SAY-3835234805-22-S1-CP-DP-WR

Q/V-Band Cassegrain Antenna, 48 dBi, 36” (0.9 m) Dish, Circular Polarized

SAY-3835234805-22-S1-CP-DP-WR is a high performance, circular polarized, Cassegrain antenna assembly for Q/V-band satellite communication ground station applications. The antenna is designed to operate in the popular Q/V-band frequency spectrum with a Rx frequency range from 37.5 to 42.5 GHz and a Tx frequency range from 47.2 to 52.4 GHz.

The antenna features a 0.9 m (36”) diameter, light weight, carbon fiber reflector, a corrugated feedhorn, and a 2-port backend feed network that consists of an integrated linear-to-circular polarizer, orthomode transducer (OMT), and two filters. The feed network allows the antenna to support circular polarizations for both the Tx and Rx channel. The antenna is designed to operate in outdoor conditions and features weather resistant polyamide epoxy paint coating for the main reflector and the feed parts, a sealed radome cap for the feedhorn, O-ring sealing for the entire feed network.

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FEATURES

- Full Coverage of Q/V-Band
- Weather Resistant
- High Antenna Efficiency
- High Port Isolation
- Circular Polarization
- Integrated Polarizer, OMT, Filters
- Light weight

APPLICATIONS

- Q/V-Band Satellite Communication Ground Station

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Electrical Specifications:

Parameter	Receive			Transmit		
	Minimum	Typical	Maximum	Minimum	Typical	Maximum
Frequency	37.5 GHz	40 GHz	42.5 GHz	47.2 GHz	50 GHz	52.4 GHz
Gain	47 dBi (Typ)			49 dBi (Typ)		
3 dB Beamwidth	0.5° (Typ)					
Sidelobes	-15 dB (Typ)					
Polarization	Circular Polarized					
Cross-Polarization	30 dB (Typ)					
Isolation (TX-RX)	85 dB (Typ)					
Isolation (RX-TX)	50 dB (Typ)					
Return Loss	12 dB (Typ)					
Power Handling	300 W (Max)					
Specification Temperature	+25 °C					
Operating Temperature	-40 °C to +85 °C					

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Mechanical Specifications:

Item	Specification
Aperture Size	Ø 36” (0.9 m)
Antenna Ports	WR-22 Waveguide with UG-383/U-M Anti-Cocking Flanges
Enclosure Material	Aluminum
Enclosure and Feed Parts Finish	White Polyurethane Enamel Paint
Radome Material	PTFE
Reflector Material	Carbon Fiber Skin
Reflector Surface Finish	White Polyurethane Enamel Paint
Weight	Approx. 16 lbs.
Outline	AY-RQ48-36-22-CP-DP-WR

