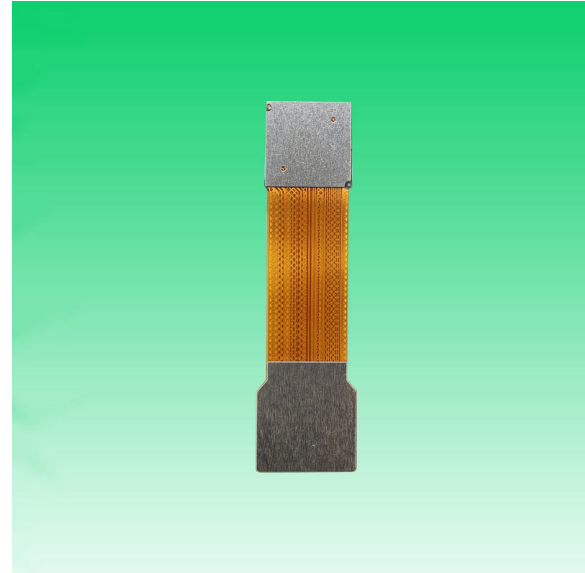


KLT-U8MA-OV5645 V1.0

5MP OmniVision OV5645 MIPI-Schnittstelle Autofokus-Kameramodul



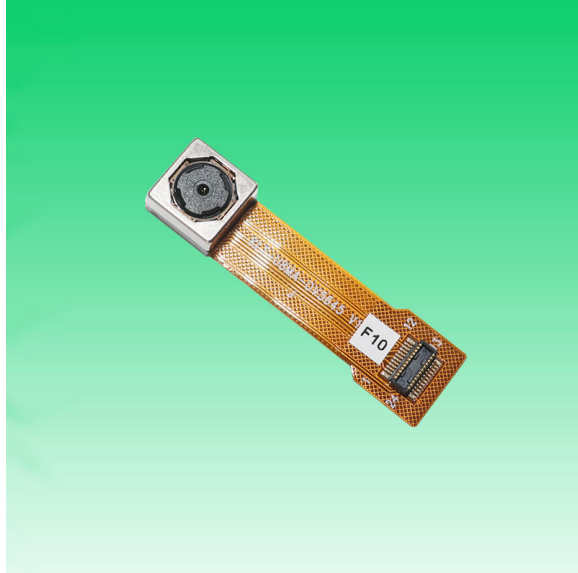
Vorderansicht



Rückansicht

Spezifikationen

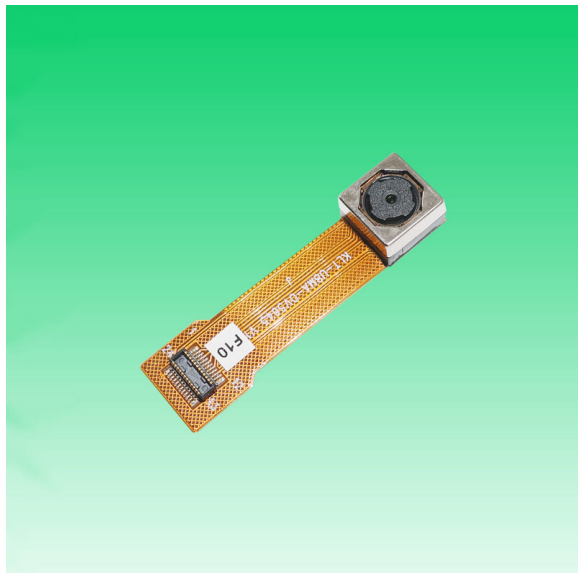
Kameramodul Nr.	KLT-U8MA-OV5645 V1.0
Auflösung	5 MP
Bildsensor	OV5645
Sensortyp	1/4"
Pixelgröße	1.4 μm x 1.4 μm
Englisch als Fremdsprache	3.29 mm
F.Nr.	2.80
Pixel	2592 x 1944
Blickwinkel	68.7° (DFOV) 58.1° (HFOV) 45.0° (VFOV)
Linsenabmessungen	8.50 x 8.50 x 5.07 mm
Modulgröße	36.25 x 10.00 mm
Modultyp	Autofokus
Schnittstelle	MIPI
Autofokus-VCM-Treiber-IC	Eingebettet
Linsentyp	650 nm IR-Sperrfilter
Betriebstemperatur	-30 °C bis +70 °C
Gegenstecker	AXK724147G

