

AN13736

Using IMX-OS08A20 Camera Module on i.MX 8M Plus Evaluation Kit

Rev. 1 — 2 February 2023

Application note

Document information

Information	Content
Keywords	AN13736, i.MX 8M Plus Evaluation Kit (i.MX 8M Plus EVK), IMX-OS08A20 accessory card, MIPI-CSI interface camera kit, Machine vision, 4K camera
Abstract	This document provides a brief overview on how to get started with the IMX-OS08A20 accessory card and the i.MX 8M Plus EVK.



1 Introduction

NXP provides optional accessory boards that can be used to evaluate the i.MX 8M Plus EVK. The IMX-OS08A20 for the i.MX 8M Plus EVK is a MIPI-CSI interface camera kit based on OmniVision chipset OS08A20. The IMX-OS08A20 camera module can be purchased from [4K MIPI CMOS Camera Module](#) product page.

This document provides a brief overview on how to get started with the IMX-OS08A20 accessory card and the i.MX 8M Plus EVK.

Key specifications / features:

- Image sensor optical size of 1/2" with 8 megapixels (3840 x 2160)
- Supported output formats: 12-/10-bit RAW RGB
- Maximum image transfer rate:
 - 4K (3840 x 2160): 60 fps
 - 1080 p (1920 x 1080): 120 fps
 - 720p (1280 x 720): 180 fps
- Lens parameters:
 - 1/1.8" IMX334
 - Max image circle: 9 mm diameter
 - Effective focal length: 7.84 mm
 - Fixed Iris
 - Minimum object distance: 0.5 m
 - Mount method: screw

Note: *i.MX8MPlus can only support up to 3840 x 2160 at 30 fps.*

2 Get to know the IMX-OS08A20 accessory card

IMX-OS08A20 accessory card contains a bridge card and a camera module. The camera module is connected to the bridge card through a connector that is assembled during the manufacturing phase.

Table 1. Items in IMX-OS08A20 accessory

Item	Quantity
Camera module	1
8" mini-SAS cable	1

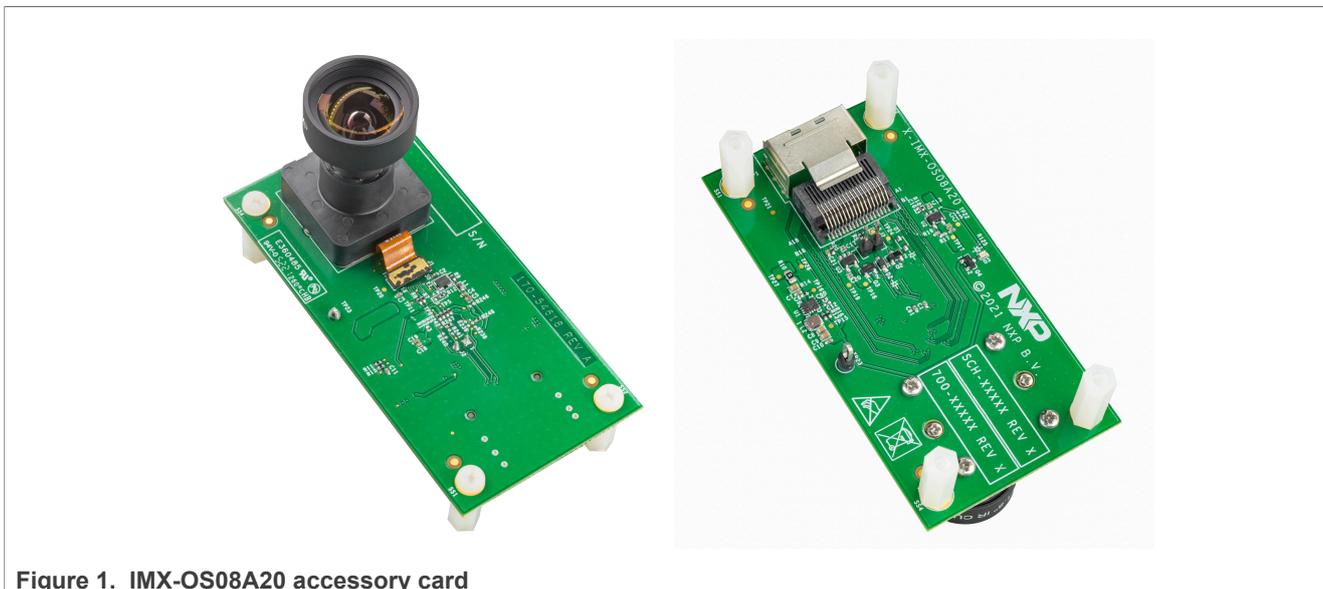


Figure 1. IMX-OS08A20 accessory card

3 How to use the IMX-OS08A20 accessory card

This section describes quick steps to get started with the IMX-OS08A20 accessory card.

Note: Before plugging in the cable, remove the plastic cover on the mini-SAS connectors.

3.1 Hardware setup

To enable IMX-OS08A20 camera module, follow the steps below:

1. Plug-in the mini-SAS cable into the mini-SAS connector on the IMX-OS08A20 accessory card.
2. Plug-in the other end of the mini-SAS cable into J12 on the i.MX 8M Plus EVK.



Figure 2. Hardware setup of IMX-OS08A20 accessory card

3.2 Software setup: Linux

The default Board Support Package (BSP) supports the MIPI-CSI on J12. To enable the camera on J12, replace the original *.dtb file with imx8mp-evk-os08a20.dtb file as follows.

```
U-Boot > setenv fdtfile imx8mp-evk-os08a20.dtb
U-Boot > saveenv
U-Boot > boot
```

The camera GStreamer commands are:

```
gst-launch-1.0 -v v4l2src device=/dev/video2 ! "video/x-raw,format=YUY2,width=1920,height=1080" !
queue ! waylandsink
gst-launch-1.0 -v v4l2src device=/dev/video2 ! "video/x-raw,format=YUY2,width=3840,height=2160" !
queue ! waylandsink
```

4 References

[Table 2](#) provides the link to access software or order the evaluation kit and accessory boards.

Table 2. Link to access software/order evaluation kit

Compatible boards	Description	Link
8MPLUSLPD4-EVK	i.MX 8M Plus Evaluation Kit	Evaluation Kit for the i.MX 8M Plus Applications Processor

For latest software, see [i.MX Software and Development Tools](#).

5 Revision history

[Table 3](#) summarizes the changes done to this document since the initial release.

Table 3. Revision history

Revision number	Date	Substantive changes
0	20 September 2022	Initial release
1	02 February 2023	Updated Section 1

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