MXC2-FGX

Ultra Low-Latency Video Input/Output, Includes 3G/HD-SDI, Analog

Key Features

- WOLF Frame Grabber eXtreme (FGX) capture, process, transmit engine
- Digital Inputs: up to 4x SDI, 3 DisplayPort
- Digital Outputs: up to 4x SDI
- Analog: up to 3x CVBS inputs, 3x RGB outputs
- Low operating power, under 9.5W

Additional Features

- Modifiable for alternate video formats (e.g., STANAG 3350, ARINC 818)
- PCIe x4 Gen2 with up to 2.0 GB/s
- Extended product lifespan
- Windows (64-bit) and Linux drivers

Mechanical / Hardware Specifications

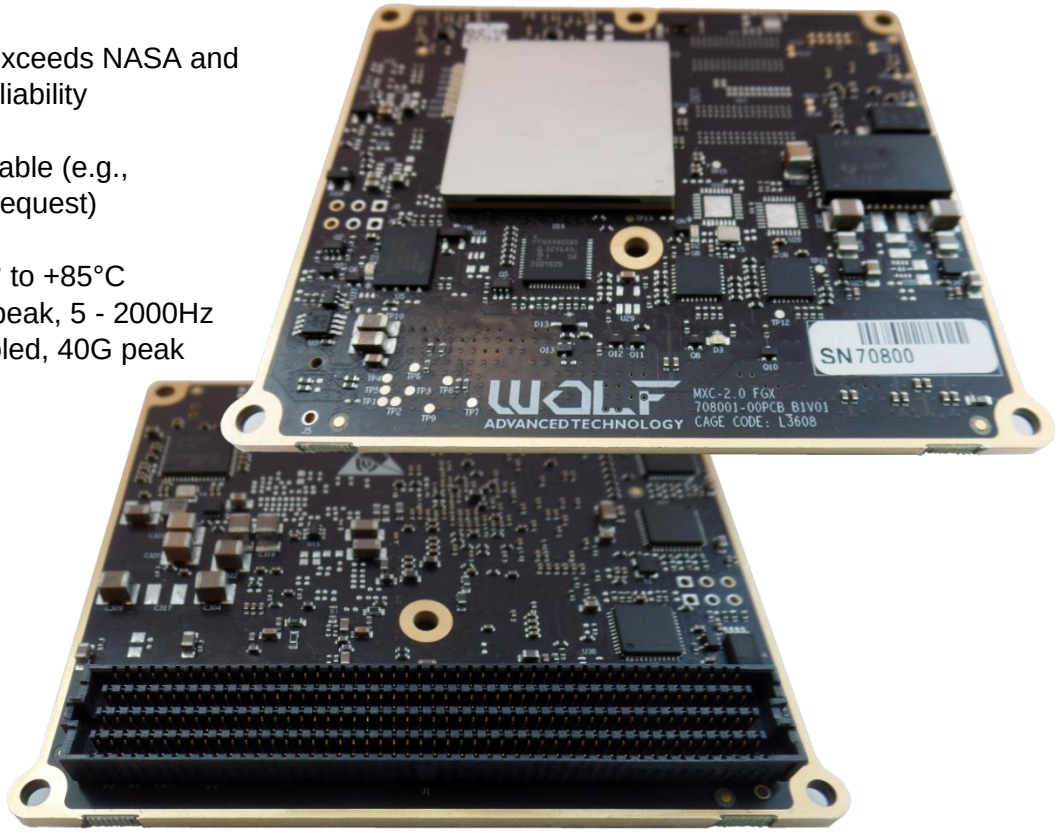
- 80x68mm mezzanine module, 400-pin connector
- Manufactured in North America with full component traceability
- Component derating meets or exceeds NASA and Rome Labs specifications for reliability
- ENIG PCB surface plating
- Conformal coating options available (e.g., Parylene, Humiseal, others on request)
- High level of ruggedization:
  - ☐ Operating temperature: -40° to +85°C
  - ☐ Vibration (sine wave): 10G peak, 5 - 2000Hz
  - ☐ Shock: 30G peak for air-cooled, 40G peak for conduction-cooled