**KLT-U8MA-OV5645 V1.0****5MP OmniVision OV5645 MIPI-Schnittstelle Autofokus-Kameramodul**

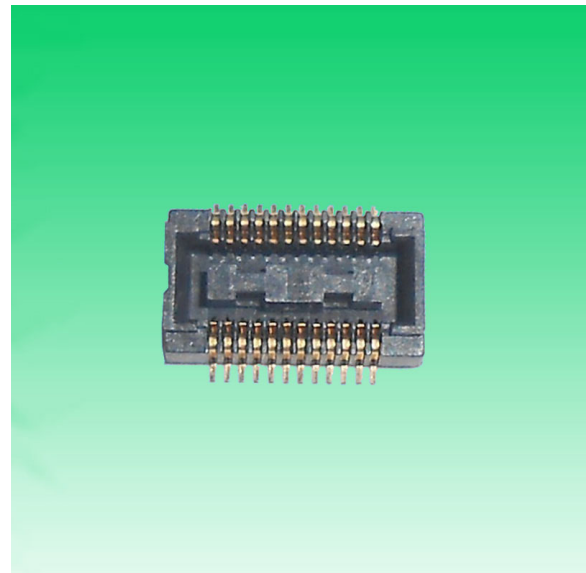
Ansicht von oben



Seitenansicht



Untersicht



Gegenstecker



Periodic table of Elements

Legend:

- Hydrogen (Gas)
- Alkali Metals
- Alkaline Earth Metals
- Transition Metals
- Other Metals
- Metalloids
- Non-metals
- Halogens
- Noble Gases
- Lanthanides
- Actinides

