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With the state-of-theart algorithm technology, there are many brand products with our advanced image technology in the market

# MCY-2688 4K USB 2.0 Camera Module Datasheet

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# **Revision History**

Date	Rev.	Contents			
2021/01/06	V1.0	First release			

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### 1. Preface

This documentation describes product specifications to ensure design to meet customer's requirements.

MCY-2688 is an USB Video Class (UVC) and USB Audio Class (UAC) compliant camera module with video and audio feature, designed for PC image applications. It is made up of the following components, CMOS sensor, lens, holder, backend, PCB, image processing circuit, connector and microphone, to come out a digital video and audio device. It shall be a reliable device to transfer video and audio data through USB interface to PC.

MCY-2688 not only offers up to 4K resolution (3840X2160) for image applications to take still image, but also offers video stream for end user to preview/record motion image through USB 2.0 interface. And It can support VGA (640x480) resolution up to 30 fps at YUY2 mode, 4K resolution up to 30 fps at MJPG mode. It also provides stereo audio input by two microphones.

MCY-2688 builds in AE, AWB and AGC for automatic image control supported by CMOS sensor. For image quality control, it also offers UVC standardized User Interface (UI) to let end user well tune image by property page.



### 2. Features

- Compliant to USB2.0 and USB Video Class 1.1 standard, USB Audio Class 1.0 standard
- Support still image capture and video streaming
- Automatic image control
  - ◆ Automatic Exposure Control (AEC)
  - ◆ Automatic White Balance (AWB)
  - Automatic Gain Control (AGC)
- Brightness/Contrast adjustment
- Hue/Saturation adjustment
- Support 3840 x2160 frame rate up to 30fps @MJPG
- Support for still image resolution: 3840(H) x 2160(V)
- Audio input : 2× Microphone (Analog Microphone)
- LED indicated (blue)
- Input Voltage: DC 5V
- USB Connector: Type C

## 3. Applications

- Conference call Cameras
- Surveillance Cameras
- FA Cameras
- Industrial Cameras



Module Specification					
Size (L*W*H/mm)	100.0 x 22.0 x 34.8 mm (include type C connector)				
PCB Thickeness	1.2 mm				
Output Interface	USB 2.0				
Image/Video Format	YUY2 & MJPG	YUY2 & MJPG			
	3840x2160				
	2592x1944				
	1920x1080				
	1280x960				
	1280x720				
Output size	960x540				
	848x480				
	800x600				
	640x480				
	640x360				
	320x240				
Video Class Compliant	YES				
Device Name	MCY-2688	MCY-2688			
PID TBD					
VID 0x1BCF					
Operating Temperature	0°C to +70°C				
Storage Temperature	-40°C to +100°C				
Power Consumption					
	Min	Туре	Max		
Input Supply Voltage	4.75	5.0V DC	5.25		
Un-configured Current	_	35 mA			
Operating Current	– – 260 mA				

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Max Frame Rates (fps)						
	320×240	640×480	1280x720	1920x1080	2592x1944	3840x2160
YUY2	30	30	10	5	1	1
MJPG	30	30	30	30	30	30

Backend IC Specification			
Type Backend IC with USB2.0 interface			
Compatibility	USB Video class Compliant, Microsoft WHQL Certified		
Support Sensor Size	Support Most popular CMOS sensors		
OS Supported	Windows, Mac, Thin-client		

Sensor Specification			
Optical format 1/2.8-inch 8.46M CMOS Sensor			
Active resolution	3840H×2160V		
Unit pixel size	1.45µm x 1.45µm		

Lens Specification			
F/No.	2.7 ± 5%		
Field of View	88.2° (Diagonal)		
TV Distortion	<-0.12%		
Construction	4 Glass + 2 Plastic		
IR Filter	$T_{avg} \ge 93\%$ @460~635nm		

# 5. Digital Microphone Specification

Item	Test Conditions	Min	Standard	Max	Unit
Directivity		Omni-directional			
Sensitivity	94dB SPL @ 1KHz	-23	-22	-21	dB FS
Current Consumption			800		μΑ
S/N Ratio	f=1kHz, Pin=1Pa		61		dB
Max. Input				120	dB
Signal				120	SPL
THD+Noise	@100dB SPL, fin=1KHz			1	%

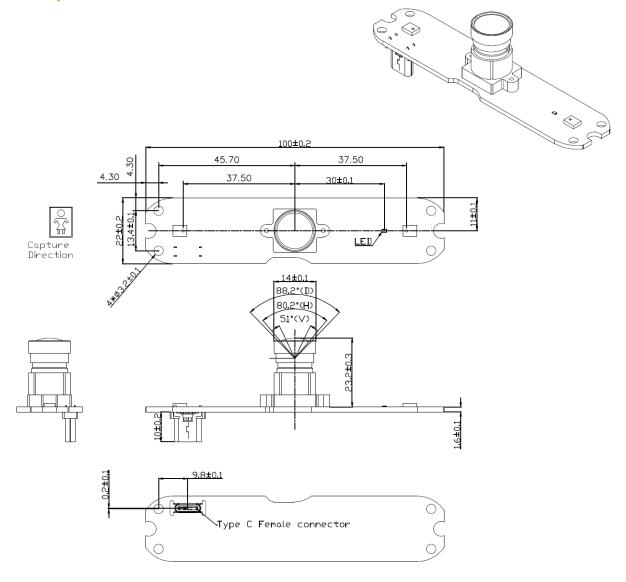
 $(T_A =$ 

+15°C ~+25°C,  $V_{DD}$  = +1.8V,  $f_{clock}$  = 3.072MHz, R.H. = 60%~70%, no load, unless otherwise noted.)

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# 6. Outline Specification





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