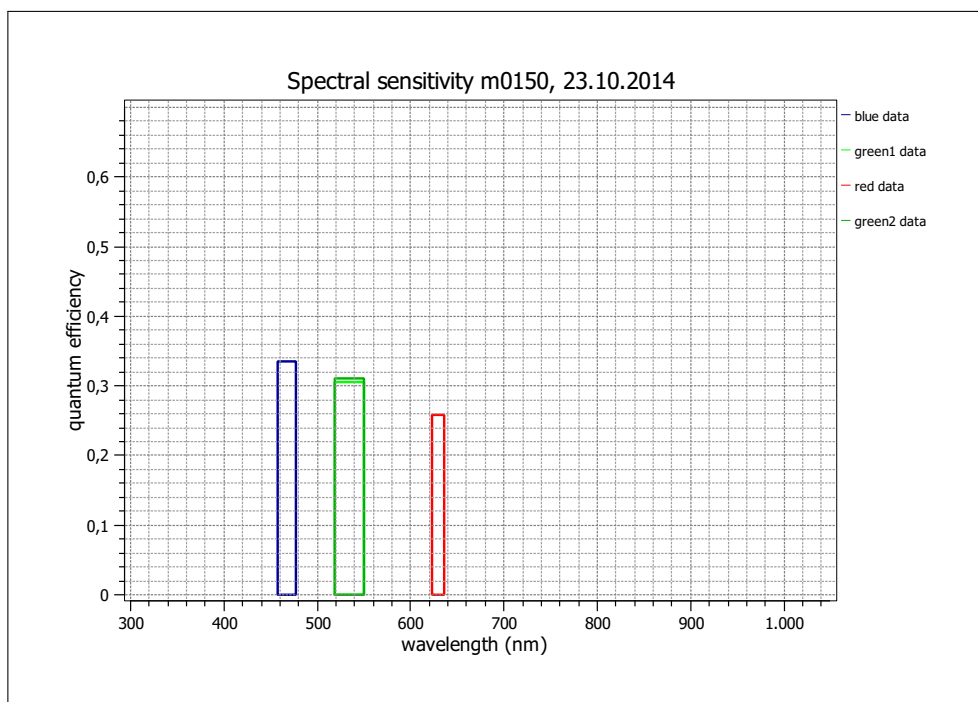


## EMVA 1288 Summary Sheet

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.

