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Welcome to the Third Era of 32/64-bit Embedded CPUs

The first two eras of 32/64-bit embedded processors were defined by proprietary architectures. The third won't be. During the First Era of 32/64-bit embedded CPUs, which spanned the 1980s and 1990s, semiconductor companies developed and maintained their own proprietary CPU architectures

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GaN-on-Diamond For Next Power Devices

Gallium nitride (GaN) is hot. Even hotter is a race to integrate GaN with other materials to boost GaN's performance further. "GaN-on-diamond offers key parameters of high thermal conductivity, high electrical resistivity and small form factor at both device and system level.

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Wireless accelerometer leverages LoRaWAN

Intended for vibration monitoring, TE Connectivity's 8911 wireless accelerometer combines a sensor, data collector, DSP, and LoRaWAN radio into a single, compact battery-operated device.

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TALK TO US



Samsung Leads the Declining Smartphone Memory Market in 2019

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The global market for smartphone memory chips reached a combined value of \$39.3 billion in CY 2019, according to the Strategy Analytics Handset Component Technologies service report, "Smartphone Memory Market Share Q4 2019:

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Intel, Udacity Team Up to Train Edge AI Developers

Amid rapid growth in AI deployments across a variety of industry sectors, Intel has decided to address the skills shortage in AI-savvy developers by partnering with online technology learning platform Udacity to offer a course in edge AI for developers.

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Welcome To The Third Era of 32/64-bit Embedded CPUs

The first two eras of 32/64-bit embedded processors were defined by proprietary architectures. The third won't be.

During the First Era of 32/64-bit embedded CPUs, which spanned the 1980s and 1990s, semiconductor companies developed and maintained their own proprietary CPU architectures. And there were many of them. The cost of maintaining these architectures became increasingly burdensome, and third-party operating software vendors were — for reasons of their own, involving costs, complexity and ROI — unwilling to support multiple unique CPU architectures. The cost crunch and lack of third-party software support encouraged companies to abandon their proprietary architectures and license processor intellectual property (IP).

GaN-on-Diamond For Next Power Devices

gallium nitride (GaN) is hot. Even hotter is a race to integrate GaN with other materials to boost GaN's performance further.

"GaN-on-diamond offers key parameters of high thermal conductivity, high electrical resistivity and small form factor at both device and system level. These benefits make GaN-on-diamond power amplifier devices very attractive for high power RF applications, such as commercial base stations, military radar applications as well as satellite communication and weather radars," explained Ezgi Dogmus, technology & market analyst from Yole Développement. "This innovative device technology, in development for over a decade, is expected to be launched commercially by leading industrial actors such as RFHIC, Akash Systems and Mitsubishi Electric in the next years," he added.

A team led by the School of Mechanical Engineering at Georgia Institute of Technology has implemented a series of results based on room-temperature surface-activated bonding (SAB) to bond GaN and single-crystal diamond with different interlayer thicknesses. The newly developed technique maximizes gallium nitride performance for higher power operations.

Wireless Accelerometer Leverages LoRaWAN

Intended for vibration monitoring, TE Connectivity's 8911 wireless accelerometer combines a sensor, data collector, DSP, and LoRaWAN radio into a single, compact battery-operated device. The piezoelectric accelerometer offers a dynamic range of ± 50 g, sensitivity of 100 mV/g, and wide bandwidth to >10 kHz. Measurement resolution is 12 bits.

Using the LoRaWAN communication protocol, the 8911 provides longer transmission distances and is less susceptible to external signal interference. It can be used to expand condition-based maintenance into plant areas where the cost of installing wired systems is prohibitive, enabling data to be delivered to existing process control and information systems. Integrated digital signal processing calculates FFTs and transmits the eight most significant acceleration peaks in the vibration signal.

Samsung Leads the Declining Smartphone Memory Market In 2019

The global market for smartphone memory chips reached a combined value of \$39.3 billion in CY 2019, according to the Strategy Analytics Handset Component Technologies service report, "Smartphone Memory Market Share Q4 2019: Revenue declines as Samsung leads the NAND Flash and DRAM markets."

According to the report, Samsung Memory maintained its smartphone memory market share leadership with 47 percent revenue share in CY 2019, followed by SK Hynix and Micron. Samsung continued to strengthen its position in both NAND Flash and DRAM markets. The top-three vendors captured almost 84 percent revenue share in the global smartphone memory market in CY 2019.

Intel, Udacity Team Up to Train Edge AI Developers

Amid rapid growth in AI deployments across a variety of industry sectors, Intel has decided to address the skills shortage in AI-savvy developers by partnering with online technology learning platform Udacity to offer a course in edge AI for developers.

"Historically, students have learned how to build and deploy deep learning models for the cloud. With Udacity, we are training AI developers to go where the data is generated in the physical world: the edge," said Jonathan Ballon, Intel vice president and general manager, Internet of Things Group. "Optimizing direct deployment of models on edge devices requires knowledge of unique constraints like power, network bandwidth and latency, varying compute architectures and more. The skills this course delivers will allow developers — and companies that hire them, to implement learnings on real-world applications across a variety of fields."