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SAR Test Report: PY7FD022013

Document number:	EAB-06:031302 Uen Rev B	**Date of report:**	2006-07-28
Testing laboratory:	Ericsson EMF Research Laboratory Ericsson AB Torshamnsgatan 23 SE-164 80 Stockholm Sweden	**Company/Client:**	Lars Melin Sony Ericsson Mobile Communications AB Torshamnsgatan 27 Box 64 SE-164 94 Kista Sweden
Tests performed by:	Martin Siegbahn	**Date of tests:**	June 26, 29-30, 2006
Manufacturer and market name(s) of device:	Sony Ericsson W950		
Testing has been performed in accordance with:	IEEE Standard 1528, IEC 62209-1, FCC OET Bulletin 65 Supplement C		
Test results:	The tested device complies with the requirements in respect of all parameters subject to the test.		
Additional information:	This report presents the results for the GSM/GPRS1900 and Bluetooth modes. The test report EAB-06:030733 contains the results for all the frequency bands and modes used by the tested device.		

Signature:

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1 Table of Contents

Test report summary

The tables below summarize the SAR measurement results obtained for the PY7FD022013 mobile phone model. The results show that the maximum SAR values are below the applicable SAR limit of 1.6 W/kg (1g) and thus the PY7FD022013 mobile phone is in compliance with the appropriate RF exposure standards and recommendations.

Mode	***Maximum SAR_{1g} (W/kg)***
GSM1900 (Head)	*1.02*
GSM1900 (Body)	*1.22*
GPRS(2TS)1900 (Body)	*1.17*

2 General information

The tests reported in this document have been performed in accordance with the SAR measurement standards IEC 62209-1 [1], IEEE Standard 1528 [2] and the FCC Supplement C [3]. The purpose of the tests was to verify that the PY7FD022013 mobile phone model is in compliance with the appropriate RF exposure standards, recommendations and limits [3-4].

3 Device under test

The table below summarizes the technical data for the tested device. Photographs of the device are presented in Appendix 1.

Device model	Type Number FAD-3022013-BV; FCC ID PY7FD022013; IC 4170B-FD022013
Serial number of tested unit	CB5108A4D9
Mode	GSM/GPRS(2TS)1900
Antenna	Internal
Maximum output power level[1] (dBm)	GSM1900: 30.0, GPRS(2TS)1900: 27.0 Bluetooth: 4.0
GPRS Class	B
Duty cycle	1:8 (GSM), 1:4 (GPRS)
Transmitter frequency range (MHz)	GSM1900: 1850.2-1909.8
Hardware status	Pre-production FP1.2
Software	CXC162037 R3A002 CXC162058 R3A01 CXC162088 R1A13 CDA162014/1 R1A13
Tested accessories	Stereo headset HPM-82 Bluetooth headset HBH-20

1 Output power level of the phone model at the antenna port for the maximum power setting. This equals the nominal output power level plus the factory variation.

4 Test equipment

4.1 Dosimetric system

The SAR measurements were made using the DASY4 professional near-field scanner by Schmid & Partner Engineering AG that was installed in December 2002. The total SAR assessment uncertainty (k=1) of the system is ±10.3% for 1g SAR assessments and 10.2% for 10g SAR assessments. The corresponding extended uncertainties (k=2) are ±20.6% and ±20.5%, respectively. The equipment list is given below. In Appendix 5 calibration parameters for the SAR test probes are listed.

Description	Asset number	Calibration due date	Calibration interval
DAE3	S/N 422	2007-05-17	12 months
E-field probe, ET3DV6	S/N 1572	2007-05-22	12 months
Dipole validation kit, D1900V2	S/N 510	NA	NA
SAM Phantom (SAM1)	S/N TP-1390	NA	NA

4.2 Additional equipment

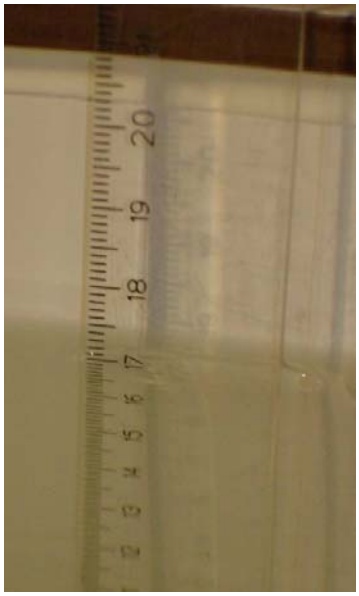
Description	Asset number	Calibration due date	Calibration interval
Signal generator, R&S SMHU58	S/N 843863/034	2006-12-10	24 months
Dielectric probe kit, HP 85070C	S/N US99360060	NA	NA
Network analyzer, HP 8752C	S/N 3410A03732	2006-10-25	12 months
Power meter, R&S NRVS	S/N 848888/052	2007-06-06	24 months
Power sensor, R&S NRV-Z5	S/N 849895/030	2007-06-06	24 months
Digital radio tester, R&S CMU 200	S/N 107639	2007-04-26	12 months
Thermometer, EBRO TFX-392SKWT	S/N 10130918	2006-10-17	12 months
Thermo/Hygrometer, Testo 608-H2	S/N 60013082	2007-02-28	12 months

5 Electrical parameters of the tissue simulating liquids

The parameters of the tissue simulating liquids were measured with the dielectric probe kit prior to the SAR measurement and the results are shown in the table below. Specified standard values for the permittivity and the conductivity are given in [1-3]. The measured values are within 5% of the standard values. The mass density of the liquid entered into the DASY4 program was 1000 kg/m^3. The depth of the tissue simulating liquid was more than 15 cm as shown in the figures below.

f (MHz)	Liquid type	Measured/Specification	ε_r	σ (S/m)
1900	Head tissue	Measured	40.1	1.43
		Specified value	40.0	1.40
		Difference (%)	0	+2
1900	Body tissue (muscle)	Measured	51.2-51.5[2]	1.56-1.58[2]
		Specified value	53.3	1.52
		Difference (%)	-4/-3	+3/+4

Measured level of 1900 MHz head tissue simulating liquid in phantom



Measured level of 1900 MHz muscle tissue simulating liquid in phantom

[2] Measurements were conducted during two days.

