

SAR-2018-75NF-R3 & SAR-2018-75NM-R3

WR-75 Pyramidal Horn Antenna, 20 dBi Gain with N Type Coax Input

SAR-2018-75NF-R3 & SAR-2018-75NM-R3 are X-Ku-band pyramidal horn antenna with a right angle (90°) N type coax connector to cover the frequency range of 9.84 GHz to 15 GHz. The antenna offers 20 dBi nominal gain and a typical half power beamwidth of 17 degrees on the E-plane and 19 degrees on the H-plane. The antenna supports linear polarized waveforms.



Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	9.84 GHz		15 GHz
Gain		20 dBi	
Polarization		Linear	
3 dB Beamwidth, E-Plane		17°	
3 dB Beamwidth, H-Plane		19°	
Side Lobes, E-Plane		-13 dB	
Side Lobes, H-Plane		-36 dB	
Return Loss		18 dB	
Power Handling			50 W (CW)
Specification Temperature		+25°C	
Operating Temperature	-40°C		+85°C

Mechanical Specifications:

Item	Specification
Antenna Port (F)	N Type (F) for Model: SAR-2018-75NF-R3
Antenna Port (M)	N Type (M) for Model: SAR-2018-75NF-R3
Material	Aluminum
Connector Material	Stainless Steel
Finish	Anti-Corrosion Paint
Weight	8.96 Oz
Size	9.17" (L) X 4.53" (W) X 3.27" (H)
Outline	AR-7C1-R-H1

ECCN

EAR99

FEATURES

- Inline Configuration
- Linear Polarization
- DC Short Circuit at Input

APPLICATIONS

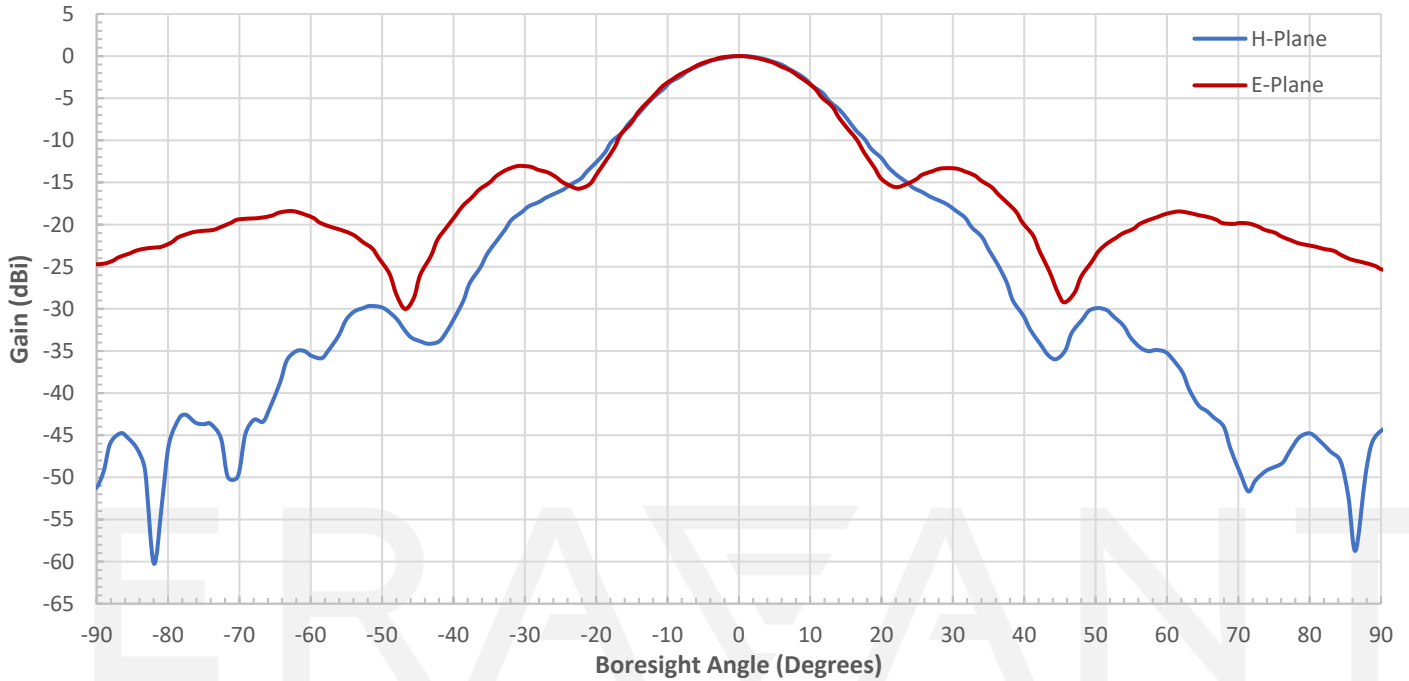
- Antenna Ranges
- Antenna Gain Measurements
- System Setups

