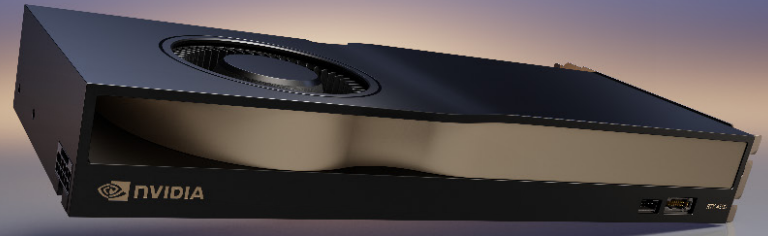**NVIDIA.**

NVIDIA RTX 4500 Ada Generation

Performance for endless possibilities.

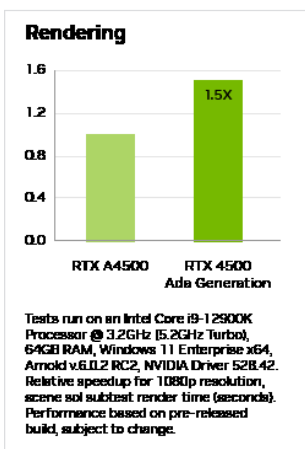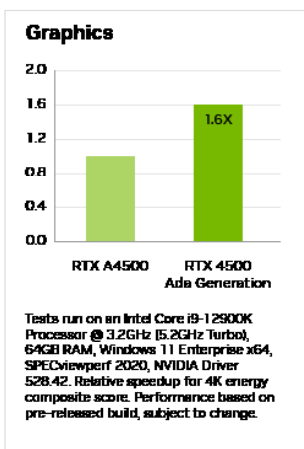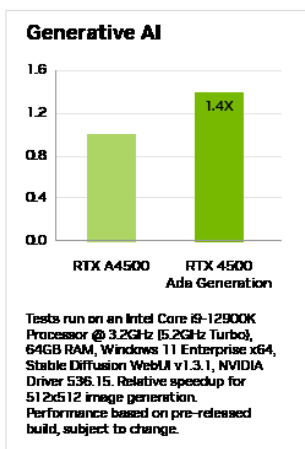## Powering the Next Era of Innovation

Industries are embracing accelerated computing and AI to tackle powerful dynamics and unlock transformative possibilities. Generative AI is reshaping the way professionals create and innovate across various domains, from design and engineering to entertainment and healthcare.

The NVIDIA RTX™ 4500 Ada Generation, built on the ultra-efficient NVIDIA Ada Lovelace architecture, combines 60 third-generation RT Cores, 240 fourth-generation Tensor Cores, and 7,680 CUDA® cores with 24GB of graphics memory to deliver AI-powered graphics and real-time rendering. Discover new ways to create incredible workflow acceleration with RTX 4500.
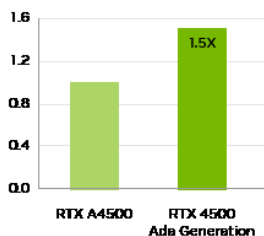
NVIDIA RTX professional graphics cards are certified for a broad range of professional applications, tested by leading independent software vendors (ISVs) and workstation manufacturers and backed by a global team of support specialists. Get the peace of mind to focus on what matters with the premier visual computing solution for mission-critical business.

Key Features

> PCIe Gen4

> Four DisplayPort 1.4a connectors

> AV1 encode and decode support

> DisplayPort with audio

> 3D stereo support with stereo connector

> NVIDIA® GPUDirect® for Video support

> NVIDIA GPUDirect Remote Direct Memory Access (RDMA) support

> NVIDIA Quadro® Sync II[1] compatibility

> NVIDIA RTX Experience™

> NVIDIA RTX Desktop Manager software

> NVIDIA RTX IO support
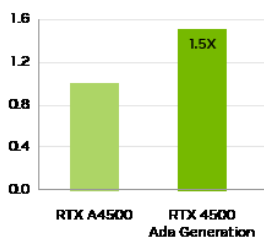
> HDCP 2.2 support

> NVIDIA Mosaic[2] technology

Generative AI

Tests run on an Intel Core i9-12900K Processor @ 3.2GHz (5.2GHz Turbo), 64GB RAM, Windows 11 Enterprise x64, Stable Diffusion WebUI v1.3.1, NVIDIA Driver 536.15. Relative speedup for 512x512 image generation. Performance based on pre-released build, subject to change.

Graphics

Tests run on an Intel Core i9-12900K Processor @ 3.2GHz (5.2GHz Turbo), 64GB RAM, Windows 11 Enterprise x64, SPECviewperf 2020, NVIDIA Driver 528.42. Relative speedup for 4K energy composite score. Performance based on pre-released build, subject to change.

Rendering

Tests run on an Intel Core i9-12900K Processor @ 3.2GHz (5.2GHz Turbo), 64GB RAM, Windows 11 Enterprise x64, Arnold v.6.0.2 RC2, NVIDIA Driver 528.42. Relative speedup for 1080p resolution, scene sol subtest render time (seconds). Performance based on pre-released build, subject to change.

