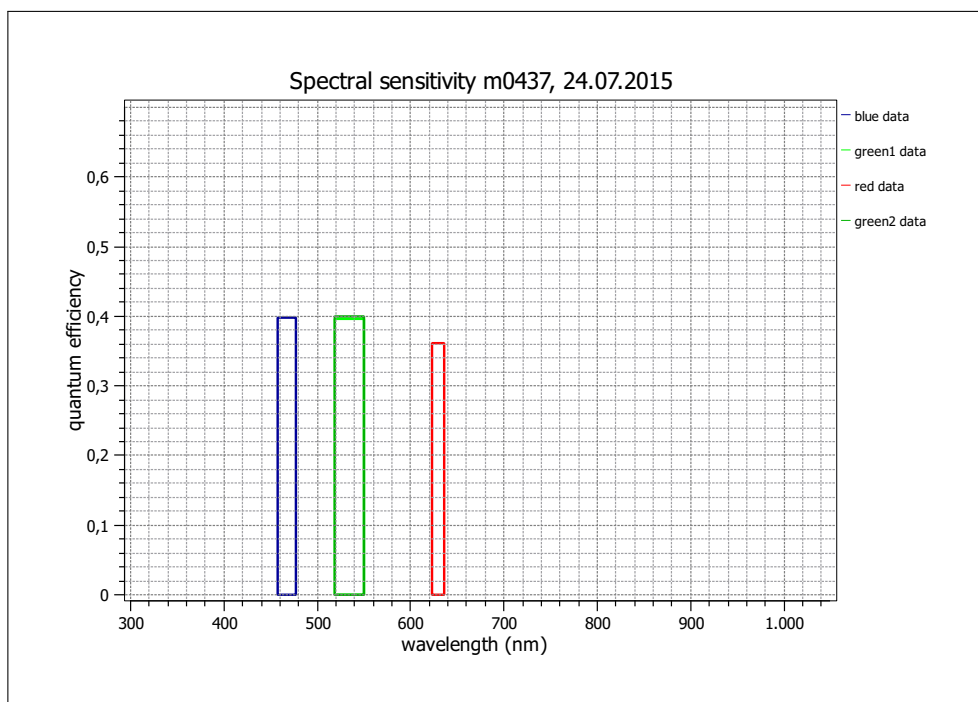


EMVA 1288 Summary Sheet

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.

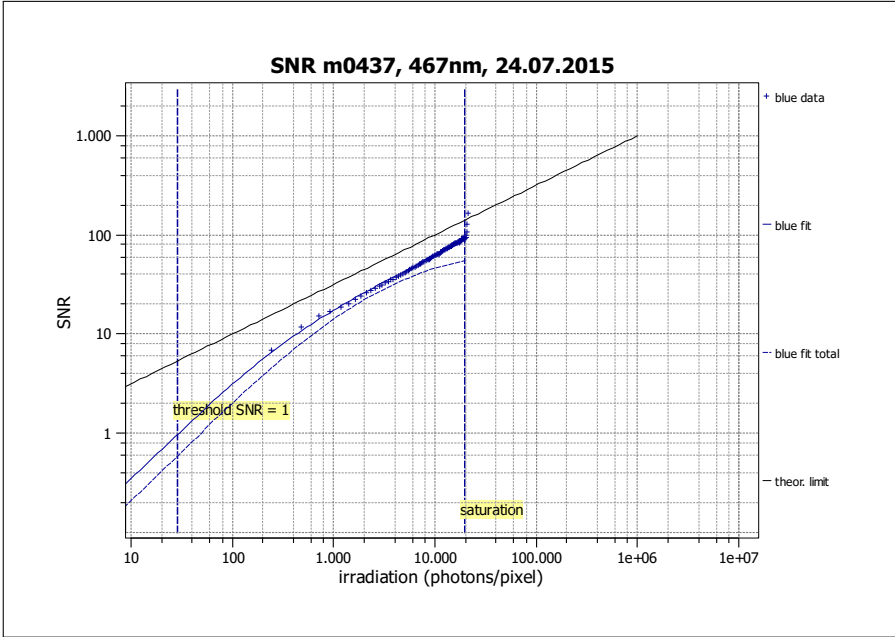
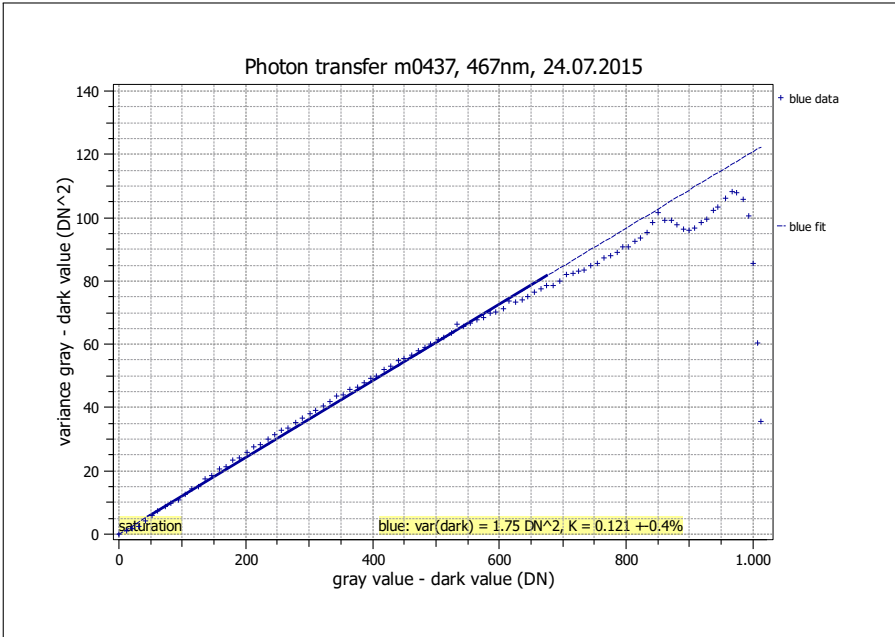
Vendor	MATRIX VISION
Model	mvBlueCOUGAR-X104bC
Serial number	GX010581
Sensor diagonal	15.93 mm
Lens category	C-Mount
Resolution	2048 × 2048, 10 bit
Pixel size	5.50 μm × 5.50 μm
Sensor type	CMOS
Shutter type	Global
Overlap capabilities	Overlapping
Maximum frame rate	14.2 Hz
Interface type	GigE Vision

