

UGRA

Display Analysis & Certification Tool

Report

Basics

Date: 2011-1-29 20:50:42
Report-Version: v1.3.1
Monitor-Name: PA241W
EDID-Name: PA241W
EDID-Serial: 09102736UB
Profile: /Library/.../Matrix_Primitives29.01.11-5700K-22-120cd-trc.icc
Created: 2011-1-29 20:41
Measurement device: ColorMunki

Summary

The monitor has passed the certification according to the UGRA DACT specifications.

Calibration

White Point	yes
Gray balance	yes
Profile quality	yes

Softproofing

MultiColor, HighBody	yes
Offset/Gravure Paper Type 1/2	yes
Offset on uncoated paper	yes
Newspaper Printing	yes
sRGB	yes
AdobeRGB	yes
ECI-RGB	yes

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:	113.11 118.32 112.19
XYZ (normalized):	95.60 100.00 94.82
Luminance:	118.3 Cd/m2
Next Temperature:	5643 Kelvin
Assumed Target Whitepoint:	5600 Kelvin
Distance to assumed Target Whitepoint:	0.6 deltaE

Blackpoint

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

Luminance:	0.3 Cd/m2
Chromaticity:	3.0 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	15719	0.27	2.05	2.98	
5	9663	0.43	3.27	2.80	2.22
10	6430	1.00	7.65	2.18	2.22
15	5874	2.11	14.32	0.82	2.20
20	5751	3.72	20.60	0.60	2.20
25	5768	5.68	26.16	0.73	2.23
30	5692	8.48	32.18	0.55	2.21
35	5634	12.02	38.13	0.04	2.20
40	5627	15.92	43.44	0.52	2.20
45	5643	20.30	48.46	0.77	2.22
50	5623	25.71	53.74	0.35	2.21
55	5626	31.73	58.80	0.27	2.21
60	5608	38.58	63.84	0.50	2.20
65	5624	45.54	68.38	0.32	2.22
70	5604	53.84	73.22	0.34	2.22
75	5623	62.98	78.01	0.21	2.20
80	5629	72.72	82.63	0.21	2.19
85	5646	82.30	86.78	0.05	2.24
90	5629	93.76	91.34	0.19	2.23
95	5607	105.84	95.77	0.38	2.19
100	5643	118.32	100.00	0.00	
Average	5658			0.38	2.21
Range				1.08	
Max				0.82	

Tone values = 98.3%

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: CAT02

RGB	Lab	deltaLab	deltaE
0 0 0	2.0 -0.1 -3.0	-2.0 0.1 3.0	3.6
0 0 128	10.5 46.2 -69.7	-0.9 3.2 -1.9	3.8
0 0 255	26.0 82.8 -119.8	0.5 -1.0 1.1	1.6
0 128 0	45.2 -79.5 47.3	0.3 -1.6 1.9	2.5
0 128 128	46.9 -53.7 -11.5	0.0 0.1 -0.2	0.2
0 170 255	63.8 -33.7 -57.4	0.1 0.8 0.2	0.8
0 255 0	85.9 -134.8 83.4	0.0 0.4 -1.8	1.8
0 255 170	86.9 -114.4 23.1	0.0 0.9 -0.8	1.2
0 255 255	88.2 -89.8 -19.2	0.1 1.0 -0.2	1.0
85 85 85	36.4 0.2 0.1	-0.5 -0.2 -0.1	0.5
128 0 0	29.5 61.2 42.2	-0.2 1.0 4.6	4.7
128 0 128	32.0 69.7 -34.0	-0.0 0.4 0.4	0.5
128 128 0	52.7 -10.0 59.1	0.1 -0.8 0.8	1.1
128 128 128	54.1 0.2 -0.1	-0.1 -0.2 0.1	0.3
128 128 255	57.9 29.3 -67.0	-0.0 -0.0 0.5	0.5
128 255 128	89.4 -86.6 48.2	-0.1 -0.1 -0.7	0.7
170 0 255	46.8 98.8 -84.5	0.3 -0.9 1.1	1.4
170 170 170	70.3 0.4 -0.2	-0.1 -0.4 0.2	0.4
170 255 0	91.2 -69.5 91.5	0.0 -0.5 -2.2	2.3
170 255 255	93.4 -42.3 -10.9	-0.0 -0.2 0.0	0.3
255 0 0	59.2 103.4 84.8	0.0 -0.3 -0.0	0.3
255 0 170	60.9 109.5 -12.3	0.1 -0.7 1.0	1.3
255 0 255	63.2 117.3 -57.0	0.3 -1.0 1.3	1.7
255 128 128	71.8 67.5 28.6	-0.0 -0.2 0.4	0.5
255 170 0	79.0 38.3 89.9	0.1 -0.6 -1.6	1.7
255 170 255	81.9 54.9 -27.6	-0.0 0.0 0.5	0.5
255 255 0	98.0 -17.5 101.9	0.1 -0.3 -2.7	2.7
255 255 170	98.9 -10.2 41.6	-0.0 -0.0 0.0	0.1
255 255 255	100.0 0.0 0.0	0.0 0.0 -0.0	0.0
170 85 85	49.4 50.1 21.4	-0.3 0.1 0.2	0.4
85 170 85	62.3 -63.9 35.7	-0.1 -0.7 -0.3	0.8
85 85 170	39.1 21.8 -49.6	-0.4 0.1 -0.0	0.4
85 170 170	63.7 -45.4 -11.1	-0.1 -0.4 0.1	0.4
170 85 170	51.2 59.3 -29.3	-0.2 0.0 0.4	0.4
170 170 85	69.2 -9.7 46.6	-0.1 -0.5 -0.3	0.6
Average			1.2
Maximum			4.7

