

NVIDIA® Quadro® Pascal GP107, 2.3 TFLOPS, Chip-Down WOLF Design

KEY FEATURES

- NVIDIA GP107, 2.3 TFLOPS, 768 CUDA® cores
- Chip-down WOLF design and fabrication meets military and aerospace specifications
- 4 independent DisplayPort 1.4 outputs
- 4 GB GDDR5 memory with GPDirect™ DMA
- Operating power configurable hard cap: 15 – 50W

ADDITIONAL FEATURES

- 4 DisplayPort 1.4 digital video outputs:
 - Support for High Dynamic Range (HDR) video
 - 4K at 120Hz or 5K at 60Hz with 10-bit color depth
- Pascal GPGPU parallel processing:
 - CUDA Toolkit 9.0, CUDA Compute version 6.1
 - OpenCL™ 1.2, DirectX® 12, OpenGL 4.5, Vulkan
- Memory width: 128-bit; Max bandwidth: 96 GB/s
- PCIe x16 Gen3
- NVENC/NVDEC accelerator for HEVC (H.265) and AVC (H.264) hardware encode/decode
- Windows and Linux drivers

SPECIFICATIONS

- Manufactured in North America with full component traceability
- Component derating meets or exceeds NASA and Rome Labs specifications for reliability
- Increased board rigidity due to PCB material
- ENIG PCB surface plating
- Hard gold used on connector card edge (30 µin)
- MXM 3.1 Type A envelope and outline with the addition of 2 extra mounting holes (increasing board width slightly at the mounting holes)
- Standard MXM 3.1 connector compliance maintained
- Conformal coating options available (e.g., Parylene, Humiseal, others on request)
- High level of ruggedization:
 - Operating temperature: -40° to +85°C
 - Vibration (sine wave): 10G peak, 5 - 2000Hz
 - Shock: 40G peak

OVERVIEW

The WMXM-P2000E-VO module uses a WOLF chip-down design to provide NVIDIA's advanced Quadro Pascal GPU technology in an extremely rugged module, making it an excellent choice for aerospace and defense applications. WOLF designs and manufactures these modules in North America with full component traceability.

These modules are designed and manufactured specifically for use in the harsh environments encountered in military and aerospace applications. They have been designed to pass MIL-STD-810 and DO-160 environmental tests. They have been manufactured to IPC-A-610 CLASS 3 and IPC 6012 CLASS 3 for high reliability electronic products. They are compliant with IPC J-STD-001 soldering standards.

