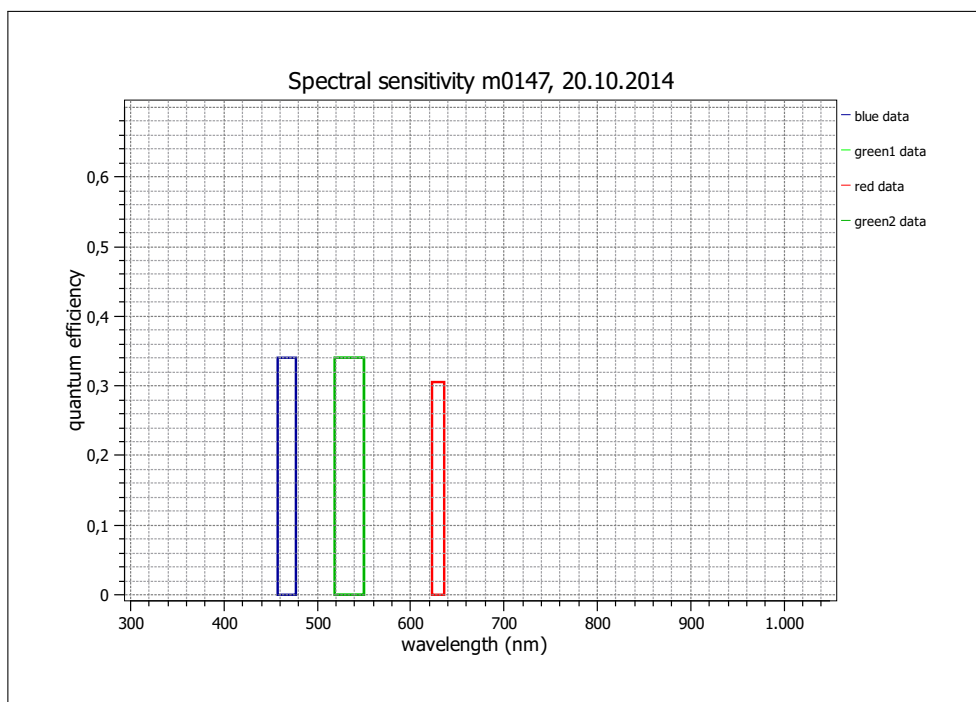


## EMVA 1288 Summary Sheet

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](http://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.

