

APX003

High-end Hybrid Vision Sensor

4000 fps

Ultra-high
frame rate



Pixel size
 $1.89 \times 1.89 \mu\text{m}$



Image
resolution



HDR
100dB



High
SNR



Parallel
APS & EVS output

APX003 is the first hybrid vision sensor designed for mobile photography applications, achieving outputs of frame-based image and novel event-based dynamic visual data in parallel. It offers an 8MP image resolution with a pixel size of only $1.89\mu\text{m} \times 1.89\mu\text{m}$. By incorporating event sensing technology with high temporal resolution, high dynamic range, and low data volume, APX003 significantly enhances high-speed motion estimation of devices under complex lighting conditions. It enables energy-efficient and superior-performanced imaging and vision applications, meeting the high-end demands in smartphones, action cameras, and consumer drones.

Product Brief

EVS

- High frame rate
- High SNR
- High dynamic range
- High sensitivity
- Colored EVS
- Superior low-light performance

APS

- High quality image
- High-speed data output
- Rolling shutter

Features

- 3D-stacked and BSI process
- Output image and event data in parallel
- 8MP Image resolution
- High infrared performance

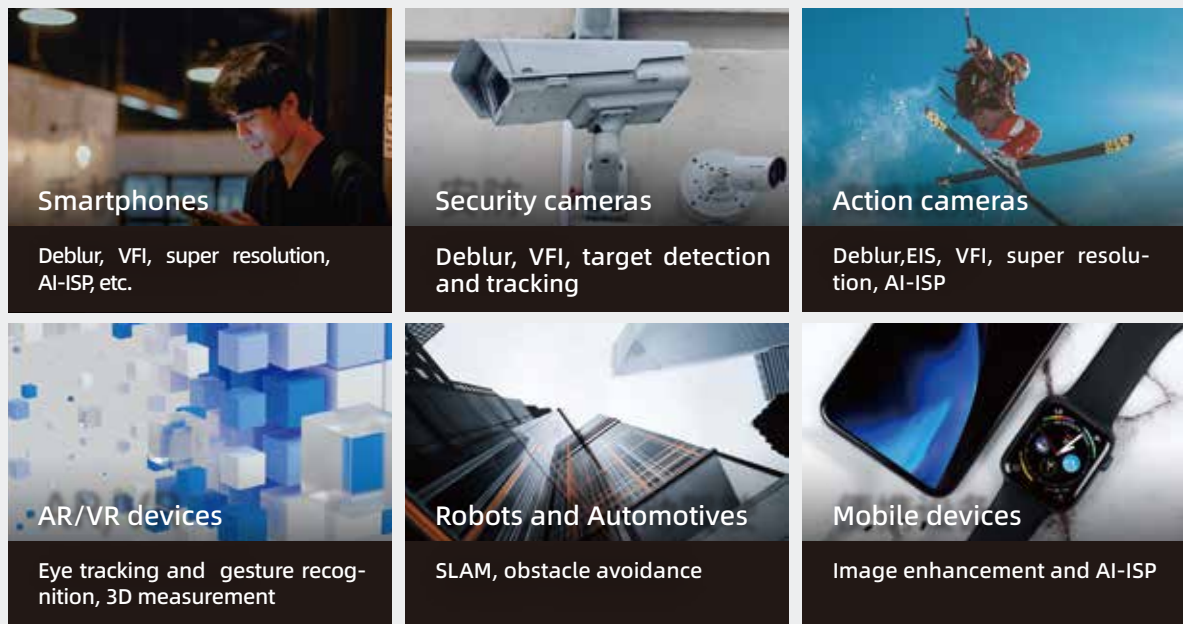
Functions

- Support HDR
- Configurable EVS contrast sensitivity and signal bandwidth
- Configurable EVS data format
- Independent ROI(APS&EVS)
- Independent mirror and reverse functions(APS&EVS)
- Support multi-camera data registration

Interface

- Data interface: MIPI D-PHY 4 Lane V1.2
- Control interface: I²C & SPI

End products and Application



Key Specification

Resolution	APS: 3264 × 2448 (8M)	ROI	Support(APS/EVS mode)
	EVS: 816 × 612 (0.5M)	Operating voltage	Analog: 3.0 V, 1.8 V
Pixel size	1.89 μm × 1.89 μm		Digital: 1.1 V
Optical format	½", CRA 34°		I/O: 1.8 V
Shutter mode	Rolling shutter	Image format	Raw12 / Raw10 / Raw8
EVS contrast sensitivity	Configurable 0 - 100%	Output interface	2 × 4 lane MIPI or,
Min. illumination	< 1 lux		1 × 4 lane MIPI with VC mode
Frame rate	APS: 30 fps @ Full Resolution	Dynamic range	APS: > 60 dB
	EVS: 4000 fps @ Full Resolution		EVS: > 100 dB
Package	COB	Chip size	8.3mm × 6.9 mm

*Specs vary in different applications. Actual performance must be validated by customer's technical experts. Please contact us for more information.

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