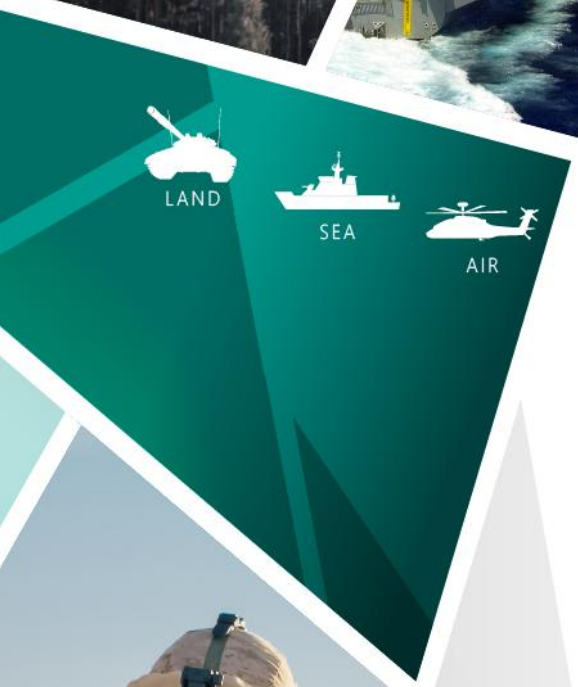


AVR800-SYL4

Edge AI Inference
NVIDIA Ada Lovelace L4
& Xeon® Scalable Gold 5411N

- **Ultra-High-Performance Intel® Xeon® Scalable Gold 5411N (1.9GHz, Max 3.9GHz 24 cores, 48 threads)**
- **NVIDIA Ada Lovelace L4 Tensor Core GPU Integrated (7424 CUDA and 30.3 TFLOPS, 24GB GDDR6)**
- **512GB RDIMM ECC DDR5-5600 MHz**
- **2 x 8TB U.2 NVMe for Fast & Mass Storage with SED**
- **MIL-STD-810 Certification**
- **MIL-STD-461 Certification**
- **Trusted Platform Module (TPM) 2.0 Support**

Edge AI Inference, NVIDIA Ada Lovelace L4 Tensor Core GPU & INTEL XEON SP 5411N

The AVR800-S4L4 is a ruggedized AI inference platform designed specifically for advanced inference acceleration applications such as voice, video, image, and recommendation services. This platform is powered by the NVIDIA Ada Lovelace L4 Tensor Core GPU, which features 30.3 TFLOPS in FP32 and 485 TOPs in INT8 PCIe Gen 4 x 16 high speed bus for real-time inference based on trained neural network models.

In addition to the powerful GPU, the AVR800-S4L4 is equipped with an Intel® XEON Sapphire Rapids processor and two U.2 NVMe slots for fast storage access. This combination of stunning inference performance, a powerful CPU, and expansion capability makes the AVR800-S4L4 the perfect ruggedized platform for versatile edge AI applications.

The AVR800-S4L4 utilizes 7STARLAKE's Open Modular, Scalable Architecture and provides an optimized cooling solution for the NVIDIA Ada Lovelace L4 Tensor Core GPU, ensuring stable system operation in harsh environments. Whether it's for high-demand radar systems, ELINT/ESM operations, or other challenging environments, the AVR800-S4L4 can withstand tough conditions while delivering top-notch AI performance.

Overall, the AVR800-S4L4 is an ideal solution for customers looking for a ruggedized AI inference platform that can handle a variety of edge computing applications with ease.

