

2MP GMSL2 CAMERA



GENERAL DESCRIPTION

The camera is equipped with SONY CMOS image sensor IMX390 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 AA lens that is focused and glued in our factory.



KEY PARAMETERS

Sensor	SONY 2.12MP IMX390 RGGB
ISP	GW5200
Image Size	1/2.7 inch CMOS
Output Pixels	1920H*1080V
Pixel Size	3um*3um
Frame Rate	1920*1080@30fps
HDR Support	Yes
LFM	Yes
Output data	YUV422@8bit
Serializer	MAXIM MAX9295A
Camera Interface	GMSL2
Power Supply	9~16V POC
Current	<150mA@12VDC
Connector	Amphenol Fakra (Z Code)
Operating temp. range	-40~+85°C
Dimensions	W: 30mm, L:30mm, H:22.5mm
Weight	<50g



Features

- Output format: Uncompressed YUV422 format
- S-mount IP67 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)
GMSL Rate	GMSL2 (6G bps)

ISP	
Model	GW5200
I2C Address	0xDA (8bit address)
Reset	Controlled by Max9295A MFP0

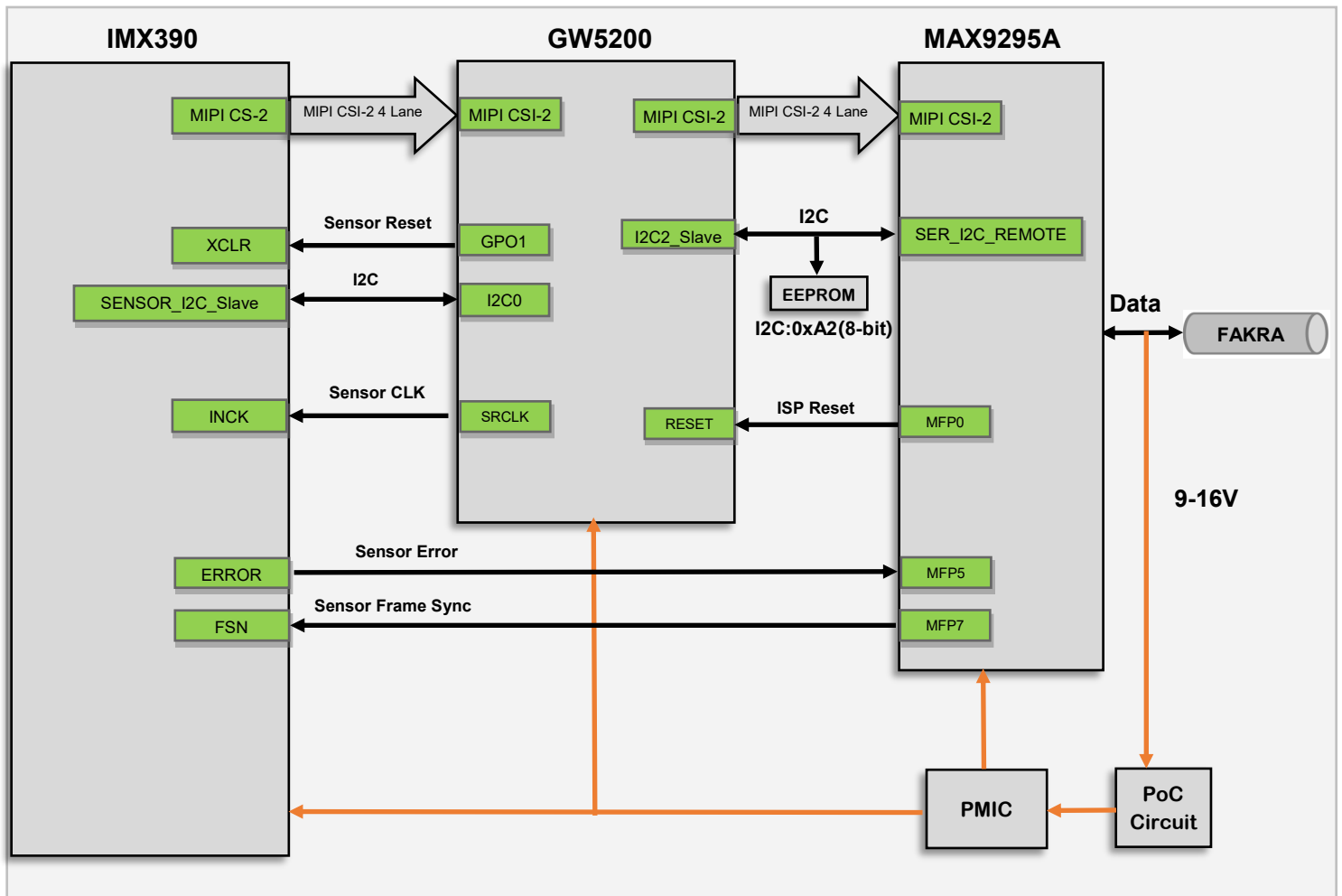
Sensor	
Model	IMX390
I2C Address	0x42 (8bit address)
Frame Sync	Controlled by Max9295A MFP7
Error	Max9295A MFP5

