NV300-A

2U Half Nvidia AGX Orin Military

- Ultra Short Depth 2U Half Rugged Computer
- NVIDIA Jetson AGX Orin 64G LPDDR5 DRAM
- 1x LAN+2x USB2.0+2x RS422+1x HDMI
- 2x 3G-SDI in
- IP65 Classified, Color: PANTONE 7743C
- DC 12V~30V(Options)
- Operating Temperature: -20℃ ~ 50℃
- Size : 250x325x100mm

Specifications

System

High performance Processor	Ampere GPU + Arm Cortex-A78AE CPU + 64GB LPDDR5 + 64GB eMMC 5.1
GPU	64GB: Two graphics processing cluster (GPC) | eight texture processing clusters (TPC) | 2048 NVIDIA® CUDA® cores | 64 Tensor cores Ray-Tracing cores | 170 Sparse TOPS | Maximum Operating Frequency: 1.3 GHz
AI Performance	64GB: Up to 275 Sparse TOPS (INT8)
Memory Type	Jetson AGX Orin 64GB: 64GB 256-bit LPDDR5 DRAM

Expansion Slot

Expansion Slot	1x M.2 Key-B, 1x SIM, 1x MicroSD, 1x 5V Fan 1x I2C, 2x UART, 1x I2S, 2x SPI, 1x CAN 1x Camera Connector (6 CSI camera support)

Display

Graphics Interfaces	1x HDMI 2.0 (max resolution 3840x2160)

Storage

M.2	1x M.2 M-Key 256GB SSD Slot
	64 GB eMMC 5.1 Flash

Ethernet

Controller	2x GLAN
	1x 10G (SFP+ Based)

Front I/O

X1	DC 12-30 VDC
X2	1x HDMI with D38999
X3	1x USB2.0 with D38999
X4	1x GbE LAN with D38999
X5	1x USB2.0 + RS422 with D38999

Rear I/O

Ground Screw	1
X6	2x 3G-SDI in with D38999

Debug Access Panel	1x Reset Button
	1x Recover Button
	1x USB Type-C for Debug
	1x USB Type-C for Recovery
	1x Reboot LED
X7	1x RS422 with D38999

Power Requirement

Power Input	12V~30V

Operating System

Operating System	Ubuntu 20.04 with JetPack 6.0

Physical

Dimension	250 x 325 x 100 mm(W x D x H)
Weight	8.65kg
Chassis	Aluminum AL6061
Heatsink	Aluminum Alloy, Corrosion Resistant.
Finish	Anodic aluminum oxide, Color: PANTONE 7743C
Cooling	Natural Passive Convection/Conduction. No Moving Parts
Ingress Protection	IP65

Environmental

MIL-STD-461 (Options)	
EMC	CE102 basic curve, 10kHz - 30 MHz RE102-4, (1.5 MHz) -30 MHz - 5 GHz RS103, 1.5 MHz - 5 GHz, 50 V/m equal for all frequencies
Reliability	No Moving Parts; Passive Cooling. Designed & Manufactured using ISO 9001/2000 Certified Quality Program.
Operating Temp.	-20 to 50°C (ambient with air flow)
Storage Temp.	-40 to 85°C
Relative Humidity	5% to 95%, non-condensing.

Ordering Information

NV300-A
Rugged SFF Military Computer, Jetson AGX Orin 64GB, 12V to 30V DC-IN, Extended Temp. -20 to 50°C, 1x M.2 256GB SSD, 2x 3G-SDI, Color: PANTONE 7743C.