6 SAR system performance check

System performance checks for the DASY4 were conducted before the SAR measurements with the D1900V2 dipole kit and the obtained results are displayed in the table below. The results are within 10% of the reference values [2][5]. Evaluations prior to the SAR testing showed that the maximum SAR system noise was below 2 mW/kg, which is below the standard requirements. The temperature of the test facility during the system performance checks was in the range 20°C to 25°C.

f (MHz)	Tissue	Measured/ Reference	SAR 1g (W/kg)	SAR 10g (W/kg)	ε_r	σ (S/m)	Liquid temp (°C)	Date
1900	Head	Measured	39.5	20.9	40.1	1.43	21.3	2006-06-26
		Reference [2]	39.7	20.5	40.0	1.40	-	-
		Difference (%)	-1	+2	0	+2	-	-
	Body	Measured	41.5	21.9	51.2	1.56	21.9	2006-06-29
		Reference [5]	40.4	21.1	53.3	1.52	-	-
		Difference (%)	+3	+4	-4	+3	-	-

7 Uncertainty evaluation of SAR measurement system DASY4 according to IEEE 1528

Uncertainty Component	Uncer. (%)	Prob Dist.	Div.	C_i	GSM 1900-Head	GSM 1900-Body
Measurement System						
Probe Calibration	±5.9	N	1	1	±5.9	±5.9
Axial Isotropy	±4.7	R	√3	0.7	±1.9	±1.9
Spherical Isotropy	±9.6	R	√3	0.7	±3.9	±3.9
Boundary Effect	±1.0	R	√3	1	±1.0	±1.0
Linearity	±4.7	R	√3	1	±2.7	±2.7
System Detection Limits	±1.0	R	√3	1	±0.6	±0.6
Readout electronics	±0.3	N	1	1	±0.3	±0.3
Response time	±0.8	R	√3	1	±0.5	±0.5
Integration time	±2.6	R	√3	1	±1.5	±1.5
RF Ambient Conditions	±3.0	R	√3	1	±1.7	±1.7
Probe Positioner	±0.4	R	√3	1	±0.2	±0.2
Probe Positioning	±2.9	R	√3	1	±1.7	±1.7
Max. SAR Evaluation	±1.0	R	√3	1	±0.6	±0.6
Measurement System Uncertainty					*±8.4*	*±8.4*
Test Sample Related						
Device positioning	±2.9	N	1	1	±2.9	±2.9
Device holder uncertainty	±3.6	N	1	1	±3.6	±3.6
Power drift	-1.3/-2.1	R	√3	1	-0.8	-1.2
Test Sample Related Uncertainty					*±4.7*	*±4.8*
Phantom and Tissue Parameters						
Phantom uncertainty	±4.0	R	√3	1	±2.3	±2.3
Liquid conductivity (meas)	±2.5	N	1	0.64	±1.6	±1.6
Liquid conductivity (target)	+4.3/+1.3	R	√3	0.64	+1.6	+0.5
Liquid Permittivity (meas)	±2.5	N	1	0.6	±1.5	±1.5
Liquid Permittivity (target)	-4.0/-4.1	R	√3	0.6	-1.4	-1.4
Phantom and Tissue Parameters Uncertainty					*±3.8*	*±3.5*
Combined standard uncertainty					*±10.3*	*±10.3*
Extended standard uncertainty (k=2)					*±20.6*	*±20.6*

8 Test results

The tables in this section show the measured 1g and 10g averaged SAR for the device and the corresponding values normalized to the maximum output power level. A digital radio tester was used to control the device during the SAR measurements. The phone was supplied with a fully charged battery for the tests. The temperature of the test facility during the tests was in the range 20 to 25°C. During the tests, the temperature of the tissue simulating liquid was within ±2°C from the liquid temperature at system performance check.

The device was tested on the right-hand phantom (corresponding to the right side of the head) and the left-hand phantom for the cheek and tilt phone positions in the middle of the transmit band, corresponding to the traffic channel 661 for GSM1900. In Appendix 2, pictures of the device when positioned on the head phantom are shown. For the phone position giving the highest SAR result, the device was then also tested at the lowest and the highest frequencies of the transmit bands corresponding to the traffic channels 512 and 810 for GSM1900. Finally, for the position and frequency giving the highest SAR result in each band, tests were performed with the Bluetooth transmitter turned on.

The device was also tested in body worn positions for both front and back side of the device facing the phantom. For the phone position giving the highest SAR result, the device was then tested at the lowest and the highest frequencies of the transmit band. Tests were performed at 15 mm separation between the device and the flat phantom, with the stereo headset attached for speech mode and without headset for data mode. In Appendix 2, pictures of the device when positioned under the flat section of the phantom are shown.

8.1 Results for the GSM1900 mode (head)

Mode	Hand side	Phone position	f (MHz)	Measured output power (dBm)	Measured (W/kg)		Normalized to max power, 30.0 dBm (W/kg)	
					SAR_{1g}	SAR_{10g}	SAR_{1g}	SAR_{10g}
GSM1900	Left	Cheek	1880.0	30.0	0.95	0.57	0.95	0.57
		Tilt	1850.2	30.0	0.81	0.47	0.81	0.47
			1880.0	30.0	1.00	0.57	1.00	0.57
			1909.8	29.9	1.00	0.58	**1.02**	**0.59**
	Right	Cheek	1880.0	30.0	0.61	0.41	0.61	0.41
		Tilt	1880.0	30.0	0.78	0.46	0.78	0.46
GSM1900 and Bluetooth	Left	Tilt	1909.8	29.9	0.99	0.57	1.01	0.58

Appendix 4 (a-d) shows the SAR distributions giving the 1g SAR for the phone positions cheek and tilt at the right and left-hand phantoms.

8.2 Results for the GSM1900 mode (body)

Separation	Mode/Accessory	Phone position (Front/Back towards the phantom)	f (MHz)	Measured output power (dBm)	Measured (W/kg)		Normalized to max power, 30.0 dBm (W/kg)	
					SAR_{1g}	SAR_{10g}	SAR_{1g}	SAR_{10g}
15mm between the device and the flat phantom,	GSM1900/Stereo headset attached	Front	1880.0	30.0	0.22	0.14	0.22	0.14
		Back	1850.2	30.0	0.85	0.49	0.85	0.49
			1880.0	30.0	1.15	0.65	1.15	0.65
			1909.8	29.9	1.19	0.67	**1.22**	**0.69**
	GSM1900 and Bluetooth	Back	1909.8	29.9	1.06	0.61	1.08	0.62

Appendix 4 (e) shows the maximum SAR distribution for the flat section of the phantom giving the maximum 1g SAR of 1.22 W/kg and the maximum 10g averaged SAR of 0.69 W/kg at 1909.8 MHz.

