TUCSEN

Camera Technology
Focused on Scientific Imaging
and Challenging Inspection

OEM Cameras

www.tucsen.com

About Us

A Global Camera Company.

Tucsen designs and manufactures camera technology focused on scientific imaging and challenging inspection. Our job is to create reliable camera devices which allow our customers to answer challenging questions. Engineering talent and relationships with our sensor providers allow us to drive product performance and our business model allows us to also drive a price advantage. With operations in Europe, North America and Asia we help customers in numerous markets across the world helping drive answers to quality, research and medical questions.

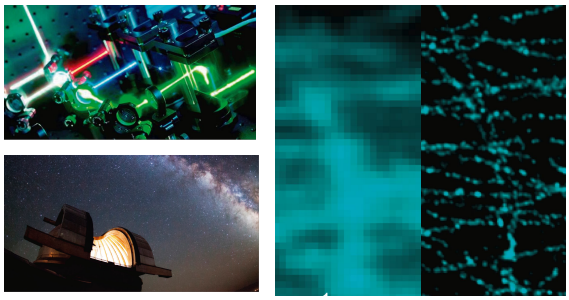
Designing and Manufacturing in China.

Tucsen is proud to design and manufacture in the People's Republic of China. With operations in Fuzhou, Chengdu and Changchun we can access a growing talent pool of engineers to drive a pipeline of new technology and ideas into products faster than our competitors. By utilizing our situation as a volume supplier, we can also take advantage of local supply chains to ensure we can manufacture on time and pass on our cost advantage.

Consistently Delivering Value.

Tucsen delivers value. We deliver products that meet our specifications as noted at prices that help our customers achieve their goals. We are not cheap, we provide value, there is a large difference. We do not have to drive a corporate share price; we drive customer value. We do not add unused features to explain pricing, we drive repeatable consistency to allow our customers to hit cost targets or spend their savings on other items. We manage our business for efficiency, we control our business to deliver consistency and we drive the business to deliver constantly.

Market

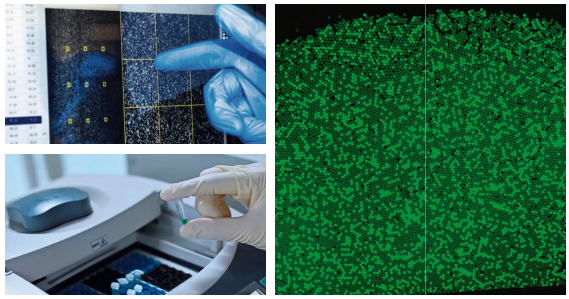


Research

sCMOS technology delivers high QE, low noise and in formats up to 61.4mm x 61.4mm.

Industrial Inspection

Solutions for integration of advanced imaging technologies for challenging inspections.



Instrumentation (OEM)

High performance CMOS and sCMOS devices designed for integration and operation into small spaces.

Catalogue

sCMOS Cameras

High Speed & High Sensitivity TDI

01 Dhyana 9KTDI
02 Dhyana 9KTDI Pro/9KTDI Pro-UV
03 Gemini 8KTDI Pro NEW
04 Gemini 16KTDI NEW

High Sensitivity

05 Aries 16
06 Aries 6510 NEW
07 Aries 6506 NEW
08 Dhyana 95 V2
09 Dhyana 400BSI V3
10 Dhyana 400D
11 Dhyana 401D
12 Dhyana 201D

High Resolution

13 Leo 3243 NEW
14 Leo 3249 NEW
15 Dhyana 2100

Soft X-ray and EUV Direct Detection

Open-Front

16 Dhyana XF95
17 Dhyana XF400BSI
18 Dhyana XF4040BSI

In-Vaccum

19 Dhyana XV95
20 Dhyana XV400BSI
21 Dhyana XV4040BSI

Large Format

22 Dhyana 6060BSI
23 Dhyana 6060
24 Dhyana 4040BSI
25 Dhyana 4040 V2

CMOS Cameras

Cooled Cameras

26 FL 26BW
27 FL 9BW
28 FL 20BW
29 FL 20

High Speed & Global Shutter

30 Libra 3405 NEW
31 Libra 3412 NEW
32 Libra UV NEW
33 Libra 536 NEW

Smart

HDMI

34 TrueChrome 4K Pro
35 TrueChrome Metrics
36 HD Lite

USB 3.0

37 MIchrome 5Pro
38 MIchrome 20
39 MIchrome 16
40 MIchrome 6

USB 2.0

41 GT 12
42 GT 5.0
43 GT 2.0

Dhyana 9KTDI

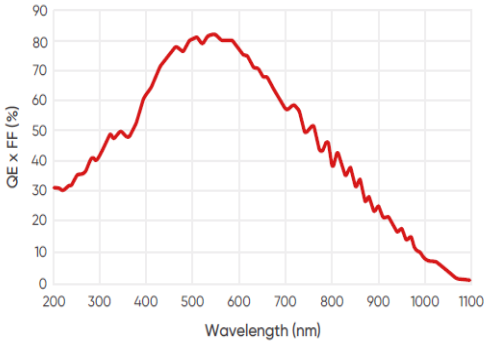
Key Features

· 510 kHz@9K
· 256 Stages TDI
· 180 nm ~ 1100 nm
· Air & Liquid Cooling
· CoaXPress 2.0

Typical Applications

· Semiconductor/wafer inspection
· FPD Inspection
· Fluorescence Detection
· Mask detection
· Gene sequencing
· Spatiotemporal Transcriptomics
· High Throughput Chip Scanning

Quantum Efficiency



Technical Specification

Model	Dhyana 9KTDI
Sensor Type	BSI sCMOS TDI
Sensor Model	Gpixel GLT5009BSI
Peak QE	38 %@266 nm, 51%@355 nm 82 %@550 nm, 38 %@800 nm
Color / Mono	Mono
Array Diagonal	45.4 mm
Effective Area	45.36 mm x 1.28 mm
Resolution	9072 (H) x 256 (V)
Pixel Size	5 μm x 5 μm
Operation Mode	TDI, Area
TDI Stage	4, 8, 16, 32, 64, 96, 128, 160 192, 224, 240, 248, 252, 256
Scan Direction	Forward, Reverse, Trigger Control
CTE	≥0.99993
Data Bit Depth	12 bit, 10 bit, 8 bit
Full-Well capacity	Typ.: 15.5 ke-@12 bit, 14 ke-@10 bit
Dynamic Range	Typ.: 68.7 dB@12 bit, 63.6 dB@10 bit
Max. Line Rate	299 kHz@12 bit, 345 kHz@10 bit, 510 kHz@8 bit
Readout Noise	Typ.: 7.2 e-@12 bit, 11.4 e-@10 bit
DSNU	Typ.: 1.5 e-@12 bit, 3.5 e-@10 bit
PRNU	Typ.: 0.3%
Cooling Method	Air, Liquid, Cooling speed 5°C / min
Max. Cooling	25°C below Ambient
Binning	2 x 1 (SENSOR BIN), 2 x 2, 4 x 4, 8 x 8 (FPGA BIN)
ROI	Support
Trigger Mode	Trigger Input, Scan Direction Input
Output Trigger Signals	Strobe out
Trigger Interface	Hirose, HR10A-7R-4S
Timestamp Accuracy	8 ns
Gain	Analog Gain: x2 ~ x8, Step 0.5 Digital Gain: x0.5 ~ x10, Step 1
Data Interface	CoaxPress 2.0
Optical Interface	M 72 / User Customization
Power Supply	12 V / 8 A
Power Consumption	< 60 W
Dimensions	86 mm x 86 mm x 109 mm
Weight	1100 g
Software	SamplePro
SDK	C++(Supports GenICam Standard)
Operating System	Windows, Linux
Operating Environment	Working: Temp. 0~40 °C, Hum. 0~85% Storage: Temp. 0~60 °C, Hum. 0~90%

Dhyana 9KTDI Pro/9KTDI Pro-UV

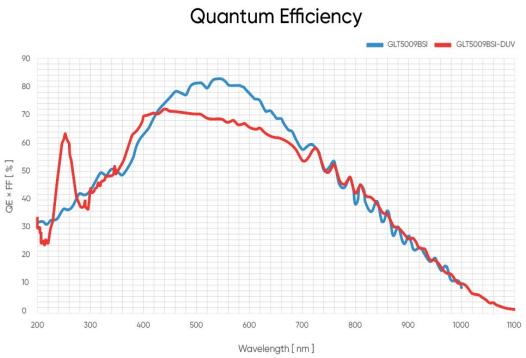
Key Features

· 600 kHz@9K
· 256 Stages TDI
· 180 nm ~ 1100 nm
· Air & Liquid Cooling
· CoaXPress-Over-Fiber 2 x QSFP+

Typical Applications

· Semiconductor/wafer inspection
· FPD Inspection
· Fluorescence Detection
· Mask detection
· Gene sequencing
· Spatiotemporal Transcriptomics
· High Throughput Chip Scanning

Quantum Efficiency



Technical Specification

Model	Dhyana 9KTDI Pro	Dhyana 9KTDI Pro-UV
Sensor Type	BSI sCMOS TDI	
Sensor Model	Gpixel GLT5009BSI	Gpixel GLT5009BSI-DUV
Peak QE	82%@550 nm, 50%@350 nm, 38%@800 nm	50%@266 nm
Color / Mono	Mono	
Array Diagonal	45.4 mm	
Effective Area	45.36 mm x 1.28 mm	
Resolution	9072 (H) x 256 (V)	
Pixel Size	5 μm x 5 μm	
Operation Mode	TDI, Area	
TDI Stage	4, 8, 16, 32, 64, 96, 128, 160, 192, 224, 240, 248, 252,256	
Scan Direction	Forward, Reverse, Trigger Control	
CTE	≥0.99993	
Data Bit Depth	12 bit, 10 bit, 8 bit	
Full-Well capacity	Typ.: 15.5 ke-@12 bit, 14 ke-@10 bit	
Dynamic Range	Typ.: 68.7 dB@12 bit, 63.6 dB@10 bit	
Max. Line Rate	300 kHz@12 bit, 600 kHz@10 bit, 600 kHz@8 bit	
Readout Noise	Typ.: 7.2 e-@12 bit, 11.4 e-@10 bit	
DSNU	Typ.: 1.5 e-@12 bit, 3.5 e-@10 bit	
PRNU	Typ.: 0.3%	
Cooling Method	Air, Liquid, Cooling speed 5°C / min	
Max. Cooling	25°C below Ambient (Liquid)	
Binning	2 x 1 (SENSOR BIN), 2 x 2, 4 x 4, 8 x 8 (FPGA BIN)	
ROI	Support	
Trigger Mode	Trigger Input, Scan Direction Input	
Output Trigger Signals	Strobe out	
Trigger Interface	Hirose, HR10A-7R-4S	
Timestamp Accuracy	8 ns	
Gain	Analog Gain: x2 ~ x8, Step 0.5 Digital Gain: x0.5 ~ x10, Step 1	
Data Interface	CoaXPress-Over-Fiber 2 x QSFP+	
Optical Interface	M 72 / User Customization	
Power Supply	12 V / 8 A	
Power Consumption	< 75 W	
Dimensions	100 mm x 100 mm x 145 mm	
Weight	1800 g	
Software	SamplePro	
SDK	C++(Supports GenICam Standard)	
Operating System	Windows, Linux	
Operating Environment	Working: Temp. 0~40 °C, Hum. 0~85% Storage: Temp. 0~60 °C, Hum. 0~90%	

Gemini 8KTDI Pro

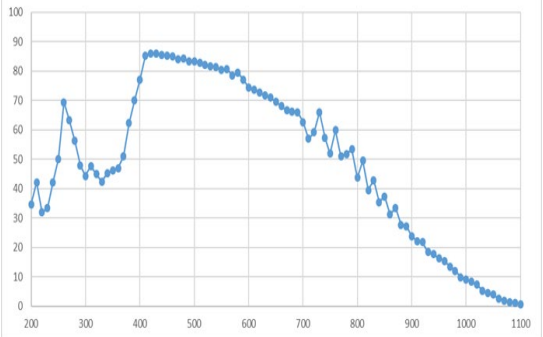
Key Features

· 180 nm ~ 1100 nm
· ≥50%@266 nm
· 1 MHz@8K
· 256 Stages TDI + 32 Stages TDI
· Air & Liquid Cooling

Typical Applications

· Semiconductor/wafer inspection
· FPD Inspection
· Fluorescence Detection
· Mask detection
· Gene sequencing
· Spatiotemporal Transcriptomics
· High Throughput Chip Scanning

Quantum Efficiency



Technical Specification

Model	Gemini 8KTDI Pro
Sensor Type	BSI sCMOS TDI
Sensor Model	Gpixel GLT5008BSI
Peak QE	≥ 50 % @ 266 nm
Spectral Range	180 nm - 1100 nm
Color / Mono	Mono
Array Diagonal	41 mm
Resolution	8208
Pixel Size	5 μm x 5 μm
Operation Mode	TDI, Area
TDI Stage	4, 32, 64, 128, 192, 224, 252, 256
Scan Direction	Forward, Reverse, Trigger Control
CTE	≥0.99993
Data Bit Depth	12 bit, 10 bit, 8 bit
Full-Well capacity	≥ 15 ke-
Dynamic Range	≥ 60 dB@10 bit ADC
Max. Line Rate	500 kHz@12 bit, 1 MHz@10 bit, 1 MHz@8 bit
Readout Noise	＜15 e-@10 bit
Cooling Method	Air, Liquid
Max. Cooling	Air: 10℃@22℃ Ambient Liquid: 0 °C@22℃ Liquid Temprature
Binning	2 x 1 (SENSOR BIN), 2 x 2, 4 x 4, 8 x 8 (FPGA BIN)
ROI	Support
Trigger Mode	Trigger Input, Scan Direction Input
Output Trigger Signals	Strobe out
Trigger Interface	Hirose
Timestamp Accuracy	8 ns
Gain	Analog Gain: x 1 ~ x 4, Digital Gain: x0 ~ x 16
Data Interface	COF 4 x QSFP+
Optical Interface	M 72 / User Customization
Power Supply	24 V / 6.67 A
Weight	＜ 3500 g
Dimensions	120 mm x 120 mm x 144.5 mm
Software	SamplePro
SDK	C, C++
Operating System	Windows 10 X 64/Windows 11 X 64 Ubuntu 20.04, 22.04
Operating Environment	Working: Temp. 0 °C~40 °C, Hum. 20%~80% Storage: Temp. -20 °C~40 °C, Hum. 20%~80% Working altitude: 0 ~ 2000 m

