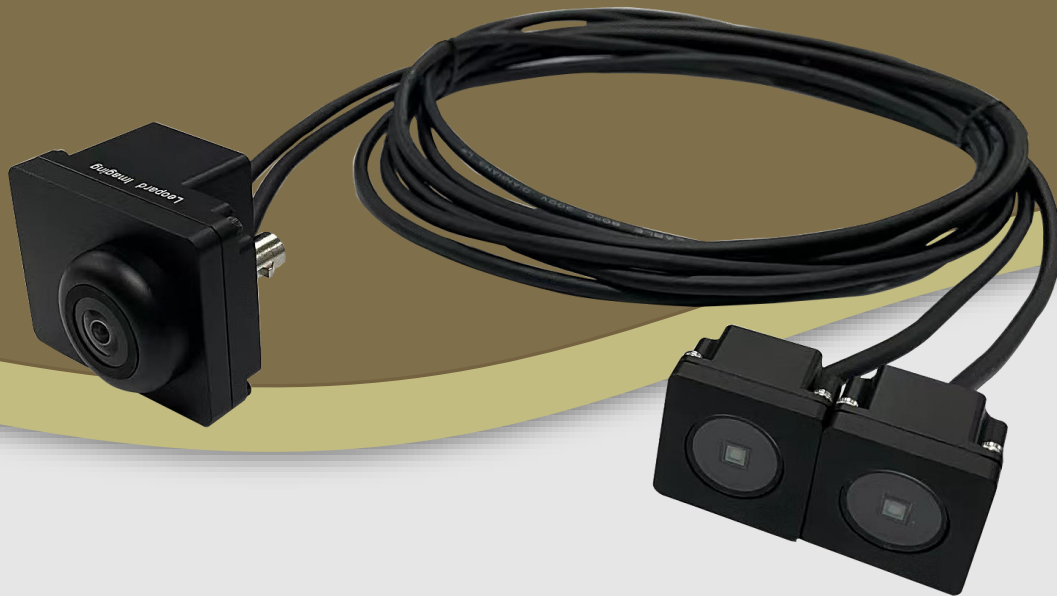




**LEOPARD**  
IMAGING

# LI-VB1940-VCL-OMS-GM2B-137H



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## INTRODUCTION

The LI-VB1940-VCL-OMS-GM2B-137H is equipped with STMicroelectronics automotive 5.1 megapixel, 2.25  $\mu\text{m}$  global shutter image sensor VB1940, Maxim GMSL2 serializer MAX96717 and 2 VCSELs. This camera outputs RAW RGB-IR data.

## SPECIFICATIONS

Sensor	STMicroelectronics 5.1 MP Global Shutter Image Sensor VB1940
Optical Format	1/2.5"
Resolution	2560 (H) x 1984 (V)
Pixel Size	2.25 x 2.25 $\mu\text{m}$
Output Format	RAW RGB-IR, 12-bit / 10-bit / 8-bit
Color / Mono	RGB-IR
Maximum Frame Rate	60 fps @ full resolution
Shutter	Global shutter
Serializer	Maxim MAX96717
Power Supply Range	9 ~ 19 VDC
ISP	Not included
IP Rating	TBD
VCSEL	Included
FAKRA Connector	FAKRA Z TYPE
Power Consumption	397 mA @ 12 VDC (2560 x 1984 @ 30 fps)
Operating Temp	-40°C ~ +85°C
Storage Temp	-40°C ~ +85°C
Weight	~ 248 g
Part#	LI-VB1940-VCL-OMS-GM2B-137H

## APPLICATIONS

- Autonomous Driving
- Driver Monitoring System
- Occupant Monitoring System
- In-Cabin Monitoring System

