

UGRA

Display Analysis & Certification Tool

Report

Basics

Date: 2009-12-19 21:24:40
Report-Version: v1.3.1
Monitor-Name: SyncMaster
EDID-Name: SyncMaster
EDID-Serial: H9MSB05639
Profile: /Library/ColorSync/Profiles/Samsung-5800K-18-120cd-trc.icc
Created: 2009-12-19 21:19
Measurement device: eye-one pro

Summary

The monitor has not passed the certification according to the UGRA DACT specifications.

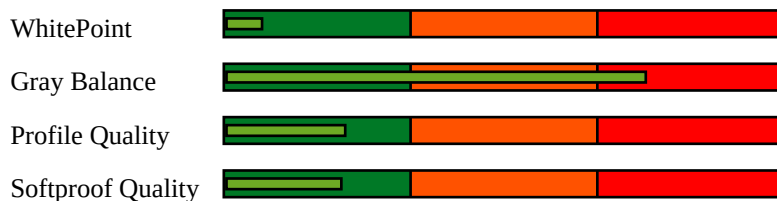
Calibration

White Point	yes
Gray balance	no
Profile quality	yes

Softproofing

MultiColor, HighBody	no
Offset/Gravure Paper Type 1/2	no
Offset on uncoated paper	no
Newspaper Printing	no
sRGB	no
AdobeRGB	no
ECI-RGB	no

Diagram



Whitepoint

The whitepoint should be as close as possible to the black body curve and the calibration target. The maximum allowed distance to the target whitepoint is DeltaE 2.0.

XYZ:	104.50 109.66 106.36
XYZ (normalized):	95.30 100.00 96.99
Luminance:	119.7 Cd/m2
Next Temperature:	5785 Kelvin
Assumed Target Whitepoint:	5800 Kelvin
Distance to assumed Target Whitepoint:	0.4 deltaE

Blackpoint

The blackpoint is not defined in ISO 12646. Therefore UDACT does only measure but not assess it.

Luminance:	0.1 Cd/m2
Chromaticity:	1.3 Chroma (Lab)

Gray balance

Average and maximum calculation will respect measurements with 1% minimum luminance only. The maximum allowed deviations to comply with this test are an average of DeltaC 1.0 and a range of DeltaC 2.0.

%	Kelvin	Cd/m2	L	Chroma	Gamma
0	14787	0.13	1.06	1.32	
5	5063	0.59	4.89	1.69	1.83
10	5728	1.86	13.82	0.20	1.81
15	5985	3.61	21.19	0.79	1.82
20	5810	6.22	28.57	0.15	1.80
25	5879	8.99	34.39	0.45	1.81
30	5792	12.55	40.32	0.43	1.81
35	5747	16.65	45.88	0.22	1.80
40	5824	21.05	50.92	0.31	1.80
45	5750	25.59	55.41	0.44	1.83
50	5746	31.04	60.17	0.42	1.82
55	5777	37.05	64.79	0.61	1.81
60	5799	43.55	69.26	0.14	1.81
65	5778	50.07	73.33	0.57	1.83
70	5825	57.39	77.48	0.53	1.81
75	5814	65.01	81.45	0.91	1.80
80	5814	73.29	85.42	1.02	1.78
85	5811	81.31	88.99	0.60	1.82
90	5782	90.43	92.78	0.21	1.82
95	5791	99.95	96.47	0.26	1.78
100	5785	109.66	100.00	0.00	
Average	5802			0.43	1.81
Range				1.58	
Max				1.02	

Tone values = 86.7%

Through the calibration of a display tone values can be lost. A display for the printing industry should show at least 95% of the incoming tone values.

Profile Quality

This test displays and measures RGB values and compares them with the transformation of the profile. The maximum allowed deviations to comply with this test are an average of DeltaE 3.0 and a maximum of DeltaE 6.0.

