Lattice Certus-NX FPGAs Optimized for Automotive Applications

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Best-in-class High I/O Density, Small Form Factor General Purpose FPGAs Based on Lattice Nexus Platform Now AEC-Q100 Qualified

HILLSBORO, Ore.--(BUSINESS WIRE)--Aug. 25, 2021-- Lattice Semiconductor (NASDAQ: LSCC), the low power programmable leader, today expanded its growing portfolio of automotive products with the announcement of versions of the Lattice Certus™-NX FPGA family optimized for infotainment, advanced driver assistance systems (ADAS), and safety-focused applications. Built on the Lattice Nexus™ platform, these new Certus-NX devices combine automotive-grade features with best-in-class I/O density, power efficiency, small size, reliability, instant-on performance, and support for fast PCI Express (PCIe) and Gigabit Ethernet interfaces.

This press release features multimedia. View the full release here: https://www.businesswire.com/news/home/20210825005002/en/

The Lattice Certus-NX Automotive General Purpose FPGA (Graphic: Business Wire)

"Demand for automotive semiconductors is increasing as the ongoing trends towards automotive system electrification, autonomy, and connectivity have manufacturers looking for ways to deliver the advanced features and user experiences drivers are looking for in their next vehicle," said Jay Aggarwal, Director of Silicon Product Marketing, Lattice Semiconductor. "With class-leading performance and power efficiency, support for popular I/O standards in a small form factor, and high reliability, our Certus-NX general purpose FPGAs make a compelling silicon platform for the next-generation automotive applications car makers are eager to provide to their customers."

"As more automotive systems go digital, modern cars have essentially become mobile datacenters. Automotive developers need access to secure and reliable silicon solutions with fast I/O performance to ensure mission-critical automotive systems can perform their functions instantaneously," said K. Ganesh Rao, Practice Head – FPGA Solutions, Tata Elxsi. "Lattice Certus-NX FPGAs provide the reliability, performance, and feature set we need to make tomorrow's automotive applications possible."

The latest Certus-NX FPGAs are ideal for automotive applications like motor control, LED control in in-vehicle infotainment (IVI) systems, in-vehicle networking (IVN), and sensor data co-processing in ADAS applications. Key features of Certus-NX FPGAs include:

- Low power consumption – Up to 4X lower power use than similar FPGAs, with a programmable back bias that enables user-selectable high performance or low power operating modes, depending on the needs of the application.
- Small form factor – Up to 3X smaller with up to 2X the I/O density per mm^2 in comparison to similar competing FPGAs.
- Instant-on performance – Ultra-fast device configuration from SPI memory up to 12X faster than similar competing FPGAs,

with individual I/O able to configure in just 3 ms, and full-device startup in only 8-14 ms, depending on device capacity.

- Robust I/O interfacing capability – Lattice's extensive Certus-NX I/O IP library includes:
  - 1.5 Gbps differential I/O with performance up to 70 percent higher than competing FPGAs.
  - 5 Gbps PCIe, 1.5 Gbps SGMII, and 1066 Mbps DDR3.
- Automotive certification and high reliability – Certus-NX FPGAs are AEC-Q100 qualified and provide up to 100X better soft error rate (SER) performance than similar FPGAs.
- Authentication and encryption – To protect bitstreams against unauthorized access, Certus-NX FPGAs support AES-256 encryption with ECDSA; they are currently the smallest FPGAs on the market to support ECDSA.
- Ease of use/design – Lattice Radiant® and Lattice Propel™software tools help simplify and accelerate automotive system design. Certus-NX FPGAs are also supported by the Lattice mVision™and Lattice sensAI™solution stacks so designers can leverage the stacks' modular hardware platforms, reference designs, neural network IP cores, and custom design services to accelerate automotive vision system design.

Automotive-grade versions of Certus-NX FPGAs are now sampling with select customers. For more information about the Lattice technologies mentioned above, please visit:

- www.latticesemi.com/Certus-NX
- www.latticesemi.com/LatticeNexus
- www.latticesemi.com/LatticeRadiant
- www.latticesemi.com/Propel
- www.latticesemi.com/mVision
- www.latticesemi.com/sensAI

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 let 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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