

# MXM-E9171-VO

## AMD Radeon E9171 Module with 5 digital outputs, 4K or 5K resolution

### PRELIMINARY INFORMATION

#### KEY FEATURES

- AMD Radeon 1.25 TFLOPS GPU
- Chip-down rugged design
- 5 independent DisplayPort 1.4 outputs
- 4 GB GDDR5 memory
- Operating power from 15 - 50W

#### ADDITIONAL FEATURES

- 5 DisplayPort 1.4 digital video outputs:
  - Support for High Dynamic Range (HDR) video
  - Up to 12-bit color depth
  - 5K or 4K at 60Hz
- Support for HDMI 2.0b, single link DVI, dual link DVI
- GPGPU parallel processing:
  - Eight compute units, 512 shaders (Stream Processors)
  - DirectX® 12, OpenCL™ 2.0, OpenGL 4.5, Vulkan
  - AMD's HIP Tools for NVIDIA® CUDA™ code reuse
- 4 GB GDDR5 memory, width: 128-bit
- Memory clock 1500 MHz, bandwidth: 48 GB/s
- Support for HEVC (H.265) and AVC (H.264) hardware encode/decode, 4K at 60Hz
- PCIe Gen3 x8/x4
- Windows and Linux drivers
- Optional RTOS drivers: VxWorks, others on request

#### SPECIFICATIONS

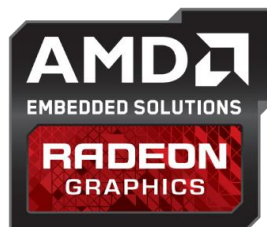
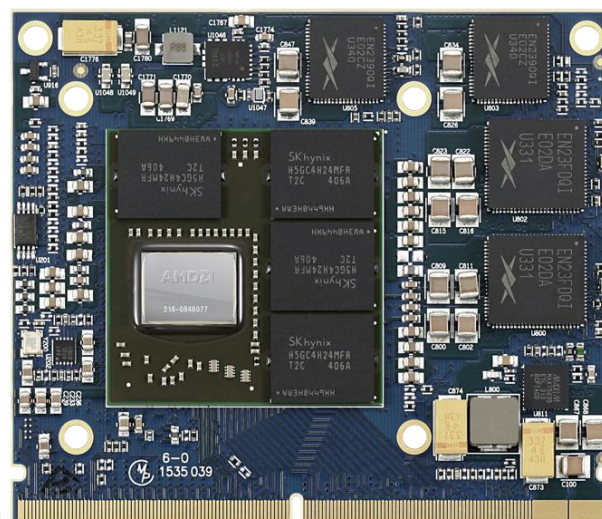
- High level of ruggedization:
  - Operating temperature: -40° to +85°C
  - Vibration (sine wave): 10G peak, 5 - 2000Hz
  - Shock: 40G peak
- Dimensions: MXM 3.1 Type A envelope and outline
- Weight: TBA
- +12V or +5V power source options
- Conformal coating options available (e.g., Parylene, Humiseal, others on request)

