

GENERAL DESCRIPTION

The camera module is equipped with a 2M dim light dedicated image sensor, a 2M high-performance ISP image processing chip, and a Maxim GMSL2 serializer. It is designed and positioned as a dim light camera. After professional image debugging, it has high-quality image effects both in day and night, which comes with an IP67-rated enclosure – is supplied with an M16 lens that is focused and glued in our factory.



KEY PARAMETERS

Sensor	2MP RGGB
ISP	Yes
Image Size	1/1.8 inch CMOS
Output Pixels	1920H*1080V
Pixel Size	4.0um*4.0um
Frame Rate	1920*1080@30fps
HDR Support	/
LFM	/
Output data	YUV422@8bit
Serializer	MAXIM MAX96717F
Camera Interface	GMSL2
Power Supply	9~16V POC
Current	<250mA@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 IP5X 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	Max96717F
I2C Address	0x80 (8bit address)
Rate	GMSL2 （3G bps）

ISP	
I2C Address	0x40 (8bit address)
Reset	Controlled by Max96717F MFP0

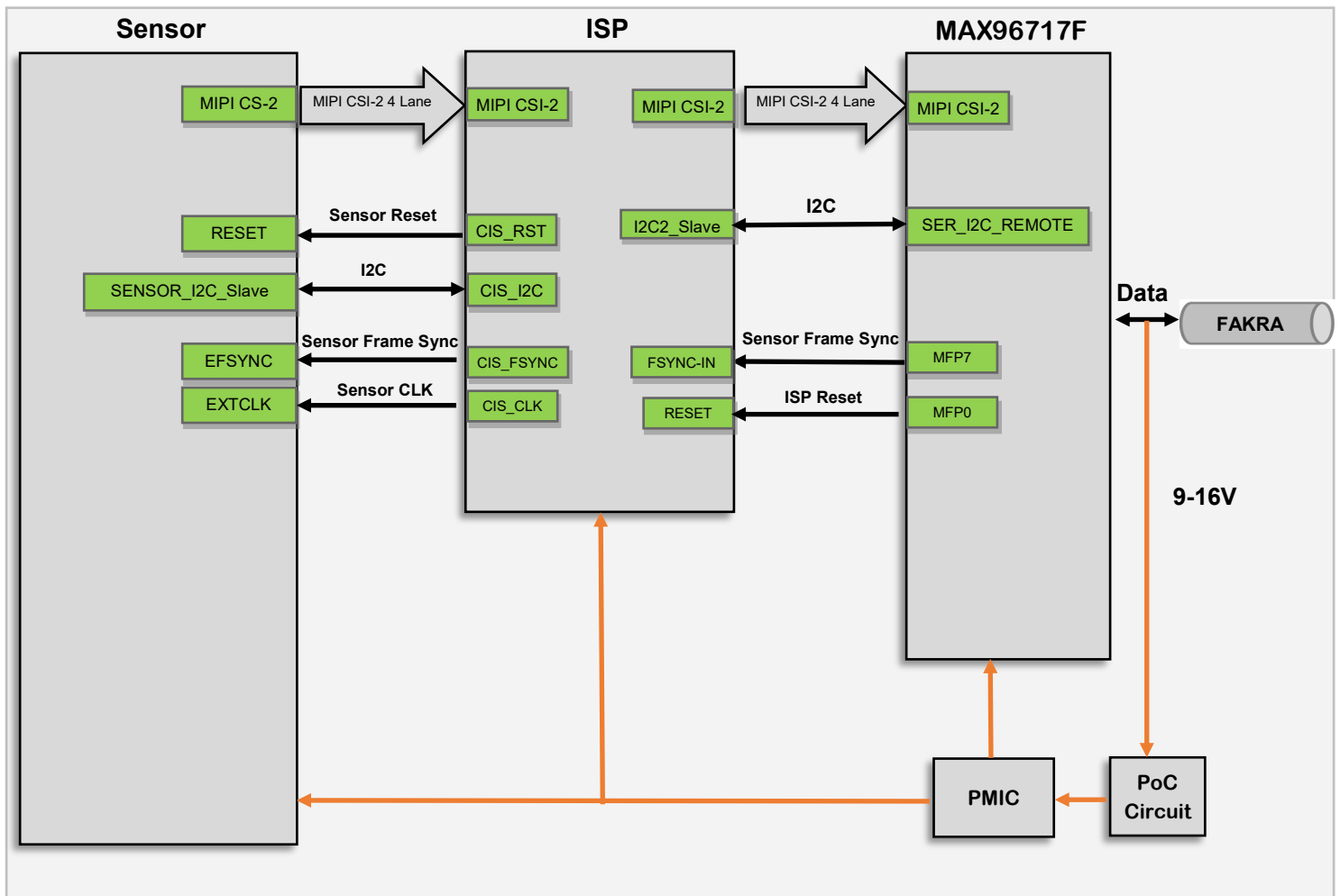
Sensor	
I2C Address	0x30 (7bit address)

