



L3HARRIS™
FAST. FORWARD.

P/N 54200

10" C-/E-Band Sinuous Antenna

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.

The 10" model 54200 antenna derives its dual circular polarization from the natural dual linear polarization of the sinuous antenna via an internal quadrature hybrid. The result is low ellipticity over wide spatial angles verifying that the E- and H-plane patterns are produced from collocated phase centers.

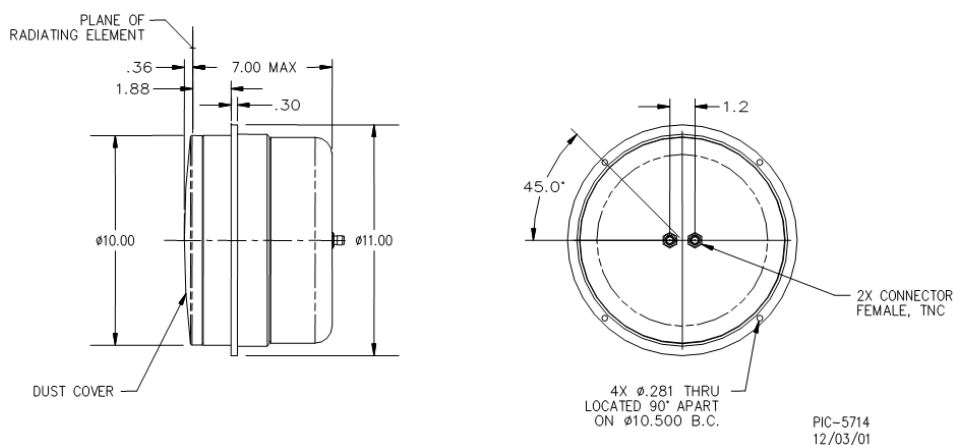
Originally designed for RWR Direction Finding (DF) applications, the

characteristics of this antenna make it an ideal choice for an ESM interferometer, SIGINT, polarimeter or any application requiring stable phase centers with frequency independent performance.

The performance of the antenna is similar to the cavity backed spiral antenna with exception that pattern performance is superior at broader angles from boresite. The VSWR is generally better than 2:1. The antenna input power capacity has been verified at 10 Watts average. The calculated peak power limit is 950 Watts at altitude. The antenna can be provided with or without an aperture environmental radome cover.



PHYSICAL DIMENSIONS (TYPICAL UNIT)



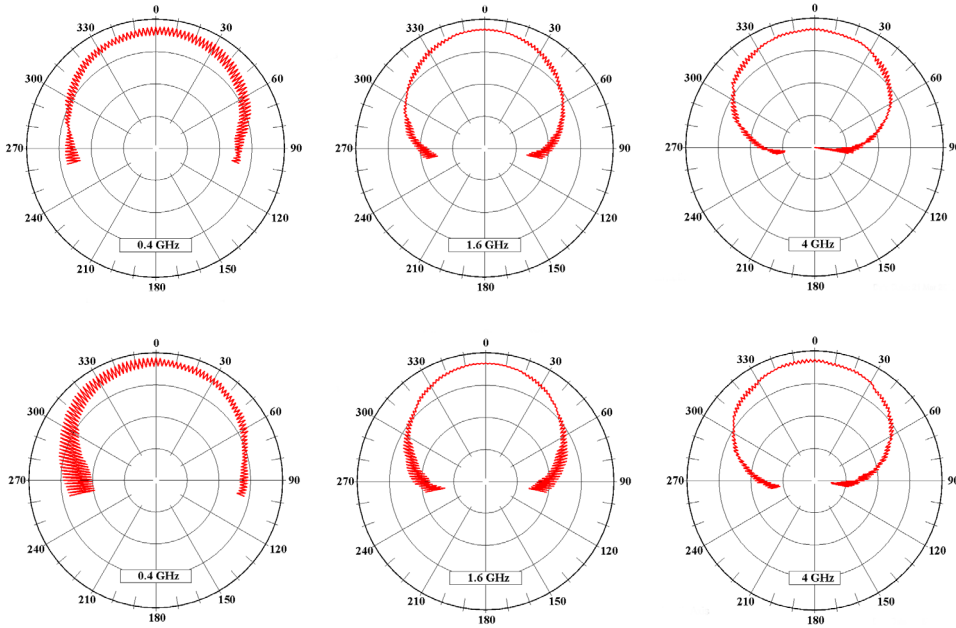
WEIGHT: 10.0 lbs.

KEY FEATURES

- > 0.4–4.0 GHz Frequency Operation
- > Dual Circular Polarization
- > Designed for RWR Application
- > Designed for Military Airborne Environment

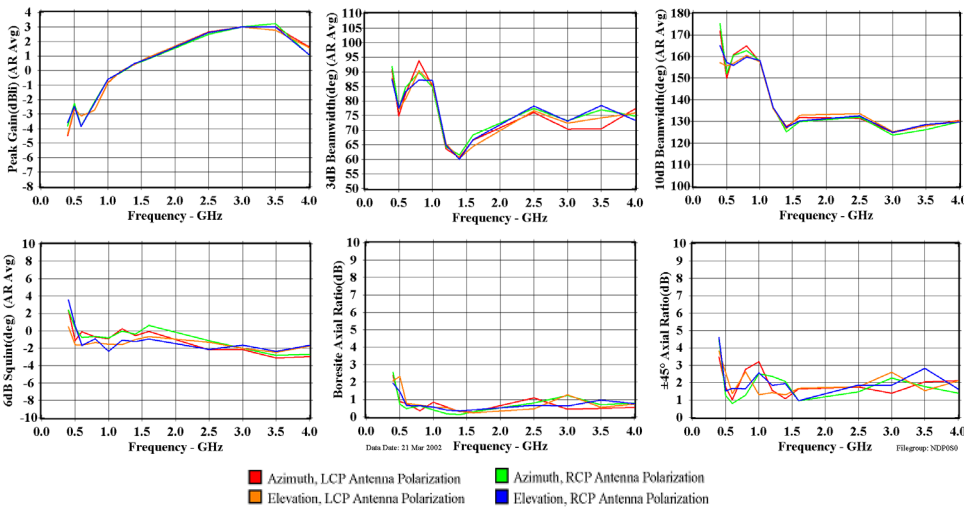
TYPICAL MEASURED PERFORMANCE

Performance varies with radome design, manufacturing tolerances, installation, and environmental conditions.



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

LHCP Polarization (above) compared to RHCP Polarization (below)



Antenna Performance Summary

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