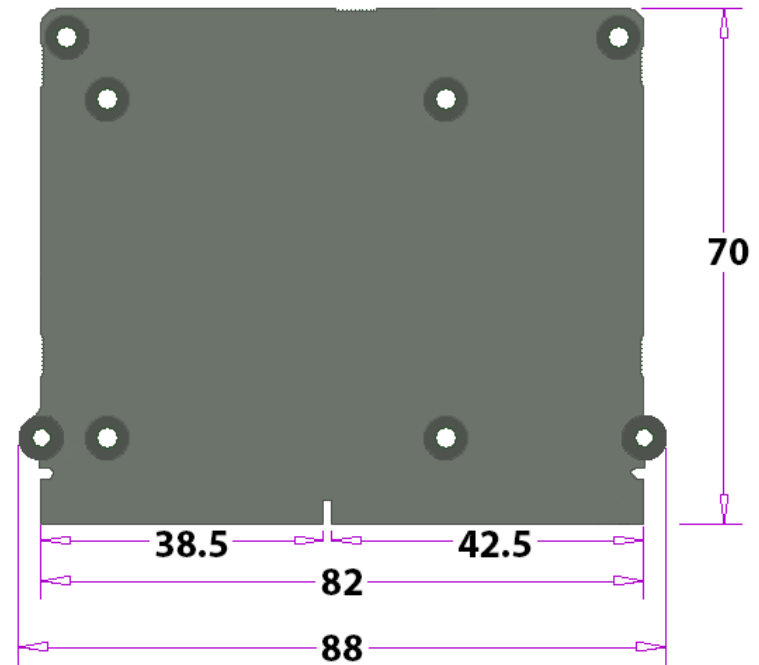
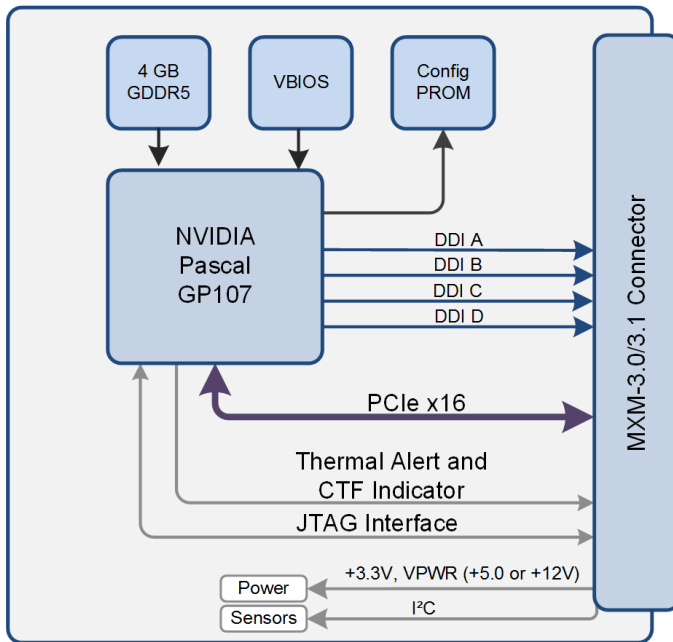
Quadro Pascal GP107 is an enormous leap in processing power compared to the previous generation Maxwell GM107. This rugged Pascal-based module can provide up to 2.3 TFLOPS of CUDA processing, providing 46 GFLOPS/Watt. It includes four DisplayPort 1.4 outputs, which provides support for High Dynamic Range (HDR) video, and resolutions of 4K at 120Hz or 5K at 60Hz with 10-bit color depth.



EMBEDDED

WOLF- 9176

WMXM-P2000E-VO



MANUFACTURING AND QUALITY ASSURANCE

WOLF designs modules to pass the following environmental standards:

- MIL-STD-810 (United States Military Standard for Environmental Engineering Considerations and Laboratory Tests)
- MIL-HDBK-217 (Reliability Prediction of Electronic Equipment)
- RTCA DO-160 (Environmental Conditions and Test Procedures for Airborne Equipment) on request

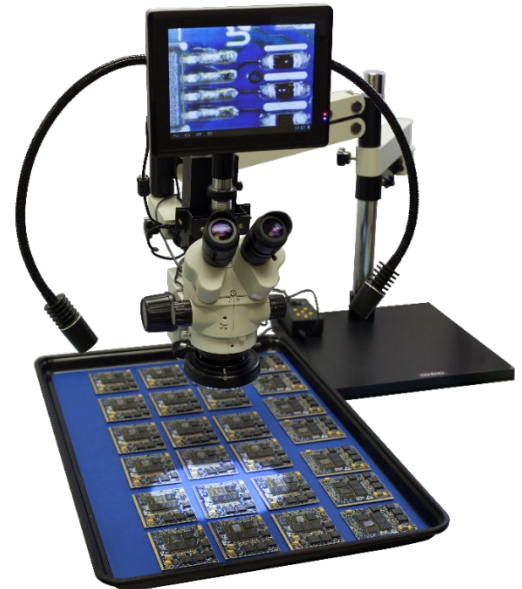
WOLF complies with the following quality management systems:

- ISO 9001:2015: Quality management systems (certified)
- SAE AS5553: Counterfeit Electronic Parts; Avoidance, Detection, Mitigation, and Disposition (compliant)
- SAE AS9100D: Quality Management System - Requirements for Aviation, Space and Defense Organizations (preparing for certification in 2019)

Boards are manufactured to meet the following standards:

- 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 (Requirements for Soldered Electrical and Electronic Assemblies)

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



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