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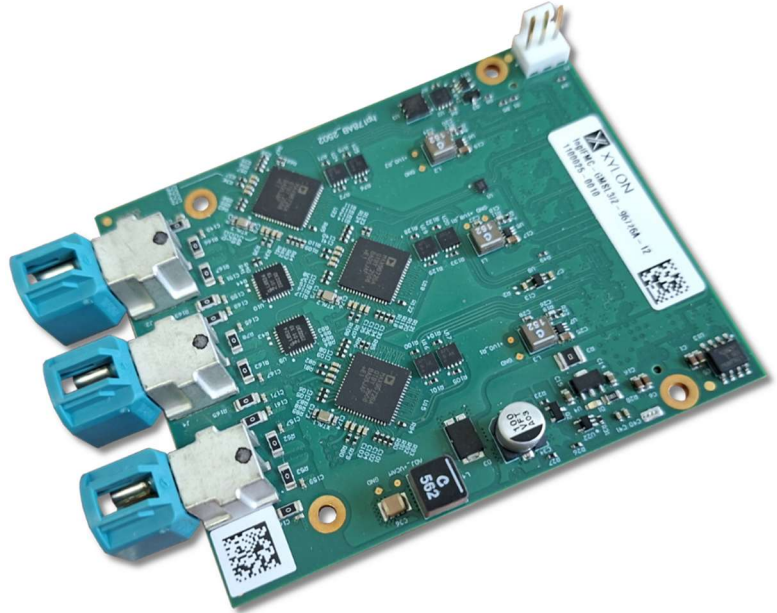


Figure 1: logiFMC-GMSL3/2 12-Ch GMSL2 FMC+ Daughter Card

Features

- FPGA Mezzanine Card (FMC+) with support for twelve¹ (12) video camera connections
- Compatible with Gigabit Multimedia Serial Link 3/2 (GMSL3 / GMSL2) from Analog Devices
- Twelve video channels are routed through three Rosenberger® HFM® (AMS29D-40MZ5-Z) connectors
- Integrates three (3) MAX96726A GMSL3/2 deserializers (3/6/12 Gbps)
- Converts GMSL3/2 serial links to MIPI® CSI-2 over C-PHY (v2.1)
- 5x 2 Lane C-PHY 10.26 Gbps per lane
- Supports RAW8/10/12/14/16/20, RGB565/666/888, YUV422 8-/10-Bit, user-defined, and generic long-packet data types
- One multi-function GPIO pin from each GMSL3/2 deserializer is routed via HSPC connector to the SoC to enable central time synchronization of all connected video cameras or similar design requirements
- Other GPIO pins can be software controlled via the I2C expander
- Incorporates HSPC FMC+ connector (ASP-184330-01)
- Compatible with AMD® Versal™ AI Edge Series Gen 2 VEK385² Evaluation kit and other evaluation kits utilizing HSPC FMC connectors
- On-board I2C GPIO expander enables simple monitoring and power supply control
- Programmable power supply supports cameras with different power requirements
- Info EEPROM contains card's identification and configuration data
- Board dimensions 85mm x 69mm

¹ Due to differences in FPGA/SoC-to-FMC connection schemes across hardware platforms, the number of supported GMSL3/2 channels on a given platform may be fewer than 12. Users are advised to verify the number of available channels for their specific hardware setup.

² This product enables the connection of 12 video cameras to the AMD VEK385 evaluation kit. Please review the AMD documentation for any limitations related to your specific SoC and board configuration.

Applications

The logiFMC-GMSL3/2-96726A-12C GMSL3/2 (hereafter referred to as the logiFMC+ GMSL3/2) Video FMC+ Daughter Card can be used in a wide range of video and vision AI applications, including multi-camera ADAS, automated driving, machine vision, surveillance, endoscopy, UAV imaging, and many other applications.

General Description

Xylon's logiFMC-GMSL3/2-96726A-12C GMSL3/2 12-Channel GMSL3/2 FMC+ mezzanine card supports Gigabit Multimedia Serial Link (GMSL3, GMSL2) from Analog Devices, one of the most widely used automotive high-speed serial links for in-vehicle video, audio, and communication. The card is primarily designed to enable rapid prototyping and evaluation of industrial, medical, defense, automotive and similar video and vision AI applications. It allows easy interfacing of up to twelve video cameras with hardware platforms based on AMD FPGA and adaptive SoCs.

