



## Spiral Antenna Series

ARA's Spiral series antennas are large bandwidth, circularly polarized antennas with peak radiation patterns perpendicular to the plane of the spiral. The larger half-power bandwidth of these antennas makes them a good choice for airborne Electronic Warfare (EW) applications such as Radar Warning Receivers, Direction Finding, and Interferometry Systems. In addition, these antennas are used for sensing applications, where very wideband antennas with smaller footprints are ideal. Other applications of spiral antennas include GPS applications, where it is advantageous to have Right Hand Circularly Polarized (RHCP) antennas.

The antennas are available in right-hand circular polarization (RHCP) or left-hand circular polarization (LHCP). ARA also offers these antennas in multi-channel configurations to support amplitude and phase matched requirements for Interferometry sub-systems and applications. For more details on configurations and applications, please contact us.

<b>Antenna Type</b>	Spiral
<b>Application</b>	Direction Finding, Spectrum Management, Spectrum Operations
<b>Frequency Band</b>	Broadband, UHF (0.3 - 6 GHz), SHF (6 - 18 GHz), mmW (18 - 40 GHz)
<b>Polarization</b>	Left Hand Circular, Right Hand Circular



CSA-1840

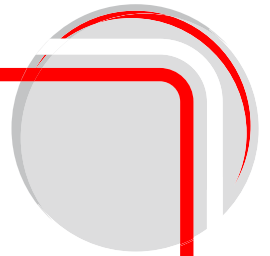
### FEATURES

- Wideband Antenna
- Suitable for a variety of applications
- Consistent half-power beamwidth for broader quadrant coverage
- Low axial ratio
- Compact, Rugged, and Lightweight design for airborne applications
- Available in amplitude and phase matched sets
- RHCP or LHCP antennas are available
- White epoxy paint finish

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<b>Gain*</b>	1 to 6.5 GHz: -2 to +2 dBi	1 to 2 GHz: -6 to 0 dBi 2 to 18 GHz: 0 to 2 dBi	2 to 4 GHz: -3 to 0 dBi typical 4 to 18 GHz: 0 to 1 dBi typical	2 dBi nominal	+2 to -2 dBi over the band
<b>Frequency</b>	500 MHz to 6.5 GHz	1 to 18 GHz	2 to 18 GHz	6 to 18 GHz	18 to 40 GHz
<b>VSWR* (Typical)</b>	2.5:1	2.5:1	2.0:1	2.5:1	3.0:1
<b>Axial Ratio*</b>	< 3 dB at boresight < 7 dB over ±60° for 1 to 6.5 GHz	1 to 2 GHz: < 4 dB 2 to 12 GHz: < 2 dB 12 to 18 GHz: < 3 dB	45° from Major Lobe 3 dB Maximum	< 3 dB at boresight < 6 dB over ±60°	< 3 dB at boresight < 6 dB over ±60°
<b>Polarization</b>	LHCP or RHCP	LHCP or RHCP	LHCP or RHCP	LHCP or RHCP	LHCP or RHCP
<b>Impedance</b>	50 Ω	50 Ω	50 Ω	50 Ω	50 Ω
<b>Patterns</b>	Directional Beam	Directional Beam	Directional Beam	Directional Beam	Directional Beam
<b>3 dB Beamwidth (Nominal)</b>	60° to 90°	60° to 90°	60° to 90°	60° to 90°	60° to 90°
<b>Power Handling</b>	1 W CW	1 W CW	1 W CW	1 W CW	1 W CW
<b>Antenna Connectors</b>	SMA Female	SMA Female	SMA Female	SMA Female	2.92 mm Female Adapter
<b>Dimensions (with Connectors)</b>	4.5" x 4.5" x 2.4" (11.43 cm x 11.43 cm x 6.1 cm)	3.5" dia x 2.1" (8.9 cm dia x 5.3 cm)	2.6" dia x 2.0" (6.6 cm dia x 5.1 cm)	1" dia x 1.7" (2.5 cm dia x 4.32 cm)	0.64" dia x 1.55" (1.6 cm dia x 3.9 cm)
<b>Weight</b>	9.6 oz (273 g)	11 oz (300 g)	6 oz (170 g)	1.6 oz (45 g)	1.6 oz (45 g)
<b>Operational Altitude</b>	0 to 55,000 ft	NA	NA	0 to 55,000 ft	0 to 55,000 ft
<b>Operational Temperature</b>	-55° C to 85° C (-67° F to 185° F)	-55° C to 85° C (-67° F to 185° F)	-55° C to 85° C (-67° F to 185° F)	-55° C to 85° C (-67° F to 185° F)	-55° C to 85° C (-67° F to 185° F)
<b>Storage Temperature</b>	-55° C to 85° C (-67° F to 185° F)	-55° C to 85° C (-67° F to 185° F)	-55° C to 85° C (-67° F to 185° F)	-55° C to 85° C (-67° F to 185° F)	-55° C to 85° C (-67° F to 185° F)
<b>Humidity Tolerance</b>	MIL-STD-810-G	90% or less	90% or less	MIL-STD-810-G	MIL-STD-810-G
<b>Durability Compliance</b>	MIL-STD-810-G	N/A	N/A	MIL-STD-810-G	MIL-STD-810-G
<b>Airborne Equipment Compliance</b>	RTCA DO-160G	N/A	N/A	RTCA DO-160G	RTCA DO-160G

\*The values given here are typical values. These can be customized for customer requirements.



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