



E-Band Spot-Focusing Lens Antenna, 1.7" Focal Length

Description:

Model SAQ-813017-12-S1 is a WR-12 spot-focusing lens antenna that delivers a typical 10 dB spot size of 0.2" at the focal length of 1.7", and a typical return loss of 15 dB across the frequency range of 76 to 86 GHz. The spot-focusing lens antenna is equipped with a WR-12 waveguide and UG-387/U flange as its antenna port. It supports linear polarized waveforms.



Features:

- Ridged Mechanical Configurations
- High Efficiency and Low loss
- Low Sidelobe Levels

Applications:

- Scientific Instruments
- Material Research Instruments

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	76 GHz		86 GHz
Focal Length		1.7"	
Peak to First Null	Spot Size	0.28"	
	Power Captured	83%	
10 dB Below Peak	Spot Size	0.20"	
	Power Captured	78.9%	
3 dB Below Peak	Spot Size	0.13"	
	Power Captured	47%	
Polarization		Linear	
Return Loss		15 dB	
Specification Temperature		+25 °C	
Operating Temperature	-40 °C		+85 °C

Mechanical Specifications:

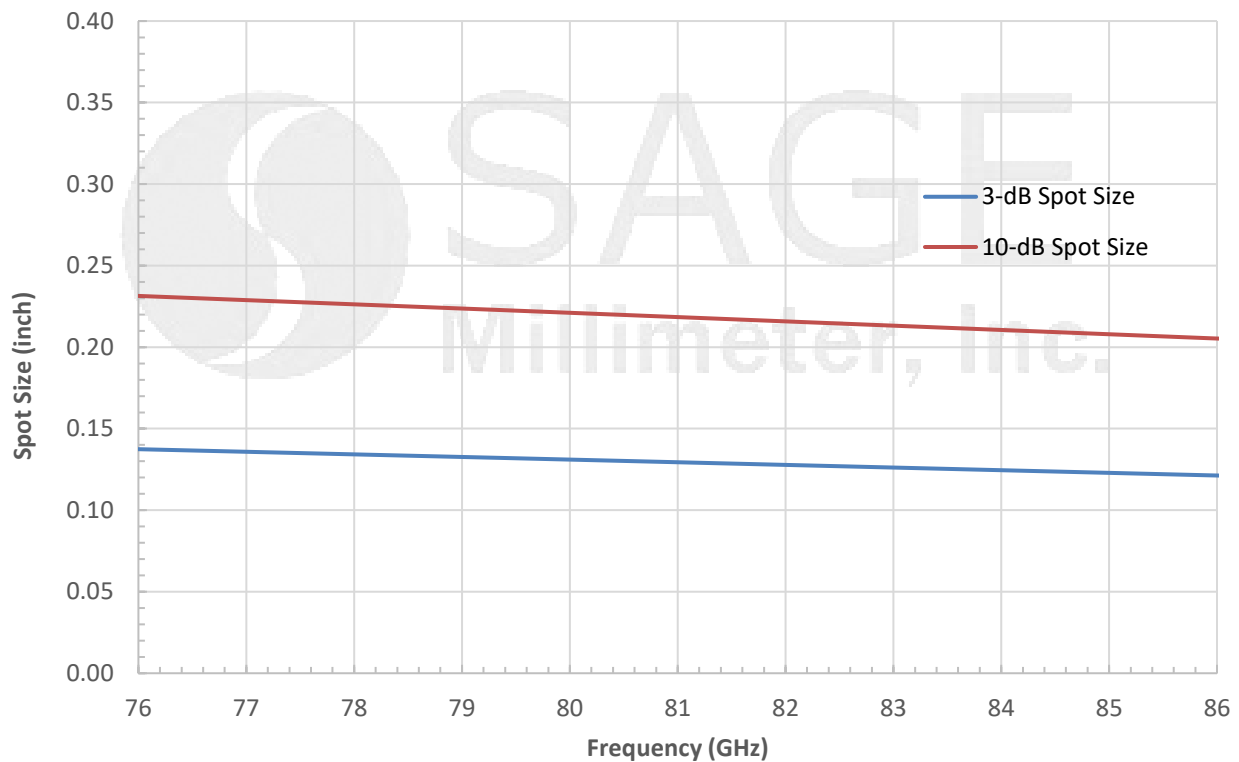
Item	Specification
Antenna Port	WR-12 Waveguide with UG-387/U Flange
Horn Material	Aluminum
Finish	Gold Plated
Weight	3.5 Oz
Lens Diameter	2.0"
Dimensions	4.38" (L) x 2.52" (Ø)
Outline	AQ-RE-2.0-C110



