Datasheet

# NVIDIA RTX 2000E Ada Generation

Performance for endless possibilities.

## Powering the Next Era of Innovation

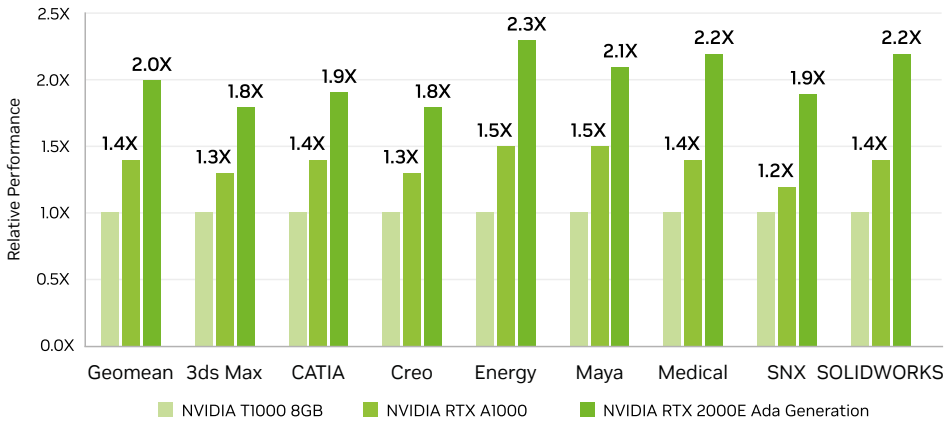
The NVIDIA RTX™ 2000E Ada Generation is a powerful, low-profile GPU purpose-built for demanding embedded and edge computing applications. Powered by the NVIDIA Ada Lovelace GPU architecture, it packs 2,816 CUDA® cores, 88 fourth-generation Tensor Cores, 22 third-generation RT cores, and 16GB of GDDR6 memory with ECC support into a compact, single-slot form factor. The RTX 2000E delivers incredible performance and power efficiency for accelerating graphics, AI and compute workloads, while meeting the highest quality and reliability standards. From powering medical devices and advanced digital displays to enabling cutting-edge robotics, the RTX 2000E brings the power of real-time ray tracing, accelerated computing, and accelerated AI capabilities to a wide range of embedded and edge systems.

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

- Four Mini DisplayPort 1.4a
- AV1 encode and decode support
- DisplayPort with audio
- NVIDIA RTX Experience™
- NVIDIA RTX Desktop Manager software
- NVIDIA RTX IO support
- HDCP 2.2 support
- NVIDIA Mosaic[1] technology

### 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 551.57. Relative speedup for 4K geomean score, 3ds Max, CATIA, Creo, energy, Maya, medical, SNX, and SOLIDWORKS composite scores. Performance may vary based on scene, application, and system configuration

| Specifications | |
|---|---|
| **GPU memory** | 16GB GDDR6 |
| **Memory interface** | 128-bit |
| **Memory bandwidth** | 224 GB/s |
| **Error-correcting code (ECC)** | Yes |
| **NVIDIA Ada Lovelace architecture-based CUDA Cores** | 2,816 |
| **NVIDIA fourth-generation Tensor Cores** | 88 |
| **NVIDIA third-generation RT Cores** | 22 |
| **Single-precision performance** | 8.9 TFLOPS[2] |
| **Ray Tracing performance** | 20.5 TFLOPS[2] |
| **Tensor (AI) performance** | 71 AI TOPS \| 71 TFLOPS[3] |
| **System interface** | PCIe 4.0 x 8[4] |
| **Power consumption** | Total board power: 50 W |
| **Thermal solution** | Active |
| **Form factor** | 2.7" H x 6.6" L, single slot |
| **Display connectors** | 4x Mini DisplayPort 1.4a |
| **Max simultaneous displays** | 4x 4096 x 2160 @ 120 Hz<br>4x 5120 x 2880 @ 60 Hz<br>2x 7680 x 4320 @ 60 Hz |
| **Encode/decode engines** | 1x encode, 1x decode (+AV1 encode and decode) |
| **Graphics APIs** | DirectX 12, Shader Model 6.6,<br>OpenGL 4.6[5], Vulkan 1.3[5] |
| **Compute APIs** | CUDA 11.6, OpenCL 3.0, DirectCompute |

## Ready to Get Started?

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1 Windows 10 and Linux. I 2 Peak rates based on GPU Boost Clock. I 3 Theoretical INT8 TOPS and FP8 TFLOPS using the sparsity feature. I 4 RTX 2000E Ada Generation utilizes a full-length PCIe Gen 4 x8 interface. | 5 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**



PNY Technologies Europe
9 rue Joseph Cugnot, 33708 Mérignac cedex | France
T +33 (0) 5 24 240 240 | pnypro@pny.eu
For more information visit: www.pny.eu