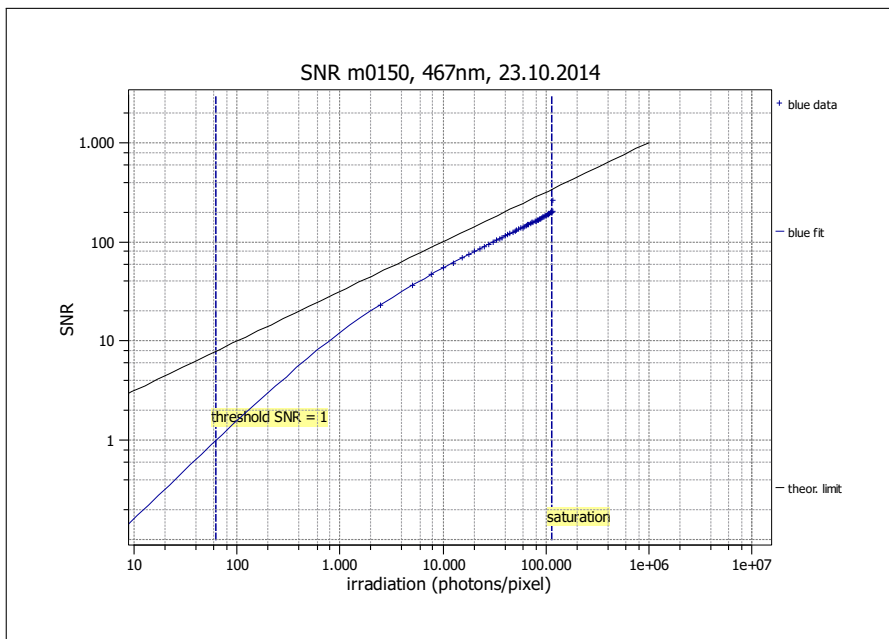
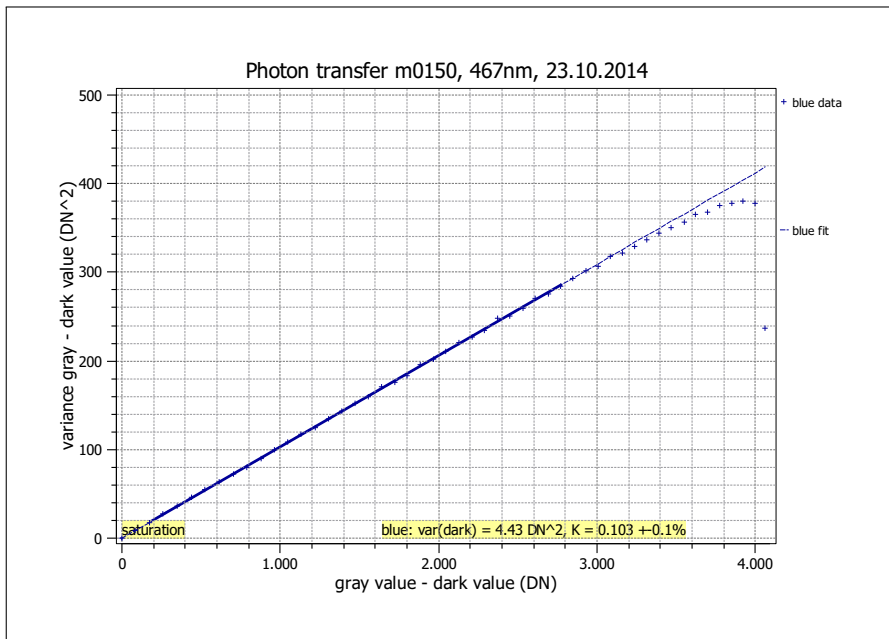
Vendor	MATRIX VISION
Model	mvBlueCOUGAR-X120bC
Serial number	GX007986
Sensor diagonal	7.92 mm
Lens category	C-Mount
Resolution	640 × 480, 12 bit
Pixel size	9.90 μm × 9.90 μm
Sensor type	CCD
Readout type	Progressive
Transfer type	Interline
Maximum frame rate	65.0 Hz
Interface type	GigE Vision

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 = -6dB, Offset = 0.2
<b>Operation point 2, (page 10)</b>	
Wavelength centroid	534.2 nm
Wavelength FWHM	30.9 nm
Gain, offset	Gain = -6dB, Offset = 0.2
<b>Operation point 3, (page 15)</b>	
Wavelength centroid	629.5 nm
Wavelength FWHM	13.1 nm
Gain, offset	Gain = -6dB, Offset = 0.2
<b>Optional data measured</b>	
None	



