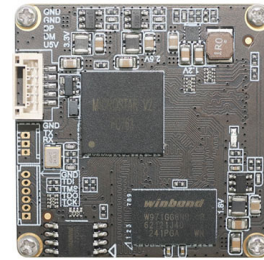


## IMT-USB-M2-05100-F118 5MP 2K M12 Fixed Focus USB 2.0 Camera Module



Front View



Back View

IMT-USB-M2-05100-F118 is a 5MP Fixed Focus USB camera module based on 1/2.8" image sensor. It delivers 2592 x 1944 resolution at 2.0um large pixels with 2K high quality images and 3D noise reduction function. The S-mount (M12) lens holder enables customers to choose different lens as per varies applications. This camera module is ideal solution for video conferencing, live broadcast, industrial equipment, media equipment, smart home, robotics, self-service equipment, advertising machines, all-in-one machines, display stands, computer cameras.

### Key Features

- 5 Megapixels 2592 x 1944 array at 30 FPS
- High speed USB 2.0 Plug and Play
- MJPEG / YUV2 output format
- Low power consumption
- Compact size 38x38 mm
- UVC compliant to Windows, Linux, OS with UVC UAC driver
- USB OTG (On-The-Go) Support

## IMT-USB-M2-05100-F118 5MP 2K M12 Fixed Focus USB 2.0 Camera Module



Top View



Side View



Bottom View



USB Cable

## IMT-USB-M2-05100-F118 5MP 2K M12 Fixed Focus USB 2.0 Camera Module

<b>Camera Module No.</b>	<b>IMT-USB-M2-05100-F118</b>
<b>Image Sensor</b>	5MP 2K
<b>Sensor Type</b>	1/2.8"
<b>Resolution</b>	2.00 um x 2.00 um
<b>Pixel Size</b>	2592 x 1944 @ 30 FPS
<b>TTL</b>	24.5 mm
<b>F. NO.</b>	2.20
<b>View Angle</b>	118°(DFOV) 108°(HFOV) 72°(VFOV)
<b>Lens Dimensions</b>	17.00 x 17.00 mm
<b>Module Type</b>	Fixed Focus
<b>Interface</b>	USB 2.0
<b>Output Format</b>	MJPEG / YUV2
<b>Auto Control</b>	Saturation, Contrast, Acutance White Balance, Exposure
<b>Audio (Optional)</b>	Digital Microphone, Single, Dual Channel
<b>Input Voltage</b>	DC 5V
<b>Working Current</b>	Max 500mA
<b>PCB Size</b>	38.0 x 38.0 x 43.0 mm
<b>System Compatibility</b>	Windows XP (SP2, SP3), Vista, 7, 8, 10, 11 Android, Mac OS, Linux or OS with UVC UAC Driver, Raspberry Pi by USB Port
<b>Software for USB Camera</b>	AMCAP, Webcam Viewer, V4L2 Controls Contacam, VLC Player, MotionEye OS iSpy, ZoneMider, Yawcam
<b>Lens Type</b>	650nm IR Cut
<b>Operating Temperature</b>	-30°C to +85°C

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



Windows® 안드로이드 Mac™ OS Linux Raspberry Pi

## IMT-USB-M2-05100-F118 5MP 2K M12 Fixed Focus USB 2.0 Camera Module

Additional Lens Options				
Lens Specs	A	B	C	D
TTL (mm)	12.20	22.50	22.80	22.24
EFL (mm)	3.10	2.03	5.99	3.90
F. No.	2.4	2.2	1.0	1.0
DFOV (degree)	95	117	63	104
HFOV (degree)	84	110	52	88
TV Distortion	<1%	<3%	<5%	<10%

Format	Resolution	Frame Rate
		USB 2.0
MJPEG	640 x 480 (VGA)	30 FPS
	1280 x 720 (720P)	30 FPS
	1920 x 1080 (1080P)	30 FPS
	2592 x 1944 (5MP)	30 FPS
YUV2	640 x 480 (VGA)	30 FPS
	1280 x 720 (720P)	10 FPS
	1920 x 1080 (1080P)	5 FPS



