

EMVA 1288 Data Sheet m1238

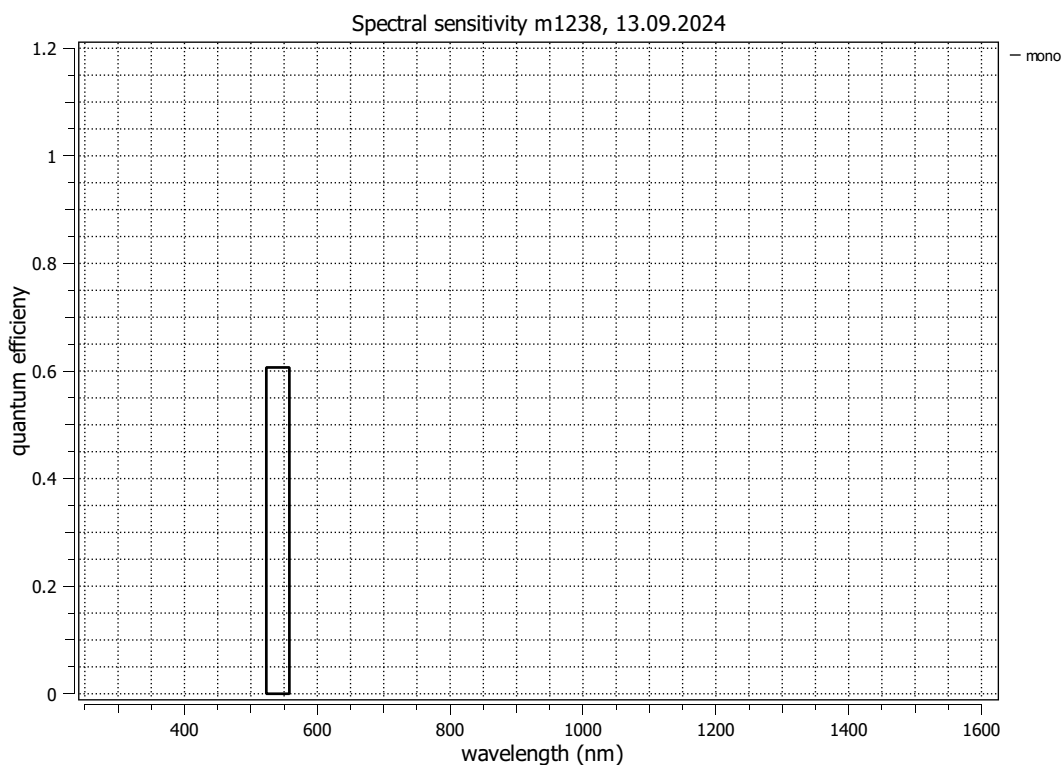
This datasheet describes the specification according to the standard 1288 Release 4.0 Linear issued on 21 June 2021 for "Characterization and Presentation of Specification Data for Image Sensors and Cameras" by the European Machine Vision Association (EMVA), published at <https://www.emva.org/standards-technology/emva-1288/> 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	BVS CA-UB1-0016AG
Serial number	UB100100
Sensor diagonal	6.25 mm
Lens category	C-Mount
Resolution	1448 × 1088, 10 bit
Pixel size (h×v)	3.45 μm × 3.45 μm
Sensor	IMX296
Sensor type	CMOS
Shutter type	Global
Overlap cap.	Overlapping
Max. frame rate	15.0 Hz
Interface type	mvIMPACT acquire

