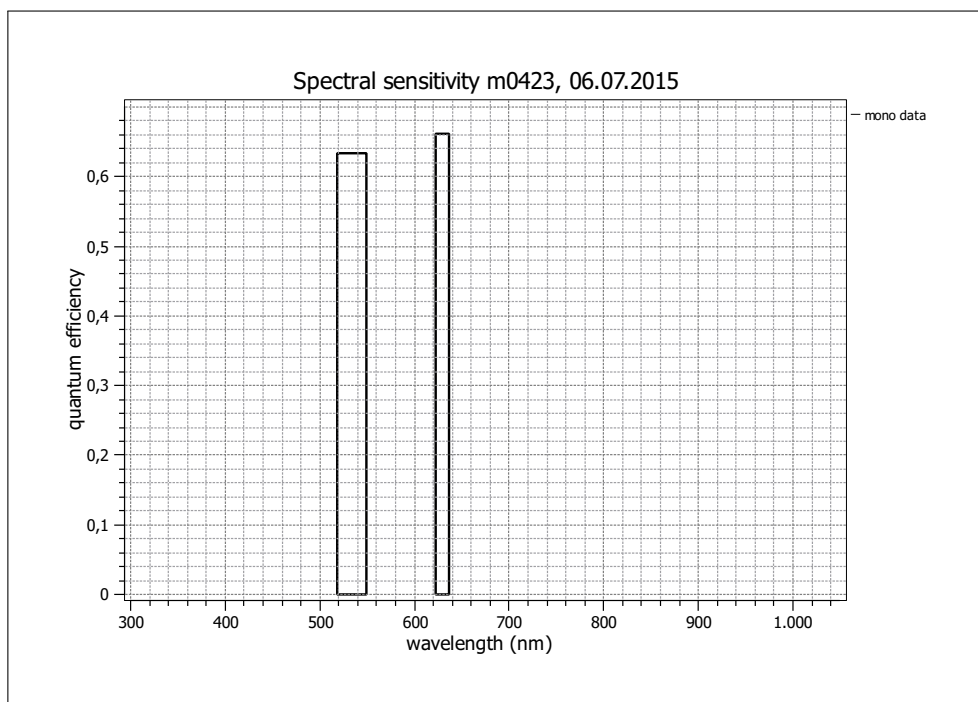


EMVA 1288 Summary Sheet

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). The measurements were performed with an AEON ACC3 RGB Release 3, 20.01.2104, SN 0005() . The performance parameters and estimated accuracy of the measurements are described in the technical report for the instrument, its calibration in the corresponding calibration report.

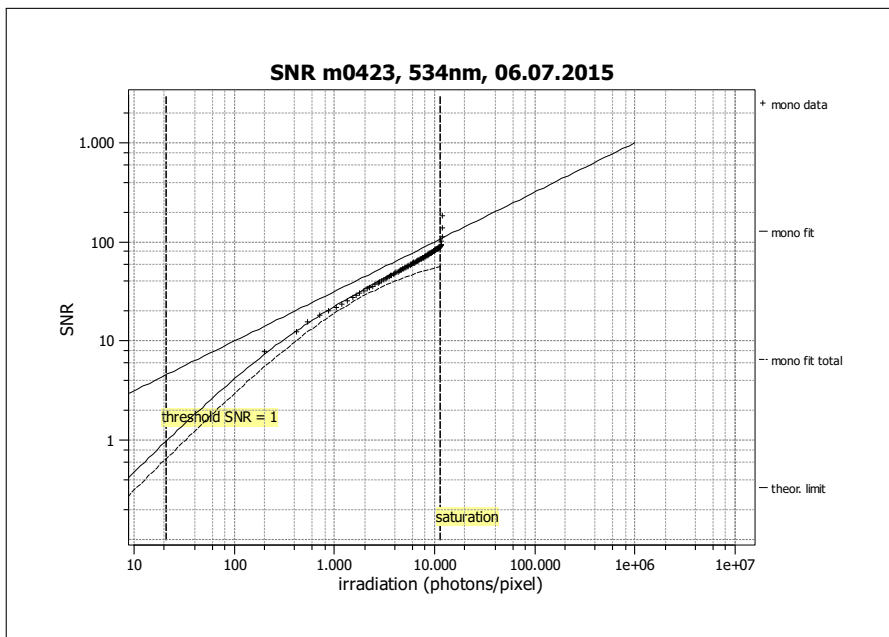
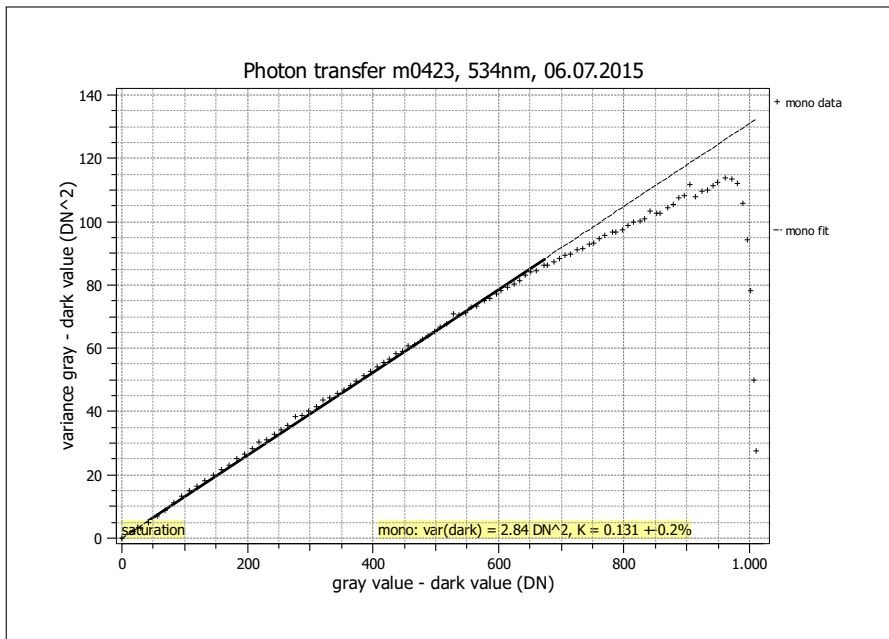
Vendor	MATRIX VISION
Model	mvBlueCOUGAR-XD104a12G
Serial number	GX200405
Sensor diagonal	12.75 mm
Lens category	C-Mount
Resolution	2048 × 1088, 10 bit
Pixel size	5.50 μm × 5.50 μm
Sensor type	CMOS
Shutter type	Global
Overlap capabilities	Overlapping
Maximum frame rate	49.8 Hz
Interface type	GigE Vision

