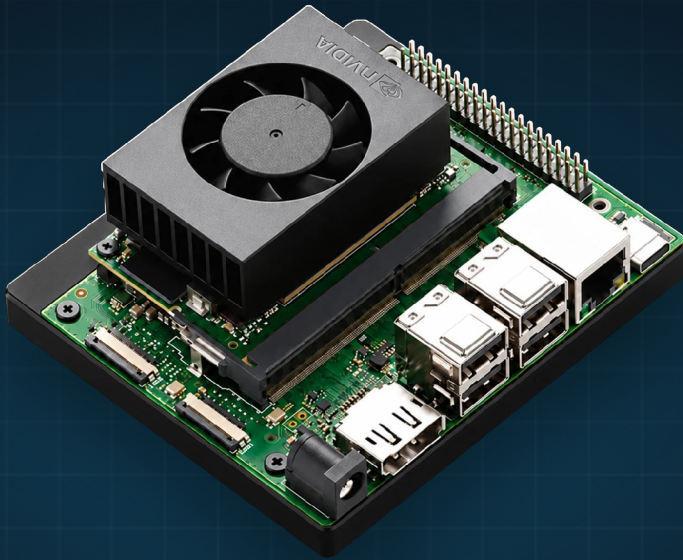




AI SINGLE BOARD COMPUTER

NEXUS N1

for NVIDIA Jetson Orin Nano

Orin Nano 8GB

Orin Nano 4GB

JetPack 6 / 7

67 TOPS

Peak AI performance, Orin Nano 8GB

1024 CUDA

Ampere GPU cores, Orin Nano 8GB

4 / 8 GB

LPDDR5 module options

7-25 W

Configurable power

Overview

NEXUS N1 is a compact AI single board computer for NVIDIA Jetson Orin Nano, manufactured by Electra IC. It pairs a Jetson Orin Nano module, in 8GB or 4GB, with the NEXUS N1 carrier board, which is fully compatible with the Jetson Orin Nano Developer Kit reference carrier.

NEXUS N1 delivers up to 67 TOPS on Orin Nano 8GB and up to 34 TOPS on Orin Nano 4GB. That is enough to run vision transformers, large language models and vision-language models on the device itself.

Software, device trees and BSPs written for the Jetson Orin Nano Developer Kit run on NEXUS N1 unchanged. Both JetPack 6 and JetPack 7 are supported, including Jetson Linux, CUDA, TensorRT and DeepStream. The same carrier accepts every Jetson Orin Nano and Orin NX module.

Typical applications include robotics, machine vision, industrial gateways and smart infrastructure.

Interfaces

2 MIPI CSI-2 camera**2** M.2 Key M (NVMe)**1** M.2 Key E slot**4** USB 3.2 Gen2 Type-A**1** USB Type-C (UFP)**1** Gigabit Ethernet**1** DisplayPort 1.2**40** Pin expansion header**1** CAN FD bus**4** Pin CAN header

Module Options

Jetson Orin Nano 8GB

1024 CUDA cores, 32 tensor cores
6-core Arm Cortex-A78AE
8GB 128-bit LPDDR5, 102 GB/s

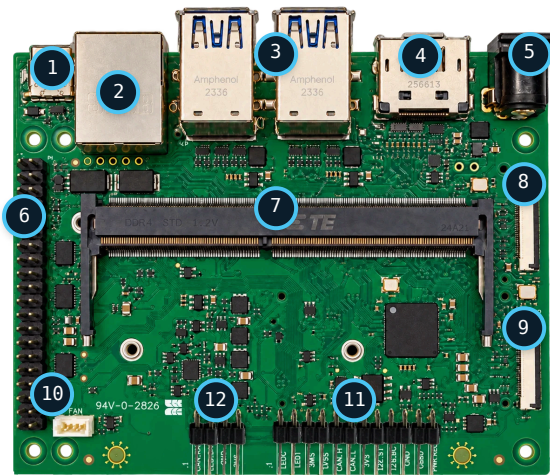
67
TOPS

Jetson Orin Nano 4GB

512 CUDA cores, 16 tensor cores
6-core Arm Cortex-A78AE
4GB 64-bit LPDDR5, 51 GB/s

34
TOPS

Carrier Board Layout



- 1 USB Type-C (UFP)
- 2 Gigabit Ethernet
- 3 4x USB 3.2 Gen2 Type-A
- 4 DisplayPort 1.2
- 5 DC power jack
- 6 40-pin expansion header
- 7 SO-DIMM module connector
- 8 CAM2 MIPI CSI-2
- 9 CAM1 MIPI CSI-2
- 10 4-pin fan header
- 11 12-pin button header
- 12 4-pin CAN header

Orin Nano Module Specifications

Parameter	Jetson Orin Nano 8GB	Jetson Orin Nano 4GB
AI PERFORMANCE	67 TOPS	34 TOPS
GPU	NVIDIA Ampere, 1024 CUDA cores, 32 tensor cores	NVIDIA Ampere, 512 CUDA cores, 16 tensor cores
CPU	6-core Arm Cortex-A78AE v8.2 64-bit, 1.5MB L2 + 4MB L3	
MEMORY	8GB 128-bit LPDDR5, 102 GB/s	4GB 64-bit LPDDR5, 51 GB/s
STORAGE	SD card slot and external NVMe	
VIDEO ENCODE	1080p30 using 1-2 CPU cores	
VIDEO DECODE	1x 4K60 · 2x 4K30 · 5x 1080p60 · 11x 1080p30 (H.265)	
POWER	7 W – 25 W	
SOFTWARE	JetPack 6.2 (Ubuntu 22.04) · JetPack 7.2 (Jetson Linux 39.2, Ubuntu 24.04)	

Carrier Board Specifications

Parameter	NEXUS N1 Carrier Board
CAMERA	2x MIPI CSI-2 22-pin connectors (2-lane and 4-lane)
PCIE	M.2 Key M x4 PCIe Gen3 · M.2 Key M x2 PCIe Gen3 · M.2 Key E
USB	4x USB 3.2 Gen2 Type-A · 1x USB Type-C (UFP)
NETWORKING	1x Gigabit Ethernet (RJ45)
CAN	1x CAN FD on a dedicated 4-pin CAN header
DISPLAY	1x DisplayPort 1.2 (+MST)
OTHER I/O	40-pin expansion header (UART, SPI, I2S, I2C, GPIO) 12-pin button header · 4-pin CAN header · 4-pin fan header · DC power jack
MODULES	All Jetson Orin Nano and Jetson Orin NX modules
MECHANICAL	103 mm x 90.5 mm x 34.77 mm, including feet, carrier board, module and thermal solution

AI performance figures are sparse INT8. Software features follow the Jetson Linux Developer Guide of the installed release.