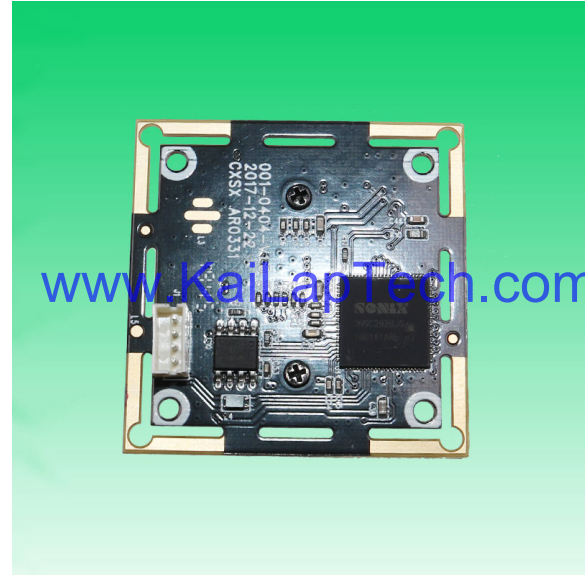


**KLT-USB-0404 V1****3.1MP OnSemi AR0331 M14 Fixed Focus USB 2.0 Camera Module**

KLT-USB-0404 V1 is a 3.1MP Fixed Focus USB camera module based on 1/3" AR0331 image sensor. It delivers high-speed, 3K resolution ultra sharp image.

The S-mount (M14) lens holder enables customers to choose different lens as per varies applications. This camera module is ideal solution for face recognition, identity detection, access control.

Key Features

- 3K resolution (2048 x 1536) OnSemi AR0331 sensor
- High speed USB 2.0 Plug and Play
- MJPG and YUV2 output format
- Low power consumption
- Compact size
- UVC compliant to Windows, Linux, OS with UVC driver
- USB OTG (On-The-Go) support



KLT-USB-0404 V1

3.1MP OnSemi AR0331 M14 Fixed Focus USB 2.0 Camera Module

Camera Module No.	KLT-USB-0404 V1
Resolution	3.1MP
Image Sensor	AR0331
Sensor Type	1/3"
Pixel Size	2.2 um x 2.2 um
EFL	N/A
F.NO	N/A
Pixel	2048 x 1536
View Angle	90°(DFOV)
Lens Dimensions	15.90 x 15.90 x 17.80 mm
Module Type	Fixed Focus
Lens Model	KLT-LENS-0404 V1
Interface	USB 2.0
Output Format	MJPEG / YUV2
Auto Control	Saturation, Contrast, Acutance White Balance, Exposure
Audio	None
Input Voltage	DC 5V
Working Current	Max 500mA
PCB Size	38 x 38 mm / 32 x 32 mm
System Compatibility	Windows XP (SP2, SP3), Vista, 7, 8, 10, 11 Android, Mac OS, Linux or OS with UVC Driver Raspberry Pi by USB Port
Software for USB Camera	AMCAP, Webcam Viewer, V4L2 Controls Contacam, VLC Player, MotionEye OS iSpy, ZoneMider, Yawcam
Lens Type	650nm IR Cut
Operating Temperature	-30°C to +85°C
USB Cable	KLT-Cable-U015

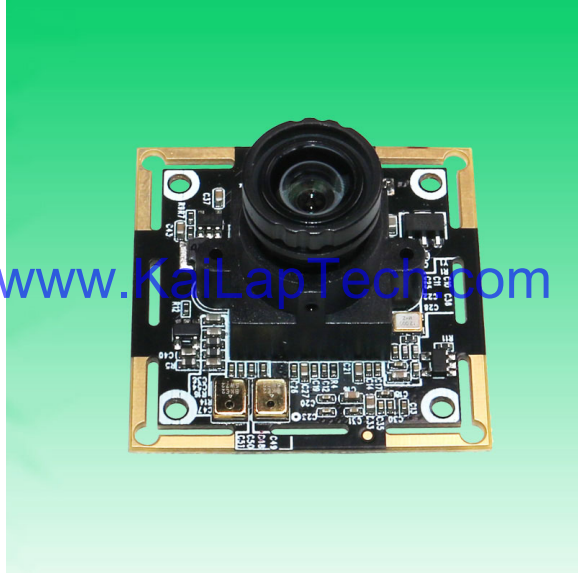
Wide Compatibility with Windows, Android, Mac OS, Linux, or Raspberry Pi