Specifications	
FP32	30.3 teraFLOPs
TF32 Tensor Core	120 teraFLOPS*
FP16 Tensor Core	242 teraFLOPS*
BFLOAT16 Tensor Core	242 teraFLOPS*
FP8 Tensor Core	485 teraFLOPs*
INT8 Tensor Core	485 TOPs*
GPU memory	24GB
GPU memory bandwidth	300 GB/s
NVENC | NVDEC | JPEG decoders	2 | 4 | 4
Max thermal design power (TDP)	72W
Form factor	1-slot low-profile, PCIe
Interconnect	PCIe Gen4 x16 64GB/s
Server options	Partner and NVIDIA-Certified Systems with 1–8 GPUs

Key Features

Ultra-High Performance Intel® Xeon® Scalable Performance with VMware 8.x Support

Intel® Xeon® Sapphire Rapids delivers exceptional performance for demanding workloads such as database management, virtualization, and cloud computing. It features robust security and virtualization technologies, including Intel® Boot Guard, Intel® Trusted Execution Technology, Intel® AES-NI, Intel® Software Guard Extensions (SGX), and full support for VMware v8 and above. The platform also includes Intel® Virtualization Technology (VT-x), Directed I/O (VT-d), and Extended Page Tables (EPT).

Supporting DDR5-5600 ECC memory for enhanced reliability and Intel® Hyper-Threading Technology for improved processing efficiency, this processor is built for next-gen harsh environments. For space-constrained applications, the Intel® Xeon® Sapphire Rapids integrates the Platform Controller Hub C741 chipset, streamlining system design.

MIL-STD-810/ MIL-STD-461 Certification

The AVR800-S4L4 is designed to meet strict Size, Weight, and Power (SWaP) requirements and to operate reliably in harsh environments, including extreme temperatures, shock and vibration, sand, dust, salt, and fog.

This rugged MIL-STD-461 EMI/EMC server meets multiple environmental standards for temperature, altitude, shock, vibration, voltage spikes, electrostatic discharge, and more. Its sealed, compact chassis protects internal circuitry from challenging conditions such as sand, dust, and humidity.

