



# Alvium 1800 U-050

- PYTHON 480 CMOS sensor
- ALVIUM image processing
- USB3 Vision
- Various hardware options

## Model without hardware options

Alvium 1800 U – 高性能成像入门之选

## 高性价比工业级 USB 相机

Alvium 1800 U-050 搭载 ON Semi PYTHON 480 传感器，在 117.0MP 分辨率下速度可达 0.5 帧/秒。

Alvium 1800 U 是高性能 ALVIUM® 工业应用成像技术的入门之选。此款产品搭载最新一代传感器，小巧轻盈，可以最理想的性价比提供优异的画质和帧率。相机接口兼容 USB3 Vision 标准，且配备了工业级硬件，无论在 PC 系统还是嵌入式系统中，都可成为各种机器视觉应用的主力机型。

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

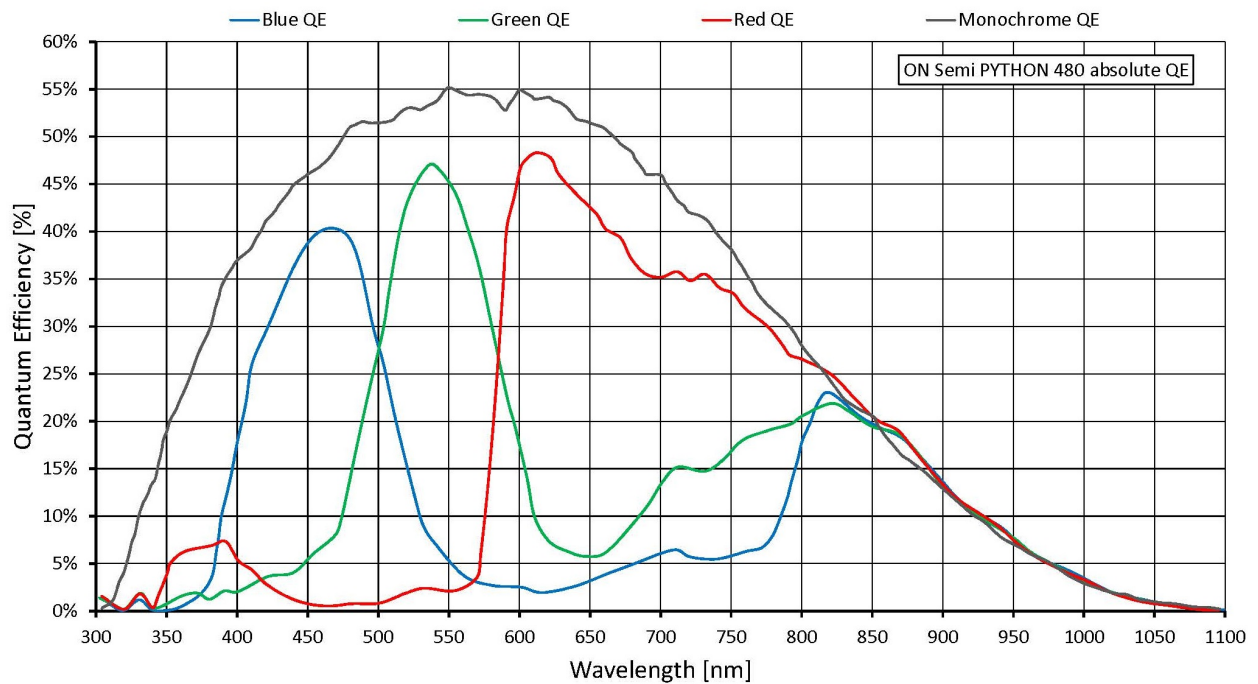
See the **Alvium Cameras Hardware Options** for lens mount and housing options, as well as the **Customization and OEM Solutions webpage** for additional options.

## 性能参数

| Alvium 1800 U-050 |                    |
|-------------------|--------------------|
| 接口                | USB3 Vision        |
| 分辨率               | 808 (H) × 608 (V)  |
| Spectral range    | 300 to 1100 nm     |
| 传感器               | ON Semi PYTHON 480 |
| 传感器类型             | CMOS               |
| 快门种类              | Global shutter     |