Type of data presented	Single
Operation point 1, (page 5)	
Wavelength centroid	467.3 nm
Wavelength FWHM	20.5 nm
Gain, offset	Gain = 0dB, Offset = 0.25
Operation point 2, (page 17)	
Wavelength centroid	534.2 nm
Wavelength FWHM	30.9 nm
Gain, offset	Gain = 0dB, Offset = 0.25
Operation point 3, (page 29)	
Wavelength centroid	629.5 nm
Wavelength FWHM	13.1 nm
Gain, offset	Gain = 0dB, Offset = 0.25
Optional data measured	
None	



EMVA 1288 Summary Sheet for Operating Point 1

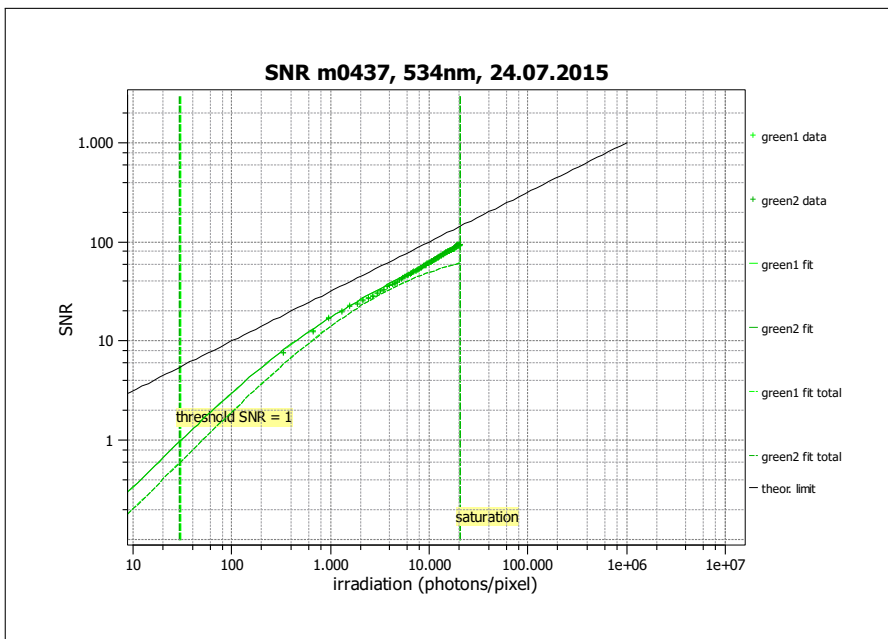
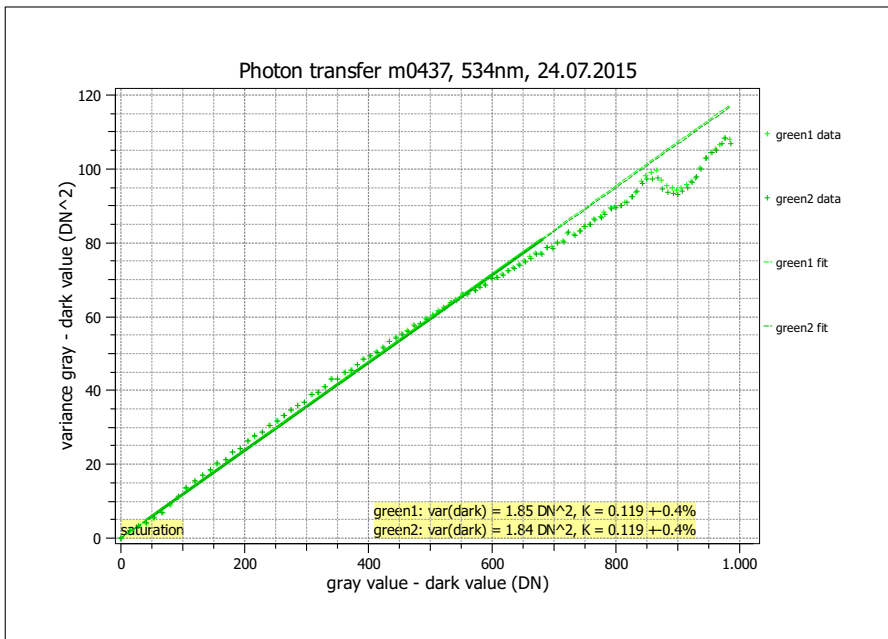
Type of data	Single	Gain, offset	Gain = 0dB, Offset = 0.25
Exposure time	7.0 ms	Environmental temperature	28.0°C
Frame rate	0.0 Hz	Camera temperature	40.0°C
Data transfer mode	BayerGB10	Wavelength, centr., FWHM	467 nm, 20.5 nm