## LENS SPECIFICATIONS

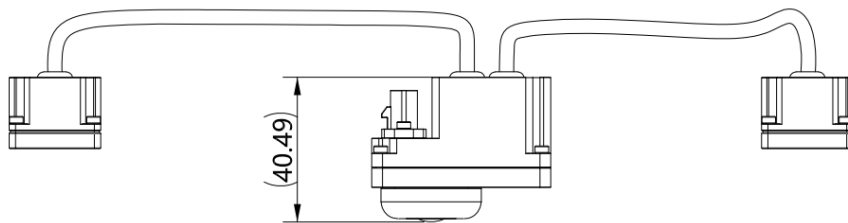
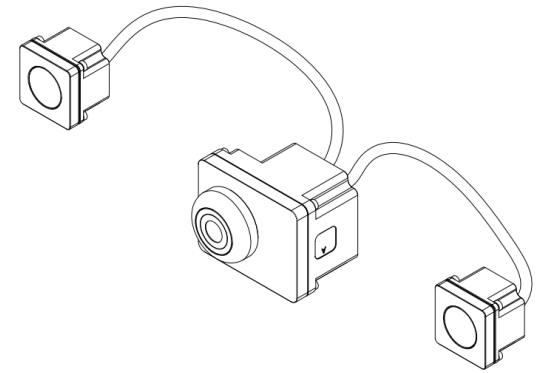
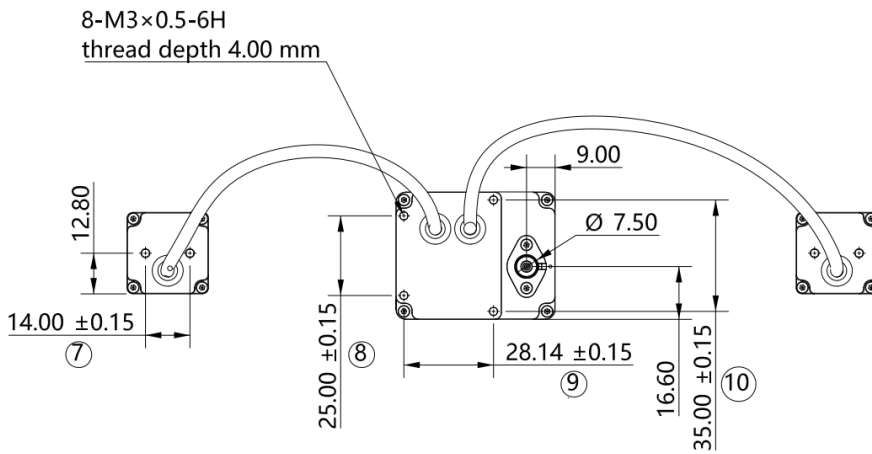
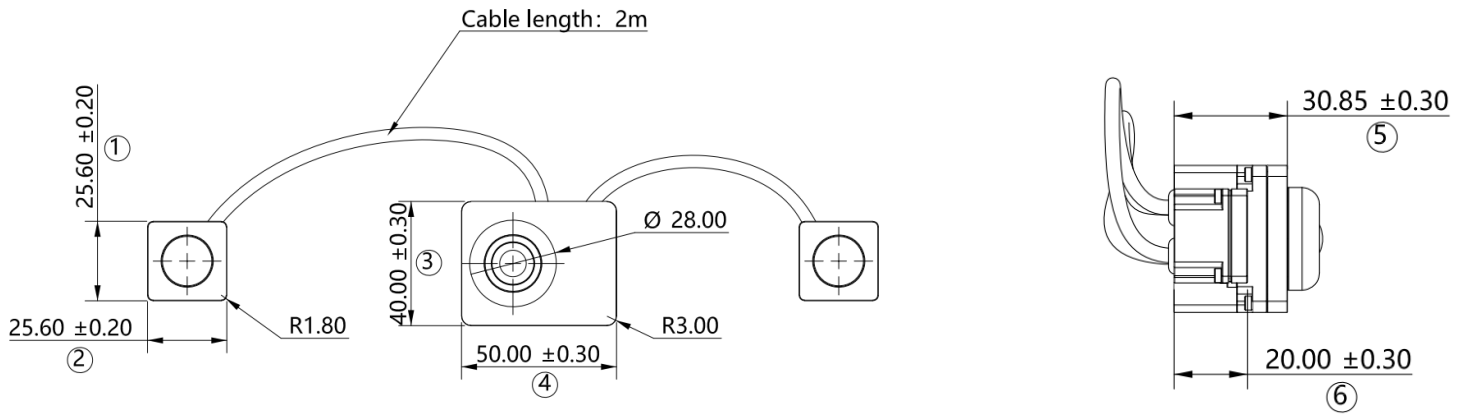
Focal Length	2.666 mm
Aperture, F/#	2.4
Field of View (FOV)	137° horizontal
IR Filter	Visible + 940 nm band pass filter
Relative Illumination	43.99%
Optical Distortion	-87.08% (F-tan $\theta$ )
Lens Mount	M12 x P0.5

## VCSEL SPECIFICATIONS

Wavelength	940 nm
Field of Illumination (FOI)	125.5° horizontal 111.5° vertical
QTY on Camera	2



