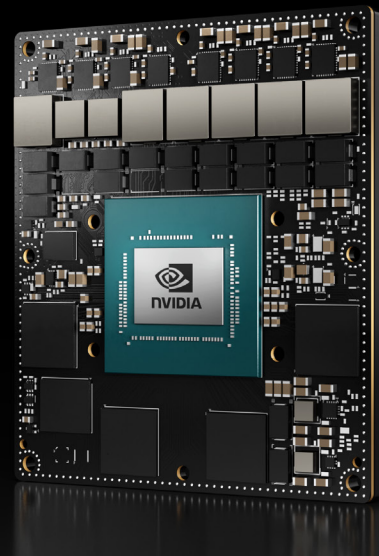




# NVIDIA Jetson AGX Orin Series

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

\* 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>