NV300-B
To Be Updated

NV300-C
Rugged 2U Military Computer, Jetson AGX Orin 64GB, 12V to 30V DC-IN, Extended Temp. -20 to 50°C, 1x M.2 256GB SSD, Color: PANTONE 7743C.
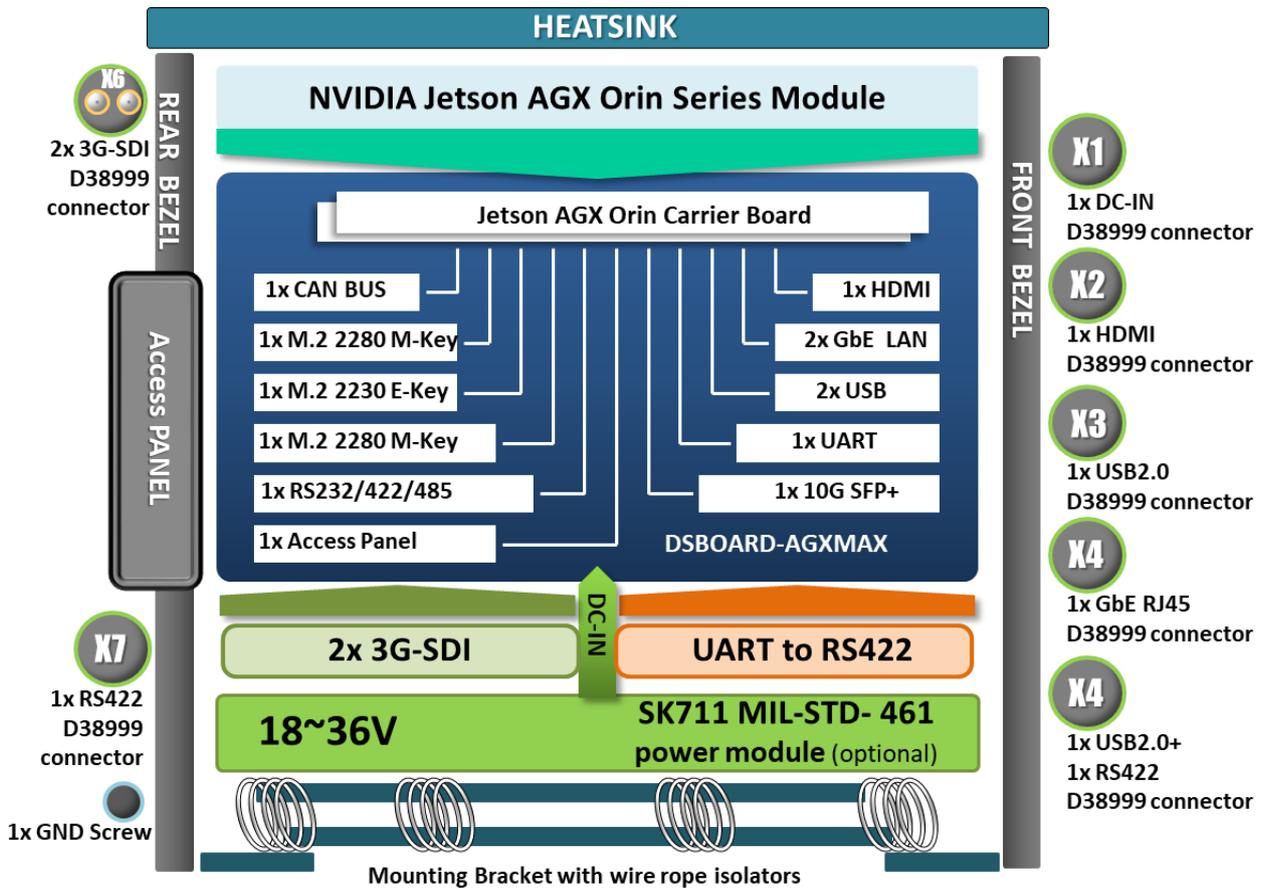
NV300-D
Rugged 2U Military Computer, Jetson AGX Orin 64GB, 12V to 30V DC-IN, Extended Temp. -20 to 50°C, 1x M.2 256GB SSD, 2x 3G-SDI, Color: RAL8025.

