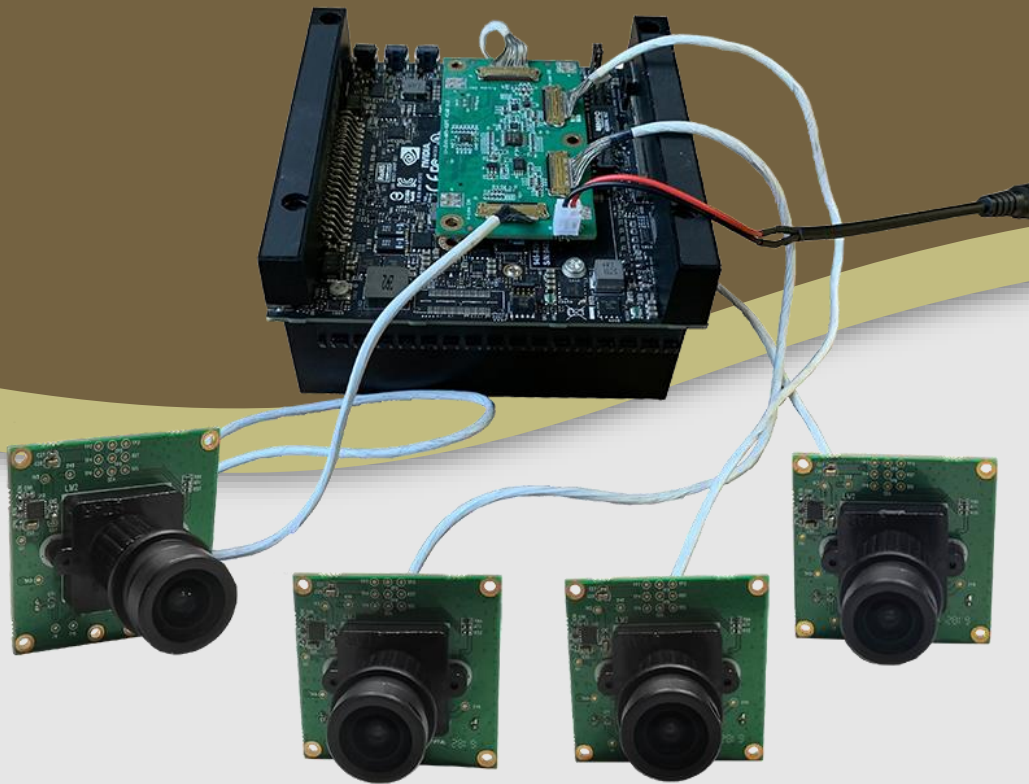




# LI-XAVIER-KIT-IMX415M12-X



**Address:**

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Suite 100B  
Fremont, CA 94538  
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+1 (408)263-0988

**Fax:**

+1 (408)217-1960



**Sales:**

[sales@leopardimaging.com](mailto:sales@leopardimaging.com)

**Support:**

[support@leopardimaging.com](mailto:support@leopardimaging.com)

## KEY FEATURES

- Compatible with Nvidia® Jetson AGX Xavier™ Developer Kit
- MIPI CSI-2 interface
- Supports up to six cameras
- Two adapter board options:  
LI-JXAV-MIPI-ADPT-4CAM  
LI-JXAV-MIPI-ADPT-6CAM-FP
- Sensor: Sony Diagonal 6.43 mm (Type 1/2.8) CMOS Image Sensor IMX415
- Active pixels: 3864 (H) x 2176 (V)
- Color camera
- Length of the I-PEX cable: 300 mm
- Supports multiple length cables
- Connector Part#: 20525-030E-02
- Allows customization
- Part#: LI-XAVIER-KIT-IMX415M12-X

1 Cam	LI-XAVIER-KIT-IMX415M12
2 Cam	LI-XAVIER-KIT-IMX415M12-D
3 Cam	LI-XAVIER-KIT-IMX415M12-T
4 Cam	LI-XAVIER-KIT-IMX415M12-Q
6 Cam	LI-XAVIER-KIT-IMX415M12-H

## LENS SPECIFICATIONS

Effective Focal Length	4.063 mm
Aperture, F/#	2.29 ± 5%
Field of View (FOV)	81.7° horizontal
	44.7° vertical
	95.1° diagonal
Optical Distortion	-28.1%
TV Distortion	-9.3%
Relative Illumination	59.1%
IR Filter	650 nm IR cut filter
Lens Mount	M12 x 0.5

## BOM

Nvidia® Jetson AGX Xavier™ Developer Kit is **NOT** included.

#	Items	QTY
1	LI-JXAV-MIPI-ADPT-4CAM or LI-JXAV-MIPI-ADPT-6CAM-FP	1
2	LI-IMX415-MIPI-081H	1, 2, 3, 4 or 6
3	FAW-1233-03 cable	1, 2, 3, 4 or 6

