

# Alvium

## GM2-511 Coax



- IMX547 CMOS sensor
- 5.1 MP resolution
- ALVIUM image processing
- GMSL2 interface
- Various hardware options

Model without hardware options

### Robust CSI-2 based Alvium cameras with GMSL2 interface

Benefit from greater flexibility in cable lengths

Alvium GM2 Coax cameras with GMSL2 interface have been designed to overcome the limitations of standard CSI-2 cameras. The closed housing CSI-2 based cameras come with integrated serializer and a rugged coaxial-based FAKRA connector for thin coax cables. With Alvium GM2 Coax, cable lengths up to 15 meters are possible. The coax cable can also be used to power the camera (Power over coax) enabling a single cable solution.

To operate Alvium GM2 cameras on your vision system, Allied Vision provides different access modes: - **GenICam for CSI-2 Access** controls the camera by GenICam features, using the Alvium CSI-2 driver and CSI-2 transport layer (TL) directly. All Alvium GM2 Coax models with equivalent 1800 C models are supported. Please find FAQs and installation instructions in the [Getting Started with GenICam for CSI-2](#) application note. - **Direct Register Access (DRA)** to control the cameras via registers for advanced users. - **Video4Linux2 Access** allows to control the cameras via established V4L2 API and applications like GStreamer and OpenCV. Open-source CSI-2 drivers are available on [GitHub](#) for different boards and systems on chip (SoCs).

In addition to lens mount and housing options, see [Customization and OEM Solutions webpage](#) for additional options.

## Specifications

Interface	GMSL2, based on MIPI CSI-2, up to 4 lanes
Resolution	2464 (H) × 2064 (V)
Spectral range	300 to 1100 nm
Sensor	Sony IMX547
Sensor type	CMOS
Shutter mode	GS (Global shutter)
Sensor size	Type 1/1.8
Pixel size	2.74 μm × 2.74 μm
Lens mounts (available)	C-Mount, CS-Mount, S-Mount 79
Max. frame rate at full resolution	Mainly depends on hardware and register settings.
ADC	12 Bit
Image buffer (RAM)	256 KByte
Non-volatile memory (Flash)	1024 KByte

## Output

Bit depth	12-bit
Monochrome pixel formats	GenICam for CSI-2 Access: Mono8, Mono10, Mono10p, Mono12, Mono12p
YUV color pixel formats	YUV422 8-bit (UYVY) [MIPI CSI-2 (FOURCC)]   GenICam for CSI-2 Access: YCbCr411_8_CbYYCrYY, YCbCr422_8_CbYCrY, YCbCr8_CbYCr
RGB color pixel formats	RBG888 (RGB3) [MIPI CSI-2 (FOURCC)]
Raw pixel formats	RAW8 (GREY), RAW10 (Y10), RAW12 (Y12) [MIPI CSI-2 (FOURCC)]   GenICam for CSI-2 Access: BayerRG8, BayerRG10, BayerRG10p, BayerRG12, BayerRG12p, BGR8, RGB8

## General purpose inputs/outputs (GPIOs)

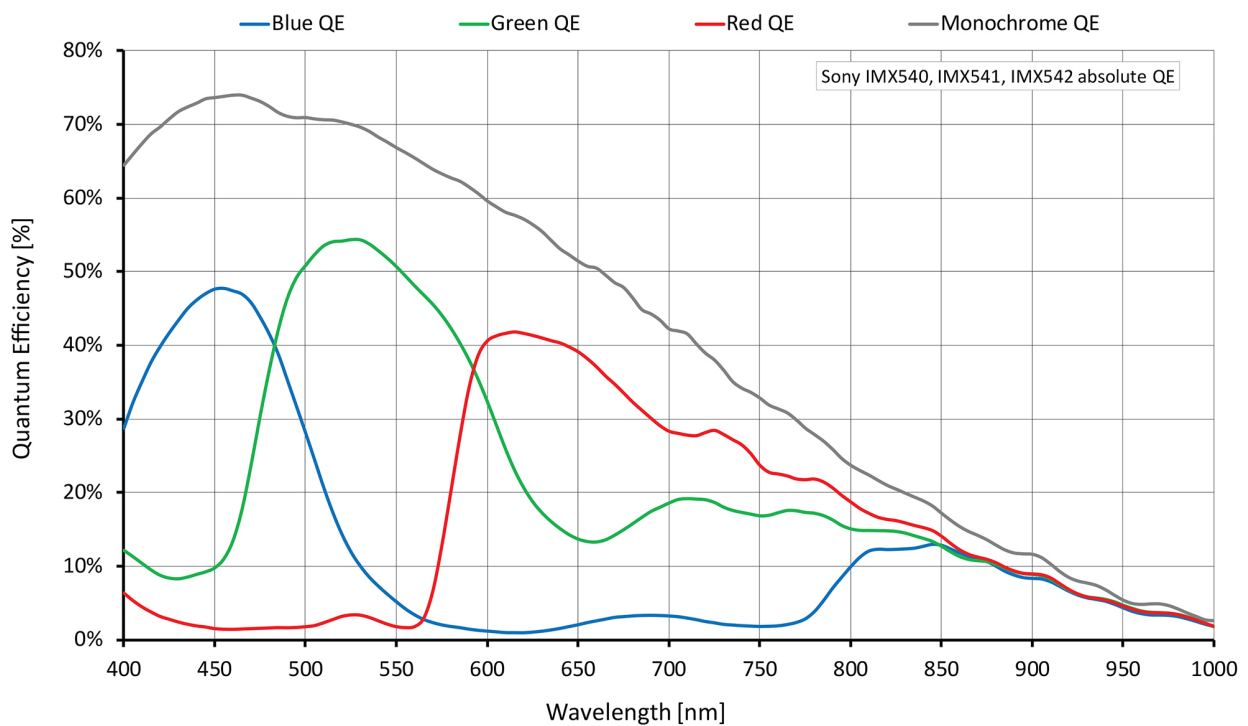
TTL I/Os	2 programmable GPIOs
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## Operating conditions/dimensions

Operating temperature	-20 °C to +65 °C (housing)
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Power requirements (DC)	5 VDC over MIPI CSI-2
Power consumption	Value for the integrated serializer adds to CSI-2 model value.
Mass	70 g
Body dimensions (L × W × H in mm)	41 × 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
- Bandwidth control\*
- Counters and timers\*
- Firmware update in the field
- I/O and trigger control
- Serial I/Os\*
- Temperature monitoring
- User sets\*

\*GenICam for CSI-2 Access

Technical drawing

