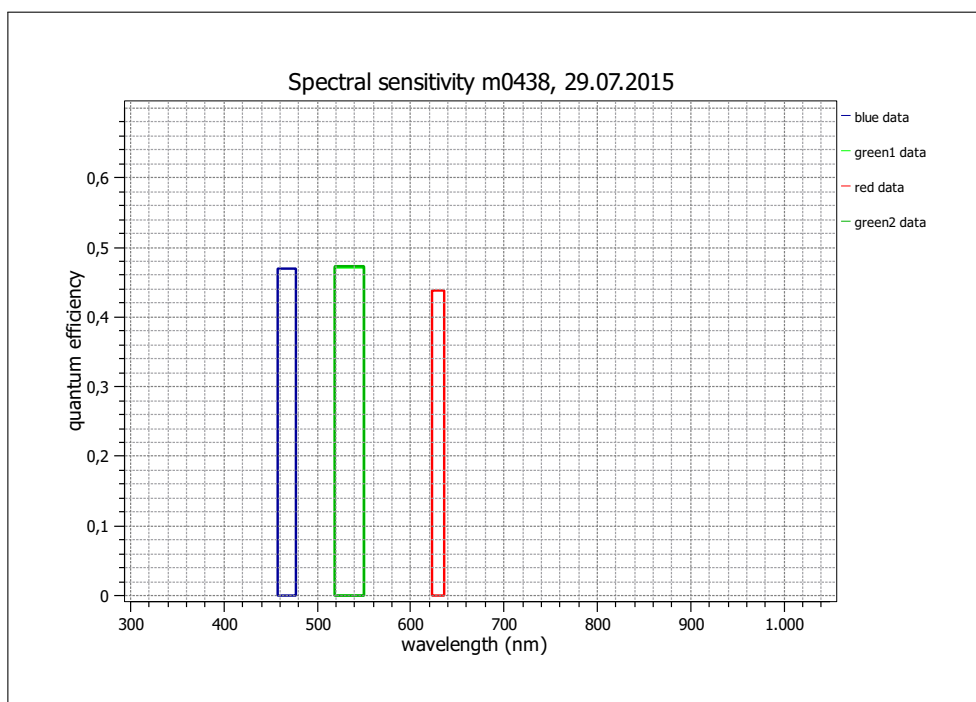


EMVA 1288 Summary Sheet

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.

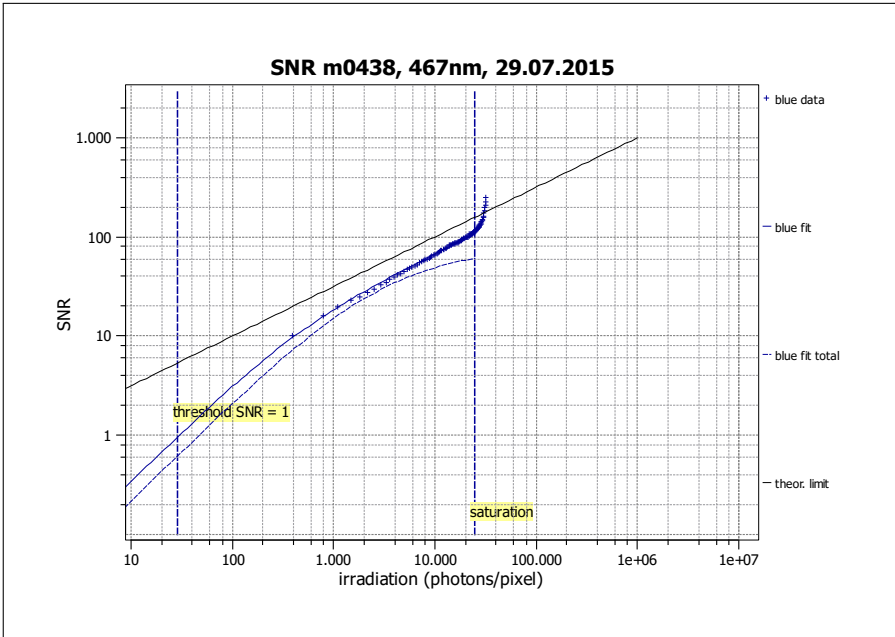
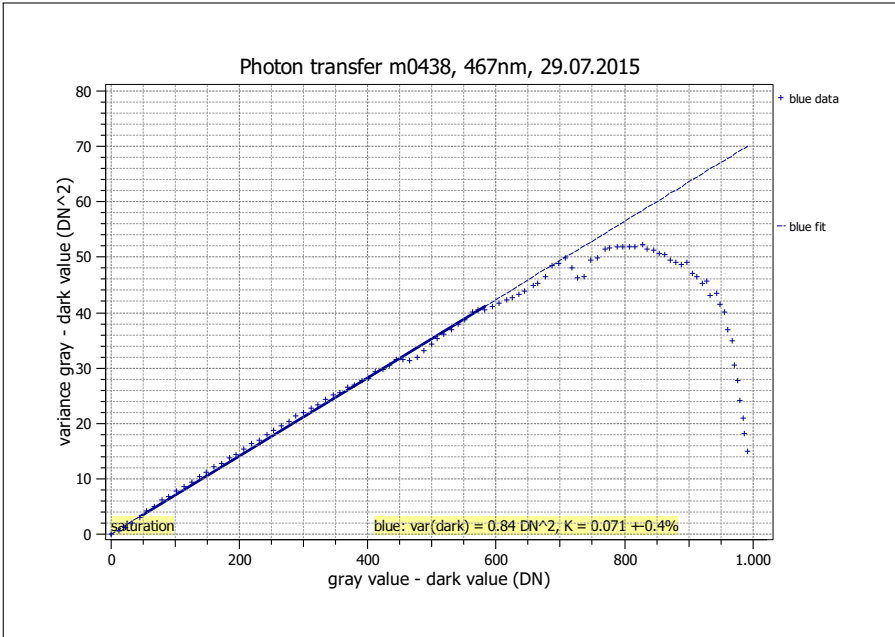
Vendor	MATRIX VISION
Model	mvBlueCOUGAR-XD204bC
Serial number	GX200095
Sensor diagonal	15.93 mm
Lens category	C-Mount
Resolution	2048 × 2048, 10 bit
Pixel size	5.50 μm × 5.50 μm
Sensor type	CMOS
Shutter type	Global
Overlap capabilities	Overlapping
Maximum frame rate	18.9 Hz
Interface type	GigE Vision