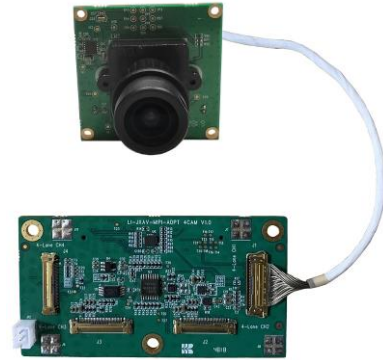
## APPLICATIONS

- Industrial Applications
- Intelligent Transportation System (ITS) Cameras

# BOM DETAILS

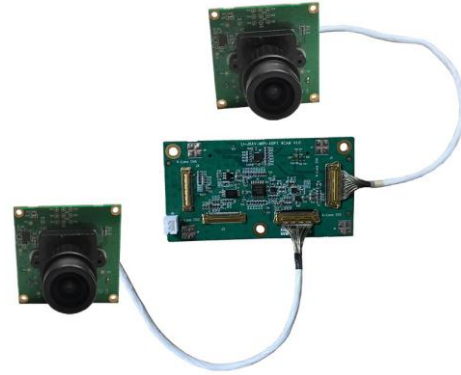
## LI-XAVIER-KIT-IMX415M12

#	Items	QTY
1	LI-JXAV-MIPI-ADPT-4CAM	1
2	LI-IMX415-MIPI-081H	1
3	FAW-1233-03 cable	1



## LI-XAVIER-KIT-IMX415M12-D

#	Items	QTY
1	LI-JXAV-MIPI-ADPT-4CAM	1
2	LI-IMX415-MIPI-081H	2
3	FAW-1233-03 cable	2



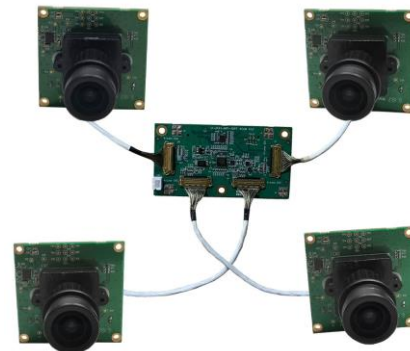
## LI-XAVIER-KIT-IMX415M12-T

#	Items	QTY
1	LI-JXAV-MIPI-ADPT-4CAM	1
2	LI-IMX415-MIPI-081H	3
3	FAW-1233-03 cable	3



## LI-XAVIER-KIT-IMX415M12-Q

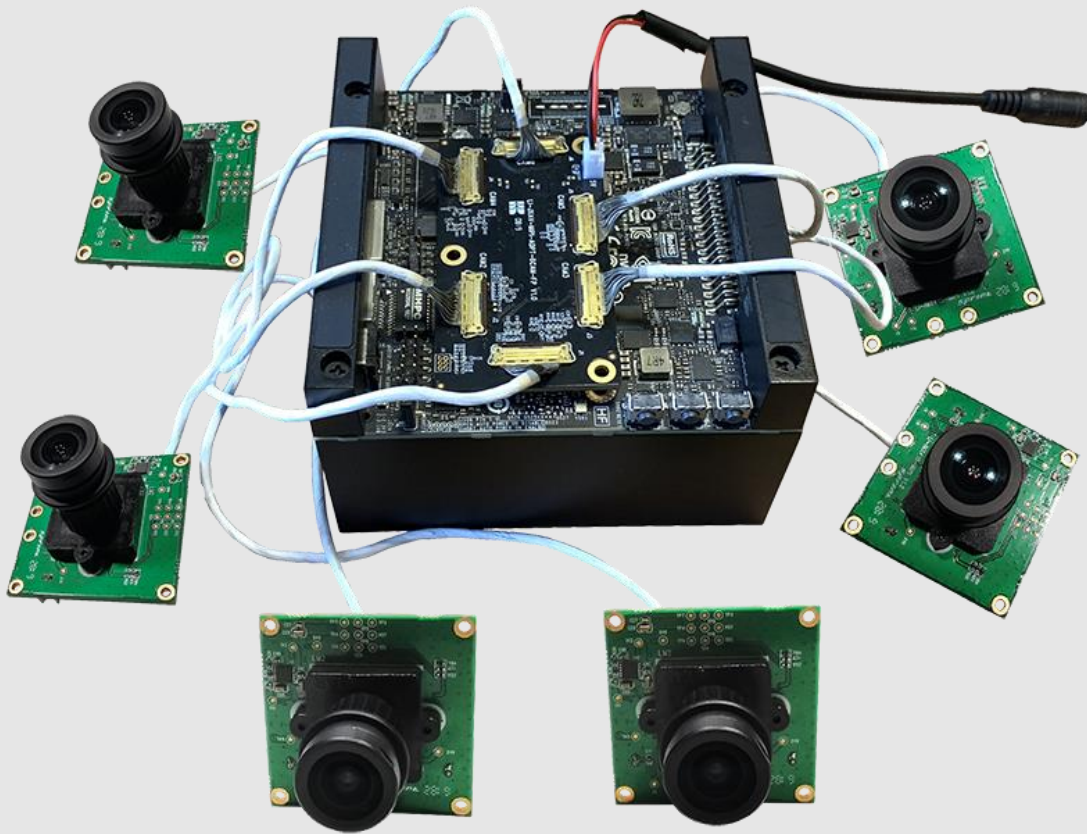
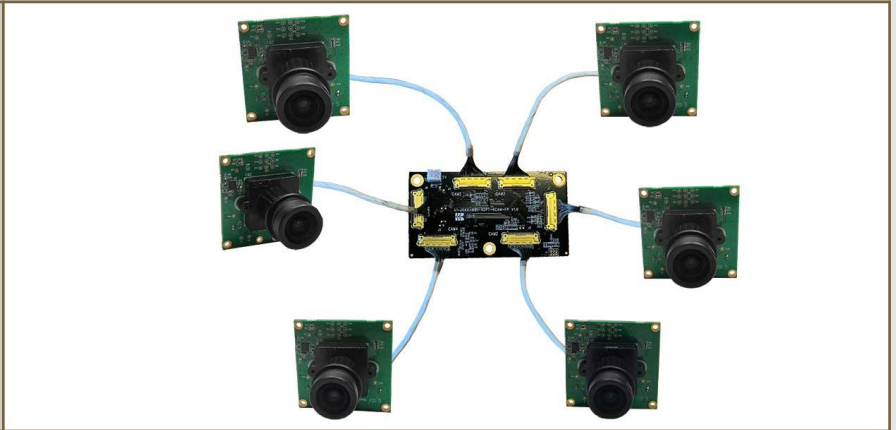
#	Items	QTY
1	LI-JXAV-MIPI-ADPT-4CAM	1
2	LI-IMX415-MIPI-081H	4
3	FAW-1233-03 cable	4



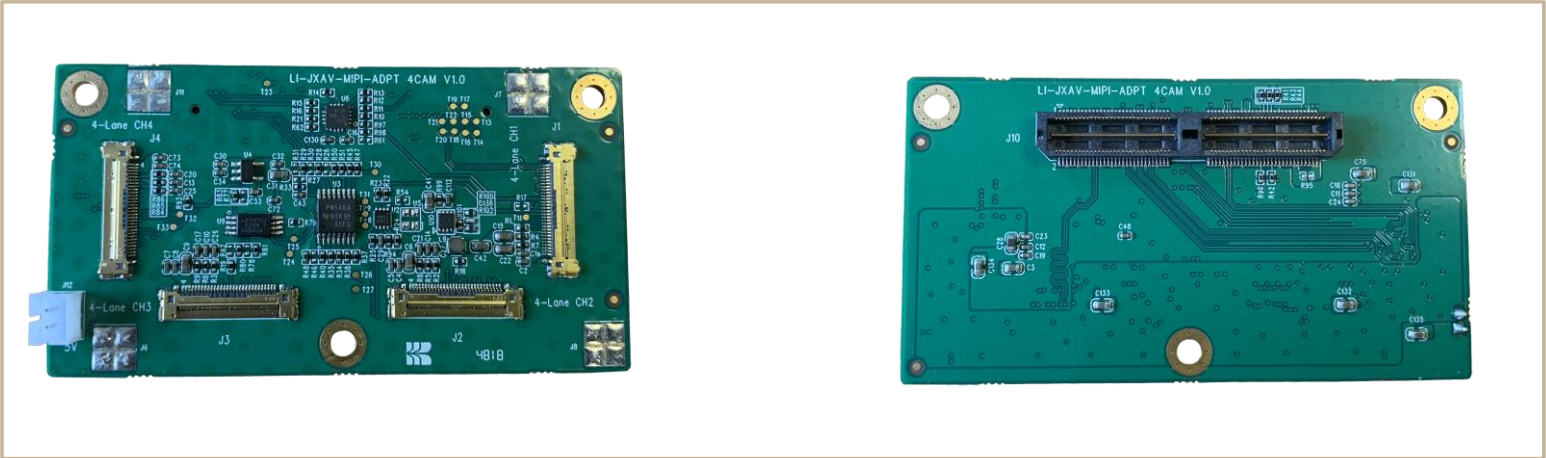
# BOM DETAILS

LI-XAVIER-KIT-IMX415M12-H

#	Items	QTY
1	LI-JXAV-MIPI-ADPT-6CAM-FP	1
2	LI-IMX415-MIPI-081H	6
3	FAW-1233-03 cable	6



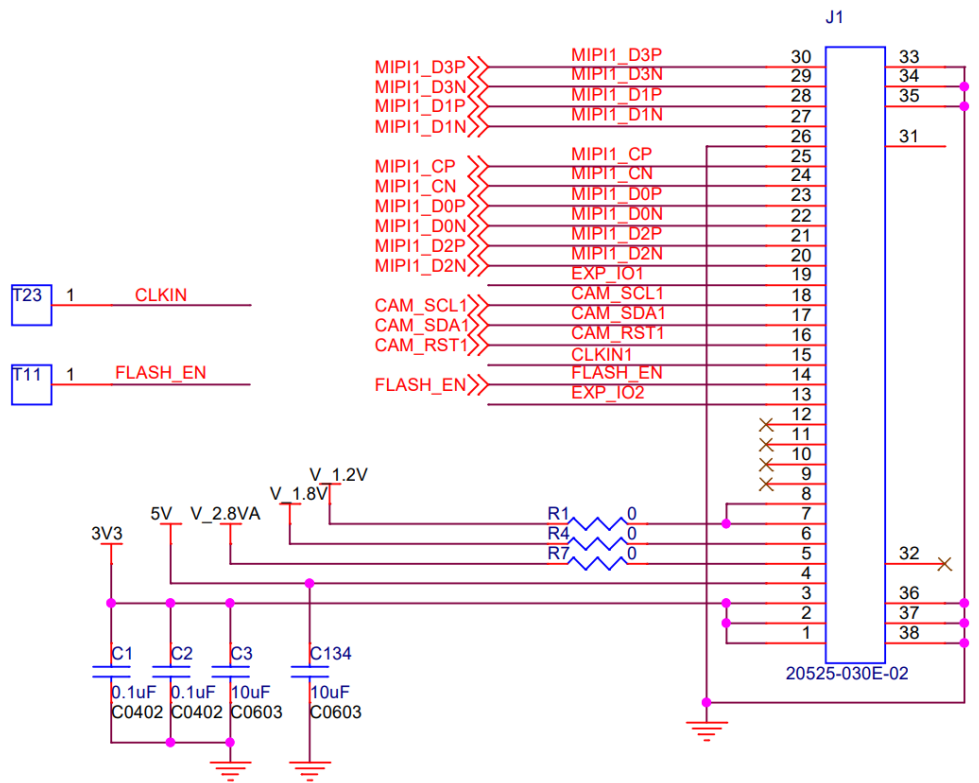
# LI-JXAV-MIPI-ADPT-4CAM



## INTERFACES

### Interface J1 (Camera Channel 1)

- Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- Mating I-PEX Cable: FAW-1233-XX

