

UGRA

Display Analysis & Certification Tool

Report

Basics

Date: 2008-7-18 22:35:41
Report-Version: v1.3.1
Monitor-Name: \\.\DISPLAY1
EDID-Name: BenQ V2400W
EDID-Serial: W3820269SL0
Profile: C:/WINDOWS/System32/.../UGRA_18.07.08-5800K-18-120cd-trc.icc
Created: 2008-7-18 22:31
Measurement device: eye-one display 2

Summary

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

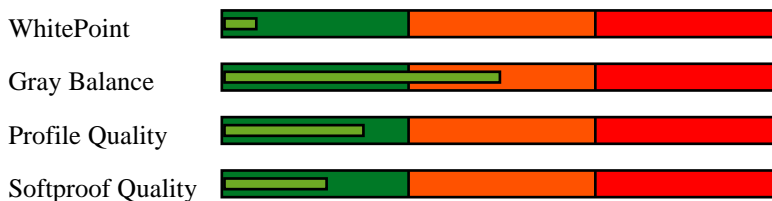
Calibration

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:	114.05 119.69 116.19
XYZ (normalized):	95.29 100.00 97.08
Luminance:	119.7 Cd/m2
Next Temperature:	5791 Kelvin
Assumed Target Whitepoint:	5800 Kelvin
Distance to assumed Target Whitepoint:	0.3 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:	1.8 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	25255	0.14	1.04	1.83	
5	6344	0.63	4.74	0.90	1.85
10	5657	1.90	13.16	0.39	1.84
15	5794	3.99	21.32	0.16	1.82
20	5798	6.72	28.42	0.07	1.81
25	5680	9.90	34.53	1.47	1.82
30	5710	13.50	40.05	0.41	1.82
35	5645	17.99	45.68	0.82	1.82
40	5771	22.87	50.81	0.45	1.81
45	5789	27.86	55.36	0.59	1.83
50	5752	33.71	60.03	0.77	1.83
55	5833	40.35	64.73	0.82	1.81
60	5749	47.75	69.39	0.53	1.80
65	5786	54.33	73.15	0.40	1.83
70	5812	62.46	77.39	0.22	1.83
75	5791	71.10	81.51	0.28	1.81
80	5766	80.34	85.57	0.50	1.78
85	5810	89.13	89.14	0.31	1.82
90	5798	98.21	92.60	0.11	1.87
95	5788	108.48	96.26	0.24	1.90
100	5791	119.69	100.00	0.00	
Average	5764			0.45	1.83
Range				2.28	
Max				1.47	

