

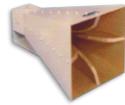


L3HARRIS™
FAST. FORWARD.

ELECTRONIC SUPPORT
MEASURES AND
ELECTRONIC WARFARE
ANTENNA PRODUCTS



SPIRALS						
						
	AM-423	AS-48611	AS-48923	Q107	Q142	
Frequency range (GHz)	2 – 18	0.5 – 18	1 – 18	0.5 – 18	0.5 – 2	
Voltage standing wave ratio (VSWR)	3.0:1	3.0:1	3.0:1	2.0:1	2.5:1	
Typical gain (dBi)	+1	-10 to +3	0	-10 to +1	-5 to +4	
Polarization	LH- or RHCP	LH- or RHCP	LH- or RHCP	LHCP	LHCP	
3-dB beamwidth (degrees)	75	80	70	100	80 – 100	
Diameter (inches)	2.38	3.0	8.3	4.93 (*)	10.12	
Connector	TNC	SMA	SMA	TNC	TNC	

HORNS						
						
	AS-48410	AS-48450	AS-48461	Q135	Q136	
Frequency range (GHz)	0.75-4.5	0.5-2	2-18	2-8	6-18	
VSWR (max)	3.0:1	3.0:1	2.5:1	2.5:1	2.5:1	
Typical gain (dBi)	6 – 14	7 – 12	5 – 18	8 – 17	15 – 22	
Polarization	Dual-linear	Dual-linear	Dual-linear	Linear	Linear	
3-dB beamwidth, E-plane (degrees)	80-17	70-25	60-10	72-20	36-12	
3-dB beamwidth, H-plane (degrees)	80-17	70-25	60-10	85-22	39-12	
Connector	SMA	TNC	SMA	SMA	SMA	

(*) 4.93 square, not inclusive of mounting flange

L3Harris is a premier designer and manufacturer of antennas for the worldwide military and commercial markets. Our electronic support measures (ESM) and electronic warfare (EW) antennas offer lightweight, efficient apertures and the ability to add polarizers and external radomes for military airborne and ship-board environments.

L3Harris' ESM/EW antenna product line has seen tremendous growth through the development of new products and the absorption of several new product lines. Newly developed products include a variety of linear horns, polarizing grids and broadband spirals. Our heritage designs include a wide variety of bicones, horns, log-periodics and spirals. We can design, test and fabricate to suit your requirements.

***This is just a sampling of our extensive product line.**

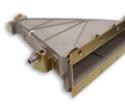
LINEAR AND CIRCULAR ARRAYS

L3Harris designs and manufactures both linear and circular arrays for interferometer and amplitude-direction-finding signal interception.

We provide turn-key solutions including all apertures, polarizing grids and radomes, as well as any electronics that are collocated with the antenna apertures. Our design team is supported by state-of-the-art anechoic chambers, design tools and test equipment, and has extensive experience with array designs operating up to 40 gigahertz.



SPIRALS						
						
	Q151	Q169	Q175	Q176	Q177	Q189
Frequency range (GHz)	1 – 18	0.5 – 4	0.5 – 2	2 – 6	6 – 18	2 – 18
VSWR	3.0:1	2.5:1	2.5:1	2.5:1	2.5:1	3.0:1
Typical gain (dBi)	-6 to +1	-12 to +2	-12 to +1	+1	+1dBi	-5 to +0.5
Polarization	LHCP	LH- or RHCP	RHCP	RHCP	RHCP	LH- or RHCP
3-dB beamwidth (degrees)	80	80	80	80	80	80
Diameter (inches)	4.15	6.0	6.8	2.7	1.0	2.0
Connector	TNC	SMA	SMA	SMA	TNC	SMP

HORNS						
						
	Q137	Q138	Q139	Q161	Q168-1	Q168-2
Frequency range (GHz)	2 – 6	6 – 18	18 – 40	2 – 18	6 – 18	6 – 18
VSWR (max)	2.5:1	2.5:1	2.0:1	2.5:1	2.0:1	2.0:1
Typical gain (dBi)	7.5 – 12.5	7.5 – 12.2	11 – 13.9	6 – 11	15 – 22	22 – 30
Polarization	Horizontal	Horizontal	Slant-45 (**)	Linear	Dual-linear	Dual-linear
3-dB beamwidth, E-plane (degrees)	100 – 66	90 – 66	80 – 50	50 Avg	12 – 8	14 – 6
3-dB beamwidth, H-plane (degrees)	45 – 22	30 – 24	30 – 24	40 Avg	14 – 10	12 – 6
Connector	SMA	SMA	Type K	SMA	SMA	SMA

(**) with integrated polarizing grid

RADOMES AND POLARIZING GRIDS

L3Harris designs and manufactures radomes and polarizing grids for use with linear and circular antenna arrays.

We provide custom radomes and polarizing grids to suit a wide variety of requirements through the millimeter wave (MMW) band. Our experienced design team has an extensive selection of design software and is supported by a complete composites shop.

L3Harris is experienced with A-sandwich, C-sandwich multilayer construction, solid-laminate and monolithic solutions. We also offer complete environmental and radio frequency testing facilities.



BROADBAND BLADES

L3Harris designs and manufactures broadband blade antennas in both fixed and retractable configurations. Phase and amplitude tracking is available for all models.

L3Harris' fixed blades include products such as the CNI24 12, a 12-inch blade that operates from 20-1000 megahertz and provides 100 percent unit-to-unit phase tracking.

Our family of retractable blades are available with blade heights of 6, 11 and 24 inches, and provide a myriad of frequency coverage options including 50-1200 megahertz, 88-500 megahertz, 30-600 megahertz and 600-2000 megahertz, among others.

