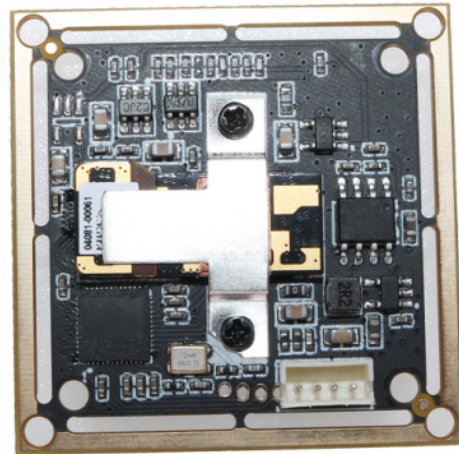
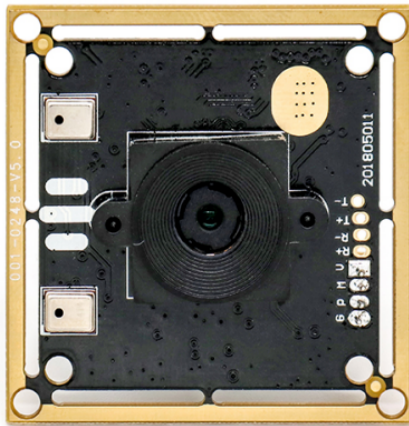




## HAMPO-USB-0248-V1.0

### 8MP Sony IMX179 M5 Auto Focus USB3.0 Camera Module



003-0248 is a Auto Focus Camera Module adopts 8MP advance CMOS Sony IMX179 image sensor, assembled with a low distortion M5 lens.

The max resolution is 3264\*2448P. The advantage with auto focus is that it usually much faster in focusing correctly than fixed focus. Imagine that you are going to take a picture of jogger running towards you.

Focusing on the runner while he is toward you is very hard without auto focus. It is undeniable that auto focus is desirable in many situation, there are situations where manual focus gives better control.

#### Key Features

- **8M Resolution:** This camera adopts 8MP IMX179 sensor, 3264(H) x 2448(V)@ 30fps for sharp image and accurate color reproduction.
- **Auto Focus:** The advantage with auto focus is that it usually much faster in focusing correctly than fixed focus. Imagine that you are going to take a picture of jogger running towards you. Focusing on the runner while he is toward you is very hard without auto focus.
- **USB2.0 & 3.0 Optional Connector:** There are eight wires and a shield, faster and better experience than regular USB 2.0, and USB 3.0 provides more power to devices than USB 2.0.
- **Applications:** Widely used in document scanner, beauty instrument, teaching system, car and ship control, face matching, OCR components, all-in-one machine, advertising machines, environmental monitoring, automatic vending machine, etc.



## HAMPO-USB-0248-V1.0

### 8MP Sony IMX179 M12 Auto Focus USB3.0 Camera Module

Camera Module No.	<b>HAMPO-USB-1559-V1.0</b>
Resolution	8MP
Image Sensor	IMX179
Sensor Type	1/3.2"
Pixel Size	1.4um x 1.4um
EFL	
F.NO	2.0
Pixel	3264*2448
View Angle	88.2°(DFOV) 80.2°(HFOV) 51°(VFOV)
Lens TTL	4.48mm
Module Type	Auto Focus
Lens Model	HAMPO-LENS-513M
Interface	USB 2.0/3.0
Output Format	MJPEG / YUV2
Auto Control	Saturation, Contrast, Acutance White Balance, Exposure
Audio	Digital Mic
Input Voltage	DC 5V
Working Current	Max 350mA
PCB Size	38mm x 38mm ( 32mm x 32mm )
System Compatibility	Windows XP (SP2, SP3), Vista, 7, 8, 10, 11 Android, Mac OS, Linux or OS with UVC Driver Raspberry Pi by USB Port
Software for USB Camera	AMCAP, Webcam Viewer, V4L2 Controls Contacam, VLC Player, MotionEye OS iSpy, ZoneMider, Yawcam
Lens Type	650nm IR Cut
Operating Temperature	-20°C to +70°C
USB Cable	USB-Cable-U015