Quantum efficiency	
η	0.399
Gain	
K (DN/e)	0.121
$1/K$ (e/DN)	8.273
Dark noise & DSNU	
σ_d (DN)	1.32
σ_0 (e)	10.7
DSNU ₁₂₈₈ (DN)	1.84
DSNU ₁₂₈₈ (e)	15.25
Signal-to-noise ratio & PRNU	
SNR _{max}	89
SNR _{max} (dB)	39.0
SNR _{max} (bits)	6.5
$1/\text{SNR}_{\text{max}}$ (%)	1.12
PRNU ₁₂₈₈ (%)	1.420
Nonlinearity	
LE (%)	0.49
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	28.8
$\mu_{e,\text{min}}$ (e)	11.5
$\mu_{p,\text{sat}}$ (p)	19829
$\mu_{e,\text{sat}}$ (e)	7907
Dynamic range	
DR	690
DR (dB)	56.8
DR (bit)	9.4
Dark current	
$\mu_{c,\text{mean}}$ (DN/s)	32.14
$\mu_{c,\text{mean}}$ (e/s)	265.89
$\mu_{c,\text{var}}$ (e/s)	977.90

EMVA 1288 Summary Sheet for Operating Point 2

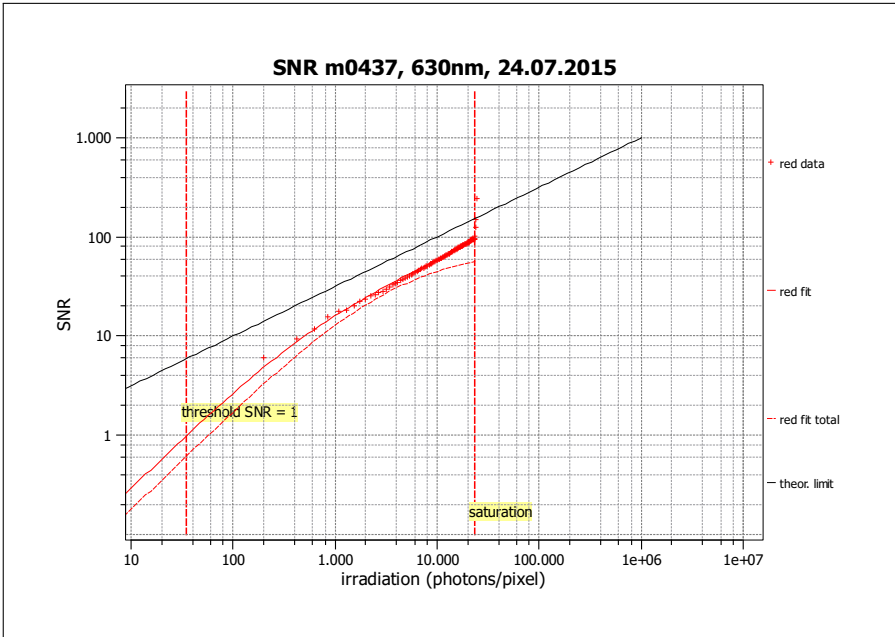
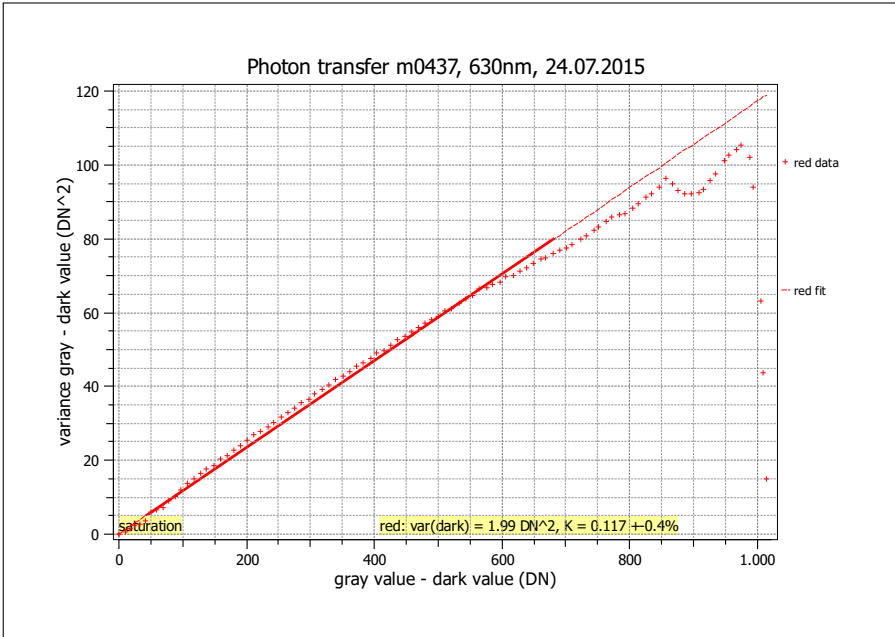
Type of data	Single	Gain, offset	Gain = 0dB, Offset = 0.25
Exposure time	7.0 ms	Environmental temperature	28.0°C
Frame rate	0.0 Hz	Camera temperature	40.0°C
Data transfer mode	BayerGB10	Wavelength, centr., FWHM	534 nm, 30.9 nm



Quantum efficiency	
η	0.397
Gain	
K (DN/e)	0.119
$1/K$ (e/DN)	8.384
Dark noise & DSNU	
σ_d (DN)	1.36
σ_0 (e)	11.1
DSNU ₁₂₈₈ (DN)	1.86
DSNU ₁₂₈₈ (e)	15.59
Signal-to-noise ratio & PRNU	
SNR _{max}	90
SNR _{max} (dB)	39.1
SNR _{max} (bits)	6.5
$1/\text{SNR}_{\text{max}}$ (%)	1.11
