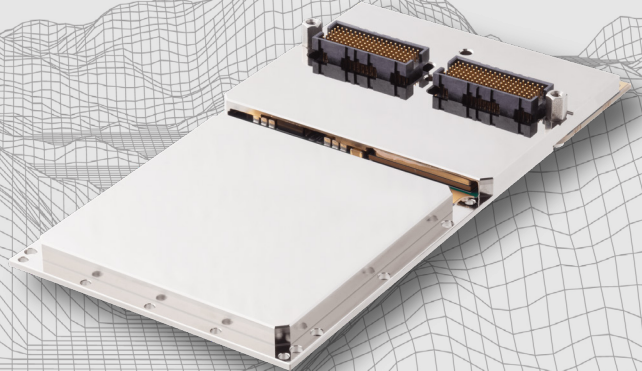


Rugged XMC video capture & GPGPU card based on the NVIDIA Ampere A2000 GPU supporting four video/audio inputs and four video outputs



### **HIGH PERFORMANCE GPU**

Chip-down NVIDIA® Ampere A2000 with up to 8.25 TFLOPS  
FP32 Single Floating Point Performance

### **I/O INTENSIVE**

Four 3G-SDI & two CVBS (NTSC/PAL/SECAM) video inputs with four 3G-SDI video outputs

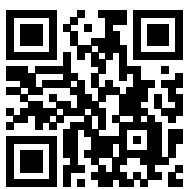
### **ALL-IN-ONE SOLUTION**

Simultaneously capture, process, display, encode, decode, and stream video/audio data, including metadata

## **XMC Video Capture & AI-Enabled GPGPU Processing Solution**

The Condor NVA2104AxX is a rugged high-performance XMC graphics card that captures both analog & digital raw frame-by-frame audio/video and metadata with exceptionally low latency. This card is designed with the NVIDIA® Ampere A2000 GPU supporting 8 GB GDDR6 graphics memory with Error Correction Code (ECC) and features 2,560 CUDA Cores, 80 Tensor Cores, and 20 RT Cores for accelerated performance in neural network training and inferencing functions. This all-in-one solution provides the ability to simultaneously capture, process, display, encode, decode, and stream video data while supporting CUDA and OpenCL based GPGPU computing, AI processing, deep learning, and H.265/H.264 encoding and decoding.

The Condor NVA2104AxX card is very I/O intensive as it supports four 3G-SDI inputs, two CVBS (NTSC/PAL/SECAM), and two stereo line in audio inputs, as well as four 3G-SDI outputs. SDI VANC KLV metadata insertion and extraction is also supported. This innovative video capture and GPGPU card is designed for applications that combine legacy video with newer digital video formats in high-end surveillance applications. The video capture (frame grabber) auto detects the input resolution and then transfers raw video frames directly to GPU memory or host memory using NVIDIA GPUDirect™ RDMA. In GPU memory, the applications can do processing such as image analysis, image enhancement, 360 degree video stitching, sensor fusion and target detection, using GPGPU (CUDA / OpenCL), all with very low latency.



MIL-STD 810  
Shock



MIL-STD 810  
Temperature



MIL-STD 810  
Vibration



SWaP

## Condor NVA2104AxX Specifications

Graphics Processor	NVIDIA RTX A2000 GPU (Ampere Architecture) Supporting DirectX 12, OpenGL 4.5, and Vulkan 1.2
Interface	XMC 1.0 or XMC 2.0 8 Lane PCIe 4.0
Graphics Memory	8 GB GDDR6 with ECC memory 128-bit Memory Interface up to 192 GB/s Memory Bandwidth
Video Inputs	Four 3G-SDI and Two CVBS (NTSC/PAL) Rear Pn6 XMC I/O. VITA 46.9 x12d+x8d+24s.
Video Outputs	Four 3G-SDI Rear Pn6 XMC I/O. VITA 46.9 x12d+x8d+24s
Audio Inputs	Two Stereo Line In
GPGPU Capabilities	2560 CUDA Cores. 80 Tensor Cores. 20 RT Cores. Up to 8.25 TFLOPS FP32 Single Floating Point Performance Supports CUDA 11 (Compute Capability 8.6) 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	25 - 50 W
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 <sup>2</sup> /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 NVA2104AxX Block Diagram

