

Intel Core i9-11900K processor 3.5 GHz 16 MB Smart Cache Box

Brand : Intel

Product family: Core

Product code:
BX8070811900K

Product name : i9-11900K



Intel Core i9-11900K Processor (16MB Cache, up to 5.3 GHz)

Intel Core i9-11900K. Processor family: Intel® Core™ i9, Processor socket: LGA 1200 (Socket H5), Processor lithography: 14 nm. Memory channels: Dual-channel, Maximum internal memory supported by processor: 128 GB, Memory types supported by processor: DDR4-SDRAM. On-board graphics card model: Intel UHD Graphics 750, Maximum on-board graphics card memory: 64 GB, On-board graphics card base frequency: 350 MHz. Market segment: Desktop, Use conditions: PC/Client/Tablet, PCI Express configurations: 1x16+1x4, 2x8+1x4, 1x8+3x4. Intel® Turbo Boost Max Technology 3.0 frequency: 5.2 GHz, Intel® Turbo Boost Technology 2.0 frequency: 5.1 GHz, Intel® Thermal Velocity Boost Temperature: 70 °C

Processor		Features	
Processor manufacturer *	Intel	Supported instruction sets	SSE4.1, SSE4.2, AVX 2.0, AVX-512
Processor generation	11th gen Intel® Core™ i9	Scalability	1S
Processor model *	i9-11900K	CPU configuration (max)	1
Processor base frequency *	3.5 GHz	Embedded options available	✗
Processor family *	Intel® Core™ i9	Export Control Classification Number (ECCN)	5A992CN3
Processor cores *	8	Commodity Classification Automated Tracking System (CCATS)	G167599
Processor socket *	LGA 1200 (Socket H5)	Processor special features	
Component for	PC	Intel® Hyper Threading Technology (Intel® HT Technology)	✓
Processor lithography *	14 nm	Intel® Identity Protection Technology (Intel® IPT)	✓
Processor threads	16	Intel® Turbo Boost Technology	2.0
System bus rate	8 GT/s	Intel® Quick Sync Video Technology	✓
Processor operating modes *	64-bit	Intel® InTru™ 3D Technology	✓
Processor boost frequency	5.3 GHz	Intel® Clear Video HD Technology (Intel® CVT HD)	✓
Processor cache	16 MB	Intel® AES New Instructions (Intel® AES-NI)	✓
Processor cache type	Smart Cache	Enhanced Intel SpeedStep Technology	✓
Thermal Design Power (TDP)	125 W	Intel Trusted Execution Technology	✓
Box *	✓	Intel® Thermal Velocity Boost	✓
Configurable TDP-down frequency	3 GHz	Intel® Turbo Boost Max Technology 3.0 frequency	5.2 GHz
Configurable TDP-down	95 W	Intel® Turbo Boost Technology 2.0 frequency	5.1 GHz
Memory bandwidth supported by processor (max)	50 GB/s	Intel® Gaussian & Neural Accelerator (Intel® GNA) 2.0	✓
Processor ARK ID	212325	Intel® Thermal Velocity Boost Temperature	70 °C
Memory		Intel® Thermal Velocity Boost Frequency	5.3 GHz
Maximum internal memory supported by processor	128 GB	Intel VT-x with Extended Page Tables (EPT)	✓
Memory types supported by processor	DDR4-SDRAM	Intel® Secure Key	✓
Memory clock speeds supported by processor	3200 MHz	Intel Stable Image Platform Program (SIPP)	✓
Memory channels *	Dual-channel	Intel® OS Guard	✓
ECC	✗	Intel Clear Video Technology	✓
Memory bandwidth (max)	50 GB/s	Intel Software Guard Extensions (Intel SGX)	✗
Graphics		Intel 64	✓
On-board graphics card *	✓		
Discrete graphics card *	✗		
On-board graphics card model *	Intel UHD Graphics 750		
Maximum on-board graphics card memory	64 GB		
On-board graphics card base frequency	350 MHz		
On-board graphics card dynamic frequency (max)	1300 MHz		

Graphics		Processor special features	
Number of displays supported (on-board graphics)	3	Intel Virtualization Technology (VT-x)	✓
On-board graphics card 4K support	✓	Intel Virtualization Technology for Directed I/O (VT-d)	✓
On-board graphics card OpenGL version	4.5	Intel Turbo Boost Max Technology 3.0	✓
On-board graphics card maximum resolution (DisplayPort)	5120 x 3200 pixels	Intel® Optane™ Memory Ready	✓
On-board graphics card maximum resolution (eDP - Integrated Flat Panel)	5120 x 3200 pixels	Intel® Boot Guard	✓
On-board graphics card maximum resolution (HDMI)	4096 x 2160 pixels	Intel® Deep Learning Boost (Intel® DL Boost)	✓
On-board graphics card refresh rate at maximum resolution (DisplayPort)	60 Hz	Intel® vPro™ Platform Eligibility	✓
On-board graphics card refresh rate at maximum resolution (eDP - Integrated Flat Panel)	60 Hz	Operational conditions	
On-board graphics card refresh rate at maximum resolution (HDMI)	60 Hz	Tjunction	100 °C
On-board graphics card ID	0x4C8A	Technical details	
Discrete graphics card model *	Not available	Target market	Gaming, Content Creation
Number of execution units	32	Launch date	Q1'21
Features		Status	Launched
Execute Disable Bit	✓	Supported memory types	DDR4-SDRAM
Idle States	✓	Logistics data	
Thermal Monitoring Technologies	✓	Harmonized System (HS) code	85423119
Market segment	Desktop	Packaging data	
Use conditions	PC/Client/Tablet	Package type	Retail box
Maximum number of PCI Express lanes	20	Weight & dimensions	
PCI Express slots version	4.0	Processor package size	37.5 x 37.5 mm
PCI Express configurations	1x16+1x4, 2x8+1x4, 1x8+3x4	Other features	
		Maximum internal memory	128 GB



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