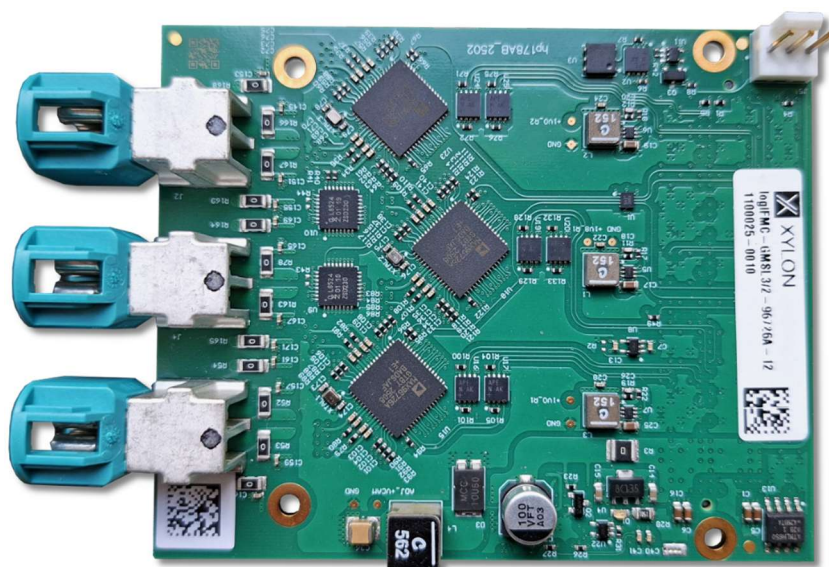


Figure 2: logiFMC+ GMSL3/2 Top View

The logiFMC+ GMSL3/2 mezzanine card integrates three (3) MAX96726A deserializer chips (up to 12 Gbps per GMSL3 link and up to 6 Gbps per GMSL2 link). Each deserializer supports four GMSL3/2 inputs, converting them into a MIPI Camera Serial Interface (CSI-2) 2-Lane C-PHY output.

The logiFMC+ GMSL3/2 FMC+ mezzanine card is compatible with the AMD VEK385 evaluation platform, supporting all 12 video channels via the FMC+ board-to-board connector. It can also be used with other FMC+ compatible AMD and third-party evaluation platforms. However, in such cases, the exact number of available channels may be lower and depends on the carrier board pinout and capabilities.

The logiFMC+ GMSL3/2 FMC mezzanine card uses a single HSPC FMC+ connector with 560 pins arranged in a 14x40 array.

The logiFMC+ GMSL3/2 is equipped with Rosenberger quad HFM High-Speed FAKRA-mini connectors, which save installation space and enable four coax cable video connections per a single connector. Suitable "octopus" cables are available for purchase from Xylon.

Functional Description

The Figure 3 presents the FMC card's internal structure. The main functional blocks are:

- GMSL3/2 deserializers
- I2C GPIOs
- Info EEPROM
- Protection EEPROM
- FMC+ connector
- Video connectors
- Power supply

