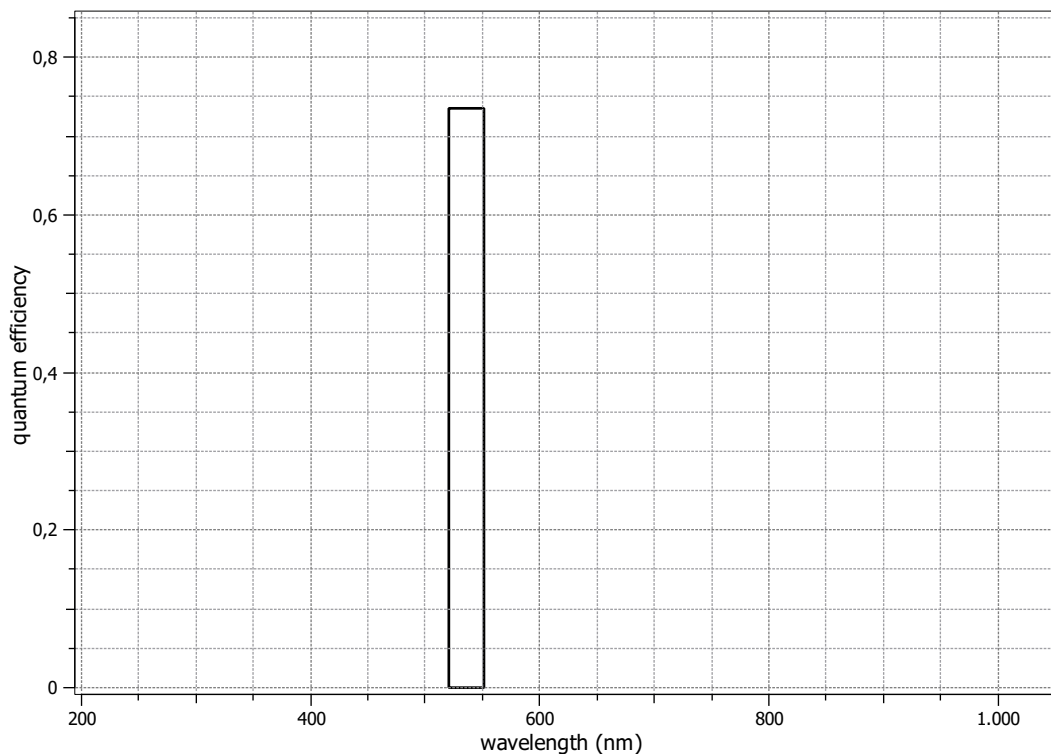


EMVA 1288 Data Sheet m0790

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

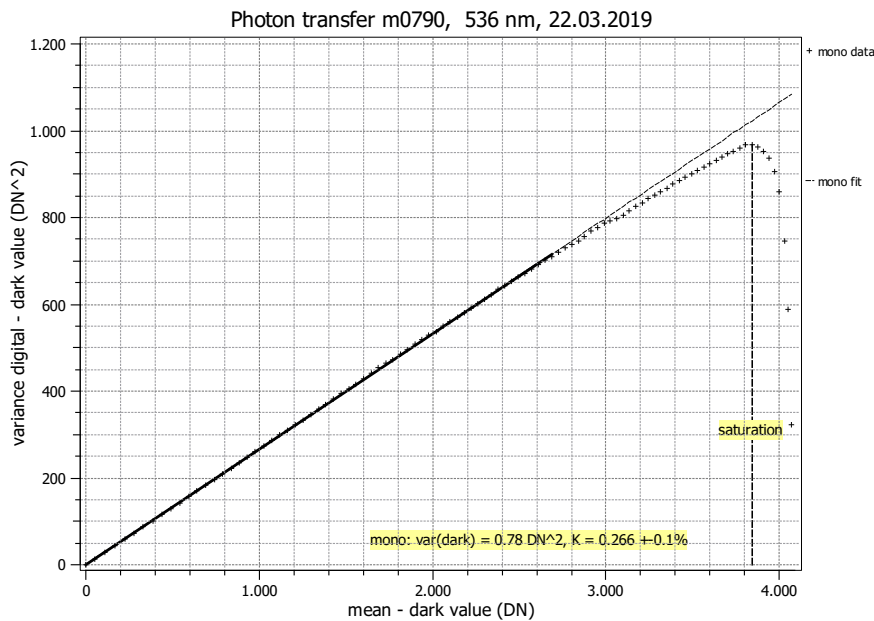
Vendor	MATRIX VI-SION	Type of data presented	Single
Model	mvBlueCOUGAR-X1020G	Operation point 1 (page 3)	
Serial number	GX027224	Wavelength centroid	536.0 nm
Sensor diagonal	15.99 mm	Wavelength FWHM	31.0 nm
Lens category	C-Mount	Gain, black-level	0dB, 0.05
Resolution	5544 × 3692, 12 bit	Optional data measured	
Pixel size (h×v)	2.40 μm × 2.40 μm	None	
Sensor	IMX183		
Sensor type	CMOS		
Shutter type	Rolling		
Overlap cap.	Overlapping		
Max. frame rate	2.9 Hz		
Interface type	GigE Vision		



