

EMVA 1288 Data Sheet m1246

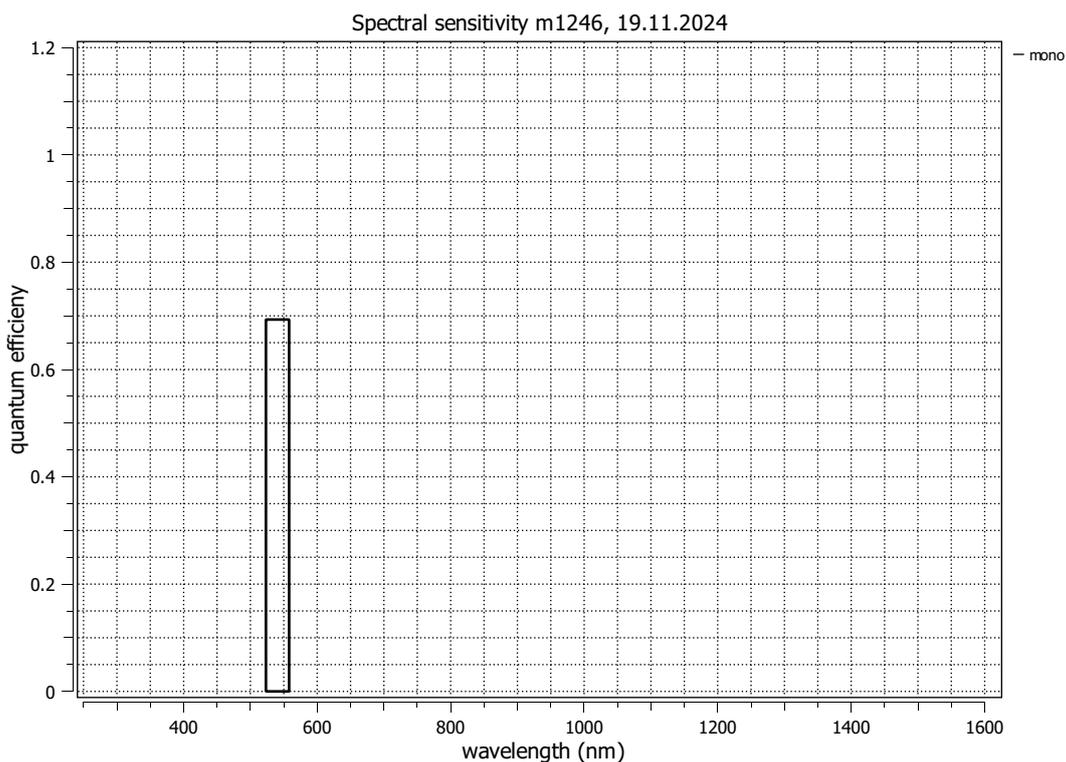
This datasheet describes the specification according to the standard 1288 Release 4.0 Linear issued on 21 June 2021 for "Characterization and Presentation of Specification Data for Image Sensors and Cameras" by the European Machine Vision Association (EMVA), published at <https://www.emva.org/standards-technology/emva-1288/> with proprietary extensions from AEON. The measurements were performed with the AEON ACC2b 14x1 color, Release 9, 13.11.2020, SN 0066(Balluff), software version 2.0.

Measurements performed by Product Development Vision, Balluff GmbH

Type of data presented	Single
Vendor	Balluff GmbH
Model	mvBlueCOUGAR-X106G
Serial number	GX435813
Sensor diagonal	8.95 mm
Lens category	C-Mount
Resolution	3096 × 2080, 12 bit
Pixel size (h×v)	2.40 μm × 2.40 μm
Sensor	IMX178
Sensor type	CMOS
Shutter type	Rolling
Overlap cap.	Overlapping
Max. frame rate	0.0 Hz
Interface type	GigEVision