Interface Circuit Diagram





BLOCK DIAGRAM



Block Diagram

- ※ The camera module has a built-in ISP that outputs YUV data. The backend does not need to configure an image sensor, but only needs to configure SerDes;
- ※ For SerDes setting code, please contact Sales@sensing-wolrd.com ;
- ※ Support store camera internal parameters, if you need to obtain the internal parameters reading method, please note before placing the order;



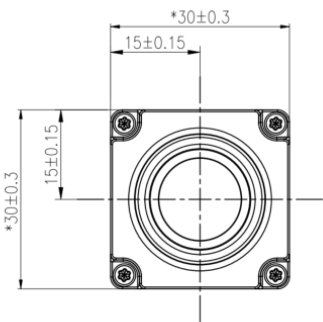


MODEL AND LENS

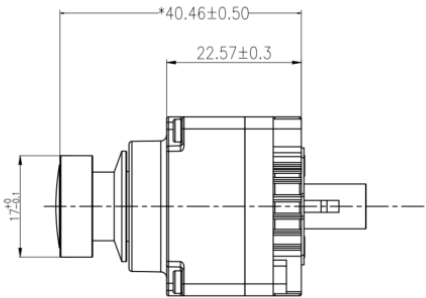
Model	HFOV	VFOV	F.No	EFL	Max Optical Distortion	Water-proof	Lens Mount
SG2-IMX390C-5200-G2A-H60FA	60°	32°	1.6	5.8mm	-21.5%	IP67	AA
SG2-IMX390C-5200-G2A-H100F1A	100°	53°	1.6	3.55mm	-45%	IP67	AA
SG2-IMX390C-5200-G2A-H120UA	118.4°	62.6°	2.0	3.04mm	-62%	IP67	AA
SG2-IMX390C-5200-G2A-H190XA	196°	112°	2.0	1.51mm	-155%	IP67	AA



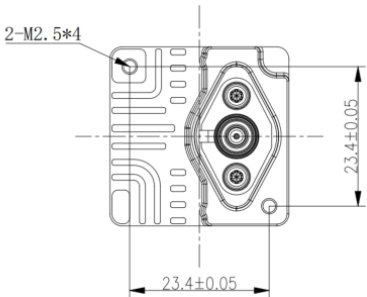
DIMENSIONS



Front View



Side View



Rear View

Note:

△ There are two different heights of this size to match different lenses. 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	Compatible with UVC protocol, providing upper computer acquisition software https://www.sensing-world.com/USB_Converter/ 
CoaxCapture II GMSL Capture Card	Provide development driver package https://www.sensing-world.com/Coaxcapture_Card/ 

