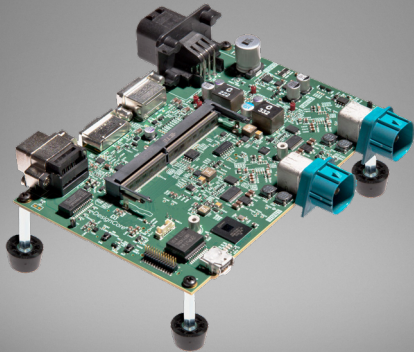


DESIGNCORE®

NVIDIA® JETSON ORIN™ NX 8-CAMERA GMSL2 CARRIER BOARD



Production-ready IP67 capable Carrier Board with up to 8 GMSL2 inputs for performance-critical edge AI applications

Perform AI at the edge with the world's smallest AI supercomputer and robust cameras & sensors.

This Carrier Board allows users to quickly interface and develop with multiple cameras or sensors with the Jetson Orin NX module. Take advantage of the incredible compute power and compact size of the Jetson Orin NX by combining up to 8 streams of input data via the GMSL2 interface. Each sensor stream comes in over a serial link and is de-serialized into CSI-2 data for consumption on the Orin NX module. Connected sensors can be synchronized via programming the GMSL2 deserializers.

The Carrier Board also contains other peripherals and expansion connectors that are essential for Edge AI applications. The on-board peripherals include USB3, Gigabit Ethernet, and HDMI. A 10Gb Ethernet interface is also available for high-speed data transfer. M.2 Key M and E expansion slots are available for NVMe (a 500 GB NVMe drive is included) and Wi-Fi/Bluetooth/LTE. An additional expansion header contains access to additional PCIe, USB, SPI, I2C, and DisplayPort interfaces.

All external connectors are IP67 rated, making the carrier board ready for sealed packaging and use in harsh environments. The Carrier Board is also compatible with the Orin Nano and Xavier NX modules.

FEATURES

8x GMSL2 Input Channels
(2x MAX96724 Hubs)

Power-over-Coax Connection

1x USB3.2

1x HDMI

1x Gigabit Ethernet

1x 10 Gigabit Ethernet

M.2 Type M Key with 500GB NVMe Drive

M.2 Type E Key for Wi-Fi/BT/LTE Expansion

CAN bus

Expansion Header for USB, PCIe, & DisplayPort

APPLICATIONS

Rugged Autonomous Machines

Edge AI Smart Camera System

Industrial Vehicle Systems

SPECIFICATIONS

GPU	1024-core NVIDIA Ampere architecture GPU with 32 Tensor Cores
CPU	8-core Arm® Cortex®-A78AE v8.2 64-bit CPU 2MB L2 + 4MB L3
DDR	16GB 128-bit LPDDR5 102.4GB/s
DL Accelerator	2x NVDLA v2
Vision Accelerator	1x PVA v2
Inputs	8x GMSL2 Coax
Deserializer	MAX96724
Coax Input Connectors	2x Quad FAKRA
Display	1x HDMI 1x DisplayPort (expansion)
Storage	M.2 Type M – 500 GB NVMe included
Data Transfer	1x 10 Gigabit Ethernet 1x 1 Gigabit Ethernet 1x USB3.2 M.2 Type E (Wi-Fi/BT/LTE – expansion)
I/O Interfaces	Isolated GPIO CAN UART
Power	12-16V DC, 12V Nominal
Operating Temperature	-20 to 70 degree Celsius
Size	6" x 4"

Supported Modules:

