

# APPROVAL SHEET

PART NAME

living Two eyes detection camera

SPECIFICATION

JSK-LA008MAMB-V1.0 (C01)

VERSION

Second Version

DATE :

2019-10-15

JINSHIKANG TECHNOLOGY (HK) CO., LIMITED					
APPROVAL			APPROVAL		
(DESIGNER)	(CHECKER)	(APPROVER)	(DESIGNER)	(CHECKER)	(APPROVER)
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## ***Contents***

1. Notes.....	3
2. Feature.....	4
3. Key specification datasheet.....	5
4. Pin definition.....	6
5. Module mechanical drawing.....	6
6. Reliability test.....	7
7. Image specification.....	8

Notes:

Through the high-definition wide dynamic image binocular camera, using its innovative binocular algorithm to calculate high-precision face data, accurately identify and locate some key feature points, such as pupil distance, nose height, eye to mouth to ear distance and other spatial information, the calculation error is less than 1 mm. In this way, we can effectively prevent plane photos, photos with different bending degrees, PS, video and other counterfeiting fraud, accurately detect whether they are "living people" and "real people", and ensure the accuracy of living detection. Compared with most monocular plane vision technology on the market, its detection accuracy is higher, processing speed is faster, database maintenance and update is smaller. Wide dynamic hard decoding of camera has a very clear imaging effect in backlight scene and strong light background, which can achieve no exposure and no black face, which overcomes the product performance caused by various uncertain factors such as light changes and complex background environment of The impact.

## 2. Feature

**1 / 2.7 "industrial grade binocular HD wide dynamic image sensor**

**Black and white color up to 30 frames without dragging**

**Compliance with USB specifications**

- **USB 2.0 and 1.1 compliance**
- **UVC architecture, compatible with Windows XP / 7 / 8.1 / 10 / Vista / seven /**

**MAC linux2.6.2 (include UVC) and other systems**

**Support 1080p, 720p, VGA, QVGA, CIF, QVGA and QCIF format output.**

**Support wide dynamic, wide dynamic range 110dB**

- **automatic exposure (exposure). Automatic white balance (AWB) · automatic flicker correction.**

- **color correction. Gamma correction. Dark compensation. Automatic edge enhancement. · color correction.**

