Intel

Intel Xeon Platinum 8490H Processor (PK8071305074901)

Datasheet

Product Overview

- The Intel Xeon Platinum 8490H is a 4th Gen Intel Xeon Scalable processor for high-capacity enterprise, cloud, AI, networking, and data-center server workloads.
- It provides 60 cores and 120 threads, with a 1.90 GHz base frequency, up to 3.50 GHz Intel Turbo Boost frequency, 112.5 MB cache, and a 350 W TDP.
- The processor supports Intel S8S scalability, eight DDR5 memory channels, and high-bandwidth PCI Express 5.0 expansion for dense server platforms.
- Up to DDR5-4800 MT/s at 1DPC and DDR5-4400 MT/s at 2DPC support high-capacity server memory, with eight channels and ECC support for platform reliability.
- Eighty PCIe 5.0 lanes and 16 GT/s UPI with four UPI links support high-throughput multi-socket compute, networking, storage, and accelerator deployments.
- Four default devices each for QAT, DLB, DSA, and IAA provide hardware acceleration options, while Intel SGX supports a 512 GB default maximum EPC size.

Product Highlights

- **60-Core Platinum Compute:** 60 cores and 120 threads provide high parallel processing capacity for enterprise, cloud, AI, network, and data-center workloads.
- **High-Bandwidth PCIe Expansion:** S8S scalability, 80 PCIe 5.0 lanes, and 16 GT/s UPI with four links support high-speed networking, storage, accelerators, and server I/O.
- **DDR5 Memory Flexibility:** Eight memory channels support up to DDR5-4800 MT/s at 1DPC and DDR5-4400 MT/s at 2DPC, with ECC support for server-class systems.
- **Integrated Accelerator Portfolio:** Intel documents four default devices each for QAT, DLB, DSA, and IAA, providing acceleration options for supported cryptography, load balancing, data movement, and analytics.

Detailed Features



Intel Xeon Platinum 8490H Processor (PK8071305074901)

Quote | Help

Component	Specification
Processor	Intel Xeon Platinum 8490H, 60 cores / 120 threads
Ordering Information	PK8071305074901, FC-LGA16A Tray, Spec Code SRM7J
Frequency and Cache	1.90 GHz base, up to 3.50 GHz turbo, 112.5 MB cache
Memory	Up to DDR5-4800 MT/s 1DPC or DDR5-4400 MT/s 2DPC, 8 channels, ECC supported
Power and Expansion	350 W TDP, S8S scalability, PCIe 5.0 with 80 lanes, 16 GT/s UPI, 4 UPI links

High-Core-Count Server Performance

The 8490H combines 60 cores and 120 threads with a 1.90 GHz base frequency and up to 3.50 GHz Intel Turbo Boost frequency. This profile suits enterprise, cloud, AI, network, analytics, and data-center workloads.

High-Capacity Multi-Socket Design

Intel specifies S8S scalability, 16 GT/s UPI, and four UPI links. The processor supports high-capacity multi-socket platforms where core density, shared memory capacity, and inter-socket bandwidth are required.

PCIe 5.0 Expansion Capacity

Eighty PCIe 5.0 lanes provide high-speed connectivity for Ethernet adapters, storage controllers, accelerators, and other I/O devices. The lane budget supports high-throughput expansion across a server platform.

DDR5 Memory Bandwidth

Eight memory channels support up to DDR5-4800 MT/s with one DIMM per channel and up to DDR5-4400 MT/s with two DIMMs per channel. ECC support helps maintain data integrity in server environments.

Server Instruction Set and AMX

The processor lists Intel AMX, SSE4.2, AVX, AVX2, and AVX-512 instruction extensions for supported server and AI workloads.

Integrated Accelerator Portfolio

Intel documents four default devices each for QAT, DLB, DSA, and IAA. These engines can offload supported cryptography, load-balancing, data-movement, and in-memory analytics operations from general-purpose cores.

High-Bandwidth Multi-Socket Interconnect

Intel UPI operates at 16 GT/s with four links, supporting communication between processor sockets in two-socket server platforms.

Protected Server Execution

Intel SGX with a 512 GB default maximum EPC size, Total Memory Encryption, AES instructions, Boot Guard, and Control-Flow Enforcement Technology help protect data and workloads across the server lifecycle.

Technical Specifications

Product Specifications

Feature	Value
User SKU	INTL-Platinum-8490H
Intel ordering code	PK8071305074901
Intel Spec Code	SRM7J
Processor model	Intel Xeon Platinum 8490H Processor
Product collection	4th Gen Intel Xeon Scalable Processors
Code name	Products formerly Sapphire Rapids
Vertical segment	Server
Processor number	8490H
Lithography	Intel 7
Marketing status	Launched
Launch date	Q1 2023
Use conditions	Server / Enterprise
Total cores	60
Total threads	120

Feature	Value
Processor base frequency	1.90 GHz
Max turbo frequency	3.50 GHz
Cache	112.5 MB
Intel UPI speed	16 GT/s
Max UPI links	4
TDP	350 W
Scalability	S8S
Sockets supported	FCLGA4677
Package carrier	E1A
Package size	77.5 mm x 56.5 mm
DTS max	96 °C
TCASE	79 °C
Max memory size	Up to 4 TB, depending on memory type and platform configuration
Memory types	Up to DDR5-4800 MT/s 1DPC; up to DDR5-4400 MT/s 2DPC
Max memory channels	8
ECC memory supported	Yes
PCI Express revision	5.0
Max PCI Express lanes	80
Intel On Demand Activation Model	No
Intel QuickAssist Technology	4 default devices
Intel Dynamic Load Balancer	4 default devices
Intel Data Streaming Accelerator	4 default devices
Intel In-memory Analytics Accelerator	4 default devices
Intel Advanced Matrix Extensions	Yes
Intel Speed Select Technology - Core Power	Yes
Intel Speed Select Technology - Turbo Frequency	Yes
Intel Speed Select Technology - Base Frequency	Yes
Intel DL Boost	Yes
High Priority Cores	16

