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MaxLinear Announces New Telluride PAM4 DSPs Optimized for 100G Applications

- *MaxLinear's second-generation Telluride DSPs offer significantly lower power and footprint, enabling 100G single lambda SFP-DD/DSFP optical modules*

CARLSBAD, Calif.--(BUSINESS WIRE)-- MaxLinear, Inc. (NYSE: MXL), a leading provider of radio frequency (RF), analog and mixed-signal integrated circuits for the connected home, wired and wireless infrastructure, and industrial and multimarket applications, today announced the extension of its Telluride 100G per wavelength PAM4 DSP family with the availability of the MxL93515 and MxL93516, optimized for 100G applications. These second-generation DSPs offer significantly lower power and smaller footprint, comfortably enabling sub-3.5W QSFP28 designs while also meeting the form factor needs of the smaller SFP-DD/DSFP optical modules. Like the MxL93512 and MxL93542 first-generation DSPs, the MxL93516 includes a monolithically integrated EA-EML laser driver.

This press release features multimedia. View the full release here:

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MxL93516 PAM4 DSP Optimized for 100G Applications (Graphic: Business Wire)

The MxL93515 and MxL93516 also feature a comprehensive digital pre-distortion (DPD) engine in the transmit direction to compensate for laser non-linearity and to cancel packaging limitations that cause reflections and bandwidth degradation at these extremely high signal frequencies. This DPD engine combined with the integrated EA-EML laser driver make these DSPs ideally suited for uncooled EA-EML lasers

offering a substantially lower cost model to compete against existing 100G PSM4/CWDM4/LR4.

All Telluride DSPs include an auto-adaptive signal enhancement engine that enables robust SNR and BER performance. The engine integrates a continuous time linear equalizer (CTLE), automatic gain control (AGC), a feed forward equalizer (FFE), and a decision feedback equalizer (DFE).

The MxL93515 and MxL93516 are available in a tiny 7mm x 8.5mm package that supports both 4x25Gbps NRZ (QSFP28) and 2x50Gbps (SFP-DD/DSFP) PAM4 signals on the electrical interface. The package includes either an integrated 1.8Vpp EA-EML laser driver or a differential output that supports an external silicon photonics driver.

“Following the spectacular success of our first-generation Telluride products, we optimized the power and cost of our second-generation devices to enable a new generation of 100G single lambda QSFP and SFP modules,” said Will Torgerson, Vice President and General Manager of MaxLinear’s High-Speed Interconnect Group. “Our second-generation Telluride DSPs combined with the need for fewer optical components will drive the cost per bit down across the industry and we anticipate single lambda 100G solutions to become a majority of the data center and front-haul deployments over the next 2-3 years.”

Technical Details

The second-generation Telluride family of low-power, high-performance PAM4 DSP SoCs enable 100Gbps QSFP28 optical modules using 4*25G NRZ host interface to 1*100G PAM4 optical interface and SFP-DD optical modules using 2*50G PAM4 host interface to 1*100G PAM4 optical interface. The MxL93516 100G PAM4 DSP integrates an EA-EML driver with 1.8V PP SE swing. The MxL93515 offers a differential 800mV peak-to-peak swing for non EA-EML-based optics.

MaxLinear has engineered a very high-performance DSP engine in both the transmit and receive data paths. The resulting superior link-margin enables single-lane 100Gbps optical wavelength technology by mitigating many of the limitations of mass production optical components.

For additional information on the MxL93515 and MxL93516, visit www.maxlinear.com/MxL93515 and www.maxlinear.com/MxL93516.

The MxL93515 and MxL93516 second-generation Telluride PAM4 DSPs will be on display at MaxLinear’s booth (609) at the ECOC Conference in Dublin, Ireland on September 23-25, 2019. For an appointment, please contact MaxLinear sales at sales@maxlinear.com.

About MaxLinear, Inc.

MaxLinear, Inc. (NYSE: MXL) is a leading provider of radio frequency (RF), analog and mixed-signal integrated circuits for the connected home, wired and wireless infrastructure, and industrial and multimarket applications. MaxLinear is headquartered in Carlsbad, California. For more information, please visit www.maxlinear.com.

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Cautionary Note About Forward-Looking Statements

This press release contains “forward-looking” statements within the meaning of federal securities laws. Forward-looking statements include, among others, statements concerning or implying future financial performance, anticipated product performance and functionality, and industry trends and growth opportunities affecting MaxLinear, in particular statements relating to MaxLinear’s Telluride family of products, including but not limited to potential market opportunities, functionality, and the benefits of use of such products. These forward-looking statements involve known and unknown risks, uncertainties, and other factors that may cause actual results to differ materially from any future results expressed or implied by these forward-looking statements. We cannot predict whether or to what extent the availability of our Telluride family of products will affect our future revenues or financial performance. Forward-looking statements are based on management’s current, preliminary expectations and are subject to various risks and uncertainties that could cause actual results to differ materially from those described in the forward-looking statements. Forward-looking statements may contain words such as “will be,” “will,” “expected,” “anticipate,” “continue,” or similar expressions and include the assumptions that underlie such statements. The following factors, among others, could cause actual results to differ materially from those described in the forward-looking statements: intense competition in our industry and product markets; risks relating to the development, testing, and commercial introduction of new products and product functionalities; the ability of our customers to cancel or reduce orders; uncertainties concerning how end user markets for our products will develop; our lack of long-term supply contracts and dependence on limited sources of supply; potential decreases in average selling prices for our products; and the potential for intellectual property litigation, which is prevalent in our industry. In addition to these risks and uncertainties, investors should review the risks and uncertainties contained in MaxLinear’s filings with the United States Securities and Exchange Commission, including risks and uncertainties identified in our Quarterly Report on Form 10-Q for the quarter ended June 30, 2019. All forward-looking statements are qualified in their entirety by this cautionary statement. MaxLinear is providing this information as of the date of this release and does not undertake any obligation to update any forward-looking statements contained in this release as a result of new information, future events, or otherwise.

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MaxLinear, Inc. Press Contact:

Debbie Brandenburg
Sr. Marketing Communications Manager
Tel: +1 669-265-6083
dbrandenburg@maxlinear.com

MaxLinear, Inc. Corporate Contact:

Will Torgerson
Vice President & General Manager of the High-Speed Interconnect Group
Tel: +1 760-692-0711
wtorgerson@maxlinear.com

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