

# VPX6-4953

6U VPX GPGPU Processor Card with Chip-Down NVIDIA® Quadro® Pascal™ P5200, 17.4 TFLOPS, 8 Video Outputs

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## Key Features

- Dual NVIDIA P5200 GPGPUs/Inference Engines
- 32 GB GDDR5 with NVIDIA GPUDirect™ DMA technology
- Max memory bandwidth: 243 GB/s to each GPU
- 8 independent DisplayPort++ 1.4, video outputs
- PCIe x16 Gen 3
- Operating power configurable hard cap: 100-260W

## Applications

- ISR and EW applications (including deep learning) where TFLOPs of accelerated processing are required
- High-performance radar, SIGINT, EO/IR, and data fusion ingest, processing, and display
- Unparalleled HPEC performance in cross-cueing application

## Overview

Providing up to 17.4 TFLOPS, this rugged [VPX6-4953](#) GPGPU board features a chip-down design to meet rugged military and aerospace specifications. In addition to providing top-of-the-line processing power from dual Pascal GP104s each with 2560 CUDA® cores, this card also sports the largest maximum memory bandwidth of 243 GB/s.

This module includes eight DisplayPort++ 1.4 outputs, which supports High Dynamic Range (HDR) video at resolutions of 4K at 120 Hz or 5K at 60 HZ with 10-bit color depth.

Due to the critical importance of size, weight, and power (SWaP) in aerospace and defense applications, the GPU on the ruggedized VPX3-4953 is tune-able, tuned to maximize GPGPU capability while minimizing power usage.

The VPX3-4953 is available in air-cooled and conduction-cooled rugged formats. For additional options, please contact Curtiss-Wright.



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INFO: CURTISSWRIGHTDS.COM  
EMAIL: DS@CURTISSWRIGHT.COM

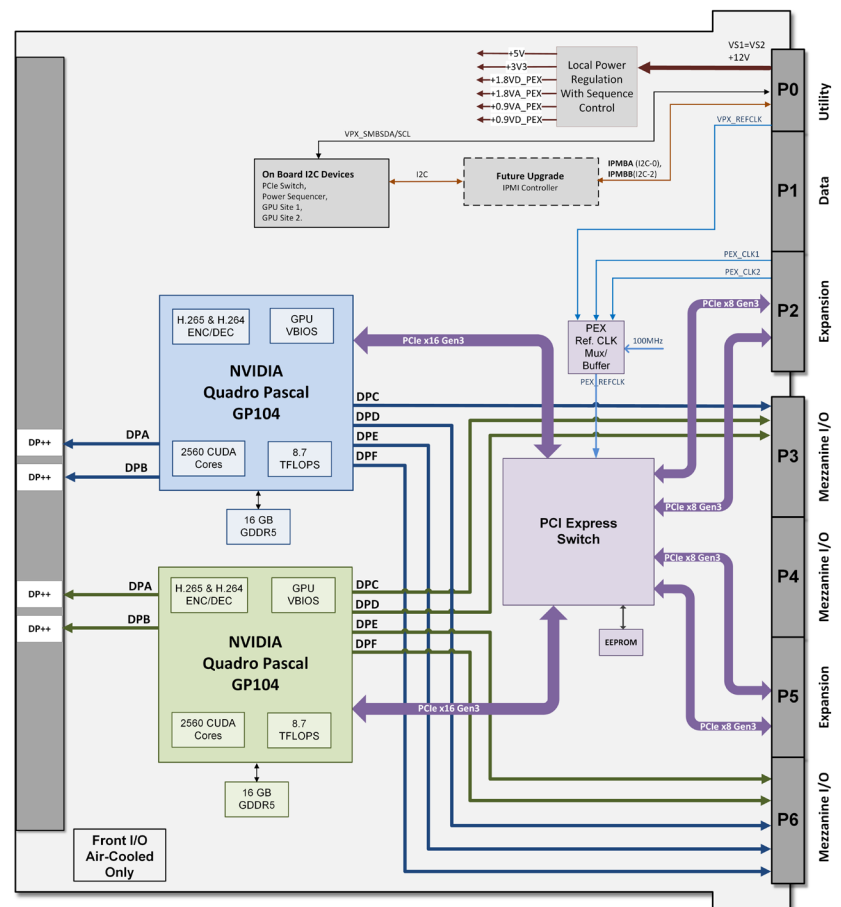


Figure 1: VPX6-4953 block diagram

## Specifications

### Processors

- Dual NVIDIA Quadro Pascal 5200s, each with
  - + 2560 cores, up to 8.7 TFLOPS
  - + 16 GB GDDR5
  - + Max memory bandwidth: 243 GB/s
  - + Memory width: 256-bit
- PCIe Gen 3 x16

### Video Display

- 8 x independent simultaneous video outputs
  - + 8 x DisplayPort++ 1.4 supporting up to 4k @ 120 Hz or 5k @ 60 Hz with 10-bit (HDR) color depth
- NVENC/NVDEC accelerator for HVEC (H.265) and AVC (H.264) hardware encode/decode
- Front and rear I/O configurations
- Video termination provided

### Power

- Configurable GPU hard cap: 100-260W (Preliminary)

### Environmental

- High level of ruggedization
  - + Rugged air-cooled or conduction-cooled
  - + MIL-STD-810, IPC 6012 Class 3
  - + Humiseal 1B73 Conformal coating
  - + Operating temperature -40° to 85°C
  - + Other environmental specifications are per [Wolf Advanced Technology](#)

### Software Support

- NVIDIA drivers supporting Linux®
  - + CUDA Toolkit 9.0, CUDA Compute version 6.1
  - + OpenCL™, OpenGL® 4.5
  - + Vulkan™, DirectX graphics

## Ordering Information

TABLE 1		VPX6-4953 ordering information	
DESCRIPTION	VARIANTS		
	A142-000	C142-000	
Standard prefix for 6U VPX cards	VPX6		
Model number	4953		
Cooling	Air-cooled	Conduction-cooled	
PCIe Gen3	2 x 16		
Processor	Dual NVIDIA Quadro Pascal P5200		
I-Temperature	-40° to +85°C		
Watts	100 to 260W		
GDDR5	32 GB		
CUDA cores	5120		