

The background of the entire page is a high-angle, close-up photograph of a dark grey laptop keyboard. A pair of black and green over-ear headphones is draped across the keyboard. In the bottom left corner, a black game controller with yellow and red buttons is partially visible. A thin blue border frames the central text area.

Introducing: 11th Gen Intel® Core™ H-Series Processors

11th Gen Intel® Core™ H-Series processors bring powerful performance to your laptop for desktop-caliber gameplay, creation, and mobile workstation productivity. These processors offer the pinnacle of mobile performance, together with advanced overclocking and tuning controls, immersive graphics, and unmatched connectivity. Challenge the limits and reach new horizons with an amazing platform for gamers, creators, and high-powered professionals.

PERFORMANCE

Desktop Performance Made Mobile

Whether you're gaming and streaming, creating content, or multi-tasking across advanced work applications, 11th Gen Intel® Core™ H-Series processors bring the powerful performance you need. The sky is the limit with up to 8 cores and 16 threads. Intel® Turbo Boost Max 3.0 delivers up to 5.0GHz frequencies; when combined with the new microarchitecture, it delivers a performance boost over the previous generation. The newest architecture features 20 PCIe 4.0 lanes direct to the CPU, enabling blazing-fast discrete graphics and storage—with smooth frame rates in 4K resolutions and feature-rich configurations with up to two RAIDed SSDs. Plus, the new Intel® Optane™ Memory H20 (Pyramid Glacier) brings amazing responsiveness and high-capacity NAND to quickly launch games, creation projects, or work files, with improved power and performance benefits over previous generation.

CREATIVITY

Immersive Graphics

11th Gen Intel® Core™ H-Series processors are designed to dynamically enable rich, immersive graphics, so you can dive into virtual worlds—or create them. 11th Gen Intel® Core™ H-Series based laptops come paired with the latest discrete graphics and tap an industry open standard for resizable BAR—so the CPU can access the lightning-fast GPU memory—for smooth gameplay and high frame rates, streamlined creation, and better productivity. With support for high-end GPU connected via PCIe 4.0 to the CPU you can push impressively smooth frame rates in 4k resolutions. The Intel® Graphics Command Center makes it easy to adjust graphics, as well as capture and stream games using the Intel® Quick Sync Video—freeing your external graphics for the best gaming performance.

TUNING

Advanced Overclocking

Tune, overclock, and more with the full suite of Intel® Adaptix™ Technologies. Intel® Speed Optimizer offers simple, instant overclocking with one click, while Intel® Dynamic Tuning Technology taps machine learning for adaptive performance. For advanced overclocking, Intel® Extreme Tuning Utility provides over 140 controls for processor clocks, memory timings, and voltage settings. 11th Gen Intel® Core™ H-Series processors also enable per-core voltage control, the ability to modify AVX2/512 voltages, XTU feature enhancements, and the ability to create its own BLCK internally.¹ Now you can super-charge gaming, streaming, and content creation.

CONNECTIVITY

Superior Connectivity

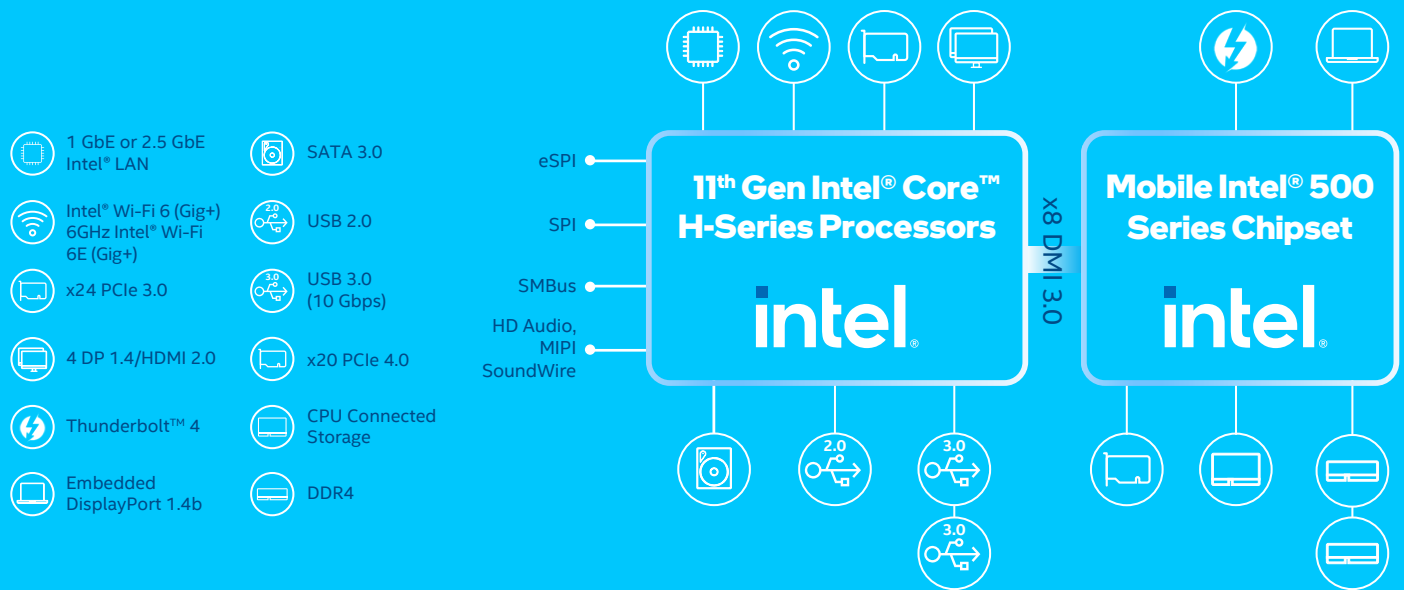
Enjoy blazing-fast connectivity with a range of advanced features. Intel® Killer™ Wi-Fi 6/6E (Gig+) can access new exclusive wireless frequencies which enable your own personal VIP Wi-Fi network² with speeds nearly 3x faster³ and up to 75% lower latency than legacy Wi-Fi.⁴ Integrated Thunderbolt™ 4 at 40Gbps, delivers the fastest, simplest and most reliable cable solution to any dock, display, or data device. With Thunderbolt 4, gamers and creators can create an immersive experience and easily record, edit, and share vivid photos and 4K videos by tapping Thunderbolt docks, color-accurate monitors, low-latency audio interfaces, and faster storage with speeds up to 3,000 Mb/s—all while ending cable clutter.

