SAM-2432432205-42-L1

K Band Microstrip Patch Array Antenna, 14.6° x 4.6°

SAM-2432432205-42-L1 is a linear polarized, 24.125 GHz microstrip patch array antenna. The antenna implements a series-fed power distribution to achieve low sidelobe levels. The antenna has a gain of 22 dBi, a beamwidth of 14.6 degrees vertically, and a beamwidth of 4.6 degrees horizontally, with a -24 dB sidelobe suppression level. The antenna is constructed with a high performing, low loss soft microwave substrate to achieve the best performance in the class. The RF interface is a standard WR-42 waveguide with a UG-595/U flange. A female 2.92 mm (K) connector version is offered under model number **SAM-2432432205-KF-L1**.

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	24.025 GHz	24.125 GHz	24.225 GHz
Gain		22 dBi	
3 dB Beamwidth, E-Plane		14.6°	
3 dB Beamwidth, H-Plane		4.6°	
Sidelobes	-22 dB	-24 dB	
Polarization		Linear	
Return Loss	6 dB	8 dB	
Specification Temperature		+25°C	
Operating Temperature	-40°C		+85°C

Mechanical Specifications:

Item	Specification
Antenna Port	WR-42 Waveguide with UG-595/U Threaded Flange
Number of Elements	18 (H-Plane) × 6 (E-Plane)
Baseplate Material	Aluminum
Patch Finish	Immersion Tin
Weight	3.8 Oz
Outline	AM-RK-0515

ECCN

EAR99

FEATURES

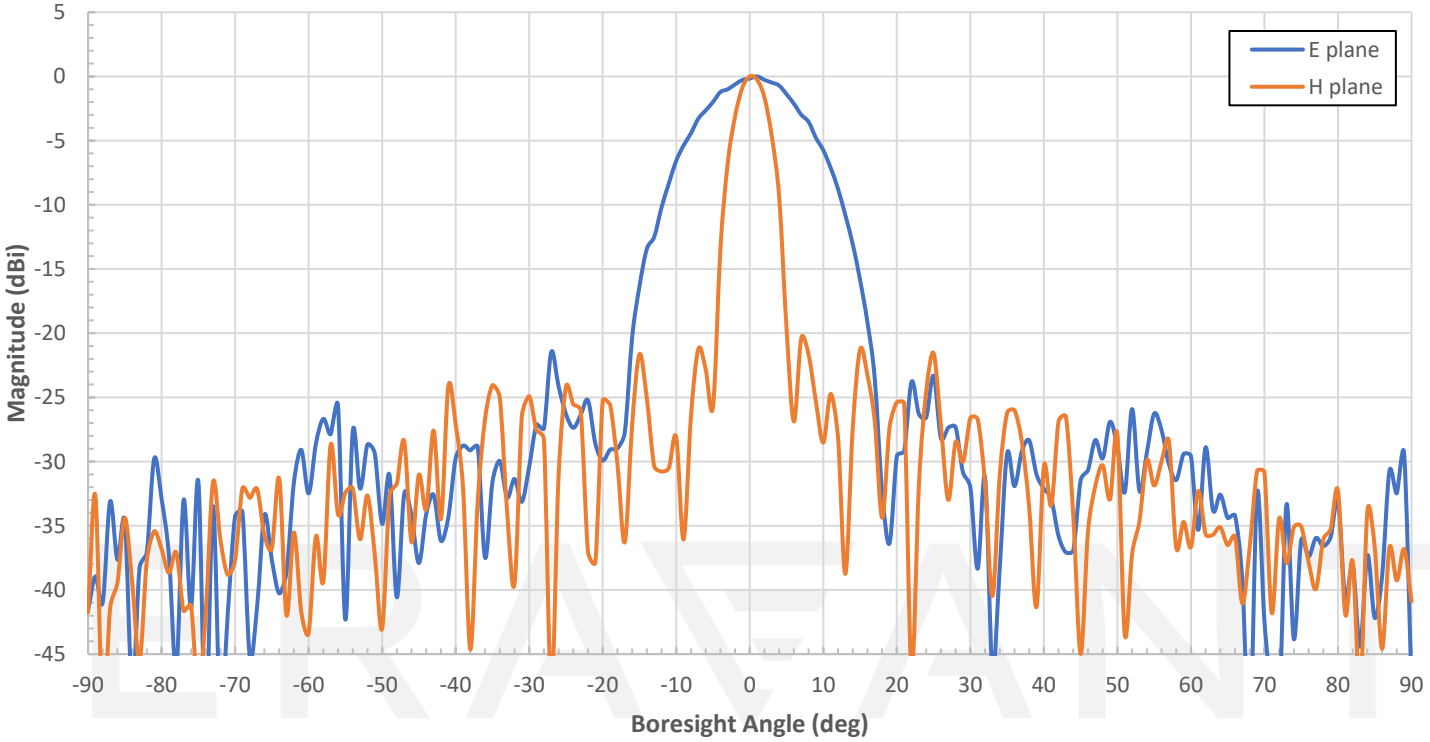
- Compact Size and Center Fed
- Low Sidelobes
- Low Cost in Volume

