



## NeoPhotonics Announces Ultra-Narrow Linewidth Laser for Low Earth Orbit Satellite Applications

March 7, 2022

*Radiation Tolerant Coherent Low Noise Tunable Laser has Enhanced Flexible Software to Extend Operating Life in a Radiation Environment Without Compromising Performance*

SAN JOSE, Calif.--(BUSINESS WIRE)--Mar. 7, 2022-- NeoPhotonics Corporation (NYSE: NPTN), a leading developer of silicon photonics and advanced hybrid photonic integrated circuit-based lasers, modules and subsystems for bandwidth-intensive, high-speed communications networks, today announced its new Radiation Tolerant version of its industry leading Nano ultra-pure light tunable laser which has been designed for use in low earth orbit satellite communications applications. NeoPhotonics' current Nano-ITLA laser is in high volume production for terrestrial fiber optics applications and is used by many of the leading optical networking companies in their most advanced coherent pluggable modules and high-speed embedded systems. This new radiation tolerant laser introduces enhancements including an adaptive approach to achieve extended lifetime operation of the proven Nano laser hardware in a radiation flux environment to enable reliable operation in space without compromise to performance and stability.

Multiple companies are now deploying or developing constellations of low earth orbit satellites to bring high bandwidth communications to areas not currently served by wireless infrastructure. These constellations consist of thousands of satellites which must have high bandwidth connections between them to avoid service drop-outs. These satellite-to-satellite communications links are now shifting from micro-wave to coherent optical technology, taking advantage of the vast increase in transmission capacity developed for terrestrial fiber optic communications, where 800Gbps is now regularly transmitted on a single wavelength.

While coherent communications technology is now highly advanced, space is a hostile environment for the electronics and related hardware used in telecommunications, largely due to radiation impacts from galactic cosmic rays, high-energy particles from the sun, and particles trapped by the earth's magnetic field. Special 'radiation hardened' electronic devices, which are more robust than those typically used on the ground, are often used to mitigate these issues, but they can add significantly to cost. For the lasers used in coherent communication, the control electronics are often more vulnerable to these radiation effects than the laser itself.

One example of the laser control subsystem electronics which is particularly vulnerable to ionizing radiation is the memory (RAM and FLASH) that microprocessors rely on. While radiation effects on memory can be lessened by using special packaging or by more expensive hardware components, the effects of ionizing radiation on memory corruption can also be mitigated by incorporating radiation tolerant software enhancements, resulting in greatly improved reliability, recovery and resilience, as has been demonstrated during laboratory testing designed to simulate low earth orbit conditions

"NeoPhotonics has been a leader in the design, development and high-volume production of ultra-narrow linewidth tunable lasers for coherent communications over the last decade, and we are excited to offer our high performance to the exciting new application of satellite communications" said Tim Jenks, Chairman and CEO of NeoPhotonics. "We have used our long experience and deep understanding of lasers technology to develop an innovative software-centric approach to radiation tolerance that speeds time to market, while maintaining performance and limiting costs," concluded Mr. Jenks.

### About NeoPhotonics

NeoPhotonics is a leading developer and manufacturer of lasers and optoelectronic solutions that transmit, receive and switch high-speed digital optical signals for Cloud and hyper-scale data center internet content provider and telecom networks. The Company's products enable cost-effective, high-speed over distance data transmission and efficient allocation of bandwidth in optical networks. NeoPhotonics maintains headquarters in San Jose, California and ISO 9001:2015 certified engineering and manufacturing facilities in Silicon Valley (USA), Japan and China. For additional information visit [www.neophotonics.com](http://www.neophotonics.com).

### Legal Notice Regarding Forward-Looking Statements

This press release includes statements that qualify as forward-looking statements under the Private Securities Litigation Reform Act of 1995, including anticipated performance of NeoPhotonics' products. Readers are cautioned that these forward-looking statements involve risks and uncertainties and are only predictions based on the company's current expectations, estimates and projections. Product availability, product performance, product development, the timing of events, and actual company results could differ materially from those anticipated in such forward-looking statements as a result of these risks, uncertainties and assumptions. Certain risks and uncertainties that could cause the company's results to differ materially from those expressed or implied by such forward-looking statements as well as other risks and uncertainties relating to the company's business, are described more fully in the Company's Annual Report on Form 10-K for the year ended December 31, 2021, filed with the Securities and Exchange Commission.

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