

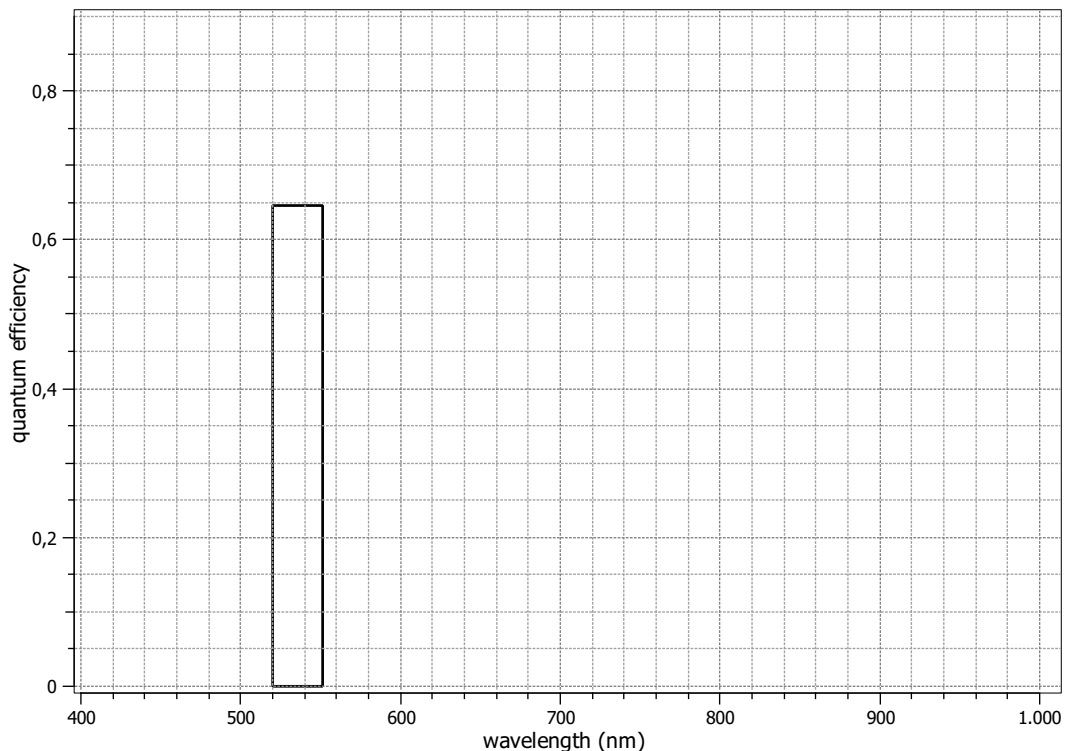
EMVA 1288 Summary Sheet

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 RGB Release 7, 21.08.2018, SN 0001(Baumer).

Measurements performed by Technical and Application Support Center, Baumer Optronic GmbH.

Vendor	Baumer
Model	VCXU-124M
Serial number	800172273301
Sensor diagonal	17.52 mm
Lens category	C-Mount
Resolution	4096 × 3000, 12 bit
Pixel size (h×v)	3.45 μm × 3.45 μm
Sensor	Sony IMX304
Sensor type	CMOS
Shutter type	Global shutter
Overlap cap.	Overlapped
Max. frame rate	0.0 Hz
Interface type	U3V

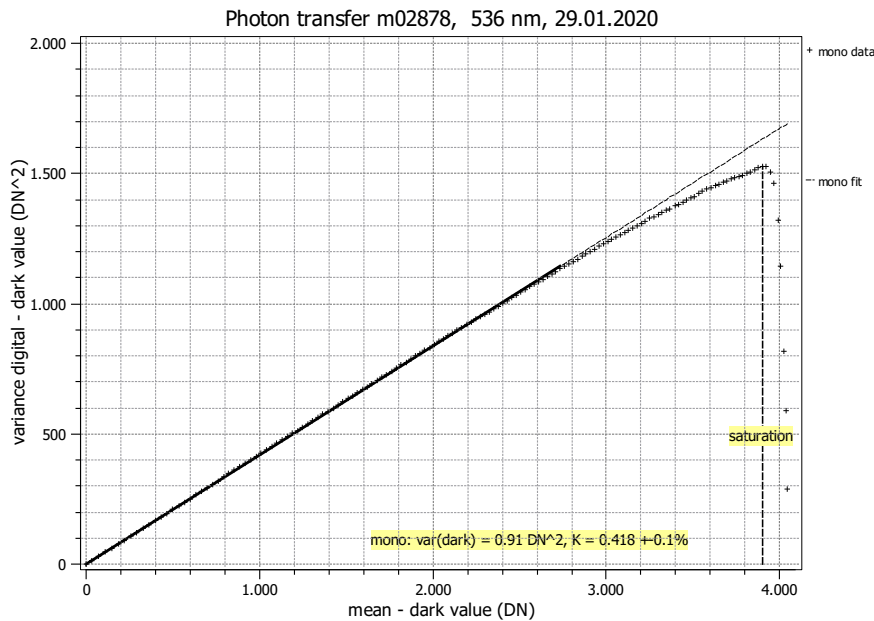
Type of data presented	Single
Operation point 1	
Wavelength centroid	535.7 nm
Wavelength FWHM	31.9 nm
Gain, black-level	1.0 / 39.0
Optional data measured	
None	



