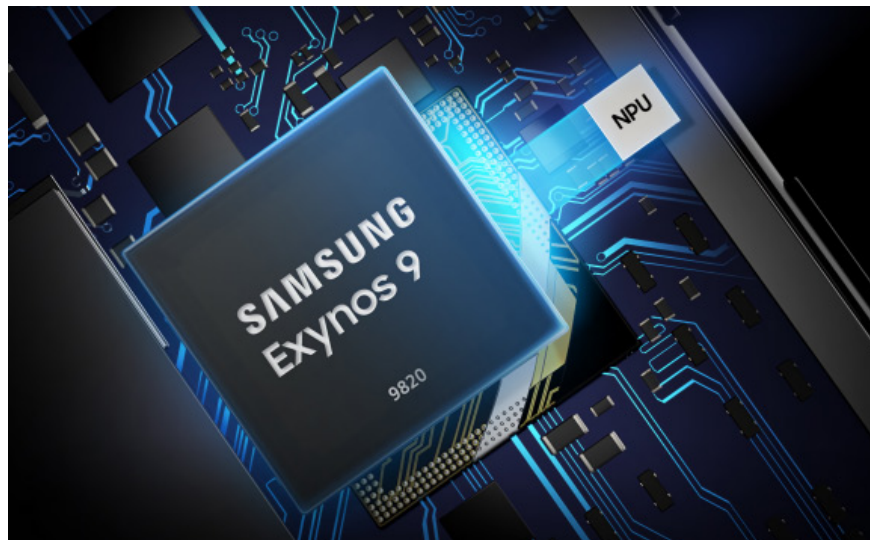


Exynos 9820: Samsung's first SoC chipset manufactured on 8nm FinFET process, has separate AI chip, improves performance

Recently, Samsung introduced Exynos 9820, its latest SoC chipset. Accordingly, this 8-core flagship chip is equipped with an LTE Advanced modem with download path speeds of up to 2Gbps, a fourth-generation custom processor and an improved NPU neuro-processor for handling Manage AI applications right on the device.

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Exynos 9820 is designed with new tri-cluster architecture (three CPU clusters) with two high-performance ARM Cortex-A75 cores, two custom-designed cores and four energy-efficient cores Cortex-A55.



This new SoC chipset is built on 8nm FinFET process, when combined with a new task scheduler will increase multi-core performance by up to 15%, single-core performance increases by 20% compared to the previous generation. Overall, Exynos 9820 has 40% improved energy efficiency compared to its predecessor.

According to Samsung, the Exynos 9820 is the company's first SoC chip, which has a dedicated nerve processor (NPU) capable of performing AI tasks 7 times faster than the previous generation.

The graphics performance of the Exynos 9820 increased by 40% thanks to the integrated Mali-G76 MP12 GPU with wider execution engines with double lanes compared to Exynos 9810.



The Exynos 9820 supports up to 5 sensors, including infrared sensors, for faster autofocus. In addition, the Exynos 9820 also supports imaging sensors in the front and rear up to 22px, dual 16Mpx camera cluster; Support 10-bit color HDR movie recording, handle 4K videos with 150 frames per second or 8K videos at 30 frames per second.

Thanks to the integration of 4x4 MIMO, 256-QAM and eLAA technology, Exynos 9820 achieves download speeds of up to 2Gbps and download speeds of up to 316 Mbps, significantly improved compared to Exynos 9810 (1.2Gbps download speed).

Exynos 9820 continues to be equipped with Samsung's own security chip to store and manage personal data and biometric data of users separately.

As expected, Samsung will probably start Exynos 9820 mass production by the end of 2018.

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