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Reference Design from MaxLinear and STMicroelectronics to Speed Multi-Channel Ultra HD HEVC Satellite STB & Gateway Deployments

Combines ST's "Cannes/Monaco" family of HEVC Decoder SoCs with MaxLinear Full-Spectrum Capture™ Four- or Eight-Channel MxL5xx Front-End ICs

CARLSBAD, Calif. & GENEVA--(BUSINESS WIRE)-- MaxLinear Inc. (NYSE: MXL), a leading provider of integrated radio frequency (RF) and mixed-signal integrated circuits for broadband communications applications, and STMicroelectronics (NYSE: STM), a global semiconductor leader serving customers across the spectrum of electronics applications, announce a reference design aimed at accelerating the adoption of next-generation Ultra HD set-top boxes (STB) and gateways for satellite pay-TV operators worldwide.

The reference design accelerates OEM development of the next-generation of STBs and gateways, enabling satellite operators to deliver Ultra HD content using the high-efficiency video-coding (HEVC/ H.265) standard. The advanced design, combining next-generation technology from ST and MaxLinear, supports the most demanding satellite-operator service offerings, including multiple decode, multi-channel personal video recorder (PVR), video-on-demand (VOD), multiple transcoding for streaming to second-screen clients and state-of-the-art graphics, even while maintaining very-low power consumption.

The reference design leverages MaxLinear's best-in-class MxL5xx family of satellite Full-Spectrum Capture™ (FSC™) receivers, and ST's pin-compatible STiH312 "Cannes" and STiH412 "Monaco" set-top box system-on-chip (SoC) decoders. The platform supports a full array of end products, from HD HEVC-ready STBs with multiple-channel decoding to high-end servers with "4K" Ultra HD resolution and HEVC decode, along with the display and real-time transcoding of numerous HD streams simultaneously.

Both device families are pin-compatible, making the reference design scalable from four to eight channels and flexible to support either full HD or 4K Ultra HD with or without transcode. The platform can also be adapted for cable MSOs[1] using the pin-compatible MxL2xx family of cable FSC multi-channel receivers.

The FSC front-end allows satellite operators to support a range of multi-channel features, including fast channel-change time, video streaming to multiple televisions or IP devices, flexible record/watch combinations and progressive VOD in background. Optional terrestrial front-end modules based on MaxLinear's market-leading terrestrial receiver technology can be added to the platform to enable capture of over-the-air terrestrial broadcast channels.

The Cannes/Monaco SoC design is based on ARM multi-core processors, superior 2D/3D graphics performance with a Mali™ GPU, integrated hardware Faroudja® multimedia subsystem with HEVC-capable robust video decoder, high-performance video encoder, and high-quality video pre/post processing. The Cannes/Monaco SoC families provide multiple interfaces: PCIe™ supporting Wi-Fi connectivity, smart-card interfaces, 6Gbit/s Gen 3 eSATA interfaces, USB2/3, SPI, I2C, SDIO and DDR3 memory support for flexible and affordable bill-of-materials HW designs. A security toolbox for premium content delivery is provided to optimize performance for premium content. The low power draw of both chipset families combined with support for active standby mode enables industry-leading low-power solutions.

“Ultra HD provides the next-level user experience that will enable extra-ordinary opportunities for satellite broadcasters to maximize the value of their extensive portfolio of premium content. This ST/MaxLinear gateway reference design will assure powerful and flexible platforms to revolutionize the satellite TV viewing experience,” said Herve Mathieu, Box and Gateways Business Line Director, Unified Platform Division, STMicroelectronics. “With ST’s leadership position and the successful global adoption of the “Cannes/Monaco” platform, we are ideally placed to support satellite operators worldwide in the transition to those new ground-breaking platforms.”

“Support for 4K content is going to be a priority for satellite operators in 2015 and this design will set the bar for both the highest performance and lowest power consumption in the gateway segment,” said Brian Sprague, MaxLinear’s Vice President and General Manager. “With our FSC tuners and the performance of ST’s 4K/HEVC SoCs, this design is ideal for first mover OEMs in this market.”