8.3 Results for the GPRS(2TS)1900 mode (body)

Separation	Mode/Accessory	Phone position (Front/Back towards the phantom)	f (MHz)	Measured output power (dBm)	Measured (W/kg)		Normalized to max power, 27.0 dBm (W/kg)	
					SAR_{1g}	SAR_{10g}	SAR_{1g}	SAR_{10g}
15mm between the device and the flat phantom,	GPRS(2TS)1900	Front	1880.0	27.0	0.28	0.18	0.28	0.18
		Back	1850.2	27.0	0.80	0.47	0.80	0.47
			1880.0	27.0	1.02	0.59	1.02	0.59
			1909.8	26.9	1.14	0.66	**1.17**	**0.67**
	GPRS(2TS)1900 and Bluetooth	Back	1909.8	26.9	1.14	0.66	1.17	0.67

Appendix 4 (f) shows the maximum SAR distribution for the flat section of the phantom giving the maximum 1g SAR of 1.17 W/kg and the maximum 10g averaged SAR of 0.67 W/kg at 1909.8 MHz.

9 Conclusion

The results above show that the maximum SAR for the PY7FD022013 mobile phone is below the applicable SAR limits. Consequently, the PY7FD022013 mobile phone model is in compliance with the appropriate RF exposure standards and recommendations.

10 References

[1] IEC 62209-1, International Standard, "Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Humans models, instrumentation, and procedures – Part 1: Procedure to determine the Specific Absorption Rate (SAR) for hand-held mobile devices used in close proximity of the ear (frequency range of 300 MHz to 3 GHz)", IEC, February, 2005.

[2] IEEE, Standard 1528, "Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques.", The Institute for Electrical and Electronics Engineers (IEEE) Inc., June 2003

[3] FCC, "Evaluating Compliance with FCC Guidelines from Human Exposure To Radiofrequency Electromagnetic Fields", Supplement C Edition 01-01 to OET Bulletin 65 Edition 97-01, June 2001.

[4] ANSI/IEEE Std C95.1-2005 (Revision of IEEE Std C95.1-1991), "Safety levels with respect to human exposure to radio frequency electromagnetic fields, 3 kHz to 300 GHz", The Institute of Electrical and Electronics Engineers Inc., New York, 2006.

[5] Lennart Hamberg, "Calculation of reference SAR values for system performance checks with muscle tissue simulating liquid", Ericsson wide internal, Report, EAB/TF-03:090, Rev B, February 2006.

APPENDIX 1: Photographs of the DUT

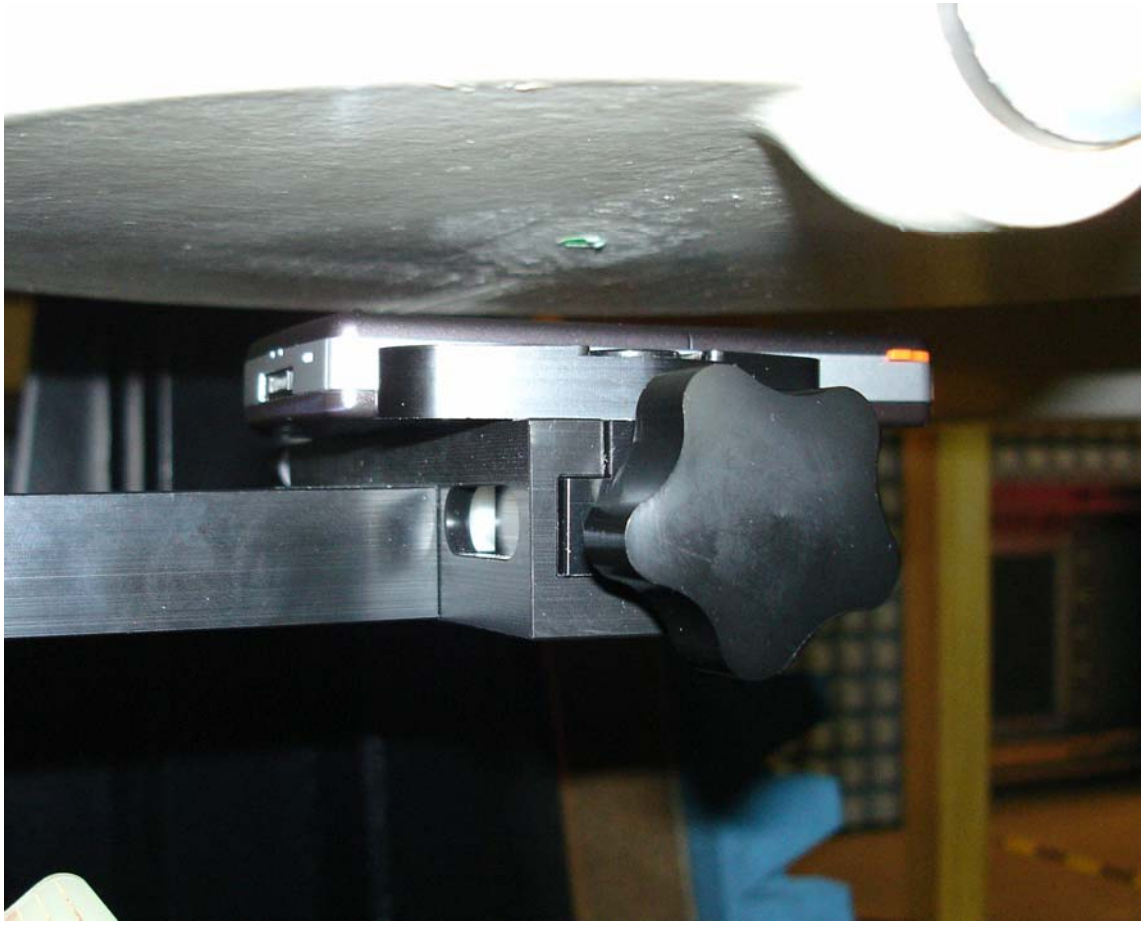
(a) Front, side and back view of the PY7FD022013 mobile phone.

(b) Battery BST-33

APPENDIX 2: Photographs of the DUT when positioned for SAR measurements

(a) Device on head phantom in the cheek position.