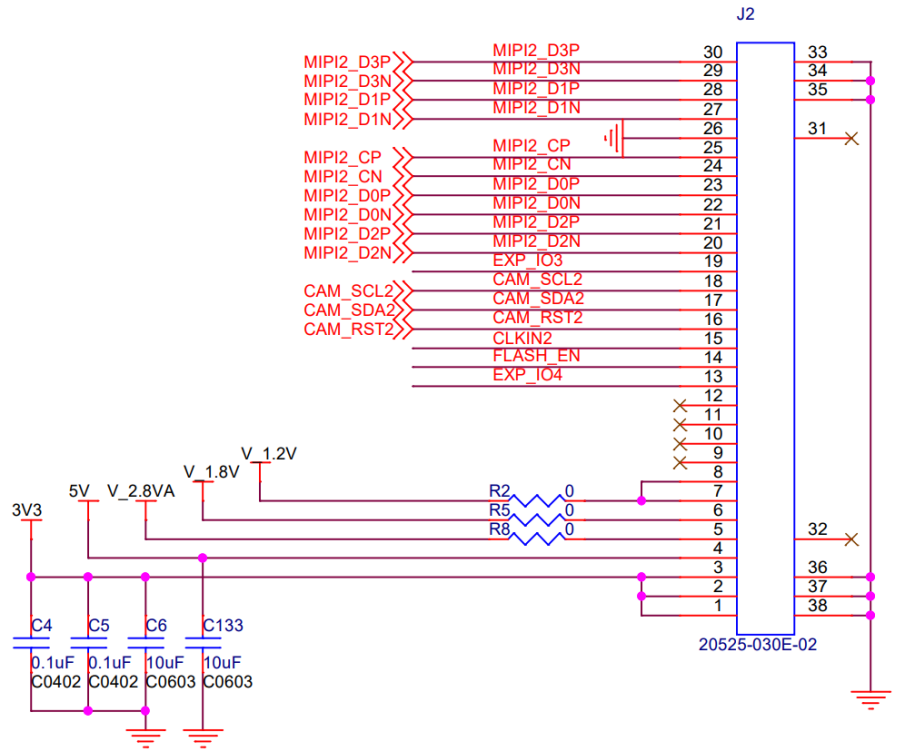


# LI-JXAV-MIPI-ADPT-4CAM

## INTERFACES

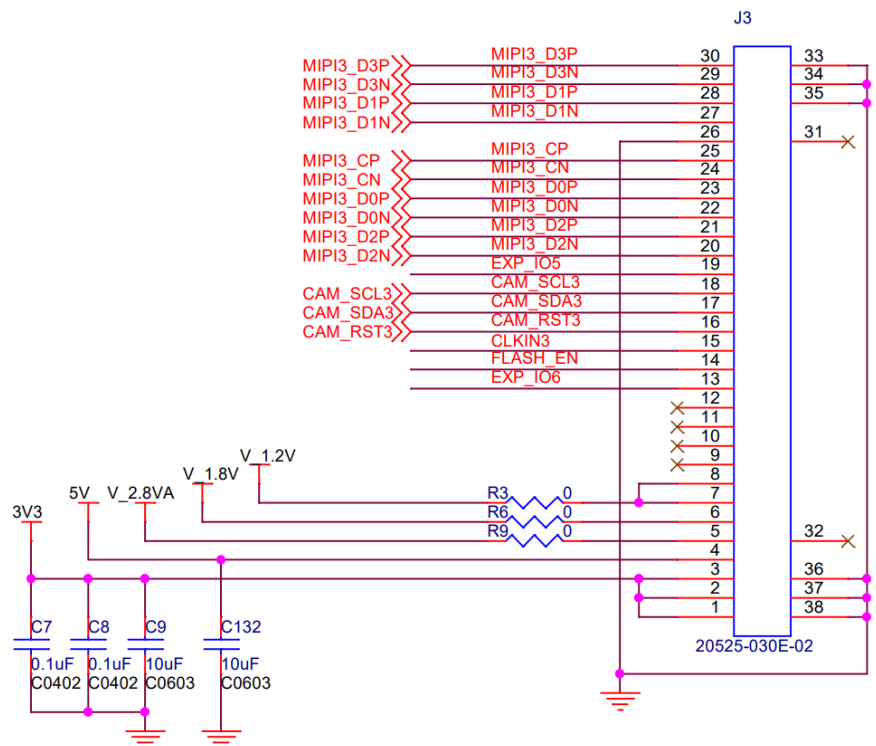
### Interface J2 (Camera Channel 2)

- Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- Mating I-PEX Cable: FAW-1233-XX



### Interface J3 (Camera Channel 3)

- Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- Mating I-PEX Cable: FAW-1233-XX

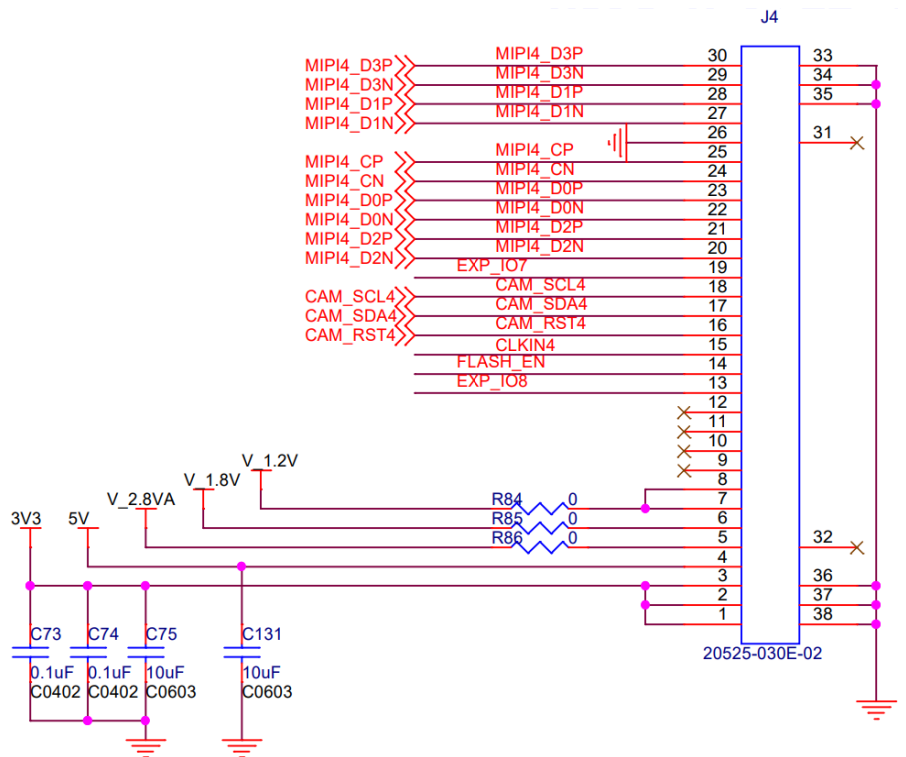


# LI-JXAV-MIPI-ADPT-4CAM

## INTERFACES

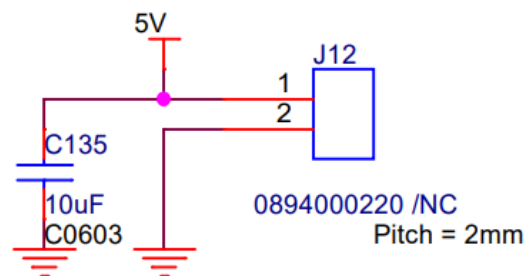
### Interface J4 (Camera Channel 4)

- Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- Mating I-PEX Cable: FAW-1233-XX



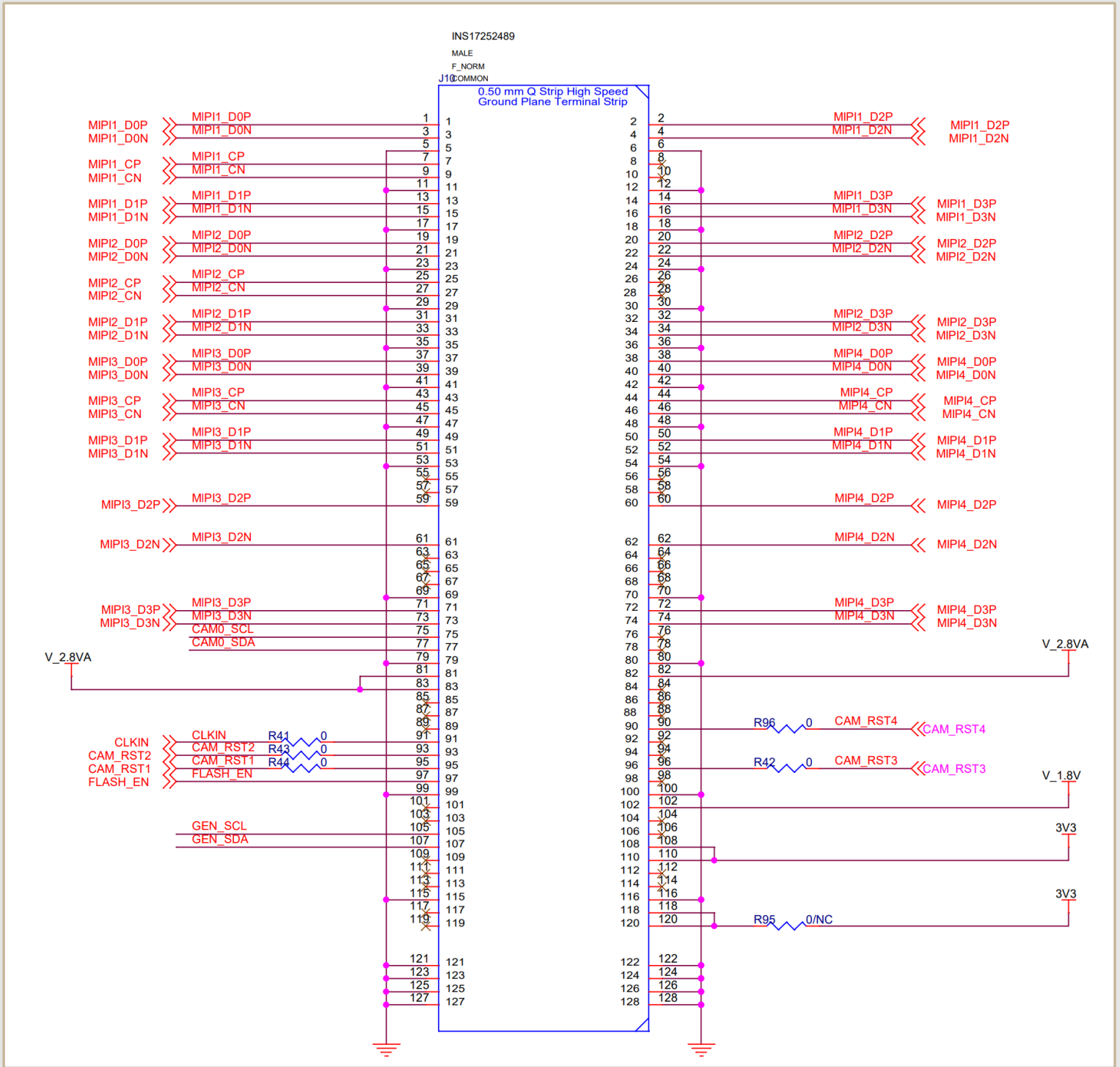
### Interface J12 (NOT Used)

