

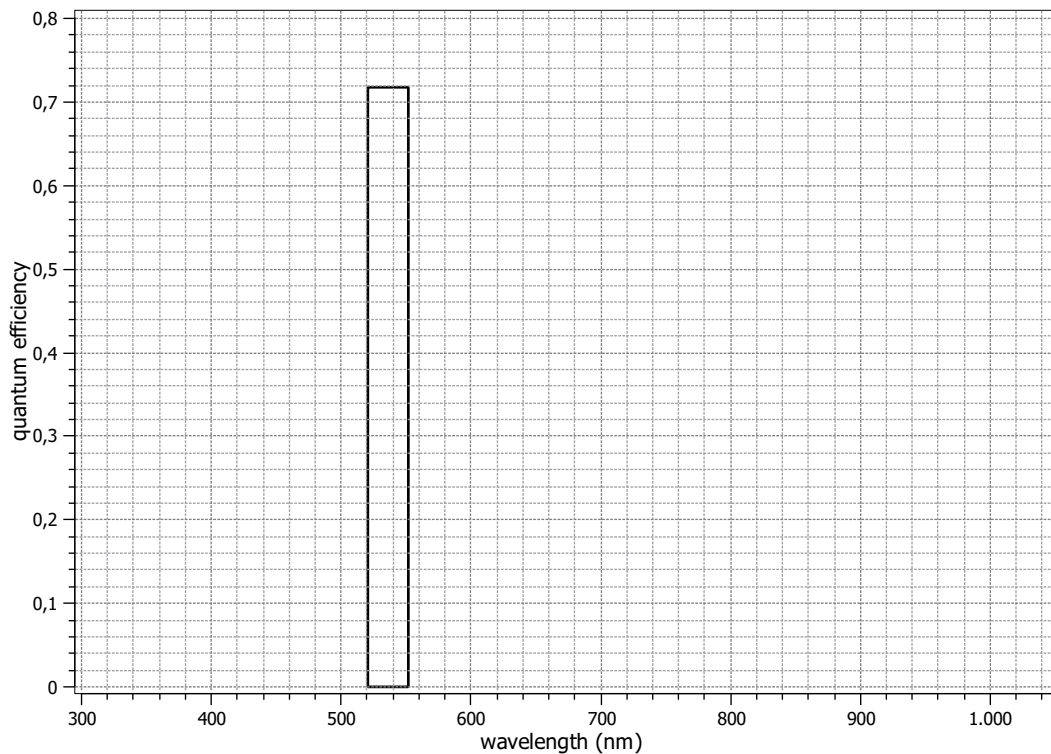
EMVA 1288 Data Sheet m0651

This datasheet describes the specification according to the standard 1288 for “Characterization and Presentation of Specification Data for Image Sensors and Cameras of the European Machine Vision Association (EMVA)” (see www.standard1288.org or the *Zenodo EMVA 1288 community*) release 3.0 with proprietary extensions from AEON. The measurements were performed with the AEON ACC3 Release 6, 18.07.2016, SN 0005(MatrixVision) . The performance parameters and estimated accuracy of the measurements are described in the technical report for the instrument, its calibration in the corresponding specification and calibration report.

