

NVIDIA JETSON TX2 4GB MODULE ADVANCED AI AT THE EDGE

The NVIDIA® Jetson™ TX2 4GB module delivers powerful computing performance in a small credit card form factor to run modern AI workloads. It can be configured to operate between 7.5 W and 15 W, making it ideal for a diverse set of intelligent edge devices like robots, drones, smart cameras, and portable medical devices. The module offers three times the performance per-watt of Jetson Nano, enabling the development of high-performance, energy-efficient, and affordable products.

Jetson TX2 4GB features a variety of standard hardware interfaces, ranging from low-speed GPIOs to high-speed PCIe and USB. This makes it easy to integrate into a wide range of products and form factors.

The module is supported by NVIDIA JetPack™, which includes a board support package (BSP), Linux OS, NVIDIA CUDA®, and cuDNN. Plus, it features NVIDIA TensorRT™ software libraries for deep learning, computer vision, GPU computing, multimedia processing, and much more. The software is also easy-to-use, making it fast and simple to get started.

The same JetPack SDK is used across the entire NVIDIA Jetson family of products and is fully compatible with NVIDIA's world-leading AI platform for training and deploying AI software. This proven software stack reduces complexity, development time, and overall effort for developers.

KEY FEATURES

> Power

- Voltage input: 9 V–19.6 V
- Module power: 7.5 W|15 W

> Environment

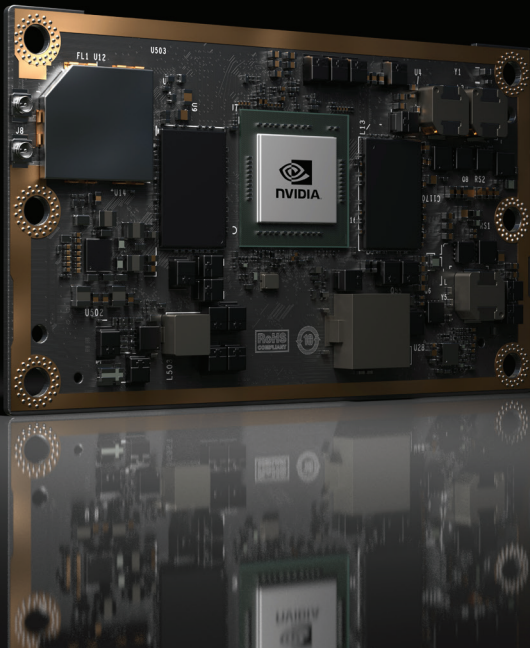
- Operating temperature: -25 C to 80 C
- Storage temperature: -25 C to 80 C
- Humidity: TBD
- Vibration: TBD
- Shock: TBD

TECHNICAL SPECIFICATIONS

GPU	256-core Pascal™ GPU
CPU	Dual-core NVIDIA Denver 2 Quad-core ARM A57 complex
Memory	4 GB 128 Bit LPDDR4 25.6 GB/s
Storage	16 GB eMMC 5.1
Video Encode	4Kp60 3x 4Kp30 4x 1080p60 8x 1080p30 (H.265)
Video Decode	2x 4Kp60 4x 4Kp30 7x 1080p60 14x 1080p30 (H.264/H.265)
CSI	12 (3x4 or 6x2) lanes MIPI CSI-2 D-PHY 1.1
Connectivity	10 / 100 / 1000 BASE-T Gigabit Ethernet
Display	HDMI 2.0, eDP 1.4, DP 1.2
PCIe	1x4+1x1 OR 2x1+1x2 PCIe Gen2
USB	3x USB 3.0, 3x USB 2.0
Others	I2C, I2S, SPI, UART, SD/SDIO, SATA, GPIO
Mechanical	87 mm x 50 mm 400-pin connector

Learn more at <https://developer.nvidia.com/jetson>

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NVIDIA® JETSON™ TX2

SUPERCOMPUTER ON A MODULE FOR AI AT THE EDGE

TAKE REAL-TIME AI PERFORMANCE FARTHER WITH THE HIGH-PERFORMANCE, LOW-POWER JETSON TX2.

The most innovative technology for AI computing and visual computing comes in a supercomputer the size of a credit card. Its small form factor and power envelope make the Jetson TX2 module ideal for intelligent edge devices like robots, drones, smart cameras, and portable medical devices.

Jetson TX2 features a variety of standard hardware interfaces that make it easy to integrate it into a wide range of products and form factors. Plus, it comes with the complete Jetpack SDK, which includes the BSP, libraries for deep learning, computer vision, GPU computing, multimedia processing, and much more to accelerate your software development. And it's supported by the Jetson developer site, which includes documentation, tutorials, and an ecosystem of partners and developers. It's never been easier to get started with AI.

