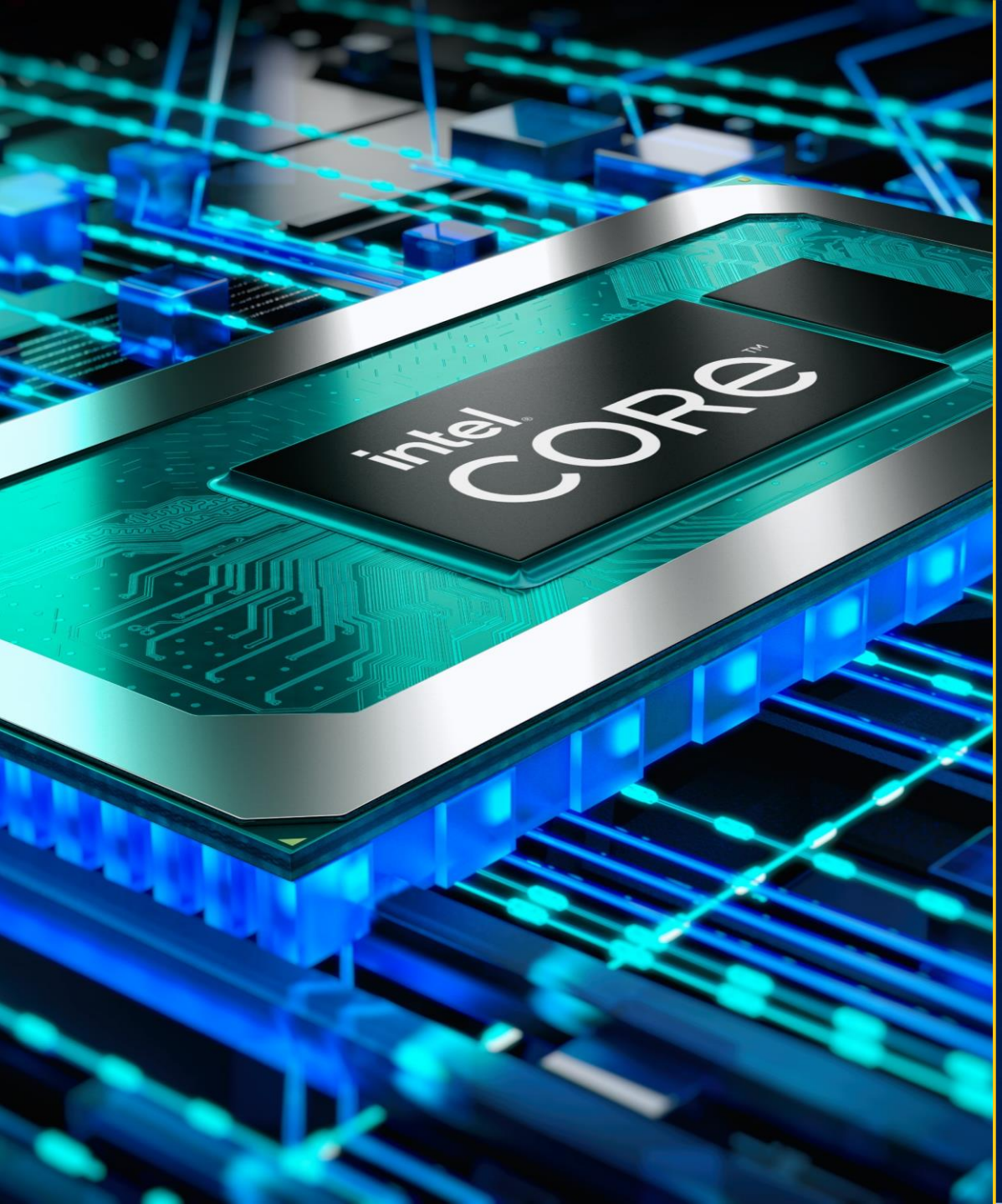


12th Gen Intel® Core™ Processors Media and Analyst Presentation

Speakers

Part One:
12th Gen Intel® Core™ U/P-Series Processors
& Intel® Evo™ Platform

Daniel Rogers
Senior Director
Mobile Product Marketing

Josh Newman
Vice President
CCG General Manager
Mobile Innovation

For Thin & Light Laptops

12th Gen Intel® Core™ Mobile Processor Family

H-series
Enthusiast

45W

P-series
Performance Thin & Light

28W

U-series
Modern Thin & Light

15W

9W

Scalable Architecture For All Laptop Segments

intel

Introducing

12th Gen Intel® Core™ Processors for Thin & Light Laptops

Enthusiast-Level Performance

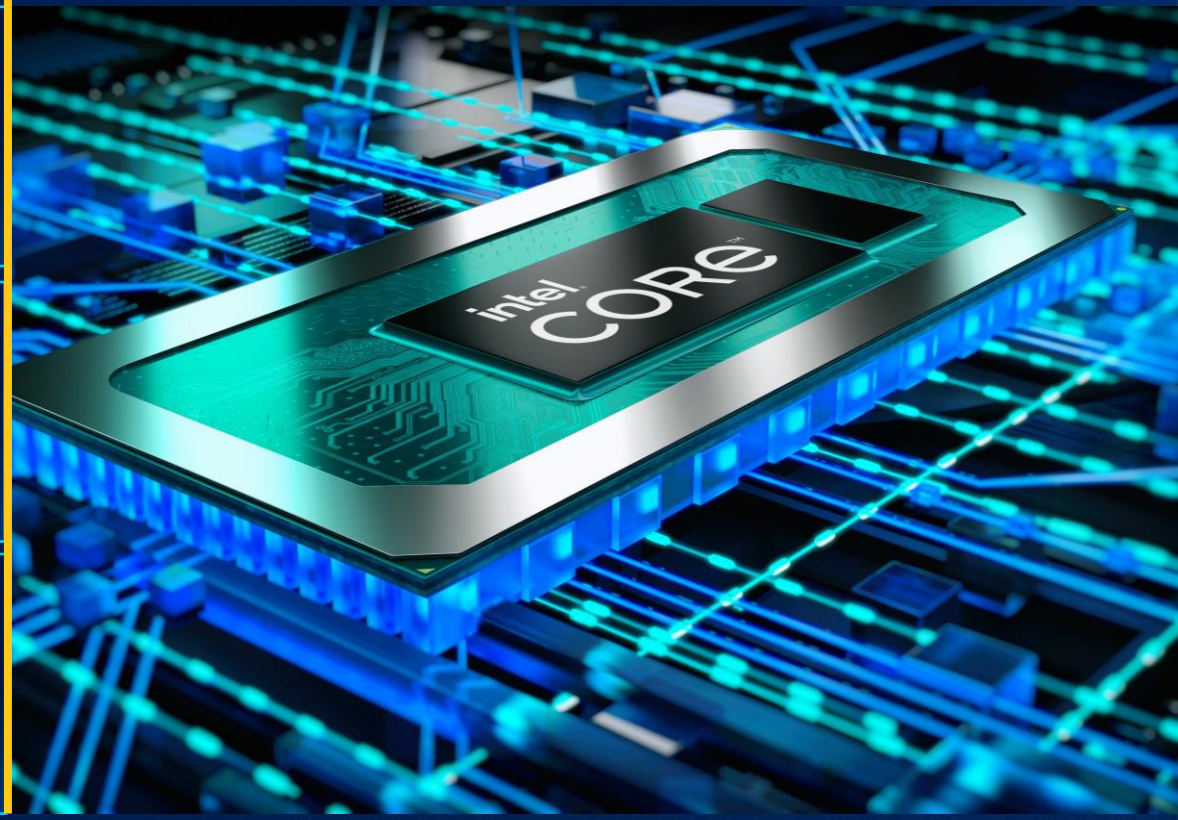
New P-series Processors – up to 70% faster

