

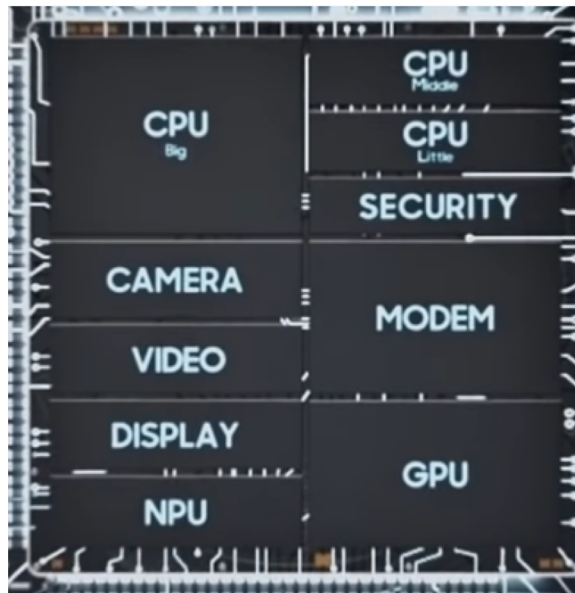
# Samsung Exynos Processor


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## Exynos 9820

- 64 Bit octa-core ARM-Based Processor
- Size of 8nm
  - Presented by Hwasung Rhee
- Supports up to 12 GB of memory
- System-on-Chips
- Used for the Samsung Galaxy s10 models
- Last model to use DUV





The 4th generation Custom CPU x 2      Cortex®-A75 x 2      Cortex®-A55 x 4

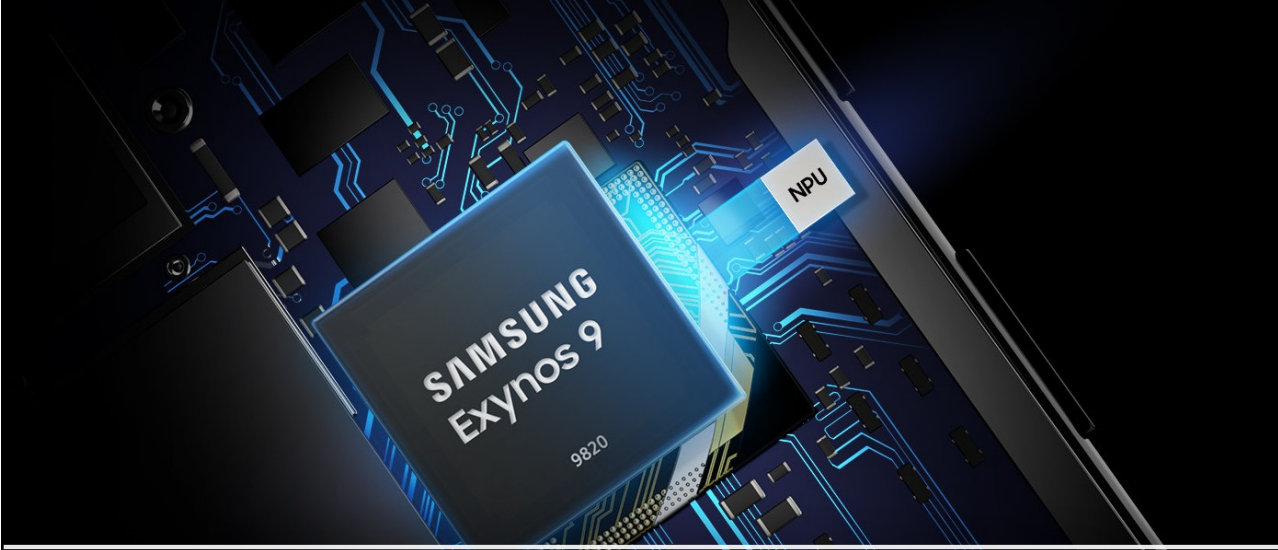
Custom CPU      Custom CPU

Cortex®-A75      Cortex®-A75      Cortex®-A55      Cortex®-A55

Cortex®-A55      Cortex®-A55

CPU ( Central Processing Unit)

- 2 Exynos M4 (Cheetah)
  - 2.73 GHz
  - Enhanced memory access capability
- 2 Cortex – A75
  - 2.31 GHz
  - Three instructions in parallel per clock cycle
- 4 Cortex – A55
  - 1.95 GHz
  - Response time for touchscreen







SAMSUNG Exynos 9 9820

NPU

NPU (Neural Processing Unit)

# Performance

	AI functions are seven times faster	NPU
	Single core performance improves by 20 percent	Custom CPU
	Multi-Core performance boosts by 15 percent	Intelligent task scheduler
	Power efficiency boost by 40 percent	Custom CPU

# Sources

- <https://www.samsung.com/semiconductor/minisite/exynos/products/mobileprocessor/exynos-9-series-9820/>
- [https://en.wikipedia.org/wiki/Exynos#Exynos\\_9800\\_series\\_\(2018/19\)](https://en.wikipedia.org/wiki/Exynos#Exynos_9800_series_(2018/19))
- <https://www.samsung.com/semiconductor/minisite/exynos/newsroom/pressrelease/on-device-ai-processing-with-the-new-exynos-9-series-9820/>
- <https://fuse.wikichip.org/news/1443/vlsi-2018-samsungs-8nm-8lpp-a-10nm-extension/>

