Datasheet

NVIDIA IGX Thor Developer Kit Mini

The enterprise-ready development platform for physical AI.

NVIDIA IGX Thor Developer Kit Mini

Redefining Safety in General Robotics

The NVIDIA IGX Thor™ Developer Kit Mini is an enterprise-ready development platform for robotics that delivers unmatched performance, real-time reasoning, and functional safety. It's powered by the NVIDIA Blackwell architecture GPU and 128 GB of memory, giving you up to 2070 FP4 TFLOPS of AI compute to effortlessly run the latest generative AI models—all within a 130 W power envelope.

NVIDIA IGX Thor helps you accelerate low-latency, real-time applications with the new Blackwell Multi-Instance GPU (MIG) technology and a robust 14-core Arm® Neoverse®-V3AE CPU. It also features a suite of accelerators, including a third-generation Programmable Vision Accelerator (PVA), dual encoders and decoders, an optical flow accelerator, and more. For high-speed sensor fusion, the developer kit

Key Features

Developer Kit Content

- NVIDIA IGX T5000 module with heat sink and reference carrier board
- 140 W DC power supply
- 802.11ax wireless network interface controller
- 1 TB NVMe populated in M.2 Key-M slot
- Safety microcontroller
- Quick Start Guide

NVIDIA IGX T5000 Module

- 2560-core NVIDIA Blackwell architecture GPU with fifth-gen Tensor Cores
- 14-core Arm® Neoverse®-V3AE 64-bit CPU
- 128 GB 256-bit LPDDR5X, 273GB/s

Reference Carrier Board

- QSFP28+ connector
- HDMI port
- DisplayPort
- 2x USB-A 3.2 | 2x USB-C 3.1
- Gigabit Ethernet
- 2x 13-pin CAN header
- Microfit power jack

offers extensive I/O options, including a QSFP slot with 4x25GbE, a wired Multi-GbE RJ45 connector, multiple USB ports, and additional connectivity interfaces. With Functional Safety Island (FSI) built into the NVIDIA Thor SoC and the onboard safety MCU, it seamlessly brings AI and safety into one single platform.

IGX Thor represents a new class of enterprise edge computers, purpose-built to power the next generation of industrial and medical edge applications. It takes advantage of the NVIDIA Blackwell GPU architecture to deliver exceptional generative reasoning and multimodal sensor processing, supporting a broad range of generative AI models—from Vision Language Action (VLA) models like NVIDIA Isaac™ GR00T N to popular LLMs and VLMs such as NVIDIA Cosmos™ Reason. To provide a seamless cloud-to-edge experience, IGX Thor runs the NVIDIA AI Enterprise software stack and NVIDIA NIM™ for physical AI applications, including NVIDIA Isaac for robotics, NVIDIA Metropolis for visual AI agents, and NVIDIA Holoscan for sensor processing. Industrial safety AI agents can also be deployed at the edge using the NVIDIA Halos Outside-In Safety Agent Blueprint.

Our world-class ecosystem of partners provides a complete range of carrier boards, design services, cameras, and sensors, along with AI and system software to speed solution development. They also support accelerating medical certifications (IEC 60601, 62304) and industrial functional safety certifications (ISO 26262, IEC 61508), helping you bring products to market faster and with confidence.

With enterprise-level software, massive AI compute, and network security, NVIDIA IGX Thor is ideal for advancing medical imaging, surgical robotics, humanoid robotics, industrial AI automation, high-performance computing, and beyond. As an enterprise-ready platform, it lets your organization focus on application development and tap into the full potential of AI.

Technical Specifications

	NVIDIA IGX Thor Developer Kit Mini
AI Performance	2070 TFLOPS (FP4–sparse)
iGPU	2560-core NVIDIA Blackwell architecture GPU with fifth-gen Tensor cores Multi-Instance GPU (MIG) with 10 TPCs
iGPU Max Frequency	1.57 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
Functional Safety Island on SoC	Yes
CPU Max Frequency	2.6 GHz
Vision Accelerator	1x PVA v3
Memory	128 GB 256-bit LPDDR5X 273 GB/s
Storage	1TB NVMe M.2 Key M Slot

Technical Specifications

	NVIDIA IGX Thor Developer Kit Mini
Video Encode	2x NVEncode
Video Decode	2x NVDecode
PCIe	M.2 Key M slot with x4 PCIe Gen5 (populated with 1 TB NVMe) M.2 Key E slot with x1 PCIe Gen5 (Populated with WiFi 6e + Bluetooth Module)
USB	2x USB Type-A 3.2 Gen2 2x USB Type-C 3.1 1x USB Type-C - (Debug purpose only)
Networking	1x 5GBe RJ45 connector 1x QSFP28 (4x 25GbE) WiFi 6E (Populated on M.2 Key E slot with x1 PCIe Gen5)
Safety MCU	Renesas RH850/U2A16
Display	1x HDMI 2.0b 1x DisplayPort 1.4a
Other I/O	2x 13-pin CAN header 2x 6-pin Automation header 2x 5-pin header JTAG Connector 1x 4-pin Fan Connector—12 V, PWM, and Tach 2x 5-pin Audio Panel Header 2-pin RTC Backup Battery Connector Microfit Power Jack Power, Force Recovery, and Reset buttons
Power	40 W–130 W
Mechanical	243.19 mm x 112.40 mm x 56.88 mm (height includes feet, carrier board, module, and thermal solution)

Refer to the Software Features section of the latest NVIDIA Enterprise Developer Guide for a list of supported features.

Ready to Get Started?

To learn more about the NVIDIA IGX Thor Developer Kit Mini, visit nvidia.com/igx-thor

NVIDIA