Feature	Value
High Priority Core Frequency	2.00 GHz
Low Priority Cores	44
Low Priority Core Frequency	1.60 GHz
Intel Resource Director Technology	Yes
Intel Speed Shift Technology	Yes
Intel Turbo Boost Technology	2.0
Intel Hyper-Threading Technology	Yes
Intel Transactional Synchronization Extensions	Yes
Intel 64	Yes
Instruction set extensions	Intel AMX, Intel SSE4.2, Intel AVX, Intel AVX2, Intel AVX-512
AVX-512 FMA units	2
Intel Crypto Acceleration	Yes
Intel QuickAssist Software Acceleration	Yes
Intel Platform Firmware Resilience	Yes
Intel Control-Flow Enforcement Technology	Yes
Intel Total Memory Encryption	Yes
Intel AES New Instructions	Yes
Intel SGX	Yes with Intel SPS
Default maximum SGX EPC size	512 GB
Intel OS Guard	Yes
Intel Trusted Execution Technology	Yes
Execute Disable Bit	Yes
Intel Boot Guard	Yes
Intel Run Sure Technology	Yes
Mode-based Execute Control	Yes
Intel Virtualization Technology	VT-x, VT-d, and VT-x with EPT
Shipping media	Tray
Stepping	E5

Product Comparison

Feature	Intel Xeon Platinum 8490H / PK8071305074901	Intel Xeon Platinum 8480+	Intel Xeon Platinum 8480C
Processor family	4th Gen Intel Xeon Scalable	4th Gen Intel Xeon Scalable	4th Gen Intel Xeon Scalable
Product positioning	60-core, high-capacity Platinum processor with AMX and four default accelerator devices	56-core, two-socket Platinum processor with AMX and integrated accelerators	56-core custom Platinum processor with AMX and integrated accelerators
Total cores	60	56	56
Total threads	120	112	112
Processor base frequency	1.90 GHz	2.00 GHz	2.00 GHz
Max turbo frequency	3.50 GHz	3.80 GHz	3.80 GHz
Cache	112.5 MB	105 MB	105 MB
TDP	350 W	350 W	350 W
Max memory size	Up to 4 TB, depending on memory type	Up to 4 TB, depending on memory type	Up to 4 TB, depending on memory type
Scalability	S8S	2S	2S
UPI	16 GT/s, 4 links	16 GT/s, 4 links	16 GT/s, 4 links
Memory channels	8	8	8
PCI Express lanes	80	80	80
Default accelerator devices	QAT: 4; DLB: 4; DSA: 4; IAA: 4	QAT: 1; DLB: 1; DSA: 1; IAA: 1	QAT: 1; DLB: 1; DSA: 1; IAA: 1
Intel AMX	Yes	Yes	Yes
Best-fit role	High-capacity multi-socket enterprise and data-center compute	Enterprise, cloud, AI, network, and two-socket data-center compute	Custom two-socket enterprise and data-center compute

Accessories

Category	Accessories
Included Accessories	- Intel Xeon Platinum 8490H processor (tray shipping media)
Optional Accessories	-

Support & Warranty

- 24/7 Online Service
- 3-Year Premium Warranty
- Professional Technical Support
- 100% Low Price Guarantee
- 100% Quality Assurance
- 100% Money Back Guarantee

About Us



Router-switch.com, headquartered in Hong Kong since 2002, has been a trusted global leader in ICT distribution for 20+ years. We provide cutting-edge networking, cybersecurity, data center, and AI solutions to meet evolving business needs. Our wide range includes products from top brands like Cisco, Arista, Aruba, Fortinet, Mellanox, and Huawei, ensuring access to the latest technology and innovations.

21,500+ global customers	**600,000+** end-users	**200+** countries & regions	**20+** years experience
500+ global vendors	**100,000+** SKUs available	**700+** local sales experts	**50-98%** off global list prices

Contact Us

Email

Sales Inquiries: sales@router-switch.com
Expert Technical Support: ccie-support@router-switch.com
Cooperative Partnerships: partner@router-switch.com

Follow Us

Facebook: @Routerswitchdotcom
LinkedIn: Router-switch.com
X: @routerswitchcom
Instagram: @routerswitchdotcom

Phone

USA: +1-626-655-0998
Hong Kong: +852-25925389 / +852-25925411

Global Footprint

Global Warehouses & Service Centers Across Continents.



Global Branches

Hong Kong Branch

Rm 605, 6/F, Fa Yuen Comm Bldg, 75-77 Fa Yuen St, Mongkok, Kowloon, Hong Kong, China

Shenzhen Branch

Jingfeng Building, 1001 Shangbu South Road, Futian District, Shenzhen, China

USA Branch

35 E Horizon Ridge Pkwy, Ste 110 #30131, Henderson, NV 89002, USA

UK Branch

Third Floor, 207 Regent Street, London W1B 3HH, UK

References

[1] Intel. (n.d.). Intel Xeon Platinum 8490H Processor Specifications. Accessed: 2026-10-13. https://www.intel.com/content/www/us/en/products/sku/231747/intel-xeon-platinum-8490h-processor-112-5m-cache-1-90-ghz/specifications.html

[2] Intel. (n.d.). Intel Xeon Platinum 8490H Processor Ordering and Spec Information. Accessed: 2026-10-13. https://www.intel.com/content/www/us/en/products/sku/231747/intel-xeon-platinum-8490h-processor-112-5m-cache-1-90-ghz/ordering.html