This datasheet describes the specification according to the standard 1288 release 3.1 for ”Characterization and Presentation of Specification Data for Image Sensors and Cameras” issued on December 30, 2016 by the European Machine Vision Association (EMVA), published at www.standard1288.org and the zenodo EMVA 1288 community with proprietary extensions from AEON. The measurements were performed with the AEON ACC3 Release 6, 26.11.2016, SN 0005(MatrixVision).

Measurements performed by T.Renner, Matrix Vision GmbH

Vendor: MATRIX VISION
Model: mvBlueCOUGAR-X102mG
Serial number: GX027719
Sensor diagonal: 17.50 mm
Lens category: C-Mount
Resolution: 1600 × 1104, 12 bit
Pixel size (h×v): 9.00 µm × 9.00 µm
Sensor: IMX425
Sensor type: CMOS
Shutter type: Global
Overlap cap.: Overlapping
Max. frame rate: 33.8 Hz
Interface type: GigE Vision

Type of data presented: Single
Operation point 1 (page 3)
Wavelength centroid: 536.0 nm
Wavelength FWHM: 31.0 nm
Gain, black-level: 0dB, 0.1
Optional data measured: None

![Quantum Efficiency Graph](image-url)
Summary Sheet for Operation Point 1 at a Wavelength of 536 nm

<table>
<thead>
<tr>
<th>Type of data</th>
<th>Single</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure control</td>
<td>By irradiance</td>
</tr>
<tr>
<td>Exposure time</td>
<td>18.00 ms</td>
</tr>
<tr>
<td>Frame rate</td>
<td>33.0 Hz</td>
</tr>
<tr>
<td>Data transfer mode</td>
<td>Mono12</td>
</tr>
</tbody>
</table>

Gain, black-level
Environmental temperature: 24.7°C
Camera body temperature: 24.8°C
Internal temperature(s): —
Wavelength, centr., FWHM: 536 nm, 31.0 nm

Photon Transfer

Signal-to-Noise Ratio

Quantum efficiency
η = 69.3%

Overall system gain
$K = 0.041 \text{DN/e}^{-}$
$1/K = 24.583 \text{e}^{-/DN}$

Temporal dark noise
$\sigma_d = 22.16 \text{e}^{-}$
$\sigma_{y,dark} = 0.95 \text{DN}$

Signal-to-noise ratio
$\text{SNR}_{\text{max}} = 313$
$\mathcal{S}_{\text{max}} = 49.9 \text{dB}$
$1/\text{SNR}_{\text{max}} = 0.32 \%$

Absolute sensitivity threshold
$\mu_{p,\text{min}} = 34.3 \text{p}$
$\mu_{p,\text{min,area}} = 0.42 \text{p}/\mu\text{m}^2$
$\mu_{c,\text{min}} = 23.8 \text{e}^{-}$
$\mu_{c,\text{min,area}} = 0.29 \text{e}^{-}/\mu\text{m}^2$

Saturation capacity
$\mu_{p,\text{sat}} = 141420 \text{p}$
$\mu_{p,\text{sat,area}} = 1746 \text{p}/\mu\text{m}^2$
$\mu_{c,\text{sat}} = 98061 \text{e}^{-}$
$\mu_{c,\text{sat,area}} = 1211 \text{e}^{-}/\mu\text{m}^2$

Dynamic range
$\text{DR} = 4125$
$\mathcal{S}_{\text{DR}} = 72.3 \text{dB}$

Spatial nonuniformities
$\text{DSNU}_{1288} = 2.19 \text{e}^{-}$
$\mathcal{S}_{\text{DSNU}} = 0.09 \text{DN}$
$\text{PRNU}_{1288} = 0.84 \%$

Linearity error
$\text{LE}_{\text{min}} = -0.30 \%$
$\text{LE}_{\text{max}} = 0.94 \%$

Dark current
$\mu_{c,\text{mean}} = -105 \pm 21 \text{e}^{-}/\text{s}$
$-4.3 \text{DN/s}$
$\mu_{c,\text{var}} = -45 \pm 29 \text{e}^{-}/\text{s}$
$T_d = — ^\circ \text{C}$