

MK550T

Handheld Spectroradiometer



Specification

Spectrum		
Sensor	CMOS Linear Image Sensor	
Wavelength Range	380 to 780 nm	
Wavelength Data Increment	1 nm	
Spectral Bandwidth	Approximately 9 nm (Half Bandwidth)	
Receptor Size	Ø 10 mm	
Acceptance angle	±1°	
Wavelength Reproducibility	± 1 nm	
Display Range	0.001 to 5000 cd/m ²	
Luminance ^{*1*2}	Measurement range	0.05~5000 cd/m ²
	Accuracy	±2% 100 to 5000 cd/m ²
		±3% 0.2 to 100 cd/m ² ±4% 0.05 to 0.2 cd/m ²
Repeatability (2σ) ^{*3}	0.2% 100 to 5000 cd/m ²	
	0.5% 0.2 to 100 cd/m ²	
	0.8% 0.05 to 0.2 cd/m ²	
Color ^{*1*2}	Measurement range	0.05~5000 cd/m ²
	Accuracy	±0.002 in CIE1931 x, y for white 100 to 5000 cd/m ²
±0.003 in CIE1931 x, y for white 0.2 to 100 cd/m ²		
±0.005 in CIE1931 x, y for white 0.05 to 0.2 cd/m ²		

	Repeatability (2σ) ^{*3}	0.0005 in CIE1931 x, y for white 100 to 5000 cd/m ² 0.001 in CIE1931 x, y for white 0.2 to 100 cd/m ² 0.002 in CIE1931 x, y for white 0.05 to 0.2 cd/m ²
Stray Light	-25 dB max ^{*4}	
Polarized Error	<2%	
Integration Time Range	100us to 5000 ms (Fast mode / Normal mode)	
Digital Resolution	16 bits	
Flicker		
Measurement Range	5 to 5000cd/m ²	
Sampling Rate	100k sample/sec (adjustable)	
Contrast	Accuracy	±1% (30Hz AC/DC 10% sine wave) ±2% (60Hz AC/DC 10% sine wave)
	Reproducibility	1% (20 to 65 Hz AC/DC 10% sine wave)
JEITA	Accuracy	±0.5dB (30Hz AC/DC 10% sine wave)
	Reproducibility	0.3dB (30 Hz AC/DC 10% sine wave)
Feature		
Capture Function	One time / Continuous	
Operation Mode	Standalone Mode / USB Mode (MSC Mode+PC connection)	
Integration Mode	Auto / Manual	
Dark Calibration	Auto	
Measuring Modes	1. Basic Mode	
	2. Spectrum Mode	
	3. CIE1931 Chromaticity Mode	
	4. CIE1976 Chromaticity Mode	
	5. Flicker Mode	
	6. Frequency Mode	
	7. Browser Mode	
	8. Option Mode	
Measuring Capabilities (Spectrum)	1. Luminance (cd/m ²)	
	2. Correlated Color Temperature (CCT)	
	3. CIE Chromaticity Coordinates (1) CIE 1931 2-degree, 10-degree x,y Coordinates (2) CIE 1976 2-degree, 10-degree u',v' Coordinates (3) CIE 1931 XYZ Value	
	4. $\Delta x, \Delta y, \Delta u', \Delta v'$	
	5. Delta uv (Duv)	
	6. Dominant Wavelength (λ_d)	

	7. Excitation Purity
	8. Color Rendering Index (CRI, Ra) / R1 to R15
	9. Spectral Power Distribution (SPD) mW/m ²
	10. Peak Wavelength (λ_p)
	11. Peak Wavelength Value (λ_{pV})
	12. Integration Time (I-Time)
	13. Scotopic and Photopic Ratio (S/P)
Measuring Capabilities (Flicker)	1. Max / Min, Average, RMS and Frequency
	2. JEITA
	3. VESA
	4. Percent Flicker (IES)
	5. Flicker Index (IES)

System Configurations

Display	3.5" 320X240 Resistive Touch LCD
Max. Files	≈ 68,000 Files @ 8GB SD Card (Excel + JPG)
Battery Operation Time	≤ 5 hours / Fully Charged
Power	Adapter; USB; 2500 mAh (3.7V Rechargeable Li-ion Battery)
Dimensions	220 x 81 x 33 mm (H x W x D)
Weight (with Battery)	330 g ± 10 g
Operating Temperature / Humidity	0 to 35 °C, relative humidity 70% or less without condensation
Storage Temperature / Humidity	-10 to 40 °C, relative humidity 70% or less without condensation
Languages Selection	English / Traditional Chinese / Simplified Chinese / Japanese
Software	SDK Solution (Windows platform), uSPECTRUM, uFLICKER

*1 : Luminance and color testing are based on standard light source at 2856K, 6500K & 9300K.

*2 : Measure in normal mode with temperature 23±2°C and relative humidity 50% or less.

*3 : Repeatability test is based on the status of shutter opening.

*4 : Input the 550nm monochromatic light and measure the stray light ratio at 550nm ± 40nm.

The company reserves the right to change product specifications at any time without prior notice.