VC MIPI Repeater Board Hardware Operating Manual

Hardware specifications of VC MIPI Repeater Boards

|	
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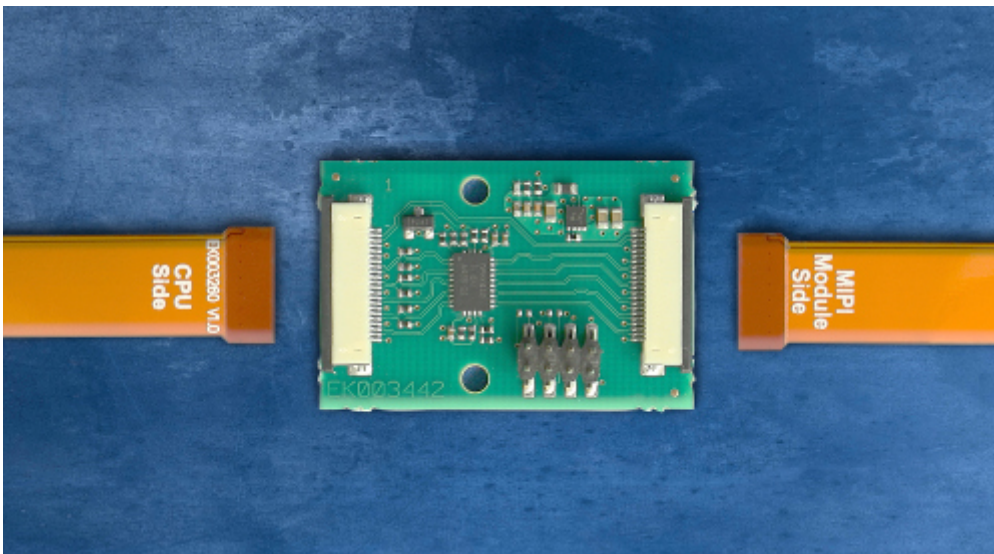
Foreword and Disclaimer

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Image symbols used in this document

Symbol	Meaning
	The Light bulb highlights hints and ideas that may be helpful for a development.
	This warning sign alerts of possible pitfalls to avoid. Please pay careful attention to sections marked with this sign.
?!	This is a sign for an example.

Trademarks

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ESD sensitivity

Warning

The components are very sensitive to electrostatic discharge (ESD)! Please take all the precautions necessary to avoid ESD!

ESD

The electronic components and circuits are sensitive to ElectroStatic Discharge (ESD). When handling any circuit board assemblies, it is necessary that ESD safety precautions be observed.

ESD safe best practices include, but are not limited to:

- Leaving circuit boards in their antistatic packaging until they are ready to be installed.
- Using a grounded wrist strap when handling circuit boards.
- Working on a grounded ESD table mat.
- Only handling circuit boards in ESD safe areas, which may include ESD floor and table mats, wrist strap stations and ESD safe lab coats.
- Avoiding handling circuit boards in carpeted areas.
- Try to handle the board by the edges, avoiding contact with components.

This note is not an exhaustive information about the protection against electrostatic discharge (ESD).

Table of Contents

1 General Information

1.1 Hardware Compatibility

The VC MIPI Repeater Board is intended to be inserted into a VC MIPI signal link. It allows extending the cable length between the VC MIPI sensor and the host processor. It also makes it possible to access both hardware trigger input and flash output signals from the VC MIPI Module without soldering.

1.2 Technical Specification

Technical Data

| Component / Feature	Specification
Number of lanes	1–4 depending on sensor module
MIPI speed	max. 1.5Gbps
Flash output signal	3.3V LVCMOS
Trigger input signal	3.3V LVCMOS
Storage Conditions	Temperature: -20 to +60 deg C, Max. humidity: 90%, non condensing.
Operating Conditions	Temperature: 0 to +50 deg C, Max. humidity: 80%, non condensing.
Power Consumption	approx. 200mW @ 3.3V drawn from the host over the VC MIPI Cable

1.3 Connectors

1.3.1 Jumper field

The board contains a jumper field with access to

- the trigger input and flash output signals of the VC MIPI sensor, as well as
- GND and 3.3V.

If the access to trigger and flash signals is not needed it is recommended to connect the signals *flash from sensor* and *trigger to sensor* of the sensor side VC MIPI cable with the host side VC MIPI cable using jumpers.

If you need to access to the signals, remove the jumpers and connect the signals with a 2mm MOLEX cable header with the jumper field. Make sure to use the GND pin as a reference level. If necessary it is possible to supply the 3.3V to your circuit from the VC MIPI Repeater Board.