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 = 0.1
Operation point 2, (page 17)	
Wavelength centroid	534.2 nm
Wavelength FWHM	30.9 nm
Gain, offset	Gain = 0dB, Offset = 0.1
Operation point 3, (page 29)	
Wavelength centroid	629.5 nm
Wavelength FWHM	13.1 nm
Gain, offset	Gain = 0dB, Offset = 0.1
Optional data measured	
None	



EMVA 1288 Summary Sheet for Operating Point 1

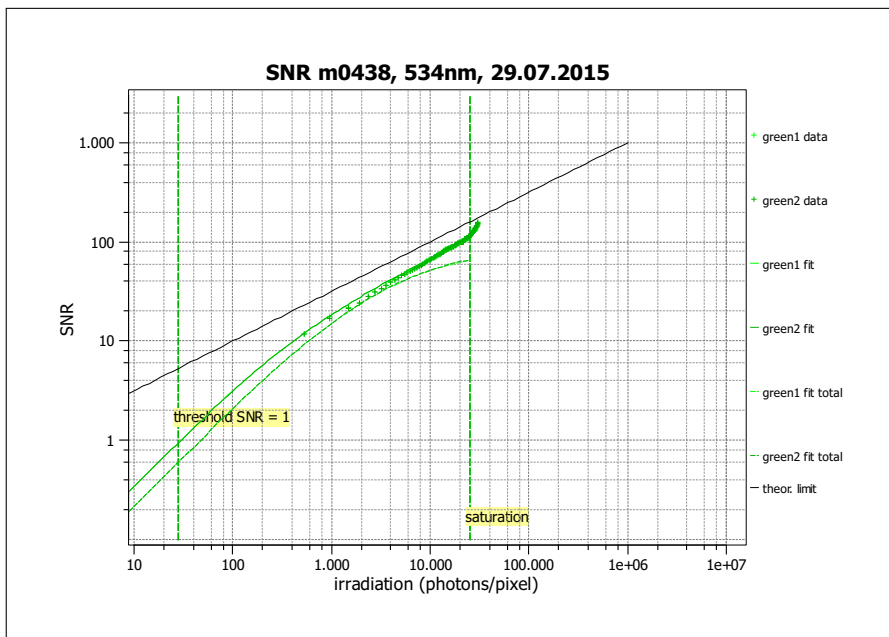
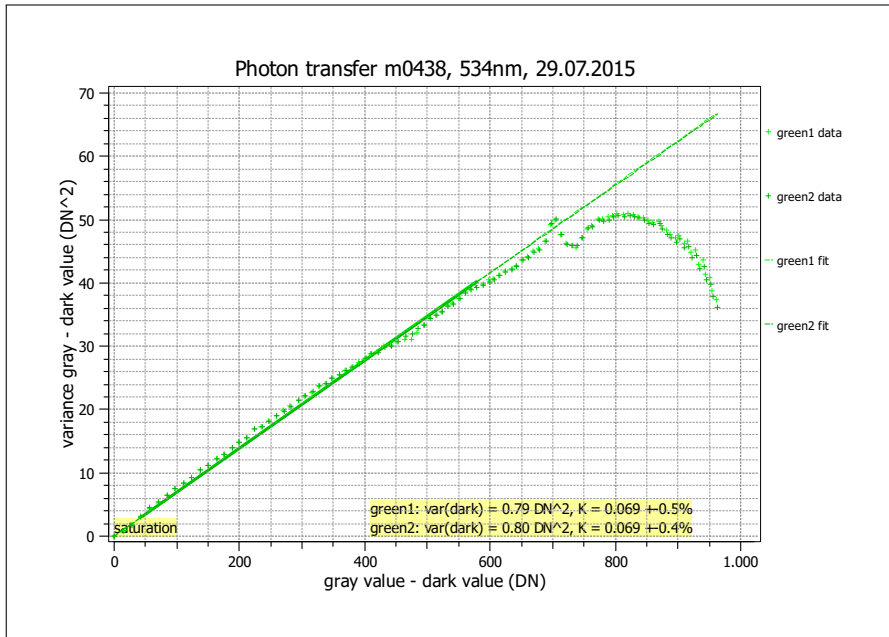
Type of data	Single	Gain, offset	Gain = 0dB, Offset = 0.1
Exposure time	10.0 ms	Environmental temperature	25.4°C
Frame rate	0.0 Hz	Camera temperature	43.0°C
Data transfer mode	BayerGB10	Wavelength, centr., FWHM	467 nm, 20.5 nm