SUPPLEMENTAL DETAILS

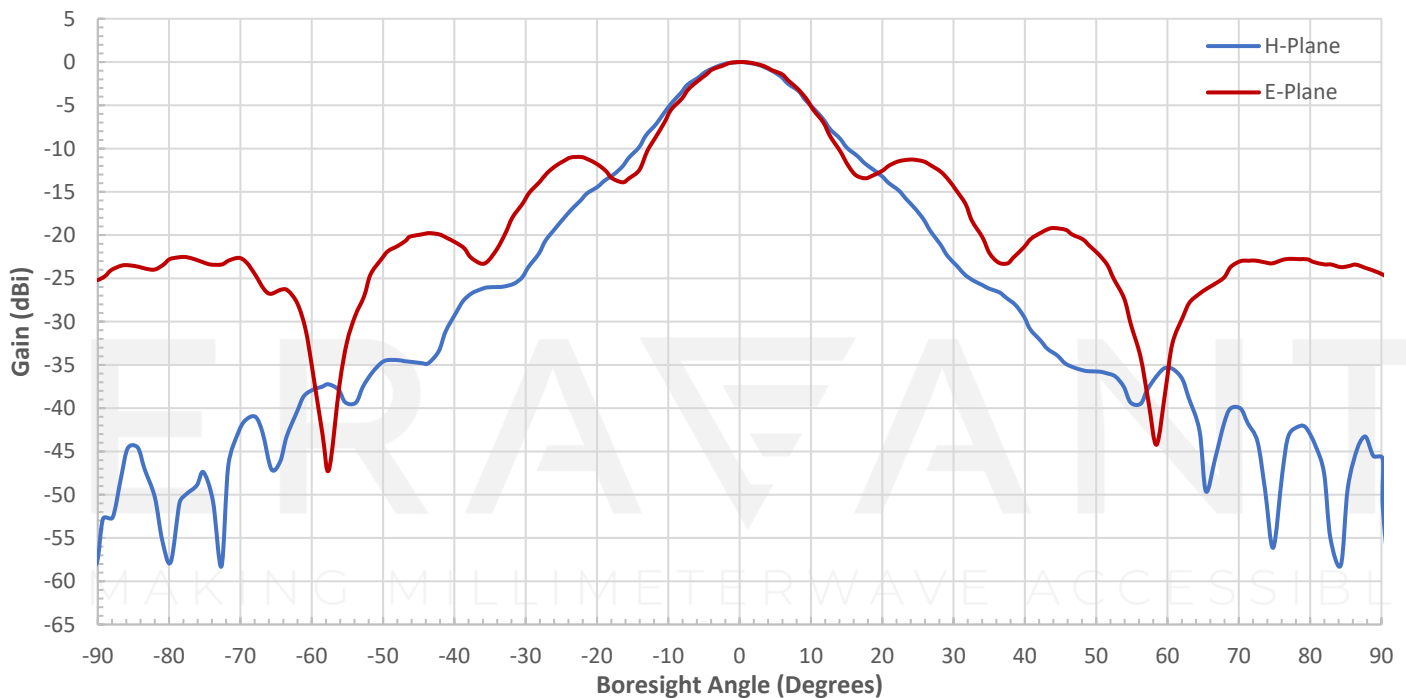


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Simulated Antenna Patterns @ 9.84 GHz