Average Atomic Mass
6.941

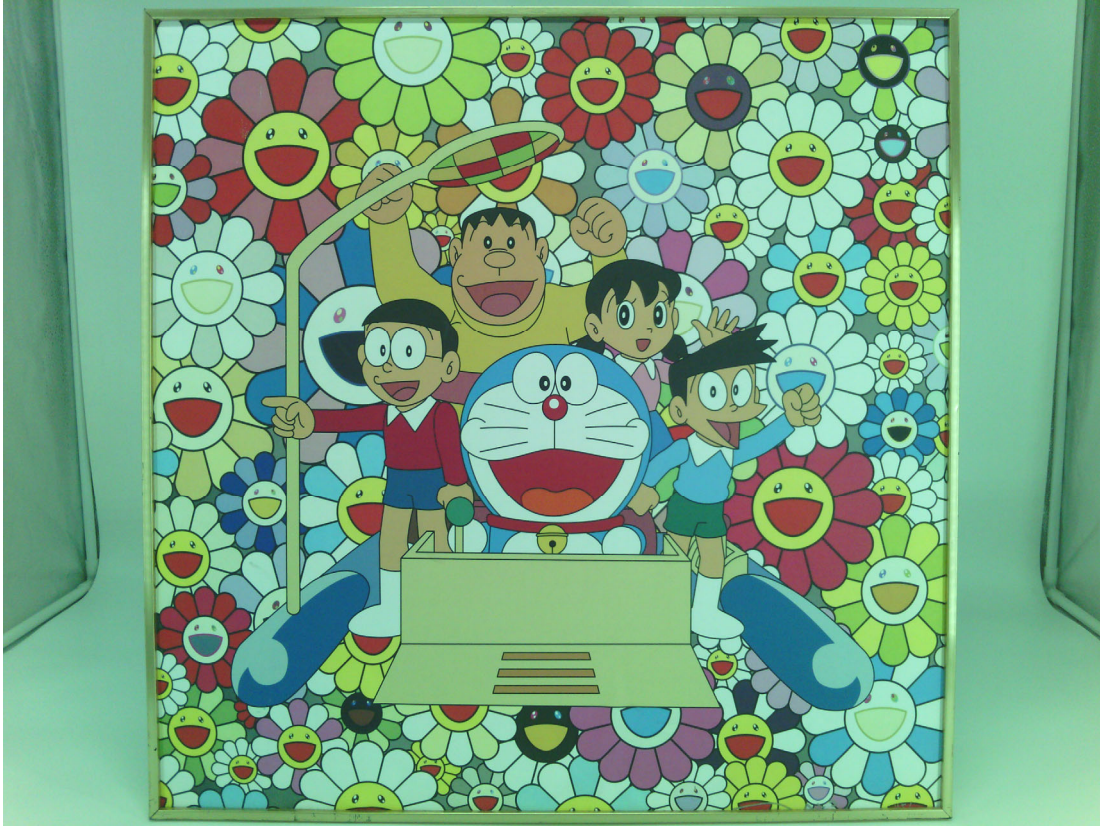
Atomic Number
3

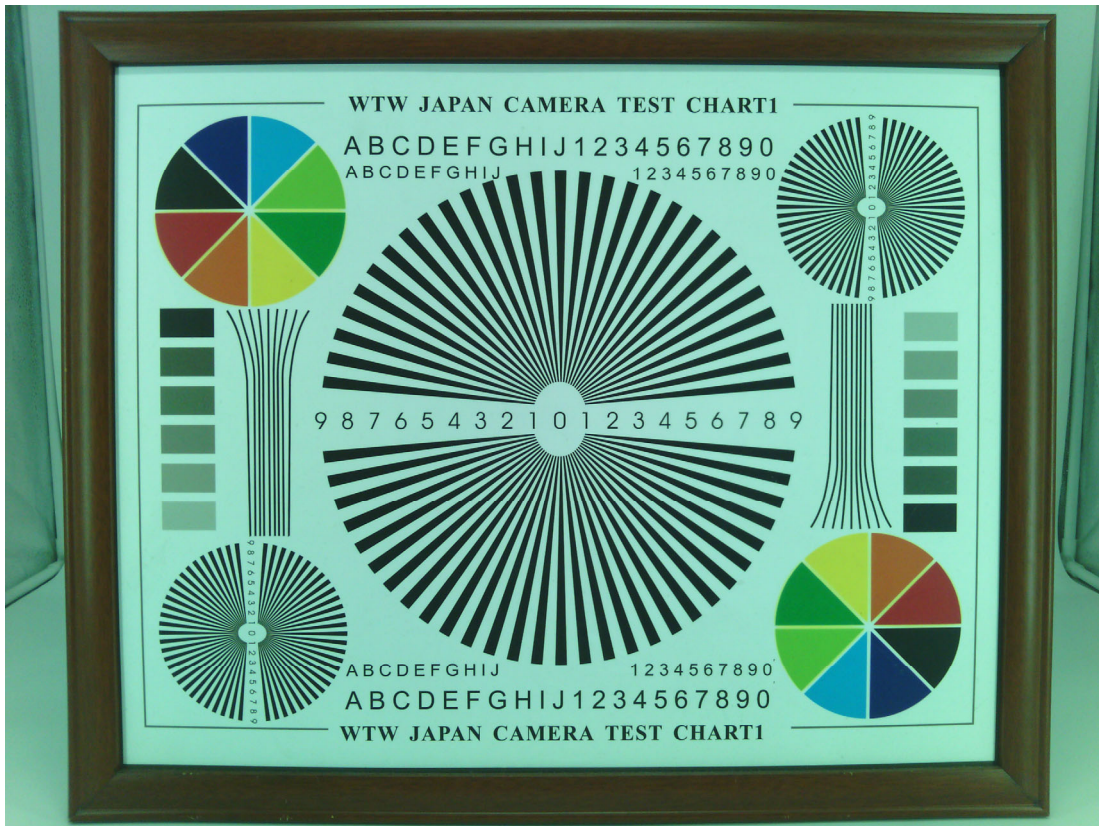
Name - Lithium

Symbol
Li

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																		H																	He																																																																
																		3	Li																	4																																																															
																		5	Be																	6																																																															
																		11	Na																	12																																																															
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19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118
																		87	Fr																	88																																																															
