FutureHorizons

The Global Semiconductor Industry Analysts

Future Horizons Newsletter

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Industry News By Company

Apple And Qualcomm Sign Peace Deal To End Litigation

Apple and Qualcomm have agreed to put an end to one of the longest-running and most expensive disputes in the tech industry, settling their numerous multibillion-dollar legal fights and paving the way to bring Qualcomm chips back into the iPhone.

The deal was quickly followed by an announcement by Intel, whose modems replaced Qualcomm's in the most recent generation of iPhones, that it was abandoning its plan to design chips for next-generation 5G smartphones.

Rumours had circulated for weeks that Intel had experienced delays and would not meet Apple's 2020 deadline, although until Tuesday it had said its plans were on track.

Apple's Acquisition Of Dialog PMIC Now Complete

Dialog Semiconductor said it has completed its previously announced transaction with Apple to license its power management integrated circuit (PMIC) technologies and transfer assets to Apple. This involves more than 300 Dialog staff transitioning to Apple employees, becoming part of Apple's hardware technologies team under Johny Srouji.

Dialog will receive $600 million in total, consisting of $300 million in cash from Apple for the transaction and prepayment of $300 million for Dialog products to be delivered over the next three years. Dialog said it has also been awarded a broad range of new contracts from Apple for the development and supply of other mixed-signal integrated circuits (ICs). With the loss of a large chunk of its PMIC team, the company's CEO Jalal Bagherli said the company's next phase of growth will now focus on providing custom and configurable mixed-signal integrated circuits across a broader customer base addressing internet of things (IoT), mobile, automotive, and computing and storage markets.

GF Sells Ex-IBM Fab To ON Semi

SAN JOSE, Calif. — GlobalFoundries will sell its 300-mm Fab 10 in East Fishkill, New York, to ON Semiconductor for $430 million. The deal is the second and largest of three sales, restructuring the foundry to pursue profits as a provider of specialty processes.

The duo will take until 2022 to transition a variety of GF's processes and customers out of the former IBM fab. ON is expected to retain the roughly 1,300 people at the fab as it ramps up power and other semiconductor processes there in a transition expected to be completed in December 2022.

The deal is the largest step to date in GF's decision in August 2018 to pivot away from pursuing leading-edge process technology. It also underscores the increasingly competitive nature of the business of making semiconductors.

ON Semi Acquisition Of GF Fab To Be Synergetic

Earlier this week, ON Semiconductor (ON Semi) announced it was buying the GlobalFoundries ex-IBM fab in a $430 million deal that will transition the fab to new ownership over the next three years.

The news comes as no surprise to many in the industry. Though a significant player, GlobalFoundries (GF), did not have the resources to compete with market leader TSMC. In any case, this has been part of a calculated strategy, as Rick Merritt highlighted in his report on the acquisition.

Malcolm Penn, chairman and CEO of market research firm Future Horizons, told EE Times the challenge for GF was that it never really was able to achieve the economies of scale to compete with number one. And for ON Semi, the company has "gone full circle back to the IBM model," expanding its manufacturing base and improving its offer across the entire value chain, from design to manufacturing.

Adding A New Package To The Easy Family, Infineon Now Offers The Broadest 12 Mm Power Module Portfolio Without Base Plate

Munich, Germany – 15 April 2019 – Infineon Technologies AG (FSE: IFX / OTCQX: IFNNY) has extended its Easy family to include a new package: Easy 3B. Together with the other Easy 1B and 2B packages, this comprises the broadest power module portfolio at 12 mm height without base plate. Easy 3B is the ideal platform to extend current inverter designs to achieve higher power without changing much on the mechanical side. At the same time, the new package inherits many of the advantages of the family portfolio such as the flexible pin-grid system, which is very important for customizing. The first module with the new package design is a 400 A, 3-level ANPC (advanced neutral point clamping) device aiming at 1500 V solar inverter applications. The Easy 3B package will be showcased at PCIM 2019.

In utility-scale solar installations, the 1500 V inverter is becoming more and more popular. Total worldwide shipments for this voltage class was 32.7 GW of AC power (output power of solar power plant) in 2018. The expected compound annual growth rate of this voltage class for the next five years is expected to be at 20,6 percent*. In order to address this growing market, this new product is equipped with the latest IGBT technology with a blocking voltage of 950 V. The footprint of the Easy 3B package is 110 mm x 62 mm making it 2,5 times larger than the Easy 2B. This module enables a highly efficient inverter design with a power-rating of up to 150 kW and an industry leading power-density of more than 500 W/Liter.