Wide Compatibility with Windows, Android, Mac OS, Linux, or Raspberry Pi



Windows®



android



Mac™ OS



Linux

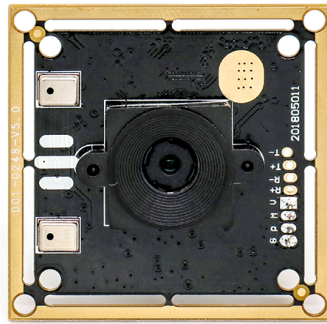


Raspberry Pi

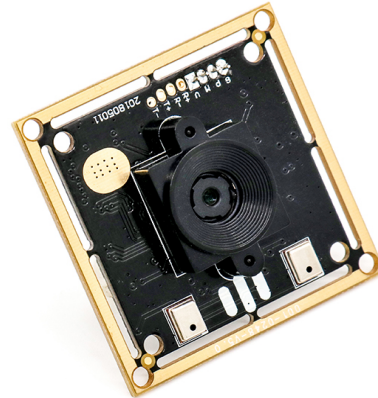


# HAMPO-USB-0248-V1.0

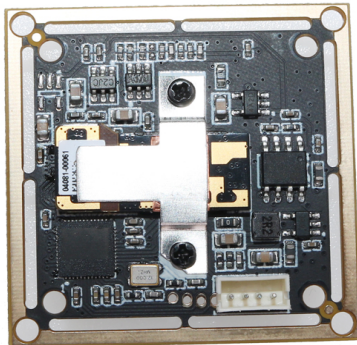
## 8MP Sony IMX179 M12 Auto Focus USB3.0 Camera Module



Top View



Side View



Bottom View



Mating Connector

**HAMPO-USB-0248-V1.0**  
**8MP Sony IMX179 M12 Auto Focus USB3.0 Camera Module**

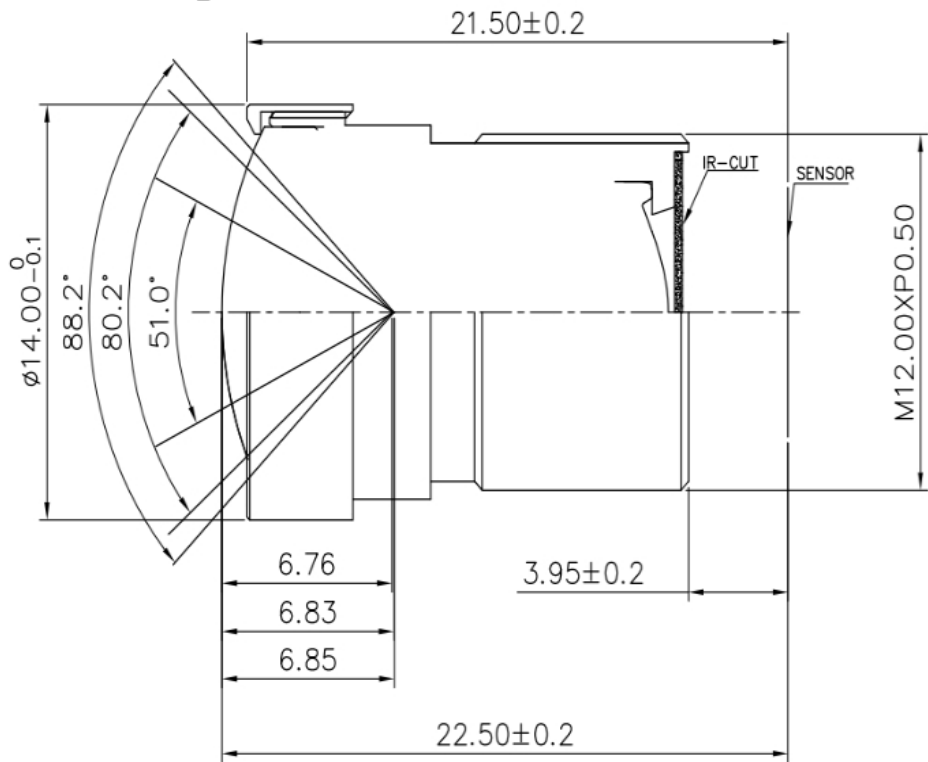
FORMAT	RESOLUTION	FRAME RATE
		USB 2.0
MJPEG	640 x 480 (VGA)	30 FPS
	1280 x 720 (720P)	30 FPS
	1920x 1080 (1080P)	30 FPS
	3264 x 2448(8MP)	15 FPS
YUV2	640 x 480 (VGA)	30 FPS
	1280 x 720 (Super VGA)	10 FPS
	1920x 1080 (1080P)	5 FPS
	3864 x 2228 (8MP)	2 FPS

