

# MaxLinear MxL278 Full-Spectrum Capture(TM) DOCSIS(R) 3.1 Cable Receiver and Amplifier Chipset Selected by Hitron to Accelerate Multi-Gigabit Services

MxL278 Receiver Enables Hitron Consumer Premises Equipment to Deliver Multi-Gigabit Data Rates to the Home

CARLSBAD, Calif., Oct. 13, 2015 (GLOBE NEWSWIRE) -- SCTE 2015, New Orleans - MaxLinear, Inc. (NYSE:MXL), a <u>leading provider of integrated radio frequency (RF) and mixed-signal integrated circuits</u> for high-performance broadband & networking communications applications, today announced that Hitron Technologies Inc. (TAIEX:2419), a leading global telecommunications networking company, has selected its MxL278 Full-Spectrum Capture (FSC<sup>TM</sup>) digital cable front-end receiver and MxL236 upstream programmable gain amplifier for a new family of DOCSIS® 3.1 consumer premises equipment (CPE) delivering multi-gigabit data rates into, throughout, and out of the home.

Hitron will demonstrate its next-generation DOCSIS 3.1 products at the Cable-Tec Expo 2015 in New Orleans, from Oct. 13<sup>th</sup> through Oct. 16<sup>th</sup>, 2015.

Capturing up to the entire 1.2 Gigahertz (GHz) of fully deployed cable spectrum bandwidth to the home, the MxL278 DOCSIS 3.1 receiver enables cable operators to meet consumer demand for higher multi-gigabit data rates through flexible deployment of



spectrum bandwidth between the new OFDM and legacy QAM modulation based services. Designs based on the MxL278 will usher in a new generation of high-capacity multi-gigabit-per-second IP data gateways, home media gateways, and hybrid or IP-based set-top boxes (STB) that mark significant advances towards all IP-based delivery of multimedia content and cloud services.

The ever-increasing consumer demand for media and over-the-top (OTT) data content is creating enormous demand for bandwidth capacity in gateway devices in order to enable expanded services at home. With the new DOCSIS 3.1 standard, cable MSOs will be able to offer their subscribers real multi-gigabit data bandwidth services on their existing coaxial cable network infrastructure.

Also selected for use in Hitron's family of DOCSIS 3.1 gateway platforms, the MxL236 cable upstream programmable gain amplifier (PGA) not only delivers sufficient power for upstream communication with cable head-ends with extremely high power efficiency, but also provides valuable upstream network maintenance capabilities.

The MxL236 can report network health and performance parameters on the upstream link, which can be used by cable operators in managing and troubleshooting their networks and reducing technician truck rolls. This innovative feature allows Hitron to offer network maintenance expense savings capabilities for cable operators by avoiding costly technician visits to customer homes through remotely monitoring and diagnosing potential problems with the cable network.

"Working with Hitron to deliver multi-gigabit data rates utilizing DOCSIS 3.1 is an exciting milestone for MaxLinear," said Will Torgerson, MaxLinear's Vice President and General Manager, Broadband Group. "This is a great example of the value MaxLinear's Full-Spectrum Capture receivers bring to OEMs developing next-generation cable modem and gateway products. Our product features not only represent the absolute best-in-class in power savings, performance, form factor, and ease of RF use, but also offer valuable network performance enhancement diagnostics to cable MSOs. We are looking forward to supporting Hitron with our MxL278 receiver and MxL236 PGA as they expand multimedia and data bandwidth in the home."

"MaxLinear's chipset was the ideal choice for our upcoming DOCSIS 3.1 cable products," said Jeff Hsu, President of Hitron Technologies. "The MxL278 Full-Spectrum Capture receiver and MxL236 PGA enable our service provider customers to quickly roll out multigigabit broadband services over their existing HFC plant with the highest speeds and lowest power available today. MaxLinear's flexible and world-class software allows Hitron to quickly deliver DOCSIS 3.1 products that are simple to deploy, monitor and manage."

