Technical Details

MDSER-FPD3-4CH 1.20

THE IMAGINGSOURCE
TECHNOLOGY BASED ON STANDARDS

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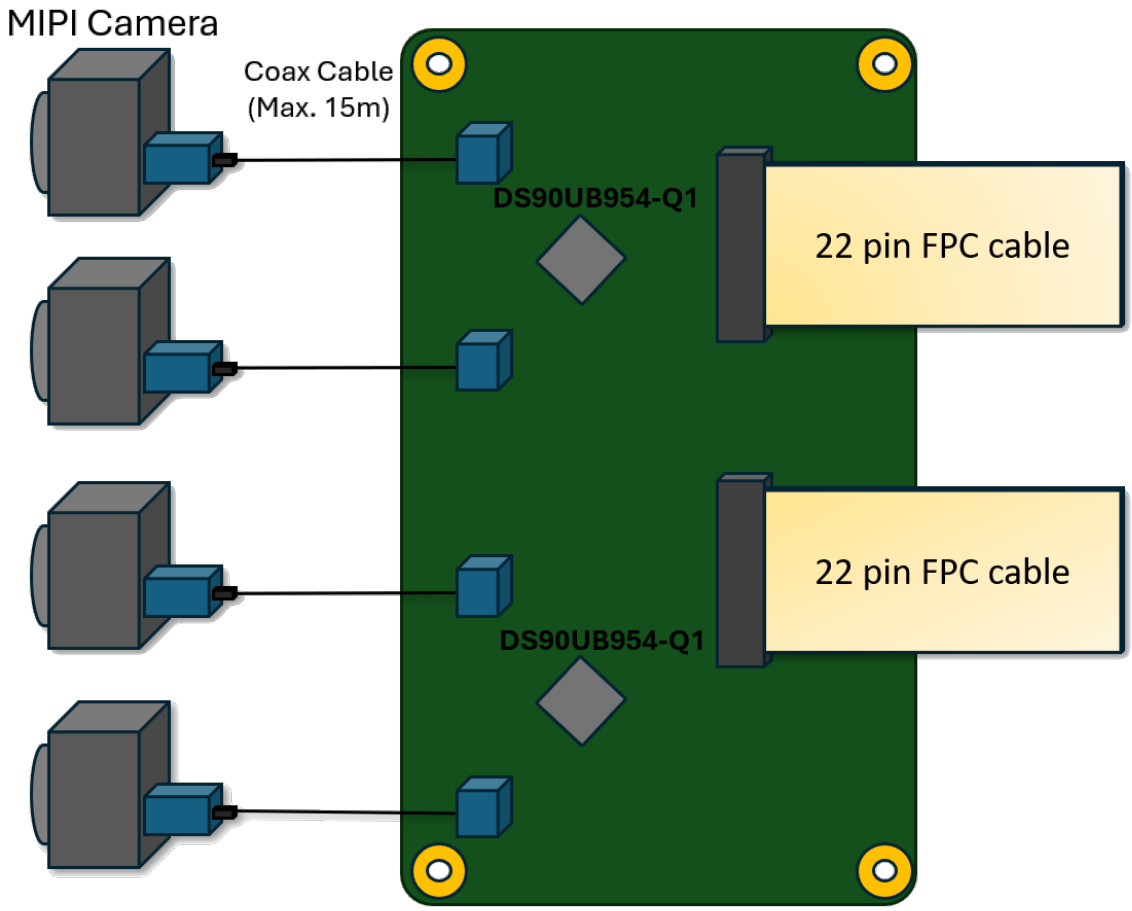
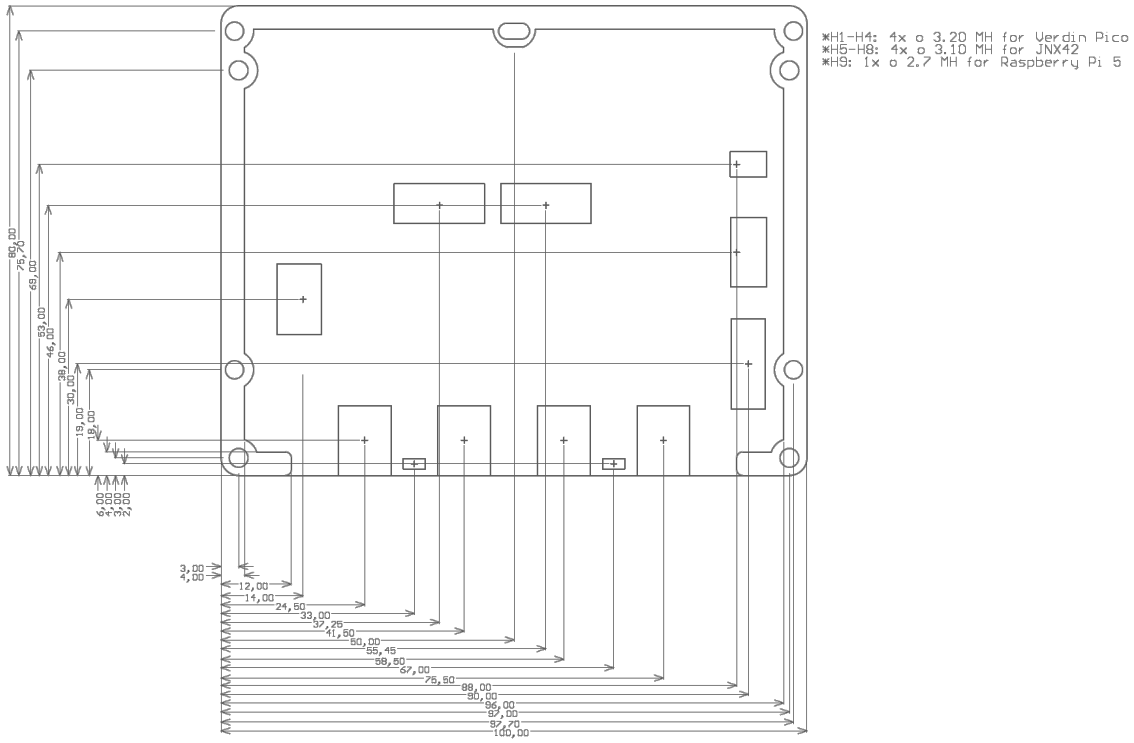
1 Introduction

