![intel®]

Product Brief

Intel® Core™ Processor

Intel® Core™ processors U-series deliver performance for real-world multitasking, stunning graphics, and more reliable connectivity. They offer computing you can count on while instilling confidence that your PC will keep up with you, no matter what you're doing or where you're going.

Breakthrough Core Technology

Intel® Core™ processors U-series feature:

- Improved performance hybrid architecture

- Increased frequencies for real-world multitasking and great everyday performance[1]

- Support for higher LP5/5x memory speed on thin and light laptops

- Up to 10 processor cores (2 P-cores + 8 E-cores) and up to 12 threads for productivity and collaborative performance

- Optimized responsiveness from Intel® Thread Director[2]

- Features that help enable long-lasting battery life

Enhanced Capabilities for Immersive Experiences

Intel® Core™ processors U-series support Intel® Unison™ software for transferring files to and from your other devices.[5] They also feature Intel® Graphics for stunning visuals, which helps ensure a smooth, no-lag experience while streaming videos or playing your favorite game in full HD.

intel®
unison™

Accelerating Platform Innovation

Designed with industry-leading technology, Intel® Core™ processors U-series give you the tools to stay connected with your thin and light laptop. Available with new discrete Intel® Wi-Fi 7 and Bluetooth 5.4 support, providing next-generation wireless connectivity.[4]

Additionally, Intel® Core™ processors U-series support Intel® Wi-Fi 6E (Gig+) and Bluetooth 5.3 Low Energy Audio (LE) for shared audio listening. Expand beyond your thin and light laptop with 4x Thunderbolt™ 4 ports and drop-in compatibility support for platform flexibility.
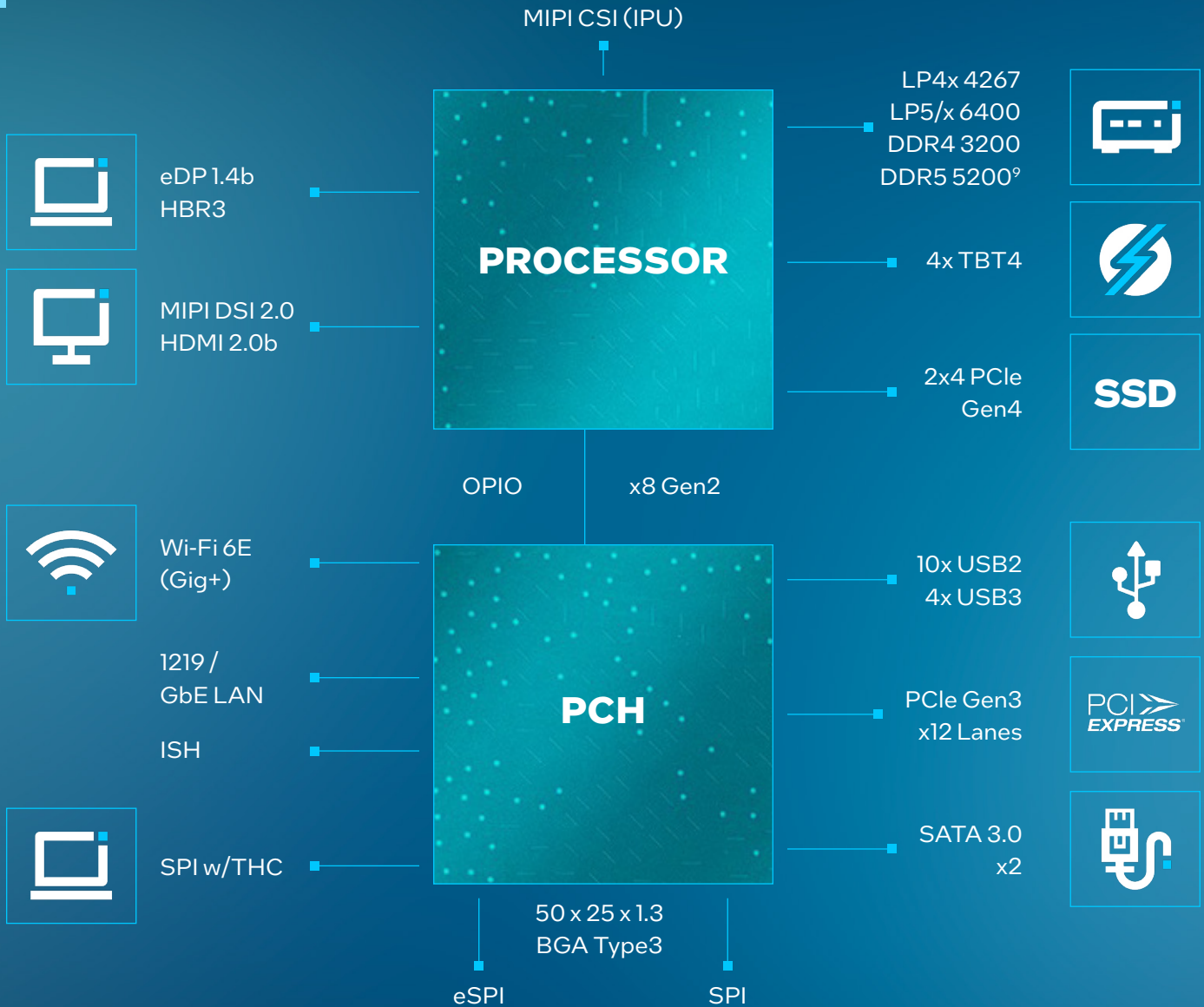
Intel® Core™ Processors U-Series: Features at a Glance

