SAO-2734031845-KF-R1-BL

Ka-Band Omnidirectional Amplified Antenna, 45° FWHM, 18 dBi Gain

SAO-2734031845-KF-R1-BL is a full band, Ka band Omnidirectional Receiving Antenna equipped with a Low Noise Amplifier. It covers the frequency range of 26.5 to 40 GHz. This vertically polarized antenna offers 360˚ azimuth coverage with 18 dBi typical gain, of which 3 dBi is from the Antenna and 15 dBi is from the integrated LNA. The antenna features a half power beamwidth of 45 degrees in its vertical direction. The power supply of the LNA can be provided via the USB Type-C port with Locking Screw for supply with a 5V battery pack. The LNA incorporates a DC regulator. The RF port of the antenna is equipped with a 2.92 mm female connector. The Amplified Antenna is built to resist indirect sprays of water.

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency Range	26.5 GHz		40.0 GHz
Gain at Center Frequency		18 dB	
Noise Figure		5 dB	
Azimuth Gain Variation		±1 dB	
Azimuth Beamwidth		360°	
3 dB Vertical Beamwidth		45°	
P_{1dB}		+11 dBm	
Return Loss		10 dB	
RF Input Power			-8 dBm
Damage RF Input Power			-3 dBm
Supply Voltage	+4.8 V_{DC}	+5 V_{DC}	+20 V_{DC}
Supply Current		150 mA	
Specification Temperature		+25°C	
Operating Temperature	-20°C		+65°C

ECCN

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FEATURES

- Amplified
- Vertically Polarized
- Full Band Operation
- Weather Resistance

APPLICATIONS

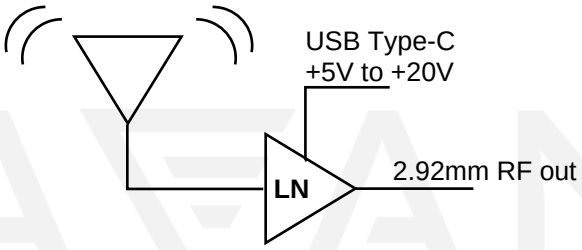
- 5G Systems
- Communication Links
- EW Systems
- Indoor Local Area Networks

