



# Alvium 1500 C-501 NIR

- AR0522 CMOS sensor
- ALVIUM image processing
- MIPI CSI-2 interface
- Mono and color models

## Model without hardware options

Alvium 1500 C – Powerful camera modules for embedded vision

## Revolutionary MIPI CSI-2 camera module

Alvium 1500 C-501 NIR with ON Semi AR0522 runs 68.0 frames per second at 5.0 MP resolution.

Alvium 1500 C is a revolutionary MIPI CSI-2 camera optimized for embedded vision applications. The Alvium 1500 C offers the performance and versatility of industrial cameras for the embedded world. Equipped with industrial-grade CMOS sensors from ON Semiconductor, Alvium 1500 C cameras deliver excellent image quality and high frame rates.

The standardized CSI-2 driver ensures quick integration with the flexibility to change camera models easily.

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

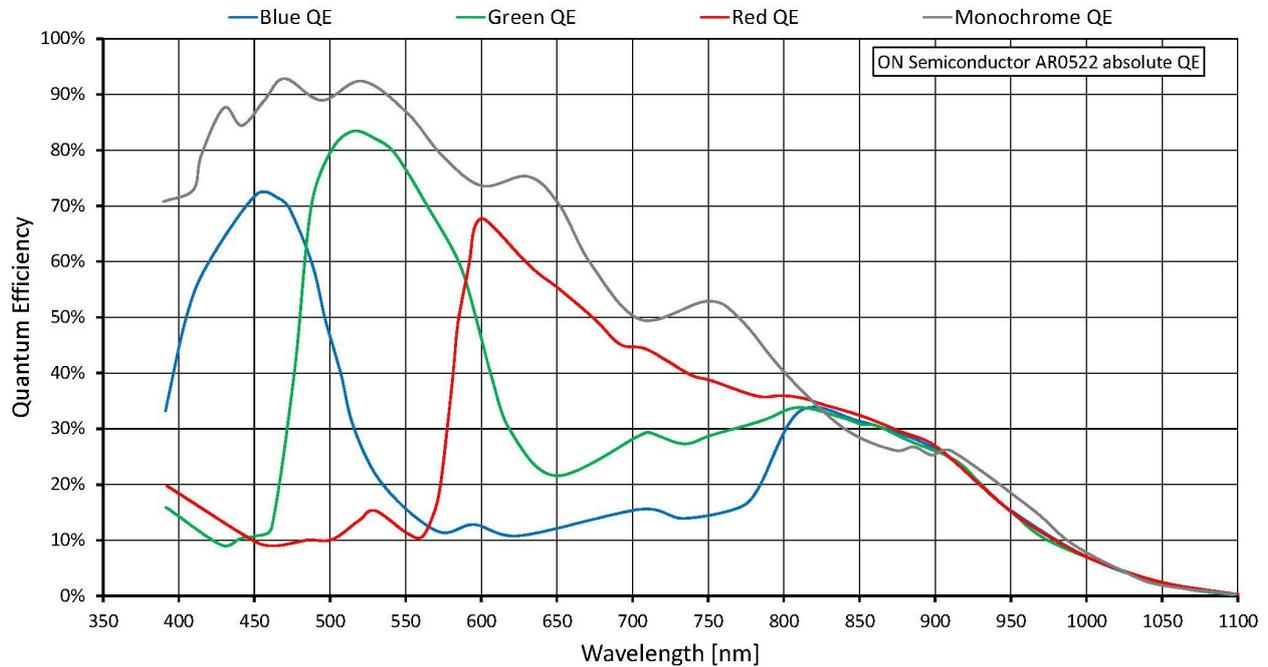
### Alvium 1500 C-501 NIR

Interface

MIPI CSI-2, up to 4 lanes

<b>Alvium 1500 C-501 NIR</b>	
Resolution	2592 (H) × 1944 (V)
Spectral range	300 to 1100 nm
Sensor	ON Semi AR0522
Sensor type	CMOS
Shutter mode	Rolling shutter
Sensor size	Type 1/2.5
Pixel size	2.2 μm × 2.2 μm
Lens mounts (available)	C-Mount
Max. frame rate at full resolution	68 fps using 4 lanes, RAW8 (GREY)
ADC	10 Bit
Image buffer (RAM)	256 KB
Non-volatile memory (Flash)	1024 KB
<b>Output</b>	
Bit depth	Max. 10 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) [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: 1.9 W
Mass	10 g (bare board)
Body dimensions (L × W × H in mm)	7 × 26 × 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.