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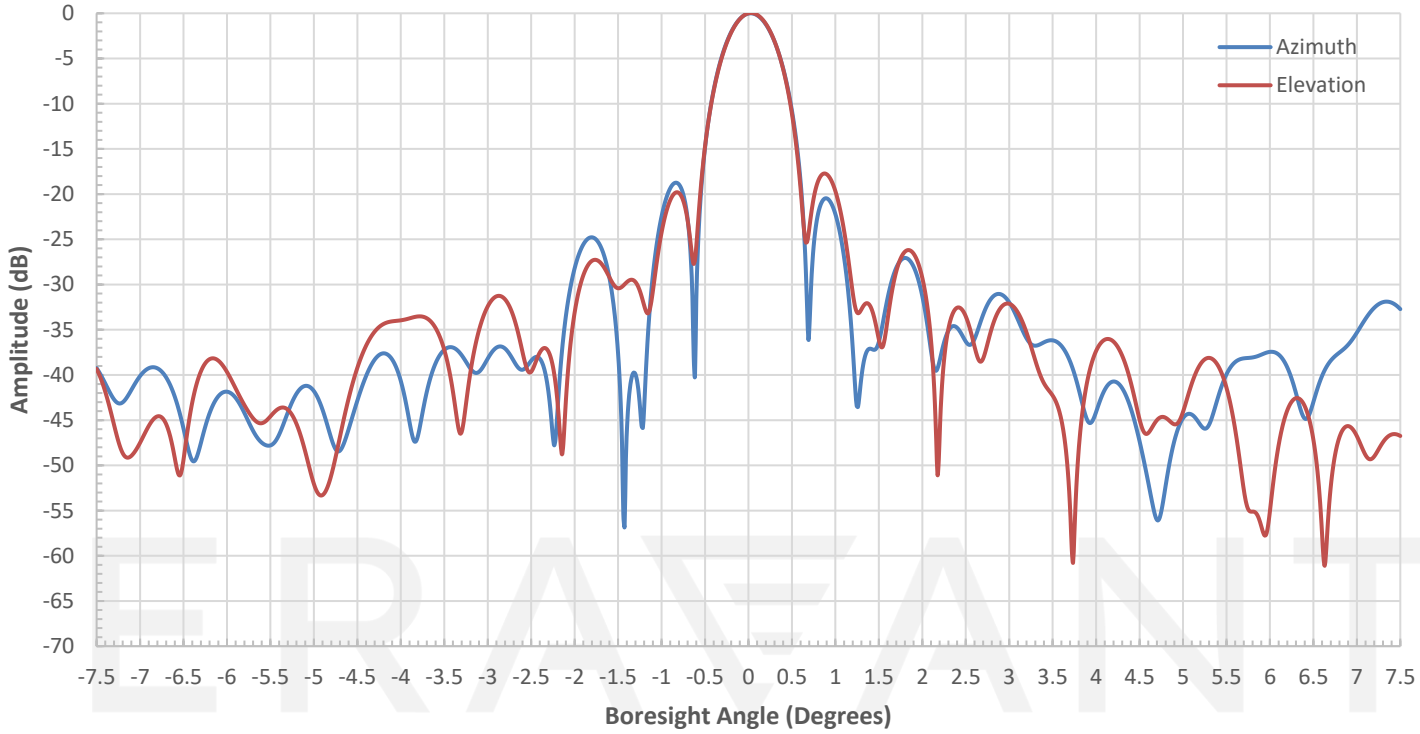
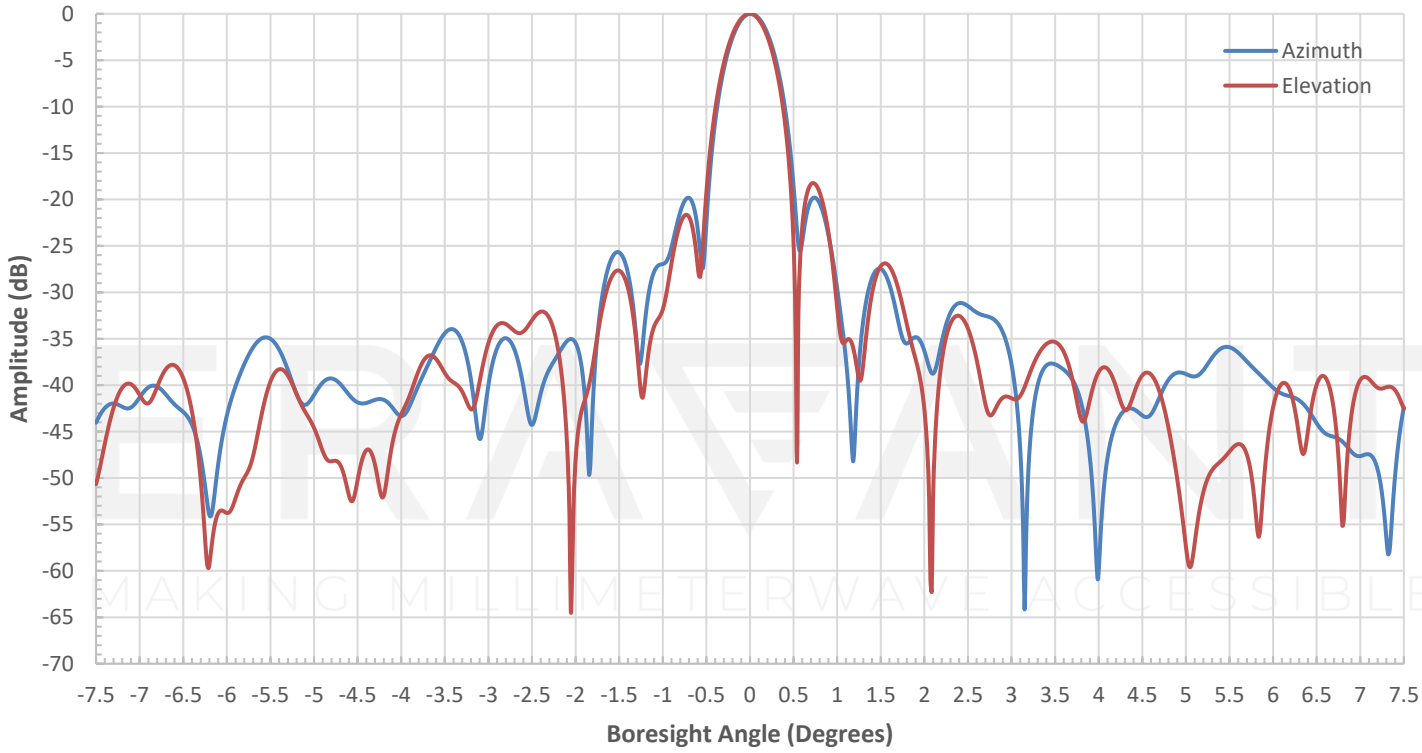
Measured Patterns at 39.5 GHz