SUPPLEMENTAL DETAILS

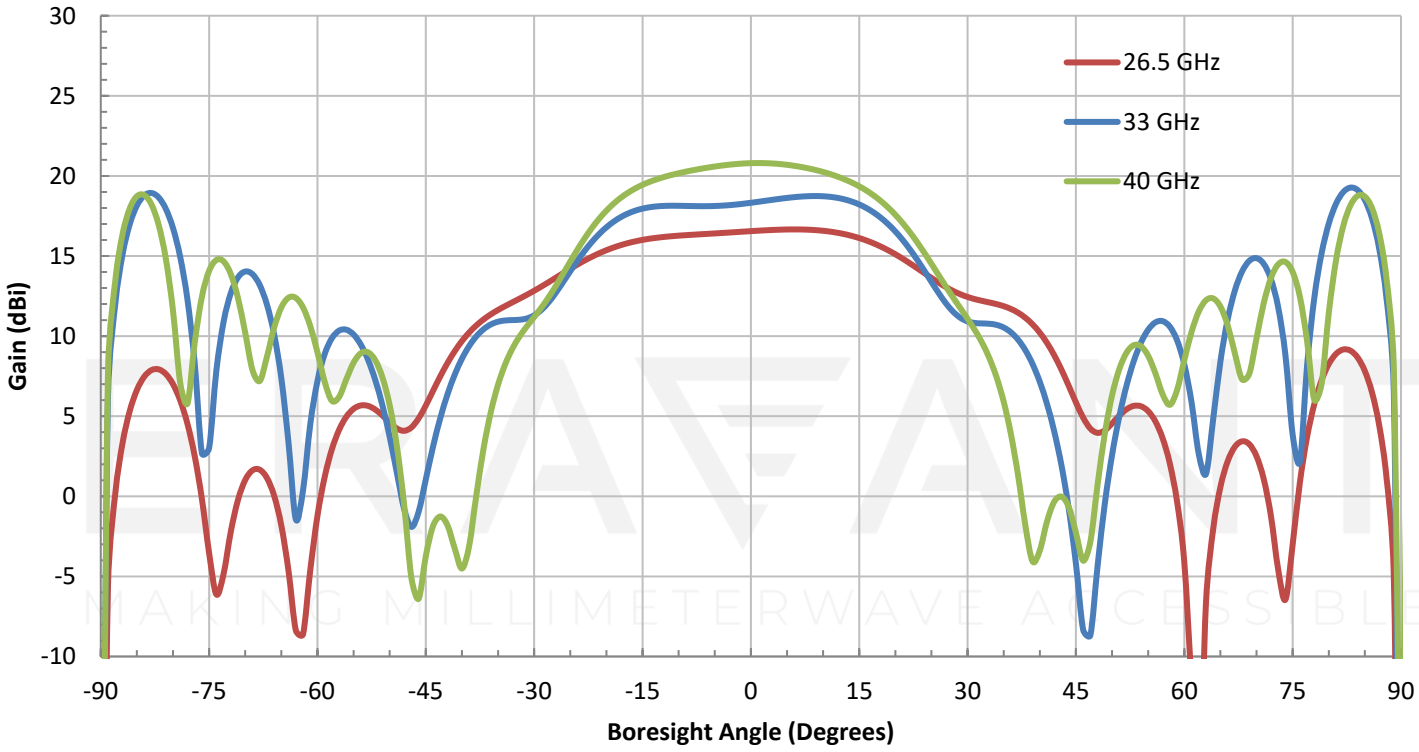
Mechanical Specifications:

Item	Specification
Port	2.92 mm – K (F) Connector
Supply Port	USB Type-C with Locking Screw
Body Material	Aluminum
Radome Material	HDPE
Finish	Gold Plated and Black Anodized
Weight	5 Oz
Outline	AO-AC30-045-BL-R

