January 2024

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

Intel Core Processors
HX Mobile
14th Gen

HX
Extreme Performance
55W
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 7 (5 Gig), Bluetooth® LE Audio,
Thunderbolt™ 5 on select models

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

Embargoed Until January 8th, 2024 @ 3 PM PT
Intel® Core™ 14th Gen HX Processors

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

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
Next-generation Wireless Connectivity

Wi-Fi 7 (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 experience
Up to 120 Gbps Tx bandwidth
- 3x more than Thunderbolt™ 4
- 50% more than DP 2.1
- Dynamic display bandwidth management
- Up to three display streams

True-to-Life Creation, Ultra-Fast Gaming
Ultimate display experience
The fastest data connection
Outstanding docking solutions

Thunderbolt Networking
2x the speed of Thunderbolt 4

More power
Up to 240W

Outstanding docking solutions
3x more bandwidth for video
6x more bandwidth for data

The most data bandwidth
2x more than today’s solutions

Embargoed Until January 8th, 2024 @ 3 PM PT

7. Best display experience based on bandwidth comparison with the latest DisplayPort2.1 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 DP2.1 @ 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

Embargoed Until January 8th, 2024 @ 3 PM PT
Gaming Performance – 1080p High

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

For all workloads and configurations see www.intel.com/PerformanceIndex Results may vary.
Excellent Gaming Performance

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

Data Shown Without Intel Application Optimization (APO) Enabled.

Embargoed Until January 8th, 2024 @ 3 PM PT
Excellent In-Game Frame Consistency

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

Data Shown Without Intel Application Optimization (APO): Enabled

Embargoed Until January 8th, 2024 @ 3 PM PT
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
- World War Z, Dirt 5, World of Warcraft

Possible Gaming Improvement with APO ON!
- Up to +18%
- Up to 6%
- Up to 4%
- Tom Clancy’s RAINBOW SIX: SIEGE
- METRO EXODUS

Embargoed Until January 8th, 2024 @ 3 PM PT
Intel Core 14th Gen Mobile Processors

Virtual Production Multitasking Workflow

Unreal Engine 5 MetaHuman Custom Character Creation

Foreground Task 1
Template Skeletal Mesh Fitting Using MetaHuman Identity Solve

Foreground Task 2
Auto-Rigging of Skeletal Mesh and Custom MetaHuman

Up to 1.51x Faster* Multitasking Performance

Capturing Reality RealityCapture Real-World Prop Creation

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

*Based on performance when compared to Competition.
For all workload and configuration see www.intel.com/PerformanceIndex. Results may vary.
Outstanding performance across broad usages in overall performance, productivity, and content creation.
Gaming Laptops - Intel® Core™ & Intel Core Ultra

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

HX-SERIES
60+ Incredible Designs

- Intel Wi-Fi 7 (5 Gig)
- Intel 7 Process
- World’s Fastest Mobile CPU
- Overclockable
- 24 Cores
- Thunderbolt™ 5
- Discrete Graphics Support
- Unbridled Creation

H-SERIES
10+ Next-generation Designs

- Extended Battery Life
- Intel NPU
- Built-in Arc GPU
- Up to 5.1Ghz Turbo
- 16 Cores
- Thunderbolt™ 4
- AI-enhanced Creation
- Discrete Graphics Support

Performance Gaming
Form-factor Gaming

Embargoed Until January 8th, 2024 @ 3 PM PT
Intel® Core™ Processors (14th Gen) HX Partners

New Laptop Designs

Intel Core
HX Processor Family

60+

Hgate

A c e r

A L I E N W A R E ™

A S U S ®

G I G A B Y T E ™

H P

L e n o v o

M S I ™

R A Z E R ™

Embargoed Until January 8th, 2024 @ 3 PM PT
The World’s Best Experience for Mobile Enthusiasts

Up to 5.8 GHz Out of the Box

Up to 17% Better Gaming Performance

Up to 51% Faster Multitasking Workflow

Intel® Core™ 14th Gen Mobile Processors

World’s Best Experience for Mobile Enthusiasts based on performance and unique features of Intel® Core™ 14th Gen Mobile Processors, including comparison to 13th Gen Intel® Core™, AMD Ryzen™ 9 7945HX and AMD Ryzen™ 9 7945H PCs. Performance claims based on Intel® Core™ 14th Gen P Processor 14X00H-X, measured by (1) 7% higher average FPS vs. the AMD Ryzen™ 9 7945HX and (2) 51% Faster Multitasking Workflow featuring Epic Games Unreal Engine 5 Metalama and Capturing Reality Reality Capture. See www.intel.com/performanceindex for details. Results may vary.

Embargoed Until January 8th, 2024 @ 3 PM PT
Announcing Intel Core 14th Gen Mainstream Desktop Processors

Intel® Laminar RH1 Cooler

*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/DDR5, 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 i914900
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/energyindex for details. Results may vary.
Intel® Core™ Desktop Processors (14th gen) Delivering Next Level Performance

- Improved frequencies
- Up to 24 cores
- More E-cores² & greater L3 cache On Intel Core i7
- Intel 7 Process Technology
- Intel 600 & Intel 700 Series Chipset
- Support for PCIe Gen 5.0⁺ & Gen 4.0
- 2-Ch support for DDR5⁵ & DDR4
- Discrete Intel® Wi-Fi 7¹ (5 Gig)
- Integrated USB 3.2 Gen 2x2 20Gbps

Embargoed Until January 8th, 2024 @ 3 PM PT
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

Embargoed Until January 8th, 2024 @ 3 PM PT

For all workloads and configurations, see www.intel.com/PerformanceIndex. Results may vary.
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

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Intel® Core™ 14th Gen</th>
<th>Intel® Core™ 14th Gen i9-14900</th>
<th>AMD Ryzen™ 9 7900</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL Precise Office</td>
<td>1.06</td>
<td>1.10</td>
<td>0.96</td>
</tr>
<tr>
<td>SYSmark 30</td>
<td>1.02</td>
<td>1.11</td>
<td>1.06</td>
</tr>
<tr>
<td>WebXPRT 4</td>
<td>1.09</td>
<td>1.15</td>
<td>1.10</td>
</tr>
</tbody>
</table>

