AGX Orin carrier board

X231: Generative AI at the edge

AUVIDEA
audio video media

With dual PCIe x8 extension

Overview

The X231 is a very high performance and extendable carrier board for the AGX Orin. When compared to the X230 it adds a unique extension connector with two PCIe x8 busses.

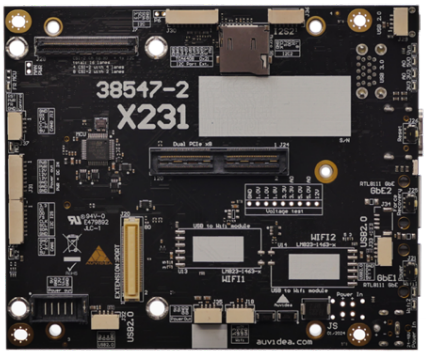
This opens the opportunity to add a high performance extension board. An example is the M280, which features 4 M.2 Key M slots (4x PCIe x4) and four OCulink connectors (4x PCIe x4).

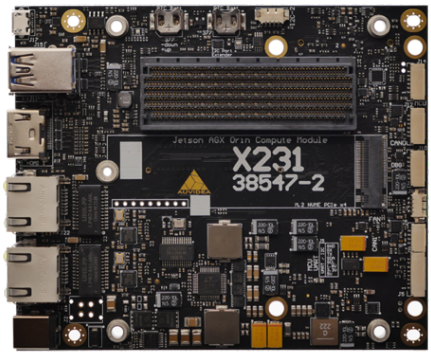
We are evaluating the connection of multiple AGX Orin via PCIe x8. 5GbE and 10GbE versions are under development.

The X231 features an industrial strength design and is commercially deployable in any volume.

Features

- Easily migrate your existing AGX Xavier platform based on the X220(D) to the new AGX Orin
- Production volume is easily scalable as only readily available components are used
- CSI-2 extension connector
- Crypto chip to protect your software investment
- Custom configurations are be available on request (features can be removed to reduce costs)
- Designed and manufactured in Germany





Technical Specifications

Feature	Description
Module compatibility	AGX Orin (config 2: 2x USB3 5x PCIe)
Operating voltage	24V – 48V
AGX Orin power modes	15W – 60W
HDMI out	1x
USB 2.0	1x (micro, OTG)
USB 3.1	2x (type A)
GbE	2x RJ45 (RTL8111 PCIe to GbE)
PCIe x8	Dual PCIe x8 connector
M.2	1x Key M 2280 NVME (PCIe x4)
CAN	1x (with transceiver) 1x (RX/TX: with external transceiver)
UART	1x
I2C	2x
CSI-2	All 16 lanes on extension ports
MCU	Yes
Crypto chip	1x (ATSH204A)
Autoflashing	Yes
Debug port	Yes
Fan connector	1x (12V, PWM)
RGB LED	Yes (GPIO controlled)
RTC non rechargeable lithium cell	2x battery holder (377)
Overvoltage protection	Yes
Reverse voltage protection	Yes
Size	104.6mm x 125mm

Addon modules

SKU	Part	
70857-F	M208F	3x M.2 Key E (USB 2.0) 1x M.2 Key B (LTE) 4x 4-Lane CSI port 2x FPC (PCIe x4)
70857-L	M208L	3x M.2 Key E (USB 2.0) 1x M.2 Key B (LTE) 4x 4-Lane CSI port 2x OCuLink (PCIe x4)
70857-P	M208P	3x M.2 Key E (USB 2.0) 1x M.2 Key B (USB2.0, LTE dual SIM) 4x 4-Lane CSI port 2x PCIe x8 (x16 slots)
70425-4	P104 PCIe x4 extender module	1x PCIe x4
70863	M280 (upcoming product)	2x PCIe x8 (PCIe bridges) 4x M.2 Key M (PCIe x4) 4x OCuLink (PCIe x4)
70859	M61 Companion to M208F	Base for removable SSD 2x PCIe x4

Similar Products

SKU	Part
70416	X230D integrated carrier board for NVIDIA AGX Orin
72155	X230 extendable carrier board for NVIDIA AGX Orin
Pre announcement	X232: a X231 with dual 2.5/5GbE ports

Variants

SKU	Part
70418-AI	X231-AI carrier board
70418-AI-LM1	X231-AI-LM carrier (1x LM823 – 2.4GHz Wifi ext. ant.)*
70418-AI-LM2	X231-AI-LM carrier (1x LM822 – 2.4GHz Wifi int. ant.)*
70418-AI-LM3	X231-AI-LM carrier (1x LM843 – 2.4/5GHz Wifi ext. ant.)*

*Available on request / On request with two LM modules

NVIDIA ELITE PARTNER

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