DSBOARD-ORNX-LAN
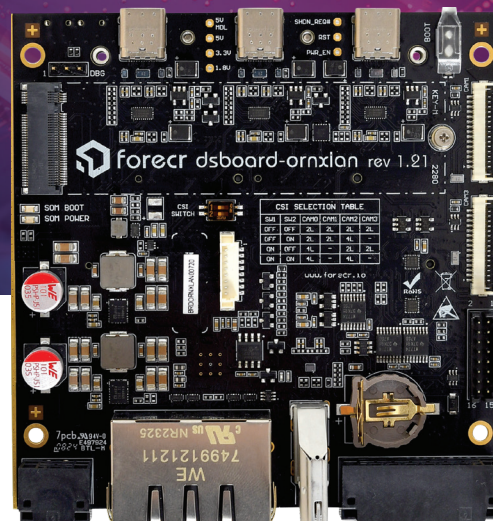
JETSON ORIN NX & ORIN NANO CARRIER BOARD
with DUAL LAN

HIGHLIGHTS

› NVIDIA Jetson Orin Nano & NX Super Mode Support

› AI ready for edge analytics with up to 157 TOPS performance

› Dual Gigabit Ethernet Support

› 4K Video Display (HDMI 2.0)

› Industrial IO options (RS232/485, CAN Bus, Digital I/Os)

› Rich extension options (M.2 Key-E, M.2 Key-B, M.2 Key-M)

› High Speed Interfaces (Gigabit Ethernet, USB 3.1)

› Wide voltage input range

› Extended temperature range

TECHNICAL SPECIFICATIONS

Supported Modules	NVIDIA Jetson Orin Nano 4GB / 8GB NVIDIA Jetson Orin NX 8GB / 16GB
Memory	4 GB 64-bit LPDDR5 / 8 GB 128 bit LPDDR5 8 GB 256-bit LPDDR5 / 16 GB 128 bit LPDDR5
Graphics Interfaces	1x HDMI 2.0(max resolution 3840x2160)
Interfaces	2x Gigabit Ethernet 3x USB 3.1 Type-C 1x CAN Bus 1 x RS232/422/485 2x Digital Input 2x Digital Output 2x CSI 4-LANE or 4x CSI 2-LANE
Wireless Communication	WiFi/Bluetooth Connectivity by extension sockets
Power Supply	9-28 VDC
Extension Sockets	1x M.2 Key-E, 1x 5V Fan 1x SPI, 1x I2S, 1x I2C, 1x UART
Mass Storage	2x M.2 Key-M SSD Slot
Ambient Conditions	-25°C ... +85°C
Form Factor / Dimensions	100 mm x 100 mm, 88gr
Operating Systems	Ubuntu Linux 20.04 / 22.04
JetPack Support	JetPack 5.x / 6.x

DSBOARD-ORNX-LAN is an industrial carrier board designed for harsh environments and applications that demand high processing power and reliability. It is based on the NVIDIA Orin NX system-on-module (SOM), which features multiple NVIDIA Ampere GPU cores and Arm64 CPU cores. The compact design of the carrier board makes it a versatile and flexible solution for a wide range of industrial applications such as autonomous systems, robotics, and intelligent video analytics.

DSBOARD-ORNX-LAN comes with various connectivity options, including dual Gigabit Ethernet, USB 3.1, HDMI, and CAN, enabling seamless integration with a wide range of devices and systems. The dual Gigabit Ethernet support allows for increased data transfer speeds and redundancy in network connections. The NVIDIA Orin NX SOM provides the processing power and capabilities needed to support intensive data processing and analysis.

In addition to its compact size, DSBOARD-ORNX-LAN also features multiple expansion slots for adding peripherals and customizing the system to meet specific requirements. Its wide operating temperature range ensures reliable operation in challenging environments.

Overall, DSBOARD-ORNX-LAN is an effective solution for industrial applications that demand high processing power and a reliable platform. Its advanced features, including dual Gigabit Ethernet support, and compact design make it an ideal choice for applications where space is limited, and flexibility is key.

