Lattice and Etron Deliver Small, Low Power Reference Design for Edge AI and Video Processing Applications

May 27, 2020

Lattice ECP5 FPGA and Etron's RPC DRAM Replace Bulky External Memory Cards in Edge AI and Smart Vision Applications

HILLSBORO, Ore.--(BUSINESS WIRE)--May 27, 2020-- Lattice Semiconductor Corporation (NASDAQ: LSCC), the low power programmable leader, and Etron, the memory IC and SoC innovator, today announced a memory controller reference design for Etron's low pin-count **RPC DRAM**® to enable low power Edge AI and video processing in applications requiring a compact form factor, including industrial cameras, drones, AR/VR systems, and advanced driver-assistance systems (ADAS). A low power ECP5™ FPGA from Lattice provides processing for the AI or smart vision workload and serves as the memory controller for Etron's high performance RPC DRAM. The reference design reduces power consumption, overall design size, and data latency by allowing developers to store data used in AI and smart vision applications locally instead of using larger, external memory cards.

Smart vision and other AI applications generate a lot of data that is typically uploaded to the cloud for analysis. Concerns with data latency and privacy have Edge device OEMs looking to handle more analysis locally, but without adding additional power or size requirements to their design. As implemented on the reference design's PCB, the Lattice/Etron solution uses 15 percent less power than a system using standard DDR3 DRAM, yet has an overall design footprint smaller than the 9 x 13 mm BGA package used by a standard DDR3 DRAM chip.

"This collaboration between our two companies - leaders in low power, small form factor FPGAs and DRAM memory technologies - has broad implications for the ongoing development of Edge AI devices," said Kambiz Khalilian, Director of Strategic Alliances, Lattice Semiconductor. "Not only does the reference design enable form factor and processing capabilities specifically tailored for implementation on Edge devices, it does so without requiring expertise in FPGA-based design thanks to our user-friendly design tools and our powerful sensAI software stack."

"Our work with Lattice makes it possible for customers to develop devices with the low power computational resources needed to deliver 'always-on' intelligence at the Edge," said Chung W. Lam, President of Etron Technology America. "Developers serving markets like industrial, automotive, and consumer are racing to differentiate their products by adding intelligence to them, so access to easy-to-use reference designs like this will be invaluable to their efforts."

The reference design includes software development tools, featuring a GUI-based memory code generator tool and a Verilog® simulation model. Application demonstrations featuring the Lattice sensAI™ solutions stack and the RPC DRAM memory controller reference design will be available from Etron in the third quarter of this year.

For more information about the RPC memory controller reference design, including the memory controller software IP and an evaluation board developed by InterMotion Technology, please visit https://etronamerica.com/rpc-dram-lattice/.

For more information about the ECP5 family of FPGAs, please visit http://www.latticesemi.com/ecp5.

For more information about the Lattice sensAI solutions stack for Edge AI, please visit http://www.latticesemi.com/sensAI.

About Etron Technology

Etron Technology, Incorporated (TPEx: 5351.TW) is a world-class fabless IC and Heterogeneous Integration (HI) Silicon design house with products ranging from Application-Driven Buffer Memory, Known-Good-Die Memory (KGDM), RPC® DRAM & AI/ML add-on DRAM solutions; USB3.1 Gen2 Type-C high speed switch/mux controller with Power Delivery; and 3D Depthmap and Stereoscopic Vision Sensing & Spherical Image-Processing ICs and Subsystems. **RPC®** and **RPC DRAM®** are registered trademarks of Etron Technology.

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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Source: Lattice Semiconductor Corporation