Type of data presented	Single
Operation point 1, (page 4)	
Wavelength centroid	534.2 nm
Wavelength FWHM	30.9 nm
Gain, offset	Gain = 0dB, Offset = 0.5
Operation point 2, (page 16)	
Wavelength centroid	629.5 nm
Wavelength FWHM	13.1 nm
Gain, offset	Gain = 0dB, Offset = 0.5
Optional data measured	
None	



EMVA 1288 Summary Sheet for Operating Point 1

Type of data	Single	Gain, offset	Gain = 0dB, Offset = 0.5
Exposure time	6.0 ms	Environmental temperature	28.8°C
Frame rate	0.0 Hz	Camera temperature	42.8°C
Data transfer mode	Mono10	Wavelength, centr., FWHM	534 nm, 30.9 nm



Quantum efficiency
 η 0.634

Gain
 K (DN/e) 0.131
 $1/K$ (e/DN) 7.632

Dark noise & DSNU
 σ_d (DN) 1.68
 σ_0 (e) 12.7
DSNU₁₂₈₈ (DN) 1.99
DSNU₁₂₈₈ (e) 15.18

Signal-to-noise ratio & PRNU
SNR_{max} 85
SNR_{max} (dB) 38.6
SNR_{max} (bits) 6.4
 $1/\text{SNR}_{\text{max}}$ (%) 1.18
PRNU₁₂₈₈ (%) 1.298