Content Creation

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Intel® Core™ 14th Gen</th>
<th>Intel® Core™ 14th Gen i9-14900</th>
<th>AMD Ryzen™ 9 7900</th>
</tr>
</thead>
<tbody>
<tr>
<td>PugetBench for</td>
<td>1.07</td>
<td>1.10</td>
<td>1.06</td>
</tr>
<tr>
<td>Photoshop</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Score</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SYSmark 30</td>
<td>1.12</td>
<td>1.12</td>
<td>1.12</td>
</tr>
<tr>
<td>Advanced Content</td>
<td>1.06</td>
<td>1.14</td>
<td>1.10</td>
</tr>
<tr>
<td>Creation Score</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cinebench 2024</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single-Core Score</td>
<td>1.10</td>
<td>1.15</td>
<td>1.22</td>
</tr>
<tr>
<td>CrossMark</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creativity Score</td>
<td>1.06</td>
<td>1.10</td>
<td>1.27</td>
</tr>
<tr>
<td>PugetBench for</td>
<td>1.30</td>
<td>1.32</td>
<td></td>
</tr>
<tr>
<td>After Effects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Score</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PugetBench for</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Premiere Pro</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Score</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For all workloads and configurations, see www.intel.com/PerformanceIndex. Results may vary.
Announcing

Intel Core Mobile Processors

U-series
Modern Thin & Light
15W
Intel Core U-series Platform

4x Thunderbolt™ 4 Ports
- DP2.1, USB3 20G
- DP1.4, USB3 10G

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

LP4x 4267, LP5/x 6400
DDR4 3200, DDR5 5200<sup>6</sup>
4x TBT4
2x4 PCIe Gen4
SSD

10x USB2
4x USB3
PCIe Gen3
x12 lanes

eDP 1.4b
HBR3
MiPI DSI 2.0
HDMI 2.0b

Wi-Fi 6E (Gig+)
SPI w/ THC

Embargoed Until January 8<sup>th</sup>, 2024 @ 3 PM PT
# Intel® Core™ 14th Gen HX Processors

<table>
<thead>
<tr>
<th>Processor Number</th>
<th>Processor Cores (P+E)</th>
<th>Processor Threads</th>
<th>Intel® Smart Cache (LLC)</th>
<th>Max Turbo Frequency P-cores</th>
<th>Max Turbo Frequency E-cores</th>
<th>Base Frequency P-cores</th>
<th>Base Frequency E-cores</th>
<th>Processor Graphics</th>
<th>Max Memory Speed (MT/S)</th>
<th>Memory Capacity</th>
<th>Processor Base Power (W)</th>
<th>Max Turbo Power (W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>i9-14900HX</td>
<td>24 (8+16)</td>
<td>32</td>
<td>36MB</td>
<td>Up to 5.8</td>
<td>Up to 4.1</td>
<td>Up to 2.2</td>
<td>Up to 1.6</td>
<td>Intel® UHD Graphics</td>
<td>DDR5 6600 DDR4:3200</td>
<td>192GB</td>
<td>55</td>
<td>157</td>
</tr>
<tr>
<td>i7-14700HX</td>
<td>20 (8+12)</td>
<td>28</td>
<td>33MB</td>
<td>Up to 5.5</td>
<td>Up to 3.9</td>
<td>Up to 2.1</td>
<td>Up to 1.5</td>
<td>Intel® UHD Graphics</td>
<td>DDR5 6600 DDR4:3200</td>
<td>192GB</td>
<td>55</td>
<td>157</td>
</tr>
<tr>
<td>i7-14650HX</td>
<td>16 (8+8)</td>
<td>24</td>
<td>30MB</td>
<td>Up to 5.2</td>
<td>Up to 3.7</td>
<td>Up to 2.2</td>
<td>Up to 1.6</td>
<td>Intel® UHD Graphics</td>
<td>DDR5 6600 DDR4:3200</td>
<td>192GB</td>
<td>55</td>
<td>157</td>
</tr>
<tr>
<td>i5-14500HX</td>
<td>14 (6+8)</td>
<td>20</td>
<td>24MB</td>
<td>Up to 4.9</td>
<td>Up to 3.5</td>
<td>Up to 2.6</td>
<td>Up to 1.9</td>
<td>Intel® UHD Graphics</td>
<td>DDR5 6600 DDR4:3200</td>
<td>192GB</td>
<td>55</td>
<td>157</td>
</tr>
<tr>
<td>i5-14450HX</td>
<td>10 (6+4)</td>
<td>16</td>
<td>20MB</td>
<td>Up to 4.8</td>
<td>Up to 3.5</td>
<td>Up to 2.4</td>
<td>Up to 1.8</td>
<td>Intel® UHD Graphics</td>
<td>DDR5 6600 DDR4:3200</td>
<td>192GB</td>
<td>55</td>
<td>157</td>
</tr>
</tbody>
</table>

Intel processor numbers are not a measure of performance. Processor numbers differentiate features within each processor family. The frequency of cores and core types varies by workload, power consumption and other factors. Visit https://www.intel.com/content/www/us/en/architecture-and-technology/turbo-boost/turbo-boost-technology.html for more information. Max Turbo Frequency for P cores may include Intel® Thermal Velocity Boost and/or Intel® Turbo Boost Max 3.0. All SKUs listed above support up to DDR5 (5400MT/S)/DDR4 (3200MT/S) memory. See ak.intel.com for more specification details.
# Intel® Core™ 14th Gen Desktop Processors

| Processor Number | Processor Cores (P+I) | 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® U-Pro 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 5.4                                        | 2.0                                           | 1.5                                           | √                      | Intel® UHD Graphics 770 | 20              | DDR5 5600 DDR4 3200 | 192GB           | 65             | 219             | $549            |
| i7-14700         | 20 (8+12)              | 28                | 33MB                    | 29MB           | Up to 5.6                                     | Up to 5.3                                        | 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                                           | Up to 5.2                                        | 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                                           | Up to 5.0                                        | 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                                           | Up to 4.7                                        | 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                                           | Up to 4.7                                        | n/a                                           | n/a                                           |                        | Intel® UHD Graphics 730 | 20              | DDR5 4800 DDR4 3200 | 192GB           | 60             | 110             | $134            |
| Intel Processor 300 | 2 (2+0)               | 4                 | 6MB                     | 2.5MB          | n/a                                           | n/a                                              | n/a                                           | n/a                                           |                        | Intel® UHD Graphics 710 | 20              | DDR5 4800 DDR4 3200 | 192GB           | 46             | n/a             | $82             |

Intel processor numbers are not a measure of performance. Processor numbers differentiate features within each processor family, not across different processor families.

The frequency of cores and core types varies by workload, power consumption and other factors. Visit https://www.intel.com/content/www/us/en/architecture-and-technology/turbo-boost/turbo-boost-technology.html for more information. Max Turbo Frequency for P-cores may include Intel® Thermal Velocity Boost and/or Intel® Turbo Boost Max 3.0. All SKU's listed above support up to DDR5 (5400 MT/s)/DDR4 (3200 MT/s) memory. See ark.intel.com for more specification details.