Tone values = 91.2%

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	1.0 0.1 -1.9	-1.0 -0.1 1.9	2.1
0 0 128	13.0 39.8 -72.4	0.8 -0.6 -0.8	1.3
0 0 255	29.1 58.0 -110.7	0.0 1.3 -0.1	1.3
0 128 0	50.3 -57.5 42.2	1.0 0.8 3.6	3.8
0 128 128	52.0 -39.2 -13.8	1.1 0.3 1.3	1.8
0 170 255	67.7 -28.9 -50.6	0.6 0.2 2.1	2.2
0 255 0	85.9 -84.4 72.4	-0.2 -1.3 -3.1	3.4
0 255 170	87.2 -71.0 15.5	-0.1 -0.9 -1.9	2.1
0 255 255	88.8 -58.1 -18.7	-0.2 -0.8 -0.1	0.8
85 85 85	44.1 0.7 0.2	-0.1 -0.7 -0.2	0.7
128 0 0	33.4 53.0 47.4	0.1 -0.3 4.5	4.5
128 0 128	36.7 59.9 -32.3	0.1 -1.2 -2.0	2.3
128 128 0	58.8 -8.6 54.2	0.3 0.2 3.3	3.4
128 128 128	60.4 0.8 -0.2	0.3 -0.8 0.2	0.8
128 128 255	64.2 17.4 -54.9	0.0 -0.4 1.3	1.3
128 255 128	90.6 -49.9 39.0	-0.3 -1.2 -2.6	2.9
170 0 255	50.4 76.6 -74.4	0.0 -0.4 -0.2	0.5
170 170 170	74.8 0.1 0.0	0.1 -0.1 -0.0	0.2
170 255 0	92.0 -42.5 81.4	-0.2 -0.3 -3.0	3.0
170 255 255	94.8 -24.5 -8.8	-0.4 -0.8 -0.4	1.0
255 0 0	57.7 81.5 84.3	1.0 -1.8 -2.1	3.0
255 0 170	60.0 86.2 -15.3	1.3 -2.0 -0.8	2.5
255 0 255	62.8 90.2 -53.1	1.0 -1.4 1.3	2.2
255 128 128	74.0 43.7 22.6	0.8 -0.1 0.3	0.8
255 170 0	81.1 20.6 79.0	0.3 0.9 1.1	1.5
255 170 255	84.3 33.3 -22.7	0.2 1.1 1.4	1.7
255 255 0	97.6 -12.7 90.7	0.1 -0.1 -3.7	3.7
255 255 170	98.6 -6.3 34.5	0.2 -0.1 -1.9	1.9
255 255 255	100.0 0.0 0.0	0.0 0.0 0.0	0.0
170 85 85	54.9 34.9 18.0	0.2 -0.5 0.1	0.6
85 170 85	67.3 -40.3 28.4	-0.0 0.0 0.3	0.3
85 85 170	46.6 14.1 -41.7	0.1 -0.8 -0.6	1.0
85 170 170	68.7 -29.3 -9.9	0.1 0.0 -0.3	0.3
170 85 170	56.8 41.9 -24.7	0.3 -0.8 -0.3	0.9
170 170 85	73.6 -7.2 38.4	0.1 0.1 0.4	0.5
Average			1.7
Maximum			4.5

Gamut-Volume

These measurements are only informative.

Gamut-Volume	
ISO	93 %
sRGB	97 %
AdobeRGB	81 %
ECI-RGB v1.0	75 %

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	56.4 -22.4 -47.7	14.8
66.9 -24.7 -37.1	66.8 -25.4 -37.6	0.9
79.7 -12.5 -21.8	79.8 -12.6 -22.0	0.3
48.0 74.0 -3.0	48.9 72.2 0.3	3.8
60.8 50.6 -6.7	60.4 51.7 -7.4	1.4
76.4 25.8 -6.9	76.0 25.7 -7.7	0.9
89.0 -5.0 93.0	88.8 -5.2 81.6	11.4
90.3 -4.7 62.6	90.3 -5.4 63.5	1.2
92.2 -3.5 31.1	91.8 -3.8 31.7	0.8
53.1 37.7 28.9	52.8 38.9 28.9	1.2
41.5 22.7 16.8	41.9 22.6 16.9	0.4
31.9 40.0 24.0	32.1 40.9 24.0	1.0
32.5 44.5 -1.8	32.5 45.3 -0.8	1.3
51.3 1.3 44.5	51.1 1.8 42.3	2.3
34.6 -36.4 13.9	34.3 -37.5 12.9	1.4
36.0 -26.2 -20.9	35.7 -24.8 -19.9	1.7
20.9 9.6 -23.6	20.9 9.7 -22.2	1.5
89.0 0.0 -1.9	89.1 0.2 -1.6	0.3
82.8 0.0 -1.7	82.8 0.0 -1.6	0.1
69.3 0.0 -1.4	69.3 0.3 -1.6	0.4
54.1 0.0 -1.0	53.7 0.8 -1.4	1.0
36.6 0.0 -0.5	36.6 -0.1 0.7	1.2
16.0 0.0 0.0	16.3 0.5 -0.0	0.6
24.0 22.0 -46.0	23.7 22.5 -45.2	1.0
40.9 17.9 -36.6	40.8 18.3 -36.2	0.5
63.7 10.3 -23.8	63.3 10.8 -24.0	0.7
47.0 68.0 48.0	47.0 68.8 47.8	0.8
58.5 47.1 37.9	58.4 48.0 38.3	1.0
74.2 22.9 21.4	73.9 22.6 21.5	0.4
50.0 -65.0 27.0	50.0 -53.6 26.6	11.5
62.1 -39.8 21.0	62.0 -40.2 20.4	0.7
77.0 -19.1 11.0	76.7 -18.7 10.7	0.6
71.2 18.9 17.3	70.8 19.3 17.0	0.7
71.2 22.1 73.1	70.6 22.1 69.8	3.3
47.7 71.2 16.2	48.3 70.9 18.7	2.5
38.0 55.4 -20.9	38.0 56.4 -20.0	1.4
73.7 -22.8 67.6	73.3 -23.4 64.5	3.1
52.3 -52.3 -20.1	53.2 -37.6 -18.6	14.8
43.3 -17.0 -48.6	43.0 -11.8 -47.9	5.2
95.0 0.0 -2.0	94.6 0.4 -2.5	0.8
88.5 -0.4 -3.1	88.6 -0.0 -3.2	0.4
82.0 -0.9 -4.1	81.9 -0.8 -4.3	0.3
67.7 -2.0 -4.4	67.5 -1.6 -4.9	0.6
52.2 -2.5 -3.5	52.0 -1.8 -3.5	0.7
37.5 -3.9 -3.1	37.4 -3.5 -3.3	0.4
26.3 -6.8 -3.4	26.1 -6.6 -3.4	0.3
Average		2.2
Gamut-Volume		93 %

