FutureHorizons

The Global Semiconductor Industry Analysts

Future Horizons Newsletter

June 2018

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Industry News By Company

Analog Devices GaAs ADMV10x Converters Now at Mouser

Mouser Electronics, Inc., the industry's leading New Product Introduction (NPI) distributor with the widest selection of semiconductors and electronic components, is now stocking the ADMV10x Converters from Analog Devices. Part of ADI's latest series of RF up/down converters, these monolithic microwave integrated circuits (MMIC) are manufactured using gallium arsenide (GaAs), and offer designers a high performance and high-quality product in a small, convenient package for a variety of audio and video data transmission applications.

The Analog Devices ADMV10x Converters, now available from Mouser Electronics, use an I/Q mixer topology to reduce the need for unwanted sideband filtering. The series consists of the ADMV1009, the ADMV1010, the ADMV1011 and the ADMV1012. The ADMV1009 is a single sideband (SSB) I/Q upconverter optimized for point-to-point microwave radio designs that operate in the 12.7 GHz to 15.4 GHz frequency range. The device provides 21 dB of conversion gain with 20 dB of image rejection, and its upconversion requires only a 180-degree balun to select the required sideband.

Arm Acquires Scottish Connectivity Specialist Stream

SAN JOSE, Calif. — Arm acquired Stream Technologies (Glasgow) in an effort to grow a business in paid services for devices on the Internet of Things. The move comes as the IoT is still in an early stage but widely seen to have huge potential with services expected to be one of its hottest sectors.

Stream, a private company founded in 2000, claims that its connectivity management software and services are used by 770,000 devices carrying 2 terabytes of traffic daily. Though mainly focused on cellular, its offerings are network-agnostic, also supporting LoRa and satellite nets carrying IP and non-IP data.

Stream serves a wide variety of applications including asset tracking, smart meters, and the U.K.'s National Rail system. Its services include support for billing and the so-called embedded subscriber identity module (eSIM), a software-based cellular ID. Earlier this year, Arm rolled out software that it called Kigen OS to enable eSIM on its cores.

Arm will integrate Stream's products into its nascent Mbed IoT services. Arm did not disclose how much it paid for Stream, the size of Stream's revenues, or the size of its own nascent IoT services business.

Nervana And Esilicon Take ASICs To Data Centers

MADISON, Wis. — Three years ago, when AI chip startup Nervana ventured into the uncharted territory of designing custom AI accelerators, the company's move was less perilous than it might have been, thanks to an ASIC expert that Nervana — now owned by Intel — sought for help.

That ASIC expert was eSilicon.

Two industry sources independently told EE Times that eSilicon worked on Nervana's AI ASIC and delivered it to Intel after the startup was sold. eSilicon, however, declined to comment on its customer.

Nervana's first-generation AI ASIC, called Lake Crest, was one of the most-watched custom designs for AI accelerators. Leveraging its own cumulative work with the customer on the design of AI/2.5D systems, Santa Clara, California-based eSilicon rolled out this week a machine-learning AI platform called "neuASIC." The platform includes "a library of AI-targeted functions that can be quickly combined and configured to create custom AI algorithm accelerators," explained eSilicon.

New GlobalFoundries CEO Outlines Targets

PALO ALTO, Calif. — The new CEO of GlobalFoundries has a charter to improve financial performance of the privately held chipmaker. Thus, Tom Caulfield is seeking partners for the company that is a distant second in a hotly competitive race to make chips.

Caulfield needs a hand building a next-generation fab, probably at 3 nm, and expanding his ASIC services to attract new customers. Meanwhile, he started a reorganization geared to make the company more nimble and to hold his managers responsible for financial progress, he said in an interview with EE Times.

The new fab is probably best suited as an expansion of GF's existing Fab 8 in Malta, New York, where it is preparing to ramp a 7-nm node. Such a facility likely would need support from federal funds, but GF has other options leveraging its fabs in China, Germany, and Singapore.

In the first 60 days in his new role, Caulfield and representatives of the company's owners, the Mubadala Investment Company in the United Arab Emirates, spent a day and a half in Washington, D.C. It was one leg in a world tour of GF's fabs, exploring the techno-politics of the options.

ON Semiconductor (ON) Announces Acquisition of SensL Technologies Ltd.

