

P/N 54250

1/2" Millimeter Spiral Antenna

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.

The 1/2" model 54250 antenna is a rugged, cavity-backed two-arm Archimedean spiral. A Marchand balun is used to connect the spiral aperture card to the output connector. Designed for RWR Direction Finding (DF) applications, the characteristics of this antenna also make it an ideal choice for a phase tracking interferometer element, SIGINT antenna and any application requiring frequency independent Millimeter band performance.

To provide operation above 40 GHz, the 54250 antenna is interfaced with a 2.9 mm coaxial connector. The VSWR is typically less than 2:1. The antenna can handle input power levels up to 1 Watt.



> 18–42 GHz Frequency Operation
> Right or Left Circular Polarization
> Designed for RWR Application
> Designed for Military Airborne

KEY FEATURES

Environment

PHYSICAL DIMENSIONS (TYPICAL UNIT)





WEIGHT: 0.6 oz.

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TYPICAL MEASURED PERFORMANCE

Performance varies with radome design, manufacturing tolerances, installation, and environmental conditions. Data shown is for the antenna without radome.

14

Ratio(dB)

Axial R:

120

18 20 22 24 26 28 30 32 34 36 38 40 42 Frequency - GHz Filegroup: 3F19CB



Azimuth Radiation Pattern Response to Rotating Linear Polarization (10 dB Rings)

Antenna Performance Summary

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10

8

-6 -8 -10

6dB Squint(deg) (AR Avg)

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18 20 22 24 26 28 30 32 34 36 38 40 42 Frequency - GHz

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Azimuth

10

Axial Ratio(dB)

Boresite A

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18 20 22 24 26 28 30 32 34 36 38 40 42 DualDate: 15 Jul 2003 Frequency - GHz

Elevation

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