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The Global Semiconductor Industry Analysts

FH MONDAY

24 June 2019

X-FAB and Efabless Deliver Open Source Mixed-Signal SoC

Mixed signal foundry X-FAB Silicon Foundries and crowd-sourcing IC platform Efabless Corp. have announced silicon availability of a RISC-V based mixed signal system-on-chip (SoC) reference design. The open-source semiconductor project went from design start to tape-out in less than three months using the Efabless design flow based on open-

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TALK TO US

STMicroelectronics Targets Mass-Market Tracking

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Tel Aviv's Auto-Tech Industry Swells

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X-FAB and Efabless Deliver Open Source Mixed-Signal SoC

Mixed signal foundry X-FAB Silicon Foundries and crowd-sourcing IC platform Efabless Corp. have announced silicon availability of a RISC-V based mixed signal system-on-chip (SoC) reference design. The open-source semiconductor project went from design start to tape-out in less than three months using the Efabless design flow based on open-source tools.

The mixed-signal SoC, called Raven, is based on the community developed ultra-low power PicoRV32 RISC-V core. Efabless has successfully bench-tested the Raven at 100MHz and based on simulations the design should be able to operate at up to 150MHz. Raven's open-source top-level design utilizes X-FAB proprietary analog IP and is created with an open-source design flow.

Chiplet Ecosystem Slowly Picks up Steam

SANTA CLARA, Calif. — Momentum continues to coalesce slowly around the creation of an open-chiplet ecosystem, enabling the heterogeneous integration of chiplets from multiple vendors in a system-in-package (SiP).

Chiplets represent one of several efforts to compensate for slowing performance gains through brute-force scaling; it's the slowing of Moore's Law. While individual chip companies, including Intel, Marvell, and startup zGlue — as well as system companies such as Cisco — have had some success in creating their own chiplet ecosystems, efforts to date have relied on proprietary multi-chip interfaces.

The development of an industry-wide open-chiplet ecosystem that would allow designers to assemble "best of breed" chips incorporating components from multiple vendors requires not only standard open interfaces but also technology advancements in areas such as wafer testing and thermal management and the creation of new business models.

TSMC, Purdue Team Up to Enhance Chip Security

INDIANAPOLIS – Taiwan's Taiwan Semiconductor Manufacturing Co. (TSMC) and Purdue University in the U.S. announced the establishment of a center at the university to enhance semiconductor security, via a press statement last week. The Center for Secured Microelectronics Ecosystem is aimed at safeguarding the semiconductor and tool supply chain from the foundry stage to packaging.

The world's largest foundry and Purdue officials announced the agreement in Washington, D.C. during the SelectUSA Conference held in mid-June. The annual conference, led by the Department of Commerce, combines a number of U.S. government agencies to facilitate investment in the U.S. The move comes as chip-level security raises new worries, not the least of which involves cyberespionage. The advent of AI opens a wide range of issues highlighted in research in areas such as poisoning of training sets and adversarial input. Outside the AI realm, as the number of edge devices surges, vulnerabilities such as Meltdown and Spectre have raised concerns about data leakage, data theft, and ransomware.

STMicroelectronics Targets Mass-Market Tracking And Navigation Applications

ST's new GNSS module provides odometer functionality with three trip counters and reached-distance alert, along with geofencing capabilities with up to eight configurable circles and crossing-circles alarm. Support for real-time assisted GNSS with free server access ensures uninterrupted positioning data for dependable navigation.

Simultaneous tracking of GPS, Glonass, Beidou, and QZSS constellations, with Satellite-Based Augmentation System (S-BAS) and RTCM V3.1 differential positioning ensures excellent accuracy to within 1.5 meters (50% CEP). Tracking sensitivity of -163dBm and time-to-first-fix faster than one second ensure high performance for demanding applications. The module is easy to use and responds to proprietary NMEA commands.

Tel Aviv's Auto-Tech Industry Swells

The city of Tel Aviv in Israel is set to enhance its influence in automotive technology, with Intel, Ford, Nissan and Renault all announcing plans to support startups and establish research and innovation centers.

Intel Corp. said its new Ignite program will focus on early-stage startup companies that target industry inflection points, including artificial intelligence (AI), autonomous systems and other data-centric technologies. Based in Tel Aviv, Intel will invest significant resources to host 10 to 15 top pre-seed to seed startups through a 20-week mentorship program to help them break ground faster. The Ignite program includes internal and external mentorship, direct access to market and new prospects as well as offerings from a variety of Intel partners around the world. The program does not involve direct equity investment in the startups.