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Prepared (also subject responsible if other)		No.		
LD/SEMC/BGLIM *Magnus Söderman*		*BGLI08:035*		

Approved	Checked	Date	Rev	Reference
LD/SEMC/BGLIMC *Peter Lindeborg*	*080201*	*080116*	A	File

Report issued by Accredited SAR Laboratory

for

PY7A3252012 (K850a)

Date of test:	December 12th, 2007 - January 11th, 2008
Laboratory:	Sony Ericsson SAR Test Laboratory Sony Ericsson Mobile Communications AB Nya Vattentornet SE-221 82 LUND, Sweden
Testing Engineer:	Magnus Söderman magnus1.soderman@sonyericsson.com +46-46-2127229
Testing Approval:	Peter Lindeborg peter.lindeborg@sonyericsson.com +46-46-2126180

Statement of Compliance

Sony Ericsson Mobile Communications AB declares under its sole responsibility that the product

Sony Ericsson Type AAD-3252012-BV; FCC ID PY7A3252012; IC 4170B-A3252012

to which this declaration relates, is in conformity with the appropriate RF exposure standards recommendations and guidelines. It also declares that the product was tested in accordance with the appropriate measurement standards, guidelines and recommended practices. Any deviations from these standards, guidelines and recommended practices are noted below:

(None)

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1 Introduction

In this test report, compliance of the Sony Ericsson PY7A3252012 (K850a) portable telephone with RF safety guidelines is demonstrated. The applicable RF safety guidelines and the SAR measurement specifications used for the test are described in the SAR Measurement Specifications of Wireless Handsets [1].

2 Device Under Test

2.1 Device description

Device model	AAD-3252012-BV										
Market name	K850a										
Serial number (EUT #)	CB510TB61A (#9850)										
Mode	GSM 850			GSM 1900			UMTS II			UMTS V		
Crest factor	8.3			8.3			1.0			1.0		
Multiple access scheme	TDMA			TDMA			WCDMA			WCDMA		
Channel No.	128	190	251	512	661	885	9262	9400	9538	4132	4183	4233
Maximum output power setting [dBm]	32.1	32.1	32.1	30.0	30.0	30.0	22.1	22.1	22.1	23.5	23.5	23.5
Factory tolerance in power setting	±0.5 dB			±0.5 dB			±0.5 dB			±0.5 dB		
Maximum peak output power [dBm]	32.6	32.6	32.6	30.5	30.5	30.5	22.6	22.6	22.6	24.0	24.0	24.0
Data mode	GPRS			GPRS								
Crest factor	4.15			4.15								
Maximum output power setting [dBm]	30.5	30.5	30.5	27.0	27.0	27.0						
Factory tolerance in power setting	±0.5 dB			±0.5 dB								
Maximum peak output power [dBm]	31.0	31.0	31.0	27.5	27.5	27.5						
Data mode	EDGE			EDGE			(See section 2.3)					
Crest factor	4.15			4.15								
Maximum output power setting [dBm]	27.5	27.5	27.5	26.5	26.5	26.5						
Factory tolerance in power setting	±0.5 dB			±0.5 dB								
Maximum peak output power [dBm]	28.0	28.0	28.0	27.0	27.0	27.0						
Transmitting frequency range [MHz]	824.0 - 849.0			1850.0 - 1910.0			1852.5 - 1907.6			826.5 - 846.6		

GPRS Multislot class	10
EDGE class	10
GPRS Capability class	B
Prototype or production unit	Preproduction
Hardware version	TP3
Software version	R1DA032
Device category	Portable
RF exposure environment	General population / uncontrolled

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2.2　　　Antenna Description

Type	Internal antenna	
Location	At bottom of lowest part	
Dimensions	Max length	29 mm
	Max width	41 mm
Configuration	Capacative-feed antenna with parasitic element.	

2.3　　　Output power in UMTS

The conducted output power of the device was measured in two circuit switched (CS) modes RMC and voice; and four high speed downlink packet access (HSDPA) modes. A CMU-200 was used to establish the call processing and modulation settings. A RF power meter was used for power measurement. For HSDPA measurements, the following settings were applied:

H-SET3 QPSK
CQI feedback=2 msec

The results (including relevant CMU settings) are presented in the following table:

Output power [dBm]						UMTS Band II			UMTS Band V		
						Channel No.			Channel No.		
Mode	β_C	β_D	ΔACK	ΔNACK	ΔCQI	9262	9400	9538	4132	4183	4233
CS - RMC	8	15	-	-	-	22.4	22.5	22.5	23.9	23.8	24.0
CS - voice	8	15	-	-	-	22.4	22.5	22.5	23.9	23.8	24.0
HSDPA	2	15	8	8	8	22.2	22.4	22.4	23.8	23.7	23.8
HSDPA	12	15	8	8	8	22.1	22.3	22.3	23.5	23.5	23.6
HSDPA	15	8	8	8	8	21.5	21.7	21.7	22.9	22.8	22.9
HSDPA	15	4	8	8	8	20.5	20.7	20.6	21.9	21.8	21.9
HSDPA	9	15	5	5	5	22.1	22.3	22.3	23.6	23.5	23.7
HSDPA	9	15	5	5	2	22.1	22.3	22.3	23.6	23.4	23.7

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3 Test equipment

3.1 Dosimetric system

SAR measurements were made using the DASY4 professional system (software version 4.7, Build 55) with SAM twin phantom, manufactured by Schmid & Partner Engineering AG (SPEAG). The list of calibrated equipment is given below.

Description	Serial Number	Due Date
DASY4 DAE3	419	2008-03
E-field probe ET3DV6	1569	2008-01
E-field probe ES3DV6	3111	2008-03
Dipole Validation Kit, D835V2	484	2009-01
Dipole Validation Kit, D1900V2	5d002	2009-01

3.2 Additional equipment

Description	Inventory Number	Due Date
Signal generator R&S	INV 20007667	2008-03
Directional coupler	S/N 062	2008-03
Power meter R&S NRVD	INV 20007669	2008-03
Power sensor R&S NRV-Z5	INV 20007672	2008-03
Power sensor R&S NRV-Z5	INV 20007673	2008-03
Network analyzer HP8753C	INV 421671	2008-03
S-parameter test set HP85047A	INV 421670	2008-03
Dielectric probe kit HP8507D	INV 20000053	N/A
Base station simulator CMU200	INV 20002149	2008-03
Thermometer Fluke 51	INV 2071	2008-03

4 Electrical parameters on the tissue simulating liquid

Prior to conducting SAR measurements, the relative permittivity, ε_r, and the conductivity σ, of the tissue simulating liquids were measured with the dielectric probe kit. These values are shown in the table below. The mass density, ρ, entered into the DASY4 software is also given. Recommended limits for permittivity ε_r, conductivity σ and mass density ρ are also shown.

f [MHz]	Tissue type	Measured / Recommended	Dielectric Parameters		Density
			ε_r	σ [S/m]	ρ [g/cm³]
835	Head	Measured, 2008-01-09	40.3	0.87	1.00
		Recommended	41.5	0.90	1.00
835	Body	Measured, 2008-01-10	54.5	0.98	1.00
		Recommended	55.2	0.97	1.00
835	Body	Measured, 2008-01-11	54.4	0.98	1.00
		Recommended	55.2	0.97	1.00
1900	Head	Measured, 2007-12-10	38.2	1.47	1.00
		Recommended	40.0	1.40	1.00
1900	Head	Measured, 2007-12-12	38.0	1.45	1.00
		Recommended	40.0	1.40	1.00
1900	Head	Measured, 2007-12-13	38.0	1.45	1.00
		Recommended	40.0	1.40	1.00
1900	Body	Measured, 2007-12-19	51.9	1.59	1.00
		Recommended	53.3	1.52	1.00
1900	Body	Measured, 2007-12-20	53.0	1.59	1.00
		Recommended	53.3	1.52	1.00
1900	Body	Measured, 2007-12-21	53.0	1.59	1.00
		Recommended	53.3	1.52	1.00

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5   System accuracy verification

A system accuracy verification of the DASY4 was performed using the dipole validation kit listed in section 3.1. The system verification test was conducted on the same day as the measurement of the DUT. The measurements were made at an ambient temperature of 20-23°C and humidity 26-38%. The obtained results are displayed in the table below.

RF noise had been measured in liquid when all RF equipment in lab was switched off. Measured value was 0.0002 mW/g in 1g mass.

f [MHz]	Tissue type	Measured / Reference	SAR [W/kg] 1g / 10g	Dielectric Parameters		Density	Liquid T[°C]
				ε_r	σ [S/m]	ρ [g/cm³]	
835	Head	Measured, 2008-01-09	9.72 / 6.36	40.3	0.87	1.00	19.7
		Reference	9.20 / 6.00	41.5	0.90	1.00	22.0
835	Body	Measured, 2008-01-10	9.92 / 6.52	54.5	0.98	1.00	20.5
		Reference	9.48 / 6.29	55.2	0.97	1.00	22.0
835	Body	Measured, 2008-01-11	9.80 / 6.52	54.4	0.98	1.00	20.9
		Reference	9.48 / 6.29	55.2	0.97	1.00	22.0
1900	Head	Measured, 2007-12-10	38.8 / 20.3	38.2	1.47	1.00	21.2
		Reference	37.4 / 19.8	40.0	1.40	1.00	22.0
1900	Head	Measured, 2007-12-12	38.8 / 20.2	38.0	1.45	1.00	21.2
		Reference	37.4 / 19.8	40.0	1.40	1.00	22.0
1900	Head	Measured, 2007-12-13	38.2 / 19.9	38.0	1.45	1.00	21.2
		Reference	37.4 / 19.8	40.0	1.40	1.00	22.0
1900	Body	Measured, 2007-12-19	38.2 / 20.0	51.9	1.59	1.00	22.0
		Reference	38.6 / 20.6	53.3	1.52	1.00	22.0
1900	Body	Measured, 2007-12-20	38.7 / 20.2	53.0	1.59	1.00	22.0
		Reference	38.6 / 20.6	53.3	1.52	1.00	22.0
1900	Body	Measured, 2007-12-21	38.8 / 20.4	53.0	1.59	1.00	22.0
		Reference	38.6 / 20.6	53.3	1.52	1.00	22.0

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6   SAR measurement uncertainty

***SAR measurement uncertainty evaluation for Sony Ericsson PY7A3252012 (K850a) phone
According to IEEE 1528***

Uncertainty Component	Uncer. (%)	Prob Dist.	Div.	C_i	1g mass
Measurement System					
Probe Calibration	±5.9	N	1	1	±5.9
Axial Isotropy	±4.7	R	√3	0.7	±1.9
Spherical Isotropy	±9.6	R	√3	0.7	±3.9
Boundary effect	±1.0	R	√3	1	±0.6
Probe linearity	±4.7	R	√3	1	±2.7
Detection limit	±1.0	R	√3	1	±0.6
Readout electronics	±0.3	N	1	1	±0.3
Response time	±0.8	R	√3	1	±0.5
Integration time	±2.6	R	√3	1	±1.5
RF Ambient Conditions	±3.0	R	√3	1	±1.7
Mech. Constraints of robot	±0.4	R	√3	1	±0.2
Probe positioning	±2.9	R	√3	1	±1.7
Extrap, interpolation and integration	±1.0	R	√3	1	±0.6
Measurement System Uncertainty					*±8.4*
Test Sample Related					
Device positioning	±3.5	N	1	1	±3.5
Device holder uncertainty	±3.5	N	1	1	±3.5
Power drift	±5.0	R	√3	1	±2.9
Test Sample Related Uncertainty					*±5.5*
Phantom and Tissue Parameters					
Phantom uncertainty	±4.0	R	√3	1	±2.3
Liquid conductivity (measured)	±2.5	R	1	0.64	±1.6
Liquid conductivity (target)	±5.0	R	√3	0.64	±1.8
Liquid Permittivity (measured)	±2.5	R	1	0.6	±1.5
Liquid Permittivity (target)	±5.0	R	√3	0.6	±1.7
Phantom and Tissue Parameters Uncertainty					*±4.1*
Combined standard uncertainty					***±10.8***
Extended standard uncertainty (k=2)					***±21.6***

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7 Test results

The measured 1-gram averaged SAR values of the DUT towards the head are provided in Table 1. The ambient humidity and temperature of test facility were 26-38% and 20-23°C respectively. A base station simulator was used to control the device during the SAR measurement. The DUT was supplied with a fully charged battery for each measurement.

For head measurement, the DUT was tested on the right-hand side, and the left-hand side of the phantom in two phone positions, cheek (touch) and tilt (cheek + 15°). The DUT was tested at the lowest, middle and highest frequencies in the transmission band. Results for head position are presented in table 2.

For body measurement the DUT was tested with the back (antenna) and front (display) towards the phantom flat section with 15 mm distance in both speech and data mode. For all modes, the device was tested at the lowest, middle and highest frequencies in the transmission band. For portable hands free (PHF) usage the Sony Ericsson head set HPB-60 was connected to the DUT, and for Bluetooth (BT) the DUT was paired with Sony Ericsson HBH-60. Results for body position are presented in table 3.

Three different modes were selected for data transmission in the UMTS bands. One circuit switched (CS) and two high speed packet access (HSPA) modes (see table 1). Mode HSPA-2 settings are according to FCC guidance.

Mode	RMC	β_C	β_D	ΔACK	ΔNACK	ΔCQI
CS	12.2	8	15	-	-	-
HSPA-1	12.2	9	15	5	5	5
HSPA-2	12.2	9	15	5	5	2

Table 1: Settings used for SAR body measurements.

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Band	Channel	Output power [dBm]	Position	Liquid T [°C]	Measured SAR [W/kg]	
					Right-hand 1g mass	Left-hand 1g mass
GSM 850	128	32.6	Cheek	19.7	0.80	0.83
			Tilt	19.7	-	-
	190	32.4	Cheek	19.7	0.94	0.95
			Tilt	19.7	0.56	0.56
	251	32.5	Cheek	19.7	1.04	1.06
			Tilt	19.7	-	-
GSM 1900	512	30.4	Cheek	21.2	1.14	-
			Tilt	21.2	1.15	0.86
	661	30.4	Cheek	21.2	0.96	0.67
			Tilt	21.2	0.98	0.74
	810	30.4	Cheek	21.2	0.73	-
			Tilt	21.2	0.75	0.60
UMTS II	9262	22.4	Cheek	21.2	1.35	0.96
			Tilt	21.2	1.30	1.04
	9400	22.5	Cheek	21.2	1.17	0.87
			Tilt	21.2	1.17	0.93
	9538	22.5	Cheek	21.2	1.15	0.88
			Tilt	21.2	1.18	0.96
UMTS V	4132	23.9	Cheek	19.7	0.95	0.97
			Tilt	19.7	-	-
	4183	23.8	Cheek	19.7	0.93	0.90
			Tilt	19.7	0.57	0.56
	4233	24.0	Cheek	19.7	1.18	1.21
			Tilt	19.7	-	-

Table 2: SAR measurement result for Sony Ericsson PY7A3252012 telephone at highest possible output power. Measured towards the head.

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Band	Channel	Output Power [dBm]	Position / Mode	Liquid T [°C]	Measured SAR [W/kg] 1g mass
GSM 850	128	30.8	Back / GPRS	20.5	1.26
		32.6	Back / BT	20.5	0.93
			Back / PHF	20.5	0.65
		26.6	Back / EDGE	20.5	0.52
		32.6	Front / BT	20.5	0.54
	190	30.9	Back / GPRS	20.5	1.21
		32.4	Back / BT	20.5	0.90
	251	31.0	Back / GPRS	20.5	0.97
		32.5	Back / BT	20.5	0.79
GSM 1900	512	27.5	Back / GPRS	22.0	1.14
		30.4	Back / BT	22.0	1.17
			Back / PHF	22.0	1.11
			Front / PHF	22.0	0.19
		25.8	Back / EDGE	22.0	0.72
	661	27.3	Back / GPRS	22.0	1.06
		30.4	Back / BT	22.0	1.10
	810	27.3	Back / GPRS	22.0	0.92
		30.4	Back / BT	22.0	0.94
UMTS II	9262	22.4	Back / BT	22.0	1.33
		22.4	Back / CS	22.0	1.34
		22.1	Back / HSPA-1	22.0	1.23
		22.1	Back / HSPA-2	22.0	1.26
	9400	22.5	Back / BT	22.0	1.41
		22.5	Back / CS	22.0	1.33
		22.3	Back / HSPA-1	22.0	1.34
		22.3	Back / HSPA-2	22.0	1.24
	9538	22.5	Back / BT	22.0	1.46
		22.5	Back / CS	22.0	1.28
		22.3	Back / HSPA-1	22.0	1.34
		22.3	Back / HSPA-2	22.0	1.16
		22.5	Back / PHF	22.0	1.39
			Front / PHF	22.0	0.25
UMTS V	4132	23.9	Back / BT	20.9	0.87
		23.6	Back / HSPA-2	20.9	0.77
	4183	23.8	Back / BT	20.9	1.08
		23.5	Back / HSPA-1	20.9	0.81
		23.4	Back / HSPA-2	20.9	0.90
		23.8	Back / PHF	20.9	0.62
			Front / BT	20.9	0.65
	4233	24.0	Back / BT	20.9	0.89
		23.7	Back / HSPA-2	20.9	0.66

Table 3: SAR measurement result for Sony Ericsson PY7A3252012 telephone at highest possible output power. Measured towards the body.

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8 References

[1]   R.Plicanic, "SAR Measurement Specification of Wireless Handsets",
Sony Ericsson SAR Test Laboratory internal document GUG/N 03:141

[2]   FCC, "Evaluating Compliance with FCC Guidelines for Human Exposure to
Radio Frequency Electromagnetic Fields: Additional Information for
Evaluating Compliance of Mobile and Portable Devices with FCC Limits for
Human Exposure to Radio Frequency Emissions," Supplement C (Edition
01-01) to OET Bulletin 65 (Edition 97- 01).

[3]   IEEE, "Recommended Practice for Determining the Peak Spatial-Average
Specific Absorption Rate (SAR) in the Human Body Due to Wireless
Communications Devices: Experimental Techniques," Std 1528-2003, June,
2003.

[4]   IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR)
for hand-held mobile wireless devices in the frequency range of 300 MHz to
3 GHz", February 2005.

![Sony Ericsson logo]

9   Appendix

9.1   Photographs of the device under test

Front side   Rear side   Battery removed

Right hand side
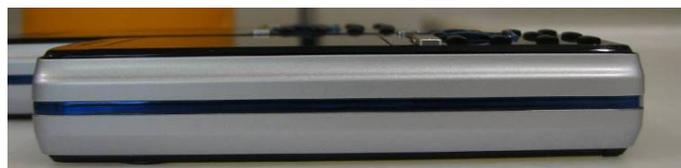
Left hand side

System connector   Top side

![Sony Ericsson]

9.2   Device position at SAM Twin Phantom
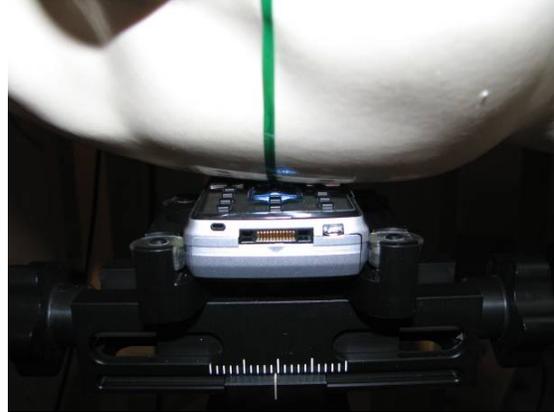
DUT position towards the head: Cheek (touch) position

DUT position towards the head: Tilt (touch + 15°) position
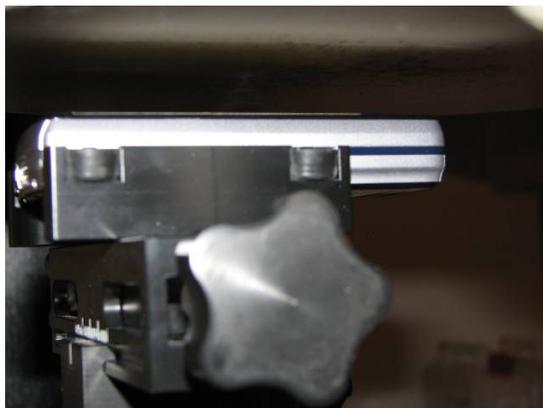
DUT in body position with 15 mm distance

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9.3   Attachments

- System validation

- Measurement plots for head and body position

- Probe calibration

- Dipole calibration

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: SysPerfCheck835_1.da4

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:484 Program Name: Pout=250mW

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1

Medium parameters used: f = 835 MHz; σ = 0.87 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(6.89, 6.89, 6.89); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Performance check/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.59 mW/g

Performance check/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 47.6 V/m; Power Drift = -0.141 dB
Peak SAR (extrapolated) = 3.60 W/kg
SAR(1 g) = 2.43 mW/g; SAR(10 g) = 1.59 mW/g
Maximum value of SAR (measured) = 2.63 mW/g
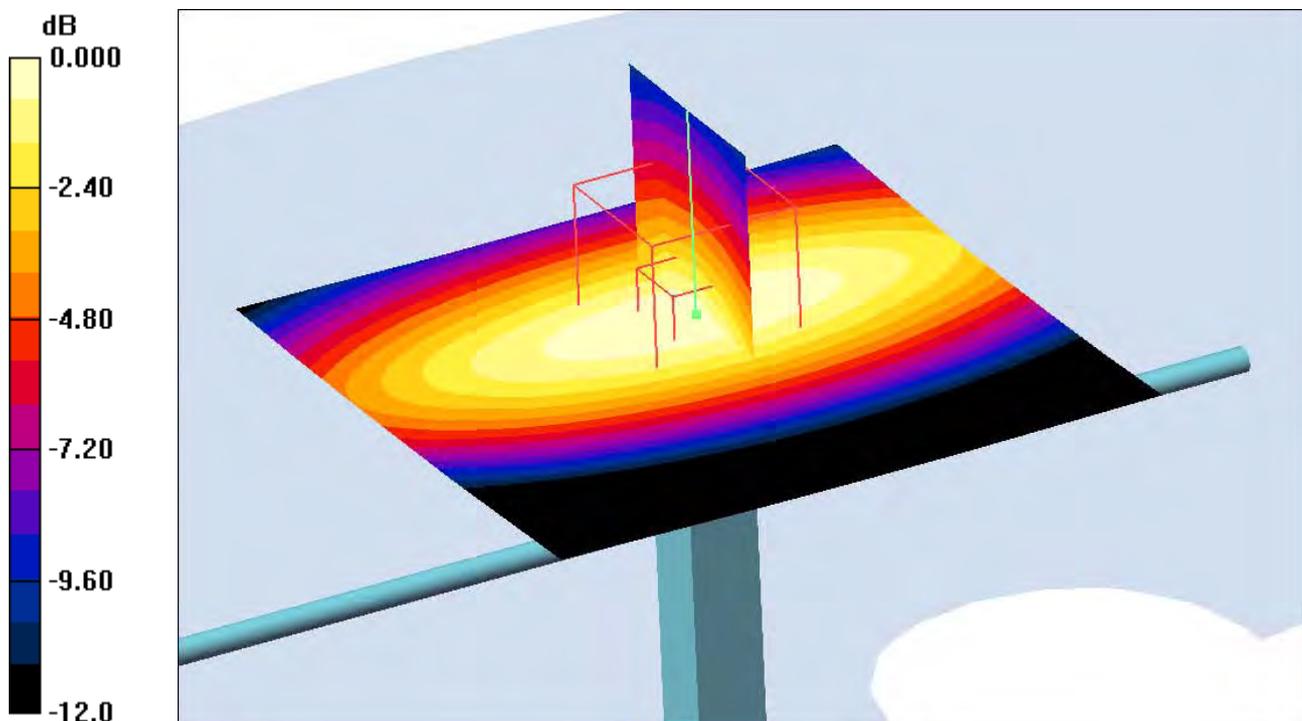
0 dB = 2.63mW/g