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 ;



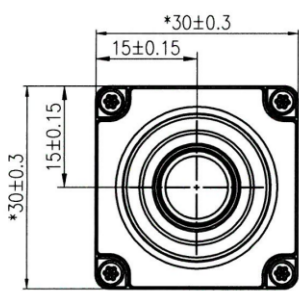


MODEL AND LENS

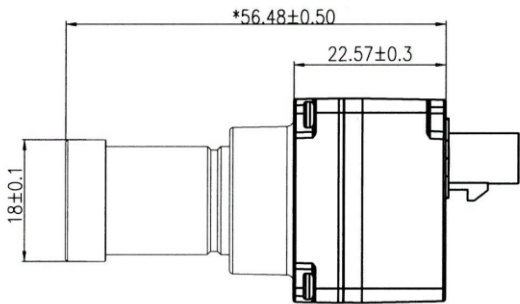
Model	HFOV	VFOV	F.No	EFL	Max Optical Distortion	Water-proof	Lens Mount
SN2M4EFGD	70°	40°	1.6	6.35mm	-21.8%	IP67	M16



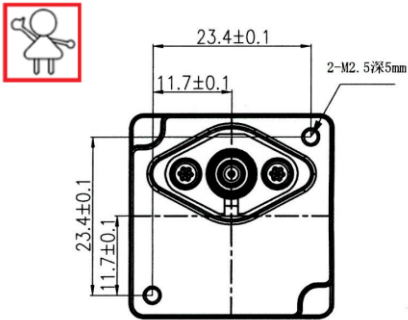
DIMENSIONS



Front View



Side View



Rear View

Note:



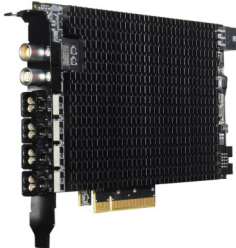
This icon indicates the imaging direction is positive.

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 https://www.sensing-world.com/USB_Converter/ 
CoaxCapture II GMSL Capture Card	Provide development driver package https://www.sensing-world.com/Coaxcapture_Card/ 

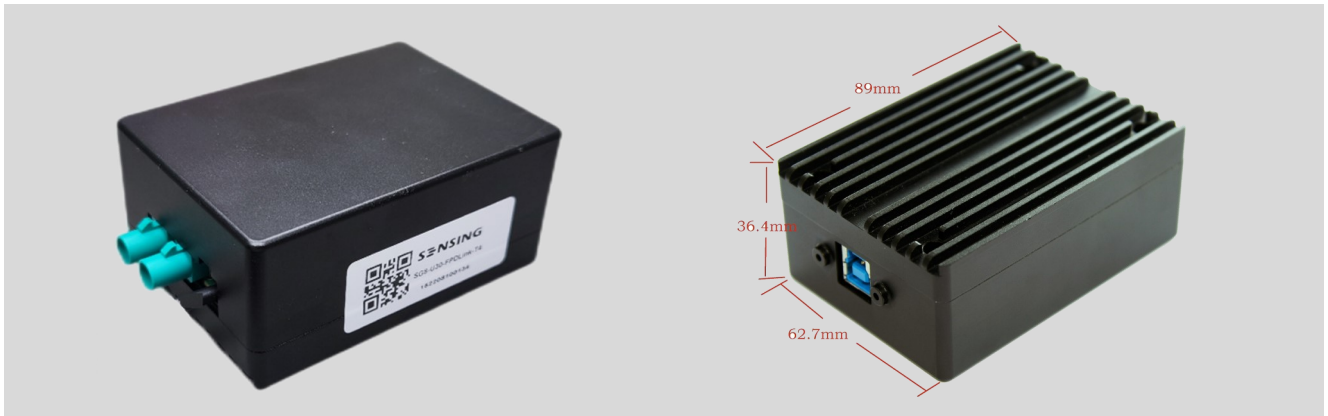
※ For development support, please contact Sales@sensing-wolrd.com;





