KEY FEATURES
- Dual NVIDIA Tesla P6 16nm FinFET GPU
- 12 TFLOPS, 4096 CUDA® core GPGPU Engine
- High Performance Compute (HPC) mode
- NVIDIA GRID™ vGPU virtualization with up to 32 vGPU instances
- Operating power configurable hard cap: 80 – 180W

ADDITIONAL FEATURES
- 32 GB GDDR5 memory with NVIDIA GPUDirect™ DMA technology
- Error Correcting Code (ECC) to protect against memory errors
- Pascal GPGPU parallel processing:
  - CUDA Toolkit 9, CUDA Compute version 6.1
  - OpenCL™ 1.2, Directx® 12, OpenGL 4.5
  - Vulkan 1.0
- Memory width: 256-bit width to each GPU
- Maximum memory bandwidth: 192 GB/s to each GPU
- PCIe x16 Gen3
- NVENC/NVDEC accelerator for HEVC (H.265) and AVC (H.264) hardware encode/decode
- Windows and Linux drivers

OVERVIEW
The VPX6U-TESLA-D-HPC board uses NVIDIA’s advanced Tesla Pascal 16nm GPU technology. This rugged Pascal-based board includes support for NVIDIA’s HPC mode which exposes a large memory base address register (BAR) for direct access to the GPU memory from the CPU and other PCIe devices.

The Tesla P6 includes support for NVIDIA GRID, the industry’s most advanced technology for sharing true virtual GPU (GRID vGPU™) hardware acceleration between multiple users. This technology ensures complete application compatibility, which means features and experience are the same as they would be on a physical device.

The rugged VPX3U-TESLA-D-HPC board includes air-cooled and conduction cooled options. For additional options contact WOLF to discuss MCOTS and custom design services.

This is preliminary information and subject to change.
Tesla Pascal P6 is an enormous leap in processing power compared to the previous generation Maxwell Tesla M6. Each GPU can provide up to 6 TFLOPS of CUDA processing at maximum operating power, providing a huge improvement to 67 GFLOPS/Watt, making it an excellent choice for aerospace and defense applications. With its impressive processing capabilities the board excels at data processing which benefits from advanced parallel processing and TFLOPS of processing speed, such as ISR (intelligence, surveillance and reconnaissance), C4ISR (command, control, communications, computers ISR), image processing, terrain analysis, object tracking or 3D visualization of geospatial data.

Tesla Pascal GPU architecture also provides a more powerful Unified Memory feature. Pascal’s larger virtual memory address space enable GPUs to access the entire system memory plus the memory of all GPUs in the system, while the on-demand page migration engine allows the system to migrate pages from anywhere in the system to the GPU’s memory for efficient processing. This improved memory handling results in significantly improved algorithm efficiency.
### Ordering Codes for VPX6U-TESLA-P6-DUAL-HPC

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>211823-FV00*VPX3v10</td>
<td>6UVPX, Air Cooled 1&quot;, Dual NVIDIA Tesla Pascal P6, Each GPU: 6 TFLOPS, 16GB GDDR5 ECC, 2048 CUDA Cores; x16 PCIe Gen3, I-Temp (-40°C to +65°C System Dependent)</td>
</tr>
<tr>
<td>211833-FV00*VPX3v10</td>
<td>6UVPX, Conduction Cooled 1&quot;, Dual NVIDIA Tesla Pascal P6, Each GPU: 6 TFLOPS, 16GB GDDR5 ECC, 2048 CUDA Cores; x16 PCIe Gen3, I-Temp (-40°C to +65°C System Dependent)</td>
</tr>
</tbody>
</table>

* Contact Sales for full part number definition.
Options can include: Single GPU or Dual GPU, Conformal Coating, Modified Power Cap, PCIe configuration, other

### Manufacturing and Quality Assurance

WOLF stress tests to MIL-STD-810 (United States Military Standard for Environmental Engineering Considerations and Laboratory Tests) and MIL-HDBK-217 (Reliability Prediction of Electronic Equipment); Alternately will stress test to RTCA DO-160 (Environmental Conditions and Test Procedures for Airborne Equipment) on request.

WOLF products meet the following quality standards:

- ISO 9001 (Quality management systems - Requirements)
- IPC-A-610 CLASS 3 (Acceptability of Electronic Assemblies)
- IPC 6012 CLASS 3 (Qualification and Performance Specification for Rigid Printed Boards, Class 3 for High Reliability Electronic Products)
- IPC J-STD-001 Certified (Requirements for Soldered Electrical and Electronic Assemblies)

Boards are manufactured to meet the following standards:

- SAE AS9100D (Quality Management System - Requirements for Aviation, Space and Defense Organizations)
- SAE AS5553 (Counterfeit Electronic Parts; Avoidance, Detection, Mitigation, and Disposition)

Caveat: integrated third party MXM modules may not meet the same standards as WOLF manufactured modules.