

## SAM-2832830695-DM-L1-32C-1

### Ka Band Microstrip Patch Antenna, 28 Ghz, 6 dBi, 50° x 95°

**SAM-2832830695-DM-L1-32C-1** is a linearly polarized, 1 x 32, 28 GHz microstrip patch array antenna. The antenna implements 32 individual antenna ports so that beamforming and MIMO applications can be achieved via various input signal definitions. The individual patch antenna has a gain of 6 dBi and a typical vertical beamwidth of 50 degrees and horizontal beamwidth of 95 degrees. The combined gain of the array is 21 dBi when the array is 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 32 SMPM (M) coaxial connectors. 4x16 configuration can be found under model number SAM-2832830695-DM-L1-64C.



#### 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)		21.0 dBi	
Array 3 dB Beamwidth (Fed in phase)	50° (Vertical, E Plane) x 3° (Horizontal, H Plane)		
Array 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	32 x SMPM (M) Coaxial Connectors
Number of Elements	1 (H) x 32 (V)
Baseplate Material	Aluminum
Patch Finish	Immersion Tin
Weight	0.12 Lbs.
Size	7.00" (L) x 0.27" (H) x 0.50" (W)
Outline	AM-CA-9550-32C-1

#### ECCN

EAR99

#### FEATURES

- Compact Modular Elements
- Beamforming Feasibility
- Various Array Configurations

