Field-proven Handhelds
Mountable Trackers
& Satellite Modems

NAL Research Corporation

SAF4070-IG Flat Mount Iridium® Antenna

General Description

Model SAF4070-IG is a low-profile dual Iridium/GPS antenna designed to operate with NAL Research's A3LA modem. It provides continuous coverage from 1610.0 to 1626.5 MHz specifically for the Iridium network and 1575.42 ± 13 MHz (L1) for the GPS. The SAF4070-IG is suitable for harsh environment and long term operations. It is impact, UV, chemical and jet fuel resistance.

Specifications

Mechanical

Dimensions:	5.03" L x 2.08" W x 0.69" H (12.77 cm x 5.28 cm x 1.75 cm)
Weight:	8.0 oz. (226 g)
Finish:	Skydrol Resistant Polyurethane Enamel and Base Iridite Per MIL-C-5441
Color:	Gloss White #17925, Lusterless Gray #36320, Olive Drab Green #34031, Lusterless Black #37038
Connector:	Iridium–TNC Female Connector
	GPS–SMA Female Connector
	(Option: SMA, TNC, TNC Bulkhead, N, N Bulkhead, MCX, MMCX or Cable)
Material:	6061-T6 Aluminum Alloy Base Composite Radome
	(Option: TNC, SMA, N, N Bulkhead, MCX, MMCX or Cable)
Mounting:	4x 10-32 screws

Electrical for Iridium Antenna

Frequency:	1610 to 1626.5 MHz	
Radiation Pattern:	Hemispherical	
Polarization:	Right Hand Circular	
VSWR:	Less than 1.5 : 1	
Gain (dB):	With 4-Foot Ground Plane	Free Space
	90º Zenith +4.9	90º Zenith +5.0
	10º Elevation –1.0	10º Elevation –2.5
	20º Elevation +1.5	20º Elevation –0.5
	30º Elevation +2.4	30º Elevation +1.0
	60º to 90º Elevation > +3.3	60º to 90º Elevation > +2.7
Beam Width (3dB):	129º	98º
Axial Ratio:	2 dB	
Power Handling:	30 Watts	
Lightning Protection:	DC Grounded	
Cable loss between antenna and modem:	Must be kept < 3 dB	

Powered by iridium®

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Electrical for GPS Antenna

Frequency:	1575.42 ± 13 MHz (L1)	
Radiation Pattern:	Hemispherical	
Polarization:	Right Hand Circular	
VSWR:	Less than 1.5 : 1	
Gain (dB):	With 4-Foot Ground Plane	Free Space
	90º Zenith +2.9	90º Zenith +4.6
	10º Elevation –1.8	10º Elevation –2.5
	20º Elevation +0.7	20º Elevation –1.1
	30º Elevation +1.7	30º Elevation +0.5
	60º to 90º Elevation > +2.1	60º to 90º Elevation > +3.6
Beam Width (3dB):	146º	103º
Axial Ratio at Zenith:	2 dB	
Power Handling:	1 Watts	
Lightning Protection:	DC Grounded	
Filter (Rej.@16161Mz):	Greater than 60 dB	
LNA Gain:	33.0 ± 1 dB	
LNA P 1 dB Out:	+16 dBm	
LNA Noise Figure:	2.8 dB (Filter loss is included)	
Voltage/Current:	+2.8 to +28 VDC/30 to 50 mA	

Environmental

Operating Temperature:	–67ºF to +185ºF
	(–55ºC to +85ºC)
Operating Altitude	70,000 ft (21 km)
Vibration:	> 30 G's
Leakage:	Hermetically Seal

Designed To

FAA TSO-C144, DO-160D, D0-228, MIL-C-5541, MIL-E-5400, MIL-I-45208A, MIL-STD-810 and SAE J1455

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