

HIGH RESOLUTION LOW NOISE SCIENTIFIC CMOS CAMERA



VISIBLE
400 - 1000 nm



64 FPS (8 bits)
44 FPS (12 bits)



1.40 e⁻ RMS
ultra low dark






5328 x 4608 CMOS
2.74 μm pixel pitch



80 dB and true 16 bits
High Dynamic Range



SDK compatible with μManager,
LabVIEW, MatLab,   

HIGH RESOLUTION & GLOBAL SHUTTER



Provisional design

APPLICATIONS

LIFE SCIENCES:

Fluorescence microscopy
Super resolution microscopy
Cell motility studies
Ion imaging / Physiology

ASTRONOMY:


Adaptive Optics
Solar astronomy
Telescope observations

RESEARCH:

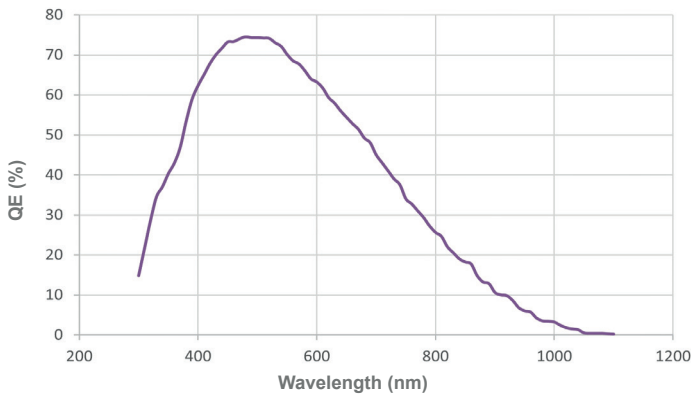
Microfluidics
Vision research
Process monitoring
Low light imaging

C-BLUE 2 PROVISIONAL PERFORMANCES

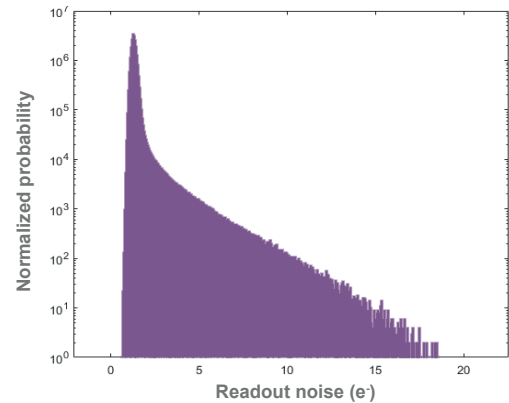
TEST MEASUREMENT		Result	Unit
Sensor size		5328 x 4608	pixels
		24.5	Mp
Pixel pitch		2.74	µm
Shutter Architecture		global	n/a
Maximum speed Full Frame in GLOBAL SHUTTER	in 8 bits	64	FPS
	in 12 bits	44	FPS
Maximum speed in binning (in 8 bits, 16 lines)		1776	FPS
Readout Noise (No binning, 24 dB, @ 50µs)		1.31	e ⁻ _{MED}
		1.40	e ⁻ _{RMS}
Dark Current (No binning, 24 dB, @ 50µs)		0.02	e ⁻ /p/s
Quantization		8, 12	bit
Quantization with HDR (High Dynamic Range)		16	bit
Minimum integration time	in 8 bits	5.73	µs
	in 12 bits	7.23	µs
Image Full well capacity (0 dB)		9500	e ⁻

ADDITIONAL FEATURES	
Back illuminated stacked sensor	
Outputs: • CoaXPress 2.0 - CXP10x2 connection • 10 Gigabit Ethernet/Fiber with SFP+ module	
GigE Vision 	
GenICam compatible	
Optical interface: TFL-mount	
Sensor thermal stabilization - Thermo Electric module stage 2	
Liquid cooling optional with cooling plate for optimized performances	
Software: Graphical User Interface: First Light Vision - Software Development Kit: (C, C++, Python, MatLab) / LabVIEW / µManager	

EXPERIMENTAL QUANTUM EFFICIENCY



READOUT NOISE DISTRIBUTION



FRAME RATE TABLE IN 8 AND 12 BITS FOR CXP OUTPUT

		Quantization	
		8 bits	12 bits
Lines	16	2612	1973
	288	1094	786
	576	677	480
	1152	384	270
	2304	206	143
	4608	106	74

Values for CXP Output only
(The number of columns does not affect acquisition speed)



Provisional design

Provisional Size and Weight :
H69 x W80 x L164 mm, 1.3 kg



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