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	114.05 119.69 116.19	85 85 170	21.84 19.18 48.61
0 0 0	0.14 0.14 0.27	85 170 170	34.96 46.83 55.03
12 12 12	0.60 0.63 0.68	170 85 170	41.50 29.65 49.15
25 25 25	1.83 1.90 1.83	170 170 85	48.72 54.76 22.80
38 38 38	3.81 3.99 3.89	0 134 211	23.65 29.71 74.33
51 51 51	6.41 6.72 6.54	57 163 224	34.61 44.10 84.92
63 63 63	9.33 9.90 9.20	143 195 234	59.57 67.92 95.16
76 76 76	12.90 13.50 12.96	195 0 107	39.56 20.70 20.22
89 89 89	17.24 17.99 17.16	205 82 147	50.43 34.02 39.13
102 102 102	21.88 22.87 22.30	218 153 193	68.85 59.66 66.82
114 114 114	26.67 27.86 27.28	238 218 0	79.10 87.49 14.39
127 127 127	32.33 33.71 32.89	238 223 75	82.63 91.28 25.16
140 140 140	38.58 40.35 39.76	236 229 153	88.18 95.67 53.35
153 153 153	45.70 47.75 46.36	171 76 64	33.93 24.70 10.56
165 165 165	51.91 54.33 52.96	114 64 56	18.12 14.72 8.30
178 178 178	59.42 62.46 60.70	108 27 32	13.75 8.41 3.01
191 191 191	67.85 71.10 69.23	110 23 66	14.91 8.64 8.71
204 204 204	76.81 80.34 78.11	118 101 27	21.96 22.94 5.79
216 216 216	84.75 89.13 86.51	9 78 41	5.21 9.79 5.86
229 229 229	93.59 98.21 95.51	0 79 98	7.41 10.77 18.85
242 242 242	103.49 108.48 105.51	38 34 69	4.55 3.92 9.16
0 0 128	4.84 2.15 26.59	215 216 220	84.98 89.03 88.74
0 0 255	17.41 8.05 96.96	194 195 199	70.48 73.89 73.71
0 128 0	10.46 22.25 5.47	152 153 156	45.44 47.55 47.69
0 128 128	15.32 24.34 32.65	110 110 112	24.99 26.01 26.14
0 170 255	35.44 45.84 107.30	68 68 69	10.62 11.16 10.60
0 255 0	39.26 80.89 16.18	30 30 30	2.48 2.57 2.50
0 255 170	47.46 84.46 62.25	43 33 110	7.13 4.99 21.28
0 255 255	56.91 89.01 115.02	82 68 141	17.23 14.26 34.98
85 85 85	15.98 16.64 16.07	140 130 186	40.64 38.43 60.13
128 0 0	16.76 9.00 0.79	192 0 33	35.31 18.76 3.33
128 0 128	21.98 11.29 27.09	204 79 62	44.89 31.10 10.64
128 128 0	27.46 31.84 6.16	218 148 126	62.16 55.29 34.58
128 128 128	32.84 34.22 33.39	0 127 47	11.01 22.07 9.69
128 128 255	45.66 40.29 104.53	69 154 88	23.35 36.35 21.59
128 255 128	61.52 92.62 44.16	146 189 150	50.22 61.10 48.28
170 0 255	45.65 23.08 97.59	199 143 126	55.09 49.92 34.02
170 170 170	54.76 57.42 55.70	217 139 0	55.00 49.16 7.44
170 255 0	66.88 95.88 16.95	195 0 77	37.93 19.98 11.39
170 255 255	85.38 104.56 115.76	133 18 109	22.18 12.02 20.96
255 0 0	56.77 29.95 1.25	149 180 0	41.86 54.18 10.52
255 0 170	64.63 33.36 45.47	0 131 140	16.65 25.64 38.01
255 0 255	74.04 37.84 97.96	0 94 170	14.08 16.20 48.59
255 128 128	72.48 55.35 33.88	236 237 242	99.12 103.67 104.59
255 170 0	75.35 69.37 10.24	212 215 222	83.76 87.83 89.77
255 170 255	92.92 77.53 108.71	188 193 202	68.24 71.94 75.27
255 255 0	96.23 111.42 17.21	142 150 157	42.05 44.63 47.79
255 255 170	104.44 114.97 63.26	100 107 111	22.58 24.10 25.52
170 85 85	35.57 27.07 16.51	64 72 75	10.67 11.69 12.58
85 170 85	29.06 44.25 22.29	38 50 52	4.92 5.75 6.37

