

11 Microscope WiFi CMOS Camera

11.1 WCAM Series C-mount WiFi CMOS Camera

11.1.1 WCAM Basic Characteristic

ToupTek WCAM is WiFi camera and it adopts ultra-high performance CMOS sensor as the image-picking device. WiFi is used as the data transfer interface.

When the WCAM is attached to the eyepiece of a microscope and started, it will and generates a WiFi signal for sending high-resolution images from a microscope to WiFi-enabled devices such as smartphones, tablets, and computers with iOS, Android, OS X, Linux and Windows operating systems, streaming images to up to six devices simultaneously.

The camera includes ToupView images software for quantifying, measuring, and annotating images and for using with an interactive white board. It also works with the free, downloadable Toupview app for viewing, capturing, and editing images.

The basic characteristic of WCAM cameras are as follows:

- C-Mount camera has 25.4 mm or 1 inch diameter with 32 threads per inch;
- Scientific research grade camera with Aptina CMOS sensor;
- Sends H.264 encodec high-resolution images from a microscope to WiFi-enabled smartphones, computers, and tablets with iOS, Android, and Windows operating systems;
- Streams images to several devices simultaneously;
- CNC aluminum alloy housing;
- Ultra-Fine™ color engine with perfect color reproduction capability;
- With advanced video & image processing application ToupView(only support simple video viewing capturing for IOS/ android system);
- Custom programmable with SDK provided(Windows/Linux/OS);



11.1.2 WCAM Datasheet (4)

Order Code	Sensor Size(mm)	Pixel(μm)	G Responsivity Dynamic range SNRmax	FPS/Resolution	Binning	Exposure(ms)
WCAM1080PA WP601080A	1080P/IMX222 (C) 1/2.8" (5.38x3.02)	2.8x2.8	510mV with 1/30s 0.15mv with 1/30s	25@1920x1080	1x1	0.059ms~1941ms
WCAM0720PA WP600720A(Suspended)	720P/MT9P001 (C) 1/2.5" (5.63x3.17)	2.2x2.2	1.0 V/lux-sec 61dB 43dB	30@1280x720	2x2	0.21ms~200ms
WCAM0720PB WP600720B	720P/MT9P001 (C) 1/2.5" (5.63x3.17))	2.2x2.2	1.0 V/lux-sec 61dB 43dB	10@1280x720	2x2	Auto Exposure
WCAM0300KPA WP600300KA	0.3M/MT9V011 (C) 1/4" (3.58 x 2.69)	5.6x5.6	1.9V/lux-sec 60dB 45dB	25@640x480	1x1	Auto Exposure

C: Color; M: Monochrome;

Other Specification for WCAM Camera

Spectral Range	380-650nm (with IR-cut Filter)
White Balance	Whole Area White Balance/ Manual Temp Tint Adjustment/NA for Monochromatic Sensor
Color Technique	Ultra-Fine™ Color Engine/NA for Monochromatic Sensor
Capture/Control SDK	Windows/Linux/macOS/Android Multiple Platform SDK(Native C/C++, C#/VB.NET, Python, Java, DirectShow, Twain, etc)
Recording System	Still Picture and Movie
Cooling System*	Natural
Maximum Connected Devices	<=3

Operating Environment

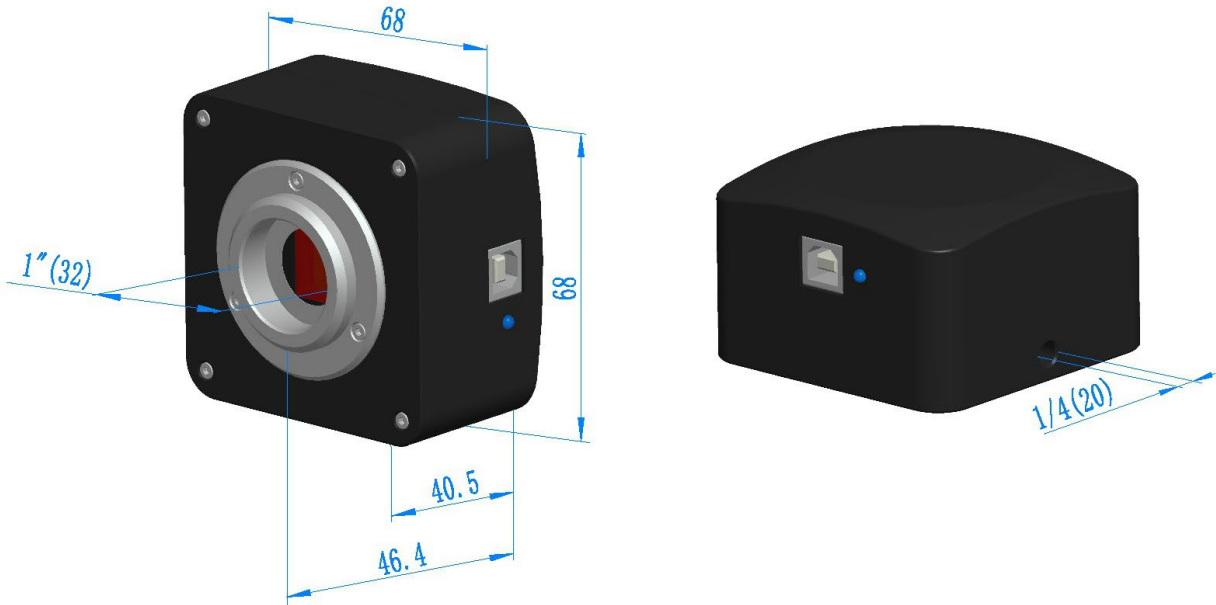
Operating Temperature(in Centidegree)	-10~ 50
Storage Temperature(in Centidegree)	-20~ 60
Operating Humidity	30~80%RH
Storage Humidity	10~60%RH
Power Supply	USB Charger, Not Recommend PC USB Port

