



LEOPARD
IMAGING

LI-IMX678-FLEX-114H



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INTRODUCTION

The LI-IMX678-FLEX-114H is a MIPI CSI-2 camera with Sony diagonal 8.86 mm (Type 1/1.8) STARVIS2 CMOS color sensor IMX678 which has low power consumption and achieves high sensitivity, low dark current and no smear. This camera outputs RAW data.

SPECIFICATIONS

Sensor	Sony Diagonal 8.86 mm STARVIS2 CMOS Sensor IMX678
Optical Format	1/1.8"
Resolution	3856 (H) x 2176 (V) (active pixels)
Focusing Range	1 m ~ Infinity
Pixel Size	2.0 x 2.0 μm
Output Format	10-bit / 12-bit RAW data
Maximum Frame Rate	60 fps @ all-pixel scan mode
HDR (High Dynamic Range)	Supported
ISP	Not included
Color / Mono	Color sensor
Interface	4-lane MIPI CSI-2
Power Consumption	~ 0.3 W
Operating Temp	-30°C ~ +85°C
Storage Temp	-30°C ~ +85°C
Weight	~ 12 g
Part#	LI-IMX678-FLEX-114H

APPLICATIONS

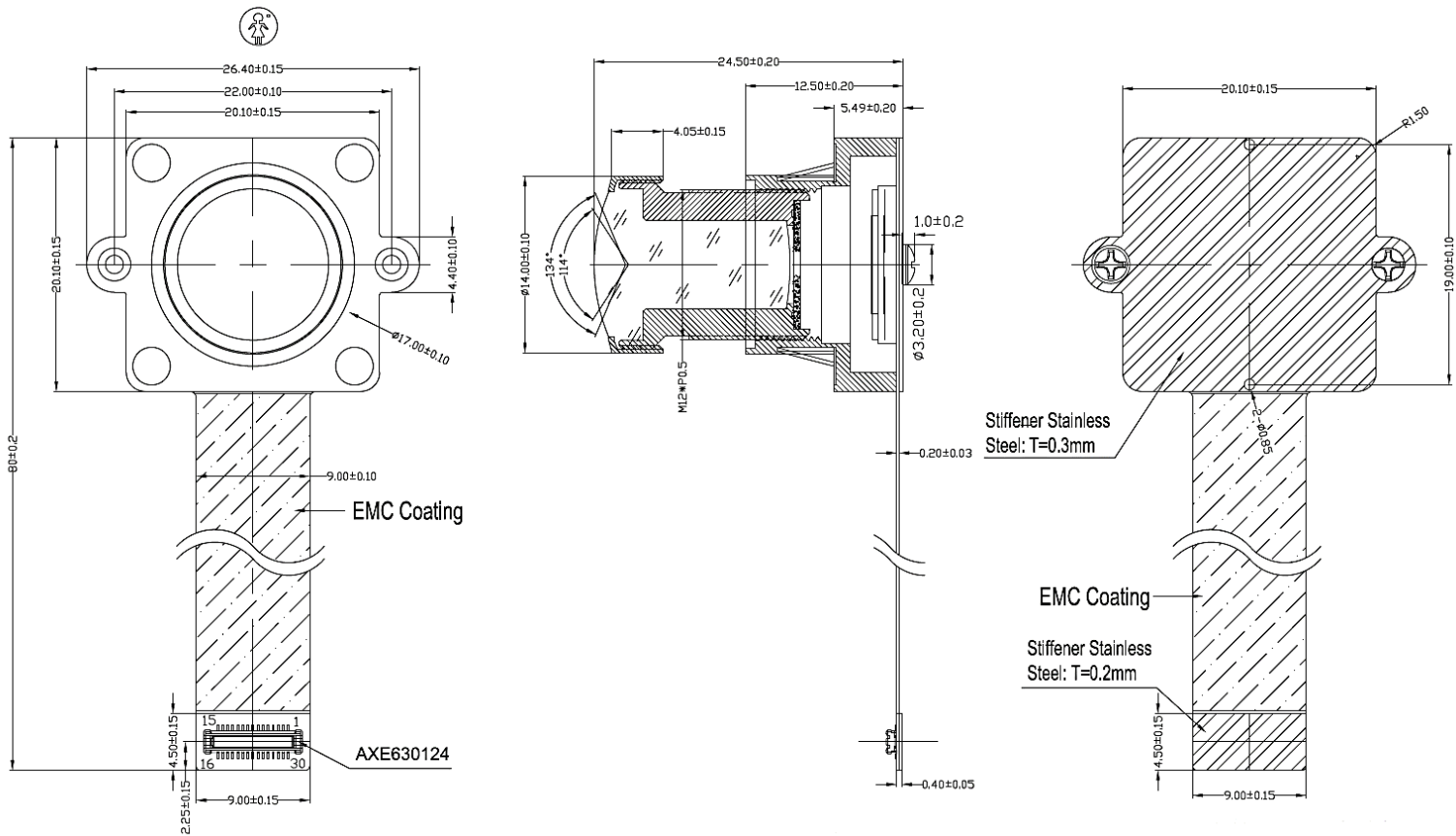
- IoT
- Drone
- Robots

LENS SPECIFICATIONS

Effective Focal Length	4.0 $\pm$ 5% mm
Aperture, F/#	2.0 $\pm$ 5%
Field of View (FOV)	114° horizontal
Distortion	< -9.5%
IR Filter	650 nm IR cut filter
Lens Mount	M12 x 0.5



DIMENSIONS

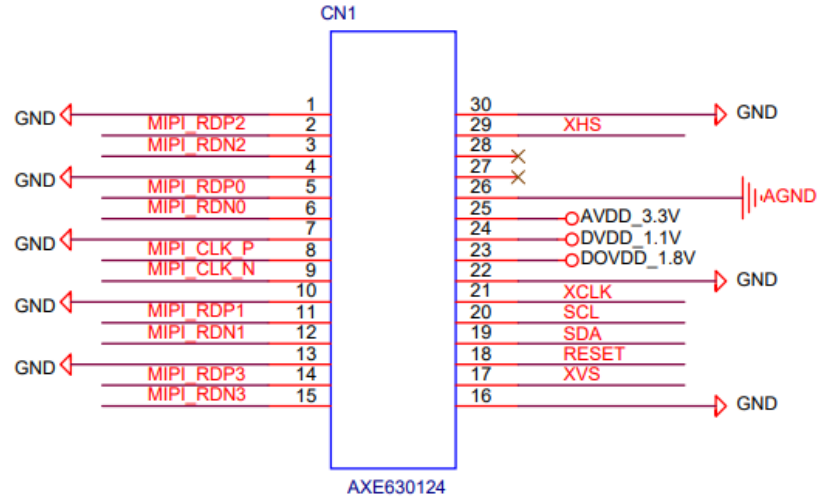


NOTE:

- All materials are compliant with RoHS requirements.
- Unit: mm

INTERFACE CN1

- Connector Part#: AXE630124
- Number of Positions: 30
- Pitch: 0.4 mm
- External power supply: 3.3 V, 1.8V, 1.1V



