GENERAL DYNAMICS

Mission Systems

Ultra-Wideband Radome

Designed to support next-generation integrated sensors and multi-function arrays



Increased functionality over wide frequency spectrums

Tailorable to integrated forebody (IFB) and different conformal geometries

Maturing Technology Readiness Level (TRL) and Manufacturing Readiness Level (MRL)

Suited for incorporation of survivability requirements

Overview

General Dynamics Mission Systems' new ultra-wideband (UWB) radome wall designs enable optimal performance of next-generation sensors and multifunction arrays (MFAs) being integrated on next-generation air dominance platforms, collaborative combat aircraft and other future platforms.

The UWB radome wall design is tailorable to a chined integrated forebody (IFB) and other conformal geometries. These UWB radomes build upon General Dynamics' proven performance with legacy narrowband radome designs and current wideband radome designs – and extend the performance over very wide frequency bands.

General Dynamics has fabricated IFB risk-reduction prototypes and conducted radio frequency (RF) range testing. Work continues to increase the technology readiness level (TRL) and manufacturing readiness level (MRL) to reduce risk for future programs.

Leveraged Experience

- Over 75 years of radome design, manufacturing, and testing experience
- Developed radomes for more than 50 aircraft platforms
- Produced in excess of 65,000 radomes of various shapes, sizes and applications
- Leader in wideband radomes including the F/A-18E/F, EA-18G, F-15E/ EX, and F-35 A/B/C

Ultra-Wideband Radome

The UWB radome wall design offers:

- Significantly broader frequency performance over both legacy and current wideband radome wall designs
- Design can be customized for specific missions



The UWB radome has broad application:

The UWB radome wall design can be tailored to integrated forebodies (IFB) and other conformal geometries to match integrated sensor and MFA location on the platform (examples shown below).



RF Range Testing

• Conducted RF range testing with multiple test apertures to validate performance versus frequency, polarization and steer angle.







Measured vs. Modeled Pattern Cut



GENERAL DYNAMICS

Mission Systems

Geoff Caywood • geoff.caywood@gd-ms.com • +1.276.780.8622 • 150 Johnston Road, Marion, VA 24354

©2024 General Dynamics. All rights reserved. General Dynamics reserves the right to make changes in its products and specifications at anytime and without notice. All trademarks indicated as such herein are trademarks of General Dynamics. All other product and service names are the property of their respective owners. ® Reg. U.S. Pat. and Tm. Off.