Superior Productivity

Web Browsing, Photo Editing, Office – up to 30% faster

Cutting-Edge Platform Technologies

Intel Wi-Fi 6E (Gig+), Thunderbolt™ 4, and Imaging

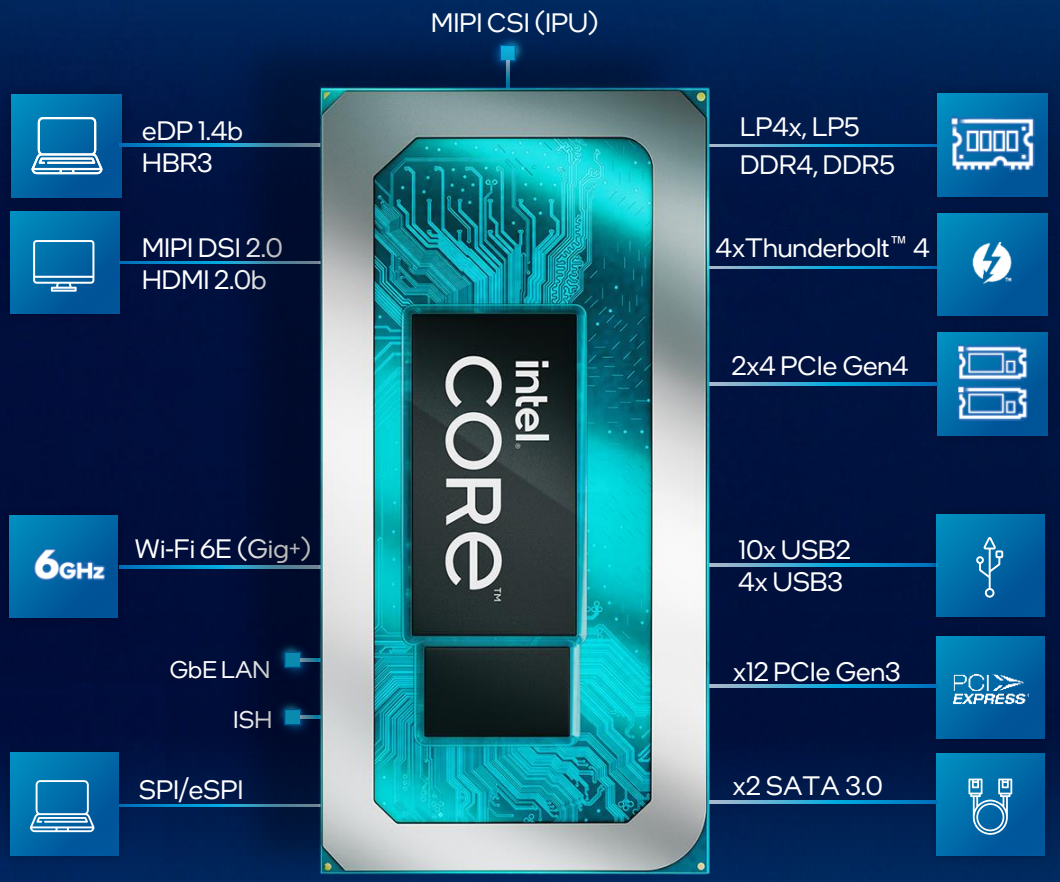


intel

See www.intel.com/PerformanceIndex for additional workload and configuration details. Results may vary.