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																		103	Am																	104																																																															
																		105	Cm																	106																																																															
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																		117	No																	118																																																															
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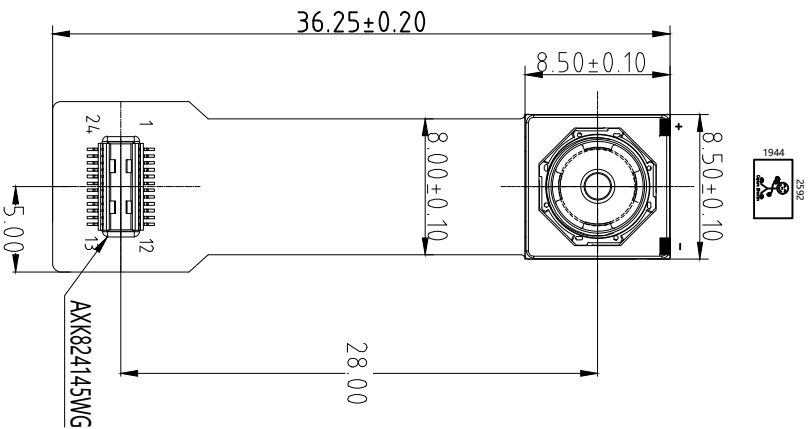




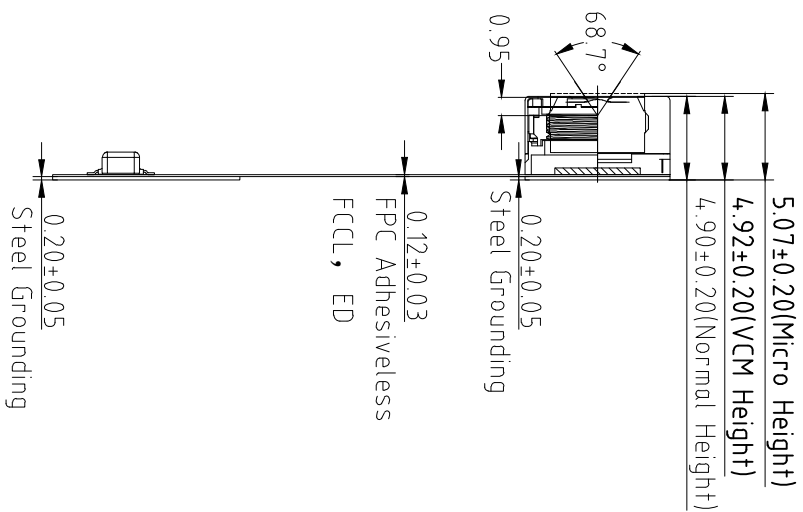


Version	Information	Date
V1.0	First Version	8-10-2020

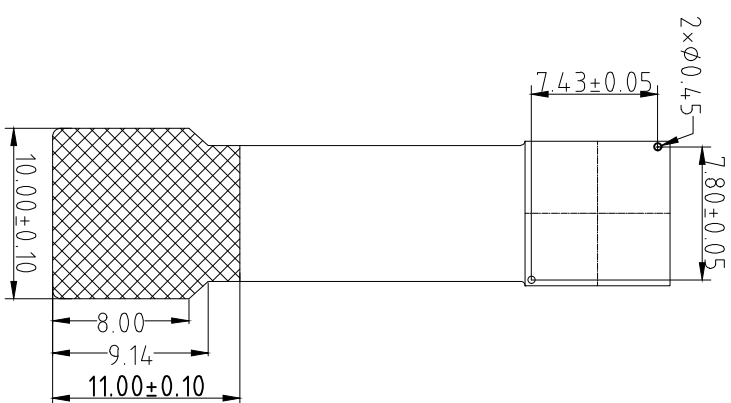
RoHS	
PIN	SIGNAL
1	STROBE
2	AGND
3	SDA
4	AVDD 2.8V
5	SCL
6	RESET
7	NC
8	PWDN
9	NC
10	DVDD1.5V
11	DOVDD1.8/2.8V
12	MDP1
13	XCLK
14	MDN1
15	DGND
16	MCP
17	NC
18	MCN
19	NC
20	MDP0
21	NC
22	MDN0
23	AF-VCC 2.8V
24	AF-AGND



