

XMC-P2000E-SDI-2IO

WOLF
ADVANCED TECHNOLOGY

CHIP-DOWN DESIGN

NVIDIA® QUADRO® PASCAL™ GP107, INCLUDES 2 SDI INPUT, 2 SDI OUTPUT

KEY FEATURES

- NVIDIA GP107, 2.3 TFLOPS GPGPU Engine
- Chip-down rugged design, MIL-STD-810
- Up to two 3G-SDI inputs and two 3G-SDI outputs
- 4 GB GDDR5 memory with NVIDIA GPUDirect™ DMA
- Operating power default: 25W; configurable hard cap from 25 - 60 Watts

ADDITIONAL FEATURES

- Additional inputs: CVBS
- MCOTS option: STANAG 3350
- Additional outputs: DisplayPort ++
- 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:
 - 768 CUDA® cores
 - CUDA Toolkit 9, CUDA Compute version 6.1
 - OpenCL™ 1.2, DirectX® 12, OpenGL 4.5
 - Vulkan 1.0
- Memory width: 128-bit
- Maximum memory bandwidth: 96 GB/s
- NVENC/NVDEC accelerator for HEVC (H.265) and AVC (H.264) hardware encode/decode
- PCIe x4 Gen3
- Windows and Linux drivers

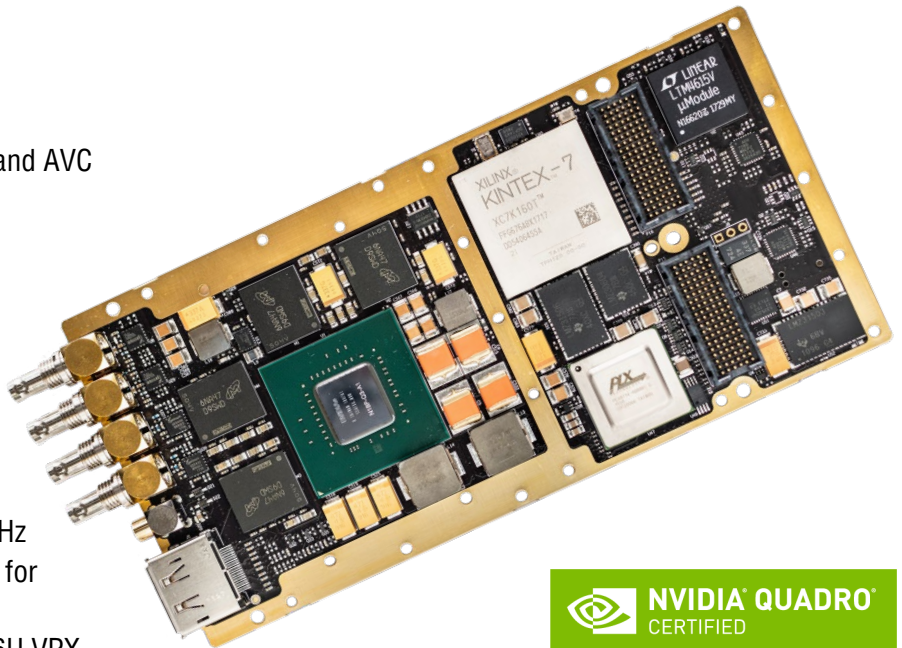
SPECIFICATIONS

- High level of ruggedization:
 - Rugged air-cooled or conduction-cooled
 - Operating temperature: -40° to +85°C
 - Vibration (sine wave): 10G peak, 5 - 2000Hz
 - Shock: 30G peak for air-cooled, 40G peak for conduction-cooled
- VITA 46.9 I/O compliant mapping for 3U and 6U VPX configurations
- Front I/O and Rear I/O configurations
- Available with XMC 1.0 or XMC 2.0 configurations

OVERVIEW

WOLF's versatile Video Processing Unit (VPU) board includes both an advanced NVIDIA Quadro Pascal GPU and WOLF's Frame Grabber eXtreme (FGX). This board accepts multiple simultaneous inputs, including 3G-SDI and CVBS. The video data can be routed to the powerful Pascal GPU for processing or encoding, and then output in several formats, including 3G-SDI, DisplayPort, HDMI or DVI.