- Part#: 0894000220
- Number of Positions: 2
- Pitch: 2 mm



# LI-JXAV-MIPI-ADPT-4CAM

## INTERFACE J10 (To Xavier)

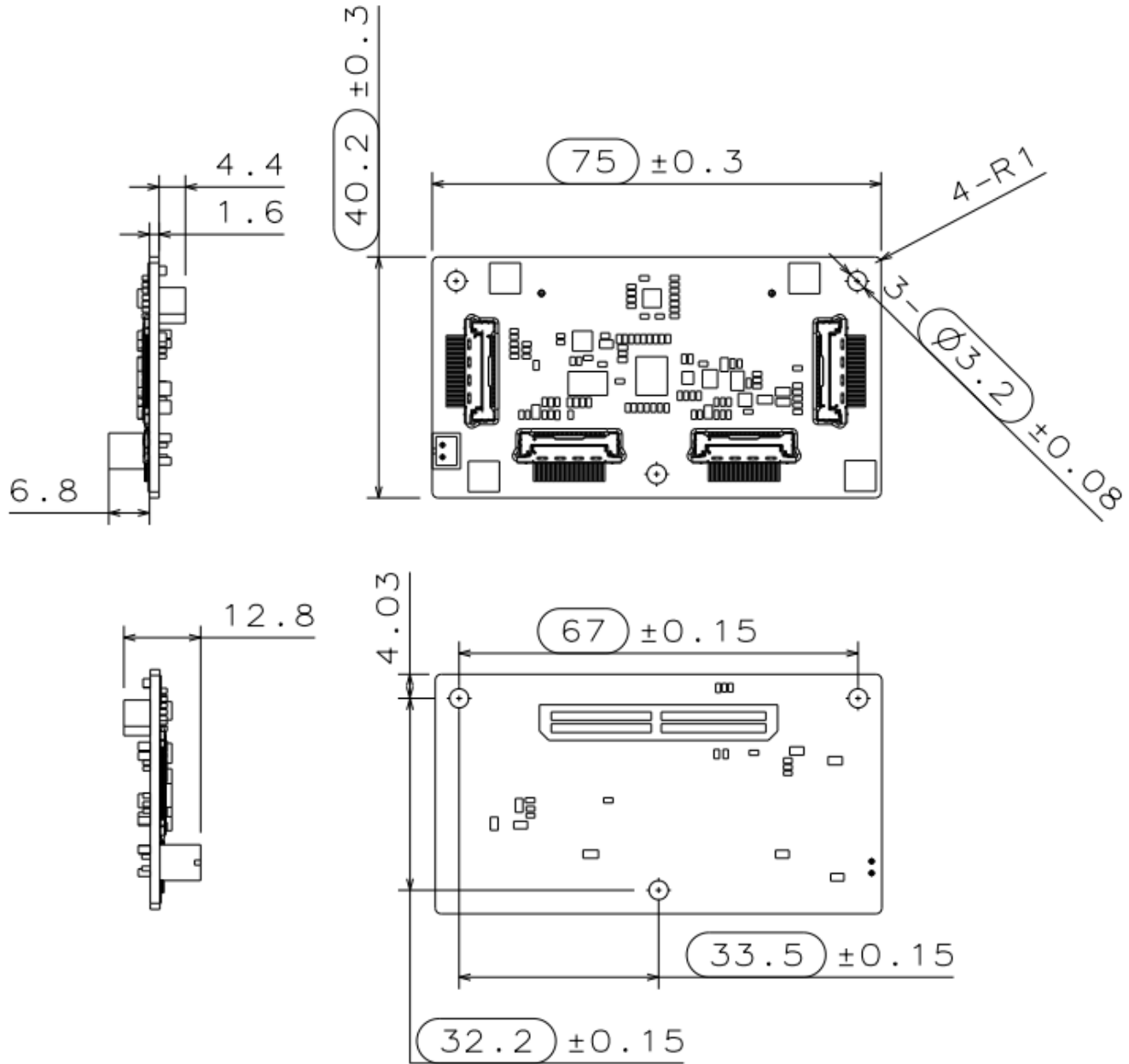


- Part#: QTH-060-01-L-D-A
- Number of Positions: 120
- Number of Rows: 2
- Pitch: 0.5 mm



# LI-JXAV-MIPI-ADPT-4CAM

## DIMENSIONS

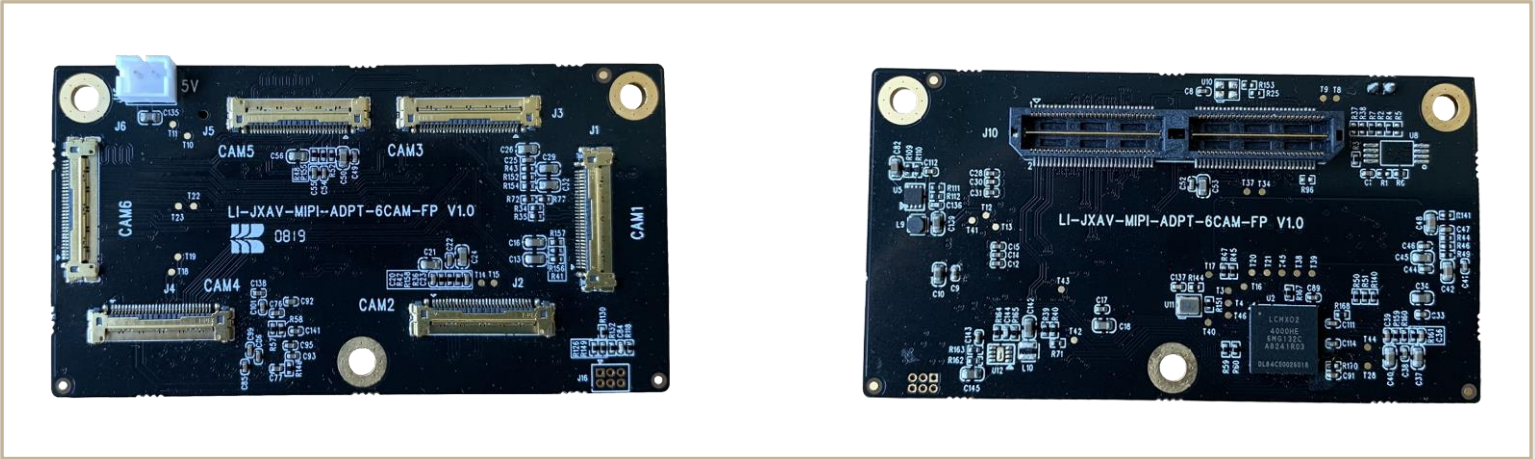


**NOTE:**

- ◻ marked are important sizes.
- Tolerances for the unmarked are ± 0.3 mm.

