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5G Vehicle Applications at the Edge

The 5G rollout is a big story for 2020. One of the drivers of 5G will be improved auto applications at the edge, near-edge and fog. But there's a complication: whatever sensors perceive at the edge won't stay at the edge. Captured sensory data must be processed inside a vehicle to be interpreted by machines

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Infineon adds secure authentication to wireless charging

In order to address the new 1.3 version of the Wireless Power Consortium's (WPC) Qi standard which mandates strong cryptographic authentication for wireless charging devices, Infineon has extended its OPTIGA Trust security chip family with a dedicated solution for secured inductive charging.

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TALK TO US

Riding the New Wave of GaN Power

ST presented MasterGaN, a platform that integrates a half-bridge driver based on silicon technology with a pair of gallium nitride power transistors. STMicroelectronics, in an interview with EE Times, highlighted how this new platform enables systems to be up to 80% smaller by offering lighter weight and 3 times faster recharge times.

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EVENTS

Silicon Chip Industry Seminar

-9 November 2020– London UK

Industry Forecast Briefing

– 12 January 2021– London UK

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Infineon expands supply base for silicon carbide

Infineon Technologies AG (FSE: IFX / OTCQX: IFNNY) and GT Advanced Technologies (GTAT) have signed a supply agreement for silicon carbide (SiC) boules. The contract has an initial term of five years. With this supply contract, the German semiconductor manufacturer adds a further element to secure its growing base material demand in this area

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CEA-Leti, Intel Collaborate to Advance Chip Design Through 3D Packaging Technologies

CEA-Leti announced a new collaboration with Intel on advanced 3D and packaging technologies for processors to advance chip design. The research will focus on assembly of smaller chiplets, optimizing interconnection technologies between the different elements of microprocessors, and on new bonding and stacking technologies for3D ICs, especially for making high performance computing (HPC) applications.

3D technology, which stacks chips vertically in a device, not only optimizes the power of the chip with advanced packaging interconnects between components, but it also allows the creation of heterogeneous integration of chiplets. That ultimately allows fabrication of more efficient, thinner and lighter microprocessors.

5G Vehicle Applications at the Edge

The 5G rollout is a big story for 2020. One of the drivers of 5G will be improved auto applications at the edge, near-edge and fog.

Junko Yoshida has been comprehensively covering key aspects of automotive sensors and autonomous vehicles. As she notes:

But there's a complication: whatever sensors perceive at the edge won't stay at the edge. Captured sensory data must be processed inside a vehicle to be interpreted by machines. This requires massive processing power inside the vehicle brain. It demands updated in-vehicle networks fed by a fatter pipe with very little latency. In the end, it takes a sensor village of enabling machines to make safe and sound decisions.

Infineon Adds Secure Authentication To Wireless Charging

In order to address the new 1.3 version of the Wireless Power Consortium's (WPC) Qi standard which mandates strong cryptographic authentication for wireless charging devices, Infineon has extended its OPTIGA Trust security chip family with a dedicated solution for secured inductive charging.

While wireless charging is convenient and hence increasingly in demand, an inaccurate power supply can be harmful to the handheld's battery lifetime and, in the worst case, the user as well. The company's new OPTIGA Trust Charge is an embedded security solution usable for the Qi 1.3 wireless charging standard providing device authentication to prevent damaging consumer devices with dangerous, fake chargers and protects consumer brands from reputation issues. It addresses chargers for small personal electronic devices like smartphones, earbuds, tablets, wearables or health tech devices with a charging power of up to 15 W.

Riding The New Wave Of GaN Power

ST presented MasterGaN, a platform that integrates a half-bridge driver based on silicon technology with a pair of gallium nitride power transistors. STMicroelectronics, in an interview with EE Times, highlighted how this new platform enables systems to be up to 80% smaller by offering lighter weight and 3 times faster recharge times. But above all, it simplifies design, thereby optimizing time-to-market.

MasterGaN combines silicon with GaN to accelerate the creation of next-generation, compact and efficient battery chargers and power adapters for consumer and industrial applications up to 400W. Through the use of GaN technology, the new devices can handle more power while optimizing their efficiency. ST Microelectronics has highlighted how integrating GaN with drivers simplifies the design, with a higher level of performance.

Infineon Expands Supply Base For Silicon Carbide With GT Advanced Technologies

Munich, Germany, and Hudson, New Hampshire – 9 November 2020 – Infineon Technologies AG (FSE: IFX / OTCQX: IFNNY) and GT Advanced Technologies (GTAT) have signed a supply agreement for silicon carbide (SiC) boules. The contract has an initial term of five years. With this supply contract, the German semiconductor manufacturer adds a further element to secure its growing base material demand in this area. SiC is the basis for power semiconductors that are particularly efficient, robust, and cost-effective at the system level. Under the brand name CoolSiC™ Infineon now already markets the industry's largest product portfolio for industrial applications and is rapidly expanding its offerings towards consumer and automotive products.

"We are seeing a steadily increasing demand for SiC-based switches, especially for industrial applications," says Peter Wawer, President of Infineon's Industrial Power Control Division. "However, it has become clear that the automotive sector is quickly following suit. With the supply agreement we have now concluded, we ensure that we will be able to meet the rapidly growing demand of our customers with a diversified supplier base. GTAT's high-quality boules will provide an additional source for competitive SiC wafers fulfilling the best-in-class material standards now and in the future. This supports our ambitious SiC growth plans, making good use of our existing in-house technologies and core competencies in thin-wafer manufacturing."