APPLICATIONS

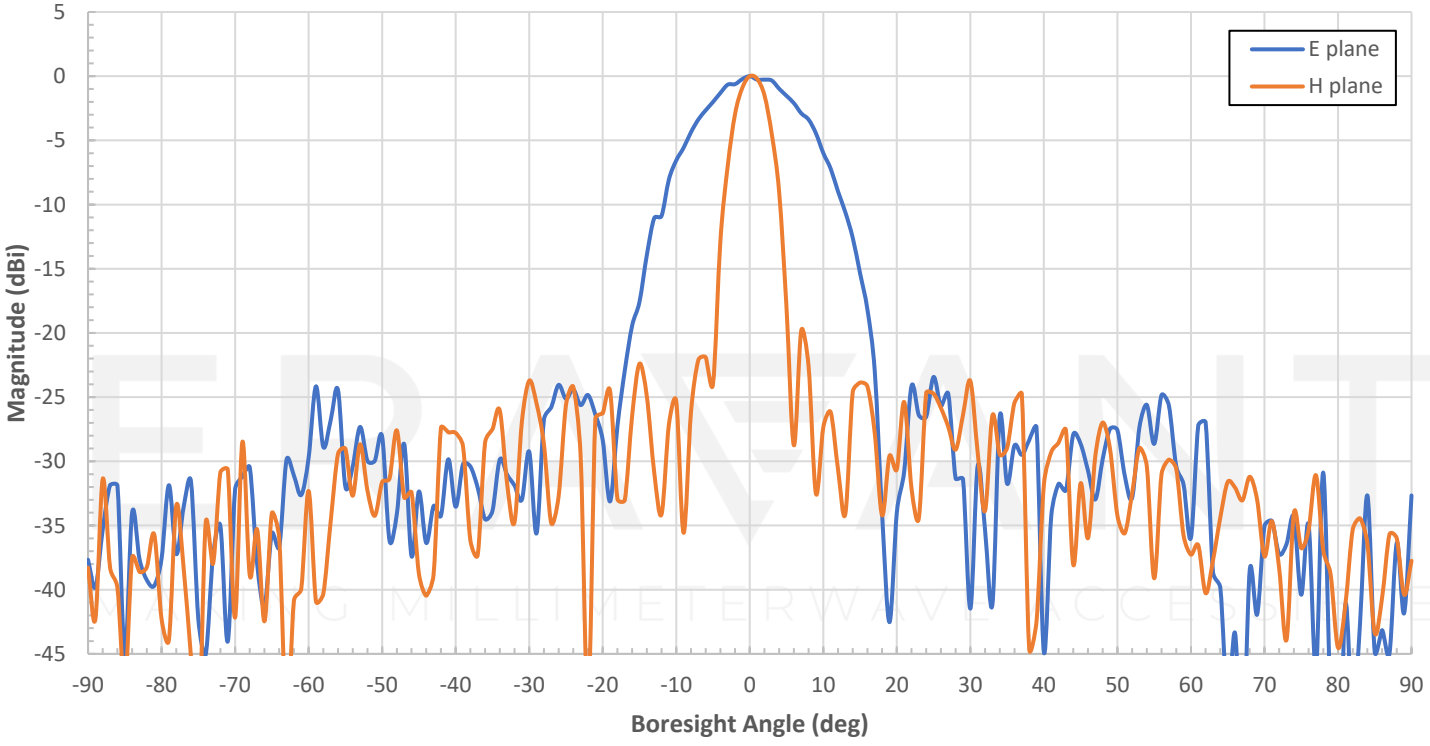
- Radar Systems
- Communication Systems
- Sensor Heads

