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Silicon Labs Shoots for a Secure. Inclusive IoT

Silicon Labs is going to give its customers the capability to make changes to the parts the company is making for them in the midst of production runs. Even as Silicon Labs foundries are churning out parts for the Internet of things (IoT), customers will be able change part numbers, add security keys (private or public), inject certificates, and enable/disable features (secure boot, for example), among other changes.

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NI, Elektro-Automatik Join Forces for EV Battery Testing

Elektro-Automatik (EA) and NI (the former National Instruments) are collaborating to provide bi-directional power supplies for electric vehicle battery cycling and power level testing.When incorporated into the toolchain using NI's software, EA's power supply is designed to expedite battery testing procedures

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SiC Cost Outweighed by Performance Gains in EV Applications

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TALK TO US

Renesas and OmniVision Develop Integrated Reference Design

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-November 2021– London UK

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STMicroelectronics Partners with Xilinx on Rad-Hard FPGAs

STMicroelectronics is collaborating with Xilinx Inc. to build a power solution for the Xilinx Kintex UltraScale XQRKU060 radiation-tolerant FPGA, leveraging QML-V qualified voltage regulators from ST's space-products portfolio.The programmability of the Xilinx XQRKU060 revolutionizes the economics of equipment like space-research instruments and commercial satellites.

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Silicon Labs Shoots for a Secure, Inclusive IoT

Silicon Labs is going to give its customers the capability to make changes to the parts the company is making for them in the midst of production runs. Even as Silicon Labs foundries are churning out parts for the Internet of things (IoT), customers will be able change part numbers, add security keys (private or public), inject certificates, and enable/disable features (secure boot, for example), among other changes.

“Before they had to do all this after-market. This is factory level,” new Silicon Labs CEO Matt Johnson told EE Times in a one-on-one interview, prior to the commencement of the company’s “Works With” event being held this week.

NI, Elektro-Automatik Join Forces for EV Battery Testing

Elektro-Automatik (EA) and NI (the former National Instruments) are collaborating to provide bi-directional power supplies for electric vehicle battery cycling and power level testing.

When incorporated into the toolchain using NI’s software, EA’s power supply is designed to expedite battery testing procedures. In an interview, Mahmoud Wahby, NI’s global business development group manager for electrification, highlighted the company’s efforts to improve battery safety while extending battery life. Tests such as charge and discharge, shock and vibration are the main requirements.

R&D teams spend several months running charge and discharge cycles, then even more time characterizing battery specifications. Parameters at the cell and module level include characterizing internal resistance, battery integrity and running power loss tests.

SiC Cost Outweighed by Performance Gains in EV Applications

Power electronics solutions continue to be largely based on standard silicon devices. While three-level and other silicon circuit topologies are emerging to improve efficiency, new silicon carbide designs are emerging to meet growing high-power requirements for electric vehicles.

In interviews, power devices managers at Mitsubishi Electric US highlighted the promise of SiC when compared with standard silicon implementations.

They said efficiency improvements can be achieved with hybrid technologies that combine silicon with SiC. For example, Si-based insulated-gate bipolar transistors (IGBTs) with SiC Schottky-barrier diodes achieve efficiency improvements with relatively minor cost increases. For many applications, this represents a compromise between cost and performance.

Without changing topologies, SiC is one of very few ways to increase efficiency significantly, the Mitsubishi engineers asserted.

Renesas and OmniVision Develop Integrated Reference Design for HD Automotive Camera Systems

Renesas Electronics Corp. and OmniVision Technologies Inc. have developed an integrated reference design for a high-definition automotive camera system. The new design features Renesas’ recently introduced Automotive HD Link (AHL) technology that transmits high-definition video over low-cost cables and connectors. The AHL components in the design pair with OmniVision’s OX01F10 1.3MP SoC, which provides the industry’s best imaging performance across a wide range of challenging lighting conditions, along with the most compact form factor and lowest power consumption.

HD video is increasingly important in car safety systems for object recognition functionality. The new RAA279971 AHL encoder and RAA279972 decoder use a modulated analog signal to transmit the video, enabling transmission rates 10 times less than required to transmit HD signals digitally.

STMicroelectronics Partners with Xilinx on Rad-Hard FPGAs Using ST Space-Qualified Regulators

STMicroelectronics is collaborating with Xilinx Inc. to build a power solution for the Xilinx Kintex UltraScale XQRKU060 radiation-tolerant FPGA, leveraging QML-V qualified voltage regulators from ST’s space-products portfolio.

The programmability of the Xilinx XQRKU060 revolutionizes the economics of equipment like space-research instruments and commercial satellites. The device delivers a combination of high compute density and integration that historically required an application-specific IC (ASIC), which typically involves custom design with associated engineering expenses and turnaround time. Unlike an ASIC, the XQRKU060 FPGA can be reconfigured in orbit, allowing bug fixes and updates to be applied cost-effectively at any time to protect the mission.