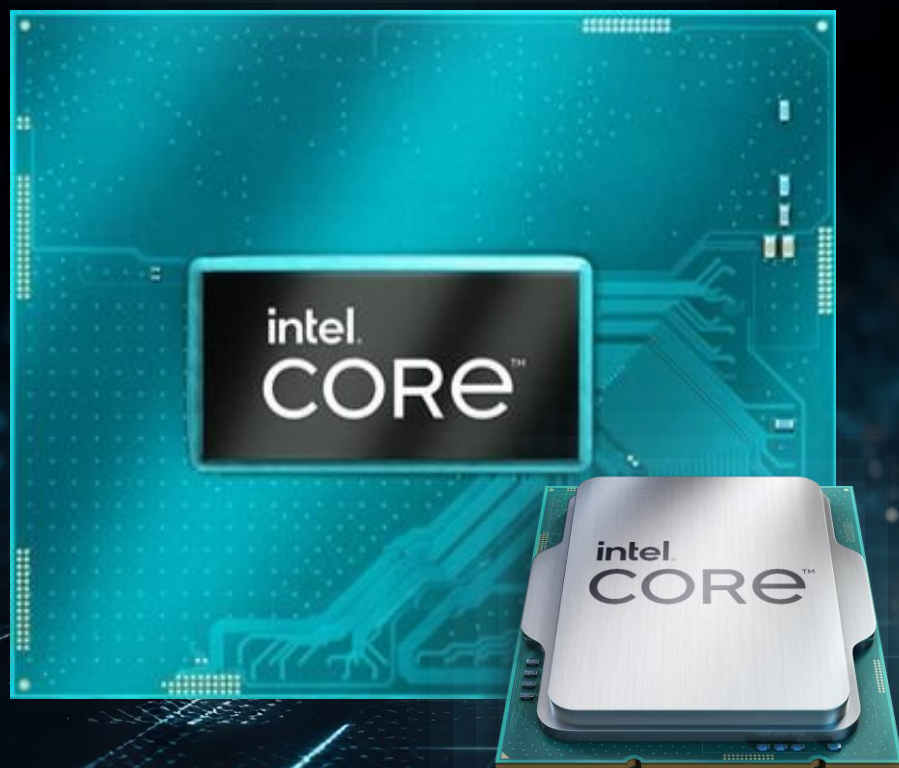




January 2024

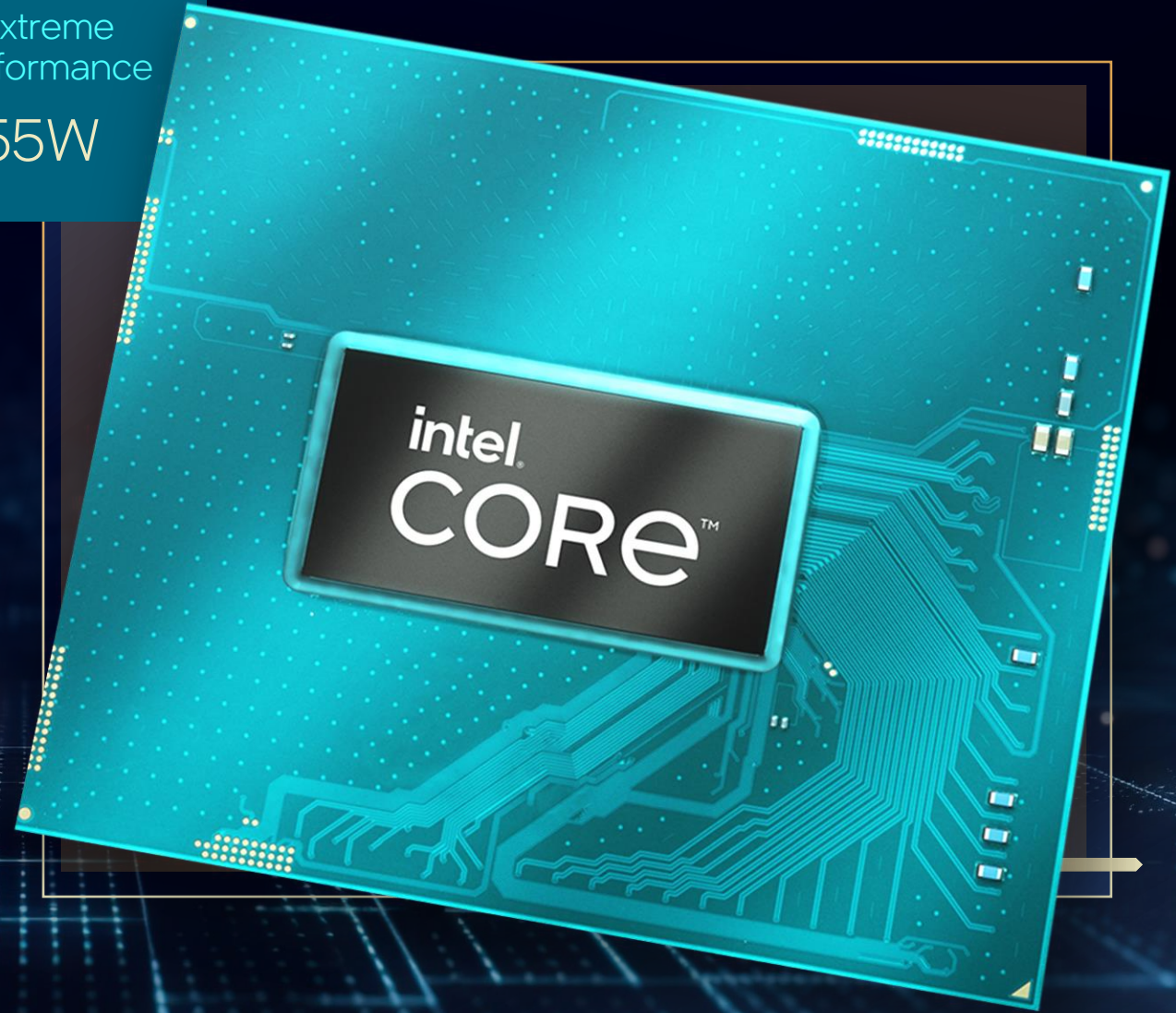
Intel[®] Core[™] Processors – HX/U Mobile & 65/35W Desktop



Announcing

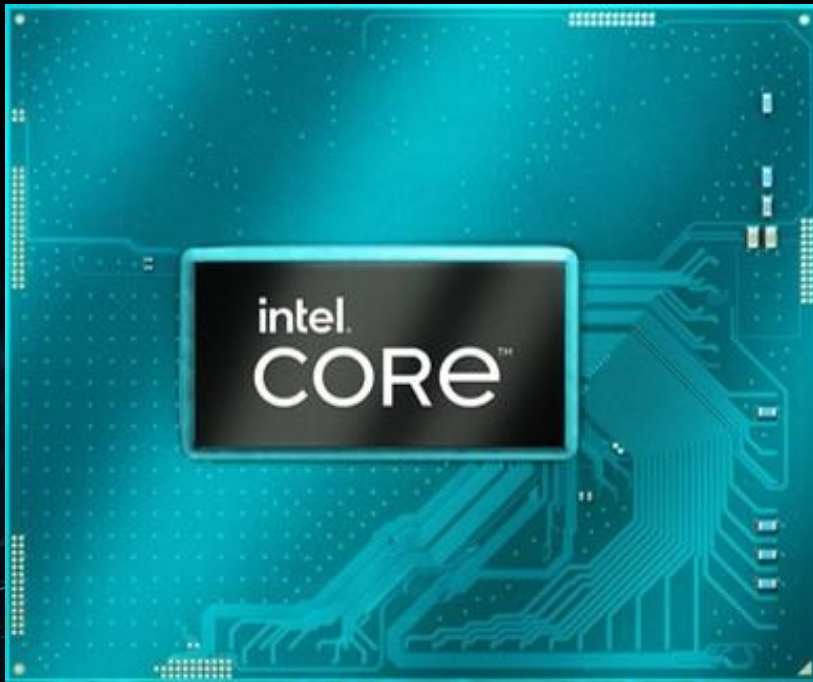
Intel Core Processors HX Mobile 14th Gen

HX
Extreme
Performance
55W



intel.

World's Fastest Mobile Processor



World's Best Experience for Mobile Enthusiasts

Faster cores for amazing multi-tasking, gaming performance and content creation
Up to 5.8 GHz

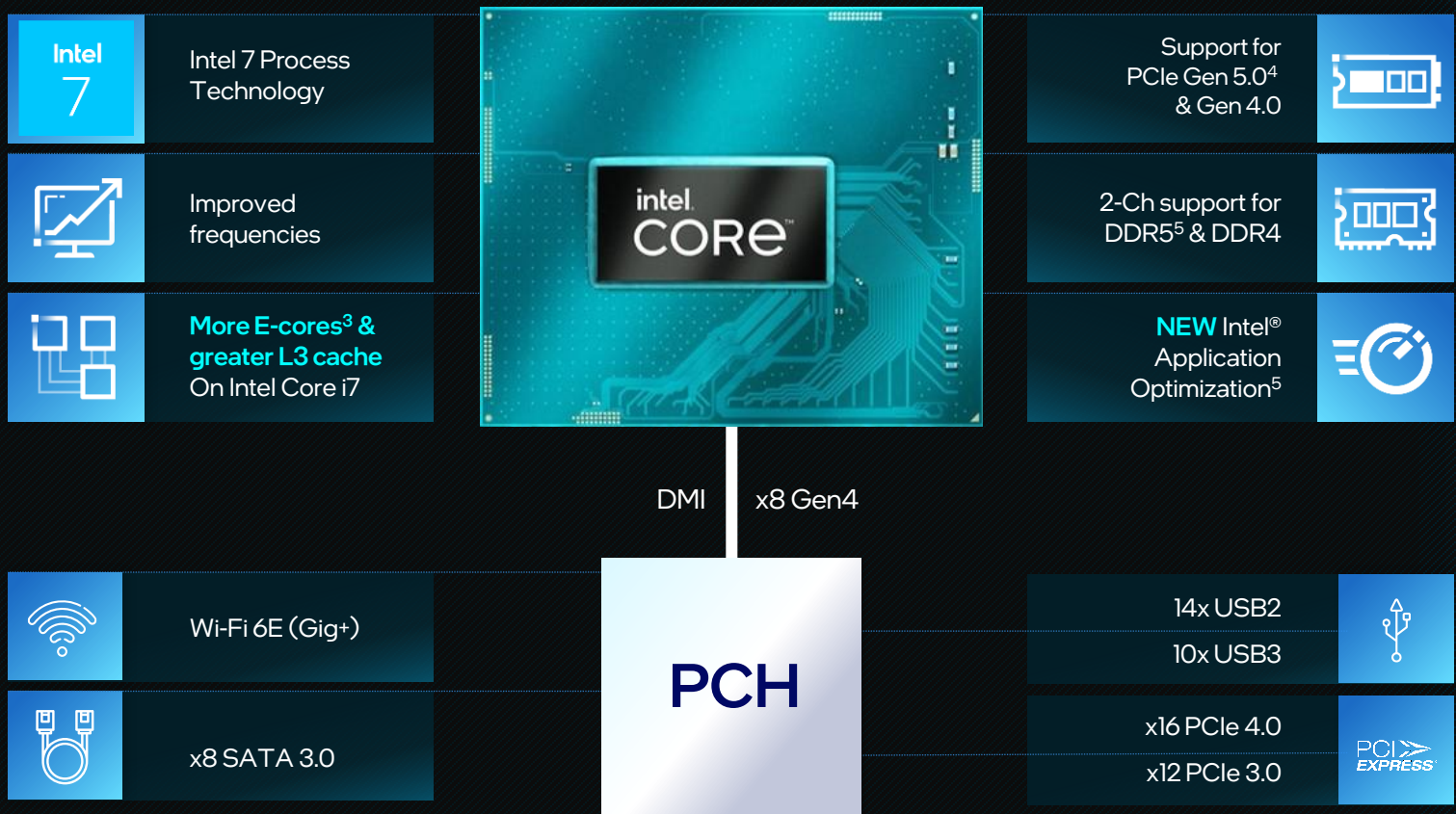
Best-in-Class Connectivity

Discrete Intel® Wi-Fi 7¹ (5 Gig), Bluetooth® LE Audio,
Thunderbolt™ 5² on select models

A Leap in Creator Performance

Increased cores, threads and cache on Core i7 SKUs to keep people in the creative flow

Intel® Core™ 14th Gen HX Processors



Thunderbolt² Technology

- Thunderbolt™ 5
 - Up to 120 Gbps Tx Bandwidth
- Thunderbolt™ 4
 - Ubiquitous I/O solution

Discrete Intel® Wi-Fi 7¹ (5 Gig) & Bluetooth® 5.4*

- Intel Wi-Fi 6E (Gig+) & Bluetooth 5.3
 - Low Energy (LE) Audio
 - Wi-Fi based Sensing

Next-generation Wireless Connectivity

Wi-Fi 7¹ (5 Gig) & Bluetooth® 5.4*

Wireless solution that will further enhance connectivity capabilities for expanded user experiences

Intel® Wi-Fi 7 (5 Gig) BE200 Killer® 1750x

Intel's first discrete solution to support Wi-Fi 7 (5 Gig) and Bluetooth® 5.4*

Intel® Wi-Fi 6E & Bluetooth 5.3

Wireless solution continues to provide exceptional performance and experiences



* Name and features might change based on Bluetooth SIG direction.

Thunderbolt™ 5

The best display experience⁷

Up to 120 Gbps Tx bandwidth

- 3x more than Thunderbolt™ 4⁸
- 50% more than DP 2.1⁹



- Dynamic display bandwidth management
- Up to three display streams

True-to-Life Creation, Ultra-Fast Gaming

Ultimate display experience

The fastest data
connection⁹

Outstanding docking
solutions



Thunderbolt™ Networking

2x the speed of Thunderbolt 4¹⁰



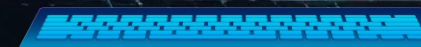
More power

Up to 240W



Outstanding docking solutions

3x more bandwidth for video⁸
6x more bandwidth for data¹¹



The most data bandwidth⁶

2x more than today's solutions¹²



7. Best display experience based on bandwidth comparison with the latest DisplayPort 2.1 specification and the versatility of Thunderbolt solution

8. 3x more than Thunderbolt™ 4 based on Transmit bandwidth comparison

9. Most/highest bandwidth @ 120 Gbps display connection for the PC industry (~50% more bandwidth than the latest DP 2.1 @ 80 Gbps)

10. Fastest data connection compared to other current PC Client bidirectional I/O connection technologies like Thunderbolt™ 4, eSATA and USB. Must be connected via Thunderbolt 5 accessory to enable full performance

11. 6x more bandwidth for data based on PCIe tunneled connection (64 Gbps) compared with USB 3 (10 Gbps).

12. 2x the bandwidth of Thunderbolt 4 based on PCIe bandwidth comparison.