Measurements performed by T.Renner, Matrix Vision GmbH

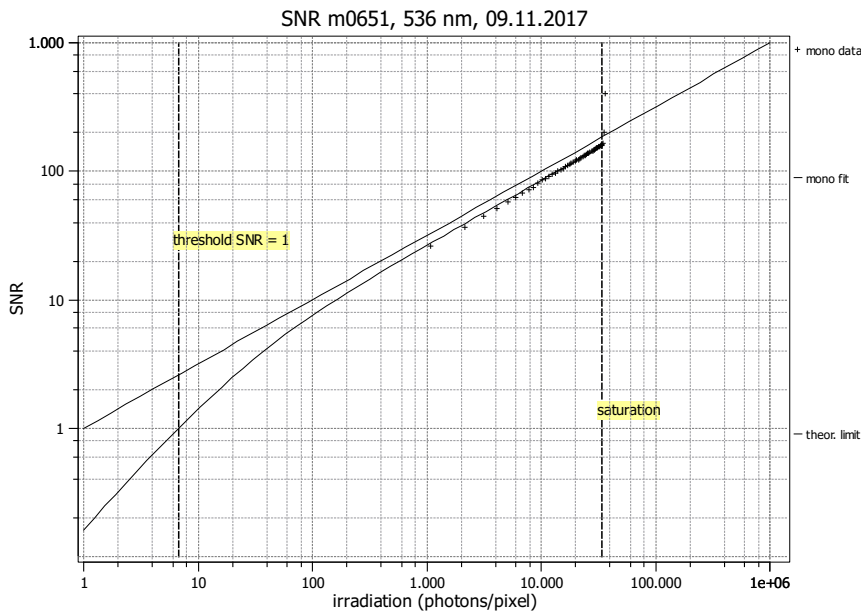
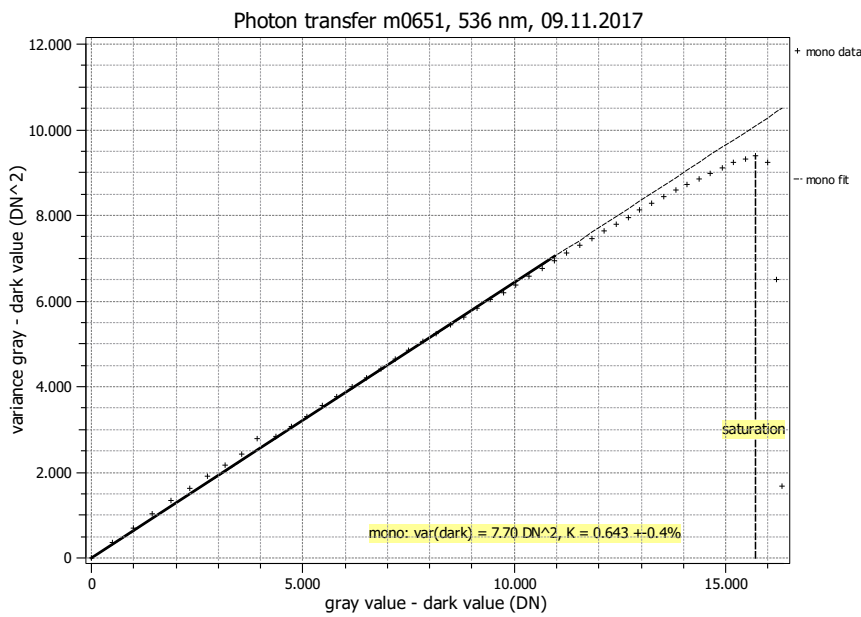
Vendor	MATRIX VISION
Model	mvBlueCOUGAR-XD107G
Serial number	GX200376
Sensor diagonal	17.55 mm
Lens category	C-Mount
Resolution	3216 × 2208, 14 bit
Pixel size	4.50 μm × 4.50 μm
Sensor	IMX420
Sensor type	CMOS
Shutter type	Global
Overlap capabilities	Overlapping
Maximum frame rate	16.8 Hz
Interface type	GigE Vision

Type of data presented	Single
Operation point 1, (page 3)	
Wavelength centroid	536.0 nm
Wavelength FWHM	31.0 nm
Gain, black-level	LCG 12/0dB, 0.2
Optional data measured	
None	



EMVA 1288 Summary Sheet for Operating Point 1

Type of data	Single	Gain, black-level	LCG 12/0dB, 0.2
Exposure control	By irradiance	Environmental temperature	23.4°C
Exposure time	19.00 ms	Camera body temperature	42.4°C
Frame rate	3.5 Hz	Internal temperature(s)	—
Data transfer mode	Mono12	Wavelength, centr., FWHM	536 nm, 31.0 nm



Quantum efficiency

η 71.8%

Overall system gain

K 0.643 DN/e⁻
1/ K 1.556 e⁻/DN

Temporal dark noise & DSNU

$\sigma_{y,dark}$ 2.77 DN
DSNU₁₂₈₈ — DN
 σ_d 4.29 e⁻
DSNU₁₂₈₈ — e⁻

Signal-to-noise ratio & PRNU

SNR_{max} 157
43.9 dB
7.3 bit
1/SNR_{max} 0.64 %
PRNU₁₂₈₈ — %

Nonlinearity

LE 0.21%
LE_{min} -0.27%
LE_{max} 0.15%

Sensitivity & saturation

$\mu_{p,min}$ 6.75 p
0.333 p/ μm^2
 $\mu_{p,sat}$ 34222 p
1690 p/ μm^2
 $\mu_{e,min}$ 4.85 e⁻
0.239 e⁻/ μm^2
 $\mu_{e,sat}$ 24581 e⁻
1214 e⁻/ μm^2

