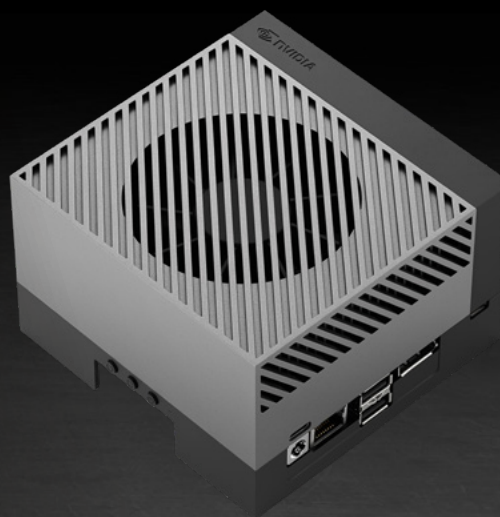




NVIDIA JETSON AGX ORIN DEVELOPER KIT

Next-Level AI Performance for Next-Gen Robotics



Develop the next generation of autonomous machines.

The NVIDIA® Jetson AGX Orin™ Developer Kit makes it easy to get started with the Jetson AGX Orin module. Compact size, lots of connectors, and up to 275 TOPS of AI performance make this developer kit perfect for prototyping advanced AI-powered robots and other autonomous machines.

Jetson AGX Orin features an NVIDIA Ampere architecture GPU together with next-generation deep learning and vision accelerators, and its high-speed IO and fast memory bandwidth can feed multiple concurrent AI application pipelines. This means 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.

NVIDIA JetPack™ SDK brings the NVIDIA AI software stack to Jetson, along with application development and optimization tools. Software for specific use cases is available, including Isaac™ for robotics and Metropolis for smart cities, and you can save significant time developing your AI solution when you use your datasets with TAO toolkit to fine-tune 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.

With the computing capability of more than 8 Jetson AGX Xavier systems in a developer kit that integrates the latest NVIDIA GPU technology with the world's most advanced deep learning software stack, you'll have the flexibility to create tomorrow's AI solution as well as today's.



Key Features

Developer kit contents

- > Jetson AGX Orin module with heat sink and reference carrier board
- > 802.11ac/abgn wireless Network Interface Controller
- > Power adapter and USB-C cord
- > Quick Start and Support Guide

Jetson AGX Orin module

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

Reference carrier board

- > MIPI CSI-2 camera connector
- > PCIe x16 connector [supports x8]
- > Gigabit Ethernet
- > M.2 Key E, M.2. Key M
- > 2x USB Type C
- > 4x USB 3.2 Type-A
- > Micro-USB 2.0 (for Device Mode)
- > DisplayPort Dual-Mode
- > microSD slot
- > 40-pin header (GPIOs, I2C, I2S, SPI, UART)
- > Power, Force Recovery, and Reset buttons

NVIDIA JETSON AGX ORIN DEVELOPER KIT

TECHNICAL SPECIFICATIONS

JETSON AGX ORIN MODULE

GPU	NVIDIA Ampere architecture with 2048 NVIDIA® CUDA® cores and 64 Tensor cores
CPU	12-core Arm Cortex-A78AE v8.2 64-bit CPU 3MB L2 + 6MB L3
DL Accelerator	2x NVDLA v2.0
Vision Accelerator	PVA v2.0
Memory	64GB 256-bit LPDDR5 204.8 GB/s
Storage	64GB eMMC 5.1
Video Encode	2x 4K60 4x 4K30 8x 1080p60 16x 1080p30 (H.265)
Video Decode	1x 8K30 3x 4K60 6x 4K30 12x 1080p60 24x 1080p30 (H.265)
Power	15W-60W

*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.

REFERENCE CARRIER BOARD

Camera	16 lane MIPI CSI-2 connector
PCIe	x16 PCIe slot supporting: x8 PCIe Gen4
RJ45	Up to 10 GbE
M.2 Key M	x4 PCIe Gen 4
M.2 Key E	x1 PCIe Gen 4, USB 2.0, UART, I2S
USB Type-C	2x USB 3.2 Gen2
USB Type-A	4x USB 3.2 Gen2
USB Micro-B	USB 2.0
DisplayPort	DisplayPort 1.4a (+MST)
microSD slot	UHS-1 cards up to SDR104 mode
Other	40-pin header (I2C, GPIO, SPI, CAN, I2S, UART, DMIC) 12-pin automation header 10-pin audio panel header 10-pin JTAG header 4-pin fan header 2-pin RTC battery backup connector DC power jack Power, Force Recovery, and Reset buttons
Dimensions	110mm x 110mm x 71.65mm (Height includes feet, carrier board, module, and thermal solution)

[Learn more](#)

Learn more at www.nvidia.com/JetsonAGXOrin