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MILBOX-THR
RUGGEDIZED AGX THOR COMPUTER

HIGHLIGHTS

› Delivers an extraordinary 2070 TFLOPS AI Performance

› Ultra-fast data transfers with 4× 10G Ethernet ports

› Advanced video interfaces (2× HDMI 2.0, 2× 3G-SDI output, 2x 3G-SDI input)

› Extensive I/O connectivity (4× CAN FD, 4× RS-232/422/485, 8x digital I/Os)

› Rich Storage and AI accelerator support (3x M.2 Key-M PCIe Gen5 slots)

› Reliable power & environmental endurance; operates within 11–60 VDC range

› Built-in security & monitoring; integrated TPM 2.0, IMU, temperature sensors

TECHNICAL SPECIFICATIONS

Supported Modules	NVIDIA Jetson T5000 NVIDIA Jetson T4000
Memory	128 GB 256-bit LPDDR5X
Graphics Interfaces	2x HDMI2.0 Display Output 2x 3G-SDI Display Output 2x 3G-SDI Video Input
Interfaces	4x 10G Ethernet (Copper) 3x USB3.1 4x CAN FD (Isolated) 4x RS-232/422/485 (Isolated) 8x Digital I/O (3.3V Level, Isolated) TPM2.0 Chipset 6-Axis IMU & Temperature Sensor EEPROM
Wireless Communication	None
Power Supply	11-60 VDC
Extension Sockets	1x M.2 Key-M 2280 PCIe Gen5 x4 (used for 2x 3G-SDI Video Input by default) 1x M.2 Key-M 2280 PCIe Gen5 x2 1x M.2 Key-M 2280 PCIe Gen5 x1 Camera Expansion Slot (for optional Analog Video Input or GMSL2 features)
Mass Storage	Up to three NVMe SSD support
Ambient Conditions	-25°C ... +70°C
Form Factor / Dimensions	300mm x 225mm x 105mm, 5500gr
Operating Systems	Ubuntu Linux 24.04
Operating Humidity	5% - 95% (non-condensing)
Designed to Meet	MIL-STD-810G, MIL-STD-461G, MIL-STD-704F, MIL-STD-1275E, DO-160G, IP67
JetPack Support	JetPack-7.x

The MILBOX-THR is a military-grade Edge AI computer powered by the latest NVIDIA Jetson AGX Thor SoM, delivering unprecedented AI performance and reliability in the harshest environments. Designed to meet MIL-STD-810G, MIL-STD-461G, MIL-STD-704F, MIL-STD-1275E, and DO-160G standards, it operates flawlessly under extreme temperature, vibration, and humidity conditions. Featuring 4× 10G Ethernet, multiple 3G-SDI and HDMI 2.0 outputs, isolated serial and CAN FD interfaces, and PCIe Gen5 expansion, it provides seamless connectivity for defense, aerospace, and autonomous mission platforms. With 11–60 VDC wide power input, integrated TPM 2.0 security, and advanced IMU, temperature sensing, and digital I/O, the MILBOX-THR redefines ruggedized AI computing—bringing data-center-class intelligence directly to the tactical edge.
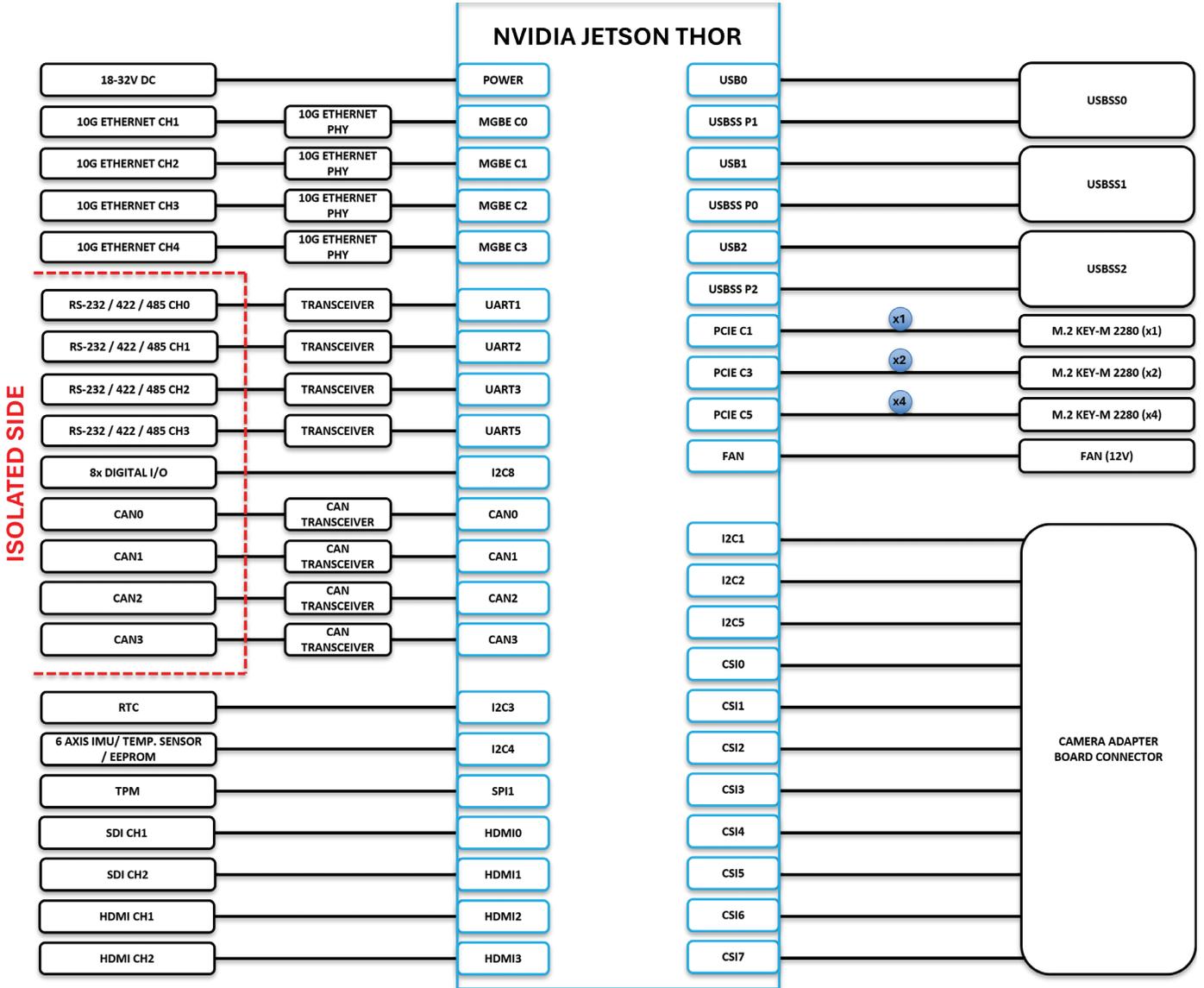
Defense