Embargoed Until January 8th, 2024 @ 3 PM PT
## Intel® Core™ 14th Gen Desktop Processors

<table>
<thead>
<tr>
<th>Processor Number</th>
<th>Processor Cores (P+E)</th>
<th>Processor Threads</th>
<th>Intel® Smart Cache (L3)</th>
<th>Total L2 Cache</th>
<th>Intel® Thermal Velocity Boost Frequency (GHz)</th>
<th>Intel® Turbo Boost Max Technology 3.0 Frequency (GHz)</th>
<th>E-core Max Turbo Frequency (GHz)</th>
<th>E-core Base Frequency (GHz)</th>
<th>Intel® vPro Eligible</th>
<th>Processor Graphics</th>
<th>Total CPU PCIe Lanes</th>
<th>Max Memory Capacity</th>
<th>Max Memory Speed (MT/s)</th>
<th>Memory Capacity</th>
<th>Memory Speed (MT/s)</th>
<th>Max Turbo Power (W)</th>
<th>Max Turbo Power (W)</th>
<th>RCP (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>i9-14900F</td>
<td>24 (8+16)</td>
<td>32</td>
<td>36MB</td>
<td>32MB</td>
<td>Up to 5.8</td>
<td>Up to 5.4</td>
<td>2.0</td>
<td>1.5</td>
<td>n/a</td>
<td>n/a</td>
<td>20</td>
<td>DDR5 5600</td>
<td>DDR4 3200</td>
<td>192GB</td>
<td>65</td>
<td>219</td>
<td>$524</td>
<td></td>
</tr>
<tr>
<td>i7-14700F</td>
<td>20 (8+12)</td>
<td>28</td>
<td>33MB</td>
<td>28MB</td>
<td>n/a</td>
<td>Up to 5.4</td>
<td>2.1</td>
<td>1.5</td>
<td>n/a</td>
<td>n/a</td>
<td>20</td>
<td>DDR5 5600</td>
<td>DDR4 3200</td>
<td>192GB</td>
<td>65</td>
<td>219</td>
<td>$359</td>
<td></td>
</tr>
<tr>
<td>i5-14400F</td>
<td>10 (6+4)</td>
<td>16</td>
<td>20MB</td>
<td>9.5MB</td>
<td>n/a</td>
<td>Up to 4.7</td>
<td>2.5</td>
<td>1.8</td>
<td>n/a</td>
<td>n/a</td>
<td>20</td>
<td>DDR5 4800</td>
<td>DDR4 3200</td>
<td>192GB</td>
<td>65</td>
<td>148</td>
<td>$196</td>
<td></td>
</tr>
<tr>
<td>i3-14100F</td>
<td>4 (4+0)</td>
<td>8</td>
<td>12MB</td>
<td>5MB</td>
<td>n/a</td>
<td>Up to 4.7</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>20</td>
<td>DDR5 4800</td>
<td>DDR4 3200</td>
<td>192GB</td>
<td>58</td>
<td>110</td>
<td>$109</td>
<td></td>
</tr>
<tr>
<td>Processor Number</td>
<td>Processor Cores (P+E)</td>
<td>Processor Threads</td>
<td>Intel® Smart Cache (L3)</td>
<td>Total L2 Cache</td>
<td>Intel® Thermal Velocity Boost Frequency (GHz)</td>
<td>Intel® Turbo Boost Max Technology 3.0 Frequency (GHz)</td>
<td>P-core Max Turbo Frequency (GHz)</td>
<td>E-core Max Turbo Frequency (GHz)</td>
<td>P-core Base Frequency (GHz)</td>
<td>E-core Base Frequency (GHz)</td>
<td>Intel® UHD Graphics 770</td>
<td>Total CPU PCIe Lanes</td>
<td>Max Memory Speed (MT/s)</td>
<td>Memory Capacity</td>
<td>Processor Base Power (W)</td>
<td>Max Turbo Power (W)</td>
<td>RCP (USD)</td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------------</td>
<td>-------------------</td>
<td>------------------------</td>
<td>---------------</td>
<td>---------------------------------------------</td>
<td>-------------------------------------------------</td>
<td>--------------------------------</td>
<td>--------------------------------</td>
<td>----------------------------</td>
<td>--------------------------</td>
<td>-----------------------------</td>
<td>-------------------</td>
<td>-------------------</td>
<td>---------------------</td>
<td>--------------------</td>
<td>------------------</td>
<td>-------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>i9-14900T</td>
<td>24</td>
<td>32</td>
<td>36MB</td>
<td>32MB</td>
<td>n/a</td>
<td>Up to 5.5</td>
<td>Up to 5.1</td>
<td>n/a</td>
<td>Up to 5.5</td>
<td>1.1</td>
<td>0.8</td>
<td>Intel® UHD Graphics 770</td>
<td>20</td>
<td>DDR5 5600 DDR4 3200</td>
<td>192GB</td>
<td>35</td>
<td>106</td>
<td>$549</td>
</tr>
<tr>
<td>i7-14700T</td>
<td>20</td>
<td>28</td>
<td>33MB</td>
<td>28MB</td>
<td>n/a</td>
<td>Up to 5.2</td>
<td>Up to 5.0</td>
<td>n/a</td>
<td>Up to 5.2</td>
<td>1.3</td>
<td>0.9</td>
<td>Intel® UHD Graphics 770</td>
<td>20</td>
<td>DDR5 5600 DDR4 3200</td>
<td>192GB</td>
<td>35</td>
<td>106</td>
<td>$384</td>
</tr>
<tr>
<td>i5-14600T</td>
<td>14</td>
<td>20</td>
<td>24MB</td>
<td>20MB</td>
<td>n/a</td>
<td>n/a</td>
<td>Up to 5.1</td>
<td>n/a</td>
<td>Up to 5.1</td>
<td>1.8</td>
<td>1.3</td>
<td>Intel® UHD Graphics 770</td>
<td>20</td>
<td>DDR5 5600 DDR4 3200</td>
<td>192GB</td>
<td>35</td>
<td>92</td>
<td>$255</td>
</tr>
<tr>
<td>i5-14500T</td>
<td>14</td>
<td>20</td>
<td>24MB</td>
<td>11.5MB</td>
<td>n/a</td>
<td>n/a</td>
<td>Up to 4.8</td>
<td>n/a</td>
<td>Up to 4.8</td>
<td>1.7</td>
<td>1.2</td>
<td>Intel® UHD Graphics 770</td>
<td>20</td>
<td>DDR5 4800 DDR4 3200</td>
<td>192GB</td>
<td>35</td>
<td>92</td>
<td>$232</td>
</tr>
<tr>
<td>i5-14400T</td>
<td>10</td>
<td>16</td>
<td>20MB</td>
<td>9.5MB</td>
<td>n/a</td>
<td>n/a</td>
<td>Up to 4.5</td>
<td>n/a</td>
<td>Up to 4.5</td>
<td>1.5</td>
<td>1.1</td>
<td>Intel® UHD Graphics 730</td>
<td>20</td>
<td>DDR5 4800 DDR4 3200</td>
<td>192GB</td>
<td>35</td>
<td>82</td>
<td>$221</td>
</tr>
<tr>
<td>i3-14100T</td>
<td>4</td>
<td>8</td>
<td>12MB</td>
<td>5MB</td>
<td>n/a</td>
<td>n/a</td>
<td>Up to 4.4</td>
<td>n/a</td>
<td>Up to 4.4</td>
<td>2.7</td>
<td>n/a</td>
<td>Intel® UHD Graphics 730</td>
<td>20</td>
<td>DDR5 4800 DDR4 3200</td>
<td>192GB</td>
<td>35</td>
<td>69</td>
<td>$134</td>
</tr>
<tr>
<td>Intel® Core™ 3000T</td>
<td>2</td>
<td>4</td>
<td>6MB</td>
<td>2.5MB</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>3.4</td>
<td>n/a</td>
<td>Intel® UHD Graphics 710</td>
<td>20</td>
<td>DDR5 4800 DDR4 3200</td>
<td>192GB</td>
<td>35</td>
<td>n/a</td>
<td>$82</td>
</tr>
</tbody>
</table>