Gemini 16KTDI

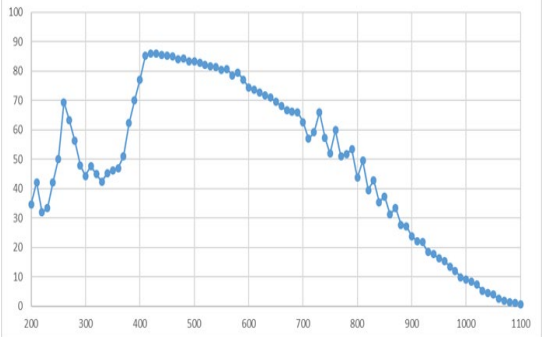
Key Features

· 180 nm ~ 1100 nm
· ≥50%@266 nm
· 500 kHz@16K
· 256 Stages TDI + 32 Stages TDI
· Air & Liquid Cooling

Typical Applications

· Semiconductor/wafer inspection
· FPD Inspection
· Fluorescence Detection
· Mask detection
· Gene sequencing
· Spatiotemporal Transcriptomics
· High Throughput Chip Scanning

Quantum Efficiency



Technical Specification

Model	Gemini 16KTDI
Sensor Type	BSI sCMOS TDI
Sensor Model	Gpixel GLT5016BSI
Peak QE	≥ 50 % @ 266 nm
Spectral Range	180 nm - 1100 nm
Color / Mono	Mono
Array Diagonal	82 mm
Resolution	16416
Pixel Size	5 μm x 5 μm
Operation Mode	TDI, Area
TDI Stage	4, 32, 64, 128, 192, 224, 252, 256
Scan Direction	Forward, Reverse, Trigger Control
CTE	≥0.99993
Data Bit Depth	12 bit, 10 bit, 8 bit
Full-Well capacity	≥ 15 ke-
Dynamic Range	≥ 60 dB@10 bit ADC
Max. Line Rate	500 kHz@16K
Readout Noise	＜15 e-@10 bit
Cooling Method	Air, Liquid
Max. Cooling	Air: 10℃@22℃ Ambient Liquid: 0 °C@22℃ Liquid Temprature
Binning	2 x 1 (SENSOR BIN), 2 x 2, 4 x 4, 8 x 8 (FPGA BIN)
ROI	Support
Trigger Mode	Trigger Input, Scan Direction Input
Output Trigger Signals	Strobe out
Trigger Interface	Hirose
Timestamp Accuracy	8 ns
Gain	Analog Gain: x 1 ~ x 4, Digital Gain: x0 ~ x 16
Data Interface	COF 4 x QSFP+
Optical Interface	M 90 / User Customization
Power Supply	24 V
Weight	TBD
Dimensions	TBD
Software	SamplePro
SDK	C, C++
Operating System	Windows 10 X 64/Windows 11 X 64 Ubuntu 20.04, 22.04
Operating Environment	Working: Temp. 0 °C~40 °C, Hum. 20%~80% Storage: Temp. -20 °C~40 °C, Hum. 20%~80% Working altitude: 0 ~ 2000 m

Aries 16

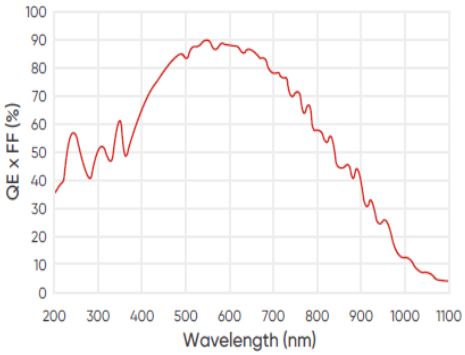
Key Features

· 16 μm x 16 μm
· 0.9 e- Readout Noise
· 90 % Peak QE
· 800 (H) x 600 (V)
· USB 3.0 & CameraLink

Typical Applications

· Cold Atoms
· Quantum Physics
· Single Molecule Fluorescence Detection
· Super Resolution
· FRET
· FCS
· TIRF
· Bioluminescence
· Chemiluminescence

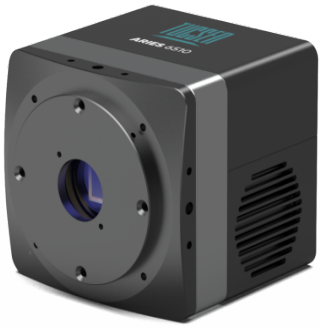
Quantum Efficiency



Technical Specification

Model	Aries 16
Color / Mono	Mono
Peak QE	90.7%@550 nm
Resolution	800 (H) × 600 (V)
Array Diagonal	16 mm
Effective Area	12.8 mm × 9.6 mm
Pixel Size	16 μm x 16 μm
Full-Well capacity	Typ.: 73 ke-
Dynamic Range	Typ.: 94.8 dB
Frame Rate	60 fps@HDR Mode, 25 fps@Low Noise Mode
Readout Noise	Typ.: 1.6 e-@HDR Mode 0.9 e-@Low Noise Mode
Shutter Type	Rolling / Global reset
Exposure Time	26 μs ~ 60 s
DSNU	0.3 e-
PRNU	0.3%
Cooling Method	Air, Liquid
Cooling Temperature	Air: 50 °C below ambient Liquid: 60 °C below ambient
Dark Current	＜ 0.2 e-/pixel/s
Binning	2 x 2, 4 x 4, Free Binning
ROI	Support
Trigger Mode	Hardware, Software
Output Trigger Signals	Exposure start, Global, Readout end, High level, Low level
Trigger Interface	SMA
Timestamp	Support
Data Interface	USB 3.0 & CameraLink
SDK	C, C++, C#, Python
Bit Depth	12 bit & 16 bit
Optical Interface	C-mount
Power	12 V / 8 A
Power Consumption	38 W
Dimensions	95 mm × 95 mm × 114 mm
Weight	1500 g
Software	Mosaic V3, SamplePro, LabVIEW, MATLAB, Micro-Manager 2.0
Operating System	Windows
Operating Environment	Temperature 0~40 °C, Humidity 10~85%

Aries 6510



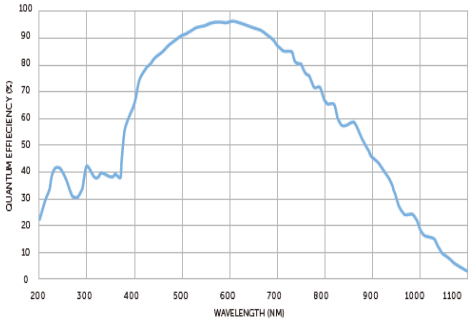
Key Features

· 95% Peak QE
· 6.5 μm Pixel
· 29.4 mm Diagonal FOV
· 150 fps@Full Resolution
· 0.7 e- Readout Noise

Typical Applications

· High-end Microimaging
· Calcium Ion Imaging
· Live Cell Imaging
· High-throughput Imaging
· Pathology Slide Scanning

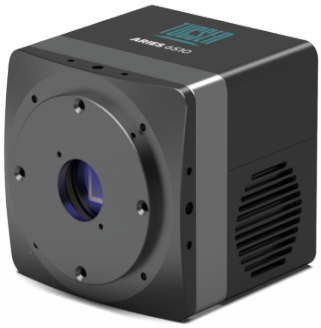
Quantum Efficiency



Technical Specification

Model	Aries 6510			
Sensor Type	BSI sCMOS			
Sensor Model	Gpixel GSENSE 6510BSI			
Peak QE	95%			
Color/Mono	Mono			
Array Diagonal	29.4 mm			
Effective Area	20.8 mm x 20.8 mm			
Resolution	3200 (H) × 3200 (V)			
Pixel Size	6.5 μm x 6.5 μm			
Readout Noise	HDR	Speed	Sensitivity	Super-Sensitivity
Bit Depth	16 bit	11 bit	12 bit	12 bit
Frame Rate	83 fps	150 fps	88 fps	5.2 fps
Readout Noise	1.6 e-	2.0 e-	1.2 e-	0.7 e-
Dark Current@0°C (e-/pixel/s)	0.5	1	0.5	0.5
Full Well Capacity	15000 e-	1000 e-/ 15000 e-	1500 e-	1000 e-
Shutter Mode	Rolling			
Image Correction	DPC			
ROI	Support			
Binning (FPGA)	2 x 2, 4 x 4			
Cooling Method	Air Cooling, Liquid Cooling			
Cooling Temperature	Air: 0 °C@25 °C ambient Liquid: -10 °C@20 °C liquid temprature			
Trigger Mode	Hardware, Software			
Output Trigger Signals	Exposure start, Global, Readout end,Trigger ready First row, Any row			
Trigger Interface	Hirose			
SDK	C / C++ / C# / Python			
Data Interface	2 x 10G GigE			
Optical Interface	T/F/C Mount			
Power	12 V / 8 A			
Power Consumption	≤ 55 W			
Dimensions	95 mm (H) x 100 mm (W) x 100 mm (L)			
Camera Weight	T.B.D			
Operating System	Windows, Linux			
Operating Environment	Working: Temperature 0~40 °C, Humidity 10~85% Storage: Temperature -10~60 °C, Humidity 0~85%			

Aries 6506



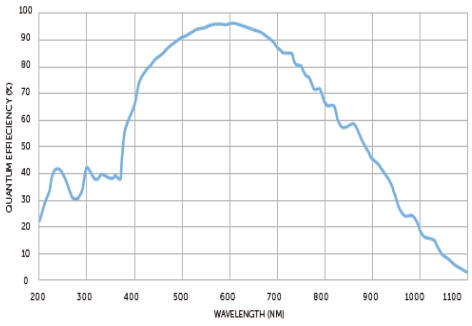
Key Features

· 95% Peak QE
· 6.5 μm Pixel
· 22 mm Diagonal FOV
· 200 fps@Full Resolution
· 0.7 e- Readout Noise

Typical Applications

· High-end Microimaging
· Calcium Ion Imaging
· Live Cell Imaging
· High-throughput Imaging
· Pathology Slide Scanning

Quantum Efficiency



Technical Specification

Model	Aries 6506			
Sensor Type	BSI sCMOS			
Sensor Model	Gpixel GSENSE 6510BSI			
Peak QE	95%			
Color/Mono	Mono			
Array Diagonal	22 mm			
Effective Area	15.7 mm x 15.7 mm			
Resolution	2400 (H) × 2400 (V)			
Pixel Size	6.5 μm x 6.5 μm			
Readout Noise	HDR	Speed	Sensitivity	Super-Sensitivity
Bit Depth	16 bit	11 bit	12 bit	12 bit
Frame Rate	111 fps	200 fps	117 fps	6.9 fps
Readout Noise	1.6 e-	2.0 e-	1.2 e-	0.7 e-
Dark Current@0°C (e-/ pixel/ s)	0.5	1	0.5	0.5
Full Well Capacity	15000 e-	1000 e-/ 15000 e-	15000 e-	1000 e-
Shutter Mode	Rolling			
Image Correction	DPC			
ROI	Support			
Binning (FPGA)	2 x 2, 4 x 4			
Cooling Method	Air Cooling, Liquid Cooling			
Cooling Temperature	Air: 0 °C@25 °C ambient Liquid: -10 °C@20 °Cliquid temprature			
Trigger Mode	Hardware, Software			
Output Trigger Signals	Exposure start, Global, Readout end,Trigger ready First row, Any row			
Trigger Interface	Hirose			
SDK	C / C++ / C# / Python			
Data Interface	2 x 10G GigE			
Optical Interface	C Mount			
Power	12 V / 8 A			
Power Consumption	≤ 55 W			
Dimensions	95 mm (H) x 100 mm (W) x 100 mm (L)			
Camera Weight	T.B.D			
Operating System	Windows, Linux			
Operating Environment	Working: Temperature 0~40 °C, Humidity 10~85% Storage: Temperature -10~60 °C, Humidity 0~85%			

Dhyana 95 V2

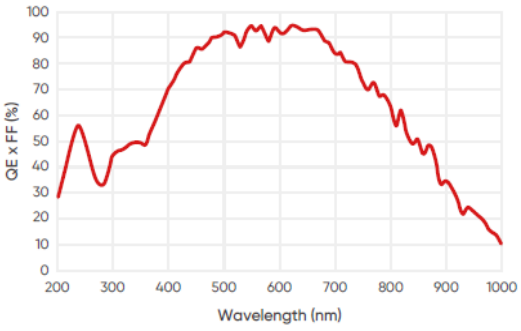
Key Features

· 95% QE@560 nm
· 11 μm × 11 μm
· 2048 (H) x 2048 (V)
· 48 fps@12 bit
· CameraLink & USB3.0

Typical Applications

· Advanced Microscopy Imaging
· Spectral Analysis
· Soft X-ray Imaging
· Astrophysical Research
· Calcium Imaging
· Live Cell Imaging
· Single Molecule Fluorescence Detection
· Super Resolution
· FRET
· FCS
· TIRF

Quantum Efficiency



Technical Specification

Model	Dhyana 95 V2
Sensor Type	BSI sCMOS
Sensor Model	Gpixel GSENSE400BSI
Peak QE	95%@560 nm
Color/Mono	Mono
Array Diagonal	31.9 mm
Effective Area	22.5 mm x 22.5 mm
Resolution	2048 (H) × 2048 (V)
Pixel Size	11 μm x 11 μm
Full Well Capacity	Typ.: 80 ke-@HDR, 100 ke-@STD
Dynamic Range	Typ.: 90 dB
Frame Rate	24 fps@16 bit HDR, 48 fps@12 bit STD
Shutter Mode	Rolling
Readout Noise	1.6 e- (Median), 1.7 e- (RMS)
Exposure Time	21 μs ~ 10 s
DSNU	0.2 e-
PRNU	0.3%
Cooling Method	Air, Liquid
Cooling Temperature	45℃ below Ambient (Liquid)
Dark Current	0.6 e-/pixel/s @-10℃
Binning	2 x 2, 4 x 4
ROI	Support
Timestamp Accuracy	1 μs
Trigger Mode	Hardware, Software
Output Trigger Signals	Exposure, Global, Readout High level, Low level,Trigger ready
Trigger Interface	SMA
Data Interface	USB 3.0, CameraLink
Bit Depth	16 bit, 12 bit
Optical Interface	C-mount / F-mount
Power	12 V / 8 A
Power Consumption	60 W
Dimensions	C-mount: 100 mm x 118 mm x 127 mm F-mount: 100 mm x 118 mm x 157 mm
Weight	1613 g
Software	Mosaic, SamplePro, LabVIEW MATLAB, Micro-Manager 2.0
SDK	C, C++, C#, Python
Operating System	Windows, Linux
Operating Environment	Working：Temperature 0~40 °C, Humidity 0~85% Storage：Temperature 0~60 °C, Humidity 0~90%

Dhyana 400BSI V3

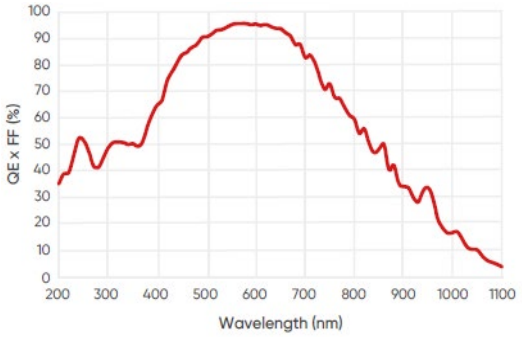
Key Features

· 95% QE@600 nm
· 6.5 μm × 6.5 μm
· 2048 (H) x 2048 (V)
· 48 fps@12 bit
· CameraLink & USB3.0

