Condor™ GR2S-A4500

SOSA™-aligned 3U VPX graphics & GPGPU card based on the NVIDIA Ampere A4500 GPU

NVIDIA RTX

NVIDIA AMPERE GPU

NVIDIA Ampere A4500 GPU 5,888 CUDA Cores; 184 Tensor Cores; 46 RT Cores; 17.66 TFLOPS FP32

SOSA ALIGNED SOLUTION

Available with SOSA™-aligned slot profiles and VITA standards with multiple I/O configurations

HIGH-PERFORMANCE GPGPU COMPUTING

Embedded GPGPU solution featuring configurable PCIe Gen 4 Switch

SOSA™-Aligned 3U VPX High-Performance Graphics & GPGPU Card

The Condor GR2S-A4500 is a rugged 3U OpenVPX video graphics and GPGPU processing card based on NVIDIA® Ampere architecture using the NVIDIA A4500 GPU. With 5888 NVIDIA® CUDA® cores, 46 RT Cores (2nd generation), and 184 Tensor Cores (3rd generation), this SOSA-aligned 3U VPX solution is ideal for multi-intelligence applications involving low-latency data processing, EW (Electronic Warfare), DSP (Digital Signal Processing), AI-enabled target detection, Airborne ISR, and other autonomous sensor payloads.

The Condor GR2S-A4500 is a powerful embedded GPGPU solution that empowers real-time mission computing systems with AI at the Edge support, PCI Express Gen 4, Error Correction Code (ECC) memory, and delivers up to 17.66 TFLOPS FP32 single floating point performance. This card is designed in line with the Sensor Open Systems Architecture (SOSA) standard and supports SOSA slots profiles. This card features a configurable PCIe Gen4 switch, dedicated H.265/H.264 encode and decode engines, and is available in air cooled or conduction cooled versions with multiple I/O configurations supporting DisplayPort.

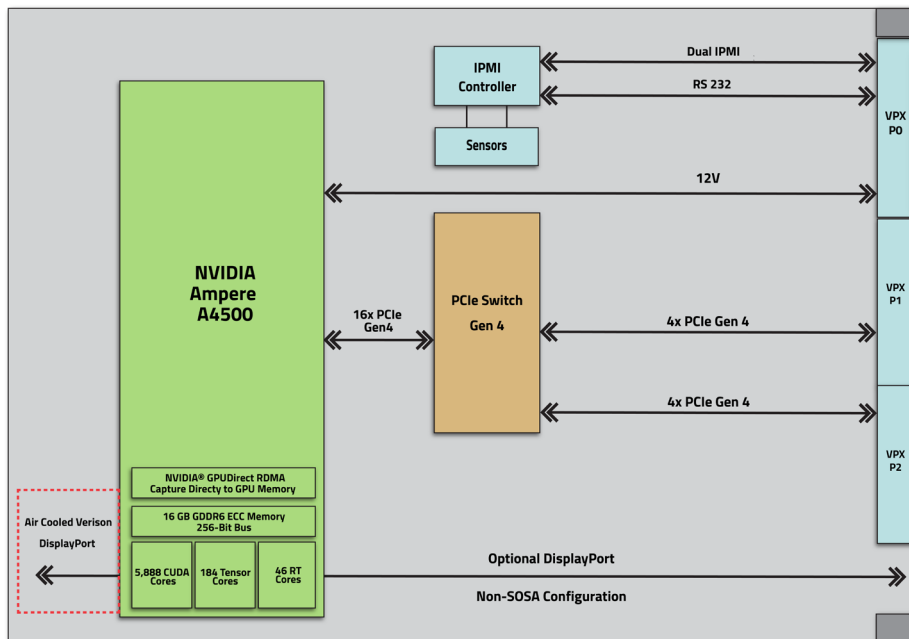MIL-STD 810 Shock   MIL-STD 810 Temperature   MIL-STD 810 Vibration   SWaP

Condor GR2S-A4500 Specifications

Graphics Processor	NVIDIA RTX A4500 GPU (Ampere Architecture) Supporting DirectX 12, OpenGL 4.6, and Vulkan 1.2
Interface	3U VPX Form Factor 1.0" Pitch (Conduction Cooled) 1" Pitch (Air Cooled)
Graphics Memory	16 GB GDDR6 Error Correcting Code (ECC) memory 256-bit Memory Interface 512 GB/s Memory Bandwidth
Profiles Supported	SLT3-PAY-1F1U1S1S1U1U2F1H-14.6.11 SLT3-PAY-1F1U1S1S1U1U4F1J-14.6.13
Front Rear Outputs	Optional DisplayPort - Air Cooled only
GPGPU Capabilities	Up to 17.66 TFLOPS FP32 Single Floating Point Performance 5, 888 CUDA cores (3rd generation) 184 Tensor Cores (3rd generation) 46 RT Cores (2nd generation) NVIDIA RTX Platform: Supports CUDA 11 (Compute Capability 8.6) and CUDA-X OpenCL 3.0 and Shader Model 5.1 H.265 (HEVC) / H.264 (MPEG4/AVC) Hardware Encode & Decode NVIDIA GPUDirect® RDMA, NVENC, NVDEC
Power Consumption	12V supply only needed 90-130W (factory configurable)
Operating Temperature (MIL-STD-810)	-40°C to 70°C (Rugged Air Cooled) -40°C to 85°C (Rugged Conduction Cooled) Please refer to the Hardware User Guide for details on temperature/performance characterization.
Vibration (MIL-STD-810)	0.1 g^2/Hz
Shock (MIL-STD-810)	40 g
Humidity (MIL-STD-810)	95% Without Condensation
Software & Platform Support	Windows or Linux on x86 VPX & PCIe

Condor GR2S-A4500 Block Diagram

SOSA-aligned Payload:
SLT3-PAY-1F1U1S1S1U1U2F1H-14.6.11
SLT3-PAY-1F1U1S1S1U1U4F1J-14.6.13

EIZO Rugged Solutions