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HiLight Semiconductor Announces Grant of US Patent for Automatic Extinction Ratio Control of Lasers

HiLight Semiconductor today announced the grant of a US patent that covers the automatic control of Laser transmitters in fiber-to-the-home (FTTh) applications. HiLight asserts that the invention can significantly reduce the manufacturing and deployment costs of Optical Network Unit (ONU) subscriber boxes, while improving reliability.

US Patent 10,205,532 covers HiLight's invention of an automatic extinction ratio control system, a so-called 'Dual Loop' transmitter control feedback loop, specifically designed for the cost-sensitive and high volume FTTh optical communications market. HiLight also anticipates forthcoming grants of the patent in other jurisdictions, such as China and Japan.

The invention represents an industry 'holy-grail' of automatically and accurately controlling transmitter output power and optical modulation amplitude with stability across operating temperature. HiLight have implemented the invention in their recent 'Combo' transceiver integrated circuit products that address the emerging 10G-PON markets. HiLight's HLC10P0 symmetric and HLC10P1 asymmetric transceiver chips can be deployed within optical transceiver modules and directly onto BOSA-on-Board enabled ONU circuit boards to facilitate simpler transmitter laser set-up and control. This can greatly speed up manufacturing time while also effectively increasing Laser lifetime, as Laser ageing is automatically adapted to, removing the need to set the Laser 'hot' in the factory. In-field transmitter faults are therefore also reduced.

Whilst the HLC10P0/1 are designed for 10G-PON applications, HiLight's patent and technology is independent of data rate and can be applied at lower data rates and, importantly, can also be used for next generation PON standards targeting higher data rates.

HiLight Semiconductor also owns a variety of patents relating to optical fiber physical medium dependant semiconductors for optical communications including several on the

design and implementation of Super TIAs, highly sensitive transimpedance amplifiers, to replace avalanche photodiodes (APD) in FTTH ONU receivers.

HiLight will be demonstrating their CMOS product lines and technology at the forthcoming OFC show in March at the San Diego convention centre, meeting room #6609.

About HiLight Semiconductor Limited:

HiLight Semiconductor Ltd. is a Venture Capital backed, Fabless chip company, founded in 2012 by veterans of several previous start-ups. Specialising in deep sub-micron CMOS, the company designs and supplies the world's highest performance PMD and PHY ICs for high speed fiber-optics based communications and networking/Datacentre applications.

At the time of writing the company has already sold over 70 Million ICs into the fiber based PON, Datacentre and Networking markets.

HiLight is headquartered in Southampton, UK, with design offices in Bristol UK and sales and local technical support offices in China (Shenzhen, Wuhan), Taiwan and Japan.