Lattice Simplifies Audio Connectivity and Improves Performance with HDMI 2.1 Enhanced Audio Return Channel (eARC) Solutions

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Offers Immediate Availability of Self-discovering, Self-configuring and Fully Automatic HDMI Audio Link for Flawless Home Theater Experience

- eARC offers significant enhancements over ARC by improving sound bar, AV Receiver setup, and user experience while supporting more audio formats including DTS:X™ and Dolby Atmos®
- Delivers the highest digital audio performance available, up to 37 Mbits/second
- Designed for future compatibility with HDMI 2.1 televisions and home theater products
- Built-in lip sync mechanism

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PORTLAND, Ore.--(BUSINESS WIRE)--Dec. 1, 2017-- Lattice Semiconductor Corporation (NASDAQ: LSCC), the leading provider of customizable smart connectivity solutions, today announced the release of the SiI9437 and SiI9438, the first HDMI® 2.1 Enhanced Audio Return Channel (eARC) audio receiver and transmitter devices. eARC future proofs and significantly improves home theater connectivity. This new, simple and trouble-free audio feature is included in the recently announced HDMI 2.1 Specification. Available today, eARC technology was developed by the HDMI Forum, an organization of over 80 leading consumer electronics companies.

As a founder, contributor, and adopter of the HDMI Specification, Lattice continues to lead the market by releasing HDMI 2.1 products supporting eARC technology. The eARC feature makes the audio device work seamlessly with the TV. The device selection and volume control are performed by the TV remote, as if no audio device is attached at all. eARC uses two pins within the HDMI cable – the same pins intended for the HDMI Ethernet Channel feature – to transmit the low-jitter, high-bandwidth audio, and also bi-directional communication signals, which discover and control the audio feature. This is a great improvement over the old TOSLINK and SPDIF audio outputs, which require a separate cable and connector, and lack the ability to communicate between the audio device and TV.

"DTS (now Xperi) was happy to collaborate with Lattice to develop eARC technology because it solves important, long-term compatibility problems in home theaters," said Joanna Skrdlant, General Manager, Home Audio & Solutions Licensing at Xperi. "We believe that the new features coming to consumers with eARC will enhance their home theater experience. Audio content can now move freely through listeners' connected TVs, while preserving the incredible experience of DTS:X immersive audio and DTS-HD surround audio found in Ultra HD Blu-ray Discs, Blu-ray Discs and streaming services worldwide."

"HDMI's purpose is to deliver two promises to the consumer—provide the highest possible digital audio and video quality, and make it simple through automatic configuration," said Marshall Goldberg, marketing manager at Lattice Semiconductor. "eARC technology is a tremendous step in home theater connectivity, as it brings vastly higher audio quality than TOSLINK or SPDIF, without the complexity of switching through an AVR device. In addition, its all-new discovery method also guarantees compatibility when products *from* different manufacturers are connected in a home theater system."

eARC makes using even the highest performance audio systems as easy as using a TV with the built-in speaker. Key features of Lattice HDMI 2.1 SiI9437 and SiI9438 eARC ICs include:

- Availability for both TVs and audio devices
- Compatibility with existing HDMI transmitter or receiver ICs using any version of HDMI
- Supports both HDMI 2.1 eARC and HDMI 1.4 legacy ARC modes with automatic ARC fallback
- eARC control channel functions supported via I^{2}C interface
- 4mm x 4mm QFN package with 0.4mm pin pitch
- Supports eARC Data Channel, including lip sync, discovery, heartbeat, status and capabilities

For more information about eARC, please visit http://www.latticesemi.com/Solutions/Solutions/Standards/HDMI21earc.

For more information about Lattice's HDMI 2.1 eARC products, please visit http://www.latticesemi.com/Products/ASSPs/HDMI21eARC.aspx.

About Lattice Semiconductor

Lattice Semiconductor (NASDAQ: LSCC) is a leader in smart connectivity solutions at the network edge, where the "things" of IoT *live*. Our low power FPGA, 60 GHz millimeter wave, video ASSP and IP products deliver edge intelligence, edge connectivity, and control solutions to the consumer, communications, industrial, compute, and automotive markets. Our unwavering commitment to our global customers enables them to accelerate their innovation, creating an ever better and more connected world.

For more information about Lattice please visit www.latticesemi.com. You can also follow us via LinkedIn, Twitter, Facebook, YouTube, WeChat, Weibo or Youku.

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Source: Lattice Semiconductor

MEDIA CONTACTS:
Lattice Semiconductor
Sherrie Gutierrez, 408-826-6752
sherrie.gutierrez@latticesemi.com
or
Racepoint Global
Deanna Meservey, 617-624-3415
Lattice@racepointglobal.com
INVESTOR CONTACT:
Global IR Partners
David Pasquale, 914-337-8801
lscc@globalirpartners.com