

## Bandwidth10 announces 1050 nm VCSEL with record 70+ nm tuning

Berkeley, CA, USA. October 1, 2018

Bandwidth10 LTD., a US-based manufacturer of tunable VCSELs (Vertical Cavity Surface Emitting Lasers) announces the development of an electrically pumped 1050 nm tunable VCSEL for OCT systems. These VCSELs will enable next generation ophthalmologic OCT systems that have an order of magnitude higher resolution in two and three dimensions.

Raising the bar on OCT imaging performance, Bandwidth10's electrically pumped Micro-Electro-Mechanically (MEMs) tunable VCSELs enables a variable and wide spectral tuning range, exceeding 70 nm, and a high sweeping rate (600-700kHz axial scan rate). Implementing direct electrical injection provides reduced cost and complexity relative to currently used optically pumped tunable VCSEL devices in the market, obviating the need for a costly pump laser, optics, and associated hardware.

Managing the effort for Bandwidth10 is Dr. Dalila Ellafi. "By adjusting the VCSEL tuning range and the sweep speed, it is possible to achieve extremely high-resolution imaging. We are excited about our progress in this area and believe this is a new record" she said. The cornerstone of Bandwidth10's technology is the integration of a MEMs actuator technology with a thin High Contrast Grating (HCG) layer as the top mirror of the conventional VCSEL devices. This movable mirror allows 10X faster wavelength tuning than other mechanical and thermal wavelength tuning mechanisms. "Long imaging range enables more sophisticated eye measurement. Based on our demonstrated MEMS and optical packaging technology, we know that our electrically pumped MEMs-tunable VCSEL technology is attractive for next generation ophthalmic OCT imaging instruments" Dr. Ellafi added.

Founded in 2011, Bandwidth10's pioneering work is on 1550 nm, tunable HCG-VCSELs for WDM-PON and access networks applications. In 2017, it introduced a low cost SFP+ tunable transceiver operating up to 85° C with the preliminary G.METRO Fronthaul specification implemented.

For more information on Bandwidth10 products, please visit: [www.bandwidth10.com](http://www.bandwidth10.com)

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