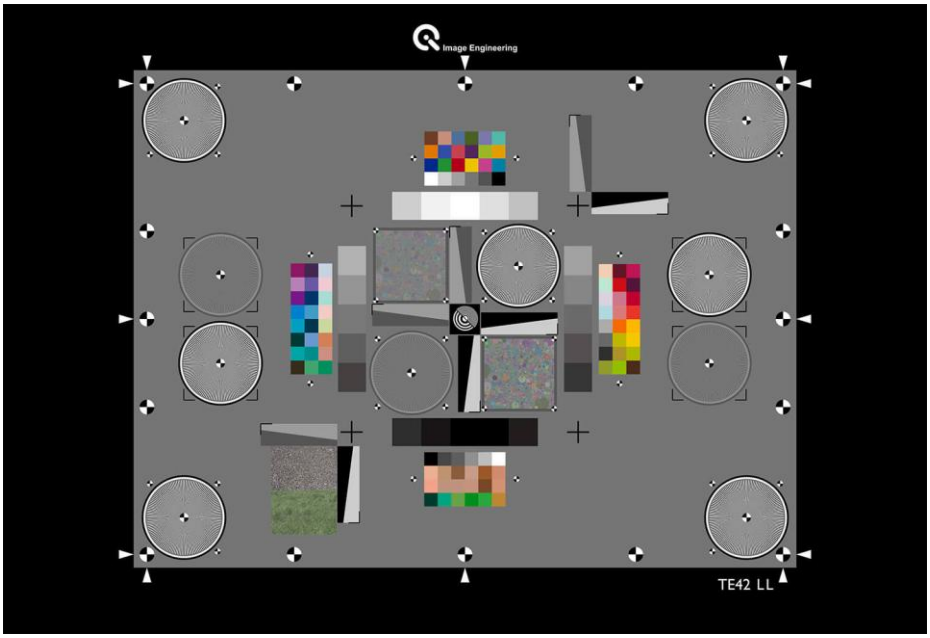
TE42-LL A datasheet



Overview

Product name	TE42-LL
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 all of the critical low-light and image quality factors in one image. ISO 19093 recommends using this chart for the best measurement results.

Features

OECF

Type/s of pattern	Grayscale
Number of steps	20
Contrast	≈ 20:1 (26 dB, 4.4 f-stops)
Density/Refection values	Individually measured values are provided in a separate Acceptance Protocol. Production tolerance is ± 0.03 OD.

Siemens stars

Type/s of pattern	10 Sinusoidal Siemens stars • 1 center star, full circle, full contrast • 1 center star, full circle, low contrast • 4 corner stars, full circle, full contrast • 2 lateral stars, full circle, full contrast • 2 lateral stars, full circle, low contrast
Modulation	Full contrast: ≈ 95 % (S) / ≈ 92 % (H) Low contrast: ≈ 55 % (S) / ≈ 58 % (H) Production tolerance is ± 3%.
Cycles	144

Diameter stars		4:3	16:9	
	A1066	100 mm	100 mm	
	A460	51 mm	38 mm	
Diameter registration marks		A1066	A460	
	H	8 mm	5 mm	
	S	12 mm	---	
Sample rate* [MP]		minimum	maximum	
	A1066 H	2	70	(> 8K)**
	A1066 S	2	30	(HDTV - 8K)**
	A460 H	2	40	(HDTV - 8K)**

Slanted edges

Type/s of pattern	8 Slanted Edges • All sub-charts in horizontal and vertical orientation • Four in the center part, four in the lateral area • Each has a low and high contrast			
Modulation	Low contrast: ≈ 48%, high contrast: ≈ 82%			
Size of sub-chart		4:3 [mm]	16:9 [mm]	
	A1066	104 x 30	104 x 30	
	A460	53 x 15	40 x 11.5	
Sample rate* [MP]		minimum	maximum	
	A1066 H	---***	70	(> 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 ± 0.03 OD.			

Dead Leaves/Noise patches

Type/s of pattern	2 Dead Leaves in the center area, 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	94 x 94	94 x 94	
	A460	48 x 48	36 x 36	
Sample rate* [MP]		minimum	maximum	
	A1066 H	2****	70	(> 8K)**
	A1066 S	2****	30	(HDTV - 8K)**
	A460 H	2****	40	(HDTV - 8K)**

Color patches

Type/s of pattern	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
Color values	Individually measured values are provided in a separate Acceptance Protocol.

Distortion grid

Type/s of pattern	10 black and white registration marks distributed around the chart

Shading

Type/s of pattern	Neutral, uniform gray background

Visual appraisal, digitalization process

Type/s of pattern	grass, stones

General description hardware

Type	Reflective
Aspect ratio	4:3 or 16:9
Chart size tolerances	+/- 2 mm as they are handmade in-house and depend on the edge protection type
Chart size [W x H x D]	

	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

Picture size

	4:3		16:9	
	W [mm]	H [mm]	W [mm]	H [mm]
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, OECF: photographic paper with matt finishing. All versions colors, grass + stones: matt print A1066 is made from three parts, which can differ in gray value with a tolerance of ± 0.03 OD.
Mounting	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 35% – 65% and no direct sunlight at any time.
Scope of delivery	Test chart, stable cardboard envelope (A460 charts)

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.