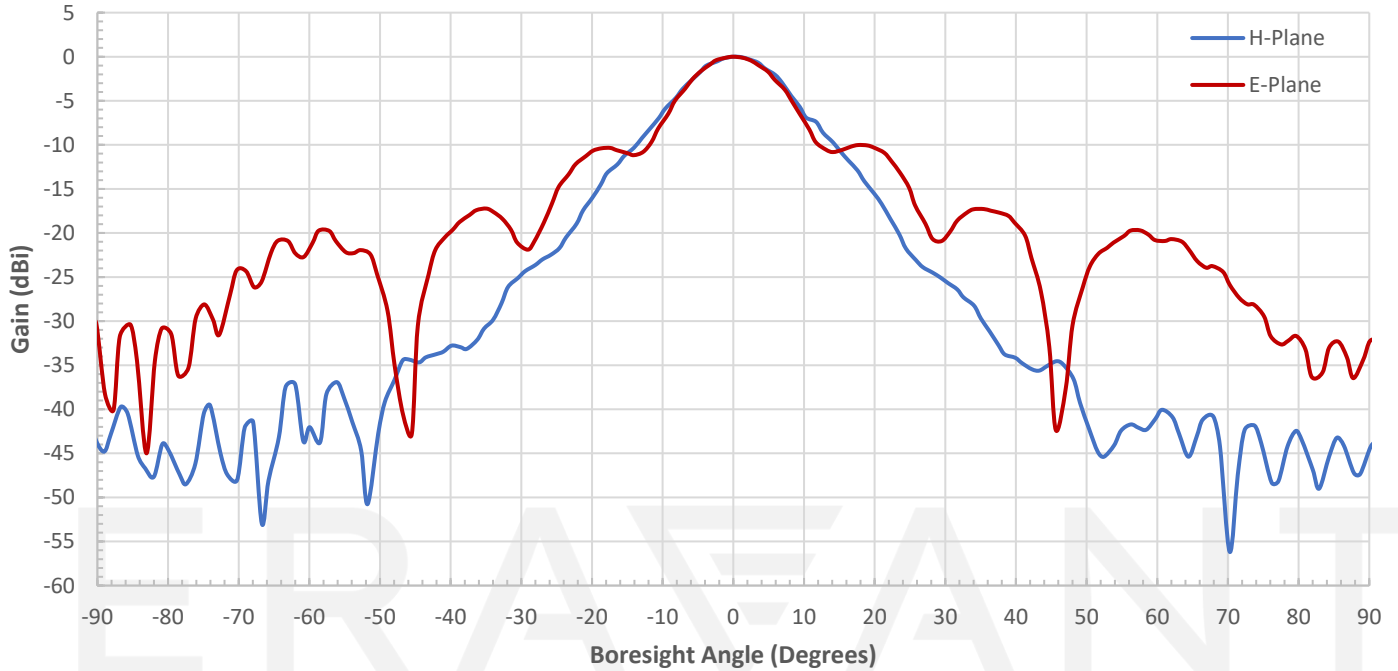


Simulated Antenna Patterns @ 12.42 GHz

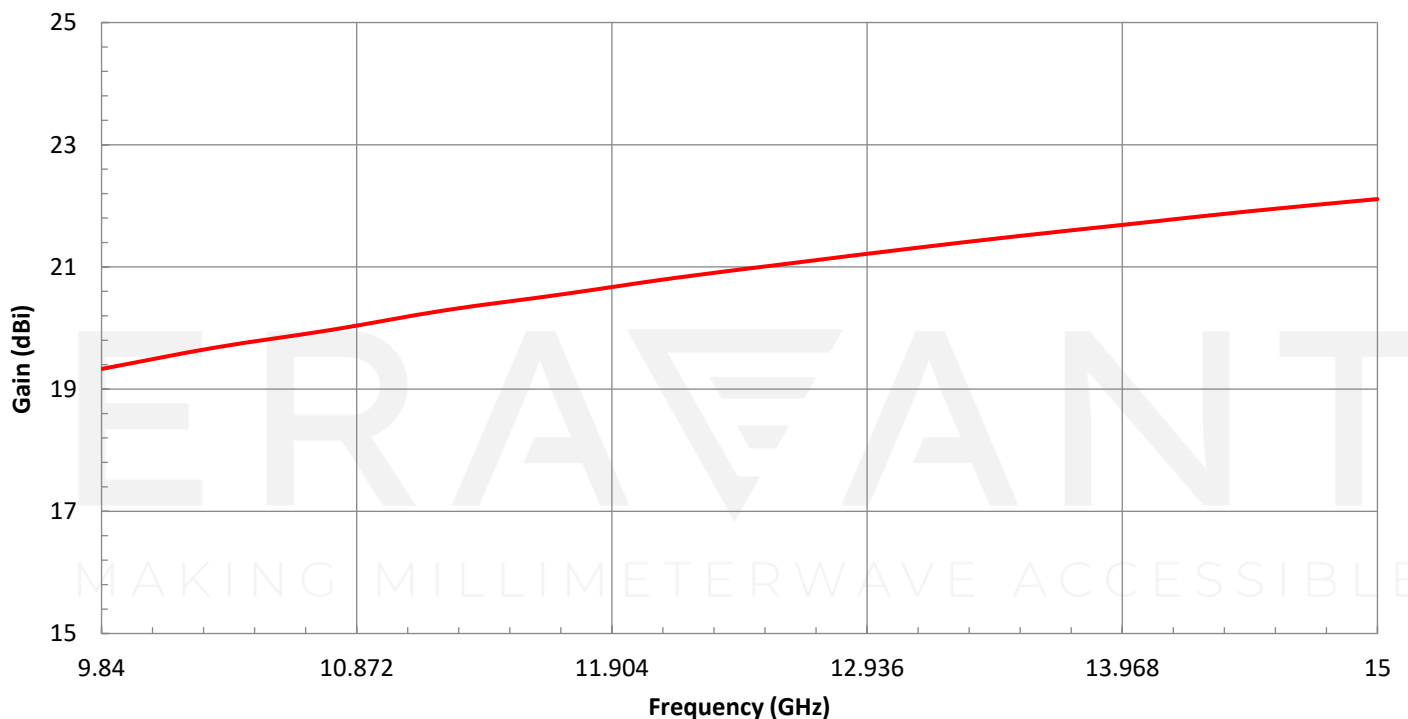


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Simulated Antenna Patterns @ 15 GHz



Measured Gain vs. Frequency

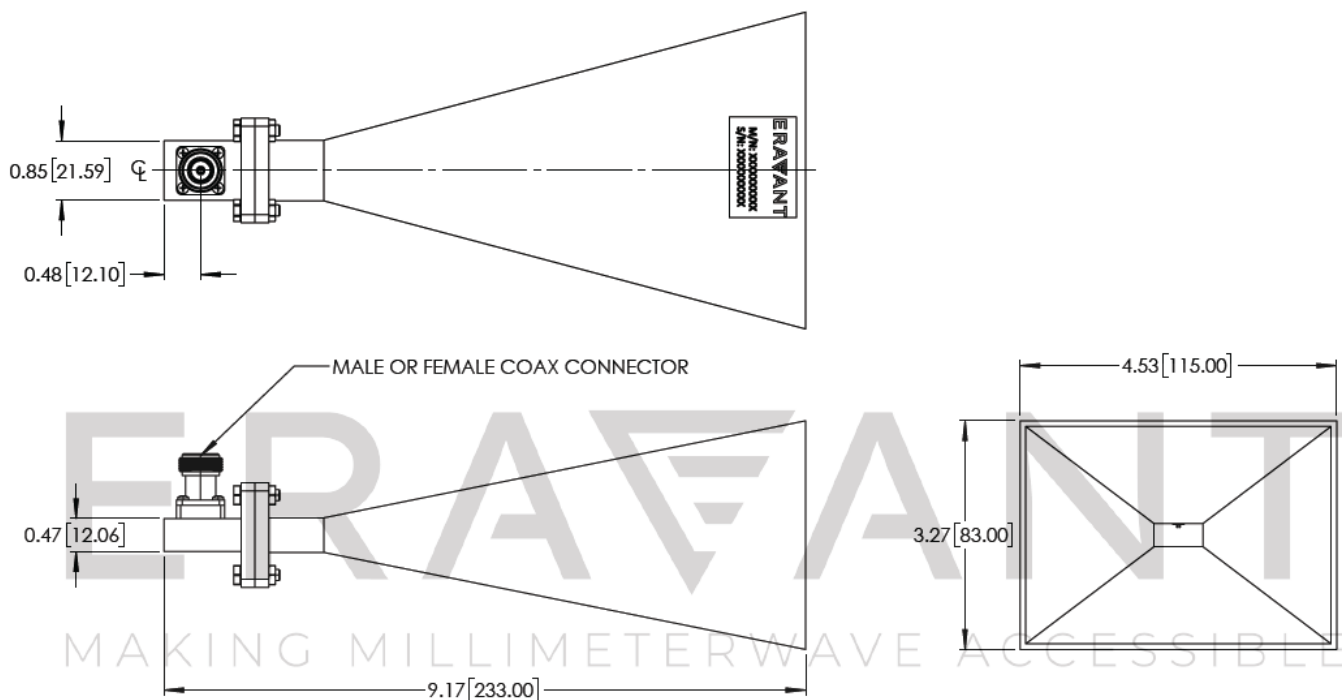


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Measured Gain vs. Frequency in Tabular Format

Frequency (GHz)	Gain (dBi)	Frequency (GHz)	Gain (dBi)
9.84	19.33	12.63	21.06
10.30	19.68	13.09	21.29
10.77	19.97	13.56	21.51
11.23	20.29	14.02	21.71
11.70	20.55	14.48	21.91
12.16	20.82	15.00	22.11

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.
- This antenna is a mature product. The reasons for only providing simulated data can be found in the following blog [here](#).
- 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.