Measured Patterns at 48.5 GHz



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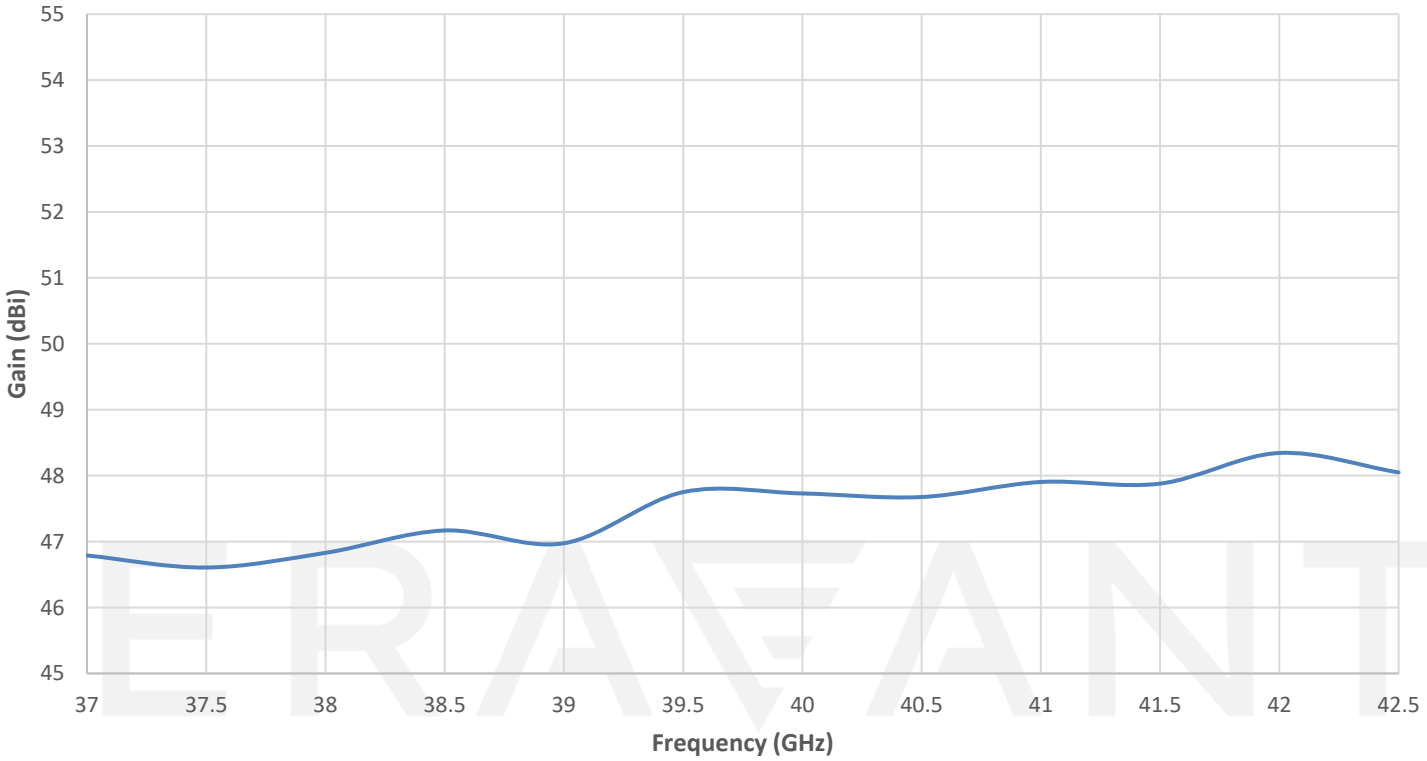