Unit: mm

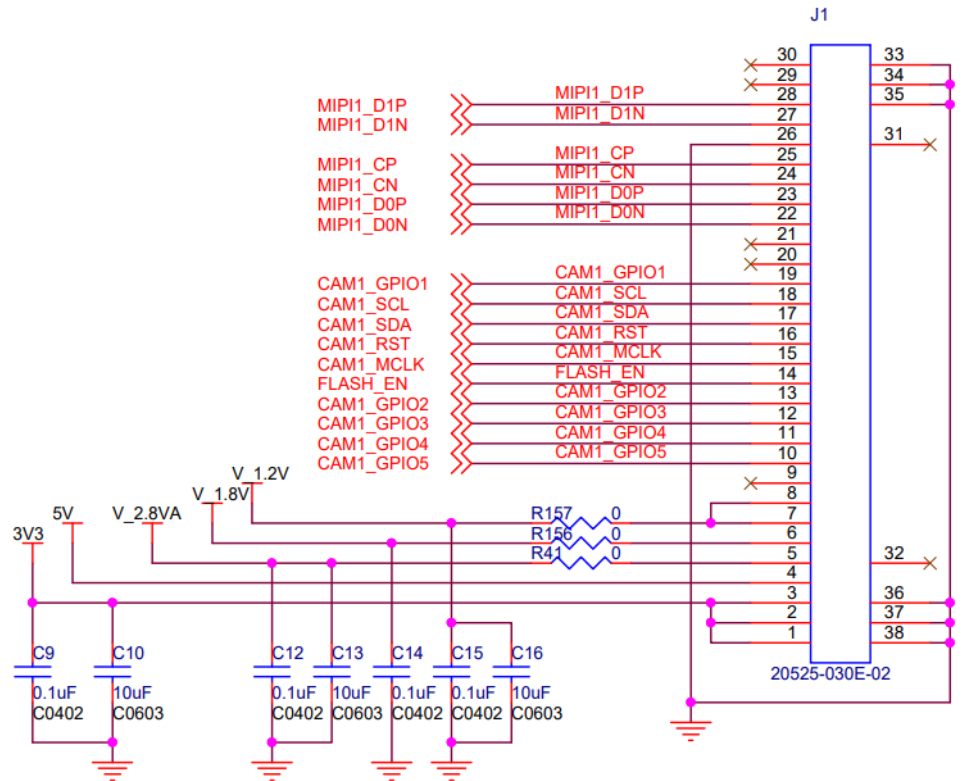
# LI-JXAV-MIPI-ADPT-6CAM-FP



## INTERFACES

### Interface J1 (Camera Channel 1)

- Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- Mating I-PEX Cable: FAW-1233-XX

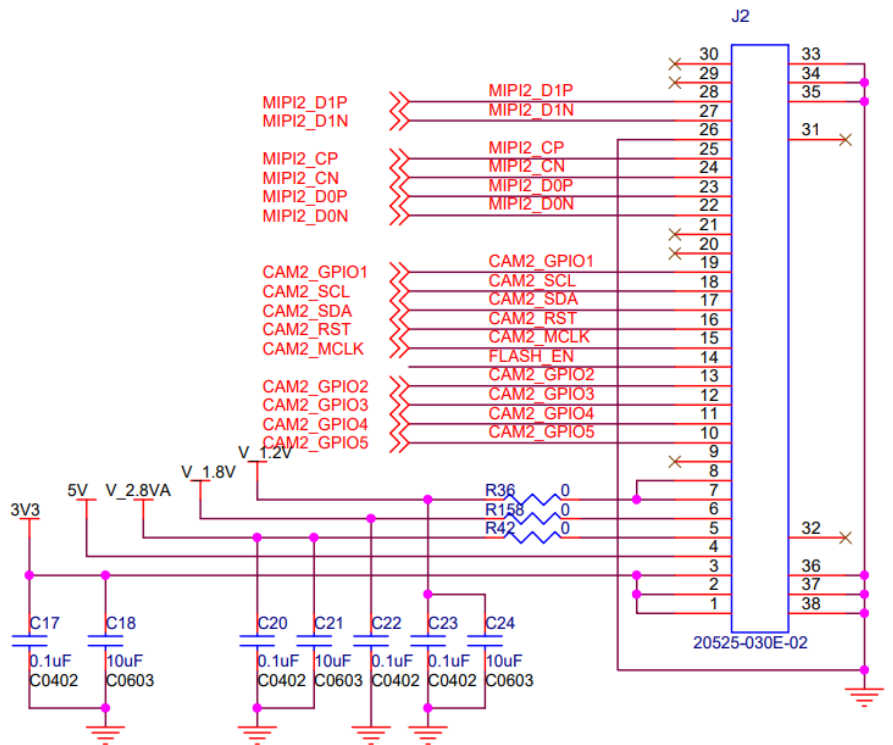


# LI-JXAV-MIPI-ADPT-6CAM-FP

## INTERFACES

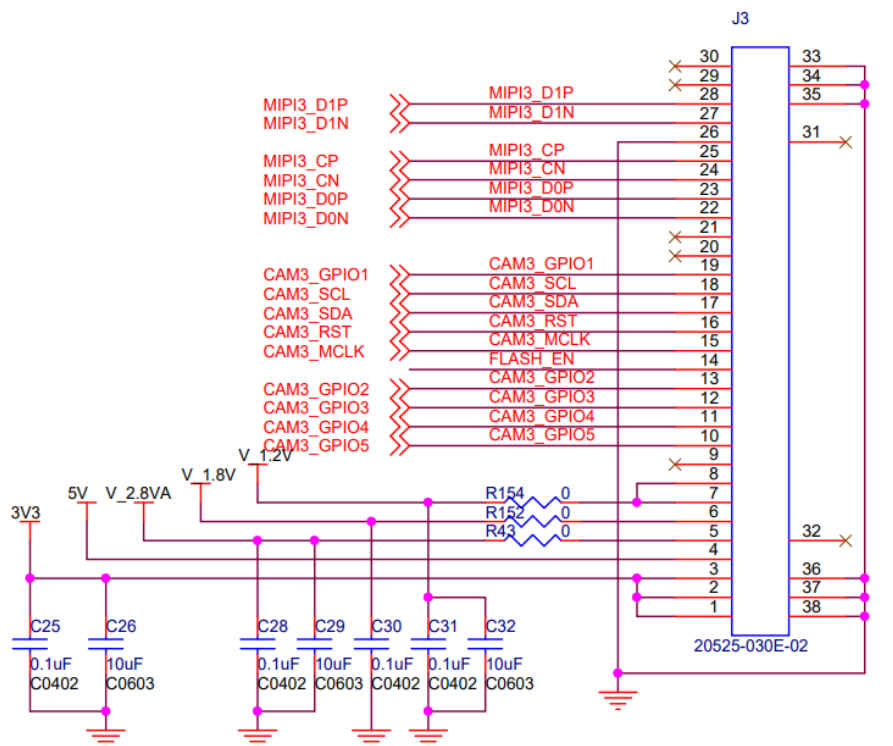
Interface J2 (Camera Channel 2)

- Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- Mating I-PEX Cable: FAW-1233-XX



Interface J3 (Camera Channel 3)

- Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- Mating I-PEX Cable: FAW-1233-XX