ON Semiconductor Corporation (NASDAQ: ON), driving energy efficient innovations, today announced its acquisition of SensL Technologies Ltd. ("SensL"). The acquisition is expected to be immediately accretive to ON Semiconductor's non-GAAP earnings per share. SensL, based in Ireland, is a technology leader specializing in Silicon Photomultipliers (SiPM), Single Photon Avalanche Diode (SPAD) and LiDAR sensing products for automotive, medical, industrial and consumer markets. This acquisition positions ON Semiconductor to extend its market leadership in automotive sensing applications for ADAS and autonomous driving with expanded capabilities in imaging, radar and LiDAR. By combining this acquisition in Ireland with previously acquired radar technology and design centers in Israel and United Kingdom, ON Semiconductor is uniquely positioned to provide a comprehensive set of sensor solutions for next generation highly autonomous vehicles and to solidify its position as a leader in image sensing and ultrasonic park assistance. In the second half of 2018, ON Semiconductor is

planning to introduce samples to the market which incorporate technology from the radar assets acquired in 2017.

ST Focuses MEMS Strategy On Industrial Iot

LONDON — STMicroelectronics is making a big push into the Industrial IoT space with the announcement of a range of high-accuracy MEMS sensors and components designed to last for at least 10 years, serving the needs of advanced automation environments in which machines can be expected to perform for many years.

As part of this strategy, the company has launched its first product, the IIS3DHHC low-noise three-axis accelerometer, which is optimized for high measurement resolution and stability to ensure accuracy over time and temperature. The MEMS sensor targets precision inclinometers in antenna-positioning mechanisms for communication systems, structural health monitoring (SHM) equipment for keeping buildings and bridges safe, and stabilizers or levelers for a wide variety of industrial platforms. Its long-term accuracy and robustness are also ideal for high-sensitivity tilt and security sensors, as well as image stabilization in high-end digital still cameras (DSCs).

Industry News & Trends

WT-398 Is Performance Testing For WiFi

Boston — Just because your Wi-Fi router complies with 802.11 standards and has passed interoperability tests doesn't mean that you'll be happy with its performance. That's why the Broadband Forum is developing WT-398. When approved, WT-398 will specify tests for Wi-Fi router performance. In parallel with that document's development, the University of New Hampshire Interoperability Lab (UNH-IOL) has announced testing services for Wi-Fi performance.

The impetus for WT-398, which is not yet available publicly, came from service providers that deliver internet access and provide either Wi-Fi routers that are either integrated with gateways or are separate units. "Service providers found themselves providing support for home networking issues," said UNH-IOL senior engineer Lincoln Lavoie in an interview with EE Times. "The problem stems from so many devices now being connected to a home router."

New SoC Offers Hi-Res 3D Imaging With mmWave

LONDON — A new chip launched by Vayyar Imaging integrates an unprecedented number of transceivers and an advanced DSP to create high-resolution mmWave 3D imaging contours with high accuracy. The company claims that this breaks through current constraints in today's 3D imaging sensor technology.

The advanced CMOS SoC covers imaging and radar bands from 3 GHz to 81 GHz with 72 transmitters and 72 receivers in one chip, enhanced by an integrated Tensilica P5 DSP with large internal memory. The company says that execution of complex imaging algorithms is all done without the need for any external CPU.

"We had to overcome several architectural challenges to achieve the overwhelming number of radio channels supported by a single chip, in terms of area, interconnects, and power consumption," said Raviv Melamed, co-founder, CEO, and chairman of Vayyar, in an interview with EE Times.

New ST CEO Eyes Targeted Acquisitions

LONDON — As STMicroelectronics moves closer to its leadership transition, we heard from both outgoing and incoming CEOs this week at the company's annual capital markets day in London for investors and analysts.

Retiring CEO Carlo Bozotti was relaxed as he reflected upon the strong position that he will be leaving the company in following past troubles, indicating that the company is focusing on growing markets in automotive and IoT and aspiring to become a $12 billion company.

And incoming CEO Jean-Marc Chery was clear in his message: more of the same, sail a steady ship, but not rule out targeted acquisitions as the company focuses on growth. Speaking in an interview with EE Times, Chery said, "I will not change our application

focus. Our home base in Europe has a key automotive and industrial market. We want to be a bigger player in these sectors, so I will push more in these."

While Bozotti had said that there was nothing on the table as far as acquisitions are concerned, Chery said, "Carlo and I are different. In this business, there is no place for status quo, and when you want to be a leader, we will do what is necessary. This means we will assess and evaluate the potential for acquisitions."

How Will Xiaomi Play On The Champs-Élysées?

Smartphone maker Xiaomi Corp. shot to success selling stylish but low-cost models in emerging markets, including at home in China.

But can that formula work in the affluent markets of Europe, where Samsung Electronics Co. and Apple Inc. hold sway?

The answer could determine whether Xiaomi is worth the valuation of at least $70 billion that people familiar with the matter say it is seeking in a public offering planned for this year.

