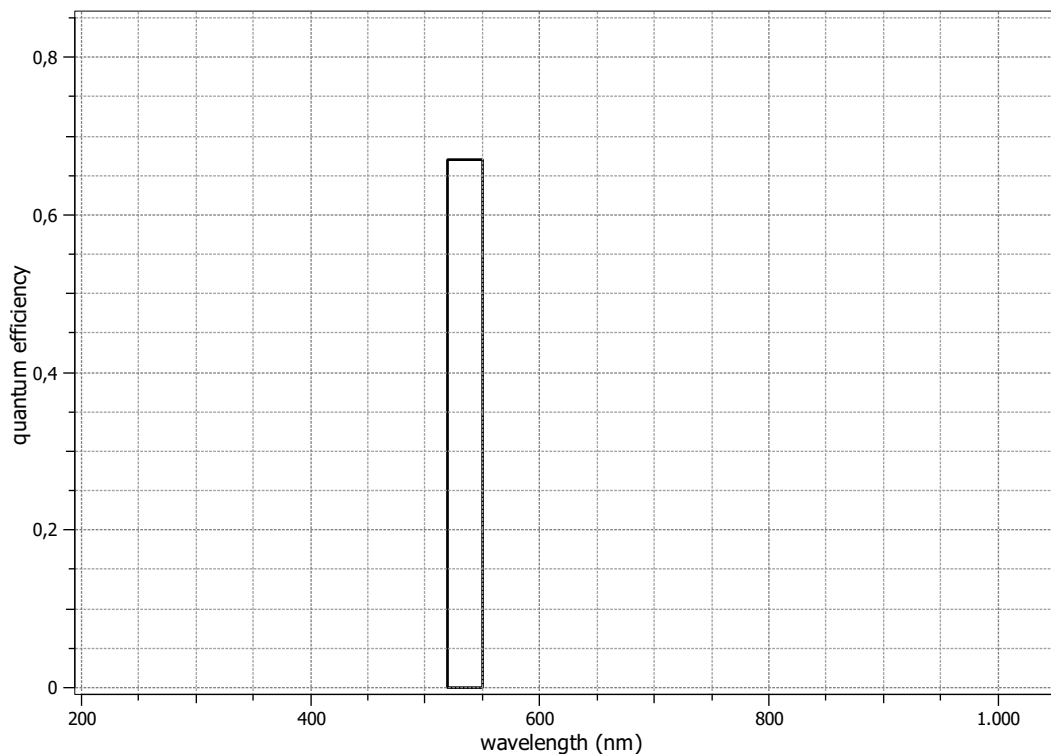


EMVA 1288 Data Sheet m0919

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 VI-SION	Type of data presented	Single
Model	BVS CA-GT1-0204ZG	Operation point 1 (page 3)	
Serial number	GT000013	Wavelength centroid	535.0 nm
Sensor diagonal	17.48 mm	Wavelength FWHM	31.0 nm
Lens category	C-Mount	Gain, black-level	0dB, 0.1
Resolution	4512 × 4512, 12 bit	Optional data measured	
Pixel size (h×v)	2.74 μm × 2.74 μm	None	
Sensor	IMX531		
Sensor type	CMOS		
Shutter type	Global		
Overlap cap.	Overlapping		
Max. frame rate	60.7 Hz		
Interface type	GigE Vision		

