



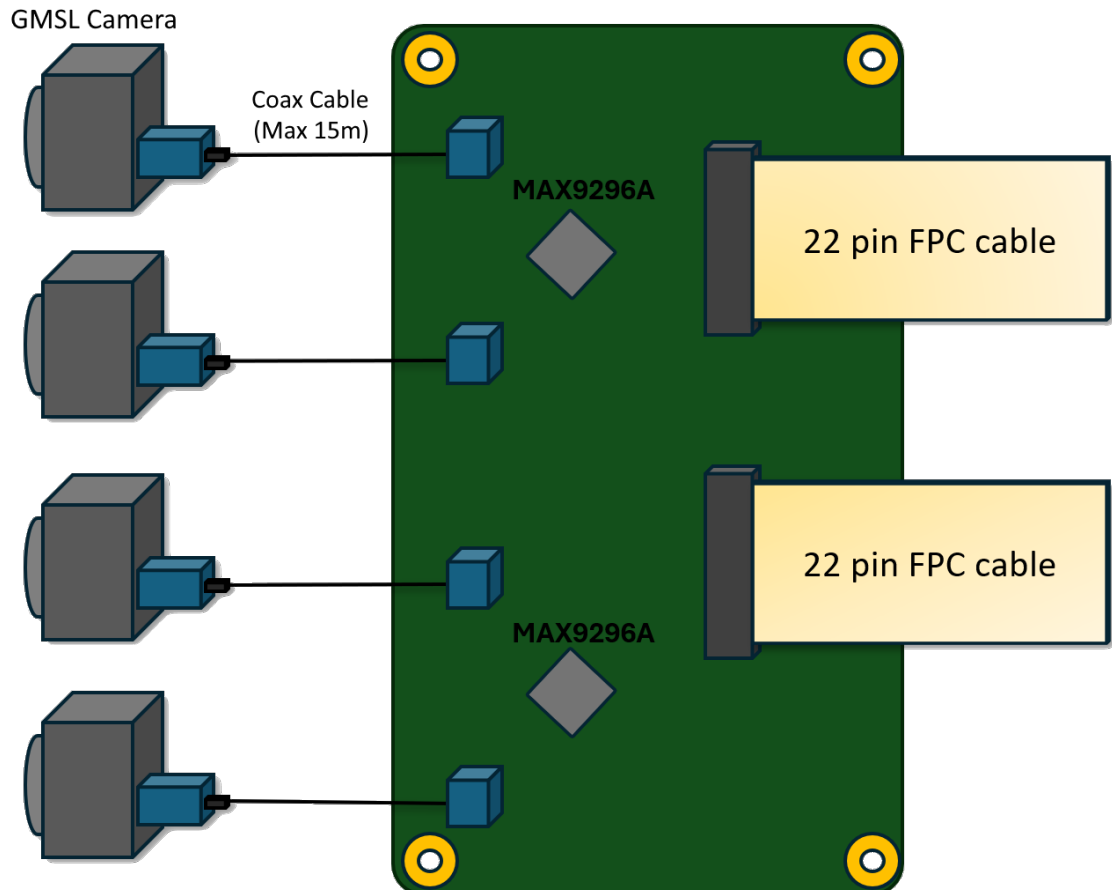
# MDSER-GMSL2-4CH 1.20



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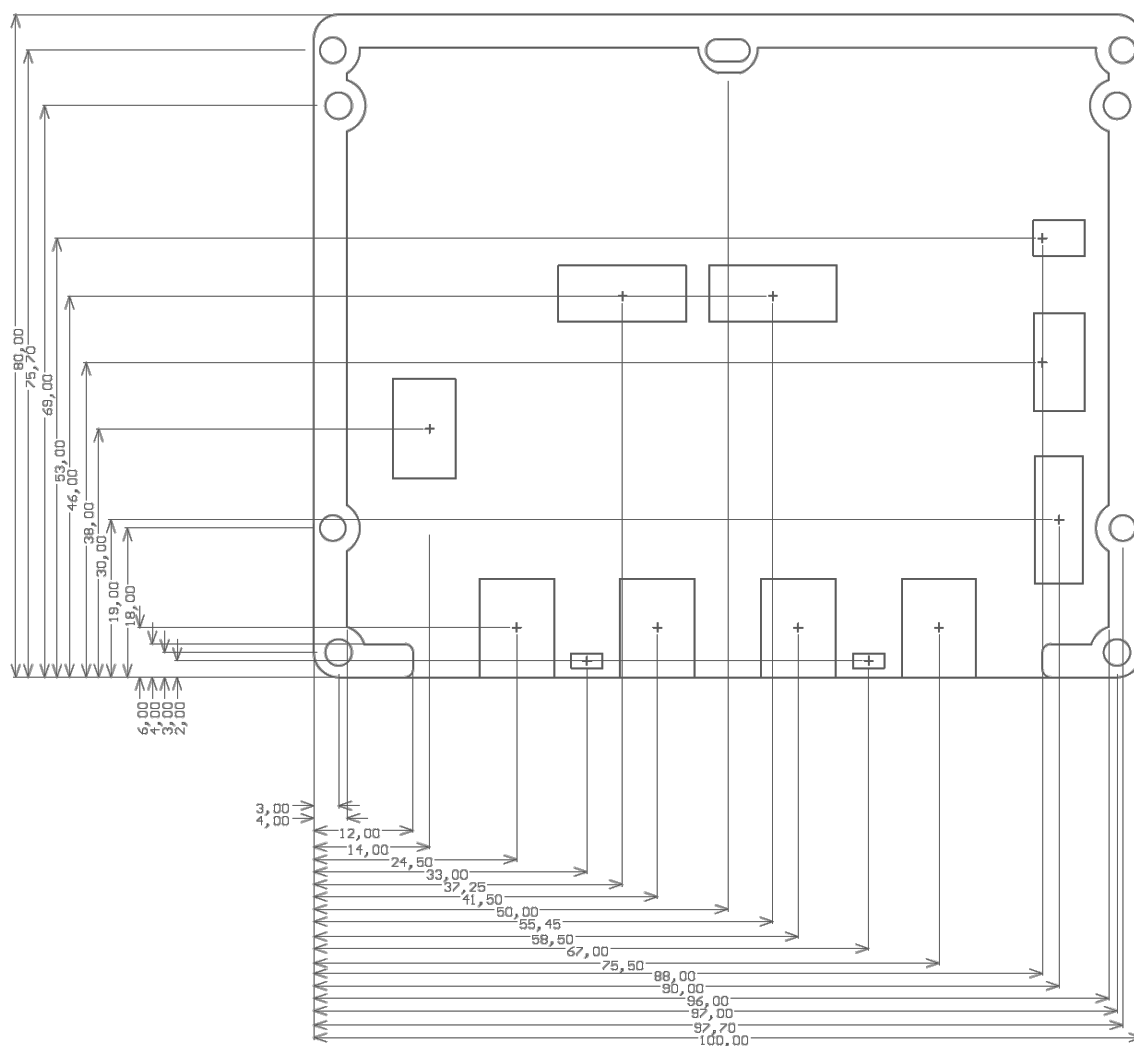
## 1 Introduction

MDSER-GMSL2-4CH is a GMSL2 deserializer board based on the Analog Devices GMSL2 deserializer chip MAX9296A. The modular