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NVIDIA PREFERRED PARTNER

XMC Graphics & GPGPU Card with Quad Analog and Digital Outputs

The Condor NVP2009AxX is a high-performance graphics card based on the NVIDIA Quadro P2000 GPU (chip-down) supporting both legacy and newer digital/analog video output formats. This XMC card supports CUDA and OpenCL based GPGPU computing, AI processing, deep learning, and H.265 (HEVC) / H.264 encoding & decoding.

The Condor NVP2009AxX supports four video outputs with customizable output combinations. This product is offered in Conduction Cooled or Air Cooled form factors with rear XMC I/O on Pn6. The rear XMC pin-out is compatible with VPX systems that follow VITA 46.9 x12d+x8d+24s. 3G-SDI and DisplayPort video outputs are available for interfacing with modern digital equipment. The analog CVBS (NTSC/PAL/SECAM) and VGA (STANAG, RS-170, RS-343) video outputs can be configured to support single-ended or differential signaling. Differential signaling is a key enhancement over the traditional single-ended signaling to minimize system-induced signal noise. Supporting both signal types is critical for situations where modern and legacy interfaces must be supported on the platform.

The Condor NVP2009AxX is ideal for GPGPU applications such as C5ISR, situational awareness, signal intelligence (SIGINT), and includes machine learning and autonomy. NVIDIA NVENC (HW encode) and NVDEC (HW decode) can be used to hardware encode or decode video on the GPU. In addition, raw video data can be sent over PCIe directly to GPU memory for analysis/processing using NVIDIA GPUDirect™ RDMA. The card is available in conduction cooled or air cooled with rear XMC I/O on Pn6.

Key features of this product:

- NVIDIA® Quadro® Pascal™ P2000 (Chip-down)
- Up to 4 Active Outputs, any combination of:
  - (1) DisplayPort++
  - (4) 3G-SDI
  - (2) CVBS (NTSC/PAL/SECAM)
  - (2) VGA (STANAG 3350, RS-170, RS-343)
- 4 GB GDDR5 Graphics Memory
- 128-bit Memory Interface
- 96 GB/s Memory Bandwidth
- 768 CUDA Cores
- CUDA 10, OpenCL 1.2, OpenGL 4.5, DirectX 12
- 8 Lane PCI Express 3.0
- H.265 & H.264 Hardware Encoder/Decoder
- NVIDIA GPUDirect™ RDMA, NVENC, NVDEC
- Conduction Cooled & Air Cooled
- MIL-STD-810
- Thermally Efficient Heatsink Technology
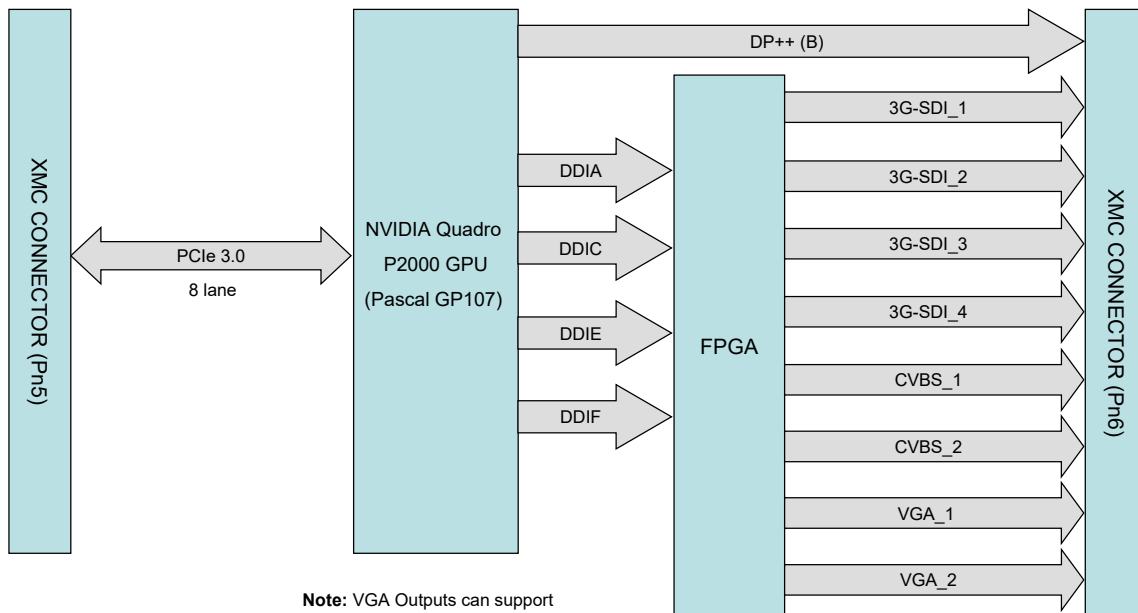- Rear XMC I/O (VITA 46.9, x12d+x8d+24s)

Fully Ruggedized

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Condor NVP2009AxX Specifications

Graphics Processor	NVIDIA® Quadro® Pascal™ P2000 GPU (Chip-down GP107) Supporting DirectX 12 and OpenGL 4.5
Interface	XMC 1.0 or XMC 2.0 8 Lane PCIe 3.0
Graphics Memory	4 GB GDDR5 128-bit Memory Interface 96 GB/s Memory Bandwidth
Video Outputs	Four 3G-SDI, One DisplayPort++ Two CVBS (NTSC/PAL/SECAM) Two VGA (STANAG 3350, RS-343, RS-170) Rear Pn6 XMC I/O. VITA 46.9 x12d+x8d+24s. _Note: Any Combination of Four Outputs._ _Outputs factory configured as single-ended or differential_
GPGPU Capabilities	768 CUDA Cores Up to 2.3 TFLOPS FP32 Single Floating Point Performance Supports CUDA 10 (Compute Capability 6.1) 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)
Vibration (MIL-STD-810)	0.1 g²/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 NVP2009AxX Block Diagram

Note: VGA Outputs can support STANAG 3350, RS-170, or RS-343

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Rev A