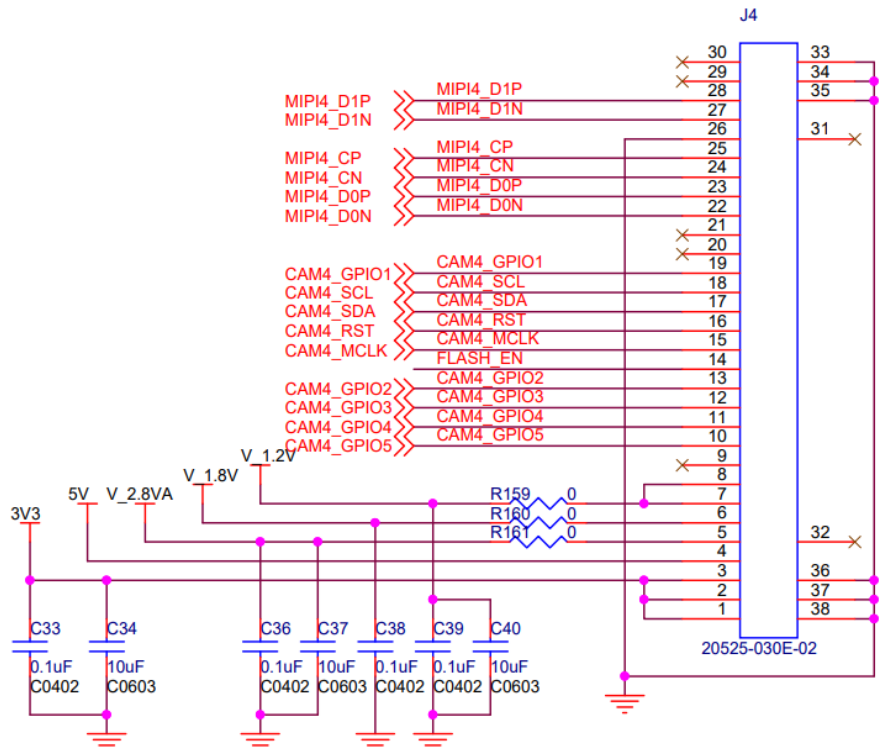


# LI-JXAV-MIPI-ADPT-6CAM-FP

## INTERFACES

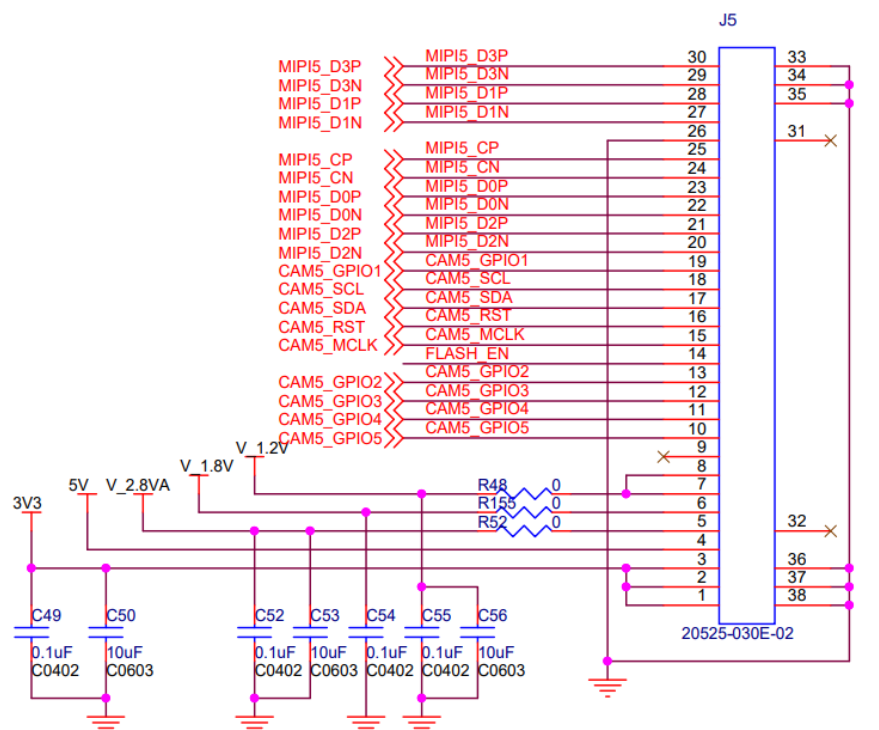
Interface J4 (Camera Channel 4)

- Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- Mating I-PEX Cable: FAW-1233-XX



Interface J5 (Camera Channel 5)

- Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- Mating I-PEX Cable: FAW-1233-XX

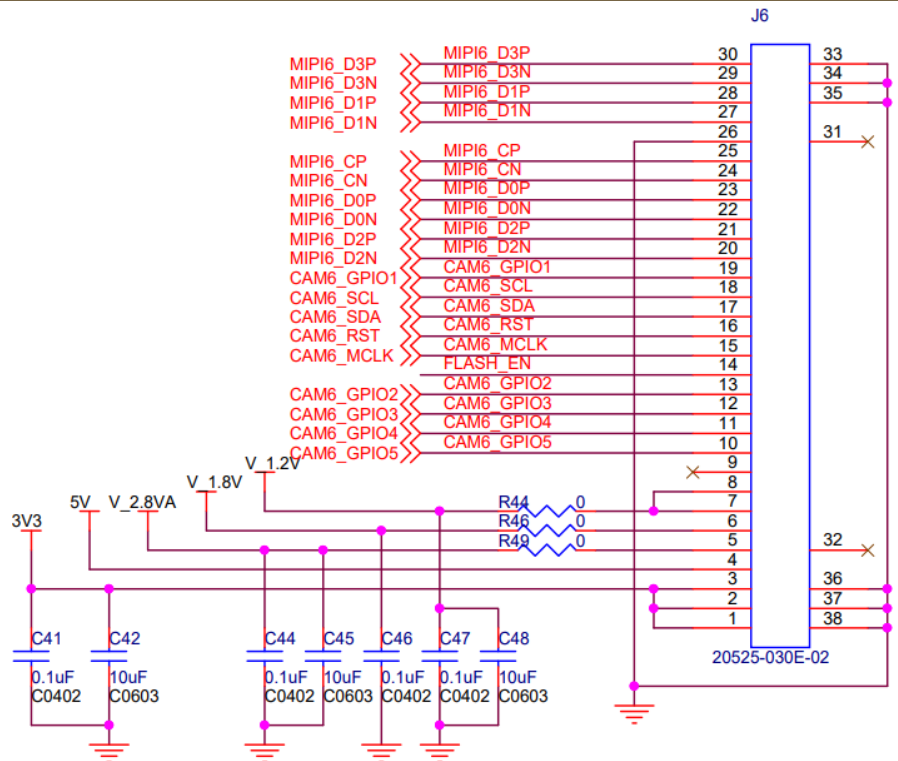


# LI-JXAV-MIPI-ADPT-6CAM-FP

## INTERFACES

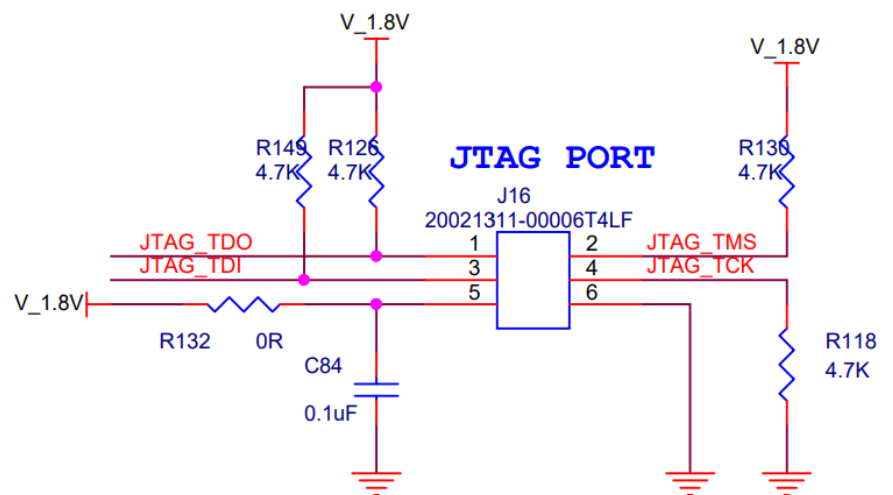
Interface J6 (Camera Channel 6)

- Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- Mating I-PEX Cable: FAW-1233-XX



Interface J16 (FPGA Programming Interface)

- Part#: 20021311-00006T4LF
- Number of Positions: 6
- Pitch: 1.27mm
- Number of Rows: 2

