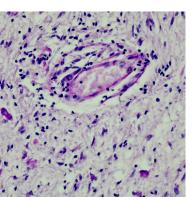


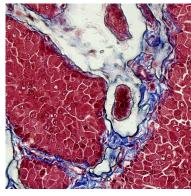
# **Microscope Camera Solutions**

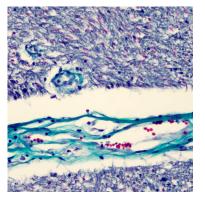
### For Nikon Healthcare

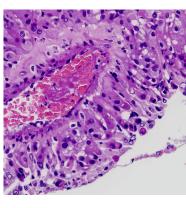
## INNOVATED FOR TOP BRAND MICROSCOPES

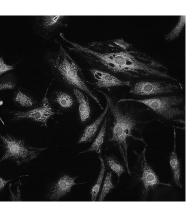
Create a Stunning Microscope Imaging System for You

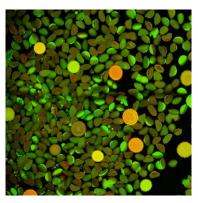


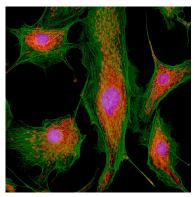


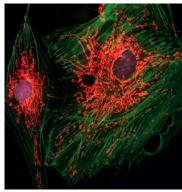






















# **For Trinocular Upright Microscopes**



Applicable Models: ECLIPSE Ci trinocular, Ni trinocular, etc.

Solution ④

5G WiFi Multiviewing Workstation
With 0.43X tube lens



Solution (5)

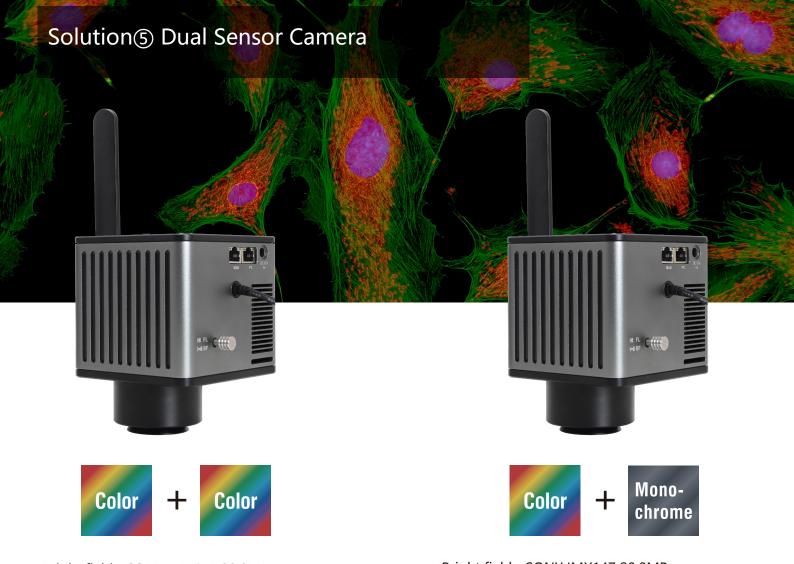
Dual Sensor Camera
With 0.63X tube lens



### **Function Comparison**

● Standard ○ Optional − N/A

	Solution@	Solution(5)	
Built-in Android OS	_	_	
Pre-installed Office suits	_	_	
15.6"high color gamut monitor			
Image output methods			
5G WiFi	•	•	
USB	_	•	
HDMI or DP	_	_	
Network	•	•	



Bright field: SONY IMX147 20.0MP;

Fluorescence: SONY IMX482 2.0MP, 5.8µm×5.8µm.

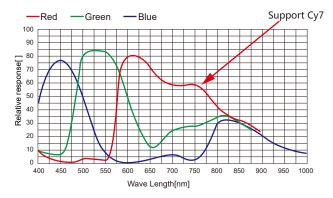
Bright field: SONY IMX147 20.0MP;

Fluorescence: SONY IMX174 2.3MP, 5.86µm×5.86µm.

