SAM-2832830695-DM-LE

Ka-Band Modular Patch Antenna Element, 28.0 GHz, 6.0 dBi, 50° x 95°

SAM-2832830695-DM-LE is a Linear polarized, single element, 28.0 GHz modular patch antenna. The antenna element itself is modular and can be used for patch array antenna configurations with individual ports so beamforming and MIMO applications can be achieved via various input signal definitions. The individual patch antenna has a gain of 6.0 dBi and a typical vertical beamwidth of 50 degrees and horizontal beamwidth of 95 degrees respectively. The antenna is constructed with a high performance, low loss soft microwave substrate to achieve the best performance in the class. Modular patch array antenna with 64 elements and 32 elements with individual SMPM (M) coaxial connectors can be found under model SAM-2832830695-DM-L1-64C and SAM-2832830695-DM-L1-32C-1.

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency		28.0 GHz	
Bandwidth		±0.1 GHz	
Single Patch Gain		6.0 dBi	
3 dB Beamwidth		50° (Vertical, E-Plane) x 95° (Horizontal, H-Plane)	
Sidelobe Level		-12 dB	
Polarization		Linear	
Return Loss		6 dB	
Specification Temperature		+25 °C	
Operating Temperature	-40 °C		+85 °C

Mechanical Specifications:

Item	Specification
Antenna Port	SMPM (M) Coaxial Connectors
Number of Elements	1 (H) x 1 (V)
Baseplate Material	Aluminum
Patch Finish	Immersion Tin
Weight	3.52 Oz
Size	0.24” (L) x 0.44” (H) x 0.21” (W)
Outline	AM-CA-9550-EL

ECCN

EAR99

FEATURES

- Compact Size
- Modular Design
- Low Cost in Volume

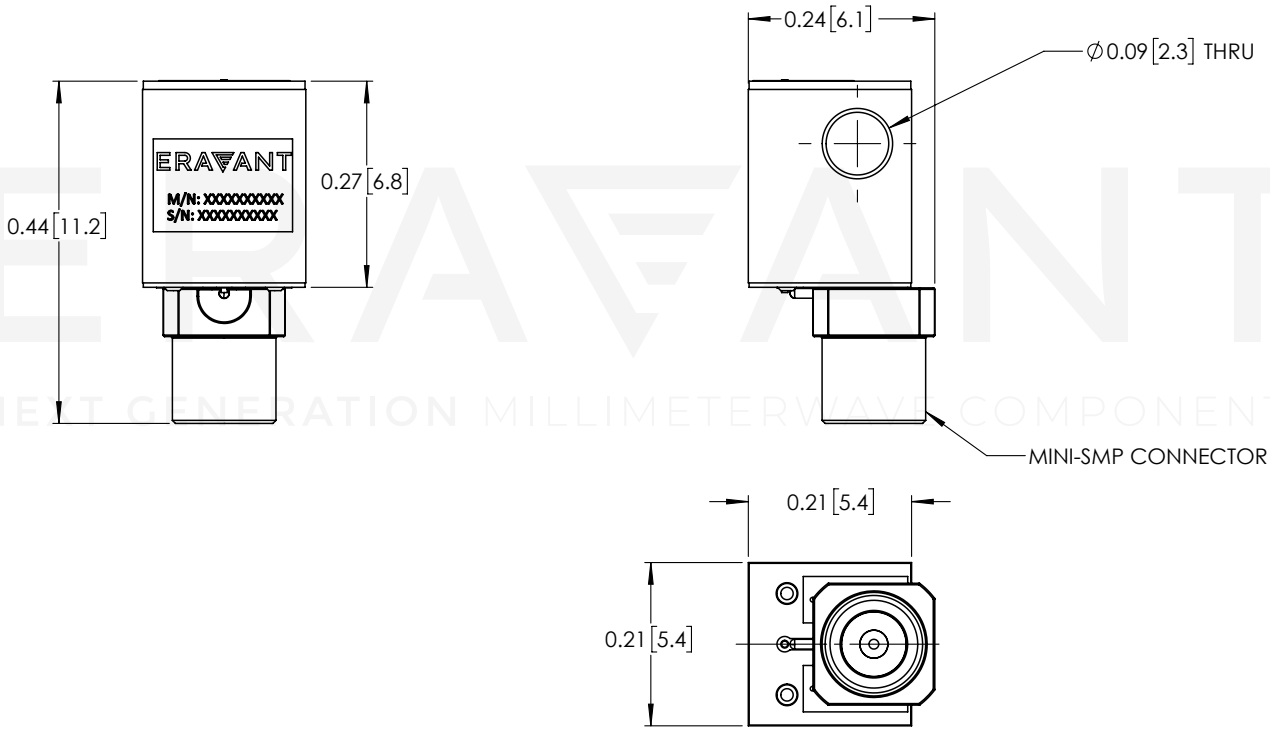
APPLICATIONS

- Communication Systems
- Probe Stations
- Custom Patch Array Assemblies

SUPPLEMENTAL DETAILS

Mechanical Outline:

