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AS-48915 SERIES OMNIDIRECTIONAL CONICAL SPIRAL ANTENNA

The AS-48915 Series S-band Antenna is a compact, low-weight aerospace-qualified antenna in the conical log-spiral family. This design was first used on the Solar Maximum Mission and the International Ultraviolet Explorer for NASA Goddard. By operating from 1.2 to 2.5 gigahertz with modified performance, the AS-48915 Series can also be used as a GPS antenna. Its radio frequency design configuration is a two-arm conical log-spiral radiating element fed at the tip by a compensated balun. The complementary two-arm spiral is wound to provide an inherent circular polarization. This results in broad-lobed unidirectional circularly polarized radiation off the apex of the cone. The AS-48915 Series is ideal for applications where hemispherical coverage is required. The antenna is optionally provided with a 6-inch diameter ground plane.

ELECTRICAL			
	Standard operating band		Broadband performance
Frequency range	1.75 to 2.3 GHz		1.2 GHz to 2.5 GHz
VSWR	1.7:1, max		2.0:1, max
Gain	Peak, 4 dBiC typ, 1 dBiC, min (at $q = \pm 10^\circ$) >-5 dBiC (at $q = \pm 76^\circ$)		-3 dBiC, min
Polarization	Right- or left-hand circular		
3 dB beamwidth	45°, typ		3 dB beamwidth 90°, typ
Axial ratio	3 dB, max.; 0° to 45° 5 dB, max. $\pm 45^\circ$ to $\pm 90^\circ$		<3 dB between $\pm 35^\circ$ <6 dB between $\pm 90^\circ$
Front-to-back ratio	>20 dB		15 dB, typ
Power handling	10 W CW		
MECHANICAL			
Connector	SMA female		
Weight	9 oz (256 g), max. (11 oz (312 g) including ground plane)		
ENVIRONMENTAL			
Thermal vacuum	1.33 x 10 ⁻³ newton/M2 (10-5 torr) at $\pm 100^\circ$ C/10 W CW		
Vibration: 23.0 GRMS, 3 min/axis vibration profile	Freq. (Hz)	g2/Hz	dB/oct
	20-100		+1.0
	100-200	1.0	
	200-400		-6.0
	400-1,000	0.25	
	1,000-2,000		-6.0

It will operate over the frequency range of 1.2 GHz to 2.5 GHz with modified performance. For more in-depth discussion, refer to Report No. W0101.



KEY FEATURES

- > L-S band frequency coverage
- > Conical log-spiral design
- > Hemispheric pattern coverage
- > Space qualified

For further details and specifications, contact the factory at antenna.info@L3Harris.com

AS-48915 Series Omnidirectional Conical Spiral Antenna

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L3Harris Technologies is an agile global aerospace and defense technology innovator, delivering end-to-end solutions that meet customers' mission-critical needs. The company provides advanced defense and commercial technologies across air, land, sea, space and cyber domains.



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