

CMS : MULTI-SPECTRAL CAMERA

CAMERA IDENTIFICATION

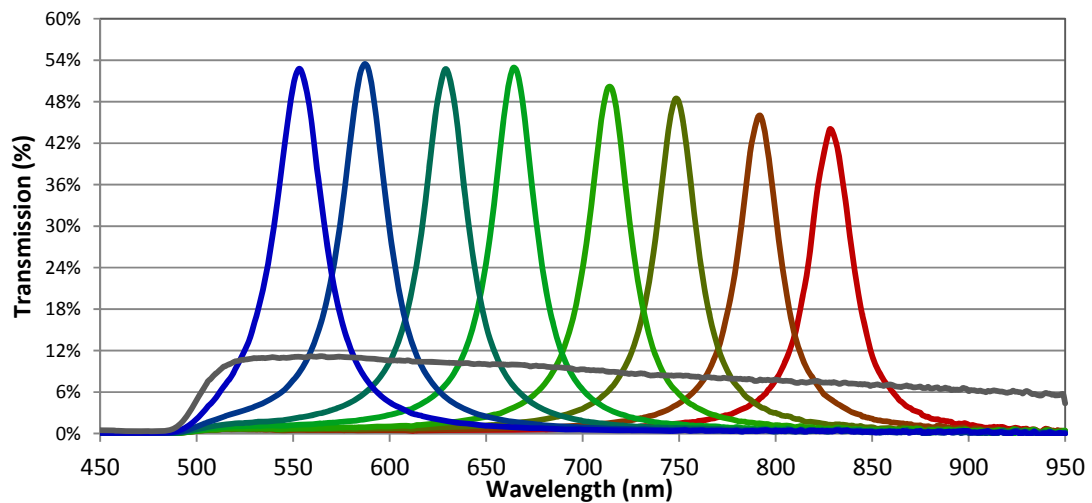
Designation	CMS-V1
Technology	COLOR-SHADES
S/N	CMS16100014

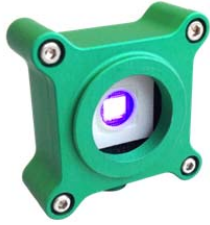
CMOS SENSOR SPECIFICATIONS

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	550 to 800 nm typical
Type of pixel	8 colors (narrow bands) + 1 B&W
Band 1	λ_c : 553 nm / FWHM : 30 nm / T_{max} : 57%
Band 2	λ_c : 587 nm / FWHM : 29 nm / T_{max} : 58%
Band 3	λ_c : 629 nm / FWHM : 28 nm / T_{max} : 57%
Band 4	λ_c : 665 nm / FWHM : 27 nm / T_{max} : 57%
Band 5	λ_c : 714 nm / FWHM : 26 nm / T_{max} : 54%
Band 6	λ_c : 749 nm / FWHM : 25 nm / T_{max} : 53%
Band 7	λ_c : 791 nm / FWHM : 25 nm / T_{max} : 50%
Band 8	λ_c : 829 nm / FWHM : 27 nm / T_{max} : 48%
Band 9	Neutral density : T_{mean} = 9% over [500-900] nm



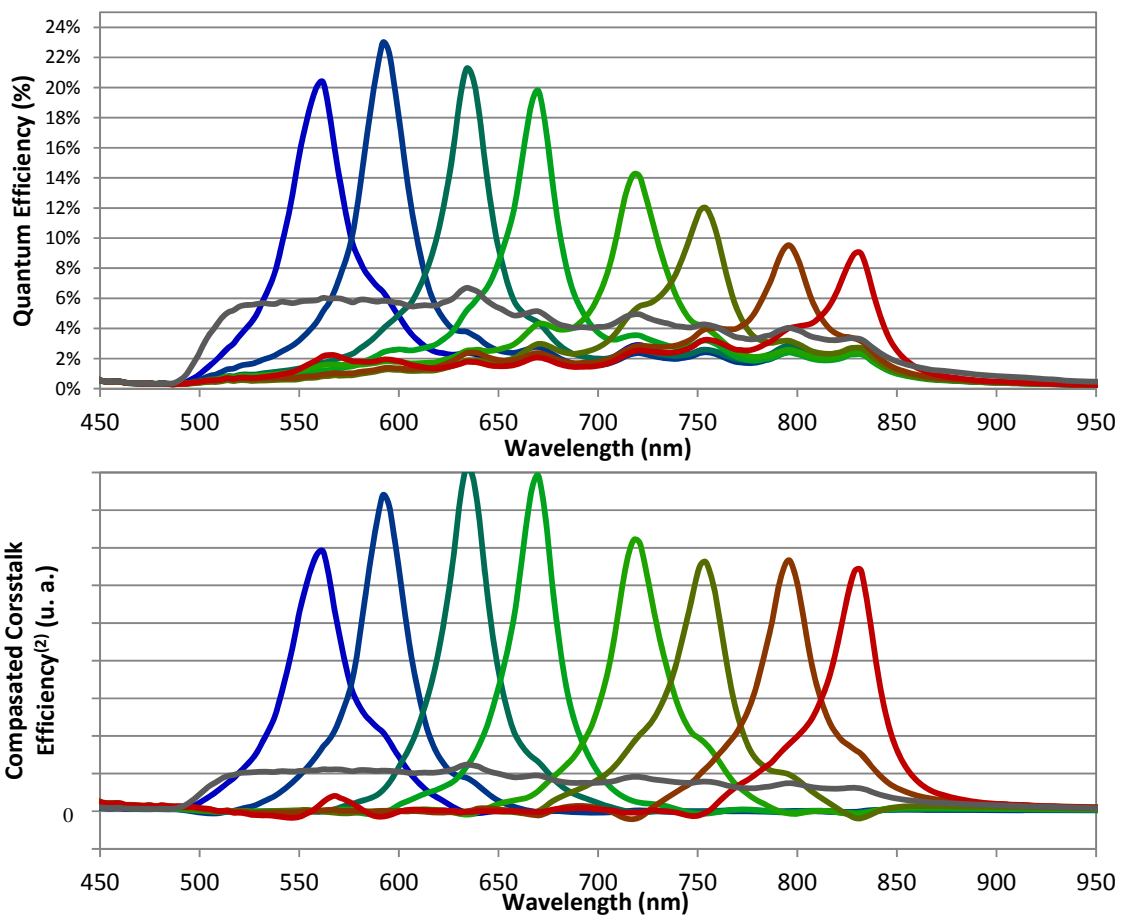


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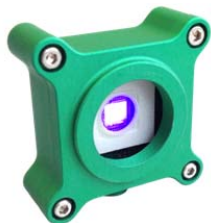
MULTISPECTRAL SENSOR SPECIFICATIONS

Macro-pixel size	3x3 bands
Wavelength range	550 to 800 nm typical
Type of pixel	8 colors (narrow bands) + 1 B&W
Band 1	λ_c : 560 nm / FWHM : 33 nm / QE max : 20%
Band 2	λ_c : 593 nm / FWHM : 29 nm / QE max : 23%
Band 3	λ_c : 635 nm / FWHM : 27 nm / QE max : 21%
Band 4	λ_c : 669 nm / FWHM : 27 nm / QE max : 20%
Band 5	λ_c : 719 nm / FWHM : 32 nm / QE max : 14%
Band 6	λ_c : 752 nm / FWHM : 39 nm / QE max : 12%
Band 7	λ_c : 795 nm / FWHM : 33 nm / QE max : 9%
Band 8	λ_c : 829 nm / FWHM : 33 nm / QE max : 9%
Band 9	Neutral density : $T_{\text{mean}} = 4.2\%$ over [650-900] 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