NV300-E
Rugged 2U Military Computer, Jetson AGX Orin 32GB, 12V to 30V DC-IN, Extended Temp. -20 to 50°C, 4x 3G-SDI, Color: PANTONE 7743C
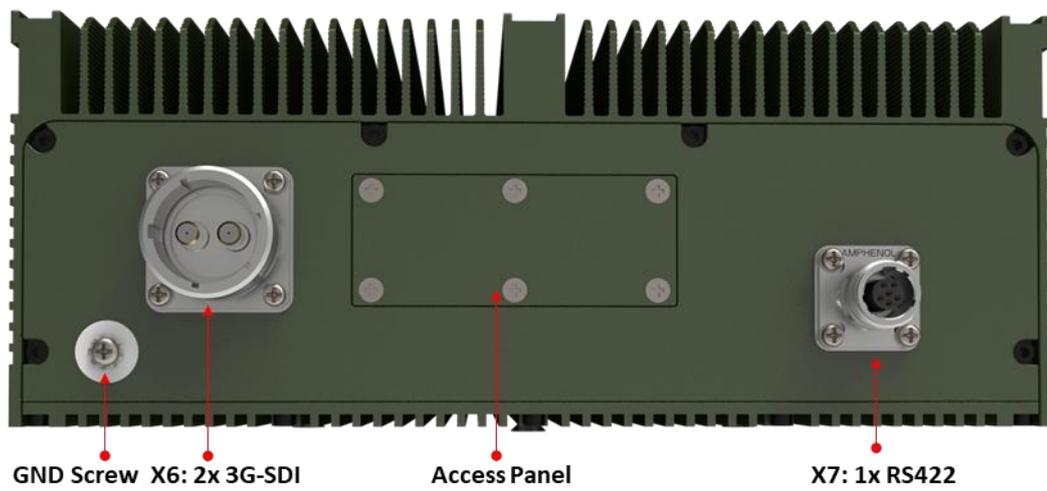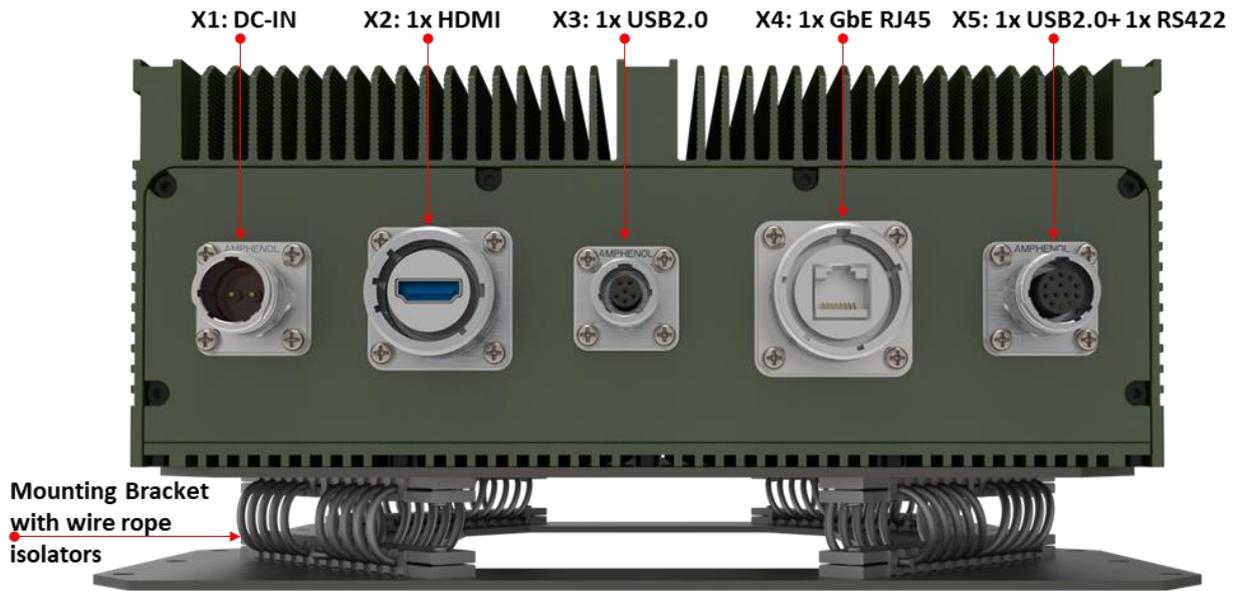
Model No	NV300-A	NV300-B	NV300-C	NV300-D	NV300-E
GPU	2048 CUDA core NVIDIA Ampere with 64 Tensor Cores (AGX Orin 64GB)				1792 CUDA core NVIDIA Ampere with 56 Tensor Cores (AGX Orin 32GB)
Memory	64GB				32GB
AI Performance	275 TOPs				200 TOPs
CPU	Arm® Cortex®-A78AE v8.2 64-bit CPU 12-core /3 CPU cluster /259 SPECint_rate2006, 3MB L2 + 6MB L3				Arm® Cortex®-A78AE v8.2 64-bit CPU 8-core / 2 CPU clusters / 177 SPECint_rate2006, 3MB L2 + 6MB L3
Module total module power	Up to 60W				Up to 40W
Storage	1x M.2 NVMe 256GB	TBD	1x M.2 NVMe 256GB		None
	64GB eMMC 5.1 Flash				64GB eMMC 5.1 Flash
Front I/O					
X1	12-30 VDC with D38999				12-30 VDC with D38999
X2	1x HDMI with D38999				1x HDMI with D38999
X3	1x USB2.0 with D38999	TBD	1x USB3.0	1x USB2.0 with D38999	1x USB2.0 with D38999
X4	1x GbE RJ45 with D38999	TBD	1x GbE RJ45 with D38999	1x GbE RJ45 with D38999	4x 3G-SDI with BNC connectors
X5	1x USB2.0+ 1x RS422 with D38999	TBD	1x USB2.0+ 1x RS422 with D38999	1x USB2.0+ 1x RS422 with D38999	None
Rear I/O					
X6	2x 3G-SDI with D38999	TBD	None	2x 3G-SDI with D38999	None
X7	1x RS422 with D38999	TBD	None	1x RS422 with D38999	None
Ground	1x GND Screw				1x GND Screw
Access panel					
	1x Reset Button				1x Reset Button
	1x Recover Button				1x Recover Button
	1x Debug Type-C				1x Debug Type-C
	1x Recovery Type-C				1x Recovery Type-C
	1x Boot LED				1x Boot LED
Color	Pantone 7743C			RAL8025	Pantone 7743C
Dimensions	250 x 325 x 100mm(WxDxH)				250 x 325 x 100mm(WxDxH)

