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MaxLinear MxL85110 Virtual Fiber™ SoC Selected by GiaX for 10G Ethernet Coax Cable Overlay Network

GiaX's HeEOS system is being trialed at a tier-1 European cable MSO demonstrating 10 Gbps symmetrical Ethernet throughput on existing coax in a hybrid fiber-coaxial (HFC) network

CARLSBAD, Calif.--(BUSINESS WIRE)-- MaxLinear Inc. (NYSE: [MXL](#)), a leading provider of radio frequency (RF) and mixed-signal integrated circuits for the connected home, wired and wireless infrastructure, and industrial and multimarket applications, today announced that GiaX GmbH has selected its MxL85110 broadband modem system on chip (SoC) for its HeEOS network system that delivers 10 Gbps symmetrical throughput over coaxial cable infrastructure.

With its exceptional 20 Gbps throughput, the MxL85110 provides a flexible Virtual Fiber™ solution that meets the evolving demands of cable backhaul networks, supporting both distributed access architectures (DAA) and Full Duplex DOCSIS 3.1 (FDX) use cases in products like the GiaX HeEOS.

Cable MSOs Need More Bandwidth

With the ever-increasing hunger for bandwidth from their customers, cable operators are looking at new technologies for cable access networks to offer higher and symmetrical bandwidth services.

Both DAA and FDX are key enablers for these requirements, in combination with re-segmentation of the service groups (node splits). Implementing these changes requires parts of the coaxial network to be replaced with fiber cable, implementing so called "fiber deep" network architectures.

While fiber deep architectures provide lower subscriber counts per service-group and hence make more bandwidth available for those subscribers, there are also several drawbacks. The cost of equipment and labor can quickly add up, particularly with underground networks. Further, the time, cost and uncertainty around securing necessary approvals can be equally burdensome.

The GiaX HeEOS provides the option for cable multiple-system operators (MSOs) to reuse existing coaxial infrastructure, provide high throughput, and be deployable on short notice on an as-needed basis.

A tier-1 cable operator is now evaluating the HeEOS solution to provide a 10G Ethernet overlay network as backhaul technology for remote PHY or remote MAC PHY devices, utilizing the existing coaxial network. The GiaX HeEOS solution provides cable operators with a virtual node split capability, retaining the existing coaxial infrastructure while also enabling fiber deep, DAA and FDX networks.

For the Ethernet data transmission, unused frequency spectrum above frequencies used for DOCSIS 3.x and DVB-C or MPEG is utilized. HeEOS can currently transport up to 10Gbps in both upstream and downstream directions. Depending on the cable type and frequencies used, transmission can be accomplished over several hundred meters.

DAA and FDX are not the only use cases for the HeEOS solution, fiber to the business, distributed PON and mobile backhaul can all take advantage of the HeEOS solution allowing for a fast time to market and reduction in CAPEX spending compared to traditional fiber deployments.

MaxLinear MxL85110 Provides 20Gbps Throughput

HeEOS uses MaxLinear's MxL85110 chipset, which provides up to 20 Gbps (10 Gbps downstream and 10 Gbps upstream) Ethernet capacity. The MxL85110 offers ultra-low latency of five microseconds per node and adaptive code modulation ranging from BPSK to 1024 QAM.

The device can be programmed for flexible bandwidth from 25MHz to 2GHz, with independent asymmetric transmit and receive configuration. It also delivers the highest spectral and payload efficiency for efficient utilization of cable bandwidth with no MAC-layer overhead. Additional features used in the HeEOS solution include carrier-grade synchronous Ethernet and IEEE 1588v2 synchronization and an integrated management channel.

"I have been impressed at the innovation used by GiaX to bring this system to market. Leveraging the company's close service providers relationships, it has addressed a capacity constraint within the existing HFC networks," said Brendan Walsh, Vice President of the Wireless Group for MaxLinear. "While its existing system can support data rates up to 10 Gbps, leveraging our technology, throughput of up to 25 Gbps will be realizable."

"Deploying fiber can be expensive compared to coaxial cable for a portion of the backhaul links in an operator's network. Many urban communities require all cabling to be hidden or buried. In these areas, labor costs to deploy new network infrastructure can be prohibitive, creating a large incentive for reuse of the existing coaxial cable," said Jörg Hellwig, CEO and Company Founder of GiaX. "By using the MaxLinear's MxL85110 Virtual Fiber technology, we have enabled the HeEOS solution to meet our customer requirements for deployment of DAA architectures, saving them 2.5 billion Euros in over 4 years in Germany alone, while having the flexibility to adapt to new requirements in the future such as FDX."

The HeEOS 10G Ethernet overlay system is a modem and switch technology that combines point-to-point Ethernet connections over existing coaxial cables into an Ethernet overlay system on the HFC network. This Ethernet overlay system offers fiber-like speeds as well as MEF management functions.

About GiaX

GiaX develops communication solutions for service providers. Our goal is to develop innovative products with exceptional added value for our partners. Close cooperation with service providers results in solutions for demanding tasks that are optimally adapted to existing processes and business models. Together with our partners, we are creating an eco-system that, in addition to the products, also enables system integration, process and function outsourcing. For more information please visit: <http://www.giax.de/>.

About MaxLinear, Inc.

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. 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 Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Forward-looking statements include, among others, statements concerning the MxL Virtual Fiber broadband modem system on chip and statements concerning or implying the performance of MaxLinear's technologies, their potential use cases, and the potential impact of these technologies on our business and future operating results. These forward-looking statements involve known and unknown risks, uncertainties, and other factors that may cause actual results to be materially different from any future results expressed or implied by the forward-looking statements. Forward-looking statements are based on management's current, preliminary expectations. In particular, our future operating results are substantially dependent on our assumptions about market trends and conditions and our expectations with respect to recently completed acquisitions, including our ability to integrate our recently completed acquisition of Exar Corporation. Additional risks and uncertainties arising from our operations generally and our recently completed acquisitions include intense competition in our industry; our dependence on a limited number of customers for a substantial portion of our revenues and potential uncertainty and variability associated with our ability to project future revenues as a result; uncertainties concerning how end user markets for our products will develop; potential uncertainties arising from continued consolidation among cable television and satellite operators in our target markets and continued consolidation among competitors within the semiconductor industry generally; our ability to develop and introduce new and enhanced products on a timely basis and achieve market acceptance of those products, particularly as we seek to expand outside of our historic markets; potential decreases in average selling prices for our products; risks relating to intellectual property protection and the prevalence of intellectual property litigation in our industry; indemnification obligations of Exar arising from a recent divestiture; the impact on our financial condition of acquisition indebtedness arising from the Exar transaction; our reliance on a limited number of third party manufacturers; and our lack of long-term supply contracts and dependence on limited sources of supply. In addition to these risks and uncertainties, investors should review the risks and uncertainties contained

in our filings with the Securities and Exchange Commission (SEC), including the information under the caption "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2017. All forward-looking statements are based on the estimates, projections, and assumptions of management as of the date of this press release, and MaxLinear is under no obligation (and expressly disclaims any such obligation) to update or revise any forward-looking statements whether as a result of new information, future events, or otherwise.

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