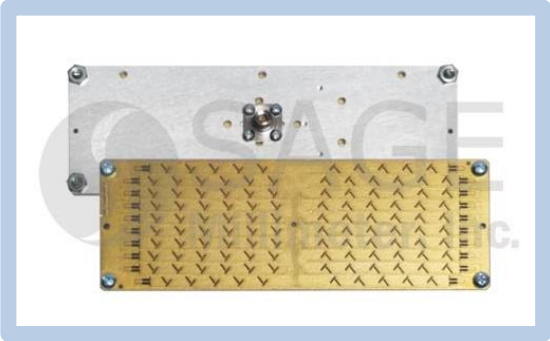
SAI-3433632310-KF-C1

Rev. 1.1

Ka Band Integrated Substrate Waveguide Array Antenna, 34 to 36 GHz

Description:



Model SAI-3433632310-KF-C1 is a right-handed, circular polarized integrated substrate waveguide array antenna covering the frequency range of 34 to 36 GHz. The antenna takes advantage of the low loss nature of the waveguide and printed circuit manufacturing process to offer high performance and loss cost solutions. The antenna implements a series-fed power distribution to achieve low sidelobe levels. The gain of the antenna is 23 dBi and the beamwidth is 10° vertically and 4° horizontally, with a typical sidelobe suppression of -15 dB. The antenna shows close to 50% antenna aperture efficiency and the highest gain in the class. In addition, the antenna shows good return loss and up to 7% bandwidth. The RF interface is a standard female 2.92 mm connector, however, a WR-28 waveguide is offered under a different model number.

Features:

- Center Fed
- High Aperture Efficiency
- Broader Operation Bandwidth
- Light Weight and Compact Size
- Low Cost in Volume

Applications:

- Radar Systems
- Communication Systems
- Sensor Heads

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency Range	33.8 GHz	35.0 GHz	36.2 GHz
Gain		23 dBi	
3 dB Beamwidth	10° (Vertical, E Plane) x 4° (Horizontal, H Plane)		
Sidelobe Level		-15 dB	
Polarization	Right Hand Circular		
Return Loss		10 dB	
Specification Temperature		+25°C	
Operating Temperature	-45°C		+85°C

Mechanical Specifications:

Item	Specifications
Antenna Port	K(F)
Baseplate Material	Aluminum
Size	5.00” (L) x 1.70” (H) x 0.44” (W)
Finish	Gold Plated
Weight	4 Oz
Outline	AW-A23-C