(b) Device on head phantom in the tilt position.



(c) Device on flat section of the phantom. The separation was 15 mm between the device and the flat phantom.

APPENDIX 3: SAR distribution plots for the system performance checks

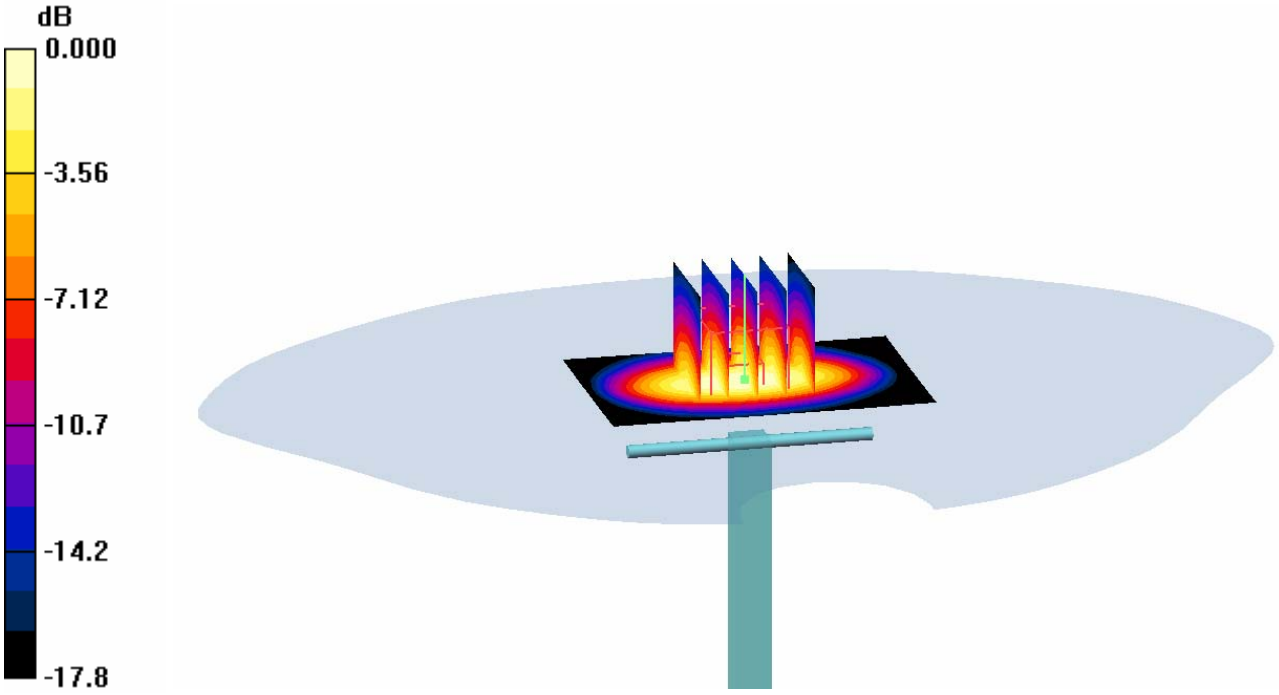
System performance check at 1900 MHz conducted June 26th

Date/Time: 2006-06-26 11:53:56

-Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
-Medium: Head 1900 MHz; σ = 1.43 mho/m; ε_r = 40.1; ρ = 1000 kg/m^3

DASY4 Configuration:
-Probe: ET3DV6 - SN1572; ConvF(5.51, 5.51, 5.51)
-Electronics: DAE3 Sn422
-Phantom: SAM 1
-Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

d=10mm, Pin=251mW/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 11.4 mW/g
d=10mm, Pin=251mW/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 92.6 V/m; Power Drift = 0.000 dB
Peak SAR (extrapolated) = 17.1 W/kg
SAR(1 g) = 9.92 mW/g; SAR(10 g) = 5.24 mW/g
Maximum value of SAR (measured) = 11.2 mW/g



0 dB = 11.2mW/g

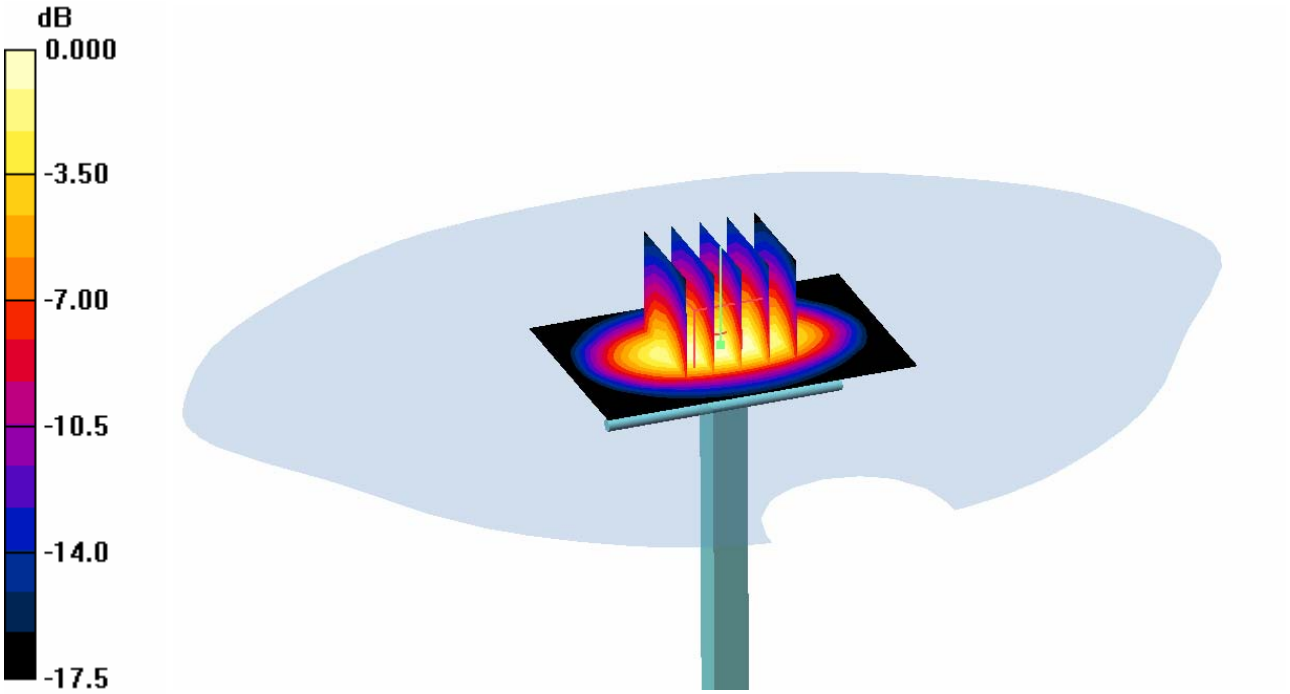
System performance check at 1900 MHz conducted June 29th

