

MILITARY, AEROSPACE and INSTRUMENTATION RADIALL ANTENNA CAPABILITIES

FACILITY

Radiall is the premier innovator of antenna products for a wide variety of military, aerospace and instrumentation applications. Our associates are responsible for the design, development and production of technologically advanced antenna products serving customers worldwide for military, aerospace and instrumentation markets. Radiall is an ISO 9001; 2000 certified production facility, with the capacity to produce small quantities as well as large antenna batches. As a result of worldwide relationships, advanced supply chain management and close cooperation with our customers; we are able to explore broader value added projects.

CAPABILITIES

Radiall has complete knowledge of high-precision manufacturing operations such as:

- Screw machining
- Stamping
- Die casting
- Selective plating
- Silk screen metal deposition
- Printed circuit board design & layout
- Complex electro-mechanical assemblies

Radiall has developed and integrated into production robotic technologies and special materials to allow design to cost products to meet application requirements. Radiall designs and produces antenna products for many of the military aerospace and instrumentations leading international companies. Years of experience in design projects has given Radiall a special ability to work with customers to determine configuration needs quickly. Production emphasis is placed on rapid response and on-time delivery. Working closely with suppliers, Radiall has the ability to respond quickly to customer requirements.

TEST & MEASUREMENT

Radiall maintains a fully equipped, aerospace-rated environmental test facility with the capability to validate designs through exposure to all extreme conditions. Test & qualification capabilities include: corrosion, salt, mist, industrial atmosphere gas, humidity, high temperature endurance and thermal shocks. Measurement capabilities include: axial ratio, 3D-radiation diagrams, gain, magnitude and phase center, efficiency and direct or cross polarization.

- Two anechoic chambers operating from 400 MHz to 17 GHz
- Vectorial network analyzers
- Control of positioning axis device.
- Each production line maintains dedicated test equipment to verify the electrical performance of every antenna prior to packaging.

ITAR COMPLIANCE

With new regulations from the Defense and State Departments, Radiall is committed to being compliant with the requirements of the ITAR. That is why Radiall has two R&D development centers:

- One in Europe, serving customers for Europe and Asia
- One in USA, serving customers in North America

CUSTOM HIGH TO LOW PRODUCTION

With standard antennas used as a design basis for special customer modifications, Radiall can quickly satisfy most antenna requirements. Full custom design is a ready option when the design parameters are highly specific or have proprietary intent. Years of experience in design projects has given Radiall a special ability to work with customers to determine configuration needs quickly. Through close communication with our customers, we bring projects to completion on target and often within compressed time schedules. Each new antenna design begins with careful development of the mechanical and electrical performance objectives. A proposal is prepared detailing feasibility, timing and unique costs. When applicable, design times and costs are quoted in “not to exceed” limits.

RAPID PROTOTYPING

Each antenna design represents a union of electrical and mechanical technologies. Our effort is to meet all design objectives for the customer. Special mechanical capabilities involve the use of plastics in antenna design, including insert and overmold applications. Advanced mechanical form and application experience exist for terminal, vehicle and antenna design. All mechanical design output is documented in Solidworks® three-dimensional modeling software. This output can also be translated into most popular mechanical design formats. The impact of the mechanical design objectives is determined through a rigorous testing and validation process. Advanced electrical antenna design represents the core of our business. The electrical performance goals of each antenna design are paramount in meeting the total design objectives. Electrical design progresses from the theoretical to the practical through the use of early computer simulation, prototype and verification. With these two being balanced together, Radiall has the capability for rapid design prototyping. These capabilities are maintained on-site to allow quick response to new antenna development projects. High-technology tools for antenna performance simulation and three-dimensional modeling allow for accurate and durable designs to be developed in a fraction of the time required just a few years ago. Full production capabilities further extend our ability to rapidly produce prototypes and first articles.