

5.3 XCAM1080PHB/PHD/PHE C-mount HDMI+WiFi Output CMOS Camera

5.3.1 XCAM1080PHB/PHD/PHE's Basic Characteristic

XCAM1080PHB/PHD/PHE is a multiple interfaces (HDMI+WiFi+SD card, X here means multiple interfaces) CMOS camera and it adopts ultra-high performance Sony CMOS sensor as the image-picking device. HDMI+WiFi are used as the data transfer interface to HDMI display or computer.

For HDMI output, The XCamView will be loaded and a camera control panel and toolbar are overlaid on the HDMI screen, in this case, the USB mouse can be used to set the camera, browse and compare the captured image, play the video ital.

For WiFi output, unplug the mouse and plug in the USB WiFi adapter, connect the computer WiFi to the camera, then the video stream can be transfer to computer with the advanced software ToupView. With ToupView, you can control the camera, process the image as ToupTek's other USB series camera.



The XCAM1080PHB/PHD/PHE's basic characteristic is as follows:

- All in 1(HDMI+WiFi) C-mount camera with Sony high sensitivity CMOS sensor;
- For HDMI application, with built-in multiple-language XCamView software. The camera characteristic can be controlled by XCamView through the USB mouse. The other basic processing and choosing can also be realized by the XCamView;
- 1920 × 1080 (1080P) resolutions to match the current high-definition displayer on the market; Support plug and play application;
- For HDMI application, 5.04M resolution image(2592*1944 [XCAM1080PHB](#)) or 2.0M resolution image(1920*1080 [XCAM1080PHD/PHE\(Global Shutter for PHE\)](#)) can be captured and saved for browsing; For video, 1080P video stream(asf format) can be captured and saved;
- With the USB WiFi adapter, the [XCAM1080PHB/PHD/PHE](#) can be used as WiFi camera, the ToupView/ToupLite advanced image processing software is used to display the video and capture image. support plug and play application;
- Ultra-Fine Color Engine with perfect color reproduction capability(WiFi);
- With advanced video & image processing application ToupView, which including professional image processing such as 2D measurement, HDR, image stitching, EDF(Extended Depth of Focus), image segmentation & count, image stacking, color composite and denoising(USB);
- [XCAM1080PHB/PHD/PHE](#) can meet various applications and can be widely used in industrial inspection, education and research, materials analysis, precision measurement, medical analyses etc.

The possible applications of *XCAM1080PHB/PHD/PHE* are as follows:

- Scientific research, education (teaching, demonstration and academic exchanges);
- Digital laboratory, medical research;
- Industrial visual (PCB examination, IC quality control);
- Medical treatment (pathological observation);
- Food (microbial colony observation and counting);
- Aerospace;

5.3.2 XCAM1080PHB/PHD/PHE Datasheet(3)

Order Code	Sensor & Size(mm)	Pixel(μm)	G Sensitivity Dark Signal	FPS/Resolution	Binning	Exposure
XCAM1080PHB XP1080B	1080P/5M/Sony IMX178(C) 1/1.8"(6.22x4.67)	2.4x2.4	425mv with 1/30s 0.15mv with 1/30s	30@1920*1080(HDMI) 25@1920*1080(WiFi)	1x1	0.03ms~918ms
XCAM1080PHD XP1080D	1080P/2M/Sony IMX185(C) 1/1.9"(7.20x4.05)	3.75x3.75	1120mv with 1/30s 0.15mv with 1/30s	30@1920*1080(HDMI) 25@1920*1080(WiFi)	1x1	0.06ms~918ms
XCAM1080PHE XP1080E	Sony IMX249(C, GS) 1/1.2"(11.25x6.33)	5.86*5.86	1016mv with 1/30s 0.15mv with 1/30s	30@1920*1080(HDMI) 25@1920*1080(WiFi)	1x1	0.043ms~1000ms

C: Color; M: Monochrome;

XCAM1080PHE adopt large Sony global shutter CMOS sensor which is a best replacement of traditional CCD video camera

Interface & Button Functions



USB	USB Mouse/USB WiFi Adapter
HDMI	HDMI Output
DC12V	12V Power in
SD	SD Card Slot
ON/OFF	Power On/off Switch
LED	Power Indicator