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	110.00 Cd/m2	111.37 Cd/m2	114.03 Cd/m2
Luminance to Centre	92 %	93 %	95 %
Lab-Chroma to Centre	0.81	0.26	0.61
Absolute Luminance	111.98 Cd/m2	119.47 Cd/m2	117.49 Cd/m2
Luminance to Centre	94 %	100 %	98 %
Lab-Chroma to Centre	0.55	0.00	1.10
Absolute Luminance	106.22 Cd/m2	108.87 Cd/m2	110.42 Cd/m2
Luminance to Centre	89 %	91 %	92 %
Lab-Chroma to Centre	2.66	2.47	2.67

Results of the gray measurements:

Absolute Luminance	30.89 Cd/m2	30.64 Cd/m2	31.67 Cd/m2
Luminance to Centre	90 %	89 %	92 %
Lab-Chroma to Centre	1.54	1.14	0.83
Absolute Luminance	33.31 Cd/m2	34.36 Cd/m2	33.91 Cd/m2
Luminance to Centre	97 %	100 %	99 %
Lab-Chroma to Centre	0.44	0.41	0.74
Absolute Luminance	32.01 Cd/m2	32.10 Cd/m2	31.74 Cd/m2
Luminance to Centre	93 %	93 %	92 %
Lab-Chroma to Centre	2.48	1.44	1.33

Results of the dark measurements:

Absolute Luminance	8.81 Cd/m2	8.46 Cd/m2	8.99 Cd/m2
Luminance to Centre	89 %	85 %	91 %
Lab-Chroma to Centre	1.71	1.56	1.15
Absolute Luminance	9.84 Cd/m2	9.93 Cd/m2	9.85 Cd/m2
Luminance to Centre	99 %	100 %	99 %
Lab-Chroma to Centre	1.96	1.51	0.99
Absolute Luminance	9.38 Cd/m2	9.23 Cd/m2	9.14 Cd/m2
Luminance to Centre	94 %	93 %	92 %
Lab-Chroma to Centre	3.78	2.92	3.00

Summary:

	Average	Max
Luminance Deviation	6%	15%
Chroma Deviation	1	4