Quantum efficiency	
η	0.470
Gain	
K (DN/e)	0.071
$1/K$ (e/DN)	14.161
Dark noise & DSNU	
σ_d (DN)	0.92
σ_0 (e)	12.3
DSNU ₁₂₈₈ (DN)	1.18
DSNU ₁₂₈₈ (e)	16.73
Signal-to-noise ratio & PRNU	
SNR _{max}	108
SNR _{max} (dB)	40.7
SNR _{max} (bits)	6.8
$1/\text{SNR}_{\text{max}}$ (%)	0.92
PRNU ₁₂₈₈ (%)	1.350
Nonlinearity	
LE (%)	0.43
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	28.6
$\mu_{e,\text{min}}$ (e)	13.5
$\mu_{p,\text{sat}}$ (p)	24888
$\mu_{e,\text{sat}}$ (e)	11708
Dynamic range	
DR	869
DR (dB)	58.8
DR (bit)	9.8
Dark current	
$\mu_{c,\text{mean}}$ (DN/s)	6.35
$\mu_{c,\text{mean}}$ (e/s)	89.94
$\mu_{c,\text{var}}$ (e/s)	957.67

EMVA 1288 Summary Sheet for Operating Point 2

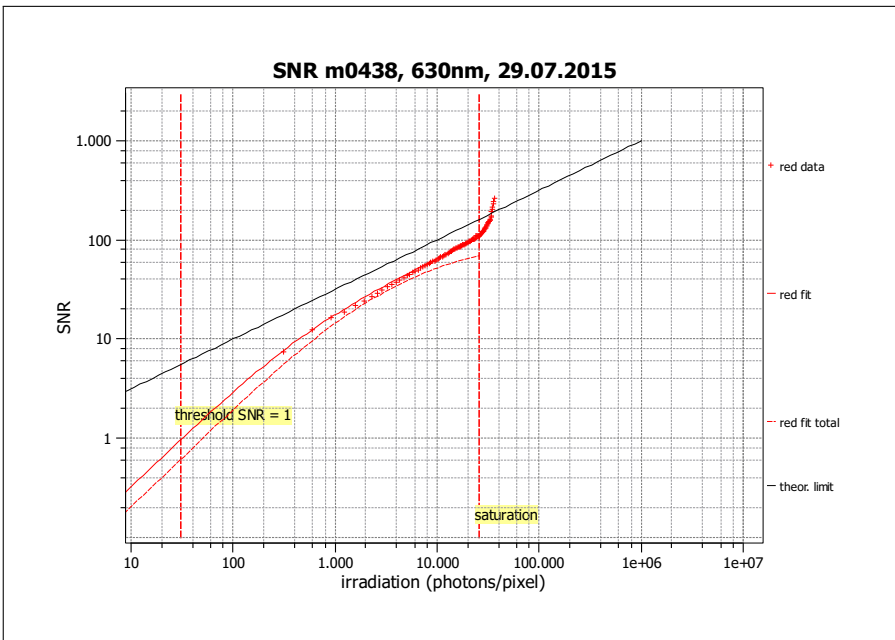
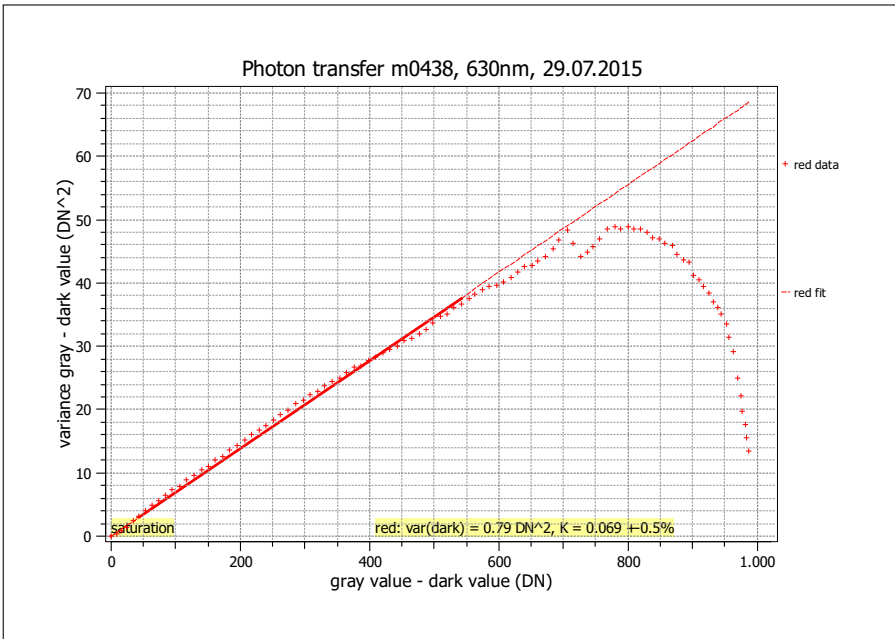
Type of data	Single	Gain, offset	Gain = 0dB, Offset = 0.1
Exposure time	10.0 ms	Environmental temperature	25.4°C
Frame rate	0.0 Hz	Camera temperature	43.0°C
Data transfer mode	BayerGB10	Wavelength, centr., FWHM	534 nm, 30.9 nm



Quantum efficiency	
η	0.470
Gain	
K (DN/e)	0.069
$1/K$ (e/DN)	14.400
Dark noise & DSNU	
σ_d (DN)	0.89
σ_0 (e)	12.1
DSNU ₁₂₈₈ (DN)	1.18
DSNU ₁₂₈₈ (e)	16.97
Signal-to-noise ratio & PRNU	
SNR _{max}	109
SNR _{max} (dB)	40.7
SNR _{max} (bits)	6.8
$1/\text{SNR}_{\text{max}}$ (%)	0.92