Other Specification for HDMI Output

UI Operation	With USB Mouse to Operate on the embedded XCamView
Image Capture	JPEG Format with 5M Resolution (2592*1944) in SD Card(8G) (XAM1080PHB) JPEG Format with 2M Resolution in SD Card (XCAM1080PHD/PHE(Global Shutter for PHE))
Video Record	ASF Format 1080P 30fps in SD Card(8G)
Camera Control Panel	Including Exposure, Gain, White Balance, Color Adjustment, Sharpness and Denoising Control
Toolbar	Including Zoom, Mirror, Comparison, Freeze, Cross, Browser Function, Multi-language and XCamView Version Information

Other Specification for WiFi Output

UI Operation	ToupView or ToupLite on Windows/Linux/OSX/Android Platform
WiFi Performance	802.11n 150Mbps; RF Power 20dBm(Maximum)
Maximum Connected Devices	3~6(According to the Environment and Connection Distance)
White Balance	Auto White Balance
Color Technique	Ultra-Fine™ Color Engine (WiFi)
Capture/Control SDK	Windows/Linux/macOS/Android Multiple Platform SDK(Native C/C++, C#/VB.NET, Python, Java, DirectShow, Twain, etc) (WiFi)
Recording System	Still Picture or Movie (WiFi)

Software Environment (for USB2.0 Connection)

Operating System	Microsoft® Windows® XP / Vista / 7 / 8 / 8.1/10(32 & 64 bit) OSx(Mac OS X) Linux
PC Requirements	CPU: Equal to Intel Core2 2.8GHz or Higher
	Memory:4GB or More
	USB Port:USB2.0 High-speed Port(As Power Only, not as the USB Data Transfer)
	Display:19" or Larger
	CD-ROM

