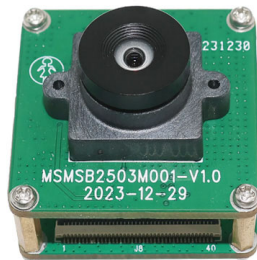
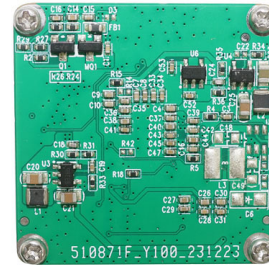


MSR-USB-HM3-03100-F95 3MP HDR M12 Fixed Focus USB 2.0 Camera Module



Front View



Back View

MSR-USB-HM3-03100-F95 is a 3MP HDR Fixed Focus USB camera module based on 1/2.44" SoC image sensor. It delivers 1920 x 1536 resolution at 3.0um ultra large pixels plus HDR algorithm ensures high quality images in high brightness areas and shadows. The camera has high performance in backlighting and scenes under strong light sources (sunlight, lamps or reflections, etc.), with wide dynamic range up to 140dB. This camera module is ideal solution for vehicle-road collaboration, industrial inspection, industrial equipment, all-in-one machines, display stands, media equipment, advertising machines, outdoor/indoor scenes requiring wide dynamic range.

Key Features

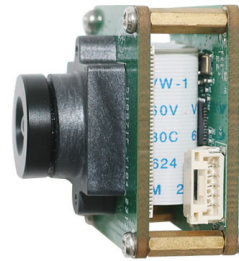
- 3 Megapixels 1920 x 1536 array at 30 FPS
- High speed USB 2.0 Plug and Play
- MJPEG output format
- Low power consumption
- Compact size 32x32 mm or 38x38 mm
- UVC compliant to Windows, Linux, OS with UVC UAC driver
- USB OTG (On-The-Go) Support

MSR-USB-HM3-03100-F95

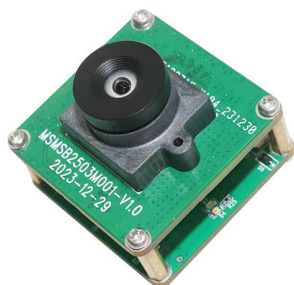
3MP HDR M12 Fixed Focus USB 2.0 Camera Module



Top View



Side View



Bottom View



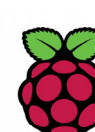
USB Cable

MSR-USB-HM3-03100-F95

3MP HDR M12 Fixed Focus USB 2.0 Camera Module

Camera Module No.	MSR-USB-HM3-03100-F95
Image Sensor	3MP HDR
Sensor Type	1/2.44"
Resolution	3.00 um x 3.00 um
Pixel Size	1920 x 1536 @ 30 FPS
TTL	12.0 mm
F. NO.	2.40
View Angle	95°(DFOV) 85°(HFOV) 53°(VFOV)
Lens Dimensions	17.00 x 17.00 mm
Module Type	Fixed Focus
Interface	USB 2.0
Output Format	MJPG
Auto Control	Saturation, Contrast, Acutance White Balance, Exposure
Audio (Optional)	Digital Microphone, Single, Dual Channel
Input Voltage	DC 5V
Working Current	Max 500mA
PCB Size	32.0 x 32.0 x 25.5 mm
System Compatibility	Windows XP (SP2, SP3), Vista, 7, 8, 10, 11 Android, Mac OS, Linux or OS with UVC UAC 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	-40°C to +105°C