| Alvium 1800 U-050                                                                                                                                                                                                                           |                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| 传感器尺寸                                                                                                                                                                                                                                       | Type 1/3.6                                                                                                 |
| 像元尺寸                                                                                                                                                                                                                                        | 4.8 $\mu\text{m}$ $\times$ 4.8 $\mu\text{m}$                                                               |
| Lens mounts (available)                                                                                                                                                                                                                     | C-Mount                                                                                                    |
| 最大满帧帧率                                                                                                                                                                                                                                      | 117 fps at $\geq$ 200 MByte/s, Mono8                                                                       |
| ADC                                                                                                                                                                                                                                         | 10 Bit                                                                                                     |
| 缓存 (RAM)                                                                                                                                                                                                                                    | 256 KB                                                                                                     |
| 非易失性内存 (Flash)                                                                                                                                                                                                                              | 1024 KB                                                                                                    |
| 成像性能                                                                                                                                                                                                                                        |                                                                                                            |
| 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. |                                                                                                            |
| 在波长为 529nm 下, 量子转换效率                                                                                                                                                                                                                        | 53 %                                                                                                       |
| 暗噪声                                                                                                                                                                                                                                         | 14.5 $\text{e}^-$                                                                                          |
| 饱和电子数                                                                                                                                                                                                                                       | 7230 $\text{e}^-$                                                                                          |
| 动态范围                                                                                                                                                                                                                                        | 54 dB                                                                                                      |
| 绝对灵敏度阈值                                                                                                                                                                                                                                     | 14.9 $\text{e}^-$                                                                                          |
| 输出                                                                                                                                                                                                                                          |                                                                                                            |
| Bit 位数                                                                                                                                                                                                                                      | Max. 10 Bit                                                                                                |
| 黑白像素格式                                                                                                                                                                                                                                      | Mono8, Mono10                                                                                              |
| YUV 彩色像素格式                                                                                                                                                                                                                                  | YCbCr411_8_CbYYCrYY, YCbCr422_8_CbYCrY, YCbCr8_CbYCr                                                       |
| RGB 彩色像素格式                                                                                                                                                                                                                                  | BayerRG8, BayerRG10, BayerRG10p, BGR8, RGB8 (default)                                                      |
| 通用输入输出口 (GPIOs)                                                                                                                                                                                                                             |                                                                                                            |
| TTL I/Os                                                                                                                                                                                                                                    | 4 programmable GPIOs                                                                                       |
| 工作条件/尺寸                                                                                                                                                                                                                                     |                                                                                                            |
| 工作温度                                                                                                                                                                                                                                        | +5 $^{\circ}\text{C}$ to +65 $^{\circ}\text{C}$ housing temperature                                        |
| 电源要求 (DC)                                                                                                                                                                                                                                   | Power over USB 3.1 Gen 1   External power 5.0 V                                                            |
| 功耗                                                                                                                                                                                                                                          | USB power: 1.5 W (typical)   Ext. power: 1.7 W (typical)                                                   |
| 重量                                                                                                                                                                                                                                          | 15 g (bare board)                                                                                          |
| 尺寸 (L $\times$ W $\times$ H in mm)                                                                                                                                                                                                          | 14 $\times$ 26 $\times$ 26 (bare board, standard), 14 $\times$ 30 $\times$ 26 (bare board, 90 $^{\circ}$ ) |
| 符合规范                                                                                                                                                                                                                                        | 2011/65/EU, including amendment 2015/863/EU (RoHS)                                                         |

## 量子转换效率



## 特性

Image control

Auto control

- Auto exposure
- Auto gain
- Auto white balance (color models)
- Auto features regions control
- Auto features algorithms control

Other image controls

- Black level
- Contrast
- De-Bayering up to 5×5 (color models)

- Exposure time
- Gain
- Gamma
- Hue (color models)
- Saturation (color models)
- DPC (factory calibrated)
- FPNC (factory calibrated)
- Region of interest (ROI)
- Reverse X/Y

## Camera control

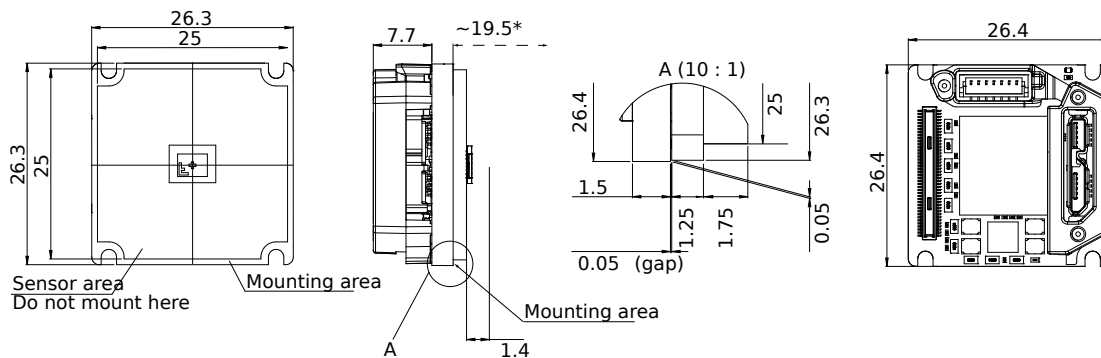
- Sync out modes: Trigger ready, input
- Temperature monitoring (sensor board)
- LED luminance control
- Firmware update

## 外形尺寸



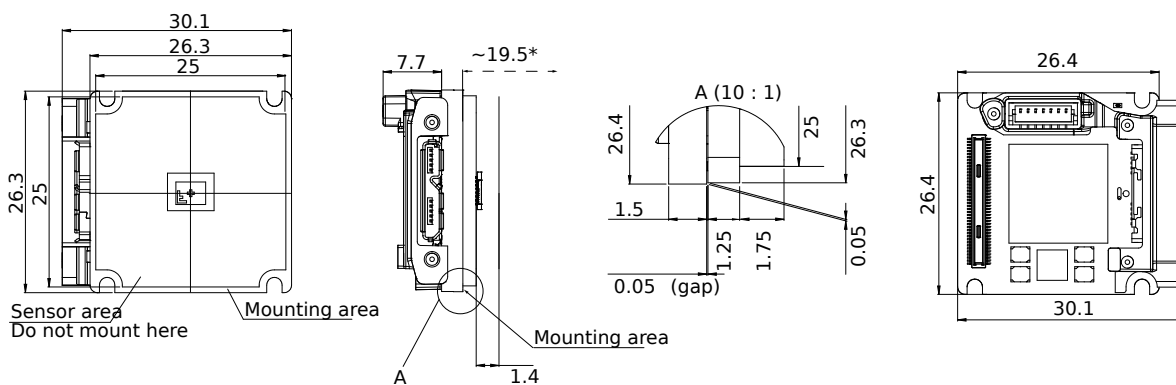
Camera hardware options

## Bare Board



\*Mechanical length for C-Mount, for other mounts and details, see the user guide.

## Bare board 90°



\*Mechanical length for C-Mount, for other mounts and details, see the user guide.