FutureHorizons

The Global Semiconductor Industry Analysts

Future Horizons Newsletter

January 2019

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Industry News By Company

Chip Sales Slipped Sequentially in November

AN FRANCISCO — Global semiconductor sales once again increased on an annual basis in November, but posted a month-to-month decline for the first time in nine months.

The three-month rolling average of chip sales for November totaled $41.8 billion, according the the World Semiconductor Trade Statistics organization. The total represents an increase of 9.8% compared to November 2017, but a decline of 1.1% compared to October.

While semiconductor sales growth has moderated somewhat in recent months, the three-month average of chip sales has increased in every month this year. Sequentially, sales have increased on a month-to-month basis in every month since February, when sales declined 2.2% from January due to typical seasonality.

Ceva Unveils Hybrid DSP/Controller

Every CES unveils a host of new apps, gadgets and packaging gimmicks. Diverse products, ranging from smart speakers and electric motorcycles to IoT devices and robots, often add multiple microphones, cameras and sensors to the previous model. This puts extra pressure on the chips inside systems to handle enhancements such as noise reduction, speech recognition and neural networks, in addition to PHY control (for modems) and sensor fusion — all in a much more efficient manner, according to Ceva Inc.

Taking a cue from market trends, Ceva has developed a new DSP architecture called Ceva-BX which it will be demonstrating at CES. Moshe Sheier, vice president of marketing at Ceva, calls Ceva-BX a “hybrid DSP/Controller” architecture.

Ceva-BX follows Ceva-X DSP cores, introduced more than three years ago, Sheier said. It offers four times more horsepower compared to Ceva-X DSP. Sheier also described this beefed-up DSP as “a multi-purpose DSP,” whose architecture sits between a legacy DSP and a programmable, general-purpose MCU such as ARM or MIPS.

Cree and STMicroelectronics Announce Multi-Year Silicon Carbide Wafer Supply Agreement

Cree, Inc. (Nasdaq: CREE) announces that it signed a multi-year agreement to produce and supply its Wolfspeed® silicon carbide (SiC) wafers to STMicroelectronics (NYSE: STM), a global semiconductor leader serving customers across the spectrum of electronics applications. The agreement governs the supply of a quarter billion dollars of Cree’s advanced 150mm silicon carbide bare and epitaxial wafers to STMicroelectronics during this period of extraordinary growth and demand for silicon carbide power devices.

"ST is the only semiconductor company with automotive-grade silicon carbide in mass production today, and we want to press forward to grow our SiC business both in terms of volume and breadth of applications served, targeting leadership in a market estimated at more than $3B in 2025," said Jean-Marc Chery, president and CEO of STMicroelectronics. "This agreement with Cree will improve our flexibility, sustain our ambition and plans, and contribute to boosting the pervasion of SiC in automotive and industrial applications."

"We remain focused on increasing the adoption of silicon carbide-based solutions, and this agreement is a testament to our mission," said Gregg Lowe, CEO of Cree. "This is the third multi-year agreement that we have signed this past year in support of the industry's transition from silicon to silicon carbide. As the world leader in silicon carbide, Cree continues to expand capacity to meet the growing market needs, particularly in industrial and automotive applications. We are extremely pleased to continue to support STMicroelectronics as we both invest to accelerate this market.

IBM Unveils First Standalone Quantum Computer

This is one computer you won't be able to buy after the Consumer Electronics Show.

IBM has built the first standalone quantum computer, packing some of the world's most advanced science into a 9ft glass cube. But so far there is only one — and while IBM doesn't rule out one day selling such systems, its business plan calls for renting access to the hardware over the internet rather than shipping it to customers.

Until now, quantum computers, which harness the power of quantum mechanics to handle calculations that could eventually leave today's machines in the dust, have existed only in disassembled form in research labs. They are made up of a number of elements: reinforced chambers to hold the quantum bits, or qubits, that handle the computation; tanks of liquid helium and other cryogenic equipment to keep the qubits at a temperature close to absolute zero; and racks of electronics to control the action of the qubits and "read" their output, all tied together by hundreds of yards of cabling.

Reverse Conducting IGBT With Protecting Features Delivers Innovative Solution For Induction Heating Applications

Munich, Germany – 8 January 2019 – Infineon Technologies AG (FSE: IFX / OTCQX: IFNNY) is introducing the TRENCHSTOP™ Feature IGBT Protected Series for Induction Heating. Compared to a standard RC-H5 reverse conduction IGBT the new family integrates logic functionality and a dedicated driver IC for various programmable protection features in a single device. The Protected F Series guarantees higher system reliability with less design and programming effort for all induction heating applications using a single-ended topology.

The fast growing market of induction heating systems requires ever-higher performance and better reliability to protect brand reputation against any failure. To this end, the TRENCHSTOP Feature IGBT Protected Series makes use of the industry's best IGBT performance considering the main parameters blocking voltage, static losses and conduction losses. Additionally, it integrates protection functions against over-voltage, over-current and over-temperature. Combining this functionality with additional diagnostic features, the device reliability becomes independent from microcontrollers (MCU). Thus, designers can integrate less advanced MCUs for reduced complexity and cost.

Will Chip-Makers Bring Cheer to Domestic Handset Makers?

BENGALURU — Five months ago, when Adam Peng, Unisoc CEO visited India he sounded quite optimistic about the India market. Like every other visiting CEO he was talking about the general market sentiment, engineering talent, and of course the burgeoning consumer market and how these factors would eventually impact fabless semiconductor companies like UniSoc.

Compared to Qualcomm or MediaTek this Chinese fabless company formerly known as Spreadtrum, is not a very well-known name in India though the company has been providing chips to a number of Indian manufacturers like Samsung and Reliance as well as a few local handset manufacturers. Moreover, there was an earlier Strategy Analytics report which stated Spreadtrum lost market share in 2017 because it didn't accelerate its LTE product roadmap through innovation.

