USB-Camera Touptek U3ISPM, USB-3.0

U3ISPM is an ultra-high performance USB3.0 CMOS camera and it adopts ultra-high performance CMOS sensor as the image-picking device and USB3.0 is used as the data transfer interface.

U3ISPM integrated with 12 bit Ultra-fine TM Hardware Image Signal Processor Video Pipeline(Ultra-fine TM HISP VP) for Demosaic, Adjustments, Automatic Exposition, Gain Adjustment, One Push White Balance, Chrominance Adjustment, Saturation Adjustment, Gamma Correction, Luminance Adjustment, Contrast Adjustment, Bayer and finally form RAW data for 8/12 bit output. This will move the heavier burden of the processing from the PC to the Ultra-fine TM HISP VP and greatly accelerating the processing speed.

U3ISPM comes with advanced video & image processing application ToupView; Providing Windows/Linux/macOS/ Android multiple platform SDK (Native C/C++, C#/VB.NET, Python, Java, DirectShow, Twain, etc);

The U3ISPM can be widely used in bright field light environment and microscope image capture and analysis with higher frame rate

The basic characteristic of the U3ISPM cameras are as follows:

- Standard C-Mount camera with Aptina or Panasonic CMOS sensor
- With hardware resolution among 16M to 18M
- Ultra-fineTM HISP VP and
- USB3.0 5 Gbps interface ensuring high frame rates(Up to 13 frames for 18M resolution)
- CNC aluminum alloy housing
- USB3.0 5 Gbps interface ensuring high frame rate
- With advanced video & image processing application ToupView
- Providing Windows/Linux/Mac OS multiple platforms SDK
- Native C/C++, C#/VB.NET, DirectShow, Twain Control A

Availabe Versions

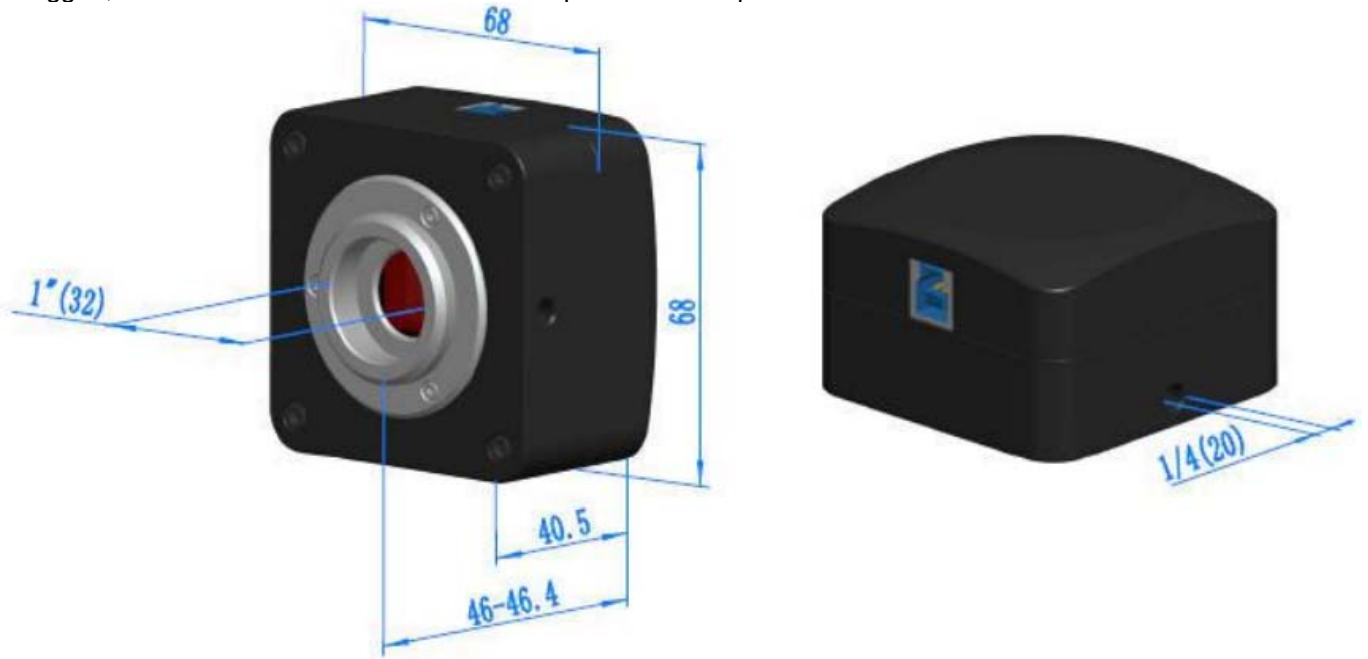| Order Code	Sensor & Size	Pixel(μm)	G Responsivity Dynamic range SNRmax	FPS/Resolution	Binning	Exposure
U3ISPM18000KPA IP118000A(New)	18M/AR1820(C) 1/2.3"(6.14x4.61)	1.25x1.25	0.62 V/lux-sec 65.8dB 36.3	13.1@4912x3684 34.3@2456x1842 54.4@1228x922	1x1, 2x2, 4x4	0.1ms~2s
U3ISPM16000KPA IP116000A(New)	16M/MN34120(C) 1/2.33"(6.18x4.67)	1.335x1.335	R: 2453LSB Gr: 2444LSB Gb: 1054LSB B: 996LSB	16@4632x3488 30@2320x1740 27@1536x1160	1x1, 2x2, 3x3	0.2ms~2s
U3ISPM16000KPB IP116000B(New)	16M/MN34230(C) 4/3"(17.60x13.30)	3.8x3.8	R: 1315LSB Gr: 2413LSB Gb: 2413LSB B: 1042LSB (Gain = 0dB)	22@4640x3506 30@3360x2526 43@2304x1750 49@1536x1168	1x1, 2x2, 3x3	0.2ms~15s