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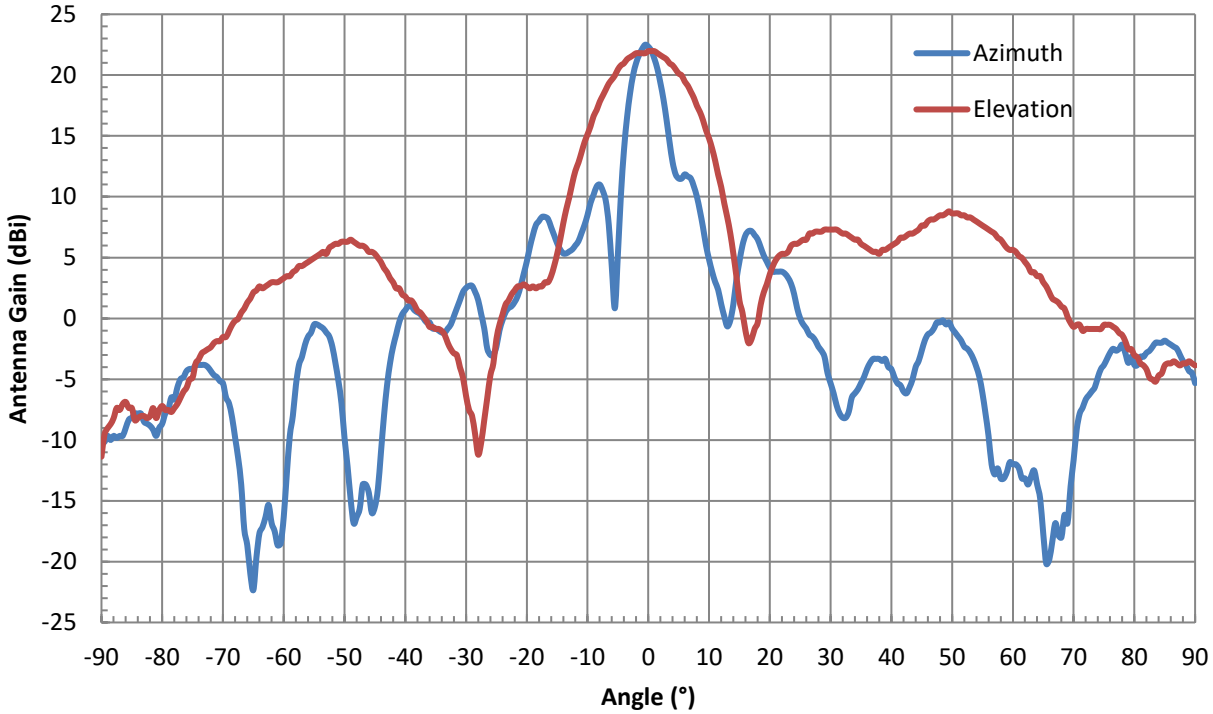
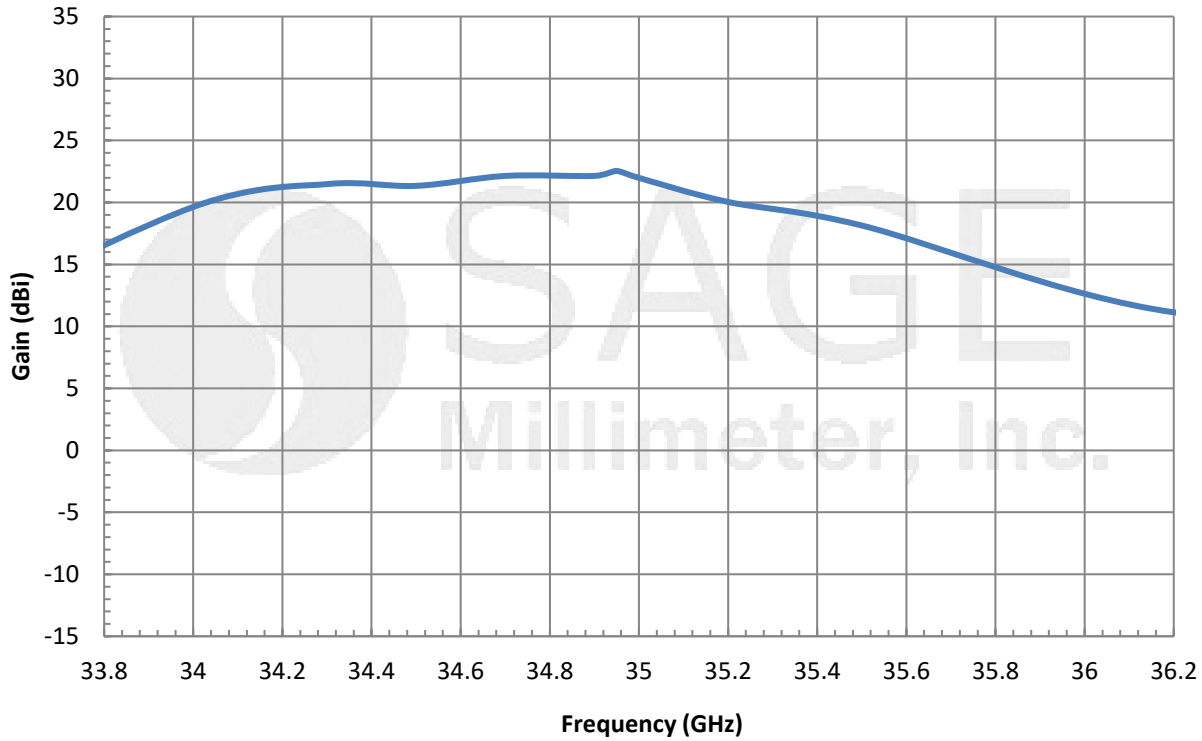
SAGE Millimeter, Inc.

