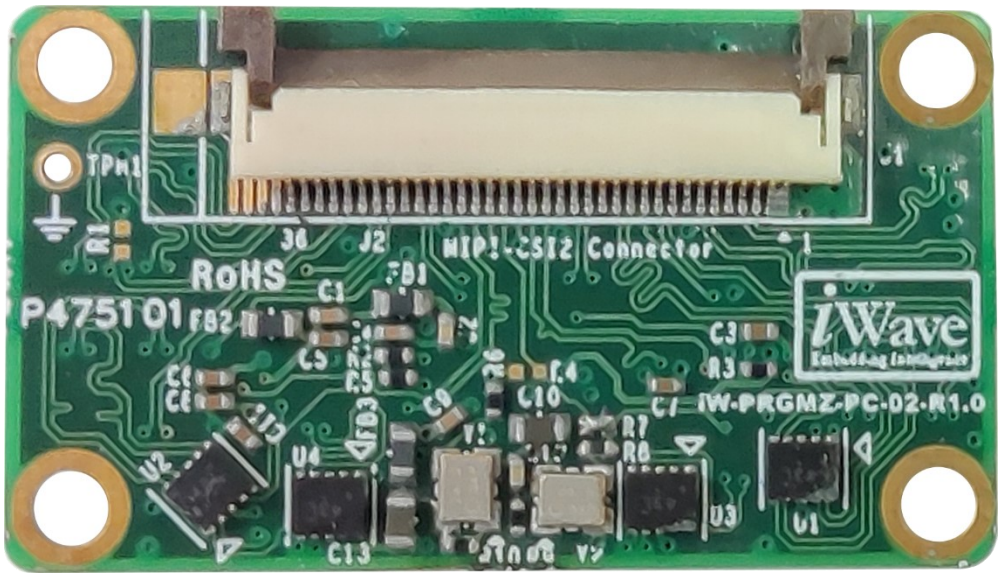
OV5640 MIPI CSI Camera Daughter Board/ Qseven Addendum Hardware User Guide



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1. OV5640 MIPI CSI Camera Daughter Board Block Diagram