# DIMENSIONS

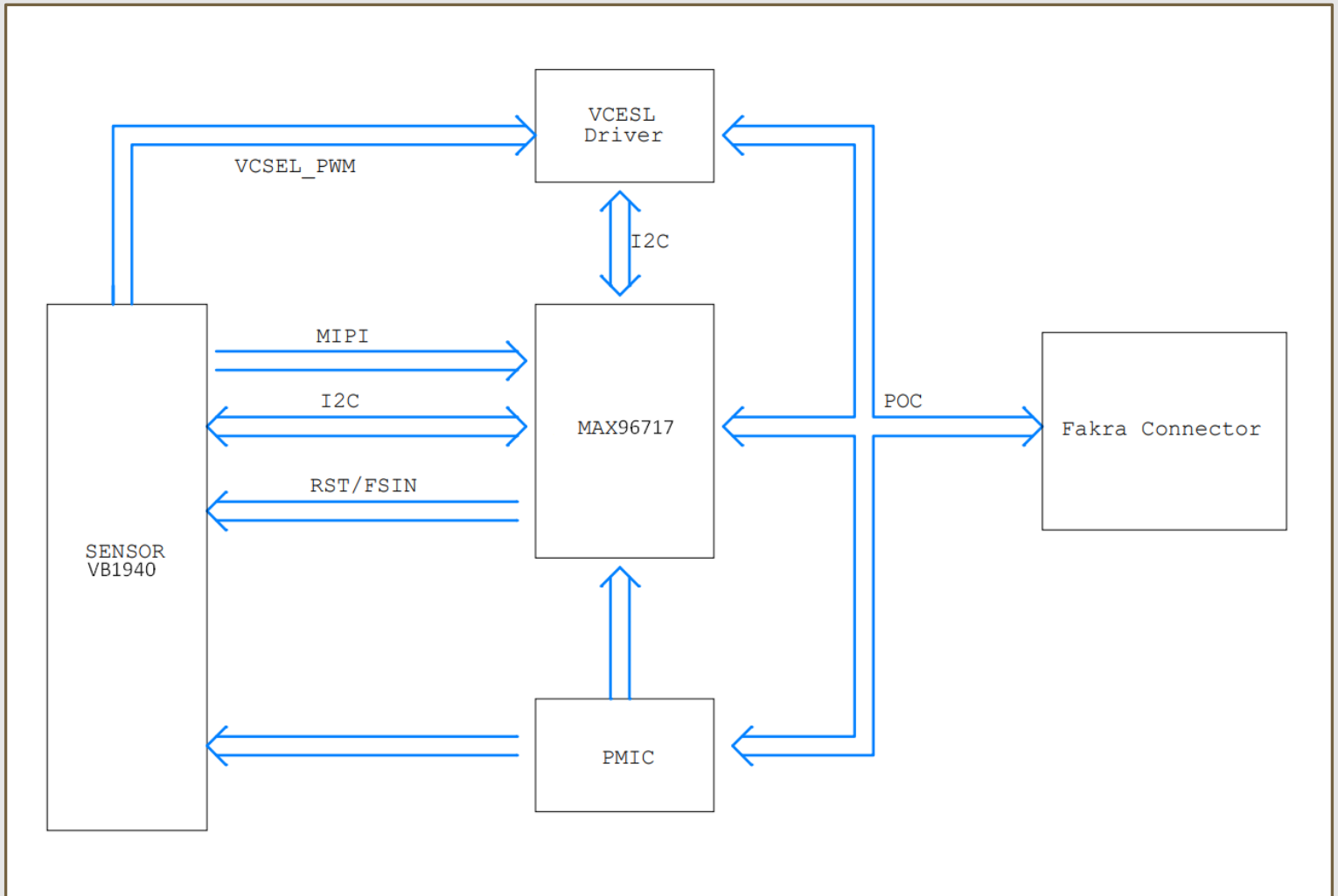


**NOTE:**

- Other unmarked tolerances are ± 0.3 mm.
- ⊗ marked are important sizes.

Unit: mm

## BLOCK DIAGRAM



## IMAGE ORIENTATION



## USB3.0 CAMERA KIT

LI-GMSL2-USB



Top View



Bottom View

LI-VB1940-VCL-OMS-GM2B-137H can connect to LI-GMSL2-USB as a USB 3.0 camera.

Part#: **LI-USB30-VB1940-VCL-OMS-GM2B-137H**

### SPECIFICATIONS

- USB 3.0 Super Speed support
- UVC compliant
- Global shutter
- Allows customization
- 12 VDC power supply for camera
- Weight: ~ 315 g
- Single Coax Cable transmits up to 12 meters PoC (Power over Cable)
- Resolution: 2560 x 1984 @ 30 fps
- Compatible with Windows, Linux OS and other OS which have UVC drivers



### BOM

#	Items	QTY
1	LI-VB1940-VCL-OMS-GM2B-137H	1
2	LI-GMSL2-USB	1
3	3-Meter Fakra Cable	1
4	12 VDC Power Supply	1
5	USB3.0 Cable	1

### SDK SUPPORTED

- Camera Tool Source Code in C#
- Capture & Display
- Register Access Function

## ● REVISION HISTORY

Revision	Description	Release Date
0.1	Initial draft.	29 Dec 2022
0.2	Updated 2D dimensions and 3D images.	17 Feb 2023
0.3	<ol style="list-style-type: none"><li>1. Updated 2D dimensions and 3D images.</li><li>2. Updated part# from LI-VB1940-VCSEL-OMS-96717-137H to LI-VB1940-VCL-OMS-GM2B-137H.</li></ol>	21 Mar 2023
0.4	<ol style="list-style-type: none"><li>1. Updated power consumption, weight, and USB30 resolution.</li><li>2. Replaced 3D images with actual product images.</li></ol>	28 Apr 2023
0.5	<ol style="list-style-type: none"><li>1. Updated image direction.</li><li>2. Updated temp info.</li></ol>	27 Dec 2023

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