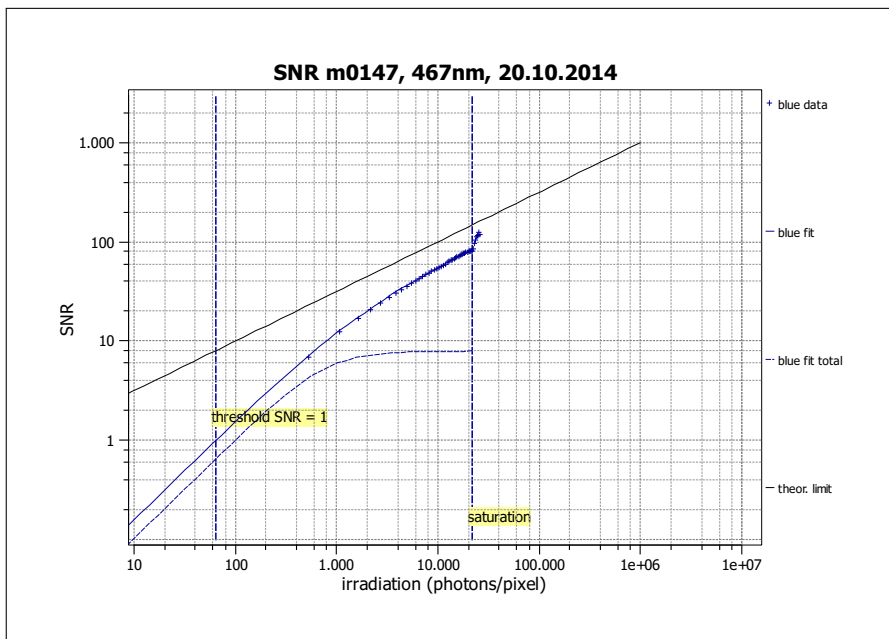
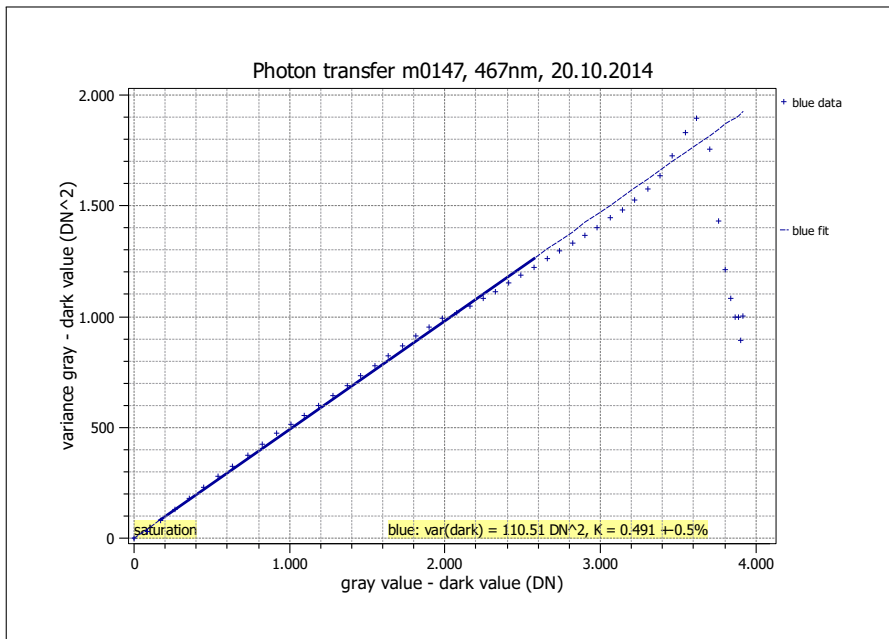
Vendor	MATRIX VISION
Model	mvBlueFOX3-1020C
Serial number	F1000052
Sensor diagonal	9.00 mm
Lens category	C-Mount
Resolution	1600 × 1200, 12 bit
Pixel size	4.50 μm × 4.50 μm
Sensor type	CMOS
Shutter type	Global
Overlap capabilities	Overlapping
Maximum frame rate	50.0 Hz
Interface type	USB3 Vision

Type of data presented	Single
<b>Operation point 1, (page 5)</b>	
Wavelength centroid	467.3 nm
Wavelength FWHM	20.5 nm
Gain, offset	Gain = 0dB, Offset = 23.0
<b>Operation point 2, (page 17)</b>	
Wavelength centroid	534.2 nm
Wavelength FWHM	30.9 nm
Gain, offset	Gain = 0dB, Offset = 23.0
<b>Operation point 3, (page 29)</b>	
Wavelength centroid	629.5 nm
Wavelength FWHM	13.1 nm
Gain, offset	Gain = 0dB, Offset = 23.0
<b>Optional data measured</b>	
None	