Intel® Core™ 14th Gen Processors

Delivering an incredible overclocking experience across mobile & desktop

Desktop Overclocking Records

- 9 – World Records (6-CPU, 3-Blended)
- 59 – Global First Place Records

Source: HWBOT.ORG database as of 12/01/23



Overclocking DNA in 14th Gen HX Mobile

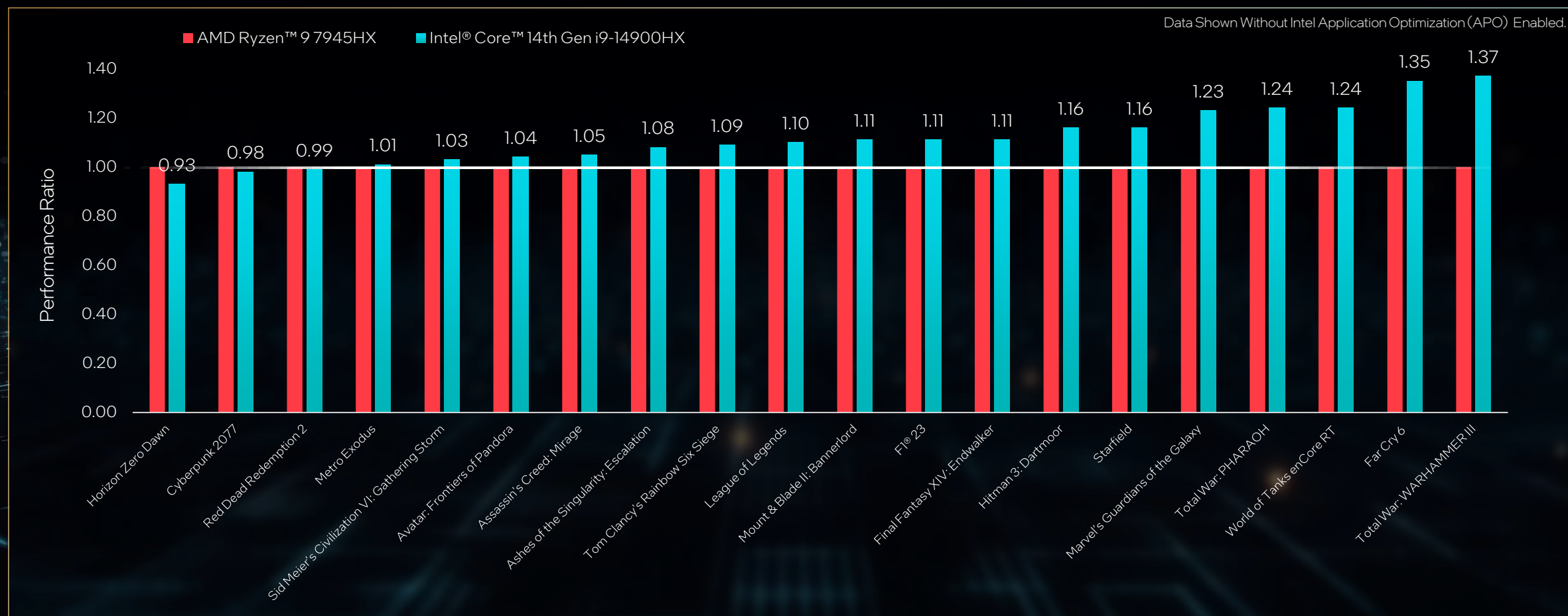
- Intel® Extreme Tuning Utility (XTU)
- Intel® Speed Optimizer for 1-click overclocking
- Intel® Extreme Memory Profile (XMP) SODIMMs
- Configurable per core thermal throttle control



Overclocking may void warranty or affect system health. For details see [intel.com/overclocking](https://www.intel.com/overclocking).

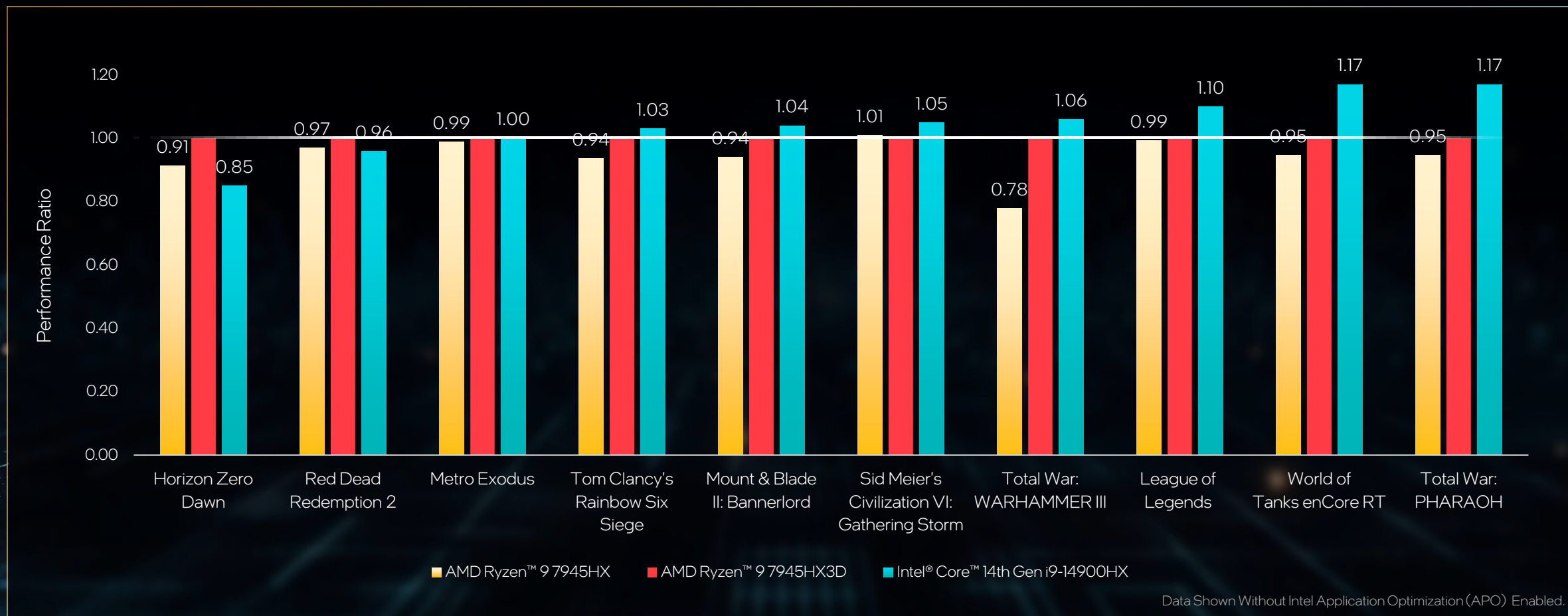
Gaming Performance – 1080p High

Intel® Core™ 14th Gen i9-14900HX vs AMD Ryzen™ 9 7945HX



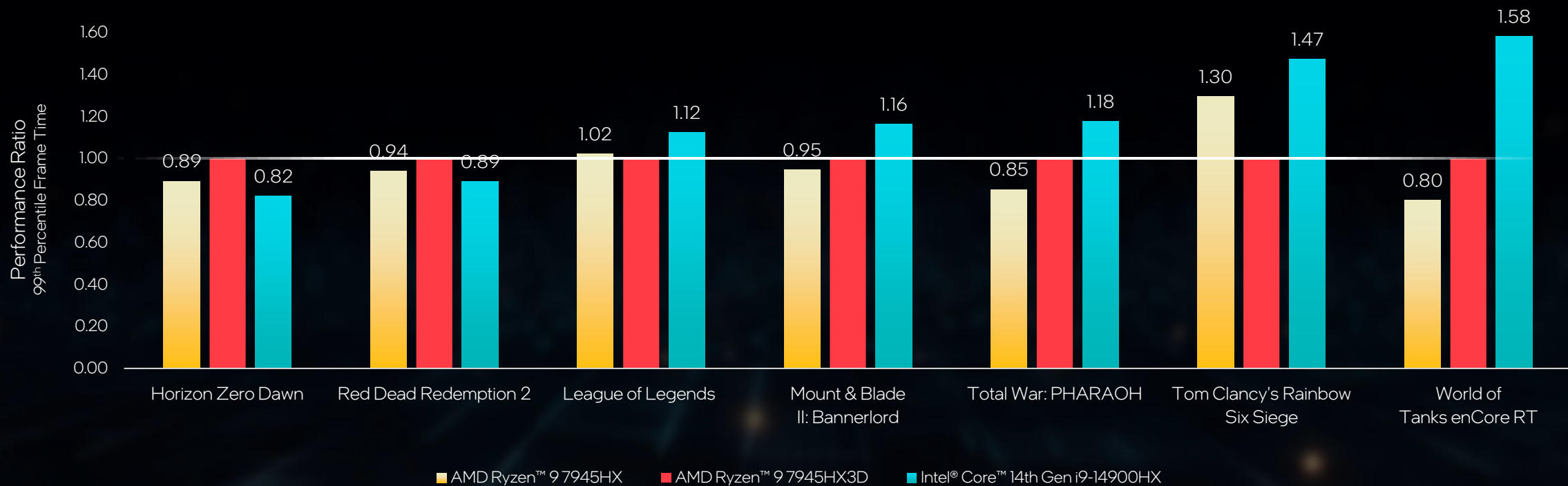
Excellent Gaming Performance

Intel® Core™ 14th Gen i9-14900HX | AMD Ryzen™ 9 7945HX3D | AMD Ryzen™ 9 7945HX



Excellent In-Game Frame Consistency

Intel® Core™ 14th Gen i9-14900HX | AMD Ryzen™ 9 7945HX3D | AMD Ryzen™ 9 7945HX



Core i9-14900HX delivers higher FPS at the 99th percentile low-water mark

Data Shown Without Intel Application Optimization (APO) Enabled.

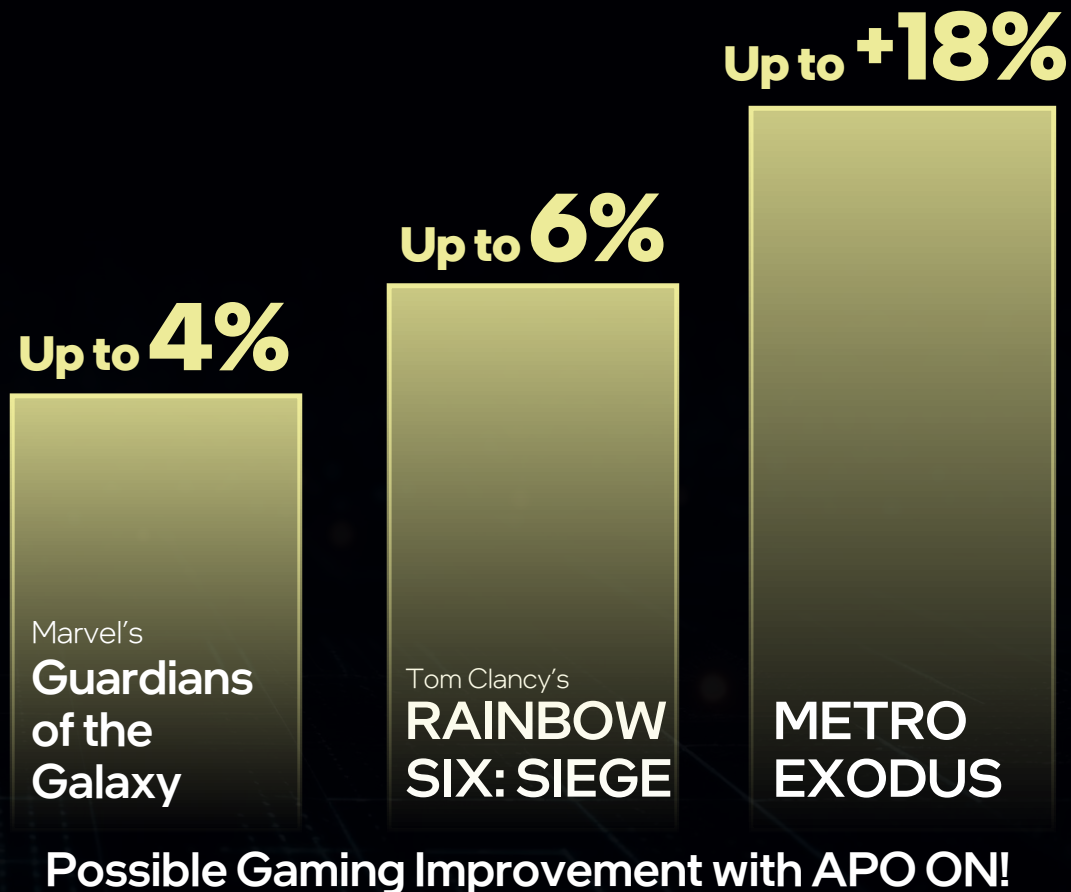
Intel® Application Optimization

Intel Application Optimization

Intel Application Optimization (APO) is a new policy within Intel Dynamic Tuning Technology (DTT) framework that determines and directs application resources **in real-time** for all new Intel Core i7 & i9 (14th Gen) HX-series processors.

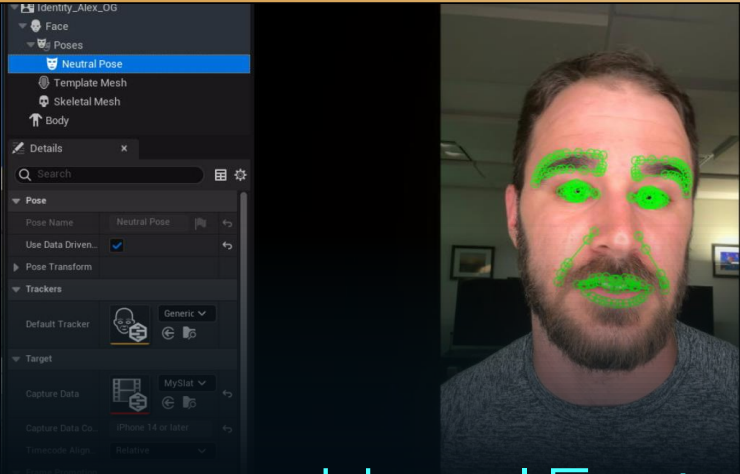
Additional APO Enabled Titles

F1 22, Strange Brigade (v1.1),
World War Z, Dirt 5, World of Warcraft

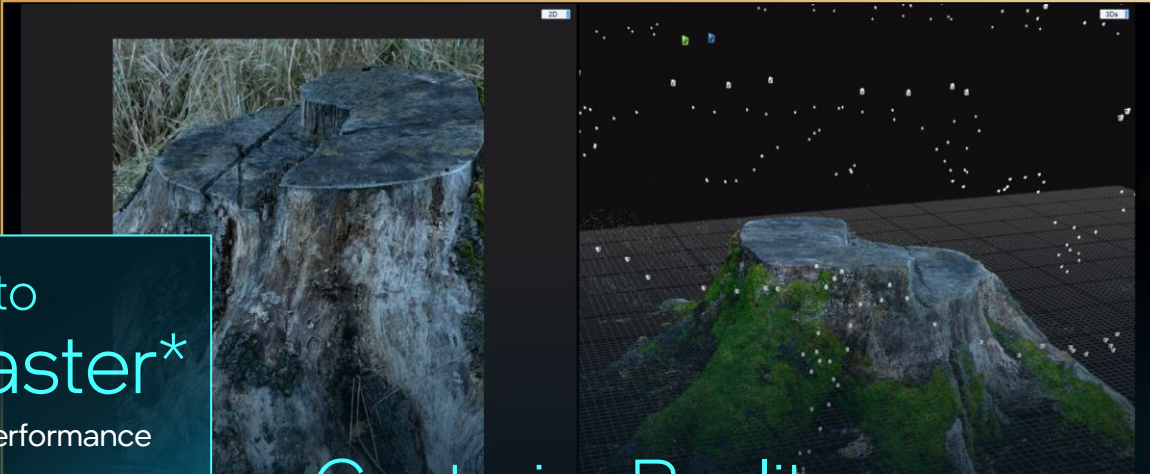


Intel Core 14th Gen Mobile Processors

Virtual Production Multitasking Workflow



Unreal Engine 5
MetaHuman
Custom Character Creation



Capturing Reality
RealityCapture
Real-World Prop Creation

Up to
1.51x Faster*
Multitasking Performance

Foreground Task 1	Template Skeletal Mesh Fitting Using MetaHuman Identity Solve
Foreground Task 2	Auto-Rigging of Skeletal Mesh and Custom MetaHuman

Background Task	2D Image Alignment or Registration Using the Align Images Function in RealityCapture, for 3D Model Creation
------------------------	---

