

XMC-FGX2-VIO-DO254

Video I/O: SDI In/Out, DP In, RGB

OVERVIEW

The WOLF-3184 DAL-C provides a high data rate, high density video capture and transmit platform with the FGX2, WOLF's second-generation frame grabbing technology. FGX2 is a HD capable digital and analog frame grabber with conversion and transmit capability, built on the AMD Kintex™ UltraScale+™ series of FPGA devices. This module is developed in compliance with RTCA DO-254, Design Assurance Level (DAL) C. It is ideally suited for aviation safety-critical applications, offering machine vision or sensor data processing in harsh environments where low latency matters and SWaP is at a premium.

This module's ICD aligns with ANSI/VITA 46.9 for 3U and 6U VPX configurations. This module can be paired with a module powered by an NVIDIA GPU to provide extremely low latency peer-to-peer communication that will reduce the host system CPU overhead, which can be critical when processing large amounts of data.

KEY FEATURES

- WOLF Frame Grabber eXtreme 2 (FGX2) with multiple inputs and outputs
- Up to four HD/3G SDI inputs and outputs
- Two DisplayPort (up to HBR2 & MST) inputs, each with up to 2 streams
- Direct DP to SDI conversion all in FGX, without sending video to the host
- PCIe Gen3 x4
- One RGB input (NTSC, 24-bit RGB)
- Low operating power, under 15W
- DO-254 DAL-C Certified

ADDITIONAL FEATURES

- SDI compatible with both progressive and interlaced video formats
- Linux driver supported
- Windows driver optional
- Supports Green Hill INTEGRITY-178 Trump Real-Time OS
- VxWorks RTOS drivers optional
- Extended product lifespan



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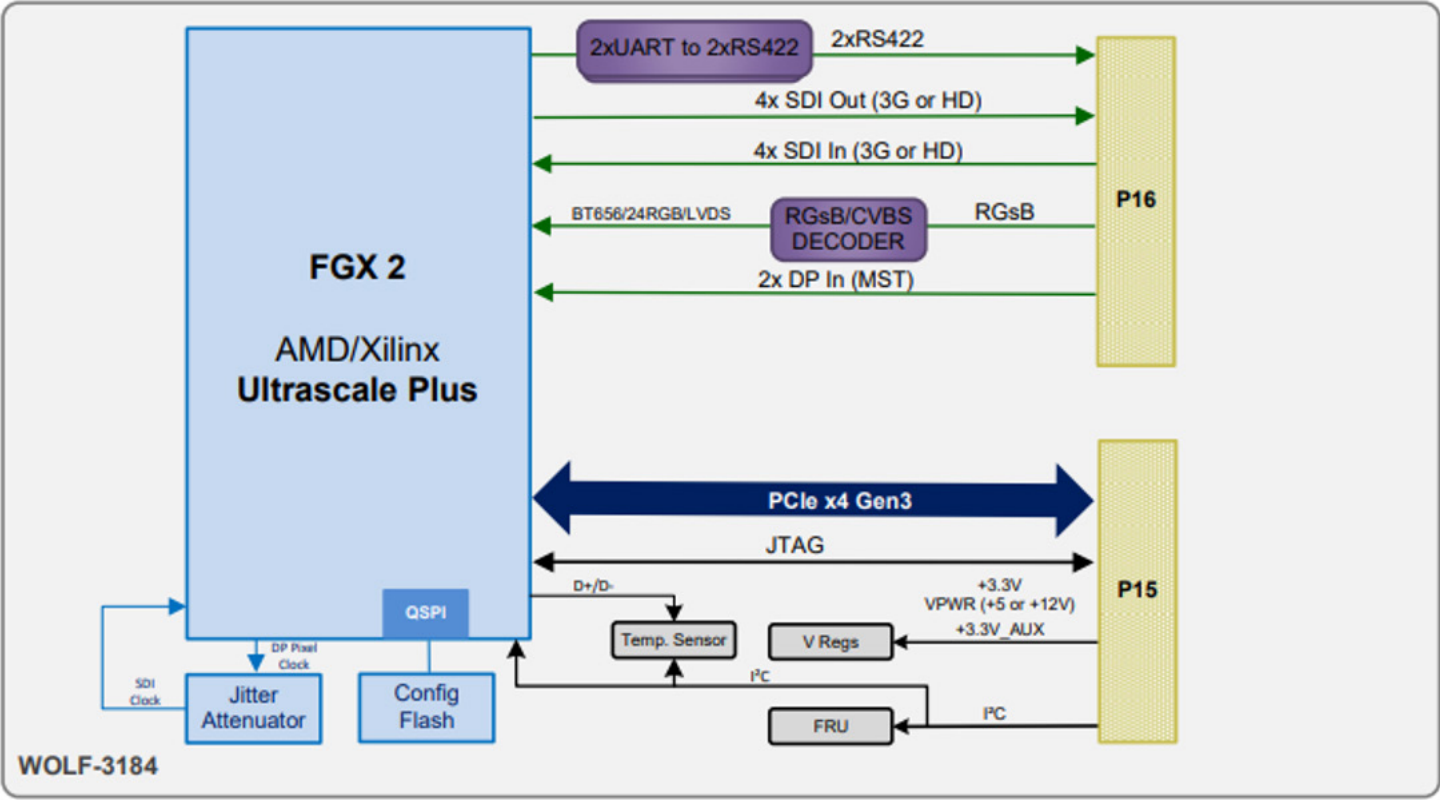
SPECIFICATIONS