TOP VIEW



SIDE VIEW



BOTTOM VIEW

Parameter:

1、Sensor specification:

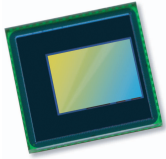
Image Sensor: OV5645
 Pixel: 1.4um×1.4um
 Lens Type: 1/4
 Important Voltage Description: DVDD1.5V (external power supply);

2、Lens specification:

FOV: 68.7°(D),58.1°(H),4.5°(V)
 F/NO: 2.8
 TV distortion: <1.0%
 Focal length: 3.29mm
 Composition: 4P+IR FIL TER
 IR Cut Coating: 650nm±10nm@50%

Kai Lap Technologies Group Ltd

Designed By	Kevin	Model Name:	KLT-U8MA-OV5645 V1.0
Checked By	Aouly_Yan	Projection Type:	Third Angle
		Unit:	mm
		Scale:	1:1
		Sheet:	1 of 1
		Version:	1/0



OV5645 5-megapixel product brief



High Quality 5-Megapixel Photography and HD Video for Low-Cost Mobile Devices



available in
a lead-free
package

OmniVision's OV5645 is a high performance, 5-megapixel system-on-chip (SOC) ideally suited for the cost-sensitive segment of the mobile handset market. The CameraChip™ sensor's single MIPI port replaces both a bandwidth-limited DVP interface and a costly embedded JPEG compressor, allowing the new OV5645 sensor to save significant silicon area and cost. An embedded autofocus control with voice coil motor driver offers further cost savings for the end user, making the OV5645 a highly attractive alternative to other 5-megapixel sensors currently on the market.

The OV5645 also features a new picture-in-picture (PIP) architecture that offers an easy-to-implement, low-cost dual camera system solution for mobile handsets and smartphones. The feature is based on a master/slave configuration where a front-facing camera (OV7965) can be connected through the OV5645 master camera, enabling a two-camera system with PIP functionality without the need for an additional MIPI interface into the baseband processor.

Built on OmniVision's 1.4-micron OmniBSI™ pixel architecture, the OV5645 offers high performance 5-megapixel photography and 720p HD video at 60 frames per second (FPS) and 1080p HD video at 30 FPS with complete user control over formatting and output data transfer. The sensor's 720p HD video is captured in full field-of-view with 2 x 2 binning, which doubles the sensitivity and improves the signal-to-noise ratio (SNR). A unique post-binning, re-sampling filter function removes zigzag artifacts around slant edges and minimizes spatial artifacts to deliver even sharper, crisper color images.

Find out more at www.ovt.com.

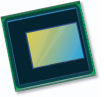
Applications

- Cellular Phones
- PC Multimedia
- Toys
- Digital Still Cameras

Product Features

- 1.4 μm x 1.4 μm pixel with OmniBSI+™ technology for high performance (high sensitivity, low crosstalk, low noise, improved quantum efficiency)
- optical size of 1/4"
- automatic image control functions: automatic exposure control (AEC), automatic white balance (AWB), automatic band filter (ABF), automatic 50/60 Hz luminance detection, and automatic blacklevel calibration (ABLC)
- image quality controls: color saturation, hue, gamma, sharpness (edge enhancement), lens correction, defective pixel canceling, and noise canceling
- support for output formats: RAW RGB, RGB565/555/444, YUV422/420, YCbCr422
- support for video or snapshot operations
- support for internal and external frame synchronization for frame exposure mode
- support for LED and flash strobe mode
- support for horizontal and vertical sub-sampling, binning
- support for minimizing artifacts on binned image
- support for data compression output
- support for anti-shake
- standard serial SCCB interface
- dual lane MIPI output interface
- embedded 1.5V regulator for core power
- programmable I/O drive capability, I/O tri-state configurability
- support for black sun cancellation
- support for images sizes: 5 megapixel, and any arbitrary size scaling down from 5 megapixel
- support for auto focus control (AFC) with embedded AF VCM driver
- embedded microcontroller
- suitable for module size of 8.5 x 8.5 x $\pm 6\text{mm}$ with both CSP and RW packaging