## MxL278 Technical Highlights

Based on MaxLinear's industry-leading, low-power 28nm CMOS process technology, the MxL278 offers a monolithic digital cable front-end with integrated LNA and signal conditioning functions combined with a Full-Spectrum Capture receiver up to 1.2GHz that supports up to two OFDM channels and up to 32 legacy QAM channels. The MxL278 also provides an integrated MoCA 2.1 transceiver supporting two bonded channels with integrated PA/LNA, DAC/ADC, and switch, thereby eliminating the need for any external components for in-home networking.

When utilizing all OFDM and QAM capabilities, the MxL278 delivers up to 5Gbps data rates downstream and up to 2Gbps data rates upstream, all over the existing cable network while consuming less than 1.4W. Furthermore, the MxL278 can be used in an ultra-low power mode, consuming roughly 500mW total, while still meeting cable operator voice call and standby time requirements upon loss of power to the home.

The MxL278 supports remote spectrum analyzer functions on the downstream and upstream links that report network health and performance parameters. This turns every gateway into a tool for operators to diagnose their network health without costly technician visits to the field.

The MxL278 exceeds requirements for DOCSIS 3.1, including the stringent test scenarios under SCTE40 plant loading and impairment conditions. The device supports a high-speed serial interface to a DOCSIS 3.1 modem, and has an integrated single-channel tuner for low-power operation.

### MxL236 Technical Highlights

The MxL236 supports upstream frequencies up to 204MHz with any combination of OFDM and QAM channels with a combined output power of up to 65dBmV at the cable connector. In this configuration, the device dissipates 2.7W less than competing DOCSIS 3.1 PGA offerings. As cable operators increase upstream data rates to offer more symmetrical services to consumers, reducing power dissipation in the front-end simplifies thermal design efforts and reduces heat mitigation costs.

The MxL236 has a smaller footprint than competing DOCSIS 3.1 PGA devices and requires fewer external components, thereby reducing the PCB area required for upstream amplification. Using only a single 3.3V supply, the MxL236 allows manufacturers to eliminate the 5V supply from their gateway design entirely, further simplifying layout and reducing system cost.

### **Availability**

The MxL278 DOCSIS 3.1 receiver with integrated MoCA 2.1 transceiver is available for sampling in a standard 10mm X 10mm QFN package. The MxL236 is available for sampling in a standard 7mm x 7mm QFN package. Please contact MaxLinear for ordering information.

### About MaxLinear, Inc.

MaxLinear, Inc. is a provider of integrated, radio frequency, and mixed-signal integrated circuits for broadband communications and data center, metro, and long-haul transport network applications. MaxLinear is headquartered in Carlsbad, California. For more information, please visit www.maxlinear.com.

MxL, Full-Spectrum Capture, FSC and the MaxLinear logo are trademarks of MaxLinear, Inc. Other trademarks appearing herein are the property of their respective owners.

### About Hitron Technologies, Inc.

Hitron Technologies, Inc. delivers more than 3 million DOCSIS products annually to MSOs worldwide, which support both residential and business class applications. With a world-class manufacturing campus in China and regional offices in the Netherlands and the USA, Hitron's global operation spans more than 15 countries with over 1,000 employees. Information about Hitron products and services can be found at <a href="https://www.hitrontech.com">www.hitrontech.com</a>.

# **Cautionary Note About Forward-Looking Statements**

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements include, among others, statements concerning or implying future financial performance or trends and growth opportunities affecting MaxLinear, including statements relating to the performance and

opportunities related to MaxLinear's MxL278 FSC digital front-end receiver and MxL 236 PGA. 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 we will realize revenues from the selection of the MxL278 and MxL236 for Hitron's new family of DOCSIS 3.1 products. Forward-looking statements are based on management's current, preliminary expectations and are subject to various risks and uncertainties, including (among others) integration risks arising from our recent acquisition of Entropic Communications, Inc.; intense competition in our industry; the ability of our customers, including Hitron, 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; currently pending intellectual property litigation; and the potential for additional 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 our most recent Annual Report on Form 10-K, as amended by Amendment No. 1, for the fiscal year ended December 31, 2014 and our Quarterly Report on Form 10-Q for the guarter ended June 30, 2015. Additional risks, uncertainties, and other information will be contained in our Quarterly Report on Form 10-Q for the guarter ending September 30, 2015. All forwardlooking 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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