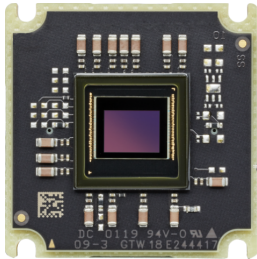


Alvium

1800 U-2040c



- IMX541 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-2040 with Sony IMX541 runs 21.0 frames per second at 20.4 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 **Vimba X** and compatibility to the most popular third party image-processing libraries.

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

Specifications

| | |
|------------------------------------|------------------------------|
| Product code | 15560 |
| Interface | USB3 Vision |
| Resolution | 4512 (H) × 4512 (V) |
| Spectral range | 300 to 1100 nm |
| Sensor | Sony IMX541 |
| 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 | 21 fps at 450 MByte/s, Mono8 |
| ADC | 12 Bit |
| Image buffer (RAM) | 256 KByte |
| Non-volatile memory (Flash) | 1024 KByte |

Output

| | |
|--------------------------|--|
| Bit depth | 12-bit Bit |
| Monochrome pixel formats | Mono8, Mono10, Mono10p, Mono12, Mono12p |
| YUV color pixel formats | YCbCr411_8_CbYYCrYY, YCbCr422_8_CbYCrY, YCbCr8_CbYCr |
| RGB color pixel formats | BayerRG8, BayerRG10, BayerRG10p, BayerRG12, BayerRG12p, BGR8, RGB8 (default) |

General purpose inputs/outputs (GPIOs)

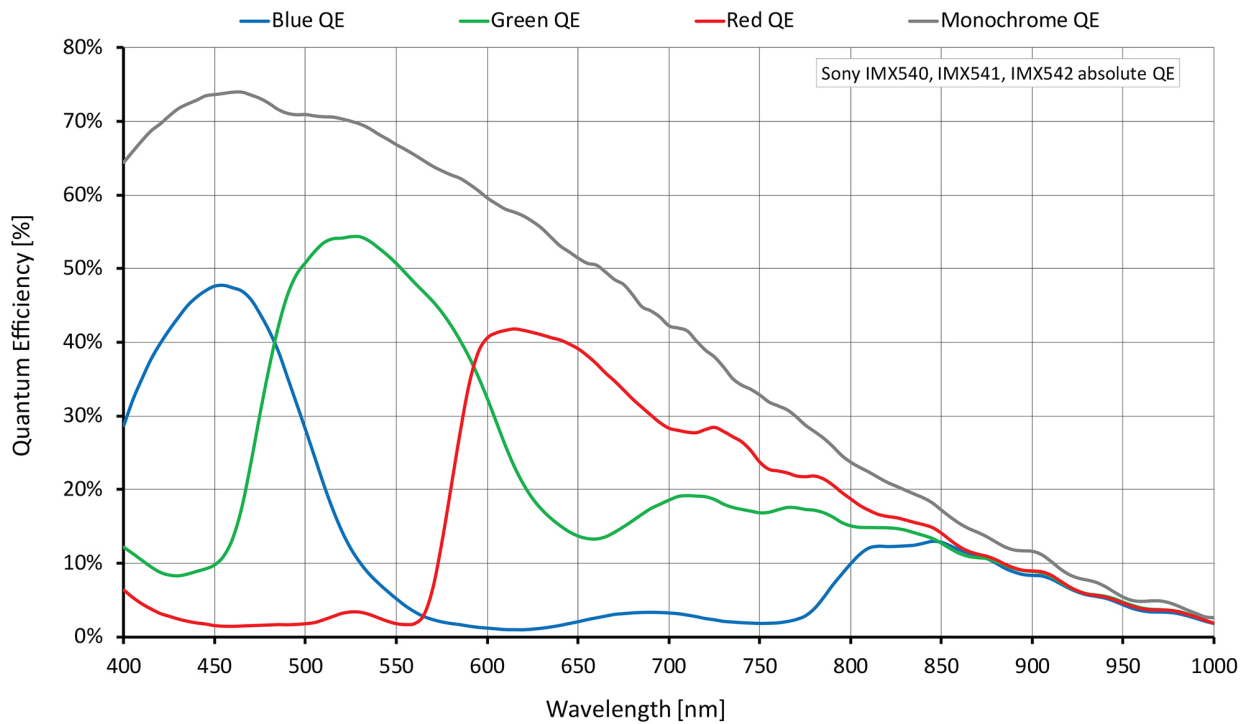
| | |
|----------|----------------------|
| TTL I/Os | 4 programmable GPIOs |
|----------|----------------------|

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: 3.9 W (typical) Ext. power: 4.1 W (typical) |
| Mass | 15 g |

Body dimensions (L × W × H in mm) 14 × 26 × 26

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
- Sequencer
- Serial I/Os
- Temperature monitoring
- U3 Power Saving Mode
- User sets

Technical drawing