The assumed chromatic adaptation is: Bradford

RGB	Lab	deltaLab	deltaE
0 0 0	1.1 -0.3 -1.3	-1.1 0.3 1.3	1.7
0 0 128	13.1 41.8 -71.8	2.2 -2.1 0.9	3.2
0 0 255	29.5 60.5 -108.7	1.9 -0.5 1.5	2.5
0 128 0	50.3 -56.0 43.4	1.2 0.2 3.5	3.7
0 128 128	52.0 -36.8 -14.0	1.7 0.2 2.3	2.9
0 170 255	67.8 -25.7 -50.1	1.5 0.9 3.0	3.4
0 255 0	85.8 -83.8 72.9	0.3 -0.5 -2.1	2.1
0 255 170	87.1 -69.1 14.6	0.6 -0.2 0.1	0.6
0 255 255	88.8 -55.6 -18.6	0.6 0.3 1.0	1.2
85 85 85	44.3 0.0 -0.1	-0.3 -0.0 0.1	0.3
128 0 0	32.2 52.7 47.1	0.2 -0.1 3.8	3.9
128 0 128	36.2 60.4 -33.0	0.2 -1.3 -2.2	2.5
128 128 0	58.7 -10.0 55.2	0.2 0.5 2.8	2.8
128 128 128	60.4 0.6 -0.3	0.3 -0.6 0.3	0.7
128 128 255	64.2 18.6 -54.5	0.5 -0.1 1.4	1.5
128 255 128	90.5 -49.7 38.7	-0.0 -0.9 -1.5	1.8
170 0 255	49.9 77.7 -74.3	0.6 -0.9 -0.4	1.1
170 170 170	74.9 0.1 -0.6	0.1 -0.1 0.6	0.6
170 255 0	91.8 -43.8 82.0	-0.0 0.2 -2.5	2.5
170 255 255	94.7 -23.6 -8.9	0.1 -0.5 0.2	0.6
255 0 0	56.9 80.8 84.8	0.2 -1.1 -2.9	3.1
255 0 170	59.4 86.3 -16.5	0.7 -1.6 -1.6	2.4
255 0 255	62.3 90.5 -52.9	0.9 -1.1 -0.3	1.5
255 128 128	73.8 43.1 22.0	0.2 -0.4 -0.2	0.5
255 170 0	81.0 19.2 80.0	-0.3 0.7 0.2	0.8
255 170 255	84.2 33.2 -22.4	0.1 1.1 0.5	1.2
255 255 0	97.5 -13.7 91.1	-0.2 -0.6 -3.4	3.5
255 255 170	98.5 -6.8 33.7	0.1 -0.4 -1.2	1.2
255 255 255	100.0 0.0 0.0	0.0 -0.0 0.0	0.0
170 85 85	54.7 34.1 17.3	-0.2 -0.4 -0.1	0.5
85 170 85	67.4 -40.4 28.6	0.0 0.5 0.7	0.9
85 85 170	46.9 14.9 -42.3	0.3 -0.3 0.5	0.7
85 170 170	68.9 -28.1 -10.4	0.3 0.4 0.8	0.9
170 85 170	56.7 41.8 -25.6	0.1 -0.7 0.0	0.8
170 170 85	73.5 -8.1 38.5	-0.1 0.3 0.4	0.5
Average			1.7
Maximum			3.9

Gamut-Volume

These measurements are only informative.

Gamut-Volume	
ISO	91 %
sRGB	97 %
AdobeRGB	79 %
ECI-RGB v1.0	74 %

ISO-Gamut

This test displays and measures Lab values and compares them with the reference. The maximum allowed deviations to comply with this test are an average of DeltaE 4.0 and a minimum Gamut volume of 90% for ISOcoated.

