Assignment

Sunday, 5 January 2025 11:30 AM

Q) Find specifications of your laptop?

Display

- Retina display
- 13.3-inch (diagonal) LED-backlit display with IPS technology; 2560x1600 native resolution at 227 pixels per inch with support for millions of colours
- Supported scaled resolutions:
  - 1680x1050
  - 1440x900
  - 1024x640

- 400 nits brightness
- Wide colour (P3)
- True Tone technology

Chip

- Apple M1 chip
- 8-core CPU with 4 performance cores and 4 efficiency cores
- 7-core GPU, 8-core GPU
- 16-core Neural Engine

Battery and Power

- Up to 15 hours wireless web
- Up to 18 hours Apple TV app movie playback
- Built-in 49.9-watt-hour lithium-polymer battery
- 30W USB-C Power Adapter

3.5 mm headphone jack

Charging and Expansion

- Two Thunderbolt / USB 4 ports with support for:
- Charging
- DisplayPort
- Thunderbolt 3 (up to 40Gb/s)
- USB 4 (up to 40Gb/s)
- USB 3.1 Gen 2 (up to 10Gb/s)

Memory

- 8GB unified memory - 128-bit LPDDR4X SDRAM and a memory bandwidth of 70 GB/s.

Storage

- 256GB SSD - The M1 MacBook Air has a read speed of 2,830 MB/s and a write speed of 2,139 MB/s.

Keyboard and Trackpad

- Backlit Magic Keyboard with:
- 78 (US) or 79 (ISO) keys including 12 function keys and 4 arrow keys in an inverted “T” arrangement
- Ambient light sensor
- Force Touch trackpad for precise cursor control and pressure-sensing capabilities; enables Force clicks, accelerators, pressure-sensitive drawing and Multi-Touch gestures

Touch ID

- Touch ID sensor

Wireless

- Wi-Fi
- 802.11ax Wi-Fi 6 wireless networking
- IEEE 802.11a/b/g/n/ac compatible
- Bluetooth 5.0 wireless technology

Camera

- 720p FaceTime HD camera
- Advanced image signal processor with computational video

Display Support - Simultaneously supports full native resolution on the built-in display at millions of colours and:

- One external display with up to 6K resolution at 60Hz
  Thunderbolt 3 digital video output
- Native DisplayPort output over USB-C
- VGA, HDMI, DVI and Thunderbolt 2 output supported using adapters (sold separately)

Audio

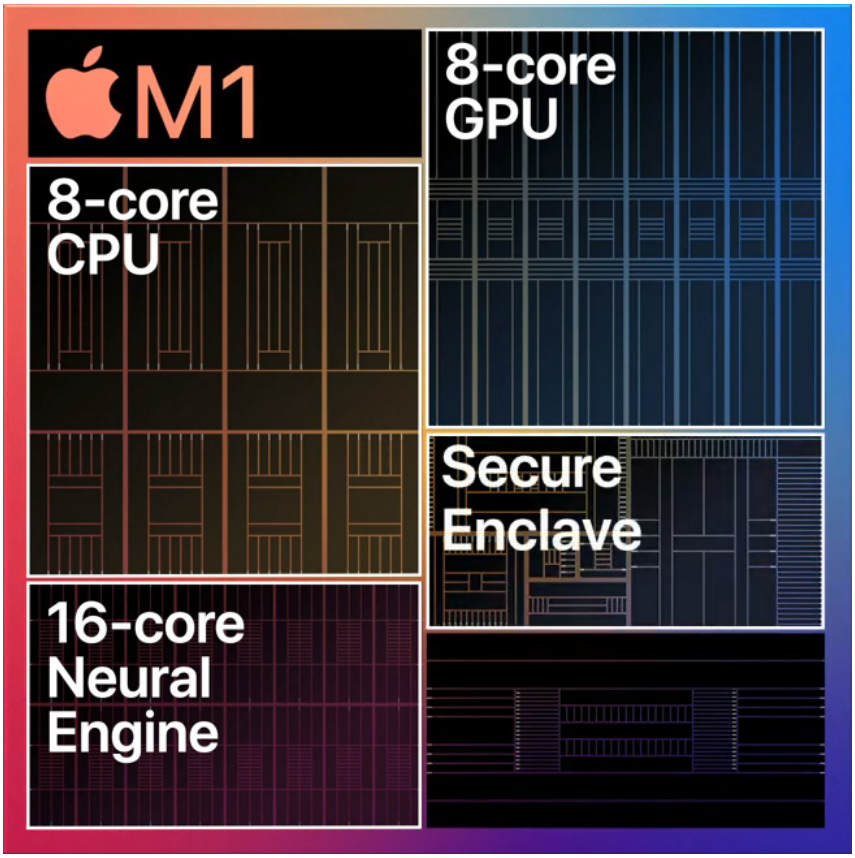
- Stereo speakers
- Wide stereo sound
- Support for Dolby Atmos playback
- Three-mic array with directional beamforming
- 3.5mm headphone jack

