

UGRA

Display Analysis & Certification Tool

Report

Basics

Date: 2009-5-23 21:42:19
Report-Version: v1.3.1
Monitor-Name: \\.\DISPLAY1
EDID-Name: DELL 2709W
EDID-Serial: TR0708C406PS
Profile: C:/Windows/system32/spool/.../23.05.09-6500K-22-100%-trc.icc
Created: 2009-5-23 21:33
Measurement device: DTP94-LCD mode

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:	112.20 117.90 126.09
XYZ (normalized):	95.17 100.00 106.95
Luminance:	117.9 Cd/m2
Next Temperature:	6366 Kelvin
Assumed Target Whitepoint:	6400 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:	0.4 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	9907	0.10	0.77	0.44	
5	7505	0.30	2.30	0.58	2.12
10	6641	0.90	6.90	0.68	2.16
15	6519	2.00	13.81	0.54	2.18
20	6447	3.50	19.92	0.71	2.20
25	6320	5.50	25.76	0.38	2.22
30	6589	8.30	31.90	0.82	2.21
35	6480	11.80	37.86	0.44	2.20
40	6542	15.90	43.49	0.75	2.19
45	6542	20.20	48.43	0.81	2.21
50	6534	25.70	53.81	0.87	2.20
55	6426	31.90	59.03	0.37	2.19
60	6534	38.60	63.95	1.00	2.18
65	6534	45.70	68.58	1.06	2.20
70	6487	54.10	73.47	0.89	2.17
75	6487	62.60	77.93	0.94	2.18
80	6495	71.80	82.32	1.37	2.18
85	6542	81.60	86.61	1.30	2.23
90	6542	93.10	91.22	1.35	2.19
95	6487	105.30	95.71	1.11	2.09
100	6366	117.90	100.00	0.00	
Average	6493			0.82	2.18
Range				1.57	
Max				1.37	

Tone values = 94.5%

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	0.8 -0.2 -0.4	-0.8 0.2 0.4	0.9
0 0 128	12.8 39.7 -67.8	-0.0 -2.0 1.1	2.3
0 0 255	32.6 60.1 -109.7	-0.9 2.4 -1.0	2.8
0 128 0	44.5 -80.1 48.4	-0.3 1.3 0.4	1.4
0 128 128	46.5 -52.0 -13.8	-0.2 -0.3 1.0	1.0
0 170 255	64.8 -35.2 -56.8	-0.6 1.2 -0.5	1.4
0 255 0	83.7 -130.9 81.5	0.1 0.3 -0.6	0.7
0 255 170	85.2 -109.1 18.6	0.1 -1.0 1.4	1.7
0 255 255	87.4 -86.5 -21.4	-0.1 -0.1 0.1	0.1
85 85 85	36.0 -0.3 -0.4	-0.1 0.3 0.4	0.5
128 0 0	30.2 58.2 48.4	0.3 0.1 1.4	1.4
128 0 128	33.7 64.1 -31.5	0.3 -1.0 0.8	1.3
128 128 0	52.6 -11.5 60.8	-0.3 2.3 0.5	2.3
128 128 128	54.3 -0.7 -0.6	-0.3 0.7 0.6	1.0
128 128 255	60.1 22.4 -63.8	-0.8 1.9 -0.9	2.2
128 255 128	87.7 -82.3 45.0	0.1 -0.6 1.1	1.3
170 0 255	51.2 84.2 -77.5	-0.5 0.7 -0.7	1.1
170 170 170	70.5 -0.5 -1.0	-0.3 0.5 1.0	1.2
170 255 0	89.6 -66.4 91.0	0.2 0.5 -1.0	1.1
170 255 255	93.0 -41.0 -11.8	-0.1 -0.1 -0.2	0.2
255 0 0	60.7 97.1 94.3	0.3 -0.6 -1.9	2.0
255 0 170	63.2 101.1 -8.7	0.3 -1.2 1.4	1.9
255 0 255	66.8 104.3 -50.9	-0.1 0.3 0.1	0.3
255 128 128	73.0 62.9 30.7	-0.2 0.7 0.6	1.0
255 170 0	79.5 35.2 92.8	-0.2 1.9 -0.7	2.0
255 170 255	83.6 48.4 -24.7	-0.5 2.2 -0.6	2.3
255 255 0	97.0 -15.8 102.6	0.2 0.5 -1.1	1.3
255 255 170	98.2 -8.5 40.5	0.2 -0.2 1.2	1.2
255 255 255	100.0 0.0 0.0	0.0 -0.0 0.0	0.0
170 85 85	50.0 47.1 23.1	-0.1 0.4 0.3	0.5
85 170 85	61.5 -63.0 34.3	-0.4 1.2 0.0	1.3
85 85 170	40.1 19.4 -49.2	-0.3 -1.3 1.0	1.7
85 170 170	63.5 -44.3 -12.8	-0.5 -0.1 0.7	0.9
170 85 170	52.6 54.8 -27.9	-0.1 -0.6 1.1	1.3
170 170 85	69.0 -10.2 46.5	-0.4 1.5 0.1	1.5
Average			1.3
Maximum			2.8

