to meet a variety of demanding MIL-STD-202F environmental test conditions including Humidity, Thermal Shock, and Vibration for added confidence for highly reliable operation.



### Electrical Specifications

Description	Min	Typ	Max	Units
Frequency Range	0.01		26	GHz
Impedance		50		Ohms
Output ENR	13		17	dB
Flatness		±1.5		dB
Output Variation vs Input Voltage			0.002	dB/%V
Output Variation vs Temperature			0.009	dB/deg C
Bias Voltage 1	22	28 ±2	30	Volts
Input Current 1			30	mA
Reverse Power			1	Watt
Calibration Points	10 MHz, every GHz			

### Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	0.01 to 5	5 to 18	18 to 26			GHz
VSWR, Typ	1.15:1	1.25:1	1.35:1			

### Mechanical Specifications

<b>Size</b>	
Length	3.86 in [98.04 mm]
Width/Dia.	1.18 in [29.97 mm]
Height	0.8 in [20.32 mm]
Weight	3 lbs [1.36 kg]
Package Type	Connectorized Module
<b>Connectors</b>	
DC Connector	BNC Female
Output Connector	3.5mm Male

### Features:

- 10 MHz to 26 GHz Bandwidth
- Calibrated Frequencies: 1 GHz steps
- ENR output: 13 dB min
- Typical Flatness +/- 1.5 dB
- Excellent Stability
- Noise Output Temperature Variation: <0.01 dB/°C
- Noise Output Variation <0.1 dB/%V
- Rugged Package Design supports output Female SMA connector
- Designed to meet MIL-STD-202F environmental test conditions
- Calibrated Precision Noise Source
- VSWR < 1.35:1
- Output Noise ENR 15 dB typical
- Highly Stable and Accurate Performance
- Maximum Reverse Power 1 Watt
- Internal Voltage Regulation

### Applications:

- Noise Figure Measurements
- Built-In Test equipment for signal strength calibrators and radar applications
- Automatic Test Equipment (ATE)
- Jamming
- Baseband Signal Simulation
- Additive White Gaussian Noise (AWGN) source for Error Rate Measurements
- Increase dynamic range of A/D Converters
- SATCOM for bit error rate (BER) and noise figure
- Can be used as a Jitter source.

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**Environmental Specifications**

**Temperature**

Operating Range -55 to +85 deg C  
 Storage Range -65 to +125 deg C

**Environment**

Humidity MIL-STD-202F, Method 103, Cond B (96 hrs@95% R.H.)  
 Shock MIL-STD-202F, Method 213, Cond B (100g, 6 msec)  
 Vibration MIL-STD-202F, Method 204, Cond B (0.6" 2x ampl or 15g)  
 Altitude MIL-STD-202F, Method 105, Condition B (50,000 ft)  
 Temperature Cycle MIL-STD-202F, Method 105C, Condition D (5 cycles)  
 Thermal Shock MIL-STD-202F, Method 107, Condition A (5 cycles)  
 ESD Sensitivity ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in ESD Workstation.



