SAM-2832830695-DM-L1-64C

Ka Band Microstrip Patch Array Attenna, 28 Ghz, 6 dBi, 50° x 95°

SAM-2832830695-DM-L1-64C is a linearly polarized, 4 x 16, 28 GHz microstrip patch array antenna. The antenna implements 64 individual antenna ports for beamforming and MIMO applications can be achieved via various individual input signal definitions. The individual patch antenna element is modularly designed and has a gain of 6 dBi and a typical vertical beamwidth of 50 degrees and horizontal beamwidth of 95 degrees respectively. The combined gain of the array is 24 dBi when the elements are fed with equal amplitude and phase signals. The antenna is constructed with a high performance, low loss soft microwave substrate to achieve the best performance in the class. The RF interface is 64 SMPM (M) coaxial connectors. 1x32 configuration can be found under model number SAM-2832830695-DM-L1-32C-1.

Electrical Specifications

Parameter	Minimum	Typical	Maximum
Frequency Range		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	
Array Gain (Fed in Phase)	24.0 dBi		
Array 3 dB Beamwidth (Fed in Phase)	4° (Vertical, E Plane) x 17° (Horizontal, H Plane)		
Array Sidelobe Level (Fed in Phase)	-12 dB		
Polarization	Linear		
Return Loss		6 dB	
Specification Temperature		+25°C	
Operating Temperature	-40°C		+85°C

Mechanical Specifications:

Item	Specification
Antenna Port	64 x SMPM (M) Coaxial Connectors
Number of Elements	4 (H) x 16 (V)
Baseplate Material	Aluminum
Patch Finish	Immersion Tin
Weight	0.22 Lbs.
Size	4.00” (L) x 0.27” (H) x 1.30” (W)
Outline	AM-CA-9550-64C

ECCN

EAR99

FEATURES

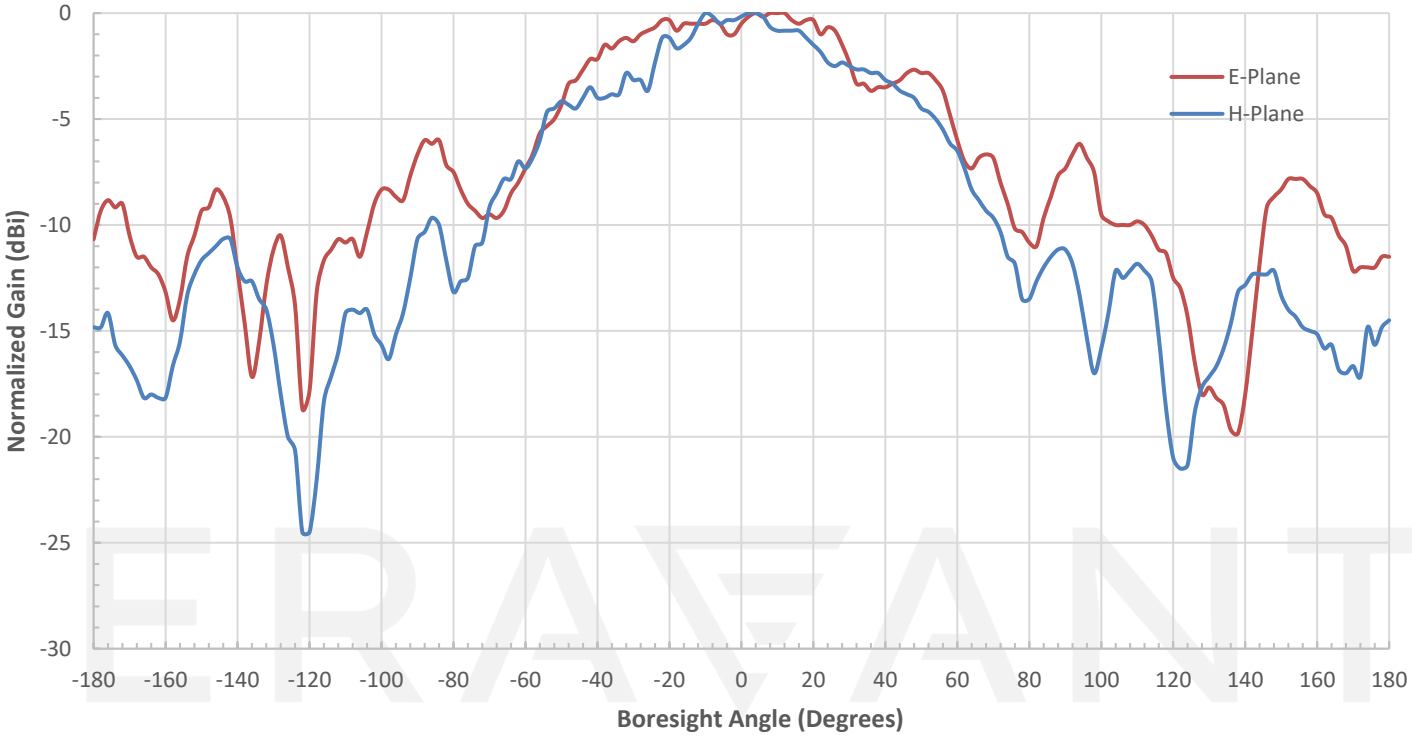
- Beamforming Feasibility
- Compact Modular Single Elements
- Various Array Configurations