Harness unrivaled connectivity for unmatched PC experiences—however and wherever you use your laptop.

11TH GEN INTEL® CORE H-SERIES PROCESSORS: FEATURES AT A GLANCE

FEATURE	BENEFIT
8C/16T Willow Cove core microarchitecture	New core microarchitecture delivers increased performance and power efficiency.
10nm SuperFin Technology	After years of refining the FinFET transistor, Intel is redefining the technology to enable the largest single intranode enhancement in its history, delivering performance improvement comparable to a full-node transition.
20PCIe Gen 4 lanes direct to the CPU	11 th Gen H Series delivers truly enthusiast level I/O by enabling latest generation of discrete graphics and storage devices direct to the CPU. 20 lanes allows for a x16 discrete graphics and a x4 SSD or x8 graphics and dual x4 SSD in RAID0 for the fastest storage configuration in a laptop.
Thunderbolt™ 4	40 Gbps bandwidth and connection to various accessories.
Memory support up to DDR4-3200	High Bandwidth Memory for up to 3200MT/s.
Up to 44 platform PCIe lanes	Desktop caliber I/O for building the most feature rich enthusiast laptops.
Intel® Optane™ Memory H20	Second Gen Optane™ + NAND hybrid SSD with improved power and performance. Delivers amazing responsiveness in real world client usages.
Dual eDP	Integrated for power-optimized Companion Display.
IPU6SE	Integrated for high fidelity MIPI support.
Quick Sync Video with NEW 2x Multi-format codec engines	Fast video transcoding and low power 4K content streaming.
Discrete 6GHz Intel® Wi-Fi 6E (Gig+) support ⁵	More reliable, ultra-low latency, Gigabit speeds, unencumbered by legacy Wi-Fi.
Integrated Intel® Wi-Fi 6 AX201 (Gig+) support	BIC legacy Wi-Fi 6 enables fast, responsive, and consistent connections in legacy Wi-Fi environments.
2.5G Intel® Ethernet Connection I225 (Foxville) support	Strong, fast, and secure internet connectivity.
Intel® Adaptix™ Dynamic Tuning Technology	OEM Customized power settings to intelligently adapt power policies based on usage mode and temperature.
Intel® Extreme Tuning Utility (XTU)	Overclock, monitor, and stress an unlocked or partially unlocked system. This Windows-based performance-tuning software for enthusiasts provides 140+ controls for processor clocks, memory timings, and voltage settings.
Support for up to 128GB DDR4 memory capacity	Large memory capacity for the most demanding mobile workstation configurations.
Intel® Speed Optimizer	One-click performance built into the Intel Extreme Tuning Utility (Intel XTU) software for easy overclocking.
Per Core Voltage Control	11 th H Series i9-11980HK supports per-core voltage and will make per core overclocking more useful for advanced users.
AVX2/512 Offset/Voltage override	11 th H Series i9-11980HK supports ability to modify AVX2/512 voltages to potentially reduce overall voltage and increase frequency.
CPU Internal BCLK Option	TGL SoC can generate its own BCLK internally, and this can be controlled through the OC Mailbox.

Product Brief 11th Gen Intel® Core™ H-Series Processors



¹Altering 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.

²6 GHz PC Wi-Fi 6E operation requires use of Intel® Wi-Fi 6E (Gig+) products in conjunction with operating systems and routers/APs/Gateways that support Wi-Fi 6E, together with regional spectrum allocation and required regulatory certifications. Learn more at www.intel.com/PerformanceIndex (connectivity).

³Based on IEEE 802.11ax specification. 160 MHz channels and Wi-Fi 6/6E technology advantages enable significantly higher maximum theoretical PC client speeds vs. standard Wi-Fi 5 products.

⁴Based on IEEE 802.11ax specification Intel Engineering simulation. 160 MHz channels and Wi-Fi 6/6E technology advantages related to network managed traffic enable lower latencies, more efficient operation, and higher reliability vs. random contention-based traffic of standard Wi-Fi 5 networks.

⁵6 GHz PC Wi-Fi 6E operation requires use of Intel® Wi-Fi 6E (Gig+) products in conjunction with operating systems and routers/APs/Gateways that support Wi-Fi 6E, together with regional spectrum allocation and required regulatory certifications. Learn more at www.intel.com/PerformanceIndex (connectivity).

Notices & Disclaimers

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.

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