# 2181B6 Lens Specification

NOTE:  
1.All surfaces are AR coated  
2.IR Filter SPEC.

Tavg≥92%                    440~630nm  
Tmin≥88%                   440~630nm  
T=50%                        650~670nm  
T<3%                         700~1000nm

3.Material applied tally with ROHS standard



## SPECIFICATION

Sensor Type	IMX415(1/2.8)_3840*2160
Focal Length	3.24mm
Total Length	22.50mm
F/NO	2.70
Mechanical BFL	3.95
Optical FOV(D)	88.2°(y=3.195mm)
Optical FOV(H)	80.2°(y=2.78mm)
Optical FOV(V)	51°(y=1.57mm)
TV DISTORTION	<-0.12%
OPTICAL DISTORTION	<1.68%
Relative Illumination	>70%
Chief Ray Angle	<10°
Construction	4Glass+2Plastic+1 IR-CUT

REV	DISCRIPTION	NAME	DATE
1			
2			
3			
4			

NAME	DATE
DRAWN	
CHECKED	
APPROVED	

PART NAME	2181B6
VIEW	
SCALE	5:1

## [Product Brief]

Ver.1.0

# IMX179

## Diagonal 5.7mm (Type 1/3.2) CMOS Image Sensor with Square Pixel for Color Cameras

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### Description

The IMX179 is a diagonal 5.7 mm (Type 1/3.2) CMOS active pixel type image sensor with a square pixel array and 8.08M effective pixels. This chip operates with three power supplies, analogue 2.7 V, digital 1.2 V, and IF 1.8 V, and has low power consumption. High sensitivity, low dark current, and no smear are achieved through the adoption of R,G, and B primary color pigment mosaic filters. This chip features an electronic shutter with variable charge-storage time.

In addition, this product is designed for use in cellular phone and tablet PC. When using this for another application, Sony does not guarantee the quality and reliability of product.

Therefore, don't use this for applications other than cellular phone and tablet PC. Consult your Sony sales representative if you have any questions.

