ORIN-TW

Innovating Railways and Smart Transportation solution with NVIDIA ®Jetson Orin™ SOM
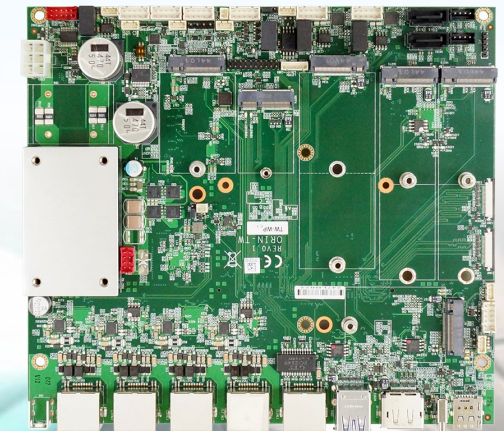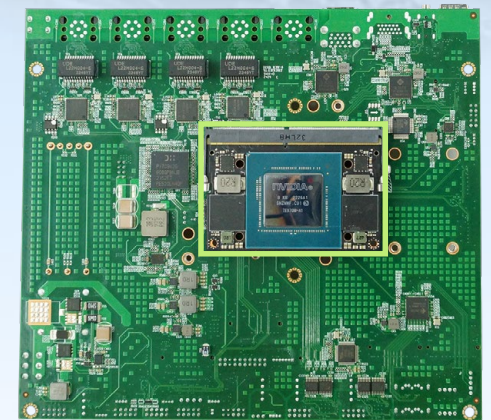
NVIDIA

Jetson Orin™

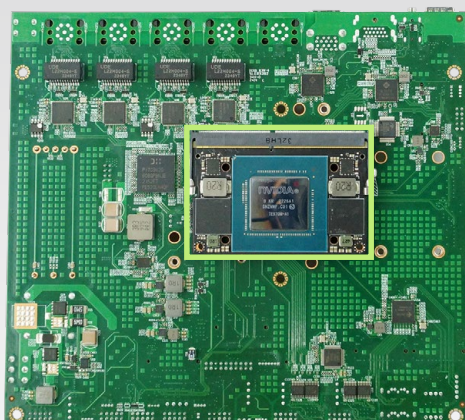5G

Wi-Fi

GPS

ORIN-TW

 NVIDIA | Jetson Orin™

Innovating Railways and Smart Transportation solution with NVIDIA ®Jetson Orin™ SOM

The LEX SYSTEM ORIN-TW harnesses the power of NVIDIA ®Jetson Orin™ NX and Nano modules, delivering AI performance from 40 to 100 TOPS, making it perfect for AI-driven, video compute-intensive vehicle and railway transportation applications at the edge.

ORIN-TW equipped with a versatile range of I/O options—including 5 x GbE LAN (4 x PoE), 1 x DisplayPort, 1 x Nano SIM, 6 x M.2, 2 x USB 3.1, 1 x USB Type-C, 1 x USB 2.0, 2 x isolated RS232/485/422 ports, 1 x isolated CANBus, optional M12 IO connector for robust connectivity. With onboard LPDDR5 memory wide-range 9~36V DC input, and power ignition delay on/off control, it protects the system from voltage and current fluctuations & harsh transportation environments ensuring reliable and consistent operation. Additionally, the ORIN-TW features multiple camera interfaces, including Mini-CSI, USB, and PoE, allowing seamless integration into in-vehicle and railway camera networking systems.

