



## K-Band Sector Rectangular Lens Antenna, 17 to 22 GHz

### Description:

**Model SAK-AL173223-42-C1** is a custom built, K-band sector rectangular lens antenna that delivers a nominal half-power beam width of 31.5 degrees vertically and 6.5 degrees horizontally and 21.5 dBi nominal gain at a center frequency of 19.5 GHz. The sidelobe level of the antenna is -15 dB or better across the frequency range of 17 to 22 GHz and the typical return loss is 12 db. The standard model is equipped with a WR-42 rectangular waveguide and a UG-595/U flange as its input port.



### Features:

- Low Sidelobes
- High Aperture Efficiency
- High Cross-Pol Isolation
- Light Weight

### Applications:

- Airborne Radar Systems
- Communication Systems
- Sensor Systems

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	17.0 GHz	19.5 GHz	22.0 GHz
Gain	20.0 dB	21.5 dBi	22.5 dB
3 dB Beamwidth, Vertical		31.5°	
3 dB Beamwidth, Horizontal		6.5°	
Sidelobe Level, Vertical		-15 dB	
Sidelobe Level, Horizontal		-20 dB	
Polarization		Linear	
Cross Polarization		30 dB	
Return Loss		12 dB	
Operating Temperature	-40 °C		+ 85 °C

### Mechanical Specifications:

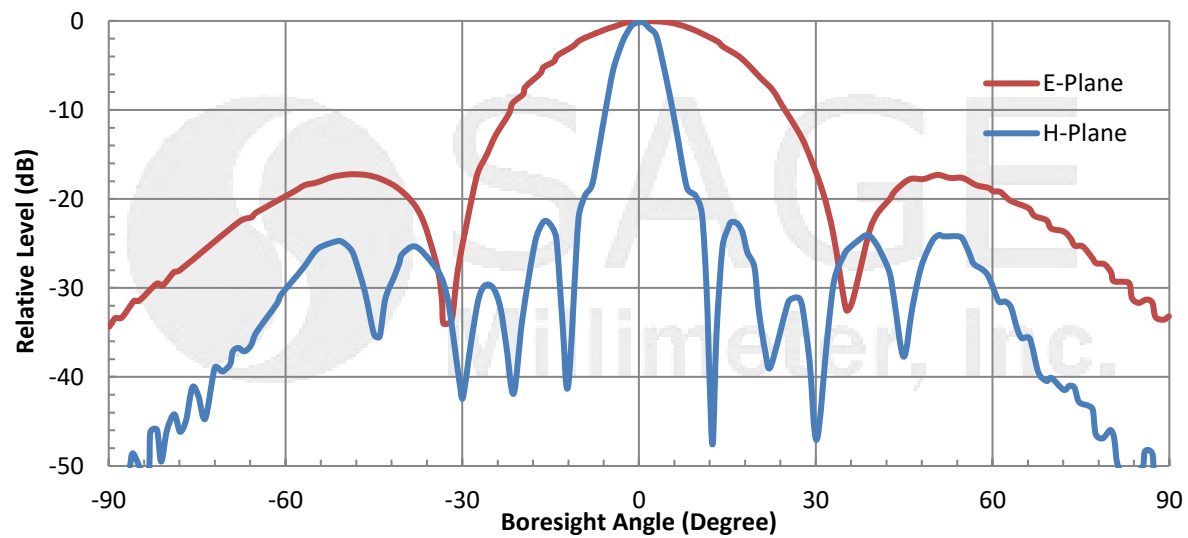
Item	Specification
Antenna Port	WR-42 Rectangular Waveguide with UG-595/U Flange
Housing Material	Aluminum
Inner Finish	Silver Plated
Outer Finish	Black Paint
Weight	11.7 Oz
Dimensions	6.30" (W) x 1.13" (H) x 9.00" (L)
Outline	AK-RK22-C1



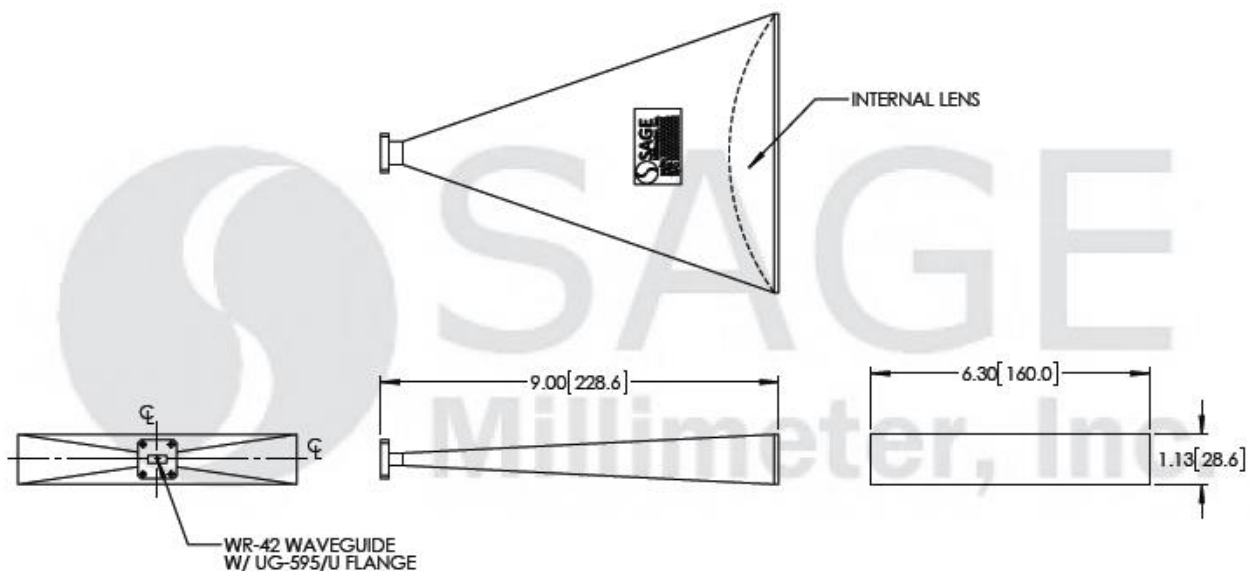


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### Typical Antenna Pattern @ 19.5 GHz



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



**Note:**

- All 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.



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