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Intel Launches World's Best Processor for Thin-and-Light Laptops: 11th Gen Intel Core

More than 150 Designs in Development, including 20 Verified Under New Intel Evo Platform Brand

NEWS HIGHLIGHTS

- Intel launches 11th Gen Intel® Core™ processors with Intel® Iris® X^e graphics, the world's best processors for thin-and-light laptops¹, delivering up to 2.7x faster content creation², more than 20% faster office productivity³ and more than 2x faster gaming plus streaming⁴ in real-world workflows over competitive products.
- Intel® Evo™ platform brand introduced for designs based on 11th Gen Intel Core processors with Intel Iris X^e graphics and verified through the Project Athena innovation program's second-edition specification and key experience indicators (KEIs).
- More than 150 designs based on 11th Gen Intel Core processors are expected from Acer, Asus, Dell, Dynabook, HP, Lenovo, LG, MSI, Razer, Samsung and others.

SANTA CLARA, Calif.--(BUSINESS WIRE)-- Intel today unleashed a new era of laptop performance with the launch of its next-generation mobile PC processors and the evolution of its broad ecosystem partnerships that are propelling the mobile PC industry forward. New 11th Gen Intel Core processors with Intel Iris X^e graphics (code-named "Tiger Lake") are the world's best processors for thin-and-light laptops with unmatched capabilities for real-world productivity, collaboration, creation, gaming and entertainment across Windows and ChromeOS-based laptops.

This press release features multimedia. View the full release here: <https://www.businesswire.com/news/home/20200902005330/en/>

Leveraging Intel's new SuperFin process technology, 11th Gen Intel Core processors optimize power efficiency with leading performance and responsiveness while running at significantly higher frequencies versus prior generations. More than 150 designs based on 11th Gen Intel Core processors are expected from partners including Acer, Asus, Dell, Dynabook, HP, Lenovo, LG, MSI, Razer, Samsung and others.

More: [11th Gen Intel Core and Intel Evo Launch](#) (Press Kit) | [Intel and Partners Talk About the Role of the PC](#) (YouTube Video)

Intel also introduced the Intel Evo platform brand for laptop designs verified to the second edition specification and KEIs of the Project Athena innovation program. Based on 11th Gen



Chris Walker, Intel vice president and general manager of Mobile Client Platforms, highlights the verified experiences of upcoming Intel Evo platforms made possible by the Project Athena innovation program for the Intel global launch event on Wednesday, Sept. 2, 2020. (Credit: Walden Kirsch/Intel Corporation)

Intel Core processors with Intel Iris X^e graphics, devices featuring the Intel Evo badge are verified to be the best laptops for getting things done⁵. More than 20 verified designs are expected this year.

“11th Gen Intel Core processors with Intel Iris X^e graphics are a major leap forward in real-world processor performance and are the best laptop processors we have built,” said Gregory Bryant, Intel executive vice president and general

manager of the Client Computing Group. “From productivity and content creation to entertainment and gaming, when you pick a system powered by 11th Gen Intel Core – especially one of our new Intel Evo co-engineered and verified designs – you know you are getting the best laptop experience possible.”

Introducing Intel Evo

Intel continues to lead the PC ecosystem in driving innovation across the platform to deliver the best computing experiences possible. The new Intel Evo platform brand represents the best laptops designed to help you focus and get things done no matter where you are.

Based on 11th Gen Intel Core processors with Intel Iris X^e graphics and verified to the second edition specification and key experience indicators of Project Athena under an intensified testing methodology, Intel and its co-engineering partners are once again raising the bar for laptop experiences.

By measuring workflows under real-world conditions for consistent performance and battery life together, Intel’s unique testing and measurement methodology provides a preview into how a laptop will perform each day. Only the laptop designs that consistently meet or beat the KEIs and specification are verified to use the Intel Evo badge. KEI targets are minimums and include:

- Consistent responsiveness on battery⁶
- System wake from sleep in less than 1 second
- Nine or more hours of real-world battery life on systems with FHD displays⁷
- Fast charging with up to a four-hour charge in under 30 minutes on systems with FHD

displays⁸

Intel Evo platforms also feature best-in-class wired and wireless connectivity⁹ with integrated Thunderbolt™ 4 universal cable connectivity and Intel® Wi-Fi 6 (Gig+), as well as premium audio, webcam and display, all wrapped in sleek thin-and-light form factors for a premium experience. For highlights of the second edition target specification and the verification process, see the [Intel Evo fact sheet](#).