Date/Time: 2006-06-29 14:05:38

-Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
-Medium: Muscle 1900 MHz; σ = 1.56 mho/m; ε_r = 51.2; ρ = 1000 kg/m^3

DASY4 Configuration:
-Probe: ET3DV6 - SN1572; ConvF(4.91, 4.91, 4.91)
-Electronics: DAE3 Sn422
-Phantom: SAM 1
-Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

d=10mm, Pin=253.2mW/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 12.2 mW/g
d=10mm, Pin=253.2mW/Zoom Scan (5x5x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 92.7 V/m; Power Drift = -0.044 dB
Peak SAR (extrapolated) = 18.0 W/kg
SAR(1 g) = 10.5 mW/g; SAR(10 g) = 5.55 mW/g
Maximum value of SAR (measured) = 11.8 mW/g



0 dB = 11.8mW/g

APPENDIX 4: SAR distribution plots

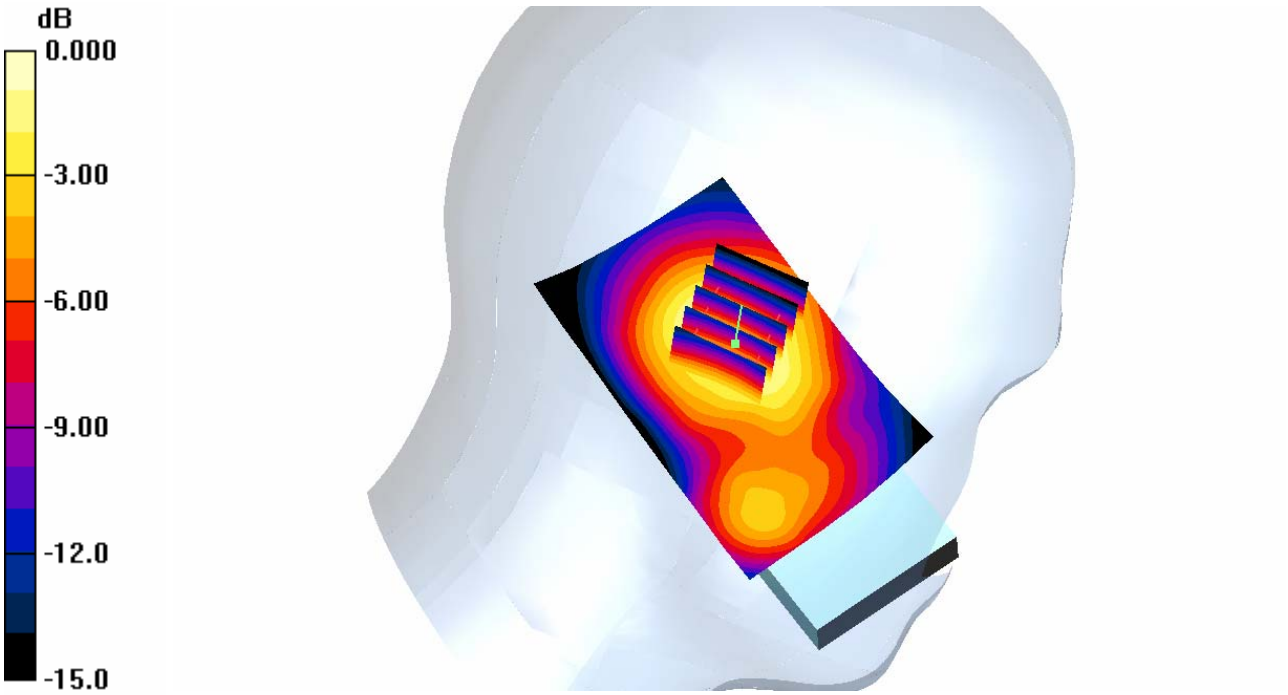
DUT: PY7FD022013; Type: Mobile Terminal; Serial: CB5108A4D9

Date/Time: 2006-06-26 14:03:39

-Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3
-Medium: Head 1900 MHz; σ = 1.43 mho/m; ε_r = 40.1; ρ = 1000 kg/m^3

DASY4 Configuration:
-Probe: ET3DV6 - SN1572; ConvF(5.51, 5.51, 5.51)
-Electronics: DAE3 Sn422
-Phantom: SAM 1;
-Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Cheek Mid/Area Scan (81x51x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.03 mW/g
Cheek Mid/Zoom Scan 5x5x7 (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.5 V/m; Power Drift = 0.005 dB
Peak SAR (extrapolated) = 1.54 W/kg
SAR(1 g) = 0.95 mW/g; SAR(10 g) = 0.57 mW/g
Maximum value of SAR (measured) = 1.03 mW/g



0 dB = 1.03mW/g

(a) Distribution of SAR in the GSM1900 mode giving the 1g SAR in the left hand side phantom for the cheek position

