

# VS-2MU-M80

2 Megapixel sCMOS Digital Camera with USB 3.0 Interface



The VS-2MU is a 2-megapixel resolution scientific-CMOS (sCMOS) camera with the USB 3.0 interface. The VS-2MU camera uses the sCMOS image sensor (GSENSE2011e) technology from Gpixel and offers up to 79.4 frames per second at  $2048 \times 1150$  resolution. Its high sensitivity featured with low noise and high quantum efficiency makes the VS-2MU camera ideal for biometry, medical and scientific applications.



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## Main Features

- High Sensitivity 2 Megapixel sCMOS Image Sensor
- Electronic Exposure Time Control – Rolling Shutter
- USB 3.0 Interface up to 79.4 fps
- Image Correction (DSNU and PRNU Correction)
- Flat Field Correction
- Defect Pixel Correction
- High Dynamic Range

## Applications

- In vivo Imaging System
- Fluorescence Resonance Energy Transfer (FRET)
- Ca<sup>2+</sup> Imaging
- In vitro Diagnostics System
- Fluorescence Microscopy
- VIS/NIR Imaging
- Quantum Dots

## Specifications

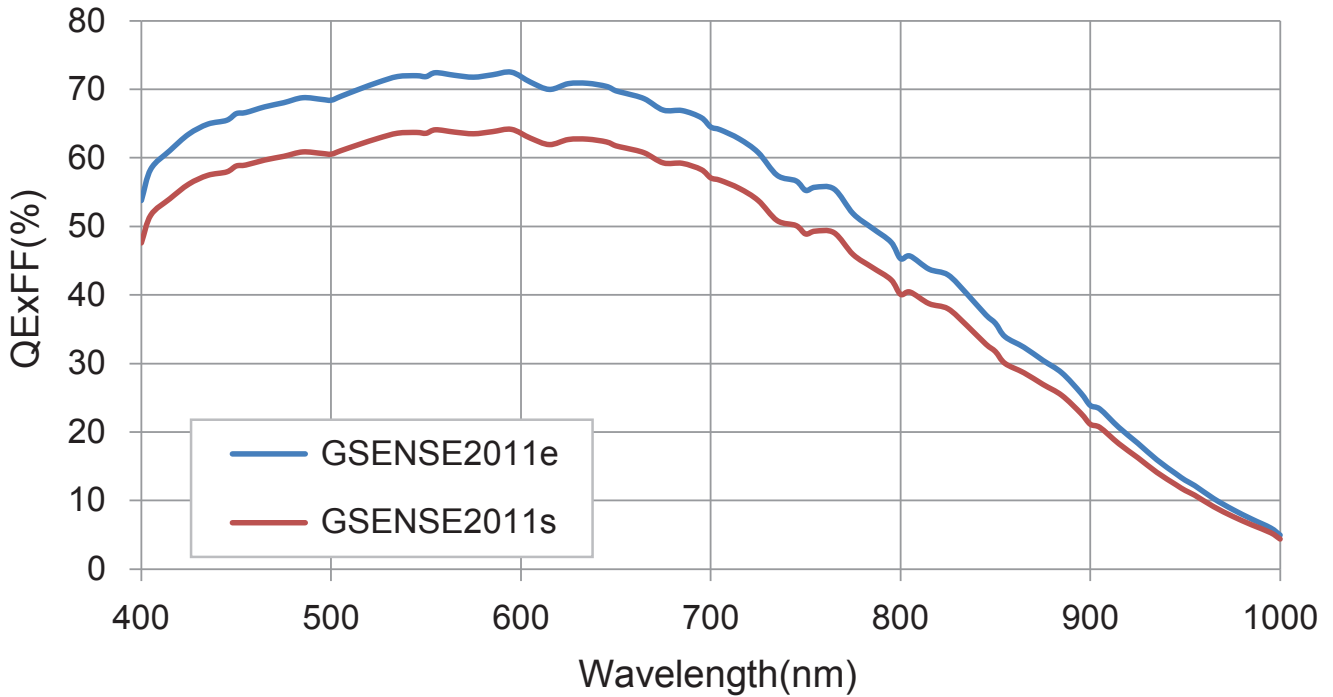
Model	VS-2MU-M80		
Resolution (H × V)	2048 × 1150		
Sensor	Gpixel GSENSE2011e		
Optical Format (Diagonal)	1" (15.26 mm)		
Sensor Type	Scientific CMOS Image Sensor		
Pixel Size	6.5 μm × 6.5 μm		
Quantum Efficiency	Max. 72% @ 595 nm		
Full Well Capacity	45 ke-		
Noise Level	< 2e-		
Interface	USB 3.0		
Max. Frame Rate	79.4 fps		
Dynamic Range	Low Gain Mode: 65 dB	High Gain Mode: 60 dB	HDR Mode: 87 dB
Exposure Time	12 μs – 6 s		
Partial Scan	Min. 230 Lines		
Black Level Control	0 ~ 256 LSB at 12-bit (1 LSB step)		
Gain Control	1 × ~ 4 ×		
Exposure Mode	Free-Run, Timed, Trigger Width		
External Trigger	3.3 V ~ 24.0 V, 10 mA, Logical Level Input, Optically Isolated		
Software Trigger	Asynchronous, Programmable via Camera API		
Lens Mount	C-mount		
Power	10 ~ 24 V DC, Typ. 8.5 W		
Temperature	Operating: 0°C ~ 40°C, Storage: -40°C ~ 70°C		
Dimension / Weight	80 mm × 80 mm × 73 mm, 523 g (with C-mount)		
API SDK	Viewworks Imaging Solution 7.X		

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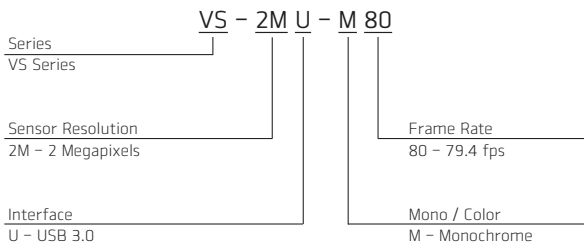
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## Quantum Efficiency Curves

### Spectral Response



## Ordering Scheme



## Connector Specification

Power



1, 2, 3: +12V DC 4, 5, 6: GND  
(HR10A-7R-6PB)

Control



1: Trigger IN+ 2: Trigger IN-  
3: Strobe Out-(GND) 4: Strobe OUT+  
(HR10A-7R-4S)

Data Transfer / Communications

USB 3.0 Micro-B



Connectors on camera body

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## Mechanical Dimensions

Unit: mm

