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Freedom Photonics Awarded SBIR Phase I Award to Develop a Low Cost/Low Phase Noise Laser Source for Interferometer Hydrophone

Santa Barbara, California, 7 April 2011 – Freedom Photonics, LLC today announced that it has been granted an award to develop an integrated low linewidth tunable laser (>20 nm tuning) for a high performance fiber optic acoustic sensor system. This development can alleviate sparing requirements for sensor arrays, or possibly be used as a single source in wavelength multiplexed arrays with sufficient tuning speed.

AFRL SBIR Phase I – Integrated Low Linewidth Tunable Laser

This program will allow Freedom Photonics to evaluate new design approaches for laser optics using advanced technologies. We will investigate laser sources that meet design specifications of output power, phase noise, size, and wavelength at low cost. We will develop a widely tunable laser with phase noise sufficient for use with existing fiber optic interferometer hydrophone sensors onboard Virginia Class Submarines. The process will leverage our current Monolithic Photonic Integrated Circuit (PICs) technology in order to provide the most compact, efficient, and lightweight widely tunable lasers. With the integration of many functional blocks for light generation, tuning, and modulation on a single chip, one gains performance improvements with removed insertion losses, reduction of optoelectronic component count, and enhanced temperature and vibration stability.

About Freedom Photonics

Freedom Photonics is a privately owned limited liability company, organized in California in 2005. The company operates from its own 3100 square foot facilities, which contain 4 laboratories (photonics, electronics and packaging) and company offices. The company currently has 14 employees and several long-term consultants. Our core technical staff has a combined 40 years of experience in all aspects of photonic integration, epitaxial laser and PIC structure design, fabrication, testing, module design and production. By utilizing a fabless business model, clients are able to reduce the risk of technology development and investment, retain a competitive edge in the global photonics market, and reduce costs. Freedom Photonics is able to allow clients to bridge the gap to product commercialization. Additionally, due to FP's nimble/small size we can offer a short cycle time. The Freedom Photonics team includes very experienced chip designers, who will assist in developing the solutions to meet your requirements. In addition, FP leverages our proximity to UCSB's world-class research and development infrastructure.