What's New

12th Gen Intel® Core™ P-series Processors



50x25x1.3mm BGA package
28W base power

All-New Core Architecture

Up to 14-cores: 6 P-cores + 8 E-cores

Intel® Thread Director

Iris® Xᵉ Graphics

Up to 96EU, 4x 4K displays, 12b video pipeline

Up to 8K30 10b HEVC/VP9 encode

Broad Memory Support

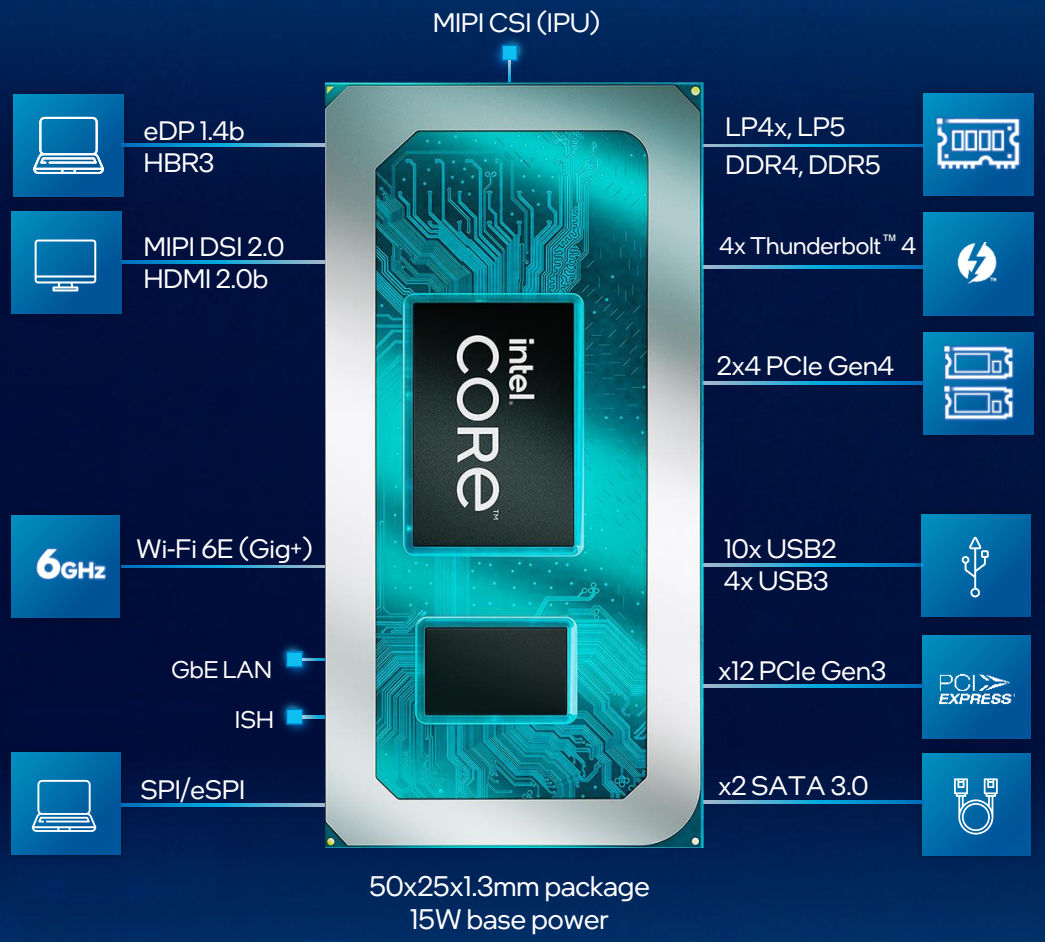
DDR5-4800, DDR4-3200

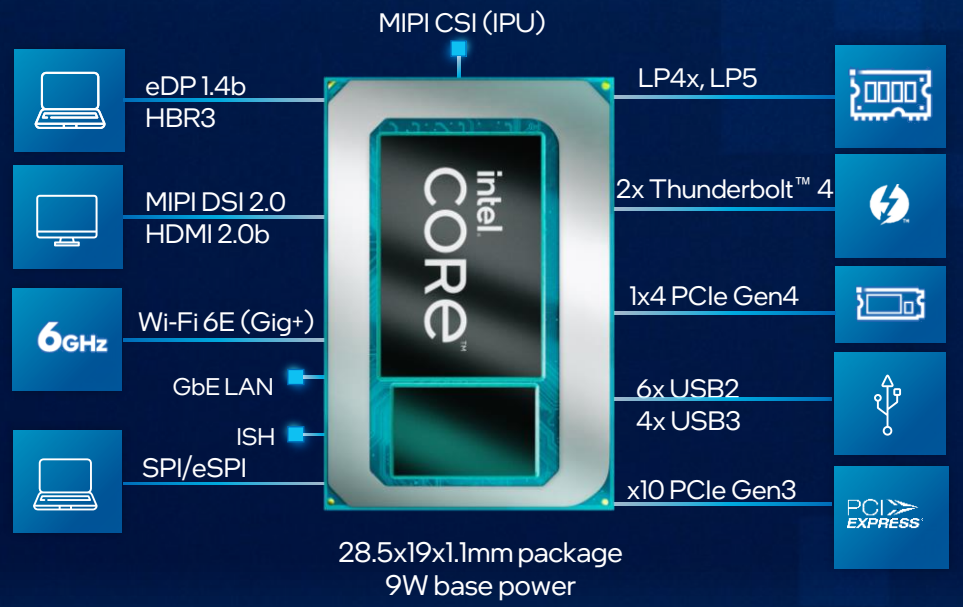
LPDDR5-5200, LPDDR4x-4267

intel

What's New

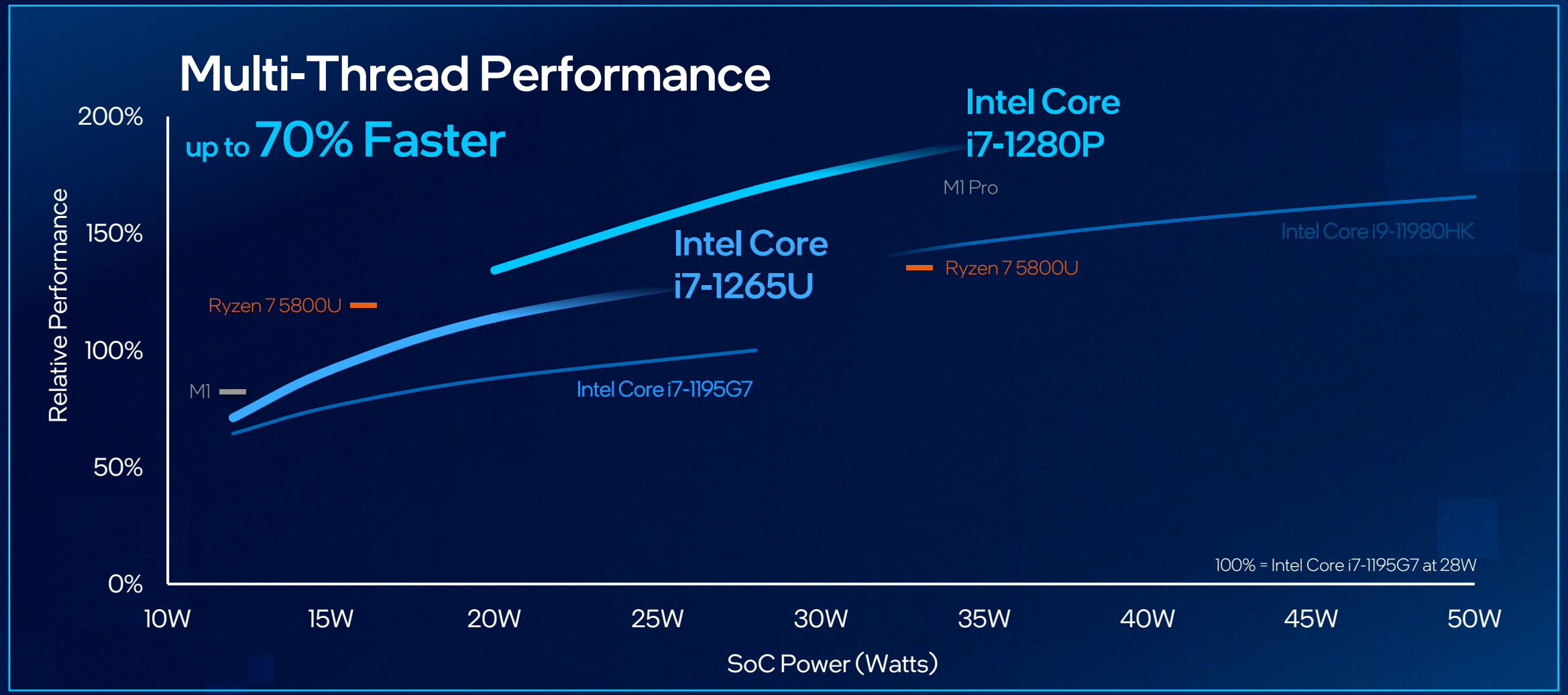
12th Gen Intel® Core™ U-series Processors





12th Gen Intel® Core™ Processors for Thin & Light Laptops

Enthusiast-Level Performance



For workload and configuration details, see www.intel.com/PerformanceIndex. Results may vary.