APPLICATIONS

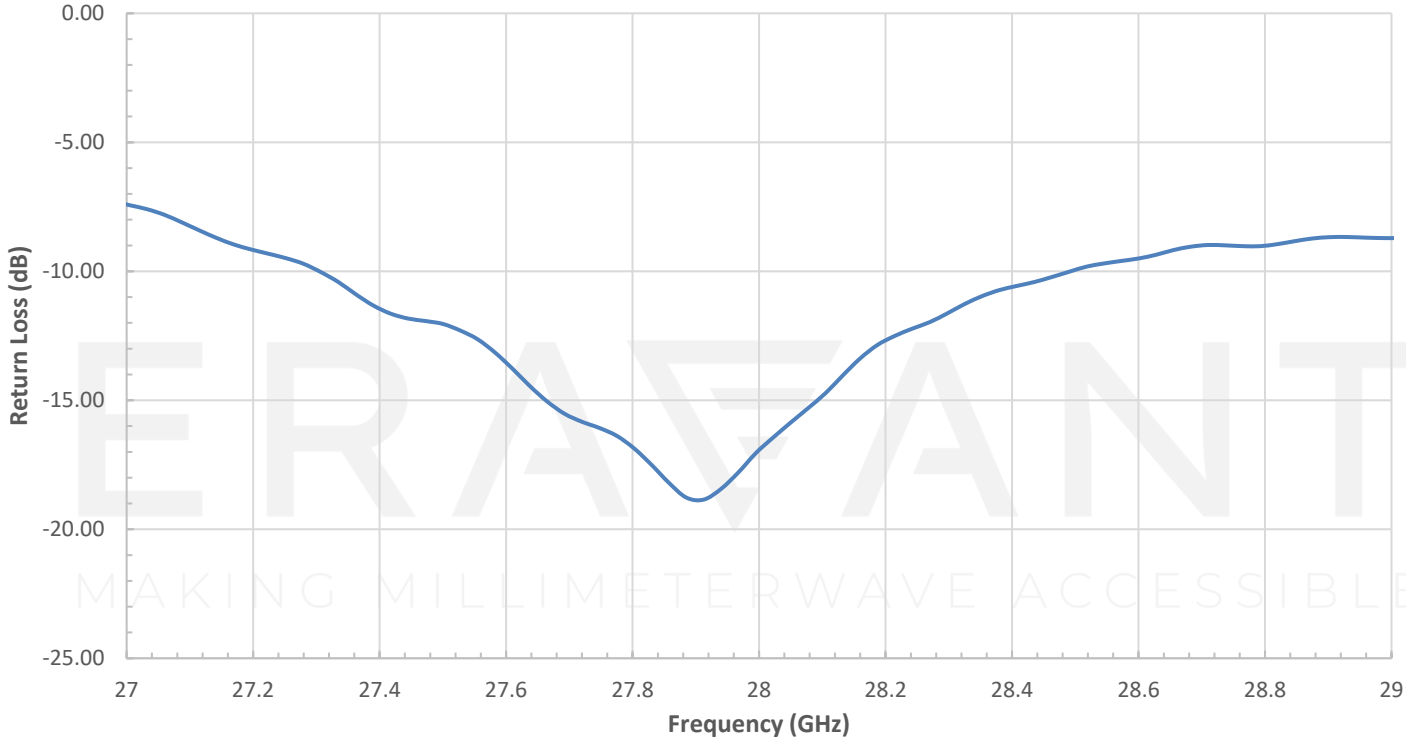
- Beamforming
- MIMO
- Communication Systems

