NVIDIA JETSON XAVIER NX 16GB

Xavier Performance. Nano Size.

The World's Smallest AI Supercomputer for Embedded and Edge Systems

NVIDIA® Jetson Xavier™ NX 16GB brings supercomputer performance to the edge in a compact system-on-module (SOM) that's smaller than a credit card. The energy-efficient Jetson Xavier NX module delivers server-class performance—up to 14 TOPS at 10W or 21 TOPS at 15W or 20W. This unique combination of form-factor, performance, and power advantage opens the door for innovative edge devices in manufacturing, logistics, retail, service, agriculture, smart cities, and medical instruments.

Pre-trained AI models from NVIDIA NGC, together with the NVIDIA TAO Toolkit, give you a faster path to trained and optimized AI networks. Seamless updates for your product are possible when you use Jetson cloud-native software capabilities to build, manage, and deploy your AI applications.

NVIDIA JetPack™ SDK enables multi-modal AI application development for Jetson Xavier NX 16GB with accelerated libraries supporting all major AI frameworks, as well as computer vision, computer graphics, multimedia, and more. Together with the latest NVIDIA tools for application development and optimization, JetPack ensures fast time to market and reduced development costs.

Jetson is designed for ease of development and speed of deployment, making it the most flexible and scalable platform to get to market and continuously update AI software over the lifetime of a product.

Key Features

Module

> 384-core NVIDIA Volta™ GPU with 48 Tensor cores
> 2x NVDLA
> 6-core NVIDIA Carmel Arm®v8.2 64-bit CPU
> 16GB 128-bit LPDDR4x
> 16GB eMMC 5.1
> 2x PVA

Power

> Voltage input 5V
> Module Power: 10W - 20W

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TECHNICAL SPECIFICATIONS

AI Performance	**21 TOPS (INT8)**
GPU	**NVIDIA Volta architecture with 384 NVIDIA CUDA® cores and 48 Tensor cores**
Max GPU Freq	**1.1GHz**
CPU	**6-core NVIDIA Carmel Arm®v8.2 64-bit CPU** **6MB L2 + 4MB L3**
CPU Max Freq	**1.9GHz**
DL Accelerator	**2x NVDLA**
Vision Accelerator	**2x PVA**
Memory	**16GB 128-bit LPDDR4x** **59.7 GB/s**
Storage	**16GB eMMC 5.1**
CSI Camera	**Up to 6 cameras (24 via virtual channels)** **14 lanes (3x4 or 6x2 or 3x4 + 1x2 or 5x2 + 1x4) MIPI CSI-2** **D-PHY 1.2 (up to 30 Gbps)**
Video Encode	**2x 4K60 | 4x 4K30 | 10x 1080p60 | 22x 1080p30 (H.265)** **2x 4K60 | 4x 4K30 | 10x 1080p60 | 20x 1080p30 (H.264)**
Video Decode	**2x 8K30 | 6x 4K60 | 12x 4K30 | 22x 1080p60 | 44x 1080p30 (H.265)** **2x 4K60 | 6x 4K30 | 10x 1080p60 | 22x 1080p30 (H.264)**
PCIe	**1 x1 (PCIe Gen3) + 1 x4 (PCIe Gen4)**
USB	**1x USB 3.1 (10 Gbps) | 3x USB 2.0**
Networking	**10/100/1000 Base-T Ethernet**
Display	**2 multi-mode DP 1.4/eDP 1.4/HDMI 2.0**
Other I/O	**1x SDIO / 2x SPI / 3x UART / 2x I2S / 4x I2C / 1x CAN / GPIOs**
Power	**10W | 15W | 20W**
Mechanical	**45mm x 69.6mm** **260-pin SO-DIMM connector**

*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 **www.nvidia.com/Jetson**