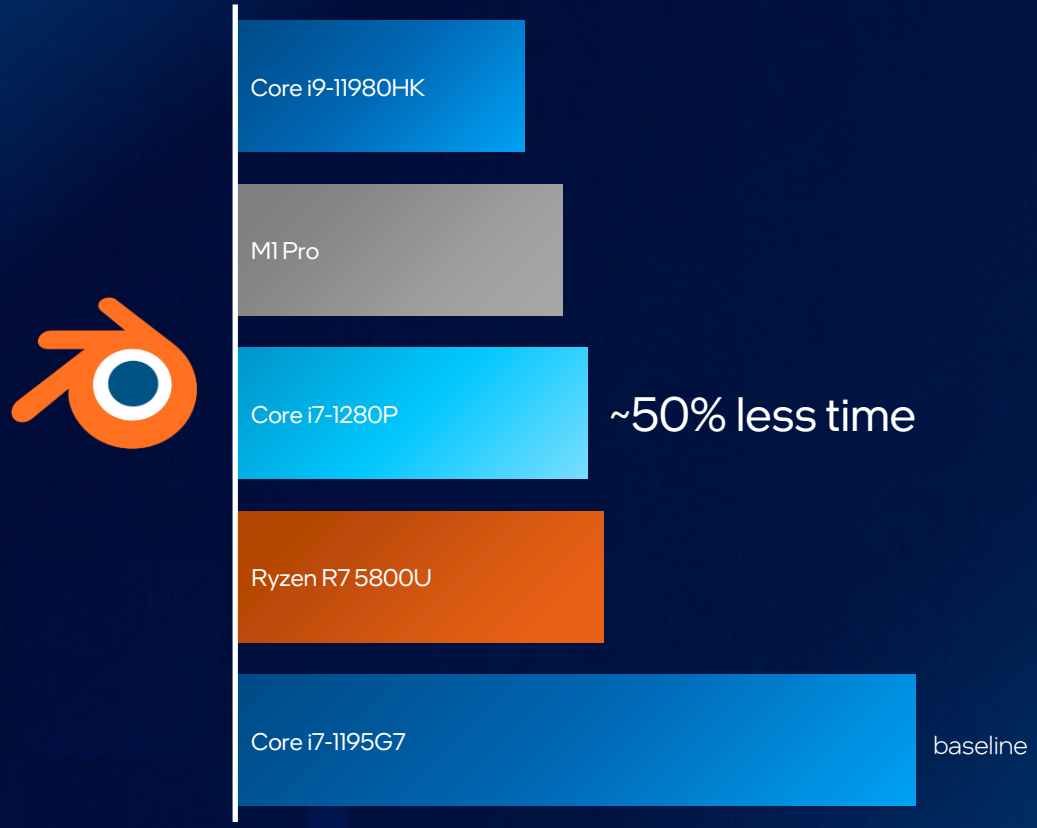
12th Gen Intel® Core™ Processors for Thin & Light Laptops

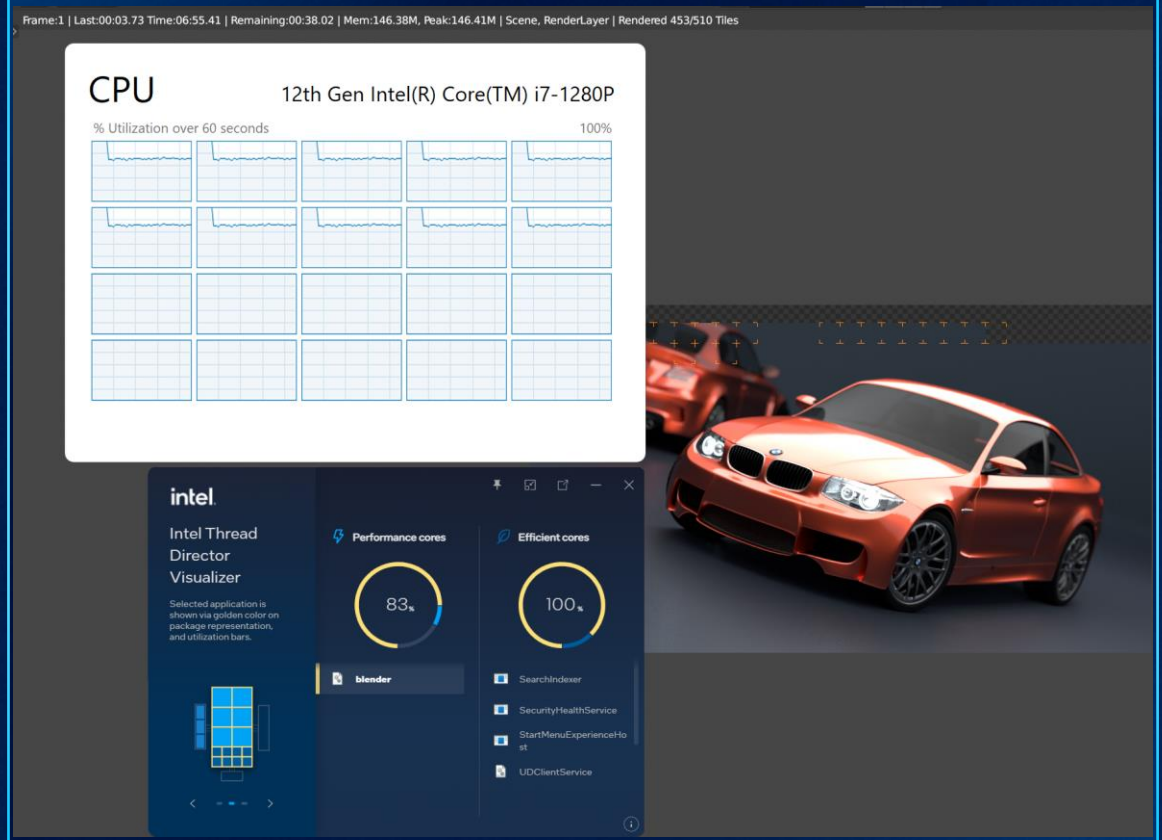
Enthusiast-Level Performance

3D Rendering

Blender 3.0 – Car Demo – CPU

Lower is better





For workload and configuration details, see www.intel.com/PerformanceIndex. Results may vary.

12th Gen Intel® Core™ Processors for Thin & Light Laptops

Application Performance

Web Browsing

WebXPRT 4 – Overall Score

Photo Editing

PugetBench for Photoshop*

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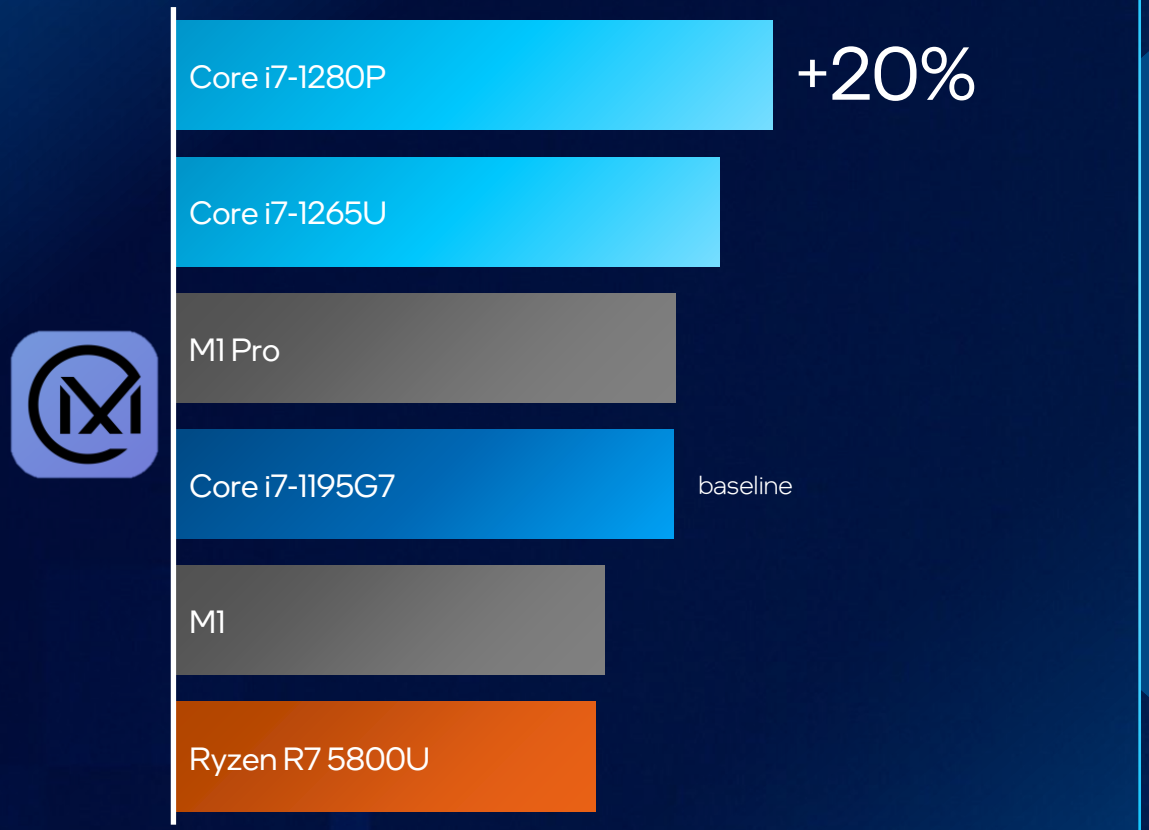
For workload and configuration details, see www.intel.com/PerformanceIndex. Results may vary.