Gamut-Volume

These measurements are only informative.

Gamut-Volume	
ISO	100 %
sRGB	100 %
AdobeRGB	99 %
ECI-RGB v1.0	94 %

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	55.4 -31.1 -50.2	5.9
66.9 -24.7 -37.1	67.4 -24.6 -38.2	1.2
79.7 -12.5 -21.8	79.9 -11.8 -23.1	1.5
48.0 74.0 -3.0	48.0 74.2 -4.0	1.0
60.8 50.6 -6.7	61.0 50.4 -7.5	0.8
76.4 25.8 -6.9	76.6 24.4 -8.1	1.8
89.0 -5.0 93.0	88.8 -6.6 93.1	1.7
90.3 -4.7 62.6	90.2 -6.1 61.8	1.6
92.2 -3.5 31.1	92.2 -4.0 30.1	1.2
53.1 37.7 28.9	53.4 37.3 28.9	0.6
41.5 22.7 16.8	41.6 22.4 16.6	0.4
31.9 40.0 24.0	32.0 39.2 23.5	0.9
32.5 44.5 -1.8	32.6 45.0 -1.8	0.5
51.3 1.3 44.5	51.4 1.0 43.3	1.3
34.6 -36.4 13.9	35.2 -37.5 14.2	1.3
36.0 -26.2 -20.9	36.4 -25.6 -21.8	1.2
20.9 9.6 -23.6	21.0 10.6 -23.7	1.1
89.0 0.0 -1.9	89.1 -0.4 -3.2	1.4
82.8 0.0 -1.7	82.7 0.1 -2.8	1.1
69.3 0.0 -1.4	69.7 -1.1 -2.0	1.3
54.1 0.0 -1.0	54.3 -0.6 -1.9	1.1
36.6 0.0 -0.5	36.9 -0.3 -0.4	0.4
16.0 0.0 0.0	16.5 0.1 -0.4	0.7
24.0 22.0 -46.0	24.1 22.7 -46.6	1.0
40.9 17.9 -36.6	41.0 18.9 -37.3	1.2
63.7 10.3 -23.8	63.5 10.8 -25.2	1.5
47.0 68.0 48.0	47.0 68.4 47.1	1.0
58.5 47.1 37.9	58.6 45.9 37.8	1.2
74.2 22.9 21.4	74.3 21.4 20.8	1.7
50.0 -65.0 27.0	50.3 -65.7 26.9	0.7
62.1 -39.8 21.0	62.6 -40.5 20.3	1.1
77.0 -19.1 11.0	76.8 -18.8 9.7	1.4
71.2 18.9 17.3	71.4 18.0 16.8	1.0
71.2 22.1 73.1	71.2 19.9 72.3	2.3
47.7 71.2 16.2	47.8 72.0 15.5	1.1
38.0 55.4 -20.9	38.2 55.9 -21.2	0.6
73.7 -22.8 67.6	73.8 -24.1 67.0	1.4
52.3 -52.3 -20.1	52.4 -52.0 -20.8	0.7
43.3 -17.0 -48.6	43.8 -15.5 -49.8	2.0
95.0 0.0 -2.0	95.0 -0.9 -3.0	1.3
88.5 -0.4 -3.1	88.6 -1.1 -4.4	1.4
82.0 -0.9 -4.1	81.9 -0.7 -5.4	1.4
67.7 -2.0 -4.4	67.8 -2.4 -5.6	1.3
52.2 -2.5 -3.5	52.4 -3.2 -4.4	1.1
37.5 -3.9 -3.1	37.6 -3.8 -3.6	0.5
26.3 -6.8 -3.4	26.4 -6.7 -3.8	0.4
Average		1.2
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	112.20 117.90 126.09	85 85 170	17.51 13.80 49.39
0 0 0	0.09 0.10 0.14	85 170 170	24.71 38.40 52.90
12 12 12	0.28 0.30 0.37	170 85 170	39.22 24.30 49.50
25 25 25	0.86 0.90 1.01	170 170 85	39.07 45.90 15.47
38 38 38	1.88 2.00 2.14	0 146 214	21.61 28.50 82.45
51 51 51	3.36 3.50 3.84	102 173 226	36.08 44.70 95.21
63 63 63	5.27 5.50 5.90	168 203 236	59.76 67.20 105.57
76 76 76	7.82 8.30 9.03	184 40 122	38.03 19.30 23.76
89 89 89	11.19 11.80 12.77	197 110 159	49.94 34.10 43.68