The WOLF Frame Grabber eXtreme (FGX) is the engine that provides the board with conversion of video data from one standard to another, with a wide array of video input and output options for both cutting-edge digital I/O and legacy analog I/O. The FGX has direct memory access (DMA) to the Quadro Pascal's GPU memory for GPU processing and complex analysis. By including both the versatile FGX and a high performance Quadro Pascal GPU on one board WOLF's I/O and processing solution avoids the SBC data rebroadcast traffic jams that commonly occur with a 2-board solution.

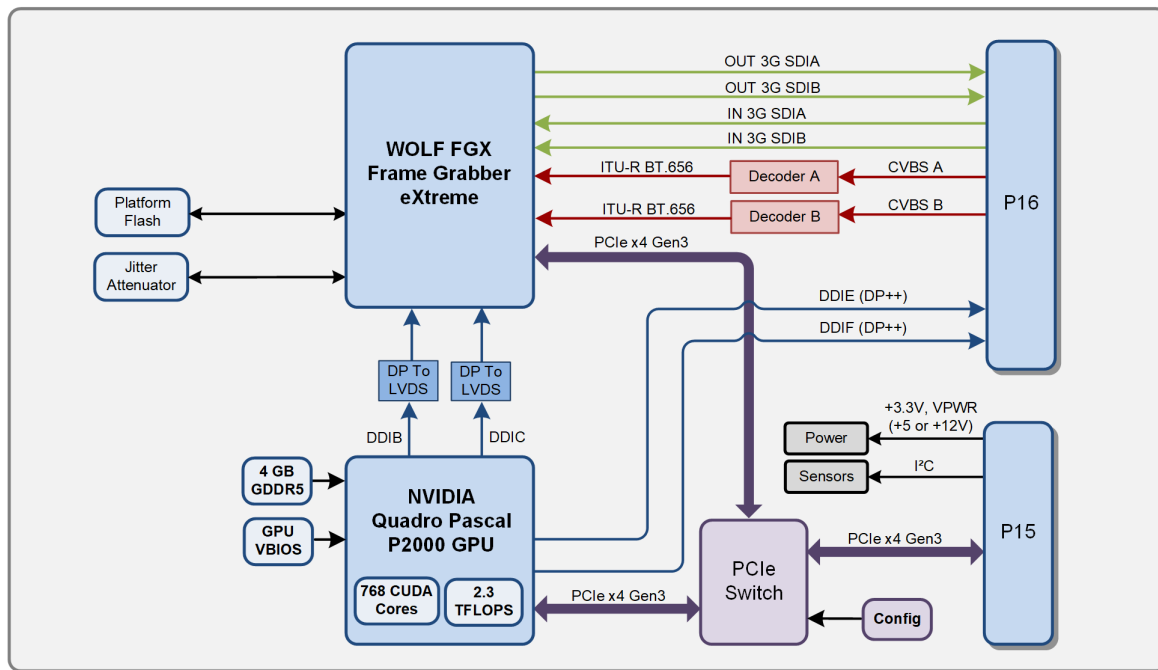


WOLF- 3170 XMC Module

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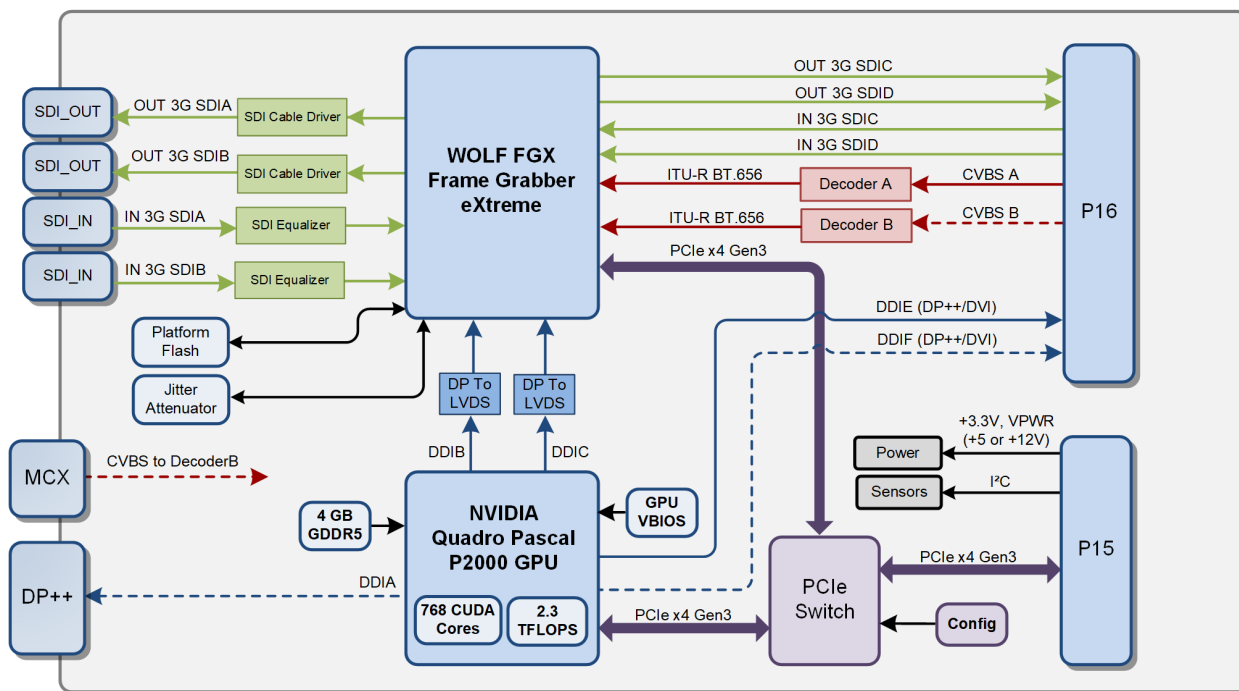
XMC-P2000E-VPU Conduction Cooled



- Inputs and Outputs:
- SDI Inputs: 2x 3G-SDI/HD-SDI/SD-SDI
 - SDI Outputs: 2x 3G-SDI/HD-SDI/SD-SDI
 - Analog Inputs: 2x CVBS
 - Additional Digital Outputs: 2x, can be used for DisplayPort, HDMI, or Single Link DVI

WOLF-31703

XMC-P2000E-VPU Air Cooled



- Inputs and Outputs:
- SDI Inputs: 2x 3G-SDI/HD-SDI/SD-SDI; Can be front or rear
