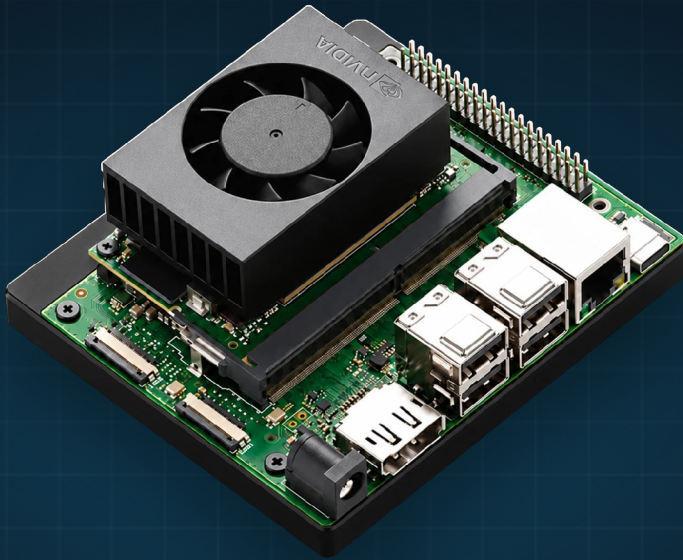




AI SINGLE BOARD COMPUTER

NEXUS N1

for NVIDIA Jetson Orin NX

Orin NX 16GB

Orin NX 8GB

JetPack 6 / 7

157 TOPSPeak AI performance, Orin
NX 16GB**1024 CUDA**Ampere GPU cores, 8GB and
16GB**8 / 16 GB**

LPDDR5 module options

10-40 W

Configurable power

Overview

NEXUS N1 is a compact AI single board computer for NVIDIA Jetson Orin NX, manufactured by Electra IC. It pairs a Jetson Orin NX module, in 16GB or 8GB, with the NEXUS N1 carrier board, which is fully compatible with the Jetson Orin Nano Developer Kit reference carrier.

NEXUS N1 delivers up to 157 TOPS on Orin NX 16GB and up to 117 TOPS on Orin NX 8GB. 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 reference carrier 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 NX and Orin Nano module.

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

Module Options

Jetson Orin NX 16GB

1024 CUDA cores, 32 tensor cores
8-core Arm Cortex-A78AE
2x NVDLA v2 accelerator
16GB 128-bit LPDDR5, 102 GB/s

157
TOPS

Jetson Orin NX 8GB

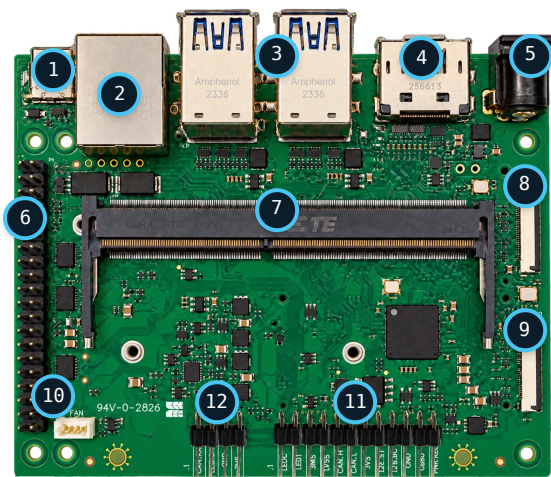
1024 CUDA cores, 32 tensor cores
6-core Arm Cortex-A78AE
1x NVDLA v2 accelerator
8GB 128-bit LPDDR5, 102 GB/s

117
TOPS

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

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 NX Module Specifications

Parameter	Jetson Orin NX 16GB	Jetson Orin NX 8GB
AI PERFORMANCE	157 TOPS	117 TOPS
GPU	NVIDIA Ampere, 1024 CUDA cores, 32 tensor cores	
CPU	8-core Arm Cortex-A78AE v8.2 64-bit, 2MB L2 + 4MB L3	6-core Arm Cortex-A78AE v8.2 64-bit, 1.5MB L2 + 4MB L3
DL ACCELERATOR	2x NVDLA v2	1x NVDLA v2
MEMORY	16GB 128-bit LPDDR5, 102 GB/s	8GB 128-bit LPDDR5, 102 GB/s
STORAGE	External NVMe	
VIDEO ENCODE	1x 4K60 · 3x 4K30 · 6x 1080p60 · 12x 1080p30 (H.265)	
VIDEO DECODE	1x 8K30 · 2x 4K60 · 4x 4K30 · 9x 1080p60 · 18x 1080p30 (H.265)	
POWER	10 W – 40 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.