JV5-IMX490C-5300-GMSL2-Hxxx

5MP GMSL2 CAMERA

✎ GENERAL DESCRIPTION

The camera is equipped with SONY Semiconductor CMOS image sensor IMX490 and Maxim GMSL2 . It has an automotive-grade sensor with a well-tuned Image Signal Processor (ISP) that produces exceptional image quality, which comes with an IP67-rated enclosure – is supplied with an M12/M15/AA lens that is focused and glued in our factory.

⊞ KEY PARAMETERS

Sensor	SONY 5.44MP IMX490 RGGB
ISP	GW5300
Image Size	1/1.55 inch CMOS
Output Pixels	2880H*1860V
Pixel Size	3um*3um
Frame Rate	2880*1860@30fps
HDR Support	Yes
LFM	Yes
Output data	YUV422@8bit
Serializer	MAXIM MAX9295A
Camera Interface	GMSL2
Power Supply	9~16V POC
Current	<300mA@12VDC
Connector	Amphenol Fakra（Z Code）
Operating temp. range	-40~+85℃
Dimensions	W: 40mm, L:40mm, H:23mm
Weight	<80g

👁 Features

- Output format: Uncompressed YUV422 format
- S-mount IP67/IP69K compliant lens focused and glued at our factory
- Multi–Camera synchronization Support
- Support different focal length lens
- FCC , CE and RoHS

📦 Application

- Automotive
- ADAS + Viewing Fusion
- High Dynamic Range Imaging
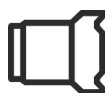- Autonomous Driving
- Robots

HARDWARE SETTING

Serializer	
Model	Max9295A
I2C Address	0x80 (8bit address)
Rate	GMSL2　(6G bps)

ISP	
Model	GW5300
I2C Address	0xDA (8bit address)
Reset	Controlled by Max9295A MFP0

Sensor	
Model	IMX490
I2C Address	0x34 (8bit address)
Frame Sync	Controlled by Max9295A MFP8
ERROR	Controlled by Max9295A MFP5

BLOCK DIAGRAM

IMX490 **GW5300** **MAX9295A**

IMX490		GW5300		MAX9295A
MIPI CS-2	MIPI CSI-2 4 Lane →	MIPI CSI-2		MIPI CSI-2
		MIPI CSI-2	MIPI CSI-2 4 Lane →	MIPI CSI-2

- **Sensor Reset**: RESET ← GPO1
- **I2C**: SENSOR_I2C_Slave ↔ I2C0
- **I2C**: I2C2_Slave ↔ SER_I2C_REMOT
- EEPROM — I2C:0xA2(8-bit)
- **Sensor CLK**: RESET ← SRCLK
- **ISP Reset**: RESET ← MFP0
- **Sensor Error**: ERROR → MFP5
- **Sensor Frame Sync**: FSN ← MFP8
- **Data**: MFP8 ← FAKRA
- **9-16V**
- PMIC
- PoC Circuit

Block Diagram

※ The camera has an ISP image sensor, which outputs YUV data, and the backend does not need to configure the image sensor, only SerDes；

※ Support store camera internal parameters, if you need to obtain the internal parameters reading

method, please note before placing the order

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MODEL AND LENS

Model	HFOV	VFOV	F.No	EFL	Max Optical Distortion	Water-proof	Lens Mount
JV5-IMX490C-5300-GMSL2-H30S1A	32°	21°	1.6	15.3mm	-2.7%	IP67	AA
JV5-IMX490C-5300-GMSL2-H60S	64°	40°	1.8	7.87mm	-14.01%	IP67	M12
JV5-IMX490C-5300-GMSL2-H100Y	100°	57°	1.8	6.16mm	-32.04%	IP69K	M15
JV5-IMX490C-5300-GMSL2-H130Y	130°	81°	1.6	4.01mm	-65.21%	IP67	M16

