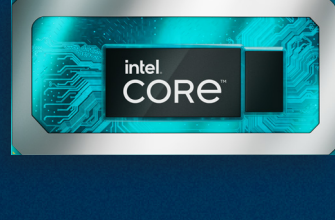


Meet the newest member of the family

12th Gen Intel® Core™ system-on-chip (SoC) processors for IoT edge

More choices, new possibilities



Desktop

35W–65W processor base power

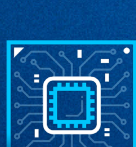
New SoC

15W–45W processor base power

Mobile

15W–45W processor base power

Integrated graphics and mobile power consumption in a compact SoC



Multichip package (MCP) in an LGA socket

Mobile processor performance profile in an **LGA** package

Socket flexibility for **build to order**

Simplify supply chain and inventory management

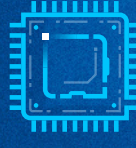


Optimized for IoT applications

Decode up to **48** simultaneous 1080p streams

Up to **96** execution units (EUs)

Four 4K displays or **one 8K** display



Power efficiency meets higher bandwidth

Up to **eight PCIe 4.0** lanes

Four Thunderbolt™ 4/USB4 lanes

Up to **DDR5-4800** memory



Ready for deep learning AI

CPU and iGPU for inference workloads

Intel® Deep Learning Boost accelerates inference

Fully supported by Intel® Distribution of **OpenVINO™** toolkit

Performance hybrid architecture¹

Up to **6** Performance-cores

Intel® Thread Director²

Up to **8** Efficient-cores

Major gains over 10th Gen Intel® Core™ desktop processors³

Up to **1.32x** faster single-thread performance³

Up to **4x** faster graphics performance³

Up to **1.27x** faster multithread performance³

Up to **6.6x** higher GPU image classification performance³

Deliver more capabilities on a leaner power budget



Retail
All-in-one, smart POS with rich displays and video analytics



Education and hospitality
Interactive flat panel displays (IFPDs) for classrooms, wayfinding, and kiosks



Healthcare
Ultrasound imaging, medical carts, endoscopy, and clinical devices



Safety and security
Network video recorder with AI box

Learn more about 12th Gen Intel® Core™ SoC processors for IoT

Visit intel.com/12thgeniot



1. Performance hybrid architecture combines two new core microarchitectures, Performance-cores (P-cores) and Efficient-cores (E-cores), on a single processor die. Select 12th Gen Intel® Core™ processors (certain 12th Gen Intel® Core™ i5 processors and lower) do not have performance hybrid architecture, only P-cores.

2. 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.

3. Performance results are based on testing as of dates shown in configurations and may not reflect all publicly available updates. For more complete information about performance and benchmark results, visit intel.com/PerformanceIndex.

Performance results are based on Intel measurements as of June 2022.

12th Gen Intel® Core™ processor
Processor: Intel® Core™ i7-12800HL PL1=45W, (6P+8E) 14C20T turbo up to 4.8 GHz
Graphics: Intel® Iris® X® graphics with up to 96 EUs
Memory: DDR5-4800 64 GB
Storage: Samsung SSD 970 EVO Plus 1 TB
Platform/motherboard: Intel Corporation Alder Lake-PS DDR5 RVP
OS: Windows 10 Enterprise LTSC 21H2
BIOS: ADLFWI1.R00.3137.B00.2203291427 03/29/2022

10th Gen Intel® Core™ processor
Processor: Intel® Core™ i7-10700 PL1=65W TDP, 8C16T turbo up to 4.8 GHz
Graphics: Intel® UHD Graphics 630
Memory: DDR4-2933 64 GB
Storage: Samsung SSD 970 EVO Plus 1 TB
Platform/motherboard: ASRock IMB-1221-L Mini-ITX
OS: Windows 10 Enterprise LTSC 21H2
BIOS: AMI UEF1 03/23/2021
CPUz microcode: CAh

Workloads
SPEC CPU2017 is a benchmark from the SPEC consortium (spec.org) that measures computer performance and throughput using compute-intensive application subtests.

3DMark Fire Strike measures DirectX 11 gaming performance for PCs and includes two graphics tests, a physics test, and a combined test that stresses the CPU and GPU.

MLPerf v1.1 Inference Edge/Mobile with Offline Scenario using OpenVINO™ 2021.4.1 framework is a benchmark suite for measuring how fast systems can process inputs and produce results using a trained model on Intel® UHD Graphics. Result not verified by MLPerf. MLPerf name and logo are trademarks. See mlperf.org for more information.

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