TE42 V2 A datasheet





Overview

Product name	TE42 V2
Principle	A multipurpose test chart for the analysis of resolution, texture reproduction, acutance, dynamic range, noise, color reproduction, distortion, shading, chromatic aberration, and visual analysis. The ability to analyze multiple image quality factors in a single image.

Features

OECF

Type/s of pattern	Grayscale
Number of steps	20
Contrast	≈ 800:1 (58 dB, 10 f-stops) The approximate value of the darkest patch is velvet.
Density/Refection values	Individually measured values are provided in a separate Acceptance Protocol. Production tolerance is \pm 0.03 OD.

Siemens stars

Type/s of pattern	 9 Sinusoidal Siemens stars 1 center star, full circle, full contrast 4 corner stars, half circle, full contrast 2 small stars, full circle, full contrast 2 small stars, full circle, low contrast 				
Modulation	Full contrast: ≈ 95 % (S) / ≈ 92 % (H) Low contrast: ≈ 55 % (S) / ≈ 58 % (H) Production tolerance is ± 3%.				
Cycles	144				
	Full size Small size				
Diameter stars	A1066 190 mm 96 mm				
	A460 76 mm 50 mm				



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Diameter registration marks	Н	5 mm		
	S	S 12 mm		
Sample rate* [MP]		minimum	maximum	
	A1066 H	2	120	(> 8K)**
	A1066 S	2	30	(HDTV - 8K)**
	A460 H	2	40	(HDTV - 8K)**

Slanted edges

Type/s of pattern	 4 Slanted Edges Two sub-charts in a horizontal and vertical orientation Each has a low and high contrast 					
Modulation	Low High	Low contrast: 54% High contrast: 90%				
Size of sub-chart			4:3 [mm]	16:9 [mm]		
		A1066	100 x 30	100 x 30		
		A460	50 x 15	38 x 10		
Sample rate* [MP]			minimum	maximum		
		A1066 H	***	120	(> 8K)**	
		A1066 S	***	30	(HDTV - 8K)**	
		A460 H	***	40	(HDTV - 8K)**	
Density / Refection values	Individually measured values are provided in a separate Acceptance Protocol. Production tolerance is \pm 0.03 OD.					

Dead Leaves/Noise patches

Type/s of pattern	 2 Dead Leaves, according to the approach from 2016 One sub-chart low contrast One sub-chart high contrast 				
Modulation	High contrast Low contrast				
Size of sub-chart		4:3 [mm]	16:9 [mm]		
	A1066 S	109 x 109	109 x 109		
	A1066 H	110 x 110	105 x 105		
	A460 H	51 x 51	42 x 42		
Sample rate* [MP]		minimum	maximum		
	A1066 H	2****	120	(> 8K)**	
	A1066 S	2****	30	(HDTV - 8K)**	
	A460 H	2****	40	(HDTV - 8K)**	

Color patches

 96 patches (similar but not identical to the X-Rite ColorChecker SG) 12 gray steps RGBCMY 12 skin tones 10 pastel colors 56 mixed colors
Individually measured values are provided in a separate Acceptance Protocol.



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Distortion grid

	Type/s of pattern	10 black and white registration marks distributed on the top and bottom of the chart		
S	nading			
	Type/s of pattern	Neutral, uniform gray background measured at 24 positions		
Vi	sual appraisal, digitalization	process		
	Type/s of pattern	Faces, grass, stones		

General description hardware

Туре	Reflective					
Aspect ratio	4:3 or 16:9					
Chart size tolerances	+/-	2 mm as they a	re handmade in	-house and dep	end on the edg	e protection type
			W [mm]	H [mm]	D [mm]	
		A1066 4:3	1245	835	3.2	
		A1066 16:9	1400	835	3.2	
		A460	600	500	3.2	
			4:3		16:9	
Distury size			W [mm]	H [mm]	W [mm]	H [mm]
Picture size		A1066	900	675	1200	675
		A460	460	345	460	258.75
Material	S version background, Siemens stars, slanted edges: matt print H version background, Siemens stars, slanted edges, Dead Leaves: photographic paper with matt finishing. All versions OECF, colors, faces, grass + stones: glossy print A1066 is made from three parts, which can differ in gray value with a tolerance of ± 0.03 OD.					
Mounting	Alu Alu	Aluminum composite panel (aluminum Dibond), size A1066 Aluminum, size A460				
Edge protection	A1066 – No A460 – Fabric tape					
Service life	2 years					
Storage	Dark, dry, and free from harmful gas (e.g., formaldehyde or ozone). 20 °C and 25 °C with a humidity of $60\% - 65\%$ and no direct sunlight at any time.					
Scope of delivery	Test chart, stable cardboard envelope (A460 charts)					

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Miscellaneous

Evaluation/Assessment	Supported by iQ-Analyzer, visual appraisal is possible
Reference data iQ-Analyzer-X	An individual reference file is provided
Measurement device	X-Rite eXact https://www.image-engineering.de/content/products/charts/IE_reference_data_accuracy.pdf
Accessories	Chart case A460, A1066
Related Products	iQ-Chartmount, LED-Panel, iQ-Near Focus, iQ-Flatlight, VCX
Terms & Conditions	image-engineering.de/terms-and-conditions

* If the chart fills the image height, the chart can be used with a camera of a minimum/maximum sample rate, stated in megapixels (MP).

** HDTV ~ 2.1 MP, 4K ~ 8.3 MP, 8K ~ 33 MP

*** No lower limit for slanted edges. Small ROI increases variance, min. 100-pixel ROI required

**** ROI should be reproduced by at least 128 by 128 pixels, with a lower limit based on this requirement