

## SAU-743843854-12-DCP1

### E-Band Tx/Rx Antenna Feeding Network, Dual Circular Polarized, 4-Port, 71-86 GHz

**SAU-743843854-12-DCP1** is a high performance, dual circular polarized antenna feeding network assembly designed for E-band satellite communication ground station applications. The feed network is designed to operate in the popular E-band frequency spectrum with a Rx frequency range from 71 to 76 GHz and a Tx frequency range from 81 to 86 GHz.

The feed network consists of an integrated linear-to-circular polarizer, orthomode transducer (OMT), and two diplexers. The feed network allows antennas to support both left and right-handed circular polarizations (LHCP/RHCP) for both the Tx and Rx channels at the same time. The feed network is designed to operate in outdoor conditions and features internal O-ring sealing and corrosion-resistant chem-film surface treatment for the external aluminum enclosure.



#### ECCN

EAR99

#### FEATURES

- E-Band SATCOM range
- Weather Resistant
- High Port Isolation
- Dual Circular Polarization
- Integrated Polarizer, OMT, Diplexers

#### APPLICATIONS

- 6-G Communication
- Wireless communication

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### Electrical Specifications:

Parameter		Receive			Transmit		
		Minimum	Typical	Maximum	Minimum	Typical	Maximum
Frequency		71 GHz		76 GHz	81 GHz		86 GHz
Insertion Loss		2.5 dB (Typ)					
Return Loss		15 dB (Typ)					
Polarization		Dual Circular Polarized (LHCP and RHCP)					
Port to Port Isolation	Rx-LHCP to Tx-LHCP	50 dB (Typ)					
	Rx-RHCP to Tx-RHCP						
	Rx-LHCP to Tx-RHCP	85 dB (Typ)					
	Rx-RHCP to Tx-LHCP						
	Tx-LHCP to Tx-RHCP	20 dB (Typ)					
	Rx-LHCP to Rx-RHCP						
Axial Ratio		0.5 dB (Typ)					
Specification Temperature		+25 °C					
Operating Temperature		-40 °C to +85 °C					