Interpolated SAR(x,y,z,f0)

HSL850; Z Scan:Value Along Z, X=0, Y=0
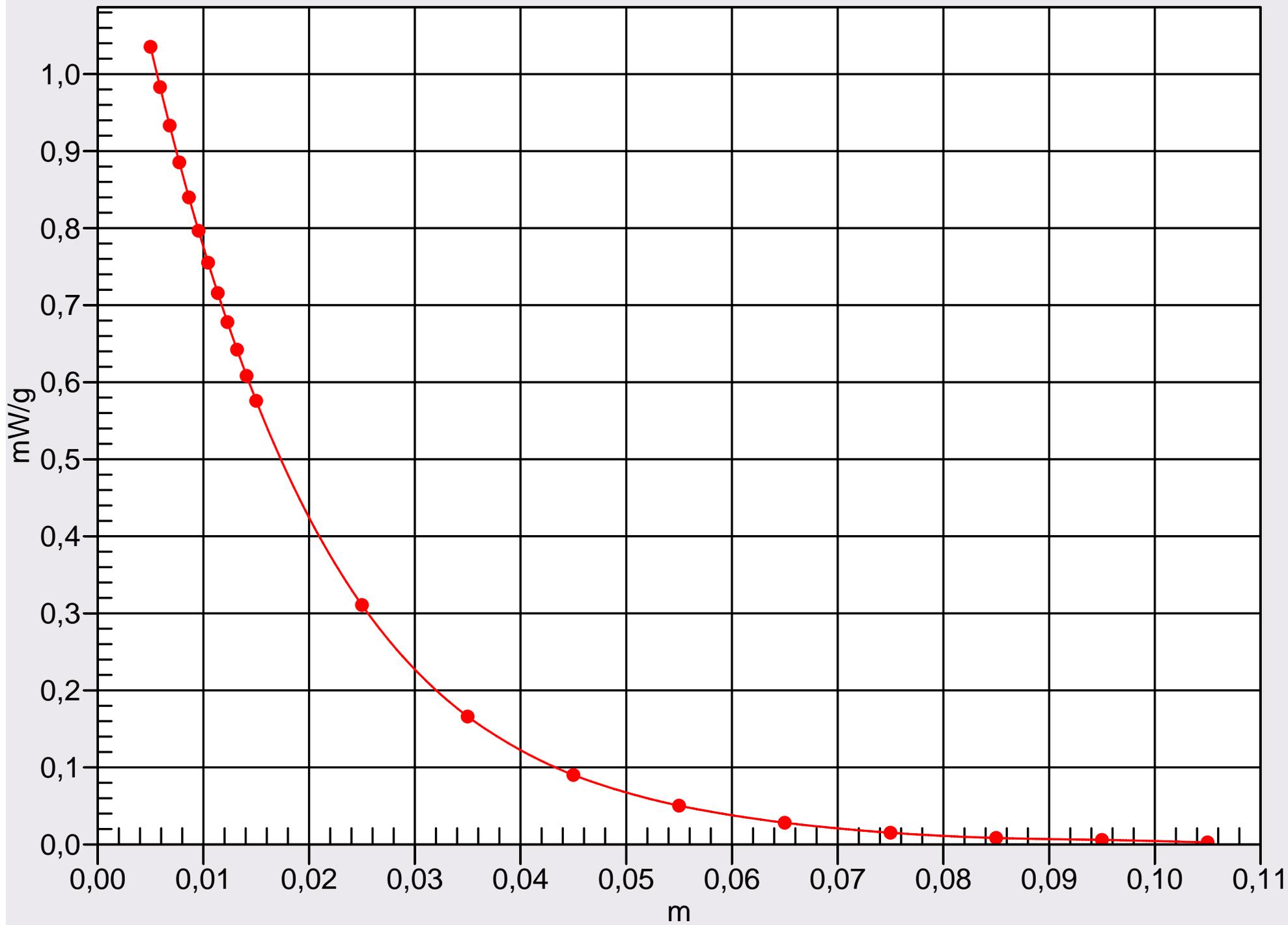
Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: SysPerfCheck835_2.da4

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:484
Program Name: Pout=250mW

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1

Medium parameters used: f = 835 MHz; σ = 0.985 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(6.94, 6.94, 6.94); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Performance check/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.71 mW/g

Performance check/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 49.2 V/m; Power Drift = 0.046 dB
Peak SAR (extrapolated) = 3.61 W/kg
**SAR(1 g) = 2.48 mW/g; SAR(10 g) = 1.63 mW/g**
Maximum value of SAR (measured) = 2.68 mW/g
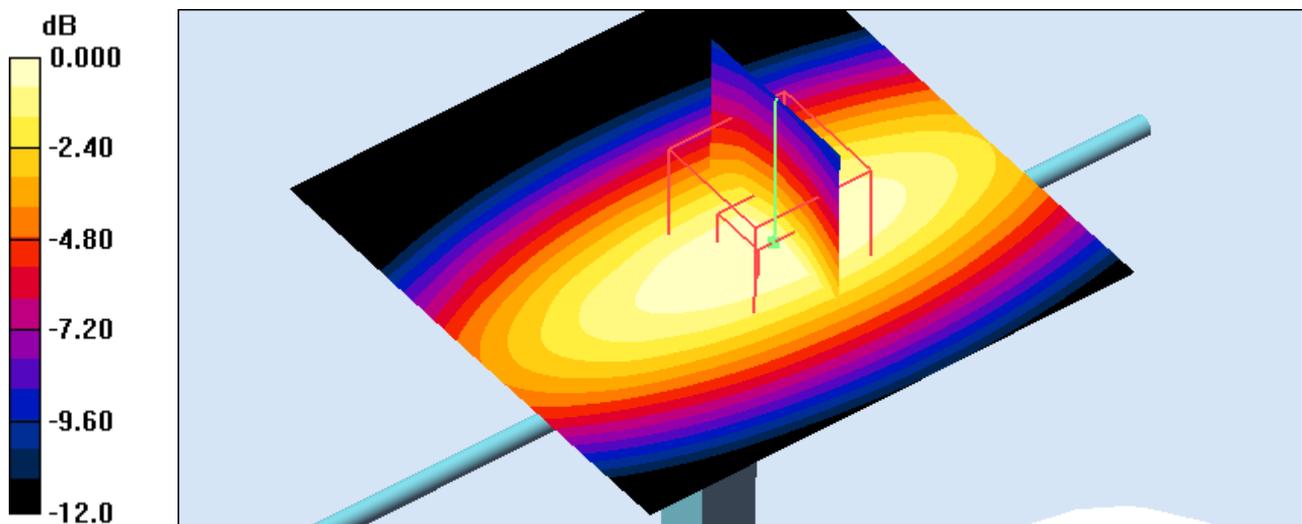
0 dB = 2.68mW/g

Interpolated SAR(x,y,z,f0)

MSL850; Z Scan:Value Along Z, X=0, Y=0
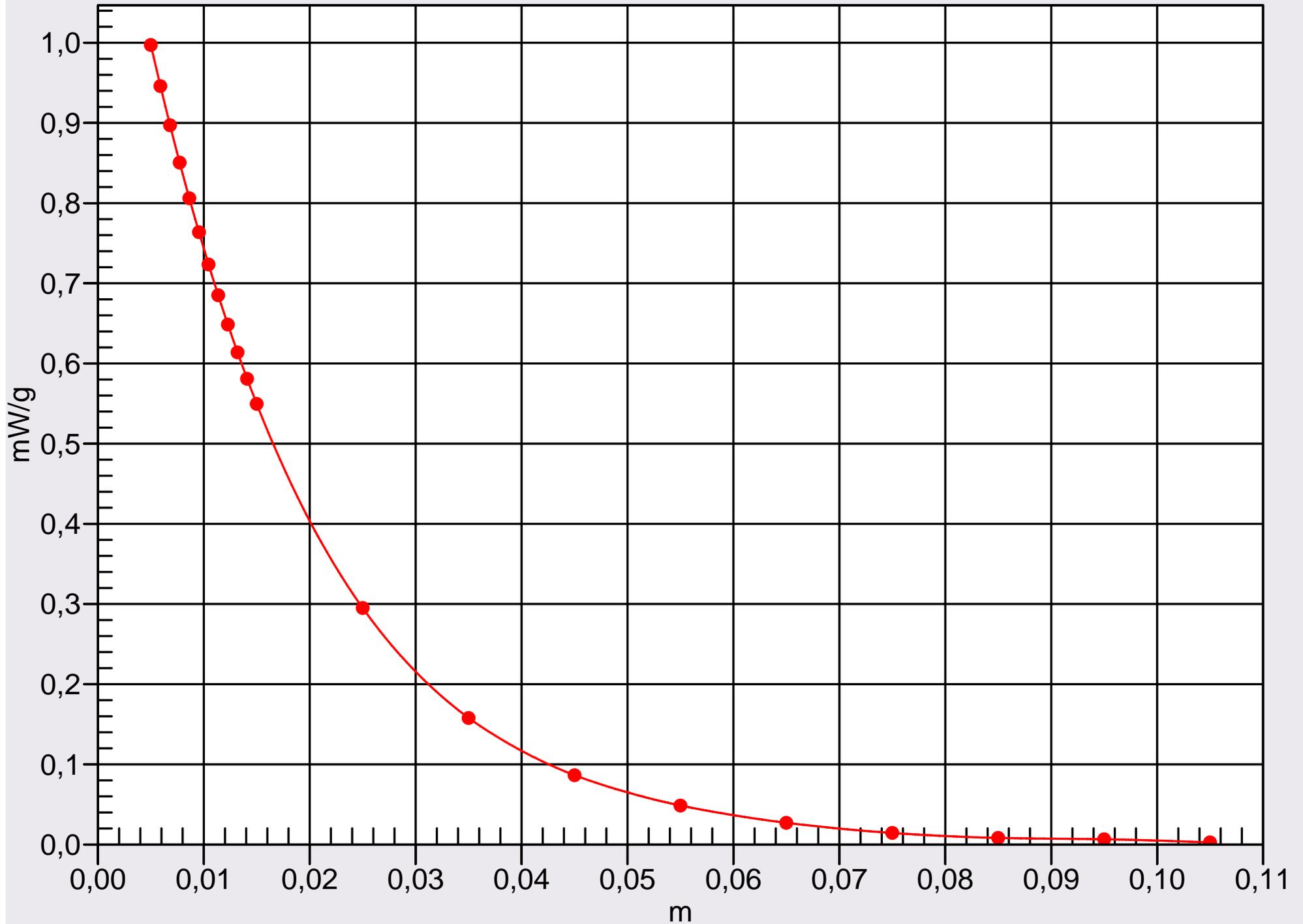
Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: SysPerfCheck835_3.da4

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:484
Program Name: Pout=250mW

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1

Medium parameters used: f = 835 MHz; σ = 0.986 mho/m; ε_r = 54.4; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3111; ConvF(5.95, 5.95, 5.95); Calibrated: 2007-03-12
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Performance check/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.65 mW/g

Performance check/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 53.0 V/m; Power Drift = -0.019 dB
Peak SAR (extrapolated) = 3.46 W/kg
**SAR(1 g) = 2.45 mW/g; SAR(10 g) = 1.63 mW/g**
Maximum value of SAR (measured) = 2.66 mW/g
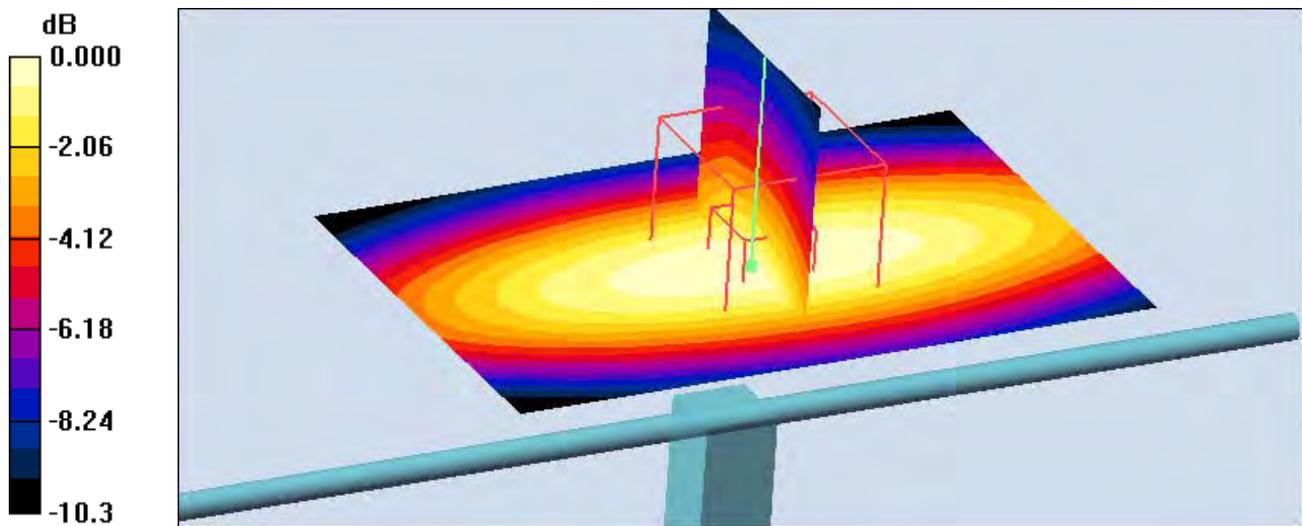
0 dB = 2.66mW/g

Interpolated SAR(x,y,z,f0)

MSL850; Z Scan:Value Along Z, X=0, Y=0
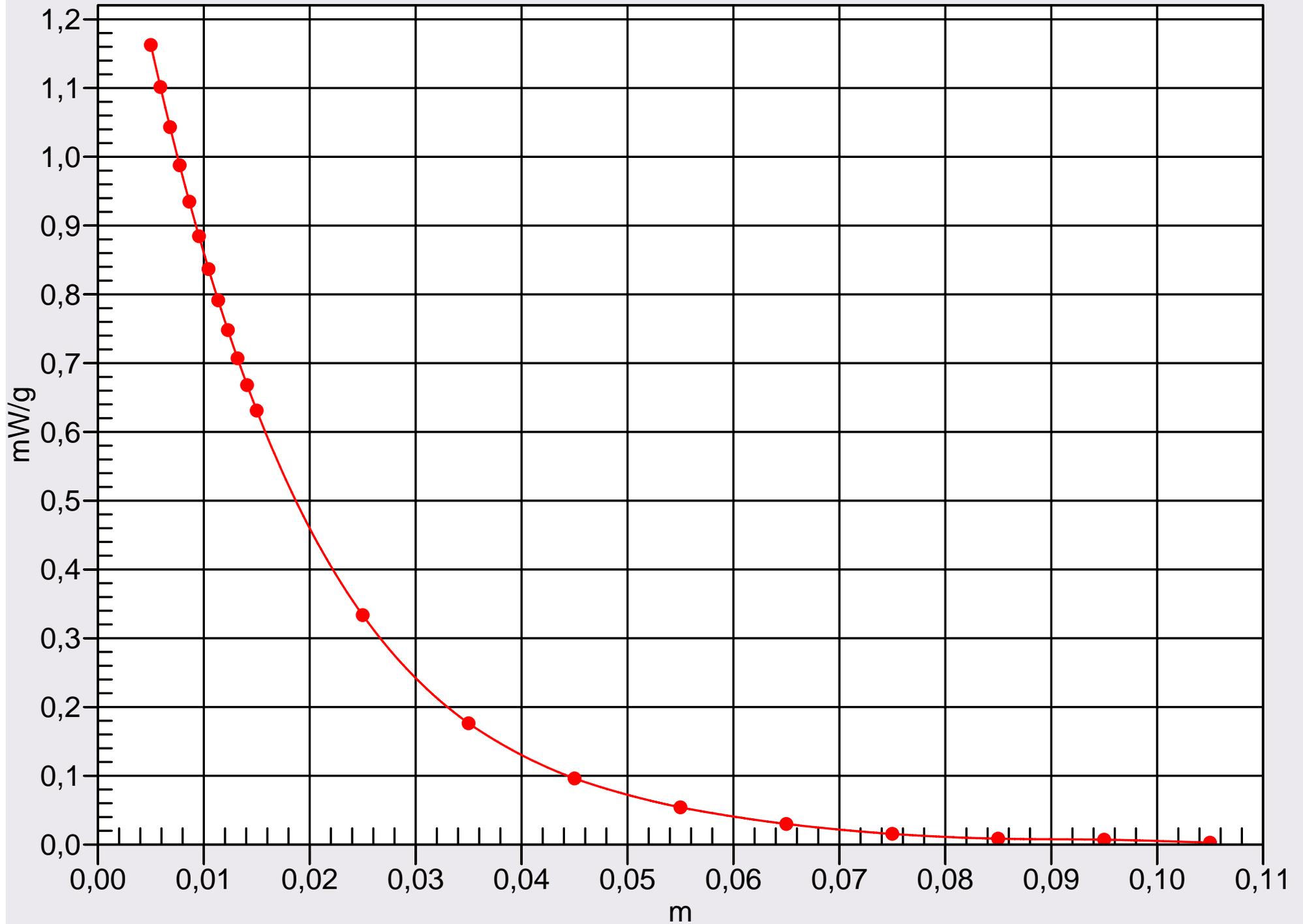
Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: SysPerfCheck1900_1.da4

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d002
Program Name: Dipole@1900MHz

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1900 MHz; σ = 1.47 mho/m; ε_r = 38.2; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(5.33, 5.33, 5.33); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

SystemPerformanceCheck/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 12.1 mW/g

**SystemPerformanceCheck/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm,
dy=8mm, dz=5mm
Reference Value = 85.6 V/m; Power Drift = 0.019 dB
Peak SAR (extrapolated) = 16.9 W/kg
**SAR(1 g) = 9.69 mW/g; SAR(10 g) = 5.07 mW/g**
Maximum value of SAR (measured) = 11.0 mW/g
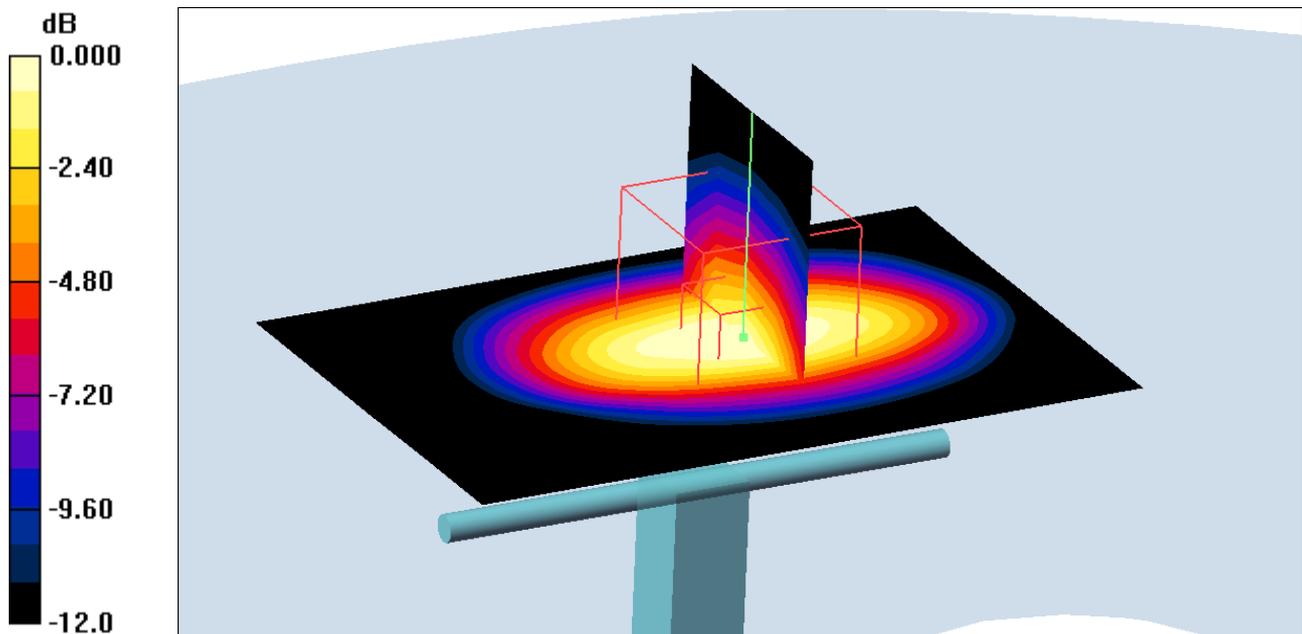
0 dB = 11.0mW/g

Interpolated SAR(x,y,z,f0)

