-Parker MEGGíTT

Capabilities Overview

Experts in Electronic Warfare Antennas & Radomes



Willia.

Maritime



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Location History

Overview

The Baltimore operation has been in business since 1965 as various entities, and was most recently acquired in 2022 by Parker Hannifin.

Meggitt (Baltimore), Inc. has proven industry-leading experience with antenna and radome, design, manufacturing, and testing. Our site routinely develops new antenna and radome solutions, starting with design concepts and working through detailed design, qualification, manufacturing start-up and testing.

Experienced composite, electrical, mechanical and manufacturing engineers understand the subtle design details required to achieve simultaneous high structural and electrical performance. We have the facilities, personnel and experience to produce antennas and radomes that satisfy even the most demanding customer requirements.

The key design areas of focus:

- Electrical Design: Ability to efficiently pass specified electrical signals
- Structural Design: Physical strength to handle aircraft and other environmental loads
- Environmental Design: Design features to withstand rain and other impacts, extreme temperatures
- Processing Capability: Capability to reliably and repeatedly produce with high fidelity
- Design to Cost: Controlling costs of product development and production

Meggitt (Baltimore), Inc. has a 75,000 square foot facility and is fully vertically integrated operation with expertise in quality, production, design, test, and functional supporting personnel.

There are extensive on-site electrical testing facilities to perform and analyze measurements for optimizing radome performance. These facilities include a compact range for RCS and radiation and gain testing from 2 GHz to 50 GHz, and 5 far-field ranges for radiation pattern and gain testing from UHF to 50 GHz.

Meggitt (Baltimore), Inc. holds certifications in ISO 9001 and AS9100 Rev D.







Product Overview

Radomes we specialize in -

- Electronic Warfare (EW)
- Radar Warning Receiver (RWR)
- Satellite Communications (SATCOM)
- Intelligence, Surveillance, and Reconnaissance (ISR)
- Communication, Navigation, and Identification (CNI)
- Air Surveillance and Defense Radar

Antennas we specialize in -

- High power horn antennas for EW applications
- Aircraft blade antennas for CNI applications
- Spiral Antennas
- Low Observable Antennas
- Conformal data link and SATCOM antennas



Applications

- F-15, F-16, F/A-18, E/A-18G
- P-3, CP-140, C-130, C-27
- Adversary, Spec. Mission, and Strike Aircraft
- Unmanned Aerial Vehicles (UAVs)
- Configurable Pods
- Rotary-Wing Aircraft

- Surface Ships
- Unmanned Underwater Vehicles (UUVs)
- Air Surveillance and Defense Radars
- Ground Based EW
- High Temperature Applications
- Munitions



Capabilities Overview

Technical Staff

The Meggitt (Baltimore), Inc. team is fully staffed with electrical, mechanical, material and process engineers skilled in all aspects of antenna and radome design and development. Our engineers are equipped with the latest and most powerful equipment and computer-aided engineering and design software packages, including HFSS, PMM, VBOP, and a number of proprietary computer programs. In addition, our engineers follow products through the entire design and production process, working with our manufacturing team to ensure excellent product quality and realization of maximum performance.

Modeling/Analysis

Meggitt (Baltimore), Inc. uses many state-of-the-art computer based analysis tools for design and optimization modeling:

- PATRAN/NASTRAN
- SolidWorks
- CATIA V5
- HFSS
- PMM

Structural Analysis

Working in close coordination with each of the electrical and composite engineers, the mechanical engineering group addresses the various issues of structural integrity, tolerance stack-up, dissimilar material interfaces and machining abilities using 3D and 2D design packages.

Quality Assurance

Meggitt (Baltimore), Inc. is AS9100, Rev D / ISO 9001certified. In addition, Parker Meggitt is an approved supplier to most major defense contractors. Quality engineers play an integral role on our integrated product teams (IPT's) for all programs. Parker Meggitt has extensive focus on continual improvement of our Quality Management System and in all areas of the company.

Manufacturing

Meggitt (Baltimore), Inc. produces various legacy products, build-to-print and unique, customer specific products. Manufacturing engineers develop assembly processes and techniques to ensure products are fully compliant with specification requirements. We have established workstations, consistent with Lean Manufacturing techniques and principles to stream-line the production orders.

Electrical Testing

Meggitt (Baltimore), Inc. has a state-of-the-art test facility that enables complete antenna and radome electrical and specialized environmental testing. Our test facilities include capabilities to measure VSWR, radiation patterns and gain, radar cross section (RCS), high power RF, temperature and altitude. Many types of antenna and radome RF performance requirements are measured and analyzed.

Mechanical Testing

Meggitt (Baltimore), Inc. has mechanical testing equipment that allows coupon testing of various material stack-ups to generate allowable data for composite structural analysis.



<u>RF Test Ranges</u>

Compact Range

- Chamber Size: 60 x 36 x 26 ft. and Quiet Zone: 8 x 8 x 5.3 ft.
- Model Tower with translation adjustment
- Orbit/FR 959 Software for automated antenna gain and phase patterns
- Keysight Vector Network Analyzer
- Internal overhead crane
- Floor hidden manlift for antenna test unit access
- RCS measurements: 2 to 18 GHz
- Antenna measurements: 1 to 50 GHz
- Background Levels: -55 dBsm
- 24-hour operation

Indoor Far Field Ranges

- Five total Anechoic Chambers, Four chambers 14 x 14 x 20 ft. and One chamber 8 x 8 x 20 ft.
- Frequency range 500 MHz to 40 GHz
- Roll over Az over El positioners for complete radiation sphere
- Model tower with translation adjustment
- Orbit/FR 959 Software for automated antenna gain and phase patterns
- Keysight Vector Network Analyzer
- 24-hour operation





Roof-Top Elevated Range

- Ideal for low frequency antennas such as VHF, UHF, SATCOM, IFF, GPS
- Frequency range 100 MHz to 2 GHz
- Model tower with translation adjustment
- Orbit/FR 959 Software for antenna gain and phase patterns
- Keysight Vector Network Analyzer



Facilities are available for rent