Typical Applications

· Advanced Microscopy Imaging
· Spectral Analysis
· Astrophysical Research
· Calcium Imaging
· Live Cell Imaging

Quantum Efficiency



Technical Specification

Model	Dhyana 400BSI V3
Sensor Type	BSI sCMOS
Sensor Model	Gpixel GSENSE2020BSI
Peak QE	95%@600 nm
Color/Mono	Mono
Array Diagonal	18.8 mm
Effective Area	13.3 mm x 13.3 mm
Resolution	2048 (H) × 2048 (V)
Pixel Size	6.5 μm x 6.5 μm
Full Well Capacity	Typ.: 45 ke-
Dynamic Range	Typ.: 90 dB
Frame Rate	12 bit Firmware HDR Mode: 43 fps@CameraLink, 43 fps@USB 3.0 High Speed: 100 fps@CameraLink, 60 fps@USB 3.0 11 bit Firmware HDR Mode: 74 fps@CameraLink, 45 fps@USB 3.0 High Speed: 100 fps@CameraLink,60 fps@USB 3.0
Shutter Mode	Rolling / Global Reset
Readout Noise	CMS (Typ.) : 1.1 e- (Median) , 1.2 e- (RMS) HDR(Typ.): 1.6 e- (Median) , 1.7 e- (RMS)
Exposure Time	6.6 μs ~ 10 s
DSNU	0.2 e-
PRNU	0.3%
Cooling Method	Air, Liquid
Cooling Temperature	45°C below ambient (liquid)
Dark Current	0.5 e-/pixel/s@-10°C
Binning	2 x 2, 4 x 4
ROI	Support
Timestamp Accuracy	1 μs
Trigger Mode	Hardware, Software
Output Trigger Signals	Exposure, Global, Readout High level, Low level, Trigger ready
Trigger Interface	SMA
Data Interface	USB 3.0, CameraLink
Bit Depth	11 bit, 12 bit, 16 bit
Optical Interface	C-mount
Power	12 V / 8 A
Power Consumption	45 W
Dimensions	85 mm x 85 mm x 127 mm
Weight	995 g
Software	Mosaic V3, SamplePro, LabVIEW MATLAB, Micro-Manager 2.0
SDK	C, C++, C#, Python
Operating System:	Windows, Linux
Operating Environment	Work: Temp. 0~40 °C, Hum. 10~85% Storage： Temp. 0~60 °C, Hum. 0~90%

Dhyana 400D

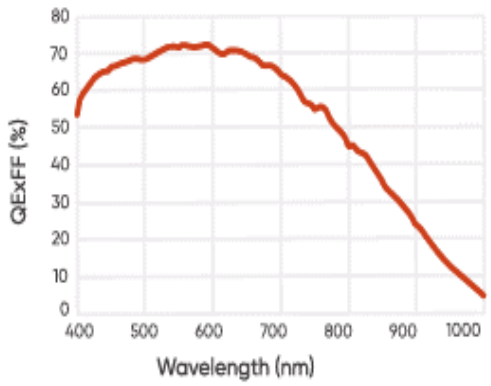
Key Features

· 72% QE@595 nm
· 6.5 μm × 6.5 μm
· 2048 (H) x 2040 (V)
· 35 fps@16 bit
· USB 3.0

Typical Applications

· Advanced Microscopy Imaging
· Calcium Imaging
· Live Cell Imaging
· dPCR

Quantum Efficiency



Technical Specification

Model	Dhyana 400D
Sensor Type	FSI sCMOS
Sensor Model	Gpixel GSENSE2020
Peak QE	72%@595 nm
Color/Mono	Mono
Array Diagonal	18.8 mm
Effective Area	13.3 mm x 13.3 mm
Resolution	2048 (H) x 2040 (V)
Pixel Size	6.5 μm x 6.5 μm
Full-Well Capacity	Typ. : 45 ke-
Dynamic Range	Typ. : 86.6 dB
Frame Rate	35 fps@16 bit
Readout Noise	High Gain: 2 e-
ShutterType	Rolling
Exposure Time	13 μs ~ 10 s
Cooling Method	Air
Cooling Temperature	35℃ Below Ambient
Dark Current	0.12 e-/pixel/s@-10 °C
Binning	2 x 2
ROI	Support
Trigger Mode	Hardware, Software
Output Trigger Signals	Exposure Start, Global, Readout End
Trigger Interface	SMA
Data Interface	USB 3.0
Bit Depth	12 bit, 16 bit
Optical Interface	C-mount
Power	12 V / 8 A
Power Consumption	60 W
Dimensions	120 mm x 119 mm x 121 mm
Weight	1853 g
Software	Mosaic, LabVIEW, MATLAB, Micro-Manager 2.0
SDK	C, C++, C#, Python
Operating System	Windows, Linux
Operating Environment	Temperature 0~40°C, Humidity 0~85% Storage：Temperature 0~60 °C, Humidity 0~90%

Dhyana 401D

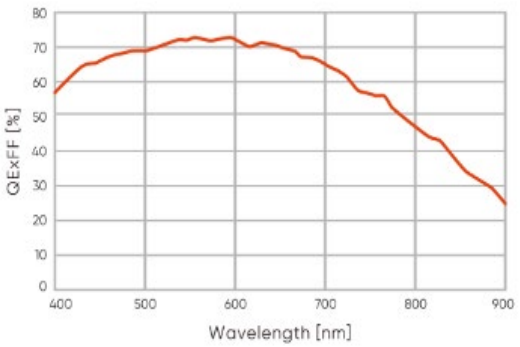
Key Features

· 18.8 mm (1.2")
· 6.5 μm × 6.5 μm
· 2048 (H) x 2048 (V)
· 40 fps@16 bit
· USB 3.0

Typical Applications

· Advanced Microscopy Imaging
· Calcium Imaging
· Live Cell Imaging
· Near-Infrared Brain Slice Imaging

Quantum Efficiency



Technical Specification

Model	Dhyana 401D
Sensor Type	FSI sCMOS
Sensor Model	Gpixel GSENSE2020
Peak QE	72%@595 nm
Color / Mono	Mono
Array Diagonal	18.8 mm
Effective Area	13.3 mm x 13.3 mm
Resolution	2048 (H) x 2048 (V)
Pixel Size	6.5 μm x 6.5 μm
Full-Well Capacity	Typ. : 43 ke-
Frame Rate	40 fps@16 bit, 45 fps@8 bit
Shutter Type	Rolling
Readout Noise	Typ. : 2.1 e- (Median)
Exposure Time	10 μs ~ 10 s
Binning	2 x 2，4 x 4
ROI	Support
Trigger Mode	Hardware, Software
Output Trigger Signals	Exposure, Global, Readout High level, Low level, Trigger Ready
Trigger Interface	Hirose
Data Interface	USB 3.0
Bit Depth	8 bit, 12bit, 16 bit
Optical Interface	C-Mount
Power	USB 3.0
Power Consumption	< 4 W
Dimensions	56 mm x 56 mm x 61.7 mm
Weight	305 g
Software	Mosaic 3, LabVIEW, MATLAB, SamplePro, Micro-Manager 2.0
SDK	C, C++, C#, Python
Operating System	Windows, Linux
Operating Environment	Work: Temperature 0~40 °C, Humidity 10~85% Storage： Temperature 0~60 °C, Humidity 0~90%

Dhyana 201D

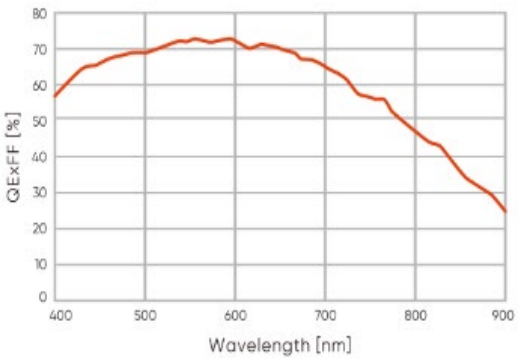
Key Features

· 15.3 mm (1")
· 6.5 μm × 6.5 μm
· 2048 (H) x 1152 (V)
· 70 fps@16 bit
· USB 3.0

Typical Applications

· Advanced Microscopy Imaging
· Calcium Imaging
· Live Cell Imaging
· Near-Infrared Brain Slice Imaging

Quantum Efficiency



Technical Specification

Model	Dhyana 201D
Sensor Type	FSI sCMOS
Sensor Model	Gpixel GSENSE2011
Peak QE	72%@595 nm
Color / Mono	Mono
Array Diagonal	15.3 mm
Effective Area	13.3 mm x 7.5 mm
Resolution	2048 (H) x 1152 (V)
Pixel Size	6.5 μm x 6.5 μm
Full-Well Capacity	Typ. : 43 ke-
Frame Rate	70 fps@16 bit, 80 fps@8 bit
Shutter Type	Rolling
Readout Noise	Typ. : 2.1 e- (Median)
Exposure Time	10 μs ~ 10 s
Binning	2 x 2， 4 x 4
ROI	Support
Trigger Mode	Hardware, Software
Output Trigger Signals	Exposure Start, Readout End
Trigger Interface	Hirose
Data Interface	USB 3.0
Bit Depth	8 bit, 12bit, 16 bit
Optical Interface	C-Mount
Power	USB 3.0
Power Consumption	< 4 W
Dimensions	56 mm x 56 mm x 61.7 mm
Weight	305 g
Software	Mosaic, LabVIEW, MATLAB, Micro-Manager 2.0, SamplePro
SDK	C, C++, C#, Python
Operating System	Windows, Linux
Operating Environment	Work: Temperature 0~40 °C, Humidity 0~85% Storage: Temperature 0~60 °C, Humidity 0~90%

Leo 3243

Key Features

· Stacked BSI sCMOS
· 3.2 µm Pixels
· 8192 (H) x 5232 (V)
· 31 mm Diagonal
· 100 fps@43 MP

Typical Applications

· High Speed Slide Scanning
· Gene Sequencing
· High Throughput

Technical Specification

Model	Leo 3243
Sensor Model	GSENSE 3243BSI
Sensor Type	Stacked BSI sCMOS
Shutter Type	Rolling
Pixel Size	3.2 µm x 3.2 µm
Peak QE	80%
Color / Mono	Color / Mono
Array Diagonal	31 mm
Effective Area	26.2 mm x 16.7 mm
Resolution	8192 (H) x 5232 (V)
Full-Well Capacity	25 ke-@HDR 94 ke-@Extend.HDR
Dynamic Range	83 dB (up to 110 dB)
Frame Rate	100 fps@HDR 25 fps@Extend.HDR
Readout Noise	< 3 e-
Dark Current	1 e^-/pixel/s@0 °C
Cooling Method	Air/Liquid/ Passive ((no fan) Cooling
Cooling Temperature	Maximun 30℃ Below Ambient
Output Trigger Signals	Customer Specified
Trigger Interface	Hirose
Data Interface	100G QFSP28 / 100G GigE
Bit Depth	8 bit, 12bit, 16 bit
Optical Interface	Customer Specified
Dimensions	Compact Desgin
Weight	<1 kg

Leo 3249

Key Features

· 3.2 µm Pixels
· 7000 (H) x 7000 (V)
· 32 mm Diagonal
· 71 fps@49MP

Typical Applications

· High Speed Slide Scanning
· Gene Sequencing
· High Throughput

Technical Specification

Model	Leo 3249
Sensor Model	GMAX 3249
Sensor Type	sCMOS
Shutter Type	Global Shutter
Pixel Size	3.2 µm x 3.2 µm
Peak QE	65%
Color / Mono	Color / Mono
Array Diagonal	32 mm
Effective Area	22.4 mm x 22.4 mm
Resolution	7000 (H) x 7000 (V)
Full-Well Capacity (12 bit)	11 ke-@PGA × 0.75 2 ke-@PGA × 6
Full-Well Capacity (10 bit)	10.6 ke-@PGA × 0.75 9.8 ke-@PGA ×1.25
Frame Rate	71 fps@10 bit 31 fps@12 bit
Readout Noise (12 bit)	7.7 e-@PGA × 0.75 5 e-@PGA × 1.25 1.9 e-@PGA × 6
Readout Noise (10 bit)	11.8 e-@PGA × 0.75 7.5 e-@PGA × 1.25
Dark Current	＜3 e-/pixel/s@25 °C
Cooling Method	Air / Liquid / Passive (no fan) Cooling
Data Interface	100G GigE
Bit Depth	10 bit, 12 bit
Power Consumption	2.2 W@10 bit 2 W@12 bit
Optical Interface	Customer Specified
Dimensions	Compact Desgin
Weight	< 1 kg

Dhyana 2100

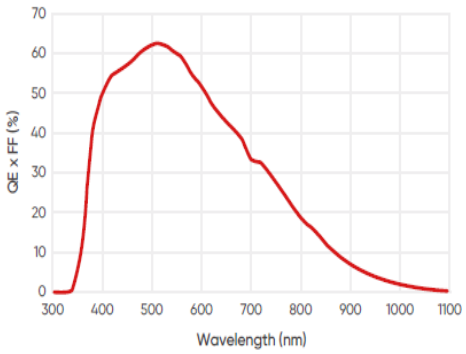
Key Features

· 450 fps@21MP
· Global Shutter
· 29.5 mm Diagonal
· 5120 (H) x 4096 (V)
· Liquid or Air Cooling

Typical Applications

· Wafer Inspection
· FPD Inspection
· Aerial Photography
· Voltage Sensitive Imaging
· Cardiac Imaging

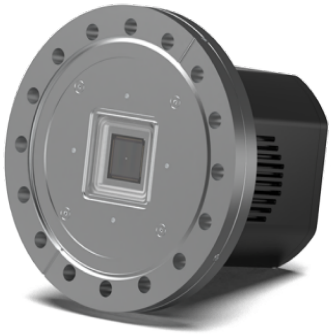
Quantum Efficiency



Technical Specification

Model	Dhyana 2100	
Sensor Type	FSI CMOS	
Sensor Mode	Gpixel GSPRINT4521	
Peak QE	63%@520 nm	
Color / Mono	Mono	
Array Diagonal	29.5 mm	
Effective Area	23.04 mm x 18.43 mm	
Resolution	5120 (H) x 4096 (V)	
Pixel Size	4.5 μm x 4.5 μm	
Full-Well Capacity	28 ke-@12 bit gain 0 6.5 ke-@12 bit gain 2 120 ke-@binned	
Dynamic Range	Typ.: 68.8 dB (12 bit Gain 2)	
Frame Rate	Full mode: 450 fps@8 bit 300 fps@10 bit 250 fps@12 bit	Base mode: 225 fps@8 bit 150 fps@10 bit 150 fps@12 bit
Readout Noise:	Typ.: 3.5 e- @12 bit	
Shutter Type	Global	
Exposure Time	4 μs ~ 10 s	
DSNU	1.1 e-	
PRNU	0.3%	
Cooling Method	Air, Liquid	
Max. Cooling	30 °C Below Ambient	
Binning	2 x 2, 4 x 4, 8 x 8	
ROI	Support	
Trigger Mode	Hardware, Software	
Output Trigger Signals	Exposure Start, Readout End	
Trigger Interface	Hirose	
Data Interface	Full Mode: CXP12 x 8 Base Mode: CXP12 x 4	
Bit Depth	8 bit, 10 bit, 12 bit	
Optical Interface	M58 / F-Mount / User Customization	
Power	24 V / 6 A	
Power Consumption	≤ 120 W	
Dimensions	95 mm x 95 mm x 140.5 mm	
Weight	1816 g	
Software	SamplePro	
SDK	C, C++, C#	
Operating System	Windows, Linux	
Operating Environment	Work: Temperature 0~40 °C, Humidity 0~85% Storage: Temperature 0~60 °C, Humidity 0~90%	