For detailed specifications, design guides, Jetpack, and everything else you need to develop with Jetson, go to developer.nvidia.com/embedded-computing.

KEY FEATURES

Jetson TX2 Module

- > NVIDIA Pascal™ architecture GPU
- > Dual-core Denver 2 64-bit CPU + quad-core ARM A57 Complex
- > 8 GB L128 bit LPDDR4
- > 32 GB eMMC 5.1

Power

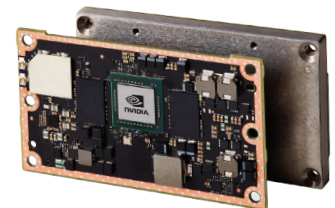
- > Voltage input: 5.5 V-19.6 V DC
- > Maximum module power: 7.5W – 15 W*

Software

- > Linux for NVIDIA Tegra® driver package, including Ubuntu-based sample file system
- > AI, Compute, Multimedia, and Graphics libraries and APIs

I/O

- > USB 3.0 Type A
- > USB 2.0 Micro AB (supports recovery and host mode)
- > HDMI
- > M.2 Key E
- > PCI-E x4
- > Gigabit Ethernet
- > Full-Size SD
- > SATA Data and Power
- > GPIOs, I2C, I2S, SPI, CAN**
- > TTL UART with Flow Control
- > Display Expansion Header**
- > Camera Expansion Header**



CONTENTS

- > NVIDIA Jetson TX2
- > Attached Thermal Transfer Plate (TTP)

TECHNICAL SPECIFICATIONS

FEATURES	JETSON TX2
Graphics	NVIDIA Pascal™, 256 NVIDIA CUDA® cores
CPU	HMP Dual Denver 2/2MB L2 + Quad ARM® A57/2MB L2
Video	4K x 2K 60 Hz Encode (HEVC) 4K x 2K 60 Hz Decode (12-bit support)
Memory	8 GB 128-bit LPDDR4 59.7 GB/s
Display	HDMI 2.0 / eDP 1.4 / 2x DSI / 2x DP 1.2
CSI	Up to 6 cameras (2 lane) CSI2 D-PHY 1.1 (2.5 Gbps/lane)
PCI-E	Gen 2 1x4 + 1x1 OR 2x1 + 1x2
Data Storage	32 GB eMMC, SDIO, SATA
Other	CAN, UART, SPI, I2C, I2S, GPIOs
USB	USB 3.0 + USB 2.0
Connectivity	1 Gigabit Ethernet, 802.11ac WLAN, Bluetooth
Power	7.5 W / 15 W*
Mechanical	50 mm x 87 mm (400-pin Compatible Board to Board Connector)

Visit www.nvidia.com/embedded to learn more.

* Power and thermal solution: refer to the OEM Product Design Guide and the Thermal Design Guide

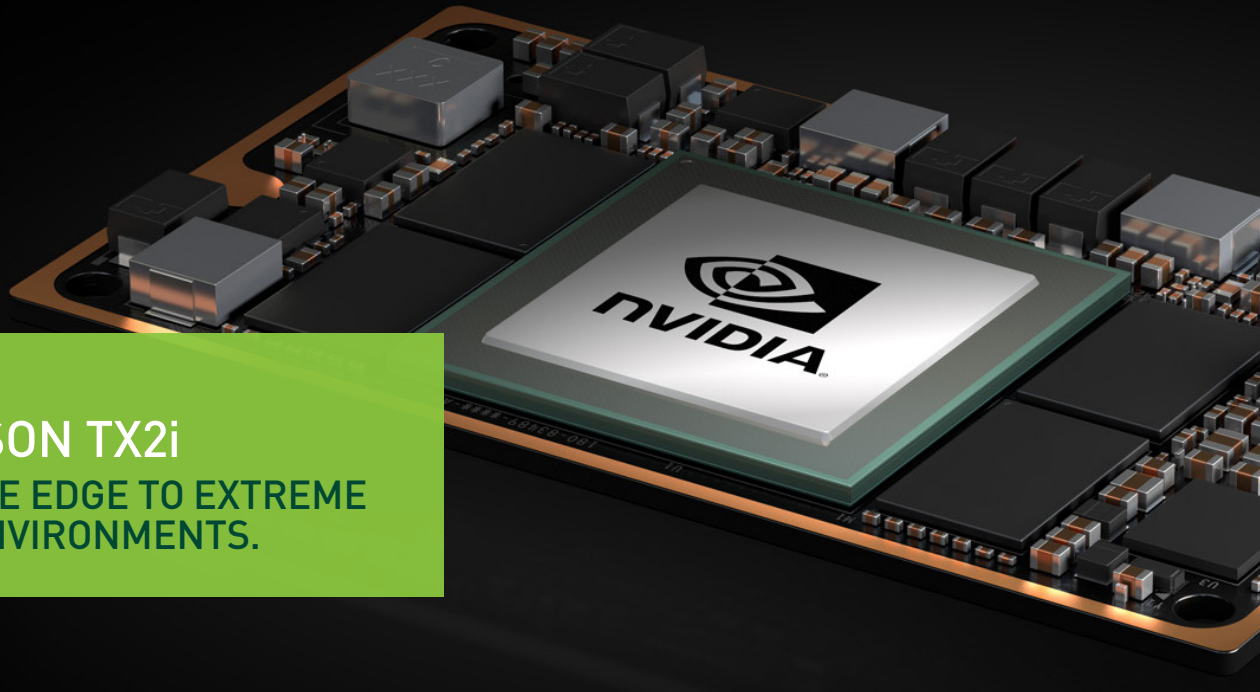
** I/O expansion headers: refer to product documentation for header specification

