



Alecs G1-1242 innovative vision system with Sony IMX545 CMOS global shutter sensor and NVIDIA® Jetson Orin™ NX16 enables developing applications faster. The NVIDIA® Jetson Orin™ NX16 embedded board provides 16 GByte RAM, with power modes up to 25 W. Embedded technologies enable advanced AI models and compute-intensive edge detection: Deep Learning Accelerator (DLA) with dedicated cores offloads the hosts' CPU and GPU and Programmable Vision Accelerator (PVA) with dedicated cores extends the Alvim BSP feature set by NVIDIA vision libraries. Alecs G1 comes with 128 GByte NVMe storage, providing sufficient space for AI models, datasets, and application software.

General

Model	Alecs G1-1242 NX16
Product series	Alecs
Status	Available

Sensor

Sensor type	Area scan
Chroma	Color, Mono
Spectrum	Visible
Spectral range	300 nm to 1100 nm
Resolution	4,128 × 3,008 (12.40 MP)
Sensor model	Sony IMX545
Sensor architecture (material)	cmos
Shutter type(s)	Global shutter (GS)
Sensor size	11.3 × 8.2 mm (14 mm, Type 1/1.1)
Pixel size	2.74 µm × 2.74 µm

Pixel formats

Sensor bit depth	12-bit
Monochrome pixel formats	GREY, RAW10, RAW12, RAW8, Y10, Y12

Pixel formats

YUV pixel formats	UYVY, YCbCr411_8_CbYYCrYY, YCbCr422_8_CbYCrY, YCbCr8_CbYCr, YUV422 8-bit
RGB pixel formats	BGR8, RGB3, RGB8 (default), RGB888 (default)
Bayer pixel formats	BayerRG12

Imaging performance

Quantum efficiency @ 529 nm	68 %
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Timing and gain

Max. frame rate	40 fps
Exposure time	11 μ s to 10 s
Gain	0.0 dB to 48.0 dB

I/Os and power

Non-isolated lines	2 inputs, 2 outputs, 1 trigger input, 1 strobe output
Power supply	24 VDC
Power consumption	SoM: Max. 10 W to 25 W Carrier board: Max. 2.0 W Camera: Max. 3.2 W Idle state: 8.5 W

Operating conditions

Operating temperature (housing)	-20 °C to 65 °C ((housing))
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Mechanical properties

Body dimensions (L x W x H in mm)	102 × 72 × 112
Lens mount(s)	C-Mount
Weight	810 g

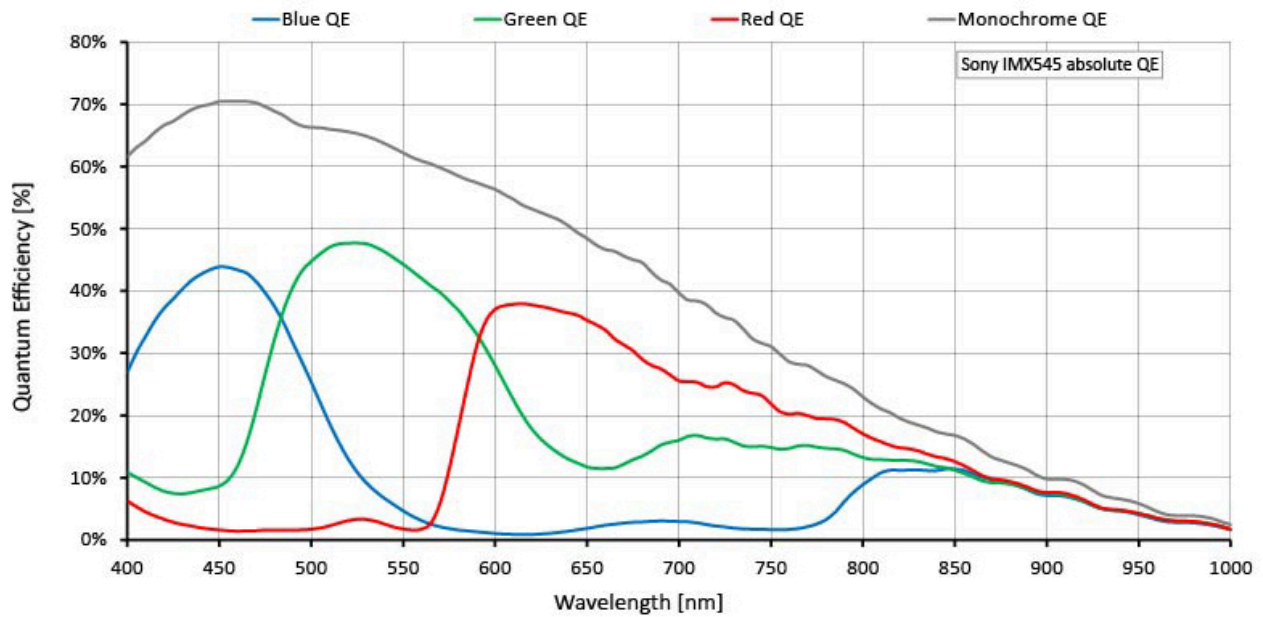
On-board memory and FPGA

Image buffer (RAM)	256 KByte
Non-volatile memory (Flash)	1024 KByte

Interfaces

Digital interface	IEEE 802.3 1000BASE-T
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Quantum Efficiency



Technical Drawing

Alecs Main Housing with Lens Tube LT4649