C: Color; M: Monochrome;

Other Specification for U3ISPM Camera	
Spectral Range	380-650nm (with IR-cut Filter)
White Balance	ROI White Balance/ Manual Temp Tint Adjustment/NA for Monochromatic Sensor
Color Technique	Ultra-fine™ HISP VP /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
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 5V over PC USB Port
Software Environment	
Operating System	Microsoft® Windows® XP / Vista / 7 / 8 /10 (32 & 64 bit) OSx(Mac OS X) Linux
PC Requirements	CPU: Equal to Intel Core2 2.8GHz or Higher
	Memory:2GB or More
	USB Port:USB3..0 High-speed Port
	Display:17" or Larger
	CD-ROM

Optional Adapters:

Microscope Camera	U3ISPM+AMAXXX(23.2mm Adapter)	U3ISPM+FMAXXX(23.2mm Adapter)
Telescope Camera	U3ISPM+ATAXXX(31.75mm Adapter)	U3ISPM+FTAXXX(31.75mm Adapter)

Sizes:

The U3ISPM 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 solutio.
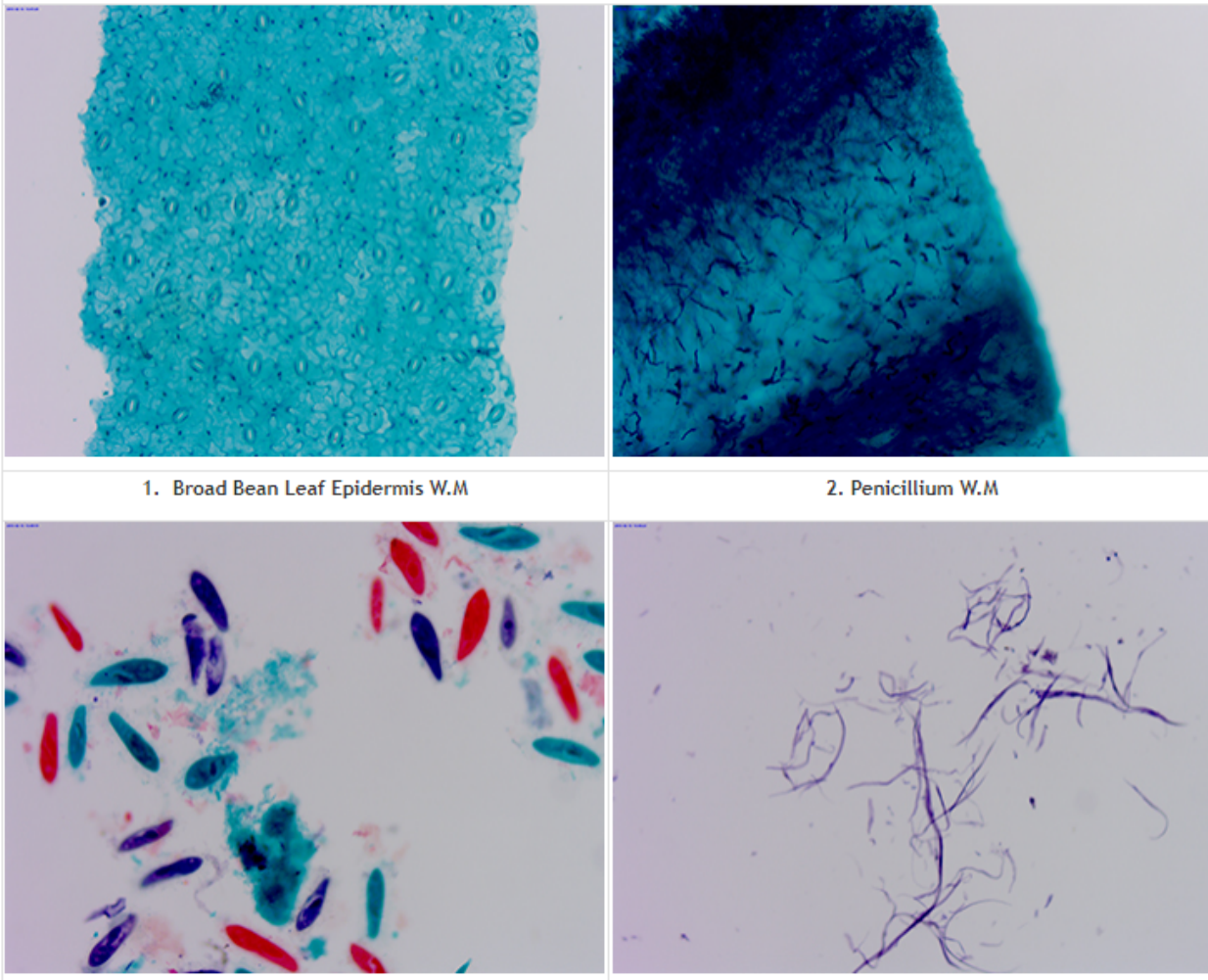
Packing Information

