

## Precision Calibrated, Output Isolator WR-22 Waveguide Noise Source Module, Output ENR of 15 dB, +28 VDC, 33 GHz to 50 GHz

The FMWNS2001 is a Q Band waveguide Noise Source module with output Isolator that operates over the full frequency range of 33 GHz to 50 GHz. The benefit of the output Isolator results in improved output port matching for more accurate measurements as well as protection of the noise diode from incident RF power. The microstrip assembly incorporates a millimeter wave noise diode screened for superior noise characteristics that results in highly stable and reliable performance. This module can be used in built-in test and laboratory applications, and can replace outdated gas tube noise sources. Additional applications include noise figure measurements, millimeter wave radiometers, automotive radar, and reserach and development in mm-wave broadband wireless communication systems. The design operates at +28 Vdc with an output ENR level of 15 dB min and a noise output variation of < 0.01 dB/°C, < 0.1 dB/%V. Maximum Flatness across the frequency band is +/- 1.5 dB and output VSWR is 1.3:1 max with the isolator. Operating temperature range is 0°C to +85°C. The rugged package supports a WR-22 waveguide interface and a BNC connector for the DC voltage supply.



### Features:

- WR-22 Waveguide Noise Source with Ouput Isolator
- Q Band Frequency Range: 33 GHz to 50 GHz
- Output ENR Level: 15 dB min
- Noise Output Variation: < 0.01 dB/oC , < 0.1 dB/%V
- Flatness +/- 1.5 dB max
- DC Voltage: +28 Vdc
- 0°C to +85°C Operating Temperature
- VSWR: 1.3:1 Max

### Electrical Specifications

Description	Min	Typ	Max	Units
Frequency Range	33		50	GHz
Impedance		50		Ohms
Output ENR	15			dB
Flatness			±1.5	dB
VSWR			1.3:1	
Supply Voltage Sensitivity			0.1	dB/%V
Thermal Sensitivity			0.01	dB/°C
Bias Voltage 1		28		Volts
Input Current 1			30	mA

### Mechanical Specifications

Package Type Connectorized Module

### Environmental Specifications

#### Temperature

Operating Range 0 to +85 °C

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

### Plotted and Other Data

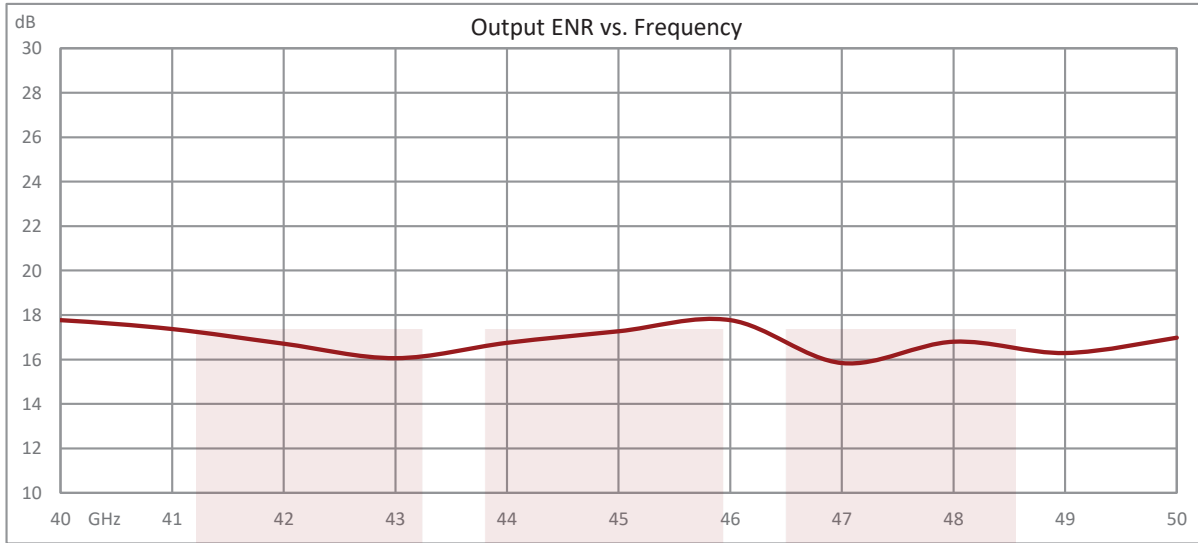
Notes:

### Applications:

- Noise Figure Test & Measurement
- Built-In Test Applications
- Laboratory Applications
- mm-Wave Radiometers
- Automotive Radar
- R&D for Broadband mm-Wave Wireless Communication Systems

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**Typical Performance Data**



