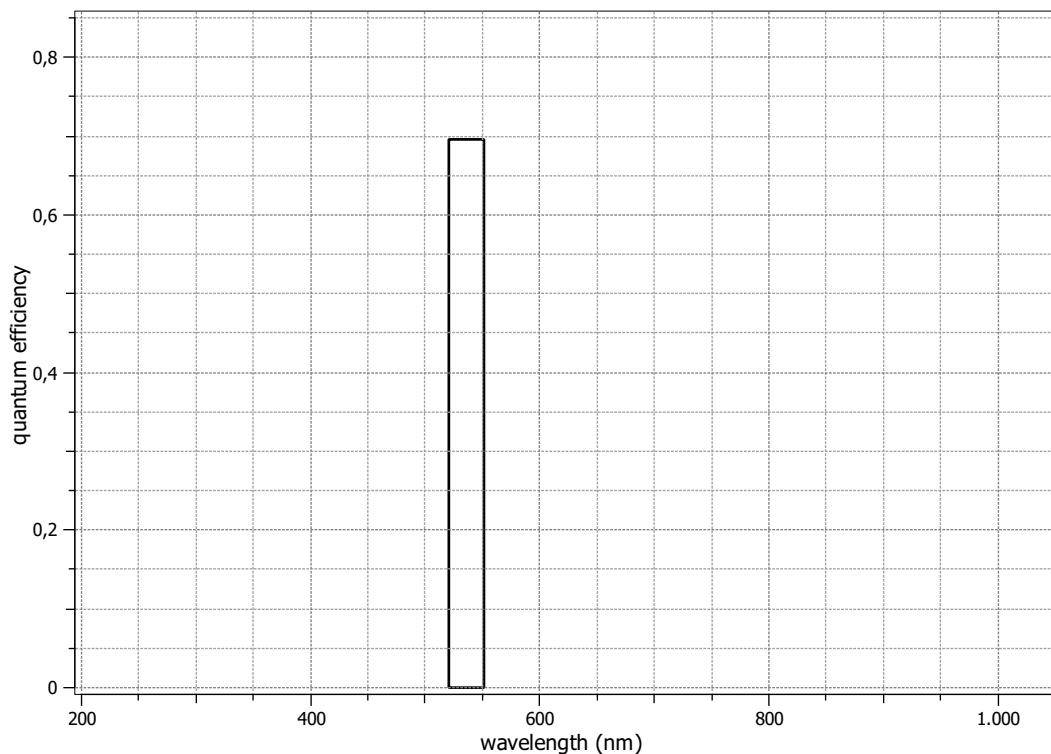


EMVA 1288 Data Sheet m0721

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	mvBlueCOUGAR-X102kG	Operation point 1 (page 3)	
Serial number	GX024083	Wavelength centroid	536.0 nm
Sensor diagonal	17.55 mm	Wavelength FWHM	31.0 nm
Lens category	C-Mount	Gain, black-level	0dB, 0.1
Resolution	1608 × 1104, 12 bit	Optional data measured	
Pixel size (h×v)	9.00 μm × 9.00 μm	None	
Sensor	IMX432		
Sensor type	CMOS		
Shutter type	Global		
Overlap cap.	Overlapping		
Max. frame rate	33.4 Hz		
Interface type	GigE Vision		

