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HiLight Semiconductor Limited announces new family of CMOS 'Combo' ICs to 10/12Gbps

*Low power, and fully-programmable family offers support for all PON markets,
plus VCSEL and FP/DFB versions for Ethernet, CPRI etc.*

HiLight Semiconductor today announces the availability of engineering samples and reference kits for the first members of a comprehensive family of CMOS ICs supporting 1, 2.5 and 10 or 12.5Gbps rates.

The HLC10Px Series offer full '5 in 1' functionality in a compact 5x5 QFN package. Key features include:

- * Burst Mode Laser driver, delivering over 80mA modulation current, while supporting 1 & 2.5Gbps GPON or 10Gbps Asymmetric 10G PON operation or 10Gbps Symmetric PON (depending on IC version).
- * Patented¹ Dual Loop Laser Power controller delivering robust, automatic, Extinction Ratio control over the full -40 to +85 degree ambient operating temperature
- * Limiting Amplifier with programmable pre-emphasis and <5mV sensitivity at 10Gbps. Plus programmable filter to further optimise sensitivity at lower datarates
- * 'Future Proof' 8051 Microcontroller core and 16k NVM with embedded PON firmware pre-loaded, but with full customer re-programmability, if desired.
- * PWM APD bias generator programmable to 70v
- * Under 400mW power consumption at maximum Laser power

¹ Under Patent Cooperation Treaty (PCT) covering 140 countries

The **HLC10Px Series** are typically paired with HiLight CMOS TIAs, together offering the highest sensitivity, typically:

HLR2S50	-31dBm ($1e10^{-10}$) at 2.5Gbps, with a Photodiode, and
HLR10G1	-33dBm ($1e10^{-3}$) at 10Gbps, with APD

Gary Steele, HiLight Executive Chairman, commented: “Over the last 15+ years our industry has seen the huge success of PON technology worldwide, supporting the staggering growth in all kinds of internet traffic. However with no end in sight to that traffic growth, network operators are inevitably looking at the next, faster generations of PON. As with EPON and GPON, at 10Gbps there will likely be a mix of different standards deployed across the globe, and our ICs have been designed to accommodate all of them. In particular, whereas previous ICs have had hard-wired digital functionality, the HiLight Combos have an embedded microcontroller plus non-volatile memory, permitting wide-ranging adaptability to future markets and standards evolution”.

Christian Rookes, VP Marketing at HiLight added “One of the important enablers of the previous PON roll-out was the move from early SiGe based solutions to pure-CMOS ones. CMOS offers power savings and integration, especially Microcontroller and Memory integration, plus our automatic Dual-Loop operation gives a unit cost that is truly consumer level”.

Jess Brown VP Sales at HiLight added “We will be demonstrating these new Combo ICs at CIOE in September, and look forward to arranging private customer viewings”

Later this year HiLight will release further family members offering VCSEL drive for Ethernet markets and CW 12.5Gb operation for CPRI etc. cellular infrastructure.

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.

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