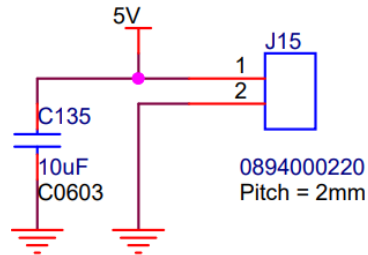


# LI-JXAV-MIPI-ADPT-6CAM-FP

## INTERFACES

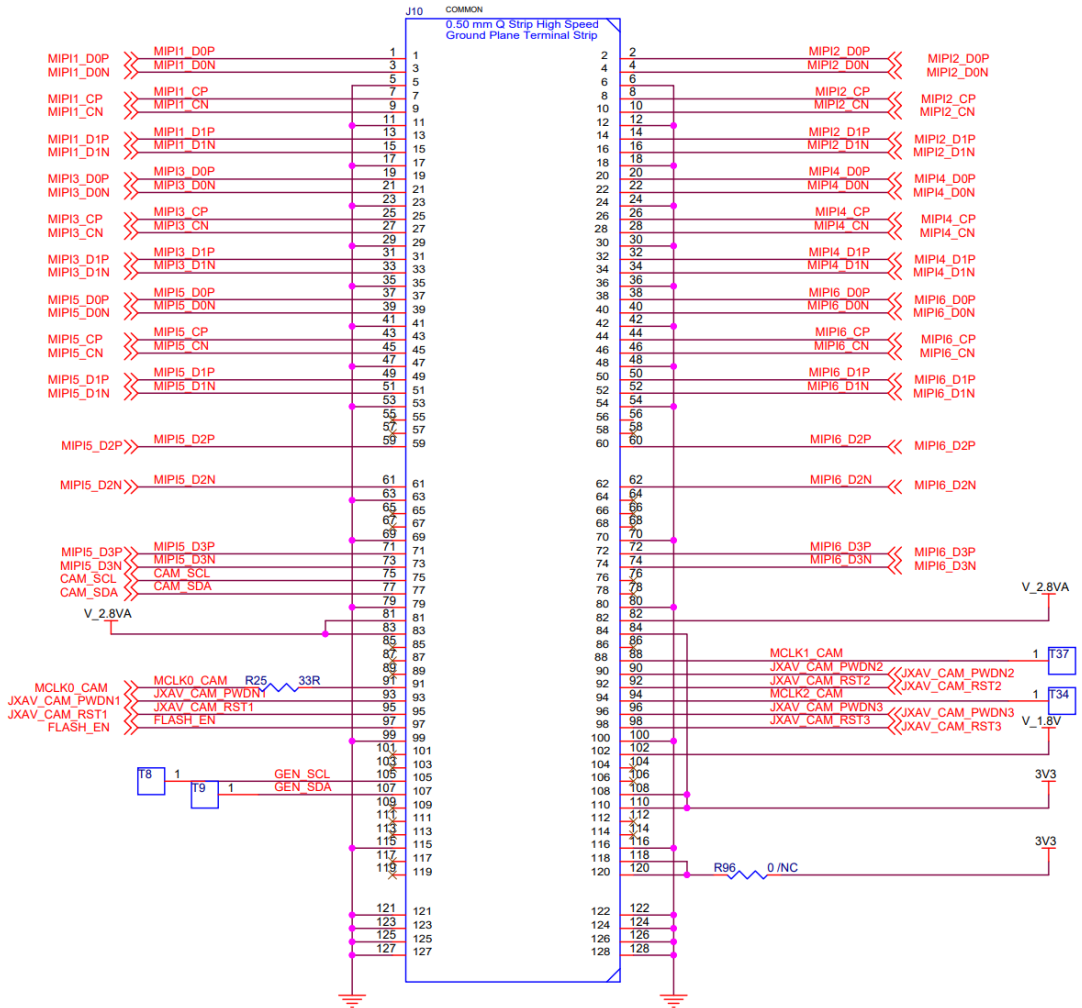
### Interface J15 (External Power Input Interface)

- Part#: 0894000220
- Number of Positions: 2
- Pitch: 2 mm



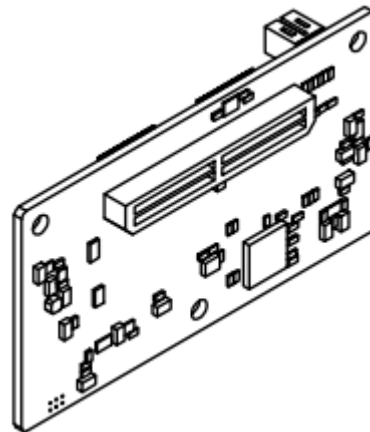
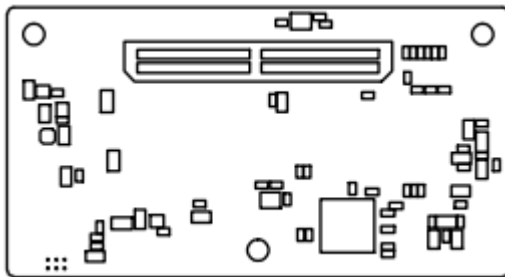
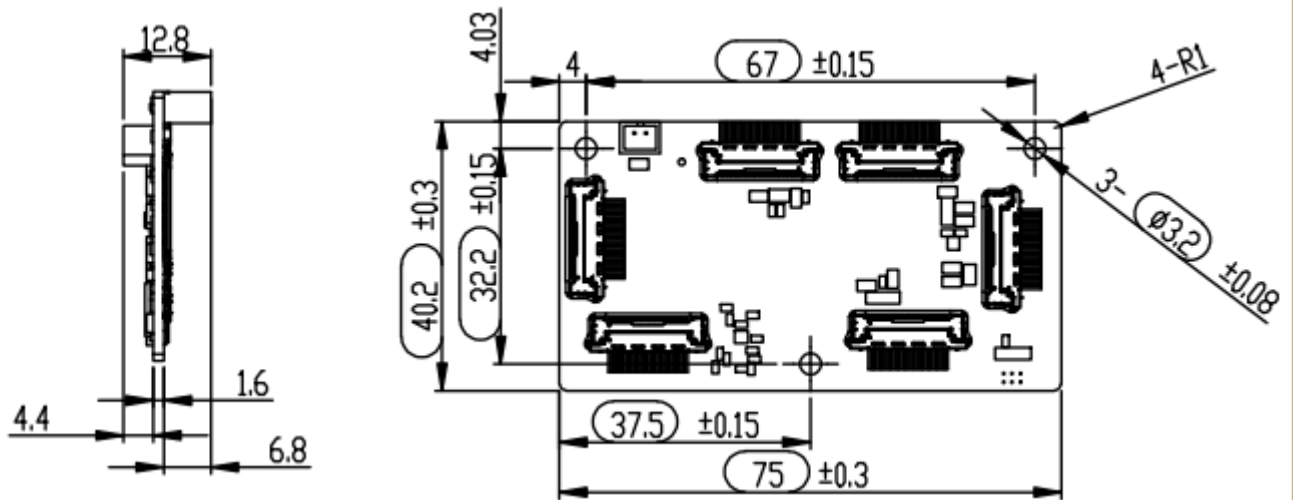
### Interface J10 (To Xavier)

- Part#: QTH-060-01-L-D-A
- Number of Positions: 120
- Number of Rows: 2
- Pitch: 0.5 mm



# LI-JXAV-MIPI-ADPT-6CAM-FP

## DIMENSIONS



### **NOTE:**

- $\square$  marked are important sizes.
- Tolerances for the unmarked are  $\pm 0.3$  mm.

Unit: mm

# FAW-1233-03 Cable



## MECHANICAL DIAGRAM

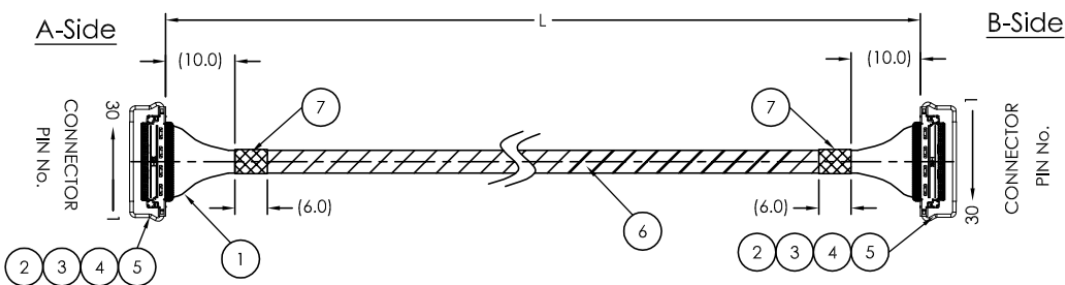
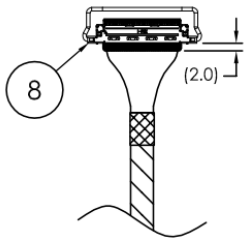
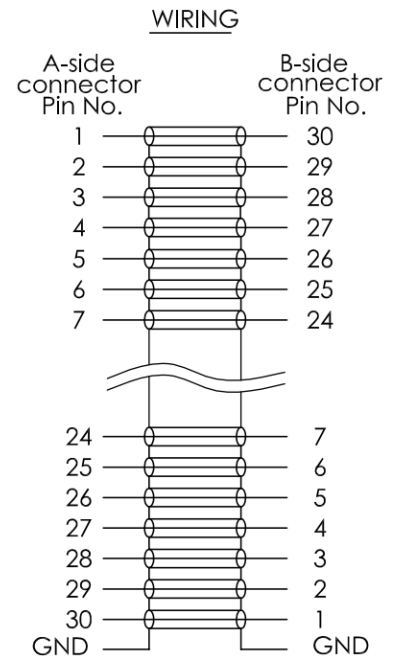


Fig. 1 Applying UV resin



### WIRING



8	UV RESIN	2	LOCBOND P/N : LOCBOND 349
7	TAPE	2	CHUKOH P/N: ASF-116T
6	TAPE	1	CHUKOH P/N: SEF-110
5	FLAT COPPER WIRE	4	GROUND BAR
4	PULL BAR	2	I-PEX P/N : 2766-0301
3	SHIELD PLATE	2	I-PEX P/N : 2764-0301-002
2	CONNECTOR	2	I-PEX P/N : 20634-130T-02
1	CABLE	30	UL10231 AWG40 MCX (Z=50ohm)
ITEM	DESCRIPTION	Q'TY	REMARK

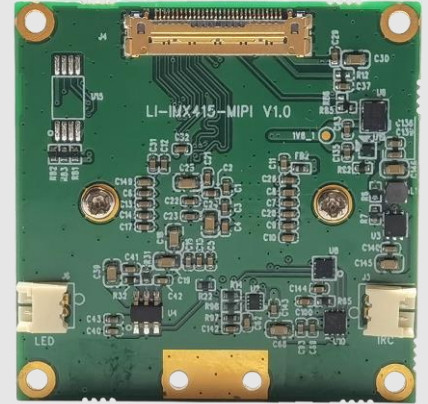
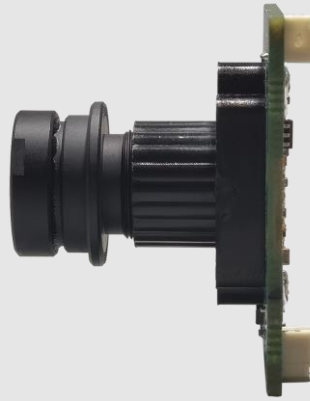
### NOTE:

- Total length:  $300.0 \pm 10.0$ .
- Apply UV resin at the end of connector to cover cables both sides of the cable assembly (Fig.1).