So, it did seem like a pep talk and the oft-heard chant of how the Indian mobile handset market is the fastest growing market in the world and is the next best place to expand.

Industry News & Trends

Apple Sees Significant Slump In Iphone Sales

Apple has acknowledged demand for iPhones is waning, fulfilling the worst fears of investors concerned the company's most profitable product has lost some of its luster.

The reckoning came in the form of a warning that Apple CEO Tim Cook delivered to the company's shareholders in a letter released after the stock market closed on Wednesday.

Mr Cook said Apple's revenue for the quarter including the crucial holiday shopping season will fall well below Apple's earlier projections and those of analysts, whose estimates sway the stock market.

Apple now expects revenue of 84 billion dollars for the quarter spanning from October through December.

Analysts polled by FactSet had expected Apple's revenue to be about 9% higher — 91.3 billion dollars.

5G Needs New Approach To Security

LONDON — Planning for security in 5G networks requires a whole new approach compared to previous-generation networks to protect network infrastructure, according to a new technical report on 5G architecture and security published by the U.K. government.

With 5G rollouts planned in some form or another around the world this year, the very fact that the architecture opens up opportunities for multiple players to operate on the network (rather than just a single network operator) could significantly increase the attack surface for connected devices, autonomous vehicles, and other use cases flagged up for 5G. Hence, the report suggests that a whole new mobile security strategy is needed and makes four significant security-based recommendations that the authors believe will protect vital infrastructure.

"Since the age of 2G, mobile networks have been some of the most secure things on the planet, helped by the fact that each one is controlled by a single network operator," said Peter Claydon, project director of AutoAir, one of the 5G testbeds in the U.K. that contributed to the report. "5G opens up mobile networks, allowing network operators to provide 'slices' of their networks to customers. Also, customers' data can be offloaded and processed at the edge of the network without going through the secure network core. This report is a timely reminder of the security challenges that these new features raise."

Developing A Next-Gen Display Ecosystem

HSINCHU, Taiwan — On this island, where manufacturing is king, INT Tech founder David Chu has embarked on what he calls a "lonely journey."

Rather than entering into production, his company is developing unique next-generation display technology that it is licensing to partners in a growing ecosystem of chip designers and system manufacturers as well as materials and equipment makers.

At the center of that strategy is INT Tech's ultra-high pixel-density (UHPD) AMOLED display platform — which delivers 2,228 pixels per inch (PPI) — the highest pixel density on glass. The company will introduce the technology that provides a more than 400% improvement from smartphone displays and enables a new range of VR/AR applications at CES 2019 in Las Vegas next week.

"5G will drive the development of next-generation displays," Chu said to EE Times in an interview at the company headquarters in Hsinchu. "If you look for patents on 22,000 to 28,000 PPI for color AMOLED on glass you will find one company. Ours."

Intel Demonstrates 10nm Ice Lake CPU

LAS VEGAS – Intel uncorked a small geyser of news at the Consumer Electronics Show, including word of the company's first volume 10nm PC processor — which will be called Ice Lake — discussion of a new hybrid CPU architecture that combines different types of CPU cores in a single system on a chip (SOC) and the introduction of a new chip aimed at inference-based AI applications.

Intel also announced a new chip designed specifically to perform edge computing duties inside 5G base stations and introduced six new members of its 9th Gen iCore processor family. The company also disclosed a collaboration with Comcast to develop a 10 Gbps cable modem and a new effort to expand the PC market called Project Athena.

The announcements, voluminous in number yet light in detail (necessarily so, given time constraints), were interspersed with commentary designed to bolster the perception of Intel's ongoing relevance, which probably says more about Wall Street than it does about Intel. Interim CEO Bob Swan did not take the CES stage.

QD-Based Microleds To Shrink Pixels By 87%

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.

East European News & Trends

Yandex Launches Own-Branded, AI-Powered Smartphone In Russia

Earlier this month Yandex, the NASDAQ-listed Russian search giant, announced the release of its first branded smartphone, Yandex.Phone, EWDN reported.

Priced at around $270, this Chinese-made device weighs in a relatively modest range of smartphones. Still, it is overpriced according to mobile phone resellers, if considering its unimpressive design and speed.

But this device distinguishes itself by the large array of preinstalled Yandex apps, including certain prepaid services and the integration of an AI assistant.

From mail to maps and navigator, to e-commerce, to taxi hailing, to train schedule and weather, the Yandex apps have become extremely popular in Russia and other Russian-speaking areas. Key to their success have been their high technological performance, ease of use, and good adaptation to the local context.

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

New Industrial Scanner Focused On Global Markets

InSize, a Russian company, has developed and is offering a special industrial scanner that enables the measuring of the key parameters of goods (height, length, width, weight, etc.) of any shape.

InSize’s key competitive advantages are said to include the high speed of equipment maintenance and a very competitive price among systems used to gauge irregularly shaped items. With the Russian system, additional parameters can be taken into account when gauging goods, such as the type of material, storage conditions, allowance for one item being put inside another, etc.

World Economic Round Up

US stocks have closed at the lowest level in 14 months as investors worried about the health of the global economy ahead of the final policy meeting of the Federal Reserve at the end of 2018. The declines drove Wall Street deeper into correction territory after a late-afternoon wave of selling swept through the tech, energy, materials and financial sectors and led to a more than a 2 percent stumble for the major indices.

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 – 11th March 2019
- Industry Forecast Briefing, London – 22nd January 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 11th March 2019
AND
INDUSTRY FORECAST BRIEFING
TUESDAY 22nd January 2019

BOTH BEING HELD AT

HOLIDAY INN KENSINGTON FORUM, LONDON

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