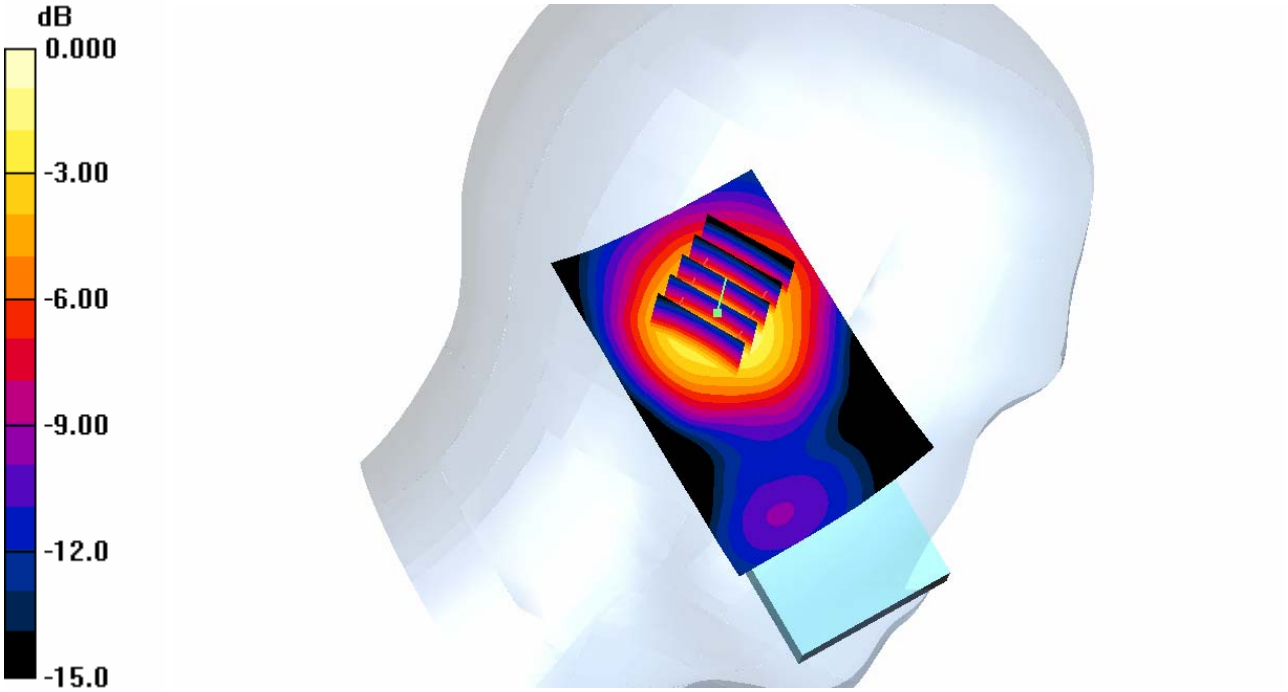
DUT: PY7FD022013; Type: Mobile Terminal; Serial: CB5108A4D9

Date/Time: 2006-06-26 14:39:05

-Communication System: GSM1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3
-Medium: Head 1900 MHz; σ = 1.43 mho/m; ε_r = 40.1; ρ = 1000 kg/m^3

DASY4 Configuration:
-Probe: ET3DV6 - SN1572; ConvF(5.51, 5.51, 5.51)
-Electronics: DAE3 Sn422
-Phantom: SAM 1
-Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Tilt High/Area Scan (81x51x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.15 mW/g
Tilt High/Zoom Scan 5x5x7 (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 28.1 V/m; Power Drift = -0.047 dB
Peak SAR (extrapolated) = 1.68 W/kg
SAR(1 g) = 1.00 mW/g; SAR(10 g) = 0.58 mW/g
Maximum value of SAR (measured) = 1.10 mW/g



0 dB = 1.10mW/g

(b) Distribution of SAR in the GSM1900 mode giving the maximum 1g SAR in the left hand side phantom for the tilt position

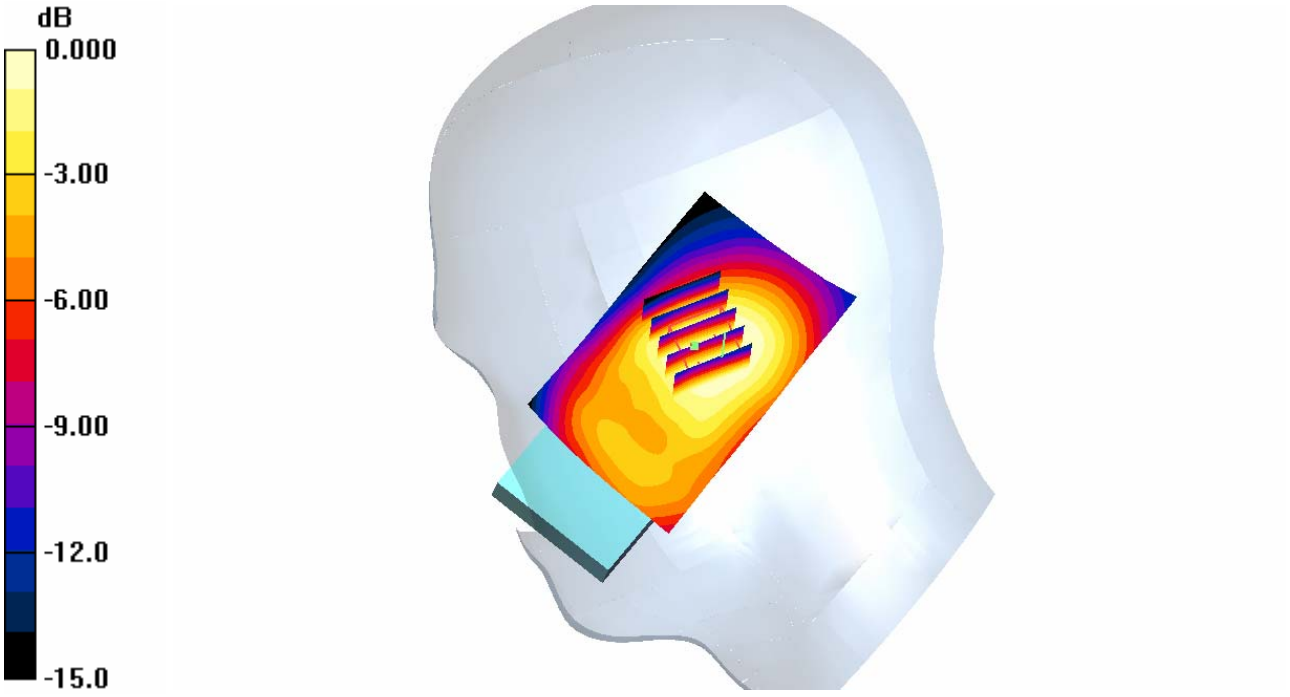
DUT: PY7FD022013; Type: Mobile Terminal; Serial: CB5108A4D9

Date/Time: 2006-06-26 13:21:34

-Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3
-Medium: Head 1900 MHz; σ = 1.43 mho/m; ε_r = 40.1; ρ = 1000 kg/m^3

