# Dossier: CALIOLA ENGINEERING, LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,249,904.00

**Award Date:** 2024-09-05

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

CALIOLA ENGINEERING, LLC is a small business specializing in the design, development, and manufacturing of advanced radio frequency (RF) and microwave (MW) components, modules, and subsystems for demanding defense, aerospace, and commercial applications. Their core mission appears to be providing high-performance, customized solutions for signal processing, communication, and electronic warfare systems. They aim to solve problems related to size, weight, power, and cost (SWaP-C) constraints in modern RF/MW systems. Their unique value proposition lies in their ability to rapidly prototype and deliver custom, application-specific RF/MW solutions, leveraging in-house expertise in electromagnetic simulation, circuit design, and precision manufacturing. This enables them to cater to niche applications where off-the-shelf components fall short.

**Technology Focus:**

* Custom RF/MW filter design and manufacturing, covering a wide frequency range (reportedly up to 40 GHz). They offer various filter topologies (e.g., lumped element, ceramic, waveguide).
* Amplifier design and integration, including low-noise amplifiers (LNAs) and power amplifiers (PAs) tailored for specific bandwidth, gain, and power requirements.
* Integrated microwave assemblies (IMAs) and subsystems, combining multiple RF/MW components into a single, compact module for enhanced performance and reduced system complexity.

**Recent Developments & Traction:**

* In July 2023, CALIOLA ENGINEERING, LLC was awarded a Small Business Innovation Research (SBIR) Phase I contract from the US Air Force related to high-power microwave generation.
* In June 2022, CALIOLA ENGINEERING, LLC completed SBIR Phase I contract from the US Air Force to develop an Innovative Multi-Band Digitally Tunable Filter.
* CALIOLA ENGINEERING continues to market and improve on the Digitally Tunable Filter initially developed for US Air Force.

**Leadership & Team:**

* Robert Caliola, President:\*\* Background is not readily available publicly, but the company name suggests he is the founder and likely holds a strong technical background in RF/MW engineering.
* The team has significant expertise in areas of RF microwave design, electrical and mechanical engineering, program management, and manufacturing.

**Competitive Landscape:**

Primary competitors include companies specializing in custom RF/MW component and subsystem design such as:

* Reactel, Incorporated:\*\* Similar focus on custom RF/MW filter design and manufacturing. CALIOLA's key differentiator may lie in their agility and focus on highly specialized applications.
* Mini-Circuits:\*\* A large, established player with a broad catalog of RF/MW components. CALIOLA distinguishes itself by offering truly custom solutions, whereas Mini-Circuits primarily provides standard catalog parts.

**Sources:**

1. [https://www.sbir.gov/sbirsearch/detail/2227708](https://www.sbir.gov/sbirsearch/detail/2227708)

2. [https://www.sbir.gov/sbirsearch/detail/2325840](https://www.sbir.gov/sbirsearch/detail/2325840)

3. [https://www.caliolaengineering.com/](https://www.caliolaengineering.com/)