TELEDYNE

理化学用 最先端CMOS テクノロジーカメラ

KINETIX
超高速・超広視野
バックイルミネイト
冷却 sCMOS

PRIME 95B
高感度・広視野
バックイルミネイト冷却
sCMOS

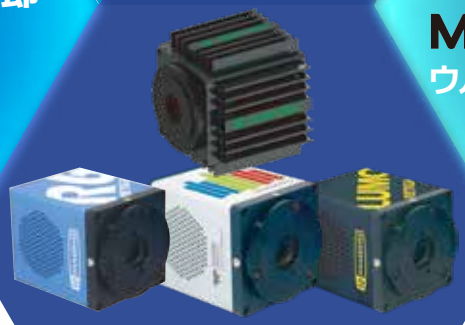
RETIGA E SERIES
長時間露光冷却
CMOS

PRIME BSI EXPRESS
コンパクト高解像度
バックイルミネイト冷却
sCMOS

IRIS
高分解能
広視野
冷却 sCMOS

MOMENT
ウルトラコンパクト高速 CMOS

Retiga CCD Family
広視野・高解像度



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KINETIX

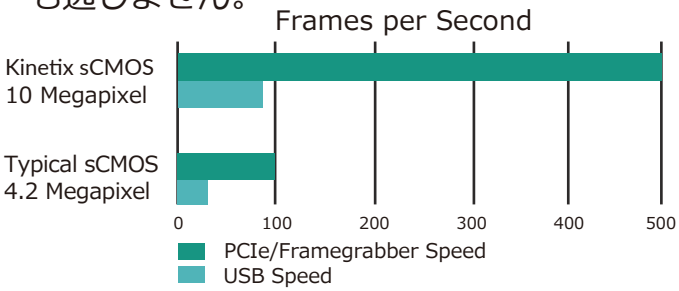
超高速・超広視野バックイルミネイト冷却 sCMOS カメラ

一瞬の生命現象を鮮明に捉える最先端テクノロジー

- **超高速フレーム/秒**
  664fps(22mm) 498fps(29.4mm)
- **超広視野 29.4 mm**
- **量子効率 95%**
- **素子サイズ　6.5 μm x 6.5 μm**
- **3200 x 3200 (10.24 M pixel)**
- **読み出しノイズ　0.7 e-**

極限のスピード

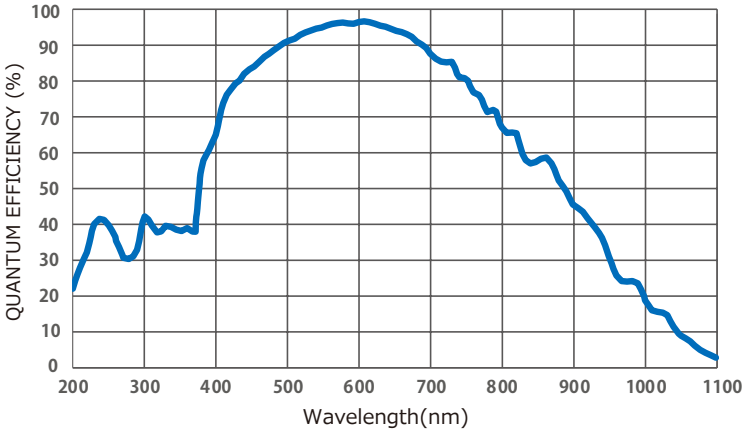
従来の sCMOSカメラ を大幅に上回る、フルフレームで498フレーム／秒を実現高速な動きも鮮やかに捉え、一瞬の現象も逃しません。



※対角視野 22mm エリア利用時 664 フレーム

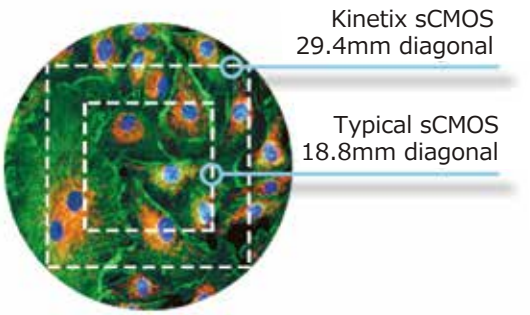
高感度sCMOS

バックイルミネイト型のKINETIXは、95%という高い量子効率と超低ノイズにより、微弱な光も鮮明に捉えます。



超広視野

対角視野が 29.4 mm の Kinetix は、一般的な sCMOS カメラよりも 2.4 倍大きい撮像領域を備えており、従来のカメラでは収まりきらなかったより広い範囲を一度に撮影出来ます。



KINETIX22

超高速・広視野バックイルミネイト冷却sCMOS

- 664 フレーム／秒
- 広視野　22 mm
- 量子効率　95%
- 素子サイズ　6.5 μm x 6.5 μm
- 2400 x 2400 (5.76 M pixel)
- 読み出しノイズ　0.7 e-

KINETIX SPECIFICATIONS

SPECIFICATIONS	Camera Performance
Sensor	GPixel GSense GSENSE6510 CMOS
Active Array Size	3200 x 3200 (10.24 megapixel)
Pixel Area	6.5 x 6.5 µm (42.25 µm^2)
Sensor Area	20.8 mm x 20.8 mm (29.4 mm diagonal)
Peak QE%	95%
Readout Modes	Rolling shutter
	Effective global shutter
	Programmable scan mode (PCIe only)
Digital Binning	Symmetrical and asymmetrical binning up to 4 x 4 pixels
Linearity	> 99%
Cooling Options	Air cooled or liquid cooled (0 °C)
Digital Interfaces	USB 3.2gen2 10 Gbps
	PCI-Express Gen 3
Lens Interfaces	T-mount | F-mount | C-mount (swappable mounts)
Mounting Points	8 x 1/4”-20 UNC
Camera Weight	1.8 kg, 4 lbs