Intel Core i9-14900HX

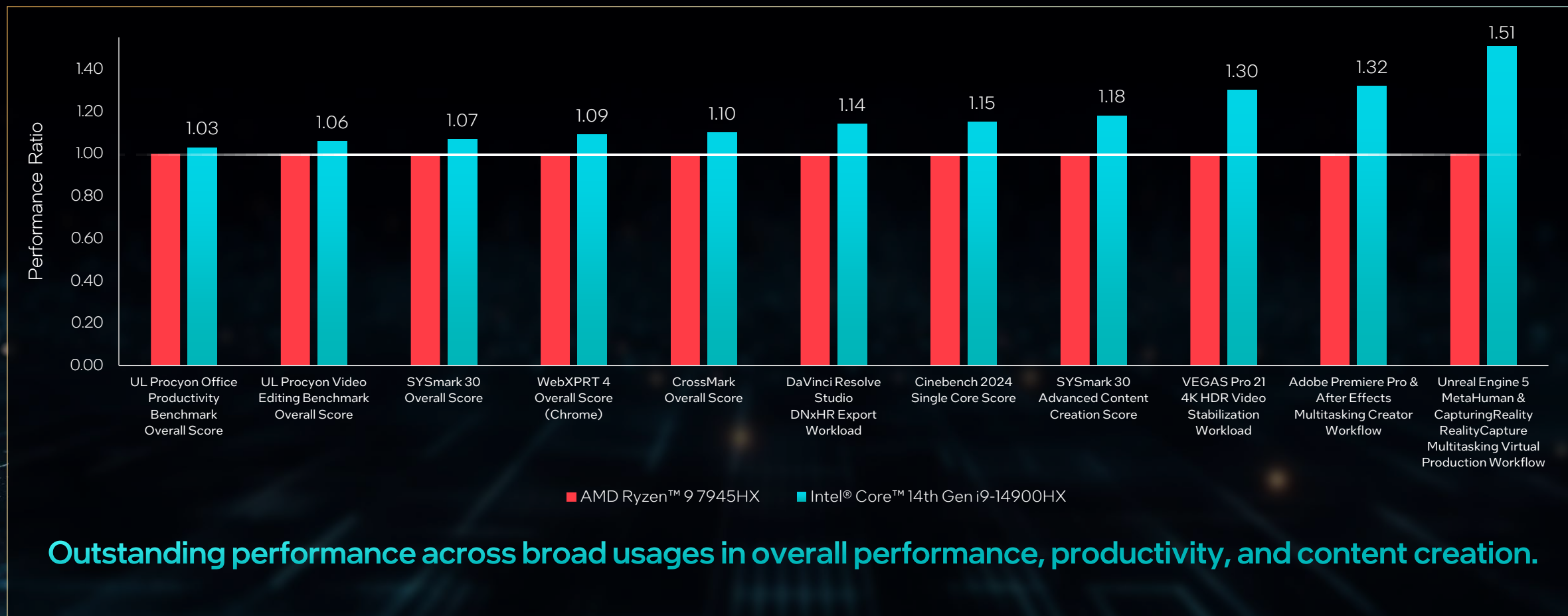
Intel Core i9-14900HX



*Based on performance when compared to Competition.
For all workload and configuration see www.intel.com/PerformanceIndex. Results may vary.

All Around Performance

Intel® Core™ 14th Gen i9-14900HX | AMD Ryzen™ 9 7945HX



Gaming Laptops - Intel® Core™ & Intel Core Ultra

Performance-Optimized or Battery-Optimized Gaming – Intel has you covered!

intel
CORE

HX-SERIES

60+ Incredible Designs



Performance Gaming

intel
CORE
ULTRA

H-SERIES

10+ Next-generation Designs



Form-factor Gaming

Intel® Core™ Processors (14th Gen) HX Partners



Intel Core
HX Processor Family

60+

New
Laptop
Designs

acer

ALIENWARE™



ASUS®

GIGABYTE™



Lenovo

msi™

RAZER™

intel®

The World's Best Experience for Mobile Enthusiasts

Up to
5.8 GHz
Out of the Box

Up to
17% Better
Gaming
Performance¹

Up to
51% Faster
Multitasking
Workflow²

Intel® Core™ 14th Gen Mobile Processors



World's Best Experience for Mobile Experience for Enthusiasts based on performance and unique features of Intel® Core™ 14th Gen Mobile Processors, including in comparison to 13th Gen Intel® Core™, AMD Ryzen™ 9 7945HX and AMD Ryzen™ 9 7945HX3D. Performance claims based on Intel® Core™ 14th Gen i9 Processor 14900HX, measured by (1) 17% higher average FPS vs. the AMD Ryzen™ 9 7945HX3D and (2) 51% Faster Multitasking Workflow featuring Epic Games Unreal Engine 5 MetaHuman and CapturingReality RealityCapture Multitasking Virtual Production Workflow vs. AMD Ryzen™ 9 7945HX. See www.intel.com/performanceindex for details. Results may vary.

Announcing Intel Core 14th Gen Mainstream Desktop Processors



*Consumer available on shelf today with commercial coming soon

Intel Core Processors 14th Gen Mainstream Desktop



Maximizing Real-World Performance

Something for everyone - Faster cores for amazing performance - **Up to 5.8GHz***
NEW Intel® Processor delivering everyday performance

Powerful Features & Flexibility

Backward compatibility, support for DDR4/DDR5⁵, continued support for in-box coolers

Best-in-Class Connectivity

A Leap in Creator Performance

Increased E-cores, threads and cache for Core i7 SKUs to keep people in the creative flow

Up to 37% better multi-threaded performance

18 NEW SKUs (65W and 35W) for gaming, creation and productivity



*Up to 5.8GHz on Intel Core i9-14900

Multi-threaded performance on Autodesk 3ds Max Toon Shader Arnold Render workload of Intel® Core™ 14th Gen i7 Processor 14700 vs prior generation. See www.intel.com/performanceindex for details. Results may vary.

Intel® Core™ Desktop Processors (14th gen) Delivering Next Level Performance



Improved
frequencies



Up to 24 cores



More E-cores³ &
greater L3 cache
On Intel Core i7



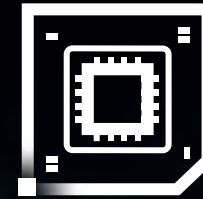
Intel 7 Process
Technology

Intel
7

Support for
PCIe Gen 5.0⁴
& Gen 4.0



2-Ch support for
DDR5⁵ & DDR4



Intel 600 & Intel 700
Series Chipset

Discrete Intel® Wi-Fi
7¹ (5 Gig)

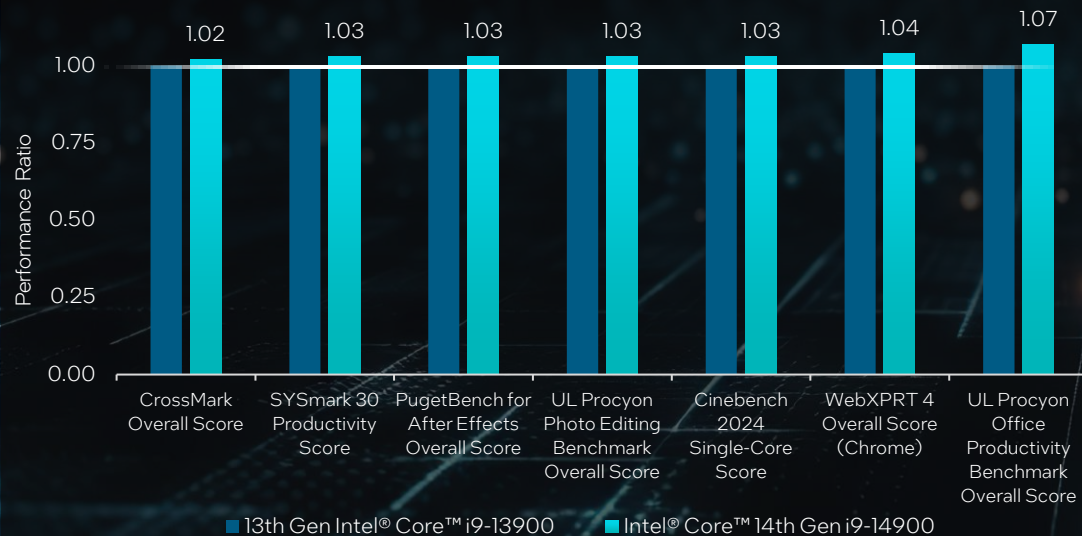
Integrated USB 3.2
Gen 2x2 20Gbps

Intel® Core™ Desktop Processors (14th gen)

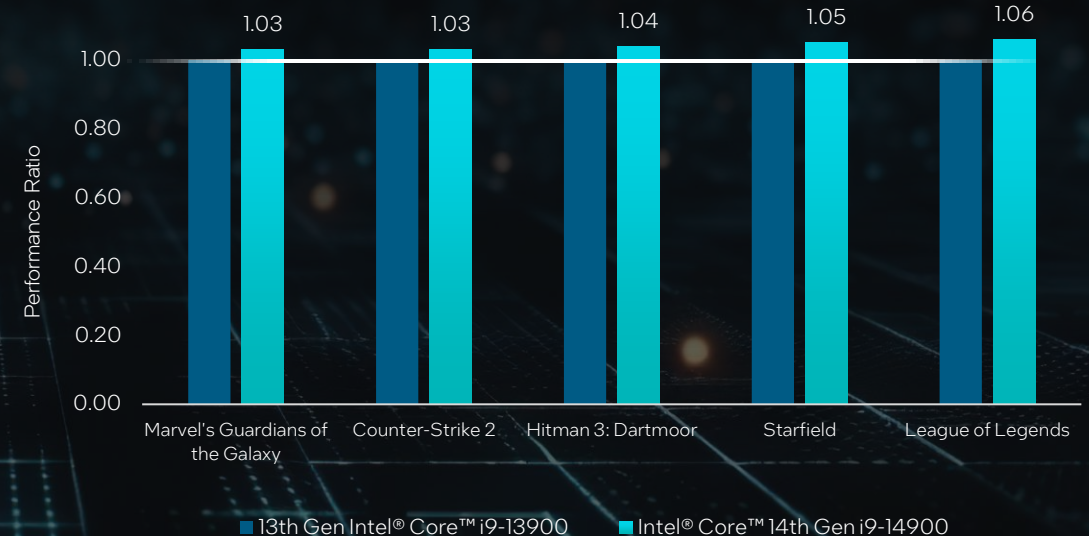
Mainstream Experience

Intel Core desktop processor delivers next level performance, powerful platform features, and immersive system experiences

All Around Performance



Mainstream Gaming

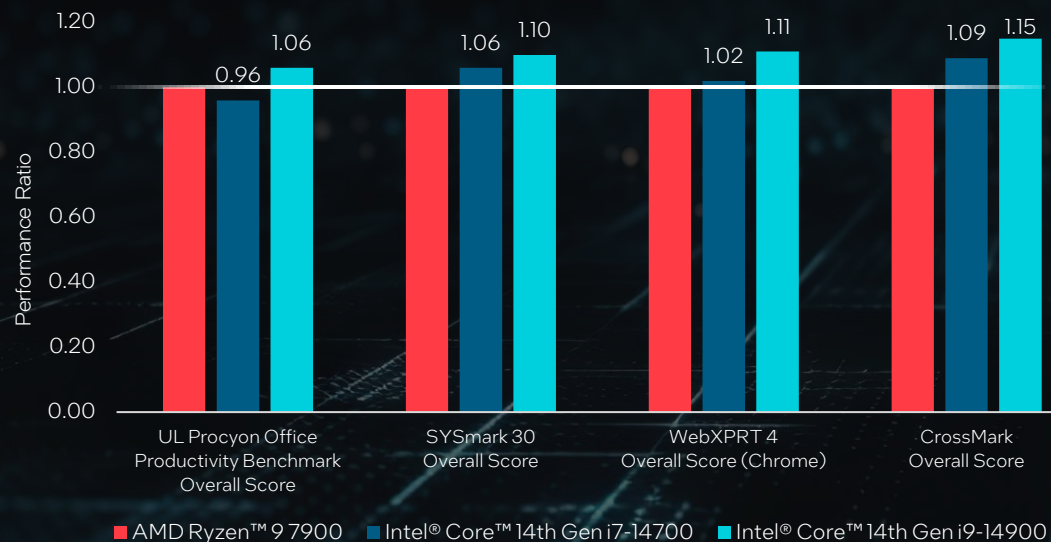


Intel® Core™ Desktop Processors (14th gen)

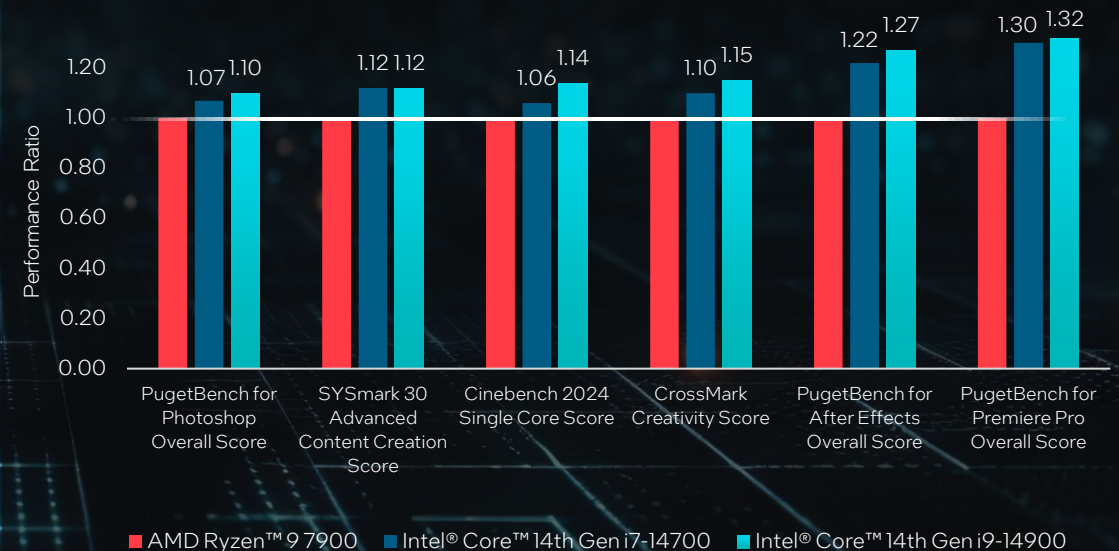
Mainstream Experience

Intel Core desktop processor delivers next level performance, powerful platform features, and immersive system experiences