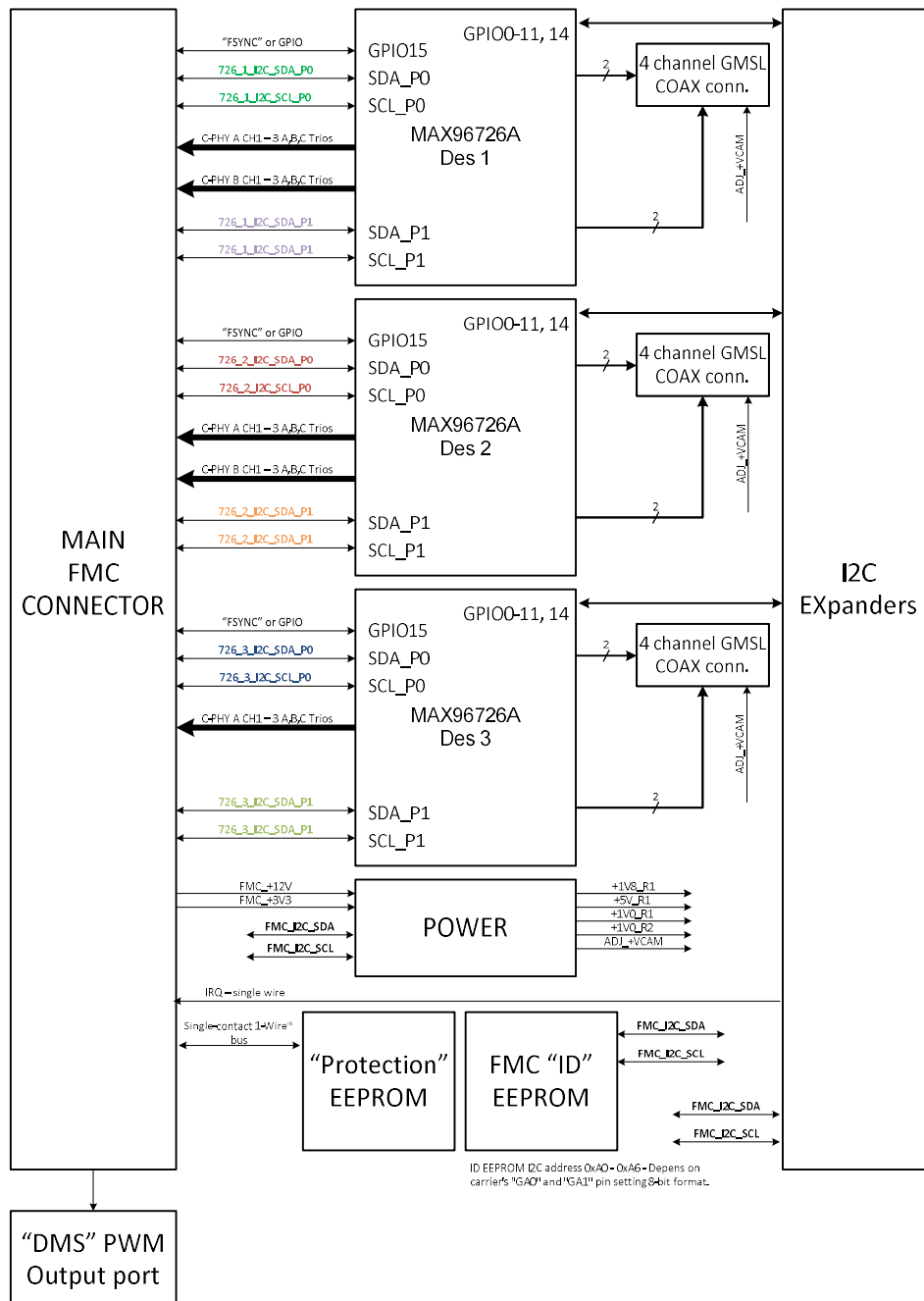


Figure 3: logiFMC+ GMSL2 Block Diagram

Available Support Products

Xylon has designed reference designs for the AMD Versal AI Edge Series Gen 2 SoC on the VEK385 evaluation board, expanded with the Xylon logiFMC+ card and Xylon video cameras. The design enables system designers to jump-start their next ASoC design. For information on reference design availability, terms, and conditions, please contact Xylon:

Email: sales@logicbricks.com

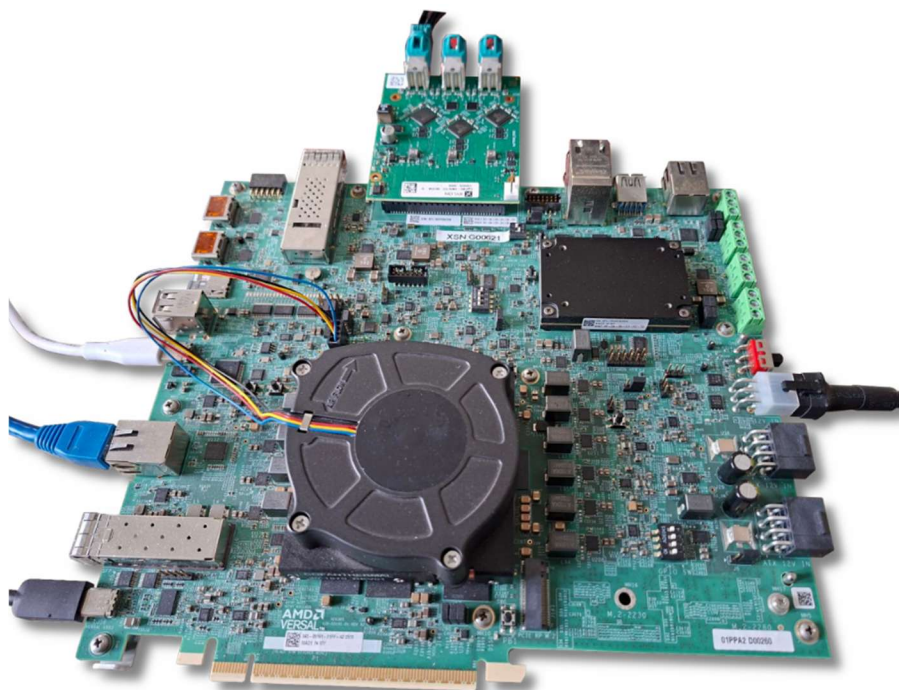


Figure 4: Xylon FMC+ Card Plugged in the AMD VEK385 Evaluation Board

Ordering Information

This product is available directly from Xylon. Please visit our web shop or contact Xylon for pricing and additional information:

Email: sales@logicbricks.com

URL: <https://www.logicbricks.com/Products/logiFMC-GMSL3-96726A.aspx>

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Related Information

AMD

For information on AMD programmable logic or development system software, contact your local AMD sales office, or:

Xilinx, Inc.
2100 Logic Drive
San Jose, CA 95124
URL: www.amd.com

Analog Devices

For information on video high-speed serial links from Analog Devices:

Analog Devices
One Analog Way
Wilmington, MA 01887
URL: www.analog.com

Revision History

Version	Date	Note
1.0	27.02.2025.	Initial internal release.
1.1	25.03.2026.	Initial public release



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