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



Windows® 안드로이드 Mac™ OS Apple Linux Raspberry Pi

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MSR-USB-HM3-03100-F95

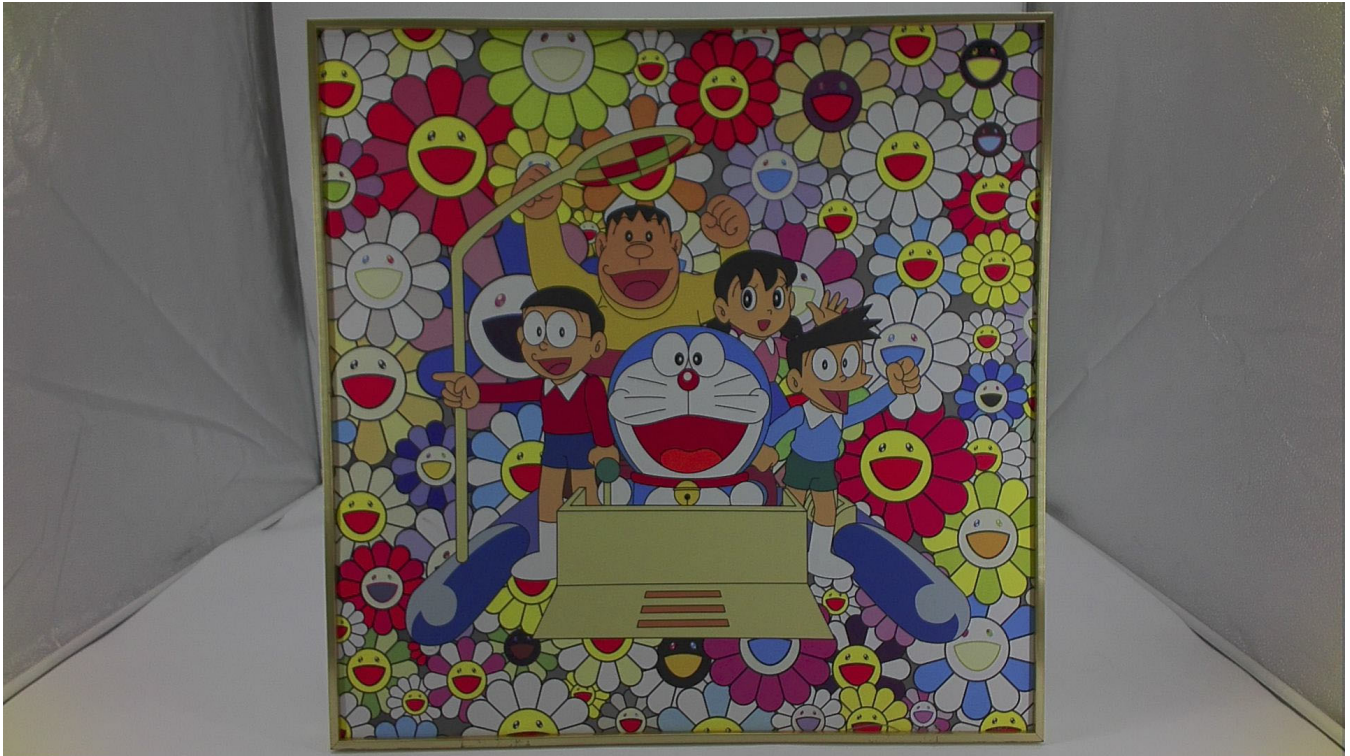
3MP HDR M12 Fixed Focus USB 2.0 Camera Module

Additional Lens Options				
Lens Specs	A	B	C	D
TTL (mm)	22.80	22.00	22.50	24.43
EFL (mm)	3.56	4.30	2.70	1.80
F. No.	2.5	2.8	2.8	2.8
DFOV (degree)	105	82	113	132
HFOV (degree)	88	72	100	123
TV Distortion	<16%	<1%	<1.5%	<6.4%

