Positioning NVIDIA RTX Professional and Consumer Graphics

Professional visual computing customers have different needs and requirements than consumer or gaming customers. Only NVIDIA professional solutions are designed and built to meet the needs of professional users.

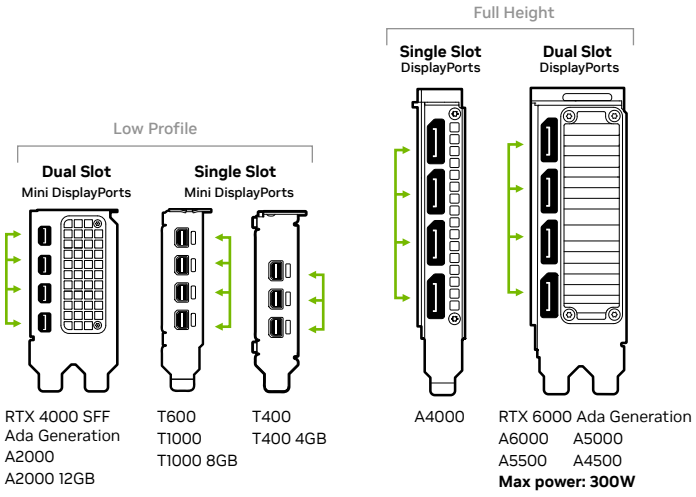
User Requirements

Professional	Consumer
Exclusively uses professional level hardware and software as part of their normal business activities. Requires ISV certifications.	Uses consumer level hardware and/or software for gaming, creative, or personal work. Does not require ISV certifications.
Require robust, high-availability hardware and software support to minimize business impacts, with low thermals, and quiet operation at high system loads.	Minimal requirements for hardware and software support.
Hardware and software decisions driven by competitive features, business concerns, and long product lifecycle availability.	Hardware and software decisions mainly driven by gaming performance and cost considerations.

Design

NVIDIA RTX™ professional GPUs are designed to fit into a wide range of workstation chassis, from large multi-GPU/multi-CPU deskside systems to small form factor desktop workstation, laptops, and rack mounted workstations, with uniform display connectors, minimizing the need for dongles or adapters.

NVIDIA RTX



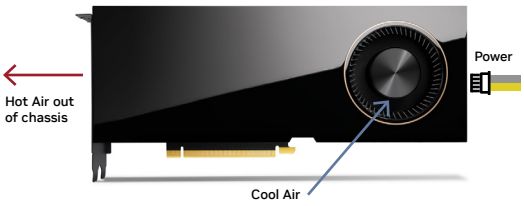
RTX 4000 SFF Ada Generation
A2000
A2000 12GB

T600
T1000
T1000 8GB

T400
T400 4GB

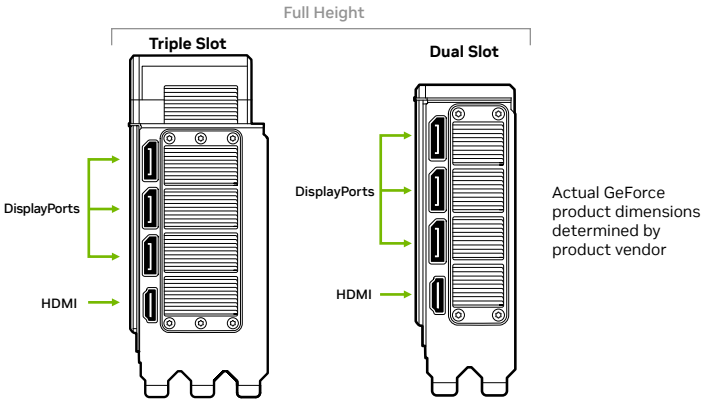
A4000

RTX 6000 Ada Generation
A6000 A5000
A5500 A4500
Max power: 300W



NVIDIA RTX cooling solutions are designed to minimize internal system heat, ideal for quiet, multi-GPU deployments