Samsung Ready with 5-nm EUV

SAN JOSE, Calif. — Samsung announced that it has completed work and is taking orders for a 5-nm foundry process using extreme ultraviolet lithography. It will offer 25% greater density and either 10% more performance or 20% less power consumption than its 7-nm node with EUV announced in October.

Samsung has taped out “many” 7-nm chips as well as one device in a so-called 6-nm node that lets users make custom changes to its 7-nm process and IP blocks. It also announced plans to start production in 2020 on a second EUV foundry line that it is now setting up next to its current S3 line in Hwaseong, Korea.

With the news, the Korean giant aims to steal some thunder from larger rival TSMC, which is scheduled to give an update on its work on a 5-nm node next week. The two are racing to capture a lucrative but shrinking market for leading-edge process technology at a time when it’s becoming more complex and costly to make chips smaller and faster.

Tesla And Panasonic Freeze Gigafactory Expansion Plans

largest electric vehicle battery plant, as concerns mount on Wall Street about sales at Elon Musk’s car company dipping below estimates.

The partners had planned to raise capacity 50 per cent by next year, but with sales of electric vehicles performing below plans, the two companies concluded that a major investment at this stage poses too much of a risk, Nikkei has learnt.

Tesla’s goals of becoming a mass producer of electric vehicles, on the order of 1m cars a year, will be pushed back for now.

TSMC’s Half-Node Shrink From 7nm to 6nm

TAIPEI — TSMC gave details on a new 6nm process expected to provide customers a simple migration from the company’s current 7nm node. The new node wasn’t part of the company’s original roadmap, which went from 7nm to 7nm+ and 5nm.

N6, TSMC’s terminology for the 6nm process, will have three advantages, according to CEO CC Wei, speaking at the company’s latest quarterly results announcement last week. N6 will have design rules that are 100% compatible with N7, allowing customers to directly migrate from N7, he said. In addition, N6 will increase logic density by 18% from N7 and provide a highly competitive performance-to-cost advantage. Finally, N6 will offer shortened cycle time and reduced defect density.

“The numbers N6 and N5 look pretty close, but actually the performance -- they still have a big gap,” Wei said. “N5 compared with N7, actually, the logic density increases by 80%. N6 compared with N7 is only 18%.

Industry News & Trends

Life After Nokia: How Finland's 'Radio Valley' Emerged from the Ashes

Nokia was once the biggest employer in Oulu in northern Finland. When the company closed its mobile phone business in the 2012-13 timeframe, almost 7,000 Nokia staff suddenly had no jobs and no future.

This is where the deep radio heritage from the local universities and expertise in designing and manufacturing mobile phones with Nokia for many years came in very useful.

Low power and high-performance radio will continue to be key factors in electronics systems, particularly with "smart things" that rely on connected devices and the internet of things (IoT). For example, with 5G the effective use of energy and accuracy of beam forming will be critical in improving technologies and systems.

Falcon Launch Reiterates That Space Is Open For Electronics Design

Fifty years ago the world's interest in space technology was at a peak with humans about to set foot on another world for the first time. That rush faded, but interest in space technology has been slowly rebounding as more players have gotten into the game by developing orbital launch capability. Since the Moon landing, China, the EU, France, India, Israel, Iran, Japan, and North Korea have joined the US and Russia among ranks of space-faring nations. Private enterprise has also started fielding its own rocketry systems. Further, thoughts of another Moon landing and manned exploration (along with possible colonization) of Mars is arousing public interest. All this of spells a growing opportunity for the design and fielding of electronic systems for space.

Thursday's launch of the Arabsat-6A communications satellite on the SpaceX Falcon Heavy reusable booster system reiterated that space is opening up to a broad range of designers. At a reported sticker price of just $90 million, the system adds a heavy-payload option to the company's launch offerings, which have collectively served more than 20 missions. Such commercial offerings of launch capability are making space ever more accessible for development.