Intel processor numbers are not a measure of performance. Processor numbers differentiate features within each processor family, not across different processor families. The frequency of cores and core types varies by workload, power consumption and other factors. Visit https://www.intel.com/content/www/us/en/architecture-and-technology/turbo-boost/turbo-boost-technology.html for more information. Max Turbo Frequency for i7/i5/i3 may include Intel® Thermal Velocity Boost and/or Intel Turbo Boost Max 3.0. All SKUs listed above support up to DDR5 (5600 MT/s)/DDR4 (3200 MT/s) memory. See ask.intel.com for more specification details.

Embargoed Until January 8th, 2024 @ 3 PM PT
## Intel® Core™ U-series Processors

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

Intel processor numbers are not a measure of performance. Processor numbers differentiate features within each processor family, not across different processor families. The frequency of cores and core types varies by workload, power consumption, and other factors. Visit https://www.intel.com/content/www/us/en/architecture-performance/turbo-boost.html for more information. Max Turbo Frequency for Processors may include Intel® Thermal Velocity Boost and/or Intel Turbo Boost Max 2.0. All SKUs listed above support up to DDR5 (5200 MT/S)/DDR4 (3200 MT/S) memory. See ar.intel.com for more specification details.
Notice and Disclaimers

Performance varies by use, configuration and other factors. Learn more at [www.Intel.com/PerformanceIndex](http://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](http://www.Intel.com/PerformanceIndex) for configuration details.

For additional Intel® Core™ 14th Gen processor family details learn more at [www.intel.com](http://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)](http://www.intel.com/PerformanceIndex (connectivity)) for details. Wi-Fi 7 operation requires use of Intel® Wi-Fi 7 (5 Giga) 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 Giga) 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, Performancecores (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](http://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 (x4). 1x16 bifurcation to 2x8 supported on select Intel® 600 and 700 Series chipsets.

5. DDR5 Memory speeds are associated with IDPC 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.

© Intel Corporation. Intel, the Intel logo, and other Intel marks are trademarks of Intel Corporation or its subsidiaries. Other names and brands may be claimed as the property of others.
Subject to Embargo Lift – Jan 8\textsuperscript{th}, 2024 @ 3:00 PM PT

Performance Appendix for: Intel\textsuperscript{®} Core\textsuperscript{TM} 14\textsuperscript{th} 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.
<table>
<thead>
<tr>
<th>Claim # Statements</th>
<th>Slide # Title/Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. World's Fastest Mobile Processor</td>
<td>3. World's Fastest Mobile Processor</td>
</tr>
<tr>
<td>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 <a href="http://www.intel.com/PerformanceIndex">www.intel.com/PerformanceIndex</a> for details. Testing as of: December 2023</td>
<td></td>
</tr>
<tr>
<td>2. World's Best Desktop Experience for Enthusiasts</td>
<td></td>
</tr>
<tr>
<td>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, &amp; 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 SO-DIMM memory modules. Support for Thunderbolt™ 5 &amp; Thunderbolt™ 4, Discrete Intel® Wi-Fi 7 (5 Gg) &amp; Bluetooth® 5.4*, Intel Wi-Fi 6E, (Gig) &amp; Bluetooth® 5.3, Low Energy (LE) Audio, WiFi 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.)</td>
<td>Testing as of: December 2023</td>
</tr>
<tr>
<td>3. Best In-class Connectivity</td>
<td></td>
</tr>
<tr>
<td>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 &amp; required regulatory certifications. Visit <a href="http://www.intel.com/PerformanceIndex">www.intel.com/PerformanceIndex</a> (connectivity) for details. Wi-Fi 7 operation requires use of Intel® Wi-Fi 7 (5 Gg) products in conjunction with operating systems and routers/APs/Gateways that support Wi-Fi 7.</td>
<td></td>
</tr>
<tr>
<td>4. Thunderbolt</td>
<td>Discrete Intel® Thunderbolt™ 4 (Maple Ridge) is only validated and supported from Intel® 600 and 700 Series Chipset PCIe lanes.</td>
</tr>
</tbody>
</table>
### 5. More Ecores
Performance hybrid architecture combines two core microarchitectures, Performance-cores (P) 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 (E)cores and may have the same cache size. See an 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 (DG) and PCIe storage (SA). Intel UHD graphics 730 is supported on select intel® 600 and 700 Series chipsets.

### 7. Intel® Application Optimization
Intel® Application Optimization is a policy within an Intel® Dynamic Tuning Technology that optimizes performance on select games with the required configurations on select Intel® Core™ 14th Gen processors.

### 8. 2CH support for DDR5
DDR5 Memory speeds are associated with ULP configurations. For additional 2CH configuration details refer to the Alder Lake Processor External Design Specification (EDS), Doc ID 61950.

### 9. Thunderbolt
See Clm 4

### 10. Intel® WiFi 7 (6 Giga)
See Clm 3

### 11. WiFi 7 (6 Giga)
See Clm 3

### 6. Thunderbolt 5
- 2x the speed of Thunderbolt 4. See Clm 14
- 3x more bandwidth for video: Most/highest bandwidth at 120 Gbps display connection for the PC industry (50% more bandwidth than the latest DP21 @80 Gbps)
- 3x more bandwidth for data: Most/highest bandwidth for data based on PCIe TDPed connection (64 Gbps) compared with USB 3.0 (5Gbps)
- 2x more than today's solutions: 2x the bandwidth of Thunderbolt 4 based on PCIe bandwidth comparisons

### 5. Next-generation Wireless Connectivity
- See Clm 3
7. Intel 14th Gen Processors

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

As measured on Intel® Core™14th Gen Processor 14900HX vs. AMD Ryzen™ 9 7945HX Processor.