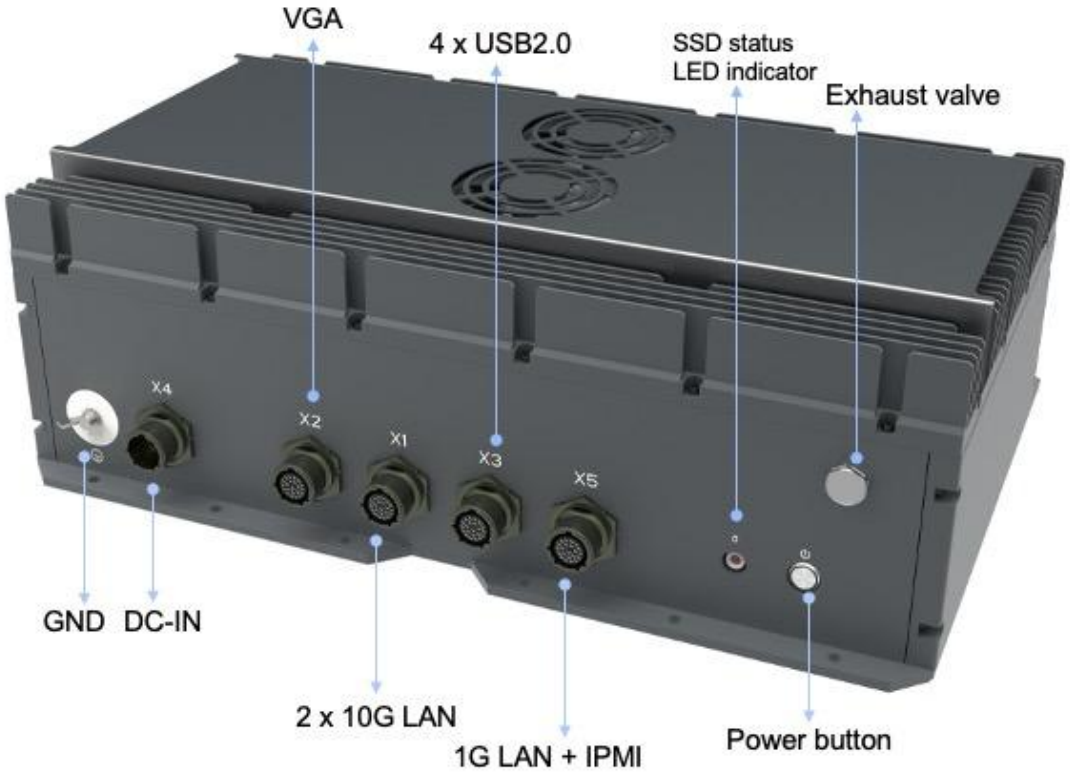
Specifications

System	
Processor	Intel® Xeon® Sapphire Rapids Processor Gold 5411N(Frequency 1.9GHz, Turbo Boost Frequency up to 3.9GHz), 24 Core, 48 Thread Support, 45MB Smart Cache TDP 165W
Memory type	512GB RDIMM ECC DDR5 5600MHz
Chipset	Intel® C741
GPU	
NVIDIA	TESLA Ada Lovelace L4 Tensor Core GPU
TFLOPS	30.3
CUDA Cores	7424
Memory	24 GB GDDR6, 300 GB/sec
Graphics Output	
1 x VGA	ASPEED AST2600
Resolution	Up to 1920x1200@60Hz 32bpp
Storage	
HDD/SSD	2 x 8TB U.2 NVMe SSD with SED
Side I/O	
X1 (2 x 10GbE)	1x Amphenol TV07RW13-35SN (22PIN)
X2 (VGA)	1 x Amphenol TV07RW-13-98S (10PIN)
X3 (4 x USB2.0)	1 x Amphenol TV07RW13-35SB (22PIN)
X4 (DC-IN)	1 x Amphenol TV07RW-13-04P (4PIN)
X5 (1GbE+ IPMI)	1x Amphenol TV07RW13-35SN (22PIN)
Dedicated LED	2 x Red/Green LEDs (SSD)
Hardware	Trusted Platform Module (TPM) 2.0 , Silicon Root Trust (RoT) -NIST 800-193 Compliant
Features	UEFI Secure Boot/ Secure Firmware Updates
Power Requirement	
Power Input	DC-DC 18 to 36V (300W max) MIL-STD 461
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
OS Support List A	Windows 10 64bit Enterprise, Windows 10 64bit Pro Workstations, Windows 10 IoT 64bit Enterprise, Windows 11 64bit Enterprise (OR001), Windows 11 64bit Pro Workstations (OR001), Windows 11 IoT 64bit Enterprise (OR001), Windows Server 2019 64bit, Windows Server 2022 64bit
OS Support List B	RHEL 8.5 64bit, RHEL 8.6 64bit, RHEL 9.0 64bit, RHEL 9.2 64bit, CentOS 8.5. 64bit, Oracle 8.5 64bit, Oracle 8.6 64bit, Rocky Linux 8.5 64bit, openSUSE Leap 15.4 64bit, SLES 15 SP3 64bit, Ubuntu 22.04 64bit Server, Ubuntu 21.10 64bit Server.

