



Ka-Band Spot-Focusing Lens Antenna, 3.94" [10 cm] Focal Length

Description:

Model SAQ-333039-28-S1 is a Ka-band spot-focusing lens antenna that delivers a typical peak to first null spot size of 1.2" at the focal length of 3.94" (10 cm), and a typical return loss of 15 dB across the full WR-28 waveguide operating bandwidth. The antenna is equipped with a WR-28 waveguide and UG-599/U flange as its antenna port. It only supports linear polarized waveforms. A configuration with a \varnothing 0.315" circular waveguide as the antenna port is offered under model **SAQ-333039-315-S1**, which can support both linear and circular polarized waveforms.



Features:

- Rugged Mechanical Configuration
- High Efficiency and Low loss

Applications:

- Scientific Instruments
- Material Research Instruments

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	26.5 GHz		40.0 GHz
Focal Length		3.94"	
Peak to First Null	Spot Size	1.2"	
	Power Captured	83%	
3 dB Below Peak	Spot Size	0.5"	
	Power Captured	47%	
Polarization		Linear	
Return Loss		15 dB	
Specification Temperature		+25 °C	
Operating Temperature	-40 °C		+85 °C

Mechanical Specifications:

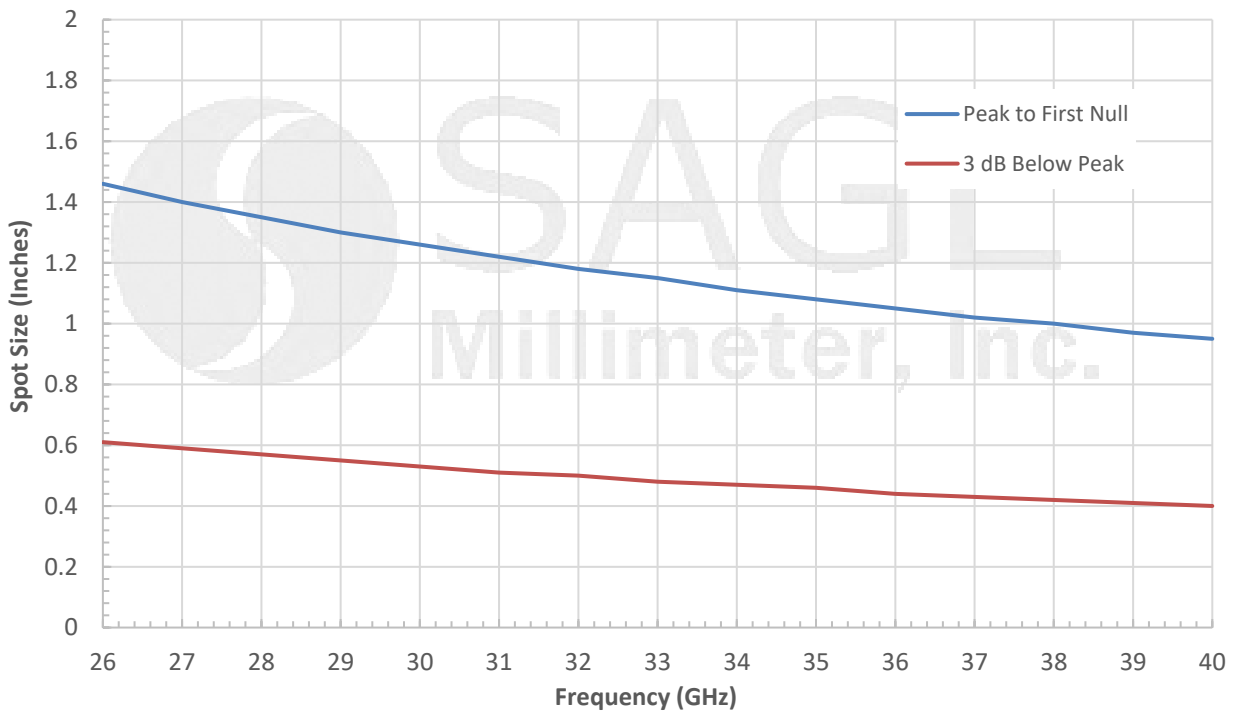
Item	Specification
Antenna Port	WR-28 Waveguide with UG-599/U Flange
Lens Diameter	3"
Lens Material	HDPE
Horn Material	Aluminum
Finish	Chem Film
Weight	7.5 oz.
Outline	AQ-RA-3.0