CAMERA MODES

SPECIFICATIONS	Dynamic Range	Speed	Sensitivity	Sub-Electron
Bit Depth	16-bit	8-bit	12-bit	16-bit
Frame Rate (Full Frame)	83 fps	498 fps	88 fps	5.2 fps
Read Noise	1.6 e-	2.0 e-	1.2 e-	0.7 e-
Cooling	0 °C	0 °C	0 °C	0 °C
Line Time	3.749 µsec/line	0.625 µsec/line	3.5312 µsec/line	60.1 µsec/line
Dark Current	1.27 e-/p/sec	3.0 e-/p/sec	1.03 e-/p/sec	0.477 e-/p/sec
Conversation Gain	0.23 e-/count	0.85e-/count	0.25 e-/count	0.015 e-/count
Full Well Capacity	15000 e-	200 e-	1000 e-	1000 e-

TRIGGERING MODE	Function
INPUT TRIGGER MODES	
Trigger First	Sequence triggered on first rising edge
Level Trigger	Exposure time is controlled by length of high trigger signal
Edge Trigger	Each frame in sequence triggered by rising edge
SMART Streaming	Fast iteration through multiple exposure times, works with the four trigger out cables to control multiple light sources at multiple exposure times
OUTPUT TRIGGER MODES	
Any Row	Expose signal is high while any row is acquiring data
First Row	Expose signal is high while first row is acquiring data
Line Output	
EFFECTIVE GLOBAL SHUTTER TRIGGER MODES	
All Row	Expose out signal high for exposure time, maintains exposure time but drops frame rate
Rolling Shutter	Expose out signal high for exposure time - readout time. Keeps frame rate but drops exposure time.
OUTPUT TRIGGER SIGNALS	
Expose Out (up to four signals), Read Out, Trigger Ready	

GO ONLINE FOR MORE INFORMATION www.photometrics.com

超高速・広視野バックイルミネイト冷却 sCMOS カメラ

EMCCDカメラよりも優れた性能を誇る
Prime 95B カメラ シリーズ

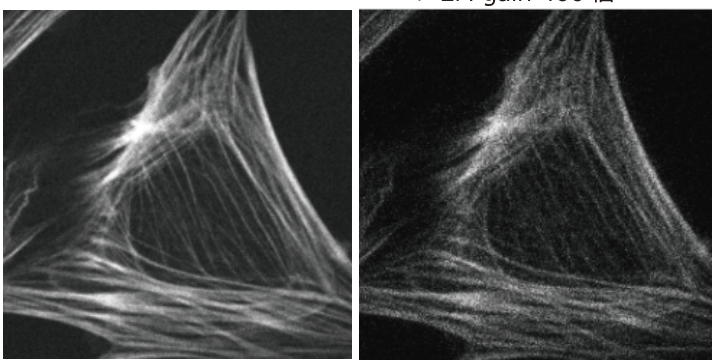
- **量子効率 95%**
- **素子サイズ　11 µm x 11 µm**
- **1200 x 1200 (1.44M pixel)～**
- **3 タイプの対角視野オプション**
- **マルチROI機能**

高感度sCMOS

EMCCD よりも高感度に撮影が可能

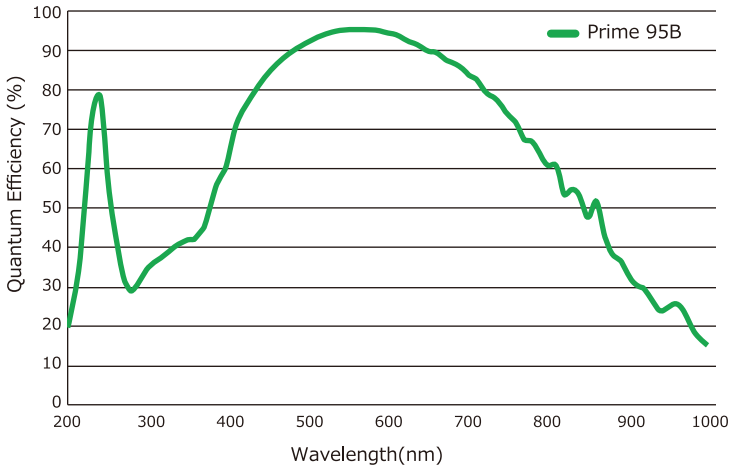
sCMOS 露光時間 25msec

露光時間 25msec
＋ EM gain 400 倍



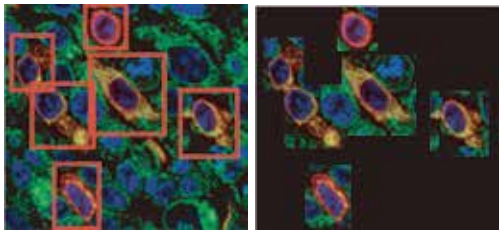
AlexaFluor488- ファロイジンで染色したアクチン細胞骨格を撮影

95% の高量子効率で微弱な光を捉え、11µm の大型ピクセルと複数の視野オプションで様々なサンプルに対応。さらに82fps の高速撮影、1.6e- の低ノイズ、16bit の高ダイナミックレンジで、高速かつ高品質な画像取得を実現します。



マルチROI機能

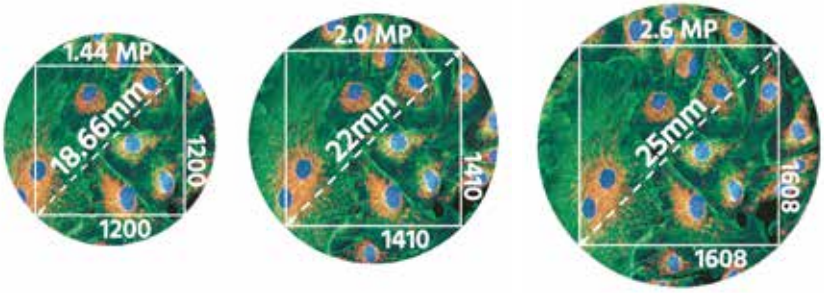
任意にROI設定をすることにより、取得するデータ量を大幅に削減
最大15個の領域設定が可能