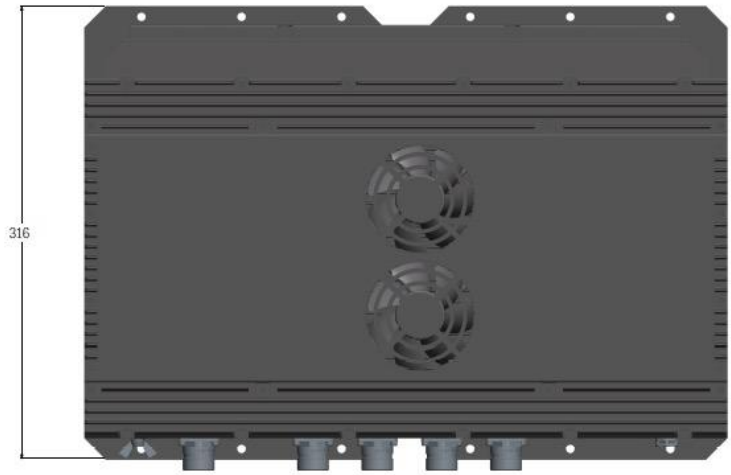
VMware	VMWare ESXi 7.0u3d x64, VMWare ESXi 8.0x64	
PHYSICAL		
Dimension	450x 154 x316 mm (D x H x W)	
Estimated Weight	18 kg (39.68lbs) final weights is dependent on specific configuration	
Chassis	Aluminum Alloy, Corrosion Resistant	
Finish	Anodic aluminum oxide	
Cooling	Conduction Cooling with Air Force smart fan Ingress Protection	
Ingress Protection	IP65	
MIL-STD 810		
High Temperature	High Temperature Storage	+74°C per MIL-STD-810G/501.5/I for 7 cycles
High Temperature	High Temperature Operation	55°C per MIL-STD-810G/501.5/II for 3 cycles
Low Temperature	Low Temperature Storage	-46°C for 72 hours per MIL-STD-810G/502.5/I
Low Temperature	Low Temperature Operation	-33°C per MIL-STD-810G/502.5/II
Vibration	C-130 (J/K) aircraft	Test duration 400 minutes per axis (x,y,z), simulating 120 flight hours including 20 landings and takeoffs
	Functional Vibration	vibration experienced on Ford F-550 in neutral gear
	Tactical Transportation test Not Operational	Test duration: 120 minutes per axis to simulate 500,000 km driving distance.
Shock	Road Transportation	10 Grms, 11ms, 3 (X, Y, Z) axes, Sawtooth Pulse
Immersion	Method 502.5	Test according to IEC 60529/ IP65
MIL-STD 461		
Conducted Emissions Power Leads	CE102	10KHz to 10MHz (Figure CE102-1)
Conducted Susceptibility Power Leads	CS101	30Hz to 150KHz (Figure CS101-1: Curve #2)
Conducted Susceptibility, bulk cable injection	CS114	10KHz to 200MHz, curves 3&4 (10 kHz to 2 MHz: Curve #3 2MHz to 200MHz: Curve #4)
Conducted Susceptibility, bulk cable injection	CS115	impulse excitation (5A)
Conducted Susceptibility Damped sinusoidal	CS116	10KHz to 100MHz (10A)

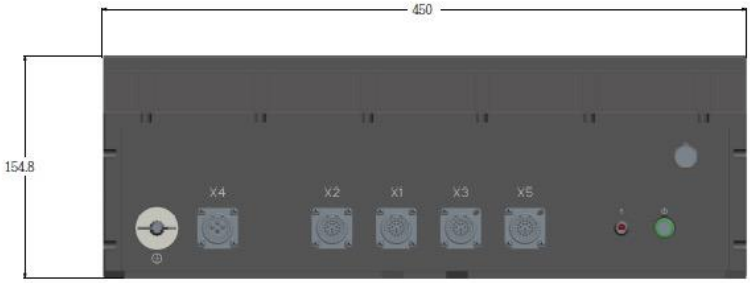
transients, cables and power leads		
Radiated Emissions electric filed	RE102	2MHz to 18GHz (Figure RE102-4)
Radiated Susceptibility electric filed	RS103	2Mhz to 18GHz, 50V/m (2MHz to 100MHz: 50V/m 100MHz to 18GHz: 50V/m)
Personnel borne electrostatic discharge	CS118	Personnel borne electrostatic discharge

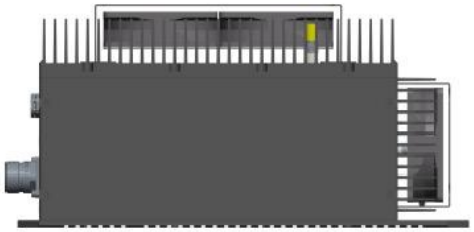
Appearance



Dimensions







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