



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

### Description:

**Model SAQ-333039-315-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  $\varnothing 0.315$ " circular waveguide and UG-599/U-M flange as its antenna port. It supports both linear and circular polarized waveforms. A configuration with standard WR-28 waveguide as the antenna port is offered under model **SAQ-333039-28-S1**, which only supports linear polarized waveforms, but offers a convenient equipment interface. The mode transition to convert the antenna port to WR-28 can be purchased separately under model **SWT-28315-SB**.



### 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 and Circular		
Return Loss			15 dB	
Specification Temperature			+25 °C	
Operating Temperature		-40 °C		+85 °C

### Mechanical Specifications:

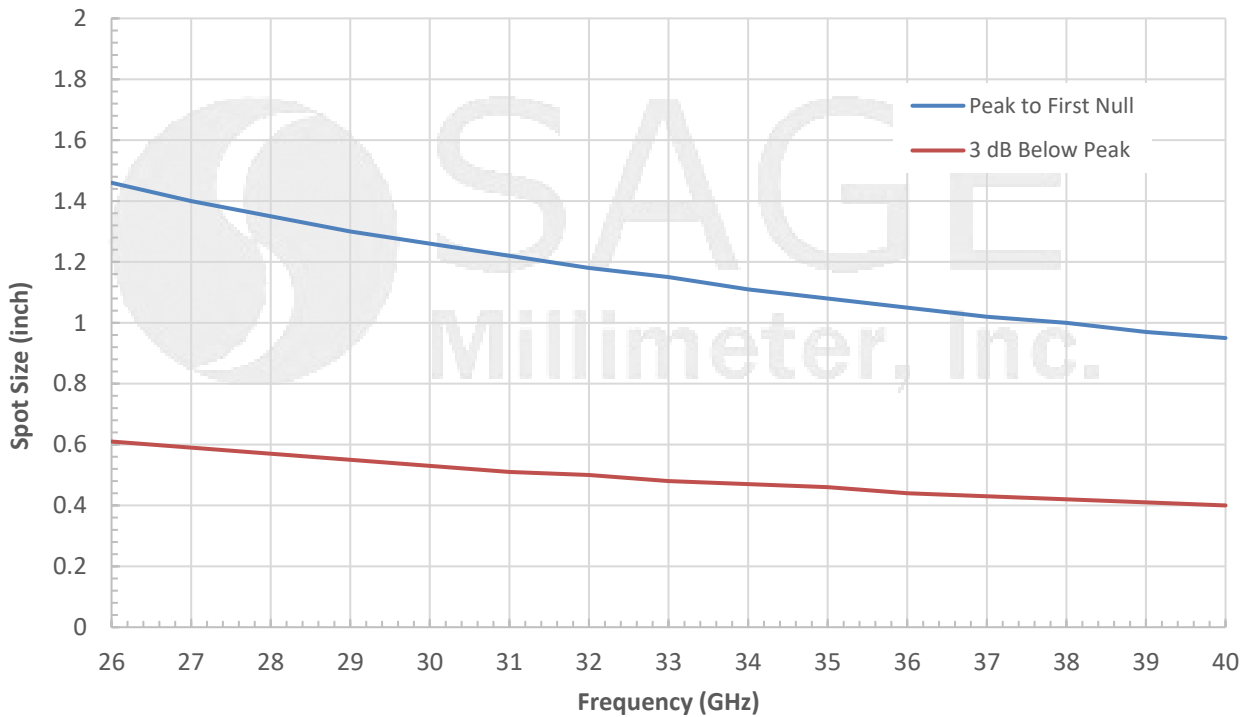
Item	Specification
Antenna Port	$\varnothing 0.315$ " Circular Waveguide with UG-599/U-M Flange
Lens Diameter	3"
Lens Material	HDPE
Horn Material	Aluminum
Finish	Chem Film
Weight	7.0 oz.
Outline	AQ-CA-3.0-C315



