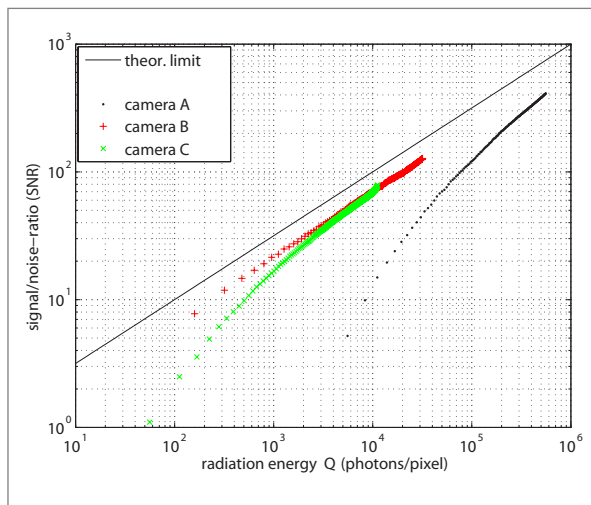


Beyond the Current EMVA 1288 Standard

- Monochromatic measurements at wavelengths from 250 to 1500 nm and with white light
- Measurements according to EMVA 1288, release 4.0, with camera/lens combinations
- Measurements of highspeed cameras and other cameras with short exposure times of just a few micro seconds
- Measurements of polarization cameras with polarized lights
- Measurements of the angle dependence
- Measurements of the modulation transfer function of imaging sensors and lenses

... and much more: Get back to us anytime for your special needs!



The EMVA 1288 Standard

EMVA has launched an initiative to define a unified method to measure, compute and present specification parameters for cameras and image sensors used for machine vision applications. Application of this standard will be of great benefit for the customer, distributor, and manufacturer: Finally, camera parameters are specified in an objective and comparable way.

The standard is elaborated by a consortium of the industry leading sensor and camera manufacturers, distributors and research institutes. The first version of the standard was officially released by the working group member companies in August 2005. The current release 4.0 (June 2021) is available for download at the EMVA website (www.emva.org).



AEON offers EMVA 1288

- Consulting
- Measuring Services
- Customizable Test Equipment
- Training (online & on location)

For detailed information, please turn to our experts.
E-Mail: info@heurisko.de



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Alter Rückinger Weg 31
63452 Hanau
Germany

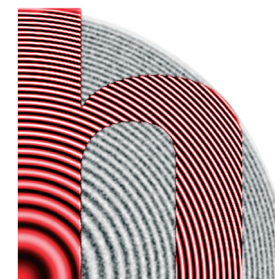
Phone +49 (0)6181 520 51-0
Fax +49 (0)6181 520 51-90
www.aeon.de



Professional Camera Specification

Measuring Services according to the EMVA 1288 Standard ... and beyond

- SNR
- Linearity
- DSNU, PRNU
- Dark current
- Spectral sensitivity
- Bad pixel specification
- ... and more



Characterization of Monochrome and Color Cameras

AEON offers four standard measurement packages.

Package Im: Basic monochrome measurements

This package includes all required measurements according to the EMVA 1288 standard, release 4.0, that can be performed when the camera is at room temperature:

Without illumination:

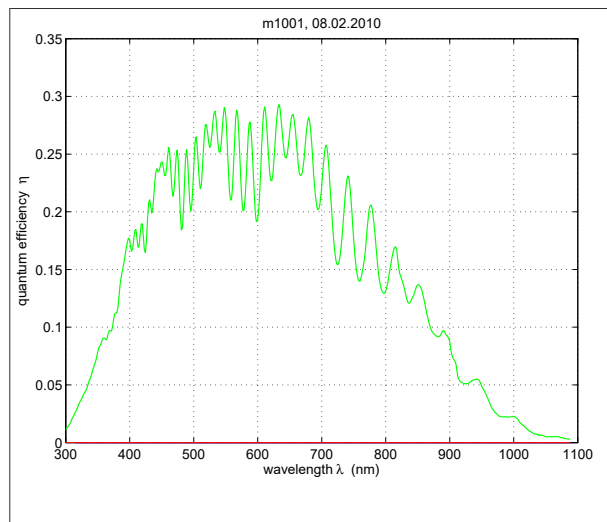
- Dark noise
- Analysis of the dark signal nonuniformity (DSNU)
- Dark current

Monochromatic measurements with a calibrated homogeneous LED illumination at 530 nm with a configurable number of illumination steps and evaluation including standardized EMVA 1288 datasheets according to release 3.1, release 4.0 linear or release 4.0 general.

Package Ic: Basic color measurements

Same as package Im, but for color cameras. Instead of a monochromatic measurement at 530 nm, all measurements are performed with a blue, green, and red illumination.

The quantum efficiency is also measured at the blue, green and red wavelength, respectively.



Package Is: Multispectral measurements

Same as package Im, but with 8 to 14 selected wavelengths within the range from 360 to 1500 nm adapted to the image sensor.

Package II: Temperature dependency of dark current

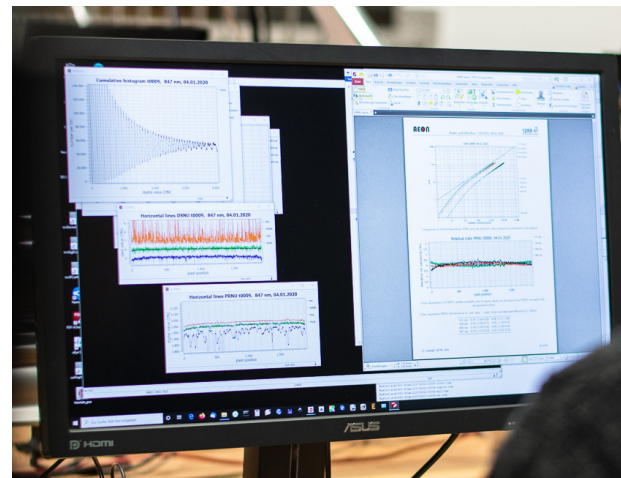
This is also part of the EMVA 1288 standard: Measurements of the dark current at five camera housing temperatures within the operation conditions of the camera.

Package III: Temperature dependency

In extension of the EMVA 1288 standard: Performance of all measurements included in package I and II at five camera housing temperatures within the operation conditions of the camera.

Package IV: Spectral sensitivity for monochrome and color cameras

Measurements of the absolute spectral sensitivity from UV (250 nm) to NIR (1000 nm) with a bandwidth (FWHM) down to 3 nm. For color cameras with a Bayer pattern, the two green pixels are treated separately.



Requirements

Possible camera mounts:

S-Mount, C-Mount, CS-Mount, Nikon F, M72, M92; other mounts possible, please inquire

Maximum outer sensor diameter for homogeneous illumination:
100 mm

Possible camera interfaces:

Camera Link, USB 3 Vision, GigE Vision, Camera Link HS, CoaXPress; other interfaces are possible, please inquire.

Software:

The measuring and evaluation software covers a wide range of cameras. If it is necessary, the software can be extended to support your sensor system.

Derived parameters according to the EMVA 1288 standard:

- Absolute gain factor in electrons per digit
- Absolute sensitivity threshold
- Saturation capacity
- Maximum signal-to-noise ratio (SNR)
- Dynamic range
- Linearity
- Quantum efficiency
- Dark noise in electrons
- Standard deviation of the DSNU and PRNU

All measurements are reported in a measuring report including graphs and tables. In addition all data are given as Excel tables. The DSNU, PRNU and dark current are also given as images for a detailed analysis of the spatial inhomogeneities.



Photo response non-uniformity