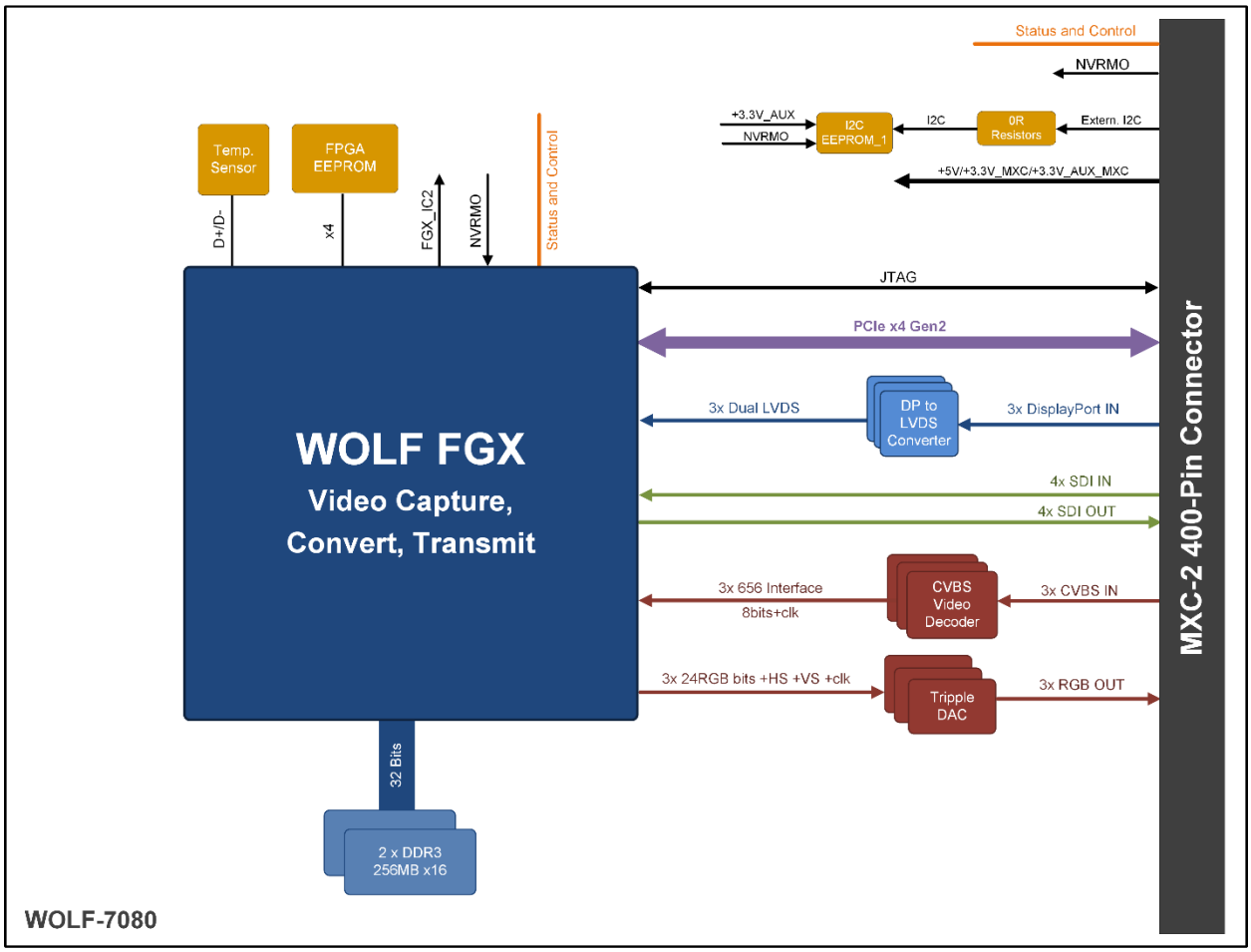
Overview

This versatile MXC capture, process and display module includes WOLF's Frame Grabber eXtreme (FGX), built on Xilinx FPGA hardware. This board accepts multiple simultaneous HD-SDI, 3G-SDI, DP and analog inputs and can output multiple HD-SDI, 3G-SDI and analog outputs. The module can also accept video sources from a PCIe DMA stream for real-time conversion to SDI or analog output.

The raw data from each channel can be streamed with sub-frame latency to the host system or to a GPU for storage, analysis, enhancement, encode or display.

The WOLF FGX high-performance engine also provides the flexibility required for fast, cost-effective MCOTS customization, allowing the module to be modified to interface with many video standards or system hosts.




Status and Control
NVRMO
+3.3V_AUX
NVRMO
I2C EEPROM_1
I2C
0R Resistors
Extern. I2C
+5V/+3.3V_MXC/+3.3V_AUX_MXC
Temp. Sensor
FPGA EEPROM
D+/D-
x4
FGX_IC2
NVRMO
Status and Control
JTAG
PCIe x4 Gen2
3x Dual LVDS
DP to LVDS Converter
3x DisplayPort IN
4x SDI IN
4x SDI OUT
WOLF FGX
Video Capture, Convert, Transmit
3x 656 Interface
8bits+clk
CVBS Video Decoder
3x CVBS IN
3x 24RGB bits +HS +VS +clk
Tripple DAC
3x RGB OUT
MXC-2 400-Pin Connector
32 Bits
2 x DDR3 256MB x16
WOLF-7080

ORDERING CODES

The following table defines series of common order codes for the MXC2-FGX module. The asterisks denote characters of the part number that are defined based on common configuration options. Some configuration options for this module include:

- Display Interfaces
- Conformal Coatings
- Variant Locked

Ordering Number	Description
MXC2-FGX module	
708021-F00*MXCv11	3xDP In, 3xCVBS In, 4xSDI In, 4xSDI Out, 3xRGsB Out

* 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)

AS9100 • ISO 9001 CERTIFICATION™ Intertek

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GOVERNMENT-INDUSTRY DATA EXCHANGE PROGRAM GIDEP