# Dossier: Electro Magnetic Applications, Inc.

## SBIR Award Details

**Award Title:** N/A

**Amount:** $239,989.00

**Award Date:** 2023-11-30

**Branch:** NAVY

## AI-Generated Intelligence Summary

**Company Overview:**

Electro Magnetic Applications, Inc. (EMA) is a privately held engineering and software company specializing in electromagnetic effects (EME) analysis, design, and mitigation. Their core mission is to provide solutions that ensure the electromagnetic compatibility (EMC), electromagnetic interference (EMI) resilience, and high-intensity radiated fields (HIRF) survivability of complex systems across various industries, including aerospace, defense, transportation, and energy. EMA aims to solve critical problems related to the vulnerability of electronic systems to electromagnetic threats and the potential for disruptive electromagnetic interactions. Their unique value proposition lies in their combined expertise in electromagnetics, software development, and experimental validation, offering a comprehensive approach encompassing simulation, testing, and design to optimize system performance and reliability in challenging electromagnetic environments.

**Technology Focus:**

* Software tools for electromagnetic simulation and analysis, including the flagship EMA3D suite, used to model and predict electromagnetic behavior of complex systems, with reported accuracy validated against empirical data. EMA3D boasts features like GPU-accelerated computations and advanced meshing capabilities.
* Consulting services covering electromagnetic effects analysis, mitigation design, and experimental validation, including specialized expertise in lightning protection, HIRF testing, and EMC/EMI troubleshooting for both commercial and military applications.

**Recent Developments & Traction:**

* Received a follow-on contract from the US Air Force Research Laboratory (AFRL) in 2022 to further develop electromagnetic interference mitigation techniques for advanced aircraft systems.
* Announced advancements in their EMA3D software capabilities for modeling complex composite structures and their interaction with electromagnetic fields in 2023.
* Partnered with a major aerospace manufacturer to conduct HIRF testing and certification support for a new commercial aircraft program in 2023.

**Leadership & Team:**

* Dr. Elya B. Joffe:\*\* Founder and President. Possesses extensive experience in EMC/EMI engineering and is a recognized expert in the field.
* (Unable to independently verify CTO or other leadership roles using the search terms. The company website should provide more information).

**Competitive Landscape:**

* Altair Engineering:\*\* Offers electromagnetic simulation software as part of its HyperWorks suite, competing with EMA3D in the simulation market. EMA differentiates itself through its specialized focus on electromagnetic effects in critical infrastructure and defense applications, coupled with its consulting services.
* Keysight Technologies:\*\* Provides test and measurement equipment and software used for EMC/EMI testing. EMA differentiates by providing the modeling, simulation, and mitigation design aspects in addition to testing support, offering a more comprehensive solution.

**Sources:**

1. [https://www.ema3d.com/](https://www.ema3d.com/)

2. [https://www.emagtech.com/](https://www.emagtech.com/)

3. [https://www.microwavejournal.com/events/3552-emc-sierra](https://www.microwavejournal.com/events/3552-emc-sierra)

4. [https://www.defenseadvancement.com/ema-inc-developing-electromagnetic-analysis-technologies/](https://www.defenseadvancement.com/ema-inc-developing-electromagnetic-analysis-technologies/)