12th Gen Intel® Core™ Processors for Thin & Light Laptops

CrossMark Performance

Overall Score



intel

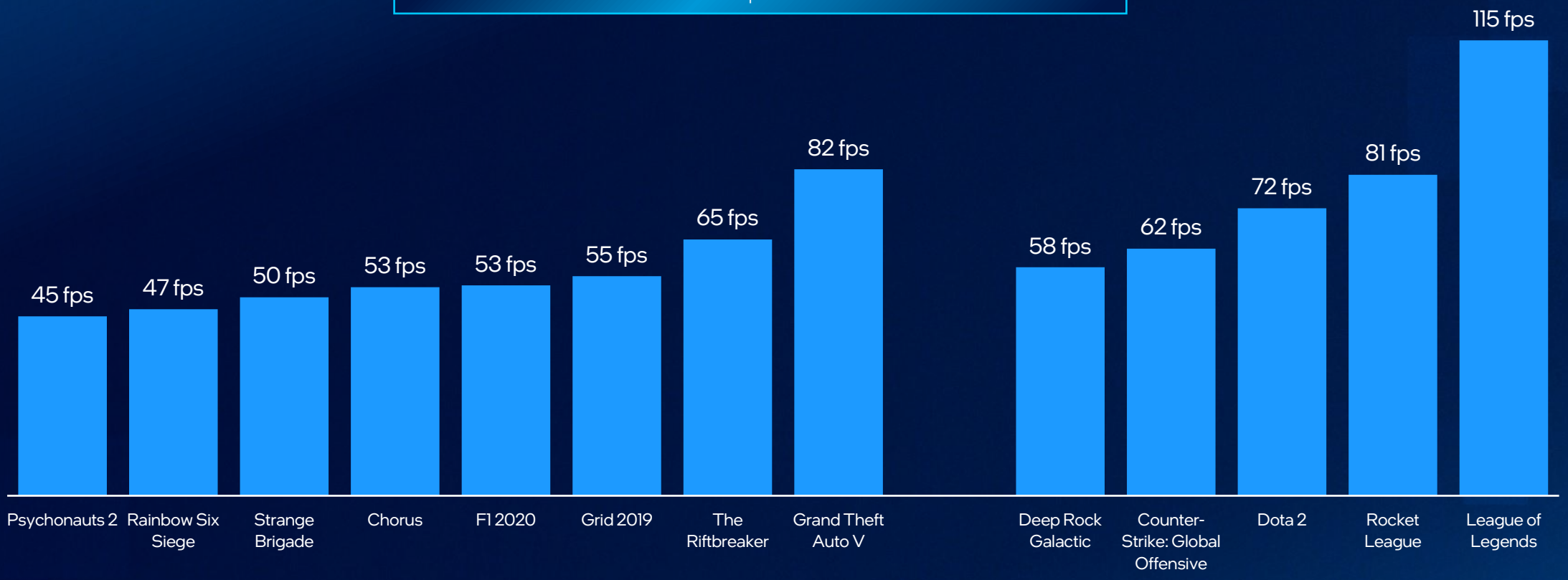
For workload and configuration details, see www.intel.com/PerformanceIndex. Results may vary.

12th Gen Intel® Core™ Processors for Thin & Light Laptops

Intel® Iris® Xe Graphics

1080p Gameplay

Frames per Second



For workload and configuration details, see www.intel.com/PerformanceIndex. Results may vary.

12th Gen Intel® Core™ Processors for Thin & Light Laptops

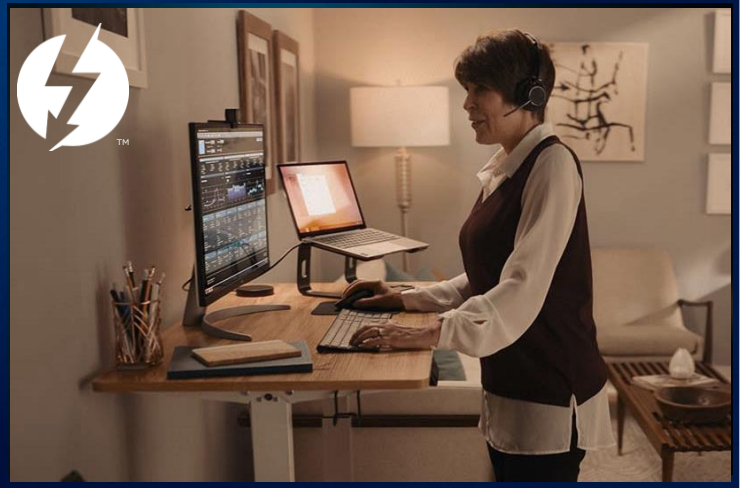
Cutting-Edge Platform Technologies

Wireless Connectivity

Intel® Wi-Fi 6E (Gig+)