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	DC 12V/1A Adapter

5.3.3 XCAM1080PHB/PHD/PHE and Microscope



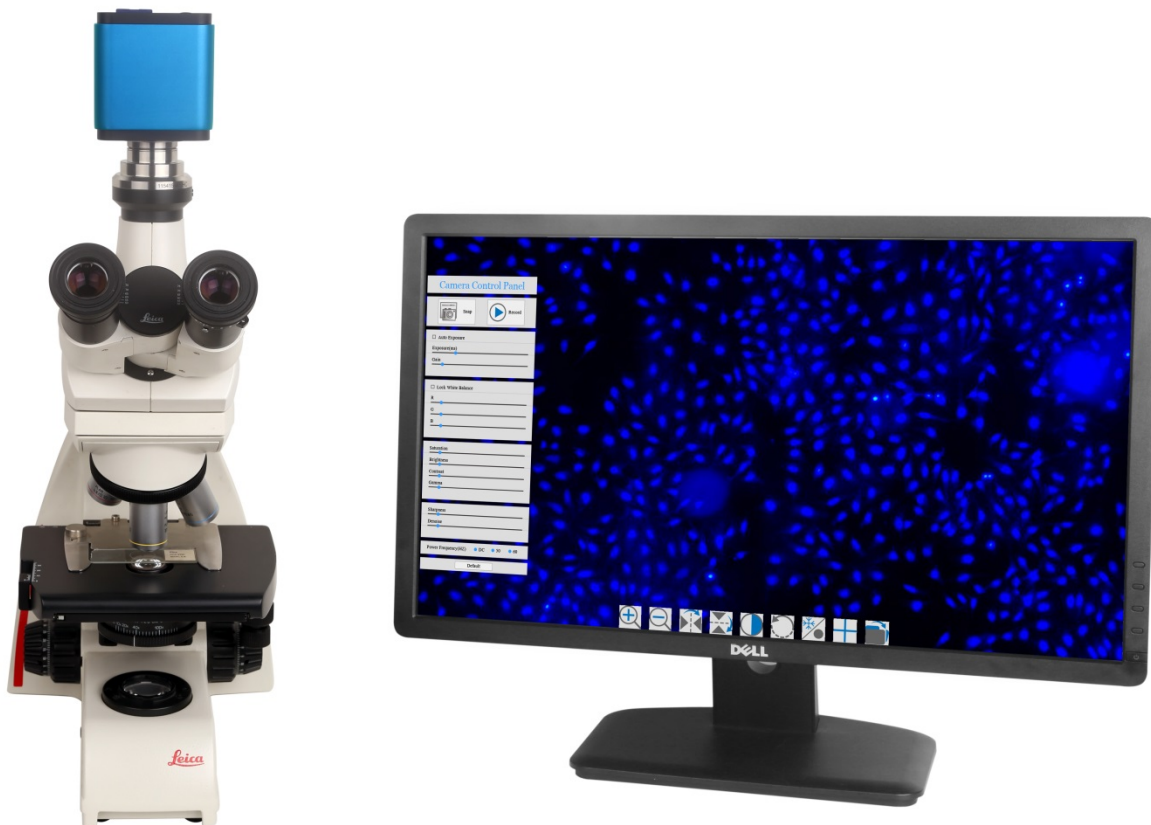
XCAM1080PHB/PHD/PHE and Its Back Panel



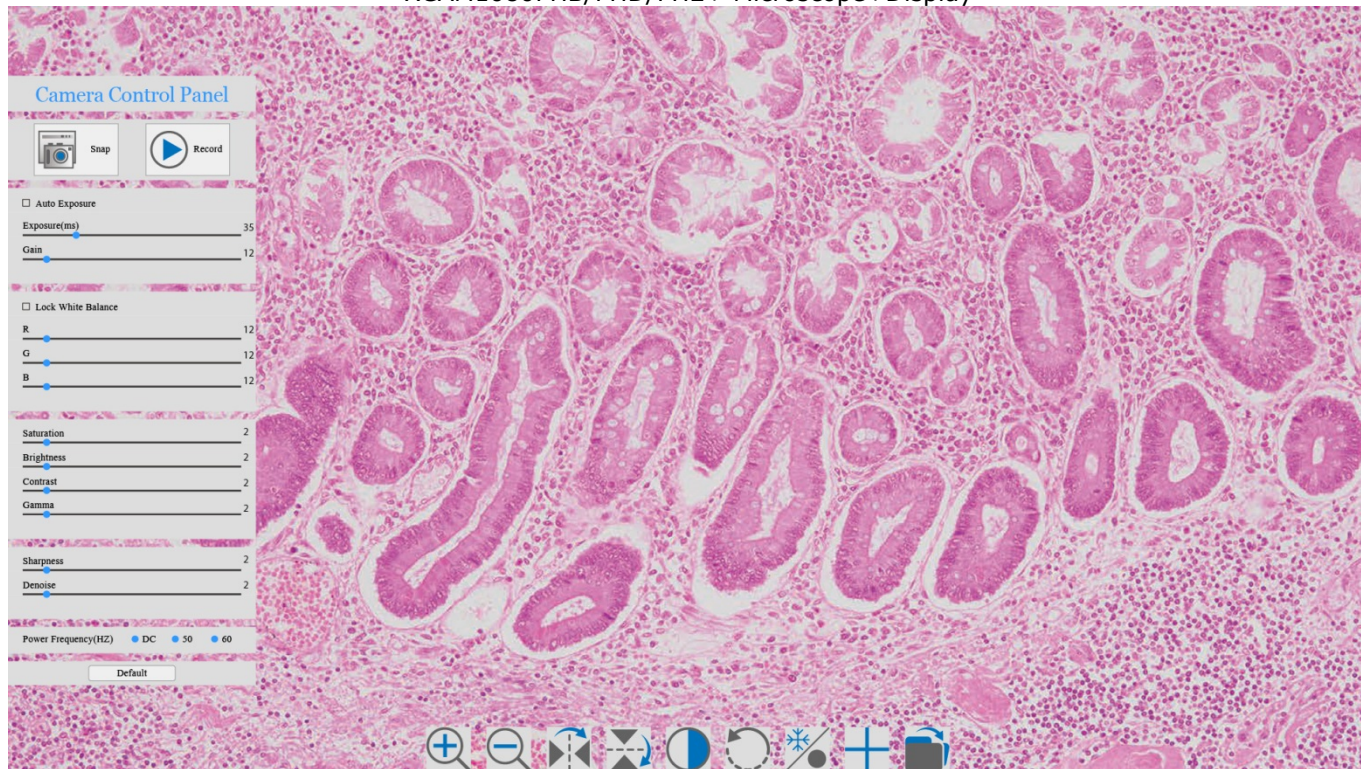
Different Views of XCAM1080PHB/PHD/PHE



XCAM1080PHB/PHD/PHE and Microscope

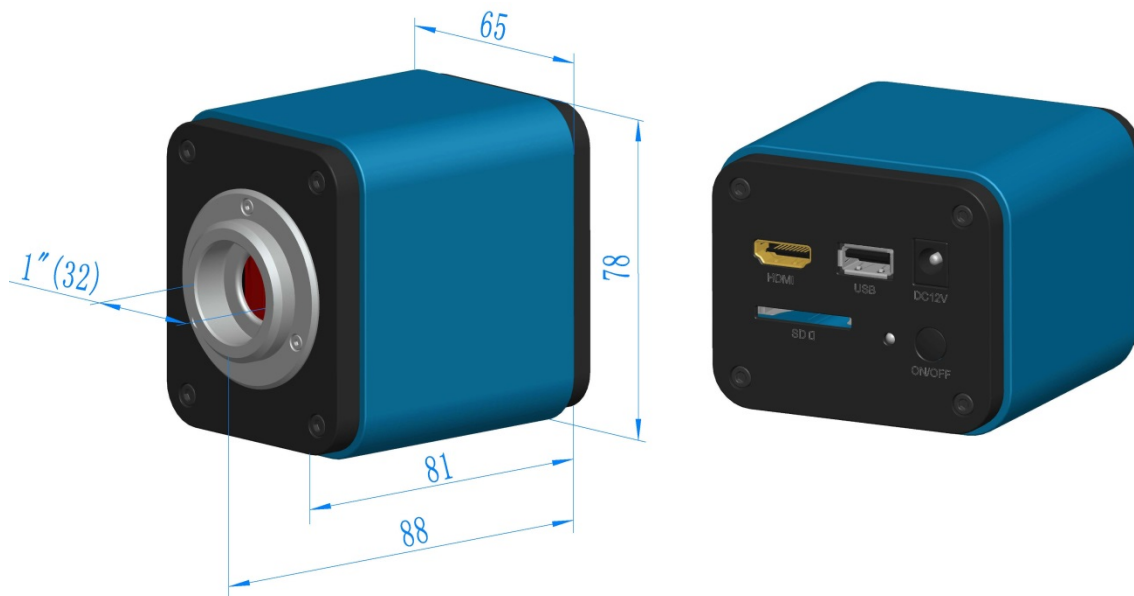


XCAM1080PHB/PHD/PHE+ Microscope+Display



XCamView UI for Mouse Control

5.3.4 Dimension of XCAM1080PHB/PHD/PHE



Dimension of XCAM1080PHB/PHD/PHE


5.3.5 Packing Information for XCAM1080PHB/PHD/PHE



Packing information of XCAM1080PHB/PHD/PHE

Standard Packing List			
A	Gift box : L:25.5cm W:17.0cm H:9.0cm (1pcs, 1.43Kg/ box)		
B	XCAM1080PHB or XCAM1080PHD or XCAM1080PHE camera		
C	Power Adapter: Input: AC 100~240V 50Hz/60Hz, Output: DC 12V 1A American standard: Model: GS12U12-P11 12W/12V/1A: UL/CUL/BSMI/CB/FCC EMI Standard:EN55022,EN61204-3, EN61000-3-2,-3, FCC Part 152 class B, BSMI CNS14338 EMS Standard:EN61000-4-2,3,4,5,6,8,11,EN61204-3,Class A Light Industry Standard European standard:Model:GS12E12-P11 12W/12V/1A; TUV(GS)/CB/CE/ROHS EMI Standard:EN55022,EN61204-3, EN61000-3-2,-3, FCC Part 152 class B, BSMI CNS14338 EMS Standard:EN61000-4-2,3,4,5,6,8,11,EN61204-3,Class A Light Industry Standard		