Everyday Productivity



Content Creation



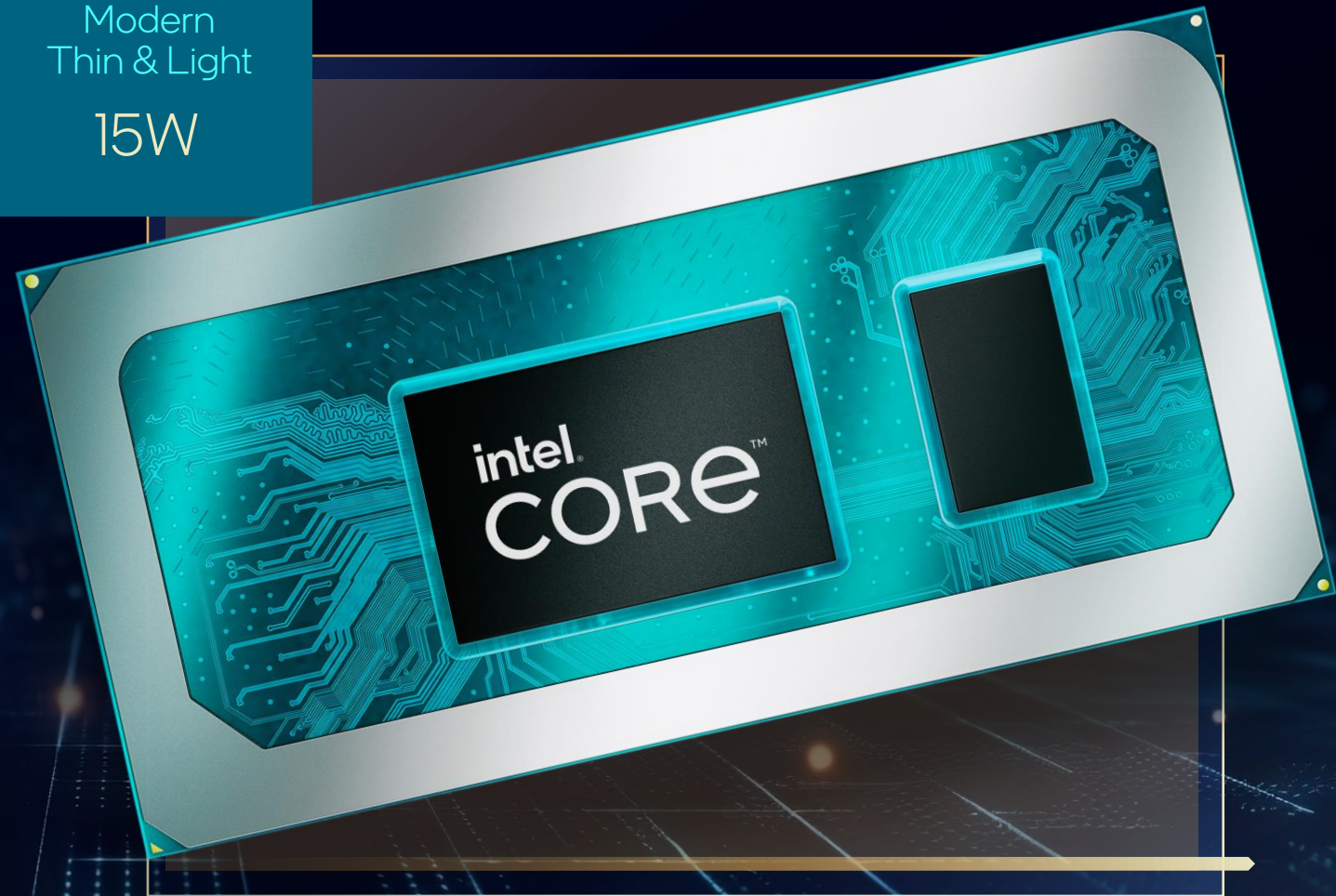
Announcing

Intel Core Mobile Processors Series 1

U-series

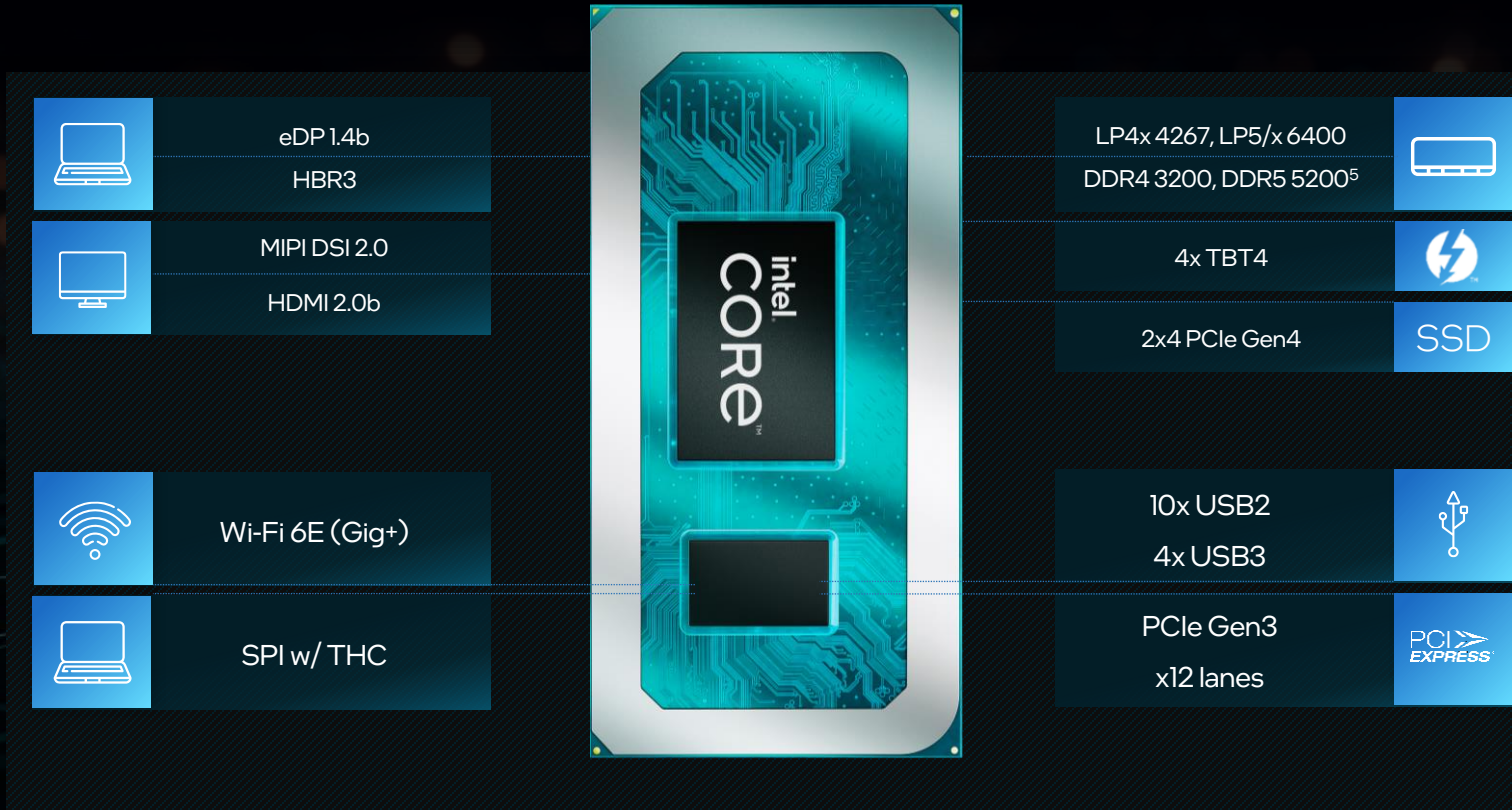
Modern
Thin & Light

15W



intel.

Intel Core U-series Platform



4x Thunderbolt™1 4 Ports

- DP2.1, USB3 20G
- DP1.4, USB3 10G

Discrete Intel® Wi-Fi 7¹ (5 Gig) & Bluetooth® 5.4*

- Intel Wi-Fi 6E (Gig+) & Bluetooth 5.3
 - Low Energy (LE) Audio
 - Wi-Fi based Sensing

Intel® Core™ 14th Gen HX Processors

Processor Number	Processor Cores (P+E)	Processor Threads	Intel® Smart Cache (LLC)	Max Turbo Frequency P-cores	Max Turbo Frequency E-cores	Base Frequency P-cores	Base Frequency E-cores	Processor Graphics	Max Memory Speed (MT/S)	Memory Capacity	Processor Base Power (W)	Max Turbo Power (W)
i9-14900HX	24 (8+16)	32	36MB	Up to 5.8	Up to 4.1	Up to 2.2	Up to 1.6	Intel® UHD Graphics	DDR5 5600 DDR4 3200	192GB	55	157
i7-14700HX	20 (8+12)	28	33MB	Up to 5.5	Up to 3.9	Up to 2.1	Up to 1.5	Intel® UHD Graphics	DDR5 5600 DDR4 3200	192GB	55	157
i7-14650HX	16 (8+8)	24	30MB	Up to 5.2	Up to 3.7	Up to 2.2	Up to 1.6	Intel® UHD Graphics	DDR5 5600 DDR4 3200	192GB	55	157
i5-14500HX	14 (6+8)	20	24MB	Up to 4.9	Up to 3.5	Up to 2.6	Up to 1.9	Intel® UHD Graphics	DDR5 5600 DDR4 3200	192GB	55	157
i5-14450HX	10 (6+4)	16	20MB	Up to 4.8	Up to 3.5	Up to 2.4	Up to 1.8	Intel® UHD Graphics	DDR5 5600 DDR4 3200	192GB	55	157

Intel® Core™ 14th Gen Desktop Processors

Processor Number	Processor Cores (P+E)	Processor Threads	Intel® Smart Cache (L3)	Total L2 Cache	Intel® Thermal Velocity Boost Frequency (GHz)	Intel® Turbo Boost Max Technology 3.0 Frequency (GHz)	P-core Max Turbo Frequency (GHz)	E-core Max Turbo Frequency (GHz)	P-core Base Frequency (GHz)	E-core Base Frequency (GHz)	Intel® vPro Eligible	Processor Graphics	Total CPU PCIe Lanes	Max Memory Speed (MT/s)	Memory Capacity	Processor Base Power (W)	Max Turbo Power (W)	RCP (USD)
i9-14900	24 (8+16)	32	36MB	32MB	Up to 5.8	Up to 5.6	Up to 5.4	Up to 4.3	2.0	1.5	√	Intel® UHD Graphics 770	20	DDR5 5600 DDR4 3200	192GB	65	219	\$549
i7-14700	20 (8+12)	28	33MB	28MB	n/a	Up to 5.4	Up to 5.3	Up to 4.2	2.1	1.5	√	Intel® UHD Graphics 770	20	DDR5 5600 DDR4 3200	192GB	65	219	\$384
i5-14600	14 (6+8)	20	24MB	20MB	n/a	n/a	Up to 5.2	Up to 3.9	2.7	2.0	√	Intel® UHD Graphics 770	20	DDR5 5600 DDR4 3200	192GB	65	154	\$255
i5-14500	14 (6+8)	20	24MB	11.5MB	n/a	n/a	Up to 5.0	Up to 3.7	2.6	1.9	√	Intel® UHD Graphics 770	20	DDR5 4800 DDR4 3200	192GB	65	154	\$232
i5-14400	10 (6+4)	16	20MB	9.5MB	n/a	n/a	Up to 4.7	Up to 3.5	2.5	1.8		Intel® UHD Graphics 730	20	DDR5 4800 DDR4 3200	192GB	65	148	\$221
i3-14100	4 (4+0)	8	12MB	5MB	n/a	n/a	Up to 4.7	n/a	3.5	n/a		Intel® UHD Graphics 730	20	DDR5 4800 DDR4 3200	192GB	60	110	\$134
Intel Processor S00	2 (2+0)	4	6MB	2.5MB	n/a	n/a	n/a	n/a	3.9	n/a		Intel® UHD Graphics 710	20	DDR5 4800 DDR4 3200	192GB	46	n/a	\$82

Intel® Core™ 14th Gen Desktop Processors

Processor Number	Processor Cores (P+E)	Processor Threads	Intel® Smart Cache (L3)	Total L2 Cache	Intel® Thermal Velocity Boost Frequency (GHz)	Intel® Turbo Boost Max Technology 3.0 Frequency (GHz)	P-core Max Turbo Frequency (GHz)	E-core Max Turbo Frequency (GHz)	P-core Base Frequency (GHz)	E-core Base Frequency (GHz)	Intel® vPro Eligible	Processor Graphics	Total CPU PCIe Lanes	Max Memory Speed (MT/s)	Memory Capacity	Processor Base Power (W)	Max Turbo Power (W)	RCP (USD)
i9-14900F	24 (8+16)	32	36MB	32MB	Up to 5.8	Up to 5.6	Up to 5.4	Up to 4.3	2.0	1.5		n/a	20	DDR5 5600 DDR4 3200	192GB	65	219	\$524
i7-14700F	20 (8+12)	28	33MB	28MB	n/a	Up to 5.4	Up to 5.3	Up to 4.2	2.1	1.5		n/a	20	DDR5 5600 DDR4 3200	192GB	65	219	\$359
i5-14400F	10 (6+4)	16	20MB	9.5MB	n/a	n/a	Up to 4.7	Up to 3.5	2.5	1.8		n/a	20	DDR5 4800 DDR4 3200	192GB	65	148	\$196
i3-14100F	4 (4+0)	8	12MB	5MB	n/a	n/a	Up to 4.7	n/a	3.5	n/a		n/a	20	DDR5 4800 DDR4 3200	192GB	58	110	\$109

Intel® Core™ 14th Gen Desktop Processors

Processor Number	Processor Cores (P+E)	Processor Threads	Intel® Smart Cache (L3)	Total L2 Cache	Intel® Thermal Velocity Boost Frequency (GHz)	Intel® Turbo Boost Max Technology 3.0 Frequency (GHz)	P-core Max Turbo Frequency (GHz)	E-core Max Turbo Frequency (GHz)	P-core Base Frequency (GHz)	E-core Base Frequency (GHz)	Intel® vPro Eligible	Processor Graphics	Total CPU PCIe Lanes	Max Memory Speed (MT/s)	Memory Capacity	Processor Base Power (W)	Max Turbo Power (W)	RCP (USD)
i9-14900T	24 (8+16)	32	36MB	32MB	n/a	Up to 5.5	Up to 5.1	Up to 4.0	1.1	0.8	√	Intel® UHD Graphics 770	20	DDR5 5600 DDR4 3200	192GB	35	106	\$549
i7-14700T	20 (8+12)	28	33MB	28MB	n/a	Up to 5.2	Up to 5.0	Up to 3.7	1.3	0.9	√	Intel® UHD Graphics 770	20	DDR5 5600 DDR4 3200	192GB	35	106	\$384
i5-14600T	14 (6+8)	20	24MB	20MB	n/a	n/a	Up to 5.1	Up to 3.6	1.8	1.3	√	Intel® UHD Graphics 770	20	DDR5 5600 DDR4 3200	192GB	35	92	\$255
i5-14500T	14 (6+8)	20	24MB	11.5MB	n/a	n/a	Up to 4.8	Up to 3.4	1.7	1.2	√	Intel® UHD Graphics 770	20	DDR5 4800 DDR4 3200	192GB	35	92	\$232
i5-14400T	10 (6+4)	16	20MB	9.5MB	n/a	n/a	Up to 4.5	Up to 3.2	1.5	1.1		Intel® UHD Graphics 730	20	DDR5 4800 DDR4 3200	192GB	35	82	\$221
i3-14100T	4 (4+0)	8	12MB	5MB	n/a	n/a	Up to 4.4	n/a	2.7	n/a		Intel® UHD Graphics 730	20	DDR5 4800 DDR4 3200	192GB	35	69	\$134
Intel Processor 300T	2 (2+0)	4	6MB	2.5MB	n/a	n/a	n/a	n/a	3.4	n/a		Intel® UHD Graphics 710	20	DDR5 4800 DDR4 3200	192GB	35	n/a	\$82

Intel® Core™ Processors (Series 1) U-series Processors

Processor Number	Processor Cores (P+E)	Processor Threads	Intel® Smart Cache	Max Turbo Frequency P-cores	Max Turbo Frequency E-cores	Base Frequency P-cores	Base Frequency E-cores	Processor Graphics	Max Memory Speed (MT/S)	Memory Capacity	Processor Base Power (W)	Max Turbo Power (W)	Intel vPro Essentials
Intel Core 7 processor 150U	10 (2+8)	12	12MB	5.4	4.0	1.8	1.2	Intel Graphics	DDR5 – 5200 LPDDR5/x – 6400 DDR4 – 3200 LPDDR4x – 4267	96GB	15	55	✓
Intel Core 5 processor 120U	10 (2+8)	12	12MB	5.0	3.8	1.4	0.9	Intel Graphics		96GB	15	55	✓
Intel Core 3 processor 100U	6 (2+4)	8	10MB	4.7	3.3	1.2	0.9	Intel Graphics		96GB	15	55	

Notice and 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 www.intel.com/PerformanceIndex for configuration details.

For additional Intel® Core™ 14th Gen processor family details learn more at www.intel.com

No product or component can be absolutely secure.

Your costs and results may vary.

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

6 GHz 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 & required regulatory certifications. Visit www.intel.com/PerformanceIndex (connectivity) for details. Wi-Fi 7 operation requires use of Intel® Wi-Fi 7 (5 Gig) products in conjunction with operating systems and routers/APs/Gateways that support Wi-Fi 7.