対角視野：３つのモデルが選択可能

11µm の大型ピクセルが、18.7mm、22mm、25mm の複数の視野オプションに対応。様々な実験系に柔軟に対応できます。

Prime 95B　　Prime 95B 22mm　　Prime 95B 25mm



PRIME 95B SPECIFICATIONS

SPECIFICATIONS	Camera Performance
Sensor	GPixel GSense 144 BSI CMOS Gen IV, Grade 1 in imaging area
Active Array Size	1200 x 1200 pixels (1.44 megapixel)
Pixel Area	11 µm x 11 µm (121 µm^2)
Sensor Area	13.2 mm x 13.2 mm (18.7 mm diagonal)
Peak QE%	> 95%
Readout Modes	Rolling shutter
	Effective global shutter
Digital Binning	2 x 2
Linearity	> 99.5%
Cooling Options	Air cooled (-20 °C @ 30 °C ambient, 0.5 e-/pixel/second dark current)
	Liquid cooled (-25 °C @ 25 °C ambient, 0.55 e-/pixel/second dark current)
Digital Interfaces	PCI-Express Gen 2
	USB 3.0
Lens Interfaces	C-mount
Mounting Points	2 x ¼”-20 TPI mounting points per side to prevent rotation
Camera Weight	1.7 kg, 3.7 lbs

CAMERA MODES

SPECIFICATIONS	Sensitivity (200 MHz)	HDR (100 MHz)
Bit Depth	12-bit	16-bit
Frame Rate (Full Frame)	82 fps	41 fps
Read Noise	1.6 e-	1.6 e-
Cooling (Air)	-20 °C	-20 °C
Line Time	10.1 µsec/line	20.3 µsec/line
Dark Current (Air)	0.55 e-/p/sec	0.55 e-/p/sec
Full Well Capacity	10,000 e-	80,000 e-

TRIGGERING MODE	Function
INPUT TRIGGER MODES	
Trigger First	Sequence triggered on first rising edge
Edge Trigger	Each frame in sequence triggered by rising edge
SMART Streaming	Fast iteration through multiple exposure times, works with the four trigger out cables to control multiple light sources at multiple exposure times
OUTPUT TRIGGER MODES	
Any Row	Expose signal is high while any row is acquiring data
First Row	Expose signal is high while first row is acquiring data
Line Output	Expose signal provides rising edge for each row advanced by the rolling shutter readout
EFFECTIVE GLOBAL SHUTTER TRIGGER MODES	
All Row	Expose out signal high for exposure time, maintains exposure time but drops frame rate
Rolling Shutter	Expose out signal high for exposure time – readout time. Keeps frame rate but drops exposure time
OUTPUT TRIGGER SIGNALS	
Expose Out (up to four signals), Read Out, Trigger Ready	

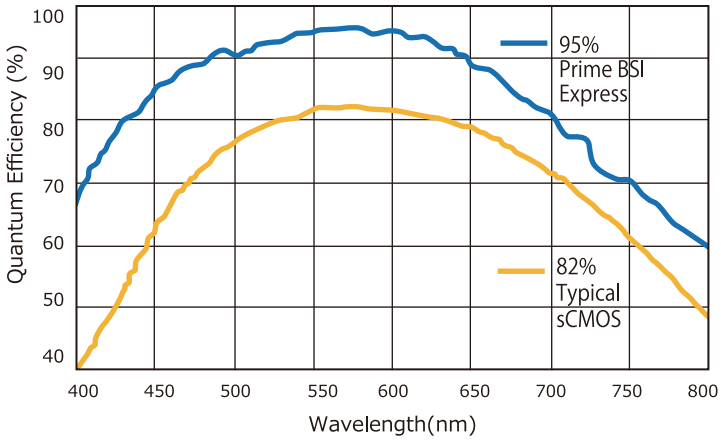
高解像度バックイルミネイト冷却 sCMOS カメラ

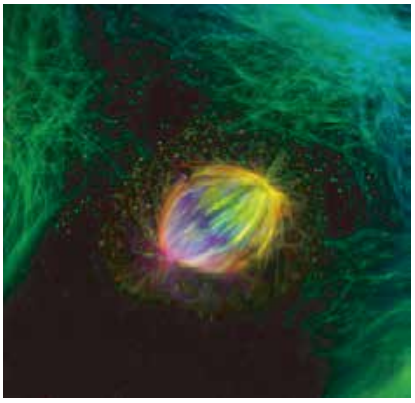
暗所での撮影に強く、鮮明な画像を高速で
取得することが可能です。

- **量子効率 95%**
- **素子サイズ　6.5μm x 6.5μm**
- **2048 x 2048 (4.2 M pixel)**
- **読み出しノイズ 1.0e-**
- **63フレーム/秒**

高感度sCMOS

背面照射型CMOSセンサーにより95% の量子効率と 1.0 e- の低読み取りノイズを組み合わせ、sCMOS 技術に基づく最高感度のカメラを毎秒 40フレーム以上で実現します。