Last week, Beijing-based Xiaomi opened the first of what it says will be up to 10 Xiaomi-branded stores in Paris, and one in Milan. In the Paris store, a five-minute walk from the Pompidou Center, Xiaomi is selling two higher-end smartphone models as well as some of its other electronic gizmos, including portable speakers and an electric scooter.

The European push began last year in Spain, now home to three Xiaomi stores, and beyond France and Italy there are plans for the U.K., Germany and the Netherlands, said Wang Xiang, senior vice president in charge of global expansion.

ON Semiconductor – New SIC Diodes For Demanding Automotive Applications

ON Semiconductor expanded its SiC Schottky diode portfolio to include devices particularly intended for demanding automotive applications. The new AEC-Q101 automotive grade SiC diodes produce the reliability and ruggedness required by modern automotive applications, along with the many performance benefits synonymous with WBG technologies.

The company's new SiC diodes are offered in popular surface mount and through-hole packages, which include TO-247, D2PAK and DPAK. The FFSHx0120 1200 Volt (V) Gen1 devices, and FFSHx065 650 V Gen2 devices give zero reverse recovery, temperature independent current stability, extremely low leakage current, low forward voltage, high surge capacity and a positive temperature coefficient. They give improved efficiency while the faster recovery advances switching speeds, which reduces the size of magnetic components required

East European News & Trends

Samsung To Open AI Center In Moscow

Korea's Samsung Electronics has unveiled plans to open a Center for Artificial Intelligence in Moscow, Nanonewsnet reported.

The Koreans want to establish a stronger global presence in the field of AI, using vast knowledge in Russia and some other countries in mathematics, physics and other fundamental sciences.

Renowned experts in this area will be running research into AI algorithms in Moscow, including Prof. Dmitry Vetrov of the Higher School of Economics and Prof. Viktor Lempitsky of the Skolkovo Institute of Science and Technology (Skoltech).

Samsung will focus on five key cornerstones in its further AI research. The electronics giant wants to develop (a) AI which is user-centered through multimodal interface based personalization; (b) constantly self-learning AI, using ongoing data processing; (c) AI which is accessible 24/7 as part of the user environment; (d) AI which is always useful, requiring minimum user involvement; (e) and AI which is always safe, ensuring protection and privacy for the user.

Russian Metal Giant To Back Technology Start-Ups

Severstal, one of Russia's largest mining and metalworking companies, has launched its own venture investing arm, Severstal Ventures, to support and develop young technology projects, the Russian business daily Vedomosti reported.

"It is expected that to nurture technology projects with high potential we will be both investing in sector-specific VC funds and working with the projects directly," a spokesperson for Severstal was quoted as saying.

Scientists Push For New Way Of Non-Volatile Memory Development

Russian scientists at Moscow-based Phystech (MIPT), a leading technology university, in partnership with their Korean colleagues have developed a new method which is expected to help create a promising new type of non-volatile memory.

At the heart of the technique is control of oxygen concentration in tantalum oxide films which are developed using plasma-enhanced atomic layer deposition (PEALD).

Resistive switching memory, or ReRAM, appears to be a promising new way of storing and processing information. It's built on technology that changes resistance in memory cells by voltages applied. So, a cell's low or high resistance could be used to store data.

A ReRAM cell is based on a metal-dielectric-metal structure. Transition metal oxides have proved to be good dielectrics. Voltage applied to a cell causes oxygen migration, thus altering resistance in the entire structure. So, controllable oxygen concentration in an oxide is a key parameter to determine the functional properties of memory cells.

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World Economic Round Up

Turkey's central bank has sharply increased one of its primary lending rates in a bid to stem a dramatic decline in the lira. The central bank increased its benchmark late liquidity window lending rate to 16.5 percent from 13.5 percent. The move, which followed a rise in April from 12.75 percent, triggered a sharp rally in the lira.

The latest economic news by country to include USA, Europe, UK, Japan, China, Asia Pacific and India can be found each month in our Semiconductor Monthly Report.

Industry Events 2018

Future Horizons Events

- Silicon Chip Industry Training Seminar – London – 12th November 2018
- Industry Forecast Briefing, London – 16th September 2018

To book your place on any of our events please contact us on:

Telephone: +44 1732 740440
Email: mail@futurehorizons.com

Download Future Horizons Full Events Calendar Here

Industry Events

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MARK YOUR CALENDER FOR THE NEXT

SILICON CHIP INDUSTRY WORKSHOP
MONDAY 12th November 2018
AND
INDUSTRY FORECAST BRIEFING
TUESDAY 18th September 2018

BOTH BEING HELD AT

HOLIDAY INN KENSINGTON FORUM, LONDON

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