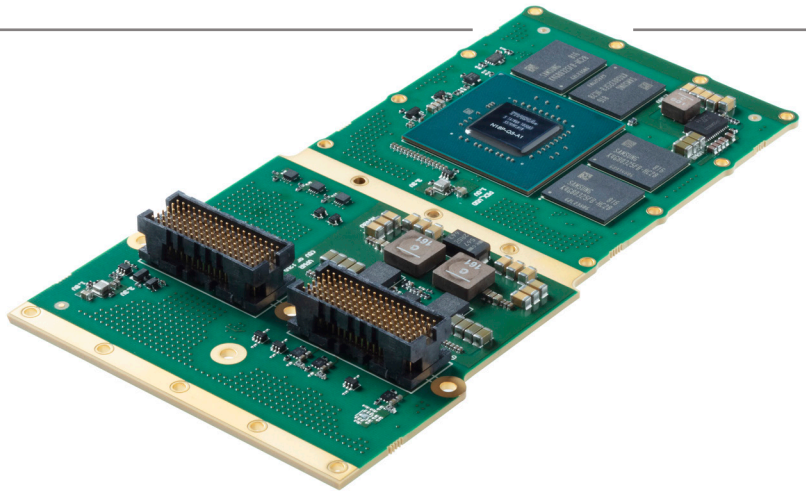


NVP2000

NVIDIA Quadro P2000 XMC Graphics & GPGPU Board

The Abaco NVP2000 is a chip-down XMC graphics output and GPGPU card based on the NVIDIA® Pascal™ (GP107) Quadro® P2000 GPU. The NVP2000 offers very high performance graphics and GPGPU capability – up to 2.3 TFLOPS floating-point - with CUDA™ and OpenCL™ support.

For both runtime performance and ease of programming, the NVIDIA® Pascal™ Quadro® P2000 GPU enables significant gains in SIGINT, radar and video or graphics processing applications. Their high degree of parallelism (768 CUDA cores) also makes them an optimum fit for GPGPU applications including machine learning and autonomy.

The NVP2000 - which meets the MIL-STD-810G standard - is available in both air-cooled and conduction-cooled formats and supports PCI Express™ 3.0 (8 or 4-lanes) when configured with compatible single board computers.

Three DisplayPort 1.4™ outputs are available from the rear XMC I/O connector which can be used as DisplayPort or DVI.

The board can consume up to 32W dependent on the application. Maximum power consumption of the board can be temporarily reduced by adjusting the graphics clock speed with a software utility after boot.

Windows® and Linux® drivers are provided for x86-based platforms.

AXIS Software Toolkit

AXIS ImageFlex is an image processing and visualization toolkit enabling rapid development of high performance image processing, visualization and autonomy applications aimed at size, weight and power (SWaP) sensitive platforms. It is focused on high performance GPU processing and graphics with inter-operability with other programing paradigms such as OpenGL, OpenCL, CUDA and OpenCV.

FEATURES:

- HPC graphics output board
- XMC form factor
- NVIDIA Pascal Class GPU
- Quadro P2000 (chip-down)
  - 2.3 TFLOPs peak FP32 performance
  - 768 CUDA cores
  - 4GB GDDR5
- 3x DisplayPort 1.4 outputs – 4K @ 60Hz
- PCI Gen 3 – x8, x4 lanes
- Windows and Linux drivers on x86
- NVIDIA CUDA 10, OpenCL 1.2 and NVIDIA software suite
- Air-cooled and conduction-cooled

abaco SYSTEMS

NVP2000 NVIDIA Quadro P2000 XMC Graphics & GPGPU Board

Specifications

Graphics Processor
- NVIDIA Pascal (GP107) GPU
  - Quadro P2000 (chip-down)
  - 2.3 TFLOPs peak FP32 performance
  - 768 CUDA cores
  - 4GB GDDR5
  - 96 GB/sec peak memory bandwidth
  - 128-bit memory interface

Graphics outputs
- 3x DisplayPort 1.4 outputs – 4K @60Hz
- Can be converted to DVI or VGA with adaptors

Fabric Interface
- Interconnection between GPU and CPU
- PCI Express interface, Gen 3 (x8, x4 lanes)

Form Factor
- XMC 1.0 or XMC 2.0

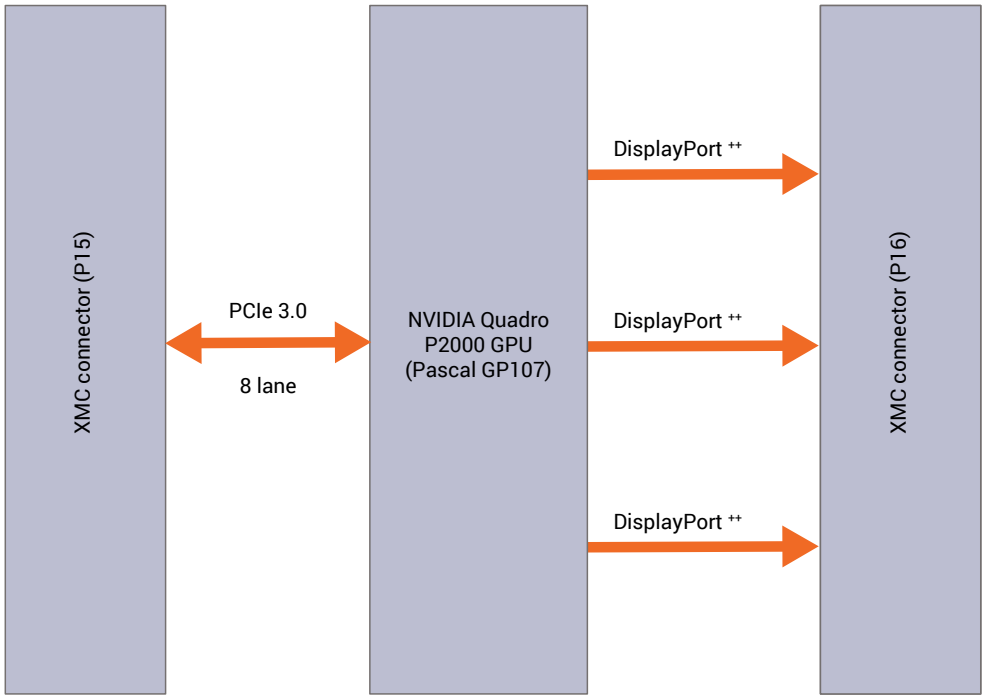
Environment
- -40°C to +70°C (extended temp air-cooled)
- -40°C to +75°C (conduction cooled)

Software
- Windows 7 and 10 drivers and Linux 2.6.32 or newer drivers on x86
- CUDA 10 (compute level 6.1), OpenCL 1.2, OpenGL 4.6
- CUDA C, CUDA C++
- DirectX 12, Shader 5.1
- H.265/H.264 encoding

Power Consumption
- 32W (depending on application and loading)

Dimensions and Weight
- 74mmx 143.75mm
- 8.6oz/244g

Block diagram



WE INNOVATE. WE DELIVER. YOU SUCCEED.

Americas: 866-OK-ABACO or +1-866-652-2226 **Asia & Oceania:** +81-3-5544-3973
Europe, Africa, & Middle East: +44 (0) 1327-359444
Locate an Abaco Systems Sales Representative visit: abaco.com/products/sales
abaco.com | @AbacoSys

06/19 A-DS-5233