HSL1900; Z Scan 2:Value Along Z, X=0, Y=0
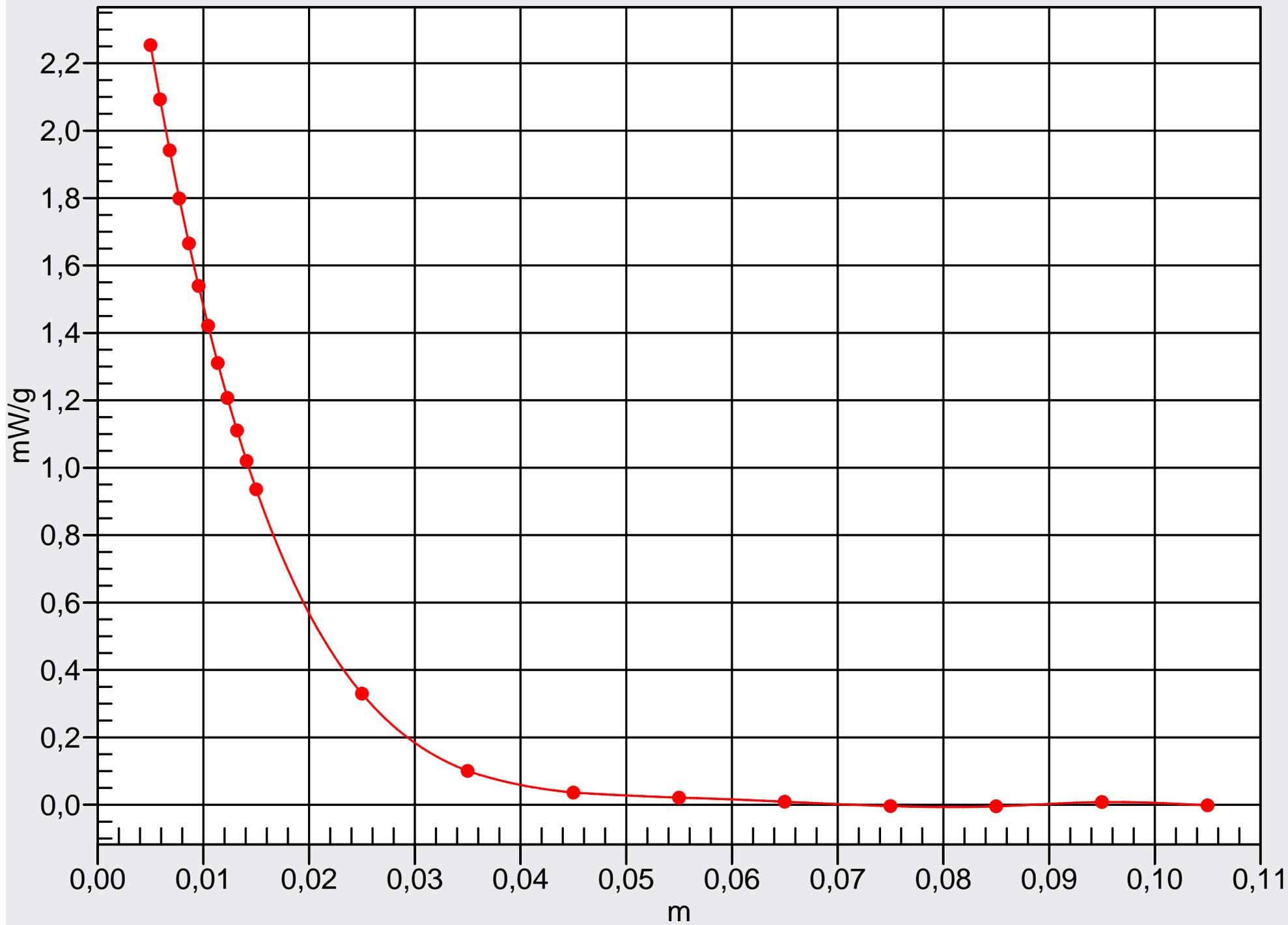
Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: SysPerfCheck1900_2.da4

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d002
Program Name: Dipole@1900MHz

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1900 MHz; σ = 1.45 mho/m; ε_r = 38; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(5.33, 5.33, 5.33); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

SystemPerformanceCheck/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 11.7 mW/g

**SystemPerformanceCheck/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm,
dy=8mm, dz=5mm
Reference Value = 88.9 V/m; Power Drift = -0.038 dB
Peak SAR (extrapolated) = 17.0 W/kg
SAR(1 g) = 9.69 mW/g; SAR(10 g) = 5.05 mW/g
Maximum value of SAR (measured) = 11.0 mW/g
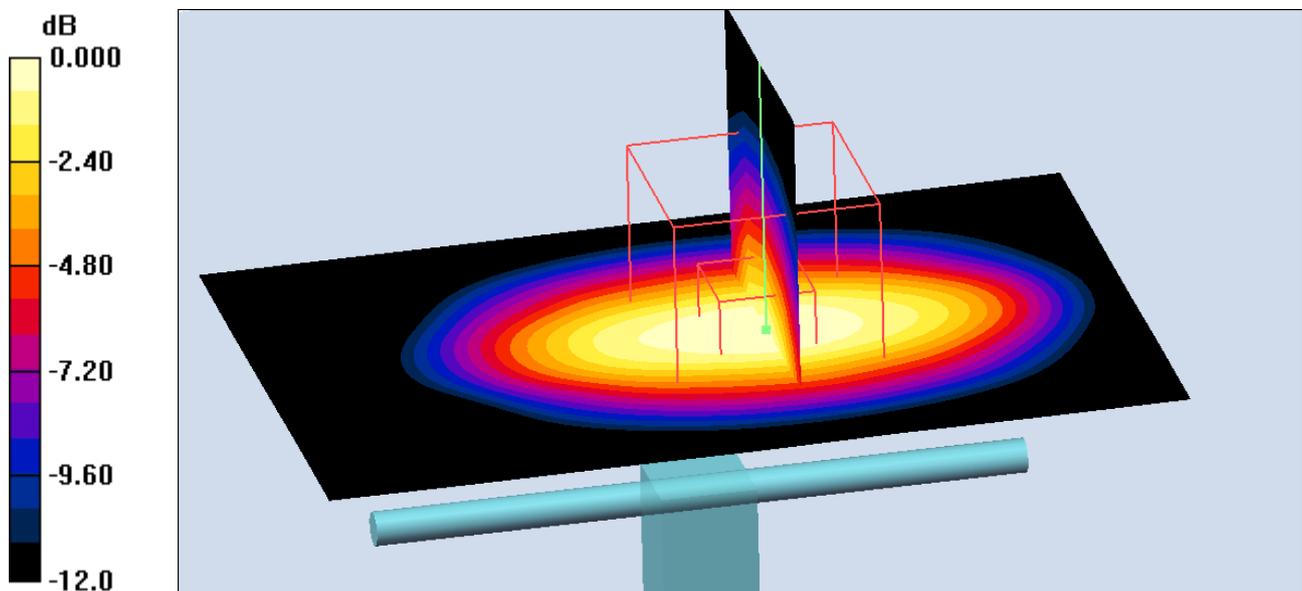
0 dB = 11.0mW/g

Interpolated SAR(x,y,z,f0)

HSL1900; Z Scan:Value Along Z, X=0, Y=0
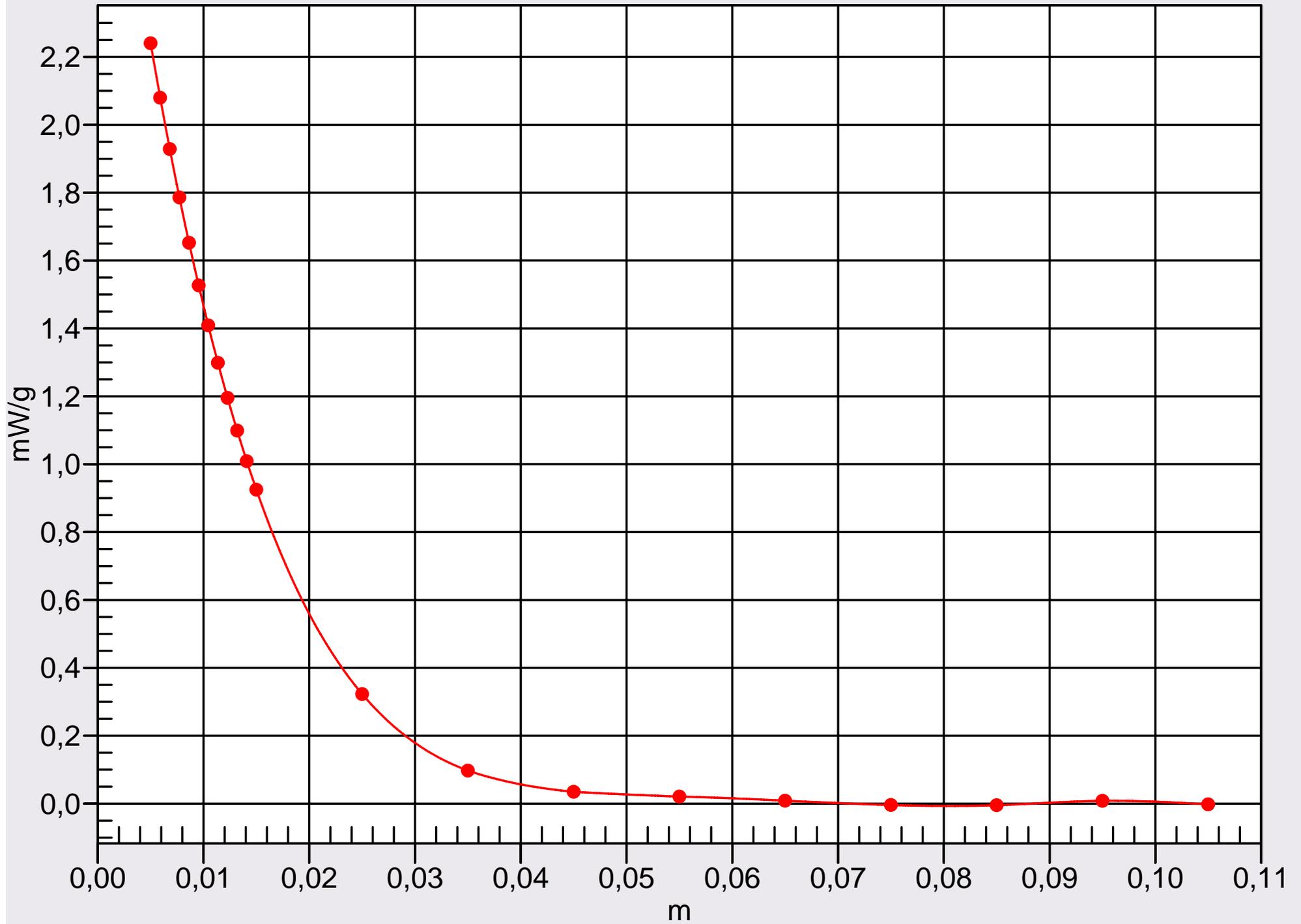
Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: SysPerfCheck1900_3.da4

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d002
Program Name: Dipole@1900MHz

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.45$ mho/m; $\varepsilon_r = 38$; $\rho = 1000$ kg/m^3

Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(5.33, 5.33, 5.33); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

SystemPerformanceCheck/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 11.6 mW/g

SystemPerformanceCheck/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm,
dy=8mm, dz=5mm
Reference Value = 87.7 V/m; Power Drift = -0.053 dB
Peak SAR (extrapolated) = 16.8 W/kg
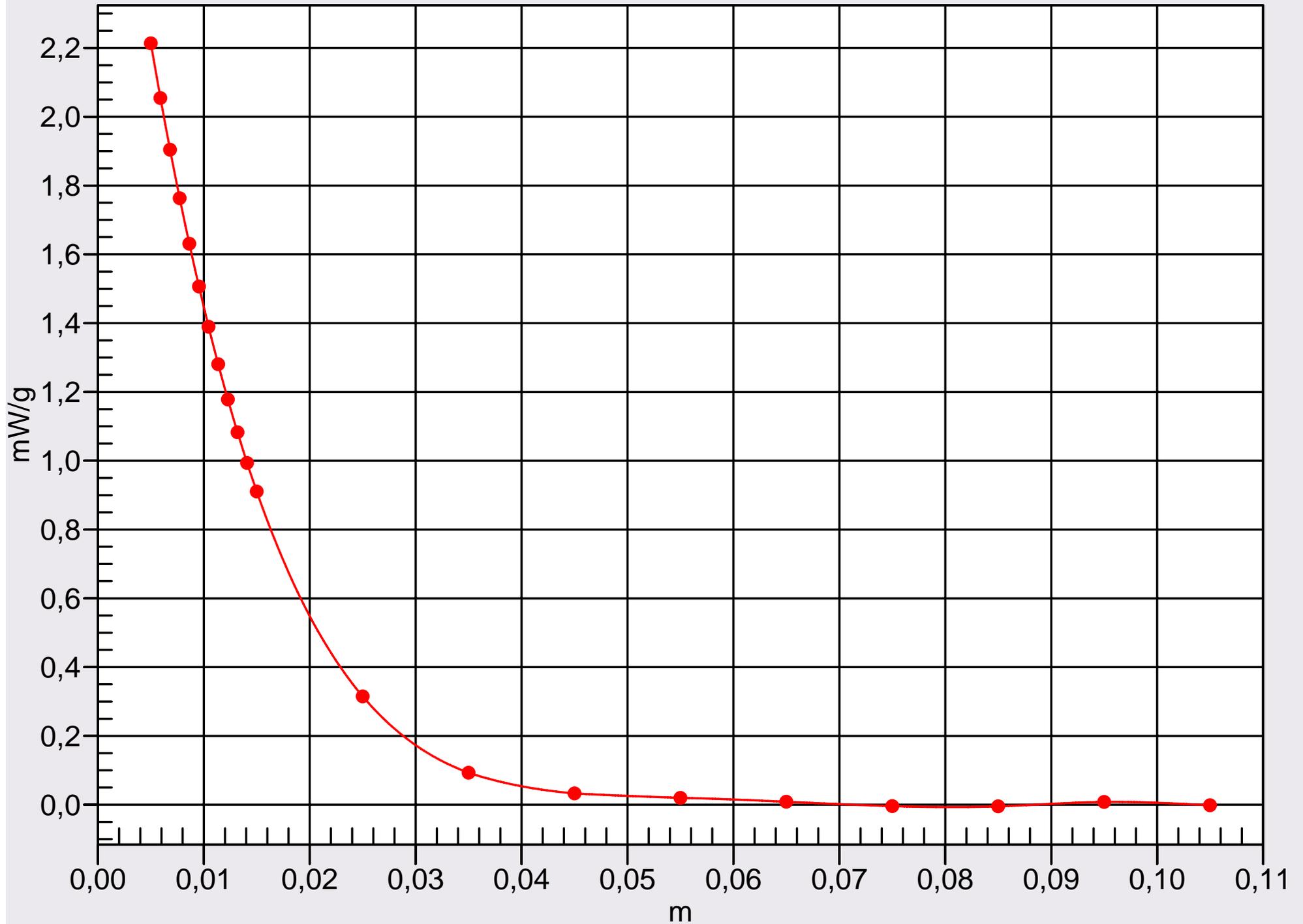**SAR(1 g) = 9.56 mW/g; SAR(10 g) = 4.97 mW/g**
Maximum value of SAR (measured) = 10.8 mW/g
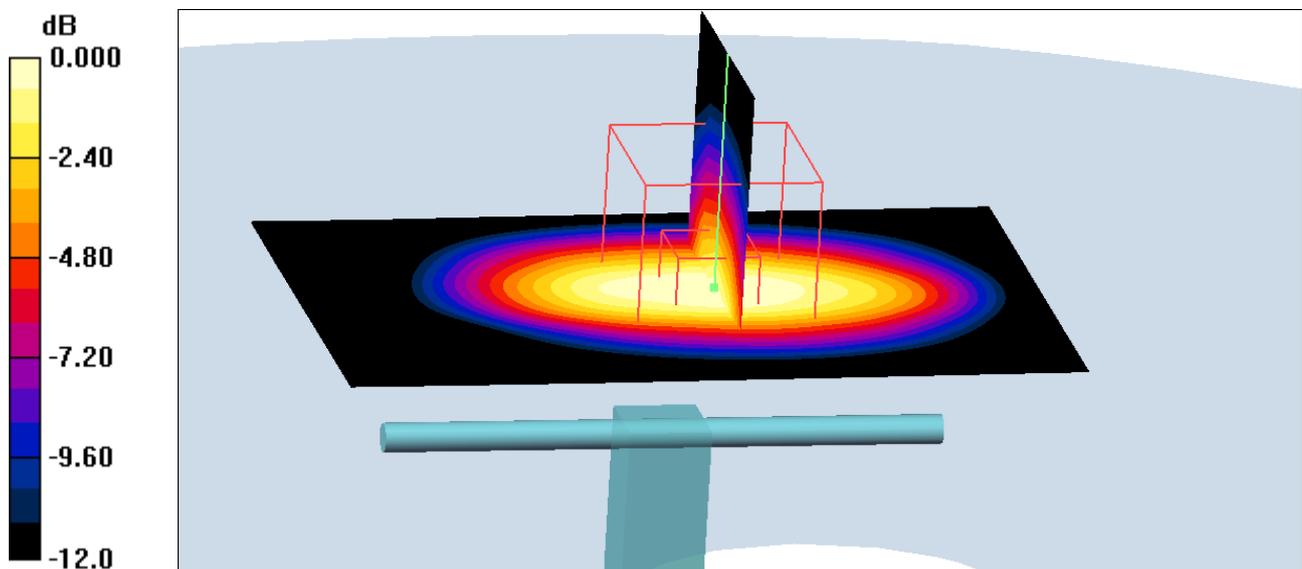
0 dB = 10.8mW/g

Interpolated SAR(x,y,z,f0)

HSL1900; Z Scan:Value Along Z, X=0, Y=0

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: SysPerfCheck1900_4.da4

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d002
Program Name: Dipole@1900MHz

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1900 MHz; σ = 1.59 mho/m; ε_r = 52; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(4.79, 4.79, 4.79); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

SystemPerformanceCheck/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
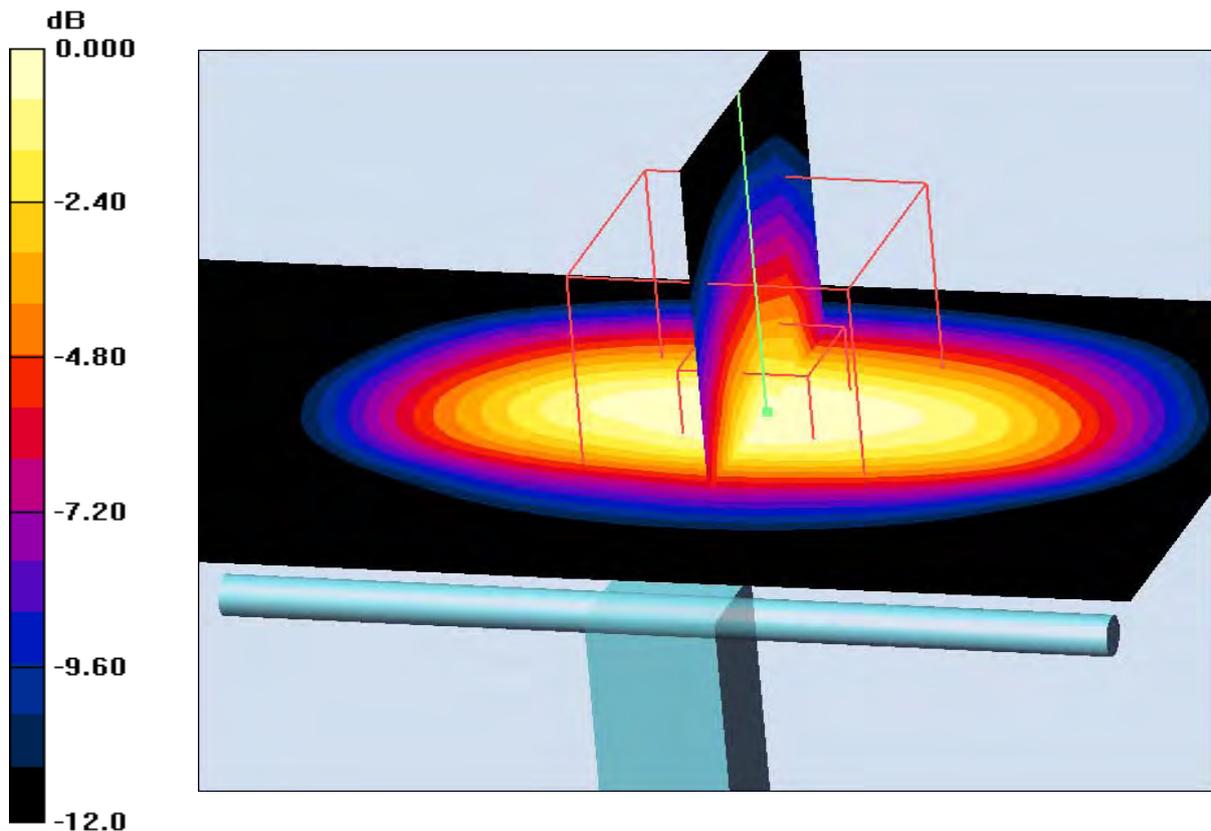Maximum value of SAR (interpolated) = 12.1 mW/g

SystemPerformanceCheck/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 81.0 V/m; Power Drift = -0.131 dB
Peak SAR (extrapolated) = 16.4 W/kg
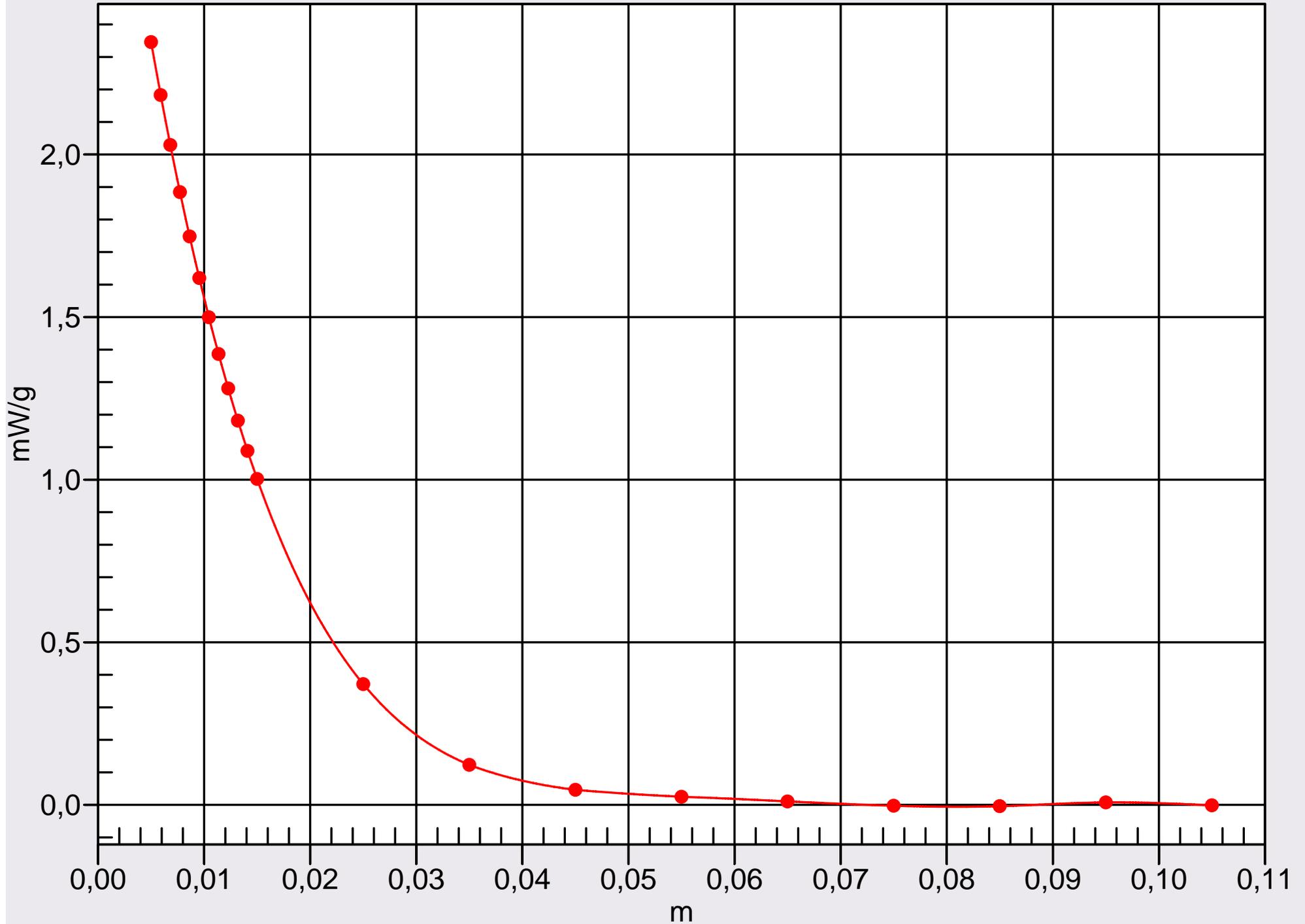**SAR(1 g) = 9.54 mW/g; SAR(10 g) = 5 mW/g**
Maximum value of SAR (measured) = 10.8 mW/g