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### Functions and Features

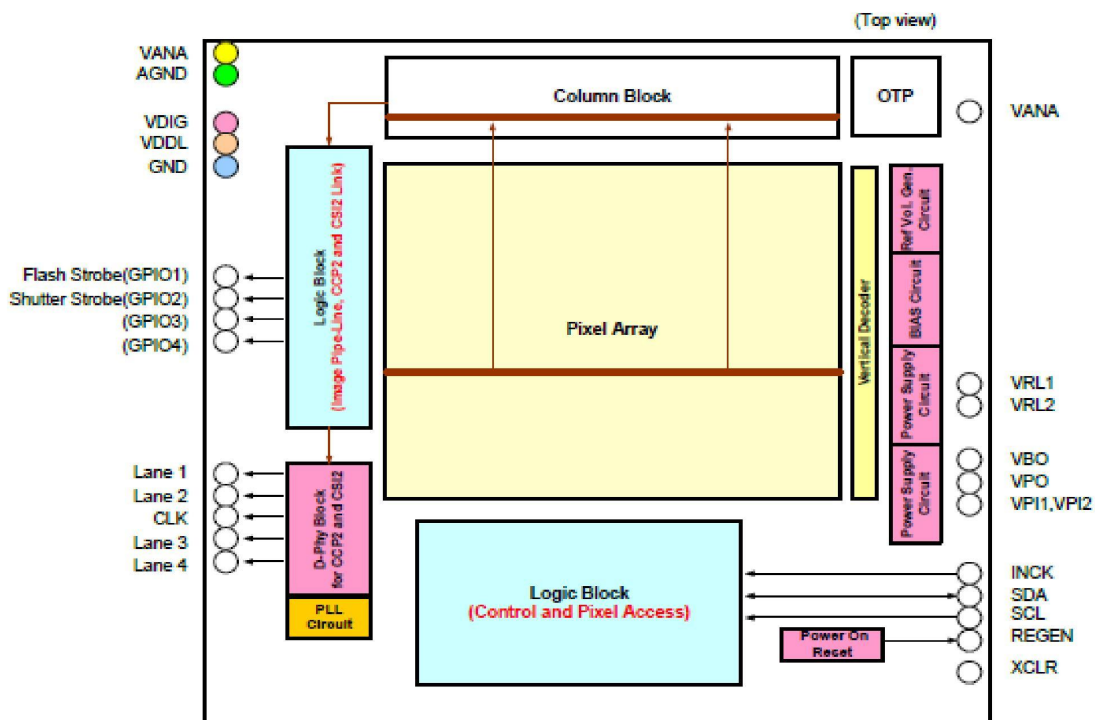
- ◆ CMOS active pixel type dots
- ◆ 2-wire serial communication circuit on chip
- ◆ CSI2 serial data output
- ◆ Timing generator, H and V driver circuits on chip
- ◆ CDS/PGA on chip
- ◆ 10-bit A/D converter on chip
- ◆ Automatic optical black (OB) clamp circuit on chip
- ◆ PLL on chip (rectangular wave/sine wave)
- ◆ High sensitivity, low dark current, no smear
- ◆ Excellent anti-blooming characteristics
- ◆ Variable-speed shutter function (1H units)
- ◆ R, G, B primary color pigment mosaic filters on chip
- ◆ Max. 30 frame/s in all-pixel scan mode
- ◆ Pixel rate: >260 MHz (>30 frame/s at All-pixel mode)



## Device Structure

◆ CMOS image sensor	
◆ Image size	: Diagonal 5.7 mm (Type 1/3.2)
◆ Total number of pixels	: 3288 (H) × 2512 (V) approx. 8.26M pixels
◆ Number of effective pixels	: 3280 (H) × 2464 (V) approx. 8.08M pixels
◆ Chip size	: 6.18 mm (H) × 5.85 mm (V)
◆ Unit cell size	: 1.4μm (H) × 1.4μm (V)
◆ Substrate material	: Silicon

## Block Diagram



## Exmor R

\* Exmor R is a trademark of Sony Corporation. The Exmor R is a Sony's CMOS image sensor with significantly enhanced imaging characteristics including sensitivity and low noise by changing fundamental structure of Exmor™ pixel adopted column parallel A/D converter to back-illuminated type.

Sony reserves the right to change products and specifications without prior notice.

This information does not convey any license by any implication or otherwise under any patents or other right.

Application circuits shown, if any, are typical examples illustrating the operation of the devices. Sony cannot assume responsibility for any problems arising out of the use of these circuits.



## Camera Reliability Test

Reliability Inspection Item			Testing Method	Acceptance Criteria
Category		Item		
Environmental	Storage Temperature	High 60°C 96 Hours	Temperature Chamber	No Abnormal Situation
		Low -20°C 96 Hours	Temperature Chamber	No Abnormal Situation
	Operation Temperature	High 60°C 24 Hours	Temperature Chamber	No Abnormal Situation
		Low -20°C 24 Hours	Temperature Chamber	No Abnormal Situation
	Humidity	60°C 80% 24 Hours	Temperature Chamber	No Abnormal Situation
	Thermal Shock	High 60°C 0.5 Hours Low -20°C 0.5 Hours Cycling in 24 Hours	Temperature Chamber	No Abnormal Situation
Physical	Drop Test (Free Falling)	Without Package 60cm	10 Times on Wood Floor	Electrically Functional
		With Package 60cm	10 Times on Wood Floor	Electrically Functional
	Vibration Test	50Hz X-Axis 2mm 30min	Vibration Table	Electrically Functional
		50Hz Y-Axis 2mm 30min	Vibration Table	Electrically Functional
		50Hz Z-Axis 2mm 30min	Vibration Table	Electrically Functional
	Cable Tensile Strength Test	Loading Weight 4 kg 60 Seconds Cycling in 24 Hours	Tensile Testing Machine	Electrically Functional
Electrical	ESD Test	Contact Discharge 2 KV	ESD Testing Machine	Electrically Functional
		Air Discharge 4 KV	ESD Testing Machine	Electrically Functional
	Aging Test	On/Off 30 Seconds Cycling in 24 Hours	Power Switch	Electrically Functional
	USB Connector	On/Off 250 Times	Plug and Unplug	Electrically Functional