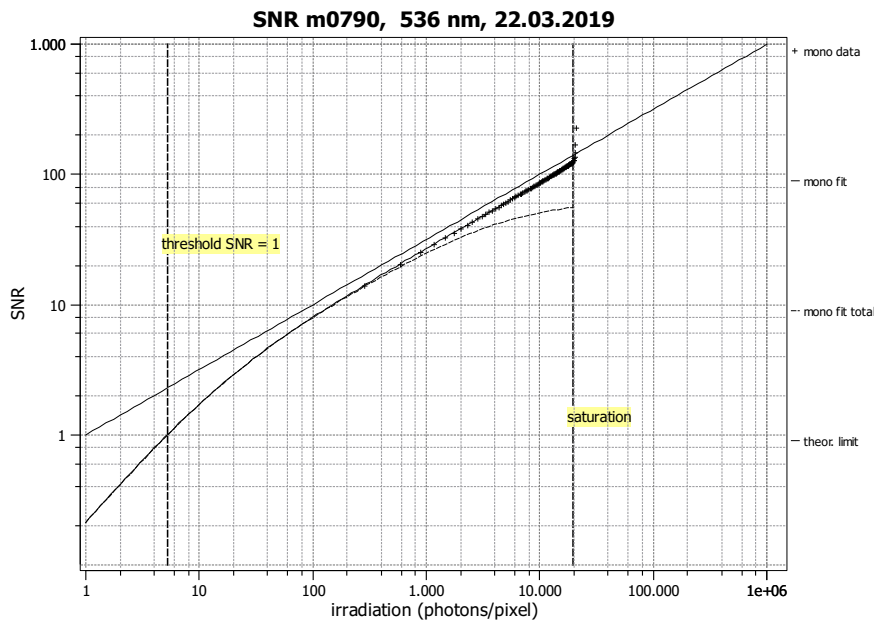
Summary Sheet for Operation Point 1 at a Wavelength of 536 nm

Type of data	Single	Gain, black-level	0dB, 0.05
Exposure control	By irradiance	Environmental temperature	24.8°C
Exposure time	2.00 ms	Camera body temperature	40.1°C
Frame rate	2.9 Hz	Internal temperature(s)	—
Data transfer mode	Mono12	Wavelength, centr., FWHM	536 nm, 31.0 nm

Photon Transfer



Signal-to-Noise Ratio



Quantum efficiency

η 73.5%

Overall system gain

K 0.266 DN/e⁻

$1/K$ 3.755 e⁻/DN

Temporal dark noise

σ_d 3.14 e⁻

$\sigma_{y,\text{dark}}$ 0.89 DN

Signal-to-noise ratio

SNR_{max} 120

41.6 dB

6.9 bit

$1/\text{SNR}_{\text{max}}$ 0.84 %

Absolute sensitivity threshold

$\mu_{p,\text{min}}$ 5.25 p

$\mu_{p,\text{min,area}}$ 0.912 p/μm²

$\mu_{e,\text{min}}$ 3.86 e⁻

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

Saturation capacity

$\mu_{p,\text{sat}}$ 19504 p

$\mu_{p,\text{sat,area}}$ 3386 p/μm²

$\mu_{e,\text{sat}}$ 14336 e⁻

$\mu_{e,\text{sat,area}}$ 2489 e⁻/μm²

Dynamic range

DR 3714

71.4 dB

11.9 bit

Spatial nonuniformities

DSNU₁₂₈₈ 0.27 e⁻

0.07 DN

PRNU₁₂₈₈ 1.59 %

Linearity error

LE_{min} -0.84%

LE_{max} 2.13%

Dark current

$\mu_{c,\text{mean}}$ -0.6 ± 0.2 e⁻/s

-0.16 DN/s

$\mu_{c,\text{var}}$ 2.8 ± 0.0 e⁻/s

T_d — °C