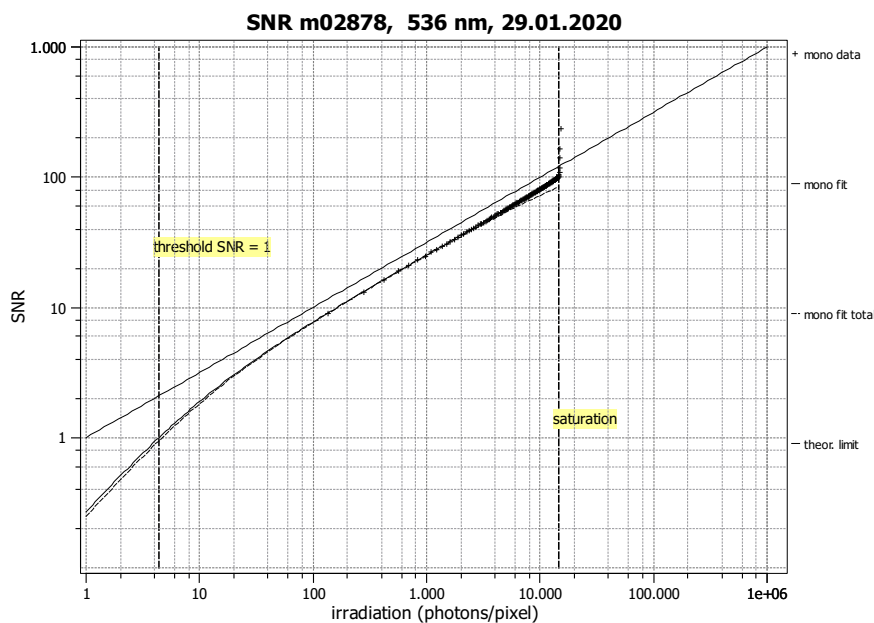
Summary Sheet for Operation Point 1 at a Wavelength of 536 nm

Type of data	Single	Gain, black-level	1.0 / 39.0
Exposure control	By irradiance	Environmental temperature	23.1 °C
Exposure time	796.00 μ s	Camera body temperature	32.9 °C
Frame rate	10.0 Hz	Internal temperature(s)	—
Data transfer mode	Mono12	Wavelength, centr., FWHM	536 nm, 31.9 nm

Photon Transfer



Signal-to-Noise Ratio



Quantum efficiency

η 64.5%

Overall system gain

K 0.418 DN/ e^-

$1/K$ 2.391 e^- /DN

Temporal dark noise

σ_d 2.17 e^-

$\sigma_{y,\text{dark}}$ 0.95 DN

Signal-to-noise ratio

SNR_{max} 97

39.7 dB

6.6 bit

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

Absolute sensitivity threshold

$\mu_{p,\text{min}}$ 4.38 p

$\mu_{p,\text{min,area}}$ 0.368 p/ μm^2

$\mu_{e,\text{min}}$ 2.83 e^-

$\mu_{e,\text{min,area}}$ 0.238 e^- / μm^2

Saturation capacity

$\mu_{p,\text{sat}}$ 14456 p

$\mu_{p,\text{sat,area}}$ 1215 p/ μm^2

$\mu_{e,\text{sat}}$ 9327 e^-

$\mu_{e,\text{sat,area}}$ 784 e^- / μm^2

Dynamic range

DR 3297

70.4 dB

11.7 bit

Spatial nonuniformities

DSNU₁₂₈₈ 0.98 e^-

0.41 DN

PRNU₁₂₈₈ 0.59 %

Linearity error

LE_{min} -0.44%

LE_{max} 1.24%

Dark current

$\mu_{c,\text{mean}}$ $-1.0 \pm 0.2 e^-/s$

-0.44 DN/s

$\mu_{c,\text{var}}$ $1.2 \pm 0.2 e^-/s$

T_d — °C