MDSER-FPD3-4CH is a FPD-Link III deserializer board based on the Analog Devices FPD-Link III deserializer chip DS90UB954-Q1. 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:



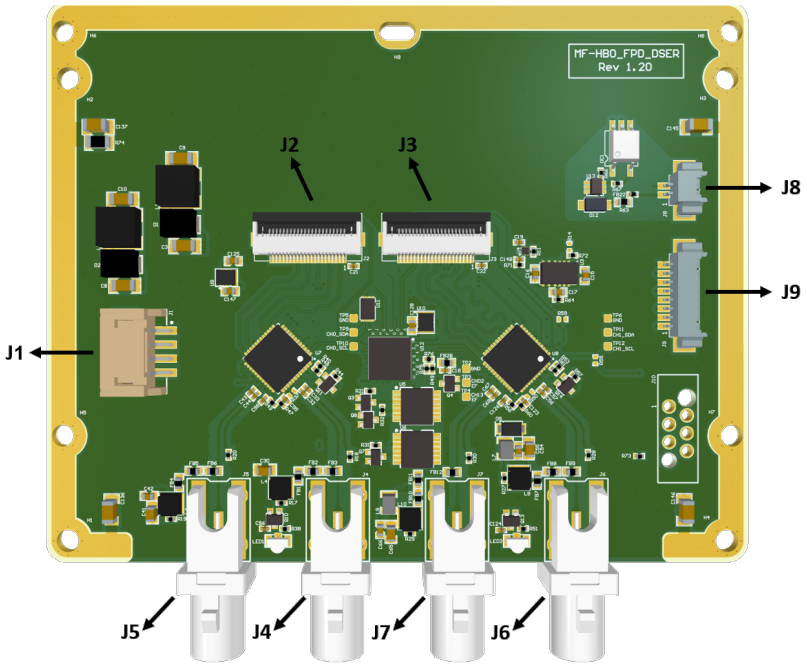
2 MDSER-FPD3-4CH Rev 1.20

The dimensions of MDSER-FPD3-4CH board are shown below:



2.1 Connector Overview

The following diagram shows the position and function of the connectors on the MDSER-FPD3-4CH 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 FPD-Link III CH0
J5	FAKRA male code Z 50 Ohm connector for FPD-Link III CH1
J6	FAKRA male code Z 50 Ohm connector for FPD-Link III CH2
J7	FAKRA male code Z 50 Ohm connector for FPD-Link III CH3
J8	Reserved
J9	Reserved

Please note: This board provides PoC (Power over Coax) with a voltage of +18V at the FAKRA connectors. Only FPD-Link III 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	LOCK output of deserializer for CH01, indicating connection established
LED1	Red	Inverted PASS output of deserializer for CH01, indicating error status
LED2	Green	LOCK output of deserializer for CH23, indicating connection established
LED2	Red	Inverted PASS output of deserializer for CH23, indicating error status

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 FPD-Link III cameras before powering up the deserializer board. Do not disconnect FPD-Link III cameras while the deserializer board is powered.

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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.

Headquarters:

The Imaging Source Europe GmbH
Überseetor 18, D-28217 Bremen, Germany
Phone: +49 421 33591-0

North & South America:

The Imaging Source, LLC
6926 Shannon Willow Rd, S 400, Charlotte, NC 28226, USA
Phone: +1 704-370-0110

Asia Pacific:

The Imaging Source Asia Co., Ltd.
2F., No.8, Xinhu 1st Road
Taipei City 114, Neihu District, Taiwan
Phone: +886 2-2792-3153

www.theimagingsource.com