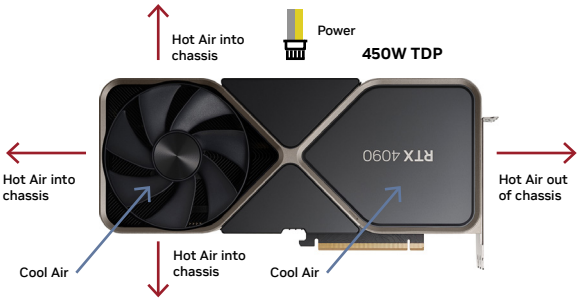
GeForce



Actual GeForce product dimensions determined by product vendor

4090 4080
3090 3090 Ti
Max power: 450W

3080 3070
3060 3050
3080 Ti 3070 Ti
3060 Ti



Drivers and Features

NVIDIA RTX Enterprise drivers are the only ISV certified drivers and the most extensively tested drivers for NVIDIA desktop and mobile GPUs. In addition to the testing done for NVIDIA Game Ready and Studio drivers, Enterprise drivers undergo additional testing for professional applications, workflows, and display configurations to provide enterprise grade stability and reliability. NVIDIA RTX solutions are also part of the NVIDIA-Certified Systems™ program that provides additional testing and validation for AI, data analytics, HPC, rendering, and visualization workflows.*

	NVIDIA RTX Enterprise Drivers	Studio Drivers	Game Ready Drivers
Who is it for	Enterprise, Agencies, Studios, Engineers, Architects, Scientific Research, Medical, and other Professionals	Online, freelance, and independent creators	Gamers
User criteria	Professional application/workflow stability, performance, and reliability with ISV certification and support	Creative application/workflow stability, performance	Need latest top game title support
Release cadence	Semi-annual LLB[1] releases with monthly updates for performance, bug fix, and security improvements	Every 2-3 months for creative app releases	Every 2-3 weeks for game releases
Bug Fix Priority	+Professional Applications and Workflows	+Creative Applications	Games
Feature Support			
Game and creative app testing	•	•	•
Extended creative app and workflow testing	•	•	
Extended non-creative enterprise app testing	•		
NVIDIA RTX-only features (e.g., RDMA, MOSAIC, etc.)	•	NVIDIA RTX only	
Extensive workstation, data center, and professional display hardware testing	•		
NVIDIA RTX driver tuning/ optimizations	•	NVIDIA RTX only	
GPU support	NVIDIA RTX / NVIDIA Quadro GPUs	GeForce®, TITAN and NVIDIA RTX / NVIDIA Quadro GPUs	GeForce, TITAN and NVIDIA RTX / NVIDIA Quadro GPUs
ISV certification and Support	Yes	No[2]	No
NVIDIA Support	Enterprise tools and support with direct bug submissions, monitored developer forums	NVIDIA CUDA® Compiler (NVCC) forums, end-user feedback through GeForce Experience™ (GFE)[3]	NVIDIA CUDA Compiler (NVCC) forums, end-user feedback through GeForce Experience (GFE)

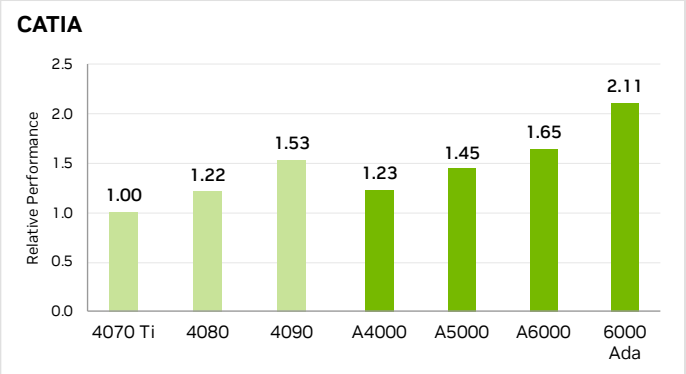
1. LLB: Long Life Branch
2. Except with NVIDIA RTX GPUs.
3. NVIDIA RTX GPUs running on Studio Drivers will receive identical support to NVIDIA RTX Enterprise Driver.