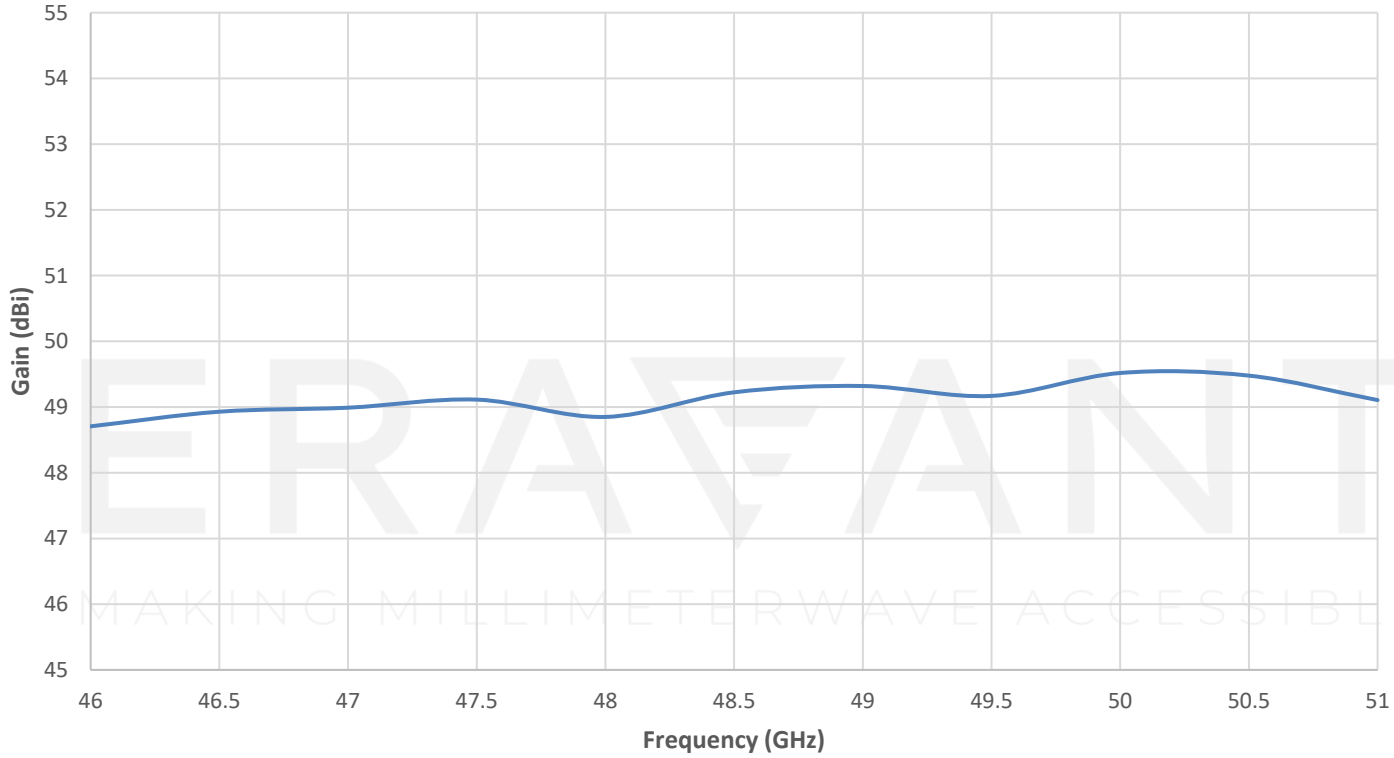
Measured RX Port (V Port) Gain vs Frequency*