Intel® Bluetooth® 5.2

Intel® 5G Solution 5000



Thunderbolt™ 4

Most Complete Version of USB-C

Industry Leading 40Gbps

Certified & Advanced Security

Imaging

Image Processing Unit 6

Image Quality & Power Efficiency

Enhanced Video Conferencing

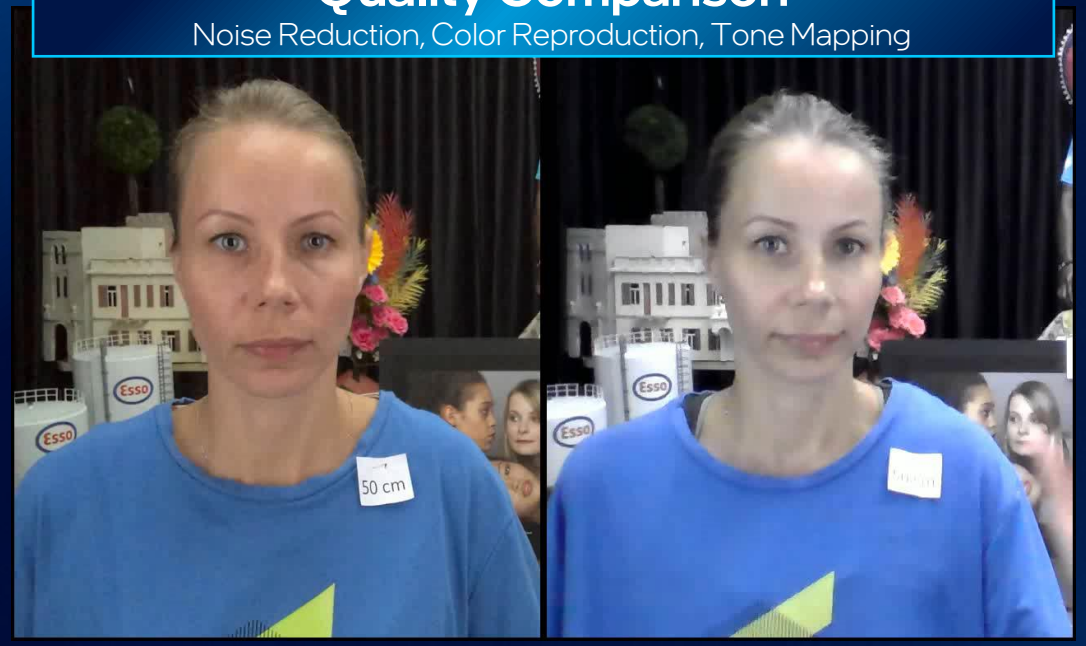
intel

12th Gen Intel® Core™ Processors for Thin & Light Laptops

Enabling High Quality Imaging

Quality Comparison

Noise Reduction, Color Reproduction, Tone Mapping

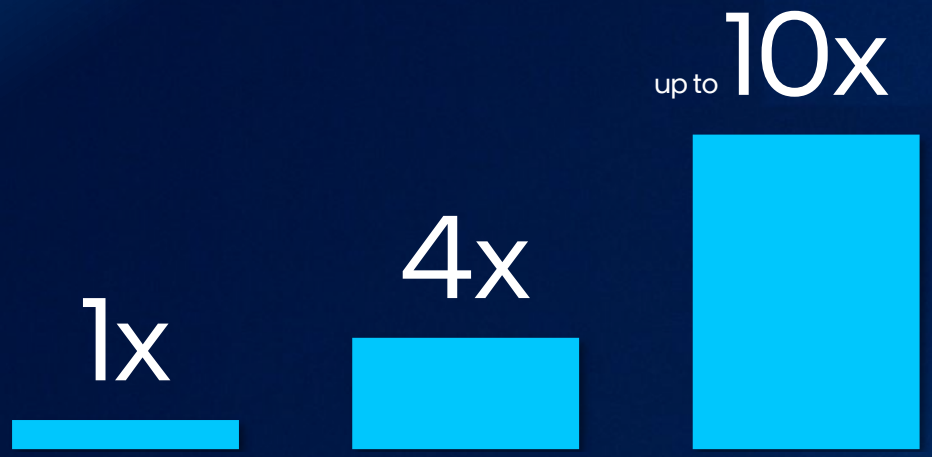


Intel Imaging
using IMX488 (1M 1.4u, RGBIR)

Standard USB
using IMX488 (1M 1.4u, RGBIR)

Intel Imaging

of Designs leveraging Intel IPU



10th Gen

11th Gen

12th Gen

12th Gen Intel® Core™ Processors for Thin & Light Laptops

Incredible Design Scale

Ultra Thin
Detachable, Foldable

U-series 9W

Modern
Thin & Light

U-series 15W

Performance
Thin & Light

P-series 28W

Coming to 250+ laptops in 2022

intel

Summary

12th Gen Intel® Core™ Processors for Thin & Light Laptops

Enthusiast-Level Performance

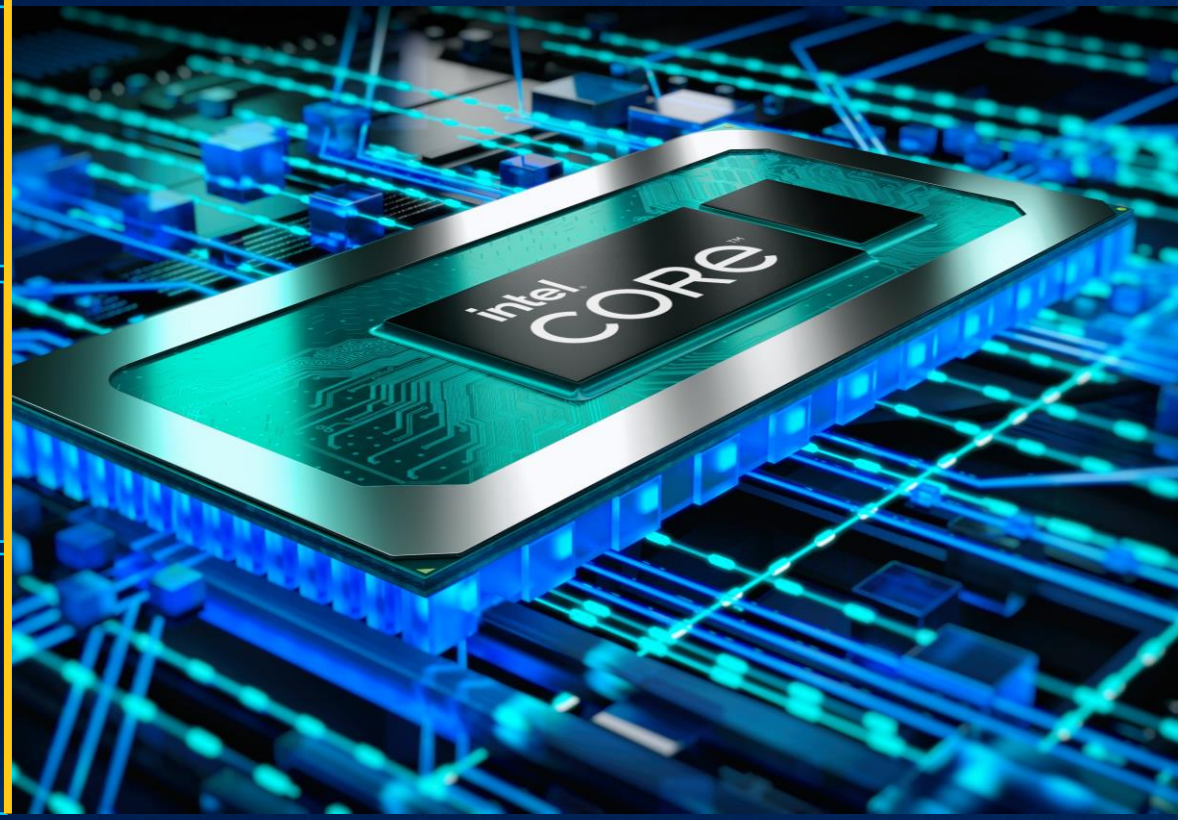
New P-series Processors – up to 70% faster

Superior Productivity

Office, Web Browsing, Photo Editing – up to 30% faster

Cutting-Edge Platform Technologies

Intel Wi-Fi 6E (Gig+), Thunderbolt™ 4, and Imaging



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See www.intel.com/PerformanceIndex for additional workload and configuration details. Results may vary.