Jumper field of the MIPI Repeater Board
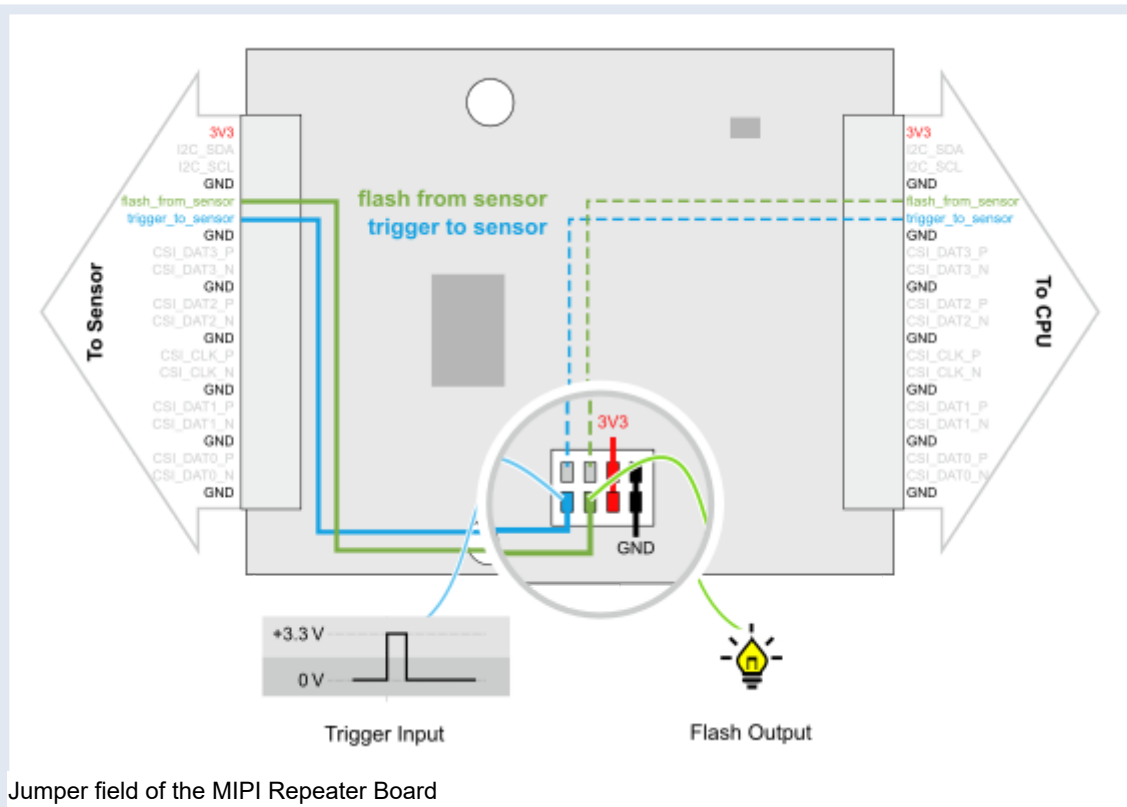
1.3.2 Connecting the board
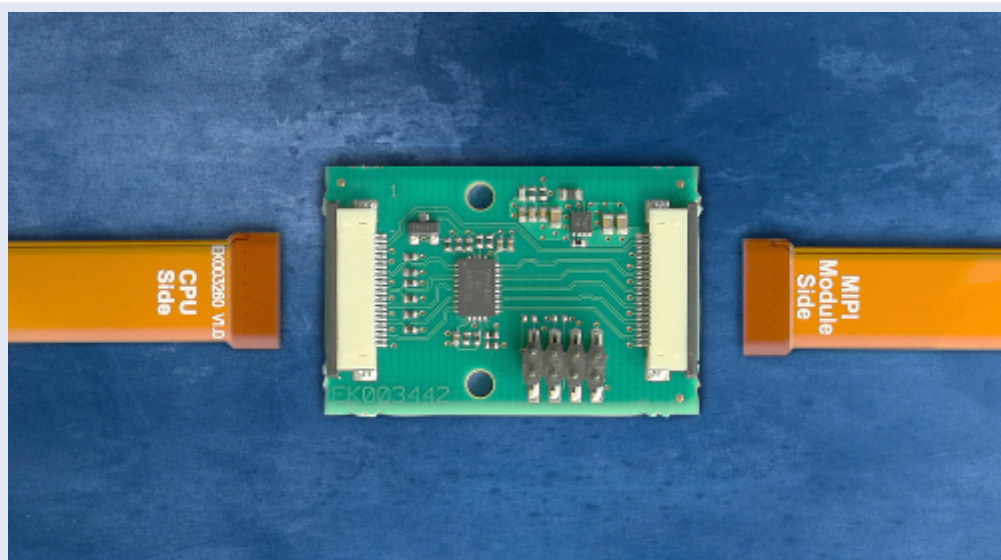
Connecting the board (See text)

Connect the VC MIPI Repeater Board as shown in the figure *Connecting the board*:

To the left we have the 22 to 22 Pin Flexible Printed Circuit (FPC) Cable (EK003260). The cable needs to be showing the label *CPU Side* at this position. Further to the left the MIPI Camera module should be connected.

To the right we can either have the same 22 to 22 Pin FPC Cable or the 22 to 15 Pin FPC Cable (EK003261). At this position the cable needs to be showing the label *MIPI Module Side*. Further to the right the host CPU should be connected.

Warning

> ⚠️ Make sure to connect the board as shown in the image and described at the text. Otherwise the hardware will be damaged.

2 Ordering Information

## 2.1 MIPI camera module order numbers

VC MIPI camera modules

Order Number	Product ID / Service description
VK003318	VC MIPI Repeater Board — do not forget to order the appropriate FPC cable!

2.2 Order numbers of MIPI camera module Accessories

Accessories for VC MIPI camera modules

Order Number	Product / Service description
EK003260	Flexible Printed Circuit (FPC) Cable, 200 mm: 22 to 22 Pin
EK003261	Flexible Printed Circuit (FPC) Cable, 200 mm: 22 to 15 Pin

3 Appendix A: Dimensions MIPI Repeater Board
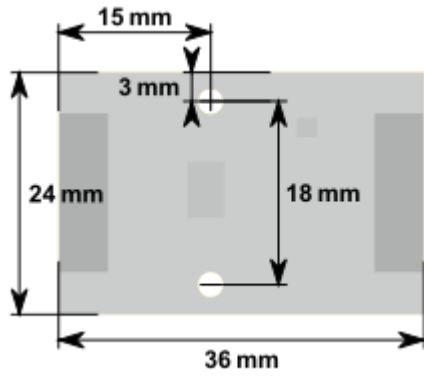
Dimensions of the MIPI Repeater Board

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