KLT-USB-0404 V1

3.1MP OnSemi AR0331 M14 Fixed Focus USB 2.0 Camera Module



Top View



Side View

www.KaiLapTech.com

www.KaiLapTech.com



Bottom View



Mating Connector



KLT-USB-0404 V1

3.1MP OnSemi AR0331 M14 Fixed Focus USB 2.0 Camera Module

FORMAT	RESOLUTION	FRAME RATE
		USB 2.0
MJPG	640 x 480 (VGA)	25 FPS
	1280 x 720 (720P)	25 FPS
	1920 x 1080 (1080P)	25 FPS
YUY2	640 x 480 (VGA)	25 FPS
	1280 x 720 (720P)	10 FPS
	1920 x 1080 (1080P)	5 FPS





www.KaiLapTech.com

www.KaiLapTech.com

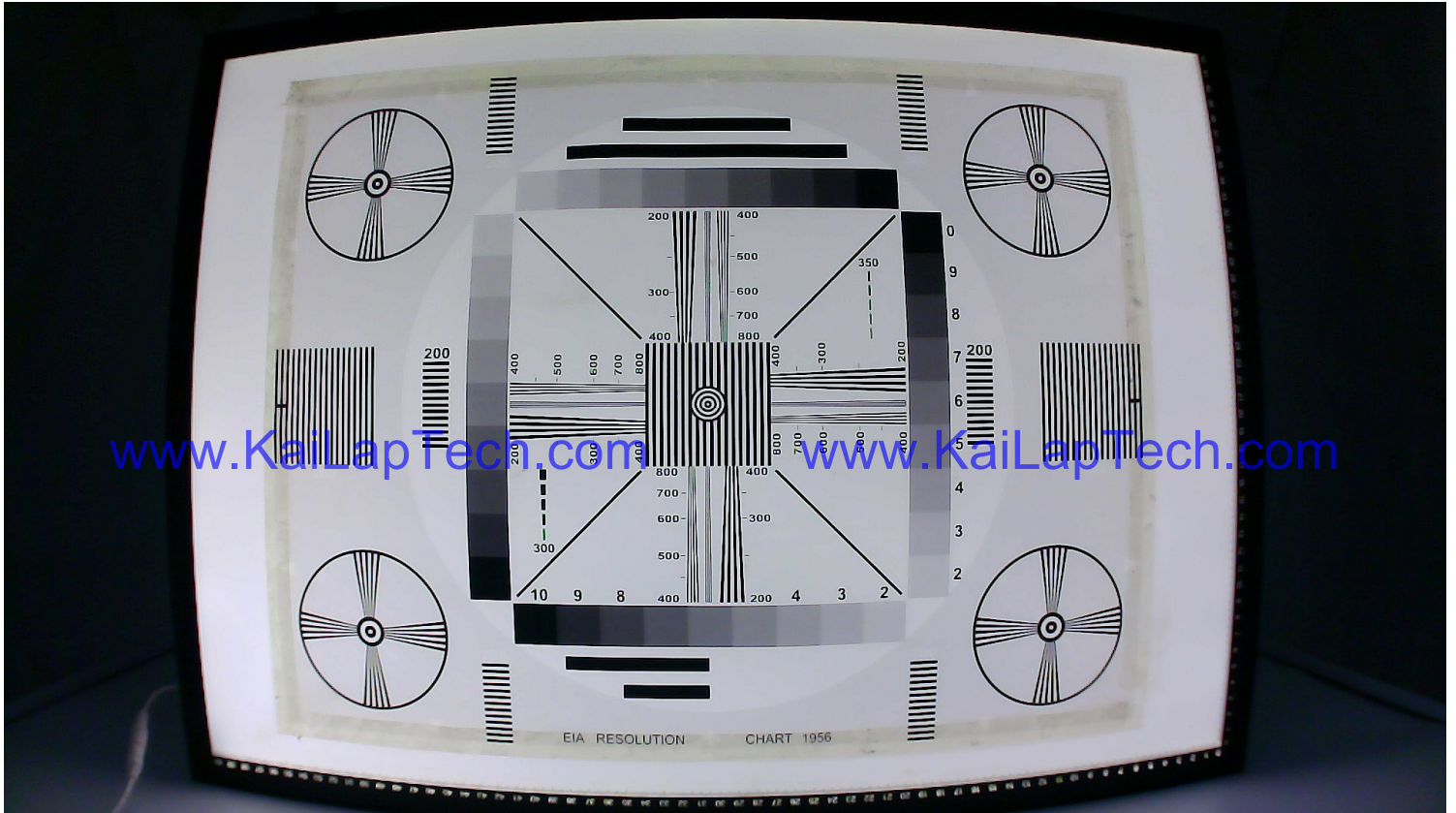
www.KaiLapTech.com

www.KaiLapTech.com



www.KaiLapTech.com

www.KaiLapTech.com



www.KaiLapTech.com



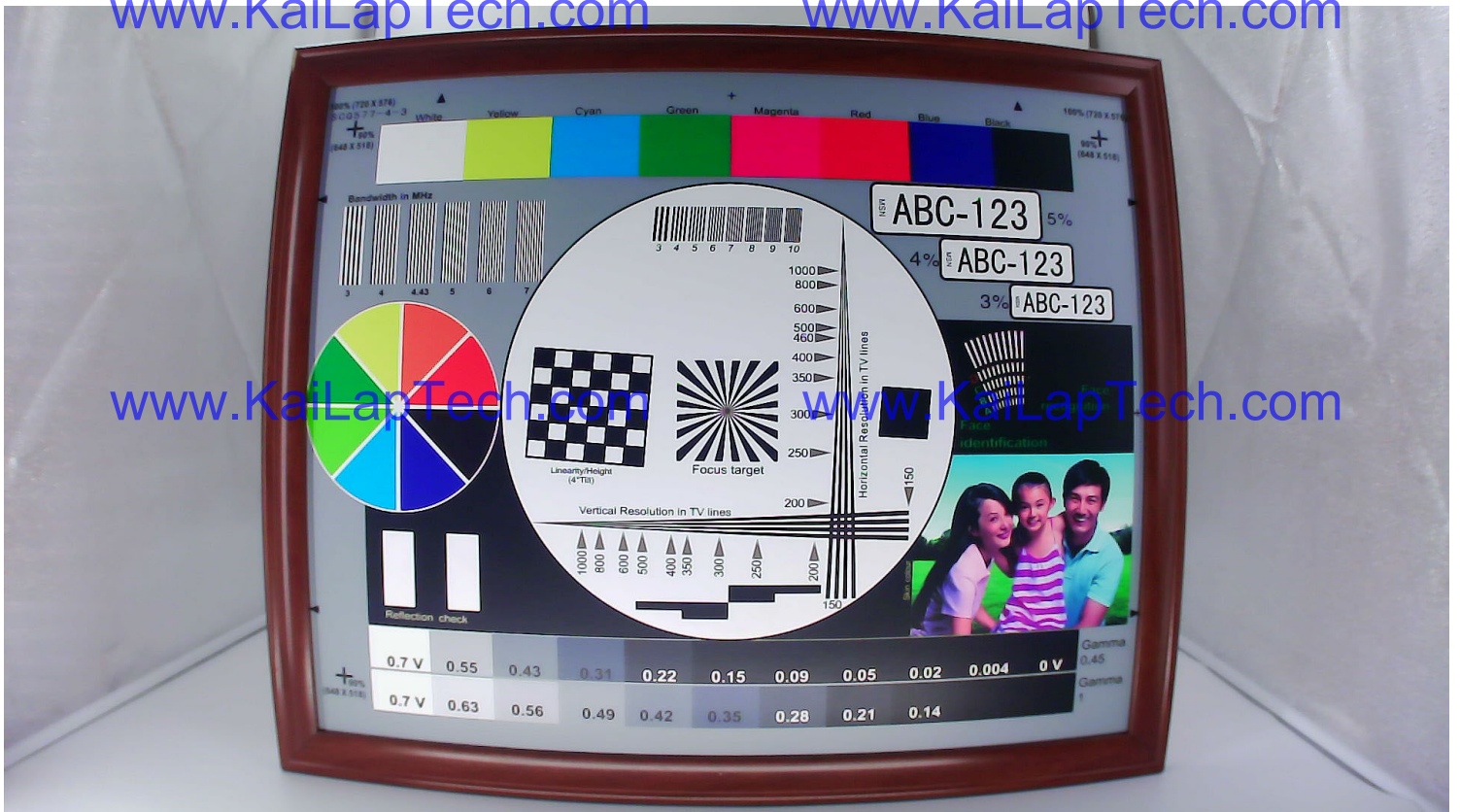
www.KaiLapTech.com

www.KaiLapTech.com



www.KaiLapTech.com

www.KaiLapTech.com



www.KaiLapTech.com

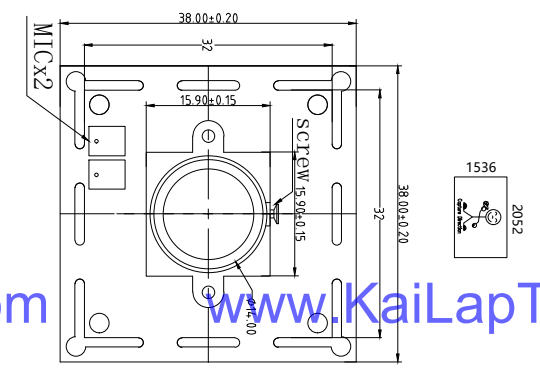
www.KaiLapTech.com

www.KaiLapTech.com

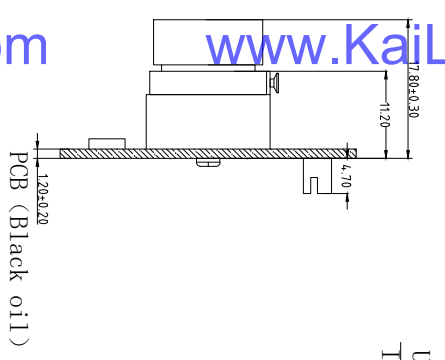
