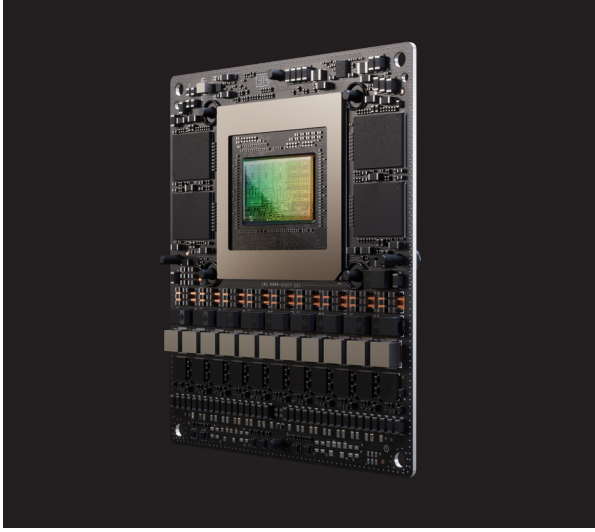
Datasheet

NVIDIA Jetson Thor Modules

The ultimate platform for physical AI and robotics.



Jetson Thor module, viewed three-quarters from the side.

Unmatched AI Compute and Efficiency for Robotics

NVIDIA® Jetson Thor™ series modules unlock real-time reasoning for general robotics and physical AI, delivering up to 2070 FP4 TFLOPS of AI compute and 128 GB of memory with power configurable between 40 W and 130 W. They deliver over 7.5x higher AI compute than NVIDIA AGX Orin™, with 3.5x better energy efficiency.

This system-on-module (SoM) features an NVIDIA Blackwell architecture GPU with a transformer engine and Multi-Instance GPU (MIG) support to effortlessly run the latest generative AI models. NVIDIA Jetson Thor accelerates low-latency, real-time multi-sensor applications with a 14-core Arm® Neoverse®-V3AE CPU, 4x 25GbE networking, and extensive I/O options for sensor fusion. It also includes a suite of accelerators, including a third-generation Programmable Vision Accelerator (PVA), dual encoders and decoders, an optical flow accelerator, and more.

Jetson Thor belongs to a new class of robotic computers, architected from the ground up to power next-generation physical AI applications. It supports a wide range of generative AI models, from vision language action (VLA) models like NVIDIA Isaac™ GR00T for humanoids to all popular large language models (LLMs) and vision language models (VLMs). To deliver a seamless cloud-to-edge experience, Jetson Thor runs the NVIDIA AI software stack for physical AI applications, including NVIDIA Isaac for robotics, NVIDIA Metropolis for visual agentic AI, and NVIDIA Holoscan for sensor processing. You can also build AI agents at the edge using NVIDIA agentic AI workflows like Video Search and Summarization (VSS).

Our ecosystem of partners offers all the carrier boards, design services, cameras, and other sensors you need, as well as additional AI and system software. This lets you accelerate solution development in industries ranging from robotics and smart spaces to retail, industrial, medical, and more.

The Jetson Thor series of modules gives you production-ready performance, massive AI compute, and sensor capabilities for physical AI applications in a compact form factor. This makes it the ideal platform for developers looking to unlock new possibilities for humanoid robotics and other physical AI applications.

Key Features

NVIDIA Jetson T5000 Module

- 2070 FP4 TFLOPS AI compute powered by NVIDIA Blackwell GPU
- 14-core ARM® Neoverse® CPU
- 128 GB

NVIDIA Jetson T4000 Module

- 1200 FP4 TFLOPS AI compute powered by NVIDIA Blackwell GPU
- 12-core ARM® Neoverse® CPU
- 64 GB LPDDR5X memory

Technical Specifications

	NVIDIA Jetson T5000	NVIDIA Jetson T4000
AI Performance	2070 TFLOPS (FP4 - sparse)	1200 TFLOPS (FP4 - sparse)
GPU	2560-core NVIDIA Blackwell architecture GPU with fifth-generation Tensor Cores Multi-Instance GPU with 10 TPCs	1536-core NVIDIA Blackwell architecture GPU with fifth-generation Tensor Cores Multi-Instance GPU with 6 TPCs
GPU Max Frequency	1.57 GHz	1.53 GHz
CPU	14-core Arm® Neoverse®-V3AE 64-bit CPU 64 KB I-Cache, 64 KB D-Cache 1 MB L2 Cache per core 16 MB Shared System L3 Cache	12-core Arm® Neoverse®-V3AE 64-bit CPU 64 KB I-Cache, 64 KB D-Cache 1 MB L2 Cache per core 16 MB Shared System L3 Cache
CPU Max Frequency	2.6 GHz	
Vision Accelerator	1x PVA v3	
Memory	128 GB 256-bit LPDDR5X 273 GB/s	64 GB 256-bit LPDDR5X 273 GB/s
Storage	Supports NVMe through PCIe Supports SSD through USB3.2	
Video Encode*	2x NVENCODE	1x NVENCODE
Video Decode*	2x NVENCODE	1x NVENCODE
Camera	Up to 20 cameras via HSB Up to 6 cameras through 16x lanes MIPI CSI-2 Up to 32 cameras using Virtual Channels C-PHY 2.1 (10.25 Gbps) D-PHY 2.1 (40 Gbps)	
PCIe*	Up to 8 lanes - Gen5 Root port only - C1 (x1) and C3 (x2) Root point or endpoint - C2 (x1), C4 (x8), and C5 (x4)	
USB*	xHCI host controller with integrated PHY (Up to) 3x USB 3.2 4x USB 2.0	
Networking	4x 25GbE	3x 25GbE
Display	4x shared HDMI2.1 VESA DisplayPort 1.4a - HBR2, MST	
Other I/O*	5x I2S/2x Audio Hub (AHUB), 2x DMIS, 4x UART, 4x CAN, 3x SPI, 12x I2C, 6x PWM outputs	5x I2S/2x Audio Hub (AHUB), 2x DMIS, 4x UART, 3x SPI, 13x I2C, 6x PWM outputs
Power	40 W–130 W	40 W-70 W
Mechanical	100 mm x 87 mm 699 pin B2B Connector Integrated Thermal Transfer Plate (TTP) with Heatpipe	

* Jetson T4000 module encode, decode, and low-speed I/O specifications are preliminary and subject to change.

Ready to Get Started?

To learn more about the NVIDIA Jetson Thor module, visit nvidia.com/jetson-thor

NVIDIA