

SAQ-333039-315-S1

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

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 Ø0.315" 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**.



Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency Range	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	Ø 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

ECCN

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FEATURES

- Rugged Mechanical Configuration
- High Efficiency and Low Loss

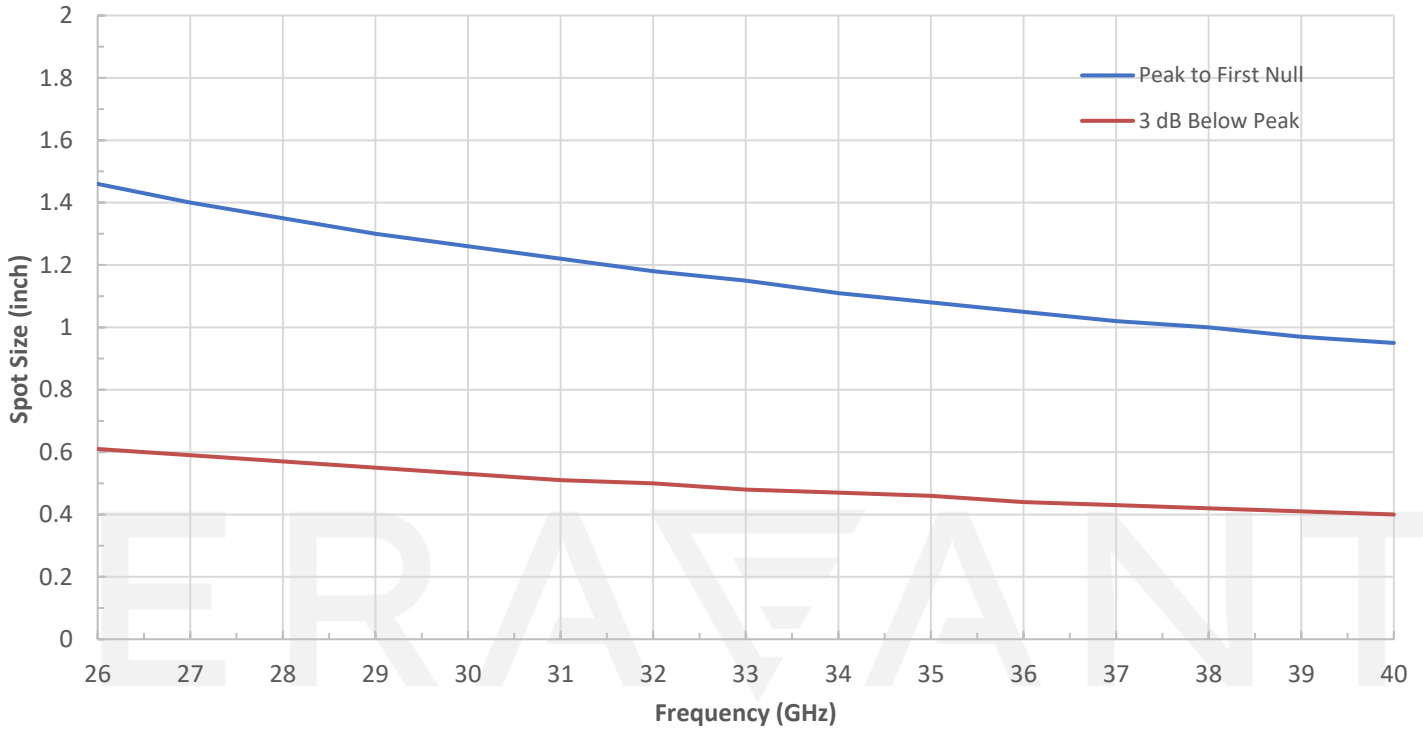
APPLICATIONS

- Scientific Instruments
- Material Research Instruments

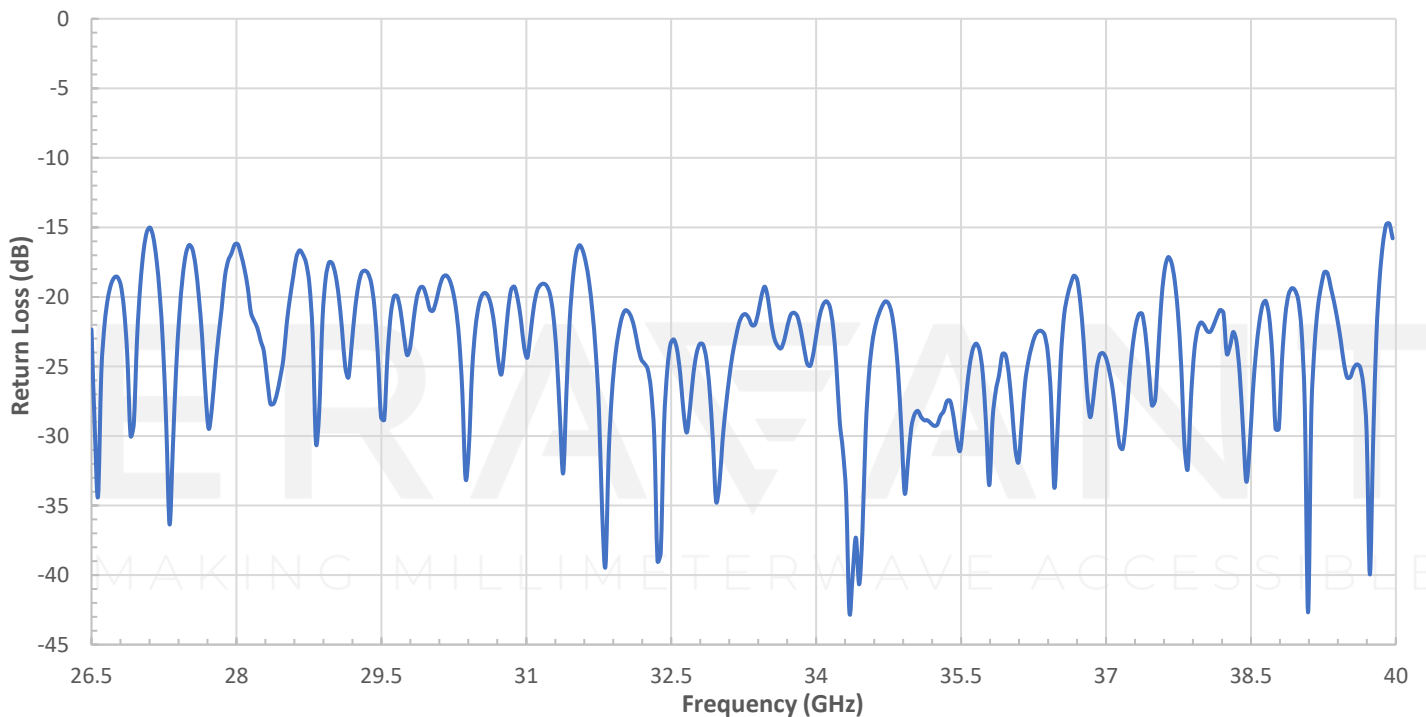
SUPPLEMENTAL DETAILS



Theoretical Spot Size vs. Frequency



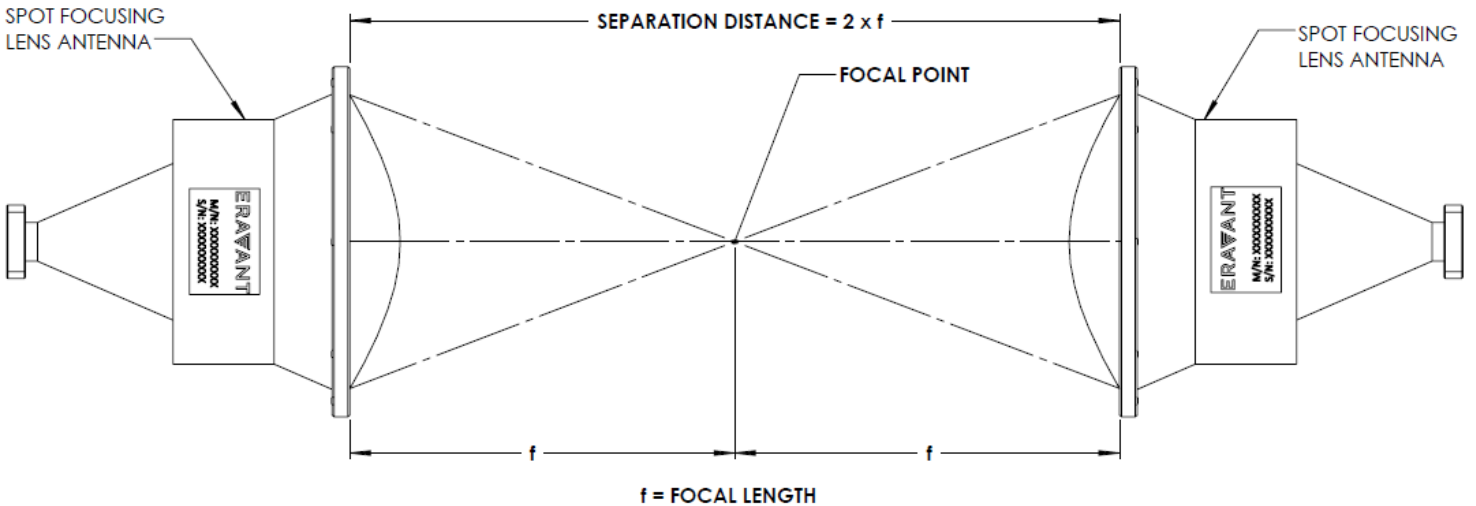
Typical Return Loss vs. Frequency



Focal Length Diagram:

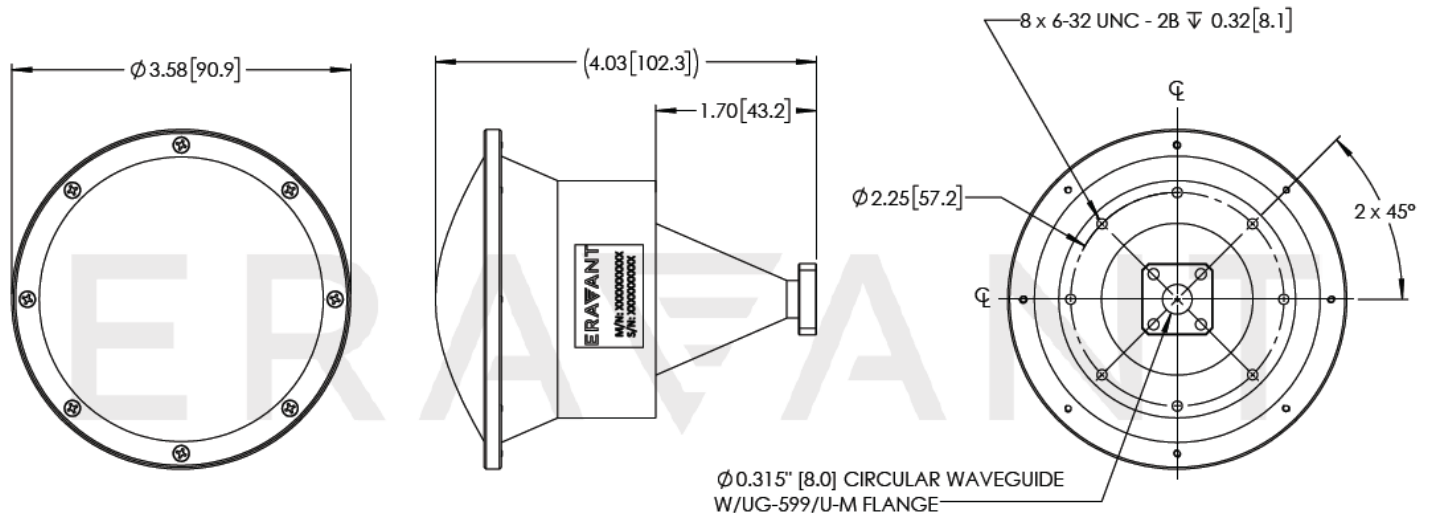
- Focal length is defined in the diagram below with a pair of spot-focusing lens antennas

SPOT FOCUSING LENS ANTENNA FOCAL LENGTH DIAGRAM



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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.
- Eravant reserves the right to change the information presented without notice.

CAUTION:

- If a waveguide is present, any foreign objects in the waveguide will cause performance degradation and may damage or destroy the unit.
- Any foreign objects in the antenna will cause performance degradation and possible device damage.

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