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MACOM Announces Availability of 400 Gbps Chipset for Short Reach Optical Connectivity Applications

- *MACOM's four channel VCSEL driver (MALD-38435) and TIA (MATA-38434) complement existing quad CDRs for a complete, interoperable solution*
- *Fully analog solution features high performance and low power at low cost*
- *Chipset solution to demo at OFC 2018 with Dust Photonics, MACOM Booth #2613*

Lowell, Massachusetts, March 13, 2018– MACOM Technology Solutions Inc. ("MACOM"), today announced the sampling availability of its four channel, 56 Gb/s PAM-4 VCSEL driver (MALD-38435) and companion four channel transimpedance amplifier (TIA) (MATA-38434) devices for short reach VCSEL-based optical module and active optical cables (AOC) applications. These new devices complement previously announced transmit and receive clock data recovery (CDR) devices for a complete transmit and receive solution. MACOM's chipset solution operates at up to 56 Gb/s PAM-4 (28 GBbaud PAM-4) data rate per channel, enabling short reach (up to 100m) optical modules for 200G QSFP and 400G QSFP-DD and OSFP applications.

As demand for 100G connectivity progresses to 200G and on to 400G, optical module suppliers are looking to enable Cloud Data Centers and high-performance computing (HPC) clusters with optical connectivity solutions delivered in a small form factor and consuming low power at low cost. MACOM's fully analog chipset solution, featuring the MALD-38435 driver and MATA-38434 TIA along with MACOM's existing MASC-38040 and MAOM-38051/38053 CDR devices, offers customers that optimal high-performance, low power and low cost combination. By utilizing fully analog circuitry as opposed to digital signal processing, MACOM's solution delivers best in class low latency, especially critical for high performance computing applications.

The MALD-38435 driver and MATA-38434 devices are offered as a die-level solution with 250um channel spacing, optimal for direct wire-bonding to VCSEL lasers and photodetectors. The devices feature individual channel programmability control via an I2C interface for flexible management by the module's local microcontroller. The devices feature low power and a small die size enabling implementations in QSFP and QSFP-DD modules. The devices' low jitter performance enables low bit error rate (BER) of 1E-15 with an FEC protected link. When combined with MACOM's CDRs, the solution delivers extensive per channel equalization and eye shaping programmable features as well as PRBS generator and checker and eye monitor features.

"MACOM is excited to follow our successful 100 Gbps chipset for short reach applications with the new generation of devices targeted for 400 Gbps QSFP-DD and OSFP modules," said Marek Tlalka, Senior Director of Marketing, High-Performance Analog, at MACOM. "By utilizing our analog circuit technology, we are delivering a complete chipset for high-performance, short reach optical interconnect at low power, low cost and low latency critical for cloud computing and HPC applications."

MACOM will demonstrate the new chipset solution at OFC 2018 with a QSFP-DD module from Dust Photonics.

"We are pleased to demonstrate the industry's leading 400G QSFP-DD-SR8 short reach module utilizing MACOM's chipset," said Ben Rubovitch, CEO of Dust Photonics. "MACOM's fully interoperable solution and great technical support reduced our time to market. We look forward to expanding our portfolio to additional optical modules and AOC applications."

MACOM will showcase a complete portfolio of PMDs for optical modules at OFC 2018, Booth #2613, March 13th-15th in San Diego, California. To make an appointment or to view the demonstration of the 400G SR chipset, contact your local sales representative. For more information on MACOM's optical networking solutions visit: www.macom.com.

ABOUT DUST PHOTONICS:

Dust Photonics is a privately funded optical connectivity company founded in 2017 in Modi'in, Israel with business operations in Cupertino, CA. Dust Photonics simplifies optical communications through innovative design techniques that solve the high speed fiber-electrical interface challenge. Initially offering MMF transceivers, AOCS, and OBOs for 100G to 400G in QSFP and OSFP form factors, Dust Photonics will apply the same techniques for SMF in 2019. For more information, contact Melissa Kallos at Melissa.kallos@dustphotonics.com or at 408-234-0379.

ABOUT MACOM:

MACOM enables a better-connected and safer world by delivering breakthrough semiconductor technologies for optical, wireless and satellite networks that satisfy society's insatiable demand for information.

Today, MACOM powers the infrastructure that millions of lives and livelihoods depend on every minute to communicate, transact business, travel, stay informed and be entertained. Our technology increases the speed and coverage of the mobile Internet and enables fiber optic

networks to carry previously unimaginable volumes of traffic to businesses, homes and datacenters.

Keeping us all safe, MACOM technology enables next-generation radars for air traffic control and weather forecasting, as well as mission success on the modern networked battlefield.

MACOM is the partner of choice to the world's leading communications infrastructure, aerospace and defense companies, helping solve their most complex challenges in areas including network capacity, signal coverage, energy efficiency and field reliability, through its best-in-class team and broad portfolio of analog RF, microwave, millimeterwave and photonic semiconductor products.

MACOM is a pillar of the semiconductor industry, thriving for more than 60 years of daring to change the world for the better, through bold technological strokes that deliver true competitive advantage to customers and superior value to investors.

Headquartered in Lowell, Massachusetts, MACOM is certified to the ISO9001 international quality standard and ISO14001 environmental management standard. MACOM has design centers and sales offices throughout North America, Europe, Asia and Australia.

For more information about MACOM, please visit www.macom.com follow @MACOMtweets on Twitter, join MACOM on LinkedIn, or visit the MACOM YouTube Channel.

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