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STMicroelectronics Rad-Hard ICs Target 'New Space'

Built with low-earth orbit (LEO) in mind, STMicroelectronics' latest series of radiation-hardened ICs boast a plastic package with a total ionization dose immunity up to 50 krad(Si), enabling next-gen satellites to provide earth observation and broadband internet from the relative safety of LEOs.

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Infineon Expands Indonesia Backend Site

As part of its long-term investment strategy, German chipmaker Infineon Technologies said it plans to expand its existing backend operations in Batam, Indonesia. Production is expected to start in 2024. Incorporated in 1996, PT Infineon Technologies Batam is primarily serving the automotive market.

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Bosch Ups Accuracy, Cuts Consumption

Bosch Sensortec has launched the BMP581 barometric pressure sensor which it says combines low power consumption with high accuracy for altitude tracking in wearables, hearables, and IoT solutions. This follows the presentation of the BMP580 open-market version at this year's CES in Las Vegas.

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TALK TO US



Broadcom launches Wi-Fi 7 chips

Broadcom Inc. has announced details of five chips as part of its Wi-Fi 7 portfolio, targeting residential and enterprise access points and mobile handsets. Wi-Fi 7 doubles the bandwidth of Wi-Fi 6 and 6E making it a good complement to the expanded worldwide Wi-Fi spectrum in the 6 GHz band.

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Syantiant Leads TinyML Benchmark Results

MLCommons has published the latest round of MLPerf Inference benchmark scores. In the MLPerf Tiny division, U.S. startup Syntiant shined with impressive keyword spotting latency and energy consumption, while Nvidia and Qualcomm battled it out in the edge and data center categories once again.

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STMicroelectronics Rad-Hard ICs Target 'New Space'

Built with low-earth orbit (LEO) in mind, STMicroelectronics' latest series of radiation-hardened ICs boast a plastic package with a total ionization dose immunity up to 50 krad(Si), enabling next-gen satellites to provide earth observation and broadband internet from the relative safety of LEOs. Hello new space, goodbye old space.

ST's newest LEO series includes a data converter, a voltage regulator, an LVDS transceiver, a line driver, and five logic gates. They possess high immunity to total non-ionizing dose and single event latch-up immunity up to 62.5MeV.cm²/mg, can withstand temperatures between -40 to 125 degrees Celsius, and are based on AEC-Q100 specifications — all which ST claims will enable them to meet the rising demand to deploy additional satellite constellations thanks to both their low-cost plastics packaging and the allure of what new space can offer.

Infineon Expands Indonesia Backend Site to Address Automotive IC Demand

As part of its long-term investment strategy, German chipmaker Infineon Technologies said it plans to expand its existing backend operations in Batam, Indonesia. Production is expected to start in 2024.

Incorporated in 1996, PT Infineon Technologies Batam is primarily serving the automotive market.

Infineon manufactures automotive products at each of its backend sites worldwide, but Batam will become the second largest site for automotive products, after Melaka, in Malaysia, Infineon's spokesman Gregor Rodehüser told EE Times Europe.

"We are constantly evaluating all possibilities to grow and expand our manufacturing capacity at our sites; diversification of production sites to strengthen the resilience of our supply chain. Infineon Batam is a well-established site within the Infineon production cluster and already a key assembly site for automotive power ICs."

Bosch Ups Accuracy, Cuts Consumption with Capacitive Barometric Pressure Sensor

Bosch Sensortec has launched the BMP581 barometric pressure sensor which it says combines low power consumption with high accuracy for altitude tracking in wearables, hearables, and IoT solutions. This follows the presentation of the BMP580 open-market version at this year's CES in Las Vegas.

Until now, Bosch Sensortec has always used piezoresistive technology for its generations of barometric pressure sensors. Based on the specific performance or resolution requirements of its customers, the German company said it has evaluated the best technology to support these applications. "We came to the conclusion that we have more potential to address the performance parameters with the capacitive sensing technology compared to piezoresistive," Stefan Finkbeiner, CEO of Bosch Sensortec, told EE Times Europe. "Moving forward, with the need for especially low battery power consumption, we see increased potential in capacitive technology."

Broadcom launches Wi-Fi 7 chips

Broadcom Inc. has announced details of five chips as part of its Wi-Fi 7 portfolio, targeting residential and enterprise access points and mobile handsets.

Wi-Fi 7 doubles the bandwidth of Wi-Fi 6 and 6E making it a good complement to the expanded worldwide Wi-Fi spectrum in the 6 GHz band. The theory is that Wi-Fi 7 will allow users to expect up to 2.4 times more throughput, reduced latency, and extended range, all with much higher reliability. These would enhance emerging applications like 16K video streaming, real-time collaboration, wireless gaming, and immersive augmented and virtual reality (AR/VR).

The new standard doubles Wi-Fi channel bandwidth with the introduction of 320 MHz channels. In combination with the upcoming launch of automatic frequency coordination (AFC), Wi-Fi 7 uses optimal spectrum allocation to enable high-power access points and extends the 6 GHz transmit range in both indoor and outdoor environments.

Syntiant Leads TinyML Benchmark Results

MLCommons has published the latest round of MLPerf Inference benchmark scores. In the MLPerf Tiny division, U.S. startup Syntiant shined with impressive keyword spotting latency and energy consumption, while Nvidia and Qualcomm battled it out in the edge and data center categories once again.

Syntiant's NDP120 ran the tinyML keyword spotting benchmark in 1.80 ms, the clear winner for that benchmark (the next nearest result was 19.50 ms for an Arm Cortex-M7 device). This result used 49.59 uJ of energy (for the system) at 1.1V/100 MHz. Turning the supply voltage down to 0.9 V (and reducing clock frequency to 30 MHz) reduced Syntiant's energy to 35.29 uJ, but increased latency to 4.30 ms.

The Syntiant NDP120 is based on Syntiant's second generation AI accelerator core alongside a Tensilica HiFi DSP for feature extraction and an Arm Cortex-M0 core for system management. Since it is designed for voice control, Syntiant did not enter any other benchmark scores for the NDP120.