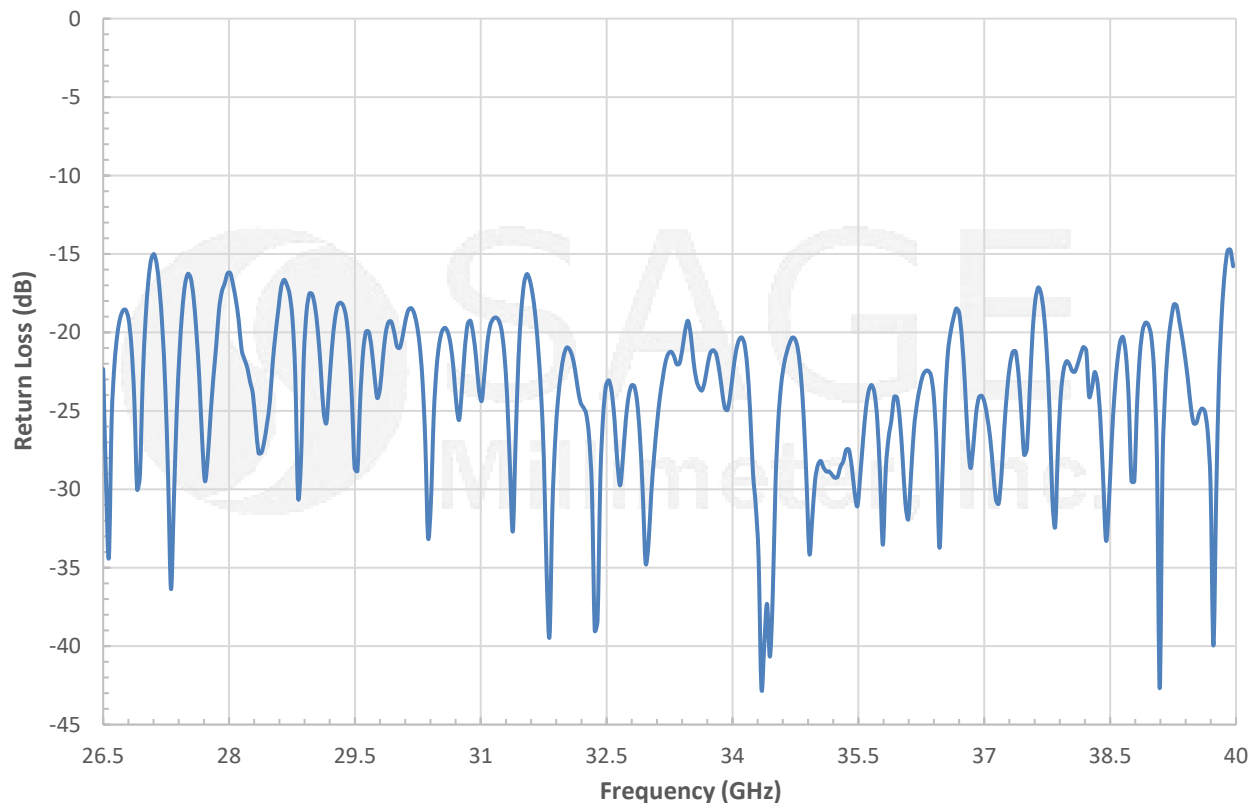


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Theoretical Spot Size vs Frequency



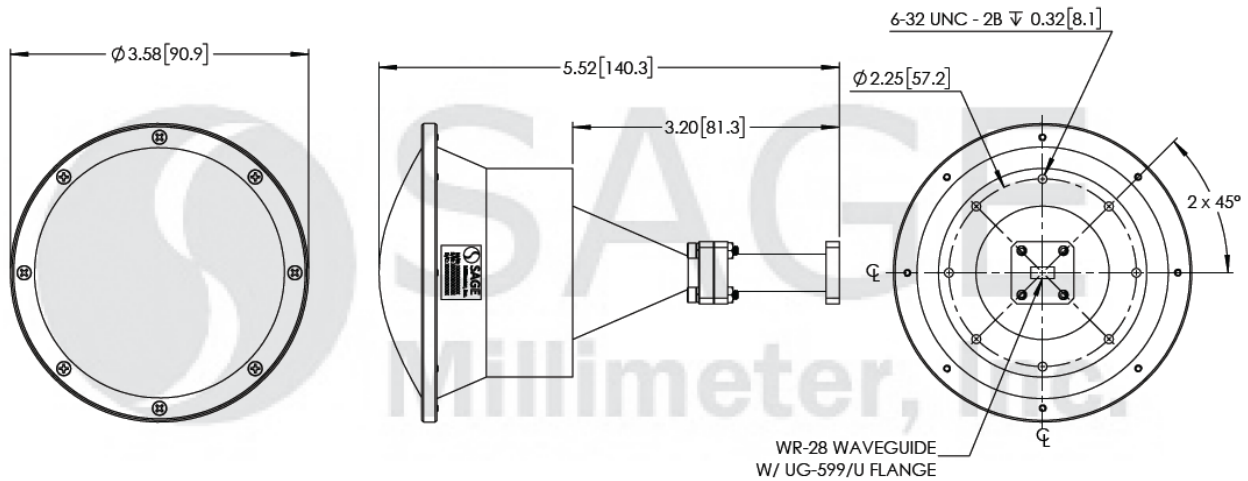
Typical Return Loss vs Frequency





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



Note:

- Spot-focusing lens antennas are recommended to be purchased as a set of two.
- Spot size data presented is simulated. Actual data may vary unit to unit.
- Return loss data presented is collected from a sample lot. Actual data may vary unit to unit.
- All testing was performed under +25 °C room temperature.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

Caution:

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

Focal Length Diagram:

- Focal length is defined in the diagram below with a pair of spot-focusing lens antennas.