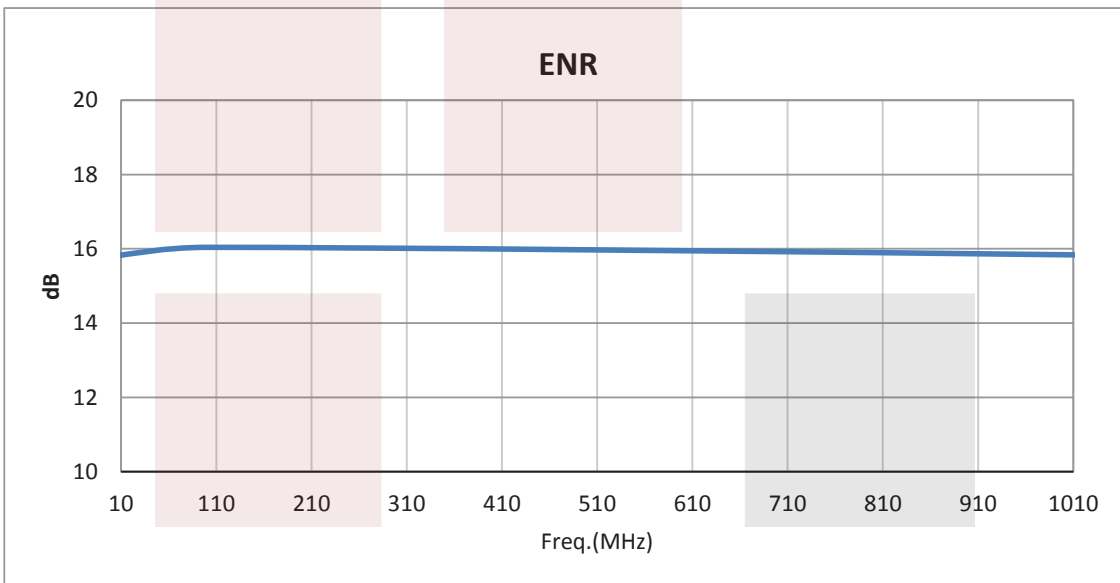
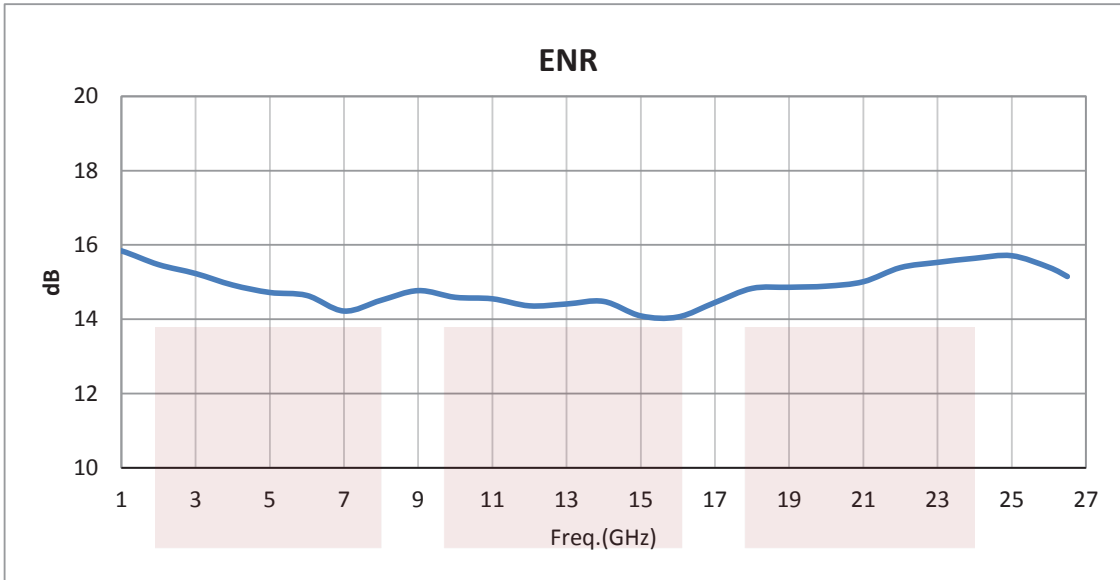
**Compliance Certifications** (see [product page](#) for