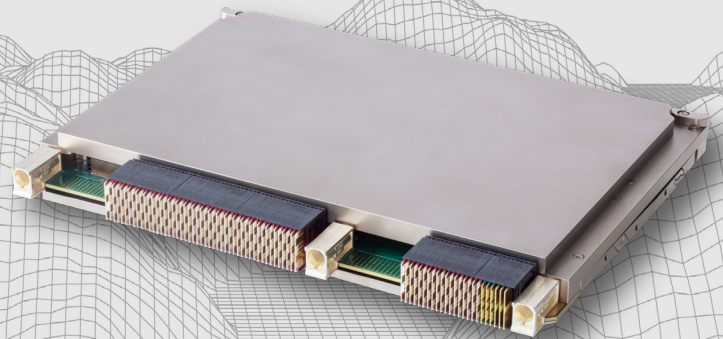


SOSA-aligned 6U VPX HPC & GPGPU  
Output Card with Dual NVIDIA GPUs



## RUGGED 6U VPX

NVIDIA® Turing™ architecture -  
RTX5000 or RTX3000 GPU

## AI & GPGPU COMPUTING

H.265 encoding/decoding,  
Artificial Intelligence, Deep  
Learning & data analysis.

## FRONT PANEL OUTPUTS

Four DisplayPort++ outputs  
(two per GPU)

## SOSA-aligned 6U GPGPU Card with Dual GPU Processing

The Condor XR1S is a 6U VPX SOSA-aligned high-performance computing & GPGPU card that hosts dual GPUs based on the NVIDIA Quadro RTX architecture. The Condor XR1S is based on the NVIDIA® Turing™ architecture using either the NVIDIA RTX5000™ platform or NVIDIA RTX3000™ platform, offering exceptional graphics and GPGPU compute capability with CUDA® support, AI, and deep learning.

The XR1S 6U VPX offers four front I/O DisplayPort++ video outputs and is designed to the SOSA-aligned profile: SLT6-PAY-4F2Q1H4U1T1S1S1TU2U2T1H-10.6.4. This product is available in conduction cooled or air-cooled formats and supports PCI Express Gen 3.0 (16 lane).

The Condor XR1S 6U VPX card can be deployed in High-Performance Embedded Computing (HPEC) systems as this one device handles data and image processing from multiple sensors to perform activities such as image enhancement, image analysis, video stitching, remote sensing, and target acquisition. With dual GPU computing, the card is ideal for Intelligence, Surveillance & Reconnaissance (ISR), Electronic Warfare (EW), Digital Signal Processing (DSP), Signal Intelligence (SIG-INT), Degraded Visual Environments (DVE), and Data Science applications.



MIL-STD 810  
Shock



MIL-STD 810  
Temperature



MIL-STD 810  
Vibration



SWaP

## Condor XR1S

Graphics Processor	NVIDIA Quadro RTX 5000 GPU (TU104 Turing Architecture) or NVIDIA Quadro RTX 3000 GPU (TU106 Turing Architecture) Supporting DirectX 12, OpenGL 4.6 and Vulkan 1.0
Interface	6U VPX Form Factor 16 Lane PCI Express 3.0, 2.0, 1.0  SOSA aligned profile: SLT6-PAY-4F2Q1H4U1T1S1S1TU2U2T1H-10.6.4
Graphics Memory	RTX 5000 GPU: 16 GB GDDR6 256-bit Memory Interface 448 GB/s Memory Bandwidth  RTX 3000 GPU: 6 GB GDDR6 192-bit Memory Interface 336 GB/s Memory Bandwidth
Video Outputs Front Panel	per GPU: Two DisplayPort++ (4K UHD) (DisplayPort can be converted to DVI or VGA with adapters)
GPGPU Capabilities	RTX 5000 GPU: 3072 CUDA Cores. 384 Tensor Cores. 48 RT Cores. Up to 9.49 TFLOPS FP32 Single Floating Point Performance  RTX 3000 GPU: 1920 CUDA Cores. 30 RT Cores. 240 Tensor Cores. Up to 5.3 TFLOPS FP32 Single Floating Point Performance  NVIDIA RTX Platform: Supports CUDA 10 (Compute Capability 7.5) and CUDA-X OpenCL 1.2 and Shader Model 5.1 H.265 (HEVC) / H.264 (MPEG4/AVC) Hardware Encode & Decode NVIDIA GPUDirect® RDMA, NVENC, NVDEC
Power Consumption	Dual RTX5000 version: 240W – depending on the application Dual RTX3000 version: 180W – depending on the application
Operating Temperature (MIL-STD-810)	-40°C to 70°C (Rugged Air Cooled) -40°C to 85°C (Rugged Conduction Cooled)
Vibration / Shock (MIL-STD-810)	0.1 g <sup>2</sup> /Hz / 40 g
Humidity (MIL-STD-810)	95% Without Condensation
Software & Platform Support	Windows or Linux on x86 VPX & PCIe

## Condor XR1S Block Diagram

SOSA-aligned profile:

SLT6-PAY-4F2Q1H4U1T1S1S1TU2U2T1H-10.6.4

This block diagram has been designed based off the NVIDIA RTX5000 GPU.

