



FIRST RF Corporation is committed to delivering high-performance, high-value antennas and RF systems to military and commercial customers. We have the capability and expertise of a large company, but with the versatility and efficiency of a small company. Our number one focus is delivering value to our customers.

The name FIRST RF represents our core competencies, our objectives, and our ability to establish a best-in-class team for our customers. The primary objective of our organization is to develop and manufacture state-of-the-art antenna and RF technology and products for various applications.





Figure 1: FIRST RF Corporation is located in the heart of Boulder, Colorado. This 30,000 square foot facility co-locates office, laboratory, machine shop, production and test facilities. The FIRST RF facility is cleared for DOD Secret, with key personnel cleared at Top Secret.

# CORE COMPETENCIES

- » Technology: Antennas and RF Systems including EW, SIGINT, DF, Radar, Communications, Navigation and remote sensing instruments.
- » R&D: Since 2003 FIRST RF has won 55 Phase I SBIR programs and have successfully transitioned more than 33 of these to Phase II programs. We have also transitioned Phase II SBIR projects in EW and Radar antenna systems to Phase III and full scale production. In addition to our government funded developments, FIRST RF supports rapid prototype and commercialization of our products for large scale manufacturing. These company funded projects focus on innovative products that offer a substantial improvement in performance and capabilities mitigating cost, schedule, and system performance risk to our customers.
- » Facilities: FIRST RF Corporation is located in the heart of Boulder, Colorado. Our 70,000 square foot of facility co-locates office, laboratory, machine shop, production and test facilities. These are shown in Figure 1. An additional 6,500 square foot facility provides large item inventory and wharehouse capability.
- » Manufacturing/Testing: During the past five years, FIRST RF has placed significant capital investment towards the future growth of the company's design, manufacturing, and test capability. This includes state-of-the-art software packages for performing detailed electromagnetic analysis, technician build and inspection stations for manufacturing, and state-of-the-art antenna test equipment for S-parameter and radiation pattern measurements. FIRST RF has developed the capability to manufacture and test antenna systems for both the government and prime contractors and has become one of the largest antenna manufacturing companies in the country.

# FIRST RF PRODUCT OFFERINGS

### **OVERVIEW**

FIRST RF Corporation develops and manufactures advanced antennas and RF systems for Aerospace, Defense, Civil, and Commercial markets. In addition to our ultra broadband antenna technologies application of our technologies include affordable phased array systems and navigation and attitude heading reference equipment.

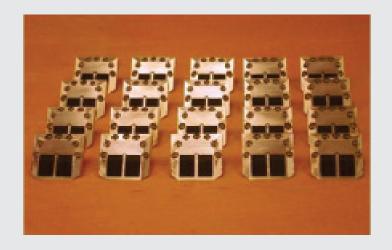
## **CURRENT PRODUCTS**

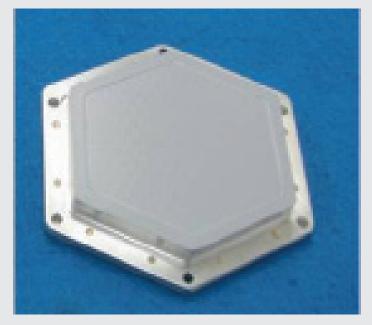
FIRST RF offers a wide range of commercial off the shelf antenna products and commercial off the shelf components for airborne, vehicular, fixed site, space, and man-portable applications. Please visit <a href="https://www.firstrf.com">www.firstrf.com</a> to see a complete list of currently available products.

#### FIRST RF CUSTOMIZED SOLUTIONS

FIRST RF has developed and fielded antenna and RF systems technologies that span a variety of platforms and applications. Our span of expertise covers complex phased array systems to affordable antennas for inexpensive munitions. Some notable projects include:

- » Over 160,000 tactical vehicular antenna systems have been delivered in support of operations in the Middle East.
- » Phased array systems, both large and small, for missile defense, SATCOM, ground communications and airborne relays covering from UHF through Ka-Band. Platforms include airborne (manned and unmanned), ground vehicles, amphibious, maritime, and space applications.
- » Munitions antennas: GPS, Low Observable, end-fire/ wrap-around antennas, all built at a fraction of the cost of competing solutions
- » Ultra-Wideband Antennas for Electronic Warfare: VHF through C-Band from a single aperture, high-power handling, both mobile and fixed site applications
- » Airborne Communications antennas for JTRS, TCDL and AMF Programs
- » Ultra-wideband antennas (300:1 single-structure antenna)
- » Low-cost Attitude and Heading Reference (AHRS) System
- » Body-wearable antennas
- » Anti-RPG, Sniper Fire Detection, Weather, and Obstacle Avoidance Radar Antenna Systems







» Space Reflectors

# **CUSTOMERS**

FIRST RF markets COTS products and works with customers to develop and modify products that meet unique needs. FIRST RF, in collaboration with primes, has developed advanced antenna and radio frequency (RF) technologies for future airborne and ground-based sensors. FIRST RF has successfully transitioned the technology developed under various projects to various systems integrators, including SRC, ITT, Raytheon, Northrop Grumman, Lockheed Martin, General Dynamics, Cubic, Argon ST, BAE Systems, Sierra Nevada Corp., Cobham, LGS, and Honeywell. Government customers include the U.S. Army, Air Force, and Navy, Marine Corps, MDA, DARPA; NASA, NOAA; Johns Hopkins University Applied Physics Laboratory and the Jet Propulsion Laboratory. University customers include; University of Colorado, Perdue, University of Massachusetts, and CALTECH.



## PROVEN PERFORMANCE

Since 2003, FIRST RF has fielded over 160,000 antennas for EW and communications systems in Iraq and Afghanistan. In 2005, FIRST RF received the Army's Top 10 Inventions of the Year award, which started as an SBIR contract for a broadband EW antenna system for CREW systems. FIRST RF antenna systems are designed for affordability, reliability, optimum RF and mechanical performance. The company has over 40 different antenna systems in production.

#### **QUALITY**

FIRST RF Corporation is an ISO 9001:2008 certified company. FIRST RF's product assurance system is approved by the Government, Raytheon, Northrop-Grumman, SRC, ITT/EDO and Lockheed Martin. FIRST RF products have had no field failures and 100% on time deliveries for all production programs. This equates to the on-time delivery of more than 170,000 antennas. FIRST RF has received quality awards from both DCMA Colorado and DCMA California for on-time performance. We maintain a dedicated product assurance staff consisting of department manager with extensive experience in materials and process engineering, a product assurance engineer, as well as lead inspector and subordinate product assurance inspectors.

#### **TECHNOLOGY**

FIRST RF has several patents and patent-pending technologies related to ultra broadband antennas, navigation, radar and phased array technology. Sales growth is expected to continue to rise 10 to 20 percent per year over the next 5 to 10 years to meet anticipated requirements for