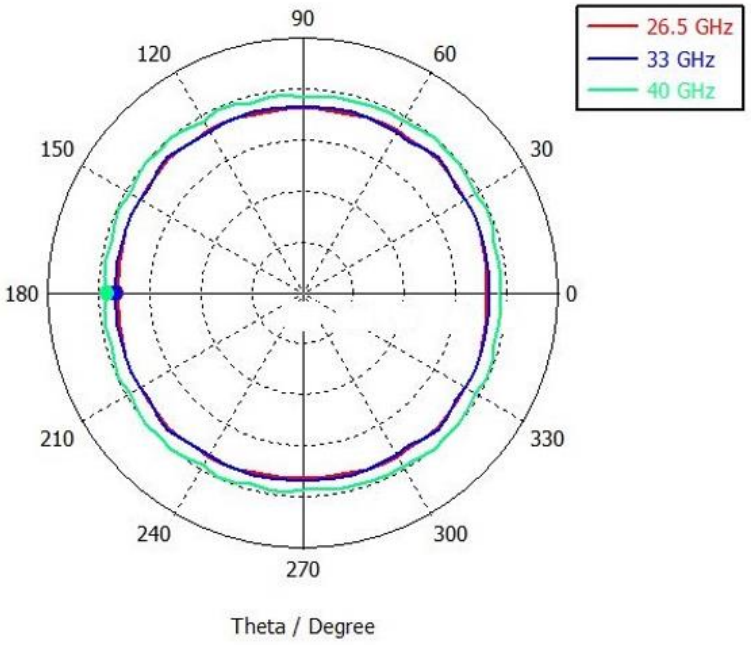
Block Diagram



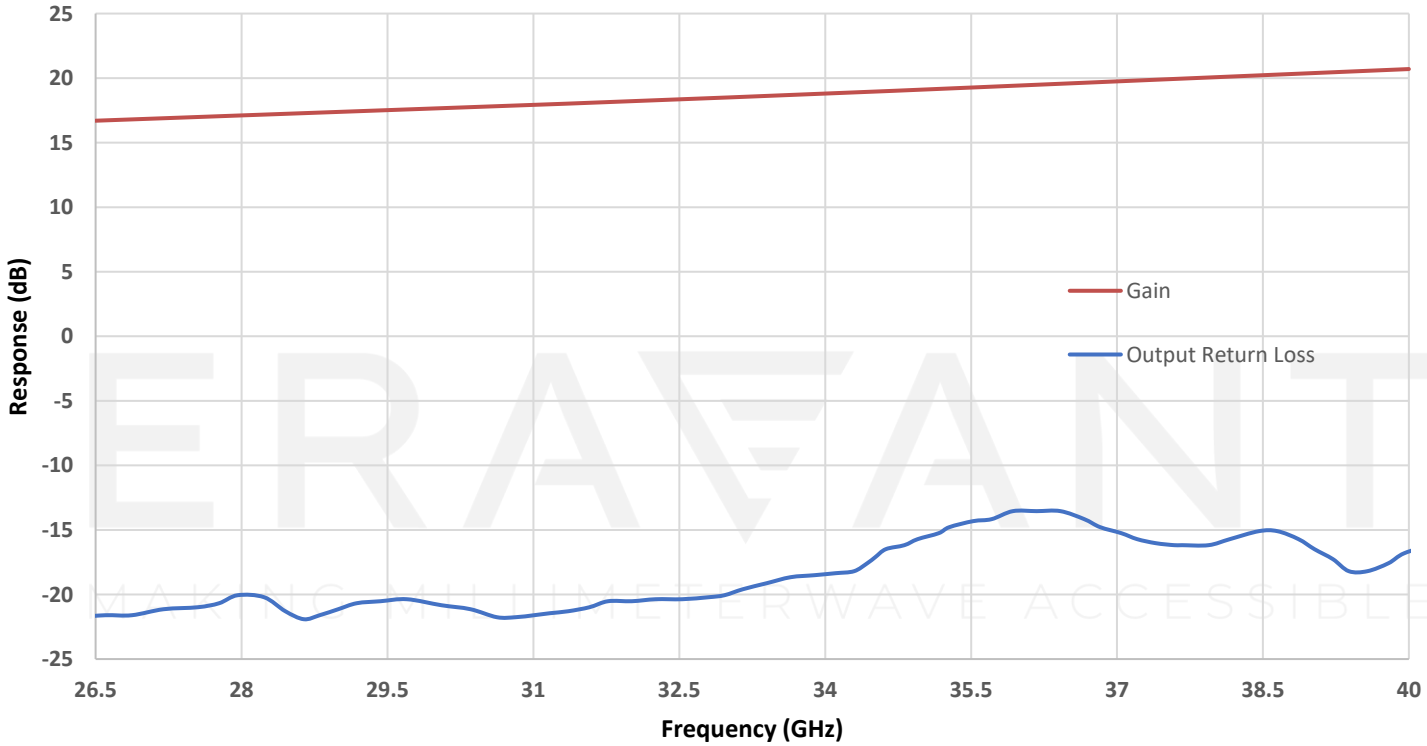
Simulated E-Plane Amplified Antenna Pattern vs. Frequency