Transportation

Robotics

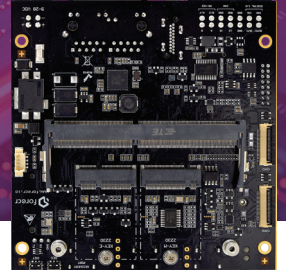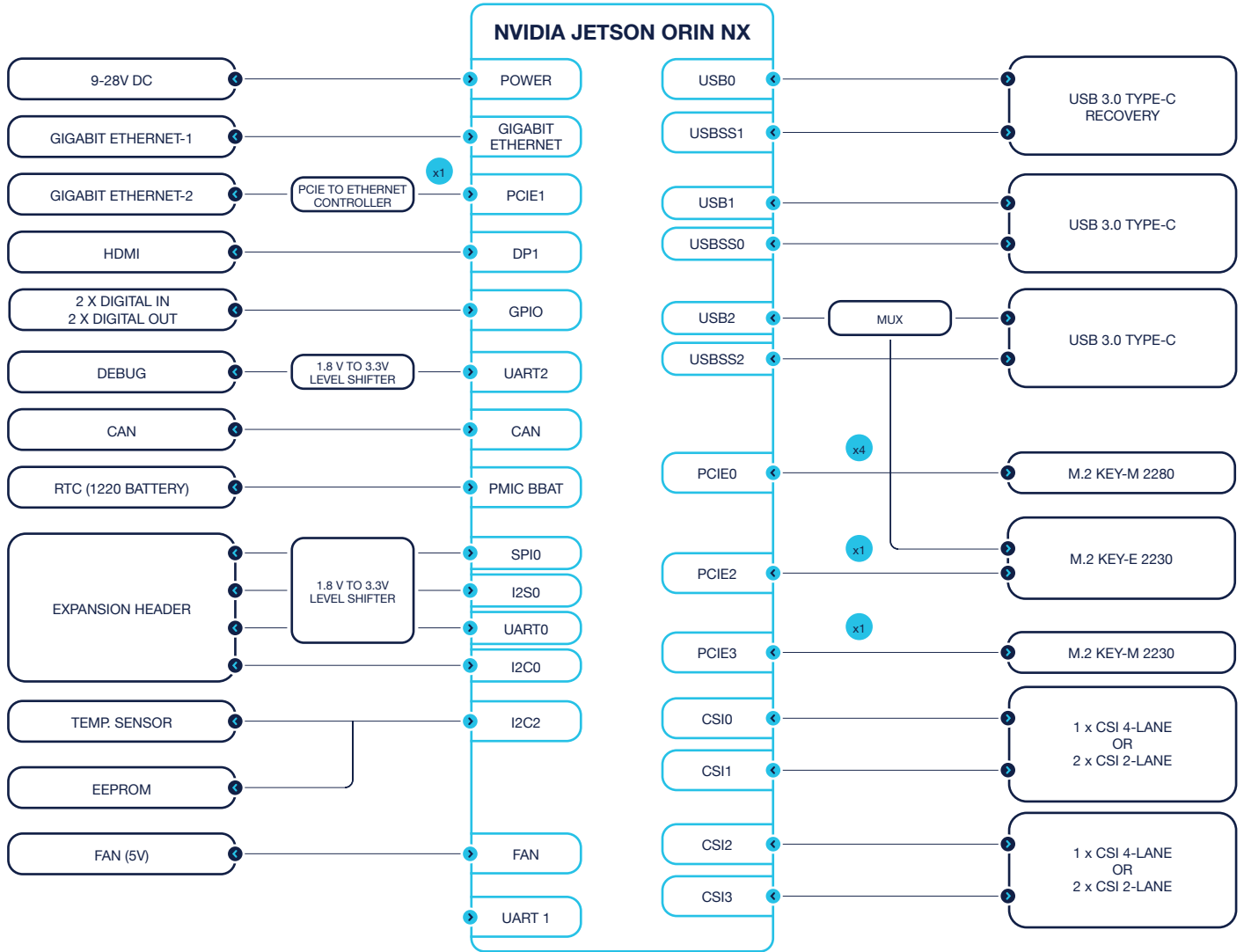Smart Retail

Agriculture

Autonomous Systems

Energy

RoHS COMPLIANT

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BLOCK DIAGRAM

NVIDIA JETSON ORIN NX

Left Input	Intermediate	Jetson Pin
9-28V DC		POWER
GIGABIT ETHERNET-1		GIGABIT ETHERNET
GIGABIT ETHERNET-2	PCIE TO ETHERNET CONTROLLER (x1)	PCIE1
HDMI		DP1
2 X DIGITAL IN / 2 X DIGITAL OUT		GPIO
DEBUG	1.8 V TO 3.3V LEVEL SHIFTER	UART2
CAN		CAN
RTC (1220 BATTERY)		PMIC BBAT
EXPANSION HEADER	1.8 V TO 3.3V LEVEL SHIFTER	SPI0 / I2S0 / UART0 / I2C0
TEMP. SENSOR		I2C2
EEPROM		
FAN (5V)		FAN
		UART 1

Jetson Pin	Mux	Right Output
USB0 / USBSS1		USB 3.0 TYPE-C RECOVERY
USB1 / USBSS0		USB 3.0 TYPE-C
USB2 / USBSS2	MUX	USB 3.0 TYPE-C
PCIE0	x4	M.2 KEY-M 2280
PCIE2	x1	M.2 KEY-E 2230
PCIE3	x1	M.2 KEY-M 2230
CSI0 / CSI1		1 x CSI 4-LANE OR 2 x CSI 2-LANE
CSI2 / CSI3		1 x CSI 4-LANE OR 2 x CSI 2-LANE

FOR ORDERING

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