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NVIDIA JETSON TX2i

BRING AI AT THE EDGE TO EXTREME INDUSTRIAL ENVIRONMENTS.



EXTEND AI COMPUTING WITH THE HIGH-PERFORMANCE, LOW-POWER JETSON TX2i.

The most innovative technology for GPU-enabled AI computing comes in a supercomputer the size of a credit card. Its rugged design, small form factor, and reduced power envelope make the NVIDIA® Jetson™ TX2i module ideal for high-performance edge computing devices such as industrial robots, machine vision cameras, and portable medical equipment.

Jetson TX2i features a variety of standard hardware interfaces that make it easy to integrate into a wide range of products and form factors. Plus, it comes with the complete NVIDIA Jetpack SDK, which includes the BSP, libraries for deep learning, computer vision, GPU computing, multimedia processing, and much more to accelerate your software development. Designed for reliable operation in harsh industrial environments, Jetson TX2i gives you long operating life (MTBF) and comes with an extended warranty and sales lifecycle.

For detailed specifications, design guides, Jetpack, and everything else you need to develop with Jetson, go to developer.nvidia.com/jetson.

KEY FEATURES

Jetson TX2i Module

- > NVIDIA Pascal™ architecture GPU
- > Dual-core Denver 2 64-bit CPU and quad-core ARM A57 complex
- > 8 GB 128-bit LPDDR4 (ECC support)
- > 32 GB eMMC 5.1

Power

- > Voltage input: 9 V-19.6 V DC
- > Module power: 10 W – 20 W*

Software

- > NVIDIA Linux for Tegra® driver package, including Ubuntu-derived sample file system
- > AI, compute, multimedia and graphics libraries, and APIs

Environment

- > Operating temperature: -40 C – 85 C
- > Storage temperature: -40 C – 85 C
- > Humidity: 95% RH, -10 C to 65 C (non-condensing)
- > Vibration: 5 G RMS 10 to 500 Hz (random/sinusoidal)
- > Shock: 140 G, half sine 2 ms duration



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TECHNICAL SPECIFICATIONS

FEATURES	JETSON TX2i
Graphics	NVIDIA Pascal, 256 NVIDIA CUDA® cores
CPU	HMP Dual Denver 2/2MB L2 + Quad ARM® A57/2MB L2
Video	4K x 2K 60 Hz encode (HEVC) 4K x 2K 60 Hz decode (12-bit support)
Memory	8 GB 128-bit LPDDR4 (ECC support)
Display	HDMI 2.0 / eDP 1.4 / 2x DSI / 2x DP 1.2
CSI	Up to 6 cameras (2 lane) CSI2 D-PHY 1.1 (2.5 Gbps/lane)
PCIe	Gen 2 1x4 + 1x1 OR 2x1 + 1x2
Data Storage	32 GB eMMC, SDIO, SATA
Other	CAN, UART, SPI, I2C, I2S, GPIOs
USB	USB 3.0 + USB 2.0
Connectivity	1 Gigabit Ethernet
Power	10 W – 20 W*
Mechanical	50 mm x 87 mm (400-pin compatible board-to-board connector)

Visit www.nvidia.com/jetson to learn more.

* Power and thermal solution: Refer to the OEM Product Design Guide and the Thermal Design Guide

** I/O expansion headers: Refer to product documentation for header specification

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