D	HDMI Cable		
E	USB Mouse		
F	Wireless network adapter with USB interface		
G	CD (Driver & utilities software, Ø12cm)		
Optional Accessory			
H	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
I	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
Note: For H and I 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;			
J	108015(Dia.23.2mm to 30.0mm Ring)/Adapter rings for 30mm eyepiece tube		
K	108016(Dia.23.2mm to 30.5mm Ring)/ Adapter rings for 30.5mm eyepiece tube		
L	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.)	
M	SD Card(4G or 8G)		

5.3.6 Extension of XCAM1080PHB/PHD/PHE with Microscope or Telescope Adapter

Extension	Picture	
<p>C-mount Camera</p>	 <p>Machine vision; Medical imaging; Semiconductor equipment; Test instruments; Document scanners; 2D barcode readers; Web camera and security video; Microscope imaging;</p>	
<p>Microscope Camera</p>	 <p>XCAM1080PHB/PHD/PHE+AMAXXX(23.2mm Adapter) XCAM1080PHB/PHD/PHE+FMAXXX(23.2mm Adapter)</p>	
<p>Telescope Camera:</p>	 <p>XCAM1080PHB/PHD/PHE+ATAXXX(31.75mm Adapter) XCAM1080PHB/PHD/PHE+FTAXXX(31.75mm Adapter)</p>	