



LAND



SEA



AIR

# THOR400-027

EDGE AI INFERENCE XEON<sup>®</sup> D-2796NT &  
NVIDIA RTX 4000 ADA



- Ultra-High-Performance Intel<sup>®</sup> Xeon<sup>®</sup> D-2796NT (2.0GHz, 20 cores, 40 threads)
- NVIDIA RTX 4000 Ada (6,144 CUDA, 20GB GDDR6)
- 1x 100GbE Dual-Port QSFP28 Nvidia ConnectX-6(OPTION)
- 4 x Up to 512GB LRDIMM/256GB RDIMM, 4CH DDR4 2933MHz
- 1 x NVMe M.2 SSD
- MIL-STD-810 Temperature, Shock, Vibration
- MIL-STD-461 EMI/EMC; MIL-STD-1275 electrical systems in military vehicles



# Specifications

## SYSTEM

Processor	Intel® Xeon® Processor D-2796NT (Frequency 2.0GHz, Turbo Boost Frequency up to 3.1GHz), 20 Core, 40 Thread Support, 30MB Smart Cache ,TDP up to 120W
Memory type	4 x Up to 512GB LRDIMM/256GB RDIMM, 4CH DDR4 2933MHz
Chipset	SoC, integrated with CPU

## GPU

NVIDIA	NVIDIA RTX 4000 Ada
Tensor Core	192
CUDA Cores	6,144
Memory	20GB GDDR6, 160-bit, 360 GB/s

## STORAGE

SSD	1 x M.2 NVMe SSD
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## 100GbE

NVIDIA	Nvidia ConnectX-6 Dual Port QSFP28 LAN card (Option)
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## FRONT AND SIDE I/O

X1	1x DC-IN, with D38999 connector
X2	1x MiniDP, with D38999 connector
X3	1x 25GbE MPO SFP28, with D38999 connector (1 x 100GbE MPO QSFP28 , with D38999 conncector by option)
X4	1x USB3.0, with D38999 connector
Button	1x Power Switch with Dedicated LED
Dedicated LED	1 x Red/Green LEDs ( SSD)

## POWER REQUIREMENT

Power Input	DC-DC 18V~ 36V (300W max) MIL-STD 461
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## APPLICATIONS, OPERATING SYSTEM

Applications	C4ISR, Commercial and Military Platforms Requiring Compliance to MIL-STD-810 Process Control, where Harsh Temperature, Shock, Vibration, Altitude, Dust and EMI Conditions
Operating System	Windows 10 64Bit, Windows Server 2019 64bit, Windows 2016 64bit, Hyper-V Server 2016 R2, Ubuntu16.04.3 LTS/17.10/18.04.1LTS, Fedora 25/26, RedHat Linux EL 6.8/6.9/7.3/7.4/7.6, VMware ESXi 6.5u1 ,Vmware ESXi 6.7U2

## PHYSICAL

Dimension	220 x 450 x132 mm (W x D x H)
Weight	15Kg (33.06lbs)
Chassis	Aluminum Alloy, Corrosion Resistant
Finish	Anodic aluminum oxide
Cooling	Natural Passive Convection/Conduction Cooling. No Moving Parts Ingress Protection
Ingress Protection	IP65

## ENVIRONMENTAL

### Operating Test MIL-STD-810

Low air pressure	Method 500.5 Procedure 2	Operation/Air Carriage 4572m (15.000 ft)
Low Temperature	Method 502.5 Procedure 2	-20°C, 4 hours, ±3°C
High Temperature	Method 501.5 Procedure 2	+55°C, 4 hours, ±3°C
Humidity	Method 507.5	85%-95% RH without condensation, 24 hours/ cycle, conduct 10 cycle
Vibration	Method514.6 Category 24	5-500Hz, Vertical 7.7Grms, 40mins x 3axis
Shock	Method 516.6	20 Grms, 11ms, 3 axes

### Non-Operating Test MIL-STD-810

Low Temperature	Method 502.5	-33°C, 4 hours, change rate: ≤ 20°C/ Hour -15°C, 72hours (By request)
High Temperature	Method 501.5	+71°C, 4 hours, change rate: ≤ 20°C/ Hour
	Procedure 1	+68°C, 240 hours (By request)
Vibration	Method514.6	5-500Hz, Vertical 7.7Grms, 40mins x 3axis

Shock	Method 516.6	20 Grms, 11ms, 3 axes
Salt Fog	Method 509.7	Salt Spray (50±5)g/L