Dynamic range

DR 5073
74.1 dB
12.3 bit

Dark current

$\mu_{c,mean}$ — DN/s
 $\mu_{c,mean}$ — e⁻/s
 $\mu_{c,var}$ — e⁻/s

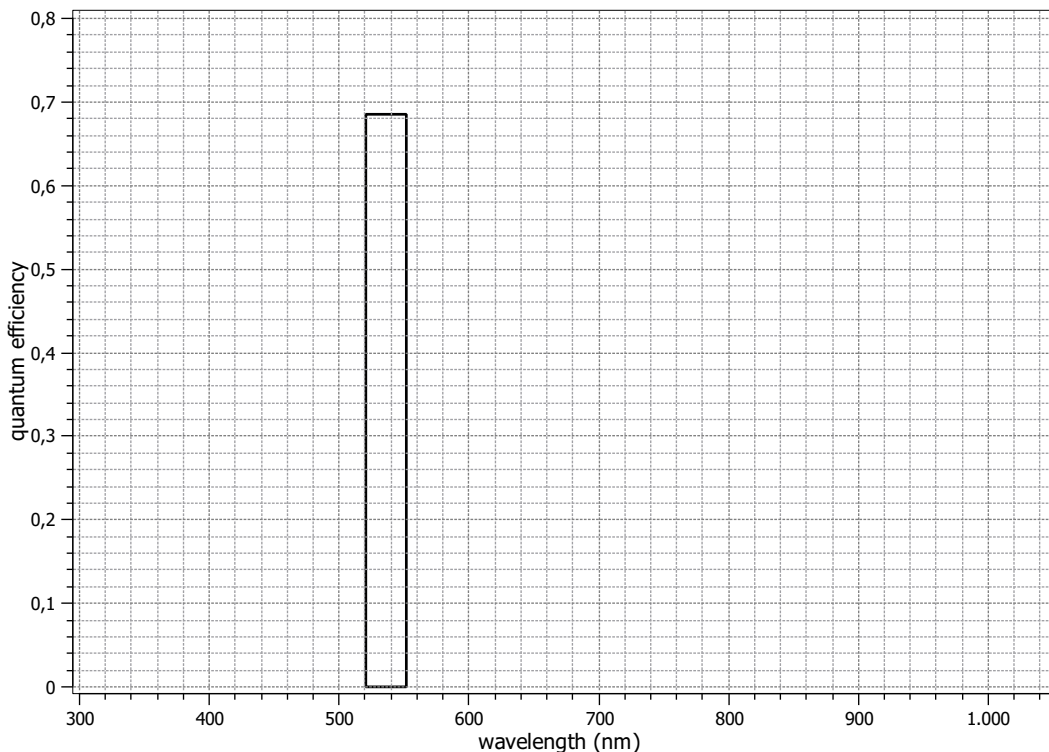
EMVA 1288 Data Sheet m0654

This datasheet describes the specification according to the standard 1288 for “Characterization and Presentation of Specification Data for Image Sensors and Cameras of the European Machine Vision Association (EMVA)” (see www.standard1288.org or the *Zenodo EMVA 1288 community*) release 3.0 with proprietary extensions from AEON. The measurements were performed with the AEON ACC3 Release 6, 18.07.2016, SN 0005(MatrixVision) . The performance parameters and estimated accuracy of the measurements are described in the technical report for the instrument, its calibration in the corresponding specification and calibration report.