<table>
<thead>
<tr>
<th>Processor</th>
<th>Intel® Core™14th Gen Processor 14900HX</th>
<th>AMD Ryzen™ 9 7945HX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory</td>
<td>32GB (4x8GB) DDR5-5600</td>
<td>32GB (4x8GB) DDR5-5600</td>
</tr>
<tr>
<td>Storage</td>
<td>1TB SSD 970 PRO SSD</td>
<td>1TB SSD 970 PRO SSD</td>
</tr>
<tr>
<td>Graphical Card</td>
<td>NVIDIA RTX 4070 Ti</td>
<td>NVIDIA RTX 4070 Ti</td>
</tr>
<tr>
<td>Power Plan</td>
<td>Balanced</td>
<td>Balanced</td>
</tr>
<tr>
<td>Test Results</td>
<td>83.0% High-FPS</td>
<td>82.5% High-FPS</td>
</tr>
<tr>
<td>Additional Information</td>
<td>Steam-DX12: Benchmark—1080p High</td>
<td>Steam-DX12: Benchmark—1080p High</td>
</tr>
</tbody>
</table>

You can see the full range of results with up to 37% more FPS gain vs comp.

Full Configurations:

- AMD Ryzen™ 9 7945HX Processor
- 14900HX Processor
- Gaming at 1080p High
- Intel Core™ 14th Gen Processor
- Intel Core™ 14th Gen Processor
<table>
<thead>
<tr>
<th>23. Up to 17% more FPS on Total War: PHARAOH</th>
<th>As measured on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX3D Processor</th>
</tr>
</thead>
<tbody>
<tr>
<td>24. Up to 17% more FPS on World of Tanks enCore RT</td>
<td>As measured on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX3D Processor</td>
</tr>
<tr>
<td>25. Up to 10% more FPS on League of Legends</td>
<td>As measured on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX3D Processor</td>
</tr>
<tr>
<td>26. Up to 6% more FPS on Total War: WARHAMMER III</td>
<td>As measured on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX3D Processor</td>
</tr>
<tr>
<td>27. Up to 5% more FPS on Sid Meier’s Civilization VI: Gathering Storm</td>
<td>As measured on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX3D Processor</td>
</tr>
<tr>
<td>28. Up to 4% more FPS on Mount &amp; Blade: Bannerlord</td>
<td>As measured on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX3D Processor</td>
</tr>
<tr>
<td>29. Up to 3% more FPS on Tom Clancy’s Rainbow Six Siege</td>
<td>As measured on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX3D Processor</td>
</tr>
<tr>
<td>30. On par FPS on Metro Exodus</td>
<td>As measured on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX3D Processor</td>
</tr>
</tbody>
</table>
9. Excellent Gaming Performance (Cont.)

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

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; Graphics card: NVIDIA RTX 4090; Graphics Card Driver: 31.0.15.460; BIOS Version: 17171.0.1900, 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; Graphics card: NVIDIA RTX 4090; Graphics Card Driver: 31.0.15.460; BIOS Version: G733PYV 324; Power Plan set to Turbo; Power Mode set to Best Performance; OEM power application (ASUS Armoury Crate) set to ASUS Armoury 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; Graphics card: NVIDIA RTX 4090; Graphics Card Driver: 31.0.15.460; BIOS Version: G733PY 327; Power Plan set to Turbo; Power Mode set to Best Performance; OEM power application (ASUS Armoury Crate) set to ASUS Armoury Crate: “Turbo”, VBS Enabled, Defender Enabled, and Tamper Protection Enabled.

Testing as of: December 29th, 2023

Games Tested: See Claim 22

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:
<table>
<thead>
<tr>
<th>Frame Consistency Comparison</th>
<th>Intel® Core™ 14th Gen i9 14900HX</th>
<th>AMD Ryzen™ 7 9745H</th>
<th>AMD Ryzen™ 9 7945HX</th>
</tr>
</thead>
<tbody>
<tr>
<td>31. Up to 56% better frame consistency on World of Tanks on Core i9</td>
<td>As measured on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX Processor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32. Up to 47% better frame consistency on Tom Clancy's Rainbow Six Siege</td>
<td>As measured on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX Processor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33. Up to 18% better frame consistency on Total War: PHARAOH</td>
<td>As measured on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX Processor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>34. Up to 8% better frame consistency on Mount &amp; Blade: Bannerlord</td>
<td>As measured on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX Processor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35. Up to 12% better frame consistency on League of Legends</td>
<td>As measured on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX Processor</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Full Configuration:**
- Processor: Intel® Core™ 14th Gen i9 Processor 14900HX, 24C/32T (4.8 - 5.6 GHz)
- Memory: 2x16GB DDR5-5600MHz
- Storage: Samsung 980 1TB SSD
- Display Resolution: 1920x1080p
- OS: Windows 11 Pro
- Graphics Card: NVIDIA RTX 4090
- Graphics Card Driver: 460.80
- BIOS Version: 787F1FTM90
- 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

**Testing:**
- As of December 2023
- Games Tested: See Claim 22
<table>
<thead>
<tr>
<th>13. All Around Performance</th>
<th>Intel® Core™ 14th Gen i9-14900HX</th>
<th>AMD Ryzen™ 9 7945HX</th>
</tr>
</thead>
<tbody>
<tr>
<td>40. Up to 51% faster virtual production multitasking performance</td>
<td>As measured by Unreal Engine 5: Meta-Human &amp; Capturing Reality Reality Capture Multitasking Virtual Production Workflow on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX Processor</td>
<td></td>
</tr>
<tr>
<td>41. Up to 44% faster content creation multitasking performance</td>
<td>As measured by Adobe Premiere Pro &amp; After Effects Multitasking Creator Workflow on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX Processor</td>
<td></td>
</tr>
<tr>
<td>42. Up to 30% faster HDR Video Stabilization</td>
<td>As measured by VEGAS Pro 21 HDR Video Stabilization Workload on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX Processor</td>
<td></td>
</tr>
<tr>
<td>43. Up to 18% better advanced content creation performance</td>
<td>As measured by SYSmark® 30 – Advanced Content Creation Score on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX Processor</td>
<td></td>
</tr>
<tr>
<td>44. Up to 16% better Cinebench 2024 single core performance</td>
<td>As measured by Maxon Cinebench 2024 – Single Core Score on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX Processor</td>
<td></td>
</tr>
<tr>
<td>45. Up to 14% faster DaVinci Resolve Video Export</td>
<td>As measured by DaVinci Resolve Studio – DaVinci Resolve Export Workflow on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX Processor</td>
<td></td>
</tr>
<tr>
<td>46. Up to 10% faster mainstream application performance</td>
<td>As measured by CrossMark™ – Overall Score on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX Processor</td>
<td></td>
</tr>
<tr>
<td>47. Up to 7% faster web browsing performance</td>
<td>As measured by WebXPRT™ – Overall Score on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX Processor</td>
<td></td>
</tr>
<tr>
<td>48. Up to 7% better Windows application performance</td>
<td>As measured by SYSmark® 30 – Overall Score on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX Processor</td>
<td></td>
</tr>
<tr>
<td>49. Up to 6% better video editing performance</td>
<td>As measured by UL Procyon® Video Editing Benchmark – Overall Score on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX Processor</td>
<td></td>
</tr>
<tr>
<td>50. Up to 3% faster Office productivity performance</td>
<td>As measured by UL Procyon® Office Productivity Benchmark – Overall Score on Intel® Core™ 14th Gen i9 Processor 14900HX vs. AMD Ryzen™ 9 7945HX Processor</td>
<td></td>
</tr>
</tbody>
</table>
Multitasking Workload Configurations:

