

September 12, 2016



## Reference Design from MaxLinear and Realtek Targets 4K Ultra HD PVR Set-Top Box Market for Satellite Pay-TV Operators

- *Solution combines four-channel tuner and Wi-Fi so that small- to medium-size satellite operators can offer the latest technology and high-end services to price-sensitive subscribers*

AMSTERDAM--(BUSINESS WIRE)-- **RAI, IBC Exhibition** – MaxLinear Inc. (NYSE: MXL), a leading provider of radio frequency (RF) and mixed-signal integrated circuits for cable and satellite broadband communications, the connected home, data center, metro, long-haul fiber networks, and wireless infrastructure, and Realtek Semiconductor today announced a set-top box (STB) reference design that enables satellite pay-TV operators to deploy multichannel Ultra HD broadcast services in a low power, cost-optimized form factor.

The reference design combines the MxL541C, MaxLinear's Full-Spectrum Capture™ (FSC™) four-channel, Unicable satellite receiver, with Realtek's 4K/UHD system-on-chip (SoC) and RTL8812 2x2 802.11ac wireless transceiver. The solution provides four satellite tuners to watch, record and stream multiple channels simultaneously.

The reference platform supports the latest high-efficiency video coding (HEVC/H.265), ultra-high definition (UHD) "4K" video display, H.264 1080p encoding, and high dynamic range (HDR) technologies in a very cost-effective, small form factor design. The platform is able to support all of the leading conditional access (CAS) solutions as well as Linux- or Android-based middleware solutions from leading vendors.

The platform supports a "fast channel change" feature that reduces channel tuning times to less than half a second on average, compared to three to four seconds on most existing high definition (HD) satellite STBs in the market. The MxL541C tuners can be dynamically allocated to the fast channel change function when not used for viewing, streaming or recording channels.

"This reference design is a response to a significant trend in the market for higher-quality video and feature-rich satellite services," said Angus Lee, Chief Product Line Officer at Realtek. "Our Realtek 4K/UHD platform is a single-chip SoC solution with a complete set of connectivity, security, video decoding functionality and video features like DTV recording and time shifting. To be combined with another highly integrated chip from MaxLinear makes for a very compelling STB design."

"Demand for broadcast 4K content and multiscreen viewing is driving the need for new PVRs and media servers," said Will Torgerson, Vice President and General Manager,

MaxLinear Broadband Group. “MaxLinear’s scalable frontend solutions are enabling the leading satellite pay-TV operators to deploy feature-rich services to their subscribers with minimal capital expenditures.”

## **Availability**

The joint reference design platform is available now to selective customers. It will be on display at IBC 2016, September 9-13, in MaxLinear’s private suite at the Holiday Inn Amsterdam. For reservations, please contact [sales@maxlinear.com](mailto:sales@maxlinear.com).

## **Technical Highlights – MxL5x1C**

The MxL541C FSC satellite receiver supports a single satellite RF input, 950MHz – 2150MHz, with four DVB-S2/S satellite demodulators and flexible transport stream outputs. The MxL541C is pin-compatible and software compatible with MaxLinear’s MxL581C, which supports up to eight satellite tuners. This enables flexible set-top box designs that can support different tuner configurations with common hardware and software.

The MxL5x1C devices support Unicable installations, which simplifies the home installation process and can significantly reduce deployment costs. The devices integrate DiSEqC 2.0 and FSK control interfaces, which allow the STBs to be connected to a wide range of satellite low-noise block (LNB) down converters, including universal, Unicable, SatCR and digital channel stacking switch (dCSS) LNBs.

The MxL5x1C devices come in a low-cost 10mm x 10mm QFN package and are currently shipping in mass production.

## **Technical Highlights – Realtek 4K/UHD platform**

The Realtek 4K/UHD SoC is a highly integrated device for STB and OTT products requiring DVB-C,-T,-S/S2, DTMB reception/recording, UHD/HD media playback, wireless/wired networking applications and mass storage. Main features of the SoC include an ARM quad-core CPU and powerful 3D GPU, UHD HEVC/VP9 decoder, HD AVC/VC-1 decoder, HDR10 function, DTV recording & time-shifting, AV streaming/transmission via Ethernet and Wi-Fi, HDMI transmitter and receiver, USB3.0/USB2.0, Gigabit Ethernet MAC and PHY, and state-of-the-art security design. The platform can also support Realtek in-house 1x1/2x2 even 4x4 802.11ac Wi-Fi as well as any market proven Wi-Fi module.

## **About MaxLinear, Inc.**

MaxLinear, Inc. (NYSE: MXL), a leading provider of radio frequency (RF) and mixed-signal integrated circuits for cable and satellite broadband communications, the connected home, data center, metro, long-haul fiber networks, and wireless infrastructure markets. MaxLinear is headquartered in Carlsbad, California. For more information, please visit [www.maxlinear.com](http://www.maxlinear.com).

MaxL and the MaxLinear logo are trademarks of MaxLinear, Inc. Other trademarks appearing herein are the property of their respective owners.

## **About Realtek**

Realtek Semiconductor Corp. is a world-leading IC provider that designs and develops a wide range of IC products for communications network, computer peripheral, and multimedia applications. Products include 10/100/1000M Ethernet Controllers/PHYs, 10/100/1000M Ethernet switch controllers/media converter controllers/gateway controllers, wireless LAN controllers and AP/router SoCs, xDSL, VoIP solutions, Bluetooth, xPON, IoT solutions, automotive Ethernet solutions, high-fidelity audio solutions for mobile and PC applications, clock generators, card reader controllers, web camera controllers, LCD monitor/ATV/DTV controllers, and digital home center STB controllers. With advanced design expertise in RF, analog, and mixed signal circuits, and with strong manufacturing and system knowledge, Realtek offers full-featured, high-performance, and competitive total solutions. More information on Realtek can be found on our website: [www.realtek.com](http://www.realtek.com).

### **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 related to the performance of MaxLinear's MxL541C, MaxLinear's Full-Spectrum Capture™ (FSC™) four-channel, Unicable™ satellite receiver. 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. Forward-looking statements are based on management's current, preliminary expectations and are subject to various risks and uncertainties, including (among others) risks relating to integration of our recently announced acquisitions of assets from Microsemi Corporation and from Broadcom; intense competition in our industry; 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; 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 for the fiscal year ended December 31, 2015 as amended by Amendment No. 1 filed with the SEC on April 28, 2016; our subsequent Quarterly Reports on Form 10-Q for the quarters ended March 31, 2016 and June 30, 2016; and our Current Reports on Form 8-K. 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.

View source version on businesswire.com:

<http://www.businesswire.com/news/home/20160912005538/en/>

### **MaxLinear Inc. Press:**

The David James Agency LLC  
David Rodewald, +1-805-494-9508  
[david@davidjamesagency.com](mailto:david@davidjamesagency.com)

or

**MaxLinear Inc. Corporate:**

Will Torgerson, +1-760-692-0711

Vice President & General Manager Of Broadband Group

[wtorgerson@maxlinear.com](mailto:wtorgerson@maxlinear.com)

Source: MaxLinear Inc.