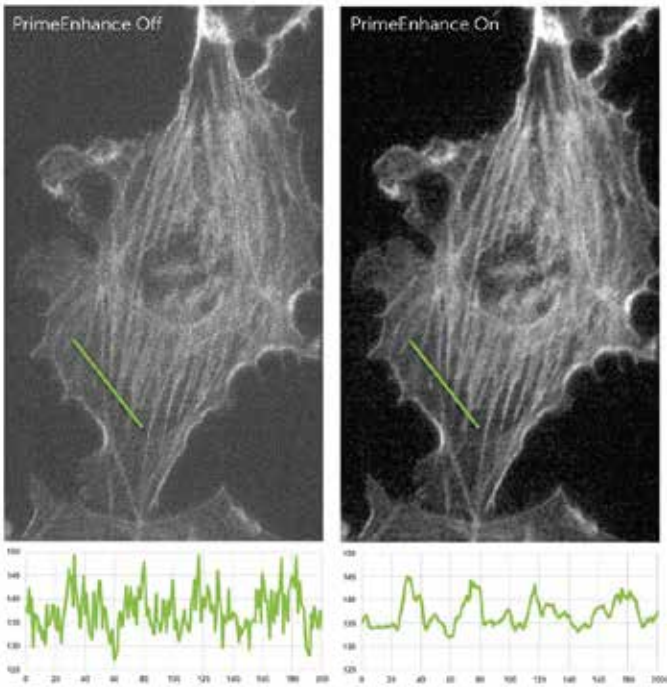




Expansion Light Sheet
Prof. Johann Danzl

高度なノイズ除去機能

SN比をリアルタイムで定量的に高め、超低光レベルでの感度を最大化する PrimeEnhance アクティブノイズ除去機能を備えています。



バランスの取れた 6.5 μm ピクセル
高解像度と高感度のバランスを最適化。
細部までくっきりと再現します。

PRIME BSI SPECIFICATIONS

SPECIFICATIONS	Camera Performance
Sensor	GPixel GSENSE2020BSI scientific CMOS sensor
Active Array Size	2048 x 2048 (4.2 megapixel)
Pixel Area	6.5 x 6.5 µm (42.25 µm^2)
Sensor Area	13.2 mm x 13.2 mm (18.7 mm diagonal)
Peak QE%	95%
Readout Modes	Rolling shutter
	Effective global shutter
	Programmable scan mode (PCIe only)
Digital Binning	2 x 2
Linearity	> 99.5%
Cooling Options	Air cooled (-20 °C @ 30 °C ambient, 0.5 e-/pixel/second dark current) Liquid cooled (-30 °C @ 30 °C ambient, 0.12 e-/pixel/second dark current)
Digital Interfaces	PCI-Express Gen 2
	USB 3.0
Lens Interfaces	C-mount
Mounting Points	2x ¼" -20 TPI mounting points per side to prevent rotation
Camera Weight	1.7 kg, 3.7 lbs

CAMERA MODES

SPECIFICATIONS	Speed (200 MHz)	HDR (100 MHz)	CMS (100 MHz)
Bit Depth	11-bit	16-bit	12-bit
Frame Rate (Full Frame)	63 fps	43 fps	43fps
Read Noise	1.6 e-	1.6 e-	1.0 e-
Cooling (Air)	-20 °C	-20 °C	-20 °C
Line Time	7.7 µsec/line	11.4 µsec/line	11.4 µsec/line
Dark Current (Air)	0.5 e-/p/sec	0.5 e-/p/sec	0.5 e-/p/sec
Full Well Capacity	10,000 e-	45,000 e-	1,000 e-

TRIGGERING MODE	Function
INPUT TRIGGER MODES	
Trigger First	Sequence triggered on first rising edge
Edge Trigger	Each frame in sequence triggered by rising edge
SMART Streaming	Fast iteration through multiple exposure times, works with the four trigger out cables to control multiple light sources at multiple exposure times
OUTPUT TRIGGER MODES	
Any Row	Expose signal is high while any row is acquiring data
First Row	Expose signal is high while first row is acquiring data
Line Output	Expose signal provides rising edge for each row advanced by the rolling shutter readout
EFFECTIVE GLOBAL SHUTTER TRIGGER MODES	
All Row	Expose out signal high for exposure time, maintains exposure time but drops frame rate
Rolling Shutter	Expose out signal high for exposure time – readout time. Keeps frame rate but drops exposure time.
OUTPUT TRIGGER SIGNALS	
Expose Out (up to four signals), Read Out, Trigger Ready	

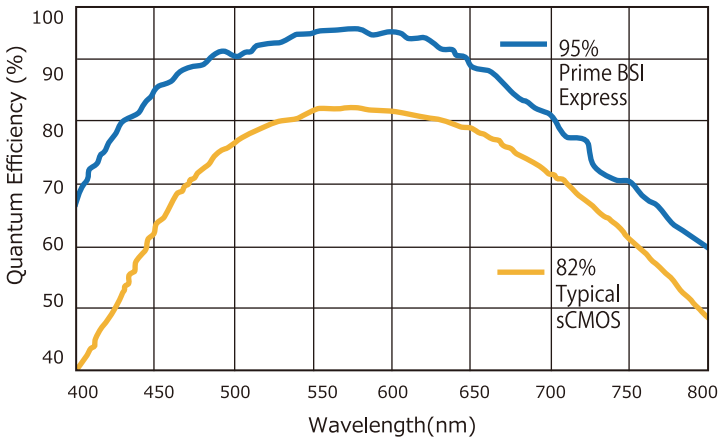
コンパクト高解像度バックイルミネイト冷却 sCMOS カメラ

微弱光の検出、高速現象の観察、高解像度イメージングにおいて、その性能を発揮します。

- **量子効率 95%**
- **素子サイズ　6.5μm x 6.5μm**
- **2048 x 2048 (4.2 M pixel)**
- **読み出しノイズ 1.0e-**
- **95フレーム/秒　USB 3.2 Gen2**