Measured TX Port (H Port) Gain vs Frequency*



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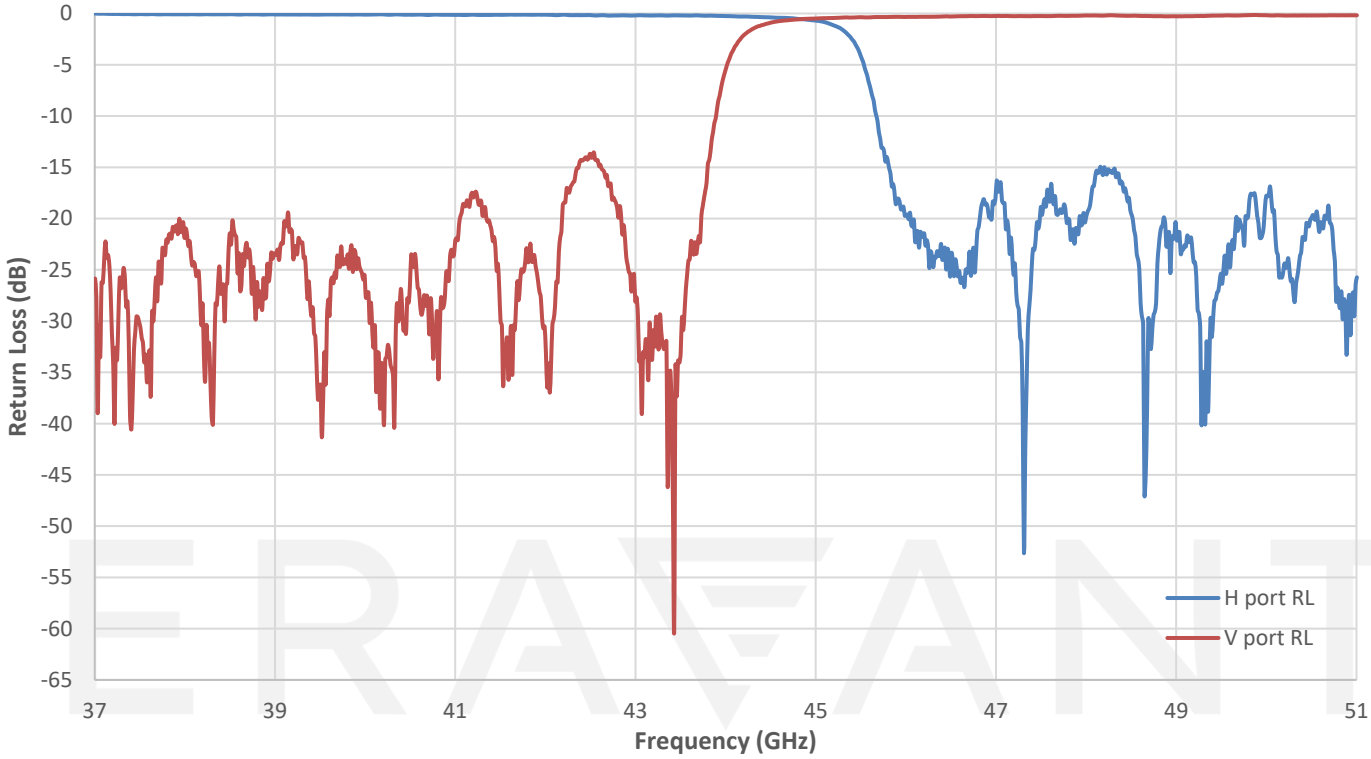
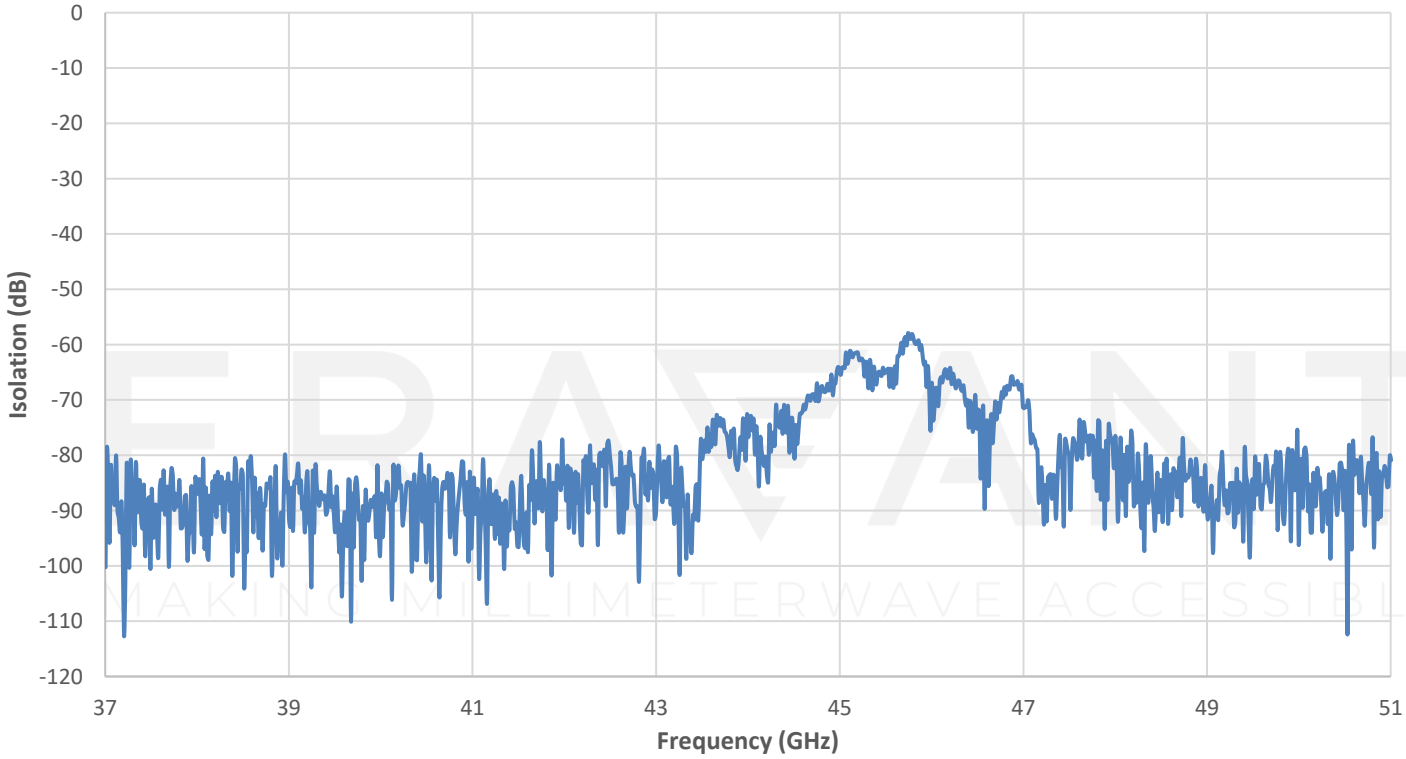
Measured Return Loss vs Frequency*



