

UPE Compare Intel® Products	Intel® Core™ i9-13900KF Processor (36M Cache- up to 5.80 GHz)
Essentials	
Product Collection	13th Generation Intel® Core™ i9 Processors
Code Name	Products formerly Raptor Lake
Vertical Segment	Desktop
Processor Number	i9-13900KF
Lithography	Intel 7
Recommended Customer Price	\$564.00-\$574.00
CPU Specifications	
Total Cores	24
# of Performance-cores	8
# of Efficient-cores	16
Total Threads	32
Max Turbo Frequency	5.8 GHz
Intel® Thermal Velocity Boost Frequency	5.80 GHz
Intel® Turbo Boost Max Technology 3.0 Frequency ‡	5.70 GHz
Performance-core Max Turbo Frequency	5.40 GHz
Efficient-core Max Turbo Frequency	4.30 GHz
Performance-core Base Frequency	3.00 GHz
Efficient-core Base Frequency	2.20 GHz
Cache	36 MB Intel® Smart Cache
Total L2 Cache	32 MB
Processor Base Power	125 W
Maximum Turbo Power	253 W
Supplemental Information	
Marketing Status	Launched
Launch Date	Q4'22
Embedded Options Available	No
Use Conditions	PC/Client/Tablet
Datasheet	View now
Memory Specifications	
Max Memory Size (dependent on memory type)	192 GB
Memory Types	Up to DDR5 5600 MT/s Up to DDR4 3200 MT/s
Max # of Memory Channels	2
Max Memory Bandwidth	89.6 GB/s

Expansion Options	
Direct Media Interface (DMI) Revision	4
Max # of DMI Lanes	8
Scalability	1S Only
PCI Express Revision	5.0 and 4.0
PCI Express Configurations ‡	Up to 1x16+4 2x8+4
Max # of PCI Express Lanes	20
Package Specifications	
Sockets Supported	FCLGA1700
Max CPU Configuration	1
Thermal Solution Specification	PCG 2020A
TJUNCTION	100°C
Package Size	45.0 mm x 37.5 mm
Max Operating Temperature	100 °C
Advanced Technologies	
Intel® Volume Management Device (VMD)	Yes
Intel® Gaussian & Neural Accelerator	3
Intel® Thread Director	Yes
Intel® Deep Learning Boost (Intel® DL Boost) on CPU	Yes
Intel® Speed Shift Technology	Yes
Intel® Adaptive Boost Technology	Yes
Intel® Thermal Velocity Boost	Yes
Intel® Turbo Boost Max Technology 3.0 ‡	Yes
Intel® Turbo Boost Technology ‡	2
Intel® Hyper-Threading Technology ‡	Yes
Intel® 64 ‡	Yes
Instruction Set	64-bit
Instruction Set Extensions	Intel® SSE4.1 Intel® SSE4.2 Intel® AVX2
Idle States	Yes
Enhanced Intel SpeedStep® Technology	Yes
Thermal Monitoring Technologies	Yes
Security & Reliability	
Intel® Standard Manageability (ISM) ‡	Yes
Intel® Control-Flow Enforcement Technology	Yes
Intel® AES New Instructions	Yes
Secure Key	Yes
Intel® OS Guard	Yes

Execute Disable Bit ‡	Yes
Intel® Boot Guard	Yes
Mode-based Execute Control (MBEC)	Yes
Intel® Virtualization Technology (VT-x) ‡	Yes
Intel® Virtualization Technology for Directed I/O (VT-d) ‡	Yes
Intel® VT-x with Extended Page Tables (EPT) ‡	Yes