Gamut-Volume

These measurements are only informative.

Gamut-Volume	
ISO	100 %
sRGB	100 %
AdobeRGB	99 %
ECI-RGB v1.0	92 %

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	55.5 -32.4 -48.8	4.8
66.9 -24.7 -37.1	67.1 -25.2 -37.0	0.6
79.7 -12.5 -21.8	79.8 -12.3 -21.8	0.3
48.0 74.0 -3.0	48.2 73.8 -3.6	0.6
60.8 50.6 -6.7	61.2 50.8 -7.0	0.5
76.4 25.8 -6.9	76.7 25.6 -7.1	0.4
89.0 -5.0 93.0	88.9 -3.9 94.6	1.9
90.3 -4.7 62.6	90.5 -4.4 62.9	0.5
92.2 -3.5 31.1	92.3 -3.0 31.4	0.5
53.1 37.7 28.9	53.3 38.2 28.5	0.7
41.5 22.7 16.8	42.0 22.1 16.3	0.9
31.9 40.0 24.0	32.2 39.4 22.6	1.5
32.5 44.4 -1.8	32.9 43.8 -2.3	0.9
51.3 1.3 44.5	51.3 1.9 43.7	1.0
34.6 -36.4 13.9	35.1 -34.9 13.4	1.7
36.0 -26.2 -20.9	36.4 -25.5 -21.0	0.9
20.9 9.6 -23.6	21.7 8.8 -23.0	1.2
89.0 0.0 -1.8	89.1 -0.3 -1.8	0.4
82.8 0.0 -1.7	82.9 0.1 -1.9	0.3
69.3 0.0 -1.4	69.5 0.1 -1.5	0.3
54.1 0.0 -1.0	54.1 0.5 -1.3	0.6
36.6 -0.0 -0.5	37.2 0.2 -0.7	0.7
16.0 0.0 0.0	17.5 -0.2 -0.3	1.5
24.0 22.0 -46.0	24.4 21.8 -46.0	0.5
40.9 17.9 -36.6	41.4 17.3 -36.2	0.8
63.7 10.3 -23.8	63.7 10.8 -23.9	0.5
47.0 68.0 48.0	47.3 67.8 46.6	1.5
58.5 47.1 37.9	58.5 47.3 37.4	0.5
74.2 22.9 21.4	74.3 22.9 21.3	0.1
50.0 -65.0 27.0	50.0 -63.6 26.5	1.5
62.1 -39.8 21.0	62.2 -39.2 20.7	0.7
77.0 -19.1 11.0	77.1 -19.5 10.8	0.5
71.2 18.8 17.3	71.1 19.6 17.0	0.8
71.2 22.2 73.1	71.3 23.0 73.9	1.2
47.7 71.2 16.2	48.0 71.2 15.6	0.7
38.0 55.4 -20.9	38.3 54.9 -21.2	0.6
73.7 -22.8 67.6	73.7 -22.1 68.2	0.9
52.3 -52.3 -20.2	52.2 -52.2 -20.4	0.2
43.3 -17.0 -48.6	43.2 -17.1 -48.7	0.1
95.0 0.0 -2.0	95.0 0.2 -2.2	0.3
88.5 -0.4 -3.1	88.7 -1.1 -3.1	0.7
82.0 -0.9 -4.1	82.0 -1.1 -4.3	0.3
67.7 -2.0 -4.4	67.6 -1.3 -5.1	1.0
52.2 -2.5 -3.5	52.4 -2.5 -3.6	0.2
37.5 -3.9 -3.1	37.9 -3.5 -3.1	0.6
26.3 -6.8 -3.4	26.9 -6.3 -3.9	0.9
Average		0.8
Gamut-Volume		100 %

