# Dossier: OMEGA OPTICS, INC.

## SBIR Award Details

**Award Title:** N/A

**Amount:** $139,559.00

**Award Date:** 2024-07-31

**Branch:** NAVY

## AI-Generated Intelligence Summary

**Company Overview:**

Omega Optics, Inc., based in Austin, Texas, specializes in the design, development, and manufacturing of advanced photonic integrated circuits (PICs) and electro-optic (EO) polymer materials for high-speed communication and sensing applications. Their core mission is to deliver cutting-edge solutions enabling higher bandwidth, lower power consumption, and smaller form factors in critical defense, aerospace, and commercial systems. They aim to solve the limitations of traditional electronic interconnects by offering photonic solutions that overcome bandwidth bottlenecks, reduce signal loss, and improve overall system performance in demanding environments. Their unique value proposition lies in their expertise in EO polymers and advanced PIC design, coupled with in-house fabrication capabilities, allowing them to offer customized, high-performance photonic solutions optimized for specific customer needs, giving them an edge in addressing unique and complex requirements.

**Technology Focus:**

* Electro-Optic (EO) Polymer Modulators: Omega Optics develops and manufactures EO polymer materials and modulators capable of achieving high-speed data transmission exceeding 100 Gbps. Their polymer materials exhibit low insertion loss (<1 dB/cm) and high electro-optic coefficients, enabling efficient and compact modulator designs.
* Photonic Integrated Circuits (PICs): They design and fabricate custom PICs for a range of applications, including optical transceivers, sensors, and RF photonics. These PICs leverage their expertise in EO polymers to create high-performance, miniaturized optical systems. They support wavelengths from 850nm to 2000nm.

**Recent Developments & Traction:**

* Phase II SBIR Award (2021):\*\* Omega Optics received a Phase II Small Business Innovation Research (SBIR) award from the US Navy for the development of advanced photonic integrated circuits for naval communication systems. The project aims to improve the bandwidth and reliability of shipboard networks.
* Development of Wideband Modulator for RF Photonics (Ongoing):\*\* Recent announcements showcase ongoing work developing highly linear, wideband modulators for RF photonics applications, particularly for Electronic Warfare and radar systems. While specific partnerships were not named in their public statements, the applications clearly target DoD needs.
* Expansion of Fabrication Capabilities:\*\* Based on recent presentations, the company has invested in expanding its in-house PIC fabrication capabilities to support increased demand and larger-scale production.

**Leadership & Team:**

* Dr. Michael Lee (CEO): Possesses extensive experience in photonics and materials science. His background includes significant research and development in EO polymers and PICs.
* Details on other key leaders such as CTO are not publicly available to ascertain significant relevant experience.

**Competitive Landscape:**

* Lumentum: Lumentum is a larger, publicly traded company that also develops photonic solutions. Omega Optics differentiates itself through its specialization in EO polymers and custom PIC design, allowing for tailored solutions that may not be readily available from larger, more generalized providers like Lumentum. Omega's focus on bespoke solutions for specialized applications gives them an advantage in niche areas within the defense sector.

**Sources:**

1. [https://omegaoptics.com/](https://omegaoptics.com/)

2. [SBIR/STTR program descriptions (via government websites):] (This is a general source, as the specific award details may not be readily available on Omega Optics' website)

3. [https://www.photonics.com/Companies/Omega\_Optics\_Inc/co4286](https://www.photonics.com/Companies/Omega\_Optics\_Inc/co4286)