Measurements performed by T.Renner, Matrix Vision GmbH

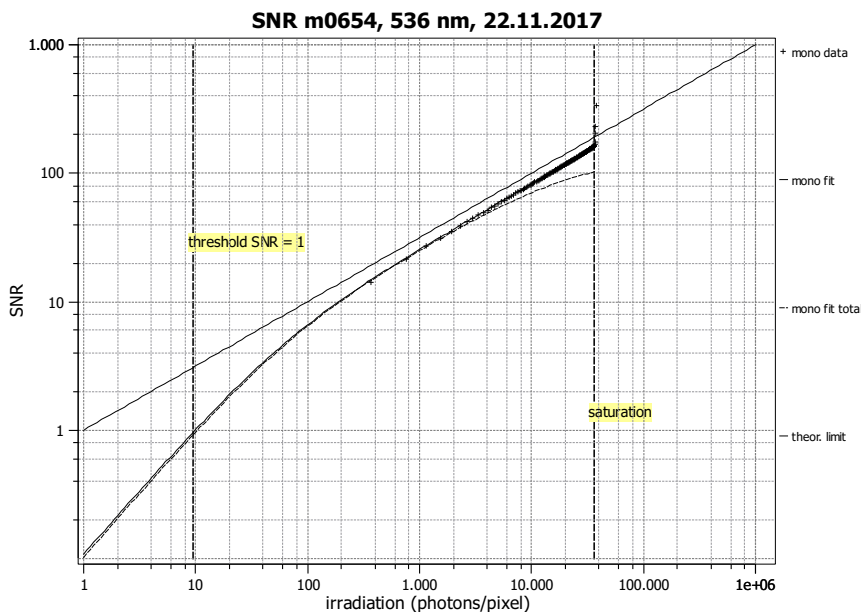
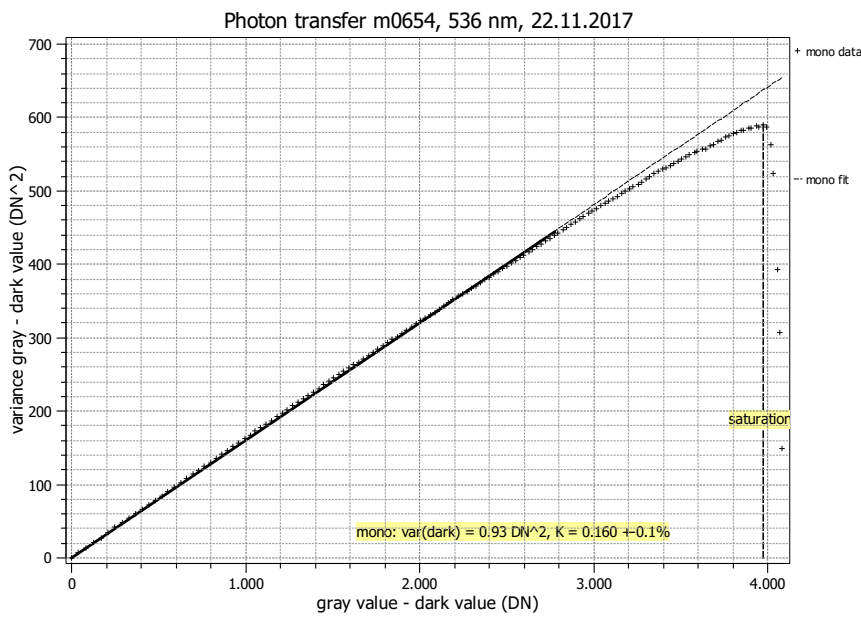
Vendor	MATRIX VISION
Model	mvBlueCOUGAR-XD107G
Serial number	GX205097
Sensor diagonal	17.55 mm
Lens category	C-Mount
Resolution	3216 × 2208, 12 bit
Pixel size	4.50 μm × 4.50 μm
Sensor	IMX420
Sensor type	CMOS
Shutter type	Global
Overlap capabilities	Overlapping
Maximum frame rate	16.8 Hz
Interface type	GigE Vision

Type of data presented	Single
Operation point 1, (page 3)	
Wavelength centroid	536.0 nm
Wavelength FWHM	31.0 nm
Gain, black-level	0dB, 0.1
Optional data measured	
None	



EMVA 1288 Summary Sheet for Operating Point 1

Type of data	Single	Gain, black-level	0dB, 0.1
Exposure control	By irradiance	Environmental temperature	22.7°C
Exposure time	17.00 ms	Camera body temperature	46.8°C
Frame rate	8.0 Hz	Internal temperature(s)	—
Data transfer mode	Mono12	Wavelength, centr., FWHM	536 nm, 31.0 nm



Quantum efficiency

η 68.6%

Overall system gain

K 0.160 DN/e⁻

$1/K$ 6.236 e⁻/DN

Temporal dark noise & DSNU

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

DSNU₁₂₈₈ 0.34 DN

σ_d 5.74 e⁻

DSNU₁₂₈₈ 2.11 e⁻

Signal-to-noise ratio & PRNU

SNR_{max} 158

44.0 dB

7.3 bit

$1/\text{SNR}_{\text{max}}$ 0.63 %

PRNU₁₂₈₈ 0.74 %

Nonlinearity

LE 0.17%

LE_{min} -0.20%

LE_{max} 0.14%

Sensitivity & saturation

$\mu_{p,\text{min}}$ 9.53 p

0.471 p/ μm^2

$\mu_{p,\text{sat}}$ 36330 p

1794 p/ μm^2

$\mu_{e,\text{min}}$ 6.54 e⁻

0.323 e⁻/ μm^2

$\mu_{e,\text{sat}}$ 24925 e⁻

1231 e⁻/ μm^2

Dynamic range

DR 3813

71.6 dB

11.9 bit

Dark current

$\mu_{c,\text{mean}}$ -2.9 DN/s

$\mu_{c,\text{mean}}$ -18.2 e⁻/s

$\mu_{c,\text{var}}$ 1.1 e⁻/s