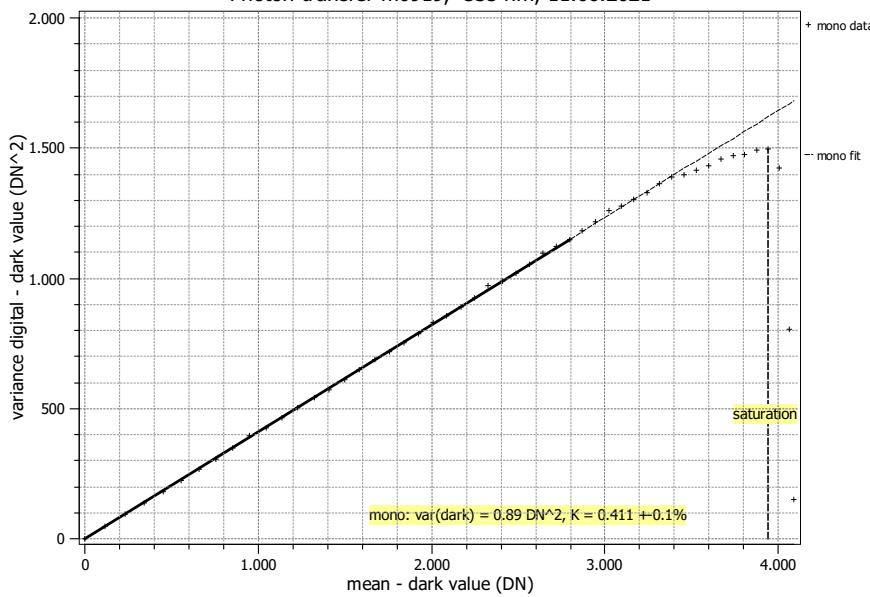


Summary Sheet for Operation Point 1 at a Wavelength of 535 nm

Type of data	Single	Gain, black-level	0dB, 0.1
Exposure control	By irradiance	Environmental temperature	25.0°C
Exposure time	1.00 ms	Camera body temperature	39.2°C
Frame rate	12.0 Hz	Internal temperature(s)	—
Data transfer mode	Mono12p	Wavelength, centr., FWHM	535 nm, 31.0 nm

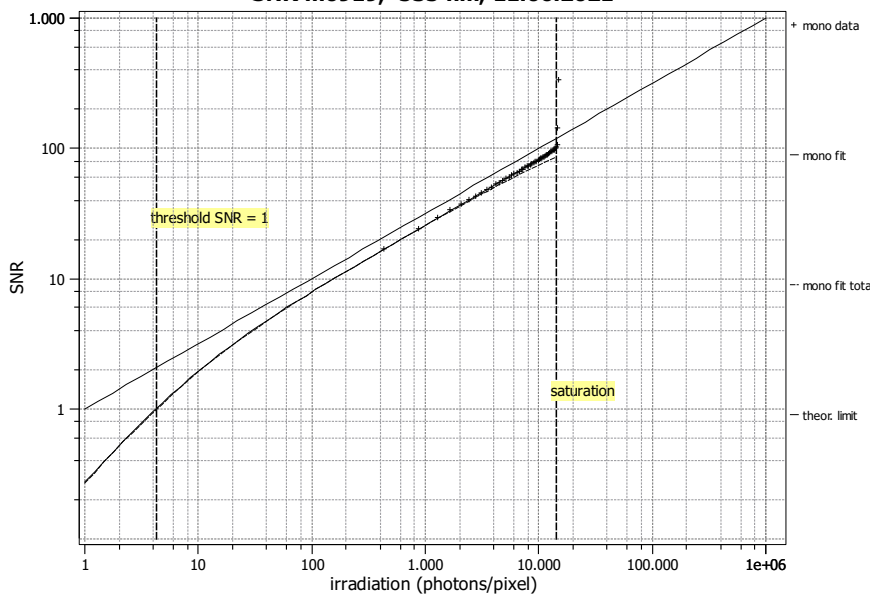
Photon Transfer

Photon transfer m0919, 535 nm, 11.06.2021



Signal-to-Noise Ratio

SNR m0919, 535 nm, 11.06.2021



Quantum efficiency

η 67.0%

Overall system gain

K 0.411 DN/e⁻

$1/K$ 2.431 e⁻/DN

Temporal dark noise

σ_d 2.19 e⁻

$\sigma_{y,\text{dark}}$ 0.94 DN

Signal-to-noise ratio

SNR_{max} 98

39.8 dB

6.6 bit

$1/\text{SNR}_{\text{max}}$ 1.02 %

Absolute sensitivity threshold

$\mu_{p,\text{min}}$ 4.25 p

$\mu_{p,\text{min,area}}$ 0.567 p/ μm^2

$\mu_{e,\text{min}}$ 2.85 e⁻

$\mu_{e,\text{min,area}}$ 0.380 e⁻/ μm^2

Saturation capacity

$\mu_{p,\text{sat}}$ 14243 p

$\mu_{p,\text{sat,area}}$ 1897 p/ μm^2

$\mu_{e,\text{sat}}$ 9546 e⁻

$\mu_{e,\text{sat,area}}$ 1271 e⁻/ μm^2

Dynamic range

DR 3349

70.5 dB

11.7 bit

Spatial nonuniformities

DSNU₁₂₈₈ 0.45 e⁻

0.18 DN

PRNU₁₂₈₈ 0.55 %

Linearity error

LE_{min} -0.57%

LE_{max} 0.84%

Dark current

$\mu_{c,\text{mean}}$ 1.6 ± 0.2 e⁻/s

0.68 DN/s

$\mu_{c,\text{var}}$ 1.3 ± 0.0 e⁻/s

T_d — °C