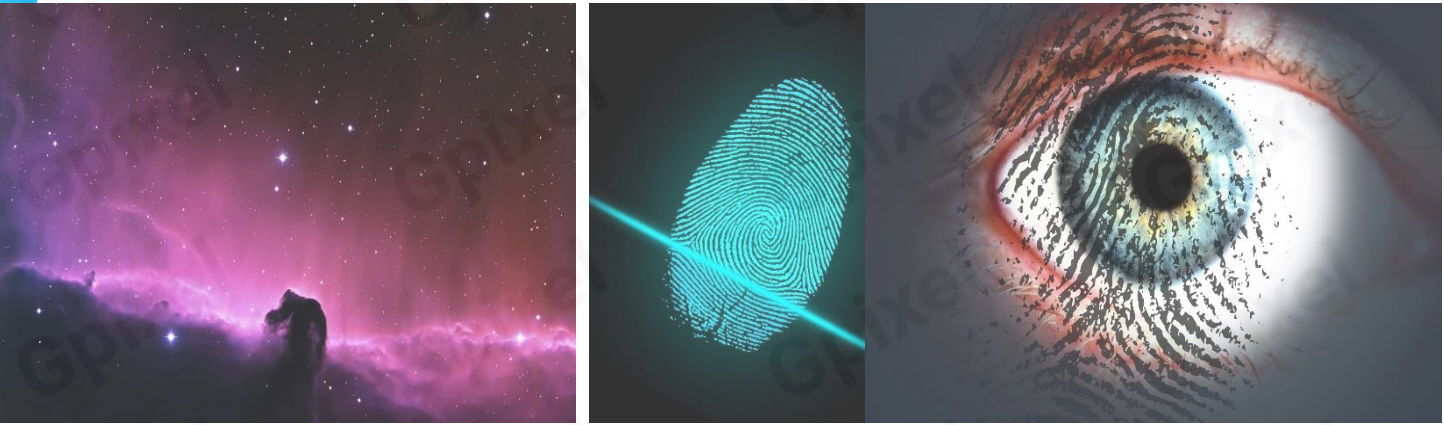


# GSENSE2020 Product Flyer



## 4MP SCIENTIFIC CMOS IMAGE SENSOR

GSENSE2020 is a 4 Mega pixel resolution scientific CMOS image sensor. Featured with six transistor (6T) pixel design on a  $6.5\mu\text{m}$  pitch, the sensor has a low readout noise of  $2.1 e^-$  in rolling shutter HDR mode with max. frame rate of 45 fps. And another high speed mode of 370fps is supported in global shutter.

With optimized microlens array, sensor has an outstanding quantum efficiency of 72% at 595nm. These features make both sensors ideal for low light imaging, 3D laser scan, scientific and medical applications.



### Key Features

- Quantum efficiency of 72% @ 595nm.
- Max. frame rate up to 45fps @RS HDR mode
- Max. frame rate up to 370fps @GS DDS mode
- Readout noise:  $2.1 e^-$

### Applications

- Biometry and Medical
- Industrial and Machine vision
- Spectral Application
- Astronomy Application

## Sensor Specifications

Resolution	2048 x 2048	Optical format	1.2 "
Pixel size	6.5 $\mu$ m x 6.5 $\mu$ m	Photo-sensitive area	13.3 mm x 13.3 mm
Shutter type	Rolling & Global shutter	Quantum efficiency	72% @ 595nm
Full well capacity	45k e <sup>-</sup>	Pixel clock rate	50M Hz
Dark noise	2.1 e <sup>-</sup>	Dark current	13 e <sup>-</sup> /p/s @ 30°C
Dynamic range	86.6 dB	Frame rate	45 fps @ RS HDR 370 fps @ GS DDS
Output interface	8/32 pairs of LVDS	Max. Data rate	4.8G bps
Chroma	Mono	Power consumption	811 mW
Supply voltage	3.3V for analog 2.0V for digital	Package	153 pins $\mu$ PGA 26.1mm x 29.5mm

## Ordering Information

### Sensor Part No.

GSENSE2020-BVC-NUY-BB1 Color, normal microlens, Grade 1	GSENSE2020-BVC-NUY-BB2 Color, normal microlens, Grade 2
GSENSE2020-BVM-NUY-BB1 Mono, normal microlens, Grade 1	GSENSE2020-BVM-NUY-BB2 Mono, normal microlens, Grade 2

### EVK Part No.

EVA-2020F-XC10 (10bit) / EVA-2020F-RC12 (12bit) USB interface, 3 stacked PCB boards
--

## Contact Gpixel HQ

Building #5, Optoelectronic  
Information Industrial Park,  
#7691 Ziyou Road,  
Changchun, Jilin, China.

Tel: +86-0431-85077785  
Email: [info@gpixel.com](mailto:info@gpixel.com)  
Website: [www.gpixel.com](http://www.gpixel.com)



All rights reserved.  
Subject to change without notice