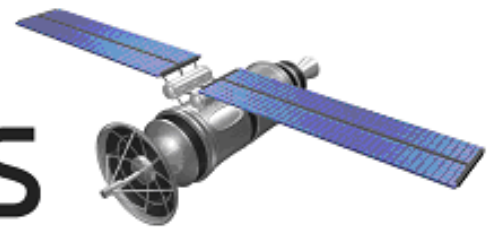


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The Global Semiconductor Industry Analysts

FH MONDAY

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Nvidia Turing GPU Brings Ray-Tracing in Real Time

SAN FRANCISCO — Nvidia rolled out its first mid-range GPU based on the company's Turing GPU architecture, promising to make available to more PC gamers real-time ray-tracing graphics capability in a card that retails for just \$349.

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Startups Reinventing Wi-Fi for IoT

After an unusual two-year delay, silicon for a new Wi-Fi standard is starting to emerge. Over the next few months, a handful of startups will sample chips for 802.11ah, a 900-MHz version of Wi-Fi targeting long-range links especially for the internet of things.

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Huawei Rolls 7-nm Arm Server CPU

Huawei announced a 7-nm Arm-based server CPU that it claims outperforms rivals and servers using it. The Kunpeng 920 shows the increasing sophistication of China's largest system vendor and chip designer at a time when it's at the center of heated trade tensions with the U.S.

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TALK TO US



Quantum Dots to Shrink MicroLED Display Pixels

LONDON — Nanoco Technologies and Plessey Semiconductors have partnered to shrink the pixel size of monolithic microLED displays using Nanoco's cadmium-free quantum-dot (CFQD quantum dots) semiconductor nanoparticle technology

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Open-Silicon & SiFive to Chisel RISC-V in India

BENGALURU - When Naveed Sherwani and Satya Gupta founded Open-Silicon, a semiconductor solutions company in 2003 with the idea of an open model in the hardware world, a free and open instruction set architecture (ISA) called RISC-V was nowhere on the horizon

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Nvidia Turing GPU Brings Ray-Tracing In Real Time

SAN FRANCISCO — Nvidia rolled out its first mid-range GPU based on the company's Turing GPU architecture, promising to make available to more PC gamers real-time ray-tracing graphics capability in a card that retails for just \$349.

The GeForce RTX 2060, introduced by Nvidia CEO Jensen Huang during the company's pre-CES event in Las Vegas on Sunday night, features 6 GB of GDDR6 memory and 240 Tensor cores capable of delivering 52 teraflops of deep-learning compute. Nvidia says that the horsepower can improve the gaming performance of the RTX 2060 through an Nvidia feature known as Deep Learning Super Sampling (DLSS).

Nvidia maintains that the RTX 2060 is 60% faster on current titles than its previous-generation GTX 1060, Nvidia's most popular GPU.

Startups Reinventing Wi-Fi for IoT

SAN JOSE, Calif. — After an unusual two-year delay, silicon for a new Wi-Fi standard is starting to emerge. Over the next few months, a handful of startups will sample chips for 802.11ah, a 900-MHz version of Wi-Fi targeting long-range links especially for the internet of things.

The so-called HaLow products promise delivery of up to Mb/s over distances of tens of meters to a kilometer and support for thousands of nodes on an access point. They will occupy a space between ultra-low-power and -cost LoRa and Sigfox networks and below more power-hungry LTE Cat-M and Narrowband-IoT networks that come with data plans.

Huawei Rolls 7-nm Arm Server CPU

SAN JOSE, Calif. — Huawei announced a 7-nm Arm-based server CPU that it claims outperforms rivals and servers using it. The Kunpeng 920 shows the increasing sophistication of China's largest system vendor and chip designer at a time when it's at the center of heated trade tensions with the U.S.

The Kunpeng 920 packs 64 custom Arm-v8 cores running at 2.6 GHz. It supports eight DDR4 channels running up to 2,933 MT/s, two 100G Ethernet ports, and PCIe Gen 4.

Huawei said that the chip hits 930 on a SpecInt benchmark. It claimed that this puts it 30% ahead in performance and 30% in power efficiency over Arm server rivals such as Marvell's ThunderX2 and Ampere's eMAG, recently adopted by Huawei's server rival Lenovo.

Quantum Dots To Shrink MicroLED Display Pixels

LONDON — Nanoco Technologies and Plessey Semiconductors have partnered to shrink the pixel size of monolithic microLED displays using Nanoco's cadmium-free quantum-dot (CFQD quantum dots) semiconductor nanoparticle technology.

Using its existing gallium nitride (GaN)-on-silicon monolithic process, Plessey will integrate the CFQD quantum dots into selected regions of blue LED wafers to add red and green light, shrinking the smallest practical pixel size from today's 30 μm to 4 μm , a reduction of 87%. The process will enable the production of smaller, higher-resolution microLED displays in applications such as AR/VR devices, watches, and mobile devices while enhancing both color rendition and energy efficiency.

Speaking to EE Times from CES, the companies said that the partnership brings together two sets of expertise to address the color conversion needs of microLED customers — Nanoco with its expertise in manufacturing quantum dots at scale and Plessey for its microLED displays. The key challenge was being able to pattern the quantum dots appropriately on the photoresist and making sure the quantum dots were compatible with other materials used in the manufacturing process for the displays, they said.

Open-Silicon & SiFive to Chisel RISC-V in India

BENGALURU - When Naveed Sherwani and Satya Gupta founded Open-Silicon, a semiconductor solutions company in 2003 with the idea of an open model in the hardware world, a free and open instruction set architecture (ISA) called RISC-V was nowhere on the horizon.

Fifteen years later and after its acquisition by SiFive last year, it was just natural that RISC-V, which has created a disruption in the industry with its open model, would pave the way forward for this Bangalore-based company, also known for its OpenModel custom SoCs.

Open-Silicon's "OpenModel" was one of the first semiconductor industry's first end-to-end custom SoC development solution based on a revolutionary business model that provides a seamless, low-cost, and low-risk alternative to traditional models for complex ASIC design and development.