FIRST LIGHT
ADVANCED IMAGERY

C-RED 3

Product Datasheet / November 2020

VERY HIGH SPEED COMPACT SWIR CAMERA

SWIR
0.9 - 1.7 µm

FULL FRAME 600 FPS

<40 e- RON

640 x 512 InGaAs,
15 µm pixel pitch

HDR 93 dB and true 16 bits
High Dynamic Range

SDK compatible with µManager,
LabVIEW, MatLab,

LOW POWER UNCOOLED InGaAs
WITH ADAPTATIVE BIAS

ADAPTIVE BIAS Adaptive bias *(Pat. Pend.)* replaces temperature stabilization with bias image automatically generated

INDUSTRY:
Non-destructive Testing
Quality and Production control
Waste sorting
Welding

ASTRONOMY:
Free Space Optics
Laser alignment
Laser Beam Profiling

SURVEILLANCE:
Thermography
Unmanned aerial vehicle
Maritime surveillance

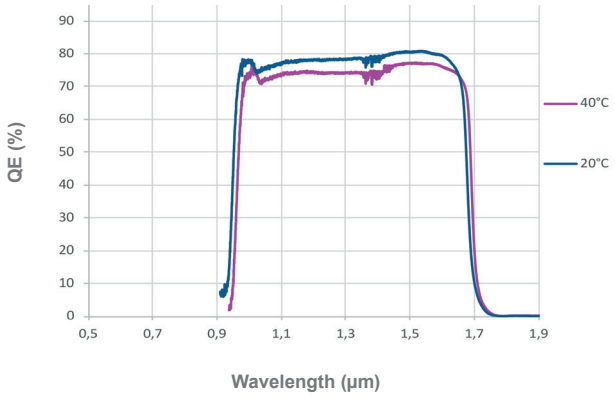
C- RED 3 PERFORMANCES

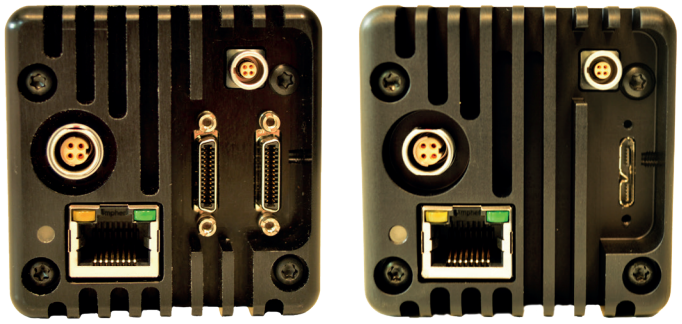
FEATURES*	Result	Unit
Maximum speed Full Frame	600	FPS
Readout Noise at 600 FPS Full Frame @ 50 µs Tint high gain	< 40	e-
Quantization	14	bit
Flat Quantum Efficiency 1.0 to 1.65 µm	> 70	%
Operability due to signal response / pixels with signal ± 0.3*median at 20°C	99.5	%
Image Full well capacity at low gain, 600 fps	1400	ke-
Image Full well capacity at med gain, 600 fps	128	ke-
Image Full well capacity at high gain, 600 fps	33	ke-
Maximum speed in 32 x 4 (min)	**32066**	**FPS**
Maximum speed in 320 x 256	1779	FPS

** Average values observed*

ADDITIONAL FEATURES
Outputs: USB 3.1 Gen 1 or CL
Possible optical interface: C-Mount, CS-Mount, T-Mount
LVTTL Synchronization (5 V tolerant)
HDR : 93 dB and 16 bits
Adaptive bias
Cooling adapter for thermal regulation
Software: SDK (C, C++, Python) / LabVIEW / µManager / MatLab

QUANTUM EFFICIENCY





With Camera Link® Output — With USB 3 Output

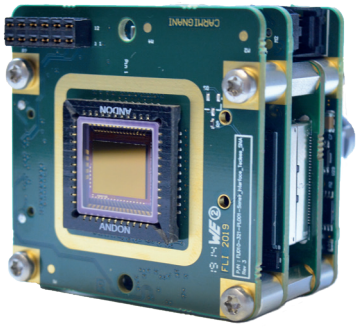
SWaP : H55 x W55 x L60 mm, 230 g, 6.5W typical

FRAME RATE TABLE AT 600 FPS READOUT SPEED CAMERA LINK® OUTPUT

Lines \ Columns	32	64	128	256	512	640
4	32 066	31 512	30 458	28 548	25 367	24 029
8	28 108	27 348	25 945	23 532	19 840	18 397
16	22 542	21 631	20 015	17 413	13 819	12 526
32	16 147	15 254	13 736	11 455	8 599	7 646
64	10 302	9 596	8 440	6 801	4 898	4 297
128	5 975	5 509	4 765	3 752	2 632	2 291
256	3 247	2 975	2 547	1 978	1 367	1 184
512	1 697	1 549	1 319	1 016	697	602

For USB 3 Output: Max 9999 FPS

OEM MODULE AVAILABLE



OEM version without housing, 100 g

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