current document)

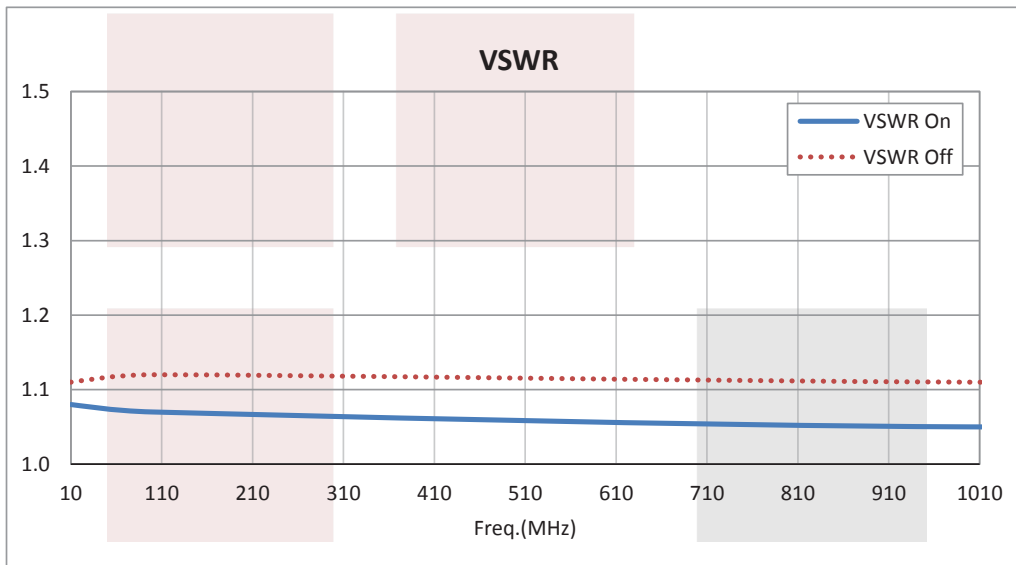
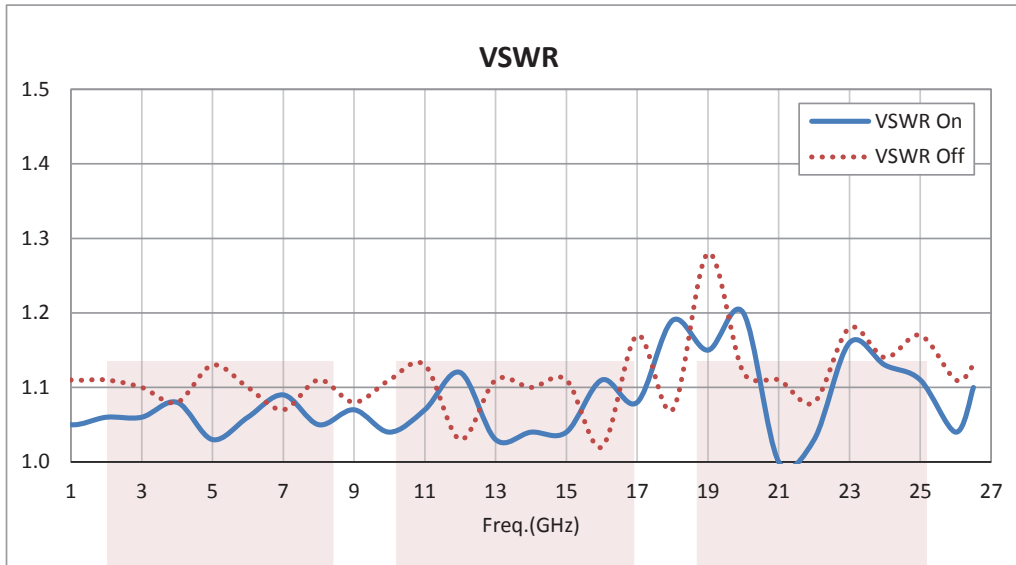
**Plotted and Other Data**