For Performance Thin & Light Laptops

12th Gen Intel® Core™ P-series Processors

	Processor Number	Processor Cores	Processor Threads	Performance Cores	Efficient Cores	L3 Cache	Max Turbo Frequency P-cores	Max Turbo Frequency E-cores	Base Frequency P-cores	Base Frequency E-cores	Processor Graphics	Max Graphics Frequency	Processor Base Power	Max Turbo Power	Intel vPro®
intel. CORE i7	i7-1280P	14C	20T	6P	8E	24MB	4.8 GHz	3.6 GHz	1.8 GHz	1.3 GHz	96EU	1.45 GHz	28W	64W	Enterprise
	i7-1270P	12C	16T	4P	8E	18MB	4.8 GHz	3.5 GHz	2.2 GHz	1.6 GHz	96EU	1.40 GHz	28W	64W	Enterprise
	i7-1260P	12C	16T	4P	8E	18MB	4.7 GHz	3.4 GHz	2.1 GHz	1.5 GHz	96EU	1.40 GHz	28W	64W	Essentials
intel. CORE i5	i5-1250P	12C	16T	4P	8E	12MB	4.4 GHz	3.3 GHz	1.7 GHz	1.2 GHz	80EU	1.40 GHz	28W	64W	Enterprise
	i5-1240P	12C	16T	4P	8E	12MB	4.4 GHz	3.3 GHz	1.7 GHz	1.2 GHz	80EU	1.30 GHz	28W	64W	Essentials
intel. CORE i3	i3-1220P	10C	12T	2P	8E	12MB	4.4 GHz	3.3 GHz	1.5 GHz	1.1 GHz	64EU	1.10 GHz	28W	64W	-

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.
Intel Thermal Velocity Boost not supported on 12th Gen mobile processors.
Max Turbo Frequency for P-cores may include Intel Turbo Boost Max 3.0.
All SKUs support up to DDR5 (4800 MT/S)/DDR4 (3200 MT/S)/LPDDR5 (5200 MT/S)/LPDDR4 (4267 MT/S) memory
See ark.intel.com for more specification details

intel.

For Modern Thin & Light Laptops

12th Gen Intel® Core™ U-series Processors

	Processor Number	Processor Cores	Processor Threads	Performance Cores	Efficient Cores	L3 Cache	Max Turbo Frequency P-cores	Max Turbo Frequency E-cores	Base Frequency P-cores	Base Frequency E-cores	Processor Graphics	Max Graphics Frequency	Processor Base Power	Max Turbo Power	Intel vPro®
intel CORE i7	i7-1265U	10C	12T	2P	8E	12MB	4.8 GHz	3.6 GHz	1.8 GHz	1.3 GHz	96EU	1.25 GHz	15W	55W	Enterprise
	i7-1255U	10C	12T	2P	8E	12MB	4.7 GHz	3.5 GHz	1.7 GHz	1.2 GHz	96EU	1.25 GHz	15W	55W	Essentials
intel CORE i5	i5-1245U	10C	12T	2P	8E	12MB	4.4 GHz	3.3 GHz	1.6 GHz	1.2 GHz	80EU	1.20 GHz	15W	55W	Enterprise
	i5-1235U	10C	12T	2P	8E	12MB	4.4 GHz	3.3 GHz	1.3 GHz	0.90 GHz	80EU	1.20 GHz	15W	55W	Essentials
intel CORE i3	i3-1215U	6C	8T	2P	4E	10MB	4.4 GHz	3.3 GHz	1.2 GHz	0.90 GHz	64EU	1.10 GHz	15W	55W	-
Pentium	8505	5C	6T	1P	4E	8MB	4.4 GHz	3.3 GHz	1.2 GHz	0.90 GHz	48EU	1.10 GHz	15W	55W	-
Celeron	7305	5C	5T	1P	4E	8MB	-	-	1.1 GHz	0.90 GHz	48EU	1.10 GHz	15W	55W	-

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For Modern Thin & Light Laptops

12th Gen Intel® Core™ U-series Processors

	Processor Number	Processor Cores	Processor Threads	Performance Cores	Efficient Cores	L3 Cache	Max Turbo Frequency P-cores	Max Turbo Frequency E-cores	Base Frequency P-cores	Base Frequency E-cores	Processor Graphics	Max Graphics Frequency	Processor Base Power	Max Turbo Power	Intel vPro®
intel CORE i7	i7-1260U	10C	12T	2P	8E	12MB	4.7 GHz	3.5 GHz	1.1 GHz	0.8 GHz	96EU	0.95 GHz	9W	29W	Enterprise
	i7-1250U	10C	12T	2P	8E	12MB	4.7 GHz	3.5 GHz	1.1 GHz	0.8 GHz	96EU	0.95 GHz	9W	29W	Essentials
intel CORE i5	i5-1240U	10C	12T	2P	8E	12MB	4.4 GHz	3.3 GHz	1.1 GHz	0.8 GHz	80EU	0.90 GHz	9W	29W	Enterprise
	i5-1230U	10C	12T	2P	8E	12MB	4.4 GHz	3.3 GHz	1.0 GHz	0.7 GHz	80EU	0.85 GHz	9W	29W	Essentials
intel CORE i3	i3-1210U	6C	8T	2P	4E	10MB	4.4 GHz	3.3 GHz	1.0 GHz	0.7 GHz	64EU	0.85 GHz	9W	29W	-
Pentium	8500	5C	6T	1P	4E	8MB	4.4 GHz	3.3 GHz	1.0 GHz	0.7 GHz	48EU	0.80 GHz	9W	29W	-
Celeron	7300	5C	5T	1P	4E	8MB	-	-	1.0 GHz	0.7 GHz	48EU	0.80 GHz	9W	29W	-

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12th Gen Intel® Core™ Processors
Media and Analyst Presentation

Intel® Evo™ Design Evolution

Josh Newman
Vice President, Client Computing Group
General Manager, Mobile Innovation

Intel® Evo™ Designs: What's New with 3rd Edition

Key Experiences

NEW Intelligent Collaboration
4 technologies enabling superior video conferencing

AND

Consistent Responsiveness
Across 25 most common tasks

AND

9+ Hours Real World Battery Life

AND

<1 sec. Instant Wake

AND

Fast Charge*
4 hours of battery life in 30 min. charge

New Key Spec Technologies

12th Gen SoC

Intel® Wi-Fi 6E (Gig+)

