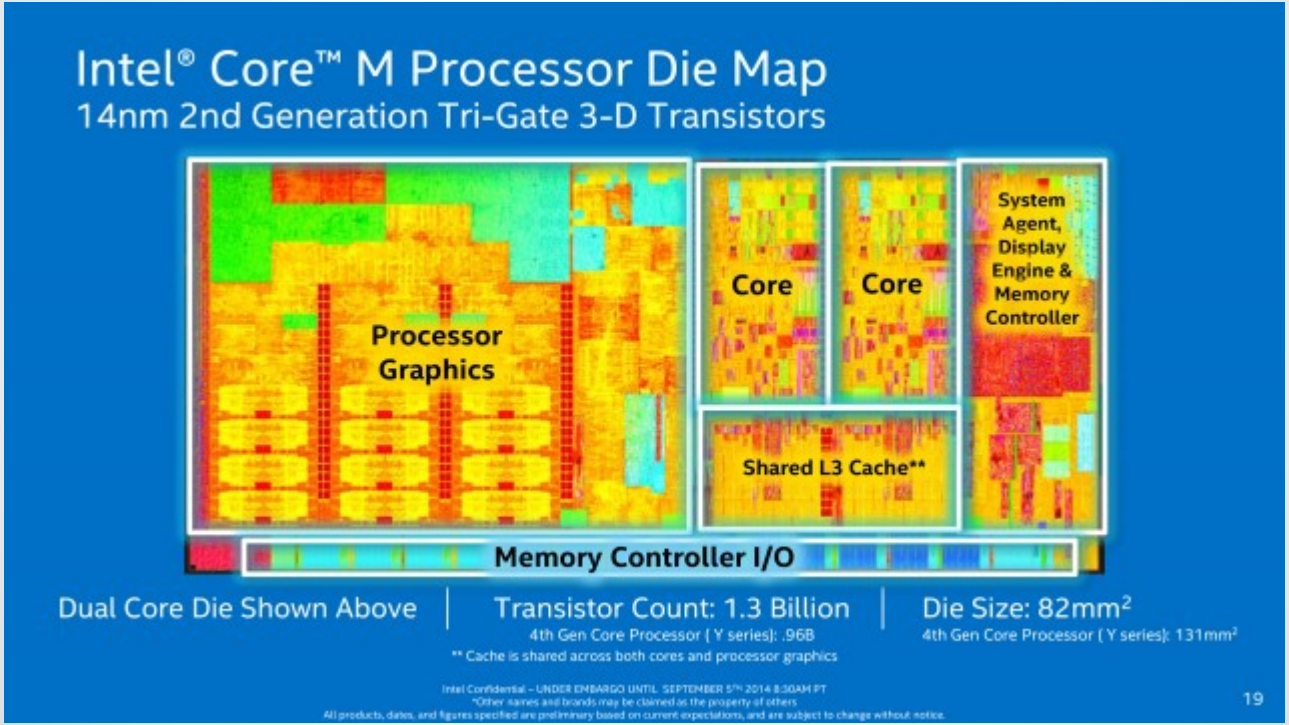
Intel Core M


Intel® Core™ M Processor Die Map
14nm 2nd Generation Tri-Gate 3-D Transistors
Processor Graphics
Core
Core
System Agent, Display Engine & Memory Controller
Shared L3 Cache**
Memory Controller I/O
Dual Core Die Shown Above
Transistor Count: 1.3 Billion
4th Gen Core Processor (Y series): .96B
** Cache is shared across both cores and processor graphics
Die Size: 82mm²
4th Gen Core Processor (Y series): 131mm²
Intel Confidential – UNDER EMBARGO UNTIL SEPTEMBER 5TH 2014 8:30AM PT
*Other names and brands may be claimed as the property of others
All products, dates, and figures specified are preliminary based on current expectations, and are subject to change without notice.
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Intel Core M

- Based on Broadwell, a 14nm version of Haswell
- “Tick” of Intel's tick-tock strategy
- Die area is 37% smaller than Haswell-Y
- Designed for fanless 9mm devices, with lower TDP than previous Intel x86 implementations
- At 4.5W, the processor is targeted at notebooks
- Each Core M processor will have 2 cores, each supporting 2 threads
- Each core will be able to turbo independently
- Commercial products expected in Q1 2015

Intel Core M Specifications			
	Core M-5Y70	Core M-5Y10a	Core M-5Y10
Cores / Threads	2 / 4	2 / 4	2 / 4
Base Frequency / MHz	1100	800	800
Turbo Frequency / MHz	2600	2000	2000
Processor Graphics	HD 5300	HD 5300	HD 5300
IGP Base Frequency / MHz	100	100	100
IGP Turbo Frequency / MHz	850	800	800
L3 Cache	4 MB	4 MB	4 MB
TDP	4.5 W	4.5 W	4.5 W
LPDDR3/DDR3L Support	1600 MHz	1600 MHz	1600 MHz
Intel vPro	Yes	No	No
Intel TXT	Yes	No	No
Intel VT-d/VT-x	Yes	Yes	Yes
Intel AES-NI	Yes	Yes	Yes

Initial Benchmarking

- According to HotHardware, they got these results from a modified version of Llama Mountain platform, with a Core M 5Y70-powered Windows tablet:
  - Cinebench R 11.5:
    - OpenGL- 16.96 FPS
    - CPU- 2.48 pts
  - Sunspider JavaScript- 142.8
  - Futuremark's 3DMark Ice Storm- 50,985
- These results are better than Atom, AMD, and ARM commercial tablets, but these are initial results from an Intel reference tablet

Sources

- http://anandtech.com/show/8475/intels-core-m-strategy-cpu-specifications-for-9mm-fanless-tablets
- http://hothardware.com/News/First-Actual-Intel-Broadwell-Tablet-Benchmarks-From-IDF-2014/
- http://www.intel.com/content/www/us/en/processors/core/next-generation-core-processors.html