www.KaiLapTech.com

Version	Information	Date
V1.0	First Version	4-24-2022

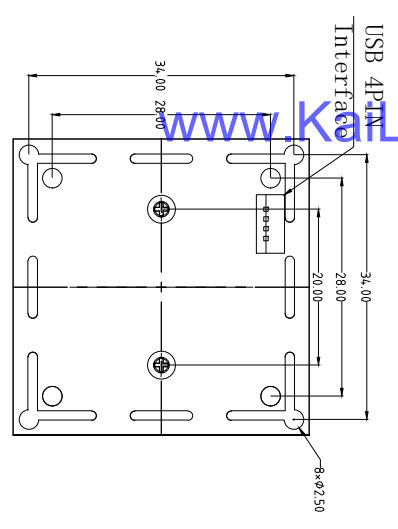
PIN NO	SIGNAL
PIN1	USB 5V
02	D-
03	D+
04	DGND



TOP VIEW



SIDE VIEW



BOTTOM VIEW

Parameter:

1. Sensor specification:

Image Sensor: AR0331

Pixel: 3.0umx3.0um

Lens Type: 1/2.2

Important Voltage Description: USB 5V (external power supply);

2. Lens specification:

FOV: 90°(D)

FNO.: TBD

Ty distortion: TBD

Focal length: TBD

Composition: 2G2P+IR FILTER

IR Cut Coating: 650nm±10nm@50%

Kai Lap Technologies Group Ltd

Designed By	Keven	Model Name:	KLT-USB-003-0404
Checked By	Aouly_Yan	Projection Type:	Third Angle
Unit:	mm	Material:	-----
Scale:	1:1	Sheet:	1 of 1
Version:	1/0		

Product Overview

AR0331: 3 MP 1/3" CMOS Image Sensor

For complete documentation, see the data sheet.

The 3.1-megapixel sensor was created to meet the needs of the growing full HD video-centric surveillance market with the exceptional performance of the new 2.2-micron pixel sensor featuring ON Semiconductor's A-Pix technology. The AR0331 targets the mainstream 1/3-inch optical format surveillance camera market with excellent image quality. The sensor provides surveillance camera manufacturers with a performance upgrade to current 3-megapixel sensor designs with a best-in-class feature set to combining full HD video with wide dynamic range (WDR) capability and built-in adaptive local tone mapping. The new sensor provides HD video of up to 1080p at 60 fps employing advanced binning techniques to enable the sensors' sub 1-lux low light performance. The second HD image sensor in ON Semiconductor's surveillance portfolio, like the MT9M033 (720p/60fps), the AR0331 image sensor's low light and dynamic range capabilities enable a surveillance camera to capture HD video in the most challenging environments.

