



CMS : MULTI-SPECTRAL CAMERA

CAMERA IDENTIFICATION

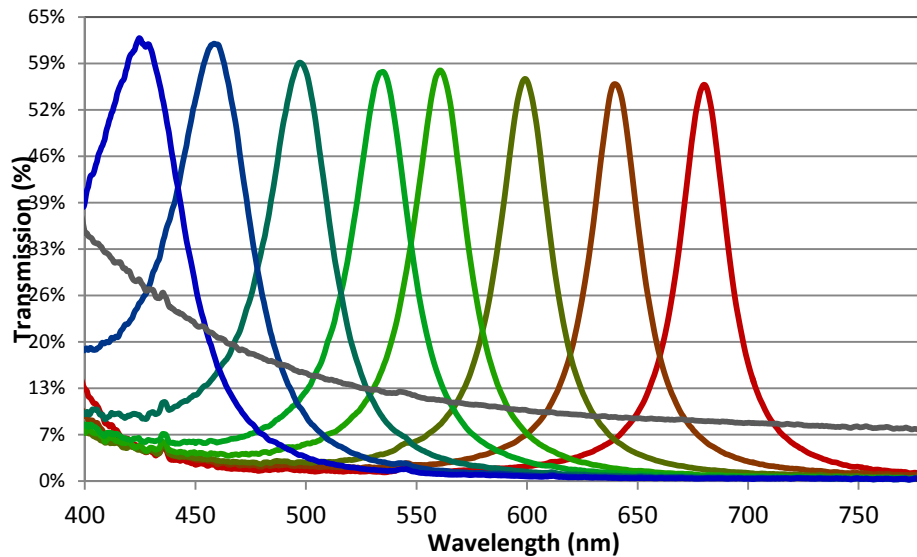
Designation	CMS-C1
Technology	COLOR-SHADES
S/N	CMS16120024

CMOS SENSOR SPECIFICATIONS

Array type	CMOS (Si)
Spectral band	400 to 1000 nm
Resolution	1280 (H) x 1024 (V)
Pixel pitch	5.3 μm

FILTER SPECIFICATIONS

Macro-pixel size	3x3 bands
Wavelength range	400 to 700 nm typical
Type of pixel	8 colors (narrow bands) + 1 B&W
Band 1	λ_c : 424 nm / FWHM : 51 nm / T_{max} : 62%
Band 2	λ_c : 457 nm / FWHM : 45 nm / T_{max} : 61%
Band 3	λ_c : 497 nm / FWHM : 36 nm / T_{max} : 58%
Band 4	λ_c : 534 nm / FWHM : 32 nm / T_{max} : 58%
Band 5	λ_c : 561 nm / FWHM : 30 nm / T_{max} : 58%
Band 6	λ_c : 599 nm / FWHM : 29 nm / T_{max} : 56%
Band 7	λ_c : 640 nm / FWHM : 27 nm / T_{max} : 56%
Band 8	λ_c : 680 nm / FWHM : 26 nm / T_{max} : 56%
Band 9	Neutral density : $T_{mean} = 14\%$ over [400-700] nm