- High level of ruggedization:
 - Rugged conduction cooled
 - Operating temp: CC: -40°C to +70°C standard, operational to +85°C
 - Vibration Random: VITA 47.1 Class V3 (5 to 2000Hz)
 - Vibration Sine: 10g peak (5 to 2000 Hz)
 - Shock: 40G peak for conduction-cooled
- VITA 46.9 I/O compliant mapping for 3U and 6U VPX configurations
- Weight: 130g (max), 85g (without heatplate)
- Dimensions: 143.75 × 74.00 mm

THIS INFORMATION IS SUBJECT TO CHANGE

XMC-FGX2-VIO-D0254

Video I/O: SDI In/Out, DP In, RGSB



VIDEO FORMAT SUPPORTED FOR 3184 DAL-C:

DESCRIPTION	DISPLAYPORT IN	SDI IN	SDI OUT
Direct DP to HD/3G-SDI	1280×720p60Hz 1920×1080p30Hz 1920×1080p60Hz		1280×720p60Hz 1920×1080p30Hz 1920×1080i60Hz
HD/3G-SDI to PCIe DMA		1280×720p60Hz 1920×1080p30Hz 1920×1080i60Hz	

EXAMPLES OF VIDEO I/O CONFIGURATIONS FOR 3184 DAL-C:

ORDERING NUMBER	DESCRIPTION
Default Configuration	Direct DP to SDI, SDI to PCIe DMA, 2XRS422, 1x (STANAG-3350C RGSB) In
Optional configuration*	DP to PCIe DMA, SDI to PCIe DMA, 2XRS422/RS485, 1x (STANAG-3350C RGSB) In

*Contact WOLF to discuss your specific requirements

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ORDERING CODES

The following table defines series of common order code for the 3184 DAL-C module. The asterisks denote characters of the part number that are defined based on configuration options. Some common configuration options for this module are:

- RTOS Drivers
- Conformal Coatings
- Variant Locked

ORDERING NUMBER	DESCRIPTION
318432-F***-000XMC	XMC 2.0, Conduction Cooled, FGX2, 4X 3G-SDI IN, 2XDP (MST) IN, 1X (STANAG-3350C RGSB) IN, 2XRS422, 4X3G-SDI OUT, PCIe Gen3 x4

* Contact Sales for the latest Ordering Numbers and options available.

WOLF makes products that can provide support for a variety of video display interfaces including 12/6/3G-SDI, ARINC 818-2/3, CoaXPress, STANAG-3350 A/B/C, CVBS, RS170, LVDS, DVI, DisplayPort, Camera/Channel Link, and custom formats. Contact WOLF to discuss your specific requirements.

* Qualification testing to MIL-STD-810 and RTCA DO-160 is available upon request

MANUFACTURING & 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:

- 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)



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