SUPPLEMENTAL DETAILS

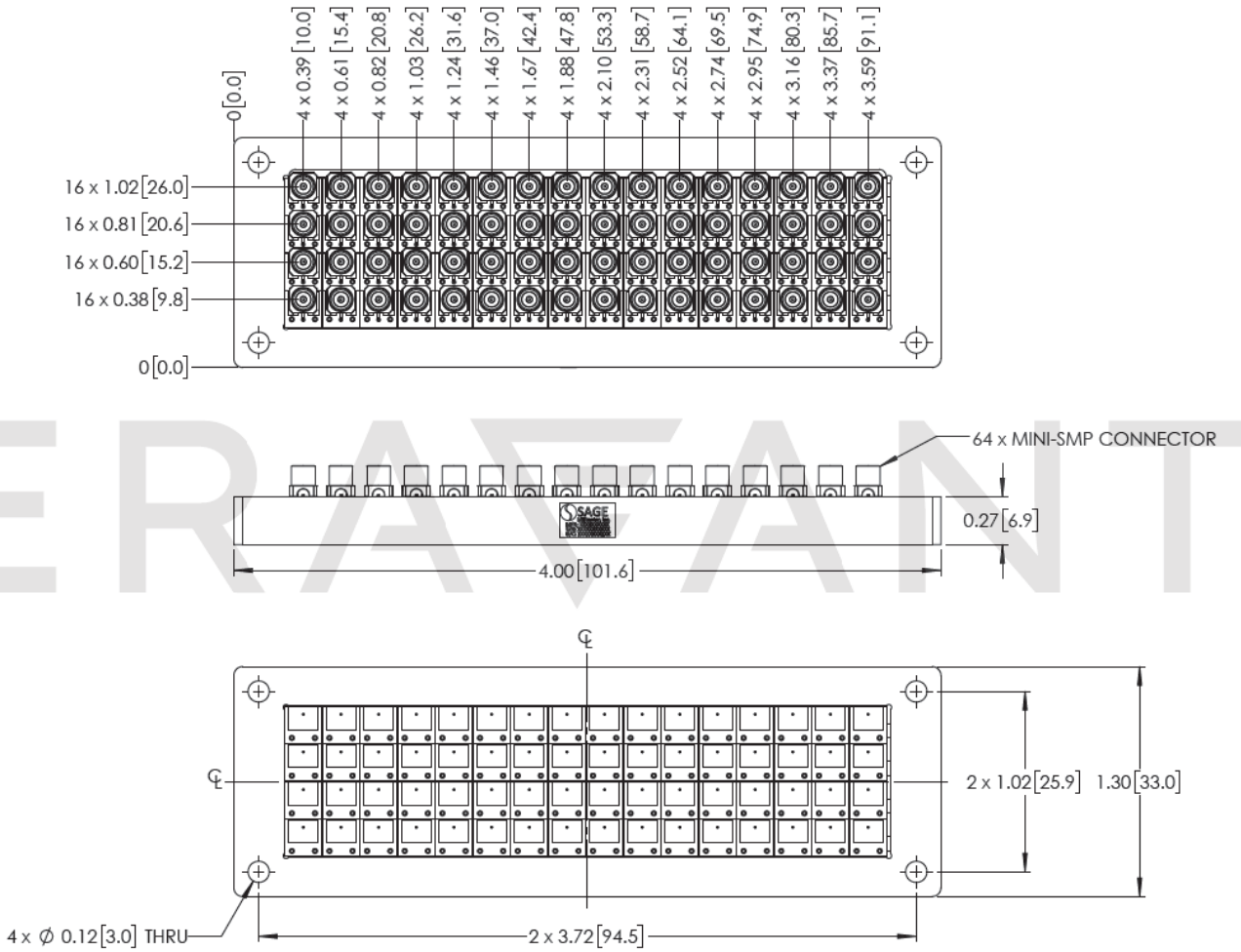
Typical Single Antenna Element Pattern @ 28 GHz



Typical Single Antenna Element Return Loss vs Frequency



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:

- Proper torque should be applied: 8.0 ± 0.15 inch-pounds (0.92 ± 0.05 Nm). Torque wrench model SCH-08008-S1 is highly recommended.