Intel Connectivity Performance Suite

Dynamic Background Noise Suppression

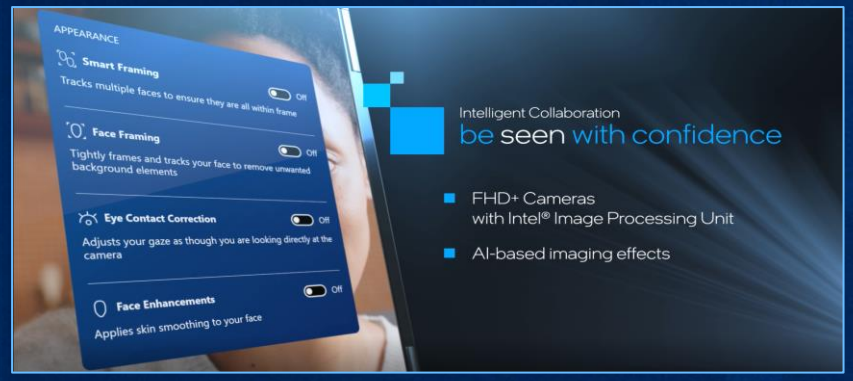
≥FHD camera

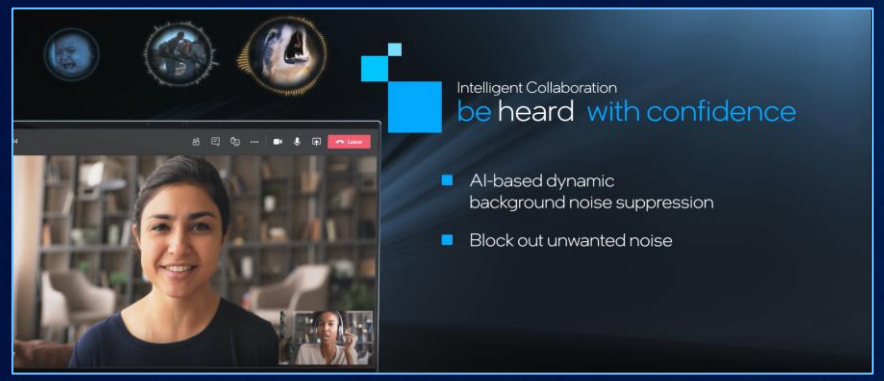
Intel Visual Sensing Controller
(Innovation Option)

Battery Life & Fast Charge claims pertain to Intel Evo designs with FHD displays.
Intel Connectivity Performance Suite only available on Windows-based devices.
Not all Intel Evo designs feature ≥ FHD camera.
Details at www.intel.com/PerformanceIndex (platforms). Results may vary.

Intel® Evo™ and Intelligent Collaboration

Connect. Be Seen. Be heard with Confidence





Verified

intel

ICPS on windows devices only
FHD+ Cameras on Select Designs

Intel® Evo™ Designs with 12th Gen Intel Core Processors

Engineered to do it all – that's a laptop evolved

>100 Designs with 150 Ecosystem Partners

Third Edition Intel Evo Design
Lenovo Yoga 9i

12th Gen Intel® Core™ P 28W

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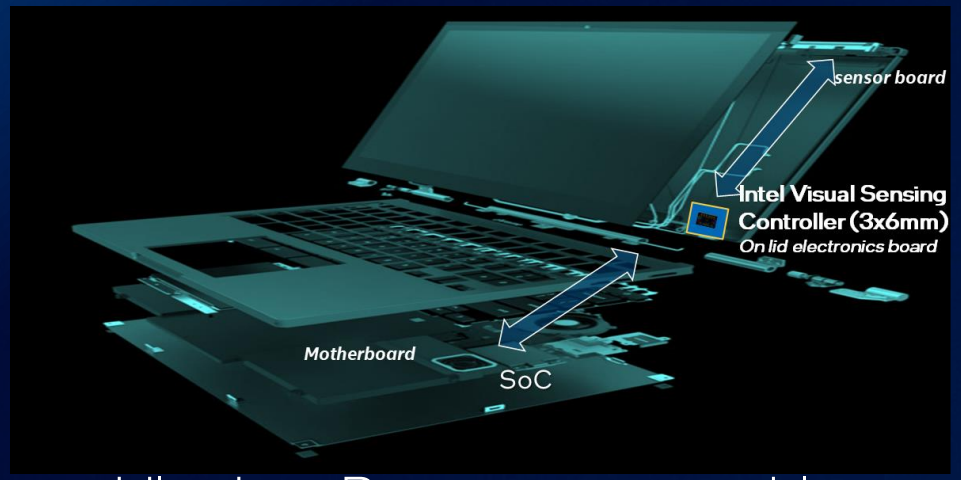
Intel® Evo™ Platform Innovation Engine

Intel Visual Sensing Controller



Ultra Low Power sensing enables Wake on Approach and Walk Away Lock

User context awareness provides more robust power management

Enhanced privacy and security features

>8 Designs Coming to Intel Evo Designs in 2022

5G

Connect in more places where Wi-Fi is not available with improved performance, flexibility, and reliability

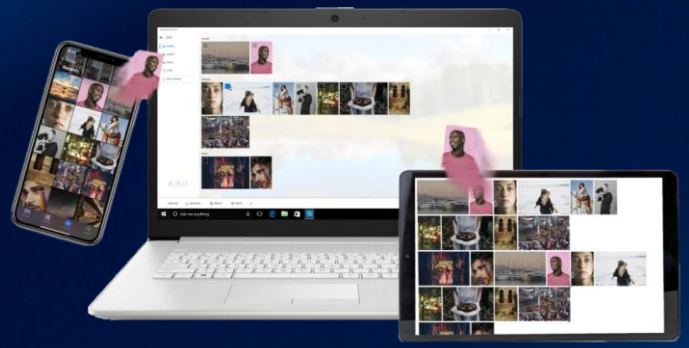
>15 Designs Coming to Intel Evo Designs in 2022

Multi Device Experience

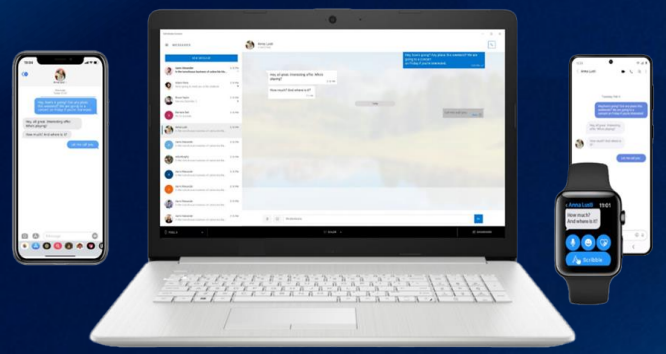
Enabling Seamless Interaction Across Multiple Devices or Screens

Phone Calls & Messages

Photos & Files



Seamless Multi-Device UX



Coming Holiday 2022 to Select Intel® Evo™ Designs

intel

Engineered for Intel® Evo™ Accessory Partner Program

THUNDERBOLT™ Simple, Reliable and Max Performance Connectivity

Dell WD19TB Thunderbolt Dock

HP Thunderbolt Dock G2

Belkin Thunderbolt 3 Dock Core

Kensington SD5700T Thunderbolt 4

Anker Apex 12-in-1 Thunderbolt 4 Dock

Samsung CJ79 Thunderbolt 3 Curved Monitor

Sabrent XTRM-Q Portable SSD

OWC Envoy Pro FX portable SSD

Fast wake time

Robust cross device interoperability

Fast charging

Bluetooth™ Remove the USB dongle with Confidence

Poly Voyager 4320 UC

Poly Voyager 4310 UC

Key Experience for quality & reliability

Simple pairing

Seamless PC to phone switching

Engineered for intel evo

intel

Intel Led Innovation Inspiring the Ecosystem

Intel® Evo™ Design Foldable Display Spec

Meets all Intel Evo Platform Key Experience Requirements

AND

- New Form Factor to adapt to new use cases and experiences
- >16.x" > QHD Foldable Touch Immersive Display
- Must offer a discrete Bluetooth keyboard accessory

intel evo i7

intel

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

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

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.

Your costs and results may vary.

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

Built into the hardware, Intel® Thread Director is provided only in performance hybrid architecture configurations of 12th Gen Intel® Core™ processors; OS enablement is required. Available features and functionality vary by OS.

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

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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.intc.com.

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