Inference

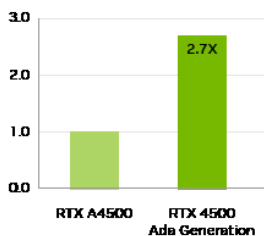|	
RTX A4500	1.0
RTX 4500 Ada Generation	1.5X

Tests run on an Intel Core i9-12900K Processor @ 3.2GHz (5.2GHz Turbo), 64GB RAM, Windows 11 Enterprise x64, MLPerf v2.1, NVIDIA Driver 525.89. Relative speedup for BERT Inference, INT8 precision. Performance based on pre-released build, subject to change.

CAD
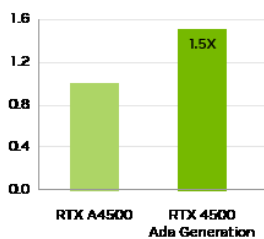
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Omniverse
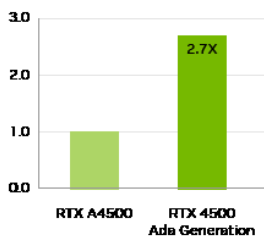
RTX A4500	1.0
RTX 4500 Ada Generation	2.7X

Tests run on an Intel Core i9-12900K Processor @ 3.2GHz (5.2GHz Turbo), 64GB RAM, Windows 11 Enterprise x64, NVIDIA Driver 528.49. CAD application performance based on internal testing of NVIDIA Omniverse Create with several models of varying size and render complexity. Performance is measured as frames rendered per second. NVIDIA DLSS 3 is enabled for NVIDIA RTX 4500 Ada Generation GPUs, DLSS 2 enabled for non-Ada generation GPUs. Performance based on pre-released build, subject to change.

Specifications

GPU Memory	24GB GDDR6
Memory Interface	192 bit
Memory Bandwidth	432GB/s
Error-Correction Code (ECC)	Yes
NVIDIA Ada Lovelace Architecture-Based CUDA Cores	7,680
NVIDIA Fourth-Generation Tensor Cores	240
NVIDIA Third-Generation RT Cores	60
Single-Precision Performance	39.6 TFLOPS[3]
RT Core Performance	91.6 TFLOPS[3]
Tensor Performance	634.0 TFLOPS[4]
System Interface	PCIe 4.0 x16
Power Consumption	Total board power: 210W
Thermal Solution	Active
Form Factor	4.4" H x 10.5" L, dual slot
Display Connectors	4x DisplayPort 1.4a[5]
Max Simultaneous Displays	4x 4096 x 2160 @ 120Hz
	4x 5120 x 2880 @ 60Hz
	2x 7680 x 4320 @ 60Hz
Encode/Decode Engines	2x encode, 2x decode (+AV1 encode and decode)
VR Ready	Yes
Graphics APIs	DirectX 12, Shader Model 6.7, OpenGL 4.6[6], Vulkan 1.3[6]
Compute APIs	CUDA 12.2, OpenCL 3.0, DirectCompute
NVIDIA NVLink™	No

[1] Quadro Sync II card sold separately.
[2] Windows 10 and Linux.
[3] Peak rates based on GPU boost clock.
[4] Effective FP8 teraFLOPS (TFLOPS) using sparsity.
[5] Display ports are on by default for RTX 4500.
[6] Product is based on a published Khronos specification and is expected to pass the Khronos conformance testing process when available. Current conformance status can be found at www.khronos.org/conformance

Ready to Get Started?

To learn more about NVIDIA RTX 4500, visit:
www.nvidia.com/rtx-4500

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NVIDIA.

NVIDIA RTX 4500 Ada Generation

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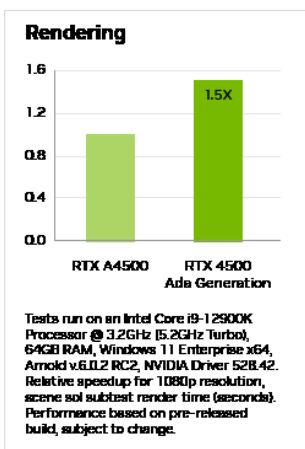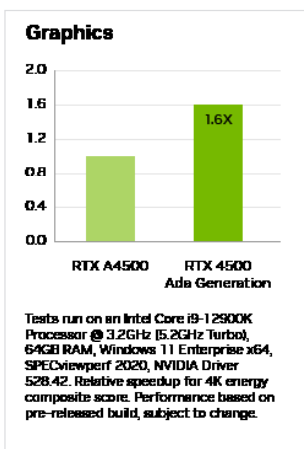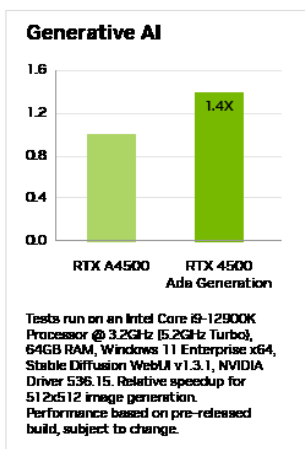
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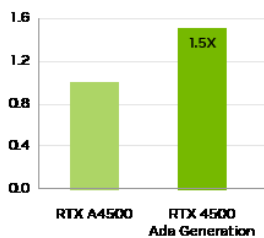
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Generative AI

1.4X

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Graphics

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Rendering

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www.nvidia.com/rtx-4500

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