



### FH MONDAY

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#### Foundries Target China

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#### IoT Security Costs are Manageable

Internet of Things device security has become more critical than ever, as the risks now outweigh the opportunities when it comes to potential threats to an individual or even an entire government.

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## **TSMC Aims To Build World's First 3-nm Fab**

TAIPEI — Taiwan Semiconductor Manufacturing Co. (TSMC) will build the world's first 3-nm fab in the Tainan Science Park in southern Taiwan, where the company does the bulk of its manufacturing.

The announcement lays to rest speculation that the company might build its next chip facility in the U.S., attracted by incentives offered by the administration of President Donald Trump to bring more manufacturing to America.

About a year ago, TSMC said it planned to build its next fab at the 5-nm to 3-nm technology node as early as 2022. The more recent one-paragraph announcement from TSMC on Sept. 29 didn't provide a timeframe for the opening of the 3-nm fab

## **5G Radio Spec Slims Down**

SAN JOSE, Calif. — Wanshi Chen is on the hot seat for 5G.

The chairman of the 3GPP's RAN1 committee is tasked with delivering by the end of the year a draft for the next-generation cellular radio. The spec will form the blueprint for silicon needed to make the first standard 5G connection.

On one side, carriers and their vendors are calling for the specs ASAP so they can test and launch 5G services as early as next year. On the other side, as many as 800 engineers are showing up at meetings of Chen's group, submitting as many as 3,000 proposals per meeting in hopes of getting a feature in the spec.

"Some sessions have run as late as 1 a.m., but a typical day is 12 hours," said Chen, a principal engineer at Qualcomm who was elected chair of RAN1 in August after nine years attending meetings, four of them as a vice chair.

## **Apple Watch Packs Q'comm LTE**

SAN JOSE, Calif. — Qualcomm supplied the LTE modem in the Apple Watch Series 3 as well as a handful of other wireless chips, according to a teardown from TechInsights. The latest watch appears to continue to push the boundaries of system-in-package design, packing a dozen major chips and dozens of discretes.

The new watch uses the same size SiP as the existing device. However, the Series 3 clearly packs more components, TechInsights said.

TechInsights found the Qualcomm MDM9635M, a Snapdragon X7 LTE modem in the 42mm sport band model A1861 with GPS + cellular it opened up. The same LTE chip appeared in the iPhone 6S/6S Plus, the Samsung Galaxy S6 Edge and other handsets. The modem was mated in a package-on-package with a Samsung K4P1G324EH DRAM in the watch.

## **Foundries Target China**

SAN FRANCISCO — China is expected to account for 13 percent of sales for the world's pure-play chip foundries in 2017, up from 12 percent last year, as the country's fabless semiconductor activity continues to accelerate.

Pure play foundry sales in China are expected to reach \$7 billion in 2017, up 16 percent from 2016. The growth rate is more than double the overall growth rate for global pure play foundry sales, the research firm noted.

TSMC is forecast to hold about 46 percent of the market for China's pure play foundry sales with sales of about \$3.2 billion, up 10 percent from 2016.

Most pure-play foundries — including TSMC, GlobalFoundries, UMC, Powerchip and TowerJazz — have made plans to locate or expand IC production in mainland China over the next few years, IC Insights noted. Most of these fabs in China are scheduled to begin production late this year or next year.

## **IoT Security Costs Are Manageable**

Internet of Things device security has become more critical than ever, as the risks now outweigh the opportunities when it comes to potential threats to an individual or even an entire government.

Gone are the days of security-through-obscurity for connected consumer products. Designers can no longer ignore the risk that a potential security compromise poses to their brands.

As a result of growing concerns, U.S. lawmakers recently introduced the Internet of Things Cybersecurity Improvement Act of 2017, which seeks to impose minimum security requirements on devices purchased by the government. While the proposed legislation focuses on public sector IoT, it is a likely stepping stone to broader regulation of security in all IoT devices.