DASY4 Configuration:
-Probe: ET3DV6 - SN1572; ConvF(5.51, 5.51, 5.51)
-Electronics: DAE3 Sn422
-Phantom: SAM 1
-Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Cheek Mid/Area Scan (81x51x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.684 mW/g
Cheek Mid/Zoom Scan 5x5x7 (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.4 V/m; Power Drift = -0.027 dB
Peak SAR (extrapolated) = 0.905 W/kg
SAR(1 g) = 0.61 mW/g; SAR(10 g) = 0.41 mW/g
Maximum value of SAR (measured) = 0.647 mW/g



0 dB = 0.647mW/g

(c) Distribution of SAR in the GSM1900 mode giving the 1g SAR in the right hand side phantom for the cheek position

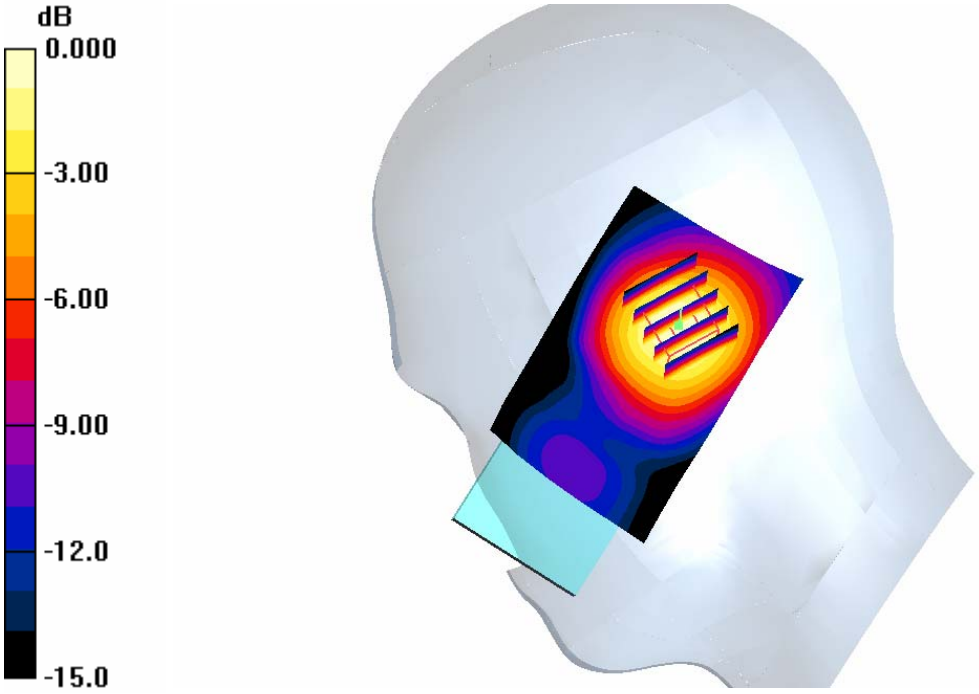
DUT: PY7FD022013; Type: Mobile Terminal; Serial: CB5108A4D9

Date/Time: 2006-06-26 13:35:09

-Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3
-Medium: Head 1900 MHz; σ = 1.43 mho/m; ε_r = 40.1; ρ = 1000 kg/m^3

DASY4 Configuration:
-Probe: ET3DV6 - SN1572; ConvF(5.51, 5.51, 5.51)
-Electronics: DAE3 Sn422
-Phantom: SAM 1
-Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Tilt Mid/Area Scan (81x51x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.861 mW/g
Tilt Mid/Zoom Scan 5x5x7 (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.3 V/m; Power Drift = -0.013 dB
Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.78 mW/g; SAR(10 g) = 0.46 mW/g
Maximum value of SAR (measured) = 0.851 mW/g



0 dB = 0.851mW/g

(d) Distribution of SAR in the GSM1900 mode giving the 1g SAR in the right hand side phantom for the tilt position.

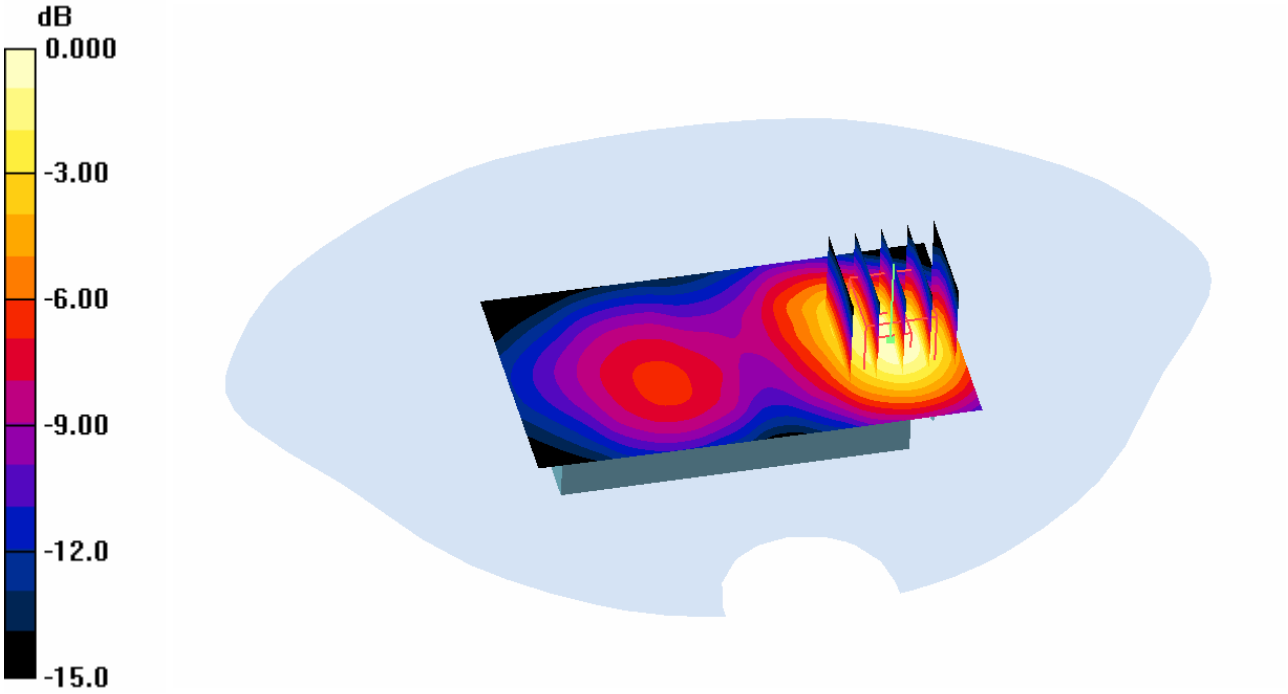
DUT: PY7FD022013; Type: Mobile Terminal; Serial: CB5108A4D9