Block Diagram

	HEATSINK	

NVIDIA Jetson AGX Orin Series Module

REAR BEZEL / **FRONT BEZEL**

X6
2x 3G-SDI
D38999
connector

Access PANEL

Jetson AGX Orin Carrier Board

1x CAN BUS	1x HDMI
1x M.2 2280 M-Key	2x GbE LAN
1x M.2 2230 E-Key	2x USB
1x M.2 2280 M-Key	1x UART
1x RS232/422/485	1x 10G SFP+
1x Access Panel	DSBOARD-AGXMAX

X7
1x RS422
D38999
connector

1x GND Screw

2x 3G-SDI **DC-IN** **UART to RS422**

18~36V **SK711 MIL-STD- 461 power module** (optional)

Mounting Bracket with wire rope isolators

X1
1x DC-IN
D38999 connector

X2
1x HDMI
D38999 connector

X3
1x USB2.0
D38999 connector

X4
1x GbE RJ45
D38999 connector

X4
1x USB2.0+
1x RS422
D38999 connector

Appearance

7STARLAKE

X1: DC-IN   X2: 1x HDMI   X3: 1x USB2.0   X4: 1x GbE RJ45   X5: 1x USB2.0+ 1x RS422

Mounting Bracket with wire rope isolators

GND Screw   X6: 2x 3G-SDI   Access Panel   X7: 1x RS422

Dimension