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.

Results that are based on systems and components as well as results that have been estimated or simulated using an Intel Reference Platform (an internal example new system), internal Intel analysis or architecture simulation or modeling are provided to you for informational purposes only. Results may vary based on future changes to any systems, components, specifications or configurations.

All information provided here is subject to change without notice. Contact your Intel representative to obtain the latest information.

1. Wi-Fi 7 operation requires use of Intel® Wi-Fi 7 (5 Gig) products in conjunction with operating systems and routers/APs/Gateways that support Wi-Fi 7.
2. Discrete Intel® Thunderbolt™ 4 (Maple Ridge) is only validated and supported from Intel® 600 and 700 Series Chipset PCIe lanes.
3. Performance hybrid architecture combines two core microarchitectures, Performance-cores (P-cores) and Efficient-cores (E-cores), on a single processor die first introduced on 12th Gen Intel® Core™ processors. Select 12th Gen and newer Intel® Core™ processors do not have performance hybrid architecture, only P-cores or E-cores, and may have the same cache size. See ark.intel.com for SKU details, including cache size and core frequency."
4. CPU PCIe 5.0 lanes are only validated for discrete graphics (x16) and PCIe storage (1x4). 1x16 bifurcation to 2x8 supported on select Intel® 600 and 700 Series chipsets
5. DDR5 Memory speeds are associated with 1DPC configurations. For additional 2DPC configuration details refer to the Alder Lake Processor External Design Specification (EDS), Doc ID 619501.
6. Intel® Application Optimization is a policy within Intel® Dynamic Tuning Technology that optimizes performance on select games, with the required configurations on select Intel® Core™ 14th Gen processors.

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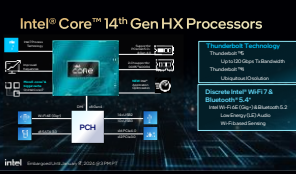
The image features the Intel logo, which consists of the word "intel" in a lowercase, sans-serif font, followed by a registered trademark symbol (®). The logo is centered within a white rectangular box. The background is a dark, blue-toned digital network. It is composed of numerous small, glowing nodes (some blue, some orange) connected by thin, light-blue lines, creating a complex web-like structure that recedes into the distance, giving a sense of depth and connectivity.

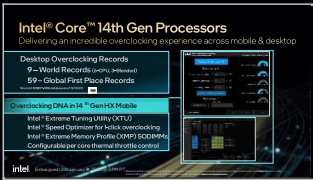
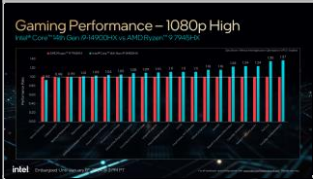
intel®

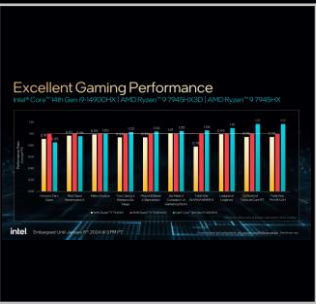


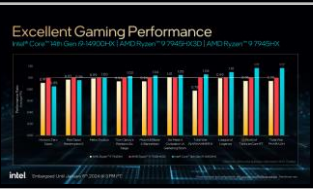
Performance Appendix for: Intel® Core™ 14th Gen HX, S and U Processors (Code Name: Raptor Lake Refresh)
Performance varies by use, configuration and other factors. Learn more at [www.Intel.com/PerformanceIndex](https://www.intel.com/PerformanceIndex).

Claim # Statements	Slide # Title/Details
	3. World's Fastest Mobile Processor
1. World's Fastest Mobile Processor	At 5.8 GHz Max Turbo Frequency, the Intel® Core™ i9 Processor 14900HX is the world's fastest mobile processor (as of December 2023). See www.intel.com/PerformanceIndex for details. Testing as of: December 2023
2. World's Best Desktop Experience for Enthusiasts	Based on the performance and other attributes of Intel® Core™ 14th Gen processors that combine to form the best overall Mobile experience. These include: Fast speeds: up to Max Turbo Frequency of 5.8GHz – the highest for any Mobile processor. See ark.intel.com for details. Strong mobile processor performance across a collection of benchmarks and real-world Gaming, Productivity, & Content Creation workloads, including in relation to prior generation (13th Gen Intel® Core™) and offerings from competition with an equivalent TDP. New and improved tuning and optimization features. Broad memory support for both DDR4 and DDR5 SODIMM memory modules. Support for Thunderbolt™ 5 & Thunderbolt™ 4, Discrete Intel® Wi-Fi 7 (5 Gig) & Bluetooth® 5.4*, Intel Wi-Fi 6E (Gig+) & Bluetooth® 5.3, Low Energy (LE) Audio, Wi-Fi based Sensing. See intel.com/PerformanceIndex (connectivity) for details. Intel's unparalleled approach to security like security assurance programs founded on security by design principles, transparency and disclosure of vulnerabilities and a robust Intel Platform Update process, an esteemed bug bounty program as well as internal research through red teams and more. Breadth of price and performance options available in Intel® Core™ 14th Gen family Extensive open ecosystem enablement (e.g., OEMs, ODMs, OSs, ISVs, etc.) Testing as of: December 2023
3. Best In-class Connectivity	6 GHz 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 & required regulatory certifications. Visit www.intel.com/PerformanceIndex (connectivity) for details. Wi-Fi 7 operation requires use of Intel® Wi-Fi 7 (5 Gig) products in conjunction with operating systems and routers/APs/Gateways that support Wi-Fi 7.
4. Thunderbolt	Discrete Intel® Thunderbolt™ 4 (Maple Ridge) is only validated and supported from Intel® 600 and 700 Series Chipset PCIe lanes.

	4. Intel® Core™ Desktop Processors (14th gen) Unleashing the Ultimate Gaming Platform
5. More E-cores	Performance hybrid architecture combines two core microarchitectures, Performance-cores (P-cores) and Efficient-cores (E-cores), on a single processor die first introduced on 12th Gen Intel® Core™ processors. Select 12th Gen and newer Intel® Core™ processors do not have performance hybrid architecture, only P-cores or E-cores, and may have the same cache size. See ark.intel.com for SKU details, including cache size and core frequency."
6. Support for PCIe Gen 5.0	CPU PCIe 5.0 lanes are only validated for discrete graphics (x16) and PCIe storage (1x4). 1x16 bifurcation to 2x8 supported on select Intel® 600 and 700 Series chipsets
7. Intel® Application Optimization	Intel® Application Optimization is a policy within Intel® Dynamic Tuning Technology that optimizes performance on select games, with the required configurations on select Intel® Core™ 14th Gen processors.
8. 2-Ch support for DDR5	DDR5 Memory speeds are associated with 1DPC configurations. For additional 2DPC configuration details refer to the Alder Lake Processor External Design Specification (EDS), Doc ID 619501.
9. Thunderbolt	See claim 4
10. Intel Wi-Fi 7 (5 Gig)	See Claim 3
	5. Next-generation Wireless Connectivity
11. Wi-Fi 7 (5 Gig)	See Claim 3
	6. Thunderbolt 5
12. Thunderbolt	See Claim 4
13. .Best Display Experience	Best display experience based on bandwidth comparison with the latest DisplayPort2.1 specification and the versatility of Thunderbolt solution
14. 3x more than Thunderbolt™ 4	3x more than Thunderbolt™ 4 based on Transmit bandwidth comparison
15.50% more than DP 2.1	Most/highest bandwidth @ 120 Gbps display connection for the PC industry (~50% more bandwidth than the latest DP2.1 @ 80 Gbps)
16. The fastest data connection	Fastest data connection compared to other current PC Client bidirectional I/O connection technologies like Thunderbolt™ 4, eSATA and USB. Must be connected via Thunderbolt 5 accessory to enable full performance
17. 2x the speed of Thunderbolt 4	See Claim 14
18. 3x more bandwidth for video	Most/highest bandwidth @ 120 Gbps display connection for the PC industry (~50% more bandwidth than the latest DP2.1 @ 80 Gbps)
19. 6x more bandwidth for data	6x more bandwidth for data based on PCIe tunneled connection (64 Gbps) compared with USB 3 (10 Gbps).
20. 2x more than today's solutions	2x the bandwidth of Thunderbolt 4 based on PCIe bandwidth comparison.

	7. Intel 14th Gen Processors																																										
21. Delivering an incredible overclocking experience across mobile & desktop	Based on enhanced overclocking ability enabled by Intel's comprehensive tools and unique architectural tuning capabilities. Your results may vary. Overclocking may void warranty or affect system health																																										
	8. Gaming Performance – 1080p High Intel® Core™ 14th Gen i9-14900HX vs AMD Ryzen™ 9 7945HX																																										
22. You can see the full range of results with up to 37% more FPS gain vs comp	As measured on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX Processor																																										
You can see the full range of results with up to 37% more FPS gain vs comp Full Configurations:	Processor: Intel® Core™ 14th Gen i9 Processor 14900HX, 24C32T (8P + 16E); MSI Raider GE78 HX 14VIG Laptop; Memory: 2x16GB DDR5-5600MHz; ; Storage: Samsung 990 Pro 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 22H2.2428; Graphics card: NVIDIA RTX 4090; Graphics Card Driver: 31.0.15.4601; BIOS Version: E17SITM5.90E; Power Plan set to Balanced; Power Mode set to Best Performance; OEM power application (MSI Center) set to MSI Center: "Extreme performance" ; VBS Enabled, Defender Enabled, and Tamper Protection Enabled. Processor: AMD Ryzen™ 9 7945HX Processor, 16C32T, ASUS ROG Strix G733PY Laptop; Memory: 2x16GB DDR5-4800MHz; ; Storage: Samsung 990 Pro 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 22H2.2428; Graphics card: NVIDIA RTX 4090; Graphics Card Driver: 31.0.15.4601; BIOS Version: G733PY.327; Power Plan set to Turbo; Power Mode set to Best Performance; OEM power application (ASUS Armory Crate) set to ASUS Armory Crate: "Turbo" ; VBS Enabled, Defender Enabled, and Tamper Protection Enabled. Testing as of: December 29th, 2023 <table> <tr> <th>Games Tested:</th><th>Additional Information:</th></tr> <tr> <td>Ashes of the Singularity: Escalation</td><td>Steam - DX12 - CPU Focused Test - 1080p Crazy - Avg FPS - Version: 3.20.495800</td></tr> <tr> <td>Assassin's Creed: Mirage</td><td>Ubisoft Connect - DX12 - Benchmark - 1080p High - Avg FPS - Version: 1.06</td></tr> <tr> <td>Avatar: Frontiers of Pandora</td><td>Ubisoft Connect - DX12 - Benchmark - 1080p High - Avg FPS - Version: 18.88.0</td></tr> <tr> <td>Cyberpunk 2077</td><td>Steam - DX12 - Benchmark - 1080p High - Avg FPS - Version: 21</td></tr> <tr> <td>F1® 23</td><td>Steam - DX12 - Benchmark (Australia) - 1080p High - Avg FPS - Version: 1.18</td></tr> <tr> <td>Far Cry 6</td><td>Epic Games - DX12 - Benchmark - 1080p High - Avg FPS - Version: 61.70</td></tr> <tr> <td>Final Fantasy XIV: Endwalker</td><td>Standalone downloaded benchmark - GS1 - High - Version: 538050324</td></tr> <tr> <td>Hitman 3: Dartmoor</td><td>Epic Games - DX12 - 1080p High - Avg FPS - Version: 3.170.1</td></tr> <tr> <td>Horizon Zero Dawn</td><td>Steam - DX12 - Benchmark - Favor Quality setting - 1080p - Version: 1.11.2</td></tr> <tr> <td>League of Legends</td><td>Standalone - Replay - DX11 - 1080p High - Avg FPS - Version: 13.24</td></tr> <tr> <td>Marvel's Guardians of the Galaxy</td><td>Steam - DX12 - Benchmark - 1080p High - Avg FPS - Version: 2984448</td></tr> <tr> <td>Metro Exodus</td><td>Epic Games - DX12 - Benchmark - 1080p High - Avg FPS - Version: 1.0.0.8</td></tr> <tr> <td>Mount & Blade II: Bannerlord</td><td>Steam - DX11 - Benchmark - 500 units - CPU FPS - Version: 1.2.8.31530</td></tr> <tr> <td>Red Dead Redemption 2</td><td>Epic Games - Vulkan - Benchmark - 1080p High - Avg FPS - Version: Build 149118</td></tr> <tr> <td>Sid Meier's Civilization VI: Gathering Storm</td><td>Steam - DX12 - Gathering Storm AI Benchmark - 1080p High - Avg Turn Time (secs) - Version: 1.0.58</td></tr> <tr> <td>Starfield</td><td>Steam - DX12 - Repeatable Workload - 1080p High - Avg FPS - Version: 1.02</td></tr> <tr> <td>Tom Clancy's Rainbow Six Siege</td><td>Steam - DX11 - Benchmark - 1080p High - Avg FPS - Version: 48690975</td></tr> <tr> <td>Total War: PHARAOH</td><td>Steam - DX12 - Campaign Benchmark - 1080p High - Avg FPS - Version: 1.01</td></tr> <tr> <td>Total War: WARHAMMER III</td><td>Steam - DX11 - Mirror of Madness Benchmark - 1080p High - Avg FPS - Version: 4.1.3</td></tr> <tr> <td>World of Tanks enCore RT</td><td>Standalone - DX11 - 1080p Ultra - Score - Version: 0.2</td></tr> </table>	Games Tested:	Additional Information:	Ashes of the Singularity: Escalation	Steam - DX12 - CPU Focused Test - 1080p Crazy - Avg FPS - Version: 3.20.495800	Assassin's Creed: Mirage	Ubisoft Connect - DX12 - Benchmark - 1080p High - Avg FPS - Version: 1.06	Avatar: Frontiers of Pandora	Ubisoft Connect - DX12 - Benchmark - 1080p High - Avg FPS - Version: 18.88.0	Cyberpunk 2077	Steam - DX12 - Benchmark - 1080p High - Avg FPS - Version: 21	F1® 23	Steam - DX12 - Benchmark (Australia) - 1080p High - Avg FPS - Version: 1.18	Far Cry 6	Epic Games - DX12 - Benchmark - 1080p High - Avg FPS - Version: 61.70	Final Fantasy XIV: Endwalker	Standalone downloaded benchmark - GS1 - High - Version: 538050324	Hitman 3: Dartmoor	Epic Games - DX12 - 1080p High - Avg FPS - Version: 3.170.1	Horizon Zero Dawn	Steam - DX12 - Benchmark - Favor Quality setting - 1080p - Version: 1.11.2	League of Legends	Standalone - Replay - DX11 - 1080p High - Avg FPS - Version: 13.24	Marvel's Guardians of the Galaxy	Steam - DX12 - Benchmark - 1080p High - Avg FPS - Version: 2984448	Metro Exodus	Epic Games - DX12 - Benchmark - 1080p High - Avg FPS - Version: 1.0.0.8	Mount & Blade II: Bannerlord	Steam - DX11 - Benchmark - 500 units - CPU FPS - Version: 1.2.8.31530	Red Dead Redemption 2	Epic Games - Vulkan - Benchmark - 1080p High - Avg FPS - Version: Build 149118	Sid Meier's Civilization VI: Gathering Storm	Steam - DX12 - Gathering Storm AI Benchmark - 1080p High - Avg Turn Time (secs) - Version: 1.0.58	Starfield	Steam - DX12 - Repeatable Workload - 1080p High - Avg FPS - Version: 1.02	Tom Clancy's Rainbow Six Siege	Steam - DX11 - Benchmark - 1080p High - Avg FPS - Version: 48690975	Total War: PHARAOH	Steam - DX12 - Campaign Benchmark - 1080p High - Avg FPS - Version: 1.01	Total War: WARHAMMER III	Steam - DX11 - Mirror of Madness Benchmark - 1080p High - Avg FPS - Version: 4.1.3	World of Tanks enCore RT	Standalone - DX11 - 1080p Ultra - Score - Version: 0.2
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	9. Excellent Gaming Performance Intel® Core™ 14th Gen i9-14900HX AMD Ryzen™ 9 7945HX3D AMD Ryzen™ 9 7945HX
23. Up to 17% more FPS on Total War: PHARAOH	As measured on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX3D Processor
24. Up to 17% more FPS on World of Tanks enCore RT	As measured on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX3D Processor
25. Up to 10% more FPS on League of Legends	As measured on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX3D Processor
26. Up to 6% more FPS on Total War: WARHAMMER III	As measured on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX3D Processor
27. Up to 5% more FPS on Sid Meier's Civilization VI: Gathering Storm	As measured on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX3D Processor
28. Up to 4% more FPS on Mount & Blade: Bannerlord	As measured on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX3D Processor
29. Up to 3% more FPS on Tom Clancy's Rainbow Six: Siege	As measured on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX3D Processor
30. On par FPS on Métro Exodus	As measured on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX3D Processor