## EMVA 1288 Summary Sheet for Operating Point 1

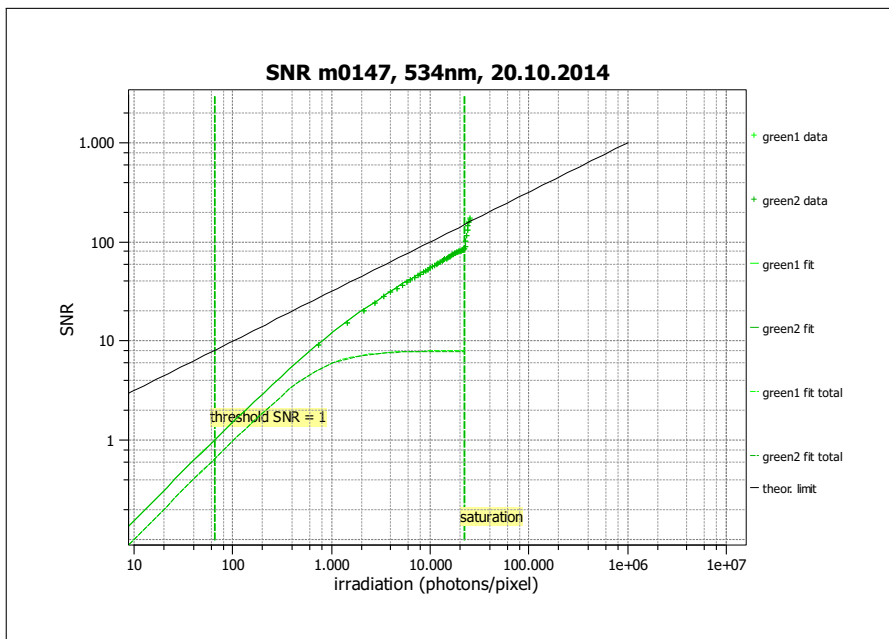
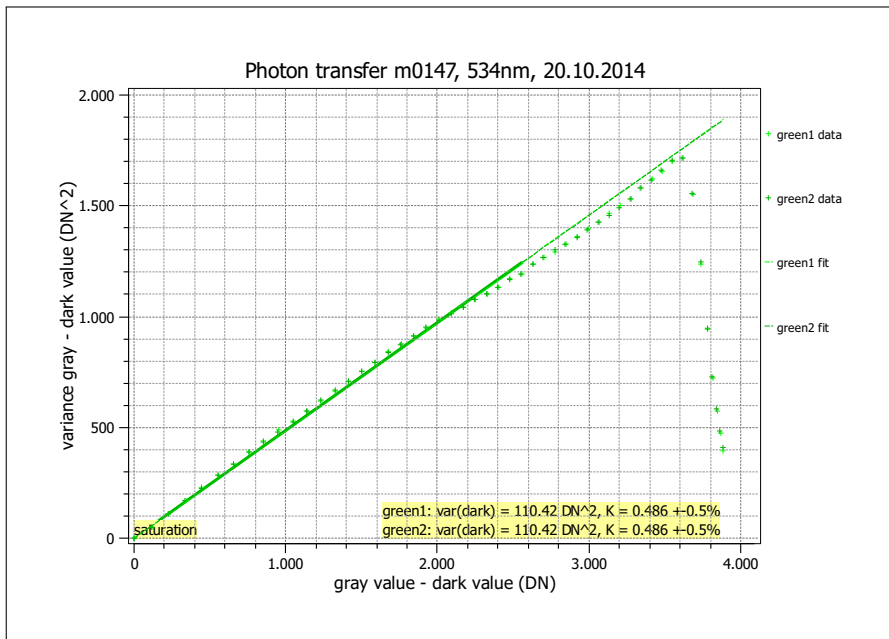
Type of data	Single	Gain, offset	Gain = 0dB, Offset = 23.0
Exposure time	800.0 $\mu$ s	Environmental temperature	26.1°C
Frame rate	0.0 Hz	Camera temperature	33.2°C
Data transfer mode	BayerGR12	Wavelength, centr., FWHM	467 nm, 20.5 nm