NVIDIA® Jetson Orin™ NX

NVIDIA® Jetson Orin™ Nano

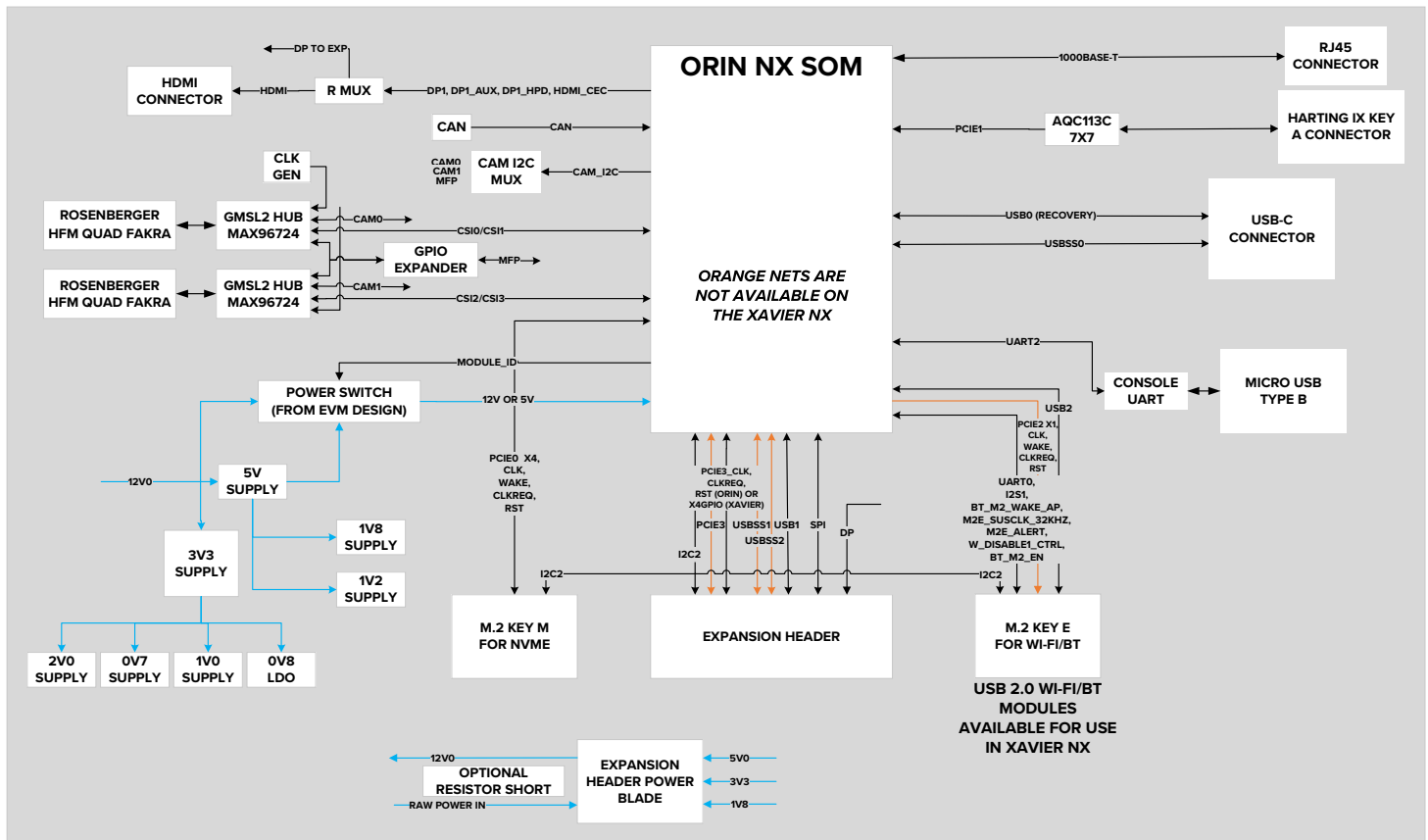
NVIDIA® Jetson Xavier™ NX

Supported Cameras:

DesignCore® Velocity Series

DesignCore® Discovery Series
(IMX390 & ISX031 Sensors)

DESIGNCORE NVIDIA JETSON ORIN NX 8-CAMERA GMSL2 CARRIER BOARD BLOCK DIAGRAM



ACCELERATE TIME TO MARKET

D3 Embedded is a 100% U.S.-based company that develops end-to-end solutions integrating camera and radar sensors, connectivity, custom Jetson baseboards, and AI to deliver advanced perception for performance-critical applications. Our software and hardware design services, off-the-shelf and customizable products, and AI development capabilities allow you to get your product to market faster and deploy edge solutions at scale.



ORDERING INFORMATION

SKU 3010030 | DesignCore® NVIDIA® Jetson Orin™ NX 8-Camera GMSL2 Carrier Board

SKU 3010035 | DesignCore® NVIDIA® Jetson Orin™ NX 8-Camera GMSL2 Carrier Board with NVIDIA® Jetson Orin™ NX 16GB

Buy online at

<https://www.d3embedded.com/product/designcore-nvidia-jetson-orin-nx-8-camera-gmsl2-carrier-board/>



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