DEVELOPMENT KIT

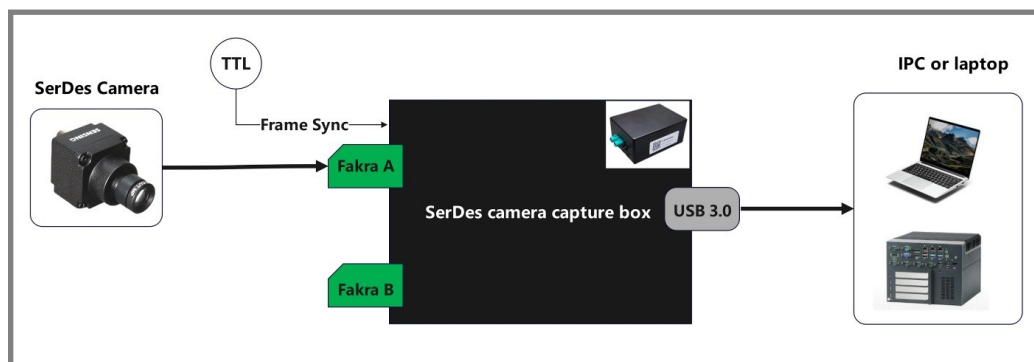
◇ SerDes Camera to USB Converter



- SN2M4EFGD can connect to **SG8-U30-GMSL2** as a USB 3.0 camera .
- USB Camera Part Number: include 1xSG8-U30-GMSL2 and 1xSN2M4EFGD

◇ 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;

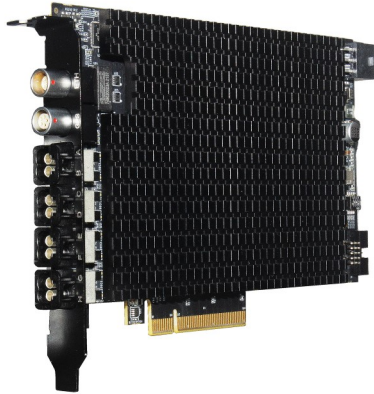




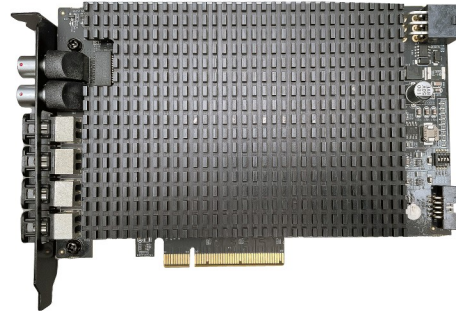
DEVELOPMENT KIT

◇ CoaxCapture II GMSL Capture Card

CCG3-8H



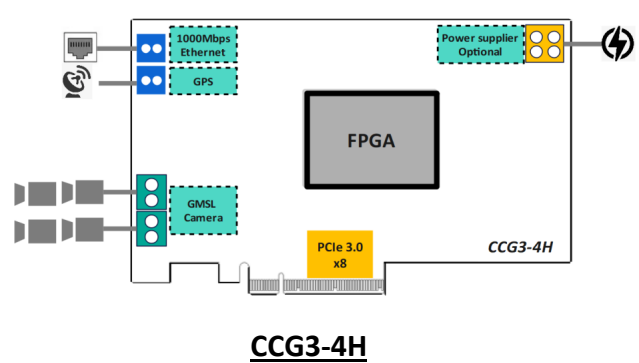
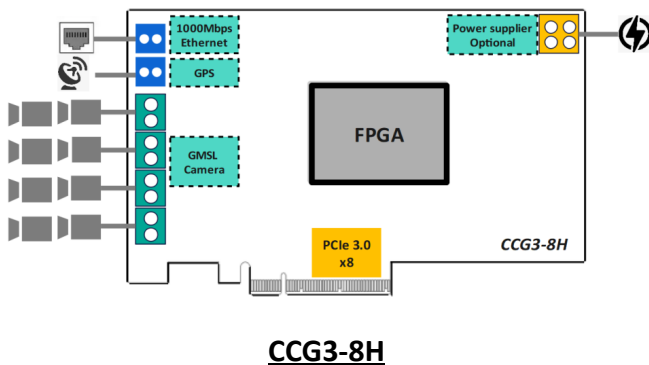
CCG3-4H



- SG2-SC2210C-8322-GMSL2 can connect to CCG3-4H/8H .

◇ KEY FEATURES

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

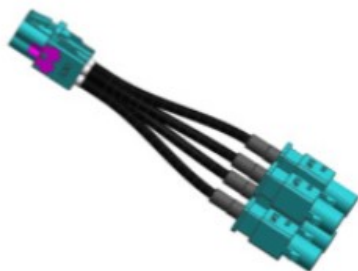




ACCESSORIES

◇ 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	Jun.2024