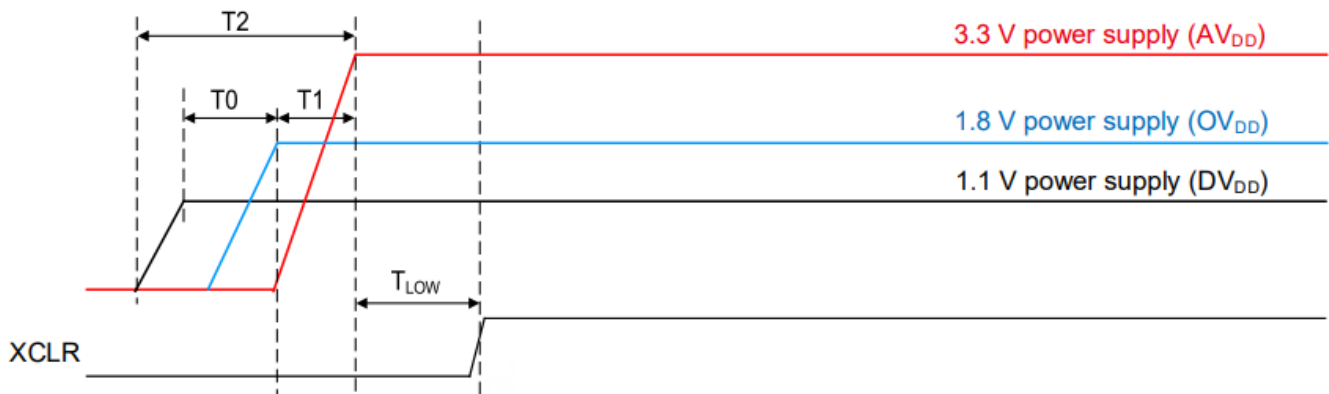
PINOUT DETAILS OF IPEX CONNECTOR (CN 1)

Pin No	Signal Name	Pin Type	Description	Voltage Level
1	GND	GND	Sensor Digital I/O ground	–
2	MIPI_RDP2	OUTPUT	MIPI Data Lane 2 Differential Pair +	MIPI DPHY
3	MIPI_RDN2	OUTPUT	MIPI Data Lane 2 Differential Pair -	MIPI DPHY
4	GND	GND	Sensor Digital I/O ground	–
5	MIPI_RDP0	OUTPUT	MIPI Data Lane 0 Differential Pair +	MIPI DPHY
6	MIPI_RDN0	OUTPUT	MIPI Data Lane 0 Differential Pair -	MIPI DPHY
7	GND	GND	Sensor Digital I/O ground	–
8	MIPI_CLK_P	OUTPUT	MIPI Clock Lane Differential Pair +	MIPI DPHY
9	MIPI_CLK_N	OUTPUT	MIPI Clock Lane Differential Pair -	MIPI DPHY
10	GND	GND	Sensor Digital I/O ground	–
11	MIPI_RDP1	OUTPUT	MIPI Data Lane 1 Differential Pair +	MIPI DPHY
12	MIPI_RDN1	OUTPUT	MIPI Data Lane 1 Differential Pair -	MIPI DPHY
13	GND	GND	Sensor Digital I/O ground	–
14	MIPI_RDP3	OUTPUT	MIPI Data Lane 3 Differential Pair +	MIPI DPHY

Pin No	Signal Name	Pin Type	Description	Voltage Level
15	MIPI_RDN3	OUTPUT	MIPI Data Lane 3 Differential Pair -	MIPI DPHY
16	GND	GND	Sensor Digital I/O ground	–
17	XVS	I/O	Vertical sync signal	1.8 V
18	RESET	INPUT	Camera reset, active low (Require pullup at host side)	1.8 V
19	SDA	I/O	Camera I2C SDA signal (Require pullup at host side)	1.8 V
20	SCL	INPUT	Camera I2C SCL signal (Require pullup at host side)	1.8 V
21	XCLK	INPUT	Master clock input (Must be provided from host side)	1.8 V
22	GND	GND	Sensor Digital I/O ground	–
23	DOVDD_1.8V	POWER	1.8 V power supply (Must be provided from host side)	1.8 V
24	DVDD_1.1V	POWER	1.1 V power supply (Must be provided from host side)	1.1 V
25	AVDD_3.3V	POWER	3.3 V power supply (Must be provided from host side)	3.3 V
26	AGND	POWER	AGND	–
27	NC	-	No Connection	–
28	NC	-	No Connection	–
29	XHS	I/O	Horizontal sync signal	1.8 V
30	GND	GND	Sensor Digital I/O ground	–

External Power supply Power On Sequence

1. Turn On the power supplies so that the power supplies rise in order of 1.1 V power supply (DVDD) → 1.8 V power supply (OVDD) → 3.3 V power supply (AVDD). In addition, all power supplies should finish rising within 200 ms.
2. The register values are undefined immediately after power-on, so the camera must be reset. Hold XCLR at Low level for 500 ns or more after all the power supplies have finished rising. (The register values after the camera reset are the default values.)
3. The camera reset is applied by setting XCLR to High level.
4. Make the sensor setting by register communication after the camera reset.