1. Up to 5X faster virtual production multitasking performance
2. Up to 32X faster content creation multitasking performance
3. Up to 30X faster HDR Video Stabilization
4. Up to 18X better advanced content creation performance
5. Up to 16X better Cinebench 2024 Single core performance.
6. Up to 14X faster DNMR Video Export
7. Up to 10X faster Netflix streaming application performance
8. Up to 9X faster cloud browsing performance
9. Up to 7X faster Windows application performance
10. Up to 6X better video editing performance
11. Up to 3X faster Office productivity performance
12. Full Configurations:

Workflow description for the above performance claims:
Adobe Premiere Pro & After Effects Multitasking Creator Workflow
Adobe Premiere Pro, Version 24
Adobe After Effects Version 241

In this multitasking workflow, a content creator runs Adobe Premiere Pro, which is a professional video editing software, in the background at the "High Quality" preset in Adobe After Effects. 

In the foreground, the creator leverages Adobe After Effects' parallel processing capabilities to enhance the performance of the background task. The video is previewed in real-time, allowing the creator to adjust and refine the video as it is being edited. The time to complete this task will be measured in seconds. The creator then moves Adobe After Effects to the background, allowing this task to the Efficient preset.

Adobe Premiere Pro is brought to the foreground, which features a scene from a 2021 Pixar animated film. The scene is rendered in high detail, providing a realistic and immersive visual experience. The creator leverages the processor's parallel processing capabilities to enhance the performance of the background task. The time to complete this task will be measured in seconds.

During the Auto Reframe task, Intel® UHD Graphics 770 completes the decoding of the timeline sequences, a software enablement that may not have been possible. Because, even though it does not have this software enhancement, the CPU is using the GPU of the Core™ 11th Gen processors to perform the background task.

The resulting Adobe Premiere sequence, after full composition confirming Auto Reframe functionality, is then focused to the foreground task, bringing Adobe After Effects into the foreground.

The performance of the background video is then compared within the time to complete measured in seconds.


davinci Resolve Studio DNMR Workload
Davinci Resolve Studio, Version 17.0.4

This workload measures the time it takes to complete a DNMR workload consisting of a 3D animation of a spaceship. The time to complete this task will be measured in seconds.

VEGAS Pro 2.8.8 HDR Video Stabilization Workflow
VEGAS Pro Version 21

This workflow measures the time it takes to complete Video Stabilization of a 4K @ 30 fps 16-bit video, using VEGAS Pro 21.
13. All Around Performance (Cont.)

Intel® Core™ i9-14000H / AMD Ryzen™ 9 7945H-X

Unreal Engine 5 MetaHuman & Capturing Reality: Reality Capture Multitasking Virtual Production Workflow

Epic Games Unreal Engine 5 MetaHuman Version: 5.32
Capturing Reality: Reality Capture Version: 13.11.7256

In this multitasking workflow, a creator in virtual production leverages Reality Capture 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 prerendered video of the subject.

In the foreground, the creator leverages Capturing Reality Capture to bring a real-world prop into the virtual space for virtual production usages, via an image set.

1. The creator uses the Align Images feature within Reality Capture, where 2D images are aligned to form a 3D image via photogrammetry.
2. To stay productive, they move Reality Capture to the background by launching Unreal Engine 5 in the foreground.
3. The Align Image function in Reality Capture will continue in the background, leveraging the efficiency core.
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 this 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.

Next, they create an authored Skeletal Mesh and assign MetaHuman. The time to complete this task is measured in seconds. Performance cores are used in this foreground task.

The creator then brings Reality Capture 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: 1.0.95
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 2024 - Multi Core Score
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 3.0 - Overall Score: Advanced Content Creation Score
SysMark 3.0 - 2D Score: Version 3.14.60
SysMark 3.0: the Software Load 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 metrics 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 rendering. The benchmark can be accessed from: www.bapco.com/products/sysmark3.0/

UL Procyon® Office Productivity Benchmark - Overall Score
UL Procyon® Office Productivity Benchmark - Version 2.6.92
Microsoft Office Version: 2020 Build 16007.21800
The Procyon® office productivity benchmark from UL Solutions uses Microsoft Office applications to measure Windows PC and mobile 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/procyonofficeproductivitybenchmark

UL Procyon® Video Editing Benchmark - Overall Score
UL Procyon® Video Editing Benchmark - Version 2.6.92
Adobe Premiere Pro Version: 2020.2
Procyon® benchmarks real applications to test performance in scenarios 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/procyonvideo-editingbenchmark

Webperf 4V
Webperf 4V - Version 4.0
Chrome Browser Version: 88
Webperf 4.0 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 analyzing the latest browsers plus several stores. This benchmark can be accessed from: www.principledtechnologies.com/online/whitepapers/
14. Gaming Laptops—Intel® Core™ & Intel® Core™ U
Performance Optimized or Battery-Optimized Gaming—Intel has you covered!

51. Intel WiFi 7 (5 Gg)
See Claim 3

52. Thunderbolt
See Claim 4

53. World’s Fastest Mobile CPU
See Claim 1

54. The World’s Best Experience for Mobile Enthusiasts
See Claim 2

55. Up to 5%更好的 Gaming Performance
See Claim 23

56. Up to 5% Faster Multitasking Workloads
See Claim 39

16. The World’s Best Experience for Mobile Enthusiasts

17. Intel® Core™ Processor 14th Gen
Mainstream Desktop

57. Up to 5% better multi-threaded performance
Up to 5% better multi-threaded performance

18. Intel® Core™ Processor 14th Gen
Mainstream Desktop

60. Intel® Core™ Processor 14th Gen
Mainstream Desktop

58. More E-Cores
See Claim 5

59. DDR4 3200, DDR5 5200
See Claim 6

60. Intel WiFi 7 (5 Gg)
See Claim 3

61. PCIe Gen 5x0
See Claim 6

19. Intel® Core™ Desktop Processors (14th Gen) Delivering Next Level Performance

As measured by Autodesk® 3ds Max 21 - Toon Shader with Arnold Render Workload on Intel® Core™ 14th Gen i7 Processor 14700 vs 13th Gen Intel® Core™ i7-13700 Processor