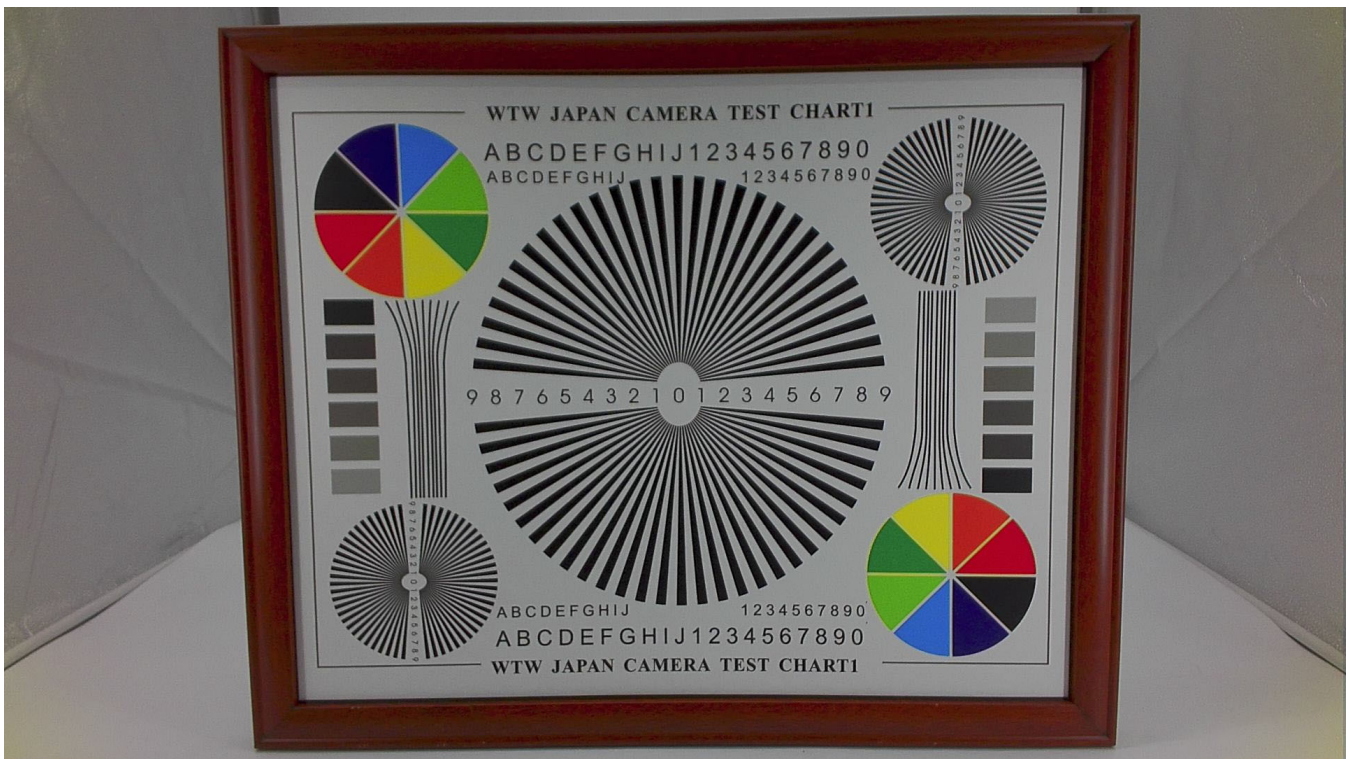
Format	Resolution	Frame Rate
		USB 2.0
MJPG	640 x 480 (VGA)	15 FPS
	1280 x 720 (720P)	15 FPS
	1920 x 1080 (1080P)	15 FPS
	1920 x 1536	15 FPS



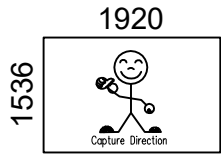
MSR-USB-HM3-03100-F95
3MP HDR M12 Fixed Focus USB 2.0 Camera Module



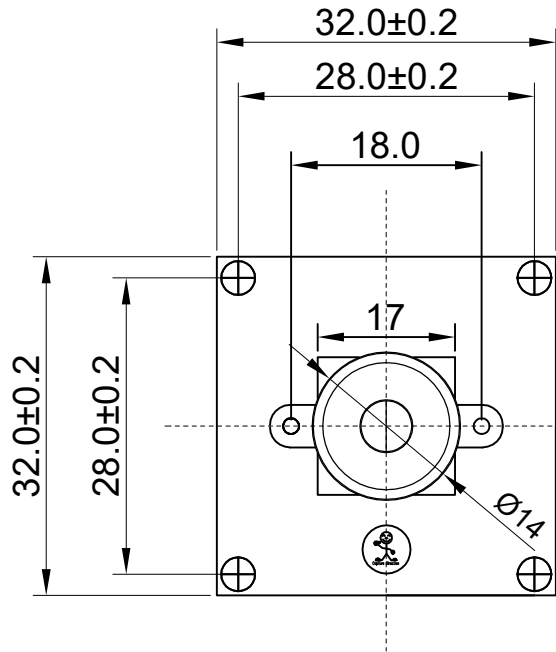
MSR-USB-HM3-03100-F95
3MP HDR M12 Fixed Focus USB 2.0 Camera Module



