

WHO

SYSCOM: MCSC

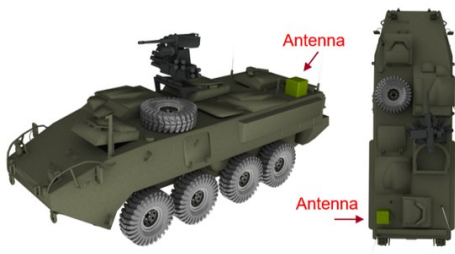
Sponsoring Program: Marine Corps Systems Command (MCSC)

Transition Target: Amphibious Combat Vehicle (ACV)

TPOC: sbir.admin@usmc.mil

Other Transition Opportunities: Ground and maritime platforms

Notes: One cubic foot integrated wideband dual-polarized antenna reduces footprint



Generated by FIRST RF Corporation

WHAT

Operational Need and Improvement: Develop an innovative and operationally suitable consolidated (minimized size and weight) antenna solution for sensing and transmitting broadly across the electromagnetic spectrum with angular resolution sufficient for direction finding.

Specifications Required: The antenna system will be contained in one foot cube and operate from very low frequencies to 20 GHz. The antenna system will provide dual polarization with multiple ports to support direction finding.

Technology Developed: FIRST RF has developed a dual-polarization antenna the operates from 20 MHz to 20 GHz in three bands. There internal antennas are co-located such that the antenna system is a single integrated unit.

Warfighter Value: This wideband antenna reduces the required platform surface area on target tactical military platforms. The sealed construction allows operation on amphibious vehicles, as well as other ground and maritime platforms.

WHEN

Contract Number: M67854-25-C-6527 **Ending on:** Dec 07, 2026

Milestone	Risk Level	Measure of Success	Ending TRL	Date
Delivery of prototype	Medium	Gain, pattern, and impedance measurements	5	1st QTR FY26
Demonstration	Medium	Reception of signals over the frequency band and in any arbitrary polarization	6	1st QTR FY27

HOW

Projected Business Model: FIRST RF is a product-oriented company developing advanced technologies for antennas and Radio Frequency (RF) systems including communications, radar, phased arrays, Position Navigation and Timing (PNT), RF compatibility, low observable antennas, Electronic Warfare (EW), and Direction Finding (DF) systems. FIRST RF will produce antennas for integration onto a variety of vehicle platforms. Radio integration will be through a prime or directly with the government.

Company Objectives: FIRST RF is a developer of broadband antennas for tactical military vehicles. The company objective is to produce, test, and deliver these types of antennas to primes and government customers.

Potential Commercial Applications: The availability of Software Defined Radio (SDR) technology enables commercial users to transmit and receive over a very wide range of frequencies. SDR technology is now offering multiple channel radios that need multiple port antennas covering the entire frequency range for directional beams.