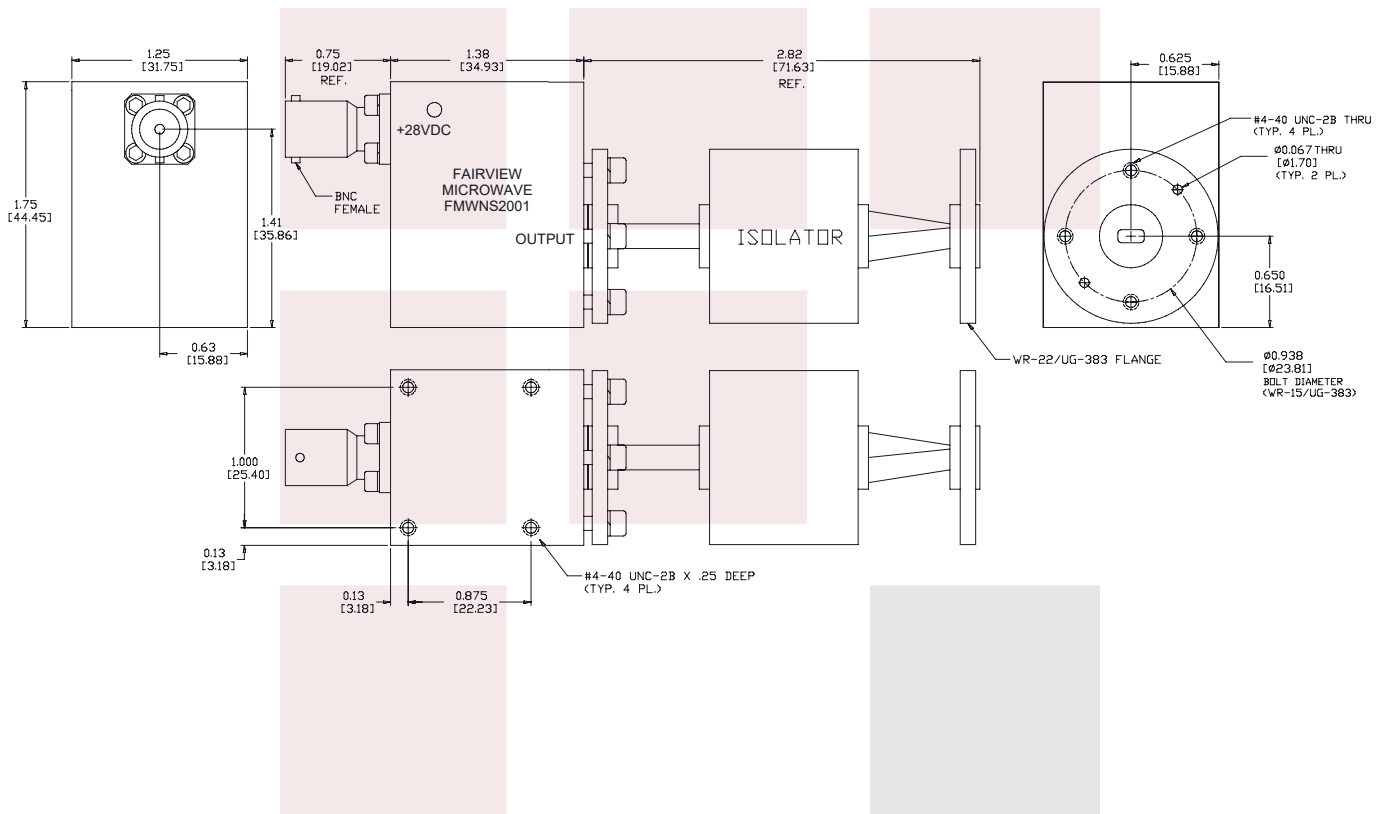
Precision Calibrated, Output Isolator WR-22 Waveguide Noise Source Module, Output ENR of 15 dB, +28 VDC, 33 GHz to 50 GHz from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

Click the following link to obtain additional part information: [Precision Calibrated, Output Isolator WR-22 Waveguide Noise Source Module, Output ENR of 15 dB, +28 VDC, 33 GHz to 50 GHz FMWNS2001](https://www.fairviewmicrowave.com/wr-22-precision-waveguide-calibrated-noise-source-enr-15-db-50-ghz-fm-wns2001-p.aspx)

URL: <https://www.fairviewmicrowave.com/wr-22-precision-waveguide-calibrated-noise-source-enr-15-db-50-ghz-fm-wns2001-p.aspx>

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	02/19/2020	TGALLA



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TITLE

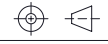
Precision Calibrated, Output Isolator WR-22 Waveguide Noise Source Module, Output ENR of 15 dB, +28 VDC, 33 GHz to 50 GHz

UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES  
DIMENSIONS IN [ ] ARE MILLIMETERS

TOLERANCES: CABLE LENGTH (L) TOLERANCES:

.X = ±.2 [5.08]	FRACTIONS	L ≤ 12 [305] = +1 [25] / -0
.XX = ±.02 [.51]	± 1/32	12 [305] < L ≤ 60 [1524] = +2 [51] / -0
.XXX = ±.005 [.13]	ANGLES ± 1°	60 [1524] < L ≤ 120 [3048] = +4 [102] / -0
		120 [3048] < L ≤ 300 [7620] = +6 [152] / -0
		300 [7620] < L = +5%L / -0

THIRD-ANGLE PROJECTION



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SHEET 1 OF 1

ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

SCALE N/A

SIZE A	CAGE CODE 3FKR5	DRAWN BY DZINN	ITEM NO. FMWNS2001	REV A
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T-Rev.D