## EMVA 1288 Summary Sheet for Operating Point 1

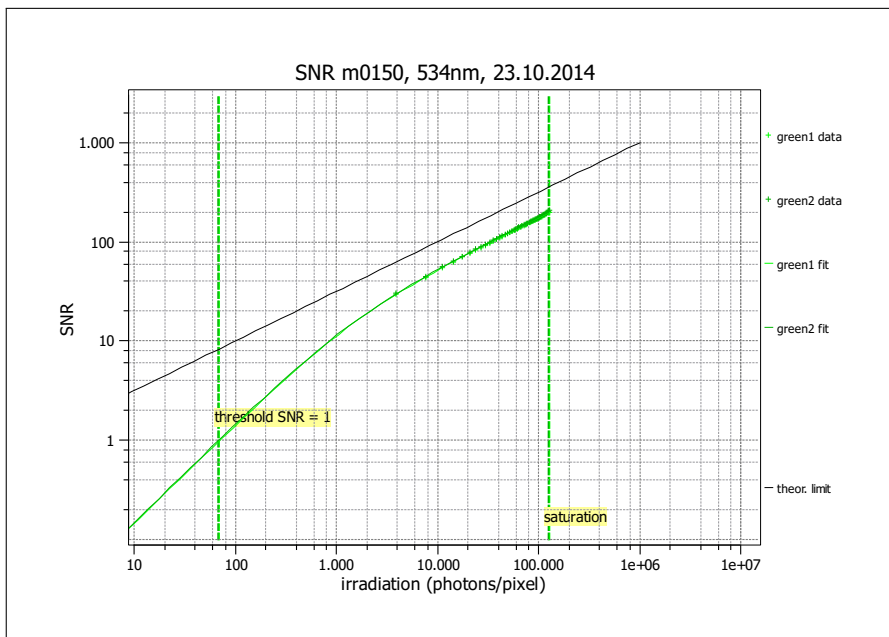
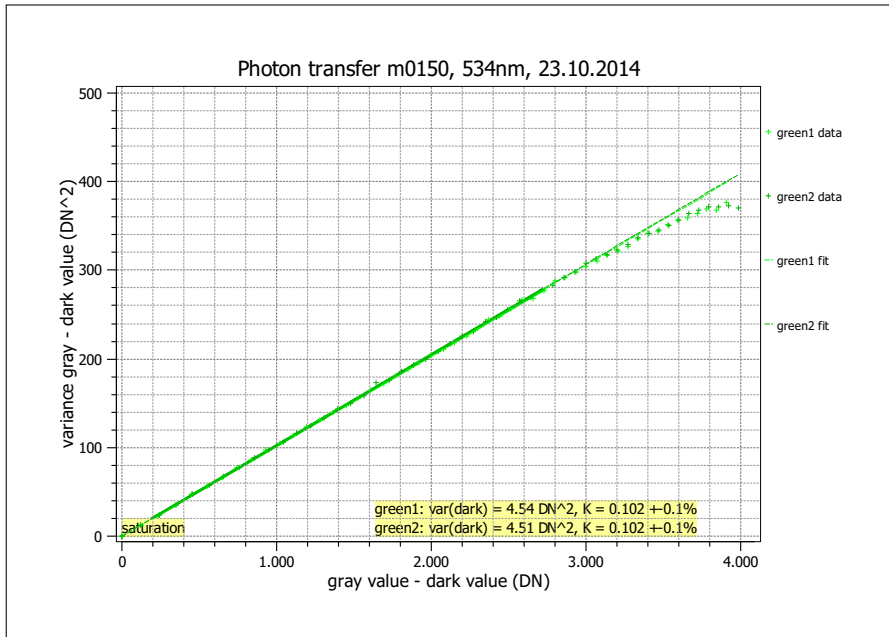
Type of data	Single	Gain, offset	Gain = -6dB, Offset = 0.2
Exposure time	600.0 $\mu$ s	Environmental temperature	25.3°C
Frame rate	0.0 Hz	Camera temperature	38.9°C
Data transfer mode	BayerRG12	Wavelength, centr., FWHM	467 nm, 20.5 nm