Operating Requirements

- Line voltage: 100V to 240V AC
- Frequency: 50Hz to 60Hz
- Operating temperature: 10° to 35° C (50° to 95° F)
- Storage temperature: –25° to 45° C (−13° to 113° F)
- Relative humidity: 0% to 90% non-condensing
- Operating altitude: tested up to 3,000 metres (10,000 feet)
- Maximum storage altitude: 4,500 metres (15,000 feet)
- Maximum shipping altitude: 10,500 metres (35,000 feet)

Size and Weight

- Height: 0.41–1.61 cm (0.16–0.63 inches)
- Width: 30.41 cm (11.97 inches)
- Depth: 21.24 cm (8.36 inches)
- Weight: 1.29 kg (2.8 pounds)



CPU

- Four high-performance cores and four high-efficiency cores
- Apple claims the energy-efficient cores use one-tenth the power of the high-performance ones
- 192 KB of L1 instruction cache and 128 KB of L1 data cache and share a 12 MB L2 cache; the energy-efficient cores have a 128 KB L1 instruction cache, 64 KB L1 data cache, and a shared 4 MB L2 cache. The SoC also has an 8 MB System Level Cache shared by the GPU.

GPU

- 8 cores split into 16 execution units (EUs), which each contain 8 arithmetic logic units (ALUs). In total, the M1 GPU contains up to 128 EUs and 1024 ALUs, which Apple says can execute up to 24,576 threads simultaneously
- GPU can run 25,000 threads simultaneously with 2.6 teraflops of throughput

NPU

- 16-core architecture capable of 11 trillion operations per second, the Neural Engine in M1
- ML accelerators in the CPU and a powerful GPU
- 16 Neural Engine cores providing the ability to perform up to 11 trillion operations per second

Memory

- 128-bit LPDDR4X SDRAM in a unified memory configuration shared by all the components of the processor, aka memory on package (MOP). The SoC and DRAM chips are mounted together in a system-in-a-package design. With 8 GB configuration

Variant	CPU cores (P+E)	GPU			NPU		Memory		Transistor count
		Cores	EU	ALU	Cores	Performance	Size	Bandwidth	
A14 Bionic	6 (2+4)	4	64	512	16	11 TOPS	4–6 GB	34.1 GB/s	11.8 billion
M1	8 (4+4)	7	112	896			8–16 GB	68.3 GB/s	16 billion
		8	128	1024					
M1 Pro	8 (6+2)	14	224	1792			16–32 GB	204.8 GB/s	33.7 billion
	10 (8+2)	16	256	2048					
M1 Max	10 (8+2)	24	384	3072			32–64 GB	409.6 GB/s	57 billion
		32	512	4096					
M1 Ultra	20 (16+4)	48	768	6144	32	22 TOPS	64–128 GB	819.2 GB/s	114 billion
		64	1024	8192					

- Apple’s latest image signal processor (ISP) for higher quality video with better noise reduction, greater dynamic range, and improved auto white balance.
- The latest Secure Enclave for best-in-class security.
- A high-performance storage controller with AES encryption hardware for faster and more secure SSD performance.
- Low-power, highly efficient media encode and decode engines for great performance and extended battery life.
- An Apple-designed Thunderbolt controller with support for USB 4, transfer speeds up to 40Gbps, and compatibility with more peripherals than ever.