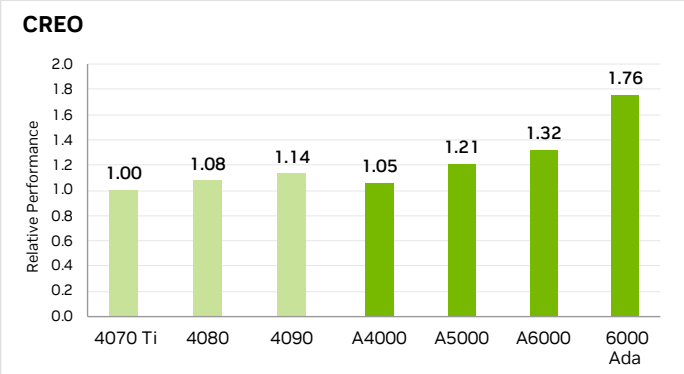
NVIDIA RTX professional solutions include a wide range of exclusive features, found only on NVIDIA professional GPUs that include enterprise deployment and configuration tools, extensive display management and scalability tools, along with tools and utilities that accelerate professional workflows and support multi-GPU deployments in mission-critical environments.

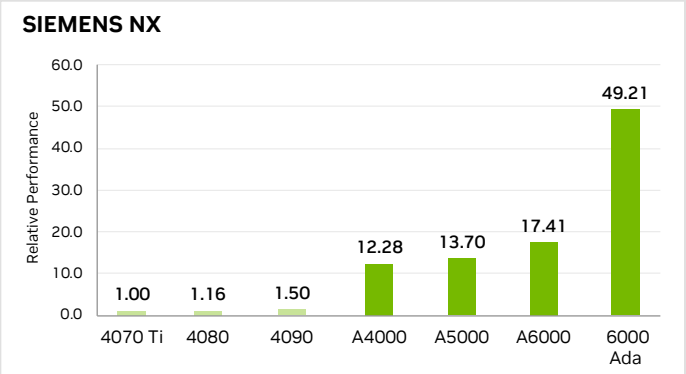
*Not all NVIDIA RTX GPU based workstations are NVIDIA-Certified Systems. Please visit **www.nvidia.com/en-us/data-center/data-center-gpus/qualified-system-catalog/** for a complete list of NVIDIA RTX certified systems.

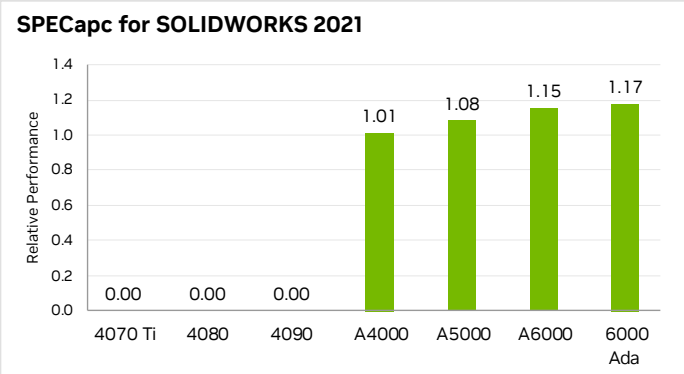
Performance

NVIDIA RTX professional GPUs and drivers are highly tuned for professional applications, providing significantly higher performance for professional applications such as major CAD design software.









Test system: Intel i9 12900K 3.2GHz, 5.2GHz Turbo 32GB RAM, Windows 11 Enterprise, NVIDIA Driver 528.35. Tests run on publicly available SPECviewperf 2020 and SPECapc for SOLIDWORKS 2021 benchmarks.

NVIDIA RTX Value Proposition

Only NVIDIA RTX Professional Visual Computing solutions provide:

- Compute power, large GPU memory capacity (with ECC) and scalability required for today's demanding professional multi-application workflows
- Tuned, optimized, and certified for professional ISV applications
- Enterprise level hardware and software support and deployment tools designed to maximize uptime and minimize IT support requirements
- NVIDIA Enterprise Drivers that are tuned, tested, and validated by OEM partners to provide enterprise level stability, reliability, and support for mission critical workstation deployments
- Exclusive professional features designed to accelerate, optimize and improve the efficiency of today's modern professional workflows

NVIDIA RTX provides professional visualization solutions for desktop, laptop, and rack mounted workstations

NVIDIA