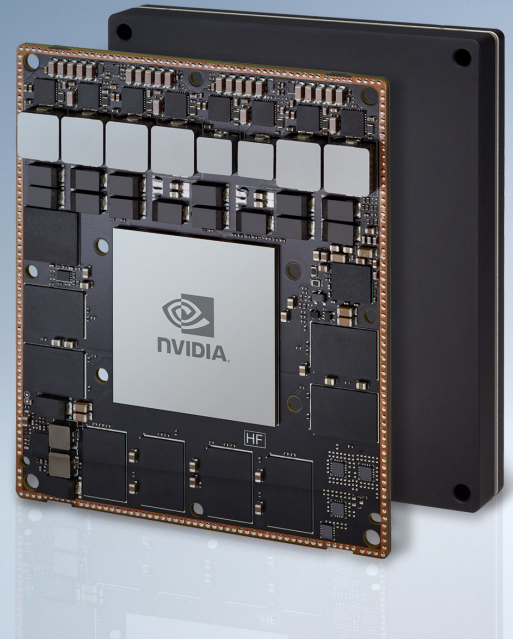




NVIDIA JETSON AGX XAVIER INDUSTRIAL

Designed to Perform.
Built to Last.



Powering AI Embedded and Functional Safety Applications

NVIDIA® Jetson AGX Xavier™ Industrial delivers the highest performance for AI embedded industrial and functional safety applications in a power-efficient, rugged system-on-module. It's form-factor and pin-compatible with Jetson AGX Xavier, and has up to 20X the performance and 4X the memory of NVIDIA® Jetson™ TX2i. This lets you bring the latest AI models to your most demanding use cases.

Extended temperature, shock, and vibration specifications—plus new functional safety capabilities—make this Jetson module ideal for industrial-grade AI products. The module also includes hardware-verified secure boot, hardware-accelerated cryptography, support for encrypted storage and memory, and other security features to protect customer software.

NVIDIA JetPack™ SDK includes libraries, samples, and tools to accelerate the entire AI pipeline, and pretrained models from the NGC™ catalog are performance-optimized and ready to be fine-tuned with customer datasets. Support for cloud-native technologies enables seamless model and software updates throughout the module's 10-year operating lifetime.

The Jetson Safety Extension Package is available on request, with supporting software and documentation for customers who want to create IEC 61508 compliant products. A Safety design guide is also available with recommendations, guidelines, and ISO-13849 Cat. 2/3 PLd architecture examples as point of reference for customer safety designs.

Ease of development and speed of deployment—combined with form-factor, performance, and power advantage—make Jetson AGX Xavier Industrial the ideal rugged and safety-ready AI product platform.

Key Features

Module

- > 512-core NVIDIA Volta™ GPU with 64 Tensor cores
- > [2x] NVDLA
- > 8-core NVIDIA Carmel Arm®v8.2 64-bit CPU
- > 32GB 256-bit LPDDR4x (ECC Support)
- > 64GB eMMC 5.1
- > [2x] 7-way VLIW vision accelerator processor

Power

- > Voltage input 5V, 9V~20V
- > Module Power: 20W - 40W

Environment

- > Operating temperature: -40°C to 85°C measured on the TTP surface
- > Storage temperature: -40°C to 85°C
- > Non-operational humidity: 95% RH, -10°C to 65°C
- > Operational vibration: 5G RMS 10 to 500Hz, 3-axis, FCT (random/sinusoidal)
- > Non-operational vibration: 3G RMS 10 to 1000Hz, 3-axis, FCT (random)
- > Operational shock: 50G, half sine, 11ms
- > Non-operational shock: 140G, half sine, 2ms

NVIDIA Jetson AGX Xavier Industrial

TECHNICAL SPECIFICATIONS

AI Performance	30 TOPS (INT8)
GPU	NVIDIA Volta architecture with 512 NVIDIA® CUDA® cores and 64 Tensor cores
Max GPU Freq	1.21 GHz
CPU	8-core NVIDIA Carmel Arm®v8.2 64-bit CPU 8MB L2 + 4MB L3
CPU Max Freq	2.03 GHz
DL Accelerator	2x NVDLA
Vision Accelerator	2x 7-Way VLIW vision processor
Safety Cluster Engine	2x ARM® Cortex®-R5 in lockstep
Memory	32GB 256-bit LPDDR4x (ECC Support) 136.5 GB/s
Storage	64GB eMMC 5.1
Power	20W 40W
PCIe	1 x8 + 1 x4 + 1 x2 + 2 x1 (PCIe Gen4, Root port and Endpoint)
CSI Camera	Up to 6 cameras (36 via virtual channels) 16 lanes MIPI CSI-2 D-PHY 1.2 (up to 40Gbps) C-PHY 1.1 (up to 62Gbps)
Video Encode	2x4K60 6x4K30 12x1080p60 24x1080p30 (H.265&H.264) 1x4K60 2x4K30 6x1080p60 14x1080p30 (VP9)
Video Decode	2x8K30 4x4K60 8x4K30 18x1080p60 36x1080p30 (H.265) 2x4K60 6x4K30 12x1080p60 24x1080p30 (H.264&VP9)
Display	3 multi-mode DP 1.4/eDP 1.4/HDMI 2.0 a/b
Networking	10/100/1000 Base-T Ethernet
USB	3x USB 3.1 and 4x USB 2.0
Other IOs	5xUART/3xSPI/3xI2S/5xI2C/2xCAN/DMIC & DSPK/GPIOs
Mechanical	100mm x 87mm 699-pin connector Integrated Thermal Transfer Plate

Learn more at www.nvidia.com/Jetson

© 2021 NVIDIA Corporation. All rights reserved. NVIDIA, the NVIDIA logo, CUDA, Jetson, Jetson AGX Xavier, NVIDIA JetPack, and NVIDIA Volta are trademarks and/or registered trademarks of NVIDIA Corporation in the U.S. and other countries. Other company and product names may be trademarks of the respective companies with which they are associated. ARM, AMBA and ARM Powered are registered trademarks of ARM Limited. Cortex, MPCore and Mali are trademarks of ARM Limited. All other brands or product names are the property of their respective holders. "ARM" is used to represent ARM Holdings plc; its operating company ARM Limited; and the regional subsidiaries ARM Inc.; ARM KK; ARM Korea Limited.; ARM Taiwan Limited; ARM France SAS; ARM Consulting (Shanghai) Co. Ltd.; ARM Germany GmbH; ARM Embedded Technologies Pvt. Ltd.; ARM Norway, AS and ARM Sweden AB. JUN21