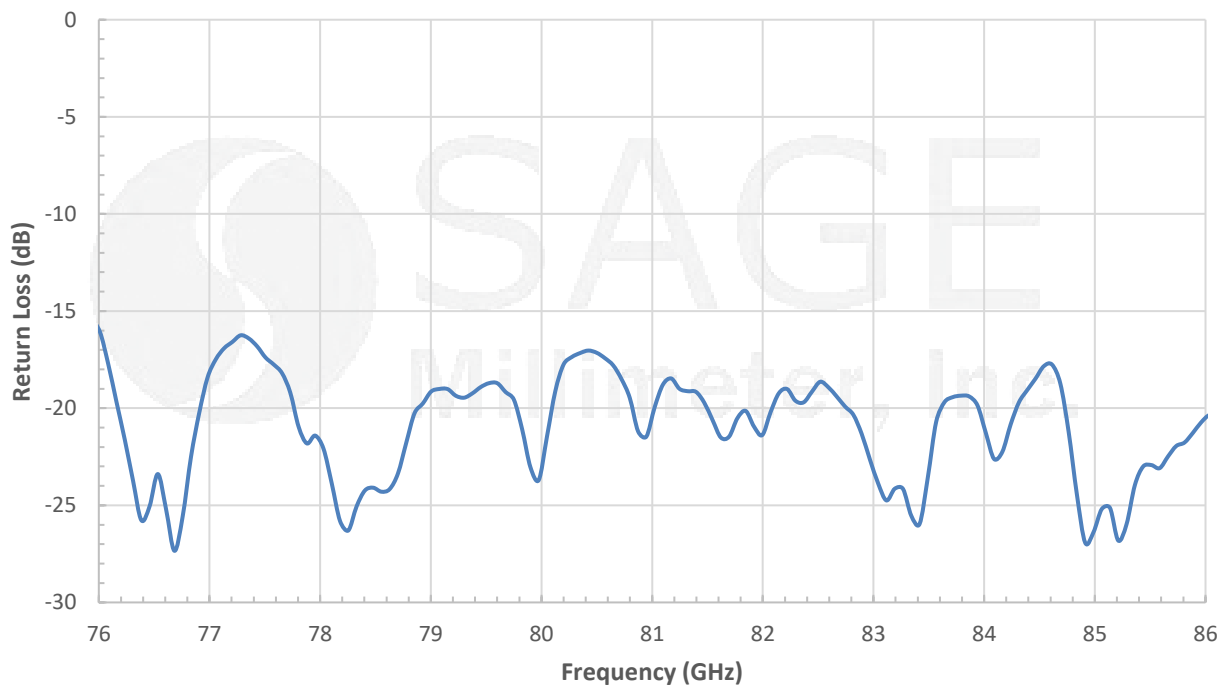


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Theoretical Spot Size vs. Frequency



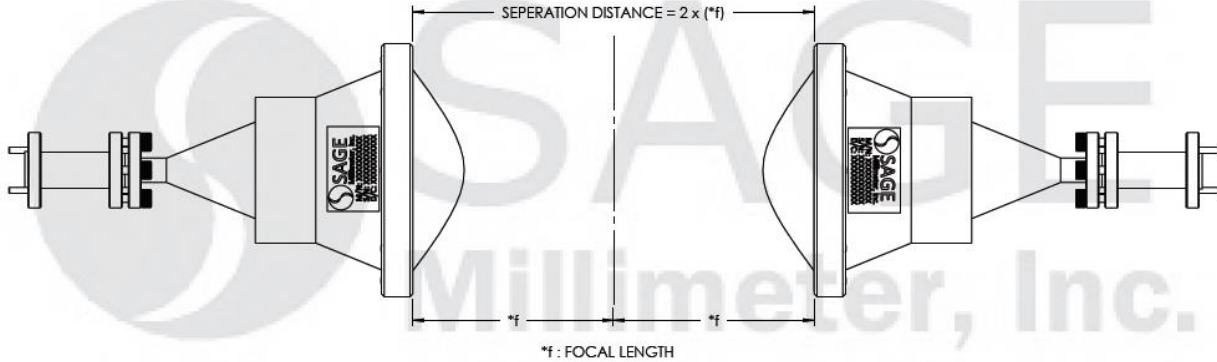
Typical Return Loss vs Frequency



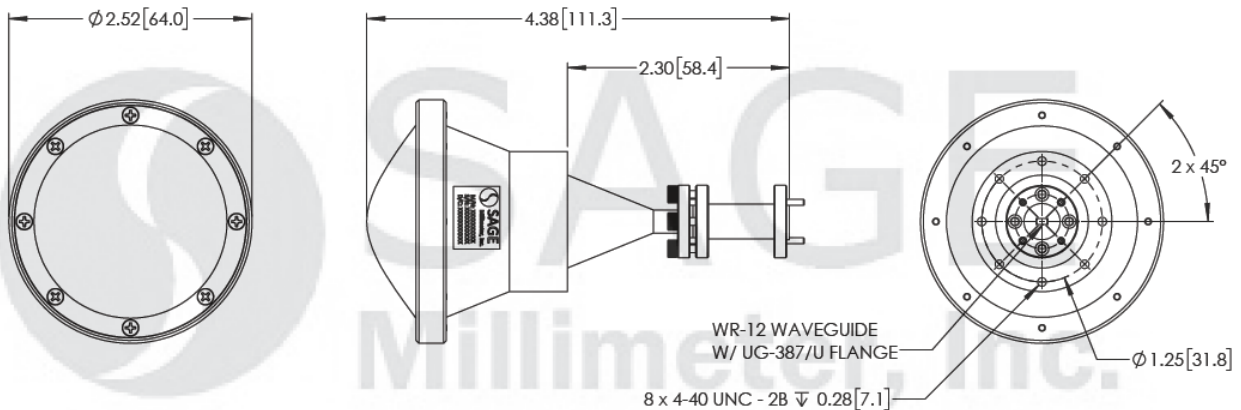


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Focal Length Schematic:



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



Note:

- Return Loss Data is collected from a sample lot. Actual data may vary slightly.
- All testing was performed under +25 °C room temperature.
- Theoretical Spot Size data presented is simulated. Actual data may vary slightly.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

Caution:

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

