

KLT-USB1A-AF-OV8865 V1.0

OmniVision OV8865 USB Interface Auto Focus 8MP Camera Module



Camera Module No.	KLT-USB1A-AF-OV8865 V1.0	
Image Sensor	OV8865	Output Format: MJPG, YVY2
EFL	3.85 mm	10 FPS 3264 x 2488 (4K)
F.NO	2.2	20 FPS 1920 x 1080 (Full HD)
Pixel	3264 x 2448	20 FPS 1280 x 720 (HD 720P)
View Angle	72.9°	Supporting OS
Lens Type	1/3.2 inch	Windows 7, 8.1, 10, Vista
Lens Dimensions	8.50 x 8.50 x 5.60 mm	Windows XP SP2 under UVC
Module Size	30.50 x 28.50 mm	Linux Kernel V2.6.2.1 or later
Module Type	Auto Focus	MAC OS 10.4 or later
IMT Lens Model	IMT-1A65H003-N	Operating Voltage: 5V +/- 5%
Interface	USB 2.0	Compliant with UVC Version 1.0

Mating USB Cable Part No. KLT-USB1A-Cable

Mating Connector On Main Board. Sold Separately.



OV8865 8MP product brief



High-Performance, Low-Power 8-Megapixel Image Sensor for Mainstream Smartphones and Tablets



available in a lead-free package

OmniVision's OV8865 is a low-power high-performance 8-megapixel camera solution for mainstream smartphones and tablets. Utilizing an improved 1.4-micron OmniBSI-2™ pixel, the OV8865 delivers best-in-class pixel performance in a smaller, more power efficient package compared to the previous generation OV8835 sensor.

The OV8865 offers a number of performance improvements including a five percent improvement in dynamic range and a 50 percent reduction in dark current, resulting in superior high- and low-light images. Furthermore, the OV8865 consumes considerably less power than the OV8835, achieving the sub 200 mW benchmark preferred by high-end mobile device manufacturers.

The 1/3.2-inch OV8865 supports an active array of 3264 x 2448 (8-megapixels) operating at 30 frames per second (fps) for high-speed photography. The sensor is also capable of capturing 1080p high-definition (HD) video at 30 fps or 720p at 60 fps.

The OV8865 fits into an industry standard 8.5 x 8.5 x 5 mm package.

Find out more at www.ovt.com.



Applications

- Cellular Phones
- Tablets
- PC Multimedia

Product Features

- automatic black level calibration (ABLC)
- programmable controls for frame rate, mirror and flip, cropping, and windowing
- static defective pixel canceling
- supports output formats: 10-bit RAW RGB (MIPI)
- supports horizontal and vertical subsampling
- supports images sizes: 3264x2448, 3264x1836, 2816x1584, 1632x1224, 1408x792
- supports 2x2 binning, re-sampling filter
- standard serial SCCB interface
- up to 4-lane MIPI serial output interface
- embedded 1536 bytes one-time programmable (OTP) memory for part identification, etc.
- two on-chip phase lock loops (PLLs)
- programmable I/O drive capability
- built-in temperature sensor

OV8865



Ordering Information

- OV8865-G04A-1D (color, chip probing, 200 μm backgrounding, reconstructed wafer with good die)

Product Specifications

- active array size: 3264 x 2448
- power supply:
 - core: 1.2V
 - analog: 2.8V
 - I/O: 1.8V, 2.8V
- power requirements:
 - active: 196 mW (full resolution @ 30 fps)
 - XSHUTDOWN: 5 μW
- temperature range:
 - operating: -30°C to +85°C junction temperature
 - stable image: 0°C to +60°C junction temperature
- output formats: 10-bit RAW RGB data
- lens size: 1/3.2"
- lens chief ray angle: 32.2° non-linear
- input clock frequency: 6 - 27 MHz
- max S/N ratio: 36.7 dB
- dynamic range: 68.8 dB
- maximum image transfer rate: 30 fps
- sensitivity: 940 mV/lux-sec
- scan mode: progressive
- pixel size: 1.4 μm x 1.4 μm
- dark current: 20 e⁻/sec @ 60°C junction temperature
- image area: 4614.4 μm x 3472 μm
- die dimensions: 5850 μm x 5700 μm

Functional Block Diagram



4275 Burton Drive
Santa Clara, CA 95054
USA

Tel: +1 408 567 3000
Fax: +1 408 567 3001
www.ovt.com

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