Nr.	Centroid/FWHM	Gain, blacklevel	t _{exp} (ms)
1	540.6/34.7 nm	0dB, 1	2.00

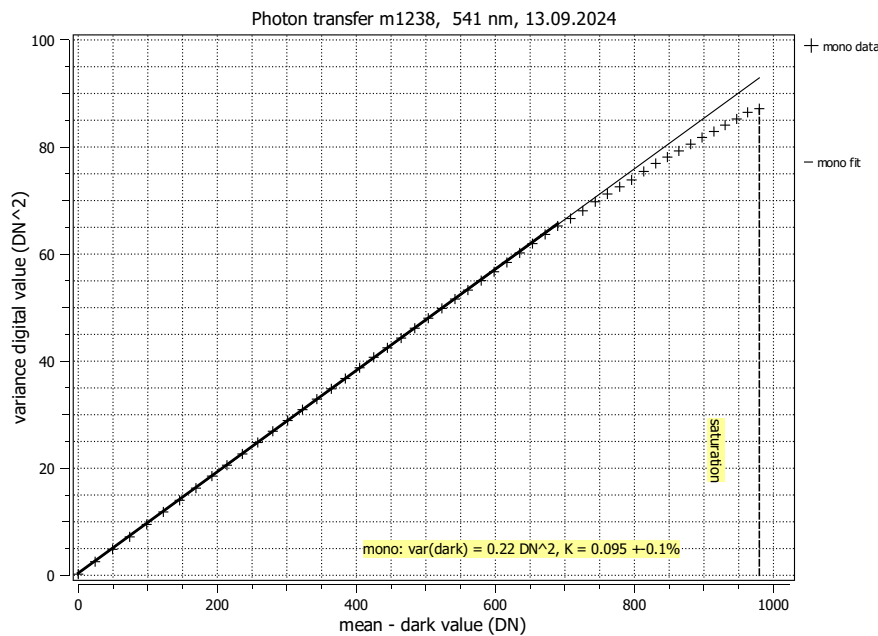
Optional data measured: None



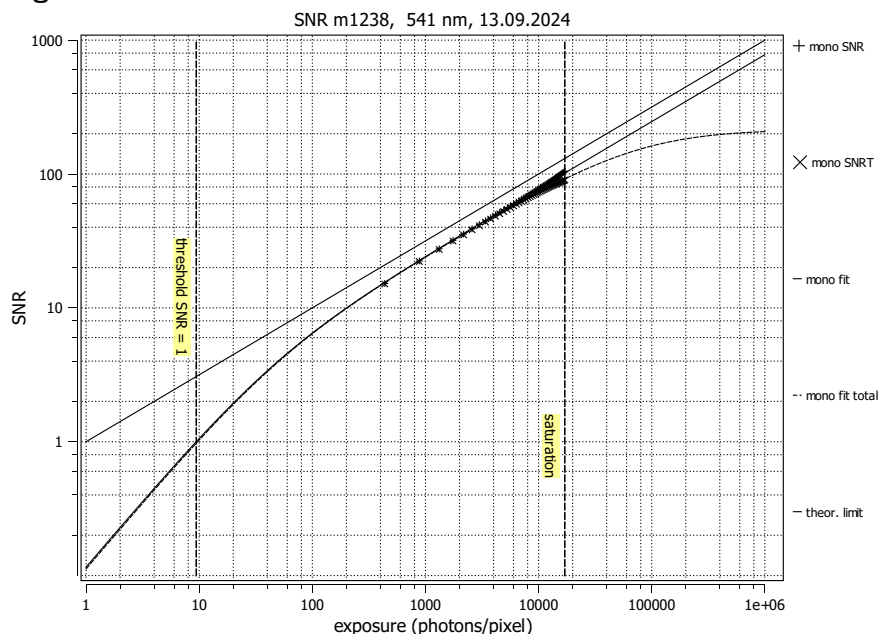
Summary Sheet for Operation Point 1 at a Wavelength of 541 nm

Type of data	Single	Gain, black-level	0dB, 1
Exposure control	By irradiance	Environmental temperature	20.8°C
Exposure time	2.000 ms	Camera body temperature	25.2°C
Frame rate	15.0 Hz	Internal temperature(s)	—
Data transfer mode	Mono10	Wavelength, centr., FWHM	541 nm, 34.7 nm

Photon Transfer



Signal-to-Noise Ratio



Quantum efficiency

η 60.7%

Overall system gain

K 0.094504 DN/e⁻

1/ K 10.58 e⁻/DN

Temporal dark noise[†]

σ_d 4.23 e⁻

$\sigma_{y,\text{dark}}$ 0.490 DN

Signal-to-noise ratio

SNR_{max} 101.7

40.1 dB

1/SNR_{max} 0.983%

Absolute sensitivity threshold[†]

$\mu_{e,\text{min}}$ 5.71 e⁻

$\mu_{e,\text{min,area}}$ 0.480 e⁻/μm²

Saturation capacity

$\mu_{e,\text{sat}}$ 10346 e⁻

$\mu_{e,\text{sat,area}}$ 869 e⁻/μm²

Dynamic range[†]

DR 1812

65.16 dB

Spatial nonuniformities

DSNU₁₂₈₈ 1.33 e⁻

DSNU_{1288,col} 0.16 e⁻

DSNU_{1288,row} 0.13 e⁻

DSNU_{1288,pix} 1.31 e⁻

PRNU₁₂₈₈ 0.465 %

PRNU_{1288,col} 0.032 %

PRNU_{1288,row} 0.051 %

PRNU_{1288,pix} 0.460 %

Linearity error

LE 0.26%

Dark current

$\mu_{c,\text{mean}}$ 3.83 e⁻/s

$\mu_{c,\text{var}}$ 1.39 e⁻/s

[†] Dominated by quantization