6U VPX HPC & GPGPU Output Card with Dual NVIDIA RTX5000 GPUs

NVIDIA QUADRO RTX™
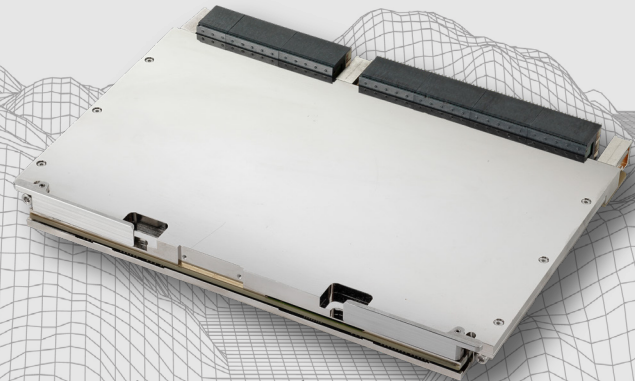
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RUGGED 6U VPX

NVIDIA RTX 5000 GPU (TU104); MXM design

AI & GPGPU COMPUTING

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

EIGHT OUTPUTS

Four DisplayPort++ outputs per GPU

OpenVPX 6U GPGPU Card with Dual GPU Processing

The Condor XR1 6U VPX is a high-performance computing & GPGPU OpenVPX card that hosts dual GPUs based on the NVIDIA Quadro RTX architecture. The Condor XR1-RTX5000 6U VPX card offers exceptional graphics and GPGPU compute capability with CUDA® support, AI, and deep learning, as each GPU nodes is equipped with 16 GB GDDR6 graphics memory, 3072 CUDA® cores, 384 Tensor cores, 48 RT cores, and delivers up to 9.49 TFLOPS floating-point 32 performance.

The XR1-RTX5000 6U VPX offers eight rear IO DisplayPort++ video outputs (four per GPU). This product is available in conduction cooled or air-cooled formats and supports PCI Express Gen 3.0 (16, 8 or 4 lane). This card features thermal efficient design along with the flexible choice of OpenVPX VITA 65 and SOSA slot specifications.

The Condor XR1 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 XR1-RTX5000 Specifications

Graphics Processor	NVIDIA Quadro RTX 5000 GPU (TU104 Turing Architecture) or 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
Graphics Memory	16 GB GDDR6 256-bit Memory Interface 448 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	3072 CUDA Cores. 384 Tensor Cores. 48 RT Cores. Up to 9.49 TFLOPS FP32 Single Floating Point Performance 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 GPU: 240W – depending on the application
Operating Temperature (MIL-STD-810)	-40℃ to 70℃ (Rugged Air Cooled) -40℃ to 85℃ (Rugged Conduction Cooled)
Vibration / Shock (MIL-STD-810)	0.1 g^2/Hz / 40 g
Humidity (MIL-STD-810)	95% Without Condensation
Software & Platform Support	Windows or Linux on x86 VPX & PCIe

Condor XR1-RTX5000 Block Diagram

EIZO Rugged Solutions