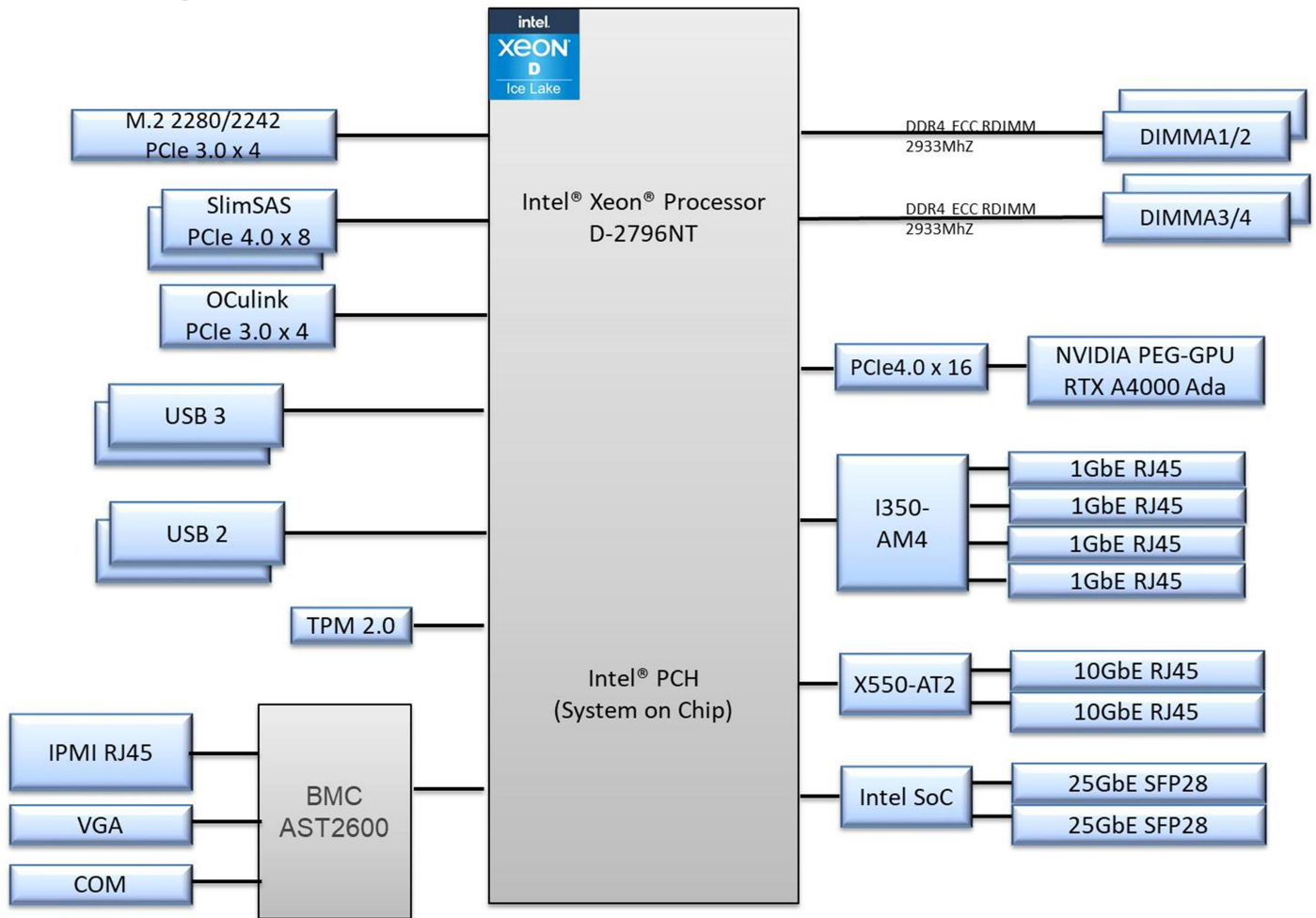
### MIL-STD 461

Conducted Emissions Power Leads	CE102 curve	basic	10kHz – 30MHz
Conducted Emissions Electric Field	RE102-4		1.5MHz - 30MHz – 5GHz
Radiated Susceptibility	RS103		1.5 MHz – 3GHz, 50 V/m equal for all frequencies
			2MHz – 80MHz, 50 V/m equal for all frequencies
Electric Field			80MHz – 3GHz, 50 V/m equal for all frequencies
			3GHz – 5GHz, 50 V/m equal for all frequencies
Electrostatic Discharge	EN 61000-4-2		Air DISCHARGE: 8 Kv, Contact discharge : 6kV
Electromagnetic compatibility	EN61000-4-4		Signal and DC Net: 1 kV
Electromagnetic compatibility	EN61000-4-5		Lead vs. ground potential 1Kv, ignal und DC Net: 1 kV
Radio disturbance	EN55022		Class A
Electromagnetic compatibility	EN61000-4-3		10V/m
Electromagnetic compatibility	EN 61000-4-5		Lead vs. ground potential 1Kv, ignal und DC Net: 0.5 kV

### MIL-STD-1275 SPECIFICATIONS

Steady State	20V~33V
Surge Low	20V~33V
Surge High	18V/500ms

## Block Diagram



## Ordering Information

### THOR400-D27

Military GPU System GPGPU AI Inference Computer with Intel® Xeon D-2796NT Processor, NVIDIA RTX 4000 Ada , Up to ECC R-DIMM 256GB DDR4-2933 MHz, 1 x M.2 NVMe SSD, 1 x 100GbE Nvidia ConnectX-6 LAN card(Optional) ,IP65 rating, MIL-STD-D38999 Connectors, 18~36V DC-IN, Extreme Rugged operating temperature -20~+60°C

# Appearance