高感度sCMOS

背面照射型CMOSセンサー採用により、95%という高い量子効率を実現。微弱な光でも鮮明に捉え、高品質な画像を取得できます。



USB3.2 Gen2 インタフェース

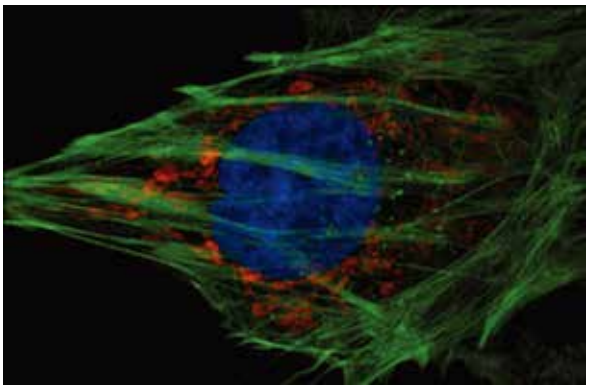
フルフレームで最大95fpsの高速撮影
高速で変化する現象も、リアルタイムで鮮やかに捉えます。

Frame Rate

Array Size	16-bit	11-bit	12-bit (CMS)
2048x2048	43	95	43
2048x1024	87	188	87
2048x512	174	375	174
2048x256	347	745	347
2048x128	690	1468	690

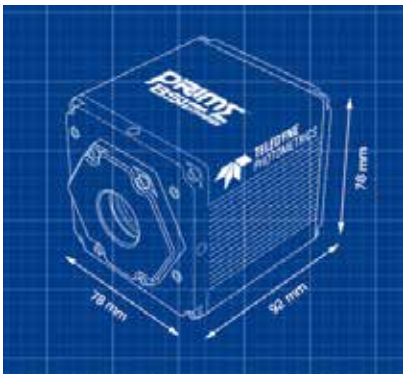
解像度とピクセルサイズ

素子サイズ6.5 μmにより、結像面全体に非常に高解像な画像を提供し、最も広範囲の倍率に最適



コンパクトカメラヘッド

コンパクトなフォームファクタでありながら、高ダイナミックレンジ 16bit に対応。明暗差の激しいシーンでも、詳細な情報を失うことなく捉え、幅広いアプリケーションにおいて、その真価を発揮します。



PRIME BSI EXPRESS SPECIFICATIONS

SPECIFICATIONS	Camera Performance
Sensor	GPixel GSENSE2020BSI scientific CMOS sensor
Active Array Size	2048 x 2048 (4.2 megapixel)
Pixel Area	6.5 x 6.5 µm (42.25 µm^2)
Sensor Area	13.2 mm x 13.2 mm (18.7 mm diagonal)
Peak QE%	95%
Readout Modes	Rolling shutter
	Effective global shutter
	Programmable scan mode
Digital Binning	2 x 2
Linearity	> 99.5%
Cooling Options	Air cooled
Digital Interfaces	USB 3.2gen2 10Gbps
Lens Interfaces	C-mount
Mounting Points	4 x ¼" -20 UNC mounting points
Camera Weight	0.76 kg, 1.67 lbs

CAMERA MODES

SPECIFICATIONS	Speed (200 MHz)	HDR (100 MHz)	CMS (100 MHz)
Bit Depth	11-bit	16-bit	12-bit
Frame Rate (Full Frame)	95 fps	43 fps	43fps
Read Noise	1.6 e-	1.6 e-	1.0 e-
Cooling (Air)	0 °C	0 °C	0 °C
Line Time	5.14 µsec/line	11.4 µsec/line	11.4 µsec/line
Dark Current (Air)	1.5 e-/p/sec	1.5 e-/p/sec	1.5 e-/p/sec
Full Well Capacity	10,000 e-	45,000 e-	1,000 e-

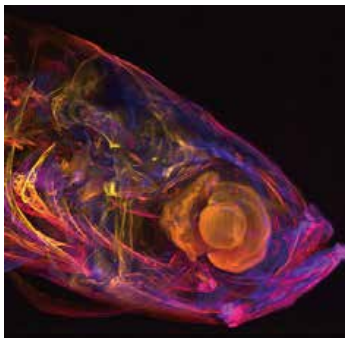
TRIGGERING MODE	Function
INPUT TRIGGER MODES	
Trigger First	Sequence triggered on first rising edge
Edge Trigger	Each frame in sequence triggered by rising edge
SMART Streaming	Fast iteration through multiple exposure times, works with the four trigger out cables to control multiple light sources at multiple exposure times
OUTPUT TRIGGER MODES	
Any Row	Expose signal is high while any row is acquiring data
First Row	Expose signal is high while first row is acquiring data
Line Output	Expose signal provides rising edge for each row advanced by the rolling shutter readout
EFFECTIVE GLOBAL SHUTTER TRIGGER MODES	
All Row	Expose out signal high for exposure time, maintains exposure time but drops frame rate
Rolling Shutter	Expose out signal high for exposure time – readout time. Keeps frame rate but drops exposure time.
OUTPUT TRIGGER SIGNALS	
Expose Out (up to four signals), Read Out, Trigger Ready	

高分解能・広視野冷却 sCMOS カメラ

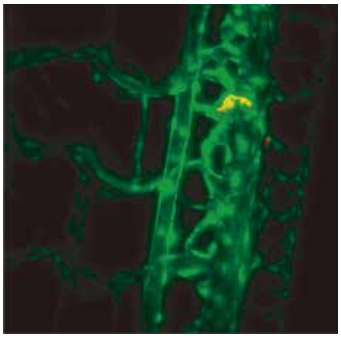
暗所での撮影に強く、鮮明な画像を高速で取得することが可能です。

- **量子効率 73%**
- **素子サイズ 4.25μm x 4.25μm**
- **15 Mpixel / 9Mpixel**
- **読み出しノイズ 1.5e-**
- **30フレーム/秒**