Nonlinearity
LE (%) 0.59

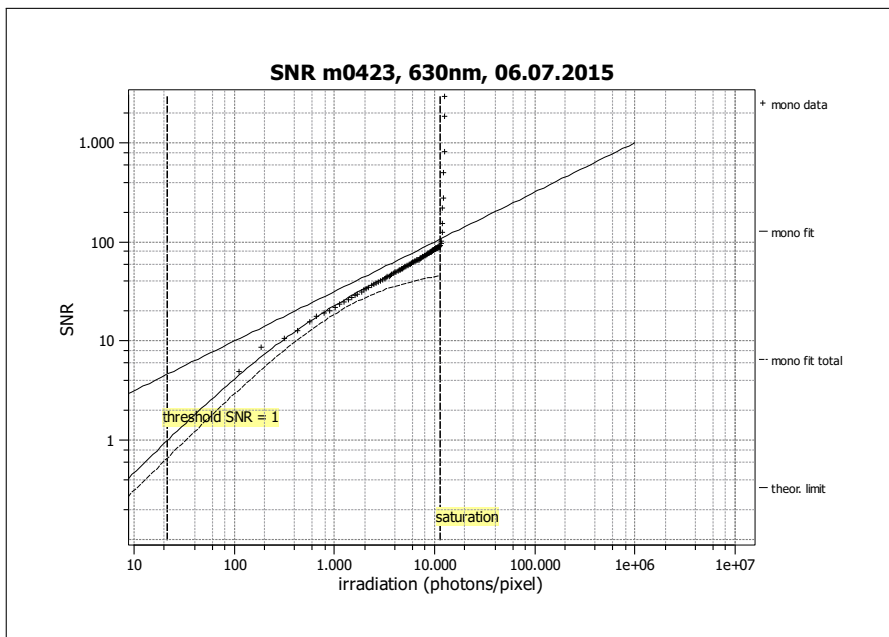
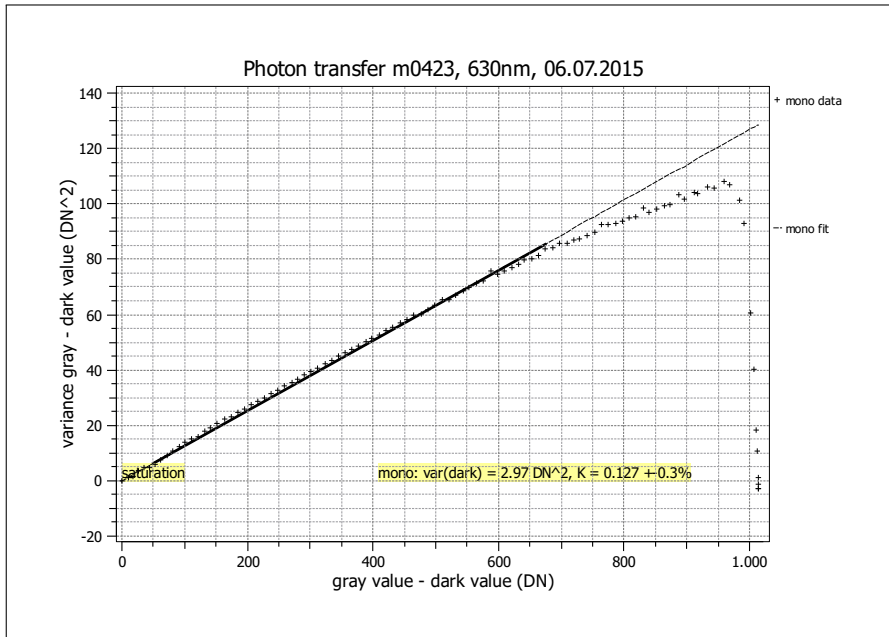
Sensitivity & saturation
 $\mu_{p,\text{min}}$ (p) 21.1
 $\mu_{e,\text{min}}$ (e) 13.4
 $\mu_{p,\text{sat}}$ (p) 11373
 $\mu_{e,\text{sat}}$ (e) 7205

Dynamic range
DR 539
DR (dB) 54.6
DR (bit) 9.1

Dark current
 $\mu_{c,\text{mean}}$ (DN/s) 21.59
 $\mu_{c,\text{mean}}$ (e/s) 164.75
 $\mu_{c,\text{var}}$ (e/s) 2000.38

EMVA 1288 Summary Sheet for Operating Point 2

Type of data	Single	Gain, offset	Gain = 0dB, Offset = 0.5
Exposure time	6.0 ms	Environmental temperature	28.8°C
Frame rate	0.0 Hz	Camera temperature	42.8°C
Data transfer mode	Mono10	Wavelength, centr., FWHM	630 nm, 13.1 nm



Quantum efficiency	
η	0.661
Gain	
K (DN/e)	0.127
$1/K$ (e/DN)	7.892
Dark noise & DSNU	
σ_d (DN)	1.72
σ_0 (e)	13.4
DSNU ₁₂₈₈ (DN)	2.03
DSNU ₁₂₈₈ (e)	16.00
Signal-to-noise ratio & PRNU	
SNR _{max}	86
SNR _{max} (dB)	38.7
SNR _{max} (bits)	6.4
$1/\text{SNR}_{\text{max}}$ (%)	1.16
PRNU ₁₂₈₈ (%)	1.852
Nonlinearity	
LE (%)	0.53
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	21.4
$\mu_{e,\text{min}}$ (e)	14.1
$\mu_{p,\text{sat}}$ (p)	11260
$\mu_{e,\text{sat}}$ (e)	7440
Dynamic range	
DR	527
DR (dB)	54.4
DR (bit)	9.0
Dark current	
$\mu_{c,\text{mean}}$ (DN/s)	—
$\mu_{c,\text{mean}}$ (e/s)	—
$\mu_{c,\text{var}}$ (e/s)	—