### Features & Benefits

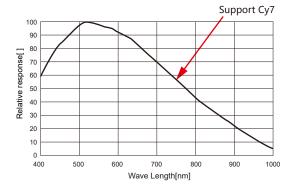
### Excellent spectral response curve

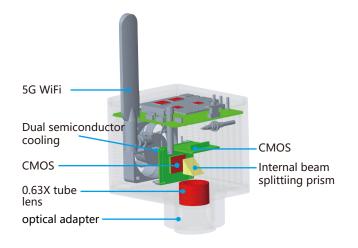
#### Color sensor IMX482



Cy3 555nm-570nm Cy3.5 591nm-604nm Cy5 620nm-646nm Cy5.5 673nm-707nm Cy7 750nm-773nm Cy7.5 788nm-808nm

#### Monochrome sensor IMX174





# Nondestructive coupling of the original optical path of the microscope



# High power dual semiconductor cooling, smart and constant working at low temperature.

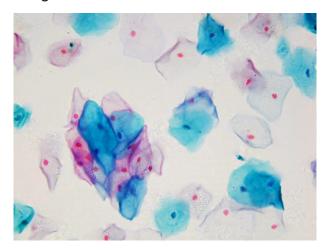
At an operating temperature of 0~40°C, CMOS operating temperature constant in the 0±2°C range;

Superior circuit design + "freezing technology" ensures extremely low readout noise and no dark current for long exposure times;

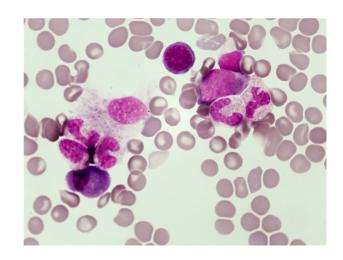
Heat dissipation duct is completely isolated from the optical path: no dust, long life and low noise.

(Noise  $\leq$  40dB (A), fan noise audible to the human ear when observing the microscope with the naked eye).

#### Bright field

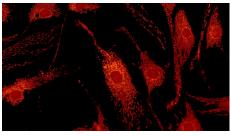


(Camera: 20.0MP, 1/2.3", 1.2um X 1.2um, objective:40X,100X)



#### Fluorescence

#### Red channel

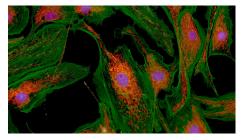


Exposure time: 900ms Gain: 6 (ISO 1200 equivalent)

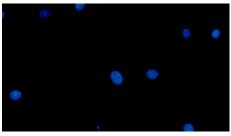
Green channel

Exposure time: 1500ms
Gain: 7 (ISO 1600 equivalent)

Blue channel Combined channel images overlay



Actin filaments



Exposure time: 800ms Gain: 5 (ISO 800 equivalent)

The above four comparison photos are all taken by the same tester under the same research level microscope and the same slide position.

(Camera: 2.0MP, 1/1.2", 5.8umx 5.8um, objective:40X)

#### Fluorescent monochrome



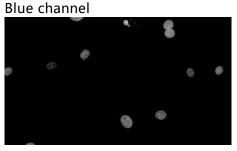
Red channel



Exposure time: 1600ms Gain: 3 (ISO 400 equivalent)

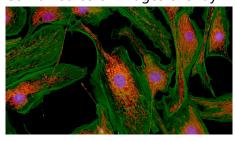
Green channel

Exposure time: 1300ms Gain: 4 (ISO 600 equivalent)



Exposure time: 773ms Gain: 4 (ISO 600 equivalent)

Combined color images overlay



The above four comparison photos are all taken by the same tester under the same research level microscope and the same slide position.

