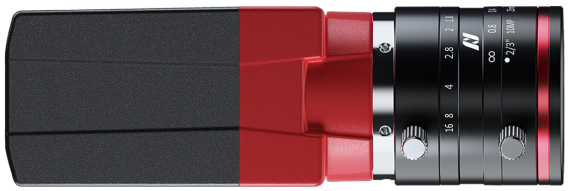
Allied Vision

5GiGE VISION

# Alvium
## G5-1620



- IMX542 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 G5-1620 with Sony IMX542 runs 32 frames per second at 16.2 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 or 2.5GBASE-T (NBASE-T) and 1000BASE-T, IEEE 802.3af Power Class 0 PoE |
| Resolution | 5328 (H) × 3040 (V) |
| Spectral range | 300 to 1100 nm |
| Sensor | Sony IMX542 |
| 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 | 32 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 $e^-$ |

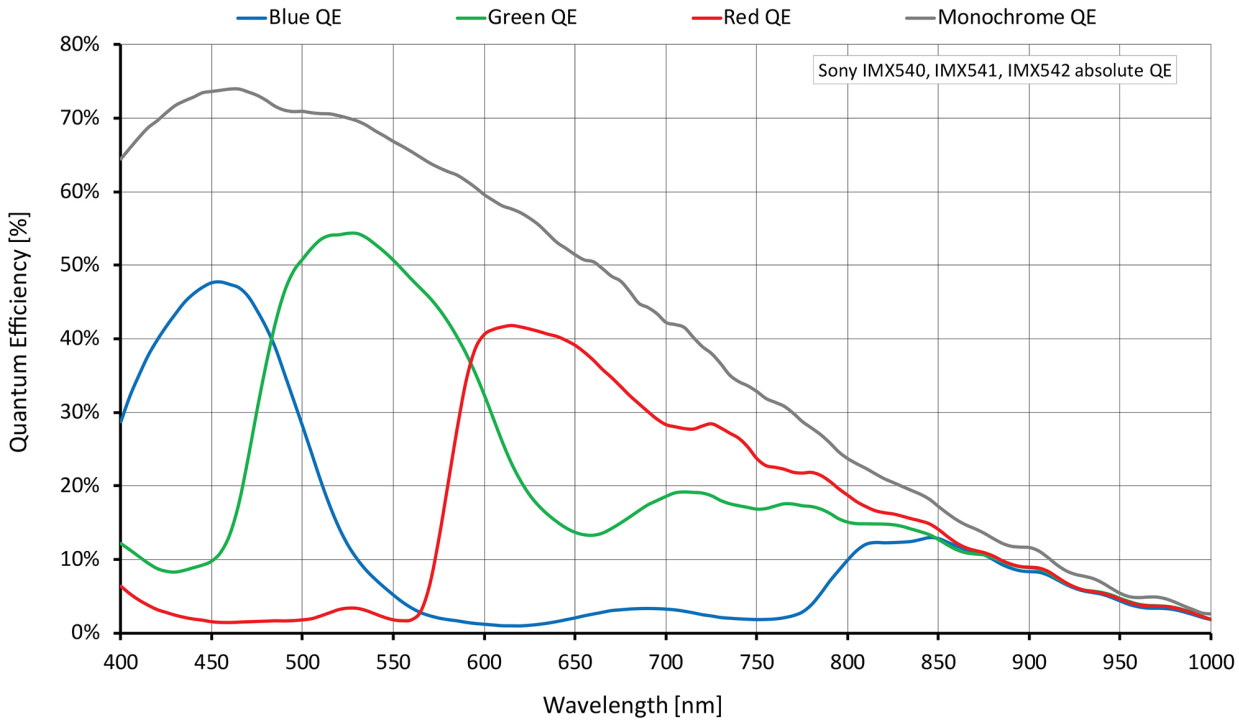
| **Output** | |
|---|---|
| Bit depth | 12-bit |
| Monochrome pixel formats | Mono8, Mono10, Mono10p, Mono12, Mono12p, Mono12Packed |
| YUV color pixel formats | YCbCr411_8_CbYYCrYY, YCbCr422_8_CbYCrY, YCbCr8_CbYCr |
| RGB color pixel formats | RGB8 (default), BGR8 |

| | |
|---|---|
| Raw color pixel formats (Bayer) | 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 +60 °C housing temperature |
| Power requirements (DC) | 10.8 to 26.4 VDC AUX \| IEEE 802.3af, Power Class 0 PoE |
| Power consumption | External power: 7.0 W at 12 VDC (typical) \| Power over Ethernet: 7.5 W (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: Digital
- Binning: Sensor (mono models)
- 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
- Lens shading correction
- LUT (look-up table)
- Multiple ROIs (regions of interest)
- Reverse X/Y
- ROI (region of interest)
- Sharpness/Blur

## Camera control

- Acquisition frame rate
- Action commands, incl. ToE (trigger over Ethernet)
- Bandwidth control
- Burst mode
- Counters and timers
- Event channel
- Firmware update in the field
- I/O and trigger control
- Image chunk data
- Power Saving Mode
- PTP (IEEE 1588 Precision Time Protocol)
- Sequencer
- Serial I/Os
- Temperature monitoring
- User sets

# Technical drawing