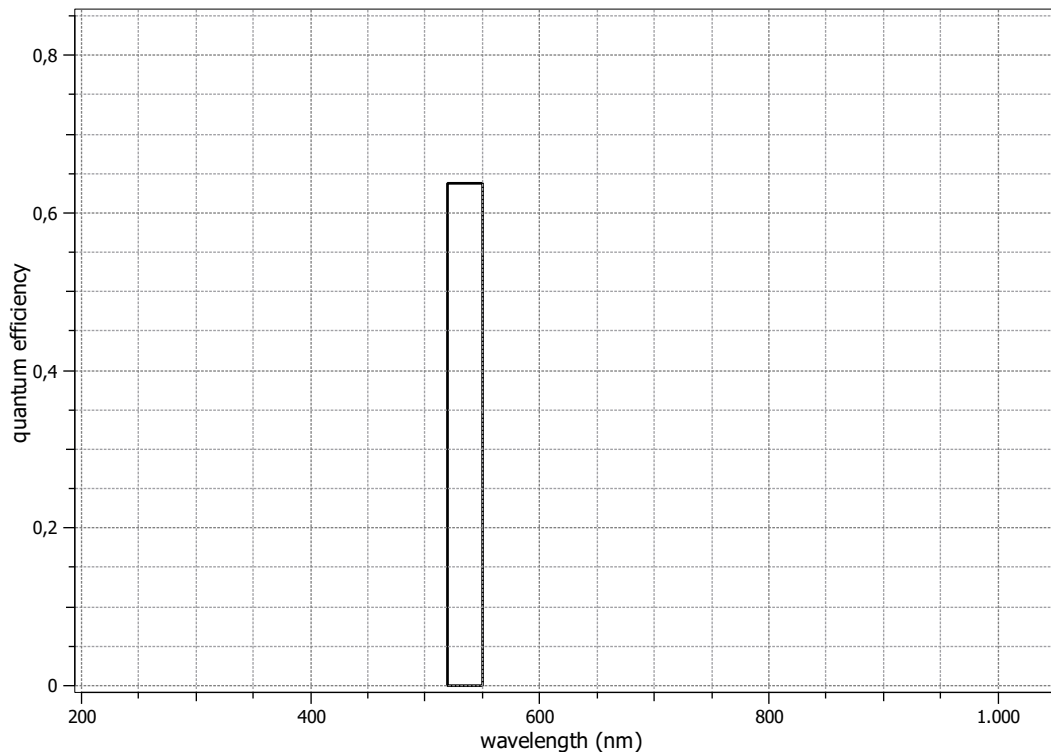


EMVA 1288 Data Sheet m0950

This datasheet describes the specification according to the standard 1288 release 3.1 for "Characterization and Presentation of Specification Data for Image Sensors and Cameras" issued on December 30, 2016 by the European Machine Vision Association (EMVA), published at www.standard1288.org and the *zenodo EMVA 1288 community* with proprietary extensions from AEON. The measurements were performed with the AEON ACC3 Release 6, 26.11.2016, SN 0005(MatrixVision.

Measurements performed by T.Renner, Matrix Vision GmbH

Vendor	MATRIX VISION	Type of data presented	Single
Model	mvBlueCOUGAR-X1012dG	Operation point 1 (page 3)	
Serial number	GX410001	Wavelength centroid	535.0 nm
Sensor diagonal	14.00 mm	Wavelength FWHM	31.0 nm
Lens category	C-Mount	Gain, black-level	0dB, 0.1
Resolution	4128 × 3008, 12 bit	Optional data measured	
Pixel size (h×v)	2.74 μm × 2.74 μm	None	
Sensor	IMX545		
Sensor type	CMOS		
Shutter type	Global		
Overlap cap.	Overlapping		
Max. frame rate	4.7 Hz		
Interface type	GigE Vision		