PRNU ₁₂₈₈ (%)	1.162
Nonlinearity	
LE (%)	0.51
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	30.0
$\mu_{e,\text{min}}$ (e)	11.9
$\mu_{p,\text{sat}}$ (p)	20589
$\mu_{e,\text{sat}}$ (e)	8168
Dynamic range	
DR	686
DR (dB)	56.7
DR (bit)	9.4
Dark current	
$\mu_{c,\text{mean}}$ (DN/s)	32.09
$\mu_{c,\text{mean}}$ (e/s)	269.06
$\mu_{c,\text{var}}$ (e/s)	1017.21

EMVA 1288 Summary Sheet for Operating Point 3

Type of data	Single	Gain, offset	Gain = 0dB, Offset = 0.25
Exposure time	7.0 ms	Environmental temperature	28.0°C
Frame rate	0.0 Hz	Camera temperature	40.0°C
Data transfer mode	BayerGB10	Wavelength, centr., FWHM	630 nm, 13.1 nm



Quantum efficiency	
η	0.362
Gain	
K (DN/e)	0.117
$1/K$ (e/DN)	8.528
Dark noise & DSNU	
σ_d (DN)	1.41
σ_0 (e)	11.8
DSNU ₁₂₈₈ (DN)	1.89
DSNU ₁₂₈₈ (e)	16.08
Signal-to-noise ratio & PRNU	
SNR _{max}	91
SNR _{max} (dB)	39.2
SNR _{max} (bits)	6.5
$1/\text{SNR}_{\text{max}}$ (%)	1.09
PRNU ₁₂₈₈ (%)	1.379
Nonlinearity	
LE (%)	0.53
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	34.7
$\mu_{e,\text{min}}$ (e)	12.5
$\mu_{p,\text{sat}}$ (p)	23114
$\mu_{e,\text{sat}}$ (e)	8364
Dynamic range	
DR	667
DR (dB)	56.5
DR (bit)	9.4
Dark current	
$\mu_{c,\text{mean}}$ (DN/s)	32.14
$\mu_{c,\text{mean}}$ (e/s)	274.05
$\mu_{c,\text{var}}$ (e/s)	1030.51