Item	Symbol	Min.	Max.	Unit
1.1 V power supply rising → 1.8 V power supply rising	T0	0	-	ns
1.8 V power supply rising → 3.3 V power supply rising	T1	0	-	ns
Rising time of all power supply	T2	-	200	ns
3.3 V power supply rising → Clear OFF	T _{LOW}	500	-	ns

Power Consumption

Item	Symbol	Typ.	Max.	Unit
Operating current MIPI CSI-2 / 4-Lane × 2ch, 1188 Mbps 10-bit, 60 frame/s All-pixel mode	I _{AVDD}	69	86	mA
	I _{OVDD}	4	5	mA
	I _{DVDD}	162	175	mA
Standby current	I _{AVDD_STB}	-	0.3	mA
	I _{OVDD_STB}	-	0.1	mA
	I _{DVDD_STB}	-	28	mA

LI-RB-IMX678-FLEX-114H

INTRODUCTION

When connecting LI-IMX678-FLEX-114H camera with Qualcomm platform, following adaptor board will be needed.

P/N for kit connection: **LI-RB-IMX678-FLEX-114H**

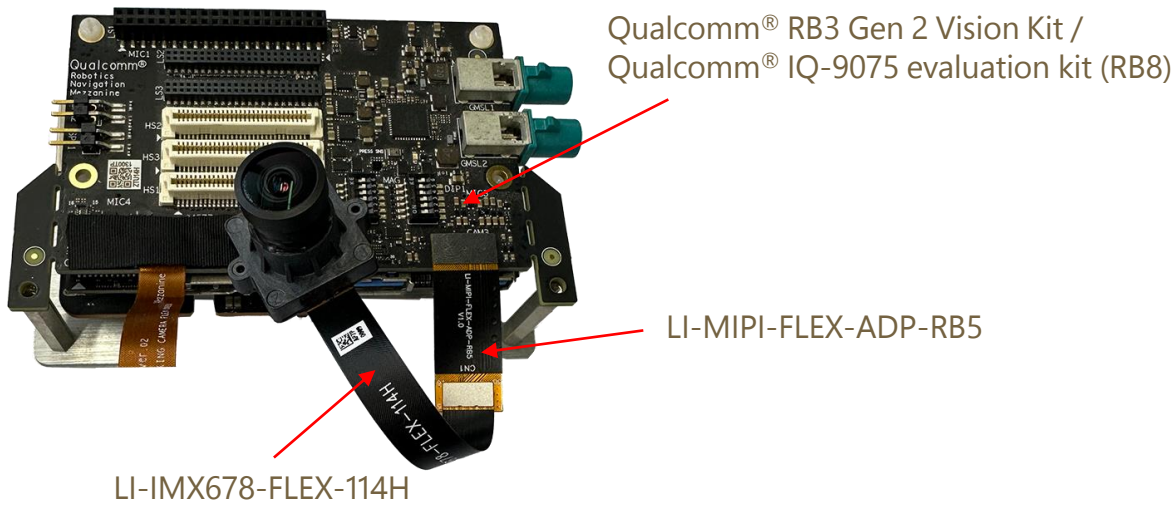
BOM

#	Items	QTY
1	LI-IMX678-FLEX-114H	1
2	LI-MIPI-FLEX-ADP-RB5	1

NOTE: Qualcomm® Development Kit is **NOT** included.

Supported platform:

- ✓ Qualcomm® RB3 Gen 2 Vision Kit
- ✓ Qualcomm® IQ-9075 evaluation kit (RB8)



● REVISION HISTORY

Revision	Description	Release Date
1.0	First Release.	22 Aug 2025
1.1	Updated the interface pin-29 details.	27 Oct 2025
1.2	Added power on sequence and power consumption.	05 Dec 2025
1.3	Updated supported platform.	07 Jul 2026

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