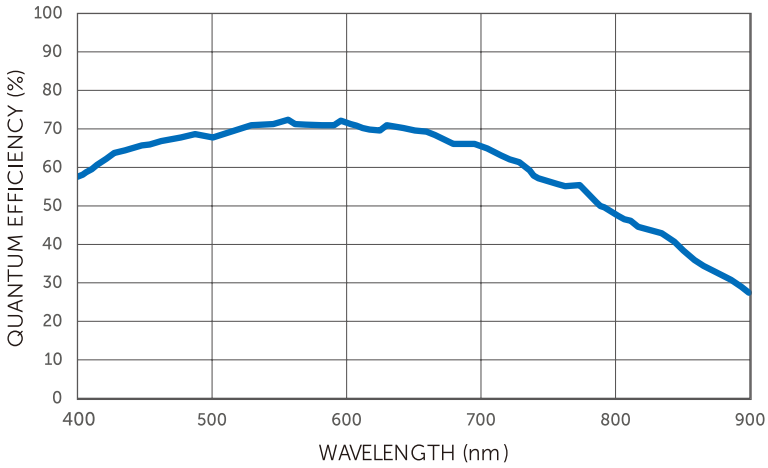
画素数15Mピクセル、画素サイズ4.25μmによる圧倒的な解像度で、微細な構造まで鮮明に捉えます。



Light Sheet Microscopy
Dr. Jan Huisken



Light Sheet Microscopy
Prof. John Girkin



IRIS 15 SPECIFICATIONS

SPECIFICATIONS	IRIS15	IRIS9
Sensor	GPixel GSense 5130 scientific CMOS sensor	
Active Array Size	5056 x 2960 (15 megapixel)	2960 x 2960 (9 megapixel)
Pixel Area	4.25 μm x 4.25 μm (18.06 μm^2)	
Sensor Area	21.49 mm x 12.61 mm (24.9 mm diagonal)	12.61 mm x 12.61 mm (18.06 mm diagonal)
Peak QE%	> 73%	
Readout Modes	Rolling shutter	
	Effective global shutter	
	Programmable scan mode (PCIe only)	
Digital Binning	2 x 2	
Linearity	> 99%	
Cooling Options	Air cooled (0 °C@30 °C ambient, 0.5 e-/pixel/second dark current)	
Digital Interfaces	USB 3.0 , PCIe	
Lens Interfaces	F-mount	C-mount
Mounting Points	4 x 1/4”-20 UNC mounting points	
Full Well Capacity	13,000 e-	10,000 e-

SPECIFICATIONS	Camera Performance
Bit Depth	16-bit
Frame Rate (Full Frame)	30 fps (with PCIe)
Read Noise	1.5 e-
Cooling (Air)	0 °C
Line Time	11.26 μsec/line
Camera Weight	0.68 kg, 1.5 lbs

FRAME RATES (HZ)

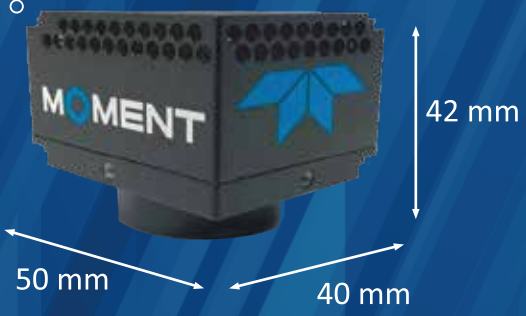
ARRAY SIZE	PCIe	USB 3.0 IRIS15	USB 3.0 IRIS9
2960 x 2960	30	10	16
2960 x 1500	59	31	32
2960 x 512	174	94	94
2960 x 128	695	321	331

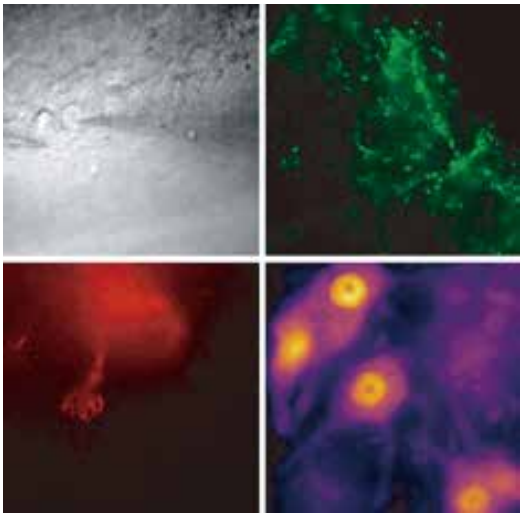
MOMENT

ウルトラコンパクト高速 CMOS カメラ

対角視野 17.5 mm センサーで毎秒 50 フレームの画像をキャプチャし動く物体を瞬時に捉えます。

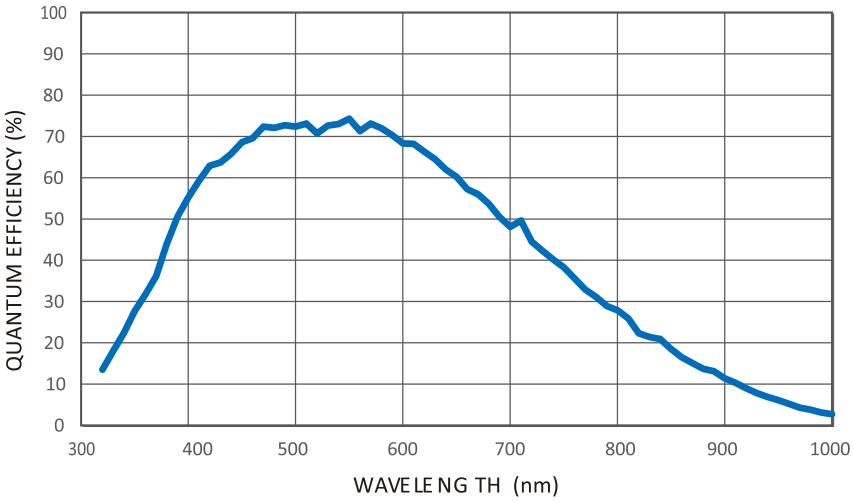
- **手のひらサイズ**
- **素子サイズ　4.5µm x 4.5µm**
- **高解像度　7 Mpixel**
- **グローバルシャッター**
- **50フレーム/秒**