9. Excellent Gaming Performance (Cont.)

Intel® Core™ 14th Gen i9-14900HX | AMD Ryzen™ 9 7945HX3D | AMD Ryzen™ 9 7945HX

Up to 17% more FPS on Total War: PHARAOH

Up to 17% more FPS on World of Tanks enCore RT

Up to 10% more FPS on League of Legends

Up to 6% more FPS on Total War: WARHAMMER III

Up to 5% more FPS on Sid Meier's Civilization VI: Gathering Storm

Up to 4% more FPS on Mount & Blade: Bannerlord

Up to 3% more FPS on Tom Clancy's Rainbow Six: Siege

On par FPS on Metro Exodus

Full Configurations:

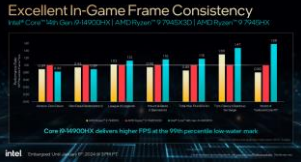
Processor: Intel® Core™ 14th Gen i9 Processor 14900HX, 24C32T (8P + 16E); MSI Raider GE78 HX 14VIG Laptop; Memory: 2x16GB DDR5-5600MHz; ; Storage: Samsung 990 Pro 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 22H2.2428; Graphics card: NVIDIA RTX 4090; Graphics Card Driver: 31.0.15.4601; BIOS Version: E17S1TMS.90E; Power Plan set to Balanced; Power Mode set to Best Performance; OEM power application (MSI Center) set to MSI Center: "Extreme performance" ; VBS Enabled, Defender Enabled, and Tamper Protection Enabled.

Processor: AMD Ryzen™ 9 7945HX3D Processor, 16C32T, ASUS ROG Strix G733PYV Laptop; Memory: 2x16GB DDR5-4800MHz; ; Storage: Samsung 990 Pro 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 22H2.2428; Graphics card: NVIDIA RTX 4090; Graphics Card Driver: 31.0.15.4601; BIOS Version: G733PYV.324; Power Plan set to Turbo; Power Mode set to Best Performance; OEM power application (ASUS Armory Crate) set to ASUS Armory Crate: "Turbo" ; VBS Enabled, Defender Enabled, and Tamper Protection Enabled.

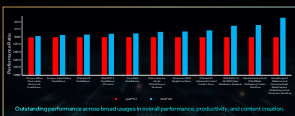
Processor: AMD Ryzen™ 9 7945HX Processor, 16C32T, ASUS ROG Strix G733PY Laptop; Memory: 2x16GB DDR5-4800MHz; ; Storage: Samsung 990 Pro 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 22H2.2428; Graphics card: NVIDIA RTX 4090; Graphics Card Driver: 31.0.15.4601; BIOS Version: G733PY.327; Power Plan set to Turbo; Power Mode set to Best Performance; OEM power application (ASUS Armory Crate) set to ASUS Armory Crate: "Turbo" ; VBS Enabled, Defender Enabled, and Tamper Protection Enabled.

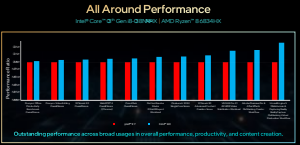
Testing as of: December 29th, 2023

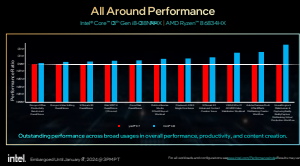
Games Tested: See Claim 22

	10. Excellent In-Game Frame Consistency Intel® Core™ 14th Gen i9-14900HX AMD Ryzen™ 9 7945HX3D AMD Ryzen™ 9 7945HX
31. Up to 58% better frame consistency on World of Tanks enCore RT	As measured on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX3D Processor
32. Up to 47% better frame consistency on Tom Clancy's Rainbow Six Siege	As measured on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX Processor
33. Up to 18% better frame consistency on Total War: PHARAOH	As measured on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX3D Processor
34. Up to 16% better frame consistency on Mount & Blade: Bannerlord	As measured on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX Processor
35. Up to 12% better frame consistency on League of Legends	As measured on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX3D Processor
Up to 58% better frame consistency on World of Tanks enCore RT Up to 47% better frame consistency on Tom Clancy's Rainbow Six Siege Up to 18% better frame consistency on Total War: PHARAOH Up to 16% better frame consistency on Mount & Blade: Bannerlord Up to 12% better frame consistency on League of Legends Full Configurations:	Processor: Intel® Core™ 14th Gen i9 Processor 14900HX, 24C32T (8P + 16E); MSI Raider GE78 HX 14VIG Laptop; Memory: 2x16GB DDR5-5600MHz; Storage: Samsung 990 Pro 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 22H2.2428; Graphics card: NVIDIA RTX 4090; Graphics Card Driver: 31.0.15.4601; BIOS Version: E17SITMS.90E; Power Plan set to Balanced; Power Mode set to Best Performance; OEM power application (MSI Center) set to MSI Center: "Extreme performance"; VBS Enabled, Defender Enabled, and Tamper Protection Enabled. Processor: AMD Ryzen™ 9 7945HX3D Processor, 16C32T, ASUS ROG Strix G733PYV Laptop; Memory: 2x16GB DDR5-4800MHz; Storage: Samsung 990 Pro 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 22H2.2428; Graphics card: NVIDIA RTX 4090; Graphics Card Driver: 31.0.15.4601; BIOS Version: G733PYV.324; Power Plan set to Turbo; Power Mode set to Best Performance; OEM power application (ASUS Armory Crate) set to ASUS Armory Crate: "Turbo"; VBS Enabled, Defender Enabled, and Tamper Protection Enabled. Testing as of: December 29th, 2023 Processor: AMD Ryzen™ 9 7945HX Processor, 16C32T, ASUS ROG Strix G733PY Laptop; Memory: 2x16GB DDR5-4800MHz; Storage: Samsung 990 Pro 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 22H2.2428; Graphics card: NVIDIA RTX 4090; Graphics Card Driver: 31.0.15.4601; BIOS Version: G733PY.327; Power Plan set to Turbo; Power Mode set to Best Performance; OEM power application (ASUS Armory Crate) set to ASUS Armory Crate: "Turbo"; VBS Enabled, Defender Enabled, and Tamper Protection Enabled. Games Tested: See Claim 22

Intel® Application Optimization Intel Application Optimization Intel Application Optimization (APO) is a new policy within Intel Dynamic Tuning Technology (DTT) that enables real-time identification and dynamic allocation of system resources to Intel® Processors Intel Core i7 & i9 (14th Gen) i5 enables processors Additional APO Enabled Titles RTX Boulevard Word War 2 (2023) World of Warcraft Up to 5% Up to 7% Up to 2% RTX Boulevard Word War 2 (2023) World of Warcraft Possible Gaming Improvement with APO On METRO: EXODUS	11. Intel Application Optimization
36. Up to 18% more FPS on Metro Exodus with Intel® Application Optimization	As measured on Intel® Core™ 14th Gen i9 Processor 14900HX with Intel® Application Optimization vs without Intel® Application Optimization
37. Up to 6% more FPS on Tom Clancy's Rainbow Six Siege with Intel® Application Optimization.	As measured on Intel® Core™ 14th Gen i9 Processor 14900HX with Intel® Application Optimization vs without Intel® Application Optimization
38. Up to 4% more FPS on Guardians of the Galaxy with Intel® Application Optimization.	As measured on Intel® Core™ 14th Gen i9 Processor 14900HX with Intel® Application Optimization vs without Intel® Application Optimization
Up to 18% more FPS on Metro Exodus with Intel® Application Optimization Up to 6% more FPS on Tom Clancy's Rainbow Six Siege with Intel® Application Optimization. Up to 4% more FPS on Guardians of the Galaxy with Intel® Application Optimization. Full Configurations:	Processor: Intel® Core™ 14th Gen i9 Processor 14900HX, 24C32T (8P + 16E); MSI Raider GE78 HX 14VIG Laptop; Memory: 2x16GB DDR5-5600MHz;; Storage: Samsung 990 Pro 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 22H2; Graphics card: NVIDIA RTX 4090; Graphics Card Driver: 31.0.15.2892; Integrated Graphics: Intel® UHD Graphics; Integrated Graphics Driver: 31.0.101.4314; BIOS Version: E17S1IMS.704; Power Plan set to Balanced; Power Mode set to Best Performance; OEM power application (MSI Center) set to MSI Center; "Extreme performance"; VBS Enabled, Defender Enabled, and Tamper Protection Enabled. Intel® Application Optimization is a policy within Intel® Dynamic Tuning Technology that optimizes performance on select games, with required configurations on select Intel® Core™ 14th Gen Processors. For additional information on Intel® Application Optimization, see www.intel.com/content/www/us/en/support/articles/000095419/Processors.html. Data shown captured using the Intel® Core™ 14th Gen i9-14900HX. See www.intel.com/PerformanceIndex. Results may vary. Testing as of: December 29th, 2023 Games Tested: See Claim 19
Intel Core 14th Gen Mobile Processors Virtual Production Multitasking Workflow Unreal Engine 5 MetaHuman Unreal 15x Faster MetaHuman Capturing Reality Reality Capture Real World Prop Creation	12. Intel Core 14th Gen Mobile Processors Virtual Production Multitasking Workflow
39. Up to 51% faster virtual production multitasking performance	As measured by Unreal Engine 5 MetaHuman & Capturing Reality Reality Capture Multitasking Virtual Production Workflow on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX Processor
Up to 51% faster virtual production multitasking performance Full Configurations	Processor: Intel® Core™ 14th Gen i9 Processor 14900HX, 24C32T (8P + 16E); MSI Raider GE78 HX 14VIG Laptop; Memory: 2x32GB DDR5-5200MHz;; Storage: Samsung 990 Pro 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 22H2; Graphics card: NVIDIA RTX 4090; Graphics Card Driver: 31.0.15.4601; Integrated Graphics: Intel® UHD Graphics; Integrated Graphics Driver: 31.0.101.4314; BIOS Version: E17S1TMS.90E; Power Plan set to Balanced; Power Mode set to Balanced; OEM power application (MSI Center) set to MSI Center; "Extreme performance"; VBS Enabled, Defender Enabled, and Tamper Protection Enabled. Processor: AMD Ryzen™ 9 7945HX Processor, 16C32T; ASUS ROG Strix G733PY Laptop; Memory: 2x32GB DDR5-4800MHz;; Storage: Samsung 990 Pro 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 22H2; Graphics card: NVIDIA RTX 4090; Graphics Card Driver: 31.0.15.4601; Integrated Graphics: AMD Radeon™ 610M; Integrated Graphics Driver: 31.0.14038.5001; BIOS Version: G733PY.327; Power Plan set to Turbo; Power Mode set to Balanced; OEM power application (ASUS Armory Crate) set to ASUS Armory Crate; "Turbo"; VBS Enabled, Defender Enabled, and Tamper Protection Enabled. Workflow description for the above performance claim: As measured by Comparing the Intel® Core™ 14th Gen i9-14900HX against the AMD Ryzen 9 7945HX using the following operations: 1. In the foreground, the creator leverages Capturing Reality Reality Capture to bring a real-world prop into 3D space for virtual production usages, via an image set. 2. The creator uses the Align Images feature within Reality Capture, where 2D images are aligned to form a 3D image via photogrammetry. This will take some time to complete, a background task which is measured in seconds. 3. To stay productive, they move Reality Capture to the background by launching Unreal Engine 5 in the foreground. 4. They will use Unreal Engine 5 MetaHuman to create a new character for virtual production uses, by first starting with recorded video of the subject to be brought into Unreal Engine 5. 5. In the foreground, the creator then leverages Unreal Engine 5 MetaHuman Identity Solve function to fit a Template Skeletal Mesh to the volume of the sample character video's Neutral Pose. The time to complete this task is measured in seconds. 6. Next, they create an auto-rigged Skeletal Mesh and a custom MetaHuman. The time to complete this task is measured in seconds. 7. The creator then brings Reality Capture back to the foreground, where the Align Images feature completion time is measured in seconds.

 13. All Around Performance Intel® Core™ 14th Gen i9-14900HX AMD Ryzen™ 9 7945HX	
40. Up to 51% faster virtual production multitasking performance	As measured by Unreal Engine 5 MetaHuman & CapturingReality RealityCapture Multitasking Virtual Production Workflow on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX Processor
41. Up to 32% faster content creation multitasking performance	As measured by Adobe Premiere Pro & After Effects Multitasking Creator Workflow on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX Processor
42. Up to 30% faster HDR Video Stabilization	As measured by VEGAS Pro 21 – HDR Video Stabilization Workload on Intel® Core™ 14th Gen i9 Processor 14900HX vs AMD Ryzen™ 9 7945HX Processor
43. Up to 18% better advanced content creation performance	As measured by SYSmark® 30 – Advanced Content Creation Score on Intel® Core™ 14th Gen i9 Processor 14900HX vs AMD Ryzen™ 9 7945HX Processor
44. Up to 15% better Cinebench 2024 single core performance	As measured by Maxon Cinebench 2024 – Single Core Score on Intel® Core™ 14th Gen i9 Processor 14900HX vs AMD Ryzen™ 9 7945HX Processor
45. Up to 14% faster DNxHR Video Export	As measured by DaVinci Resolve Studio – DNxHR Export Workload on Intel® Core™ 14th Gen i9 Processor 14900HX vs AMD Ryzen™ 9 7945HX Processor
46. Up to 10% faster mainstream application performance	As measured by CrossMark® – Overall Score on Intel® Core™ 14th Gen i9 Processor 14900HX vs AMD Ryzen™ 9 7945HX Processor
47. Up to 9% faster web browsing performance	As measured by WebXPRT 4 - Overall Score on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX Processor
48. Up to 7% better Windows application performance	As measured by SYSmark® 30 – Overall Score on Intel® Core™ 14th Gen i9 Processor 14900HX vs AMD Ryzen™ 9 7945HX Processor
49. Up to 6% better video editing performance	As measured by UL Procyon® Video Editing Benchmark – Overall Score on Intel® Core™ 14th Gen i9 Processor 14900HX vs AMD Ryzen™ 9 7945HX Processor
50. Up to 3% faster Office productivity performance	As measured by UL Procyon® Office Productivity Benchmark – Overall Score on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX Processor

