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# HiLight Semiconductor joins OpenEye MSA to enable PAM-4 CDR based optical links in pure CMOS.

HiLight is announcing that it has recently joined the OpenEye MSA to develop PAM-4 optical links based around HiLight's pure CMOS CDR technology. The OpenEye MSA develops specifications for, and promotes the use of analogue CDRs in, PAM-4 optical links that can enable greater flexibility in technology choice to optimize cost, power and complexity.

The OpenEye MSA website suggests that "The purpose of the MSA is enable lower cost 50 Gb/s, 100 Gb/s, 200 Gb/s and 400 Gb/s modules for Data Centers and other interconnect applications. This is achieved by making the compliance testing less complex while allowing for different types of technologies."

CDR architectures allow low power and low cost modules to be developed due to lower component costs and lower module complexity over incumbent DSP approaches. Having lower complexity CDR type modules leads to faster design cycles and lower software development requirements.

HiLight joins a large and growing list of companies supporting the MSA that now includes: Promoters: Applied Optoelectronics Inc., Cambridge Industries Group (CIG), Juniper Networks, Luxshare-ICT, MACOM, Mellanox, Molex, and Semtech Corporation; Contributors: Accelink, Anritsu, Broadex, Cloud Light Technology, ColorChip, Dust Photonics, Fujitsu Optical Components, HG, HiSilicon, InnoLight, Inopticals, Keysight Technologies, Marvell, Maxim Integrated, MultiLane, O-Net, Optomind, Renesas, SAMTEC, Sicoya, Source Photonics, Sumitomo Electric, TE Connectivity, Tektronix and TRUMPF.

HiLight will be demonstrating their 25Gbps NRZ CDR technology fabricated in pure CMOS at the OFC 2020 conference in San Diego next month. The dual CDR technology is part of a highly integrated 25G DML 'Combo' transceiver IC (HLC28Lx) that will enable low cost

25GbE, 24G CPRI and 28GFC SFP28 modules for single mode links. The CDR and DML driver functions have been architected such that the IP can be re-used in future PAM-4 applications. Interested parties should contact a HiLight sales representative to arrange a meeting and demonstration.

Christian Rookes, VP Marketing, commented: “HiLight is delighted to become a contributing member of the OpenEye MSA and to bring our CMOS CDR and DML technology to PAM-4 optical links. PAM-4 products will be based on CMOS IP developed for our 25Gbps NRZ DML Combo transceiver IC (HLC28Lx) that integrates dual CDRs and will enable SFP28 LR transceivers with a class leading typical power consumption of 800mW per module.”

**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 also has 5 granted UK patents with 4 more pending, 3 US patents with 5 pending and several patents pending in both China and Japan. Several more are in drafting.

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.