

# Alvium

## 1800 U-2050c

- IMX183 CMOS sensor
- ALVIUM image processing
- USB3 Vision
- Various hardware options

**Hardware option:** Bare Board Standard

Alvium 1800 U – Your entry into high-performance imaging

Industrial USB cameras with attractive price-performance ratio

Alvium 1800 U-2050 with Sony IMX183 runs 17.0 frames per second at 20.2 MP resolution.

Alvium 1800 U is your entry into high-performance imaging with ALVIUM® Technology for industrial applications. Equipped with the newest generation of sensors, these small and lightweight cameras deliver high image quality and frame rates at the best price-performance ratio. With its USB3 Vision compliant interface and industrial-grade hardware, it is your workhorse for different machine vision applications whether it is on a PC-based or an embedded system.

Easy software integration with **Allied Vision's Vimba Suite** and compatibility to the most popular third party image-processing libraries.

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 U-2050c Bare Board Standard

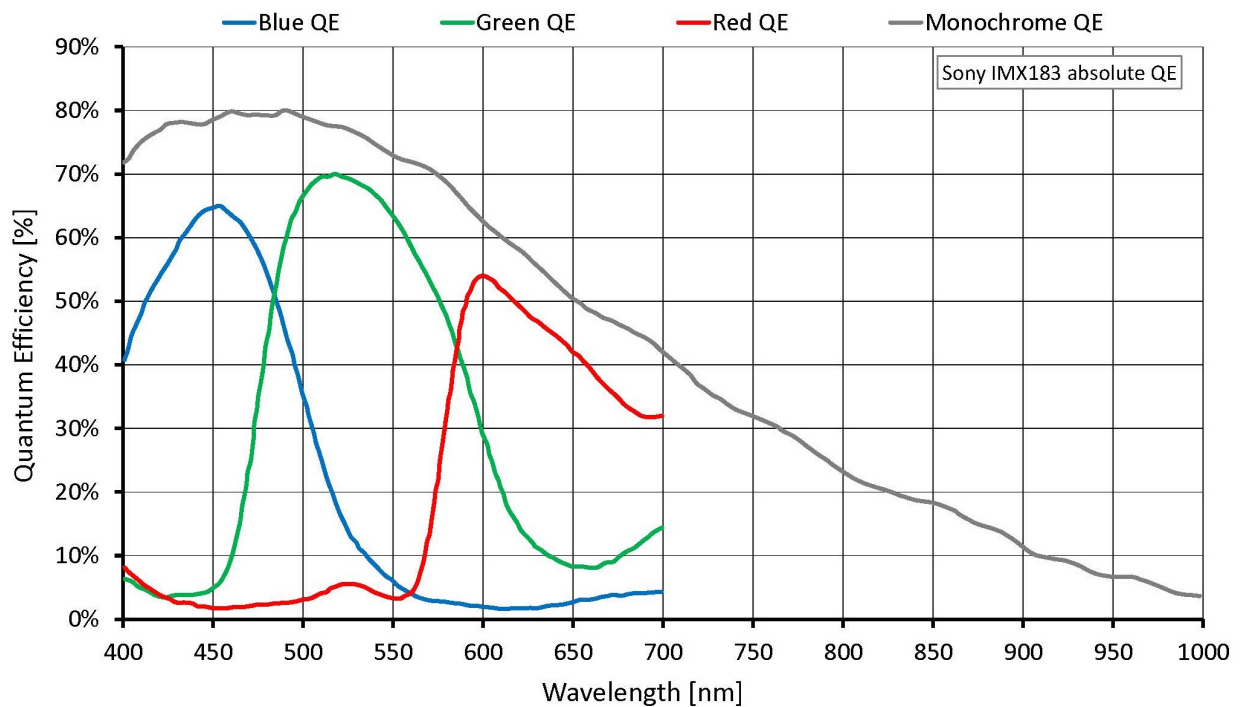
Product code	14829
Interface	USB3 Vision
Resolution	5496 (H) × 3672 (V)

Alvium 1800 U-2050c Bare Board Standard	
Spectral range	300 to 1100 nm
Sensor	Sony IMX183
Sensor type	CMOS
Shutter mode	Global reset and Rolling shutter
Sensor size	Type 1
Pixel size	2.4 $\mu\text{m}$ $\times$ 2.4 $\mu\text{m}$
Lens mounts (available)	C-Mount
Max. frame rate at full resolution	17 fps at 375 MByte/s, Mono8
ADC	10 Bit
Image buffer (RAM)	256 KB
Non-volatile memory (Flash)	1024 KB
<b>Imaging performance</b>	
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	80 %
Temporal dark noise	6 e <sup>-</sup>
Saturation capacity	14900 e <sup>-</sup>
Dynamic range	65 dB
Absolute sensitivity threshold	7.9 e <sup>-</sup>
Output	
Bit depth	Max. 10 Bit
Monochrome pixel formats	Mono8, Mono10, Mono10p
YUV color pixel formats	YCbCr411_8_CbYYCrYY, YCbCr422_8_CbYCrY, YCbCr8_CbYCr
RGB color pixel formats	BayerRG8, BayerRG10, BayerRG10p, BGR8, RGB8 (default)
General purpose inputs/outputs (GPIOs)	
TTL I/Os	4 programmable GPIOs
Operating conditions/dimensions	
Operating temperature	-20 °C to +85 °C (cooling areas)
Power requirements (DC)	Power over USB 3.1 Gen 1   External power 5.0 V
Power consumption	USB power: 3.2 W (typical)   Ext. power: 3.4 W (typical)

## Alvium 1800 U-2050c Bare Board Standard

Mass	15 g
Body dimensions (L × W × H in mm)	14 × 26 × 26
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)
- Auto features regions control

- Auto features algorithms control

## Other image controls

- Binning
- Black level
- Contrast
- De-Bayering up to 5×5 (color models)
- Exposure time
- Gain
- Gamma
- Hue (color models)
- Saturation (color models)
- DPC (factory calibrated)
- Region of interest (ROI)
- Reverse X/Y

## Camera control

- Acquisition frame rate
- I/O and trigger control
- Temperature monitoring (sensor board)
- Status LED luminance control
- Firmware update in the field
- U3 Power Saving Mode

## Technical drawing

