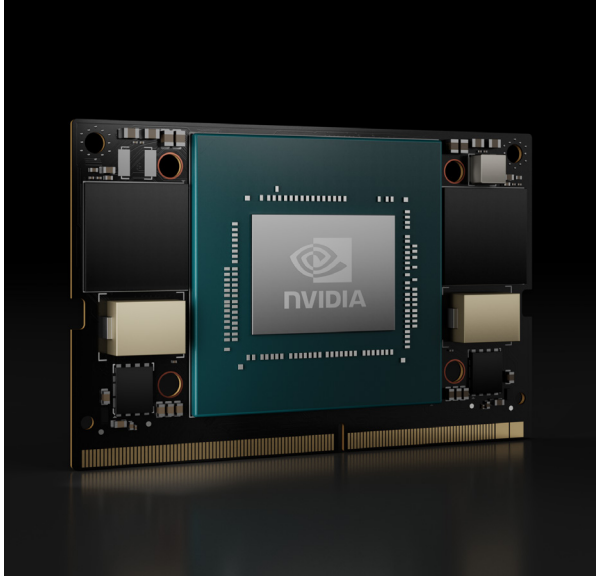
Datasheet

NVIDIA Jetson Orin Nano Series

The new standard for entry-level edge AI.



Next-Level AI Performance in a Small, Power-Efficient Form Factor

NVIDIA® Jetson Orin Nano™-series modules deliver up to 67 TOPS of AI performance in the smallest Jetson™ form-factor, with power options between 7W and 25W. This gives you up to 142X the performance of NVIDIA Jetson Nano and sets the new standard for entry-level edge AI.

The system-on-module is pin-compatible with NVIDIA Jetson Orin™ NX and supports multiple concurrent AI application pipelines with high-speed IO and an NVIDIA Ampere architecture GPU. This enables lower-priced consumer, retail analytics, and industrial QA devices to benefit from more complex AI models.

Jetson runs the NVIDIA AI software stack, with available use-case-specific application frameworks, including NVIDIA Isaac™ for robotics, NVIDIA Metropolis™ for vision AI, and NVIDIA Holoscan™ for sensor processing. You can save significant time with NVIDIA Omniverse™ Replicator for synthetic data generation (SDG), and with NVIDIA TAO Toolkit for fine-tuning pretrained AI models from the NGC™ catalog.

Jetson ecosystem partners offer additional AI and system software, developer tools, and custom software development. They can also help with cameras and other sensors, as well as carrier boards and design services for your product.

Jetson Orin modules are unmatched in performance and efficiency for robots and other autonomous machines. This gives you the flexibility to create the next generation of AI solutions with the latest NVIDIA GPU technology. Together with the world-standard NVIDIA AI software stack and an ecosystem of services and products, your road to market has never been faster.

Key Features

Jetson Orin Nano 4GB (P3767)

- 512-core NVIDIA Ampere architecture GPU with 16 tensor cores
- 6-core Arm® Cortex®-A78AE v8.2
- 4GB 64-bit LPDDR5
- Support for external NVMe

Power

- Voltage Input: 5V - 20V
- Module Power: 7W - 25W

Jetson Orin Nano 8GB (P3767)

- 1024-core NVIDIA Ampere architecture GPU with 32 tensor cores
- 6-core Arm® Cortex®-A78AE v8.2
- 8GB 128-bit LPDDR5
- Support for external NVMe

Power

- Voltage Input: 5V - 20V
- Module Power: 7W - 25W

Technical Specifications		
	Jetson Orin Nano 4GB	**Jetson Orin Nano 8GB**
AI Performance	34 TOPS	67 TOPS
GPU	512-core NVIDIA Ampere architecture GPU with 16 tensor cores	1024-core NVIDIA Ampere architecture GPU with 32 tensor cores
Max GPU Freq.	1020MHz	
CPU	6-core Arm® Cortex®-A78AE v8.2 64-bit CPU 1.5MB L2 + 4MB L3	
CPU Max Freq.	1.7GHz	
Memory	4GB 64-bit LPDDR5 51GB/s	8GB 128-bit LPDDR5 102GB/s
Storage	- (Supports external NVMe)	
Camera	Up to 4 cameras (8 via virtual channels*) 8 MIPI CSI-2 lanes D-PHY 2.1 (up to 20Gbps)	
Video Encode	1080p30 supported by 1-2 CPU cores	
Video Decode	1x 4K60 (H.265) 2x 4K30 (H.265) 5x 1080p60 (H.265) 11x 1080p30 (H.265)	
PCIe	1 x4 + 3 x1 (PCIe Gen3, Root Port, and Endpoint)	
USB	3x USB 3.2 Gen2 (10Gbps) 3x USB 2.0	
Networking	1x GbE	
Display	1x 4K30 multi-mode DP 1.2 (+MST)/eDP 1.4/HDMI 1.4	
Other I/O	3x UART, 2x SPI, 2x I2S, 4x I2C, 1x CAN, DMIC & DSPK, PWM, GPIOs	
Power	7W - 25W	7W - 25W
Mechanical	69.6mm x 45mm 260-pin SO-DIMM connector	

* Virtual channel-related camera information for Jetson Orin Nano is not final and subject to change.
** Refer to the Software Features section of the latest NVIDIA Jetson Linux Developer Guide for a list of supported features.

Ready to Get Started?

Learn more at: **www.nvidia.com/jetson-orin**