Features

- High Dynamic Range

Applications

- Security

Part Electrical Specifications											
Product	Compliance	Status	Type	Megapixels	Frame Rate (fps)	Optical Format	Shutter Type	Pixel Size (µm)	Output Interface	Color	Package Type
AR0331SRSC00SHCA0-DRBR	Pb-free Halide free	Active	CMOS	3.1	60	1/3 inch	Electronic Rolling	2.2 x 2.2	HiSPi™	Bayer Color	ILCC-48
AR0331SRSC00SHCA0-DRBR1	Pb-free Halide free	Active	CMOS	3.1	60	1/3 inch	Electronic Rolling	2.2 x 2.2	HiSPi™	Bayer Color	ILCC-48
AR0331SRSC00SUCA0-DPBR	Pb-free Halide free	Active	CMOS	3.1	60	1/3 inch	Electronic Rolling	2.2 x 2.2	Multi	Bayer Color	ILCC-48
AR0331SRSC00SUCA0-DPBR1	Pb-free Halide free	Active	CMOS	3.1	60	1/3 inch	Electronic Rolling	2.2 x 2.2	Multi	Bayer Color	ILCC-48
AR0331SRSC00SUCA0-DRBR	Pb-free Halide free	Active	CMOS	3.1	60	1/3 inch	Electronic Rolling	2.2 x 2.2	Multi	Bayer Color	ILCC-48
AR0331SRSC00SUCA0-DRBR1	Pb-free Halide free	Active	CMOS	3.1	60	1/3 inch	Electronic Rolling	2.2 x 2.2	Multi	Bayer Color	ILCC-48
AR0331SRSC00XUEE0-DPBR	Pb-free Halide free	Active	CMOS	3.1	60	1/3 inch	Electronic Rolling	2.2 x 2.2	Multi	Bayer Color	IBGA-63
AR0331SRSC00XUEE0-DRBR	Pb-free Halide free	Active	CMOS	3.1	60	1/3 inch	Electronic Rolling	2.2 x 2.2	Multi	Bayer Color	IBGA-63
AR0331SRSC00XUEE0-DRBR1	Pb-free Halide free	Active	CMOS	3.1	60	1/3 inch	Electronic Rolling	2.2 x 2.2	Multi	Bayer Color	IBGA-63

For more information please contact your local sales support at www.onsemi.com.

Created on: 9/30/2017



your BEST camera module partner

Cameras Applications



www.KaiLapTech.com



www.KaiLapTech.com



www.KaiLapTech.com

www.KaiLapTech.com



www.KaiLapTech.com



www.KaiLapTech.com





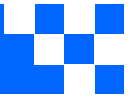
Camera Reliability Test

Reliability Inspection Item		Testing Method	Acceptance Criteria	
Category	Item			
Environmental	Storage Temperature	High 60°C 96 Hours	Temperature Chamber	No Abnormal Situation
		Low -20°C 96 Hours	Temperature Chamber	No Abnormal Situation
	Operation Temperature	High 60°C 24 Hours	Temperature Chamber	No Abnormal Situation
		Low -20°C 24 Hours	Temperature Chamber	No Abnormal Situation
	Humidity	60°C 80% 24 Hours	Temperature Chamber	No Abnormal Situation
	Thermal Shock	High 60°C 0.5 Hours Low -20°C 0.5 Hours Cycling in 24 Hours	Temperature Chamber	No Abnormal Situation
Physical	Drop Test (Free Falling)	Without Package 60cm	10 Times on Wood Floor	Electrically Functional
		With Package 60cm	10 Times on Wood Floor	Electrically Functional
	Vibration Test	50Hz X-Axis 2mm 30min	Vibration Table	Electrically Functional
		50Hz Y-Axis 2mm 30min	Vibration Table	Electrically Functional
		50Hz Z-Axis 2mm 30min	Vibration Table	Electrically Functional
Cable Tensile Strength Test	Loading Weight 4 kg 60 Seconds Cycling in 24 Hours	Tensile Testing Machine	Electrically Functional	
Electrical	ESD Test	Contact Discharge 2 KV	ESD Testing Machine	Electrically Functional
		Air Discharge 4 KV	ESD Testing Machine	Electrically Functional
	Aging Test	On/Off 30 Seconds Cycling in 24 Hours	Power Switch	Electrically Functional
	USB Connector	On/Off 250 Times	Plug and Unplug	Electrically Functional