Dhyana XF95



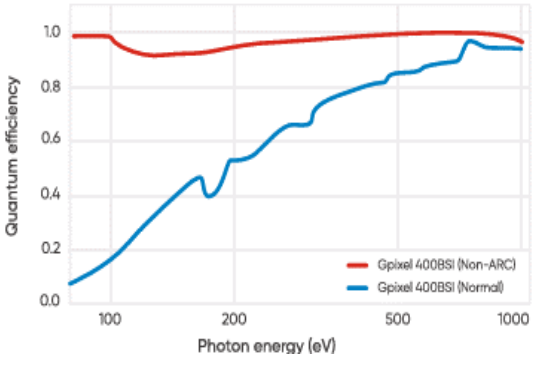
Key Features

· ~100% Peak QE@80-1000 eV
· 10^{-7} Pa Vacuum Compatbility
· 85 ke- Full-Well Capacity
· 2048 (H) x 2048 (V)
· CameraLink & USB 3.0

Typical Applications

· Soft X-ray Scattering / Spectroscopy
· Extreme Ultraviolet Spectroscopy
· Layered Diffraction Imaging
· High Harmonic Generation Radiation

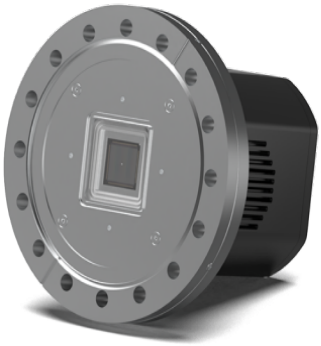
Quantum Efficiency



Technical Specification

Model	Dhyana XF95 (Open-Front)
Sensor Type	GSENSE 400BSI-PS / GSENSE 400BSI
Sensor Model	Non Anti-Reflection Coating/Standard back-illuminated sCMOS
Peak QE	~100%
Color / Mono	Mono
Array Diagonal	31.9 mm
Effective Area	22.5 mm x 22.5 mm
Resolution	4.2 MP, 2048 (H) x 2048 (V)
Pixel Size	11 μm x 11 μm
Full Well Wapacity	Typ.: 85 ke-
Dynamic Range	90 dB
Spectral Range	80 ~ 1000 eV / 200 ~ 1100 nm
Frame Rate	HDR: 24 fps; STD: 48 fps
Readout Noise	Typ.: 1.6 e- (Median)
Shutter Mode	Rolling
Exposure Time	21 μs ~ 300 s
Linearity	> 99%
DSNU	0.2 e-
PRNU	0.3%
Bit Depth	12 bit, 16 bit
Cooling Method	Water Cooling, Air Cooling
Cooling Temperature	Below Ambient Temperature 60°C
Dark Current	0.3 e-/pixel/s@-40°C
Vacuum Compatibility	10^{-7} Pa (Max)
Binning	2 x 2, 4 x 4
ROI	Support
Timestamp Accuracy	1 μs
Trigger Mode	Hardware Trigger, Software Trigger
Output Trigger Signals	Exposure Start, Global Readout End, High level, Low level
Trigger Interface	SMA
Data Interface	CameraLink , USB 3.0
Flange Size	DN100CF /Customization
Power	12 V / 8 A
Power Consumption	＜65 W
Dimensions	152.4 mm x 152.4 mm x 140.7 mm
Camera Weight	~3700 g
Software	Mosaic, SamplePro, LabVIEW, MATLAB, Micro-Manager 2.0
SDK	C, C++, C#,Python
Operating System	Windows, Linux
Operating Environment	Working: Temperature: 0~40°C, Humidity 0~70% Baking Temperature: ＜70°C

Dhyana XF400BSI



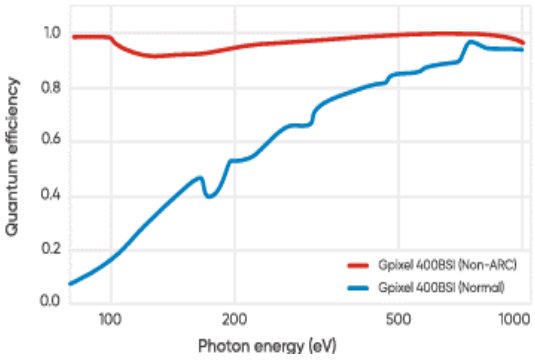
Key Features

· ~100% Peak QE@80-1000 eV
· 10^{-7} Pa Vacuum Compatbility
· 45 ke- Full-Well Capacity
· 40 fps@4 MP
· CameraLink & USB 3.0

Typical Applications

· Soft X-ray Scattering / Spectroscopy
· Extreme Ultraviolet Spectroscopy
· Layered Diffraction Imaging
· High Harmonic Generation Radiation

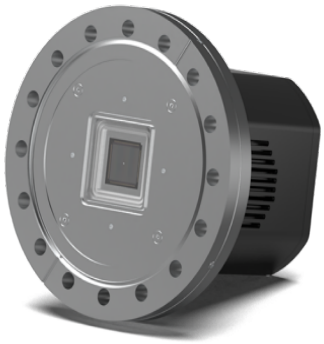
Quantum Efficiency



Technical Specification

Model	Dhyana XF400BSI (Open-Front)
Sensor Type	GSENSE2020BSI-PS / GSENSE2020BSI
Sensor Model	Non Anti-Reflection Coating/Standard back-illuminated sCMOS
Peak QE	~100%
Color / Mono	Mono
Array Diagonal	18.8 mm
Effective Area	13.3 mm x 13.3 mm
Resolution	4 MP, 2048 (H) x 2048 (V)
Pixel Size	6.5 μm x 6.5 μm
Full Well Wapacity	Typ.: 45 ke-
Dynamic Range	90 dB
Spectral Range	80 ~ 1000 eV / 200 ~ 1100 nm
Frame Rate	40 fps@USB 3.0; 100 fps@CameraLink
Readout Noise	Typ.: 1.1 e- (Median)
Shutter Mode	Rolling, Global Reset
Exposure Time	6.6 μs ~ 300 s
Linearity	> 99%
DSNU	0.2 e-
PRNU	0.3%
Bit Depth	11 bit, 12 bit, 16 bit
Cooling Method	Water Cooling, Air Cooling
Cooling Temperature	Below Ambient Temperature 60°C
Dark Current	0.5 e-/pixel/s@-40℃ Chip Temperature
Vacuum Compatibility	10^{-7} Pa (Max)
Binning	2 x 2, 4 x 4
ROI	Support
Timestamp Accuracy	1 μs
Trigger Mode	Hardware Trigger, Software Trigger
Output Trigger Signals	Exposure start, Global, Readout end, High level, Low level
Trigger Interface	SMA
Data Interface	CameraLink , USB 3.0
Flange Size	DN100CF /Customization
Power	12 V / 8 A
Power Consumption	Camera plus control box ⩽ 65W
Dimensions	103mm x 103 mm x 152 mm
Camera Weight	~3900 g
Software	Mosaic, SamplePro, LabVIEW MATLAB, Micro-Manager
SDK	C, C++, C#,Python
Operating System	Windows, Linux
Operating Environment	Working: Temperature: 0~40°C, Humidity 0~70% Baking Temperature: ＜70°C

Dhyana XF4040BSI



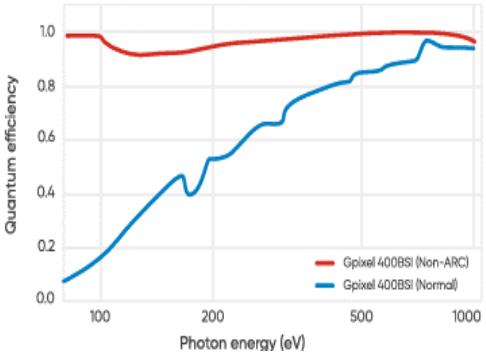
Key Features

· ~100% Peak QE@80-1000 eV
· 10^{-7} Pa Vacuum Compatbility
· 37 ke- Full-Well Capacity
· 16.5 fps@CameraLink
· CameraLink & USB 3.0

Typical Applications

· Soft X-ray Scattering / Spectroscopy
· Extreme Ultraviolet Spectroscopy
· Layered Diffraction Imaging
· High Harmonic Generation Radiation

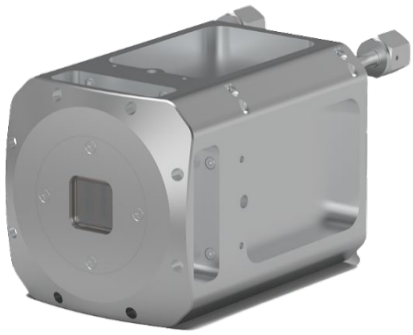
Quantum Efficiency



Technical Specification

Model	Dhyana XF4040BSI (Open-Front)
Sensor Type	GSENSE4040BSI-PS / GSENSE4040BSI
Sensor Model	Non Anti-Reflection Coating/Standard back-illuminated sCMOS
Peak QE	~100%
Color / Mono	Mono
Array Diagonal	52.1 mm
Effective Area	36.9 mm x 36.9 mm
Resolution	4096 (H) x 4096 (V)
Pixel Size	9 μm x 9 μm
Full Well Wapacity	Typ.: 37 ke-
Dynamic Range	80 dB
Spectral Range	80 ~ 1000 eV / 200 ~ 1100 nm
Frame Rate	16.5 fps@CameraLink; 9.7 fps@USB 3.0
Readout Noise	Typ.: 2.8 e- (Median)
Shutter Mode	Rolling
Exposure Time	10 μs ~ 300 s
Linearity	> 99%
DSNU	0.5 e-
PRNU	0.2%
Bit Depth	12 bit, 16 bit
Cooling Method	Water Cooling, Air Cooling
Cooling Temperature	Below Ambient Temperature 60°C
Dark Current	0.02 e-/pixel/s@-40℃ Chip Temperature
Vacuum Compatibility	10^{-7} Pa (Max)
Binning	2 x 2, 4 x 4
ROI	Support
Timestamp Accuracy	1 μs
Trigger Mode	Hardware Trigger, Software Trigger
Output Trigger Signals	Exposure Start, Global, Readout End, High level, Low level
Trigger Interface	SMA
Data Interface	CameraLink , USB 3.0
Flange Size	Customization
Power	12 V / 8 A
Power Consumption	T.B.D
Dimensions	203.2 mm x 203.2 mm x 154 mm
Camera Weight	~4300 g
Software	Mosaic 3.0, SamplePro, MaximDL, LabVIEW, MATLAB, EPICS
SDK	C, C++, C#,Python
Operating System	Windows, Linux
Operating Environment	Working: Temperature: 0~40°C, Humidity 0~70% Baking Temperature: ＜70°C

Dhyana XV95



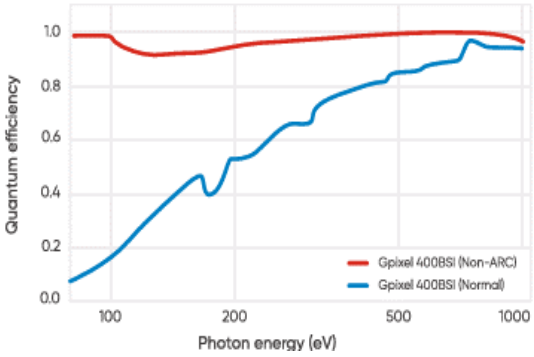
Key Features

· ~100% Peak QE@80-1000 eV
· 10^{-6} Pa Vacuum Compatbility
· 85 ke- Full-Well Capacity
· 48 fps@4.2MP
· USB 3.0

Typical Applications

· Soft X-ray Scattering / Spectroscopy
· Extreme Ultraviolet Spectroscopy
· Layered Diffraction Imaging
· High Harmonic Generation Radiation

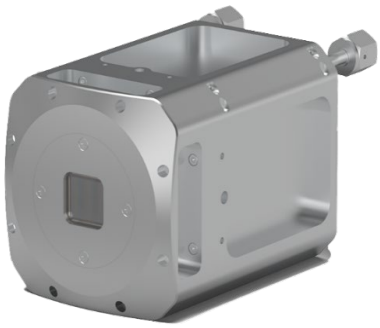
Quantum Efficiency



Technical Specification

Model	Dhyana XV95 (In-Vaccum)
Sensor Type	GSENSE 400BSI-PS / GSENSE 400BSI
Sensor Model	Non Anti-Reflection Coating/Standard back-illuminated sCMOS
Peak QE	~100%
Color / Mono	Mono
Array Diagonal	31.9 mm
Effective Area	22.5 mm x 22.5 mm
Resolution	4.2 MP, 2048 (H) x 2048 (V)
Pixel Size	11 μm x 11 μm
Full Well Wapacity	Typ.: 85 ke-
Dynamic Range	90 dB
Spectral Range	80 ~ 1000 eV / 200 ~ 1100 nm
Frame Rate	HDR: 24 fps; STD: 48 fps
Readout Noise	High Gain： 1.6 e- (Median)
Shutter Mode	Rolling
Exposure Time	21 μs ~ 300 s
Linearity	> 99%
DSNU	0.2 e-
PRNU	0.3%
Bit Depth	12 bit, 16 bit
Cooling Method	Water Cooling
Cooling Temperature	Below Water Temperature 65°C
Dark Current	0.3 e-/pixel/s @-45°C Chip Temperature
Vacuum Compatibility	10^{-6} Pa (Max)
Binning	2 x 2, 4 x 4
ROI	Support
Timestamp Accuracy	1 μs
Trigger Mode	Hardware Trigger, Software Trigger
Output Trigger Signals	Exposure start, Global, Readout end, High level, Low level
Trigger Interface	Hirose
Data Interface	USB 3.0
Flange Size	Feedthrough DN100CF/Customization
Power	AC Power Supply
Power Consumption	Camera plus control box ⩽ 65W
Dimensions	110mm x 110 mm x 197 mm
Camera Weight	~2600 g
Software	Mosaic 3.0, SamplePro, LabVIEW, MATLAB Micro-Manager
SDK	C, C++, C#,Python
Operating System	Windows, Linux
Operating Environment	Working Temperature: 0~40°C, Humidity 0~70% Baking Temperature: < 70°C