Processor: Intel® Core™ 14th Gen i7 Processor 14700 (8P + 8E); Memory: 2x8GB DDR4-3200 MHz; Storage: Samsung 980 Pro 2TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro; Power Plan: Balanced; Power Management: UEFI; Power Plan: Balanced; Power Management: UEFI

Processor: 13th Gen Intel® Core™ i7-13700 Processor, 16C/24T (8P + 8E); Memory: 2x16GB DDR4-3200 MHz; Storage: Samsung 980 Pro 2TB; Display Resolution: 1920x1080; OS: Microsoft Windows 11 Pro; Power Plan: Balanced; Power Management: UEFI; Power Plan: Balanced; Power Management: UEFI

World or once
Word or once
Word or once
Word or once

Intel. Embargoed Until January 8th, 2024 @ 3 PM PT
| 52. 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™ i9-9900 Processor |
| 53. Up to 4% faster web browsing performance | As measured by WebXFR T4 – Overall Score on Intel® Core™ 14th Gen i9 Processor 14900 vs. 13th Gen Intel® Core™ i9-9900 Processor |
| 54. Up to 3% better Cinebench 2022 single core performance | As measured by Cinebench 2022 – Single-Core Score on Intel® Core™ 14th Gen i9 Processor 14900 vs. 13th Gen Intel® Core™ i9-9900 Processor |
| 55. Up to 3% better photo editing performance | As measured by UL Procyon® Photo Editing Benchmark – Overall Score on Intel® Core™ 14th Gen i9 Processor 14900 vs 13th Gen Intel® Core™ i9-9900 Processor |
| 56. Up to 3% better performance when adding visual effects to video | As measured by PugetBench for Adobe After Effects – Overall Score on Intel® Core™ 14th Gen i9 Processor 14900 vs 13th Gen Intel® Core™ i9-9900 Processor |
| 57. Up to 3% faster Windows application productivity performance | As measured by SYSmark® 2020 – Productivity Score on Intel® Core™ 14th Gen i9 Processor 14900 vs 13th Gen Intel® Core™ i9-9900 Processor |
| 58. 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™ i9-9900 Processor |
| 59. Up to 6% more FPS on League of Legends | As measured on Intel® Core™ 14th Gen i9 Processor 14900 vs 13th Gen Intel® Core™ i9-9900 Processor |
| 60. Up to 5% more FPS on Starfield | As measured on Intel® Core™ 14th Gen i9 Processor 14900 vs 13th Gen Intel® Core™ i9-9900 Processor |
| 61. Up to 4% more FPS on Hitman 3: Dartmoor | As measured on Intel® Core™ 14th Gen i9 Processor 14900 vs 13th Gen Intel® Core™ i9-9900 Processor |
| 62. Up to 3% more FPS on Counter Strike 2 | As measured on Intel® Core™ 14th Gen i9 Processor 14900 vs 13th Gen Intel® Core™ i9-9900 Processor |
| 63. 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™ i9-9900 Processor |

**All Around Performance Configurations:**

**Mainstream Gaming Configurations:**

**Test Date:**
Testing was on December 29th, 2023.
Applications tested:
CrossMark™ - Overall Score
CrossMark™ - Version 1.0.1.8
CrossMark™ - Benchmark from the BAPCo® consortium that is an easy to run, 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 Cinema 4D Benchmark 2024 - Single Core Score
Maxon Cinema 4D Benchmark 2024
Maxon Cinema 4D is a leading 3D animation software that is used for film, television, and video game production. The benchmark can be accessed from www.metrics consultants.com/downloads/downloads/2024/downloads

PugetBench for After Effect - Overall Score
Pugetbench® for After Effects® - Version 26.0.3
PugetBench for After Effects® Version 9.9.6
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/Software/After-Effects-PugetBench/

SYSoft 3D - Productivity Score
SYSoft 3D - Version 13.37
SYSoft 3D is the 3D workstation benchmark generation of the former PC benchmark that measures and compares system performance using real-world applications and workloads. The latest version is for the Premiere Pro performance metrics featuring new Office Applications General Productivity, Photo/Editing and Advanced Content Creation. The Office Applications scenario models office environments like using word processing (merge document comparison, and PDF conversion), spreadsheet, data manipulation (data modeling, financial forecasting), presentation editing. The benchmark can be accessed from www.yooyoomobile.com/en/uk

UL-PerfTest - Photo/Editing Benchmark - Overall Score
UL-PerfTest - Photo/Editing Benchmark - Version 2.2.8
Adobe Photoshop Version 20.3
Adobe Premiere Pro Version 14.7.3

UL-PerfTest Office Productivity Benchmark - Overall Score
UL-PerfTest Office Productivity Benchmark - Version 2.1.8
Microsoft Word - Version 2019 Build 11.20524.1000
The UL PerfTest Office productivity benchmark from UL Software uses Microsoft Office applications to measure Windows PC and Apple/Mac computer office productivity tasks. The benchmark metrics are built relevant real-world tasks using Microsoft Word and PowerPoint and Outlook. The benchmark can be accessed from www.ulbenchmark.com/en/uk

WebPVRT V4 - Overall Score
WebPVRT V4.10
Firefox Browser Version 99
Chrome Browser Version 99
WebPVRT is a benchmark benchmarked from Principled Technologies that measures JavaScript, HTML5 performance using 10 real-world web pages and 10 real-world real-world pages, like Photo Enhancement, Organize Albums, Using AI, Stock Option Pricing, Encypt/Decry and OCR Scan, Sales Reports, and Online banking. It provides results for the test executed as a single (Score). The benchmark can be accessed from www.principledtechnologies.com/products/technologies/webpivrvt/

Games Tested
Additional Information
Counter-Strike 2
Steam® - PES 2019 PES High - Average FPS - Version 3.09.489
Team Fortress 2
Steam® - DM - Full Game 1080p High - Average FPS - Version 3.07.0
League of Legends
Steam® - DOTA 2 Full Game 1080p High - Average FPS - Version 7.14.34.7
Unique Worlds
Steam® - DOTA 2 Full Game 1080p Low - Average FPS - Version 7.14.34.7
War of the Worlds
Steam® - DOTA 2 Full Game 1080p Low - Average FPS - Version 7.14.34.7
Total War: WARHAMMER II
Steam® - DOTA 2 Full Game 1080p High - Average FPS - Version 4.13