0 dB = 10.8mW/g

Interpolated SAR(x,y,z,f0)

MSL1900; Z Scan:Value Along Z, X=0, Y=0

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: SysPerfCheck1900_5.da4

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d002
Program Name: Dipole@1900MHz

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1;Communication System
Channel Number: 9

Medium parameters used: f = 1900 MHz; σ = 1.59 mho/m; ε_r = 52; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(4.79, 4.79, 4.79); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)- Electronics: DAE3 Sn419; Calibrated: DAE
not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

SystemPerformanceCheck/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
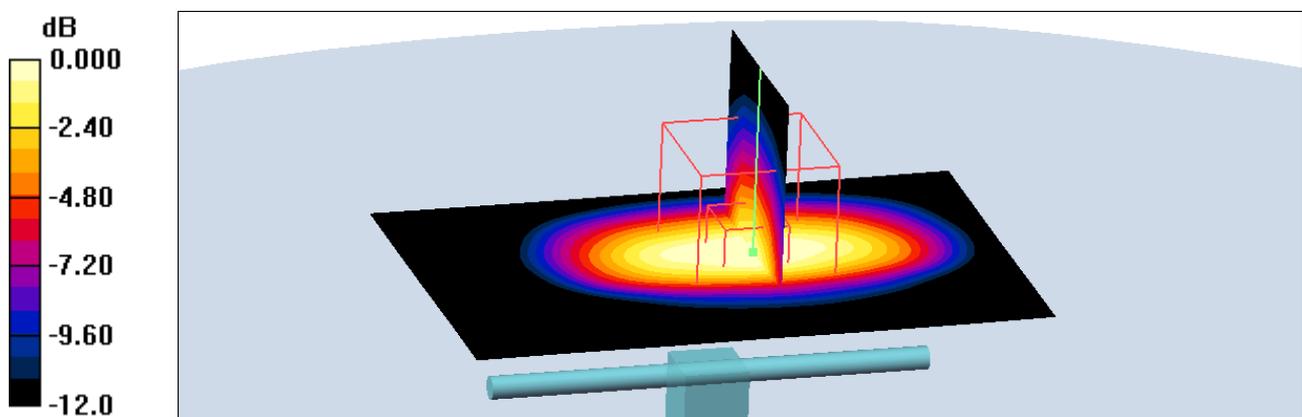Maximum value of SAR (interpolated) = 12.3 mW/g

SystemPerformanceCheck/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm,
dy=8mm, dz=5mm
Reference Value = 79.8 V/m; Power Drift = -0.103 dB
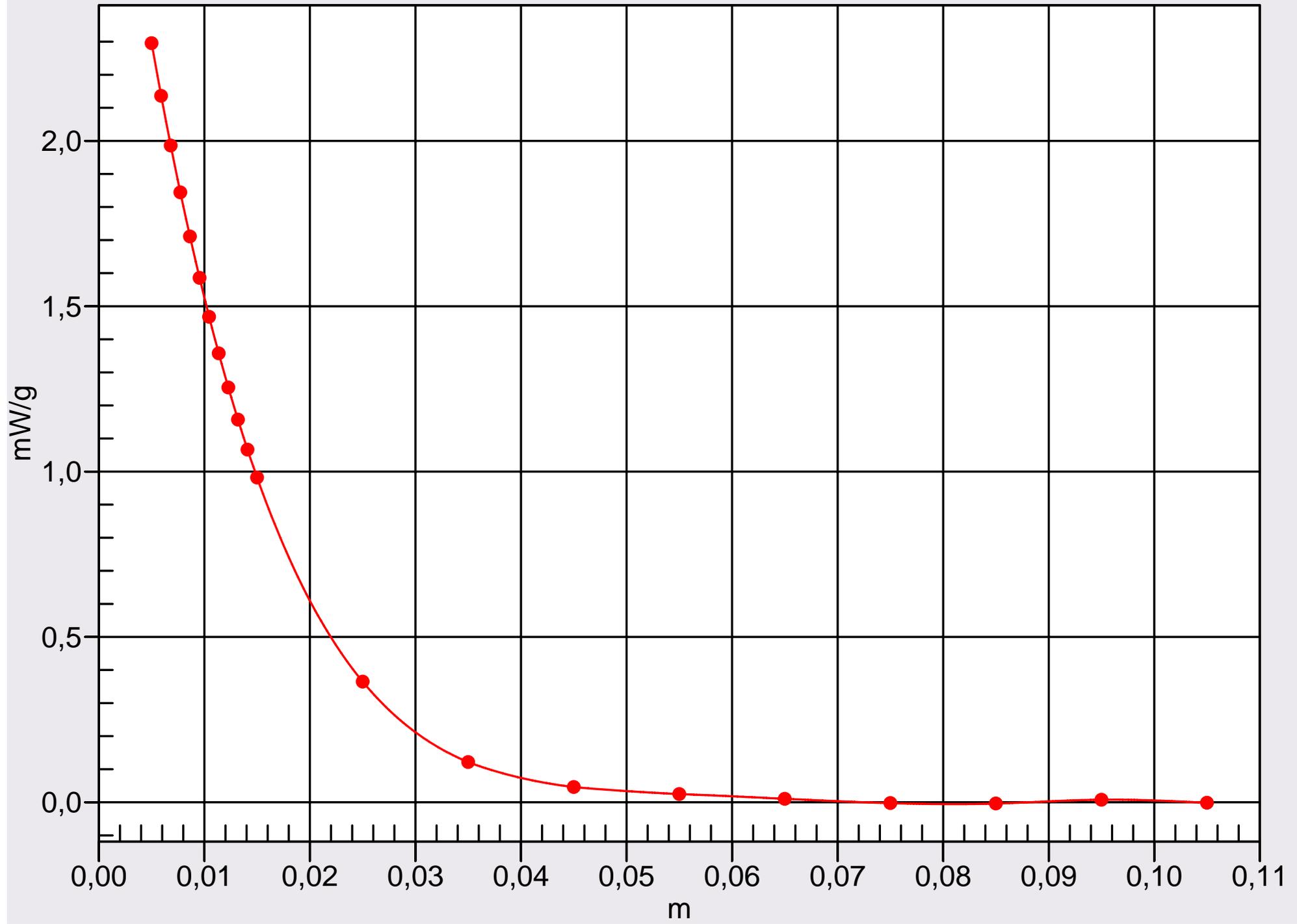Peak SAR (extrapolated) = 16.6 W/kg
SAR(1 g) = 9.68 mW/g; SAR(10 g) = 5.05 mW/g
Maximum value of SAR (measured) = 11.0 mW/g

0 dB = 11.0mW/g

Interpolated SAR(x,y,z,f0)

MSL1900; Z Scan:Value Along Z, X=0, Y=0

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: SysPerfCheck1900_6.da4

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d002
Program Name: Dipole@1900MHz

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1900 MHz; σ = 1.59 mho/m; ε_r = 53; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(4.79, 4.79, 4.79); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

SystemPerformanceCheck/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
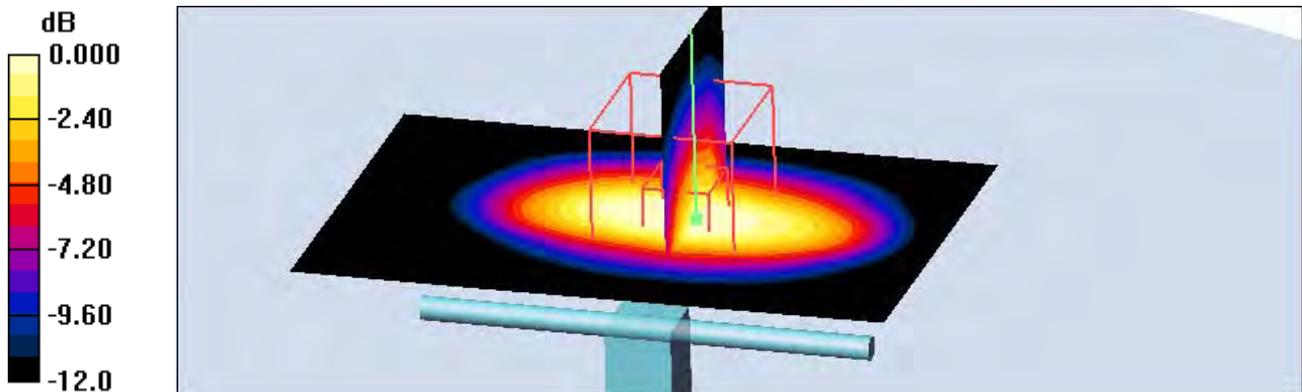Maximum value of SAR (interpolated) = 11.9 mW/g

SystemPerformanceCheck/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 85.5 V/m; Power Drift = 0.003 dB
Peak SAR (extrapolated) = 16.5 W/kg
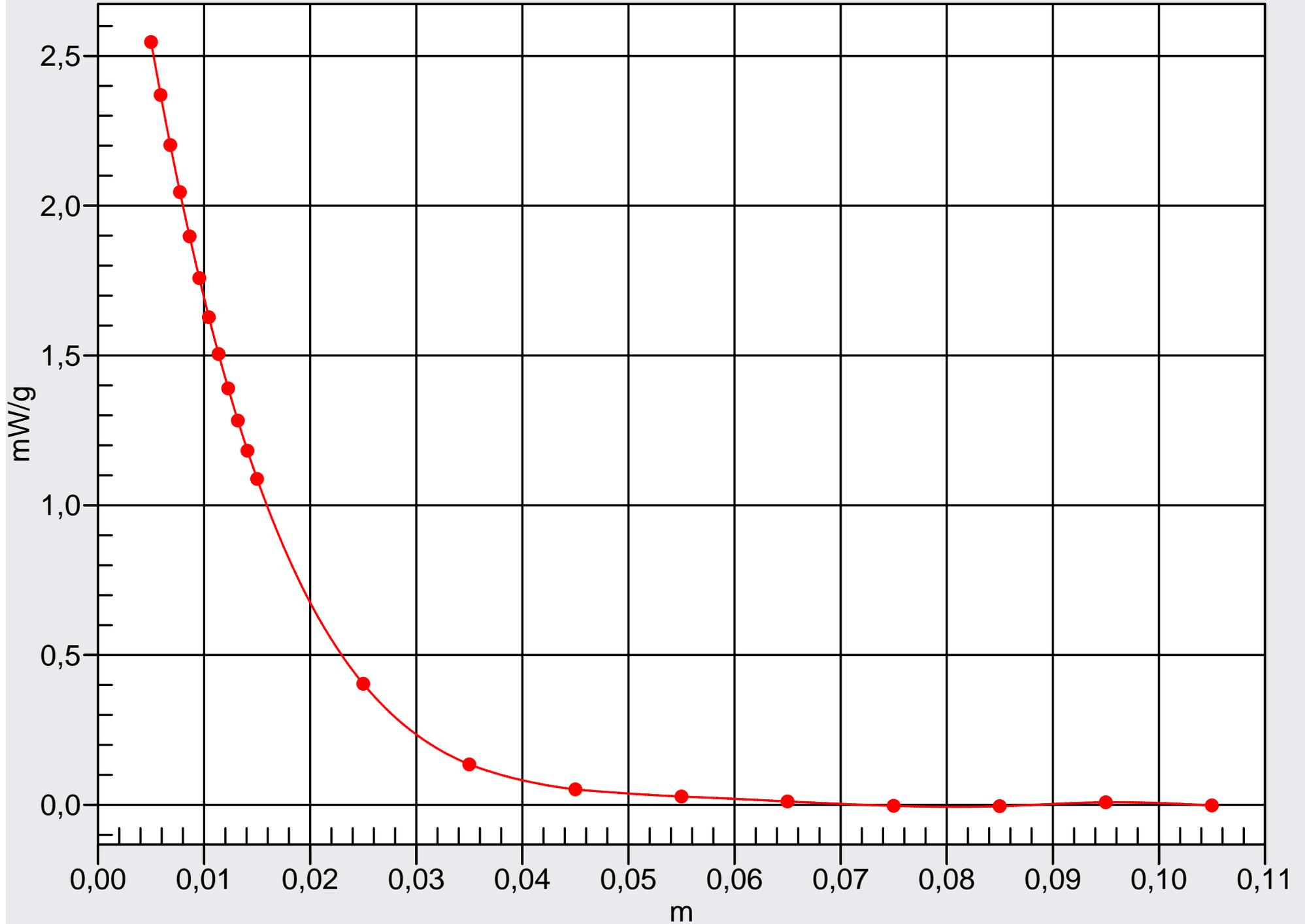**SAR(1 g) = 9.69 mW/g; SAR(10 g) = 5.09 mW/g**
Maximum value of SAR (measured) = 10.9 mW/g

0 dB = 10.9mW/g

Interpolated SAR(x,y,z,f0)

MSL1900; Z Scan:Value Along Z, X=0, Y=0

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: GSM850_Right.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
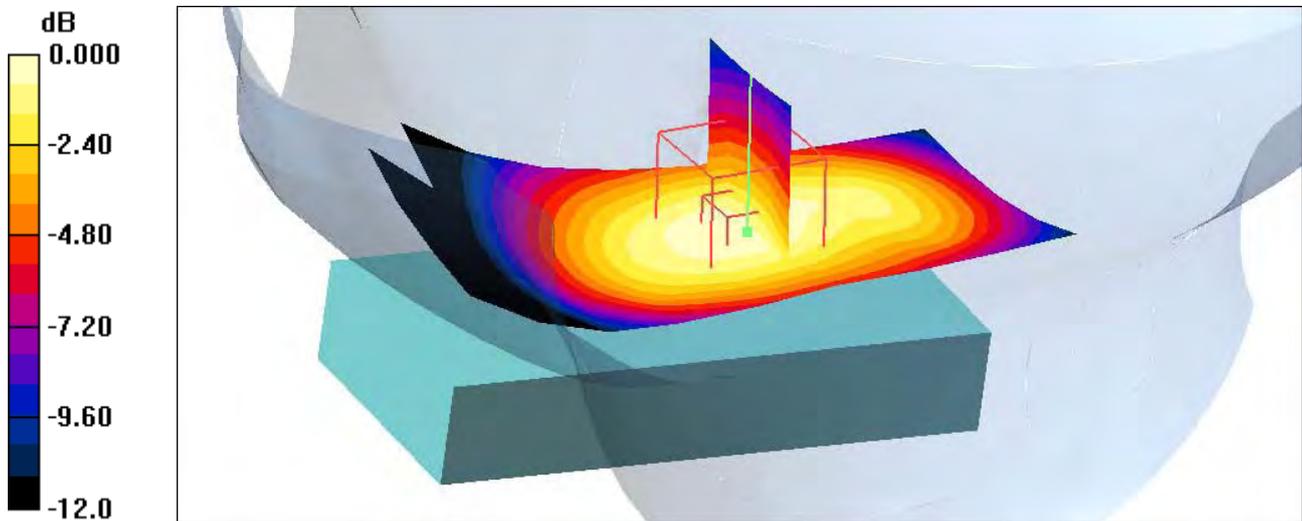**Program Name: Right Hand Side**

Communication System: GSM835MHz; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.883 mho/m; ε_r = 40.1; ρ = 1000 kg/m^3

Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(6.89, 6.89, 6.89); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Touch High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 30.1 V/m; Power Drift = -0.007 dB
Peak SAR (extrapolated) = 1.48 W/kg
SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.698 mW/g
Maximum value of SAR (measured) = 1.12 mW/g

Touch High/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.10 mW/g

0 dB = 1.10mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: GSM850_Right.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Right Hand Side

Communication System: GSM835MHz; Frequency: 836.6 MHz;Duty Cycle: 1:8.3

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.871 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3

Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(6.89, 6.89, 6.89); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Tilt Mid/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
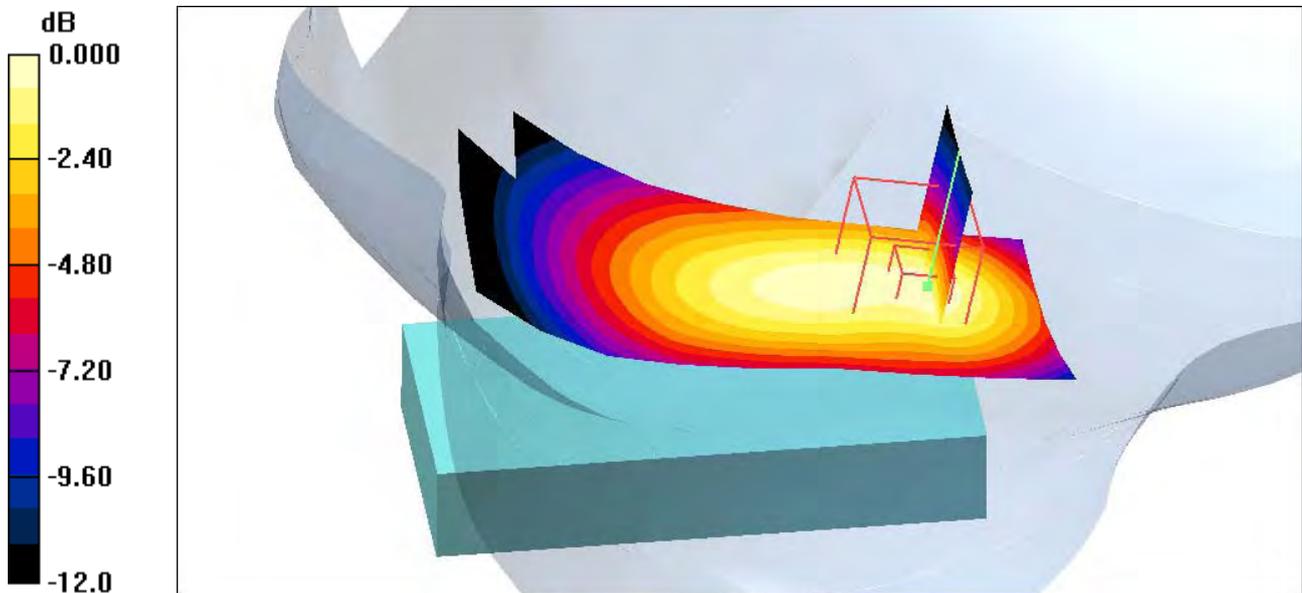Maximum value of SAR (interpolated) = 0.599 mW/g

Tilt Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.2 V/m; Power Drift = -0.040 dB
Peak SAR (extrapolated) = 1.02 W/kg
SAR(1 g) = 0.558 mW/g; SAR(10 g) = 0.353 mW/g
Maximum value of SAR (measured) = 0.614 mW/g

0 dB = 0.614mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: GSM850_Left.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Left Hand Side

Communication System: GSM835MHz; Frequency: 848.8 MHz;Duty Cycle: 1:8.3

Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.883 mho/m; ε_r = 40.1; ρ = 1000 kg/m^3

Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(6.89, 6.89, 6.89); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Touch High/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
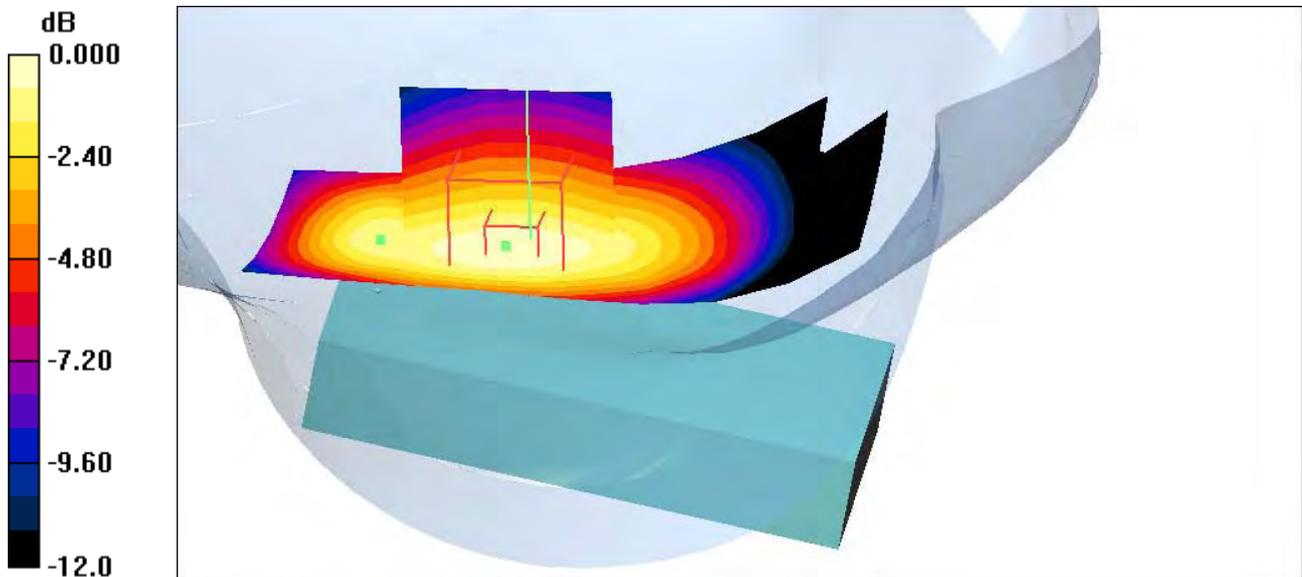Maximum value of SAR (interpolated) = 1.15 mW/g

Touch High/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 32.7 V/m; Power Drift = -0.121 dB
Peak SAR (extrapolated) = 1.49 W/kg
SAR(1 g) = 1.06 mW/g; SAR(10 g) = 0.726 mW/g
Maximum value of SAR (measured) = 1.11 mW/g

0 dB = 1.11mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: GSM850_Left.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Left Hand Side

Communication System: GSM835MHz; Frequency: 836.6 MHz;Duty Cycle: 1:8.3

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.871 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3

Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(6.89, 6.89, 6.89); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Tilt Mid/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
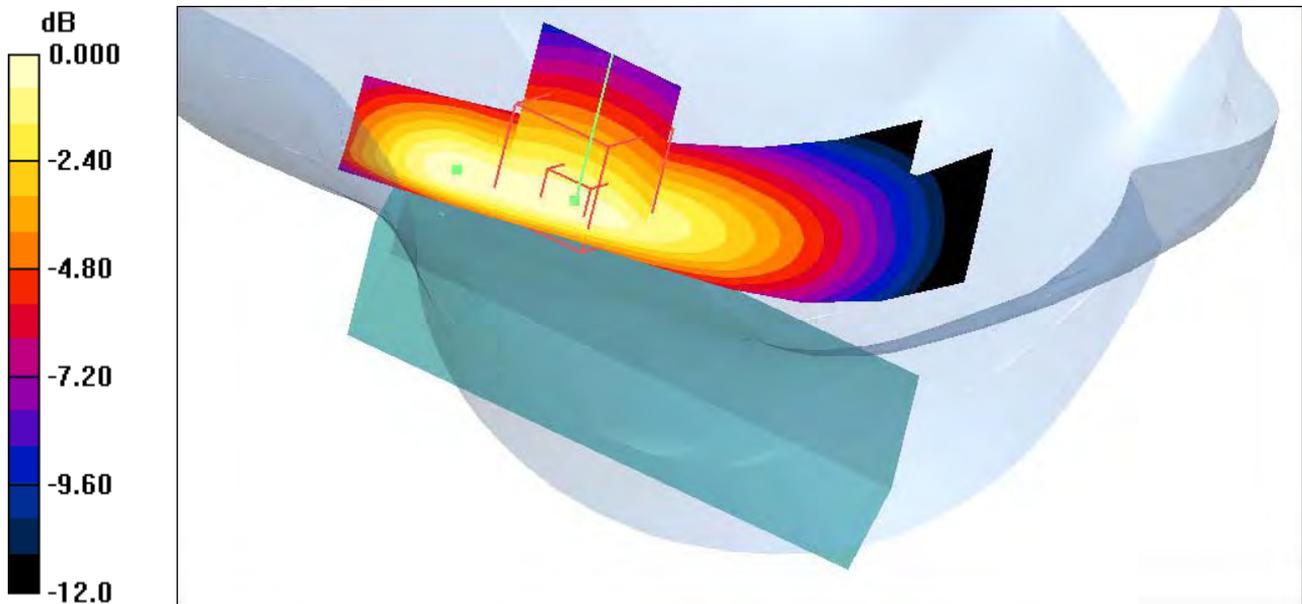Maximum value of SAR (interpolated) = 0.601 mW/g

Tilt Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.7 V/m; Power Drift = -0.006 dB
Peak SAR (extrapolated) = 0.817 W/kg
SAR(1 g) = 0.562 mW/g; SAR(10 g) = 0.391 mW/g
Maximum value of SAR (measured) = 0.600 mW/g

0 dB = 0.600mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: GSM835_Body_Speech.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Body d=15mm

Communication System: GSM835MHz; Frequency: 824.2 MHz;Duty Cycle: 1:8.3;Communication System Channel Number: 128

Medium parameters used: f = 825 MHz; σ = 0.975 mho/m; ε_r = 54.6; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(6.94, 6.94, 6.94); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Low Speech BT/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
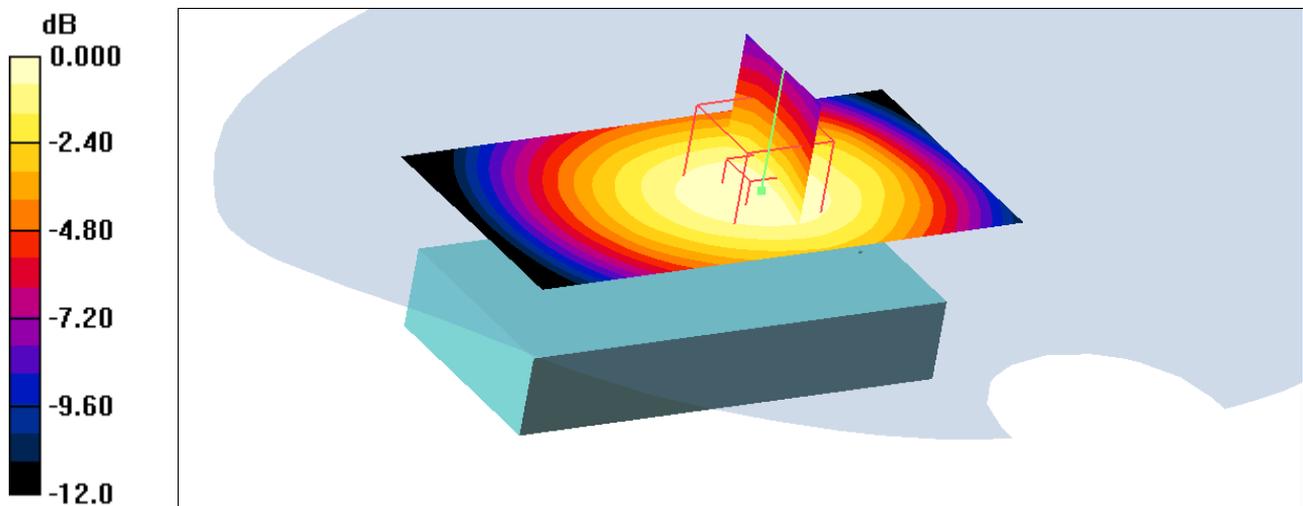Maximum value of SAR (interpolated) = 0.973 mW/g

Low Speech BT/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.0 V/m; Power Drift = -0.033 dB
Peak SAR (extrapolated) = 1.20 W/kg
SAR(1 g) = 0.926 mW/g; SAR(10 g) = 0.667 mW/g
Maximum value of SAR (measured) = 0.981 mW/g

0 dB = 0.981mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: GSM835_Body_Speech.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Body d=15mm

Communication System: GSM835MHz; Frequency: 824.2 MHz;Duty Cycle: 1:8.3

Medium parameters used: f = 825 MHz; σ = 0.975 mho/m; ε_r = 54.6; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(6.94, 6.94, 6.94); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Low Speech PHF/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
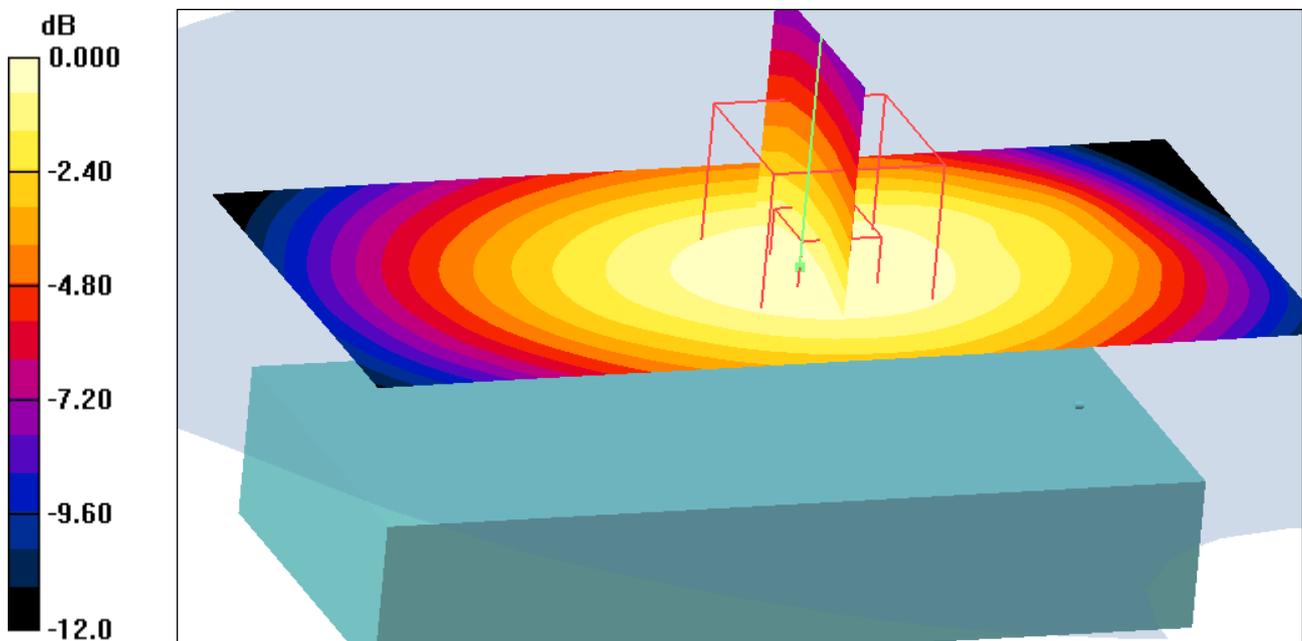Maximum value of SAR (interpolated) = 0.684 mW/g

Low Speech PHF/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19.5 V/m; Power Drift = -0.023 dB
Peak SAR (extrapolated) = 0.846 W/kg
SAR(1 g) = 0.651 mW/g; SAR(10 g) = 0.469 mW/g
Maximum value of SAR (measured) = 0.683 mW/g

0 dB = 0.683mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: GSM835_Body_Speech.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Body d=15mm

Communication System: GSM835MHz; Frequency: 824.2 MHz;Duty Cycle: 1:8.3

Medium parameters used: f = 825 MHz; σ = 0.975 mho/m; ε_r = 54.6; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(6.94, 6.94, 6.94); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Low Speech BT Frontside/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
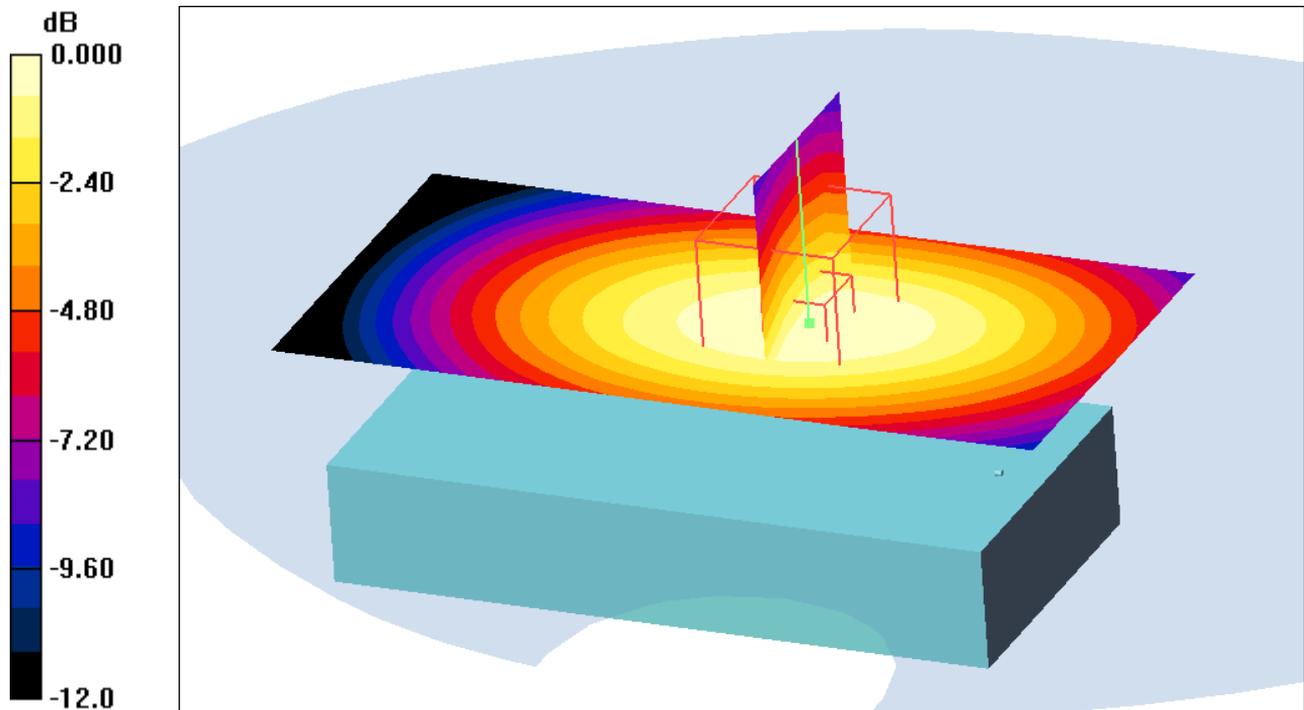Maximum value of SAR (interpolated) = 0.574 mW/g

Low Speech BT Frontside/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.0 V/m; Power Drift = -0.048 dB
Peak SAR (extrapolated) = 0.708 W/kg
SAR(1 g) = 0.537 mW/g; SAR(10 g) = 0.382 mW/g
Maximum value of SAR (measured) = 0.572 mW/g

0 dB = 0.572mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: GSM835_Body_Data.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Body d=15mm

Communication System: GSM835MHz_GPRS2Slots; Frequency: 824.2 MHz;Duty Cycle: 1:4.15

Medium parameters used: f = 825 MHz; σ = 0.975 mho/m; $ε_r$ = 54.6; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(6.94, 6.94, 6.94); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Low GPRS/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
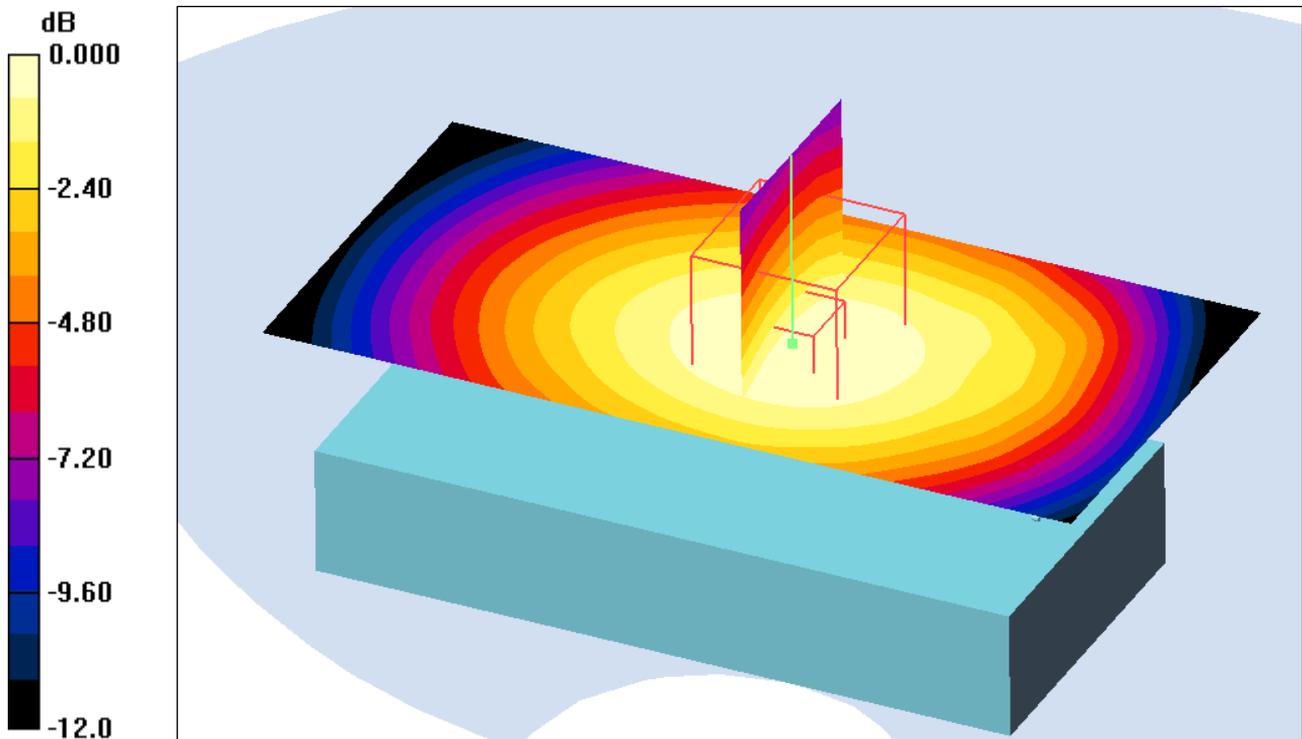Reference Value = 27.2 V/m; Power Drift = -0.029 dB
Peak SAR (extrapolated) = 1.61 W/kg
SAR(1 g) = 1.26 mW/g; SAR(10 g) = 0.908 mW/g
Maximum value of SAR (measured) = 1.33 mW/g

Low GPRS/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.32 mW/g

0 dB = 1.32mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: GSM1900_Right.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Right Hand Side

Communication System: GSM 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3

Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.4 mho/m; ε_r = 38.2; ρ = 1000 kg/m^3

Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(5.33, 5.33, 5.33); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Low Touch/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.30 mW/g

Low Touch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.0 V/m; Power Drift = -0.006 dB
Peak SAR (extrapolated) = 2.12 W/kg
SAR(1 g) = 1.14 mW/g; SAR(10 g) = 0.604 mW/g
Maximum value of SAR (measured) = 1.27 mW/g
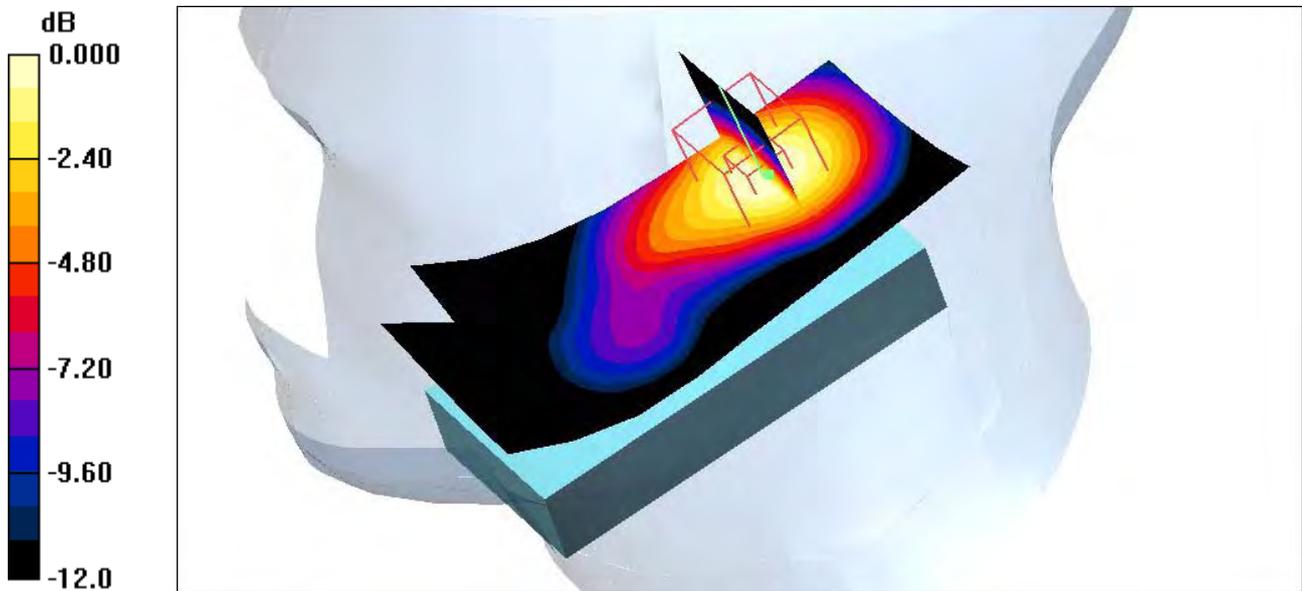
0 dB = 1.27mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: GSM1900_Right.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Right Hand Side

Communication System: GSM 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3

Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.4 mho/m; ε_r = 38.2; ρ = 1000 kg/m^3

Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(5.33, 5.33, 5.33); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Low Tilt/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
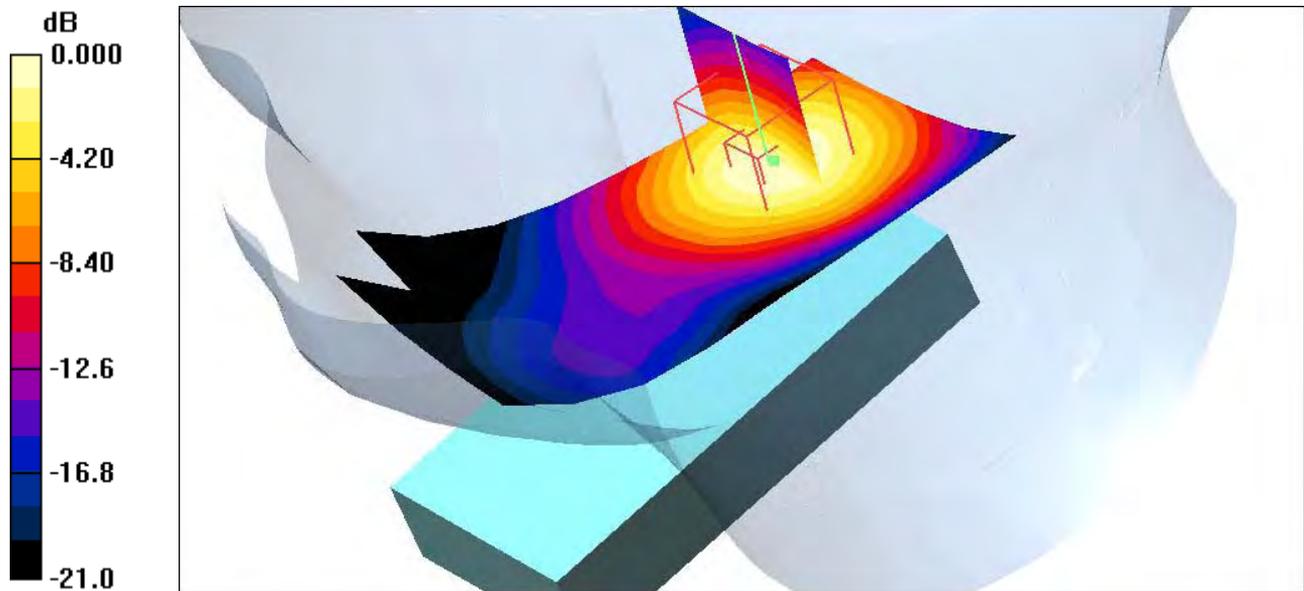Maximum value of SAR (interpolated) = 1.38 mW/g

Low Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.3 V/m; Power Drift = -0.007 dB
Peak SAR (extrapolated) = 2.11 W/kg
SAR(1 g) = 1.15 mW/g; SAR(10 g) = 0.612 mW/g
Maximum value of SAR (measured) = 1.28 mW/g

0 dB = 1.28mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: GSM1900_Left.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Left Hand Side

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3;Communication System Channel Number: 661

Medium parameters used: f = 1880 MHz; σ = 1.43 mho/m; ε_r = 38.1; ρ = 1000 kg/m^3

Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(5.33, 5.33, 5.33); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Mid Touch/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
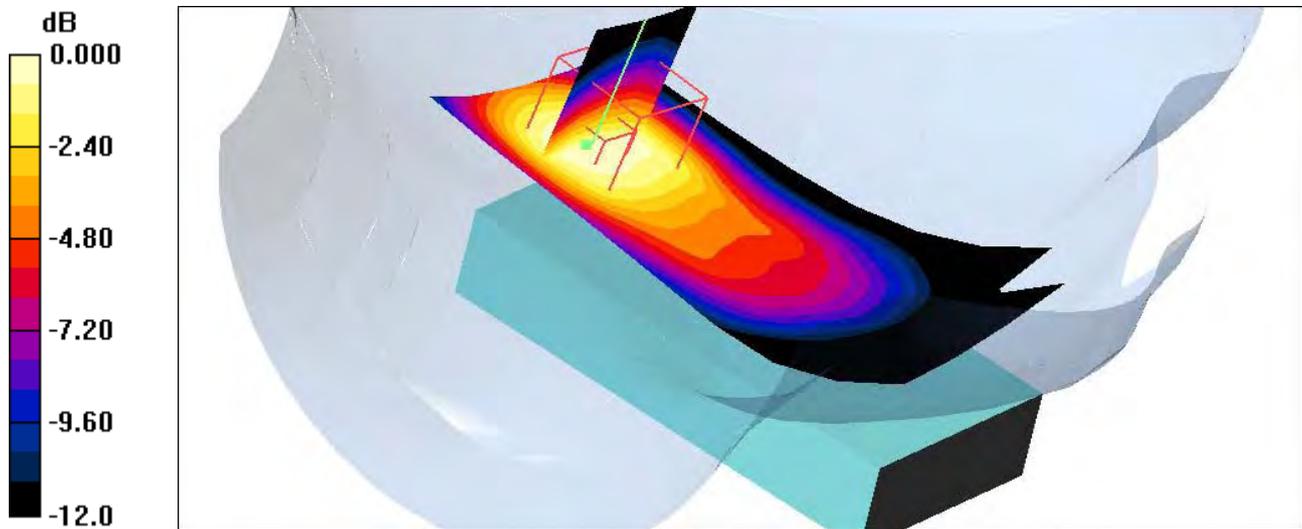Maximum value of SAR (interpolated) = 0.769 mW/g