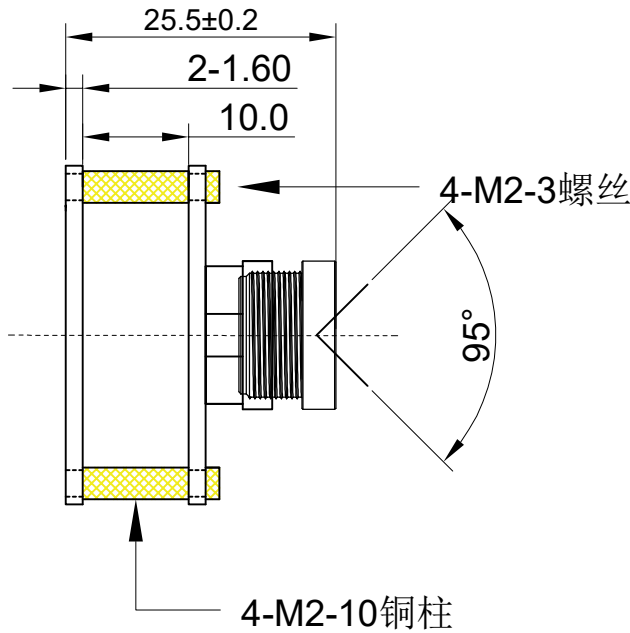
ROHS	
PIN	SIGNAL
1	USB_5V
2	DM(-)
3	DP(+)
4	GND
5	GND



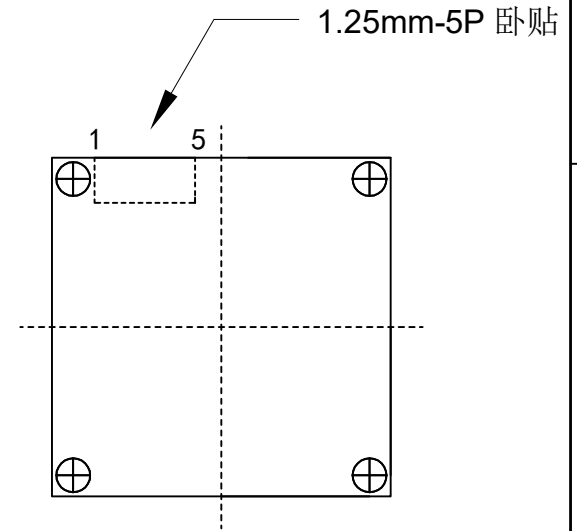
Version	Mark	Information	Date
V1.0	PD	First Version	2024-01-12



TOP VIEW



SIDE VIEW



BOTTEM VIEW

Parameters:

1、Sensor specification:

Image Sensor : 3M
 Pixel Size: 3.0umX3.0um
 Image Size: 1/2.44

2、Lens specification:

FOV: D:95°/H:85°/V:53°
 F/NO.: 2.4
 TV distortion: ≤1%
 TTL: 12mm
 Composition: 3G+2P

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Designed By	Lu	Model Name:	HM3-03100		
Checked By	He cheng	Projection Type:	Unit:	Material: -----	
			mm	Scale:	Sheet:
			1:1	1 of 1	1/0