Notes:



**Typical Performance Data**



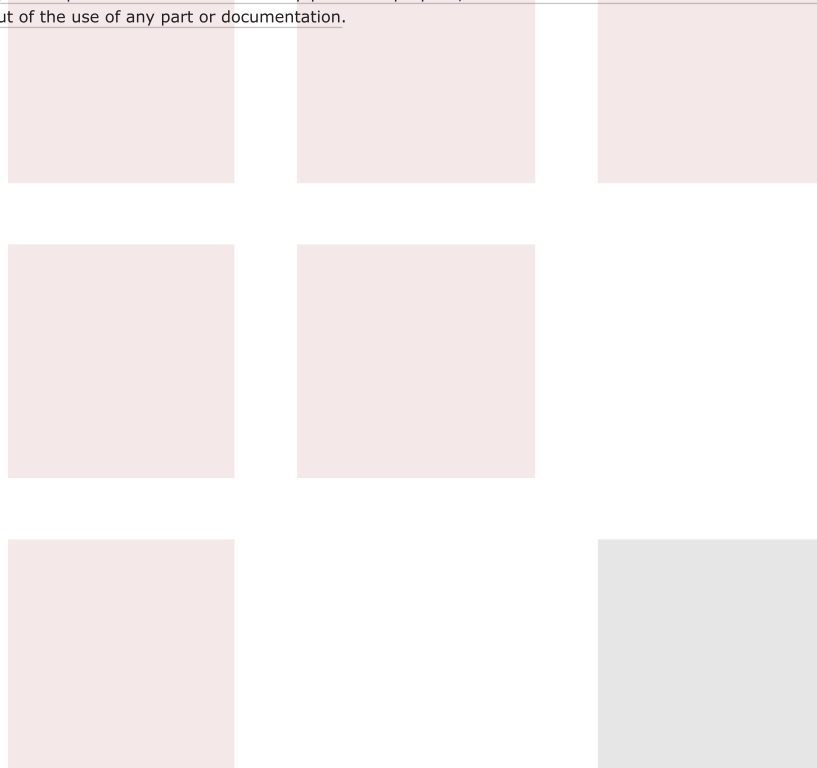


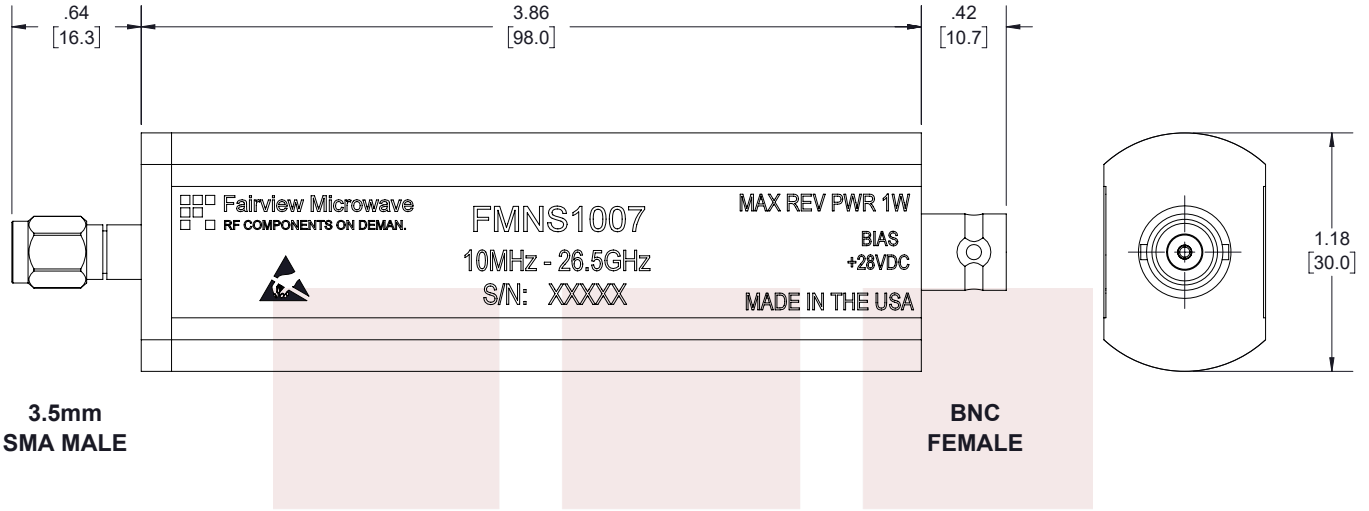
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Click the following link to obtain additional part information: [3.5mm Precision Calibrated Noise Source Module, Output ENR of 13 dB, +28 VDC, 10 MHz to 26 GHz, Calibration Standard FMNS1007](#)

URL: <https://www.fairviewmicrowave.com/precision-calibrated-noise-source-enr-13-db-26-ghz-3.5mm-fmns1007-p.aspx>

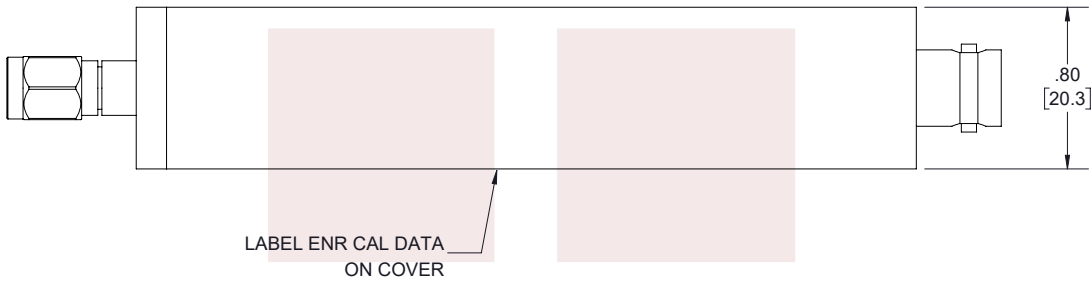
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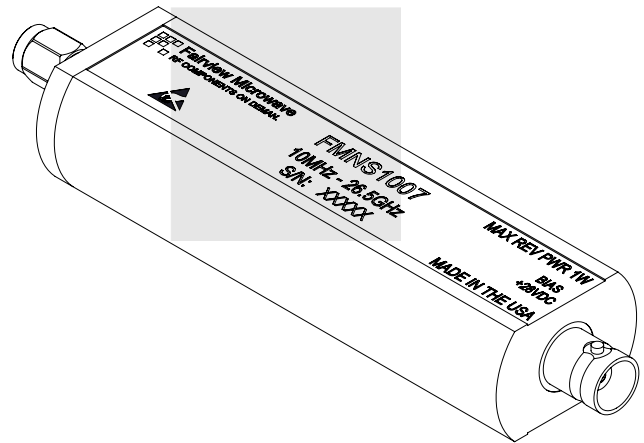


3.5mm  
SMA MALE

BNC  
FEMALE



LABEL ENR CAL DATA  
ON COVER



STANDARD TOLERANCES	
.X	±0.2
.XX	±0.01
.XXX	±0.005

\*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES

<p><b>Fairview Microwave</b> RF COMPONENTS ON DEMAND. <i>Done!</i></p>	<p>NOTES: 1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL. 2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME. 3. DIMENSIONS ARE IN INCHES (mm).</p>				
	<p>TITLE</p> <p>3.5mm Precision Calibrated Noise Source Module, Output ENR of 13 dB, +28 VDC, 10 MHz to 26 GHz, Calibration Standard</p>	<p>DWG NO</p> <p>FMNS1007</p>	<p>CAGE CODE</p> <p>3FKR5</p>		
	<p>CAD FILE</p> <p>05/21/18</p>	<p>SHEET</p> <p>1 OF 1</p>	<p>SCALE</p> <p>N/A</p>	<p>SIZE</p> <p>A</p>	<p>7361</p>