Please feel free to contact us for further information at Antenna.Products@L3Harris.com



SPIRALS				
				
	P/N 45440	P/N 45460	P/N 45510	P/N 53409
Band	C/E Band	C/J Band	C/E Band	K Band
Frequency range (GHz)	0.5 – 3.0	0.5 – 1.8	0.5 – 4.0	18 – 40
VSWR	2.0:1	1.5:1	1.5:1	2.0:1
Power Handling (Typ.)	< 10 W CW	< 10 W CW	10 W CW	-
Polarization	LH- or RHCP	LH- or RHCP	LH- or RHCP	LH- or RHCP
Diameter (inches)	6	6	8	3/4
Connector	TNC	TNC	TNC	SSMA

SINUOUS				
				
	P/N 53640	P/N 53700	P/N 54200	P/N 54430
Band	E/J Band	E/J Band	C/E Band	E/J Band
Frequency range (GHz)	2 – 18	2 – 18	0.4 – 4.0	2 – 18
VSWR	1.5:1	1.5:1	2.0:1	2.5:1
Power Handling (Typ.)	7 W CW	7 W CW	10 W (Average)	7 W CW
Polarization	Dual-Circular	Dual-Circular	Dual-Circular	Dual-Linear
Diameter (inches)	2.4	2	10	2.4
Connector	SMA	SMA	TNC	SMA

BROADBAND SPIRAL ANTENNAS

To meet the expanding applications of communications, electronic warfare, telemetry and many other defense and communications requirements, L3Harris has developed a series of planar spiral antennas used for detection of broadband signals having various polarizations.

L3Harris builds antennas in the 18 to 100 GHz millimeter wave frequency range for a range of military end-users. Our millimeter product line highlights ½” and ¾” Archimedean spiral antennas as well as MMW horn antennas for direction finding (DF) and electronic attack.

Our spiral antenna systems include optional integrated radomes and integrated diodes converting MMW signals to detected video output. These systems are flying on multiple airborne platforms as part of the RADAR Warning Receiver (RWR) systems. All of L3Harris’ MMW antennas are fully qualified under Military Standard MIL-STD-810.

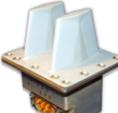
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DUAL POLARIZATION SINUOUS ANTENNAS

To meet the challenge posed by hostile signals that can be arbitrarily polarized, L3Harris has developed a common aperture element capable of simultaneously receiving or transmitting radio frequencies of any two orthogonal polarized signals on two isolated ports.

L3Harris’ sinuous antennas enable high-performance airborne direction finding systems. The EW/DF receive antenna is a key determinant in airborne EW and signals intelligence (SIGINT) detection, identification and evasion. These EW systems are a key element in the suppression of other systems’ impinging co-channel interference signals and more sophisticated electronic attack jammers employing means other than RF brute force.

SPIRALS				
				
	P/N 53410	P/N 53411	P/N 53620	P/N 54250
Band	H/J Band	E/J Band	E/J Band	-
Frequency range (GHz)	6 – 18	2 – 18	2 – 18	18 – 42
VSWR	2.0:1	2.0:1	2.0:1	2.0:1
Power Handling (Typ.)	7 W CW	7 W CW	7 W CW	Up to 1 W
Polarization	LH- or RHCP	LH- or RHCP	LH- or RHCP	LH- or RHCP
Diameter (inches)	1	2	2.4	2.4
Connector	SMA	SMA	TNC	Coxial

SINUOUS				DIRECTION FINDING
				
	P/N 54460	P/N 54560	P/N 54727	P/N 27430
Band	C/E Band	C/E Band	E/J Band	C/D Band
Frequency range (GHz)	0.5 – 4.0	0.5 – 4.0	2 – 18	700 – 2000 MHz
VSWR	2.5:1	2.0:1	1.5:1	2.5:1
Power Handling (Typ.)	10 W CW	10 W CW	7 W CW	40 W (Average) 400 W (Peak)
Polarization	Dual-Circular	Dual-Circular	Dual-Circular	Vertical or Slant
Diameter (inches)	6	8	2	-
Connector	TNC	TNC	TNC	TMS

INTERFEROMETER ARRAYS

L3Harris has extensive experience with frequency independent, wide field-of-view multi-polarization interferometer arrays. L3Harris’ interferometer arrays provide highly accurate direction finding capability, broadband intercept, and beam shaping for ESM systems, SIGINT missions and a variety of other airborne applications.

We optimize our interferometer arrays for radio frequency (RF) performance and harsh military environments while incorporating our industry-leading spiral and sinuous antennas as building blocks. We are able to implement interferometers in both 1-D and 2-D configurations with the capability of 2-D arrays sharing a common element to keep cost, weight and aircraft footprint to a minimum. These custom tailored antennas can also be integrated across curved surfaces on aircraft bodies as well as electronic warfare pods.



LOW OBSERVABLE ANTENNA ELEMENTS AND ARRAYS

L3Harris has been developing, building and testing low observable (LO) antennas since the 1980s.

We have extensive experience with all types of radar cross-section (RCS) reduction techniques and applications. Over the years, L3Harris has delivered production hardware for low RCS platforms on flat, compound, conformal, curved and faceted surfaces.

Our family of LO antennas includes broadband LO spiral and sinuous antennas with frequency bandwidths of 9:1 or greater as well as broadband LO interferometer arrays with superior phase/amplitude tracking performance.

Please feel free to contact us for further information at Antenna.Products@L3Harris.com

FAST. FORWARD.

Electronic Support Measures (ESM) and Electronic Warfare (EW) Antenna Products

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