Embargoed Until January 8th, 2024 @ 3 PM PT
<table>
<thead>
<tr>
<th>Intel® Core™ Desktop Processors (14th gen)</th>
<th>22 Intel® Core™ Desktop Processors (14th gen)</th>
<th>Mainstream Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>74. Up to 65% faster mainstream application performance</td>
<td>As measured by CrossMark®, Overall Score on Intel® Core™ 14th Gen/9 Processor 14900 vs. AMD Ryzen™ 9 7900 Processor</td>
<td></td>
</tr>
<tr>
<td>75. Up to 9% faster mainstream application performance</td>
<td>As measured by CrossMark®, Overall Score on Intel® Core™ 14th Gen/7 Processor 14700 vs. AMD Ryzen™ 9 7900 Processor</td>
<td></td>
</tr>
<tr>
<td>76. Up to 1% faster web browsing performance</td>
<td>As measured by WebXPRF 4, Overall Score on Intel® Core™ 14th Gen/9 Processor 14900 vs. AMD Ryzen™ 9 7900 Processor</td>
<td></td>
</tr>
<tr>
<td>77. Up to 2% faster web browsing performance</td>
<td>As measured by WebXPRF 4, Overall Score on Intel® Core™ 14th Gen/7 Processor 14700 vs. AMD Ryzen™ 9 7900 Processor</td>
<td></td>
</tr>
<tr>
<td>78. Up to 10× faster Windows application performance</td>
<td>As measured by SYSMark® 30, Overall Score on Intel® Core™ 14th Gen/9 Processor 14900 vs. AMD Ryzen™ 9 7900 Processor</td>
<td></td>
</tr>
<tr>
<td>79. Up to 2× faster Windows application performance</td>
<td>As measured by SYSMark® 30, Overall Score on Intel® Core™ 14th Gen/7 Processor 14700 vs. AMD Ryzen™ 9 7900 Processor</td>
<td></td>
</tr>
<tr>
<td>80. Up to 6× faster Microsoft Office productivity performance</td>
<td>As measured by UL Processor + Office Productivity: Benchmark, Overall Score on Intel® Core™ 14th Gen/9 Processor 14900 vs. AMD Ryzen™ 9 7900 Processor</td>
<td></td>
</tr>
<tr>
<td>81. Up to 1% better video editing performance</td>
<td>As measured by PugetBench for Premiere Pro®, Overall Score on Intel® Core™ 14th Gen/9 Processor 14900 vs. AMD Ryzen™ 9 7900 Processor</td>
<td></td>
</tr>
<tr>
<td>82. Up to 3× better video editing performance</td>
<td>As measured by PugetBench for Premiere Pro®, Overall Score on Intel® Core™ 14th Gen/7 Processor 14700 vs. AMD Ryzen™ 9 7900 Processor</td>
<td></td>
</tr>
<tr>
<td>83. Up to 3× better performance when adding more effects to videos</td>
<td>As measured by PugetBench for After Effects®, Overall Score on Intel® Core™ 14th Gen/9 Processor 14900 vs. AMD Ryzen™ 9 7900 Processor</td>
<td></td>
</tr>
<tr>
<td>84. Up to 2× better performance when adding more effects to videos</td>
<td>As measured by PugetBench for After Effects®, Overall Score on Intel® Core™ 14th Gen/7 Processor 14700 vs. AMD Ryzen™ 9 7900 Processor</td>
<td></td>
</tr>
<tr>
<td>85. Up to 3× faster render times in Creative Cloud® applications performance</td>
<td>As measured by CrossMark®, Creativity Score on Intel® Core™ 14th Gen/9 Processor 14900 vs. AMD Ryzen™ 9 7900 Processor</td>
<td></td>
</tr>
<tr>
<td>86. Up to 5× faster render times in Creative Cloud® applications performance</td>
<td>As measured by CrossMark®, Creativity Score on Intel® Core™ 14th Gen/7 Processor 14700 vs. AMD Ryzen™ 9 7900 Processor</td>
<td></td>
</tr>
<tr>
<td>87. Up to 14% faster Cinebench® 2024 Single-Core performance</td>
<td>As measured by Maevn Cinebench® 2024, Single-Core Score on Intel® Core™ 14th Gen/9 Processor 14900 vs. AMD Ryzen™ 9 7900 Processor</td>
<td></td>
</tr>
<tr>
<td>88. Up to 12% faster Cinebench® 2024 Single-Core performance</td>
<td>As measured by Maevn Cinebench® 2024, Single-Core Score on Intel® Core™ 14th Gen/7 Processor 14700 vs. AMD Ryzen™ 9 7900 Processor</td>
<td></td>
</tr>
<tr>
<td>89. Up to 12% better advanced content creation performance</td>
<td>As measured by SYSMark® 30, Advanced Content Creation Score on Intel® Core™ 14th Gen/9 Processor 14900 vs. AMD Ryzen™ 9 7900 Processor</td>
<td></td>
</tr>
<tr>
<td>90. Up to 12% better advanced content creation performance</td>
<td>As measured by SYSMark® 30, Advanced Content Creation Score on Intel® Core™ 14th Gen/7 Processor 14700 vs. AMD Ryzen™ 9 7900 Processor</td>
<td></td>
</tr>
<tr>
<td>91. Up to 3× faster photo editing performance</td>
<td>As measured by PugetBench for Photoshop®, Overall Score on Intel® Core™ 14th Gen/9 Processor 14900 vs. AMD Ryzen™ 9 7900 Processor</td>
<td></td>
</tr>
<tr>
<td>92. Up to 7× faster photo editing performance</td>
<td>As measured by PugetBench for Photoshop®, Overall Score on Intel® Core™ 14th Gen/9 Processor 14900 vs. AMD Ryzen™ 9 7900 Processor</td>
<td></td>
</tr>
</tbody>
</table>
### 23. Intel Core U-series Platform

<table>
<thead>
<tr>
<th>Intel Core U-series Platform</th>
<th>93. Thunderbolt</th>
<th>See Claim 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>94. Intel Wi-Fi 7 (5 Gigs)</td>
<td>See Claim 3</td>
</tr>
</tbody>
</table>

**Notices & Disclaimers**

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

Unless otherwise noted, testing as of dates shown in the configurations and may not reflect all publicly available updates. See above for configuration details.

No product or component can be absolutely secure.

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

Your costs and results may vary.

Intel contributes to the development of benchmarks by participating in, sponsoring and/or contributing technical support to various benchmarking groups, including the BenchmarkXPRT Development Community, a non-profit organization administered by Principled Technologies.

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

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

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

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

Statements in this document that refer to future plans or expectations are forward-looking statements. These statements are based on current expectations and involve many risks and uncertainties that could cause actual results to differ materially from those expressed or implied in such statements. For more information on the factors that could cause actual results to differ materially, see our most recent earnings release and SEC filings at www.intel.com.

© Intel Corporation. Intel, the Intel logo, and other Intel marks are trademarks of Intel Corporation or its subsidiaries. Other names and brands may be claimed as the property of others.