OV5645



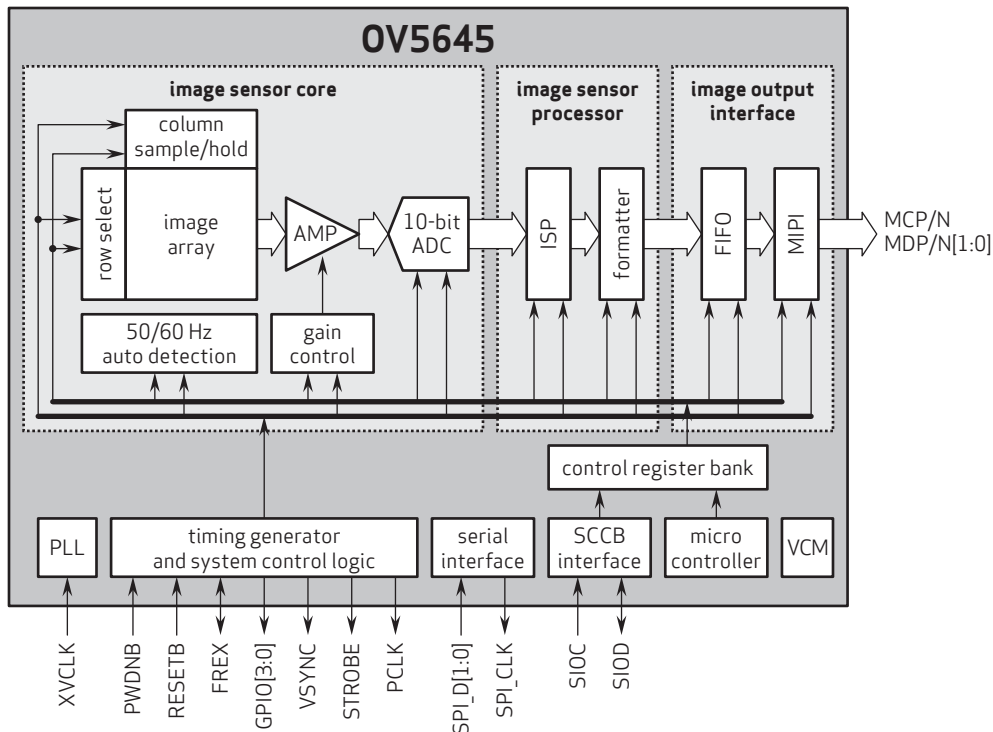
Ordering Information

- OV05645-A66A (color, lead-free, 66-pin CSP3)
- OV05645-G04A (color, chip probing, 200 μm backgrinding, reconstructed wafer)

Product Specifications

- active array size: 2592 x 1944
- power supply:
 - core: 1.5V $\pm 5\%$ (with embedded 1.5 regulator)
 - analog: 2.6 - 3.0V (2.8V typical)
 - I/O: 1.8V / 2.8V
- temperature range:
 - operating: -30°C to 70°C junction temperature
 - stable image: 0°C to 50°C junction temperature
- output formats: 8-/10-bit RGB RAW, RGB565/555/444, YUV422/420, YCbCr422 output
- lens size: 1/4"
- lens chief ray angle: 29.1°
- input clock frequency: 6 - 27 MHz
- max S/N ratio: 36 dB
- maximum image transfer rate:
 - QSXGA (2592X1944): 15 fps
 - 1080p: 30 fps
 - 1280x960: 45 fps
 - 720p: 60 fps
- shutter: rolling shutter / frame exposure
- maximum exposure interval: 1964 x t_{row}
- pixel size: 1.4 μm x 1.4 μm
- image area: 3673.6 μm x 2738.4 μm
- package/die dimensions:
 - CSP3: 6200 μm x 4860 μm
 - COB: 6190 μm x 4850 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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OmniVision