Lex SYSTEM®

www.lex.com.tw

Function Map

NVIDIA Jetson Orin™

186 x 166 mm

ORIN-TW

Powerful Edge AI with PoE solution

for transportation/railway embedded Applications

NVIDIA ®Jetson Orin™ Nano: 4 / 8GB LPDDR5, 20 / 40 TOPs

NVIDIA ®Jetson Orin™ NX: 8 / 16GB LPDDR5, 70 / 100 TOPs

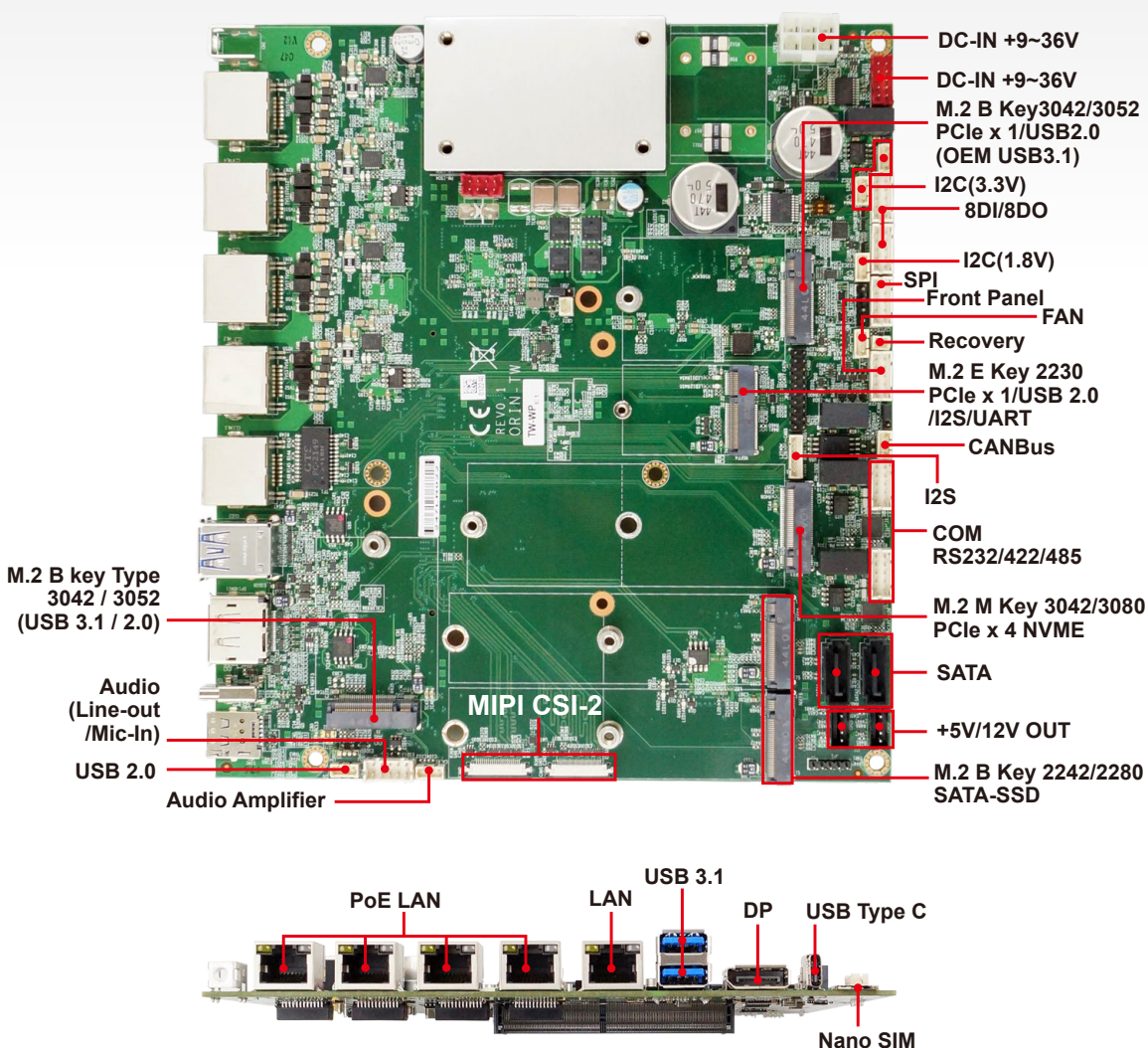AI Accelerator: NVIDIA® Jetson Orin™ Nano / Orin™ NX

- 1 x DP, 5 x RJ45/M12 GbE (1 + 4 x PoE)
- 2 x SATA, M.2-SSD NVMe
- 1 x USB 3.1 Type C ; 2 x USB 3.1 Type A ; 1x USB 2.0
- Mic-in / Line-out ; 8DI / 8 DO,
- 2 x Isolated RS232 / RS422 / RS485, 1 x Isolated CANBus
- 1 x M.2 M key, 4 x M.2 B key, 1 x M.2 E Key, 1 x Nano SIM
- 2 x MIPI CSI, SPI, I²C,
- Wide Range +9~36V, CPC-Ignition on/off delay control
- Option:4G/5G LTE, Wi-Fi 6 ,BT, GPS

Data Sheet

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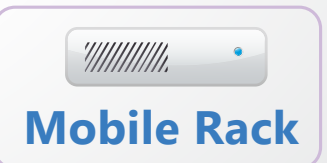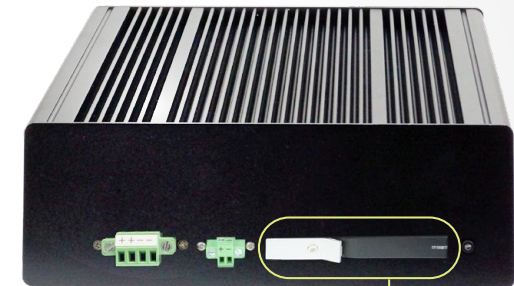www.lex.com.tw

5G | **Wi-Fi** | **GPS** | **Bluetooth®**

NVIDIA | Jetson Orin™

Anti Vibration

CAN bus

M12

4 PoE

HAWK ORIN-TW (M12)

Nano SIM | DP | LAN1 | LAN2 | LAN3 | LAN4 | LAN5
COM1 | COM2 | DIO

CAN bus

4 PoE

Mobile Rack
Option

HAWK ORIN-TW (with Anti-vibration kit)

The HAWK ORIN-TW is a rugged, railway-grade computer with EN50155 and E13 certification, powered by NVIDIA Jetson Orin™ modules delivering 40-100 TOPS AI performance. It features versatile I/O options, wide-range power input, anti-vibration support, and is designed for AI-driven, compute-intensive tasks in harsh transportation environments.

HAWK

Dimension : 220W x 176.6D x 80H mm
• Rugged heat-dissipating In-vehicle System
• Robust & Powerful Fanless Embedded solution

EN50155 | **EN50121** | **E13** | **MIL-STD 810F**

About LEX Comptech

Established in 1990, LEX Computech is an industrial computer manufacturer, provides LEX SYSTEM embedded solutions include designing and manufacturing of industrial motherboards, fanless embedded systems, rugged panel PC, in-vehicle fanless PC, network appliances, machine vision and automation controllers & IoT related solutions.

LEX SYSTEM's R&D team consisted with electronics, layout, system, mechanical, BIOS, firmware as well as software engineers, plus with experienced project management, in-house manufacturing and after sales service provides ODM /OEM customized products for various application-oriented projects.

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