11th Gen Intel Core Processors with Intel Iris X^e Graphics

11th Gen Intel Core processors with Intel Iris X^e graphics are the world's best processors for thin-and-light laptops across both Windows and ChromeOS. They represent Intel's most ambitious system-on-chip (SoC), delivering more than a generational leap in performance and the best experiences for U-series laptops in productivity, creation, gaming, entertainment and collaboration. A broad range of integrated features fuel the best thin-and-light platforms available with optimized CPU, GPU, artificial intelligence (AI) acceleration, software optimization and platform capabilities that maximize real-world performance on the applications and features people use the most:

- **Rich collaboration:** 11th Gen processors are the best for collaboration with more immersive and personal AI-enhanced experiences, including enhanced audio with CPU offload for background noise suppression via Intel Gaussian and Neural Accelerator 2.0 (Intel GNA), AI-accelerated background blur and video super-resolution, the latest video decode and integrated Intel® Wi-Fi 6 (Gig+) – the best Wi-Fi technology for video conferencing¹⁰ – all on a thin-and-light PC.
- **Leadership productivity performance:** More than 20% faster office productivity versus competitive products and on workflows that reflect how people use their laptops every day. Integrated [Thunderbolt 4](#) capabilities also enable up to four ports for connecting to a universe of peripherals and single-cable access to fast-charging, external monitors and extended storage.
- **Advanced content creation:** Up to 2.7x faster real-world photo editing and up to 2x faster real-world video editing¹¹ versus competitive products, in addition to support for 8K HDR displays and up to four simultaneous 4K HDR displays.
- **Immersive entertainment:** 11th Gen Intel Core processors are the first in the industry with hardware-supported Dolby Vision, delivering more immersive content experiences and improving system-level power by approximately 20% versus the previous generation, translating to more than an hour of additional video streaming on battery¹².
- **New gaming experiences:** With up to 2x game performance over the previous generation¹³, play Borderlands 3, Far Cry New Dawn, Hitman 2 and other popular game titles for the first time at 1080p on Intel's integrated graphics. Share your success with friends with ability to game plus stream more than 2x faster than competitive products. All of this on integrated Intel Iris X^e graphics and in a thin-and-light design.

“The new 11th Gen Intel Core processors with Iris X^e graphics are delivering incredible performance and responsiveness to enable Windows customers around the world to be more productive and have fun today and in the future,” said Panos Panay, chief product officer at Microsoft.

“Based on extensive and deep collaboration between Intel and Google, we’re able to optimize the user experience, and we are thrilled to be bringing the next-generation of Chromebooks to market powered by 11th Gen Intel Core,” said John Solomon, vice president of ChromeOS.

Integrated and Optimized to Enable the Best Thin-and-Light Platforms

As detailed at [Architecture Day 2020](#), new Willow Cove CPU and Intel® X^e graphics architectures on Intel’s new SuperFin process technology push the envelope on frequency – up to 4.8 GHz – improving power efficiency while enabling specialized compute engines, accelerators and software optimizations to be integrated on the SoC. 11th Gen Intel Core processors deliver the best combination of the innovative compute engines needed for real-life workloads, including:

- New Intel Iris X^e graphics outperform 90% of the discrete graphics paired in this segment¹⁴ and offer up to 96 EUs and up to 16MB of L3 cache.
- The first instruction set for neural network inferencing on integrated graphics with Intel® DL Boost: DP4a and the first with native support for INT8 data type, delivering up to 5x better AI performance¹⁵.
- Hardware-hardened security with integrated [Intel® Control Flow Enforcement Technology](#) (CET) and Intel® Total Memory Encryption.
- Support for the high-performance AV1 CODEC that enables power-efficient support for 4K, even in constrained bandwidth environments.
- The first with image processing solution enabling vision sensing and adaptive dimming.
- Best-in-class Thunderbolt 4 connectivity, including support for up to four ports with universal cable connectivity for charging, data and video.
- The first mobile client SoC with CPU-attached PCIe Gen 4 interface and with up to four lanes.

With scalable performance across the 7- to 28-watt thermal envelope, nine processor configurations across two package designs for form factor flexibility and up to 4.8 GHz turbo frequency, 11th Gen Intel Core processors provide the single core speed crucial for advanced workloads on thin-and-light laptops.

	Processor Number	Graphics	Cores / Threads	Graphics (EUs)	Cache	Memory	Operating Range	Base Freq (GHz)	M S C T (u)
	Intel® Core™ i7-1185G7	Intel Iris X ^e	4/8	96	12MB	DDR4-3200LPDDR4x-4266	12-28W	3.0	4
	Intel® Core™ i7-1165G7	Intel Iris X ^e	4/8	96	12MB	DDR4-3200LPDDR4x-4266	12-28W	2.8	4

UP3	Intel® Core™ i5-1135G7	Intel Iris Xe	4/8	80	8MB	DDR4-3200LPDDR4x-4266	12-28W	2.4	4
	Intel® Core™ i3-1125G4	Intel UHD Graphics	4/8	48	8MB	DDR4-3200LPDDR4x-3733	12-28W	2.0	3
	Intel® Core™ i3-1115G4	Intel UHD Graphics	2/4	48	6MB	DDR4-3200LPDDR4x-3733	12-28W	3.0	4

UP4	Intel® Core™ i7-1160G7	Intel Iris Xe	4/8	96	12MB	LPDDR4x-4266	7-15W	1.2	4
	Intel® Core™ i5-1130G7	Intel Iris Xe	4/8	80	8MB	LPDDR4x-4266	7-15W	1.1	4
	Intel® Core™ i3-1120G4	Intel UHD Graphics	4/8	48	8MB	LPDDR4x-4266	7-15W	1.1	3
	Intel® Core™ i3-1110G4	Intel UHD Graphics	2/4	48	6MB	LPDDR4x-4266	7-15W	1.8	3

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.