ST will be present with MaxLinear at the SES Industry days in Luxemburg April 3rd and 4th 2014.

Technical Highlights – MxL5xx

The MxL5xx family includes three single-input RF receivers, the MxL541, MxL561, and MxL581, which have four, six and eight demodulators respectively. The MxL582 has two RF inputs and supports eight demodulators. The MxL544 supports four RF inputs and has four demodulators, while the MxL584 supports four RF inputs with eight demodulators. All the devices are available in very small form factor, pin-compatible 10mm x 10mm QFN packages ideally suited for minimizing system manufacturing costs.

The MxL5xx devices integrate all active front-end components, including the low-noise amplifiers (LNA). Due to the high levels of system integration, the bill of material (BOM) in end applications is reduced to a minimal number of low-cost passive components and a crystal, which enables ultra-compact low-cost system solutions.

The capture bandwidth of each RF input can be configured to match conventional L-band requirements (950MHz – 2150MHz) or to a wider bandwidth (250MHz – 2300MHz). Other benefits of the FSC™ technology include embedded remote spectrum monitoring, which provides built-in performance monitoring and remote diagnostics for satellite operators.

The low-power and power-control flexibility of the MxL5xx devices enable compliance with the requirements of Energy Star and the European Code of Conduct for Digital TV Services

and Broadband Equipment for both standby and operating modes.

Technical Highlights - STiH312 and STiH412

The ‘Cannes’ client-box SoC family addresses a wide range of needs from extensive support of Ultra High Definition (STiH312) and High Definition (STiH310, STiH305) premium content to all-integrated, cost-optimized solutions.

It delivers high computing capabilities based on ARM multi-core processors, superior 2D/3D graphics performance, integrated hardware video encoders with pre-processing, and Faroudja®-enhanced video processing. The devices also feature PCIe™ supporting Wi-Fi connectivity, smart-card interfaces, two 6Gbit/s Gen 3 eSATA interfaces, as well as USB2/3, low-power modes and comprehensive security toolbox for premium content delivery.

The ‘Monaco’ family provides an economical, yet full-featured solution for server-type applications such as home gateways. The ST Faroudja Transcode Engine provides best-in-class transcoding capabilities for multi-screen experiences across consumer and handheld devices. This allows operators to reduce their network bandwidth while offering an excellent quality of service throughout the home. The ‘Monaco’ family includes the ‘Ultra HD’ STiH412 and cost-optimized derivatives (STiH407 and STiH410) for HD markets.

Availability

The reference-design platform is sampling this month and is available with a complete software development kit. The reference design is pre-certified with leading CAS vendors for fast market deployment.

About MaxLinear, Inc.

MaxLinear, Inc. is a leading provider of radio-frequency and mixed-signal semiconductor solutions for broadband communications applications. MaxLinear is headquartered in Carlsbad, California. For more information, please visit www.maxlinear.com.

About STMicroelectronics

ST is a global leader in the semiconductor market serving customers across the spectrum of sense and power and automotive products and embedded processing solutions. From energy management and savings to trust and data security, from healthcare and wellness to smart consumer devices, in the home, car and office, at work and at play, ST is found everywhere microelectronics make a positive and innovative contribution to people's life. By getting more from technology to get more from life, ST stands for life.augmented.

In 2013, the Company’s net revenues were $8.08 billion. Further information on ST can be found at www.st.com.

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 or implying future financial performance, trends and growth opportunities, and opportunities associated with new product offerings, in particular the reference design announced in this press release. 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 and are subject to various risks and uncertainties. Risks and uncertainties affecting our respective businesses, operating results, and stock prices, include, among others, intense competition in our industry and uncertainties concerning how end user markets for our products will develop, including end user markets for the reference design announced today. In addition to these risks and uncertainties, investors should review the risks and uncertainties contained in MaxLinear's and STMicroelectronic's filings with the Securities and Exchange Commission (SEC), including MaxLinear's most recent Annual Report on Form 10-K.

[1] Multiple System Operator

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