Inspection Item		Inspection Method	Standard of Inspection	
Category	Item			
Appearance	FPC/ PCB	Color	The Naked Eye	Major Difference is Not Allowed.
		Be Torn/Chopped	The Naked Eye	Copper Crack Exposure is Not Allowed.
		Marking	The Naked Eye	Clear, Recognizable (Within 30cm Distance)
	Holder	Scratches	The Naked Eye	The Inside Crack Exposure is Not Allowed
		Gap	The Naked Eye	Meet the Height Standard
		Screw	The Naked Eye	Make Sure Screws Are Presented (If Any)
		Damage	The Naked Eye	The Inside Crack Exposure is Not Allowed
	Lens	Scratch	The Naked Eye	No Effect On Resolution Standard
		Contamination	The Naked Eye	No Effect On Resolution Standard
		Oil Film	The Naked Eye	No Effect On Resolution Standard
		Cover Tape	The Naked Eye	No Issue On Appearance.
	Function	Image	No Communication	Test Board
Bright Pixel			Black Board	Not Allowed In the Image Center
Dark Pixel			White board	Not Allowed In the Image Center
Blurry			The Naked Eye	Not Allowed
No Image			The Naked Eye	Not Allowed
Vertical Line			The Naked Eye	Not Allowed
Horizontal Line			The Naked Eye	Not Allowed
Light Leakage			The Naked Eye	Not Allowed
Blinking Image			The Naked Eye	Not Allowed
Bruise			Inspection Jig	Not Allowed
Resolution			Chart	Follows Outgoing Inspection Chart Standard
Color			The Naked Eye	No Issue
Noise			The Naked Eye	Not Allowed
Corner Dark			The Naked Eye	Less Than 100px By 100px
Color Resolution			The Naked Eye	No Issue
Dimension	Height	The Naked Eye	Follows Approval Data Sheet	
	Width	The Naked Eye	Follows Approval Data Sheet	
	Length	The Naked Eye	Follows Approval Data Sheet	
	Overall	The Naked Eye	Follows Approval Data Sheet	