(Camera: 2.3MP, 1/1.2", 5.86umx 5.86um, objective:40X)



#### **5G WiFi output**

Compatible with various devices and operating systems, including Windows, iOS, and Android. Mobile devices can access the system by scanning a QR code.





#### **USB** output

Supports connection to a computer via USB 2.0. You can utilize the KoPa Capture Pro software or any standard UVC 2.0 protocol software to access the camera's real-time images without the need for driver installation





#### **Network output**

Connect the camera to the router or switch through the network cable, up to 13 units computers, mobile phones and tablets in the LAN can access and control the images as long as they have installed the software and APP.







1	5G WiFi antenna	5G WiFi signal transmission to connect the camera to capture images or control the camera
2	Easy focus with allen key	Simple and precise focus adjustment for synchronization between eyepiece and monitor
3	Indicator light	Indicates cooling system operation, WiFi operation status, and power status
4	USB/OFF/WiFi working mode switching	Two working modes switching
(5)	WAN network output interface	Supports to connect to Internet by a network cable
6	PC network output interface	It is connected to a computer through a network cable, and the computer side can capture images through software
7	Power input	DC 12V 5A
8	USB output	Switch to USB working mode
9	FL or BF imaging module switch lever	Push in: FL imaging module is effective Pull-out: BF imaging module is effective

# Specifications

# Color+Color

Applicable to	Nikon		
Model	YF22		
Category	T-N-02		
Physical resolution	20.0MP(Color) 2.0MP(Color)		
Image sensor	SONY IMX147 CMOS	SONY IMX482 CMOS	
Exposure mode	Rolling Shutter	Rolling Shutter	
Maximum resolution	5184×3888 (20,155,392 Pixels) 1920×1080 (2,073,600 Pixels)		
ISO sensitivity	Equivalent to 100-12800 Equivalent to 100-12800		
Sensor size	1/2.3" 1/1.2"		
Pixel size	1.2μm×1.2μm	5.8μm×5.8μm	
Spectral response	380-650nm	400-800nm	
Exposure capability	Real-time auto and manual adjustment	Real-time auto and manual adjustment	
Exposure time	10μs-333ms	10μs-9500ms	
Read out the noise	N/A	1.5-12.9e	
QE peak	N/A	85%	
Full well charge	N/A	51.5ke	
White balance	Real-time auto and manual RB adjustment	Real-time auto and manual RB adjustment	
Preview resolution	5184×3888@10fps,3840×2160@15fps	1920×1080@60fps	
Power supply	DC 12V 5A	DC 12V 5A	
Wireless protocol	5G WiFi IEEE802.11ac	5G WiFi IEEE802.11ac	
A/D convertsion bit depth	12bit 10bit		
Software and App	Windows Software:KoPa Capture Pro, App:KoPa WiFi Lab		

# Color+Monochrome

Applicable to	Nikon		
Dovetail models	YF22		
Category	T-N-2.3		
Physical resolution	20.0MP(Color)	2.3MP(Monochrome)	
Image sensor	SONY IMX147 CMOS	SONY IMX174 CMOS	
Exposure mode	Rolling Shutter	Global Shutter	
Maximum resolution	5184×3888 (20,155,392 Pixels)	1920×1200 (2,304,000Pixels)	
ISO sensitivity	Equivalent to 100-12800 Equivalent to 100-12800		
Sensor size	1/2.3"	1/1.2"	
Pixel size	1.2μm×1.2μm	5.86µm×5.86µm	
Spectral response	380-650nm	400-800nm	
Exposure capability	Real-time auto and manual adjustment	Real-time auto and manual adjustment	
Exposure time	10μs-333ms	10µs-333ms(60fps),10µs-7000ms(30fps)	
Read out the noise	N/A	3.5e-6e	
QE peak	N/A	100%	
Full well charge	N/A	32ke	
White balance	Real-time auto and manual RB adjustment	N/A	
Preview resolution	5184×3888@10fps,3840×2160@15fps	1920×1200@60fps,1920×1080@30fps(default)	
Power supply	DC 12V 5A	DC 12V 5A	
Wireless protocol	5G WiFi IEEE802.11ac	5G WiFi IEEE802.11ac	
A/D convertsion bit depth	12bit	12bit	
Software and App	Windows Software: KoPa Capture Pro; App for mobiles: KoPa WiFi Lab		

# Accessories

Power adapter and power cord (Optional Chinese, American, European, Australian, Korean, British standard etc.)