- **gamma correction**

- **dark compensation. Automatic edge enhancement.**

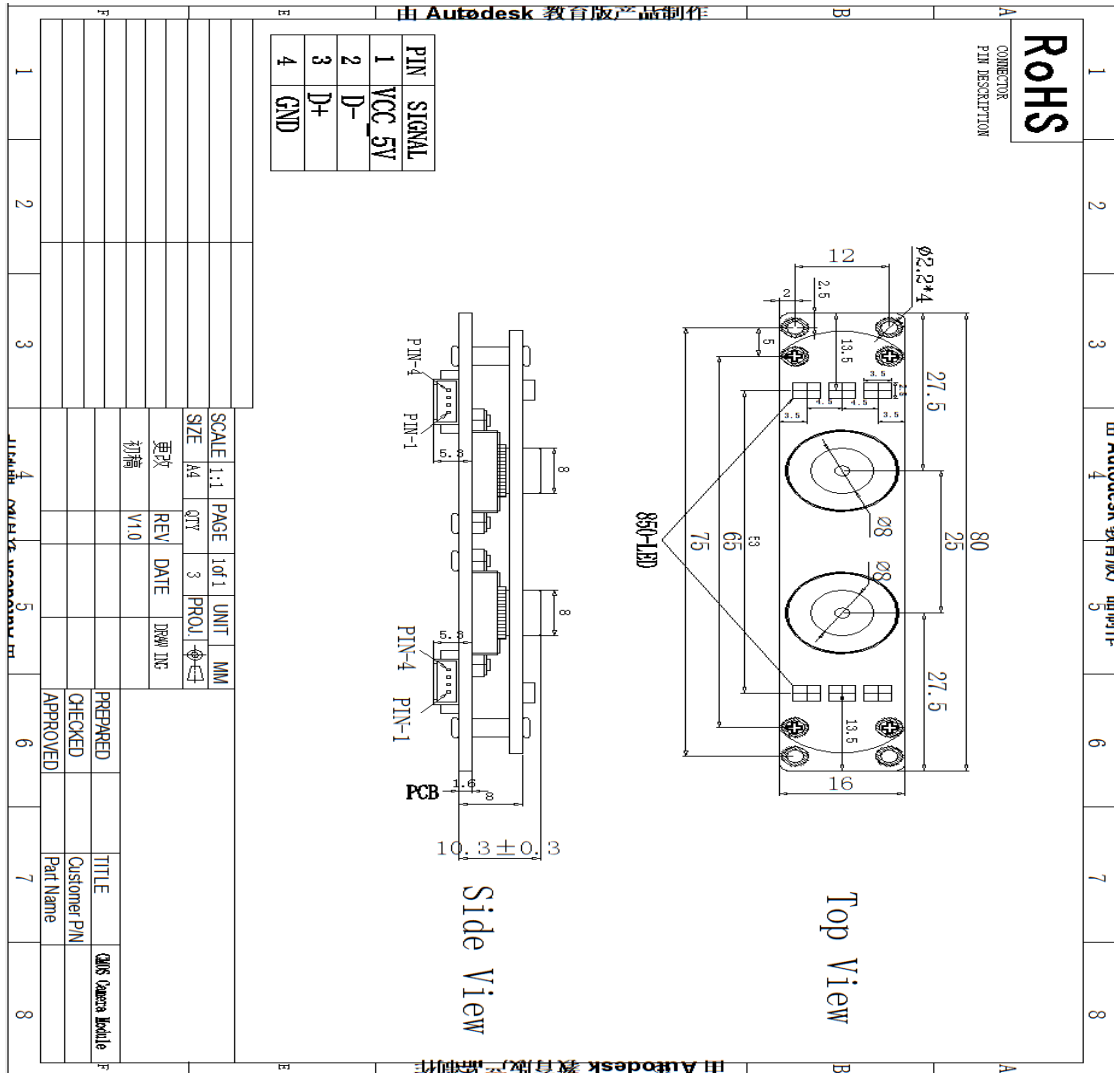
### 3. Key specification datasheet

Signal	1.3M B/W	2M HDR	REMARKS
Scanning System	Progressive scan		
Scanning Frequency(H)	30HZ	30HZ	
Scanning Frequency(V)	50HZ	50HZ	
Image Sensor	1/3" CMOS	1/2.7" CMOS	Aptina
Effective Pixels	1280x960	1920X1080	
Pixel size	3.75umX3.75um	3.0umx3.0um	
Image sensor Data output	Raw Data 10bits		
Video output	MJPEG/YUY2		
Maximum Frame Rates (B/W)	1280x960 at 30fps 1280x720 at 30fps 1024x768 at 30fps 800x600 at 30fps 640x480 at 30 fps 352x288 at 30fps 320x240 at 30fps 160x120 at 30fps	1280x960 at 5fps 1280x720 at 10fps 1024x768 at 10fps 800x600 at 20fps 640x480 at 30 fps 352x288 at 30fps 320x240 at 30fps 160x120 at 30fps	MJPEG
Maximum Frame Rates (HDR)	1920x1080 at 30fps 1280x960 at 30fps 1280x720 at 30fps 1024x768 at 30fps 800x600 at 30fps 640x480 at 30 fps 352x288 at 30fps 320x240 at 30fps 160x120 at 30fps	1920x1080 at 5fps 1280x960 at 5fps 1280x720 at 10fps 1024x768 at 10fps 800x600 at 20fps 640x480 at 30 fps 352x288 at 30fps 320x240 at 30fps 160x120 at 30fps	YUY2
SNR max	≥41dB	≥41dB	
Dynamic range	≥96dB	≥105dB	
Min. Illumination	≥0.01LUX at F1.2	≥0.1LUX at F1.2	NO LED
Digital interface	4-pin 1.25mm USB2.0		
Transfer rates	480Mb/S		
Power requirements	5V ± 5%		
Power Consumption	NO LED	Max 0.6W	Max 1W
	IR-LED	Max 1.5W	

#### 4. Pin definition

Warranty	1.5 years			
OS	Windows XP/7/8.1/10/vista/seven/Mac linux2.6.2(include UVC )			
USB CONN	1	5V	USB POWER	500mA max
	2	DM	-	D-
	3	DP	-	D+
	4	GND	-	DGND

#### 5. Module mechanical drawing



## 6. Reliability test

N O.	Test Item		Result	Qty	test equipment	Notes
1	High and low temperature experiment (storage)	High Tem 65° C 70 小时	OK	5	High tem box	
		Low Tem -20° C 70 小时	OK	5	Low tem box	
2	High and low temperature cycle test	Low Tem -20° C(30min)to High Tem 70° (30min) 96H	OK	5	High and low temperature box	
3	Low temperature operation	Low Tem -20° C(30min)	OK	5	Low tem box	
4	High temperature operation	65° 96H Temperature rise and fall each (30min)	OK	5	High temperature incubator	
5	Temperature and humidity test (storage)	High Tem 65° C humidity 80% 24H	OK	5	High tem box	
6		Low Tem -20° C humidity 80% 24H	OK	5	Low tem box	
7	life test	The switch spacing is 3 seconds, and the performance is tested every 2000 times, totally 5 groups	OK	5	Transfer box	
8	Drop test	Height 1500mm, 10 times 10. Free fall in Y, z directions	OK	5	Drop machine	
9	vibration test	Frequency: 10hz55hz, amplitude: 1mm, 10. Free vibration in Y, z directions, closed-loop sweep frequenc	OK	5	Vibrator	
10	Push pull test	Tensile test, vertical pull up 1.5kgf	OK	5	Manual tension gauge	
11		Thrust test, horizontal pushing forward 2.0 KGF	OK	5	Manual tension gauge	
12	CAM Adhesion force test	CAM Adhesion force between base and shell, greater than 0.6kg (vertical direction)	OK	5	Manual tension gauge	

## 7. Image specification

Test Item	Test environment		Test objectives	standard
	colour temperature	light		Pass
Resolution test (MTF)	D65	N/A	Test chart	≧ 40%
center				≧ 30%
Angle				≧ 3%
lack fidelity	D65	N/A	Test chart	≧ 3%
Gray Test	D65	N/A	Test chart	≧ 5
Vi (i = 1)				≧ 10
$\Delta Y_i$ (i= 2~6)				≧ 30%
shadow	D50+/-270	N/A	Imaging chip	≧ 30%
Image test	D50+/-270	N/A	Imaging chip	
Dead zone pixels				0
Injured pixels				24
Particle (swarm)				0
Weak defect				0
Line defect				0
White pixels in dark mode		30+/-10	Dark field of view	0
Line defects in dark mode		30+/-10	Dark field of view	0