Mid Touch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.8 V/m; Power Drift = -0.026 dB
Peak SAR (extrapolated) = 1.12 W/kg
SAR(1 g) = 0.673 mW/g; SAR(10 g) = 0.389 mW/g
Maximum value of SAR (measured) = 0.735 mW/g

0 dB = 0.735mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: GSM1900_Left.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Left Hand Side

Communication System: GSM 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3;Communication System Channel Number: 512

Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.4 mho/m; $ε_r$ = 38.2; ρ = 1000 kg/m^3

Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(5.33, 5.33, 5.33); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Low Tilt/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
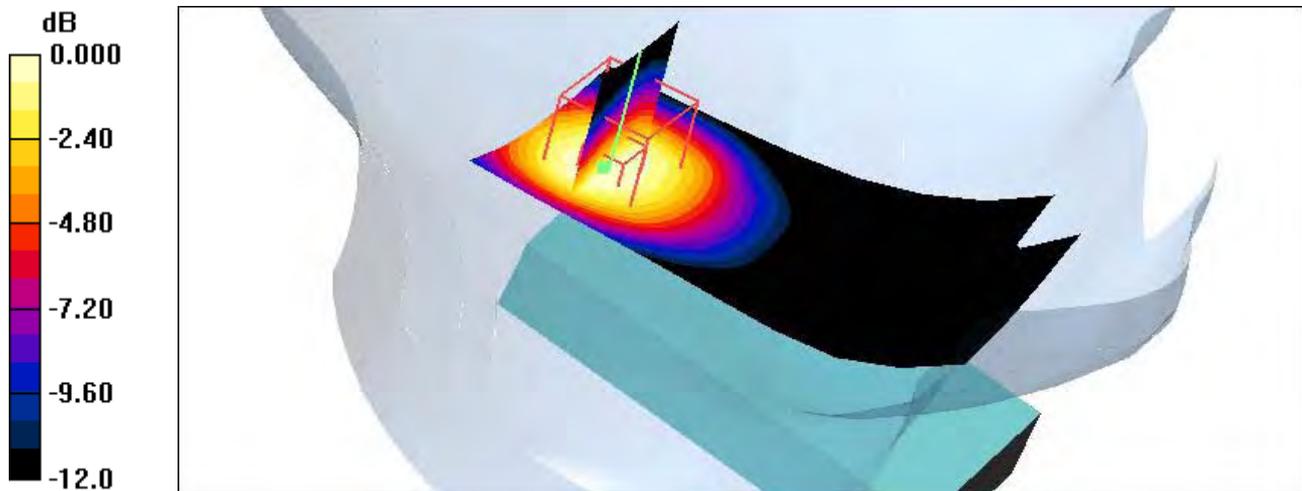Maximum value of SAR (interpolated) = 0.970 mW/g

Low Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.0 V/m; Power Drift = -0.014 dB
Peak SAR (extrapolated) = 1.40 W/kg
SAR(1 g) = 0.856 mW/g; SAR(10 g) = 0.485 mW/g
Maximum value of SAR (measured) = 0.935 mW/g

0 dB = 0.935mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: GSM1900_Body_Speech.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Unnamed Program

Communication System: GSM 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3;Communication
System Channel Number: 512

Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.54 mho/m; ε_r = 52.2; ρ = 1000

kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(4.79, 4.79, 4.79); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)- Electronics: DAE3 Sn419; Calibrated: DAE
not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

PHF low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
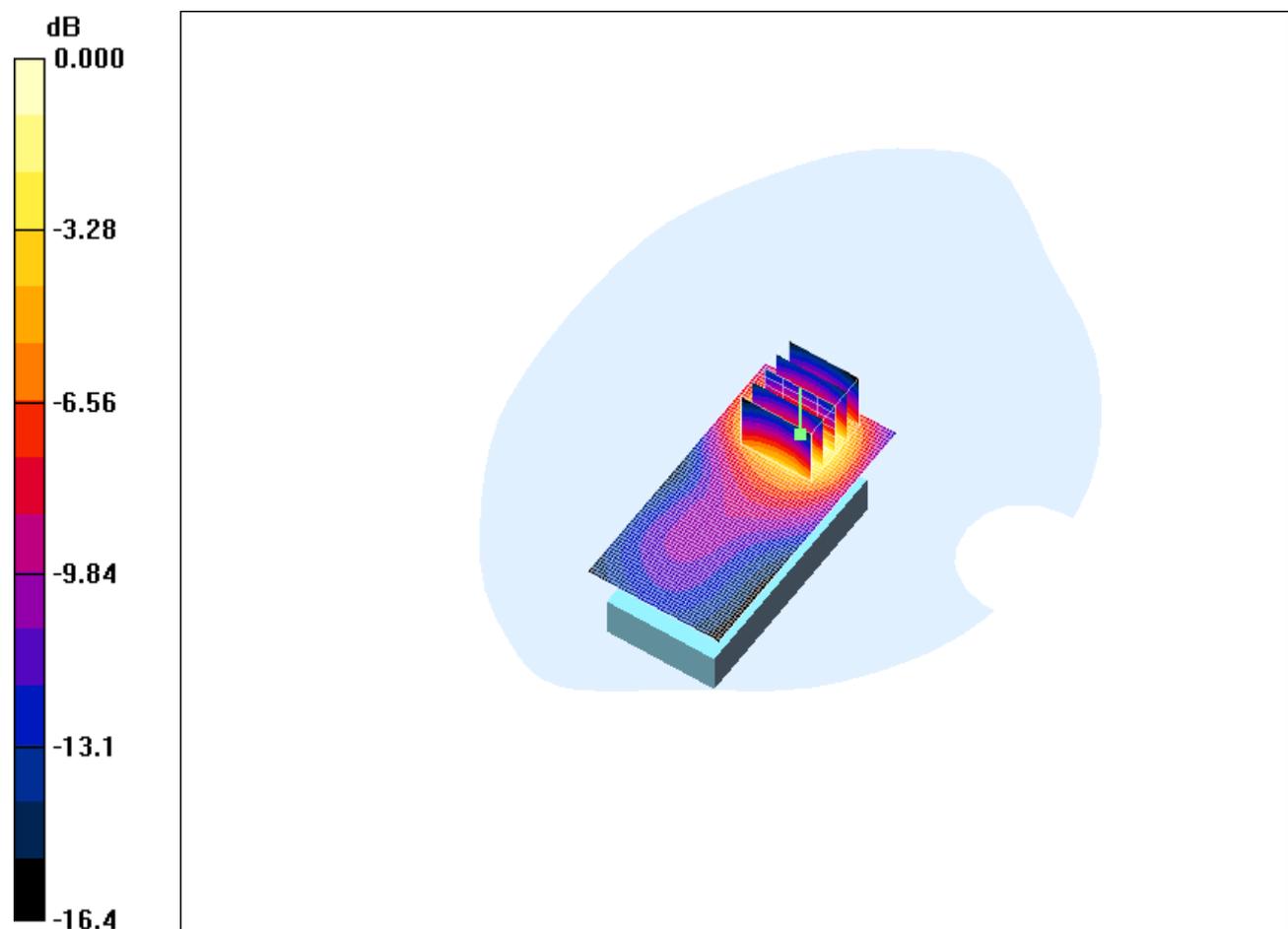Reference Value = 30.3 V/m; Power Drift = -0.047 dB
Peak SAR (extrapolated) = 1.75 W/kg
SAR(1 g) = 1.11 mW/g; SAR(10 g) = 0.630 mW/g
Maximum value of SAR (measured) = 1.23 mW/g

PHF low/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.25 mW/g

0 dB = 1.25mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: GSM1900_Body_Data.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Body d=15mm

Communication System: GSM1900_GPRS; Frequency: 1850.2 MHz;Duty Cycle:
1:4.15;Communication System Channel Number: 512

Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.54 mho/m; ε_r = 52.2; ρ = 1000
kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(4.79, 4.79, 4.79); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)- Electronics: DAE3 Sn419; Calibrated: DAE
not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

GPRS Low/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.30 mW/g

GPRS Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 31.1 V/m; Power Drift = -0.168 dB
Peak SAR (extrapolated) = 1.79 W/kg
SAR(1 g) = 1.14 mW/g; SAR(10 g) = 0.652 mW/g
Maximum value of SAR (measured) = 1.26 mW/g

0 dB = 1.26mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: GSM1900_Body_Speech.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Unnamed Program

Communication System: GSM 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3;Communication System Channel Number: 512
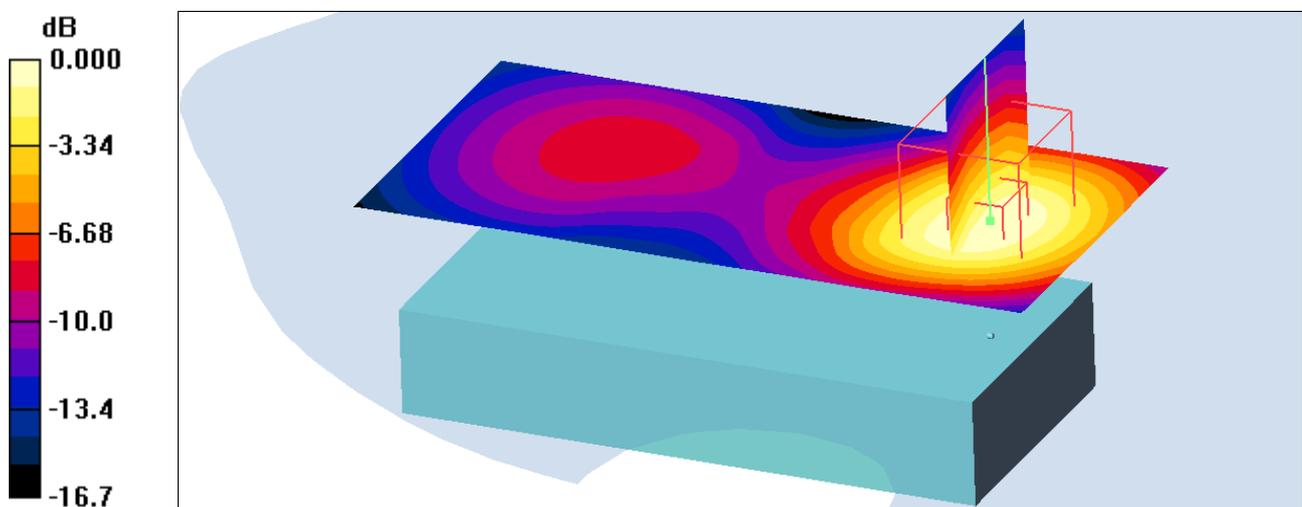
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.54 mho/m; ε_r = 52.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(4.79, 4.79, 4.79); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

PHF Front Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
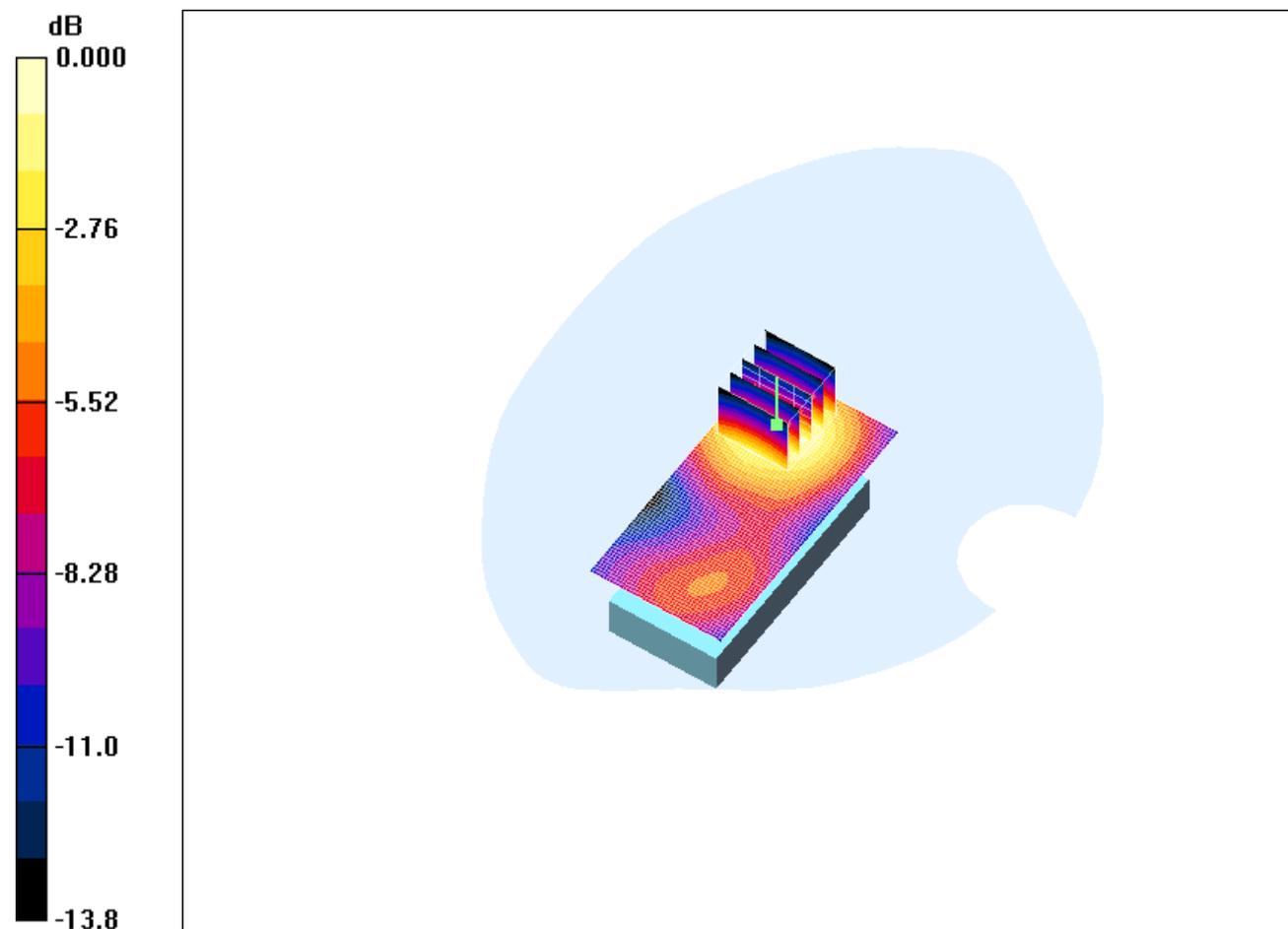Reference Value = 11.4 V/m; Power Drift = -0.036 dB
Peak SAR (extrapolated) = 0.293 W/kg
SAR(1 g) = 0.188 mW/g; SAR(10 g) = 0.115 mW/g
Maximum value of SAR (measured) = 0.203 mW/g

PHF Front Low/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.203 mW/g

0 dB = 0.203mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: GSM1900_Body_Speech.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Unnamed Program

Communication System: GSM 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3;Communication
System Channel Number: 512

Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.54 mho/m; ε_r = 52.2; ρ = 1000
kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(4.79, 4.79, 4.79); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)- Electronics: DAE3 Sn419; Calibrated: DAE
not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

BT Low/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
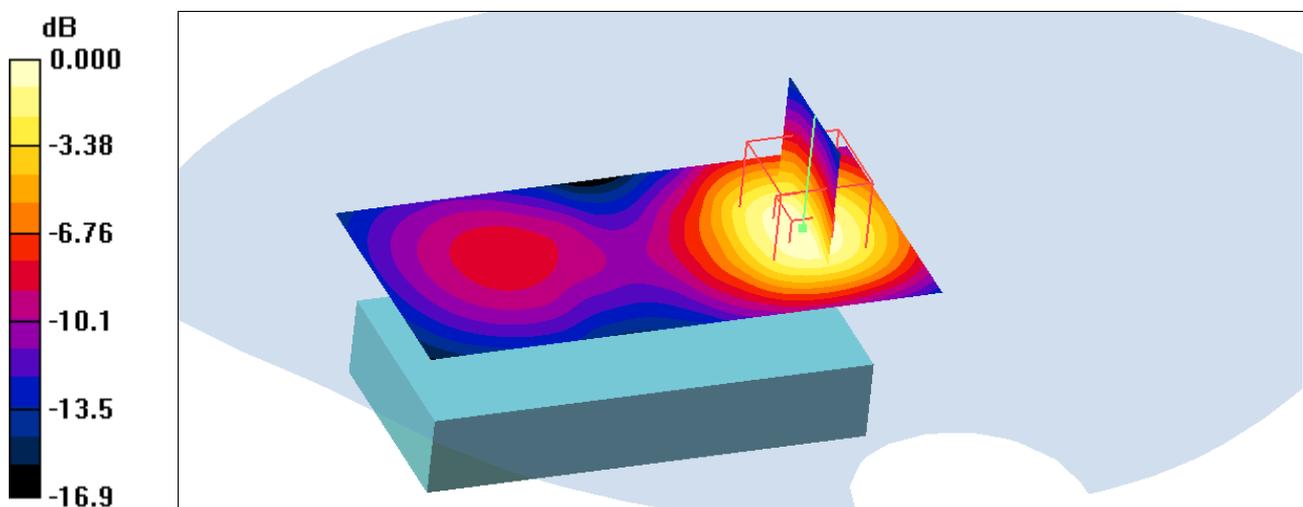Maximum value of SAR (interpolated) = 1.33 mW/g

BT Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 31.1 V/m; Power Drift = -0.060 dB
Peak SAR (extrapolated) = 1.87 W/kg
SAR(1 g) = 1.17 mW/g; SAR(10 g) = 0.661 mW/g
Maximum value of SAR (measured) = 1.30 mW/g

0 dB = 1.30mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: UMTS_II_Right.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Right Hand Side

Communication System: UMTS II; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.42 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3

Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(5.33, 5.33, 5.33); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Low Touch/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.56 mW/g

Low Touch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.7 V/m; Power Drift = -0.096 dB
Peak SAR (extrapolated) = 2.45 W/kg
SAR(1 g) = 1.35 mW/g; SAR(10 g) = 0.733 mW/g
Maximum value of SAR (measured) = 1.49 mW/g

0 dB = 1.49mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: UMTS_II_Right.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Right Hand Side

Communication System: UMTS II; Frequency: 1852.4 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.42 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3

Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(5.33, 5.33, 5.33); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Low Tilt/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
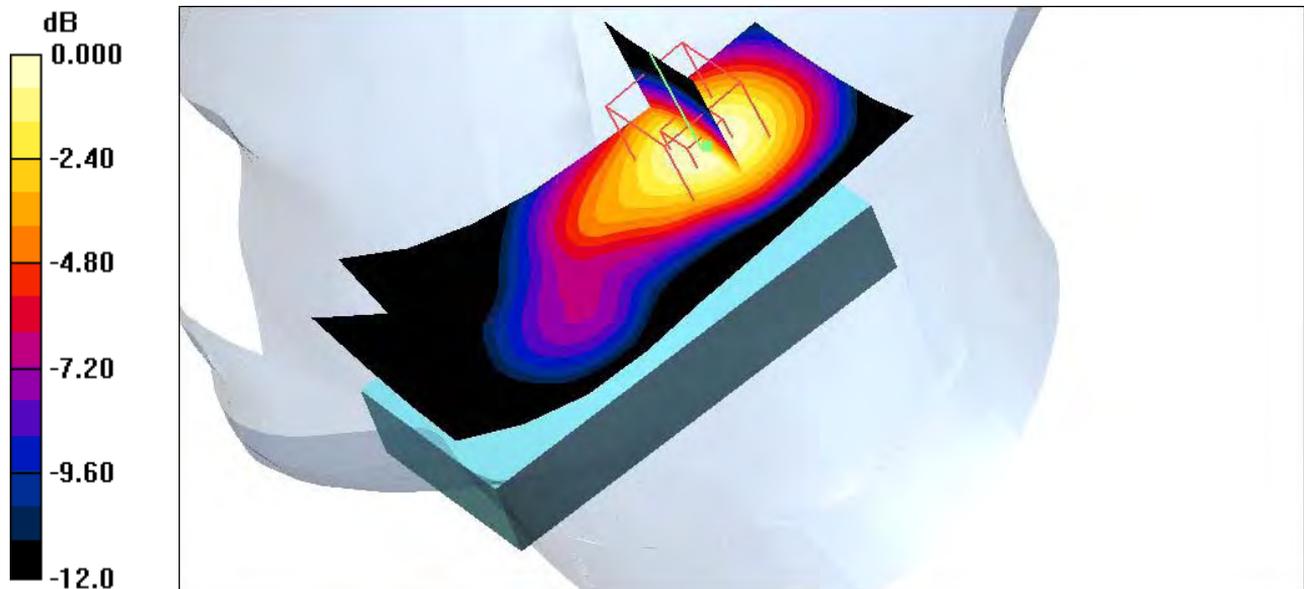Maximum value of SAR (interpolated) = 1.54 mW/g

Low Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.5 V/m; Power Drift = -0.013 dB
Peak SAR (extrapolated) = 2.33 W/kg
SAR(1 g) = 1.3 mW/g; SAR(10 g) = 0.698 mW/g
Maximum value of SAR (measured) = 1.45 mW/g

0 dB = 1.45mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: UMTS_II_Left.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Left Hand Side

Communication System: UMTS II; Frequency: 1852.4 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.41 mho/m; ε_r = 38.2; ρ = 1000 kg/m^3

Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(5.33, 5.33, 5.33); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Low Touch/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
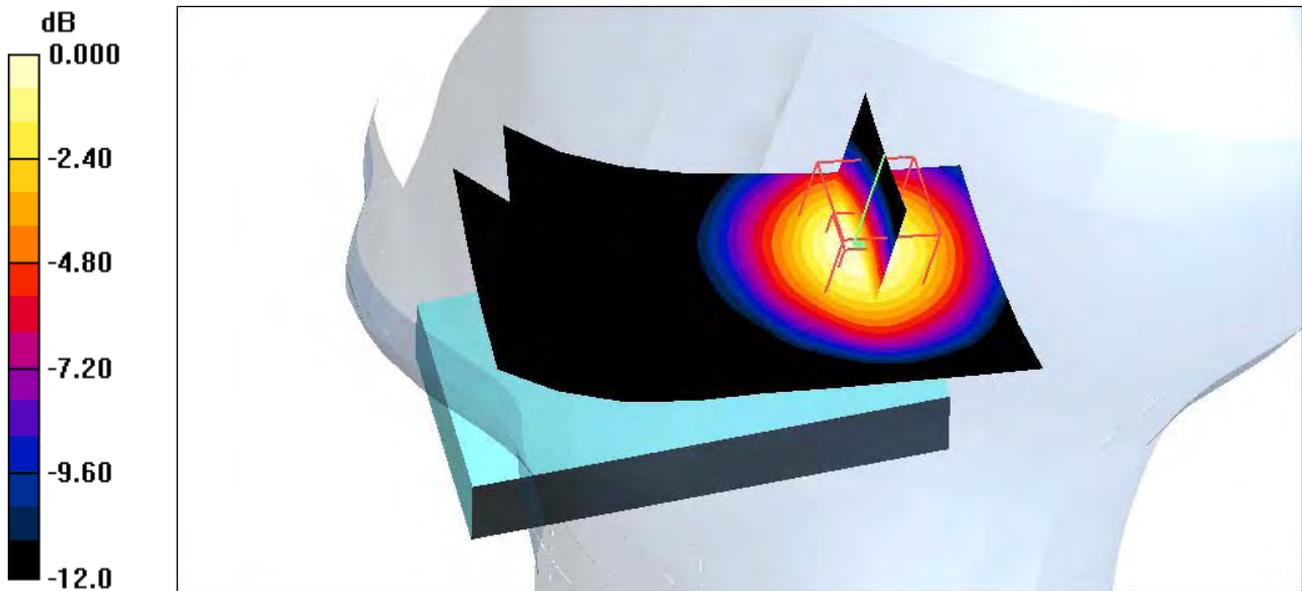Maximum value of SAR (interpolated) = 1.10 mW/g

Low Touch/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 28.5 V/m; Power Drift = 0.016 dB
Peak SAR (extrapolated) = 1.57 W/kg
SAR(1 g) = 0.957 mW/g; SAR(10 g) = 0.556 mW/g
Maximum value of SAR (measured) = 1.04 mW/g

0 dB = 1.04mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: UMTS_II_Left.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Left Hand Side

Communication System: UMTS II; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.41 mho/m; ε_r = 38.2; ρ = 1000 kg/m^3

Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(5.33, 5.33, 5.33); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Low Tilt/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
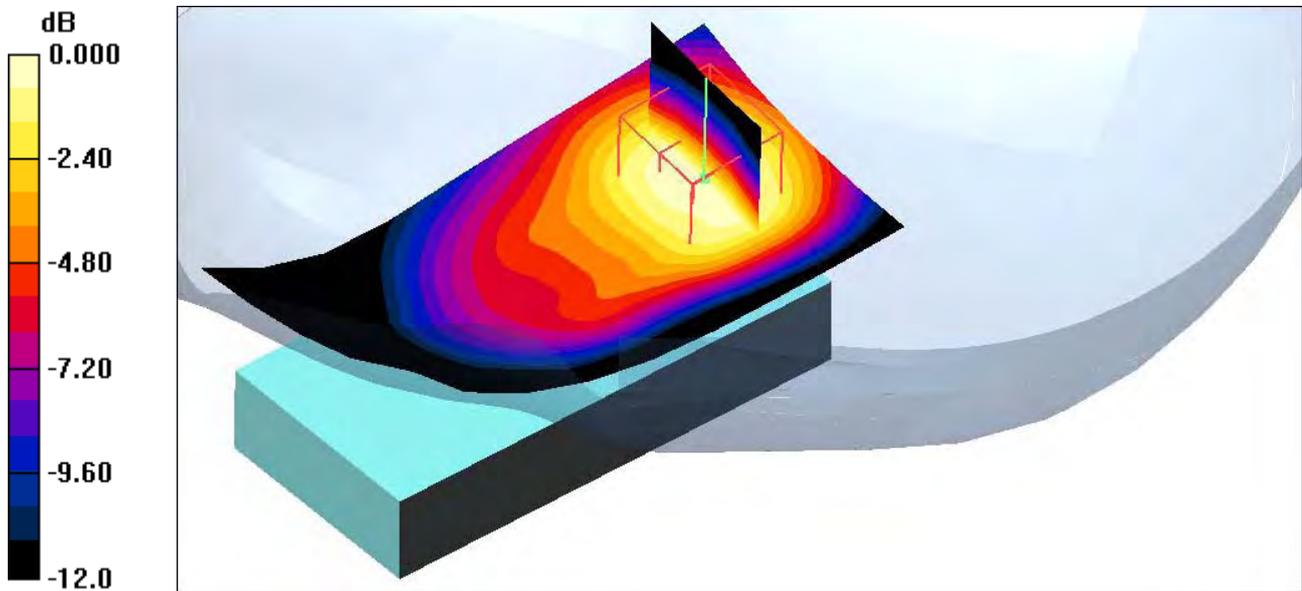Maximum value of SAR (interpolated) = 1.21 mW/g

Low Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 30.1 V/m; Power Drift = -0.044 dB
Peak SAR (extrapolated) = 1.70 W/kg
SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.590 mW/g
Maximum value of SAR (measured) = 1.14 mW/g

0 dB = 1.14mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: UMTS_II_Body.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Body d=15mm

Communication System: UMTS II; Frequency: 1907.6 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.6 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(4.79, 4.79, 4.79); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

BT High Speech/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
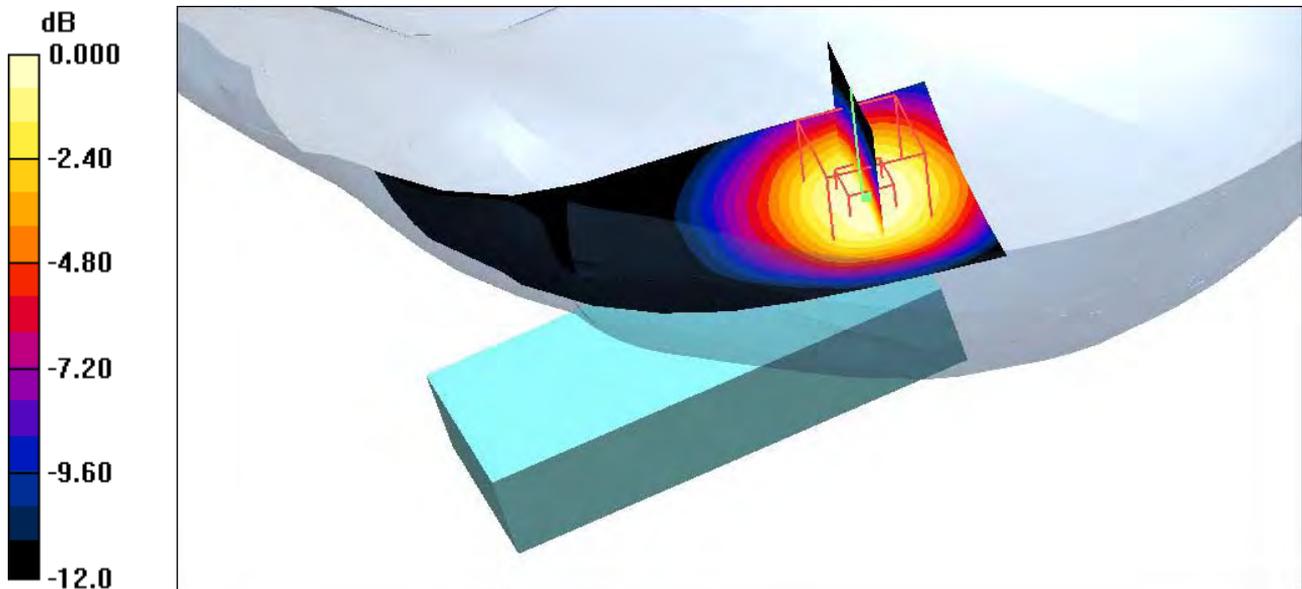Maximum value of SAR (interpolated) = 1.64 mW/g

BT High Speech/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 32.6 V/m; Power Drift = -0.058 dB
Peak SAR (extrapolated) = 2.38 W/kg
SAR(1 g) = 1.46 mW/g; SAR(10 g) = 0.821 mW/g
Maximum value of SAR (measured) = 1.64 mW/g

0 dB = 1.64mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: UMTS_II_Body.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Body d=15mm

Communication System: UMTS II; Frequency: 1907.6 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.6 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(4.79, 4.79, 4.79); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Data High HS-1/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
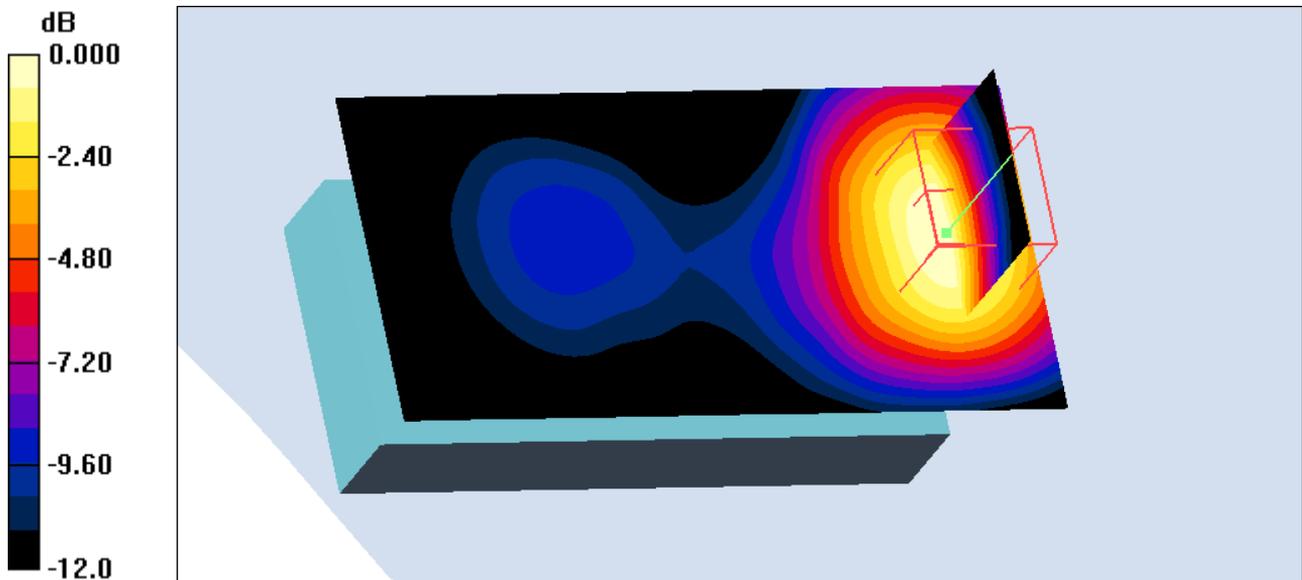Maximum value of SAR (interpolated) = 1.50 mW/g

Data High HS-1/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 32.2 V/m; Power Drift = -0.040 dB
Peak SAR (extrapolated) = 2.19 W/kg
SAR(1 g) = 1.34 mW/g; SAR(10 g) = 0.756 mW/g
Maximum value of SAR (measured) = 1.48 mW/g

0 dB = 1.48mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: UMTS_II_Body.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Body d=15mm

Communication System: UMTS II; Frequency: 1907.6 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.6 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(4.79, 4.79, 4.79); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

PHF High/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.55 mW/g

PHF High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 31.7 V/m; Power Drift = 0.011 dB
Peak SAR (extrapolated) = 2.28 W/kg
SAR(1 g) = 1.39 mW/g; SAR(10 g) = 0.782 mW/g
Maximum value of SAR (measured) = 1.55 mW/g

0 dB = 1.55mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: UMTS_II_Body.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Body d=15mm

Communication System: UMTS II; Frequency: 1907.6 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.6 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(4.79, 4.79, 4.79); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

PHF High Frontside/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
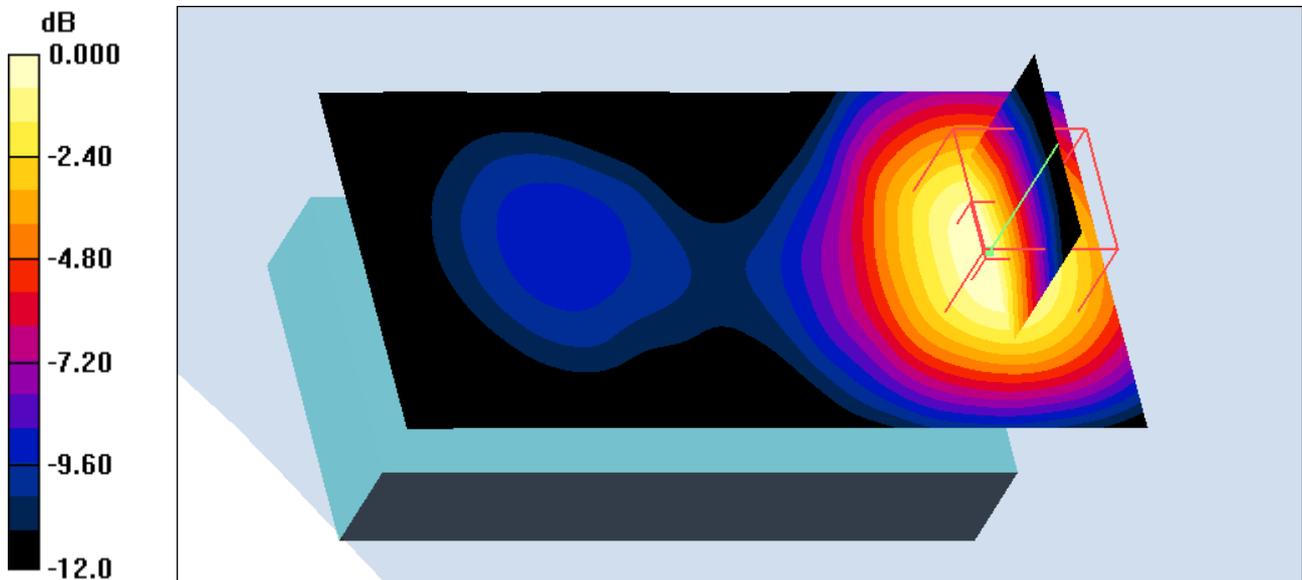Maximum value of SAR (interpolated) = 0.277 mW/g

PHF High Frontside/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.7 V/m; Power Drift = 0.024 dB
Peak SAR (extrapolated) = 0.388 W/kg
SAR(1 g) = 0.254 mW/g; SAR(10 g) = 0.158 mW/g
Maximum value of SAR (measured) = 0.272 mW/g

0 dB = 0.272mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: UMTS_V_Right.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Right Hand Side

Communication System: UMTS V; Frequency: 846.6 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 846.6 MHz; σ = 0.881 mho/m; $ε_r$ = 40.2; ρ = 1000 kg/m^3

Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(6.89, 6.89, 6.89); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Touch High/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
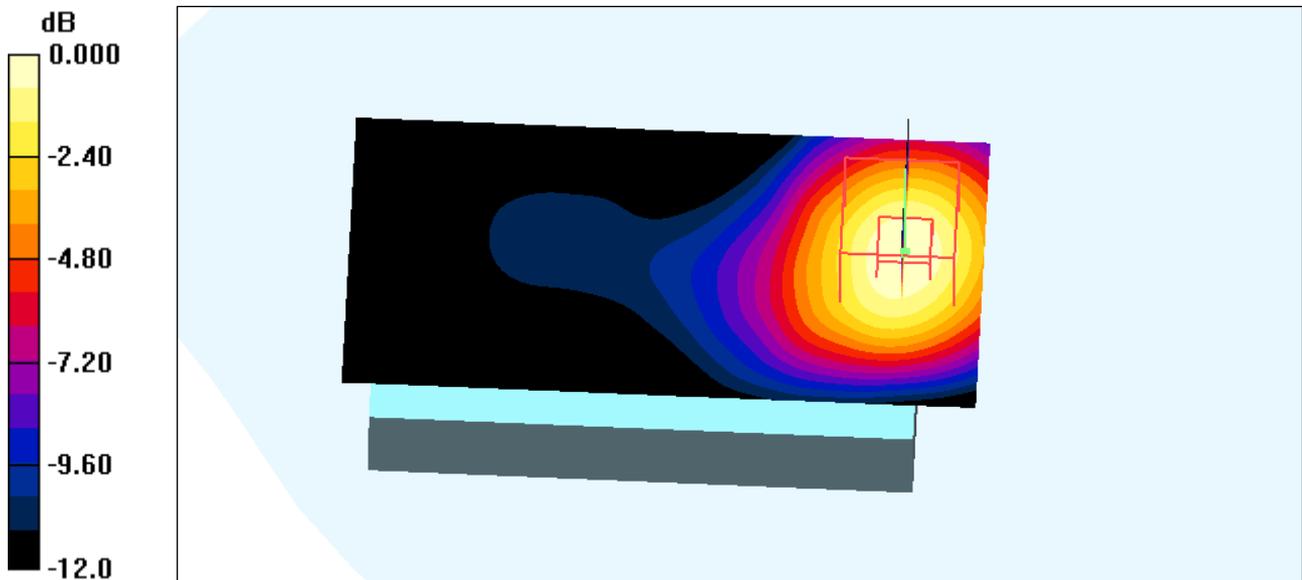Maximum value of SAR (interpolated) = 1.25 mW/g

Touch High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 31.5 V/m; Power Drift = -0.043 dB
Peak SAR (extrapolated) = 1.70 W/kg
SAR(1 g) = 1.18 mW/g; SAR(10 g) = 0.796 mW/g
Maximum value of SAR (measured) = 1.26 mW/g

0 dB = 1.26mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: UMTS_V_Right.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Right Hand Side

Communication System: UMTS V; Frequency: 836.6 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.871 mho/m; $ε_r$ = 40.3; ρ = 1000 kg/m^3

Phantom section: Right Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(6.89, 6.89, 6.89); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Tilt Mid/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
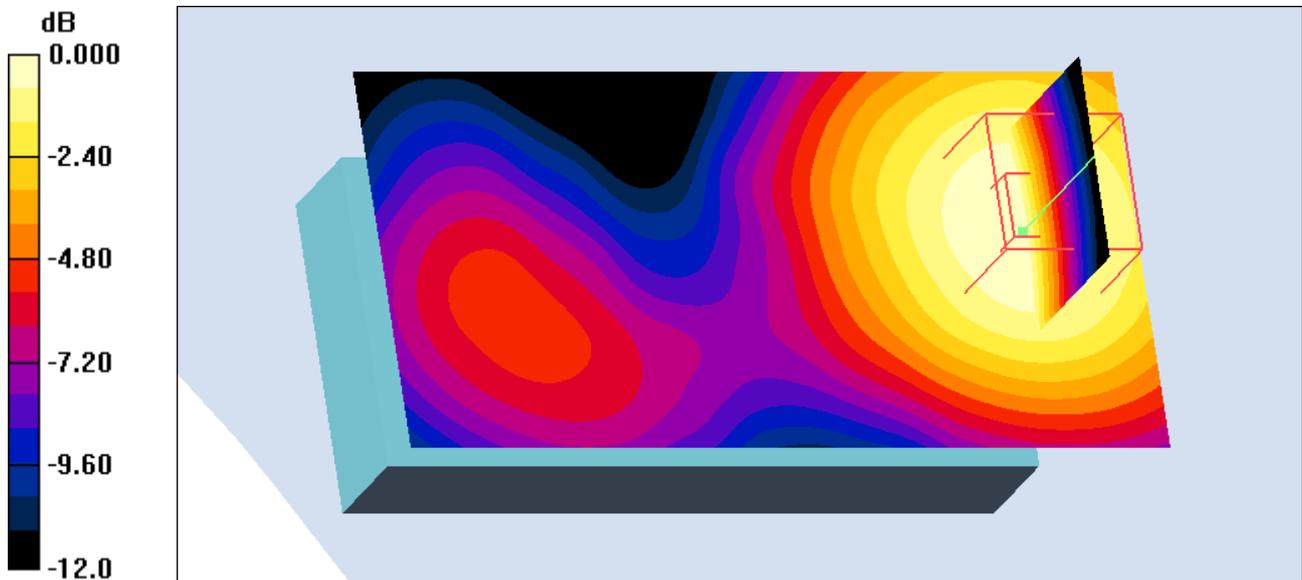Maximum value of SAR (interpolated) = 0.617 mW/g

Tilt Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.7 V/m; Power Drift = -0.080 dB
Peak SAR (extrapolated) = 1.08 W/kg
SAR(1 g) = 0.572 mW/g; SAR(10 g) = 0.363 mW/g
Maximum value of SAR (measured) = 0.625 mW/g

0 dB = 0.625mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: UMTS_V_Left.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Left Hand Side

Communication System: UMTS V; Frequency: 846.6 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 846.6 MHz; σ = 0.881 mho/m; $ε_r$ = 40.2; ρ = 1000 kg/m^3

Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(6.89, 6.89, 6.89); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
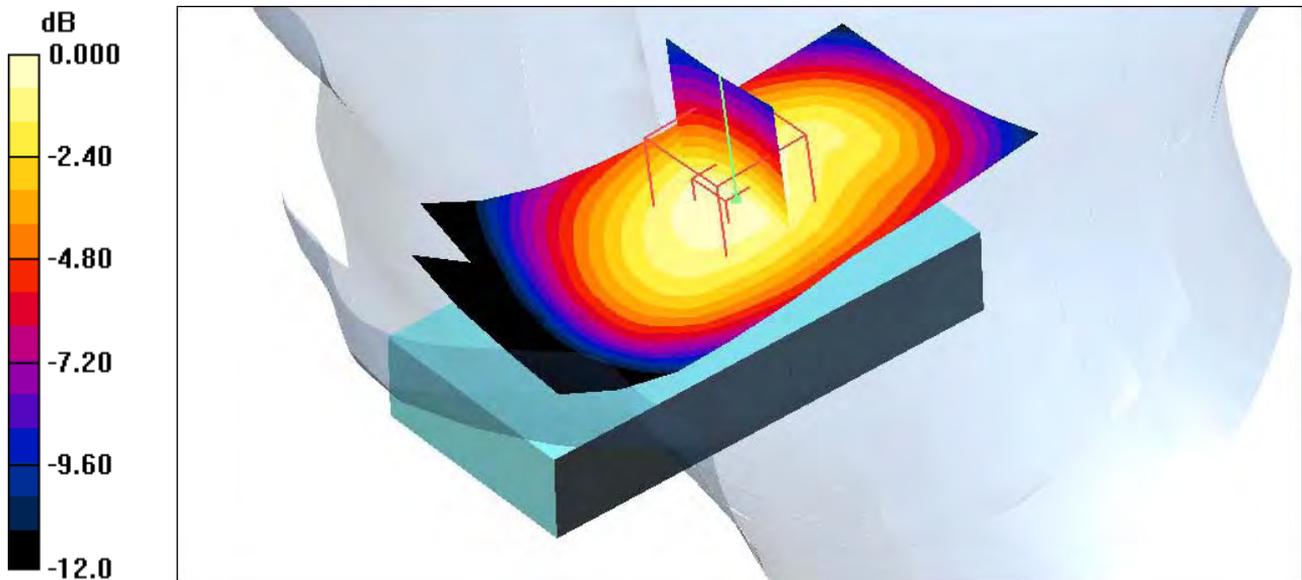- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Touch High/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 32.8 V/m; Power Drift = -0.044 dB
Peak SAR (extrapolated) = 1.68 W/kg
SAR(1 g) = 1.21 mW/g; SAR(10 g) = 0.819 mW/g
Maximum value of SAR (measured) = 1.27 mW/g