Quantum efficiency	$\eta$	0.335
Gain	$K$ (DN/e)	0.103
	$1/K$ (e/DN)	9.707
Dark noise & DSNU	$\sigma_d$ (DN)	2.11
	$\sigma_0$ (e)	20.2
	DSNU <sub>1288</sub> (DN)	—
	DSNU <sub>1288</sub> (e)	—
Signal-to-noise ratio & PRNU	SNR <sub>max</sub>	195
	SNR <sub>max</sub> (dB)	45.8
	SNR <sub>max</sub> (bits)	7.6
	$1/\text{SNR}_{\text{max}}$ (%)	0.51
	PRNU <sub>1288</sub> (%)	—
Nonlinearity	LE (%)	0.08
Sensitivity & saturation	$\mu_{p,\text{min}}$ (p)	62.6
	$\mu_{e,\text{min}}$ (e)	20.9
	$\mu_{p,\text{sat}}$ (p)	113822
	$\mu_{e,\text{sat}}$ (e)	38098
Dynamic range	DR	1819
	DR (dB)	65.2
	DR (bit)	10.8
Dark current	$\mu_{c,\text{mean}}$ (DN/s)	—
	$\mu_{c,\text{mean}}$ (e/s)	—
	$\mu_{c,\text{var}}$ (e/s)	—

## EMVA 1288 Summary Sheet for Operating Point 2

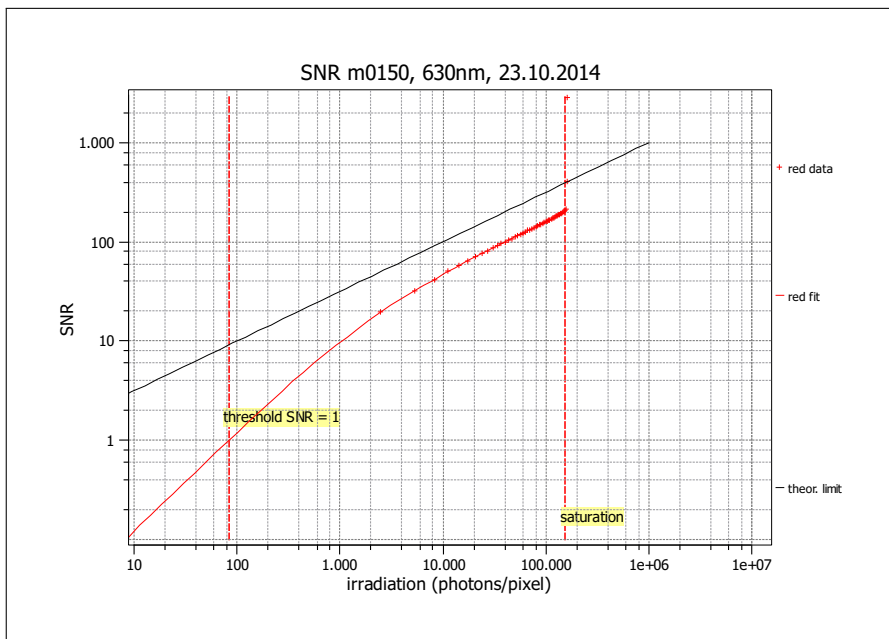
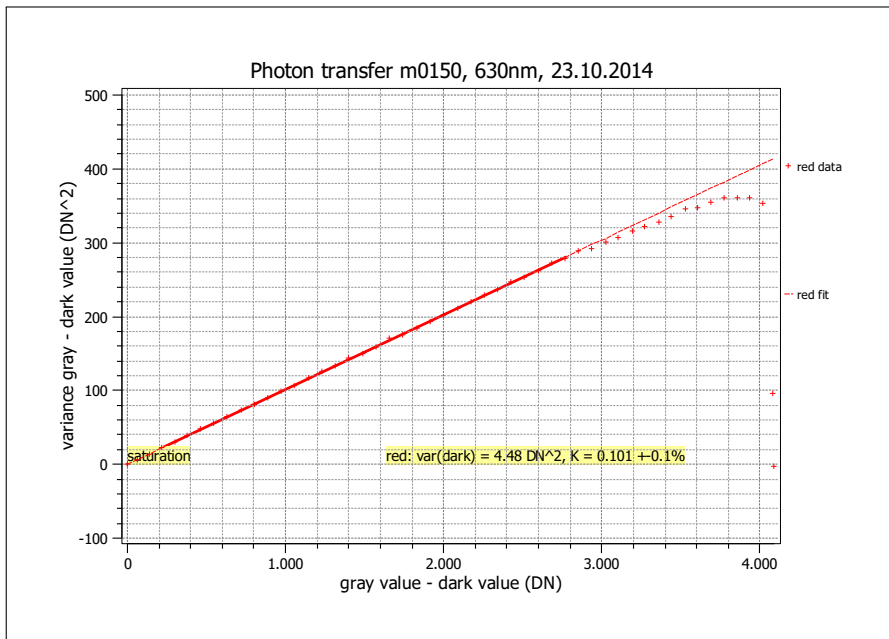
Type of data	Single	Gain, offset	Gain = -6dB, Offset = 0.2
Exposure time	600.0 $\mu$ s	Environmental temperature	25.3°C
Frame rate	0.0 Hz	Camera temperature	38.9°C
Data transfer mode	BayerRG12	Wavelength, centr., FWHM	534 nm, 30.9 nm