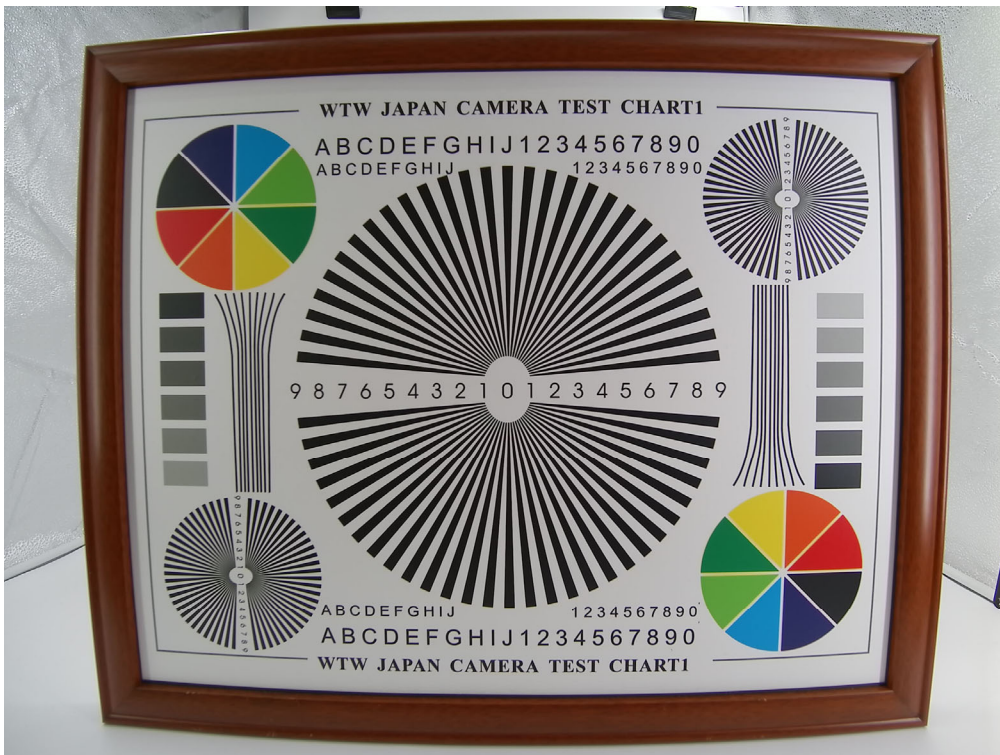


## IMT-USB-M2-05100-F118 5MP 2K M12 Fixed Focus USB 2.0 Camera Module

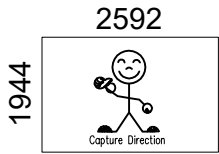




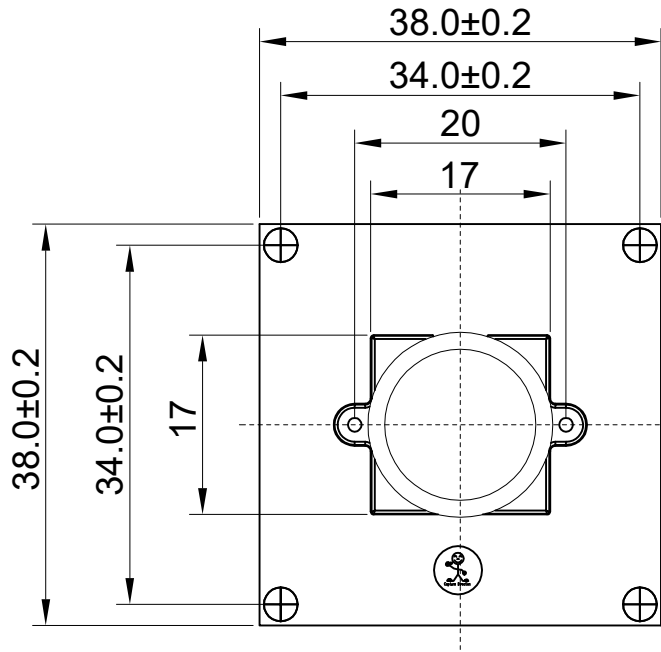
## IMT-USB-M2-05100-F118 5MP 2K M12 Fixed Focus USB 2.0 Camera Module



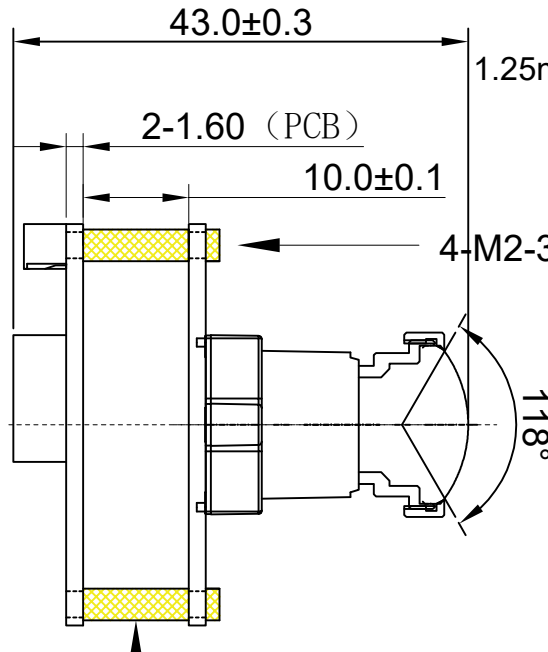
ROHS	
PIN	SIGNAL
1	USB_5V
2	DM(-)
3	DP(+)
4	GND
5	GND