Quantum efficiency	
$\eta$	0.340
Gain	
$K$ (DN/e)	0.491
$1/K$ (e/DN)	2.038
Dark noise & DSNU	
$\sigma_d$ (DN)	10.51
$\sigma_0$ (e)	21.4
DSNU <sub>1288</sub> (DN)	12.43
DSNU <sub>1288</sub> (e)	25.33
Signal-to-noise ratio & PRNU	
SNR <sub>max</sub>	86
SNR <sub>max</sub> (dB)	38.7
SNR <sub>max</sub> (bits)	6.4
$1/\text{SNR}_{\text{max}}$ (%)	1.16
PRNU <sub>1288</sub> (%)	12.554
Nonlinearity	
LE (%)	0.50
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	64.4
$\mu_{e,\text{min}}$ (e)	21.9
$\mu_{p,\text{sat}}$ (p)	21940
$\mu_{e,\text{sat}}$ (e)	7469
Dynamic range	
DR	341
DR (dB)	50.6
DR (bit)	8.4
Dark current	
$\mu_{c,\text{mean}}$ (DN/s)	896.47
$\mu_{c,\text{mean}}$ (e/s)	1826.73
$\mu_{c,\text{var}}$ (e/s)	1457.05

## EMVA 1288 Summary Sheet for Operating Point 2

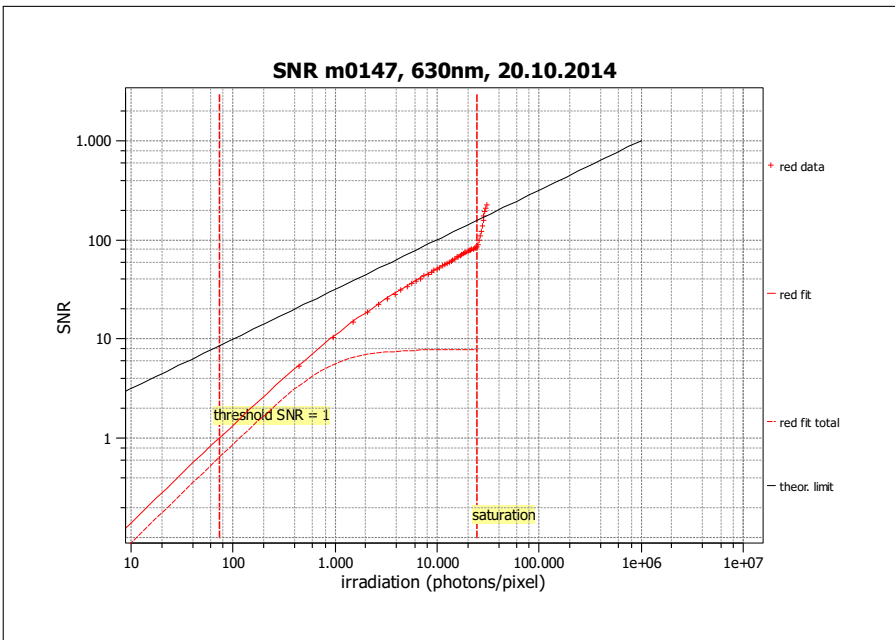
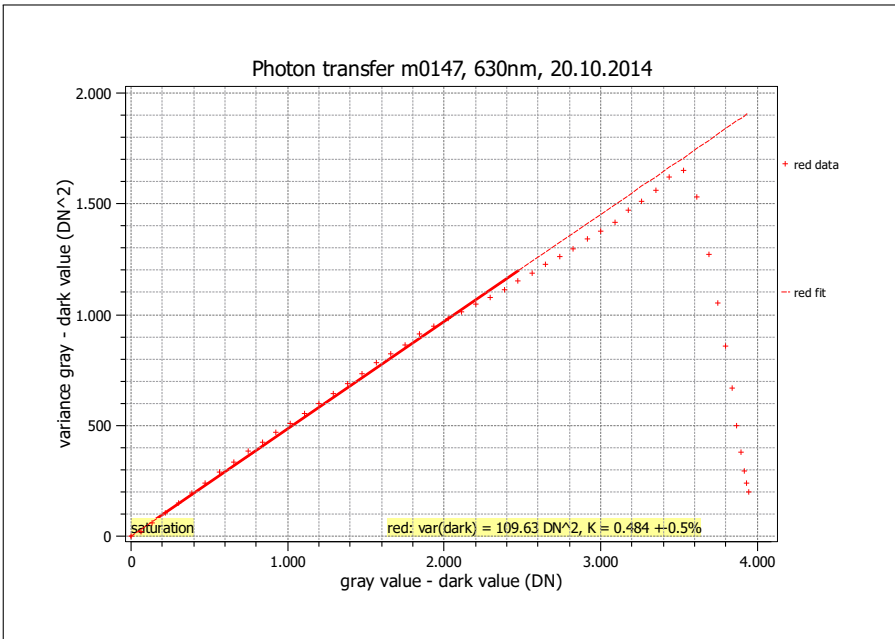
Type of data	Single	Gain, offset	Gain = 0dB, Offset = 23.0
Exposure time	800.0 $\mu$ s	Environmental temperature	26.1°C
Frame rate	0.0 Hz	Camera temperature	33.2°C
Data transfer mode	BayerGR12	Wavelength, centr., FWHM	534 nm, 30.9 nm