Software Environment

Operating System	Microsoft® Windows® XP / Vista / 7 / 8 /10 (32 & 64 bit) IOS IPAD or iPhone, Android PAD and Phone
PC Requirements	CPU: Equal to Intel Core2 2.8GHz or Higher
	Memory:2GB or More
	WiFi Adapter with DHCP Enabled
	Display:17" or Larger
	CD-ROM
PAD	IPAD or PAD with Android System
Mobile Phone	IPhone or Smart Phone with Android System

11.1.3 Dimension of WCAM

The WCAM body, made from tough, aluminum alloy, ensures a heavy duty, workhorse solution. The camera is designed with a high quality IR-CUT to protect the camera sensor. No moving parts included. This design ensures a rugged, robust solution with an increased lifespan when compared to other industrial camera solutions.



Dimension of WCAM

11.1.4 Packing Information of WCAM



Packing Information of WCAM

Standard Camera Packing List			
A	Carton L:52cm W:32cm H:33cm (20pcs, 11.4~14Kg/ carton), not shown in the photo		
B	Gift box L:15cm W:15cm H:10cm (0.57~0.58Kg/ box)		
C	WCAM series USB2.0 C-mount CMOS camera		
D	High-speed USB2.0 A male to B male gold-plated connectors cable /2.0m(for PC power only) or with USB charger		
E	CD (Driver & utilities software, Ø12cm)		
Optional Accessory			
F	Adjustable lens adapter	C-mount to Dia.23.2mm eyepiece tube (Please choose 1 of them for your microscope)	108001/AMA037 108002/AMA050 108003/AMA075
		C-mount to Dia.31.75mm eyepiece tube (Please choose 1 of them for your telescope)	108008/ATA037 108009/ATA050 108010/ATA075
G	Fixed lens Adapter	C-mount to Dia.23.2mm eyepiece Tube (Please choose 1 of them for your microscope)	108005/FMA037 108006/FMA050 108007/FMA075
		C-mount to Dia.31.75mm eyepiece Tube (Please choose 1 of them for your telescope)	108011/FTA037 108012/FTA050 108013/FTA075
<p>Note: For F and G optional items, please specify your camera type(C-mount, microscope camera or telescope camera), ToupTek engineer will help you to determine the right microscope or telescope camera adapter for your application;</p>			
H	108015(Dia.23.2mm to 30.0mm Ring)/Adapter rings for 30mm eyepiece tube		
I	108016(Dia.23.2mm to 30.5mm Ring)/ Adapter rings for 30.5mm eyepiece tube		
J	108017(Dia.23.2mm to 31.75mm Ring)/ Adapter rings for 31.75mm eyepiece tube		
K	Calibration kit	106011/TS-M1(X=0.01mm/100Div.); 106012/TS-M2(X,Y=0.01mm/100Div.); 106013/TS-M7(X=0.01mm/100Div., 0.10mm/100Div.)	

11.1.5 Extension of WCAM with Microscope or Telescope Adapter

Extension	Picture	
C-mount Camera	 <p data-bbox="786 315 1174 443">Machine vision; Medical imaging; Semiconductor equipment; Test instruments; Document scanners; 2D barcode readers; Web camera and security video; Microscope imaging;</p>	
Microscope Camera	 <p data-bbox="427 757 770 786">WCAM+AMAXXX(23.2mm Adapter)</p>  <p data-bbox="994 757 1337 786">WCAM+FMAXXX(23.2mm Adapter)</p>	
Telescope Camera	 <p data-bbox="427 1025 770 1055">WCAM+ATAXXX(31.75mm Adapter)</p>  <p data-bbox="994 1025 1337 1055">WCAM+FTAXXX(31.75mm Adapter)</p>	