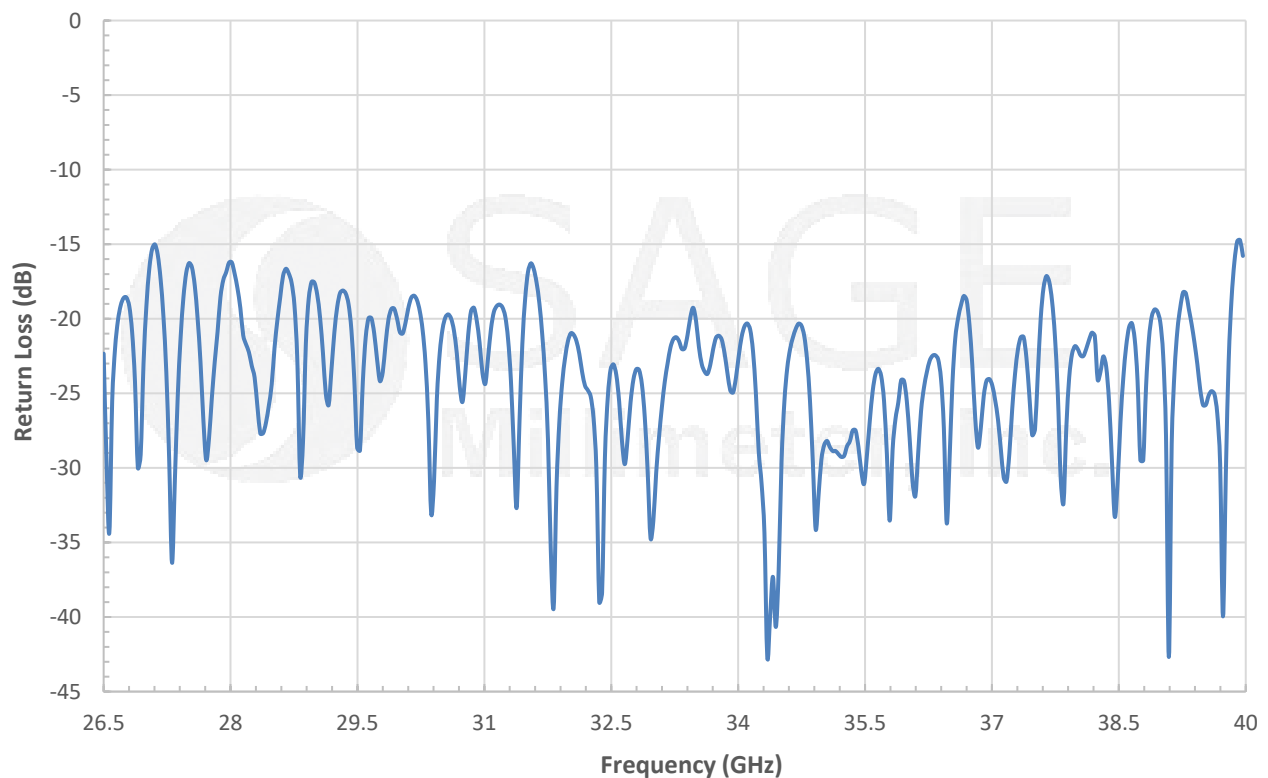


## Ka-Band Spot-Focusing Lens Antenna, 3.94" [10 cm] Focal Length

### Theoretical Spot Size vs Frequency



### Typical Return Loss vs Frequency

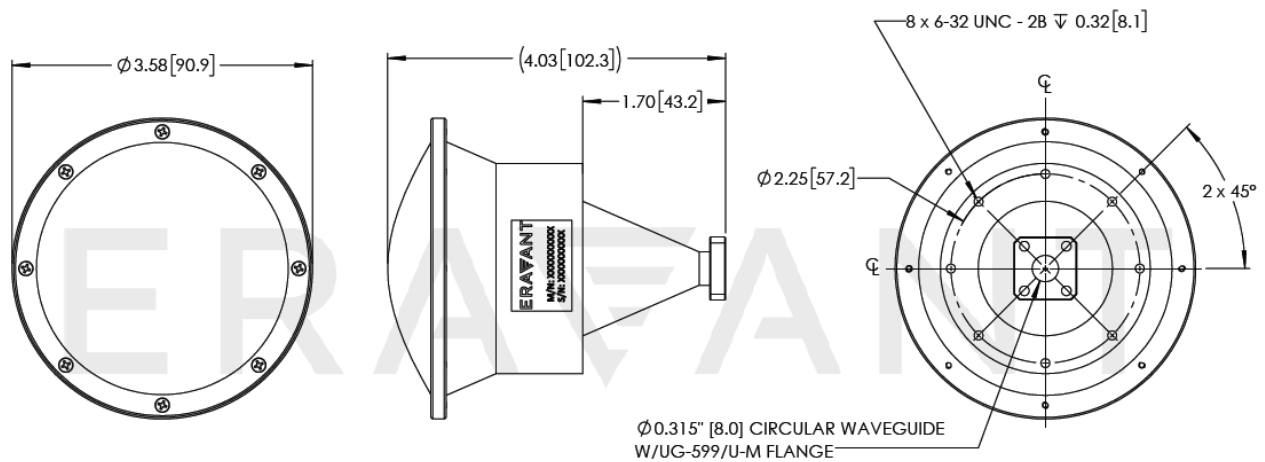


www.sagemillimeter.com | 3043 Kashiwa Street, Torrance, CA 90505  
Phone: 424-757-0168 | Fax: 424-757-0188 | Email: sales@sagemillimeter.com



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

**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.