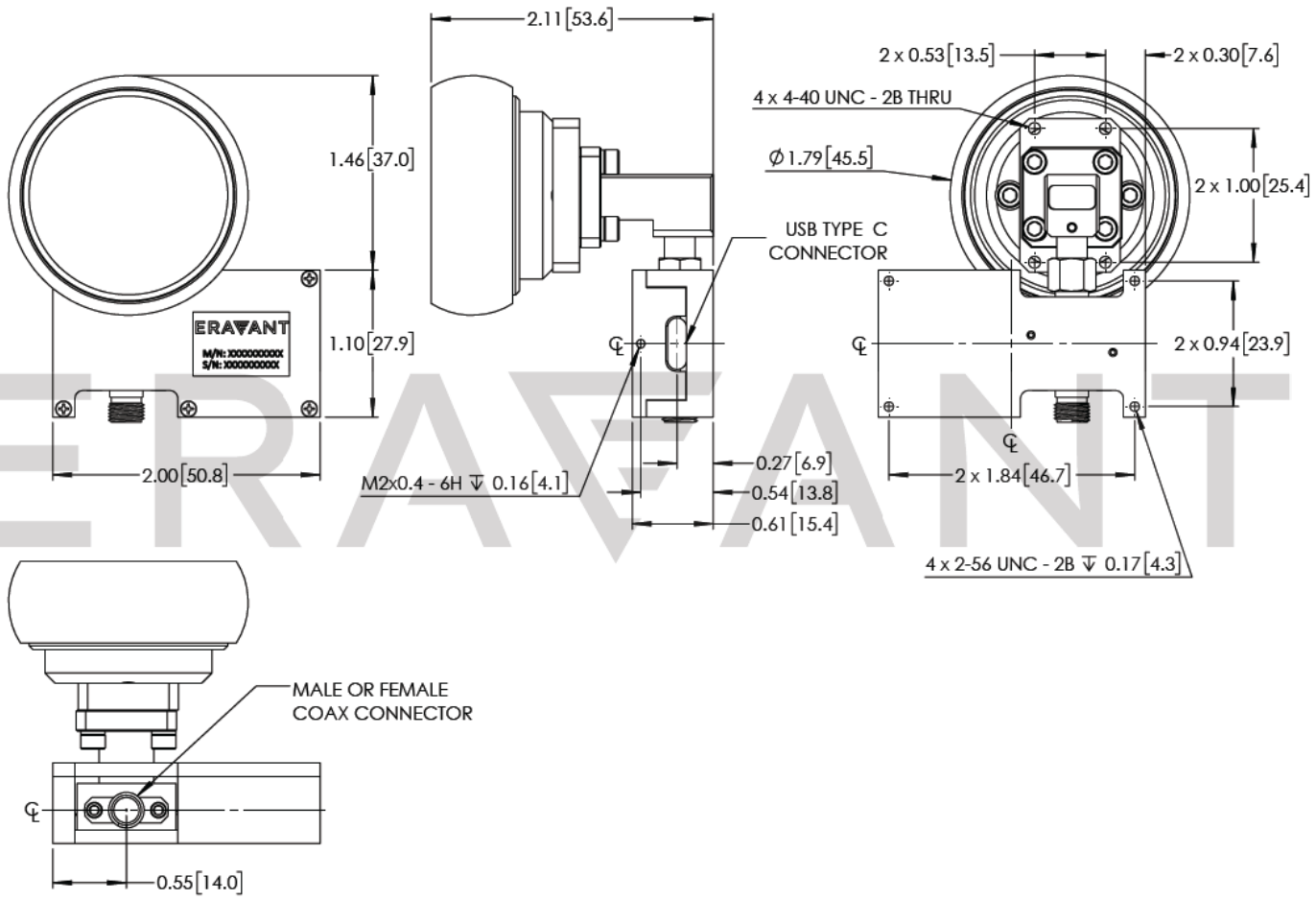
Simulated H-Plane Amplified Antenna Patterns vs. Frequency



Typical Measured Return Loss and Gain



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



NOTE:

- The use of a battery pack with +5 VDC to power the device is recommended.
- 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:

- Water or condensation on the antenna will change its electrical performance. All specifications and collected data apply only to indoor use and dry environment.
- Exceeding absolute maximum ratings shown will damage the device.
- Reverse bias or over bias the device will damage the amplifier.
- The device is static sensitive. Always follow ESD rules when working with the device.
- The case temperature of the device shall never exceed +65 ˚C under operation. Use proper heatsink or fan if necessary.
- 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.