Ka Band Integrated Substrate Waveguide Array Antenna, 34 to 36 GHz

Typical Radiation Pattern @ 35 GHz



Typical Gain vs. Frequency



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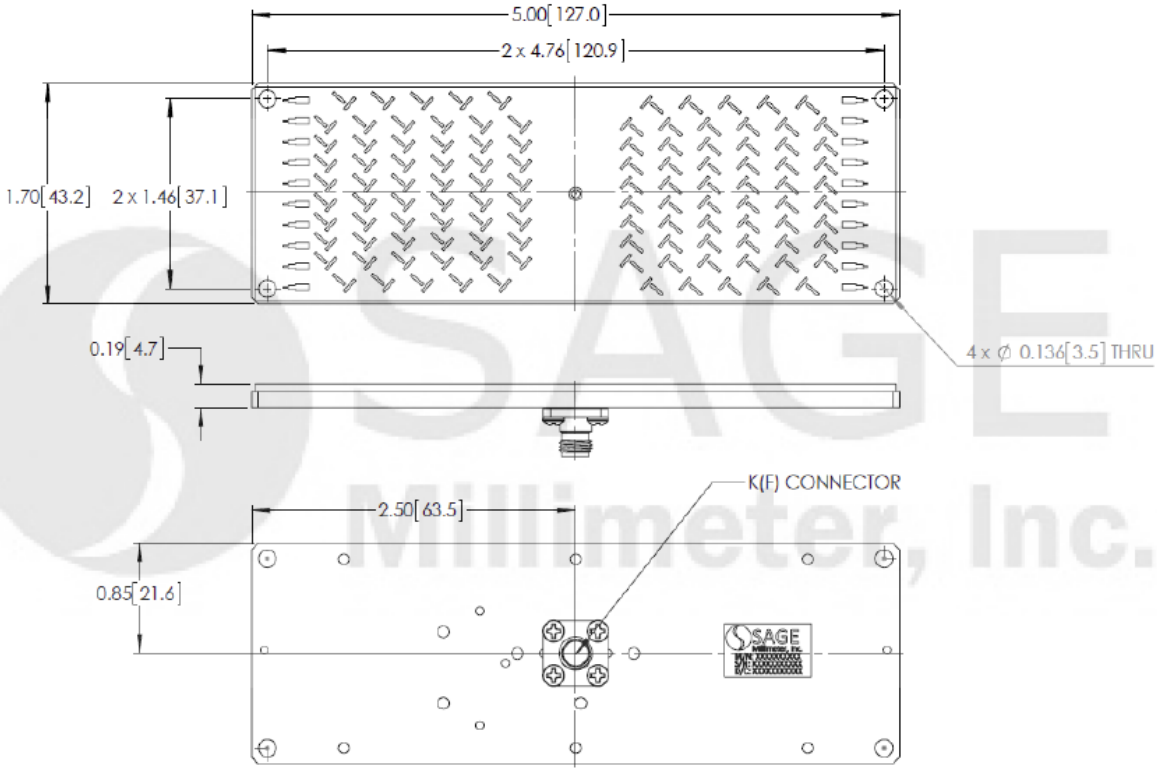
Mechanical Outline: (Unless otherwise specified, all dimensions are in inches)



Note:

- All data are presented using a limited sample lot. Actual data may vary unit to unit.
- All testing was performed under +25˚C case temperature.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

Caution:

- Radome design and material selection for the antenna may affect the performance of the antenna. Consult the factory for proper radome design.
- Proper torque, 8.0 ± 0.15 inch-pounds (0.92 ± 0.05 Nm), should be applied. **SAGE Millimeter torque wrench, model SCH-08008-S1, is highly recommended.**

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