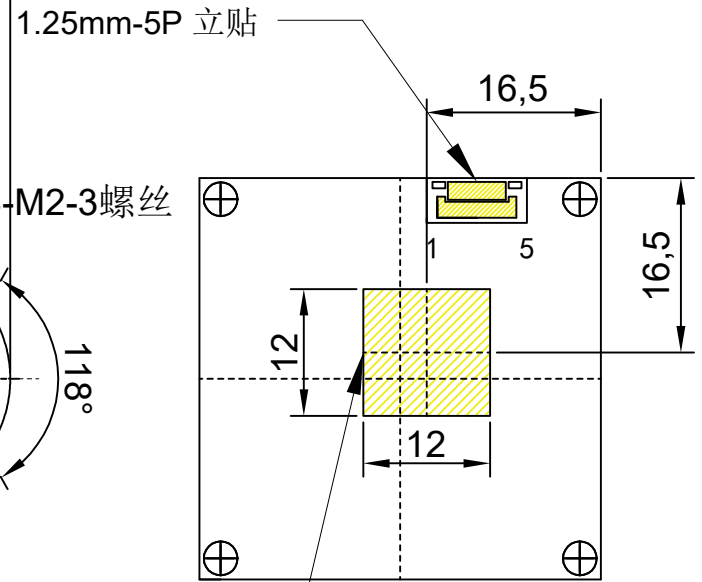
Version	Mark	Information	Date
V1.0	PD	First Version	2024-01-12



TOP VIEW



SIDE VIEW



BOTTEM VIEW

Parameters:

1、Sensor specification:

Image Sensor : 5M  
Pixel Size: 2.0umX2.0um  
Image Size: 1/2.8

2、Lens specification:

FOV: D:118°/H:108°/V:72°  
F/NO.: 2.2  
TV distortion: ≤-4%  
EFL: 2.2mm  
TTL: 24.5mm

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Designed By	Lu	Model Name:	M2-05100		
Checked By	He cheng	Projection Type:	Unit:	Material: -----	
			mm	Scale:	Sheet:
			1:1	1 of 1	1/0





## Cameras Applications



Automotive Driver Pilot



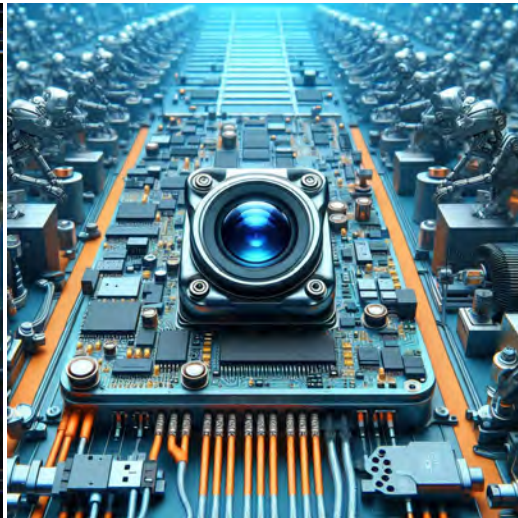
Live Streaming



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									
<b>MIPI Interface</b>									
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					
<b>DVP Parallel Interface</b>									
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		