Nr.	Centroid/FWHM	Gain, blacklevel	t _{exp} (ms)
1	540.6/34.7 nm	0.0dB, 0.1	4.00

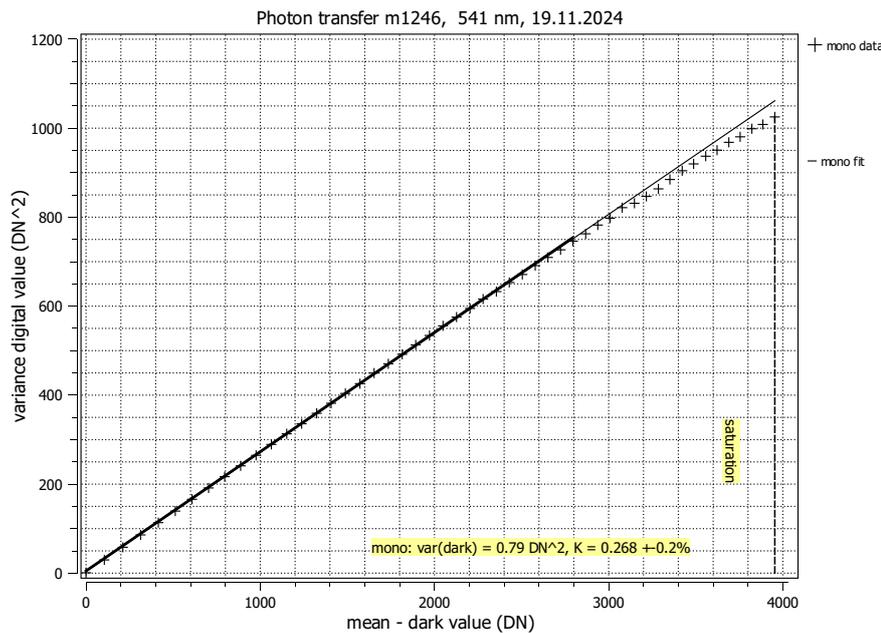
Optional data measured: None



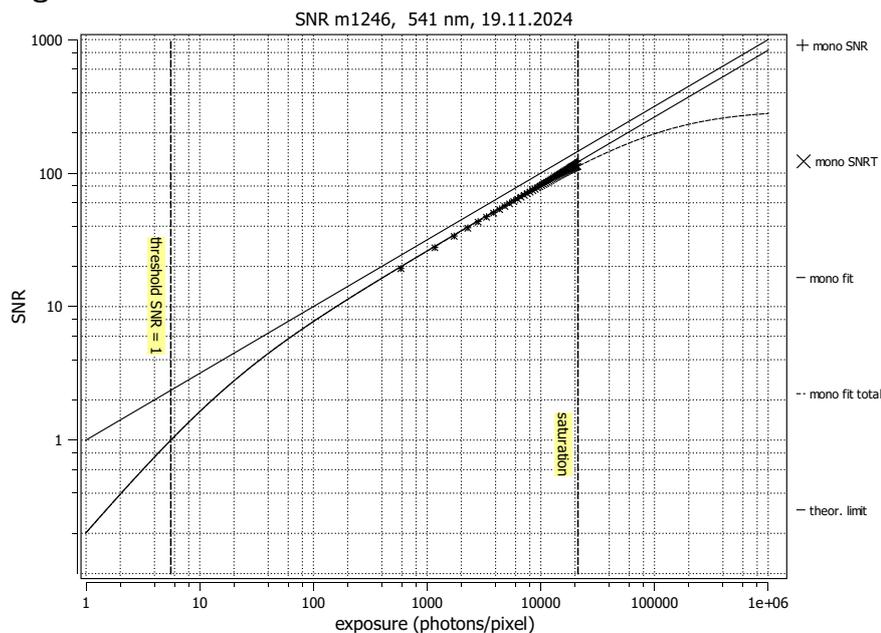
Summary Sheet for Operation Point 1 at a Wavelength of 541 nm

Type of data	Single	Gain, black-level	0.0dB, 0.1
Exposure control	By irradiance	Environmental temperature	21.2°C
Exposure time	4.000 ms	Camera body temperature	29.2°C
Frame rate	9.3 Hz	Internal temperature(s)	37.0°C, 34.0°C
Data transfer mode	Mono12	Wavelength, centr., FWHM	541 nm, 34.7 nm

Photon Transfer



Signal-to-Noise Ratio



Quantum efficiency

η 69.3%

Overall system gain

K 0.2676 DN/e⁻

$1/K$ 3.737 e⁻/DN

Temporal dark noise

σ_d 3.14 e⁻

$\sigma_{y,\text{dark}}$ 0.889 DN

Signal-to-noise ratio

SNR_{max} 121.3

41.7 dB

$1/\text{SNR}_{\text{max}}$ 0.825 %

Absolute sensitivity threshold

$\mu_{e,\text{min}}$ 3.86 e⁻

$\mu_{e,\text{min,area}}$ 0.670 e⁻/μm²

Saturation capacity

$\mu_{e,\text{sat}}$ 14709 e⁻

$\mu_{e,\text{sat,area}}$ 2554 e⁻/μm²

Dynamic range

DR 3812

71.62 dB

Spatial nonuniformities

DSNU₁₂₈₈ 0.236 e⁻

DSNU_{1288,col} 0.065 e⁻

DSNU_{1288,row} 0.028 e⁻

DSNU_{1288,pix} 0.225 e⁻

PRNU₁₂₈₈ 0.337 %

PRNU_{1288,col} 0.036 %

PRNU_{1288,row} 0.067 %

PRNU_{1288,pix} 0.328 %

Linearity error

LE 0.29%

Dark current

$\mu_{c,\text{mean}}$ 0.247 e⁻/s

$\mu_{c,\text{var}}$ 0.194 e⁻/s