APPLE A12 PROCESSOR

ANDREW NASCIMENTO

9th Generation Apple-designed processor
Debuted on iPhone XS
First commercial 7nm mobile processor
6.9 Billion Transistors
2.49 GHz
64-Bit ARM Architecture
System-on-chip:
- 2 high-performance cores
- 4 energy-efficient cores
- 4-core GPU
- 8-core neural engine
- 4 GB RAM
- Auxiliary Processors
PoP: Package on Package
Neural Engine:
- Processor dedicated to machine learning functions
- Used by photos app to identify objects
- Used in AR apps to render objects
Vortex:
- Increased clock speed, decreased memory latency

Tempest
- Reduced clock speed, twice the power efficiency
REFERENCES

- https://www.techinsights.com/blog/apple-iphone-xs-max-teardown
- https://en.wikichip.org/wiki/apple/ax/a12
- https://en.wikipedia.org/wiki/Apple_A12
- https://www.notebookcheck.net/A11-Bionic-vs-A12-Bionic_9250_10166.247596.0.html