Live Cell Imaging
Dr. Christian Simon

微弱光でも高品質な画像を提供します。



MOMENT SPECIFICATIONS

SPECIFICATIONS	Camera Performance
Sensor	Sony IMX420 CMOS sensor
Active Array Size	3200 x 2200 (7.1 Megapixel)
Pixel Area	4.5 x 4.5 µm (20.25 µm^2)
Sensor Area	14.4 mm x 10 mm (17.6 mm diagonal)
Peak QE%	> 73%
Readout Modes	Global shutter
Digital Binning	2 x 1 charge domain (on chip) binning up to 4 x 4 digital binning
Linearity	> 99%
Cooling Options	Uncooled
Digital Interfaces	USB 10 Gbps (3.2 Gen 2)
Lens Interfaces	C-mount
Mounting Points	M3 x 0.5 mounting point per side
Camera Weight	0.096 kg, 0.21 lbs

CAMERA MODES

SPECIFICATIONS	Standard
Bit Depth	12-bit
Frame Rate (Full Frame)	51 fps
Read Noise	2.1 e-
Line Time	8.62 µsec/line
Dark Current (Air)	2.0 e-/p/sec
Full Well Capacity	8200 e-

FRAME RATES (HZ)

ARRAY SIZE	SPEED
3200 x 2200	51
3200 x 1100	100
3200 x 550	193
3200 x 275	353
3200 x 8	2071

長時間露光冷却 CMOS カメラ

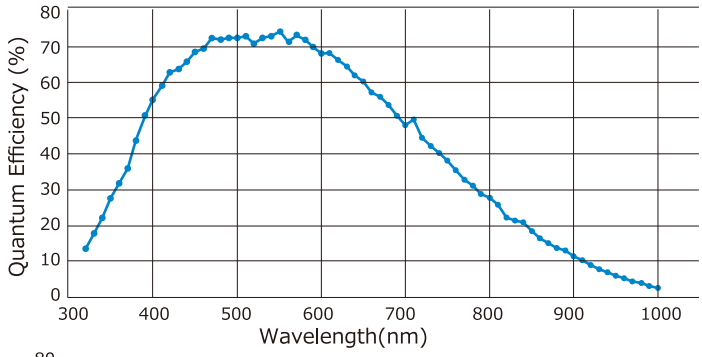
RETIGA SERIES E

高度な熱制御技術により、超低暗電流ノイズを実現し、高感度かつ高品質な画取得を実現します。

- **冷却温度 -25℃**
- **低ノイズ 0.003e**
- **ハイスピード fps**
- **ハイダイナミックレンジ (82 dB)**

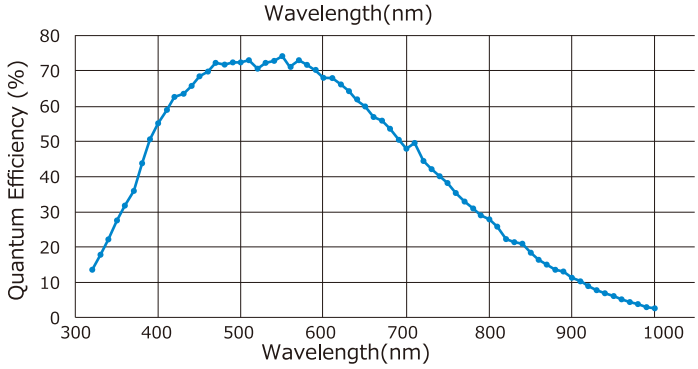
E7 RETIGA

- 長時間露光モード 60 分
- 暗電流ノイズ 0.001e-/p/sec
- 7 M Pixel(3200 x 2200)
- 素子サイズ 4.5μm
- グローバルシャッター
- 100 フレーム／秒以上



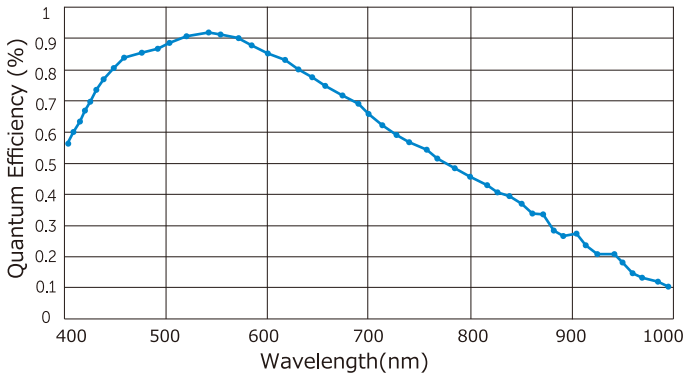
E20 RETIGA

- 長時間露光モード 60 分
- 暗電流ノイズ 0.003e-/p/sec
- 20M Pixel(5472 x 3648)
- 素子サイズ 2.4μm
- ローリングシャッター



E9 RETIGA

- 長時間露光モード 60 分
- 暗電流ノイズ 0.001e-/p/sec
- ハイダイナミックレンジ 16bit 拡張化 (82 dB)
- 9M Pixel(3001 x 3001)
- 素子サイズ 3.76μm



RETIGA E7 SPECIFICATIONS

SPECIFICATIONS	Camera Performance
Sensor	Sony IMX420 CMOS sensor
Active Array Size	3200 x 2200 (7.1 megapixel)
Pixel Area	4.5 µm x 4.5 µm (20.25 µm²)
Sensor Area	14.4 mm x 10 mm (17.6 mm diagonal)
Peak QE%	73%
Readout Modes	Global shutter
Digital Binning	2 x 1 charge domain (on chip) binning up to 4 x 4 digital binning
Linearity	> 99%
Cooling Options	Air cooled (-25 °C @ 30 °C ambient, 0.001 e-/pixel/second dark current)
Digital Interfaces	USB 10 Gbps (3.2 Gen 2)
Lens Interfaces	C-mount
Mounting Points	4 x 1/4”-20 UNC
Camera Weight	0.8 kg, 1.76 lbs