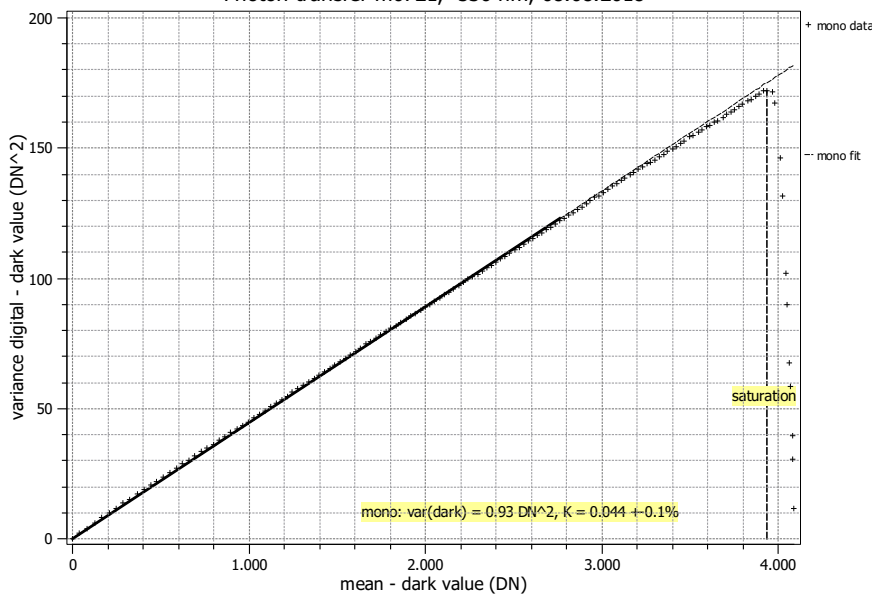


Summary Sheet for Operation Point 1 at a Wavelength of 536 nm

Type of data	Single	Gain, black-level	0dB, 0.1
Exposure control	By irradiance	Environmental temperature	27.8°C
Exposure time	18.00 ms	Camera body temperature	51.2°C
Frame rate	32.0 Hz	Internal temperature(s)	—
Data transfer mode	Mono12	Wavelength, centr., FWHM	536 nm, 31.0 nm

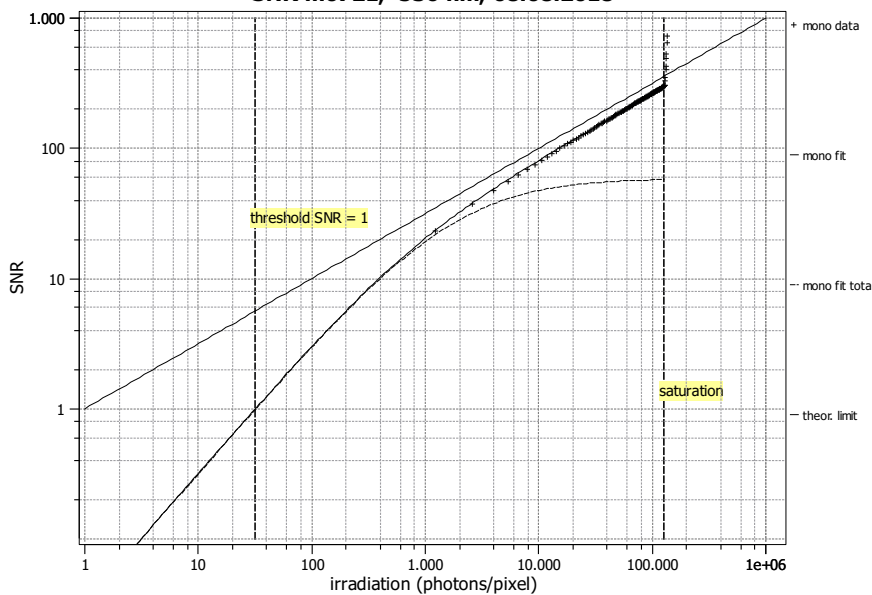
Photon Transfer

Photon transfer m0721, 536 nm, 08.08.2018



Signal-to-Noise Ratio

SNR m0721, 536 nm, 08.08.2018



Quantum efficiency

η 69.6%

Overall system gain

K 0.044 DN/e⁻

$1/K$ 22.474 e⁻/DN

Temporal dark noise

σ_d 20.67 e⁻

$\sigma_{y,\text{dark}}$ 0.96 DN

Signal-to-noise ratio

SNR_{max} 297

49.5 dB

8.2 bit

$1/\text{SNR}_{\text{max}}$ 0.34 %

Absolute sensitivity threshold

$\mu_{p,\text{min}}$ 31.8 p

$\mu_{p,\text{min,area}}$ 0.39 p/ μm^2

$\mu_{e,\text{min}}$ 22.2 e⁻

$\mu_{e,\text{min,area}}$ 0.27 e⁻/ μm^2

Saturation capacity

$\mu_{p,\text{sat}}$ 127026 p

$\mu_{p,\text{sat,area}}$ 1568 p/ μm^2

$\mu_{e,\text{sat}}$ 88422 e⁻

$\mu_{e,\text{sat,area}}$ 1092 e⁻/ μm^2

Dynamic range

DR 3989

72.0 dB

12.0 bit

Spatial nonuniformities

DSNU₁₂₈₈ 3.04 e⁻

0.14 DN

PRNU₁₂₈₈ 1.71 %

Linearity error

LE_{min} -0.37%

LE_{max} 0.64%

Dark current

$\mu_{c,\text{mean}}$ -105 ± 22 e⁻/s

-4.7 DN/s

$\mu_{c,\text{var}}$ -24 ± 37 e⁻/s

T_d — °C