 - SDI Outputs: 2x 3G-SDI/HD-SDI/SD-SDI; Can be front or rear
 - Analog Inputs: 2x CVBS; can be 1x front and 1x rear or 2x rear
 - Additional Digital Outputs: 2x out; can be 1x front and 1x rear or 2x rear
 - DP++ can be used for DisplayPort, HDMI, or Single Link DVI

WOLF-31702

WOLF- 3170 XMC Module

ORDERING CODES FOR XMC-P2000E-SDI-2IO

Part Number	Description
317021-F00**XMCv10	Air cooled, XMC 1.0, Front IO: 2xSDI In, 2x SDI Out, DP++ out, CVBS In, Rear IO: configurable, see block diagram
317022-F00**XMCv10	Air cooled, XMC 2.0, Front IO: 2xSDI In, 2x SDI Out, DP++ out, CVBS In, Rear IO: configurable, see block diagram
317031-F00**XMCv10	Conduction cooled, XMC 1.0, Rear IO: 2xSDI In, 2x SDI Out, 2x CVBS In, 2xDDI Out
317032-F00**XMCv10	Conduction cooled, XMC 2.0, Rear IO: 2xSDI In, 2x SDI Out, 2x CVBS In, 2xDDI Out

** Contact Sales for full code definition. Code can specify: Conformal Coating, Modified Power Cap, Display Termination, other Part Numbers shown for Standard I/O configuration, contact Sales for additional I/O configuration options

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)



WOLF- 3170 XMC Module