design allows the board to be used with any system that has one or two 22-pin MIPI CSI-2 interfaces (depends on available driver support). The typical setup is shown below:



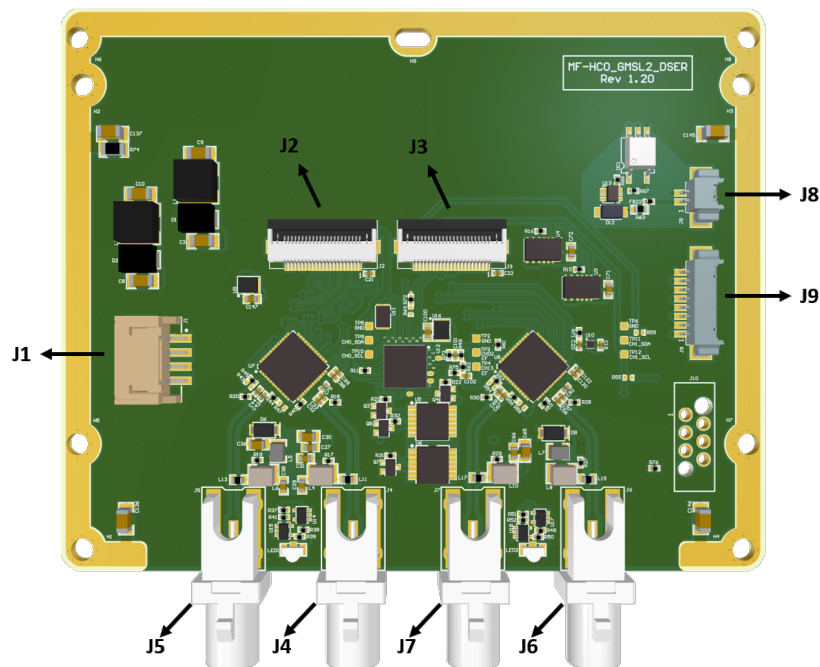
## 2 MDSER-GMSL2-4CH Rev 1.20

The dimensions of MDSER-GMSL2-4CH board are shown below:



