

JEM

ENGINEERING



Custom antenna products,
development, and testing,
delivered *quickly*

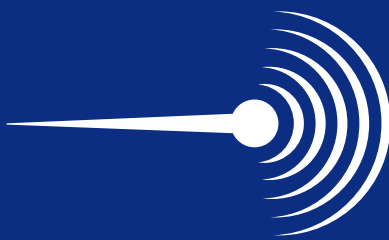
Antenna Development

JEM specializes in custom antenna solutions and solving challenging RF design problems, including weight reductions and ultra-wideband performance.

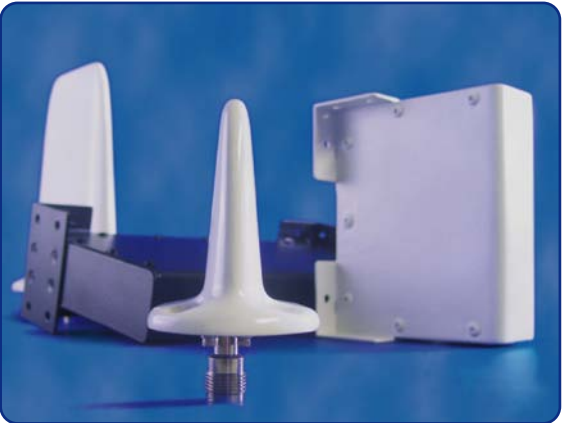
Our custom antenna designs support the Department of Defense in performing Intelligence, Surveillance & Reconnaissance (ISR) missions with airborne platforms that require physically compact but very wide band antenna elements and arrays.

JEM Engineering is a company that is on the cutting edge of antenna and RF technologies, and is continually pushing forward to improve and develop new technology and methodologies.

JEM used SBIR funding to develop artificial magneto-dielectric materials, to enhance bandwidth of antenna structures embedded in composite armor, and to realize new lightweight, ultra-small antennas.

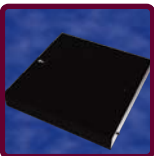


Novel Antenna Products



JEM offers a variety of existing, production-ready, novel antenna products, which can quickly be tailored to meet your specific needs

JEM works with US Army, Air Force, Navy, Special Ops, NASA, and others on cutting-edge projects with a range of military and commercial applications



The Sentry: a low-profile, flight qualified antenna with continuous coverage from 400 to 2700 MHz, ideal for SIGINT/ISR applications



PowerDucky: a rugged whip antenna with excellent power handling and low visibility



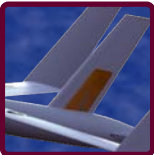
Ultra-wideband antennas for security applications, including in-place monitoring, bug sniffing, and direction finding



Flight-qualified HF loop and DF antennas for SIGINT/ISR, custom-tailored to your specific platform



Armor-embedded antennas, beamformers, large collapsible arrays, and RFID transducers



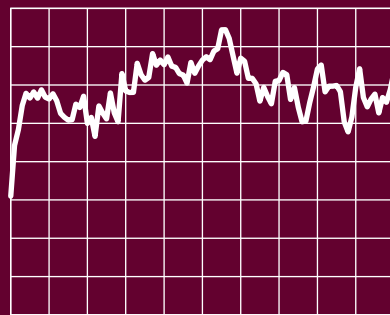
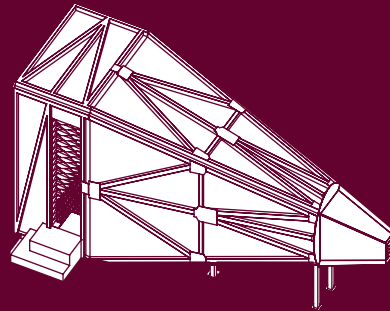
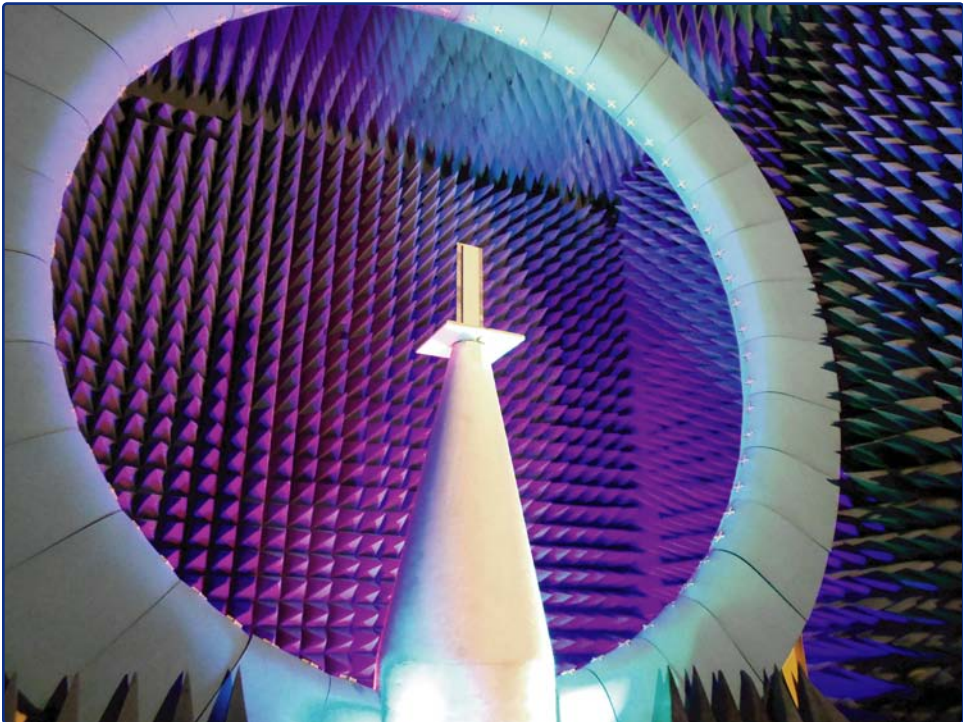
Stick-on, thin film, conformal, magnetic, concealed, SATCOM, metamaterial, genetically optimized, and covert antennas

