

## Intel Core i9-14900K processor 36 MB Smart Cache Box

Brand : Intel

Product family: Core

Product code:  
BX8071514900K

Product name : i9-14900K



Boxed Intel® Core™ i9 processor 14900K (36M Cache, up to 6.00 GHz) FC-LGA16A  
 Intel Core i9-14900K. Processor family: Intel® Core™ i9, Processor socket: LGA 1700, Processor manufacturer: Intel. Memory channels: Dual-channel, Maximum internal memory supported by processor: 192 GB, Memory types supported by processor: DDR4-SDRAM, DDR5-SDRAM. On-board graphics card model: Intel UHD Graphics 770, On-board graphics card outputs supported: Embedded DisplayPort (eDP) 1.4b, DisplayPort 1.4a, HDMI 2.1, On-board graphics card base frequency: 300 MHz. Market segment: Desktop, Use conditions: Workstation, PC/Client/Tablet, PCI Express slots version: 4.0, 5.0. Intel® Turbo Boost Max Technology 3.0 frequency: 5.8 GHz, Intel® Thermal Velocity Boost Frequency: 6 GHz

Processor		Features	
Processor manufacturer *	Intel	Maximum number of PCI Express lanes	20
Processor generation	Intel Core i9-14xxx	PCI Express slots version	4.0, 5.0
Processor model *	i9-14900K	PCI Express configurations	1x16+1x4, 2x8+1x4
Processor family *	Intel® Core™ i9	Supported instruction sets	AVX 2.0, SSE4.1, SSE4.2
Processor cores *	24	Scalability	1S
Processor socket *	LGA 1700	CPU configuration (max)	1
Processor threads	32	Embedded options available	✗
Processor operating modes *	64-bit	Thermal solution specification	PCG 2020A
Performance cores	8	Direct Media Interface (DMI) Revision	4.0
Efficient cores	16	Export Control Classification Number (ECCN)	5A992C
Processor boost frequency	6 GHz	Commodity Classification Automated Tracking System (CCATS)	740.17B1
Performance-core boost frequency	5.6 GHz		
Performance-core base frequency	3.2 GHz		
Efficient-core boost frequency	4.4 GHz		
Efficient-core base frequency	2.4 GHz		
Processor cache	36 MB		
Processor cache type	Smart Cache		
Box *	✓		
Processor base power	125 W		
Maximum turbo power	253 W		
Stepping	B0		
Maximum number of DMI lanes	8		
Memory bandwidth supported by processor (max)	89.6 GB/s		
Processor codename	Raptor Lake		
Processor ARK ID	236773		
Memory		Processor special features	
Maximum internal memory supported by processor	192 GB	Intel® Hyper Threading Technology (Intel® HT Technology)	✓
Memory types supported by processor	DDR4-SDRAM, DDR5-SDRAM	Intel® Turbo Boost Technology	2.0
Memory channels *	Dual-channel	Intel® Quick Sync Video Technology	✓
ECC	✓	Intel® Clear Video HD Technology (Intel® CVT HD)	✓
Memory bandwidth (max)	89.6 GB/s	Intel® AES New Instructions (Intel® AES-NI)	✓
		Enhanced Intel SpeedStep Technology	✓
		Intel® Speed Shift Technology	✓
		Intel® Thermal Velocity Boost	✓
		Intel® Adaptive Boost Technology	✓
		Intel® Turbo Boost Max Technology 3.0 frequency	5.8 GHz
		Intel® Gaussian & Neural Accelerator (Intel® GNA) 3.0	✓
		Intel® Thermal Velocity Boost Frequency	6 GHz
		Intel® Control-flow Enforcement Technology (CET)	✓
		Intel® Thread Director	✓
		Intel VT-x with Extended Page Tables (EPT)	✓
		Intel® Secure Key	✓
		Intel® OS Guard	✓
		Intel 64	✓
Graphics			
On-board graphics card *	✓		
Discrete graphics card *	✗		
On-board graphics card model *	Intel UHD Graphics 770		
On-board graphics card outputs supported	Embedded DisplayPort (eDP) 1.4b, DisplayPort 1.4a, HDMI 2.1		
On-board graphics card base frequency	300 MHz		

Graphics		Processor special features	
On-board graphics card dynamic frequency (max)	1650 MHz	Intel Virtualization Technology (VT-x)	✓
Number of displays supported (on-board graphics)	4	Intel Virtualization Technology for Directed I/O (VT-d)	✓
On-board graphics card DirectX version	12.0	Intel Turbo Boost Max Technology 3.0	✓
On-board graphics card OpenGL version	4.5	Intel® Boot Guard	✓
On-board graphics card maximum resolution (DisplayPort)	7680 x 4320 pixels	Intel® Deep Learning Boost (Intel® DL Boost)	✓
On-board graphics card maximum resolution (eDP - Integrated Flat Panel)	5120 x 3200 pixels	Intel® Volume Management Device (VMD)	✓
On-board graphics card maximum resolution (HDMI)	4096 x 2160 pixels	Mode-based Execute Control (MBE)	✓
On-board graphics card refresh rate at maximum resolution (DisplayPort)	60 Hz	Intel® Standard Manageability (ISM)	✓
On-board graphics card refresh rate at maximum resolution (eDP - Integrated Flat Panel)	120 Hz	<b>Operational conditions</b>	
On-board graphics card refresh rate at maximum resolution (HDMI)	60 Hz	Tjunction	100 °C
On-board graphics card ID	0xA780	<b>Technical details</b>	
Discrete graphics card model *	Not available	OpenCL version	3.0
Number of execution units	32	Launch date	Q4'23
Multi-Format Codec Engines	2	Status	Launched
<b>Features</b>		<b>Logistics data</b>	
Execute Disable Bit	✓	Harmonized System (HS) code	8542310001
Idle States	✓	<b>Weight &amp; dimensions</b>	
Thermal Monitoring Technologies	✓	Processor package size	45 x 37.5 mm
Market segment	Desktop	<b>Other features</b>	
Use conditions	Workstation, PC/Client/Tablet	L2 cache	32768 KB
		Maximum internal memory	192 GB
		Graphics output	eDP 1.4b, DP 1.4a, HDMI 2.1



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