## Camera Inspection Standard

Inspection Item		Inspection Method	Standard of Inspection
Category	Item		
Appearance	FPC/ PCB	Color	Major Difference is Not Allowed.
		Be Torn/Chopped	Copper Crack Exposure is Not Allowed.
		Marking	Clear, Recognizable (Within 30cm Distance)
	Holder	Scratches	The Inside Crack Exposure is Not Allowed
		Gap	Meet the Height Standard
		Screw	Make Sure Screws Are Presented (If Any)
		Damage	The Inside Crack Exposure is Not Allowed
	Lens	Scratch	No Effect On Resolution Standard
		Contamination	No Effect On Resolution Standard
		Oil Film	No Effect On Resolution Standard
		Cover Tape	No Issue On Appearance.
Function	Image	No Communication	Test Board Not Allowed
		Bright Pixel	Black Board Not Allowed In the Image Center
		Dark Pixel	White board Not Allowed In the Image Center
		Blurry	The Naked Eye Not Allowed
		No Image	The Naked Eye Not Allowed
		Vertical Line	The Naked Eye Not Allowed
		Horizontal Line	The Naked Eye Not Allowed
		Light Leakage	The Naked Eye Not Allowed
		Blinking Image	The Naked Eye Not Allowed
		Bruise	Inspection Jig Not Allowed
		Resolution	Chart Follows Outgoing Inspection Chart Standard
		Color	The Naked Eye No Issue
		Noise	The Naked Eye Not Allowed
		Corner Dark	The Naked Eye Less Than 100px By 100px
		Color Resolution	The Naked Eye No Issue
Dimension		Height	The Naked Eye Follows Approval Data Sheet
		Width	The Naked Eye Follows Approval Data Sheet
		Length	The Naked Eye Follows Approval Data Sheet
		Overall	The Naked Eye Follows Approval Data Sheet

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## Company HAMPO

Dongguan Hampo Electronic Technology Co., Ltd. was established in 2015, a next-generation technology driven manufacturer specialized in research, design, and produce of audio and video products. Hampo is occupying 150,000 square feet automated plants with 500 employees of annual throughput 180,000,000 units cameras.

Hampo provides OEM, ODM design, contract manufacturing, and builds the camera products. You may provide the requirements to us, even with a hand draft, our sales and engineering work together to meet your needs. We consider ourselves your last-term partner in developing practical and innovative solutions.

Our team covers everything from initial concept development to mass produced product. Hampo specializes in customized camera design, raw material, electronic engineering, firmware/software development, product testing, and packing design. Our experienced strategic supply systems offer a robust and dependable manufacturing capacity for orders of various sizes.



## Limited Warranty

Hampo provides the following limited warranty if you purchased the Product(s) directly from Hampo company or from Hampo's website, [www.hampotech.com](http://www.hampotech.com). Product(s) purchased from other sellers or sources are not covered by this Limited Warranty. Hampo guarantees that the Product(s) will be free from defects in materials and workmanship under normal use for a period of one (1) year from the date you receive the product ("Warranty Period").

For all Product(s) that contain or develop material defects in materials or workmanship during the Warranty Period, Hampo will, at its sole option, either: (i) repair the Product(s); (ii) replace the Product(s) with a new or refurbished Product(s) (replacement Product(s) being of identical model or functional equivalent); or (iii) provide you a refund of the price you paid for the Product(s).

This Limited Warranty of Hampo is solely limited to repair and/or replacement on the terms set forth above. Hampo is not reliable or responsible for any subsequent events.