Reference	Lab	deltaLab
55.0 -37.0 -50.0	56.1 -18.4 -47.9	18.7
66.9 -24.7 -37.1	66.1 -25.9 -38.6	2.0
79.7 -12.5 -21.8	79.3 -12.5 -23.0	1.3
48.0 74.0 -3.0	48.7 72.9 0.3	3.5
60.8 50.6 -6.7	60.9 51.1 -5.5	1.3
76.4 25.8 -6.9	76.1 26.4 -7.6	1.0
89.0 -5.0 93.0	89.3 -4.5 83.6	9.5
90.3 -4.7 62.6	90.6 -4.6 64.1	1.6
92.2 -3.5 31.1	92.2 -3.5 32.1	1.0
53.1 37.7 28.9	53.2 38.0 28.4	0.6
41.5 22.7 16.8	41.8 23.0 16.6	0.4
31.9 40.0 24.0	32.6 40.0 23.5	0.8
32.5 44.5 -1.8	32.9 45.0 -1.9	0.7
51.3 1.3 44.5	51.3 1.5 42.7	1.9
34.6 -36.4 13.9	34.2 -36.5 12.3	1.6
36.0 -26.2 -20.9	35.8 -21.7 -20.6	4.5
20.9 9.6 -23.6	21.2 9.6 -22.8	0.9
89.0 0.0 -1.9	88.8 0.2 -2.0	0.3
82.8 0.0 -1.7	82.5 0.8 -2.5	1.2
69.3 0.0 -1.4	69.1 0.1 -1.6	0.3
54.1 0.0 -1.0	53.8 0.7 -1.5	0.9
36.6 0.0 -0.5	36.7 0.4 -1.0	0.6
16.0 0.0 0.0	16.5 -0.1 -0.0	0.5
24.0 22.0 -46.0	23.6 22.3 -45.9	0.5
40.9 17.9 -36.6	40.5 18.3 -36.3	0.6
63.7 10.3 -23.8	63.3 11.1 -24.9	1.5
47.0 68.0 48.0	47.2 68.6 48.1	0.7
58.5 47.1 37.9	58.7 47.8 37.5	0.8
74.2 22.9 21.4	74.0 23.6 21.7	0.8
50.0 -65.0 27.0	50.2 -51.9 26.5	13.1
62.1 -39.8 21.0	61.9 -40.8 20.4	1.2
77.0 -19.1 11.0	76.7 -18.7 10.9	0.5
71.2 18.9 17.2	71.1 19.8 17.2	1.0
71.2 22.1 73.1	71.2 22.0 71.6	1.5
47.7 71.2 16.2	47.9 71.4 19.0	2.7
38.0 55.4 -20.9	38.2 56.2 -19.4	1.8
73.7 -22.8 67.6	73.6 -24.0 65.8	2.2
52.3 -52.3 -20.1	53.0 -34.5 -18.8	17.8
43.3 -17.0 -48.6	43.3 -8.8 -48.3	8.2
95.0 0.0 -2.0	94.8 -0.2 -2.3	0.4
88.5 -0.4 -3.1	88.4 -0.3 -3.8	0.7
82.0 -0.9 -4.1	81.6 0.0 -4.9	1.3
67.7 -2.0 -4.4	67.3 -1.7 -4.8	0.7
52.2 -2.5 -3.5	51.9 -2.4 -3.8	0.4
37.5 -3.9 -3.1	37.4 -4.0 -3.3	0.3
26.3 -6.8 -3.4	26.3 -6.8 -4.2	0.8
Average		2.5
Gamut-Volume		91 %

Measurement Data

This table lists all RGB measurements. The XYZ values represent the values from the measurement device.

RGB	XYZ	RGB	XYZ
255 255 255	104.50 109.66 106.36	85 85 170	20.36 17.71 45.67
0 0 0	0.12 0.13 0.21	85 170 170	32.65 43.23 51.16
12 12 12	0.61 0.59 0.58	170 85 170	37.91 27.02 45.95
25 25 25	1.78 1.86 1.80	170 170 85	44.26 50.17 20.53
38 38 38	3.40 3.61 3.55	0 133 210	22.18 26.78 68.02
51 51 51	5.93 6.22 6.07	41 162 223	30.82 39.41 77.88
63 63 63	8.55 8.99 8.85	138 195 234	53.76 61.21 87.44
76 76 76	11.91 12.55 12.08	199 0 107	36.17 18.73 18.48
89 89 89	15.90 16.65 16.09	209 84 146	46.70 31.70 35.17
102 102 102	20.07 21.05 20.58	220 153 192	63.59 54.84 61.48
114 114 114	24.49 25.59 24.85	243 218 0	73.80 81.28 12.14
127 127 127	29.70 31.04 30.10	242 223 76	76.87 84.49 22.45
140 140 140	35.46 37.05 36.19	239 229 154	81.77 88.62 48.75
153 153 153	41.50 43.55 42.36	174 77 64	31.32 23.02 10.03
165 165 165	47.57 50.07 48.20	116 64 56	16.65 13.46 7.62
178 178 178	54.74 57.39 56.20	111 29 32	12.76 7.92 2.92
191 191 191	62.19 65.01 63.88	112 25 66	13.91 8.11 8.55
204 204 204	70.14 73.29 72.07	120 101 28	20.29 21.29 5.20
216 216 216	77.63 81.31 79.55	0 78 42	4.83 8.93 5.42
229 229 229	86.28 90.43 87.85	0 78 98	7.13 9.89 17.66
242 242 242	95.34 99.95 97.24	37 34 68	4.24 3.64 8.75
0 0 128	4.56 1.92 24.28	215 216 220	77.28 80.93 81.07
0 0 255	16.47 7.31 87.74	194 195 199	64.35 67.08 67.98
0 128 0	9.81 20.45 4.59	152 153 156	41.33 43.30 43.37
0 128 128	14.46 22.33 30.06	110 110 112	22.96 23.91 24.06
0 170 255	33.36 42.00 98.07	68 68 69	9.87 10.30 10.30
0 255 0	36.20 74.17 13.86	30 30 30	2.30 2.41 2.35
0 255 170	44.17 77.38 57.46	39 33 110	6.46 4.49 19.92
0 255 255	53.08 81.48 105.08	80 68 141	15.52 12.80 31.89
85 85 85	14.65 15.37 14.97	139 130 186	37.31 35.14 56.17
128 0 0	14.42 7.64 0.59	197 9 33	32.45 17.28 3.04
128 0 128	19.69 9.94 24.82	209 80 63	41.46 28.81 10.10
128 128 0	24.72 29.08 5.16	221 148 126	57.57 50.84 31.59
128 128 128	29.99 31.30 30.59	0 127 48	10.47 20.47 8.85
128 128 255	42.19 36.80 95.67	66 154 88	21.27 33.30 19.54
128 255 128	56.48 84.91 40.12	145 189 151	45.96 55.96 43.84
170 0 255	41.39 20.47 88.73	202 143 126	51.04 46.11 31.20
170 170 170	50.29 52.73 51.71	222 140 4	51.40 46.07 6.38
170 255 0	60.57 87.71 14.43	199 0 76	34.42 17.97 10.19
170 255 255	78.55 95.60 105.88	135 20 108	20.46 11.10 19.22
255 0 0	50.43 26.54 0.96	151 180 5	38.65 50.27 9.02
255 0 170	58.16 29.76 42.16	0 130 140	15.63 23.29 34.70
255 0 255	66.67 33.67 88.66	0 93 170	13.54 15.01 45.56
255 128 128	65.67 50.30 31.14	235 237 242	91.12 95.69 96.19
255 170 0	68.18 63.41 8.62	211 215 222	76.08 79.89 82.41
255 170 255	84.87 70.77 99.12	188 193 202	62.45 65.39 69.14
255 255 0	87.39 101.91 14.72	141 149 157	38.26 40.62 43.46
255 255 170	95.29 105.23 58.22	99 107 111	20.55 22.06 23.54
170 85 85	32.13 24.60 15.25	63 72 75	9.70 10.71 11.54
85 170 85	26.80 40.81 20.18	37 50 52	4.54 5.32 6.08