Dhyana XV400BSI



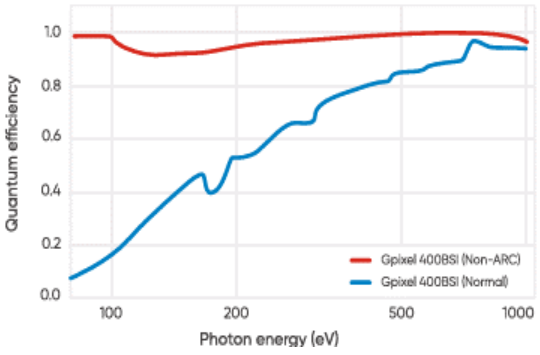
Key Features

· ~100% Peak QE@80-1000 eV
· 10^{-6} Pa Vacuum Compatbility
· 45 ke- Full-Well Capacity
· 40 fps@4MP
· USB 3.0

Typical Applications

· Soft X-ray Scattering / Spectroscopy
· Extreme Ultraviolet Spectroscopy
· Layered Diffraction Imaging
· High Harmonic Generation Radiation

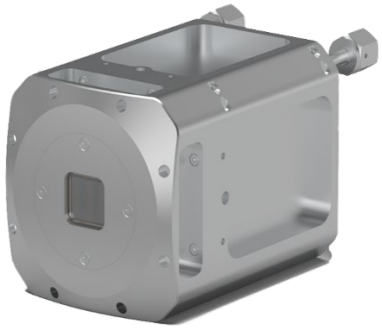
Quantum Efficiency



Technical Specification

Model	Dhyana XV400BSI (In-Vaccum)
Sensor Type	GSENSE2020BSI-PS / GSENSE2020BSI
Sensor Model	Non Anti-Reflection Coating/Standard back-illuminated sCMOS
Peak QE	~100%
Color / Mono	Mono
Array Diagonal	18.8 mm
Effective Area	13.3 mm x 13.3 mm
Resolution	4 MP, 2048 (H) x 2048 (V)
Pixel Size	6.5 μm x 6.5 μm
Full Well Wapacity	Typ.: 45 ke-
Dynamic Range	90 dB
Spectral Range	80 ~ 1000 eV / 200 ~ 1100 nm
Frame Rate	40 fps @USB 3.0
Readout Noise	CMS Typ.: 1.1 e- (Median)
Shutter Mode	Rolling, Global Reset
Exposure Time	6.6 μs ~ 300 s
Linearity	> 99%
DSNU	0.2 e-
PRNU	0.3%
Bit Depth	11 bit, 12 bit, 16 bit
Cooling Method	Water Cooling
Cooling Temperature	Below water temperature 60°C
Dark Current	0.5 e-/pixel/s@-40°C Chip Temperature
Vacuum Compatibility	10^{-6} Pa (Max)
Binning	2 x 2, 4 x 4
ROI	Support
Timestamp Accuracy	1 μs
Trigger Mode	Hardware Trigger, Software Trigger
Output Trigger Signals	Exposure start, Global, Readout end, High level, Low level
Trigger Interface	Hirose
Data Interface	USB 3.0
Flange Size	Feedthrough DN100CF/Customization
Power	AC Power Supply
Power Consumption	Camera plus control box ≤ 71W
Dimensions	110 mm x 110 mm x 156 mm
Camera Weight	~2600 g
Software	Mosaic, SamplePro, LabVIEW MATLAB, Micro-Manager
SDK	C , C++, C#， Python
Operating System	Windows, Linux
Operating Environment	Working: Temp. 0~30°C,Hum.< 70%(For Control Box Only) Storage: Temperature -10~40°C Baking Temperature: < 70°C

Dhyana XV4040BSI



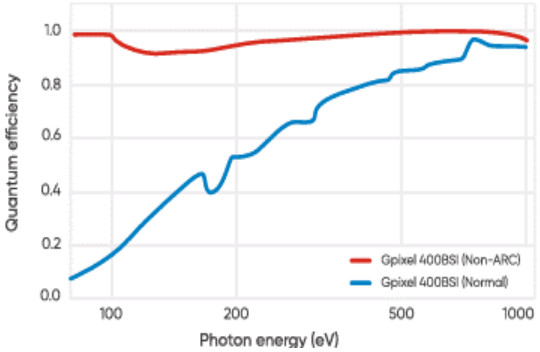
Key Features

· ~100% Peak QE@80-1000 eV
· 10^{-6} Pa Vacuum Compatbility
· 37 ke- Full-Well Capacity
· 16.5 fps@CameraLink
· USB 3.0

Typical Applications

· Soft X-ray Scattering / Spectroscopy
· Extreme Ultraviolet Spectroscopy
· Layered Diffraction Imaging
· High Harmonic Generation Radiation

Quantum Efficiency



Technical Specification

Model	Dhyana XV4040BSI (In-Vaccum)
Sensor Type	GSENSE4040BSI-PS / GSENSE4040BSI
Sensor Model	Non Anti-Reflection Coating/Standard back-illuminated sCMOS
Peak QE	~100%
Color / Mono	Mono
Array Diagonal	52.1 mm
Effective Area	36.9 mm x 36.9 mm
Resolution	4096 (H) x 4096 (V)
Pixel Size	9 μm x 9 μm
Full Well Wapacity	Typ.: 37 ke-
Dynamic Range	80 dB
Spectral Range	80 ~ 1000 eV / 200 ~ 1100 nm
Frame Rate	9.7 fps@USB 3.0
Readout Noise	Typ.: 2.7 e- (Median)
Shutter Mode	Rolling
Exposure Time	10 μs ~ 3600 s
Linearity	> 99%
DSNU	0.5 e-
PRNU	0.2%
Bit Depth	12 bit, 16 bit
Cooling Method	Water Cooling
Cooling Temperature	Below Ambient Temperature 60°C
Dark Current	0.01 e-/pixel/s@-45°C Chip Temperature
Vacuum Compatibility	10^{-6} Pa (Max)
Binning	2 x 2, 4 x 4
ROI	Support
Timestamp Accuracy	1 μs
Trigger Mode	Hardware Trigger, Software Trigger
Output Trigger Signals	Exposure start, Simulated Global, Readout end, High level, Low level
Trigger Interface	Hirose
Data Interface	USB 3.0
Flange Size	Feedthrough DN100CF/Customization
Power	AC Power Supply
Power Consumption	Camera plus control box ⩽ 63 W
Dimensions	127 mm x 127 mm x 155 mm
Camera Weight	~3100 g
Software	Mosaic 3.0, SamplePro, MaximDL, LabVIEW MATLAB
SDK	C , C++, C#, Python
Operating System	Windows, Linux
Operating Environment	Working: Temp. 0~30°C, Hum.< 70% (For Control Box Only) Storage: Temperature -10~40°C Baking Temperature: < 70°C

Dhyana 6060BSI

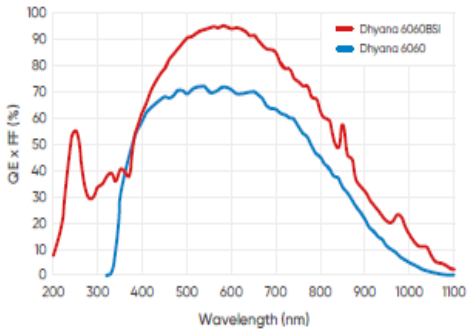
Key Features

· 95% QE@580 nm
· 10 μm × 10 μm
· 6144 (H) x 6144 (V)
· 26.4 fps@36MP
· CoaXPress 2.0

Typical Applications

· Space Debris
· Solar Observation
· Soft X-ray
· Quantum Imaging

Quantum Efficiency



Technical Specification

Model	Dhyana 6060BSI
Sensor Type	BSI sCMOS
Sensor Model	Gpixel GSENSE6060BSI
Peak QE	95 %@580 nm
Color / Mono	Mono
Array Diagonal	86.8 mm
Effective Area	61.4 mm x 61.4 mm
Resolution	6144 (H) x 6144 (V)
Pixel Size	10 μm x 10 μm
Full Well Wapacity	Typ.: 102 ke-
Dynamic Range	Typ.: 90 dB
Frame Rate	26.4 fps@12 bit STD 8.6 fps@14 bit STD 11.3 fps@16 bit HDR
Readout Noise	Typ.: 3 e- (Median)
Shutter Mode	Rolling
Exposure Time	12 μs ~ 300 s
DSNU	1.5 e-
PRNU	0.2%
Cooling Method	Air, Water Cooling
Max. Cooling	45°C Below Ambient (Water)
Dark Current	Air: 0.25 e-/pixel/s Water: 0.15 e-/pixel/s
Binning	2 x 2, 4 x 4
ROI	Support
Timestamp Accuracy	1 μs
GPS	Support
Trigger Mode	Hardware, Software
Output Trigger Signals	Exposure Start, Global, Readout End High level, Low level
Trigger Interface	SMA
Data Interface	CoaXPress 2.0
Data Bit Depth	12 bit, 14 bit, 16 bit
Optical Interface	User Customization
Power	12 V / 10 A
Power Consumption	< 100 W
Dimensions	Φ 160 mm x 164 mm
Weight	4 kg
Software	SamplePro, MAXIMDL, LabVIEW, MATLAB, EPICS
SDK	C, C++, C#, Python
Operating System	Windows, Linux
Operating Environment	Working: Temperature -35~45 °C, Humidity 0~95% Storage: Temperature -35~60 ℃, Humidity 0~95%

Dhyana 6060

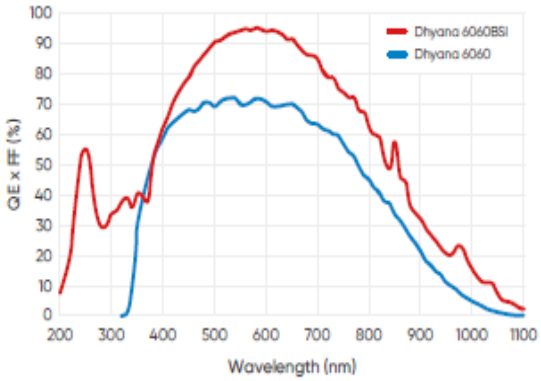
Key Features

· 72 % QE@550 nm
· 10 μm × 10 μm
· 6144 (H) x 6144 (V)
· 44 fps@13MP
· CoaXPress 2.0

Typical Applications

· Space Debris
· Solar Observation
· Soft X-ray
· Quantum Imaging

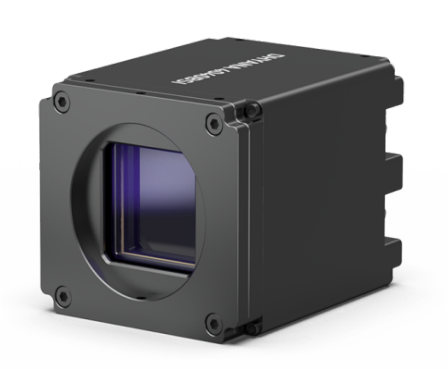
Quantum Efficiency



Technical Specification

Model	Dhyana 6060
Sensor Type	FSI sCMOS
Sensor Model	Gpixel GSENSE6060
Peak QE	72 %@550 nm
Color / Mono	Mono
Array Diagonal	86.8 mm
Effective Area	61.4 mm x 61.4 mm
Resolution	6144 (H) x 6144 (V)
Pixel Size	10 μm x 10 μm
Full Well Wapacity	Typ.: 123 ke-
Dynamic Range	Typ.: 91 dB
Frame Rate	44 fps@12 bit STD 14 fps@14 bit STD 19 fps@16 bit HDR
Readout Noise	Typ.: 3 e- (Median)
Shutter Mode	Rolling
Exposure Time	7 μs ~ 300 s
DSNU	1.5 e-
PRNU	0.2%
Cooling Method	Air, Water Cooling
Max. Cooling	45°C Below Ambient (water)
Dark Current	Air: 0.25 e-/pixel/s Water: 0.15 e-/pixel/s
Binning	2 x 2, 4 x 4
ROI	Support
Timestamp Accuracy	1 μs
GPS	Support
Trigger Mode	Hardware, Software
Output Trigger Signals	Exposure start, Global, Readout end, High level, Low level
Trigger Interface	SMA
Data Interface	CoaXPress 2.0
Data Bit Depth	12 bit, 14 bit, 16 bit
Optical Interface	User Customization
Power	12 V / 10 A
Power Consumption	< 100 W
Dimensions	Φ 160 mm x 164 mm
Weight	4 kg
Software	SamplePro, MAXIMDL, LabVIEW, MATLAB, EPICS
SDK	C, C++, C#, Python
Operating System	Windows, Linux
Operating Environment	Working: Temperature -35~45 ℃, Humidity 0~95% Storage: Temperature -35~60 °C, Humidity 0~95%

Dhyana 4040BSI



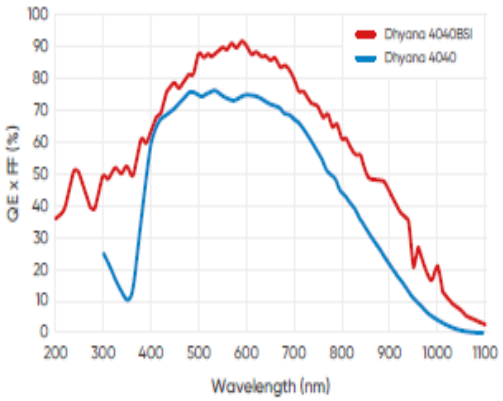
Key Features

· 90% QE@580 nm
· 9 μm × 9 μm
· 4096 (H) x 4096 (V)
· 16.5 fps@16MP
· CameraLink & USB3.0