SUPPLEMENTAL DETAILS

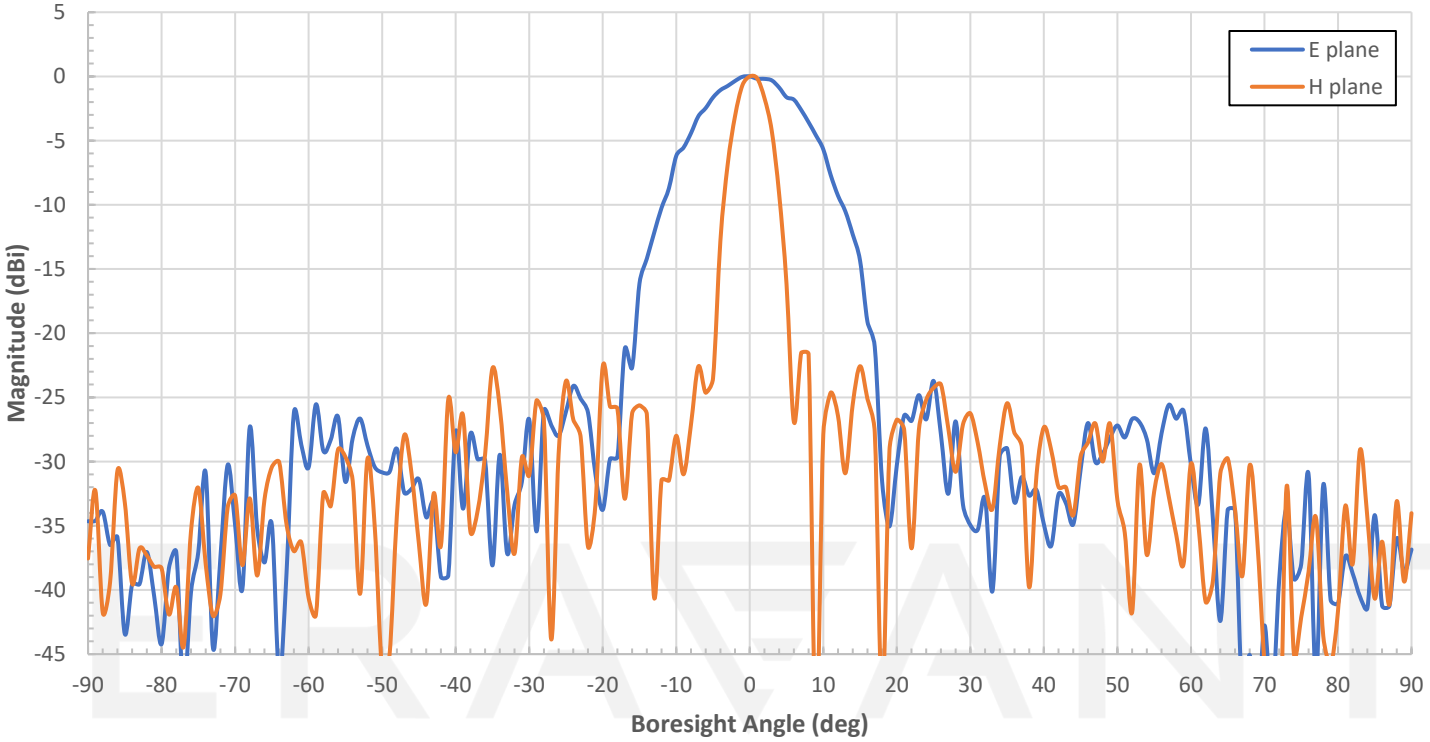
Measured Antenna Patterns @ 24.025 GHz



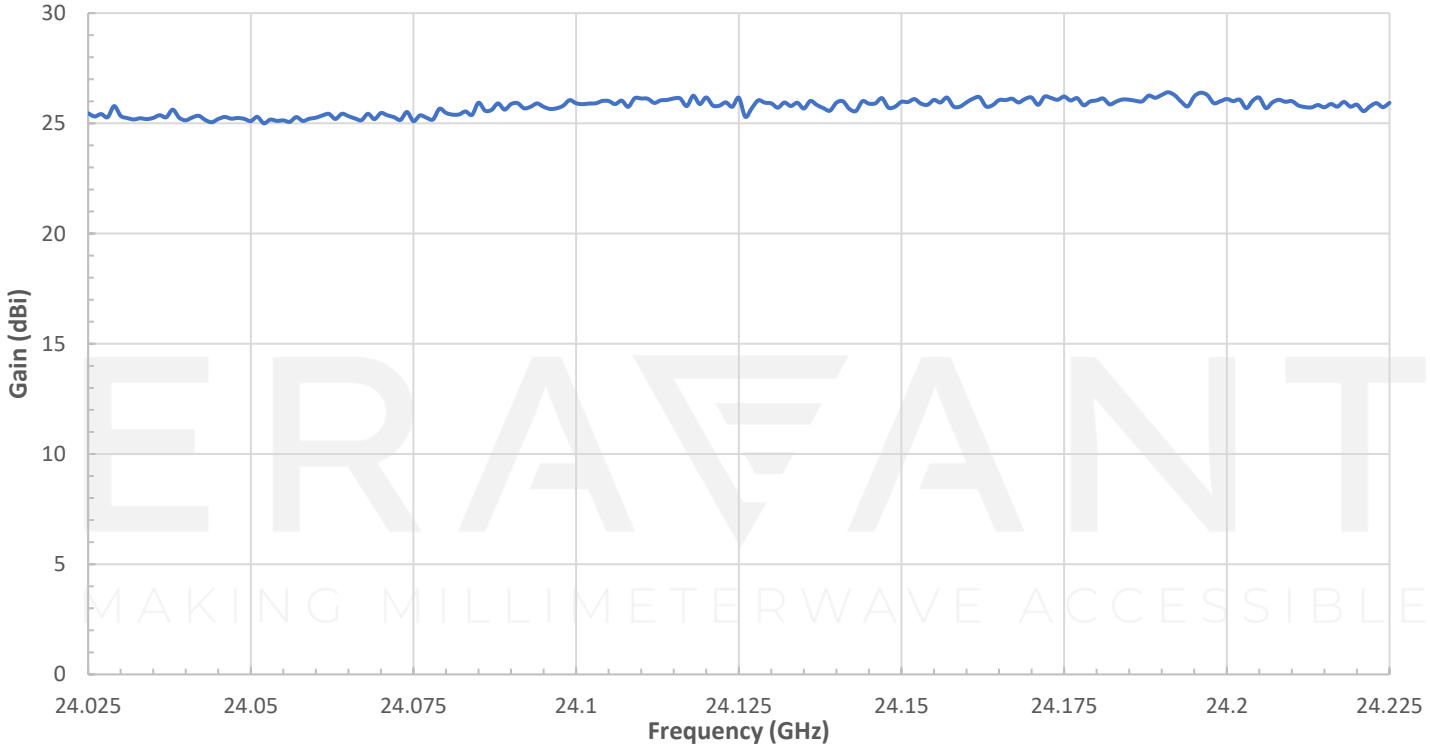
Measured Antenna Patterns @ 24.125 GHz



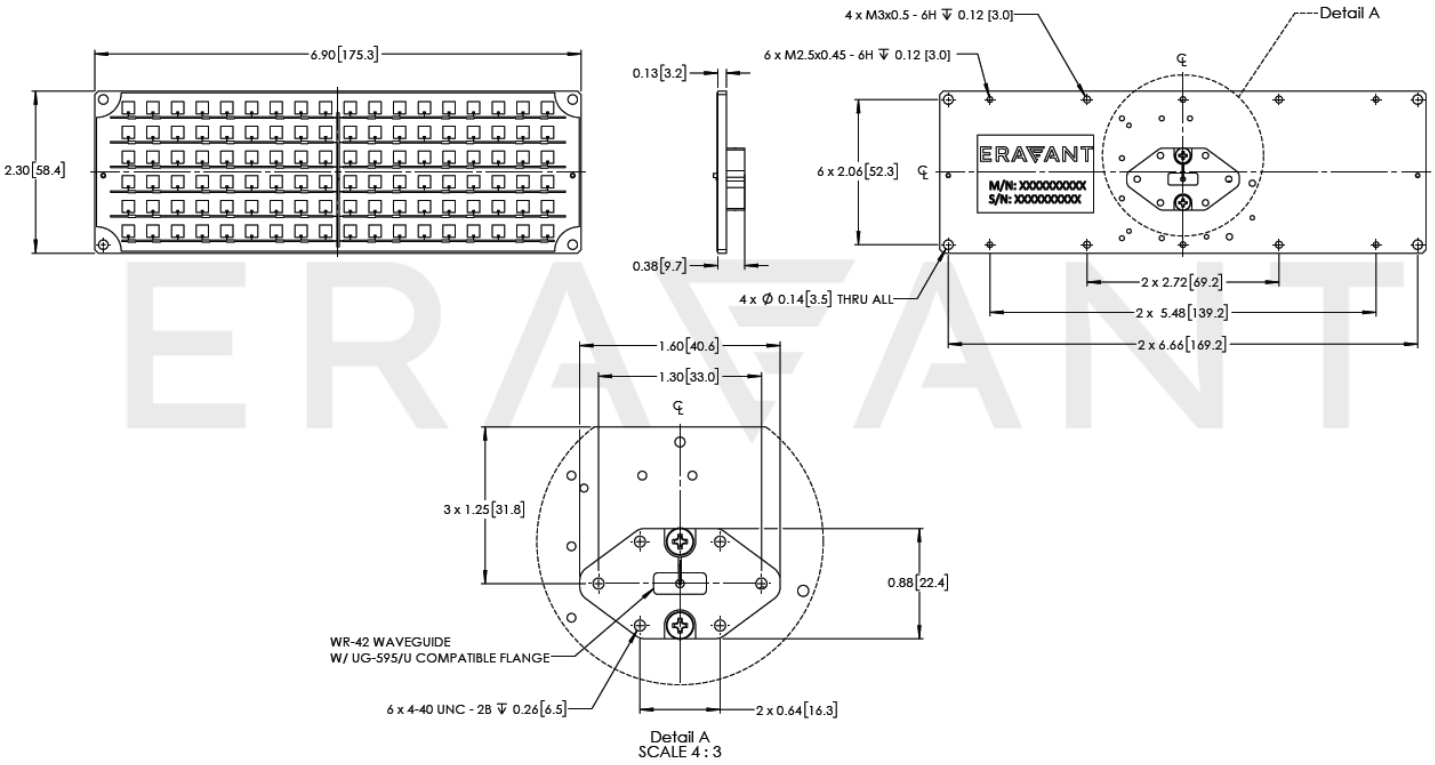
Measured Antenna Patterns @ 24.225 GHz



Measured Gain vs Frequency



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



NOTE:

- Test data is collected from a sample lot. Actual data may vary unit to unit, slightly.
- All testing was performed under +25˚C room temperature.
- Eravant reserves the right to change the information presented without notice.

CAUTION:

- Laying patch array substrate against the hard surface may damage the feed joint.
- Foreign objects in the waveguide or on the antenna patches will affect device performance and may damage the antenna.