KLT Package Solutions

KLT Camera Module



Complete with Lens Protection Film



Tray with Grid and Space



Place Cameras on the Tray





Camera Modules Package Solution

Full Tray of Cameras



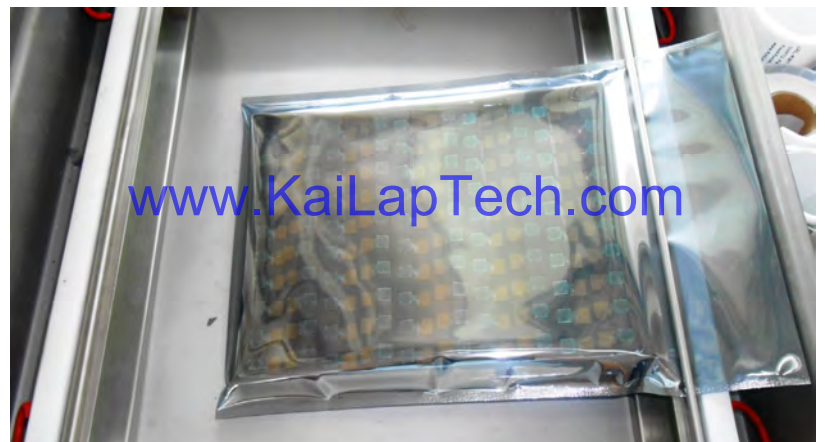
Cover Tray with Lid



Put Tray into Anti-Static Bag



Vacuum the Anti-Static Bag





Camera Modules Package Solution

Sealed Vacuum Bag with Labels

- 1. Model and Description 2. Quantity 3. Shipping Date 4. Caution**





CMOS CAMERA MODULES



your BEST camera module partner

Large Order Package Solution

Place Foam Sheets Between Trays

Foam Sheets are Slightly Larger than Trays

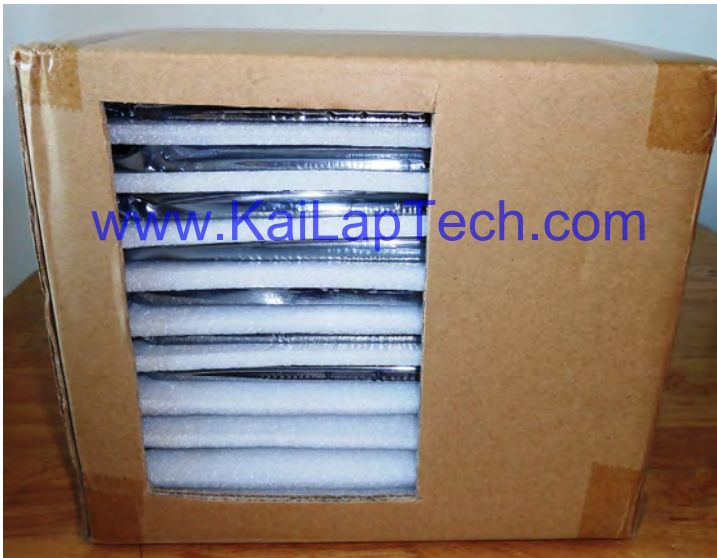


www.KaiLapTech.com

www.KaiLapTech.com

Place Foam Sheets and Trays into Box

Foam Sheets are Tightly Fitting Box



www.KaiLapTech.com sales@KaiLapTech.com Tel: (852) 6908 1256 Fax: (852) 3017 6778

All rights reserved @ Kai Lap Technologies Group Ltd. Specifications subject to change without notice.



CMOS CAMERA MODULES



your BEST camera module partner

Small Order Package Solution

Place Foam Sheets and Trays into Small Box



www.KaiLapTech.com

Package in Small Box for Shipment

Foam Sheets are Nicely Fitting the Small Box



www.KaiLapTech.com

Place Small Boxes into Larger Box



www.KaiLapTech.com sales@KaiLapTech.com Tel: (852) 6908 1256 Fax: (852) 3017 6778

All rights reserved @ Kai Lap Technologies Group Ltd. Specifications subject to change without notice.

Carbon Box Package Solution

Seal the Carbon Box

Final Package Labelled Box



Carbon Box Ready for Shipment

1. Delivery Address and Phone No.
2. Box No. and Ship Date
3. Fragile Caution



Sample Order Package Solution

Place Sample into Small Anti-Static Bag



Place Connectors into Small Ant-Static Bag



Sample Labels on the Small Bag

1. Camera Module or Connector Model
2. Shipping Date and Quantity
3. Caution





Connectors Large Order Package Solution

Connectors in a Wheel



Label Connectors in the Wheel



The Wheel is Perfectly Fitting the Box



Connectors Box Ready for Shipment



Company Kai Lap Technologies (KLT)

Kai Lap Technologies Group Limited. (KLT) was established in 2009, a next-generation technology driven manufacturer specialized in research, design, and produce of audio and video products. KLT is occupying 20,000 square feet automated plants with 100 employees of annual throughput 30,000,000 units cameras.

KLT provides OEM, ODM design, contract manufacturing, and builds the camera products. You may provide the requirements to us, even with a hand draft, our sales and engineering work together to meet your needs. We consider ourselves your last-term partner in developing practical and innovative solutions.

Our team covers everything from initial concept development to mass produced product. KLT specializes in customized camera design, raw material, electronic engineering, firmware/software development, product testing, and packing design. Our experienced strategic supply systems offer a robust and dependable manufacturing capacity for orders of various sizes.

www.KaiLapTech.com

www.KaiLapTech.com



Limited Warranty

KLT provides the following limited warranty if you purchased the Product(s) directly from KLT company or from KLT's website, www.KaiLapTech.com. Product(s) purchased from other sellers or sources are not covered by this Limited Warranty. KLT guarantees that the Product(s) will be free from defects in materials and workmanship under normal use for a period of one (1) year from the date you receive the product ("Warranty Period").

For all Product(s) that contain or develop material defects in materials or workmanship during the Warranty Period, KLT will, at its sole option, either: (i) repair the Product(s); (ii) replace the Product(s) with a new or refurbished Product(s) (replacement Product(s) being of identical model or functional equivalent); or (iii) provide you a refund of the price you paid for the Product(s).

This Limited Warranty of KLT is solely limited to repair and/or replacement on the terms set forth above. KLT is not reliable or responsible for any subsequent events.





CMOS CAMERA MODULES



your BEST camera module partner

KLT Strength

Powerful Factory



Professional Service



Promised Delivery



www.KaiLapTech.com sales@KaiLapTech.com Tel: (852) 6908 1256 Fax: (852) 3017 6778

All rights reserved @ Kai Lap Technologies Group Ltd. Specifications subject to change without notice.