



Q142-1 SPIRAL ANTENNA

L3Harris' Q142-1 antenna is a cavity-backed spiral aperture designed for electronic support measures (ESM) and electronic warfare (EW) applications. It is suitable for a variety of applications. The antenna provides a wide angle of view in the azimuth and elevation planes and has been designed to provide repeatable, unit-to-unit phase tracking. The broadband balun and terminated spiral arms provide a broad operating bandwidth with low voltage standing wave ratio (VSWR) and axial ratio.

L3Harris can also provide the Q142-1 antenna preassembled into interferometer arrays with customer-specified spacing.

ELECTRICAL			
Antenna gain (dBi)	Frequency (GHz)		
	.5	1	2
Peak	-5.0	3	5.1
+/- 40° AZ @ 0° EL	-7.5	-0.7	0.8
+/- 10° EZ @ 0° AZ	-5.1	3.1	4.9
Back lobe, maximum (-dBc)	10	18	25
Polarization	LHCP		
Phase tracking: (element level)	+/- 6°		
Phase tracking: (assembly level)			
Within +/- 40° AZ and +/- 10° EL	10° peak-to-peak		
Within any 100 MHz	85% < 4.5° peak-to-peak, 100% < 4.9° peak-to-peak		
Within 10° AZ	2° peak-to-peak		
Within 5° EL	98% < 2° peak-to-peak, 100% < 3.0° peak-to-peak		
Polarization	2° peak-to-peak		
Relative to gold standard	+/- 7.2°		
VSWR, maximum	2.5:1 for 100%, 2.0:1 for 60%		
Amplitude tracking: (assembly-level)			
Within +/- 40° AZ and +/- 10° EL	2 dB peak-to-peak		
Within 10° AZ	0.6 dB peak-to-peak		
Within 5° EL	0.6 dB peak-to-peak		
Polarization	0.6 dB peak-to-peak		
Squint	5° maximum		
Power handling	+34 dBm up to 6 GHz, 28 dBm above 6 GHz		
MECHANICAL			
Connector	TNC		
Weight	1.60 Kg (3.52 pounds)		
Finish	Chemical film per MIL-C-5541 (housing), white epoxy (radome)		



KEY FEATURES

- > Low band cavity-backed spiral
- > Optimized for 0.5 to 2.0 gigahertz
- > Suitable for linear interferometers
- > Tracking to a golden standard offered

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

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