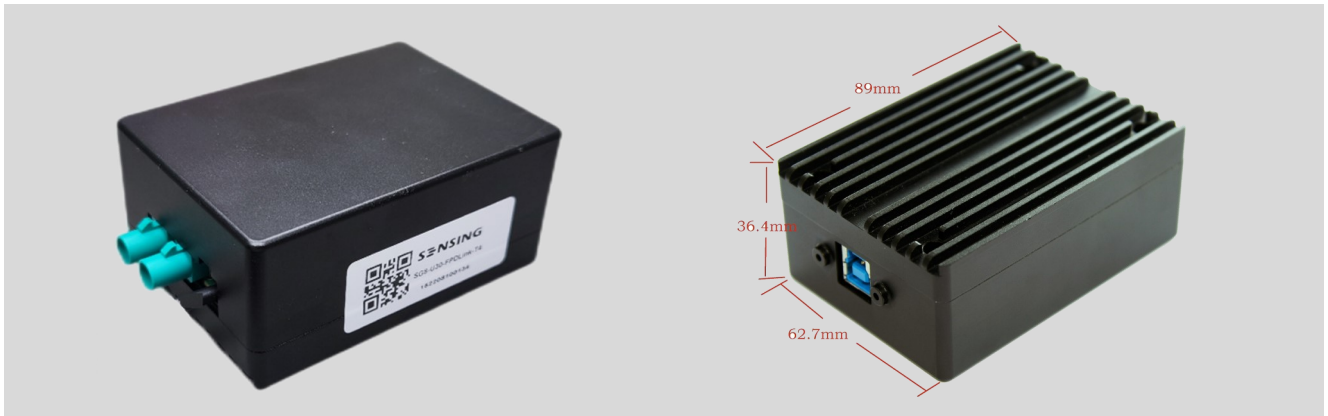
※ For development support, please contact Sales@sensing-wolrd.com;





DEVELOPMENT KIT

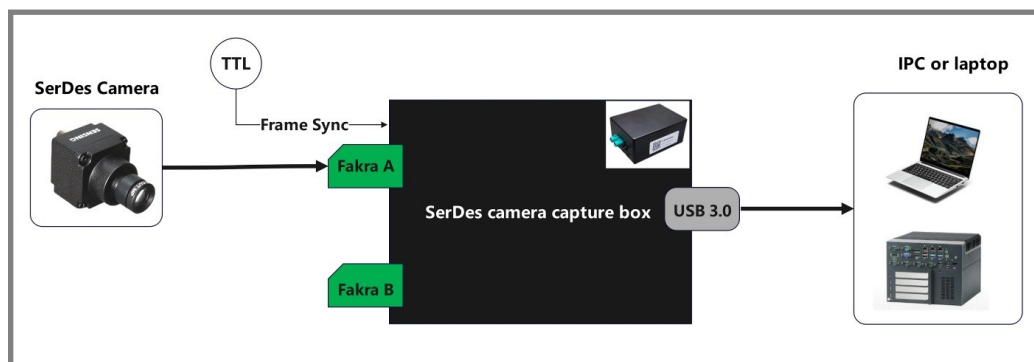
◇ SerDes Camera to USB Converter



- SG2-IMX390C-5200-G2A can connect to **SG8-U30-GMSL2** as a USB 3.0 camera .
- USB Camera Part Number: **SG2-IMX390C-GMSL2-U30-Hxxx** (include 1xSG8-U30-GMSL2 and 1xSG2-IMX390C-5200-G2A)

◇ KEY FEATURES

- USB 3.0 Super Speed support
- UVC compliance
- Provide customization services
- Power Supply by USB interface
- Weight: <300g
- Single Coax Cable transmit up to 20 meters PoC (Power over Cable)
- Support Windows only



※ Support connected one camera only;