Rapid RF Testing Services

Key Features & Benefits

- Complete tests in minutes instead of days
- Frequency ranges from 50 MHz to 40 GHz, covering standards such as Bluetooth™, WiFi, WiMAX, GPS, cellular, and more!
- Capabilities including:
 - Radiation patterns
 - Antenna gain and efficiency
 - Axial ratio
 - Human body interaction effects
- Multiple test chambers to fit your needs
- Variety of data format options, including:
 - 2D and 3D Radiation patterns
 - Swept gain and efficiency
 - ASCII data
- Data can be saved directly and securely to a customer's own hard drive on-site
- Convenient to Dulles International, BWI, and Reagan Washington National airports

JEM's spherical RF test chamber is the fastest facility available for full 4 pi steradian data collection!



At JEM we understand the challenges facing antenna, microwave and communication system engineers, and we realize that accurate measurement of antenna electrical performance is critical. That's why we offer a range of rapid testing services from 50 MHz to 40 GHz.

JEM houses multiple RF test chambers at our facility in Laurel, MD, within easy reach of both Baltimore and Washington DC. Customers testing at JEM have the advantage of working with our knowledgeable and experienced RF technicians and engineers, who provide guidance and support to the testing experience and can assist with data analysis and interpretation.

Data files are available in a variety of easy-to-handle formats, and can be processed using software such as MATLAB®, MathCAD® or EXCEL®. JEM can also generate a variety of useful reports and plots, including 3D radiation patterns for data collected using our Spherical Near-Field (SNF) Chamber.

Core Competencies

JEM Engineering, LLC, specializes in quick-reaction custom antenna development, novel antenna products, and rapid RF testing services for military, government, and commercial applications.

Headquartered in Laurel, MD for more than 10 years, engineers at JEM have decades of combined experience in the development of antennas, microwave circuits, phased arrays and associated electronics covering the spectrum from 2 MHz to 40 GHz. JEM is experienced in both low and high volume prototype and production jobs.

JEM is an ISO 9001 Certified woman-owned small disadvantaged business.



We Develop Custom Antennas Based on Your Unique Needs

Rapid design and customization, in weeks instead of months!



Nancy Lilly, President & CEO

Nancy has significant RF experience working in a variety of engineering capacities. Before launching JEM Engineering in 2001, Nancy was a manufacturing engineer for both Wang and Scope Laboratories of Northern VA. She has more than 10 years of experience in antenna and RF applications and system design. She also has experience in quality engineering working as a quality assurance manager for Racal Avionics of Silver Spring, MD and a quality engineer for Arbitron of Columbia, MD. Nancy holds a BS in both chemistry and industrial engineering from the University of Puerto Rico and Polytechnic University, respectively. She also holds a Masters in Engineering Administration from George Washington University.



Dr. David Auckland, Vice President & CTO

Dr. David Auckland has a PhD in Electromagnetics from Syracuse University and has held a number of research, development, engineering and management positions over 30 years. These positions have been with Syracuse Research Corporation (Senior Research Engineer), Sanders Associates (Department Manager of Antenna and RF Systems), Atlantic Aerospace Electronics Corporation (Manager of Antenna Group), E-tenna Corporation (VP of Engineering and CTO) and L-3 Communications (Chief Scientist, Aerospace Electronics). His responsibilities as Vice President and Chief Technical Officer at JEM Engineering include establishing JEM's IP portfolio and transitioning innovations developed on government-funded R&D to military and commercial markets.



Jim Lilly, VP of Engineering

As the company's Vice President of Engineering, Jim is responsible for all of the engineering and R&D activities at JEM. Prior to co-founding JEM, Jim was a co-founder of Etenna Corporation, a wireless embedded antenna company where he led the product development efforts. Prior to Etenna, Jim was a member of the antenna systems division of Atlantic Aerospace, and a senior scientist with the Amecom Division of Litton Systems, where he designed spiral and horn antenna elements for military aircraft. Jim received his MSEE and BSEE degrees from West Virginia University where he also completed coursework toward his PhD.



Notice: Information contained herein is subject to change without notice at the discretion of JEM Engineering. Some technologies may not currently be available in all areas.

Custom Antenna Products, Development, and Testing

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