Typical Applications

· Space Debris
· Solar Observation
· Soft X-ray
· Quantum Imaging

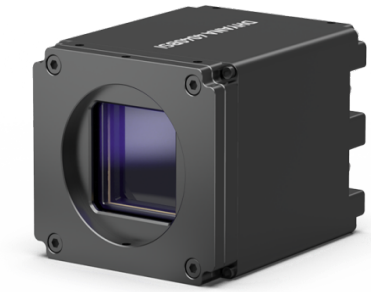
Quantum Efficiency



Technical Specification

Model	Dhyana 4040BSI
Sensor Type	BSI sCMOS
Sensor Model	Gpixel GSENSE4040BSI
Peak QE	90% @580 nm
Color / Mono	Mono
Array Diagonal	52.1 mm
Effective Area	36.9 mm x 36.9 mm
Resolution	4096 (H) x 4096 (V)
Pixel Size	9 μm x 9 μm
Full Well Wapacity	Typ.: 39 ke-
Dynamic Range	Typ.: 85 dB
Frame Rate	16.5 fps@CameraLink, 9.7 fps@USB 3.0
Readout Noise	Typ.: 2.3 e- (Median)
Shutter Mode	Rolling
Exposure Time	10 μs ~ 3600 s
DSNU	0.5 e-
PRNU	0.2%
Cooling Method	Air, Water
Max. Cooling	45°C Below Ambient (Water)
Dark Current	Air: 0.2 e-/pixel/s Water: 0.1 e-/pixel/s
Binning	2 x 2, 4 x 4
ROI	Support
Timestamp Accuracy	1 μs
GPS	8 ns
Trigger Mode	Hardware, Software
Output Trigger Signals	Exposure start, Global, Readout end, High level, Low level
Trigger Interface	SMA , CameraLink CC1
Data Interface	USB 3.0, CameraLink
Data Bit Depth	12 bit, 16 bit
Optical Interface	F-Mount / User Customization
Power	12 V / 8 A
Power Consumption	< 45 W
Dimensions	105 mm x 95 mm x 123.5 mm
Weight	2 kg
Software	Mosaic 3.0 , SamplePro, MaximDL, LabVIEW MATLAB
SDK	C, C++, C#, Python
Operating System	Windows, Linux
Operating Environment	Working: Temperature -25~45 °C, Humidity 0~95% Storage: Temperature -35~60 °C, Humidity 0~95%

Dhyana 4040 V2



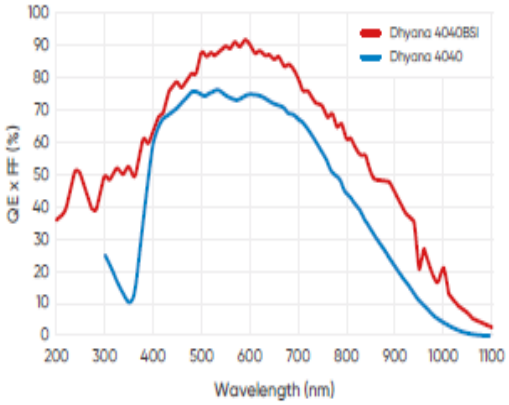
Key Features

· 74% QE@600 nm
· 9 μm × 9 μm
· 4096 (H) x 4096 (V)
· 16.5 fps@16 MP
· CameraLink & USB 3.0

Typical Applications

· Space Debris
· Solar Observation
· Soft X-ray
· Quantum Imaging

Quantum Efficiency



Technical Specification

Model	Dhyana 4040 V2
Sensor Type	FSI sCMOS
Sensor Model	Gpixel GSENSE4040
Peak QE	74% @600 nm
Color / Mono	Mono
Array Diagonal	52.1 mm
Effective Area	36.9 mm x 36.9 mm
Resolution	4096 (H) x 4096 (V)
Pixel Size	9 μm x 9 μm
Full Well Wapacity	Typ.: 70 ke-
Dynamic Range	Typ.: 86 dB
Frame Rate	16.5 fps@CameraLink, 9.7 fps@USB 3.0
Readout Noise	Typ.: 3.6 e- (Median)
Shutter Mode	Rolling
Exposure Time	10 μs ~ 3600 s
DSNU	0.5 e-
PRNU	0.2%
Cooling Method	Air, Water Cooling
Max. Cooling	45℃ below Ambient (Water)
Dark Current	Air: 0.15 e-/pixel/s Water: 0.1 e-/pixel/s
Binning	2 x 2, 4 x 4
ROI	Support
Timestamp Accuracy	1 μs accuracy
GPS	8 ns accuracy
Trigger Mode	Hardware, Software
Output Trigger Signals	Exposure start, Global, Readout end, High level, Low level
Trigger Interface	SMA , CameraLink CC1
Data Interface	USB 3.0, CameraLink
Data Bit Depth	12 bit, 16 bit
Optical Interface	F-Mount / User Customization
Power	12 V / 8 A
Power Consumption	< 45 W
Dimensions	105 mm x 95 mm x 123.5 mm
Weight	2 kg
Software	Mosaic 3.0 , SamplePro, MaximDL, LabVIEW, MATLAB
SDK	C, C++, C#, Python
Operating System	Windows, Linux
Operating Environment	Working: Temperature -25~45 ℃, Humidity 0~95% Storage: Temperature -35~60 ℃, Humidity 0~95%

FL 26BW

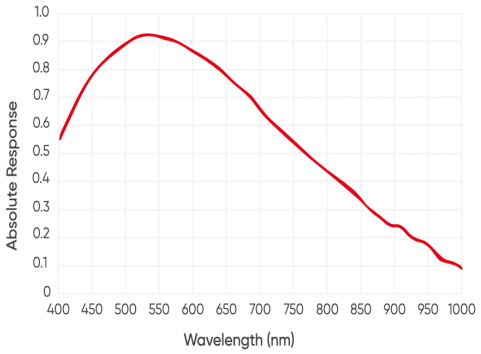
Key Features

· 28.3 mm （1.8"）
· 3.76 μm x 3.76 μm
· 6240 (H) x 4168 (V)
· < 0.0005 e-/p/s
· -25°C@22°C

Typical Applications

· Chemiluminescence
· Biochip
· dPCR
· Fluorescence Imaging

Quantum Efficiency



Technical Specification

Model	FL 26BW			
Sensor Type	BSI CMOS			
Sensor Model	SONY IMX571BLR-J			
Color / Mono	Mono			
Array Diagonal	28.3 mm（1.8"）			
Effective Area	23.4 mm × 15.6 mm			
Pixel Size	3.76 μm × 3.76 μm			
Resolution	6240 (H) x 4168 (V)			
Peak QE	92 %@530 nm			
Dark Current	< 0.0005 e-/pixel/s			
Bit Depth	12bit（SenBin)，16 bit			
Gain Mode	Gain 0	Gain 1	Gain 2	Gain 3
Full Well Wapacity	50 ke-	15ke-	7.8 ke-	3 ke-
Readout Noise	2.7 e-	1.0 e-	0.95 e-	0.85 e-
Frame Rate	6.5 fps@6240 x 4168 (Standard) 3.4 fps@6240× 4168 (Low Noise) 35.5 fps@3120x2084 (SenBin)			
Shutter Mode	Rolling, Global Reset			
Exposure Time	34 μs ~ 60 min			
Image Correction	DPC			
ROI	Support			
Binning	2 x 2, 3 x 3, 4 x 4, 5 x 5, 6 x 6, 8 x 8, 16 x 16			
Cooling Method	Air			
Cooling Temperature	47°C below Ambient Temperature			
Trigger Mode	Hardware, Software			
Output Trigger Signals	Exposure start, Global, Readout end, High level, Low level			
Trigger Interface	Hirose			
SDK	C, C++, C#，Python			
Software	Mosaic , SamplePro, LabVIEW,MATLAB Micro-Manager			
Data Interface	USB 3.0			
Optical Interface	M 42, Customizable			
Power	12 V / 8 A			
Power Consumption	≤ 50 W			
Dimensions	85 mm x 85 mm x 97 mm			
Weight	945 g			
Operating System	Windows, Linux			
Operating Environment	Working: Temperature 0~40 ℃, Humidity 10~85% Storage: Temperature -10~60 ℃, Humidity 0~85%			

FL 9BW

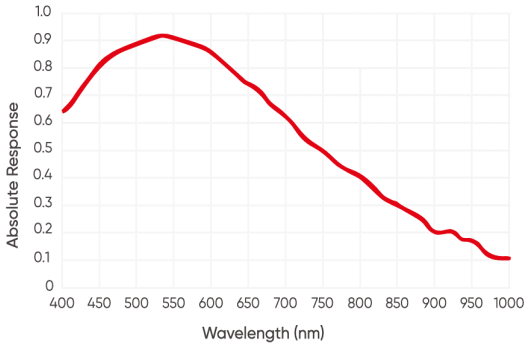
Key Features

· 15.96 mm (1")
· 3.76 μm x 3.76 μm
· 3000 (H) x 3000 (V
· < 0.0005 e-/p/s
· -25°C@25°C

Typical Applications

· Chemiluminescence
· Biochip
· dPCR
· Fluorescence Imaging

Quantum Efficiency



Technical Specification

Model	FL 9BW			
Sensor Type	BSI CMOS			
Sensor Model	SONY IMX533CLK-D			
Color / Mono	Mono			
Array Diagonal	15.96 mm (1")			
Effective Area	11.28 mm × 11.28 mm			
Pixel Size	3.76 μm × 3.76 μm			
Resolution	3000 (H) x 3000 (V), 9 MP			
Peak QE	92 %@540 nm			
Dark Current	< 0.0005 e-/pixel/s			
Bit Depth	14 bit, 16 bit			
Gain Mode	Gain 0 - HFWC	Gain 1 - Balance	Gain 2 - High Sensitivity 1	Gain 3 - High Sensitivity 2
Full Well Wapacity	47 ke-@bin1, binning > 180 ke-	16 ke-@bin1, binning > 64 ke-	8 ke-@bin1, 14 bit binning > 32 ke-	3 ke-@bin1, 14 bit binning > 12 ke-
Readout Noise (Standard)	3.0 e-	1.1 e-	0.95 e-	0.8 e-
Readout Noise (LowNoise)	2.5 e-	1.0 e-	0.85 e-	0.75 e-
Frame Rate	19 fps@Standard Mode, 12 fps@Low Noise Mode			
Shutter Mode	Rolling			
Exposure Time	15 μs ~ 60 min			
Image Correction	DPC			
ROI	Support			
Binning	2 x 2 , 3 x 3 , 4 x 4 , 6 x 6 , 8 x 8 , 12 x 12 , 16 x 16 , 24 x 24			
Cooling Method	Air			
Cooling Temperature	55°C Below Ambient Temperature			
Trigger Mode	Hardware, Software			
Output Trigger Signals	Exposure start, Global, Readout end, High level, Low level			
Trigger Interface	Hirose			
SDK	C, C++, C#			
Software	Mosaic 3.0 , SamplePro, LabVIEW, MATLAB, Micro-Manager 2.0			
Data Interface	USB 3.0			
Optical Interface	C-Mount, Customizable			
Power	12 V / 6 A			
Power Consumption	≤ 40 W			
Dimensions	76 mm x 76 mm x 98.5 mm			
Weight	835 g			
Operating System	Windows, Linux			
Operating Environment	Working: Temperature 0~45 °C, Humidity 10~85% Storage: Temperature -10~60 °C, Humidity 0~85%			

FL 20BW

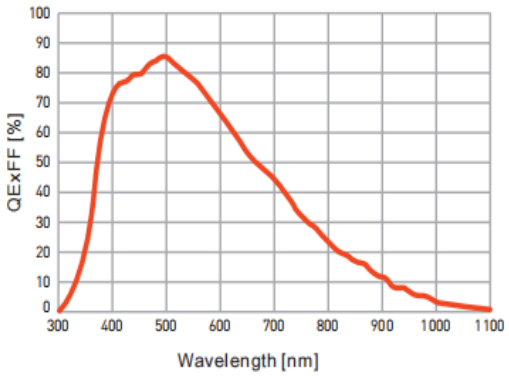
Key Features

· 15.86 mm (1")
· 2.4 μm x 2.4 μm
· 5472 (H) x 3648 (V)
· 16 fps@20 MP
· USB 3.0

Typical Applications

· Chemiluminescence
· qOCR
· dPCR
· Fluorescence Imaging

Quantum Efficiency



Technical Specification

Model	FL 20BW	
Sensor Type	BSI CMOS	
Sensor Model	SONY IMX183CLK-J	
Color / Mono	Mono	
Array Diagonal	15.86 mm (1")	
Effective Area	13.1 mm x 8.8 mm	
Pixel Size	2.4 μm x 2.4 μm	
Resolution	5472 (H) x 3648 (V), 20 MP	
Peak QE	84 %@495 nm	
Dark Current	0.001 e-/pixel/s	
Readout Noise	0.6 e-	
Full Well Wapacity	16 ke-	
DSNU	0.2 e-	
PRNU	0.8%	
Bit Depth	8 bit	16 bit
Frame Rate	8 bit 16 fps@5472 x 3648 53 fps@2736 x 1824 67 fps@1824 x 1216	16 bit 8 fps@5472 x 3648 27 fps@2736 x 1824 67 fps@1824 x 1216
Shutter Mode	Rolling	
Exposure Time	3 μs ~ 1 hour	
Binning	2 x 2 , 3 x 3 , 4 x 4, 8 x 8	
PC Software	Mosaic	
Picture Format	TIFF, JPG, PNG, DICOM	
Multiple Cameras	Supports 4 Cameras Simultaneously in SDK	
SDK	C/C++, C#, Directshow/Twain，Python	
Data Interface	USB 3.0	
Optical Interface	C-Mount	
Power	12 V /8 A	
Software	Mosaic , SamplePro, LabVIEW, MATLAB, Micro-Manager	
Dimensions	85 mm x 85 mm x 112 mm	
Weight	980 g	
Operating System	Windows, Linux	
PC Configuration	CPU: Intel Core i5 or better(Quad or more Core), RAM: 8G or more	
Operating Environment	Working: Temperature 0~40 °C, Humidity 10~85% Storage: Temperature -10~60 °C, Humidity 0~85%	

FL 20

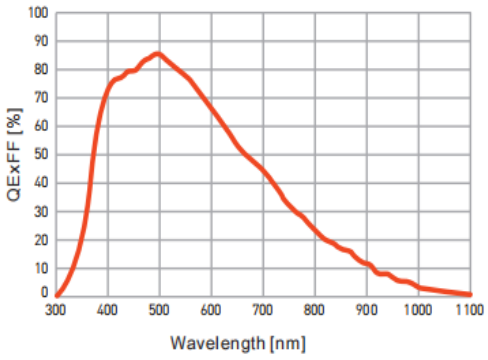
Key Features

· 15.86 mm (1")
· 2.4 μm x 2.4 μm
· 5472 (H) x 3648 (V)
· 14 fps@20 MP
· USB 3.0

Typical Applications

· DIC microscopy
· Polarizing microscopy
· Fluorescence Imaging

Quantum Efficiency



Technical Specification

Model	FL 20
Sensor Type	CMOS
Sensor Model	SONY IMX183CQJ-J
Color / Mono	Color
Array Diagonal	15.86 mm (1")
Effective Area	13.1 mm x 8.8 mm
Pixel Size	2.4 μ m x 2.4 μ m
Resolution	5472 (H) x 3648 (V), 20 MP
Peak QE	84 %@495 nm
Dark Current	0.001 e-/p/s
Bit Depth	16 / 8 bit
Full Well Wapacity	16 ke-
Readout Noise	< 1 e-
Frame Rate	14 fps@20 MP (8 bit)
Shutter Mode	Rolling
Exposure Time	18 μs ~ 3000 s@20 MP 5 μs ~ 3600 s@5 MP 3 μs ~ 3600 s@2 MP
Binning	2 x 2 , 3 x 3 , 4 x 4
Color Temperature	2000 - 15000 K
PC Software	Mosaic
Picture Format	TIFF, JPG, PNG, DICOM
Multiple Cameras	Supports 4 Cameras Simultaneously in SDK
SDK	C, C++, C#, Directshow, Twain
Data Interface	USB 3.0
Optical Interface	C-Mount
Power	12 V/8 A
Dimensions	85 mm x 85 mm x 109 mm
Software	Mosaic , SamplePro, LabVIEW, MATLAB, Micro-Manager
Weight	990 g
Operating System	Windows, Linux
PC Configuration	CPU: Intel Core i5 or better(Quad or more Core), RAM: 8G or more
Operating Environment	Working: Temperature 0~40 °C, Humidity 10~85% Storage: Temperature -10~60 °C, Humidity 0~85%