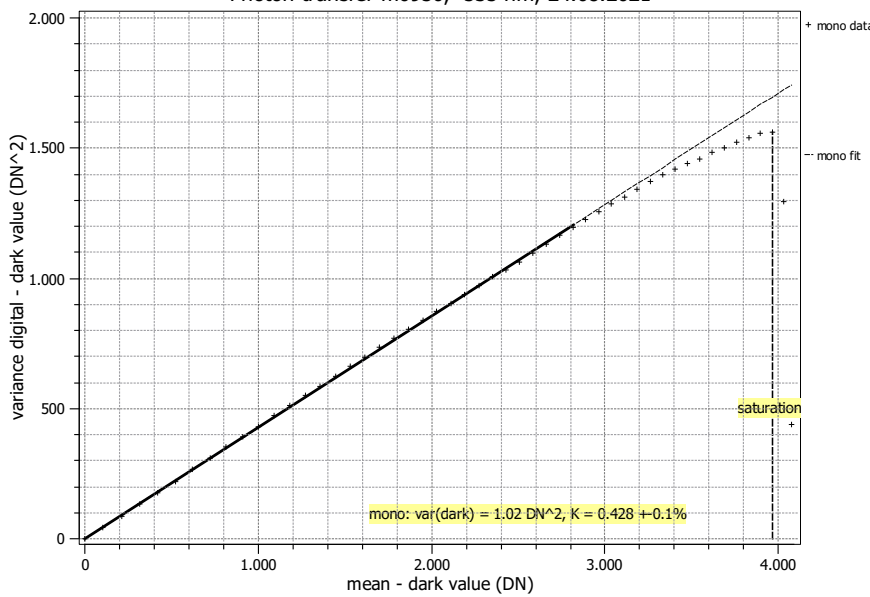


Summary Sheet for Operation Point 1 at a Wavelength of 535 nm

Type of data	Single	Gain, black-level	0dB, 0.1
Exposure control	By irradiance	Environmental temperature	22.0°C
Exposure time	1.50 ms	Camera body temperature	30.6°C
Frame rate	3.5 Hz	Internal temperature(s)	—
Data transfer mode	Mono12	Wavelength, centr., FWHM	535 nm, 31.0 nm

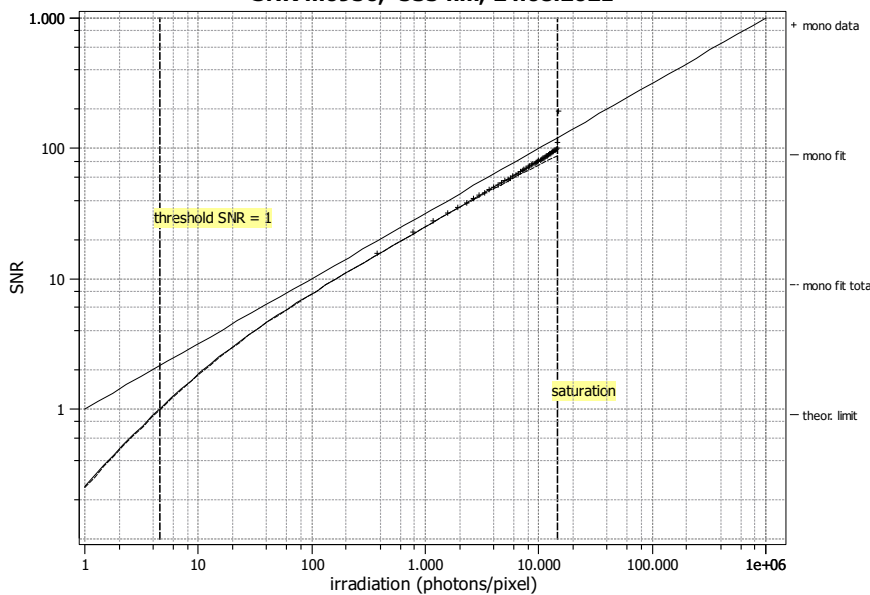
Photon Transfer

Photon transfer m0950, 535 nm, 24.08.2021



Signal-to-Noise Ratio

SNR m0950, 535 nm, 24.08.2021



Quantum efficiency

η 63.8%

Overall system gain

K 0.428 DN/e⁻

$1/K$ 2.338 e⁻/DN

Temporal dark noise

σ_d 2.27 e⁻

$\sigma_{y,\text{dark}}$ 1.01 DN

Signal-to-noise ratio

SNR_{max} 96

39.7 dB

6.6 bit

$1/\text{SNR}_{\text{max}}$ 1.04 %

Absolute sensitivity threshold

$\mu_{p,\text{min}}$ 4.57 p

$\mu_{p,\text{min,area}}$ 0.609 p/μm²

$\mu_{e,\text{min}}$ 2.92 e⁻

$\mu_{e,\text{min,area}}$ 0.388 e⁻/μm²

Saturation capacity

$\mu_{p,\text{sat}}$ 14490 p

$\mu_{p,\text{sat,area}}$ 1930 p/μm²

$\mu_{e,\text{sat}}$ 9248 e⁻

$\mu_{e,\text{sat,area}}$ 1232 e⁻/μm²

Dynamic range

DR 3172

70.0 dB

11.6 bit

Spatial nonuniformities

DSNU₁₂₈₈ 0.60 e⁻

0.26 DN

PRNU₁₂₈₈ 0.49 %

Linearity error

LE_{min} -0.45%

LE_{max} 0.68%

Dark current

$\mu_{c,\text{mean}}$ 0.88 ± 0.02 e⁻/s

0.38 DN/s

$\mu_{c,\text{var}}$ 0.73 ± 0.01 e⁻/s

T_d — °C