## 2.1 Connector Overview

The following diagram shows the position and function of the connectors on the MDSER-GMSL2-4CH board:



| Connector | Description                                             |
|-----------|---------------------------------------------------------|
| J1        | WE Socket 4 pin connector for system power (5V/min. 2A) |
| J2        | MIPI CSI-2 22 pin connector bottom contact CH01         |
| J3        | MIPI CSI-2 22 pin connector bottom contact CH23         |
| J4        | FAKRA male code Z 50 Ohm connector for GMSL2 CH0        |
| J5        | FAKRA male code Z 50 Ohm connector for GMSL2 CH1        |
| J6        | FAKRA male code Z 50 Ohm connector for GMSL2 CH2        |
| J7        | FAKRA male code Z 50 Ohm connector for GMSL2 CH3        |
| J8        | Reserved                                                |
| J9        | Reserved                                                |

**Please note:** This board provides PoC (Power over Coax) with a voltage of +12V at the FAKRA connectors. Only GMSL2 cameras from The Imaging Source are supported.

## 2.2 J1 - Power Connector

| Pin No. | Name       | Description                  |
|---------|------------|------------------------------|
| 1       | GND        | System Ground                |
| 2       | VDD_5V_EXT | System Voltage +5V / min. 2A |
| 3       | GND        | System Ground                |
| 4       | N/C        |                              |

## 2.3 J2/J3 - MIPI CSI-2 22-Pin Connector

| #  | Name        | Type | Description                 |
|----|-------------|------|-----------------------------|
| 1  | GND         | GND  | Ground (capacitive coupled) |
| 2  | CH1 N       | O    | MIPI CSI-2 output           |
| 3  | CH1 P       | O    | MIPI CSI-2 output           |
| 4  | GND         | GND  | Ground                      |
| 5  | CH2 N       | O    | MIPI CSI-2 output           |
| 6  | CH2 P       | O    | MIPI CSI-2 output           |
| 7  | GND         | GND  | Ground                      |
| 8  | DCK N       | O    | MIPI CSI-2 output           |
| 9  | DCK P       | O    | MIPI CSI-2 output           |
| 10 | GND         | GND  | Ground                      |
| 11 | CH3 N       | O    | MIPI CSI-2 output           |
| 12 | CH3 P       | O    | MIPI CSI-2 output           |
| 13 | GND         | GND  | Ground                      |
| 14 | CH4 N       | O    | MIPI CSI-2 output           |
| 15 | CH4 P       | O    | MIPI CSI-2 output           |
| 16 | GND         | GND  | Ground                      |
| 17 | GPIO1_3V3   | I/O  |                             |
| 18 | GPIO2_3V3   | I/O  |                             |
| 19 | GND         | GND  | Ground                      |
| 20 | I2C_SCL_3V3 | I/O  | I2C serial clock            |
| 21 | I2C_SDA_3V3 | I/O  | I2C serial data             |
| 22 |             | N/C  |                             |

All I/Os have the same I/O voltage of 3.3 V. The part number of the FPC connector is Wuerth 687122149022. 22-pin 0.5 mm Pitch.

## 2.4 Status LEDs

| Name | Color | Description                                                                                   |
|------|-------|-----------------------------------------------------------------------------------------------|
| LED1 | Green | MFP1 output of deserializer for CH01, usually indicating LOCK status (connection established) |
| LED1 | Red   | MFP4 output of deserializer for CH01, usually indicating ERRB status (error indicator)        |
| LED2 | Green | MFP1 output of deserializer for CH23, usually indicating LOCK status (connection established) |
| LED2 | Red   | MFP4 output of deserializer for CH23, usually indicating ERRB status (error indicator)        |



## 2.5 Getting Started

Assemble the deserializer board and the host carrier board according to the instructions described in their respective \*Getting Started\* guides:

- [NVIDIA® Jetson Orin™ Reference Design](#)
- [NXP i.MX 8M Plus Reference Design](#)

Always attach GMSL cameras before powering up the deserializer board. Do not disconnect GMSL cameras while the deserializer board is powered.



## MDSER-GMSL2-4CH 1.20

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All weights and dimensions are approximate. Unless otherwise specified, the lenses shown in the context of cameras are not shipped with these cameras.

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