Libra 3405

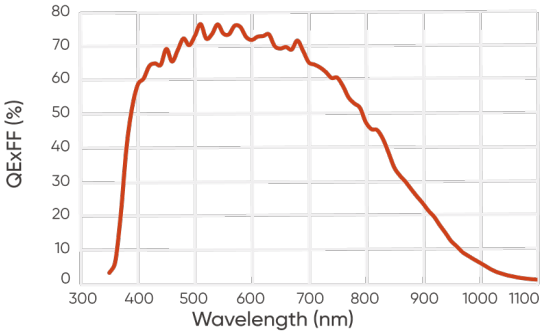
Key Features

· 10.9 mm （2/3"）
· 3.4 μm x 3 .4 μm
· 2448 (H) x 2048 (V)
· 75%QE@540nm
· Global Shutter

Typical Applications

· Slide Scanning
· Advanced Microscopy Imaging
· Industrial Inspection

Quantum Efficiency



Technical Specification

Model	Libra 3405	
Sensor Type	FSI CMOS	
Sensor Model	GMAX3405	
Color / Mono	Color / Mono	
Shutter Mode	Global	
Array Diagonal	10.9 mm （2/3"）	
Effective Area	8.3 mm × 7.0 mm	
Pixel Size	3.4μm x 3.4μm	
Resolution	2448 (H) x 2048 (V)	
Peak QE	75%@540 nm, 33%@850 nm	
AI White Balance	Support	
Dark Current	3 e-/ pixel/s@25℃	
Bit Depth	12 bit	8 bit
Gain Mode	Standard (12bit)	Speed (8bit)
Frame Rate	100 fps	164 fps
Full Well Wapacity	12 bit: 8.7 ke-@Gain 1, 0.5 ke- @Gain 2	
Readout Noise	12 bit: 3.9 e-@Gain 1, 1.6 e-@Gain 2	
Exposure Time	12.2 μs ~ 10 s	
Image Correction	DPC	
ROI	Support	
Binning	1x1, 2x2, 4x4	
Cooling Method	TEC	
Cooling Temperature	Passive cooling: Chip stabilized at 25°C@ room temperature (25° C) Air cooling: 10°C@ room temperature (25°C)	
Trigger Mode	Hardware, Software	
Output Trigger Signals	Exposure start, Exposure, Readout end,Contrast	
SDK	C, C++, C#， Python	
Data Interface	10G GigE	
Optical Interface	C-Mount, Customizable	
Power	12 V / 6 A	
Power Consumption	T.B.D	
Dimensions	60 mm x 60 mm x 100 mm	
Software	SamplePro, Mosiac 3.0, LabVIEW, MATLAB, Micro-Manager 2.0	
Operating System	Windows, Linux	
Operating Environment	Working: Temp. 0~40 °C, Hum. 10~85% Storage: Temp. -10~60 °C, Hum.y 0~85%	

Libra 3412

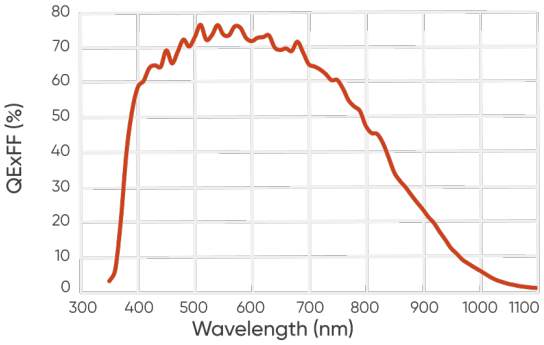
Key Features

· 17.4 mm （1.1"）
· 3.4 μm x 3 .4 μm
· 4096 (H) x 3072 (V)
· 75%QE@540nm
· Global Shutter

Typical Applications

· Slide Scanning
· Advanced Microscopy Imaging
· Industrial Inspection

Quantum Efficiency



Technical Specification

Model	Libra 3412	
Sensor Type	FSI CMOS	
Sensor Model	GMAX3412	
Color / Mono	Color / Mono	
Shutter Mode	Global Shutter	
Array Diagonal	17.4 mm （1.1"）	
Effective Area	14.0 mm x 10.5 mm	
Pixel Size	3.4μm x 3.4μm	
Resolution	4096 (H) x 3072 (V)	
Peak QE	75%@540 nm, 33%@850 nm	
AI White Balance	Support	
Dark Current	0.5 e-/pixel/s@10 °C	
Gain Mode	Standard (12bit)	Speed (8bit)
Frame Rate	60 fps	128 fps
Full Well Wapacity	12 bit: Gain 1: 9 ke- / Gain 2: 0.6 ke-	
Readout Noise	12 bit: 3.6 e-@Gain 1, 1.9 e-@Gain 2	
Exposure Time	12.2 μs ~ 10s	
Image Correction	DPC	
ROI	Support	
Binning(FPGA)	1x1, 2x2, 4x4	
Cooling Method	TEC	
Cooling Temperature	Passive cooling: Chip stabilized at 25°C@ room temperature (25°C) Air cooling: 10°C@ room temperature (25°C)	
Trigger Mode	Hardware, Software	
Output Trigger Signals	Exposure start, Exposure, Readout end, Contrast	
Trigger Interface	SMA	
SDK	C, C++, C#, Python	
Data Interface	10G GigE	
Optical Interface	C-Mount, Customizable	
Bit Depth	8 bit / 12 bit	
Power	12 V / 6 A	
Power Consumption	T.B.D	
Dimensions	60 mm x 60 mm x 100 mm	
Software	SamplePro, Mosiac 3.0, LabVIEW, MATLAB, Micro-Manager 2.0	
Operating System	Windows, Linux	
Operating Environment	Working: Temp. 0~40 °C, Hum. 10~85% Storage: Temp. -10~60 °C, Hum. 0~85%	

Libra UV

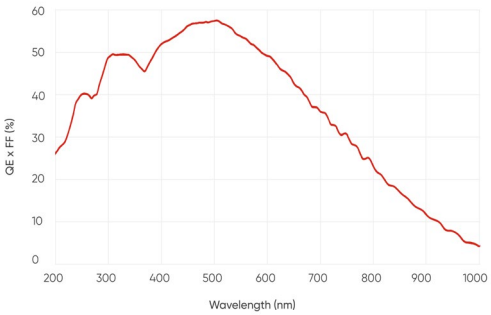
Key Features

· Semiconductor Inspection
· 2.74 µm x 2.74 µm
· 2856 (H) x 2848 (V)
· 152 fps@8.1 MP(8 bit)
· Global Shutter
· 10G GigE

Typical Applications

· Semiconductor Inspection
· Ultraviolet Inspection
· Industrial Inspection

Quantum Efficiency



Technical Specification

Model	Libra UV
Sensor Type	CMOS
Sensor Model	IMX487
Color / Mono	Mono / Ultraviolet Sensing
Shutter Mode	Global Shutter
Array Diagonal	11 mm(2/3")
Effective Area	7.8 mm x 7.8 mm
Pixel Size	2.74 µ m x 2.74 µ m
Resolution	2856(H) x 2848 (V)
Peak QE	56%@500 nm, 48%@365 nm
Dark Current	4e-/pixel/s@60℃
Bit Depth	8 bit / 10 bit / 12 bit
Gain Mode	Analog Gain: 0-24dB, Digital Gain: 24-48dB
Frame Rate	10G GigE: 152 fps@8bit 10G GigE: 100 fps@10bit 10G GigE: 100 fps@12bit
Full Well Wapacity	10 ke-
Readout Noise	2.3 e-
Exposure Time	3.5 µ s ~ 10s
Image Correction	DPC
ROI	Support
Binning	2 x2 (SENSOR BIN), 3x3,4x4(FPGA BIN)
Trigger Mode	Hardware, Software
Output Trigger Signals	Readout, Exposure Out , Trigger Ready
Trigger Interface	Hirose 12-Pin
SDK	Support
Data Interface	10G GigE
Optical Interface	C-Mount / Window Removal
Power	12-24V, POE support
Power Consumption	⩽12 W
Dimensions	45 mm x 45 mm x 75 mm
Operating System	Windows /Linux
Software	SamplePro
Operating Environment	Working: Temperature -10~50 °C, Humidity 0~85% Storage: Temperature -20~60 °C, Humidity 0~85%

Libra 536

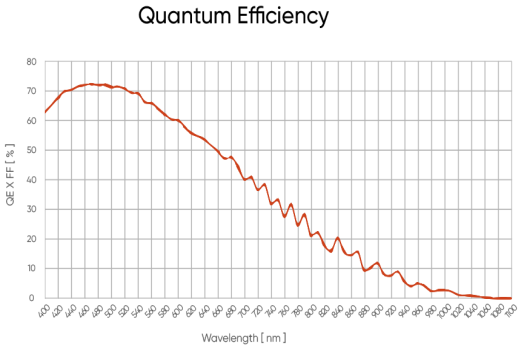
Key Features

· 11 mm (2/3")
· 2856 (H) x 2848 (V)
· 2.74 μm x 2.74 μm
· 135fps@8 bit
· Global Shutter

Typical Applications

· Slide Scanning
· Advanced Microscopy Imaging
· Industrial Inspection

Quantum Efficiency



Technical Specification

Model	Libra 536
Sensor Type	CMOS
Sensor Model	IMX536
Color / Mono	Mono
Shutter Mode	Global
Array Diagonal	11 mm (2/3")
Effective Area	7.8 mm x 7.8 mm
Pixel Size	2.74 μ m x 2.74 μ m
Resolution	2856 (H) x 2848 (V)
Peak QE	T.B.D
Dark Current	0.5 e-/pixel/s
Bit Depth	8 bit / 10 bit / 12 bit
Gain Mode	Analog Gain: 0-24 dB Digital Gain: 24-48 dB
Frame Rate	152 fps@8 bit 100 fps@10 bit 100 fps@12 bit
Full Well Wapacity	10 ke-
Readout Noise	2.3 e-
Exposure Time	T.B.D
Image Correction	DPC
ROI	Support
Binning	2 x 2 (SENSOR BIN)，3 x 3，4 x 4 (FPGA BIN)
Trigger Mode	Hardware, Software
Output Trigger Signals	Readout, Exposure Out, Trigger Ready
Trigger Interface	Hirose 12-Pin
SDK	Support
Data Interface	10G GigE
Optical Interface	C-Mount
Power	12-24V, POE support
Power Consumption	⩽ 12W
Dimensions	45 mm × 45 mm × 75 mm
Operating System	Windows /Linux
Software	SamplePro
Operating Environment	Working: Temperature -10~50 °C, Humidity 0~85% Storage: Temperature -20~60 °C, Humidity 0~85%

TrueChrome 4K Pro

Key Features

· 13.33 mm (1/1.2")
· 3840 (H) x 2160 (V)
· 2.9 µm x 2.9 µm
· 30 fps@HDMI
· 30 fps@USB 3.0

Typical Applications

· Biological Microscopy Imaging
· Fluorescence Microscopy Imaging
· Metallographic Microscopy Imaging
· Polarizing Microscopy Imaging

Technical Specification

Model	TrueChrome 4K Pro
Sensor Model	SONY IMX485
Color / Mono	Color
Array Diagonal	13.33 mm（1/1.2"）
Resolution	8 MP, 3840 (H) x 2160 (V)
Pixel Size	2.9 µ m x 2.9 µ m
Effective Area	11.1 mm x 6.3 mm
Shutter Mode	Rolling
Frame Rate	30 fps@USB 3.0 30 fps@HDMI 30 fps@LAN
Exposure Time	1 µ s - 1 s
SD Format	FAT 32
Color Temperature	1800 - 10000K
Software	HDMI: Cloud 1.0 Ver USB: Mosaic V2
HDMI Key Settings	Preview: 3840 x 2160 Capture: 3840 x 2160 Vedio Recording: 30 fps@3840 x 2160
Picture Format	HDMI: JPG/TIF USB: TIFF/JPG/PNG/DICOM
Multiple Cameras	Supports 4 Cameras Simultaneously in SDK
Optical Interface	Standard C Mount
Power	2.4 W
Dimensions	105.7 mm x 78 mm x 70.8 mm
Weight	505 g
Data Interface	HDMI, USB 3.0, USB 2.0, LAN
Operating Environment	Temperature: -10~45℃; Humidity: 10%~85%
Operating System	Windows 7/10 (32 Bit/64 Bit)/Mac
PC Configuration	CPU: Intel Core i5 or better(Quad or more Core), RAM: 8G or more

TrueChrome Metrics

Key Features

· 6.46 mm (1/2.8")
· 1920 (H) x 1080 (V)
· 2.9 µm x 2.9 µm
· 25 fps@HDMI
· 30 fps@USB 2.0

Typical Applications

· Biological Microscopy Imaging
· Fluorescence Microscopy Imaging
· Metallographic Microscopy Imaging
· Polarizing Microscopy Imaging

Technical Specification

Model	TrueChrome Metrics
Sensor Type	CMOS
Sensor Model	SONY IMX307LQR-C
Color / Mono	Color
Array Diagonal	6.46 mm
Resolution	2MP, 1920 (H) x 1080 (V)
Pixel Size	2.9 µ m x 2.9 µ m
Effective Area	5.6 mm x 3.1 mm
Shutter Mode	Rolling
Frame Rate	30 fps@USB 2.0, 25 fps@HDMI
Exposure Time	1 ms-10s
SD Format	FAT 32
Color Temperature	1800-10000 K
Software	HDMI: Cloud 1.0 Ver USB: Mosaic V2
HDMI Key Settings	Preview: 1920 x 1080 Capture: 3264 x 1840 Vedio Recording: 25 fps@1920 x 1080
Picture Format	HDMI: JPG/TIF USB: TIFF/JPG/PNG/DICOM
Multiple Cameras	Supports 4 Cameras Simultaneously in SDK
Optical Interface	Standard C Mount
Power	2.4 W
Dimensions	90.7 mm x 78 mm x 70.8 mm
Weight	265 g
Data Interface	HDMI, USB 2.0, SD Card
Operating Environment	Temperature: -10~45℃; Humidity: 10%~85%
Operating System	Windows 7/10 (32 Bit/64 Bit)/Mac
PC Configuration	CPU: Intel Core i5 or better(Quad or more Core), RAM: 8G or more

