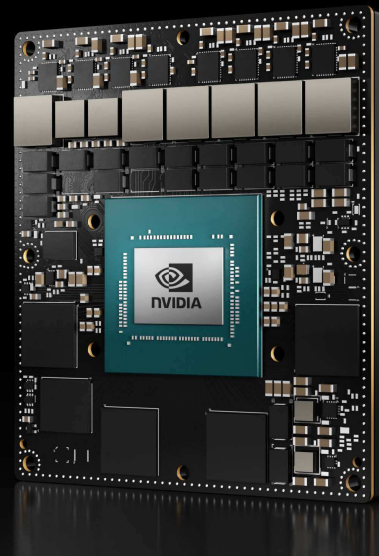**NVIDIA.**

NVIDIA Jetson AGX Orin Series

Next-Level AI Performance for Next-Gen Robotics

Discover the most powerful AI computer for energy-efficient autonomous machines.

NVIDIA® Jetson AGX Orin™ series modules deliver up to 275 TOPS of AI performance with power configurable between 15W and 60W. This gives you more than 8X the performance of Jetson AGX Xavier™ in the same compact form-factor for robotics and other autonomous machine use cases.

These system-on-modules support multiple concurrent AI application pipelines with an NVIDIA Ampere architecture GPU, next-generation deep learning and vision accelerators, high-speed IO, and fast memory bandwidth. Now, you can develop solutions using your largest and most complex AI models to solve problems such as natural language understanding, 3D perception, and multi-sensor fusion.

Jetson runs the NVIDIA AI software stack, and use case-specific application frameworks are available, including NVIDIA Isaac™ for robotics, DeepStream for vision AI, and Riva for conversational AI. You can also 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, and they give 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 AGX Orin 32GB

> 1792-core NVIDIA Ampere architecture GPU with 56 tensor cores
> 2x NVDLA v2.0
> 8-core Arm® Cortex®-A78AE v8.2 64-bit CPU
> 32GB 256-bit LPDDR5
> 64GB eMMC 5.1
> PVA v2.0

Power

> Voltage input 5V, 7V-20V
> Module Power: 15W - 40W

Jetson AGX Orin 64GB

> 2048-core NVIDIA Ampere architecture GPU with 64 tensor cores
> 2x NVDLA v2.0
> 12-core Arm® Cortex®-A78AE v8.2 64-bit CPU
> 64GB 256-bit LPDDR5
> 64GB eMMC 5.1
> PVA v2.0

Power

> Voltage input 5V, 7V-20V
> Module Power: 15W - 60W

NVIDIA JETSON AGX ORIN SERIES MODULES

TECHNICAL SPECIFICATIONS

	Jetson AGX Orin 32GB	Jetson AGX Orin 64GB
AI Performance	200 TOPS (INT8)	275 TOPS (INT8)
GPU	NVIDIA Ampere architecture with 1792 NVIDIA CUDA® cores and 56 tensor cores	NVIDIA Ampere architecture with 2048 NVIDIA CUDA® cores and 64 tensor cores
Max GPU Freq	930MHz	1.3GHz
CPU	8-core Arm® Cortex®-A78AE v8.2 64-bit CPU 2MB L2 + 4MB L3	12-core Arm® Cortex®-A78AE v8.2 64-bit CPU 3MB L2 + 6MB L3
CPU Max Freq	2.2 GHz	
DL Accelerator	2x NVDLA v2.0	
DLA Max Frequency	1.4GHz	1.6GHz
Vision Accelerator	PVA v2.0	
Memory	32GB 256-bit LPDDR5 204.8GB/s	64GB 256-bit LPDDR5 204.8GB/s
Storage	64GB eMMC 5.1	
CSI Camera	Up to 6 cameras (16 via virtual channels*) 16 MIPI CSI-2 lanes D-PHY 2.1 (up to 40Gbps) | C-PHY 2.0 (up to 164Gbps)	
Video Encode	1x 4K60 | 3x 4K30 | 6x 1080p60 | 12x 1080p30 (H.265) H.264, AV1	2x 4K60 | 4x 4K30 | 8x 1080p60 | 16x 1080p30 (H.265) H.264, AV1
Video Decode	1x 8K30 | 2x 4K60 | 4x 4K30 | 9x 1080p60 | 18x 1080p30 (H.265) H.264, VP9, AV1	1x 8K30 | 3x 4K60 | 7x 4K30 | 11x 1080p60 | 22x 1080p30 (H.265) H.264, VP9, AV1
UPHY	Up to 2 x8, 1 x4, 2 x1 PCIe Gen4 (Root Port and Endpoint) 3x USB 3.2 Single-lane UFS	
Networking	1x GbE 4x 10GbE	
Display	1x 8K60 multi-mode DP 1.4a (+MST)/eDP 1.4a/HDMI 2.1	
Other I/O	4x USB 2.0 4x UART, 3x SPI, 4x I2S, 8x I2C, 2x CAN, DMIC & DSPK, GPIOs	
Power	15W - 40W	15W - 60W
Mechanical	100mm x 87mm 699-pin Molex Mirror Mezz Connector Integrated Thermal Transfer Plate	

* Virtual channel-related camera information for Jetson AGX Orin 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.

Learn more

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

NVIDIA