Cameras Applications



Automotive Driver Pilot



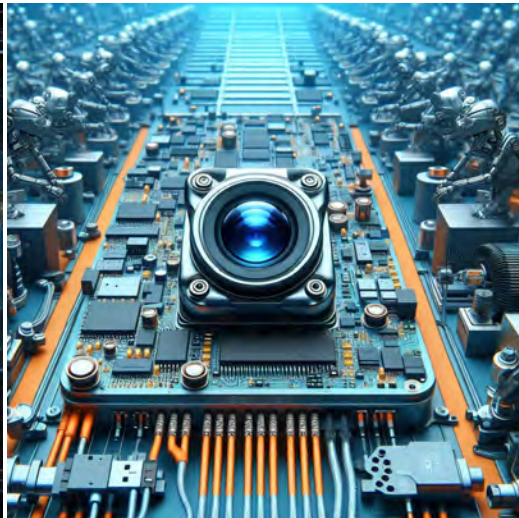
Live Streaming



Video Conference



Eye Tracker Biometric Detection



Machine Vision



Agricultural Monitor



Night Vision Security



Drone and Sports Eagle Eyes



Interactive Pet Camera

Camera Module Pinout Definition Reference Chart

OmniVision	Sony	Samsung	On-Semi	Aptina	Himax	GalaxyCore	PixArt	SmartSens	Sensors
Pin Signal		Description							
DGND	GND								
AGND									
PCLK	DCK								
XCLR	PWDN	XSHUTDOWN	STANDBY						
MCLK	XVCLK	XCLK	INCK						
RESET	RST								
NC	NULL								
SDA	SIO_D	SIOD							
SCL	SIO_C	SIOC							
VSYNC	XVS	FSYNC							
HREF	XHS								
DOVDD									
AFVDD									
AVDD									
DVDD									
STROBE	FSTROBE								
FSIN									
SID									
ILPWM									
FREX									
GPIO									
SLASEL									
AFEN									
MIPI Interface									
MDN0	DN0	MD0N	DATA_N	DMO1N					
MDP0	DP0	MD0P	DATA_P	DMO1P					
MDN1	DN1	MD1N	DATA2_N	DMO2N					
MDP1	DP1	MD1P	DATA2_P	DMO2P					
MDN2	DN2	MD2N	DATA3_N	DMO3N					
MDP2	DP2	MD2P	DATA3_P	DMO3P					
MDN3	DN3	MD3N	DATA4_N	DMO4N					
MDP3	DP3	MD3P	DATA4_P	DMO4P					
MCN	CLKN	CLK_N	DCKN						
MCP	CLKP	MCP	CLK_P	DCKN					
DVP Parallel Interface									
D0	DO0	Y0							
D1	DO1	Y1							
D2	DO2	Y2							
D3	DO3	Y3							
D4	DO4	Y4							
D5	DO5	Y5							
D6	DO6	Y6							
D7	DO7	Y7							
D8	DO8	Y8							
D9	DO9	Y9							
D10	DO10	Y10							
D11	DO11	Y11							

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



Camera Inspection Standard

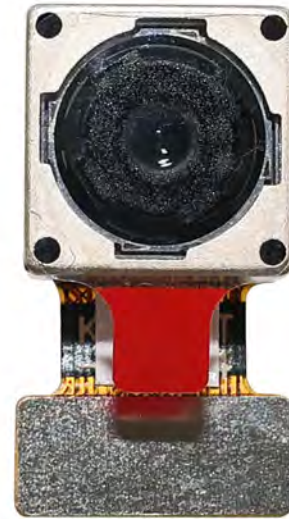
Inspection Item		Inspection Method	Standard of Inspection		
Category	Item				
Appearance	FPC / PCB	Color	The Naked Eye	Major Difference is Not Allowed.	
		Be Torn/Chopped	The Naked Eye	Copper Crack Exposure is Not Allowed.	
		Marking	The Naked Eye	Clear, Recognizable (Within 30cm Distance)	
	Holder	Scratches	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	Not Allowed
			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		