Unit: mm



# LI-IMX415-MIPI-081H



## CAMERA SPECIFICATIONS

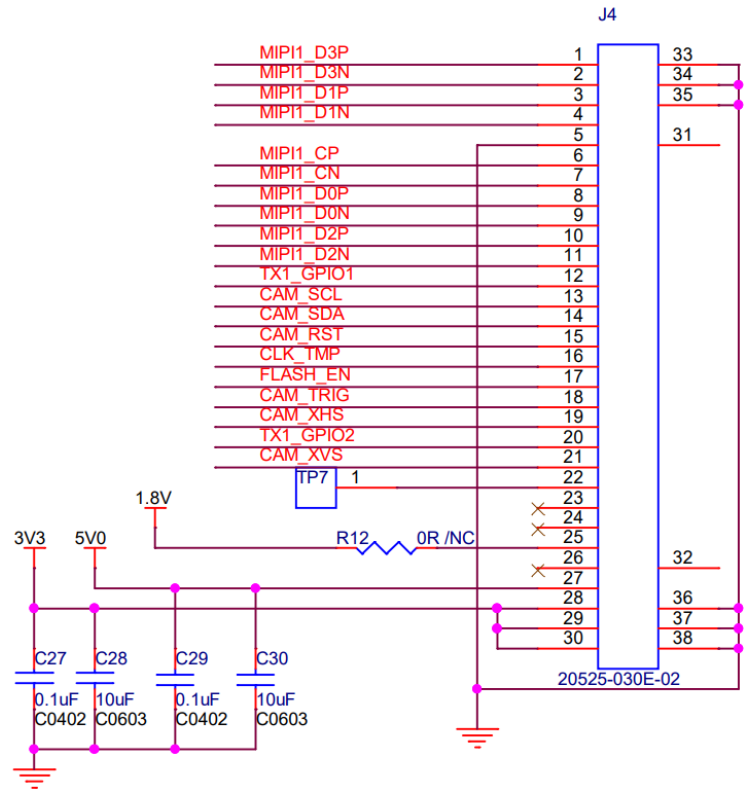
Sensor	Sony Diagonal 6.43 mm (Type 1/2.8) CMOS Image Sensor IMX415
Optical Format	1/2.8"
Resolution	3864 (H) x 2176 (V) (active pixels)
Pixel Size	1.45 x 1.45 $\mu\text{m}$
Output Format	10-bit / 12-bit RAW data
ISP	Not included
Color / Mono	Color sensor
Interface	4-lane MIPI CSI-2
Lens Mount	M12
Size	38 (L) x 38 (W) x 32.04 (D) mm
Weight	~ 17 g
Part#	LI-IMX415-MIPI-081H

# LI-IMX415-MIPI-081H

## INTERFACES

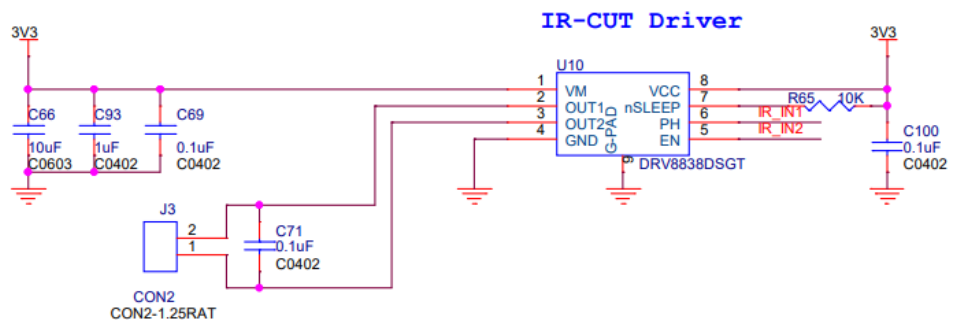
### Interface J4

- Connector Part#: 20525-030E-02
- Number of Positions: 30
- Pitch: 0.4 mm
- Mating I-PEX cable: LI-FAW-1233
- Sensor I2C Address: 0x1A (7-bit)
- External Power Supply: 3.3V
- 2.9V (analog), 1.8V and 1.1V are generated from board



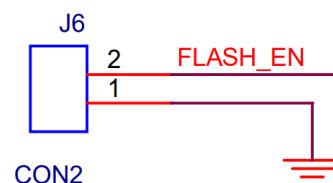
### Interface J3

- Part#: 1734829-2
- Number of Positions: 2
- Pitch: 1.25 mm



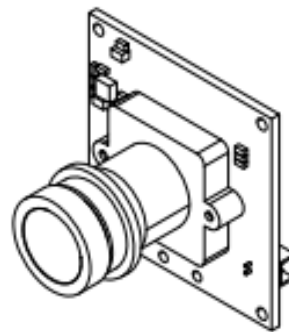
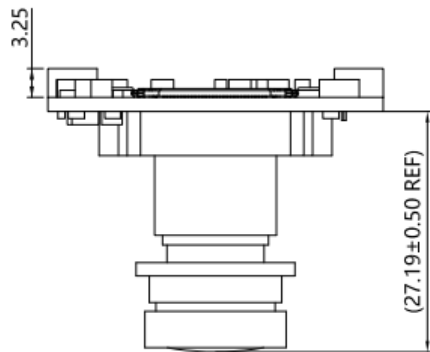
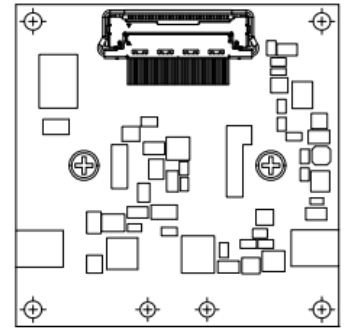
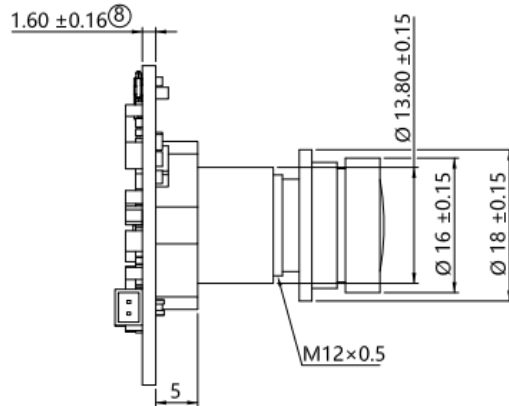
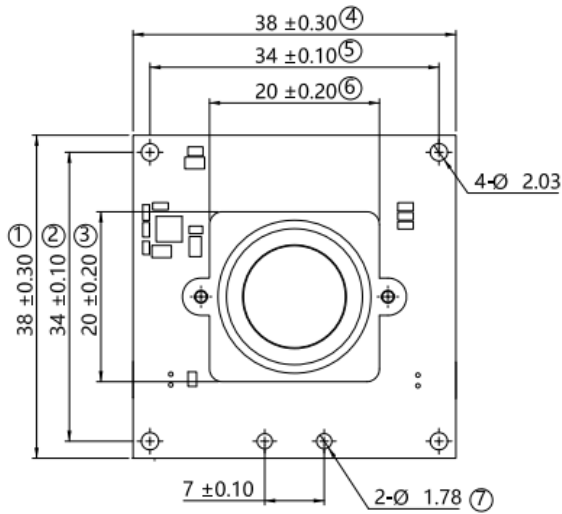
### Interface J6

- Part#: 1734829-2
- Number of Positions: 2
- Pitch: 1.25 mm



# LI-IMX415-MIPI-081H

## DIMENSIONS



### NOTE:

- ⊗ marked are important sizes.
- Tolerances for the unmarked are ± 0.3 mm.

Unit: mm

## ● REVISION HISTORY

Revision	Description	Release Date
1.0	First release.	17 Jul 2019
1.1	Deleted quoted info from sensor spec.	26 May 2022
1.2	Replaced SYD1201 lens with SC65 and updated related product images, 2D dimensions and description.	15 Nov 2022

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Website: [www.leopardimaging.com](http://www.leopardimaging.com)