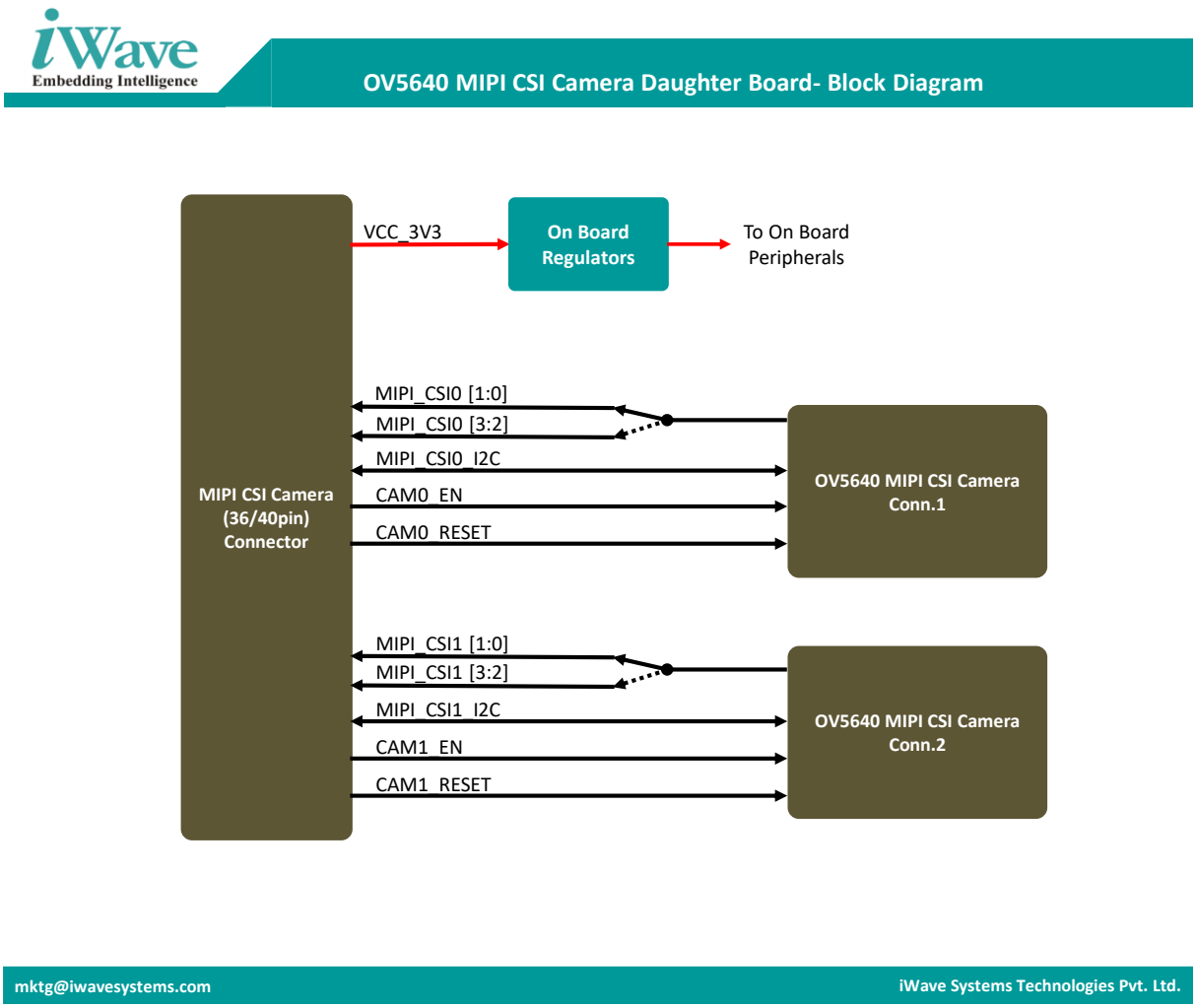


Figure 1: OV5640 MIPI CSI Camera Daughter Board-Block Diagram

2. OV5640 MIPI CSI Camera Daughter Board Features

OV5640 MIPI CSI Camera Daughter Board supports the following features.

- **Camera**
  - 5MP Camera x 2(Each 2 Lane)

3. Display and Camera Specification.

➢ Camera

MIPI CSI Camera – 5MP

5MP Camera x 2	
Interface	MIPI CSI With 2 lanes
Part Number	OV5640
Sensor	CMOS
Output format	8/10-bit RGB RAW
Lens Size	1/4 inch
Image area	3673.6 µm x 2738.4 µm
sensitivity	600 mV/Lux-sec
Operating Temperature	-30 to +70 °C

4. MIPI CSI Camera Connector Pinout (J2)

Pin No	Signal Name	Signal Type/ Termination	Description
1	VCC_3V3	Power	3V3 Camera Power
2	VCC_3V3	Power	3V3 Camera Power
3	MIPI_CSI0_D0_P	I, MIPI	MIPI CSI0 differential data lane 0 positive.
4	MIPI_CSI0_D0_N	I, MIPI	MIPI CSI0 differential data lane 0 negative.
5	GND	Power	Ground.
6	MIPI_CSI0_D1_P	I, MIPI	MIPI CSI0 differential data lane 1 positive.
7	MIPI_CSI0_D1_N	I, MIPI	MIPI CSI0 differential data lane 1 negative.
8	GND	Power	Ground.
9	MIPI_CSI0_D2_P	I, MIPI	MIPI CSI0 differential data lane 2 positive.
10	MIPI_CSI0_D2_N	I, MIPI	MIPI CSI0 differential data lane 2 negative.
11	CAM0_RESET	IO, 1.8V CMOS/ 10K PU	MIPI Camera Reset signal
12	MIPI_CSI0_D3_P	I, MIPI	MIPI CSI0 differential data lane 3 positive.
13	MIPI_CSI0_D3_N	I, MIPI	MIPI CSI0 differential data lane 3 negative.
14	GND	Power	Ground.
15	MIPI_CSI0_CLK_P	I, MIPI	MIPI CSI0 differential Clock positive.
16	MIPI_CSI0_CLK_N	I, MIPI	MIPI CSI0 differential Clock negative.
17	GND	Power	Ground.
18	MIPI_CSI0_I2C_SCL	O, 1.8V CMOS	I2C Clock for MIPI CSI0 Camera
19	MIPI_CSI0_I2C_SDA	IO, 1.8V CMOS	I2C Data for MIPI CSI0 Camera
20	CAM0_EN	IO, 1.8V CMOS/ 10K PU	Camera 0 Enable (active low).