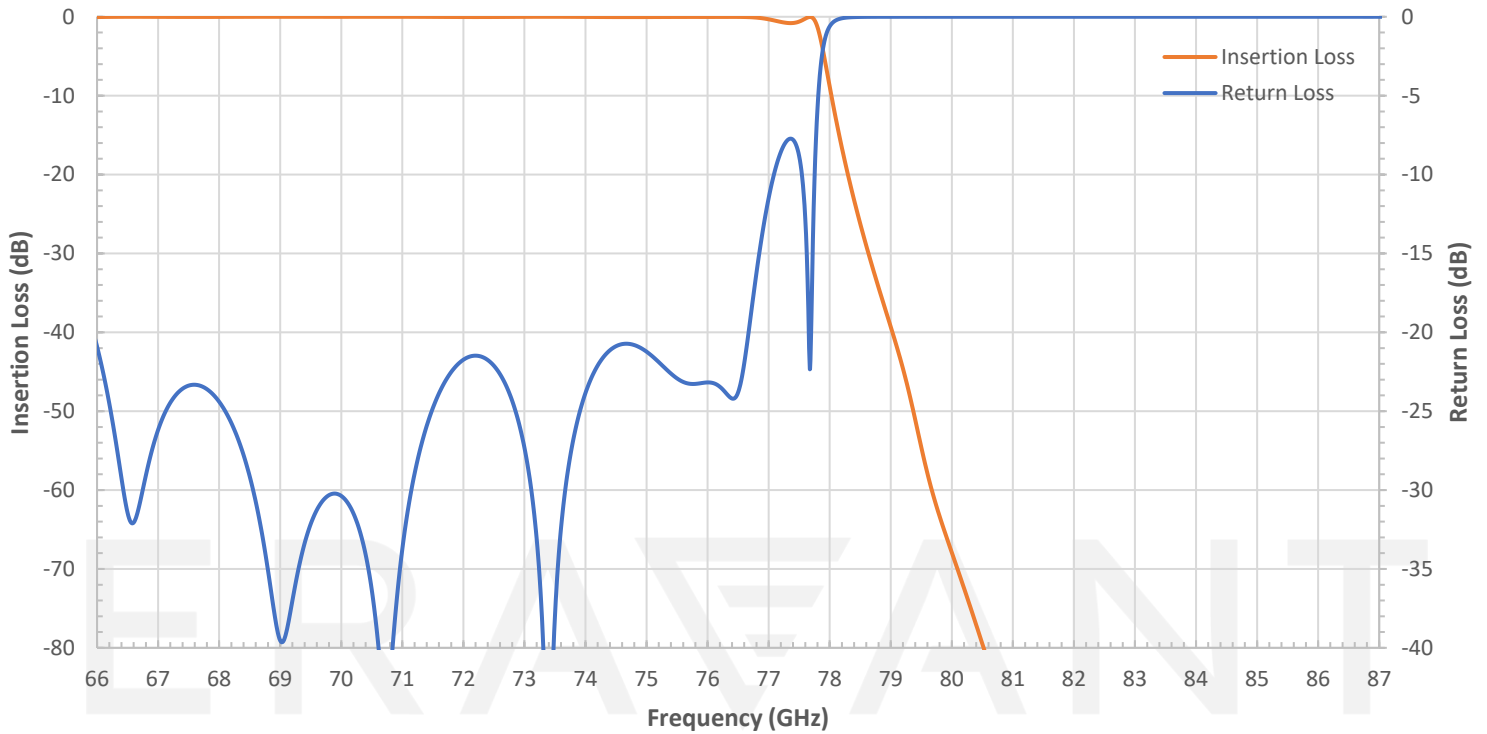
MAKING MILLIMETERWAVE ACCESSIBLE

### Mechanical Specifications:

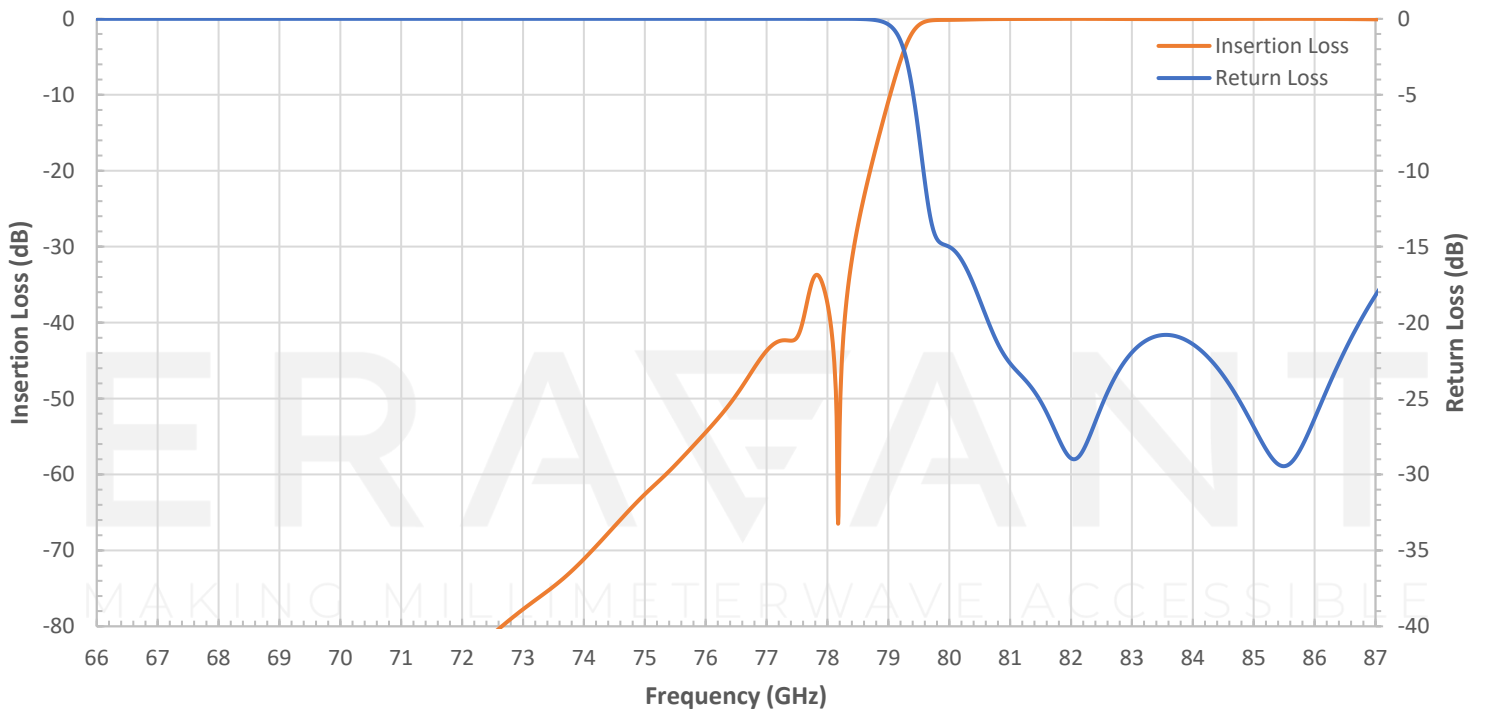
Item	Specification
Antenna Port	Ø0.125" Circular Waveguide with UG-387/U Anti-Cocking Flange
RF Ports	WR-12 Waveguide with UG-387/U Anti-Cocking Flanges
Material	Aluminum
Surface Finish	Chem film and painted
Weight	1.5 lbs.
Outline	AU-EC-125-4-DCP-WR

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### Simulated Performance vs Frequency, RX PORTS