Feature	Benefit
Performance Hybrid Architecture[1]	Integrates two all-new core microarchitectures into a single die, prioritizing and distributing workloads to optimize performance.
Intel® Thread Director[2]	Optimizes workloads by helping the OS scheduler intelligently distribute workloads to the optimal cores.
Intel® Smart Cache	CPU memory caching method for sharing among P-cores, E-cores, and processor graphics if applicable.
Intel® Graphics	Intel® Graphics powers everyday media and display capabilities of mobile systems.
Intel® Deep Learning Boost	Intel® Deep Learning Boost significantly accelerates inference performance for deep-learning workloads optimized to use VNNI.
Intel® Wi-Fi 6E (Gig+)	Integrated wireless for 6 GHz connections. Wi-Fi 6E-enabled devices can take advantage of the newer 6 GHz frequency band for further improved connectivity.
Intel® Wi-Fi 7 (5 Gig)[4]	The next step in the evolution of wireless connectivity, helping provide extreme speed, responsiveness, and reliability.
Intel® Unison™ Software[5]	Intel® Unison™ software seamlessly connects your PC and devices for a universal, easy-to-use experience.
Thunderbolt™ 4 Technology	Universal cable connectivity for a simple, reliable connection that provides incredible performance.

Intel® Core™ Processors U-Series:
SKU Comparison

Processor Number[6]		Intel® Core™ 7 Processor 150U	Intel® Core™ 5 Processor 120U	Intel® Core™ 3 Processor 100U
Processor Cores (P-cores + E-cores)[7]		10 (2+8)	10 (2+8)	6 (2+4)
Processor Threads		12	12	8
Intel® Smart Cache (LLC)		12 MB	12 MB	10 MB
Max Turbo Frequency[8]	P-core	Up to 5.4 GHz	Up to 5.0 GHz	Up to 4.7 GHz
	E-core	Up to 4.0 GHz	Up to 3.8 GHz	Up to 3.3 GHz
Graphics Max Frequency		Up to 1.3 GHz	Up to 1.25 GHz	Up to 1.25 GHz
Processor Graphics		Intel® Graphics		
Total PCIe Lanes		2x4 Gen4 (CPU) x12 Gen3 (PCH)		
Max Memory Speed[9]		DDR5 – 5200 LPDDR5/x – 6400 DDR4 – 3200 LPDDR4x – 4267		DDR5 – 5200 LPDDR5/x – 5200 DDR4 – 3200 LPDDR4x – 4267
Maximum Memory Capacity		96 GB		
Processor Base Power		15 W		
Maximum Turbo Power		55 W		

Intel® Core™ Processor Platform

MIPI CSI (IPU)

PROCESSOR

eDP 1.4b
HBR3

MIPI DSI 2.0
HDMI 2.0b

LP4x 4267
LP5/x 6400
DDR4 3200
DDR5 5200⁹

4x TBT4

2x4 PCIe
Gen4

OPIO   x8 Gen2

PCH

Wi-Fi 6E
(Gig+)

1219 /
GbE LAN

ISH

SPI w/THC

10x USB2
4x USB3

PCIe Gen3
x12 Lanes

SATA 3.0
x2

SSD

50 x 25 x 1.3
BGA Type3

eSPI   SPI

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

Discrete Intel® Wi-Fi 7⁴ & Bluetooth 5.4*
Intel® Wi-Fi 6E (Gig+) & Bluetooth 5.3
- Low Energy (LE) Audio
- Wi-Fi Based Sensing

* Denotes NEW features on Intel® Core™ Processor vs. previous generation

Notices & Disclaimers

1. **Performance Hybrid Architecture:** 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, and have same cache size as prior generation. See ark.intel.com for SKU details.

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

3. **Endurance Gaming Mode:** Intel® Arc™ Control, Endurance Gaming Software (installable with Intel® Arc™ Control), Intel® Graphics Driver (installable with Intel® Arc™ Control and Intel® Dynamic Tuning Technology with EPO and EG Policy enabled).

4. **Intel® Wi-Fi 7:** Wi-Fi 7 is subject to regional availability and operation requires use of Intel® Wi-Fi 7 (5 Gig) products in conjunction with operating systems and routers/APs/Gateways that support Wi-Fi. Learn more at https://www.intel.com/performance-wireless.

5. **Intel® Unison™ Solution:** Intel® Unison™ solution is currently available on Windows-based PCs to pair with Android- or iOS-based phones and tablets. Some premium features only available on eligible designs. All devices must run a supported OS version. See intel.com/performance-wireless for details.

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

7. **P-cores + E-cores:** Processor cores listed first are the total number of cores in the processor. The number of Performance-cores and the number of Efficient-cores are listed in parentheses (P+E).

8. **Core Frequencies:** The frequency of cores and core types varies by workload, power consumption, and other factors. See ark.intel.com for SKU details.

9. **Memory Speed:** DDR5 top speed enabled with specific DIMMs (1 SPC,1 DPC, 1R). Other DIMMs may operate with one speed bin lower and different SAGV points. For SKU level memory support see ark.intel.com

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 backup 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.