# FutureHorizons

The Global Semiconductor Industry Analysts

# **FH MONDAY**

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Apple Will Be Hard-Pressed to Movement in India's Chip Huawei, Qualcomm, Samsung Build a Rock Star 5G Modem **Design Industry Reveal Integrated 5G Chips** This week, Indian analog and Berlin, Germany - Mobile Everybody is looking toward mixed-signal design services processors with integrated 5G the Apple event on September firm Sankalp Semiconductor 10th, expecting new iPhones. modems are the flavor of the was acquired in an all-cash week, as Europe's equivalent Those phones will certainly deal by HCL Technologies, of CES kicked off in Berlin not support 5G. While 5G one of the country's leading IT with launches from Huawei, rollouts are ramping up, I outsourcing firms, for just over Samsung and Qualcomm. wanted to take stock of the US\$25 million. situation in their preparedness for 5G phones and specifically how they are placed from the modem perspective. read more read more read more FutureHorizons TALK TO US 5G Networks Need to be Analog IP Startup Onboard Adaptable Sir Hossein Yossaie **EVENTS** Today's wireless networks need the ability to adapt to Silicon Chip Industry use cases and business Sir Hossein Yassaie, the Seminar models," said Deepak Das to former CEO of Imagination 11 Nov - 2019 – London UK about 50 engineers at Technologies, has joined the Verizon's East Coast board of directors of analog Industry Forecast Briefing Innovation Center. Das is Sr. intellectual property (IP) Director of Engineering/Chief startup Agile Analog. - 17 Sept 2019 - London UK Cloud Architect at Federated DON'T MISS OUT.-Wireless, focused on 5G, BOOK NOW BY CALLING spectrum sharing, and the hybrid cloud +44 1732 740440 **OR EMAIL** read more read more mail@futurehorizons.com Future Horizons Ltd, • 44 Bethel Road • Sevenoaks • Kent TN13 3UE • England

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## Huawei, Qualcomm, Samsung Reveal Integrated 5G Chips

Berlin, Germany — Mobile processors with integrated 5G modems are the flavor of the week, as Europe's equivalent of CES kicked off in Berlin with launches from Huawei, Samsung and Qualcomm.

With big fanfare, Huawei launched what it claims is the world's first flagship 5G system on chip (SoC), the Kirin 990 5G, a 10.3 billion transistor chip manufactured in a TSMC 7nm+ EUV process and supporting both non-standalone (NSA) and standalone (SA) radio architectures simultaneously. The chip will be a key feature of the Huawei Mate 30 phone launching in a couple of weeks.

The Kirin 990 has two versions: one that supports 5G, and a standard one supporting up to 4G. Other than this, the other key difference between the two is the 5G chip is produced in the 7nm+ EUV process, and the neural processing unit (NPU) features 2 big cores instead of just one.

### Apple Will Be Hard-Pressed to Build a Rock Star 5G Modem

After buying Intel's modem business, Apple has a steep hill to climb to build a premium 5G modem. And it might yet have to buy an RF IC company.

Everybody is looking toward the Apple event on September 10th, expecting new iPhones. Those phones will certainly not support 5G. While 5G rollouts are ramping up, I wanted to take stock of the situation in their preparedness for 5G phones and specifically how they are placed from the modem perspective.

Since Apple announced the deal to buy Intel's failed modem business there has been much analysis of the reasons and the merits of the deal. My opinions were quoted in CNBC and NBC. The real question now is, "Can Apple turn around the lagging Intel modem technology, and develop a competitive modem?"

#### Movement in India's Chip Design Industry

This week, Indian analog and mixed-signal design services firm Sankalp Semiconductor was acquired in an all-cash deal by HCL Technologies, one of the country's leading IT outsourcing firms, for just over US\$25 million. The acquisition is part of the latter's strategic plans to expand into newer market domains and offer a wider range of services to its customers in the analog and mixed signal space.

Sankalp Semiconductor CEO Samir Patel said, "The strategic acquisition will enable synergies between engineering teams allowing us to offer a broader semiconductor know-how to a wider variety of customers. The joined forces will enable deeper engagements with 5G Networks Need to be Adaptablecustomers in the end-to-end digital and mixed signal design space."

#### 5G Networks Need to be Adaptable

Today's wireless networks need the ability to adapt to use cases and business models," said Deepak Das to about 50 engineers at Verizon's East Coast Innovation Center.

Das is Sr. Director of Engineering/Chief Cloud Architect at Federated Wireless, focused on 5G, spectrum sharing, and the hybrid cloud. He spoke at a meeting of the Boston IEEE Communications Society Chapter on September 5.

Prior to 5G, the goal of developing a wireless network was all about speed, as in how many bits could the network deliver to users per second. "With 5G, there's no one-size-fits-all," said Das. Today, wireless networks must combine 5G, spectrum sharing, and hybrid cloud computing to reach the needed flexibility.

#### Analog IP Startup Onboard Sir Hossein Yossaie

Sir Hossein Yassaie, the former CEO of Imagination Technologies, has joined the board of directors of analog intellectual property (IP) startup Agile Analog.

Yassaie, who stepped down from Imagination Technologies in 2016, was brought in as non-executive board director because of his industry expertise, contacts, experience in floating a company, according to Andrew Farrugia, the company's VP marketing, in a telephone briefing with EE Times. Farrugia said Yassaie may also assist in development of its technology.

Agile Analog, based in Cambridge in the UK, came out of stealth mode in May 2019 with the announcement of a \$5m funding round. It said it intends to address a bottleneck in chip design with its AI-driven platform that replaces the manual design process for analog IP.