Uniformity

The uniformity test shows the luminance (in %) and the color deviation (in Delta C*) from the centre to the 8 measuring points around it. The maximum deviation for the luminance may be 10%. The average value and the chroma deviations are only informative. This test is not taken in consideration for the UDACT certification.

Results of the white measurements:

Absolute Luminance Luminance to Centre Lab-Chroma to Centre	106.44 Cd/m2 95 % 1.15	108.27 Cd/m2 97 % 0.41	111.74 Cd/m2 100 % 1.20
Absolute Luminance Luminance to Centre Lab-Chroma to Centre	102.54 Cd/m2 92 % 1.01	111.90 Cd/m2 100 % 0.00	109.12 Cd/m2 98 % 1.28
Absolute Luminance Luminance to Centre Lab-Chroma to Centre	94.94 Cd/m2 85 % 1.73	94.49 Cd/m2 84 % 0.66	104.28 Cd/m2 93 % 2.70

Results of the gray measurements:

Absolute Luminance Luminance to Centre Lab-Chroma to Centre	30.90 Cd/m2 95 % 1.73	31.50 Cd/m2 97 % 0.60	33.33 Cd/m2 102 % 2.29
Absolute Luminance Luminance to Centre Lab-Chroma to Centre	30.49 Cd/m2 93 % 1.49	32.63 Cd/m2 100 % 0.80	33.55 Cd/m2 103 % 2.28
Absolute Luminance Luminance to Centre Lab-Chroma to Centre	27.71 Cd/m2 85 % 1.54	27.10 Cd/m2 83 % 0.83	32.78 Cd/m2 100 % 2.70

Results of the dark measurements:

Absolute Luminance Luminance to Centre Lab-Chroma to Centre	9.14 Cd/m2 99 % 1.51	9.15 Cd/m2 99 % 0.50	9.84 Cd/m2 106 % 1.79
Absolute Luminance Luminance to Centre Lab-Chroma to Centre	8.81 Cd/m2 95 % 1.10	9.26 Cd/m2 100 % 0.12	9.88 Cd/m2 107 % 1.74
Absolute Luminance Luminance to Centre Lab-Chroma to Centre	7.92 Cd/m2 86 % 1.00	7.42 Cd/m2 80 % 0.21	9.67 Cd/m2 104 % 2.17

Summary:

	Average	Max
Luminance Deviation	6%	20%
Chroma Deviation	1	3