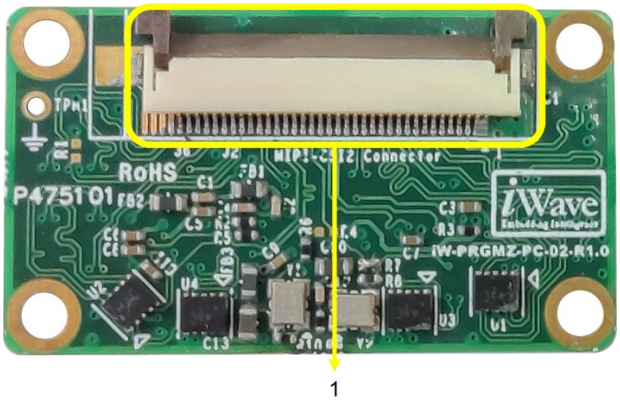
Pin No	Signal Name	Signal Type/ Termination	Description
21	MIPI_MCLK	O, 1.8V CMOS	Master Clock for Camera
22	CAM1_EN	-	-
23	MIPI_CSI1_I2C_SCL	O, 1.8V CMOS	I2C Clock for MIPI CSI0 Camera
24	MIPI_CSI1_I2C_SDA	IO, 1.8V CMOS	I2C Data for MIPI CSI0 Camera
25	GND	Power	Ground.
26	MIPI_CSI1_CLK_P	I, MIPI	MIPI CSI1 differential Clock positive.
27	MIPI_CSI1_CLK_N	I, MIPI	MIPI CSI1 differential Clock negative.
28	GND	Power	Ground.
29	MIPI_CSI1_D0_P	I, MIPI	MIPI CSI1 differential data lane 0 positive.
30	MIPI_CSI1_D0_N	I, MIPI	MIPI CSI1 differential data lane 0 negative.
31	CAM1_RESET	-	-
32	MIPI_CSI1_D1_P	I, MIPI	MIPI CSI1 differential data lane 1 positive.
33	MIPI_CSI1_D1_N	I, MIPI	MIPI CSI1 differential data lane 1 negative.
34	GND	Power	Ground.
35	CAM0_GPIO	IO, 1.8V CMOS	GPIO for MIPI CSI1 Camera.
36	CAM1_GPIO	IO, 1.8V CMOS	GPIO for MIPI CSI1 Camera.
37	MIPI_CSI1_D2_P	I, MIPI	MIPI CSI1 differential data lane 2 positive.
38	MIPI_CSI1_D2_N	I, MIPI	MIPI CSI1 differential data lane 2 negative.
39	MIPI_CSI1_D3_P	I, MIPI	MIPI CSI1 differential data lane 3 positive.
40	MIPI_CSI1_D3_N	I, MIPI	MIPI CSI1 differential data lane 3 negative.

5. Supported Platforms

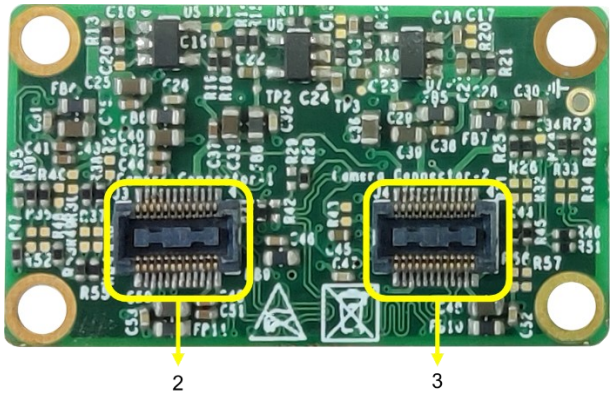
- iW-RainboW-G34M- i.MX 8M Mini based µQ7 SOM
- iW-RainboW-G37M- i.MX 8M Nano based µQ7 SOM
- iW-RainboW-G27M- i.MX 8 QM based Q7 SOM
- iW-RainboW-G40M- i.MX 8M Plus based SMARC SOM

6. Quick View of board

TOP View



Bottom View



1. MIPI CSI Camera Connector (J2)
2. OV5640 Camera Conn.1 (J3)
3. OV5640 Camera Conn.2 (J4)

Note: For customization and/or optional features support, please contact **mktg@iwavesystems.com**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