102 102 102	15.08 15.90 17.35	214 171 201	68.31 59.80 74.60
114 114 114	19.16 20.20 22.04	240 225 26	75.61 85.90 9.94
127 127 127	24.30 25.70 27.88	240 229 109	79.66 89.50 27.54
140 140 140	30.35 31.90 34.41	240 234 173	86.87 95.10 60.01
153 153 153	36.49 38.60 41.88	171 102 83	33.25 24.80 11.81
165 165 165	43.21 45.70 49.58	124 85 74	17.36 14.20 8.90
178 178 178	51.47 54.10 58.87	115 50 46	12.94 8.10 3.28
191 191 191	59.56 62.60 68.12	117 46 82	14.62 8.50 9.96
204 204 204	68.52 71.80 78.59	133 120 51	21.35 22.80 5.96
216 216 216	77.38 81.60 89.04	49 95 61	5.45 10.20 6.33
229 229 229	88.29 93.10 101.59	39 95 116	7.77 11.10 22.24
242 242 242	100.18 105.30 114.58	52 49 85	4.69 3.90 10.62
0 0 128	4.95 2.10 25.76	222 223 226	83.48 87.80 98.88
0 0 255	22.06 10.00 115.00	204 205 208	69.34 72.70 81.65
0 128 0	4.92 16.80 2.52	167 168 170	44.98 47.60 52.99
0 128 128	9.86 18.80 28.31	128 128 130	24.93 26.30 29.45
0 170 255	31.31 41.30 119.48	87 87 87	10.62 11.20 12.12
0 255 0	22.23 75.10 10.57	44 44 44	2.48 2.60 2.85
0 255 170	31.53 79.00 59.00	54 49 125	7.52 5.10 24.61
0 255 255	44.28 85.00 125.21	97 87 154	17.66 14.30 39.54
85 85 85	10.05 10.60 11.47	153 147 194	40.79 38.30 67.65
128 0 0	14.69 7.10 0.33	183 49 47	34.05 18.20 3.75
128 0 128	19.71 9.20 25.53	196 107 82	43.08 30.60 11.80
128 128 0	19.63 24.10 2.79	214 167 145	60.98 55.10 38.69
128 128 128	24.77 26.20 28.42	49 141 72	9.30 22.10 10.30
128 128 255	42.05 34.30 117.43	111 166 112	23.43 36.70 23.85
128 255 128	42.20 84.40 36.97	170 198 168	49.54 60.50 53.47
170 0 255	50.22 23.60 114.98	200 162 144	54.26 50.00 37.78
170 170 170	46.37 48.90 53.36	213 159 44	53.37 49.20 7.25
170 255 0	49.85 88.50 10.89	185 45 93	36.62 19.00 13.47
170 255 255	72.32 98.70 125.38	135 46 123	21.95 11.90 23.92
255 0 0	67.63 32.60 1.01	172 191 54	41.09 54.30 10.25
255 0 170	76.89 36.50 48.83	13 144 155	13.88 24.70 42.14
255 0 255	89.87 42.70 115.69	25 110 180	14.60 16.80 56.56
255 128 128	77.76 52.00 29.26	239 240 244	98.10 103.50 115.88
255 170 0	76.72 64.40 5.57	219 222 227	81.95 86.50 99.35
255 170 255	98.84 74.50 119.96	199 203 210	67.35 70.90 83.31
255 255 0	89.62 107.80 11.49	159 164 171	41.80 44.60 53.41
255 255 170	98.99 111.70 59.77	119 125 129	22.39 24.20 28.80
170 85 85	31.83 21.20 11.80	84 90 93	10.65 11.70 13.99
85 170 85	17.35 35.30 15.11	57 67 69	4.97 5.80 7.18