Measured Isolation vs Frequency*



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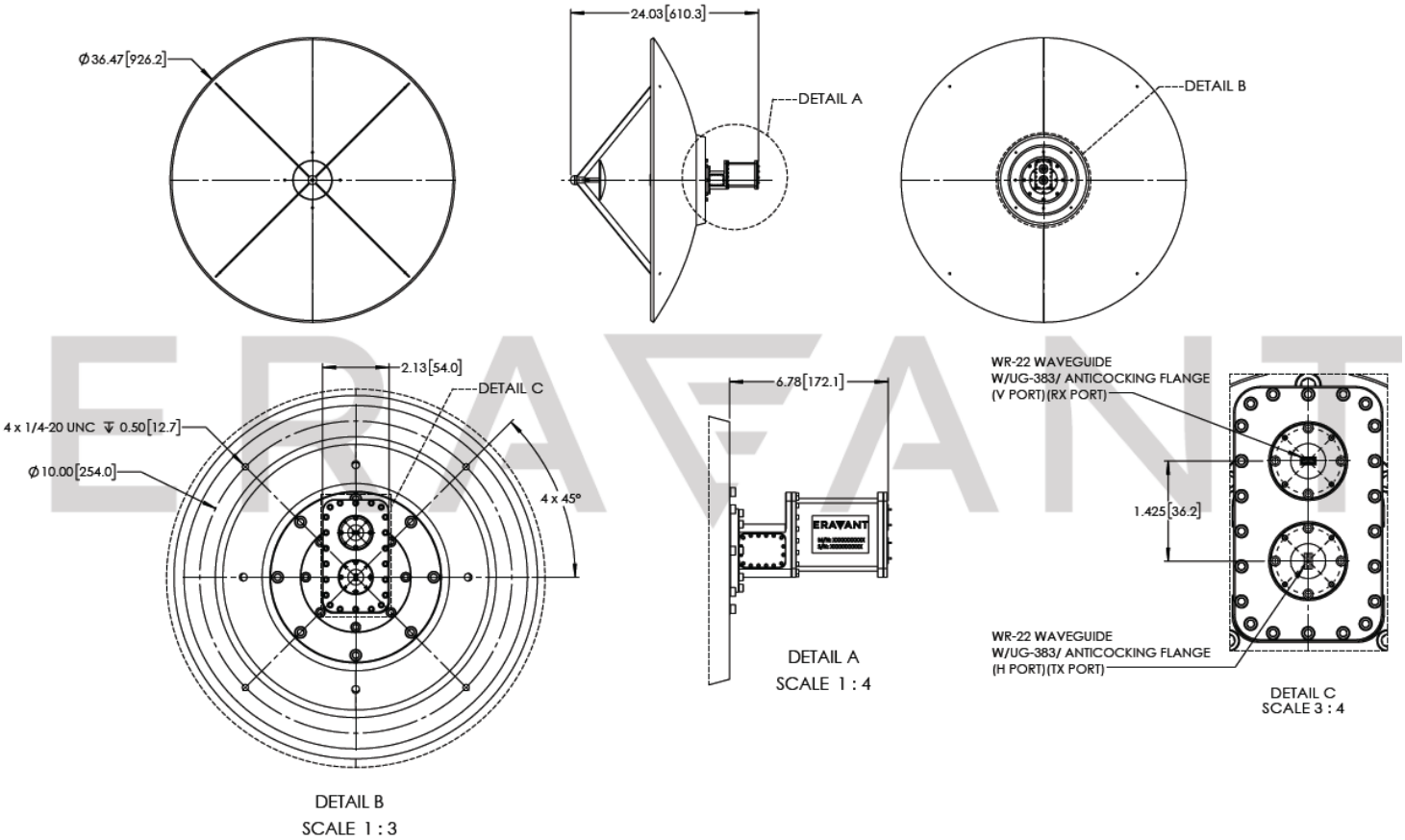
Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])



NOTE:

- Measured test data is available up to 51 GHz. Performance can extend to 52.4 GHz based on design and simulation. Contact us for more information.
- 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.

CAUTION:

- Any foreign objects in the waveguide or antenna will cause performance degradation and may damage or destroy the unit.

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