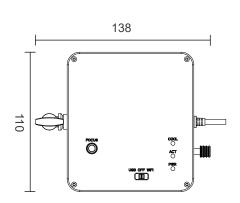


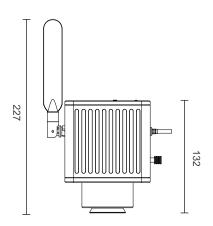
# Gigabit Ethernet cable (2m)



# Dimensions(Unit:mm)

Net weight ≈1.6kg





### Certifications

- 1. Comply with FCC certification of The US Federal Communication Commission.
- 2. Comply with European (standard) safety CE certification.
- 3. Comply with the MIC certification issued by the Ministry of Internal Affairs and Communications of Japan (Electric Wave Method and Electro-Optical Communication Business Law).
- 4. Comply with JATE certification of Japanese telecommunications law directive.
- 5. Comply with the "Directive on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment" (RoHS) Directives in accordance with EU legislation.

Evaluation object	Certification	Certificate File Name & Report	Certificate number & corresponding report number	
WF01A(5G WiFi 11ac)module Certification	US FCC Report  US FCC ID Certification	SZEM180100024801-5G wifi RPT-WF01A FCC Report	SZEM180100024801	
		SZEM180100024802-RT-WF01A FCC Report	SZEM180100024802	
		Appendix A-Photographs of EUT Constructional Details	SZEM1801000248CR	
		for SZEM1801000248CR-FCC		
		2AFO3WF01A_NII-WF01A FCC ID	2AFO3WF01A	
	EU CE report	SZEM180100024901 EN301489 RPT-WF01A CE Report	SZEM180100024901	
		SZEM180100024902 WIFI5G RPT-WF01A CE Report	SZEM180100024902	
	Japanese MIC Certification	CSRT180084-WF01A Japanese MIC Certification	CSRT180084	
	Japanese JATE Certification	CSTT180018-WF01A Japanese JATE Certification	CSTT180018	

#### Patented

Patent category	Patent name Patent number	
	Electronic eyepiece	ZL 2015 3 0193227.8
	Wireless electronic eyepiece	ZL 2015 3 0193223.X
Design patent	Electronic eyepiece with spectroscopic system ZL 2019 3 0331144.9	
	Microscope (with splitting prism camera)	ZL 2019 3 0717439.X
	Microscope with camera	ZL 2019 3 0717442.1
	WiFi microscope eyepiece	ZL 2015 2 0296469.4
	Electronic eyepiece	ZL 2015 2 0426409.X
Utility model patents	Wireless electronic eyepiece	ZL 2015 2 0426313.3
	Microscope with displayer	ZL 2019 2 0928962.1
	Electronic eyepiece with splitting prism system	ZL 2019 2 1022863.3

#### Software copyright

Category	Name of software	Platform	License number
Computer software copyright registration certificate	KoPa Capture Pro	Windows	2021SR1287730
	KoPa WiFi Lab AO	Android	2021SR1304520
	KoPa WiFi Lab	Android	2019SR0117768
		iOS	2019SR0028558
	KoPa View	Linux	2024SR1617066



Manufacturer: No.8 West Lane, Jiangcheng Road, Bangjiang East Village, Dalong street, Panyu District, Guangzhou, China.





ISO9001 Verification No:00223Q26818R3S

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V1.2 2025.05