#### OVERVIEW

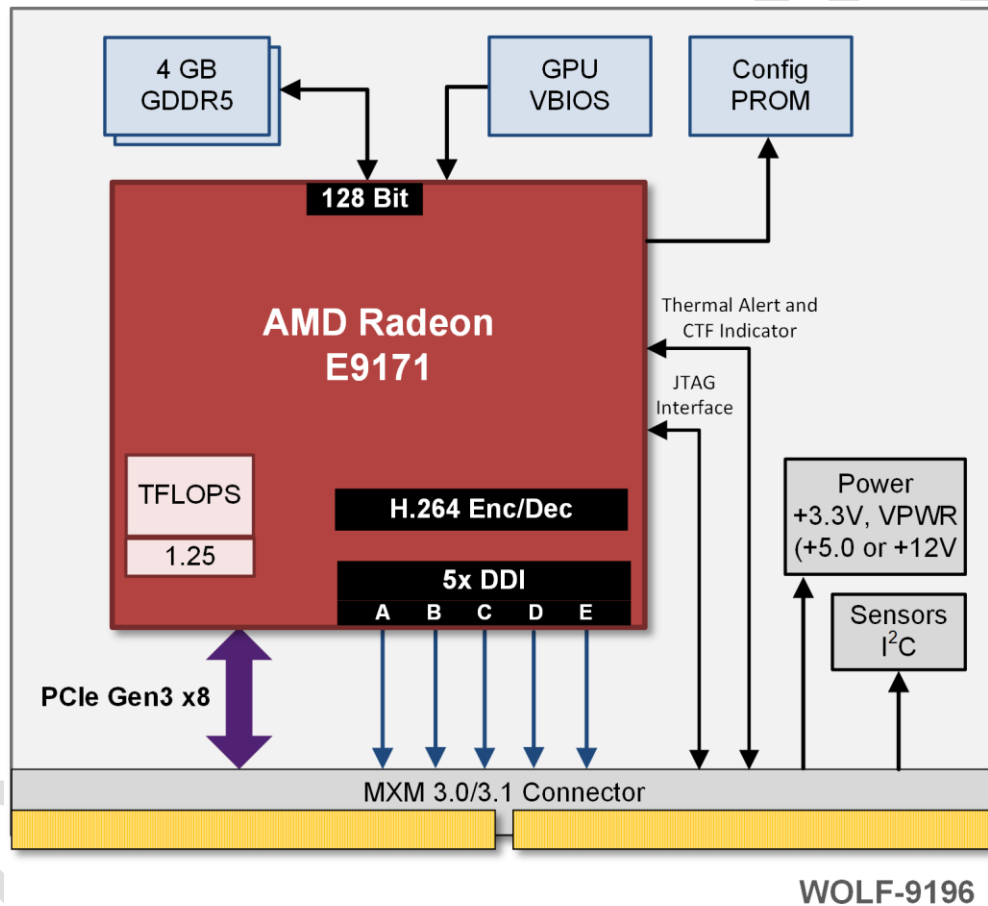
WOLF's MXM-E9171-VO board incorporates AMD's latest 14nm Polaris architecture to provide a significant performance increase compared to the previous generation AMD GPUs, with processing at 1.25 TFLOPS and highly efficient operating power which is dynamically controllable from 15 to 50W. MXM-E9171-VO is capable of driving up to five outputs, with up to five 4K displays (4096x2160 @60Hz) or up to two 5K displays (5120x2880 @60Hz). DisplayPort 1.4 is supported, with High Dynamic Range (HDR) video and up to 12-bit color depth.

This board can provide 1.25 TFLOPS of single-precision GPGPU parallel processing capability. AMD GPUs are optimized for OpenCL, the open and cross-platform programming standard. For those with existing CUDA code, AMD's HIP Tools can be used to port CUDA code to C++, giving developers a way to reuse code that was previously locked to a proprietary hardware.

Windows and Linux drivers are available. Optional RTOS drivers are also available for this board, including VxWorks, Integrity, LynxOS, and others on request.



This datasheet is preliminary and is subject to change



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## PRELIMINARY INFORMATION

### ORDERING CODES

The following table defines series of common order codes for the MXM-E9196-VO module. The asterisks denote characters of the part number that are defined based on common configuration options. Some common configuration options for this module are:

- Display Interfaces
- +12V / +5V Main Power
- Conformal Coating Type
- Default Power Threshold
- Cooling Architecture
- RTOS options

Ordering Number	Description
<b>MXM AMD E9171 Video Output</b>	
919622-F9**MXMv10	MXM Type A, AMD E9176, 5x DP++ Outputs

Contact Sales for the latest Ordering Numbers and available 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 management systems:

- AS9100D: Quality Management System - Requirements for Aviation, Space and Defense Organizations (certified)
- ISO 9001:2015: Quality management systems (certified)
- AS5553: Counterfeit Electronic Parts; Avoidance, Detection, Mitigation, and Disposition (compliant)
- NIST SP 800-171: Protecting Controlled Unclassified Information in Nonfederal Systems (compliant)

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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