Aerospace

Marine

Transportation

RoHS COMPLIANT

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MILBOX-THR
RUGGEDIZED AGX THOR COMPUTER

BLOCK DIAGRAM

NVIDIA JETSON THOR

Left Input	Intermediate	Thor Port		Thor Port	Connection	Right Output
18-32V DC		POWER		USB0		USBSS0
10G ETHERNET CH1	10G ETHERNET PHY	MGBE C0		USBSS P1		
10G ETHERNET CH2	10G ETHERNET PHY	MGBE C1		USB1		USBSS1
10G ETHERNET CH3	10G ETHERNET PHY	MGBE C2		USBSS P0		
10G ETHERNET CH4	10G ETHERNET PHY	MGBE C3		USB2		USBSS2
RS-232 / 422 / 485 CH0	TRANSCEIVER	UART1		USBSS P2		
RS-232 / 422 / 485 CH1	TRANSCEIVER	UART2		PCIE C1	x1	M.2 KEY-M 2280 (x1)
RS-232 / 422 / 485 CH2	TRANSCEIVER	UART3		PCIE C3	x2	M.2 KEY-M 2280 (x2)
RS-232 / 422 / 485 CH3	TRANSCEIVER	UART5		PCIE C5	x4	M.2 KEY-M 2280 (x4)
8x DIGITAL I/O		I2C8		FAN		FAN (12V)
CAN0	CAN TRANSCEIVER	CAN0		I2C1		
CAN1	CAN TRANSCEIVER	CAN1		I2C2		
CAN2	CAN TRANSCEIVER	CAN2		I2C5		
CAN3	CAN TRANSCEIVER	CAN3		CSI0		
RTC		I2C3		CSI1		
6 AXIS IMU/ TEMP. SENSOR / EEPROM		I2C4		CSI2		CAMERA ADAPTER BOARD CONNECTOR
TPM		SPI1		CSI3		
SDI CH1		HDMI0		CSI4		
SDI CH2		HDMI1		CSI5		
HDMI CH1		HDMI2		CSI6		
HDMI CH2		HDMI3		CSI7		

ISOLATED SIDE (RS-232/422/485 CH0–CH3, 8x DIGITAL I/O, CAN0–CAN3)

FOR ORDERING

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