Quantum efficiency	
$\eta$	0.305
Gain	
$K$ (DN/e)	0.102
$1/K$ (e/DN)	9.804
Dark noise & DSNU	
$\sigma_d$ (DN)	2.13
$\sigma_0$ (e)	20.7
DSNU <sub>1288</sub> (DN)	—
DSNU <sub>1288</sub> (e)	—
Signal-to-noise ratio & PRNU	
SNR <sub>max</sub>	197
SNR <sub>max</sub> (dB)	45.9
SNR <sub>max</sub> (bits)	7.6
$1/\text{SNR}_{\text{max}}$ (%)	0.51
PRNU <sub>1288</sub> (%)	—
Nonlinearity	
LE (%)	0.26
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	70.2
$\mu_{e,\text{min}}$ (e)	21.4
$\mu_{p,\text{sat}}$ (p)	127061
$\mu_{e,\text{sat}}$ (e)	38730
Dynamic range	
DR	1811
DR (dB)	65.2
DR (bit)	10.8
Dark current	
$\mu_{c,\text{mean}}$ (DN/s)	—
$\mu_{c,\text{mean}}$ (e/s)	—
$\mu_{c,\text{var}}$ (e/s)	—

### EMVA 1288 Summary Sheet for Operating Point 3

Type of data	Single	Gain, offset	Gain = -6dB, Offset = 0.2
Exposure time	600.0 $\mu$ s	Environmental temperature	25.3°C
Frame rate	0.0 Hz	Camera temperature	38.9°C
Data transfer mode	BayerRG12	Wavelength, centr., FWHM	630 nm, 13.1 nm



Quantum efficiency	
$\eta$	0.258
Gain	
$K$ (DN/e)	0.101
$1/K$ (e/DN)	9.873
Dark noise & DSNU	
$\sigma_d$ (DN)	2.12
$\sigma_0$ (e)	20.7
DSNU <sub>1288</sub> (DN)	—
DSNU <sub>1288</sub> (e)	—
Signal-to-noise ratio & PRNU	
SNR <sub>max</sub>	199
SNR <sub>max</sub> (dB)	46.0
SNR <sub>max</sub> (bits)	7.6
$1/\text{SNR}_{\text{max}}$ (%)	0.50
PRNU <sub>1288</sub> (%)	—
Nonlinearity	
LE (%)	0.36
Sensitivity & saturation	
$\mu_{p,\text{min}}$ (p)	82.9
$\mu_{e,\text{min}}$ (e)	21.4
$\mu_{p,\text{sat}}$ (p)	152854
$\mu_{e,\text{sat}}$ (e)	39462
Dynamic range	
DR	1843
DR (dB)	65.3
DR (bit)	10.8
Dark current	
$\mu_{c,\text{mean}}$ (DN/s)	—
$\mu_{c,\text{mean}}$ (e/s)	—
$\mu_{c,\text{var}}$ (e/s)	—