DIMENSIONS
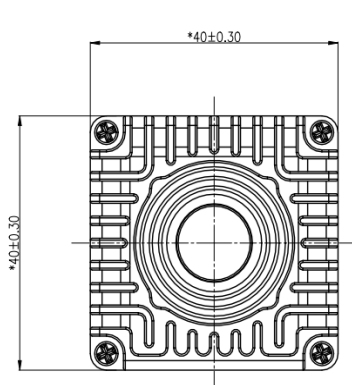
Front View
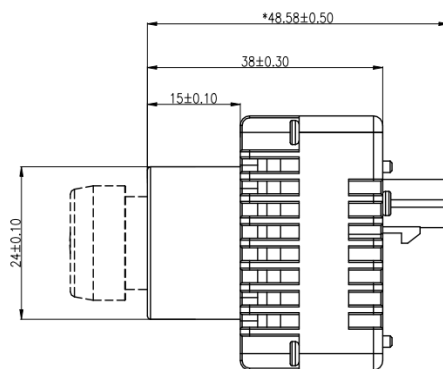
Side View
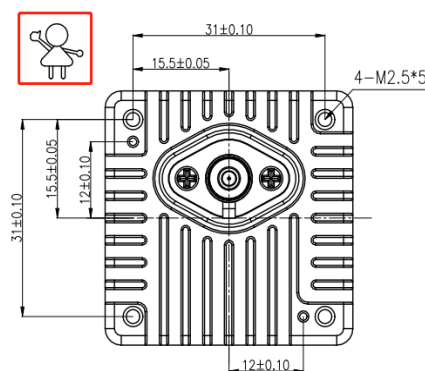
Rear View

Note:

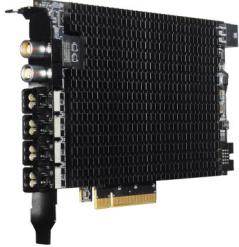The overall height varies with different lensmodules. Please refer to 3D digital analog size for details.

 This icon indicates the imaging direction is positive.

Dimension

⟨/⟩ PLATFORMS SUPPORT

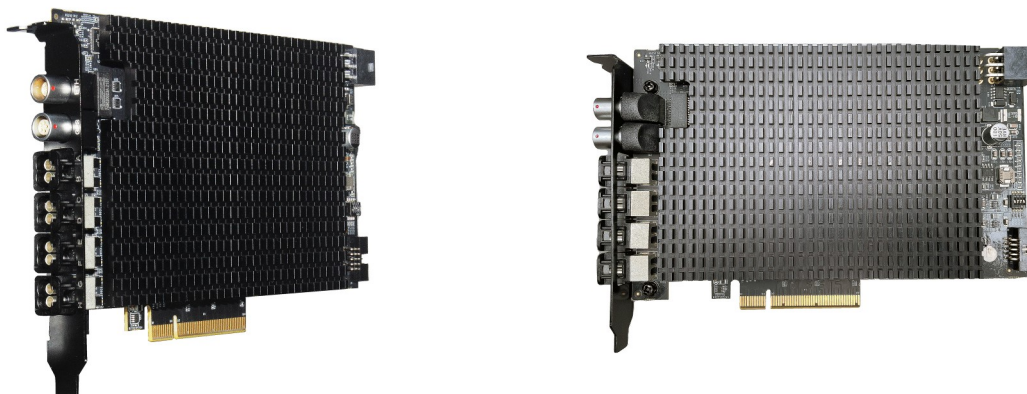| Platforms	Product Link
NVIDIA Jetson platforms	Provide development driver package https://www.sensing-world.com/jetson camera ecosystem/
SerDes Camera to USB Converter	Not support
CoaxCapture II GMSL Capture Card	Provide development driver package https://www.sensing-world.com/Coaxcapture_Card/

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DEVELOPMENT KIT

## ◇ GMSL Video capture card （Gen2）

- - JV5-IMX490C-5300-GMSL2 can connect to **CCG3-4H/8H** .

