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Introducing 11th Gen Intel Core: Unmatched Overclocking, Game Performance

SANTA CLARA, Calif.--(BUSINESS WIRE)-- The 11th Gen Intel® Core™ S-series desktop processors (code-named “Rocket Lake-S”) launched worldwide today, led by the flagship Intel® Core™ i9-11900K. Reaching speeds of up to 5.3GHz with Intel® Thermal Velocity Boost[1], the Intel Core i9-11900K delivers even more performance to gamers and PC enthusiasts.

This press release features multimedia. View the full release here: https://www.businesswire.com/news/home/20210316005308/en/

11th Gen Intel Core desktop processors (code-named "Rocket Lake-S") deliver increased performance and speeds. Intel launched the processors on March 16, 2021. (Credit: Intel Corporation)

More: 11th Gen Intel Core Desktop (Press Kit) | Tech Minute: Intel’s Rocket Lake-S in 60 seconds (Video) | Introducing the New 11th Gen Intel Core Desktop Processors (Product Brief) | 11th Gen Intel Core Desktop Processors SKU Tables (PDF)

Engineered on the new Cypress Cove architecture, 11th Gen Intel Core S-series desktop processors are designed to transform hardware and software efficiency and increase raw gaming performance. The new architecture brings up to 19% gen-over-gen instructions per cycle (IPC) improvement[2] for the highest frequency cores and adds Intel® UHD graphics featuring the Intel® X^{e} graphics architecture for rich media and intelligent graphics capabilities. That matters because games and most applications continue to depend on high-frequency cores to drive high frame rates and low latency.

Designed to Game: With its new 11th Gen desktop processors, Intel continues to push

desktop gaming performance to the limits and deliver the most amazing immersive experiences for players everywhere.

At the top of the stack is the 11th Gen Intel Core i9-11900K, featuring unmatched performance with up to 5.3 gigahertz, eight cores, 16 threads and 16 megabytes of Intel® Smart Cache. The unlocked 11th Gen Intel Core desktop processor supports fast memory speeds with DDR4-3200 to help enable smooth gameplay and seamless multitasking on this platform.

Improvements in this generation include:

- Up to 19% gen-over-gen IPC performance improvement.
- Up to 50% better integrated graphics performance with Intel UHD graphics featuring Intel X^e graphics architecture.[3]
- Intel® Deep Learning Boost and Vector Neural Network Instructions support to accelerate artificial intelligence (AI) inference — vastly improving performance for deep learning workloads.
- Enhanced overclocking tools and features for flexible overclocking and tuning performance and experience.

Through close collaboration with more than 200 of the top game developers, Intel brings a host of game, engine, middleware and rendering optimizations to applications so they can take advantage of 11th Gen Intel® Core™ S-series processors to deliver exciting gaming experiences.

Superior Tuning and Stability: 11th Gen Intel Core desktop processors introduce new overclocking tools and features for more flexible tuning to achieve unmatched speeds and superior game performance. This generation includes real-time memory overclocking which enables changes to DDR4 frequency in real time, extending memory overclocking support for H570 and B560 chipsets allowing users to experience overclocking, Advanced Vector Extensions (AVX) 2 and AVX-512 voltage guard band override, and an all new integrated memory controller with wider timings and Gear 2 support (in addition to Gear 1 support).

Media and Streaming Features for Days: The new 11th Gen Intel Core S-series delivers rich media experiences, from AAA gaming to high-definition streaming with additional features including DDR4-3200 MHz support, 20 PCIe 4.0 lanes, Intel Quick Sync Video, enhanced media (10bit AV1/12bit high-efficiency video coding decode and end-to-end compression), enhanced display (Integrated HDMI 2.0, HBR3), and discrete Thunderbolt™ 4 and Intel Wi-Fi 6E support.

For more information on Intel 11th Gen Intel Core S-series desktop processors, visit the 11th Gen Intel Core Desktop Processors Product Brief.

About Intel

Intel (Nasdaq: INTC) is an industry leader, creating world-changing technology that enables global progress and enriches lives. Inspired by Moore's Law, we continuously work to advance the design and manufacturing of semiconductors to help address our customers' greatest challenges. By embedding intelligence in the cloud, network, edge and every kind of computing device, we unleash the potential of data to transform business and society for

the better. To learn more about Intel's innovations, go to newsroom.intel.com and intel.com.

[1]Intel® Thermal Velocity Boost (Intel® TVB) is a feature that opportunistically and automatically increases clock frequency above single-core and multi-core Intel® Turbo Boost Technology frequencies based on how much the processor is operating below its maximum temperature and whether turbo power budget is available. The frequency gain and duration is dependent on the workload, capabilities of the processor and the processor cooling solution.

[2]Up to 19% IPC performance improvement (gen-over-gen) – Source: Intel estimates as of January 2021. Based on measurements on Intel Internal reference platforms running SPEC CPU 2017 1-copy rate on 11th Gen Intel® Core™ i9-11900K vs 10th Gen Intel® Core™ i9-10900K (running each at the same fixed frequency).

[3]Up to 50% better integrated graphics performance (gen-over-gen) – As measured by 3DMark-Fire Strike Graphics Score. Results are based on measurements as of 01/18/2021 and may not reflect all publicly available security updates. See configuration disclosure for details.

Performance varies by use, configuration and other factors. Learn more at www.Intel.com/PerformanceIndex.

Performance results are based on testing as of dates shown in configurations and may not reflect all publicly available updates. See Performance Index for configuration details. No product or component can be absolutely secure.

Your costs and results may vary.

Intel technologies may require enabled hardware, software or service activation.

Altering 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.

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