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	113.11 118.32 112.19	85 85 170	16.54 12.96 42.27
0 0 0	0.26 0.27 0.47	85 170 170	24.33 38.56 45.83
12 12 12	0.40 0.43 0.61	170 85 170	38.86 23.07 42.86
25 25 25	0.97 1.00 1.11	170 170 85	40.55 46.57 14.23
38 38 38	2.02 2.11 2.10	0 147 215	20.24 28.22 71.20
51 51 51	3.56 3.72 3.62	101 174 227	34.54 43.97 82.01
63 63 63	5.44 5.68 5.55	168 203 236	58.95 66.93 91.43
76 76 76	8.14 8.48 8.18	184 57 121	38.79 19.84 20.91
89 89 89	11.50 12.02 11.39	197 116 159	50.95 34.70 38.51
102 102 102	15.30 15.92 15.21	214 174 201	69.57 60.31 65.21
114 114 114	19.53 20.30 19.50	241 222 0	79.65 86.84 9.25
127 127 127	24.66 25.71 24.44	241 227 107	83.49 91.04 24.89
140 140 140	30.40 31.73 30.13	240 232 172	89.25 95.89 52.64
153 153 153	37.04 38.58 36.64	171 104 82	34.15 25.00 10.64
165 165 165	43.64 45.54 43.24	124 87 74	18.04 14.69 8.26
178 178 178	51.58 53.84 50.87	115 53 45	13.47 8.37 3.13
191 191 191	60.30 62.98 59.65	116 52 82	14.86 8.79 9.10
204 204 204	69.62 72.72 68.96	134 119 49	22.11 22.96 5.36
216 216 216	78.67 82.30 78.09	50 93 61	5.72 10.14 5.88
229 229 229	89.62 93.76 88.63	39 95 116	7.58 11.06 19.35
242 242 242	101.36 105.84 99.99	51 51 85	4.69 4.11 9.53
0 0 128	4.26 1.60 21.52	222 223 226	84.05 88.07 85.96
0 0 255	19.03 6.50 99.24	204 205 208	70.19 73.34 71.88
0 128 0	5.41 17.33 2.79	167 168 170	45.30 47.32 46.25
0 128 128	9.56 19.02 24.16	128 128 130	25.12 26.14 25.62
0 170 255	28.95 39.37 103.77	87 87 88	10.96 11.44 11.09
0 255 0	24.32 80.00 11.17	44 44 44	2.70 2.84 2.74
0 255 170	32.08 82.81 51.59	53 53 126	7.26 5.17 21.70
0 255 255	43.25 86.59 110.27	96 91 154	17.28 14.49 34.53
85 85 85	10.42 10.88 10.29	153 149 194	40.80 38.55 58.74
128 0 0	15.19 7.00 0.65	183 60 44	35.13 18.84 3.48
128 0 128	19.44 8.43 22.30	196 110 80	44.62 31.01 10.66
128 128 0	20.67 24.38 2.99	214 168 144	62.70 55.50 34.09
128 128 128	25.04 26.15 24.86	50 137 72	9.56 21.78 9.36
128 128 255	39.91 31.24 102.66	111 163 111	23.64 36.19 20.85
128 255 128	44.05 88.60 33.45	170 197 168	50.26 61.24 47.15
170 0 255	47.56 19.36 100.31	200 162 143	55.39 49.93 33.25
170 170 170	46.69 48.69 46.35	214 159 38	56.37 49.87 6.43
170 255 0	53.04 92.91 11.58	185 59 92	37.45 19.61 11.98
170 255 255	72.29 99.72 111.42	135 56 123	21.97 12.12 21.20
255 0 0	69.51 31.51 1.38	173 187 50	42.70 54.27 9.14
255 0 170	77.46 34.15 42.70	11 142 156	13.31 24.36 36.83
255 0 255	88.54 37.83 101.53	21 111 180	13.14 16.13 47.95
255 128 128	79.20 50.67 26.01	239 240 244	99.32 103.72 101.76
255 170 0	79.56 64.20 5.84	219 222 227	82.59 86.93 86.62
255 170 255	98.81 71.19 106.07	199 203 210	67.85 71.43 72.97
255 255 0	93.81 111.37 12.14	159 164 171	41.95 44.28 46.52
255 255 170	101.89 114.49 53.90	119 125 129	22.63 24.26 25.14
170 85 85	32.67 20.94 10.70	84 90 93	10.89 11.89 12.43
85 170 85	18.15 36.34 13.76	57 67 69	5.19 6.01 6.63