



Overview

Product name	TE253 single
Principle	Test chart to determine the resolution of a digital camera based on a sinusoidal Siemens star. The Siemens star comply to ISO 12233:2014.

Features

Siemens stars

Type of pattern	1 sinusoidal Siemens star with 16 surrounding gray patches		
Modulation	93 % (matt paper) 96 % (semi-matt photographic paper) ~96 % (photographic film)		
Cycles	<input type="checkbox"/> 144 <input type="checkbox"/> 72 <input type="checkbox"/> other: _____		
Diameter stars	250 mm		
Diameter registration marks	12 mm <input type="checkbox"/> other: _____		
Gray steps	The contrast of the gray scale complies to the contrast of the Siemens star. Please refer to Acceptance protocol for exact densities of each step.		
Reference data	individually measured on center star (D35 batch measured) production tolerance: allowed variation of linearity of gray patches of 15% (remission) max.		
Sample rate* [MP]		minimum	maximum
	P280	8	180 (> 8K)**
	other		

General description hardware

Type	reflective
Aspect ratio	~1:1



Chart size [W x H x D]		W [mm]	H [mm]	D [mm]	Weight [g]
	<input type="checkbox"/> P280	334	271	2.1	
	<input type="checkbox"/> other				
Picture size		4:3			
		W [mm]	H [mm]		
	P280	290	271		
	other				
Material	specific matt paper				
Mounting	polystyrene				
Edge protection	none				
Scope of delivery	test chart, cardboard box, acceptance protocol				

Miscellaneous

Evaluation / Assessment	supported by iQ-Analyzer (since version 4)
Standards	ISO 12233:2017 Resolution and special frequency responses

* if chart fills 1/3 of the image height the chart can be used with a camera of minimum/maximum sample rate, stated in mega pixel (MP)

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

*** OD = optical density

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Acceptance protocol

SN: _____
Diameter center mark: _____
Number of cycles: _____
Date: _____
Operator: _____

Reflectances of the gray patches*

Patch	Reference reflectance	Measured reflectance**	Deviation	Measured reflectance
1 (white)	1,00		0,00	
2	0,93		0,00	
3	0,87		0,00	
4	0,80		0,00	
5	0,74		0,00	
6	0,67		0,00	
7	0,61		0,00	
8	0,54		0,00	
9	0,48		0,00	
10	0,41		0,00	
11	0,34		0,00	
12	0,28		0,00	
13	0,21		0,00	
14	0,15		0,00	
15	0,08		0,00	
16 (black)	0,02		0,00	



* individually measured on center star

** white corrected

Signature

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Acceptance protocol

SN: _____
Diameter center mark: _____
Number of cycles: _____
Date: _____
Operator: _____

Transmission of the gray patches*

Patch	Measured transmission**	Measured density**
1 (white)	0,74	0,13
2	0,71	0,15
3	0,66	0,18
4	0,65	0,19
5	0,54	0,27
6	0,46	0,34
7	0,38	0,42
8	0,30	0,52
9	0,21	0,68
10	0,13	0,87
11	0,08	1,11
12	0,04	1,38
13	0,04	1,44
14	0,02	1,64
15	0,02	1,76
16 (black)	0,01	1,83

* batch measured values

**sample values, (batch measured) reference values of individual chart can vary

Signature