PRNU ₁₂₈₈ (%)	1.201
Nonlinearity	
LE (%)	0.54
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	28.3
$\mu_{e,\text{min}}$ (e)	13.3
$\mu_{p,\text{sat}}$ (p)	25145
$\mu_{e,\text{sat}}$ (e)	11830
Dynamic range	
DR	889
DR (dB)	59.0
DR (bit)	9.8
Dark current	
$\mu_{c,\text{mean}}$ (DN/s)	6.33
$\mu_{c,\text{mean}}$ (e/s)	91.15
$\mu_{c,\text{var}}$ (e/s)	989.49

EMVA 1288 Summary Sheet for Operating Point 3

Type of data	Single	Gain, offset	Gain = 0dB, Offset = 0.1
Exposure time	10.0 ms	Environmental temperature	25.4°C
Frame rate	0.0 Hz	Camera temperature	43.0°C
Data transfer mode	BayerGB10	Wavelength, centr., FWHM	630 nm, 13.1 nm



Quantum efficiency	
η	0.438
Gain	
K (DN/e)	0.069
$1/K$ (e/DN)	14.410
Dark noise & DSNU	
σ_d (DN)	0.89
σ_0 (e)	12.1
DSNU ₁₂₈₈ (DN)	1.17
DSNU ₁₂₈₈ (e)	16.92
Signal-to-noise ratio & PRNU	
SNR _{max}	106
SNR _{max} (dB)	40.5
SNR _{max} (bits)	6.7
$1/\text{SNR}_{\text{max}}$ (%)	0.94
PRNU ₁₂₈₈ (%)	1.081
Nonlinearity	
LE (%)	0.66
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	30.4
$\mu_{e,\text{min}}$ (e)	13.3
$\mu_{p,\text{sat}}$ (p)	25882
$\mu_{e,\text{sat}}$ (e)	11342
Dynamic range	
DR	852
DR (dB)	58.6
DR (bit)	9.7
Dark current	
$\mu_{c,\text{mean}}$ (DN/s)	6.25
$\mu_{c,\text{mean}}$ (e/s)	90.05
$\mu_{c,\text{var}}$ (e/s)	952.95