# Dossier: OZARK INTEGRATED CIRCUITS INC

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,759,884.00

**Award Date:** 2024-04-03

**Branch:** USAF

## AI-Generated Intelligence Summary

**Company Overview:**

Ozark Integrated Circuits, Inc. (Ozark IC) specializes in the design, fabrication, and testing of high-temperature, high-reliability integrated circuits (ICs) for extreme environments, particularly those encountered in aerospace, defense, and industrial applications. Their core mission is to enable reliable electronic operation in conditions where conventional ICs fail, such as high-altitude, space, deep-earth drilling, and extreme temperature industrial settings. They aim to solve the problem of electronic system limitations in harsh environments, allowing for more efficient and reliable sensing, control, and communication. Their unique value proposition lies in their expertise in mixed-signal and digital ASIC design, combined with access to a radiation-hardened foundry and in-house testing capabilities, enabling them to deliver custom IC solutions tailored to specific application needs. They claim to offer significant advantages in size, weight, power, and cost (SWaP-C) compared to traditional solutions involving bulky cooling systems or expensive, off-the-shelf components that may not meet the stringent environmental requirements.

**Technology Focus:**

* High-temperature mixed-signal and digital ASICs capable of operating continuously at temperatures up to 225°C and intermittently up to 300°C.
* Radiation-hardened designs for space applications, featuring tolerance to total ionizing dose (TID) levels exceeding 100 krad(Si) and single event effects (SEE) mitigation.
* Customizable microelectronics solutions including sensors, data acquisition, and control systems for extreme environments.

**Recent Developments & Traction:**

* July 2023:\*\* Awarded a Phase II Small Business Innovation Research (SBIR) grant from NASA to develop a high-temperature data acquisition system for harsh environments. The funding amount was not disclosed.
* January 2022:\*\* Announced the completion of a project for the U.S. Air Force Research Laboratory (AFRL) developing a high-temperature analog-to-digital converter (ADC).
* 2021:\*\* Continued development and testing of their high-temperature ASIC portfolio for aerospace and industrial control applications, focusing on improved performance and reliability in extreme conditions.

**Leadership & Team:**

* Matt Francis:\*\* CEO. Background in semiconductor engineering and business development, with experience in bringing new technologies to market.
* Dr. Jim Holmes:\*\* CTO. Extensive experience in mixed-signal IC design and development, particularly for high-temperature and harsh-environment applications. He holds a Ph.D. in Electrical Engineering and has numerous publications in the field.

**Competitive Landscape:**

* Microchip Technology (formerly Microsemi):\*\* Offers a range of radiation-hardened and high-reliability components, but may not specialize as heavily in custom ASIC solutions for extreme high-temperature applications as Ozark IC.
* Texas Instruments:\*\* Provides some high-temperature ICs, but focuses primarily on standard components rather than customized, fully integrated solutions for extreme environments. Ozark IC's differentiator is their expertise in customized ASIC design optimized for extreme environments, including radiation hardening, using specifically chosen fabrication processes and offering in-house testing to meet stringent customer requirements.

**Sources:**

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

2. [https://www.sbir.gov/sbirsearch/detail/2268021](https://www.sbir.gov/sbirsearch/detail/2268021)

3. [https://www.linkedin.com/company/ozark-integrated-circuits-inc/](https://www.linkedin.com/company/ozark-integrated-circuits-inc/)

4. [https://scholar.google.com/citations?user=2f\_XoVEAAAAJ&hl=en](https://scholar.google.com/citations?user=2f\_XoVEAAAAJ&hl=en) (Dr. Holmes' publication record)