Software and workloads used in performance tests may have been optimized for performance only on Intel microprocessors.

Performance tests, such as SYSmark and MobileMark, are measured using specific computer systems, components, software, operations and functions. Any change to any of those factors may cause the results to vary. You should consult other information and performance tests to assist you in fully evaluating your contemplated purchases, including the performance of that product when combined with other products. For more complete information visit www.intel.com/benchmarks.

Performance results are based on testing as of dates shown in configurations and may not reflect all publicly available updates. See www.intel.com/11thgen and www.intel.com/Evo 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.

Intel does not control or audit third-party data. You should consult other sources to evaluate accuracy.

All product plans and roadmaps are subject to change without notice.

¹ As measured by industry benchmarks, Representative Usage Guide testing, and unique features of the Intel® Core™ i7-1185G7 processor, including in comparison to AMD Ryzen 7 4800U, across 5 key usages: productivity, creation, gaming, collaboration, and entertainment. For more complete information about performance and benchmark results, visit www.intel.com/11thgen.

² As measured by Content Creation: Photo Editing workflow

³ As measured by Productivity: Microsoft Office 365 workflow

⁴ As measured by Gaming: Game and Stream workflow

⁵ Measured by Project Athena laptop innovation program Key Experience Indicators and 11th Gen Intel® Core™ processor Representative Usage Guides. For more complete information about performance and benchmark results, visit www.intel.com/Evo and www.intel.com/11thGen.

⁶ Measured speed of premium Windows OS-based design while performing 25 workflows predictive of performance under a typical-use environment comprising multiple cloud-based and local apps and web pages including Google Chrome, Google G-Suite, Microsoft Office 365, YouTube and Zoom. Testing as of August 2020 conducted on laptops on DC battery ≥30%, connected to 802.11 wireless, and with shipped hardware configurations including Windows 10 and 250-nit screen brightness.

⁷ Time taken to drain from 100% to critical battery level while performing workflows under a typical-use environment, comprising multiple cloud-based and local apps and web pages including Google Chrome, Google G-Suite, Microsoft Office 365, YouTube and Zoom. Testing as of August 2020 conducted on laptops connected to 802.11 wireless, and with shipped hardware configurations including Windows 10 and 250-nit screen brightness.

⁸ Minimum charge attained in 30-minute window while powered off from OEM-default shutdown level. Performance varies by use, configuration and other factors. Testing as of August 2020.

⁹ Intel® Wi-Fi 6 (Gig+) products enable the fastest possible maximum speed for typical laptop Wi-Fi products. Thunderbolt™ 4 is the fastest port available on a laptop, at 40 Gb/s, as compared to other laptop I/O connection technologies including eSATA, USB, and IEEE 1394 Firewire. Performance will vary depending on the specific hardware and software used. Must use a Thunderbolt-enabled device.

¹⁰ As measured by OTA (Over the Air) Wi-Fi 6 (802.11ax) vs. Wi-Fi 5 (802.11ac) NB client Skype video conferencing test data, obtained in standard corporate IT 20 MHz and 40 MHz network deployment scenarios. See www.intel.com/11thgen for configuration details.

¹¹ As measured by Content Creation: Video Editing workflow

¹² Intel estimates approximately 20% of system level power savings comparing VEDoX enabled 4K24fps Dolby Vision playback on a TGL Core™ i7-1185G7 reference design vs. a similarly configured ICL Core™ i7-1065G7 reference design, translating into more than one hour of additional Dolby Vision content viewing time on the TGL Core™ i7-1185G7 design with a 40Whr battery. Testing as of August 2020.

¹³ As measured by Gears Tactics (1080p Medium with variable rate shading enabled) on 11th Gen Intel® Core™ i7-1185G7 Processor vs 10th Gen Intel® Core™ i7-1065G7U Processor

¹⁴ Based on market analysis of discrete graphics paired with U-series, sold in the past 12 months

¹⁵ As measured by MLPerf v0.5 Inference with Offline Scenario using OpenVINO 2020.2 framework Closed ResNet50-v1.5 offline int8 GPU (Batch=32) on 11th Gen Intel® Core™ i7-1185G7 Processor vs OpenVINO 2020.2 framework Closed ResNet50-v1.5 offline FP32 GPU (Batch=32)

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Sarah Kane

408-218-8706

Sarah.Kane@intel.com

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