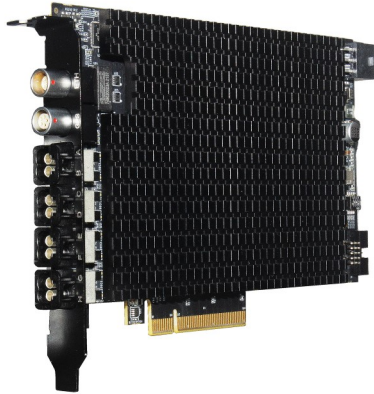




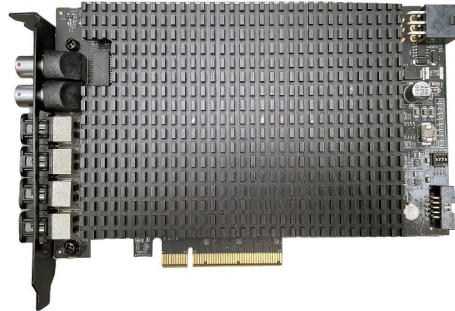
DEVELOPMENT KIT

◇ CoaxCapture II GMSL Capture Card

CCG3-8H



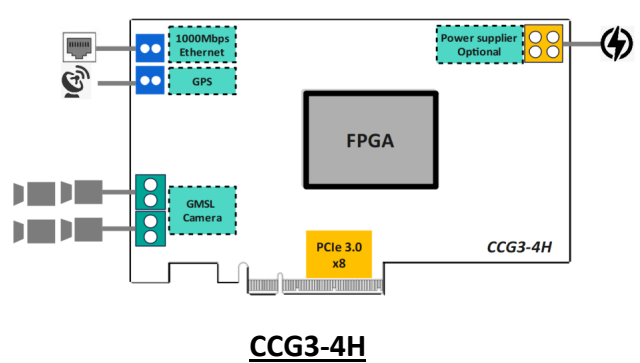
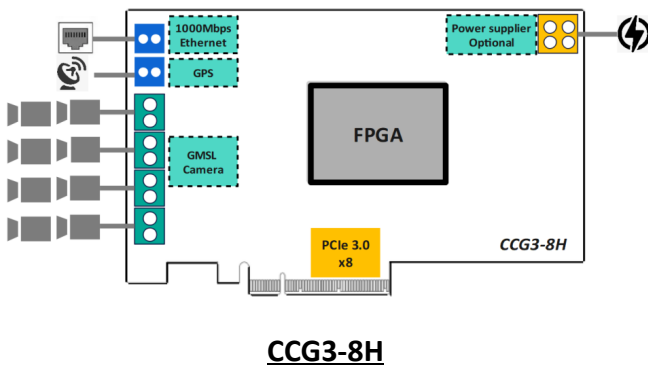
CCG3-4H



- SG2-IMX390C-5200-G2A can connect to CCG3-4H/8H.

◇ KEY FEATURES

- CCG3-8H at most can support connect 8 pcs of this camera at the same time
- CCG3-4H at most can support connect 4 pcs of this camera at the same time
- PCI-e Gen3*8lane support x86 architecture
- Support external trigger synchronization
- Support GPS Timing synchronization
- Support network PTP timing

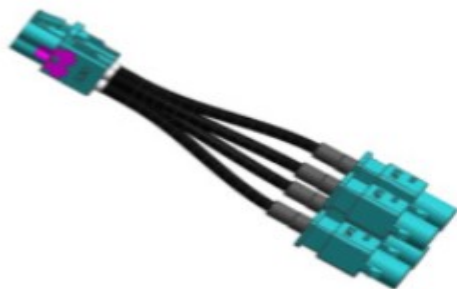




ACCESSORIES

◇ 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	SG-JSZPSZ2000L	2M, Male to Female, IP67
Camera coaxial Cable	SG-JSZJSZ2000L	2M, Female to Female, IP67
Camera coaxial Cable	SG-JSZPSZ3000L	3M, Male to Female, IP67
Camera coaxial Cable	SG-JSZJSZ3000L	3M, Female to Female, IP67
Camera coaxial Cable	SG-JSZPSZ5000L	5M, Male to Female, IP67
Camera coaxial Cable	SG-JSZJSZ5000L	5M, Female to Female, IP67
Camera coaxial Cable	SG-JSZJSZ7000L	7M, Female to Female, IP67
Camera coaxial Cable	SG-JSZJSZ8000L	8M, Female to Female, IP67
Camera coaxial Cable	SG-JSZPSZL100L	10M, Male to Female, IP67
Camera coaxial Cable	SG-JSZJSZL100L	10M, Female to Female, IP67
Camera coaxial Cable	SG-JSZJSZL120L	12M, Female to Female, IP67
Camera coaxial Cable	SG-JSZJSZL160L	16M, Female to Female, IP67
Camera coaxial Cable	SG-JSZJSZL200L	20M, Female to Female, IP67





Revision History

Version	Description	Release date
Rev1	First Release	Mar.2024

