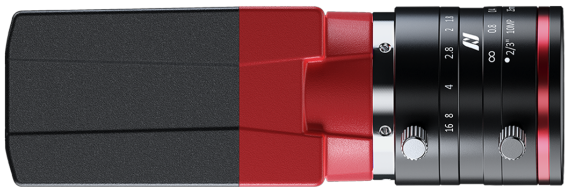
Allied Vision

5GiGE VISION

Alvium
G5-2040



- IMX541 CMOS sensor
- GigE Vision
- High bandwidths
- 2 lens mount options

Model without hardware options

Alvium G5 - Speed up your vision application

5GigE Vision camera for demanding applications

Alvium G5-2040 with Sony IMX541 runs 24.0 frames per second at 20.4 MP resolution.

The Alvium G5 camera series combines the advantages of the 5GigE interface for higher bandwidth and the flexibility of the Alvium platform offering various mount and sensor options. It enables an easy upgrade of existing systems (USB3 Vision or GigE Vision) and offers backwards compatibility with 1000BASE-T solutions. Powered by ALVIUM® Technology, the sugar cube Alvium G5 camera delivers highest image quality at a low power consumption.

Easy software integration with Vimba X and compatibility to the most popular third party image-processing libraries.

Specifications

Interface	IEEE 802.3 5GBASE-T, 1000BASE-T, IEEE 802.3af Power Class 0 PoE
Resolution	4512 (H) × 4512 (V)
Spectral range	300 to 1100 nm
Sensor	Sony IMX541
Sensor type	CMOS
Shutter mode	GS (Global shutter)
Sensor size	Type 1.1
Pixel size	2.74 µm × 2.74 µm
Lens mounts (available)	C-Mount, CS-Mount
Max. frame rate at full resolution	24 fps at 525 MByte/s, Mono8
ADC	12 Bit
Image buffer (RAM)	512 MByte
Non-volatile memory (Flash)	1024 KByte

Imaging performance

Imaging performance data is based on the evaluation methods in the EMVA 1288 Release 3.1 standard for characterization of image sensors and cameras. Measurements are typical values for monochrome models measured without optical filter.

Quantum efficiency at 529 nm	68 %
Temporal dark noise	2.3 e^-
Saturation capacity	9400 e^-
Dynamic range	70 dB
Absolute sensitivity threshold	2.9 e^-

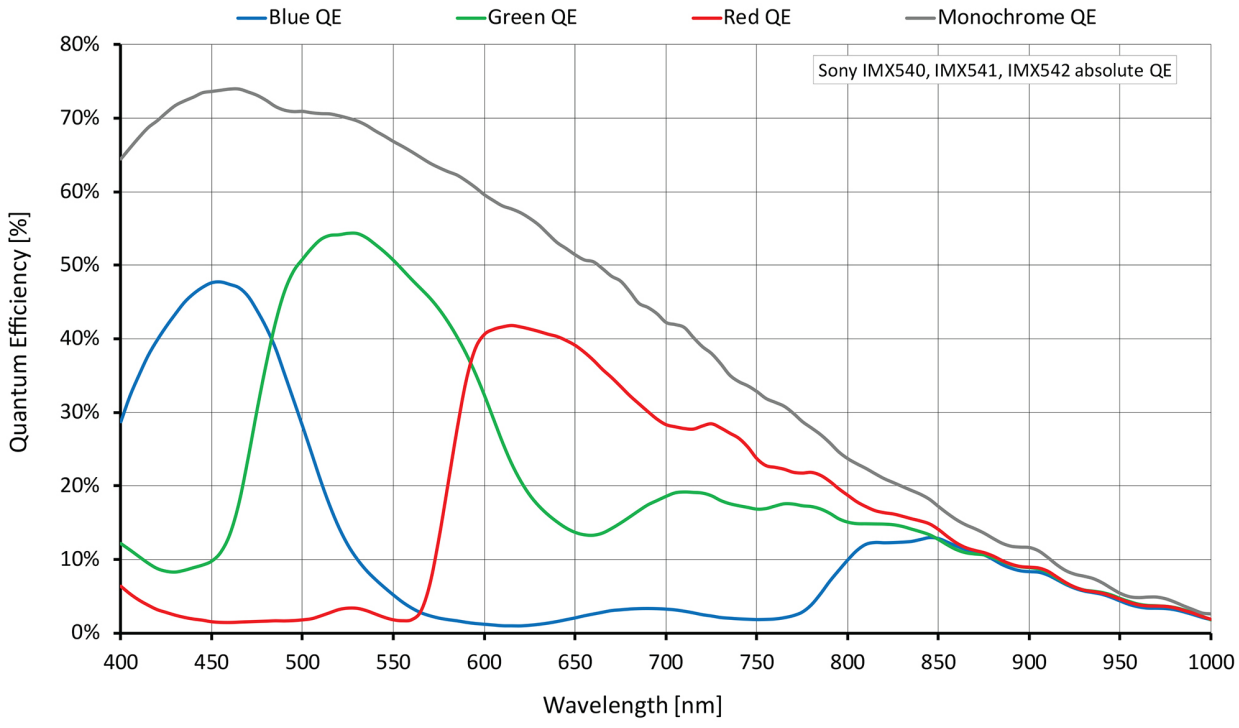
Output	
Bit depth	12-bit
Monochrome pixel formats	Mono8, Mono10, Mono10p, Mono12, Mono12p, Mono12Packed
YUV color pixel formats	YCbCr411_8_CbYYCrYY, YCbCr422_8_CbYCrY, YCbCr8_CbYCr
RGB color pixel formats	RGB8 (default), BGR8

Raw color pixel formats	BayerRG8, BayerRG10, BayerRG10p, BayerRG12, BayerRG12p, BayerRG12Packed

General purpose inputs/outputs (GPIOs)	
TTL I/Os	2 GPIOs (LVTTL)
Opto-isolated I/Os	1 input, 1 output

Operating conditions/dimensions	
Operating temperature	-20 °C to +55 °C housing temperature
Power requirements (DC)	10.8 to 26.4 VDC AUX | IEEE 802.3af, Power Class 0 PoE
Power consumption	External power: 6.9 W at 12 VDC (typical) | Power over Ethernet: 7.6 (typical)
Mass	100 g
Body dimensions (L × W × H in mm)	60 × 29 × 29

Quantum efficiency



Features

Image control: Auto

- Auto exposure
- Auto gain
- Auto white balance (color models)

Image control: Other

- Adaptive noise correction
- Binning
- Black level
- Color transformation (incl. hue, saturation; color models)
- Contrast
- Custom convolution
- De-Bayering up to 5×5 (color models)
- DPC (defect pixel correction)
- FPNC (fixed pattern noise correction)
- Gamma
- LUT (look-up table)
- Reverse X/Y
- ROI (region of interest)
- Sharpness/Blur

Camera control

- Acquisition frame rate
- Action commands, incl. ToE (trigger over Ethernet)
- Bandwidth control
- Counters and timers
- Firmware update in the field
- I/O and trigger control
- Sequencer
- Serial I/Os
- Temperature monitoring
- User sets

Technical drawing