◇ KEY FEATURES

→ CCG3-8H at most can support connect 8* JV5-IMX490C-5300-GMSL2 at the same time；

→ CCG3-4H at most can support connect 4* JV5-IMX490C-5300-GMSL2 at the same time ;

→ PCI-e Gen3*8lane and supports x86 architecture;

→ Support external trigger synchronization;

→ Support GPS Timing synchronization;

→ Support network PTP timing synchronization;
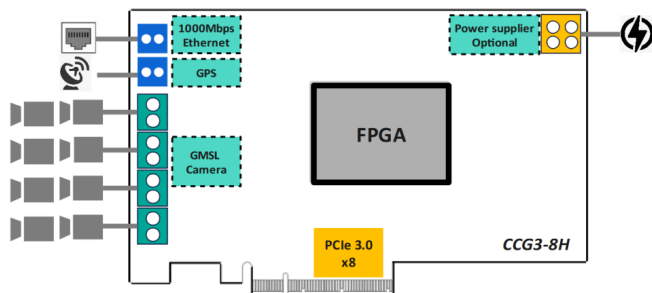
CCG3-8H
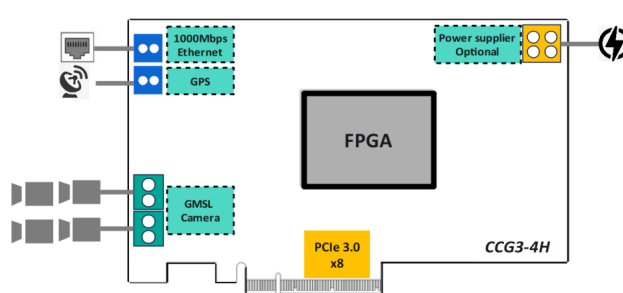
CCG3-4H

ACCESSORIES

◇ Coaxial Cable

Product Name	Order PN#	Specification
Mini-fakra Coaxial Cable 4-in-1(Rosenberg)	R4JC-JC-ZZZZ-0500L	Mini-fakra, 4 in 1, 0.5m, Female to Female
Mini-fakra Coaxial Cable 4-in-1 （TE）	T4JC-PC-ZZZZ-0500A	Mini-fakra, 4 in 1, 0.5m, Male to Female
Mini-fakra Coaxial Cable 4-in-1(Rosenberg)	R4JC-PC-ZZZZ-0500L	Mini-fakra, 4 in 1, 0.5m, Male to Female
Mini-fakra Coaxial Cable 4-in-1 （TE）	T4JC-JC-ZZZZ-0500A	Mini-fakra, 4 in 1, 0.5m, Female to Female
Camera coaxial Cable	JV-JSZPSZ2000L	2M, Male to Female, IP67
Camera coaxial Cable	JV-JSZJSZ2000L	2M, Female to Female, IP67
Camera coaxial Cable	JV-JSZPSZ3000L	3M, Male to Female, IP67
Camera coaxial Cable	JV-JSZJSZ3000L	3M, Female to Female, IP67
Camera coaxial Cable	JV-JSZPSZ5000L	5M, Male to Female, IP67
Camera coaxial Cable	JV-JSZJSZ5000L	5M, Female to Female, IP67
Camera coaxial Cable	JV-JSZJSZ7000L	7M, Female to Female, IP67
Camera coaxial Cable	JV-JSZJSZ8000L	8M, Female to Female, IP67
Camera coaxial Cable	JV-JSZPSZL100L	10M, Male to Female, IP67
Camera coaxial Cable	JV-JSZJSZL100L	10M, Female to Female, IP67
Camera coaxial Cable	JV-JSZJSZL120L	12M, Female to Female, IP67
Camera coaxial Cable	JV-JSZJSZL160L	16M, Female to Female, IP67
Camera coaxial Cable	JV-JSZJSZL200L	20M, Female to Female, IP67

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✏ REVISION HISTORY

版本	描述	日期
Rev1	First release	Oct 2020
Rev2	→ Update the connector description → Update the cable description → Add a system block diagram → Add supporting platforms and development tools	Mar 2023
Rev3	→ Added H130、H30S1A and H110SA modules → Update parts list	Feb 2024
Rev4	→ The H30S1 and H110SA modules have been delisted.	Aug 2024