Semiconductor Equipment Slide Worsens

SAN FRANCISCO — Sales of semiconductor manufacturing equipment continued to slide in March, deepening a sales slump that began late last year with the end of the memory market boom.

The three-month moving average for fab tool sales by North American vendors slipped to $1.83 billion in March, down 1.9% compared to February and down 24.6% compared to March 2018, according to the SEMI trade association.

March marked the fifth-straight month that the three-month average of fab tool sales by North American vendors declined year over year, according to SEMI. The decline was the steepest yet of the down cycle.

“March billings of North American test and assembly equipment manufacturers showed modest improvement over the prior month,” said Terry Tsao, SEMI’s chief marketing officer, in a press statement. “Despite the increase for this segment, overall billings growth expectations for North American semiconductor equipment suppliers appear to be muted for the rest of the year.”

East European News & Trends

New Contactless Device "Sees" Through Human Tissues

Researchers at BioPhysMed-NN, a private company in Nizhny Novgorod, in the mid-Volga area, have developed a device that is said to be able to help diagnose one's damaged tissues. What appears to beat much of the existing competition is the ability of the instrument to "see" a damaged area from a distance, even through bandage or clothes. No physical contact with the body is required.

According to Dr. Andrey Martusevich who heads the company, it's microwave sounding that is at the heart of the development. Unlike conventional methods, such as X-ray or ultrasound, the technology helps pierce through any material, including those on heavily burned skin areas. Early diagnostics of melanoma (a skin tumor) is also possible. Prospective use of the technology may include cosmetic applications.

Koreans Use Machine Learning Technology Of Russian Origin

Stickeroid AI, a two-year-old start-up, earlier this year sold its technology to a Korean group of companies called Naver.

The Cyprus-based company of Russian origin is developing a cloud platform that applies machine learning to converting words into stickers.

According to CEO Viktor Kokh, it's "not the company that's been sold in the deal; it's only part of the technology."

MTS Launches Corporate Fund To Invest $15+m In Start-Ups

MTS, one of Russia's main mobile operators, has launched a corporate venture fund targeting start-ups across Russia and neighboring countries, EWDN reported, citing Russian business daily Vedomosti and other sources.

The fund expects to invest around $15.5m in early-stage start-ups over the next two years.

Last year the corporation launched an in-house accelerator, MTS StartUp Hub, but start-ups may receive funding from the new corporate fund irrespective of whether they participate in that accelerator or not.

Through its accelerator, equity investments and acquisitions, MTS aims to develop an ecosystem of services and products that go beyond the traditional telecom sector. Last year, for example, the operator acquired two online event ticketing companies as well as an international eSports club. It also has stakes in Ozon, one of the largest Russian e-commerce companies.

Russian Start-Up Develops Drone Tech For Warehouses

UVL Robotics, a domestic start-up company, is developing autonomous drones for warehousing.

The UVL Robotics team is said to have developed and already completed successful tests for two of its drone systems, and is also testing the systems further in partnership with seven companies.

“Our plans include commercial services in inventory management. Customers include large-scale 3PL operators, FMCG sector players and retail chains. In the long term, we want to establish presence in the international target markets through active interaction with western logistic companies,” UVL Robotics CEO Evgeniy Grankin said.

World Economic Round Up

A spike in the oil price has preceded every big meltdown in the world economy since the 1970s. The 2011-2014 spell of high prices delayed global recovery from the financial crisis. So a rise of 45 per cent in benchmark prices within five months would generally be cause for alarm. But oil's steady climb since last December, fuelled by Opec production cuts, conflict in Libya and US sanctions against Venezuela and Iran has barely troubled the markets: instead, global stocks have rallied as recession fears waned. Brexit is likely to threaten the pound's status as a global reserve currency according to a survey of central bank money managers who say Britain's departure from the EU will alter their views on sterling

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 2019

Future Horizons Events

- Silicon Chip Industry Training Seminar – London – 10th June 2019
- Industry Forecast Briefing, London – 17th September 2019 2019

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

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

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Industry Events

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MARK YOUR CALENDER FOR THE NEXT

SILICON CHIP INDUSTRY WORKSHOP
MONDAY 10th June 2019
AND
INDUSTRY FORECAST BRIEFING
TUESDAY 17th September 2019

BOTH BEING HELD AT

HOLIDAY INN KENSINGTON FORUM, LONDON

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