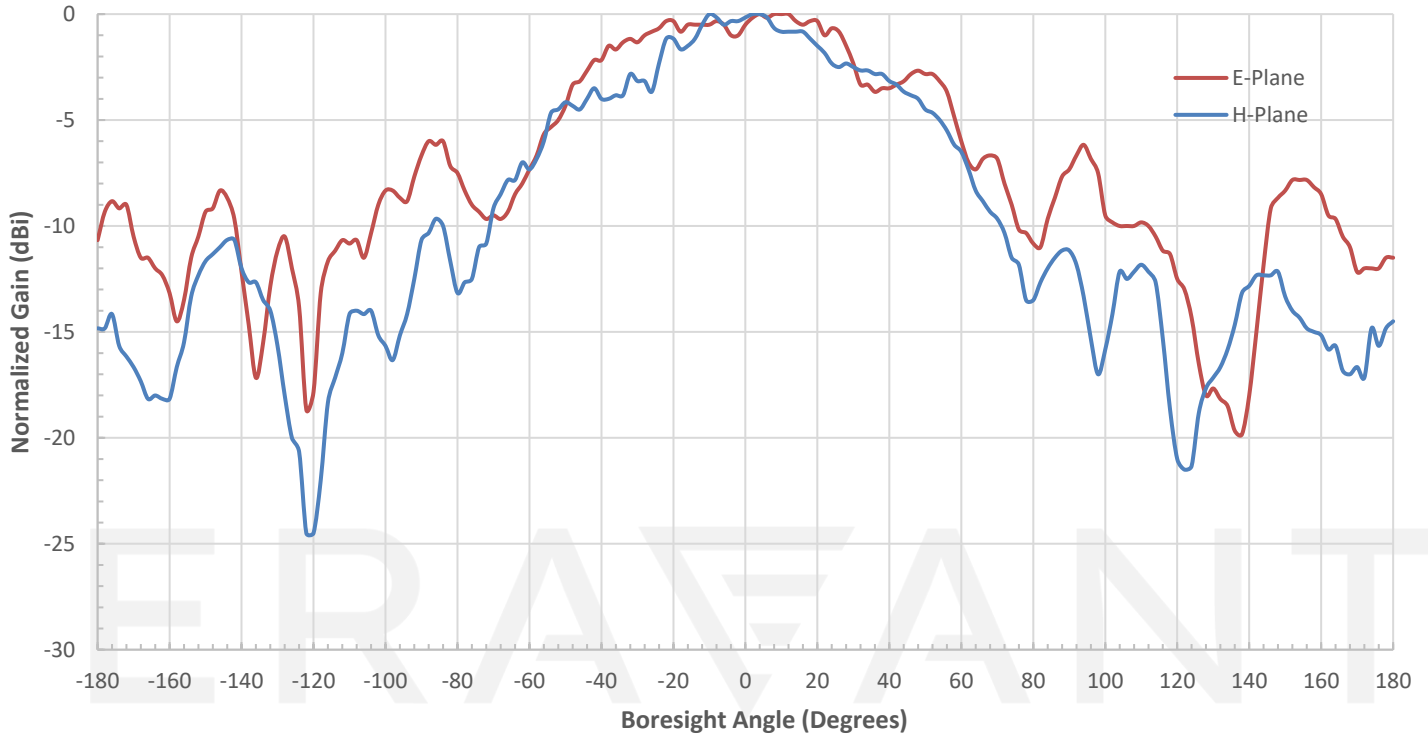
#### APPLICATIONS

- Beamforming
- Communication Systems
- MIMO

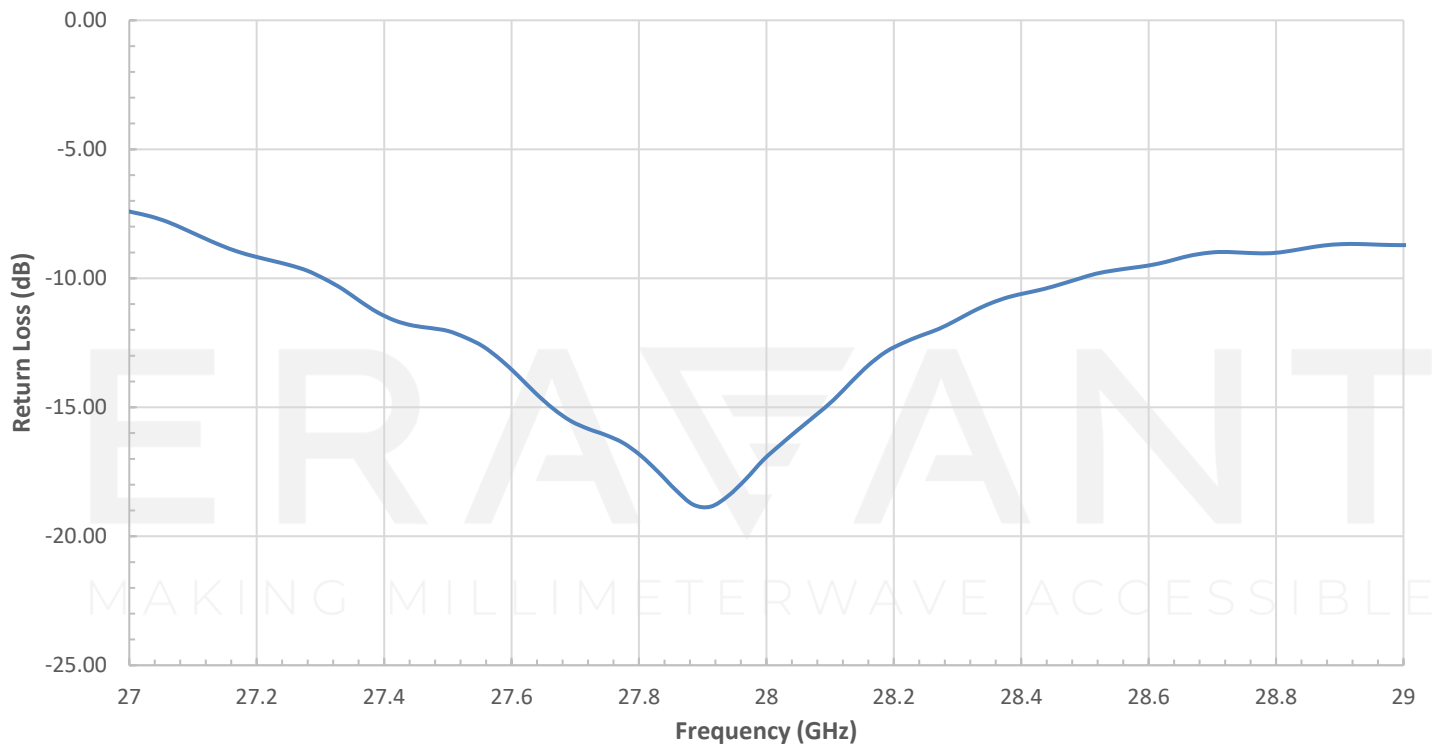
#### SUPPLEMENTAL DETAILS



### Typical Single Antenna Element Pattern @ 28 GHz

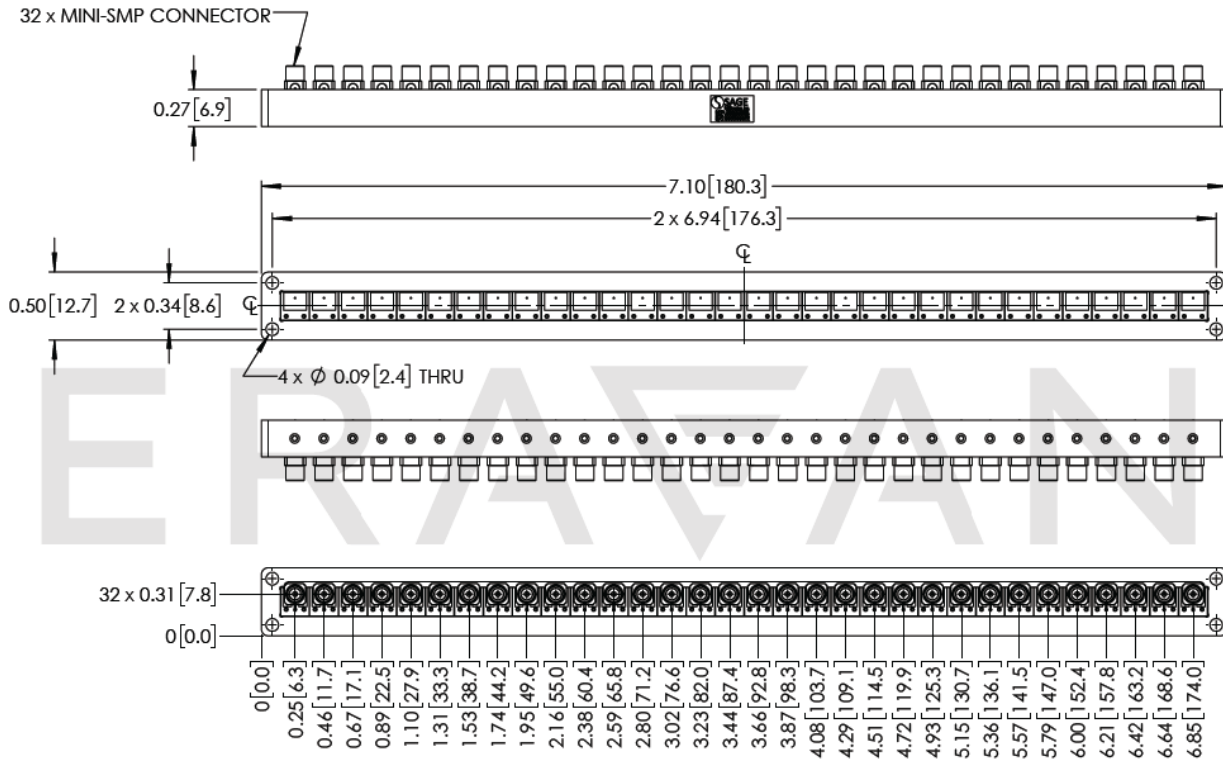


### Typical Return Loss vs Frequency



## SAM-2832830695-DM-L1-32C-1

**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:  $8.0 \pm 0.15$  inch-pounds ( $0.92 \pm 0.05$  Nm). Torque wrench model SCH-08008-S1 is highly recommended.

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