Quantum efficiency	
$\eta$	0.340
Gain	
$K$ (DN/e)	0.486
$1/K$ (e/DN)	2.057
Dark noise & DSNU	
$\sigma_d$ (DN)	10.51
$\sigma_0$ (e)	21.6
DSNU <sub>1288</sub> (DN)	12.66
DSNU <sub>1288</sub> (e)	26.04
Signal-to-noise ratio & PRNU	
SNR <sub>max</sub>	87
SNR <sub>max</sub> (dB)	38.8
SNR <sub>max</sub> (bits)	6.4
$1/\text{SNR}_{\text{max}}$ (%)	1.15
PRNU <sub>1288</sub> (%)	12.431
Nonlinearity	
LE (%)	0.54
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	65.0
$\mu_{e,\text{min}}$ (e)	22.1
$\mu_{p,\text{sat}}$ (p)	22190
$\mu_{e,\text{sat}}$ (e)	7553
Dynamic range	
DR	341
DR (dB)	50.7
DR (bit)	8.4
Dark current	
$\mu_{c,\text{mean}}$ (DN/s)	893.20
$\mu_{c,\text{mean}}$ (e/s)	1837.28
$\mu_{c,\text{var}}$ (e/s)	216.14

### EMVA 1288 Summary Sheet for Operating Point 3

Type of data	Single	Gain, offset	Gain = 0dB, Offset = 23.0
Exposure time	800.0 $\mu$ s	Environmental temperature	26.1°C
Frame rate	0.0 Hz	Camera temperature	33.2°C
Data transfer mode	BayerGR12	Wavelength, centr., FWHM	630 nm, 13.1 nm



Quantum efficiency	
$\eta$	0.305
Gain	
$K$ (DN/e)	0.484
$1/K$ (e/DN)	2.066
Dark noise & DSNU	
$\sigma_d$ (DN)	10.47
$\sigma_0$ (e)	21.6
DSNU <sub>1288</sub> (DN)	12.93
DSNU <sub>1288</sub> (e)	26.70
Signal-to-noise ratio & PRNU	
SNR <sub>max</sub>	86
SNR <sub>max</sub> (dB)	38.7
SNR <sub>max</sub> (bits)	6.4
$1/\text{SNR}_{\text{max}}$ (%)	1.16
PRNU <sub>1288</sub> (%)	12.618
Nonlinearity	
LE (%)	0.67
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	72.6
$\mu_{e,\text{min}}$ (e)	22.1
$\mu_{p,\text{sat}}$ (p)	24401
$\mu_{e,\text{sat}}$ (e)	7436
Dynamic range	
DR	336
DR (dB)	50.5
DR (bit)	8.4
Dark current	
$\mu_{c,\text{mean}}$ (DN/s)	917.41
$\mu_{c,\text{mean}}$ (e/s)	1894.96
$\mu_{c,\text{var}}$ (e/s)	1645.27