

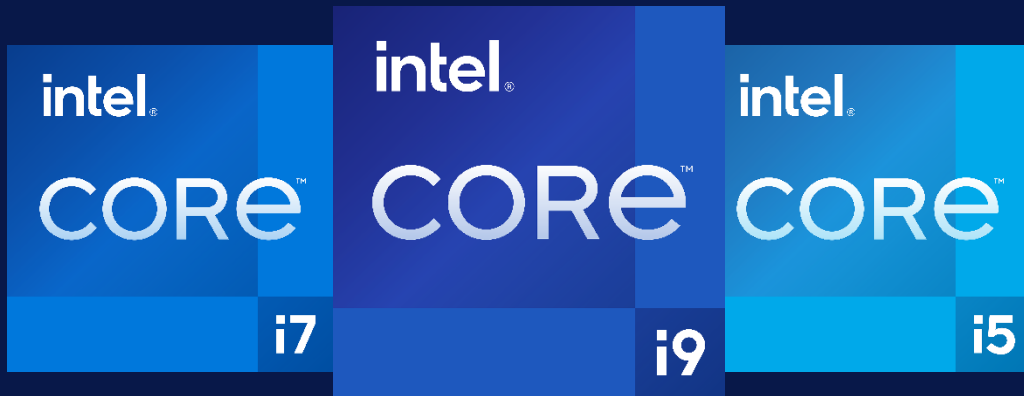
11th Gen Intel® Core™ S-Series Processor
(Code name: Rocket Lake)

Cypress Cove Architecture

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11th Gen Intel® Core™ S-Series Processor (Code name: Rocket Lake) Architecture Improvements



New CPU core architecture with IPC improvements¹

New Enhanced Intel® UHD graphics featuring Intel® Xe graphics architecture²

New Up to 20 CPU PCIe 4.0 lanes³

New Overclocking features and capabilities⁴

New Intel® Deep Learning Boost / VNNI support

New Integrated USB 3.2 Gen 2x2 (20G)

New Intel® 500 Series Chipset⁵

¹IPC = Instructions Per Cycle/Clock and represents how many tasks a CPU can complete in each cycle

²Available only on 11th Gen Intel® Core™ processors featuring integrated graphics

³CPU PCIe lanes are only validated for discrete graphics (x16) and PCIe storage or Intel® Optane™ memory (1x4).

⁴Altering clock frequency or voltage may void any product warranties and reduce stability, security, performance, and life of the processor and other components. Check with system and component manufacturers for details.

⁵Intel® 500 Series Chipset does not support the LPC, eMMC, SD3.0 or SDXC interfaces.

Key Platform Features

New Cypress Cove Cores

Up to 8 Cores / 16 Threads
Double Digit Instructions Per Clock (IPC) improvement

New Enhanced Intel® UHD Graphics ft X^e Graphics Architecture

~50% Higher Performance vs Gen9 integrated graphics (projected)*

New Memory Controller

Increased memory speeds up DDR4-3200

New MEDIA

Decoders: 4K60 12b 4:4:4 HEVC, VP9, SCC
4K60 10b 4:2:0 AV1

Encoders: 4K60 8b 4:2:0 AVC
4K60 10b 4:4:4 HEVC/SCC/VP9, RA

New Integrated PCIe Gen 4 (CPU)

Low Latency, High Bandwidth

Increased Display Resolutions

Up to 3 x 4K60 or 2x 5K60
DP 1.4a, HDMI 2.0b, HBR3

New Increased CPU PCIe lanes

Added 4 Gen 4 PCIe lanes, total of 20 CPU Gen 4 PCIe
Allows both SSD and Discrete Graphics Direct CPU Attach

New Intel® Deep Learning Boost

VNNI for improved AI performance

*See backup for workloads and configurations. Results may vary.

Notices and Disclaimers

- Performance varies by use, configuration and other factors. Learn more at www.Intel.com/PerformanceIndex.
- Performance results are based on preliminary performance projections as of 08/06/2020, subject to change (+/- 15% margin of error), and may not reflect all publicly available updates. See configuration disclosures for details. No product can be secure.
- All product plans and roadmaps are subject to change without notice.
- Statements in this document that refer to future plans or expectations are forward-looking statements. These statements are based on current expectations and involve many risks and uncertainties that could cause actual results to differ materially from those expressed or implied in such statements. For more information on the factors that could cause actual results to differ materially, see our most recent earnings release and SEC filings at www.intc.com.
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Workloads

Projections by Intel as of 08/06/2020 using **3DMark* Fire Strike** and **3DMark* Night Raid**.

- **3DMark*** is a benchmark from Futuremark* that measures DX* 9 / OpenGL* ES 2.0, DX 10 and DX 11 gaming performance. There are four main tests: “Ice Storm” for DX 9 / OpenGL ES 2.0, “Sling Shot” for OpenGL ES 3.0/1, “Cloud Gate” for DX 10, “Sky Driver” for DX 11 and “Fire Strike” for DX 11 graphics.
- **3DMark* Fire Strike** measures DirectX 11 gaming performance for PCs, and includes two graphics tests, a physics test and a combined test that stresses the CPU and GPU.
- **3DMark* Night Raid** is a benchmark from Futuremark* that measures Microsoft DirectX* 12 gaming performance. 3DMark Night Raid runs on desktop Windows* platforms. It is used to benchmark the performance of Ultrabook, notebook, AIO and low-end desktop platforms.

System Configurations

Projections by Intel as of 08/06/2020.

CML S 10 Core Processor, 125W Configuration (Measured):

Processor: Intel® Core™ i9 -10900K 10 Core Processor, PL1=125W PL2=250W, 10C20T

Memory: 4x16GB DDR4-2933 2Rx8

Storage: Intel® 760p M.2 PCIe NVMe* SSD

Display Resolution: 1920x1080

OS: Windows* 10 Build 19H2 18362.535. Power policy set to AC / High performance. Benchmarks run in Admin mode and Tamper Protection Disabled / Defender Disabled.

Graphics driver: ci-master-3672-revenue-pr-1007642

Energy Efficient Turbo: Disabled for all performance measurements.

Power Limit1 Time Window (Tau): 56s

Temperature: Air Cooled Heat Sink for all Power and Performance projections.

RKL S 8 Core Processor, 125W Configuration (Projected):

Processor: Intel® Rocket Lake S 8 Core Processor, PL1=125W PL2=250W, 8C16T

Memory: 4x16GB DDR4-2933 2Rx8

Storage: Intel® 660p M.2 PCIe NVMe* SSD

Display Resolution: 1920x1080

OS: Windows* 10 Build 20H1. Power policy set to AC / High performance. Benchmarks run in Admin mode and Tamper Protection Disabled / Defender Disabled.

Graphics driver: N/A

Energy Efficient Turbo: Disabled for all performance measurements.

Power Limit1 Time Window (Tau): 56s

Temperature: Air Cooled Heat Sink for all Power and Performance projections

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