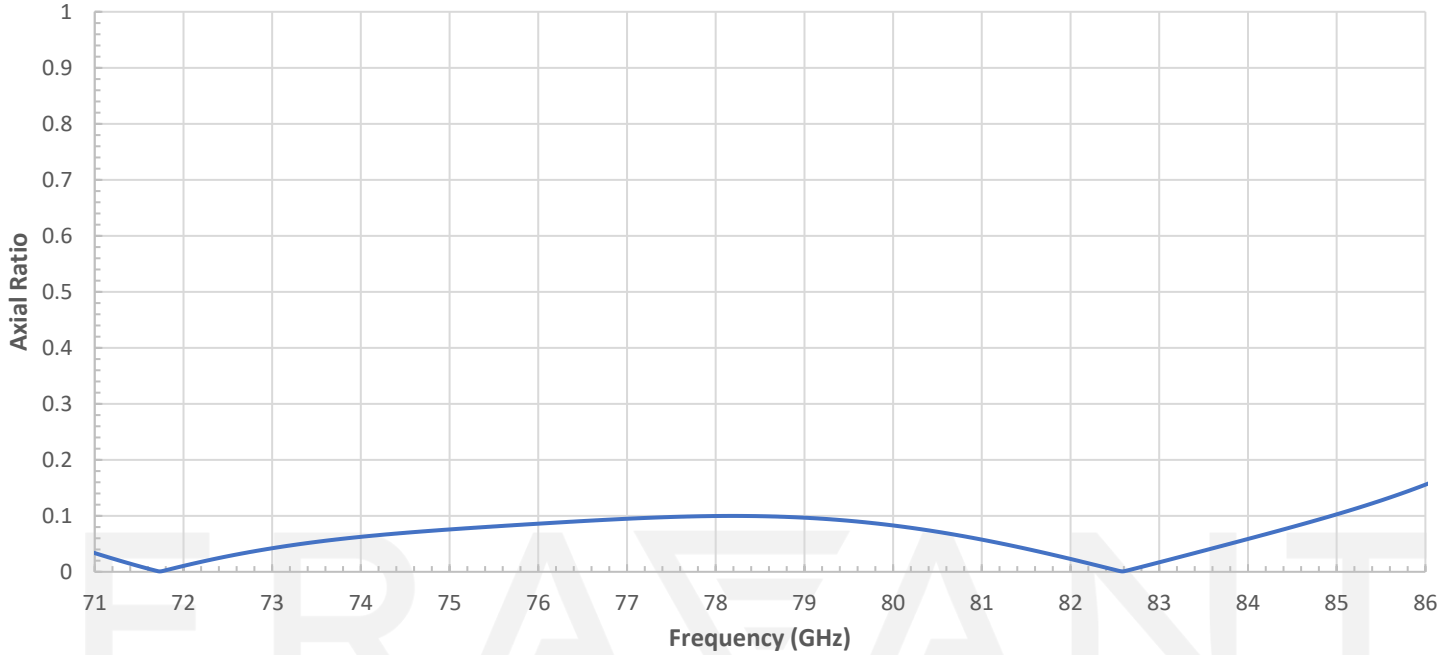


### Simulated Performance vs Frequency, TX PORTS

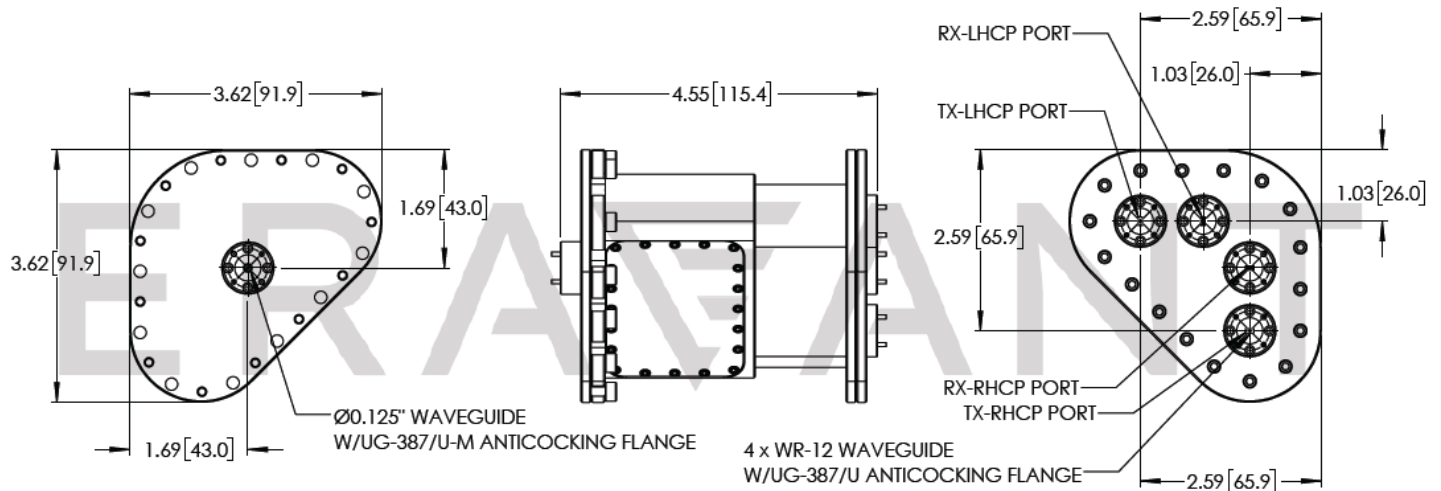


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### Simulated Axial Ratio vs Frequency



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



**NOTE:**

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