HD Lite

Key Features

· 6.54 mm (1/2.8")
· 2592 (H) x 1944 (V)
· 2.0 μm x 2.0 μm
· 15 fps@HDMI
· 15 fps@USB 2.0

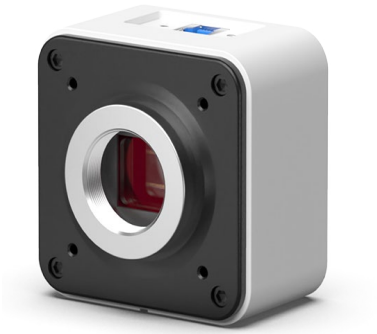
Typical Applications

· Biological Microscopy Imaging
· Fluorescence Microscopy Imaging
· Metallographic Microscopy Imaging
· Polarizing Microscopy Imaging

Technical Specification

Model	HD Lite
Sensor Type	CMOS
Sensor Model	SONY IMX335LQN-C
Color / Mono	Color
Array Diagonal	6.54 mm (1/2.8")
Resolution	2 MP, 2592 (H) x 1944 (V)
Pixel Size	2.0 μ m x 2.0 μ m
Effective Area	5.1 mm x 3.8 mm
Shutter Mode	Rolling
Frame Rate	15 fps@USB 2.0, 15 fps@HDMI
Exposure Time	1 ms - 2 s
SD Format	FAT32
Color Temperature	1800-10000K
Software	HDMI: Cloud 1.0 Ver , USB: Mosaic 3.0
HDMI Key Settings	Preview: 1920 x 1080; Capture: 2592 x 1944; Vedio Recording: 15 fps@1920 x 1080
Picture Format	HDMI: JPG/TIF USB: TIFF/JPG/PNG/DICOM
Multiple Cameras	Supports 4 Cameras Simultaneously in SDK
Optical Interface	C Mount
Power	2.4W
Dimensions	90.7 mm x 74 mm x 67.2 mm
Weight	265 g
Data Interface	HDMI, USB 2.0, SD Card
Operating Environment	Temperature: -10~45℃; Humidity: 10%~85%
Operating System	Windows, Mac
PC Configuration	CPU: Intel Core i5 or better(Quad or more Core), RAM: 8G or more

MIchrome 5 Pro



Key Features

· 11.1 mm Diagonal FOV
· 2448 (H) x 2048 (V)
· 3.45 µm x 3.45 µm
· 36 fps@5 MP
· USB 3.0

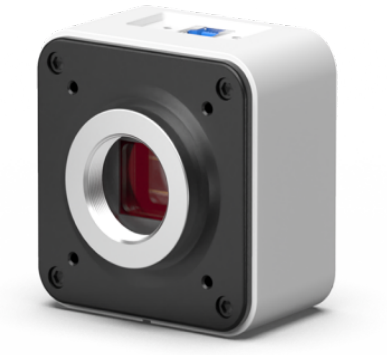
Typical Applications

· Biological Microscopy Imaging
· Fluorescence Microscopy Imaging
· Metallographic Microscopy Imaging
· Polarizing Microscopy Imaging

Technical Specification

Model	MIchrome 5 Pro
Sensor Type	CMOS
Sensor Model	SONY IMX264LQR-C
Color / Mono	Color
Array Diagonal	11.1 mm
Resolution	5 MP, 2448 (H) x 2048 (V)
Pixel Size	3.45 µ m x 3.45 µ m
Effective Area	8.4 mm x 7.1 mm
Shutter Mode	Global Shutter
Frame Rate	36 fps@USB 3.0
Exposure Time	121 µ s-15s
Binning	2x2, 3x3, 4x4
Color Temperature	2000-15000K
PC Software	Mosaic 3.0
Picture Format	TIFF/JPG/PNG/DICOM
Multiple Cameras	Supports 4 Cameras Simultaneously in SDK
SDK	C/C++, C#, Directshow/Twain
Bit Depth	16 / 8 bit
Power	5 V
Operating Environment	Temperature: -10~45℃; Humidity: 10%~85%
Optical Interface	C Mount
Data Interface	USB 3.0
Dimensions	68 mm x 68 mm x 46 mm
Camera Weight	327 g
Operating System	windows，Linux，MacOS
PC Configuration	CPU: Intel Core i5 or better(Quad or more Core), RAM: 8G or more

MIchrome 20



Key Features

· 15.86 mm Diagonal FOV
· 5472 (H) x 3648 (V)
· 2.4 μm x 2.4 μm
· 15 fps@20 MP
· USB 3.0

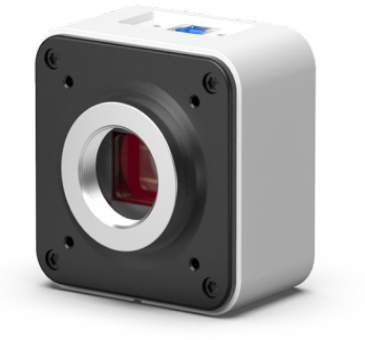
Typical Applications

· Biological Microscopy Imaging
· Fluorescence Microscopy Imaging
· Metallographic Microscopy Imaging
· Polarizing Microscopy Imaging

Technical Specification

Model	MIchrome 20
Sensor Type	CMOS
Sensor Model	SONY IMX183CQJ-J
Color / Mono	Color
Array Diagonal	15.86 mm
Resolution	20 MP, 5472 (H) x 3648 (V)
Pixel Size	2.4 μ m x 2.4 μ m
Effective Area	13.1 mm x 8.8 mm
Shutter Mode	Rolling
Frame Rate	15 fps@20 MP
Exposure Time	18 μ s-15s
Binning	2x2, 3x3, 4x4
Color Temperature	2000-15000K
PC Software	Mosaic 3.0
Picture Format	TIFF/JPG/PNG/DICOM
Multiple Cameras	Supports 4 Cameras Simultaneously in SDK
SDK	C/C++, C#, Directshow/Twain
Bit Depth	16/8bit
Power	5 V
Operating Environment	Temperature: -10~45℃; Humidity: 10%~85%
Optical Interface	Standard C Mount
Data Interface	USB 3.0
Dimensions	68 mm x 68 mm x 46 mm
Camera Weight	327g
Operating System	Windows 7/10 (32 Bit/64 Bit)/Mac
PC Configuration	CPU: Intel Core i5 or better(Quad or more Core), RAM: 8G or more

MIchrome 16



Key Features

· 7.77 mm Diagonal FOV
· 4608 (H) x 3456 (V)
· 1.34 μm x 1.34 μm
· 12 fps@16 MP
· USB 3.0

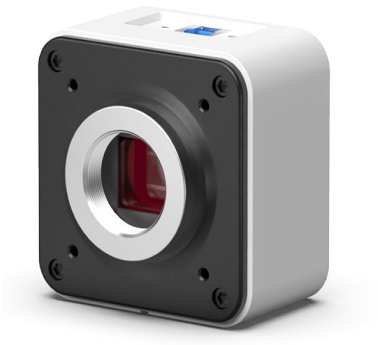
Typical Applications

· Biological Microscopy Imaging
· Fluorescence Microscopy Imaging
· Metallographic Microscopy Imaging
· Polarizing Microscopy Imaging
· DIC Microscopy Imaging

Technical Specification

Model	MIchrome 16
Sensor Type	CMOS
Sensor Model	SONY IMX206CQC
Color / Mono	Color
Array Diagonal	7.77 mm
Resolution	16 MP, 4608 (H) x 3456 (V)
Pixel Size	1.34 μ m x 1.34 μ m
Effective Area	6.2 mm x 4.6 mm
Shutter Mode	Rolling
Frame Rate	12 fps@16 MP
Exposure Time	22 μ s-26s
Binning	2 x 2, 3 x 3, 4 x 4
Color Temperature	2000-15000 K
PC Software	Mosaic 3.0
Picture Format	TIFF/JPG/PNG/DICOM
Multiple Cameras	Supports 4 Cameras Simultaneously in SDK
SDK	C/C++, C#, Directshow/Twain
Bit Depth	16 / 8 bit
Power	5 V
Operating Environment	Temperature: -10~45℃; Humidity: 10%~85%
Optical Interface	Standard C Mount
Data Interface	USB 3.0
Dimensions	68 mm x 68 mm x 46 mm
Camera Weight	327 g
Operating System	Windows 7/10 (32 Bit/64 Bit)/Mac
PC Configuration	CPU: Intel Core i5 or better(Quad or more Core), RAM: 8G or more

MIchrome 6



Key Features

· 8.92 mm Diagonal FOV
· 3072 (H) x 2048 (V)
· 2.4 μm x 2.4 μm
· 41 fps@6 MP
· USB 3.0

Typical Applications

· Biological Microscopy Imaging
· Fluorescence Microscopy Imaging
· Metallographic Microscopy Imaging
· Polarizing Microscopy Imaging

Technical Specification

Model	MIchrome 6
Sensor Type	CMOS
Sensor Model	SONY IMX178LQJ-C
Color / Mono	Color
Array Diagonal	8.92 mm
Resolution	6 MP, 3072 (H) x 2048 (V)
Pixel Size	2.4 μ m x 2.4 μ m
Effective Area	7.4 mm x 4.9 mm
Shutter Mode	Rolling
Frame Rate	41 fps@USB 3.0
Exposure Time	11 μ s-12s
Binning	2x2, 3x3, 4x4
Color Temperature	2000-15000K
PC Software	Mosaic 3.0
Picture Format	TIFF/JPG/PNG/DICOM
Multiple Cameras	Supports 4 Cameras Simultaneously in SDK
SDK	C/C++, C#, Directshow/Twain
Bit Depth	16 / 8 bit
Power	5 V
Operating Environment	Temperature: -10~45℃; Humidity: 10%~85%
Optical Interface	Standard C Mount
Data Interface	USB 3.0
Dimensions	68 mm x 68 mm x 46 mm
Camera Weight	327 g
Operating System	Windows 7/10 (32 Bit/64 Bit)/Mac
PC Configuration	CPU: Intel Core i5 or better(Quad or more Core), RAM: 8G or more

GT 12

Key Features

· 7.77 mm Diagonal FOV
· 4000 (H) x 3000 (V)
· 1.34 μm x 1.34 μm Pizel Size
· 15 fps@12 MP
· USB 2.0

Typical Applications

· Biological Microscopy Imaging
· Stereoscopic Microscopy Imaging

Technical Specification

Model	GT 12.0
Sensor Type	CMOS
Sensor Model	SONY IMX206CQC
Color / Mono	Color
Array Diagonal	7.77 mm
Resolution	12 MP, 4000 (H) x 3000 (V)
Pixel Size	1.34 μ m x 1.34 μ m
Effective Area	5.4 mm x 4.0 mm
Shutter Mode	Rolling
Frame Rate	15 fps@USB 2.0
Exposure Time	1 μs - 1 s 941 ms
PC Software	Mosaic 2.0, Mosaic 3.0
Picture Format	TIFF/JPG/PNG/DICOM
Multiple Cameras	Supports 4 Cameras Simultaneously in SDK
SDK	C/C++, C#, Directshow/Twain
Optical Interface	Standard C Mount
Power	2 W
Dimensions	68 mm x 68 mm x 42.5 mm
Camera Weight	236 g
Operating Environment	Temperature: -0~40℃; Humidity: 10%~85%
Data Interface	USB 2.0
Operating System	Windows 7/10 (32 Bit/64 Bit)/Mac
PC Configuration	CPU: Intel Core i5 or better(Quad or more Core), RAM: 8G or more

GT 5.0

Key Features

· 6.52 mm Diagonal FOV
· 2560 (H) x 1920 (V)
· 2.0 μm x 2.0 μm Pizel Size
· 29 fps@5 MP
· USB 2.0

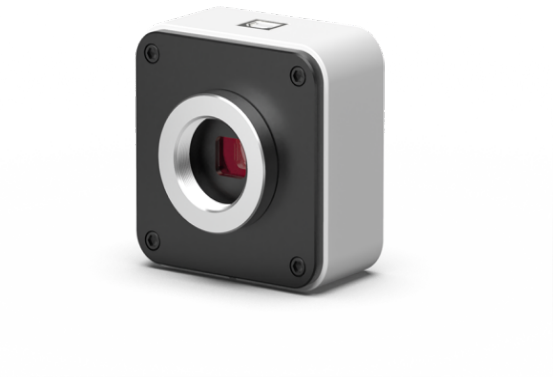
Typical Applications

· Biological Microscopy Imaging
· Stereoscopic Microscopy Imaging

Technical Specification

Model	GT 5.0
Sensor Type	CMOS
Sensor Model	SONY IMX335LQN-C
Color / Mono	Color
Array Diagonal	6.52 mm
Resolution	5 MP, 2560 (H) x 1920 (V)
Pixel Size	2 μ m x 2 μ m
Effective Area	5.1 mm x 3.8 mm
Shutter Mode	Rolling
Frame Rate	29 fps@USB 2.0
Exposure Time	1 μs -1 s 941 ms
PC Software	Mosaic 2.0, Mosaic 3.0
Picture Format	TIFF/JPG/PNG/DICOM
Multiple Cameras	Supports 4 Cameras Simultaneously in SDK
SDK	C/C++, C#, Directshow/Twain
Optical Interface	Standard C Mount
Power	2 W
Dimensions	68 mm x 68 mm x 42.5 mm
Camera Weight	236 g
Operating Environment	Temperature: -10~45℃; Humidity: 10%~85%
Data Interface	USB 2.0
Operating System	Windows 7/10 (32 Bit/64 Bit)/Mac
PC Configuration	CPU: Intel Core i5 or better(Quad or more Core), RAM: 8G or more

GT 2.0



Key Features

· 6.23 mm Diagonal FOV
· 1920 (H) x 1080 (V)
· 2.8 µm x 2.8 µm Pizel Size
· 30 fps@2 MP
· USB 2.0

Typical Applications

· Biological Microscopy Imaging
· Stereoscopic Microscopy Imaging

Technical Specification

Model	GT 2.0
Sensor Type	CMOS
Sensor Model	SONY IMX323LQN-C
Color / Mono	Color
Array Diagonal	6.23 mm
Resolution	2 MP, 1920 (H) x 1080 (V)
Pixel Size	2.8 µ m x 2.8 µ m
Effective Area	5.4 mm x 3.0 mm
Shutter Mode	Rolling
Frame Rate	30 fps@USB 2.0
Exposure Time	1 µs-1 s 941 ms
PC Software	Mosaic 2.0, Mosaic 3.0
Picture Format	TIFF/JPG/PNG/DICOM
Multiple Cameras	Supports 4 Cameras Simultaneously in SDK
SDK	C/C++, C#, Directshow/Twain
Optical Interface	Standard C Mount
Power	2 W
Dimensions	68 mm x 68 mm x 42.5 mm
Camera Weight	236 g
Operating Environment	Temperature: 0°C~40°C; Humidity: 10%~85%
Operating System	Windows 7/10 (32 Bit/64 Bit)/Mac
PC Configuration	CPU: Intel Core i5 or better(Quad or more Core), RAM: 8G or more

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