Unless otherwise specified, all dimensions are in inches [millimeters])



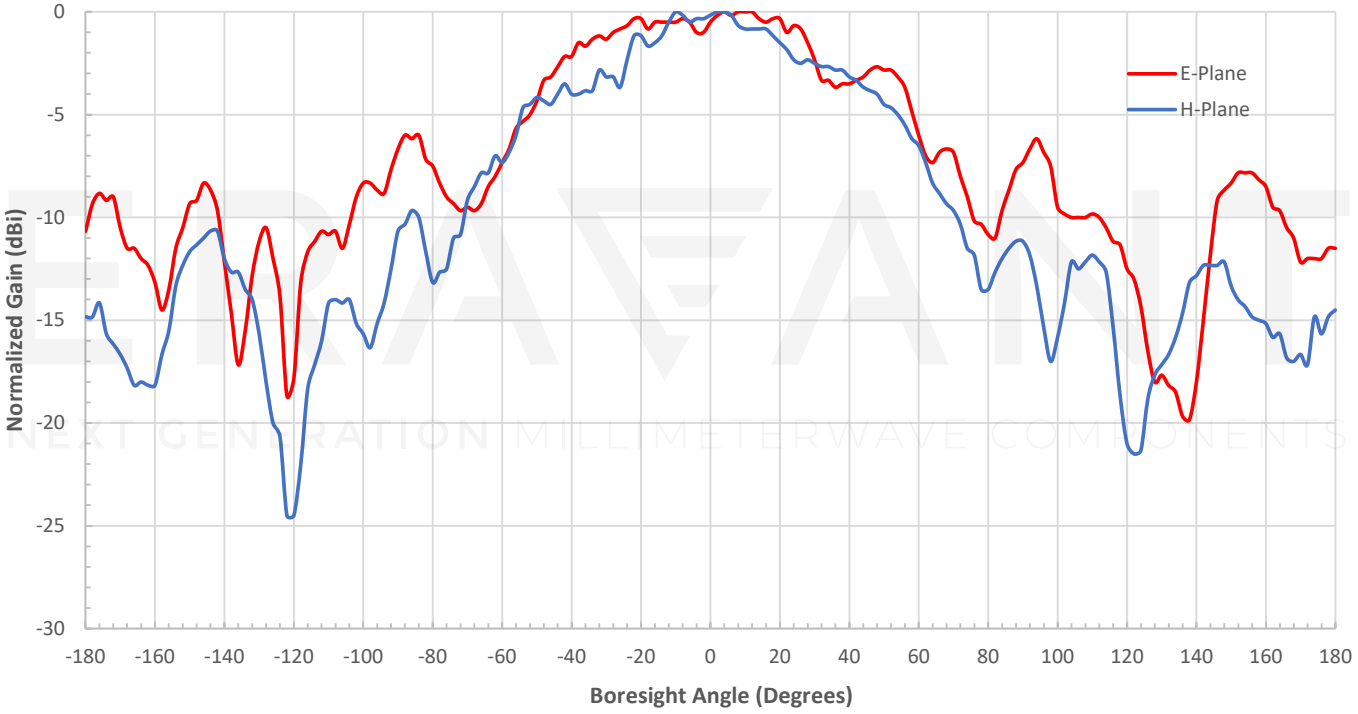
NOTE:

- On condition that test data is provided it is collected from a sample lot. Actual data may vary slightly from unit to unit. All testing is performed under +25 °C room temperature.
- On condition that simulated test data is provided, actual measured data may slightly vary.
- 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.
- For 1 mm connectors proper torque should be applied: 4.0 ± 0.15 inch-pounds (0.45 ± 0.02 Nm). Torque wrench model SCH-06004-S1 is highly recommended.
- For 1.35 mm, 1.85 mm, 2.4 mm, 2.92 mm, and SMA connectors proper torque should be applied: 8.0 ± 0.15 inch-pounds (0.90 ± 0.02 Nm). Torque wrench model SCH-08008-S1 is highly recommended.

Typical Single Antenna Element Pattern @ 28 GHz



Typical Return Loss vs Frequency