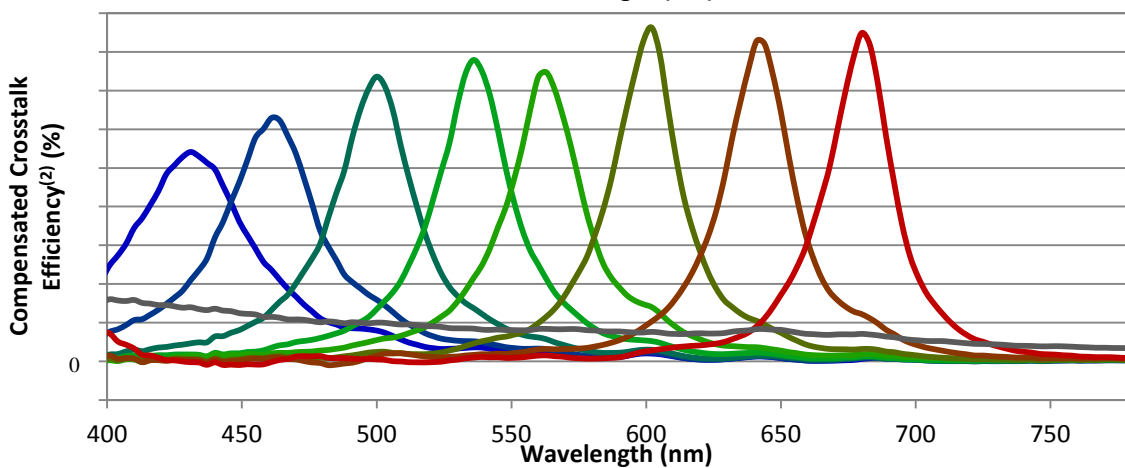
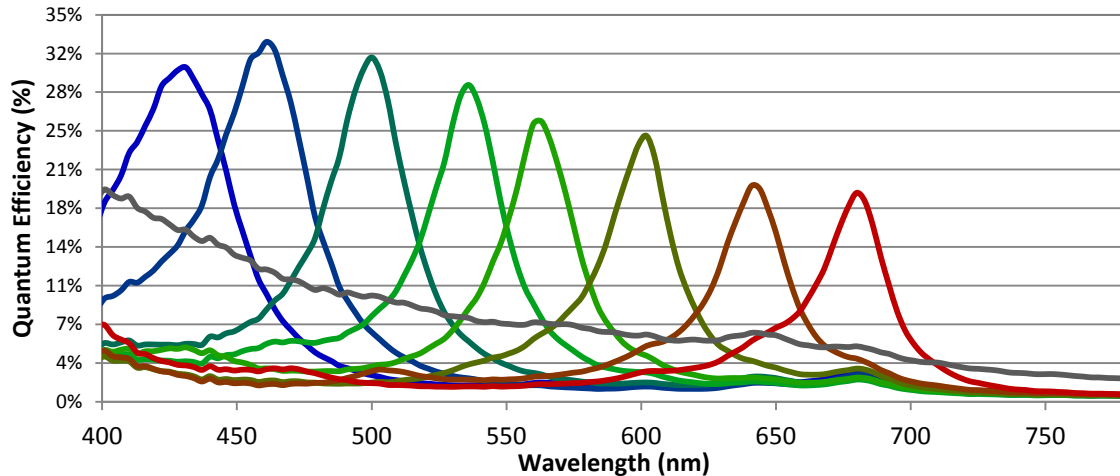


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MULTISPECTRAL SENSOR SPECIFICATIONS

Macro-pixel size	3x3 bands
Wavelength range	400 to 700 nm typical
Type of pixel	8 colors (narrow bands) + 1 B&W
Band 1	λ_c : 430 nm / FWHM : 54 nm / QE max : 30%
Band 2	λ_c : 461 nm / FWHM : 44 nm / QE max : 32%
Band 3	λ_c : 499 nm / FWHM : 36 nm / QE max : 31%
Band 4	λ_c : 536 nm / FWHM : 33 nm / QE max : 28%
Band 5	λ_c : 563 nm / FWHM : 32 nm / QE max : 25%
Band 6	λ_c : 600 nm / FWHM : 30 nm / QE max : 24%
Band 7	λ_c : 642 nm / FWHM : 30 nm / QE max : 20%
Band 8	λ_c : 680 nm / FWHM : 28 nm / QE max : 19%
Band 9	Neutral density : $T_{\text{mean}} = 5.7\%$ over [400-700] nm
Pixel operability	> 99.85 % ⁽¹⁾

⁽¹⁾Dead pixels : < 0.15% among which 0.10% used for alignment purpose in the 4 corners of the pictures.



⁽²⁾The CCE is extracted from the SILIOS post processing method for crosstalk correction (see [Post-processing method for crosstalk reduction in multispectral data and images](#)).



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CAMERA SPECIFICATIONS

Optical Interface	CS-mount (C-mount compatible with additional C-ring)
Resolution (raw picture)	1280 (H) x 1024 (V)
Resolution (spectral pictures)	426 (H) x 339 (V)
Maximum frame rate	60 Hz
Exposure time range	10 μ s to 2 s
ADC	10-bit
Camera control	USB 3.0
Digital output	10-bit USB 3.0
Power supply	USB 3.0
Dimension (W x H x L)	52 x 52 x 22 mm ³
Weight camera head	59 g