CAMERA MODES

SPECIFICATIONS	Speed	Long Exposure	Extended Dynamic Range (EDR)
Maximum exposure time	120 seconds	60 minutes	60 minutes*
Bit Depth	12-bit	12-bit	16-bit
Frame Rate (Full Frame)	51 fps	3.2 fps	1.6 fps
Read Noise	2.1 e-	2.1 e	1.6 e-
Cooling	-25 °C	-25 °C	-25 °C
Line Time	8.62 µsec/line	137.92 µsec/line	137.92 µsec/line
Dark Current	0.1 e-/p/sec	0.001 e-/p/sec	0.001 e-/p/sec
Conversation Gain	2.1 e-/count	2.1 e-/count	0.35 e-/count
Full Well Capacity	23000 e-	23000 e-	23000 e-

*EDR combines two exposures of equal time, but different gain modes. Setting the exposure to 60 minutes will take 120 minutes of acquisition

RETIGA E7 SPEED TABLE

FRAME RATES (HZ)		
MODE	STANDARD	2x2 BINNED
Speed	51	102
Long Exposure	3.1	6.2
EDR	1.5	3

RETIGA E20 SPECIFICATIONS

SPECIFICATIONS	Camera Performance
Sensor	Sony IMX183 CMOS sensor
Active Array Size	5472 x 3648 (20 Megapixel)
Pixel Area	2.4 µm x 2.4 µm (5.76 μm^2)
Sensor Area	13.1 mm x 8.7 mm (15.7 mm diagonal)
Peak QE%	> 85%
Readout Modes	Rolling shutter
Digital Binning	Up to 4 x 4 digital binning
Linearity	> 99%
Cooling Options	Air cooled (-25 °C @ 30 °C ambient, 0.001 e-/pixel/second dark current)
Digital Interfaces	USB 10 Gbps (3.2 Gen 2)
Lens Interfaces	C-mount
Mounting Points	4 x 1/4”-20 UNC
Camera Weight	0.8 kg, 1.76 lbs

CAMERA MODES

SPECIFICATIONS	Speed	Standard	Extended Dynamic Range (EDR)
Bit Depth	12-bit	12-bit	16-bit
Frame Rate (Full Frame)	22 fps	1.5 fps	0.7 fps*
Read Noise	2.1 e-	2.1 e-	2.1 e-
Cooling	-25 °C	-25 °C	-25 °C
Line Time	12.46 µsec/line	182.74 µsec/line	182.74 µsec/line
Maximum exposure time	120 seconds	60 minutes	60 minutes*
Conversation Gain	0.1 e-/p/sec	0.003 e-/p/sec	0.003 e-/p/sec
Full Well Capacity	1,200 e-	10,000 e-	10,000 e-
Gain	2.4 e-/gray	2.4 e-/gray	0.15 e-/gray

*EDR combines two exposures of equal time, but different gain modes. Setting the exposure to 60 minutes will take 120 minutes of acquisition

RETIGA E20 SPEED TABLE

FRAME RATES (HZ)	
MODE	STANDARD
Speed	22
Long Exposure	1.5
EDR	0.7

RETIGA E9 SPECIFICATIONS

SPECIFICATIONS	Camera Performance
Sensor	Sony IMX533 CMOS sensor
Active Array Size	3001 x 3001 (9 Megapixel)
Pixel Area	3.76 µm x 3.76 µm (14.1 μm^2)
Sensor Area	11.3 mm x 11.3 mm (16 mm diagonal)
Peak QE%	> 90% at 550 nm
Readout Modes	Rolling shutter
Digital Binning	2 x 2 through 16 x 16 binning
Linearity	> 99%
Cooling Options	Air cooled (-25 °C @ 30 °C ambient, 0.001 e-/pixel/second dark current)
Digital Interfaces	USB 10 Gbps (3.2 Gen 2)
Lens Interfaces	C-mount
Mounting Points	4 x 1/4”-20 UNC
Camera Weight	0.8 kg, 1.76 lbs

CAMERA MODES

SPECIFICATIONS	Speed	Extended Dynamic Range (EDR)
Bit Depth	16-bit	16-bit
Frame Rate (Full Frame)	25 fps	12 fps*
Read Noise	1.3 e-	1.3 e-
Cooling	-25 °C	-25 °C
Line Time	12.2 µsec/line	12.2 µsec/line
Maximum exposure time	60 minutes	120 minutes*
Dark Current	<0.001 e-/p/sec	<0.001 e-/p/sec
Full Well Capacity	23000 e-	23000 e-
Gain	0.75 e-/gray	0.75 e-/gray

*EDR combines two exposures of equal time, but different gain modes. Setting the exposure to 60 minutes will take 120 minutes of acquisition

TELEDYNE

Retiga CCD Family

顕微鏡検査や科学研究用に設計された高速・高感度 CCD シリーズ

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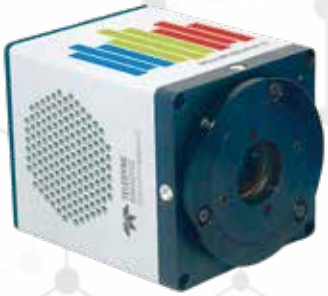
- 長時間の露光、深い冷却、アクティブな画像補正が可能
- ソニー ICX695 センサー搭載



MicroPublisher 6™

高解像度カラー冷却 CCD カメラ

- 6.0MP - 対角視野 16mm
- カラードキュメンテーションに最適なカメラ
- 蛍光顕微鏡に最適
- 豊富な機能 - 冷却、高速フォーカス、インテリジェント定量化

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