 All Around Performance Intel Core™ i9-14900HX AMD Ryzen™ 9 7945HX Outstanding performance across broad range of Intel® performance, productivity, and content creation. intel Intel® Processor i9-14900HX AMD Ryzen™ 9 7945HX	13. All Around Performance (Cont.) Intel® Core™ 14th Gen i9-14900HX AMD Ryzen™ 9 7945HX
Up to 51% faster virtual production multitasking performance Up to 32% faster content creation multitasking performance Up to 30% faster HDR Video Stabilization Up to 18% better advanced content creation performance Up to 15% better Cinebench 2024 single core performance Up to 14% faster DNxHR Video Export Up to 10% faster mainstream application performance Up to 9% faster web browsing performance Up to 7% better Windows application performance Up to 6% better video editing performance Up to 3% faster Office productivity performance Full Configurations:	Multitasking Workload Configurations: Processor: Intel® Core™ 14th Gen i9 Processor 14900HX, 24C32T (8P + 16E); MSI Raider GE78 HX 14VIG Laptop; Memory: 2x32GB DDR5-5200MHz; ; Storage: Samsung 990 Pro 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 22H2.2428; Graphics card: NVIDIA RTX 4090; Graphics Card Driver: 31.0.15.4601; Integrated Graphics: Intel® UHD Graphics; Integrated Graphics Driver: 31.0.101.4314; BIOS Version: E17SITMS.90E; Power Plan set to Balanced; Power Mode set to Balanced; OEM power application (MSI Center) set to MSI Center: "Extreme performance" ; VBS Enabled, Defender Enabled, and Tamper Protection Enabled. Processor: AMD Ryzen™ 9 7945HX Processor, 16C32T, ASUS ROG Strix G733PY Laptop; Memory: 2x32GB DDR5-4800MHz; ; Storage: Samsung 990 Pro 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 22H2.2428; Graphics card: NVIDIA RTX 4090; Graphics Card Driver: 31.0.15.4601; Integrated Graphics: AMD Radeon™ 610M; Integrated Graphics Driver: 31.0.14038.5001; BIOS Version: G733PY.327; Power Plan set to Turbo; Power Mode set to Best Performance; OEM power application (ASUS Armory Crate) set to ASUS Armory Crate: "Turbo" ; VBS Enabled, Defender Enabled, and Tamper Protection Enabled. Configurations: Processor: Intel® Core™ 14th Gen i9 Processor 14900HX, 24C32T (8P + 16E); MSI Raider GE78 HX 14VIG Laptop; Memory: 2x32GB DDR5-5200MHz; ; Storage: Samsung 990 Pro 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 22H2.2428; Graphics card: NVIDIA RTX 4090; Graphics Card Driver: 31.0.15.4601; Integrated Graphics: Intel® UHD Graphics; Integrated Graphics Driver: 31.0.101.4314; BIOS Version: E17SITMS.90E; Power Plan set to Balanced; Power Mode set to Best Performance; OEM power application (MSI Center) set to MSI Center: "Extreme performance" ; VBS Enabled, Defender Enabled, and Tamper Protection Enabled. Processor: AMD Ryzen™ 9 7945HX Processor, 16C32T, ASUS ROG Strix G733PY Laptop; Memory: 2x32GB DDR5-4800MHz; ; Storage: Samsung 990 Pro 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 22H2.2428; Graphics card: NVIDIA RTX 4090; Graphics Card Driver: 31.0.15.4601; Integrated Graphics: AMD Radeon™ 610M; Integrated Graphics Driver: 31.0.14038.5001; BIOS Version: G733PY.327; Power Plan set to Turbo; Power Mode set to Best Performance; OEM power application (ASUS Armory Crate) set to ASUS Armory Crate: "Turbo" ; VBS Enabled, Defender Enabled, and Tamper Protection Enabled. Testing as of: December 29th, 2023 Workflow description for the above performance claims: Adobe Premiere Pro & After Effects Multitasking Creator Workflow Adobe Premiere Pro Version: 24.1 Adobe After Effects Version: 24.1 In this multitasking workflow, a content creator edits 8K HEVC 4:2:2 10-bit video in Adobe Premiere Pro, while pre-rendering out an upscaled 4K to 8K video in the background at the "High Quality" preset in Adobe After Effects. 1. In the foreground, the creator leverages Adobe After Effects' Detail-preserving Upscale effect on 4K video to upscale to 8K and then pre-renders this video at high quality. The time to complete this pre-render will later be measured in seconds. The creator then moves Adobe After Effects to the background, allocating this task to the Efficient cores. 2. Adobe Premiere Pro is then brought to the foreground, which features 8K 4:2:2 10-bit 29.97fps video in the timeline sequence. 3. For the foreground task, the creator completes a 16.9 "Fast Motion" Auto Reframe on the timeline sequence, with the time to complete the Auto Reframe measured in seconds. 4. During the Auto Reframe task, Intel® UHD Graphics 770 completes the decode of the timeline sequence, a software enablement which competition does not have. Because competition does not have this software enablement, decode is executed on the CPU and dGPU. 5. The resulting 16.9 timeline sequence is then played back at full resolution – upon confirming Auto Reframe functionality, the creator then shifts focus to the background task, bringing Adobe After Effects into the foreground. 6. The pre-rendering of the upscaled video is then completed, with the time to complete measured in seconds. DaVinci Resolve Studio DNxHR Export Workflow DaVinci Resolve Studio Version: 18.6.4 This workload measures the time in seconds that it takes to export a timeline consisting of HEVC 4K 29.97 fps source video as a DNxHR 4K 29.97 fps video, using DaVinci Resolve Studio. VEGAS Pro 21 4K HDR Video Stabilization Workflow VEGAS Pro Version: 21 This workload measures the time in seconds to complete Video Stabilization of HEVC 4K 59.97 fps HDR video, using VEGAS Pro 21.



13. All Around Performance (Cont.)

Intel® Core™ 14th Gen i9-14900HX | AMD Ryzen™ 9 7945HX

Unreal Engine 5 MetaHuman & CapturingReality RealityCapture Multitasking Virtual Production Workflow

Epic Games Unreal Engine 5 MetaHuman Version: 5.3.2

CapturingReality RealityCapture Version: 1.3.1.117316

In this multitasking workflow, a creator in virtual production leverages RealityCapture to bring a real-world prop into the virtual space using a set of 2D images, while creating a new game character in Unreal Engine MetaHuman with the help of a pre-recorded video of the subject.

1. In the foreground, the creator leverages CapturingReality RealityCapture to bring a real-world prop into 3D space for virtual production usages, via an image set.
 2. The creator uses the Align Images feature within RealityCapture, where 2D images are aligned to form a 3D image via photogrammetry.
 3. To stay productive, they move RealityCapture to the background by launching Unreal Engine 5 in the foreground.
 4. The Align Image function in RealityCapture will continue in the background, leveraging the Efficiency cores.
 5. They will use Unreal Engine 5 MetaHuman to create a new character for virtual production uses, by first starting with recorded video of the subject to be brought into Unreal Engine 5.
 6. In the foreground, the creator then leverages Unreal Engine 5 MetaHuman Identity Solve function to fit a Template Skeletal Mesh to the volume of the sample character video's Neutral Pose. The time to complete this task is measured in seconds. Performance cores are used in this foreground task.
 7. Next, they create an auto-rigged Skeletal Mesh and a custom MetaHuman. The time to complete this task is measured in seconds. Performance cores are used in this foreground task.
- The creator then brings RealityCapture back to the foreground, where the Align Images feature completion time is measured in seconds. All cores execute on this task

Applications Tested:

CrossMark® – Overall Score

CrossMark® Version: 1.0.1.95

CrossMark® is a benchmark from the BAPCo® consortium that is an easy to run native cross-platform benchmark that measures the overall system performance and system responsiveness using models of real-world applications. The benchmark can be accessed from: www.bapco.com/products/crossmark/

Maxon Cinebench 2024 – Single Core Score

Maxon Cinebench Version: 2024

Maxon Cinebench is an industry-standard benchmarking software based on the cutting-edge technology that makes Maxon One the preferred choice of professionals. The benchmark can be accessed from: www.maxon.net/en/downloads/cinebench-2024-downloads

SYSmark® 30 - Overall Score, Advanced Content Creation Score

SYSmark® 30 Version: 1.0.1.40

SYSmark® 30, the 30th workload generation of the premier PC benchmark that measures and compares system performance using real-world applications and workloads. The latest generation of the premier PC performance metric featuring new Office Applications, General Productivity, Photo Editing, and Advanced Content Creation. The Advanced Content Creation scenario heavily uses photo and video editing applications, including multitasking. The benchmark can be accessed from: www.bapco.com/products/sysmark-30/

UL Procyon® Office Productivity Benchmark – Overall Score

UL Procyon® Office Productivity Benchmark Version: 2.6.920

Microsoft Office Version: 2309 Build 16827.20000

The Procyon® office productivity benchmark from UL Solutions uses Microsoft Office applications to measure Windows PC and Apple Mac performance in office productivity tasks. The benchmark workloads are built on relevant, real-world tasks using Microsoft Word, Excel, PowerPoint and Outlook. The benchmark can be accessed from: www.benchmarks.ul.com/procyon/office-productivity-benchmark

UL Procyon® Video Editing Benchmark – Overall Score

UL Procyon® Video Editing Benchmark Version: 2.6.92

Adobe Premiere Pro Version: 23.6.2

UL Procyon® benchmarks use real applications to test performance whenever possible. The UL Procyon® Video Editing Benchmark uses Adobe Premiere Pro in a typical video editing workflow. The benchmark can be accessed from: www.benchmarks.ul.com/procyon/video-editing-benchmark

WebXPRT V4

WebXPRT Version: V4

Chrome Browser Version: 118

WebXPRT 4 is a benchmark from Principled Technologies that measures JavaScript/HTML5 performance using web applications based on real world usages, like Photo Enhancement, Organize Album Using AI, Stock Option Pricing, Encrypt Notes and OCR Scan, Sales Graphs, and Online Homework. It produces results for each of the test scenarios plus an overall score. The benchmark can be accessed from: www.principledtechnologies.com/benchmarkxprt/webxprt/



	14. Gaming Laptops - Intel® Core™ & Intel Core Ultra Performance-Optimized or Battery-Optimized Gaming – Intel has you covered!	
51. Intel Wi-Fi 7 (5 Gig)	See Claim 3	
52. Thunderbolt	See Claim 4	
53. World's Fastest Mobile CPU	See Claim 1	
	16. The World's Best Experience for Mobile Enthusiasts	
54. The World's Best Experience for Mobile Enthusiasts	See Claim 2	
55. Up to 17% Better Gaming Performance	See Claim 23	
56. Up to 51% Faster Multitasking Workflow ²	See Claim 39	
	17. Intel Core Processors 14th Gen Mainstream Desktop	
57. Up to 37% better multi threaded performance	As measured by Autodesk® 3ds Max – Toon Shader with Arnold Render Workload on Intel® Core™ 14th Gen i7 Processor 14700 vs 13th Gen Intel® Core™ i7-13700 Processor	
Up to 37% better multi threaded performance	Processor: Intel® Core™ 14th Gen i7 Processor 14700, 20C28T (8P + 12E); Memory: 2x16GB DDR5-5600MHz; Storage: Samsung 980 Pro 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 22H2; Integrated Graphics: Intel® UHD Graphics 770; Integrated Graphics Driver: 101.4676; Motherboard: ASUS ROG Maximus Z790 Hero; BIOS Version: 1303; Power Plan set to High Performance	
Full Configurations:	Processor: 13th Gen Intel® Core™ i7-13700 Processor, 16C24T (8P + 8E); Memory: 2x16GB DDR5-5600MHz; Storage: Samsung 980 Pro 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 22H2; Integrated Graphics: Intel® UHD Graphics 770; Integrated Graphics Driver: 101.4676; Motherboard: ASUS ROG Maximus Z790 Hero; BIOS Version: 1303; Power Plan set to High Performance	
	19. Intel® Core™ Desktop Processors (14th gen) Delivering Next Level Performance	
58. More E-Cores	See Claim 5	
59. DDR4 3200, DDR5 5200	DDR5 Memory speeds are associated with 1DPC configurations. For additional 2DPC configuration details refer to the Alder Lake Processor External Design Specification (EDS), Doc ID 619501	
60. Intel Wi-Fi 7 (5 Gig)	See Claim 3	
61. PCIe Gen 5.0	CPU PCIe 5.0 lanes are only validated for discrete graphics (x16) and PCIe storage (1x4). 1x16 bifurcation to 2x8 supported on select Intel® 600 and 700 Series chipsets	

	20. Intel® Core™ Desktop Processors (14th gen) Mainstream Experience
62. Up to 7% faster Office productivity performance	As measured by UL Procyon® Office Productivity Benchmark - Overall Score on Intel® Core™ 14th Gen i9 Processor 14900 vs 13th Gen Intel® Core™ i9-13900 Processor
63. Up to 4% faster web browsing performance	As measured by WebXPRT 4 - Overall Score on Intel® Core™ 14th Gen i9 Processor 14900 vs. 13th Gen Intel® Core™ i9-13900 Processor
64. Up to 3% better Cinebench 2024 single-core performance	As measured by Cinebench 2024 – Single-Core Score on Intel® Core™ 14th Gen i9 Processor 14900 vs 13th Gen Intel® Core™ i9-13900 Processor
65. Up to 3% better photo editing performance	As measured UL Procyon® Photo Editing Benchmark – Overall Score on Intel® Core™ 14th Gen i9 Processor 14900 vs 13th Gen Intel® Core™ i9-13900 Processor
66. Up to 3% better performance when adding visual effects to videos	As measured by PugetBench for Adobe After Effects – Overall Score on Intel® Core™ 14th Gen i9 Processor 14900 vs 13th Gen Intel® Core™ i9-13900 Processor
67. Up to 3% faster Windows application productivity performance	As measured by SYSmark® 30 – Productivity Score on Intel® Core™ 14th Gen i9 Processor 14900 vs 13th Gen Intel® Core™ i9-13900 Processor
68. Up to 2% faster mainstream application performance	As measured by CrossMark® - Overall Score on Intel® Core™ 14th Gen i9 Processor 14900 vs 13th Gen Intel® Core™ i9-13900 Processor
69. Up to 6% more FPS on League of Legends	As measured on Intel® Core™ 14th Gen i9 Processor 14900 vs. 13th Gen Intel® Core™ i9-13900 Processor
70. Up to 5% more FPS on Starfield	As measured on Intel® Core™ 14th Gen i9 Processor 14900 vs. 13th Gen Intel® Core™ i9-13900 Processor
71. Up to 4% more FPS on Hitman 3: Dartmoor	As measured on Intel® Core™ 14th Gen i9 Processor 14900 vs. 13th Gen Intel® Core™ i9-13900 Processor
72. Up to 3% more FPS on Counter-Strike 2	As measured on Intel® Core™ 14th Gen i9 Processor 14900 vs. 13th Gen Intel® Core™ i9-13900 Processor
73. Up to 3% more FPS on Marvel’s Guardians of the Galaxy	As measured on Intel® Core™ 14th Gen i9 Processor 14900 vs. 13th Gen Intel® Core™ i9-13900 Processor
Up to 7% faster Office productivity performance	All Around Performance Configurations: Processor: Intel® Core™ 14th Gen i9 Processor 14900, 24C32T (8P + 16E); Memory: 2x16GB DDR5-5600MHz; Storage: Samsung 980 Pro 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 22H2; Integrated Graphics: Intel® UHD Graphics 770; Integrated Graphics Driver: 101.4676; Motherboard: ASUS ROG Maximus Z790 Hero; BIOS Version: 1303; Power Plan set to High Performance Processor: 13th Gen Intel® Core™ i9-13900 Processor, 24C32T (8P + 16E); Memory: 2x16GB DDR5-5600MHz; Storage: Samsung 980 Pro 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 22H2; Integrated Graphics: Intel® UHD Graphics 770; Integrated Graphics Driver: 101.4676; Motherboard: ASUS ROG Maximus Z790 Hero; BIOS Version: 1303; Power Plan set to High Performance Mainstream Gaming Configurations: Processor: Intel® Core™ 14th Gen i9 Processor 14900, 24C32T (8P + 16E); Memory: 2x16GB DDR5-5600MHz; Storage: Samsung 980 Pro 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 22H2; Graphics card: NVIDIA RTX 4090; Graphics Card Driver: 537.13; Integrated Graphics: Intel® UHD Graphics 770; Integrated Graphics Driver: 101.4676; Motherboard: ASUS ROG Maximus Z790 Hero; BIOS Version: 1303; Power Plan set to High Performance Processor: 13th Gen Intel® Core™ i9-13900 Processor, 24C32T (8P + 16E); Memory: 2x16GB DDR5-5600MHz; Storage: Samsung 980 Pro 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 22H2; Graphics card: NVIDIA RTX 4090; Graphics Card Driver: 537.13; Integrated Graphics: Intel® UHD Graphics 770; Integrated Graphics Driver: 101.4676; Motherboard: ASUS ROG Maximus Z790 Hero; BIOS Version: 1303; Power Plan set to High Performance Testing as of: December 29th, 2023
Up to 4% faster web browsing performance	
Up to 3% better Cinebench 2024 single-core performance	
Up to 3% better photo editing performance	
Up to 3% better performance when adding visual effects to videos	
Up to 3% faster Windows application productivity performance	
Up to 2% faster mainstream application performance	
Up to 6% more FPS on League of Legends	
Up to 5% more FPS on Starfield	
Up to 4% more FPS on Hitman 3: Dartmoor	
Up to 3% more FPS on Counter-Strike 2	
Up to 3% more FPS on Marvel’s Guardians of the Galaxy	
Full Configurations:	