Date/Time: 2006-06-30 14:37:36

-Communication System: GSM1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3
-Medium: Muscle 1900 MHz; σ = 1.56 mho/m; ε_r = 51.2; ρ = 1000 kg/m^3

DASY4 Configuration:
-Probe: ET3DV6 - SN1572; ConvF(4.91, 4.91, 4.91)
-Electronics: DAE3 Sn422
-Phantom: SAM 1
-Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Back to Phantom High 2/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.33 mW/g
Back to Phantom High 2/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.3 V/m; Power Drift = -0.086 dB
Peak SAR (extrapolated) = 1.97 W/kg
SAR(1 g) = 1.19 mW/g; SAR(10 g) = 0.67 mW/g
Maximum value of SAR (measured) = 1.31 mW/g



0 dB = 1.31mW/g

(e) Distribution of maximum SAR in GSM1900 mode with muscle tissue simulating liquid giving the maximum 1g and 10g averaged SAR. Measured against the flat section of the phantom with the back of the device facing the phantom and with a 15 mm separation between the device and the phantom.

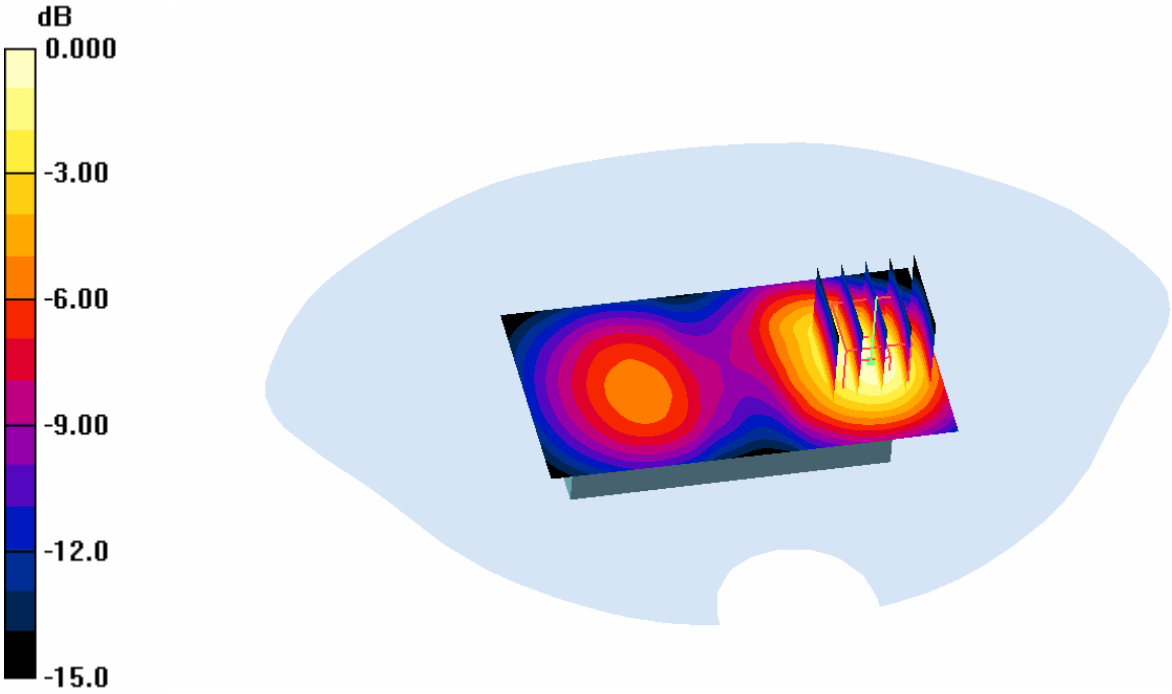
DUT: PY7FD022013; Type: Mobile Terminal; Serial: CB5108A4D9

Date/Time: 2006-06-30 10:43:53

-Communication System: GPRS(2TS)1900; Frequency: 1909.8 MHz; Duty Cycle: 1:4.1
-Medium: Muscle 1900 MHz; σ = 1.58 mho/m; ε_r = 51.5; ρ = 1000 kg/m^3

DASY4 Configuration:
-Probe: ET3DV6 - SN1572; ConvF(4.91, 4.91, 4.91)
-Electronics: DAE3 Sn422
-Phantom: SAM 1
-Measurement SW: DASY4, V4.6 Build 23; Postprocessing SW: SEMCAD, V1.8 Build 161

Back to Phantom High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.28 mW/g
Back to Phantom High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.72 V/m; Power Drift = 0.022 dB
Peak SAR (extrapolated) = 1.91 W/kg
SAR(1 g) = 1.14 mW/g; SAR(10 g) = 0.66 mW/g
Maximum value of SAR (measured) = 1.26 mW/g



0 dB = 1.26mW/g

(f) Distribution of maximum SAR in GPRS(2TS)1900 mode with muscle tissue simulating liquid giving the maximum 1g and 10g averaged SAR. Measured against the flat section of the phantom with the back of the device facing the phantom and with a 15 mm separation between the device and the phantom.

APPENDIX 5: Probe calibration parameters for ET3DV6, SN: 1572

Diode compression

Parameter	Value in mV
DCP X	93
DCP Y	93
DCP Z	93

Sensitivity in free space:

Parameter	Value in $\mu V/(V/m)^2$
Norm X	1.96
Norm Y	1.85
Norm Z	2.05

Sensitivity in tissue simulating liquid

Head 900 MHz; ε_r=41.5 ± 5%, σ=0.97± 5% S/m.

Parameter	Value
ConvF X	6.74
ConvF Y	6.74
ConvF Z	6.74

Head 1800/1900 MHz; ε_r=40 ± 5%, σ=1.40± 5% S/m.

Parameter	Value
ConvF X	5.51
ConvF Y	5.51
ConvF Z	5.51

Muscle 1900 MHz; ε_r=53.3 ± 5%, σ=1.52± 5% S/m.

Parameter	Value
ConvF X	4.91
ConvF Y	4.91
ConvF Z	4.91

Probe tip to sensor center: 2.7 mm