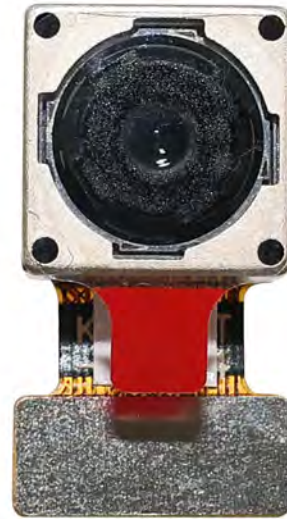


## IMT Package Solutions

IMT Camera Module



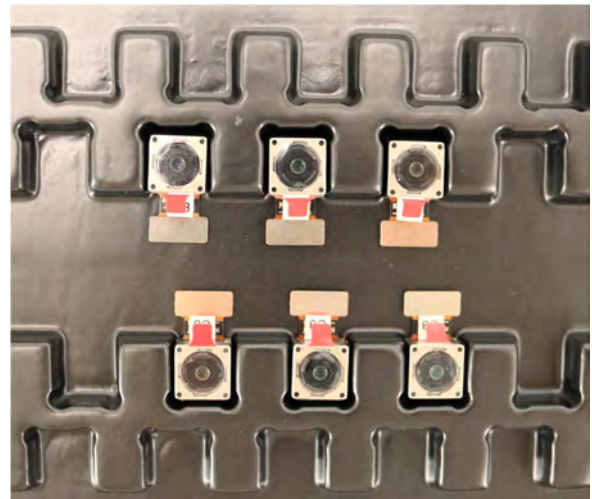
Complete with Lens Protection Film



Tray with Grid and Space

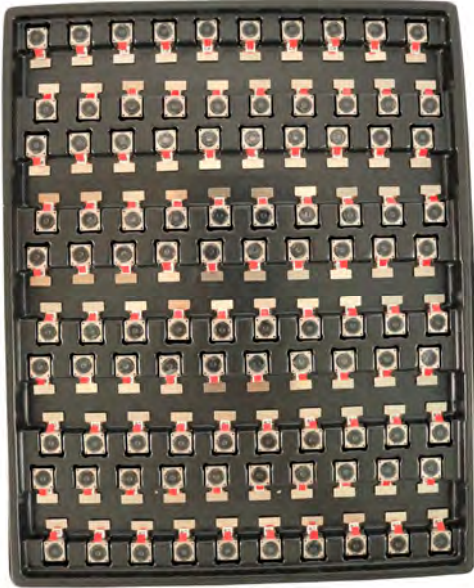


Place Cameras on the Tray

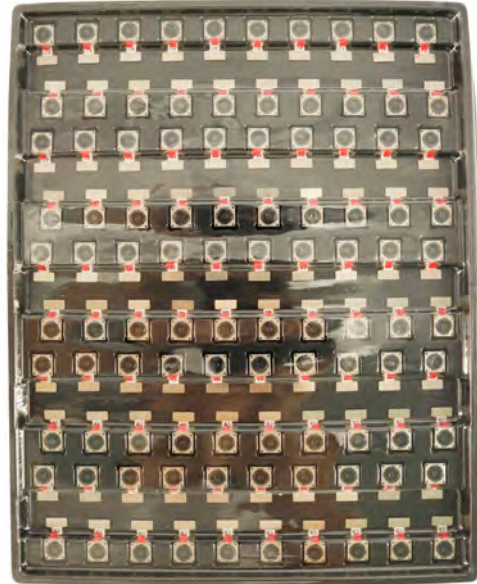


## IMT Package Solutions

Full Tray of Cameras



Cover Tray with Lid



Place Tray into Anti-Static Bag



Vacuum the Anti-Static Bag





## IMT Package Solutions

### Sealed Vacuum Anti-Static Bag with Labels

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





## IMT 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





## IMT 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





## IMT 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



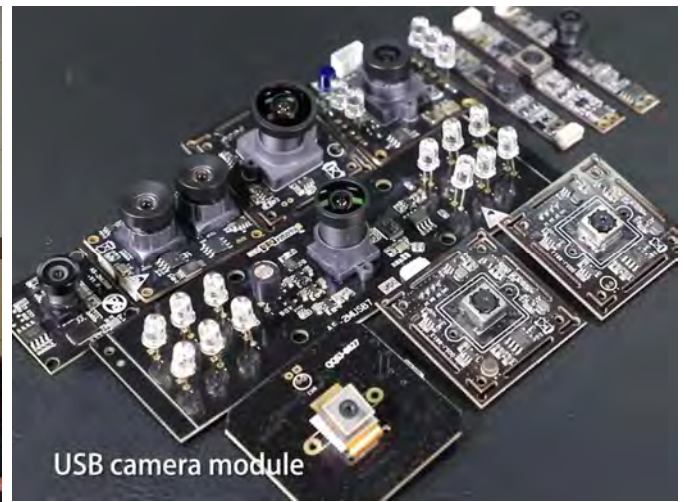


## Company INNOMAKER

InnoMaker Technologies Limited (IMT) was established in 2017, a next-generation technology driven manufacturer specialized in research, design, and produce of audio and video products. IMT is occupying 20,000 square feet automated plants with 100 employees of annual throughput 30,000,000 units cameras.

IMT 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. IMT 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

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







# InnoMaker Technologies



Your Trusted Optical Partner

## Our Company Strength

### Powerful Factory



### Professional Service



### Promised Delivery

