



# Alvium 1800 C-511

- IMX547 CMOS sensor
- ALVIUM image processing
- MIPI CSI-2 interface
- Various hardware options

## Model without hardware options

Alvium 1800 C – High-performance camera modules for embedded vision

## Machine vision sensors for embedded system developers

Alvium 1800 C-511 with Sony IMX547 runs 78.0 frames per second at 5.1 MP resolution.

The powerful Alvium 1800 C MIPI CSI-2 camera series gives embedded system developers access to Sony's high-performance image sensors popular in the machine vision industry. These sensors with resolutions up to 20 megapixels deliver excellent image quality and up to twice the frame rates compared to similar Alvium 1500 C models.

To operate Alvium CSI-2 cameras on your vision system, Allied Vision provides different access modes: - **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 system on chips (SoCs).

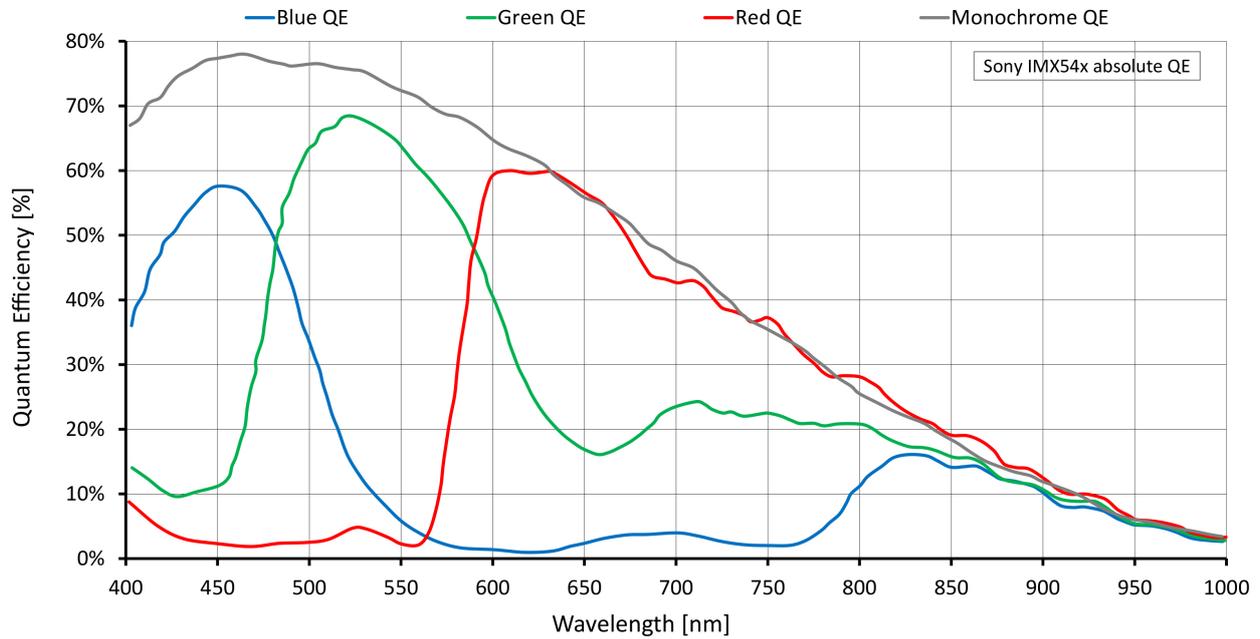
See the [Alvium Cameras Hardware Options](#) for lens mount and housing options, as well as the [Customization and OEM Solutions webpage](#) for additional options.

## Specifications

Alvium 1800 C-511	
Interface	MIPI CSI-2, up to 4 lanes
Resolution	2464 (H) × 2064 (V)
Spectral range	300 to 1100 nm

<b>Alvium 1800 C-511</b>	
Sensor	Sony IMX547
Sensor type	CMOS
Shutter mode	Global shutter
Sensor size	Type 1/1.8
Pixel size	2.74 $\mu\text{m}$ $\times$ 2.74 $\mu\text{m}$
Lens mounts (available)	C-Mount
Max. frame rate at full resolution	78 fps using 4 lanes, RAW8 (GREY)
ADC	12 Bit
Image buffer (RAM)	256 KB
Non-volatile memory (Flash)	1024 KB
<b>Output</b>	
Bit depth	Max. 12 Bit
YUV color pixel formats	YUV422 8-bit (UYVY) [MIPI CSI-2 (FOURCC)]
RGB color pixel formats	RBG888 (RGB3) [MIPI CSI-2 (FOURCC)]
Raw pixel formats	RAW8 (GREY), RAW10 (Y10), RAW12 (Y12) [MIPI CSI-2 (FOURCC)]
<b>General purpose inputs/outputs (GPIOs)</b>	
TTL I/Os	2 programmable GPIOs
<b>Operating conditions/dimensions</b>	
Operating temperature	+5 °C to +65 °C housing temperature (with heat sink)
Power requirements (DC)	5 VDC over MIPI CSI-2
Power consumption	Typical: 3.0 W
Mass	10 g (bare board)
Body dimensions (L $\times$ W $\times$ H in mm)	8 $\times$ 26 $\times$ 26 (bare board)
Regulations	2011/65/EU, including amendment 2015/863/EU (RoHS)

## Quantum efficiency



## Features

### Image control

#### Auto control

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

#### Other image controls

- Black level
- De-Bayering up to 5×5 (color models)
- DPC (factory calibrated)
- Exposure time
- FPNC (factory calibrated)
- Gain

- Gamma
- Hue (color models)
- Region of interest (ROI)
- Reverse X/Y
- Saturation (color models)

## Camera control

- Acquisition Frame Rate
- Temperature monitoring (sensor board)
- Triggering (Frame Start)

## Technical drawing

### Camera hardware options



The **Alvium Cameras Hardware Options** document informs about submodels, such as bare board or open housing cameras with different lens mounts.