Intel® Core™ Desktop Processors (14th gen)



20. Intel® Core™ Desktop Processors (14th gen) (Cont.)

Mainstream Experience

Applications tested:

CrossMark® – Overall Score

CrossMark® Version: 1.0.188

CrossMark® is a benchmark from the BAPCo® consortium that is an easy to run native cross-platform benchmark that measures the overall system performance and system responsiveness using models of real-world applications. The benchmark can be accessed from: www.bapco.com/products/crossmark/

Maxon Cinebench 2024 – Single-Core Score

Maxon Cinebench Version: 2024

Maxon Cinebench is an industry-standard benchmarking software based on the cutting-edge technology that makes Maxon One the preferred choice of professionals. The benchmark can be accessed from: www.maxon.net/en/downloads/cinebench-2024-downloads

PugetBench for After Effects – Overall Score

Adobe After Effects Version: 24.0.3

PugetBench After Effects Version: 0.95.6

Visual effects for video performance measurement benchmark developed by Puget Systems and is a part of Content creation benchmark suite. The benchmark can be accessed from: www.pugetsystems.com/labs/articles/putbench-for-after-effects-1287/

SYSmark® 30 - Productivity Score

SYSmark® 30 Version: 1.0.137

SYSmark® 30, the 30th workload generation of the premier PC benchmark that measures and compares system performance using real-world applications and workloads. The latest generation of the premier PC performance metric featuring new Office Applications, General Productivity, Photo Editing, and Advanced Content Creation. The Office Applications scenario models office environment like usage including word processing (mail merge, document comparison, and PDF conversion), spreadsheet data manipulation (data modeling, financial forecasting), presentation editing. The benchmark can be accessed from: www.bapco.com/products/sysmark-30/

UL Procyon® Photo Editing Benchmark – Overall Score

UL Procyon® Photo Editing Benchmark Version: 2.6.848

Adobe Photoshop Version: 25.2

Adobe Lightroom Version: 12.5.1

The Procyon® photo editing benchmark from UL Solutions uses real-world applications to test performance. This multi-platform benchmark measures Windows PC and Apple Mac computer performance using Adobe® Lightroom® Classic and Adobe® Photoshop® in a typical photo editing workflow that includes batch processing and image retouching. The benchmark can be accessed from: www.benchmarks.ul.com/procyon/photo-editing-benchmark

UL Procyon® Office Productivity Benchmark – Overall Score

UL Procyon® Office Productivity Benchmark Version: 2.6.848

Microsoft Office Version: 2208 Build 16.0.16924.20150

The UL Procyon® office productivity benchmark from UL Solutions uses Microsoft Office applications to measure Windows PC and Apple Mac performance in office productivity tasks. The benchmark workloads are built on relevant, real-world tasks using Microsoft Word, Excel, PowerPoint and Outlook. The benchmark can be accessed from: www.benchmarks.ul.com/procyon/office-productivity-benchmark

WebXPRT V4 – Overall Score

WebXPRT Version: V4

Chrome Browser Version: 119

WebXPRT 4 is a benchmark from Principled Technologies that measures JavaScript/HTML 5 performance using web applications based on real world usages, like Photo Enhancement, Organize Album Using AI, Stock Option Pricing, Encrypt Notes and OCR Scan, Sales Graphs, and Online Homework. It produces results for each of the test scenarios plus an overall Score. The benchmark can be accessed from: www.principledtechnologies.com/benchmarkxprt/webxprt/

Games Tested:

Counter-Strike 2

Hitman 3: Dartmoor

League of Legends

Marvel's Guardians of the Galaxy

Starfield

Total War: WARHAMMER III

Additional Information

Steam - DX11 - Replay - 1080p High - Avg FPS - Version: 13024819

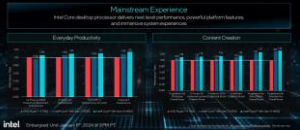
Epic Games - DX12 - Dartmoor Benchmark - 1080p High - Avg FPS - Version: 3170.1

Standalone - DX11 - Replay - 1080p High - Avg FPS - Version: 13.24.5479214

Steam - DX12 - Benchmark - 1080p High - Avg FPS - Version: CL-2984448

Steam - DX12 - Repeatable Workload - 1080p High - Avg FPS - Version: 1.8.88

Steam - DX11 - Mirror of Madness Benchmark - 1080p High - Avg FPS - Version: 41.3

Intel® Core™ Desktop Processors (14th gen)	
	22. Intel® Core™ Desktop Processors (14th gen) Mainstream Experience
74. Up to 15% faster mainstream application performance	As measured by CrossMark® - Overall Score on Intel® Core™ 14th Gen i9 Processor 14900 vs. AMD Ryzen™ 9 7900 Processor
75. Up to 9% faster mainstream application performance	As measured by CrossMark® - Overall Score on Intel® Core™ 14th Gen i7 Processor 14700 vs AMD Ryzen™ 9 7900 Processor
716 Up to 11% faster web browsing performance	As measured by WebXPRT 4 - Overall Score on Intel® Core™ 14th Gen i9 Processor 14900 vs. AMD Ryzen™ 9 7900 Processor
77. Up to 2% faster web browsing performance	As measured by WebXPRT 4 - Overall Score on Intel® Core™ 14th Gen i7 Processor 14700 vs AMD Ryzen™ 9 7900 Processor
78. Up to 10% faster Windows application performance	As measured by SYSmark® 30 - Overall Score on Intel® Core™ 14th Gen i9 Processor 14900 vs AMD Ryzen™ 9 7900 Processor
79. Up to 6% faster Windows application performance	As measured by SYSmark® 30 - Overall Score on Intel® Core™ 14th Gen i7 Processor 14700 vs AMD Ryzen™ 9 7900 Processor
80. Up to 6% faster Microsoft Office productivity performance	As measured by UL Procyon® Office Productivity Benchmark - Overall Score on Intel® Core™ 14th Gen i9 Processor 14900 vs. AMD Ryzen™ 9 7900 Processor
81. Up to 32% better video editing performance	As measured by PugetBench for Premiere Pro – Overall Score on Intel® Core™ 14th Gen i9 Processor 14900 vs AMD Ryzen™ 9 7900 Processor
82. Up to 30% better video editing performance	As measured by PugetBench for Premiere Pro – Overall Score on Intel® Core™ 14th Gen i7 Processor 14700 vs AMD Ryzen™ 9 7900 Processor
83. Up to 27% better performance when adding visual effects to videos	As measured by PugetBench for After Effects - Overall Score on Intel® Core™ 14th Gen i9 Processor 14900 vs AMD Ryzen™ 9 7900 Processor
84. Up to 22% better performance when adding visual effects to videos	As measured by PugetBench for After Effects - Overall Score on Intel® Core™ 14th Gen i7 Processor 14700 vs AMD Ryzen™ 9 7900 Processor
85. Up to 16% faster mainstream creator application performance	As measured by CrossMark® – Creativity Score on Intel® Core™ 14th Gen i9 Processor 14900 vs AMD Ryzen™ 9 7900 Processor
86. Up to 10% faster mainstream creator application performance	As measured by CrossMark® – Creativity Score on Intel® Core™ 14th Gen i7 Processor 14700 vs AMD Ryzen™ 9 7900 Processor
87. Up to 14% better Cinebench 2024 Single-Core performance	As measured by Maxon Cinebench 2024 – Single-Core Score on Intel® Core™ 14th Gen i9 Processor 14900 vs AMD Ryzen™ 9 7900 Processor
88. Up to 6% better Cinebench 2024 Single-Core performance	As measured by Maxon Cinebench 2024 – Single-Core Score on Intel® Core™ 14th Gen i7 Processor 14700 vs AMD Ryzen™ 9 7900 Processor
89. Up to 12% better advanced content creation performance	As measured by SYSmark® 30 – Advanced Content Creation Score on Intel® Core™ 14th Gen i9 Processor 14900 vs AMD Ryzen™ 9 7900 Processor
90. Up to 12% better advanced content creation performance	As measured by SYSmark® 30 – Advanced Content Creation Score on Intel® Core™ 14th Gen i7 Processor 14700 vs AMD Ryzen™ 9 7900 Processor
91. Up to 10% faster photo editing performance	As measured by PugetBench for Photoshop – Overall Score on Intel® Core™ 14th Gen i9 Processor 14900 vs AMD Ryzen™ 9 7900 Processor
92. Up to 7% faster photo editing performance	As measured by PugetBench for Photoshop – Overall Score on Intel® Core™ 14th Gen i7 Processor 14700 vs AMD Ryzen™ 9 7900 Processor

Intel® Core™ Desktop Processors (14th gen) 	22. Intel® Core™ Desktop Processors (14th gen) (Cont.) Mainstream Experience
Up to 15% faster mainstream application performance Up to 9% faster mainstream application performance Up to 11% faster web browsing performance Up to 2% faster web browsing performance Up to 10% faster Windows application performance Up to 6% faster Windows application performance Up to 6% faster Microsoft Office productivity performance Up to 32% better video editing performance Up to 30% better video editing performance Up to 27% better performance when adding visual effects to videos Up to 22% better performance when adding visual effects to videos Up to 15% faster mainstream creator application performance Up to 10% faster mainstream creator application performance Up to 14% better Cinebench 2024 Single-Core performance Up to 6% better Cinebench 2024 Single-Core performance Up to 12% better advanced content creation performance Up to 12% better advanced content creation performance Up to 10% faster photo editing performance Up to 7% faster photo editing performance Full Configurations:	Processor: Intel® Core™ 14th Gen i9 Processor i4900, 24C32T (8P + 16E); Memory: 2x16GB DDR5-5600MHz;; Storage: Samsung 980 Pro 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 22H2; Integrated Graphics: Intel® UHD Graphics 770; Integrated Graphics Driver: 101.4676; Motherboard: ASUS ROG Maximus Z790 Hero; BIOS Version: 1303; Power Plan set to High Performance Processor: Intel® Core™ 14th Gen i7 Processor i4700, 20C28T (8P + 12E); Memory: 2x16GB DDR5-5600MHz; Storage: Samsung 980 Pro 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 22H2; Integrated Graphics: Intel® UHD Graphics 770; Integrated Graphics Driver: 101.4676; Motherboard: ASUS ROG Maximus Z790 Hero; BIOS Version: 1303; Power Plan set to High Performance Processor: AMD Ryzen™ 9 7900 Processor, 12C24T; Memory: 2x16GB DDR5-5200MHz;; Storage: Samsung 980 Pro 1TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro 22H2; Integrated Graphics: AMD Radeon™ Graphics; Integrated Graphics Driver: 31.0.14046; Motherboard: ASUS ROG Crosshair X670E Hero; BIOS Version: 1602; Power Plan set to High Performance Testing as of: December 29th, 2023 Applications tested: Everyday Productivity & Performance: CrossMark® – Overall Score CrossMark® Version: 1.0.1.88 CrossMark® is a benchmark from the BAPCo® consortium that is an easy to run native cross-platform benchmark that measures the overall system performance and system responsiveness using models of real-world applications. The benchmark can be accessed from: www.bapco.com/products/crossmark/ SYSmark® 30- Overall Score SYSmark® 30 Version: 1.0.1.37 SYSmark® 30, the 30th workload generation of the premier PC benchmark that measures and compares system performance using real-world applications and workloads. The latest generation of the premier PC performance metric featuring new Office Applications, General Productivity, Photo Editing, and Advanced Content Creation. The Office Applications scenario models office environment like usage including word processing (mail merge, document comparison, and PDF conversion), spreadsheet data manipulation (data modeling, financial forecasting), presentation editing. The benchmark can be accessed from: www.bapco.com/products/sysmark-30/ UL Procyon® Office Productivity Benchmark – Overall Score UL Procyon® Office Productivity Benchmark Version: 2.6.848 Microsoft Office Version: 2208 Build 16.0.16924.20150 The UL Procyon® office productivity benchmark from UL Solutions uses Microsoft Office applications to measure Windows PC and Apple Mac performance in office productivity tasks. The benchmark workloads are built on relevant, real-world tasks using Microsoft Word, Excel, PowerPoint and Outlook. The benchmark can be accessed from: www.benchmarksof.com/procyon/office-productivity-benchmark WebXPRT V4 – Overall Score WebXPRT Version: V4 Chrome Browser Version: 119 WebXPRT 4 is a benchmark from Principled Technologies that measures JavaScript/HTML5 performance using web applications based on real world usages, like Photo Enhancement, Organize Album Using AI, Stock Option Pricing, Encrypt Notes and OCR Scan, Sales Graphs, and Online Homework. It produces results for each of the test scenarios plus an overall Score. The benchmark can be accessed from: www.principledtechnologies.com/benchmarkxp4/webxp4/ Content Creation: CrossMark® – Creativity Score CrossMark® Version: 1.0.1.88 CrossMark® is a benchmark from the BAPCo® consortium that is an easy to run native cross-platform benchmark that measures the overall system performance and system responsiveness using models of real-world applications. The Creativity Score is one of the scenarios measured, containing Photo Editing, Photo Organization, and Video Editing subscenarios. The benchmark can be accessed from: www.bapco.com/products/crossmark/ Maxon Cinebench 2024 – Single-Core Score Maxon Cinebench Version: 2024 Maxon Cinebench is an industry-standard benchmarking software based on the cutting-edge technology that makes Maxon One the preferred choice of professionals. The benchmark can be accessed from: www.maxon.net/en/downloads/cinebench-2024-downloads PugetBench for After Effects – Overall Score Adobe After Effects Version: 24.0.3 PugetBench for After Effects Version: 0.95.6 Visual effects for video performance measurement benchmark developed by Puget Systems and is a part of Content creation benchmark suite. The benchmark can be accessed from: www.pugetsystems.com/labs/articles/pugetbench-for-after-effects-1287/ PugetBench for Photoshop – Overall Score Adobe Photoshop Version: 24.7 PugetBench for Photoshop Version: 93.6 Photo editing performance measurement benchmark developed by Puget Systems and is a part of Content creation benchmark suite. The benchmark can be accessed from: www.pugetsystems.com/pugetbench/creators/photoshop/ PugetBench for Premiere Pro – Overall Score Adobe Premiere Pro Version: 23.6 PugetBench for Premiere Pro Version: 0.98 Video editing performance measurement benchmark developed by Puget Systems and is a part of Content creation benchmark suite. The benchmark can be accessed from: www.pugetsystems.com/labs/articles/PugetBench-for-Premiere-Pro-1519/ SYSmark® 30- Overall Score, Advanced Content Creation SYSmark® 30 Version: 1.0.1.37 SYSmark® 30, the 30th workload generation of the premier PC benchmark that measures and compares system performance using real-world applications and workloads. The latest generation of the premier PC performance metric featuring new Office Applications, General Productivity, Photo Editing, and Advanced Content Creation. The Office Applications scenario models office environment like usage including word processing (mail merge, document comparison, and PDF conversion), spreadsheet data manipulation (data modeling, financial forecasting), presentation editing. The benchmark can be accessed from: www.bapco.com/products/sysmark-30/



