Lattice Shrinks Design Footprint and Cost, Boosts Reliability in Embedded Systems with Single Wire Aggregation IP Solution

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Solution Lets Developers Reduce the Number of Physical Connectors Required to Link Components and Boards in Systems

HILLSBORO, Ore.--(BUSINESS WIRE)--Sep. 9, 2020-- Lattice Semiconductor Corporation (NASDAQ: LSCC), the low power programmable leader, today announced a Single Wire Aggregation (SWA) IP solution for reducing overall system size and BOM cost in industrial, consumer, and computing applications. The solution is a quick, easy, and innovative way for developers to use low power, small form factor Lattice FPGAs to dramatically reduce the number of board-to-board and component-to-component connectors in their embedded designs to increase reliability and reduce overall system footprint and cost.

The connectors used to link circuit boards and modules in electronic systems are costly, take up valuable space in devices with tight form factors, and over time can degrade and negatively impact system reliability. Routing signals between multiple connectors on space-constrained circuit boards can create design challenges that increase overall time-to-market.

“Developers are always looking for innovative ways to simplify and accelerate the development of embedded systems, while still maintaining the lowest BOM cost possible. Our new SWA solution meets all three of these needs by reducing the number of connectors in a system,” said Hussein Osman, Market Segment Manager, Lattice. “The solution is a strong fit for both novice and expert FPGA developers. Its pre-configured bitstreams help those new to FPGA-based design quickly configure an SWA application without requiring HDL coding experience, while the solution’s support for expanded parameterization makes it easy for FPGA experts to combine the Lattice SWA bitstreams with their own HDL code.”

Featuring the extremely low power and small size Lattice iCE40 UltraPlus™ FPGA, the SWA solution provides the hardware and software developers require to implement a single wire interface capable of aggregating multiple common I/O (I^2C, I^2S, UART and GPIO) data streams between components and circuit boards in a system. Lattice currently offers the following aggregated I/O configurations in pre-configured bitstreams for fast application prototyping.

- Two I^2S, an I^2C peripheral, an I^2C controller, and eight GPIO signals
- Six I^2C controller and two GPIO signals
- One I^2C controller and 12 GPIO signals
- Three I^2C controller, two I^2C peripheral, and 15 GPIO signals
- One I^2S, one I^2C controller, one I^2C peripheral, and eight GPIO signals

Lattice customers requiring customized configurations can source them directly from Lattice technical support at no charge.

For more information, including how to purchase the SWA solution’s pre-configured bitstreams and hardware reference design, please visit: https://www.latticesemi.com/singlewire. The board is available for purchase at $249.00 from Lattice’s online store.

About Lattice Semiconductor

Lattice Semiconductor (NASDAQ: LSCC) is the low power programmable leader. We solve customer problems across the network, from the Edge to the Cloud, in the growing communications, computing, industrial, automotive, and consumer markets. Our technology, long-standing relationships, and commitment to world-class support lets our customers quickly and easily unleash their innovation to create a smart, secure and 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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