YDS (MICROSTAR) Package Solutions

YDS (MicroStar) Camera Module



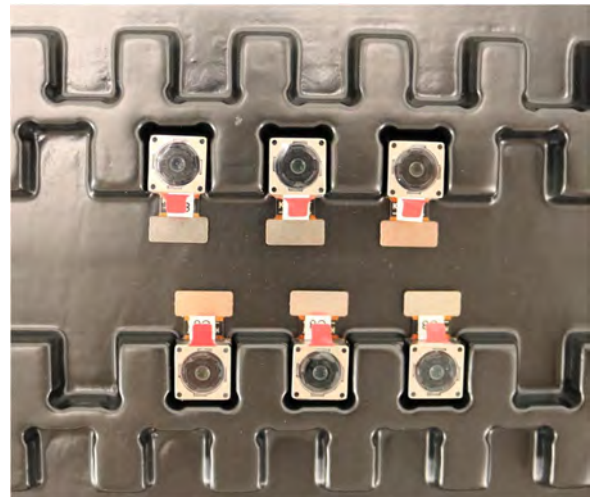
Complete with Lens Protection Film



Tray with Grid and Space

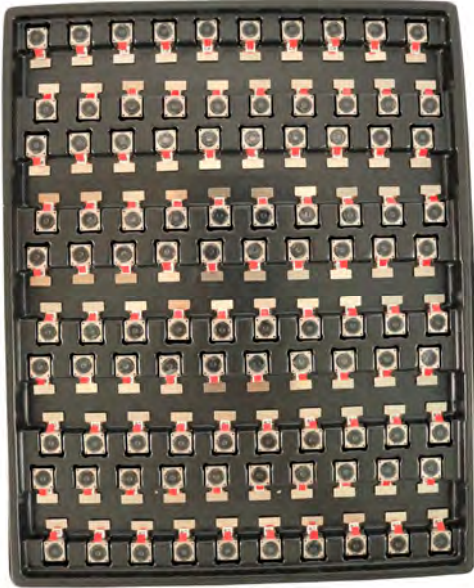


Place Cameras on the Tray

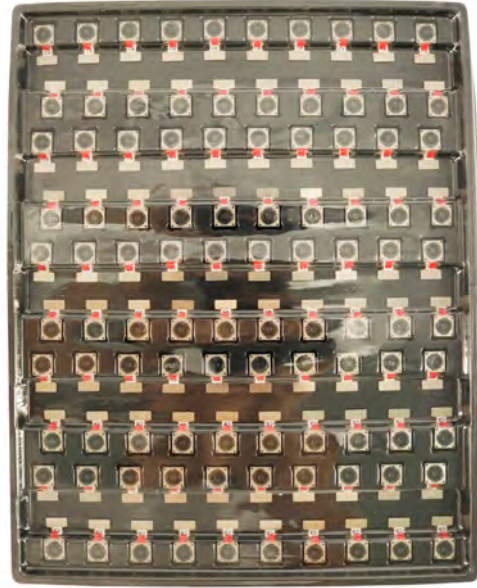


YDS (MICROSTAR) Package Solutions

Full Tray of Cameras



Cover Tray with Lid



Place Tray into Anti-Static Bag



Vacuum the Anti-Static Bag



YDS (MICROSTAR) Package Solutions

Sealed Vacuum Anti-Static Bag with Labels

1. Model and Description 2. Quantity 3. Manufacturing Date Code 4. Caution



YDS (MICROSTAR) Package Solutions

Place Foam Sheets Between Tray Bags



Foam Sheets are Larger Than Trays



Place Foam Sheets and Trays into Box



Foam Sheets are Tightly Fitting in Box



Seal the Carbon Box



Label the Carbon Shipping Box



YDS (MICROSTAR) Package Solutions

USB Camera Module

Complete with Lens Protection Film



Place Camera Sample into Anti-Static Bag

Place USB Cameras into Tray



Seal the Tray with Anti-Static Bag

Label the Carbon Shipping Box



YDS (MICROSTAR) Package Solutions

Place Camera Sample into Anti-Static Bag



Place Connectors into Anti-Static Bag



Label the Sample Bags



Place Connectors into Reel



Place Samples into the Carbon Box



Place Connectors into the Carbon Box

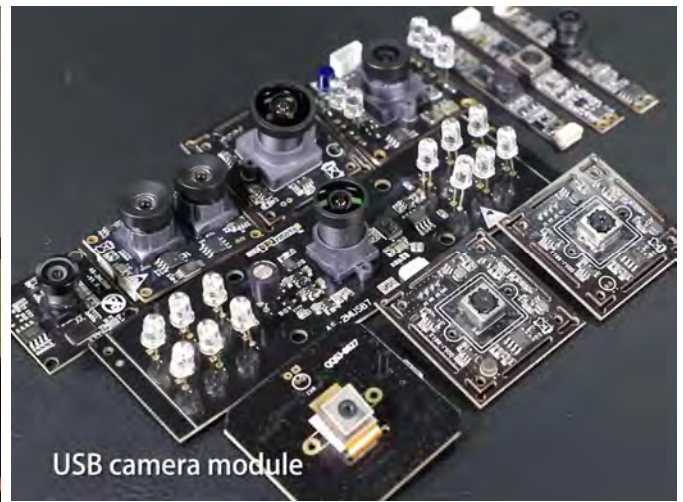


About Our Company YingDeShun Co. Ltd. (Micro Star Brand)

YingDeShun Co. Ltd. (YDS) was established in 2017, a next-generation technology driven manufacturer specialized in research, design, and produce of audio and video products. The brand “Micro Star” is made by YDS. Our factories are occupying 50,000 square feet automated plants with 200 employees of annual throughput 85,000,000 units cameras.

Micro Star (YDS) 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 long term partner in developing practical and innovative solutions.

Our team covers everything from initial concept development to mass produced product. Micro Star (YDS) 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.



Limited Warranty

Micro Star (YDS) provides the following limited warranty if you purchased the Product(s) directly from YDS company or from Micro Star's website www.MicroStarCam.com. Product(s) purchased from other sellers or sources are not covered by this Limited Warranty. Micro Star 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, Micro Star 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 Micro Star is solely limited to repair and/or replacement on the terms set forth above. Micro Star is not reliable or responsible for any subsequent events.



Our Company Strength

Powerful Factory



Professional Service



Promised Delivery

