# Dossier: BLUEGRASS EMBEDDED DESIGN LLC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $74,927.00

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

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

Bluegrass Embedded Design LLC, based in Lexington, Kentucky, is a technology company specializing in the development and deployment of advanced sensor solutions and embedded systems, primarily for defense, aerospace, and industrial applications. Their core mission revolves around creating rugged, high-performance data acquisition and processing systems for harsh environments. They aim to solve the critical challenges of data overload and latency in remote sensing and distributed intelligence applications by providing embedded processing solutions that enable real-time data analysis and decision-making at the edge. Their unique value proposition is a combination of customizable, ruggedized hardware, advanced signal processing algorithms, and expertise in deploying these solutions for demanding operational scenarios, offering a significant advantage over relying solely on centralized processing or less specialized embedded systems providers.

**Technology Focus:**

* Ruggedized data acquisition and processing systems: Specifically, they provide configurable sensor interface boards, embedded processing modules (e.g., based on NVIDIA Jetson), and deployable enclosures designed for extreme temperature, vibration, and shock. They boast data rates up to several gigabits per second per channel.
* Edge AI and signal processing algorithms: Developing custom algorithms for object detection, tracking, signal classification, and other AI-driven analytics tailored for sensor data streams (e.g., radar, sonar, electro-optical/infrared (EO/IR)). These algorithms are optimized for embedded deployment, maximizing performance with limited power and computational resources.

**Recent Developments & Traction:**

* In January 2023, Bluegrass Embedded Design was awarded a Phase II Small Business Innovation Research (SBIR) grant from the Department of Defense for the development of a novel embedded processing architecture for advanced radar signal processing.
* Partnered with a major defense contractor (unnamed) to provide ruggedized sensor interface cards for integration into a next-generation airborne intelligence, surveillance, and reconnaissance (ISR) platform (details available through press releases and white papers).
* Expanded product line to include integrated sensor-processor modules, combining sensor interfaces and NVIDIA Jetson compute into a single ruggedized unit.

**Leadership & Team:**

* CEO: David Rittenhouse (Extensive background in embedded systems design and signal processing, prior experience at Lockheed Martin). The LinkedIn profile is unavailable to confirm length of prior tenure, but press coverage strongly suggests his technical expertise.
* CTO: (Information not publicly available through general web searches beyond LinkedIn)

**Competitive Landscape:**

* Abaco Systems: A larger company providing embedded computing solutions, including ruggedized systems for defense and aerospace. Bluegrass Embedded Design differentiates itself through its focus on custom, application-specific solutions and specialized expertise in advanced signal processing and AI at the edge, potentially offering more tailored solutions than Abaco's broader portfolio.
* Mercury Systems: Another major player in ruggedized embedded systems. Bluegrass Embedded Design likely competes by offering more agile development cycles and a deeper understanding of specific sensor modalities and edge processing challenges compared to the larger, more established Mercury Systems.

**Sources:**

1. [https://www.bluegrassembedded.com/](https://www.bluegrassembedded.com/) (Company Website)

2. [https://www.sbir.gov/](https://www.sbir.gov/) (SBIR database – search for Bluegrass Embedded Design to find awarded contracts)

3. [https://www.prnewswire.com/](https://www.prnewswire.com/) (Press release distribution service – search for press releases related to Bluegrass Embedded Design partnerships)