Adapters F, G, H, I, J, glas scale K are not included

Packing Information of U3ISPM Series Camera

	Standard Camera Packing List		
A	Carton L:52cm W:32cm H:33cm (20pcs, 12~17Kg/ carton), not shown in the photo		
B	Gift box L:15cm W:15cm H:10cm (0.67~0.7Kg/ box)		
C	U3ISPM series USB3.0 C-mount CMOS camera		
D	High-speed USB3.0 A male to B male gold-plated connectors cable /2.0m		
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
	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;		
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.)	

Excaple images (made byTouptek)

The microscope slide images are captured with TPS006050 slide(01~025) package and with U3ISPM18000KPA camera.
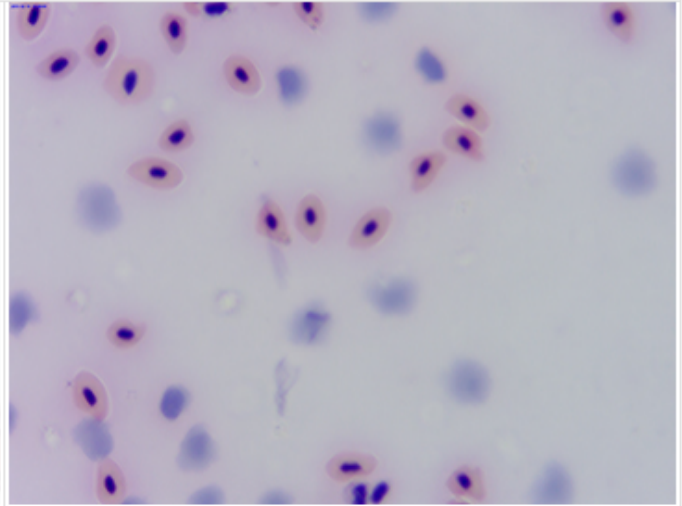

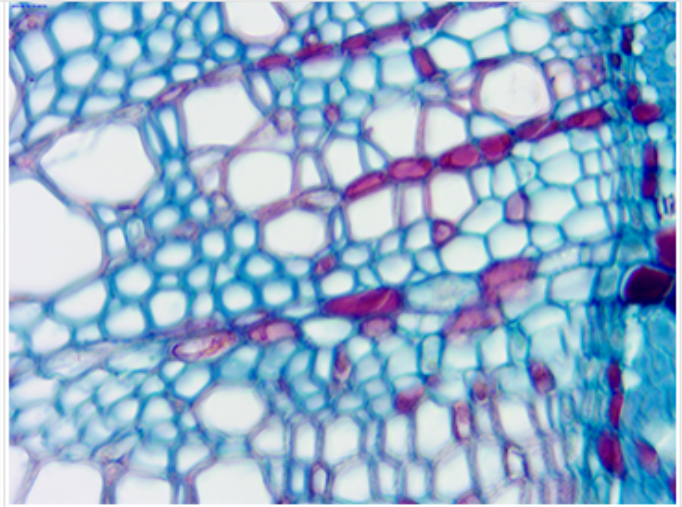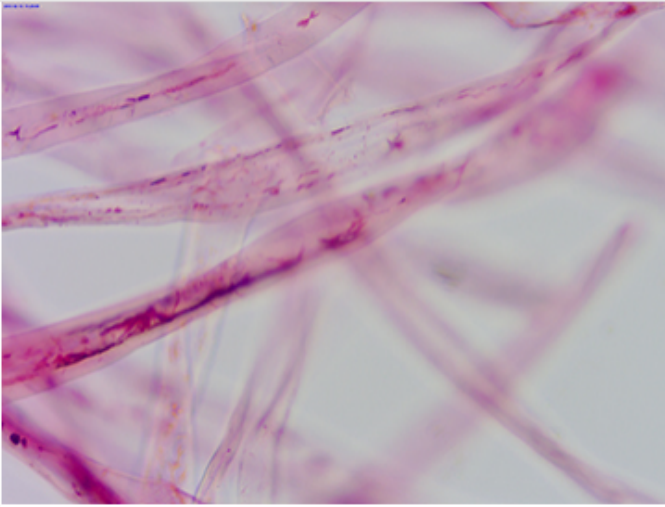1. Broad Bean Leaf Epidermis W.M

2. Penicillium W.M

The microscope slide images are captured with TPS006050 slide(01~025) package and with U3ISPM18000KPA camera.

17.Housefly Foot W.M

18.Blood of Frog Smear