Touch High/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.28 mW/g

0 dB = 1.28mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: UMTS_V_Left.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Left Hand Side

Communication System: UMTS V; Frequency: 836.6 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.871 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3

Phantom section: Left Section

DASY4 Configuration:
- Probe: ET3DV6 - SN1569; ConvF(6.89, 6.89, 6.89); Calibrated: 2007-01-16
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Tilt Mid/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
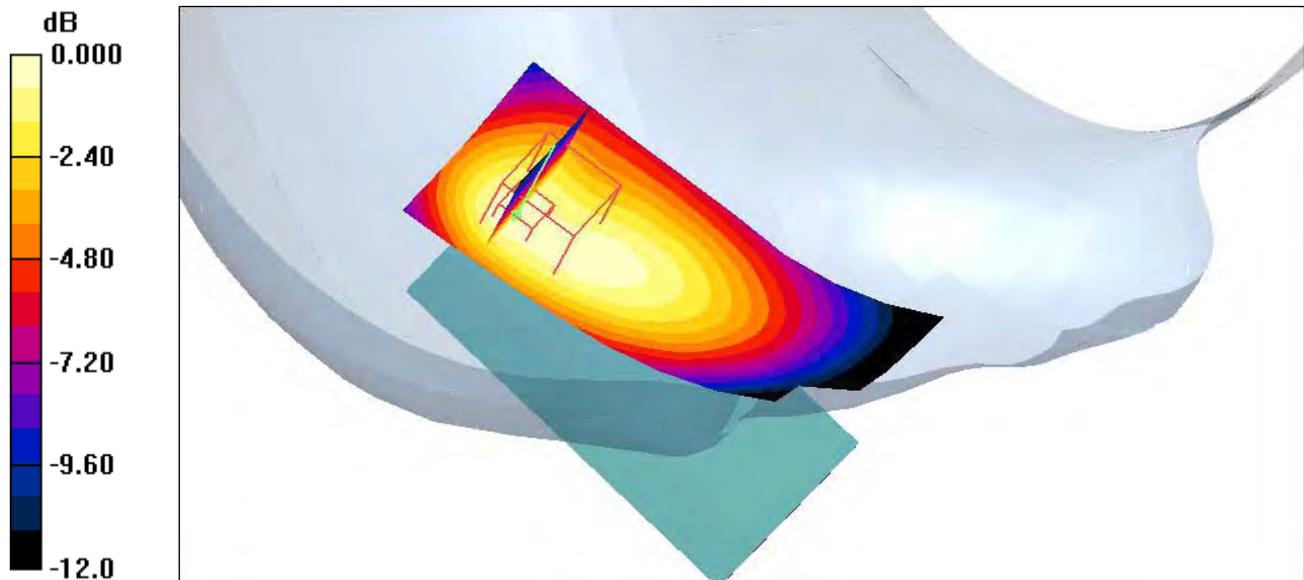Maximum value of SAR (interpolated) = 0.608 mW/g

Tilt Mid/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.3 V/m; Power Drift = 0.013 dB
Peak SAR (extrapolated) = 1.01 W/kg
SAR(1 g) = 0.560 mW/g; SAR(10 g) = 0.367 mW/g
Maximum value of SAR (measured) = 0.619 mW/g

Tilt Mid/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.3 V/m; Power Drift = 0.013 dB
Peak SAR (extrapolated) = 0.816 W/kg
SAR(1 g) = 0.546 mW/g; SAR(10 g) = 0.384 mW/g
Maximum value of SAR (measured) = 0.581 mW/g

0 dB = 0.581mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: UMTS_V_Body_Data.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Body d=15mm

Communication System: UMTS V; Frequency: 836.6 MHz;Duty Cycle: 1:1

Medium parameters used: f = 837.5 MHz; σ = 0.987 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3111; ConvF(5.95, 5.95, 5.95); Calibrated: 2007-03-12
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Middle BT/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.14 mW/g

Middle BT/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.6 V/m; Power Drift = 0.083 dB
Peak SAR (extrapolated) = 1.37 W/kg
SAR(1 g) = 1.08 mW/g; SAR(10 g) = 0.785 mW/g
Maximum value of SAR (measured) = 1.14 mW/g

0 dB = 1.14mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: UMTS_V_Body_Data.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Body d=15mm

Communication System: UMTS V; Frequency: 836.6 MHz;Duty Cycle: 1:1

Medium parameters used: f = 837.5 MHz; σ = 0.987 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3
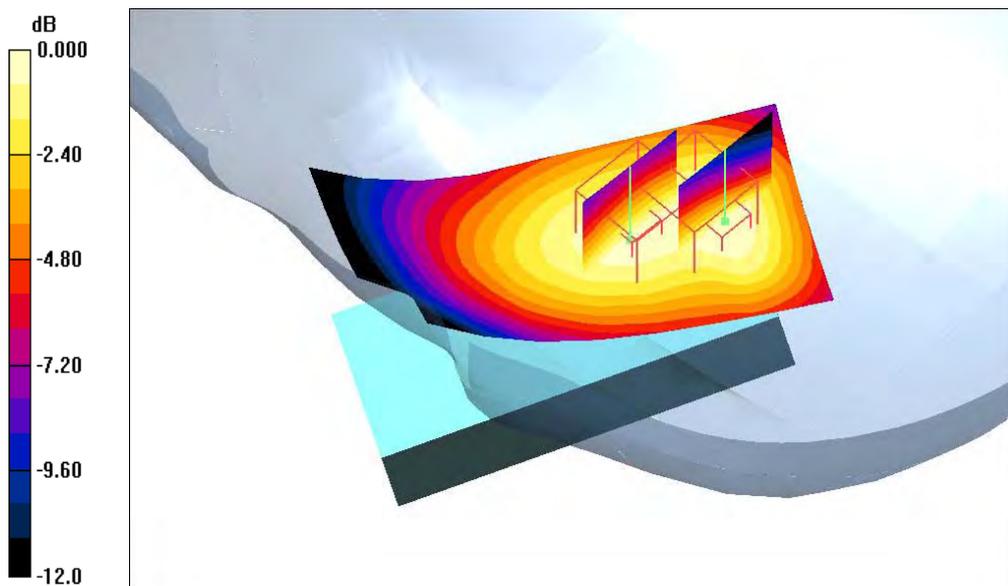
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3111; ConvF(5.95, 5.95, 5.95); Calibrated: 2007-03-12
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Middle HS-2/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.949 mW/g

Middle HS-2/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.0 V/m; Power Drift = -0.032 dB
Peak SAR (extrapolated) = 1.13 W/kg
SAR(1 g) = 0.898 mW/g; SAR(10 g) = 0.656 mW/g
Maximum value of SAR (measured) = 0.951 mW/g

0 dB = 0.951mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: UMTS_V_Body_Data.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Body d=15mm

Communication System: UMTS V; Frequency: 836.6 MHz;Duty Cycle: 1:1

Medium parameters used: f = 837.5 MHz; σ = 0.987 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3111; ConvF(5.95, 5.95, 5.95); Calibrated: 2007-03-12
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Middle BT Front/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
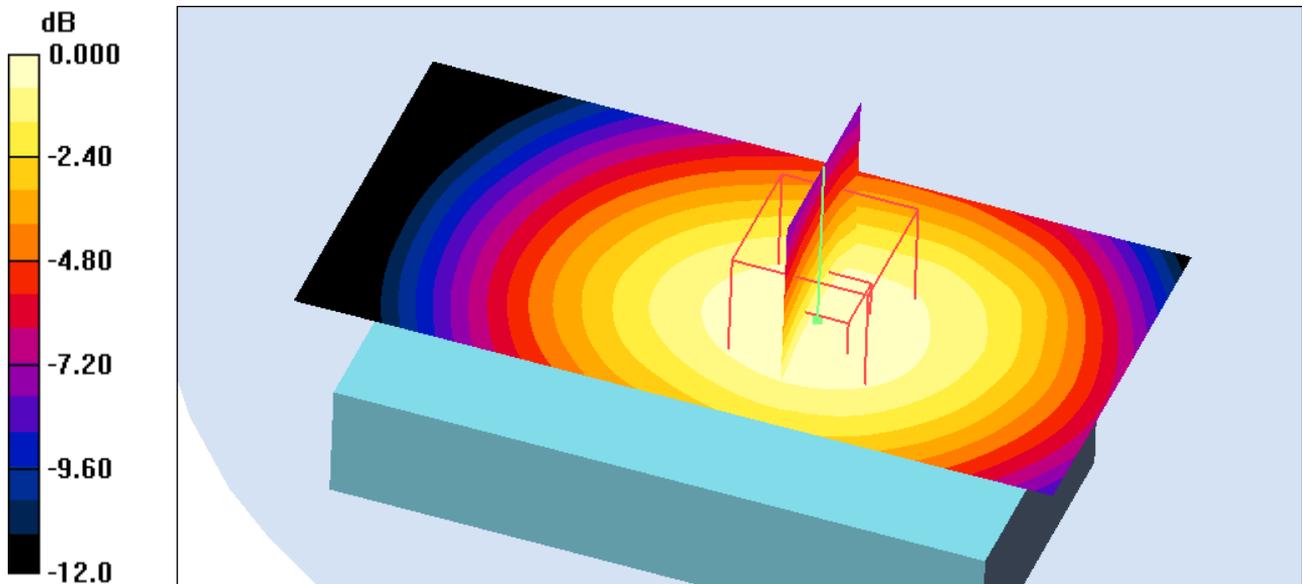Maximum value of SAR (interpolated) = 0.685 mW/g

Middle BT Front/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.4 V/m; Power Drift = 0.019 dB
Peak SAR (extrapolated) = 0.823 W/kg
SAR(1 g) = 0.646 mW/g; SAR(10 g) = 0.466 mW/g
Maximum value of SAR (measured) = 0.689 mW/g

0 dB = 0.689mW/g

Test Laboratory: Sony Ericsson Mobile Communications AB
File Name: UMTS_V_Body_Data.da4

DUT: AAD-3252012-BV (SofiaAT&T); Type: 7 band; Serial: CB510TB61A
Program Name: Body d=15mm

Communication System: UMTS V; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837.5 MHz; σ = 0.987 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3111; ConvF(5.95, 5.95, 5.95); Calibrated: 2007-03-12
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn419; Calibrated: DAE not calibrated
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 176

Middle Portable handsfree/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm
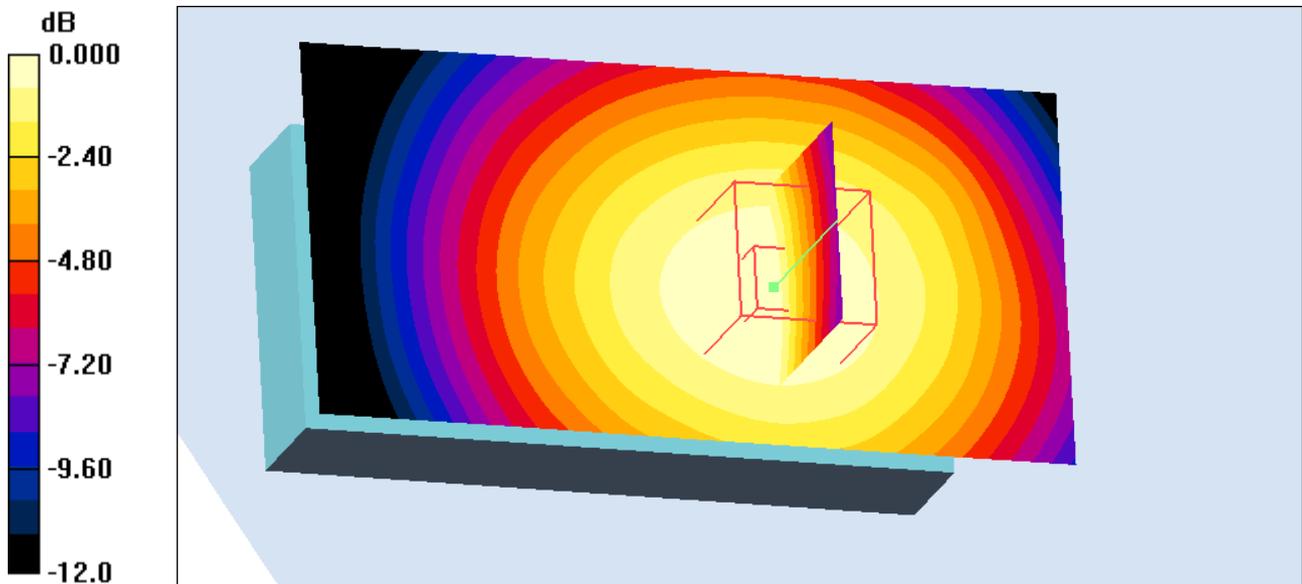Maximum value of SAR (interpolated) = 0.665 mW/g

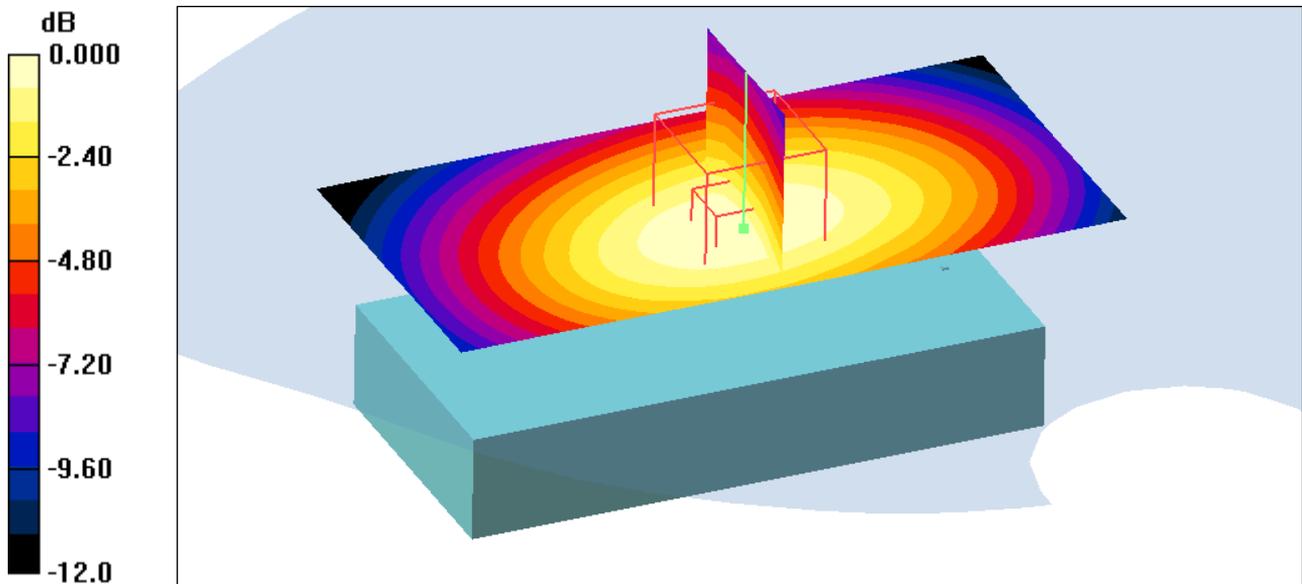**Middle Portable handsfree/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.7 V/m; Power Drift = -0.089 dB
Peak SAR (extrapolated) = 0.780 W/kg
SAR(1 g) = 0.617 mW/g; SAR(10 g) = 0.448 mW/g
Maximum value of SAR (measured) = 0.659 mW/g
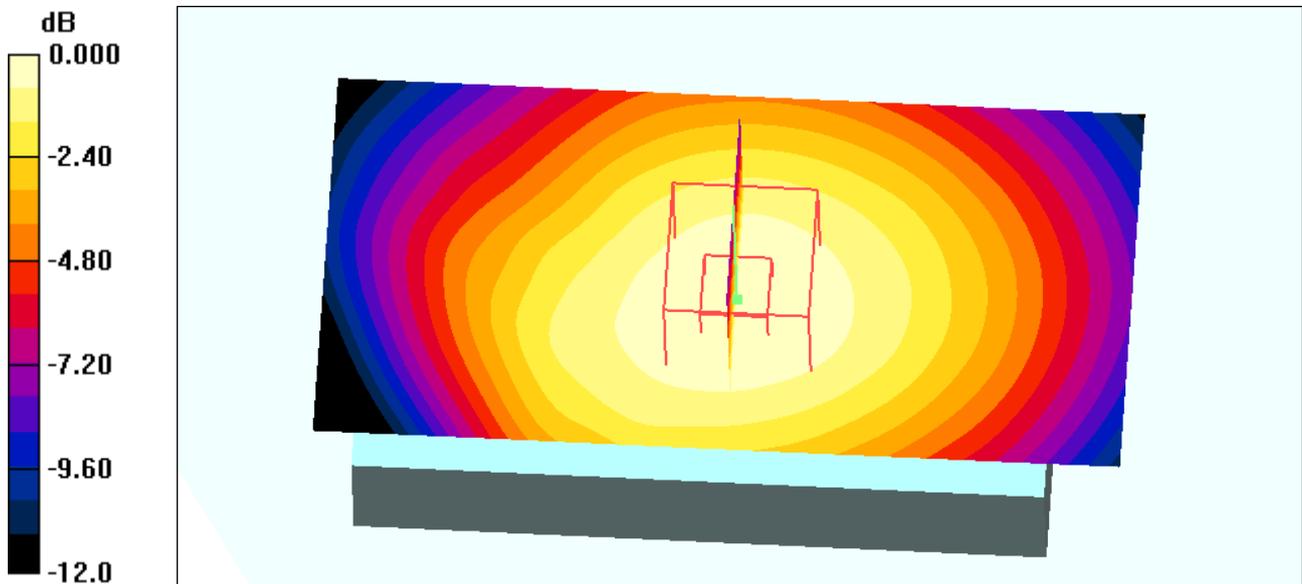
0 dB = 0.659mW/g

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
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The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 108

Client	Sony Ericsson Lund	Certificate No: ES3-3111_Mar07

CALIBRATION CERTIFICATE

Object	ES3DV3 - SN:3111
Calibration procedure(s)	QA CAL-01.v6 Calibration procedure for dosimetric E-field probes
Calibration date:	March 12, 2007
Condition of the calibrated item	In Tolerance

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	5-Apr-06 (METAS, No. 251-00557)	Apr-07
Power sensor E4412A	MY41495277	5-Apr-06 (METAS, No. 251-00557)	Apr-07
Power sensor E4412A	MY41498087	5-Apr-06 (METAS, No. 251-00557)	Apr-07
Reference 3 dB Attenuator	SN: S5054 (3c)	10-Aug-06 (METAS, No. 217-00592)	Aug-07
Reference 20 dB Attenuator	SN: S5086 (20b)	4-Apr-06 (METAS, No. 251-00558)	Apr-07
Reference 30 dB Attenuator	SN: S5129 (30b)	10-Aug-06 (METAS, No. 217-00593)	Aug-07
Reference Probe ES3DV2	SN: 3013	4-Jan-07 (SPEAG, No. ES3-3013_Jan07)	Jan-08
DAE4	SN: 654	21-Jun-06 (SPEAG, No. DAE4-654_Jun06)	Jun-07

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (SPEAG, in house check Nov-05)	In house check: Nov-07
Network Analyzer HP 8753E	US37390585	18-Oct-01 (SPEAG, in house check Oct-06)	In house check: Oct-07

	Name	Function	Signature
Calibrated by:	Katja Pokovic	Technical Manager	
Approved by:	Fin Bomholt	R&D Director	

Issued: March 14, 2007

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Calibration Laboratory of
Schmid & Partner
 Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S   Schweizerischer Kalibrierdienst
C   Service suisse d'étalonnage
S   Servizio svizzero di taratura
S   Swiss Calibration Service

Accredited by the Swiss Federal Office of Metrology and Accreditation
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 108

Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConF	sensitivity in TSL / NORMx,y,z
DCP	diode compression point
Polarization φ	φ rotation around probe axis
Polarization ϑ	ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is normal to probe axis

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003

b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005

Methods Applied and Interpretation of Parameters:

- *NORMx,y,z:* Assessed for E-field polarization $\vartheta = 0$ (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not effect the E^2-field uncertainty inside TSL (see below *ConvF*).

- *NORM(f)x,y,z = NORMx,y,z * frequency_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.

- *DCPx,y,z:* DCP are numerical linearization parameters assessed based on the data of power sweep (no uncertainty required). DCP does not depend on frequency nor media.

- *ConvF and Boundary Effect Parameters:* Assessed in flat phantom using E-field (or Temperature Transfer Standard for f ≤ 800 MHz) and inside waveguide using analytical field distributions based on power measurements for f > 800 MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to *NORMx,y,z * ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.

- *Spherical isotropy (3D deviation from isotropy):* in a field of low gradients realized using a flat phantom exposed by a patch antenna.

- *Sensor Offset:* The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

Probe ES3DV3

SN:3111

Manufactured:	March 6, 2006
Last calibrated:	May 31, 2006
Recalibrated:	March 12, 2007

Calibrated for DASY Systems

(Note: non-compatible with DASY2 system!)

DASY - Parameters of Probe: ES3DV3 SN:3111

Sensitivity in Free Space[A]

NormX	**1.30** ± 10.1%	$\mu V/(V/m)^2$
NormY	**1.27** ± 10.1%	$\mu V/(V/m)^2$
NormZ	**1.21** ± 10.1%	$\mu V/(V/m)^2$

Diode Compression[B]

DCP X	**98** mV
DCP Y	**96** mV
DCP Z	**95** mV

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

Please see Page 8.

Boundary Effect

TSL   900 MHz   Typical SAR gradient: 5 % per mm

		3.0 mm	4.0 mm
Sensor Center to Phantom Surface Distance		**3.0 mm**	**4.0 mm**
SAR_{be} [%]	Without Correction Algorithm	5.8	2.8
SAR_{be} [%]	With Correction Algorithm	0.1	0.1

TSL   1750 MHz   Typical SAR gradient: 10 % per mm

		3.0 mm	4.0 mm
Sensor Center to Phantom Surface Distance		**3.0 mm**	**4.0 mm**
SAR_{be} [%]	Without Correction Algorithm	3.9	1.9
SAR_{be} [%]	With Correction Algorithm	0.0	0.1

Sensor Offset

Probe Tip to Sensor Center	**2.0** mm

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

[A] The uncertainties of NormX,Y,Z do not affect the E^2-field uncertainty inside TSL (see Page 8).

[B] Numerical linearization parameter: uncertainty not required.

Frequency Response of E-Field

(TEM-Cell:ifi110 EXX, Waveguide: R22)

Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

Receiving Pattern (φ), ϑ = 0°

f = 600 MHz, TEM ifi110EXX

f = 1800 MHz, WG R22

Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

Dynamic Range f(SAR$_{head}$)

(Waveguide R22, f = 1800 MHz)

Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Conversion Factor Assessment

f = 900 MHz, WGLS R9 (head)

f = 1750 MHz, WGLS R22 (head)

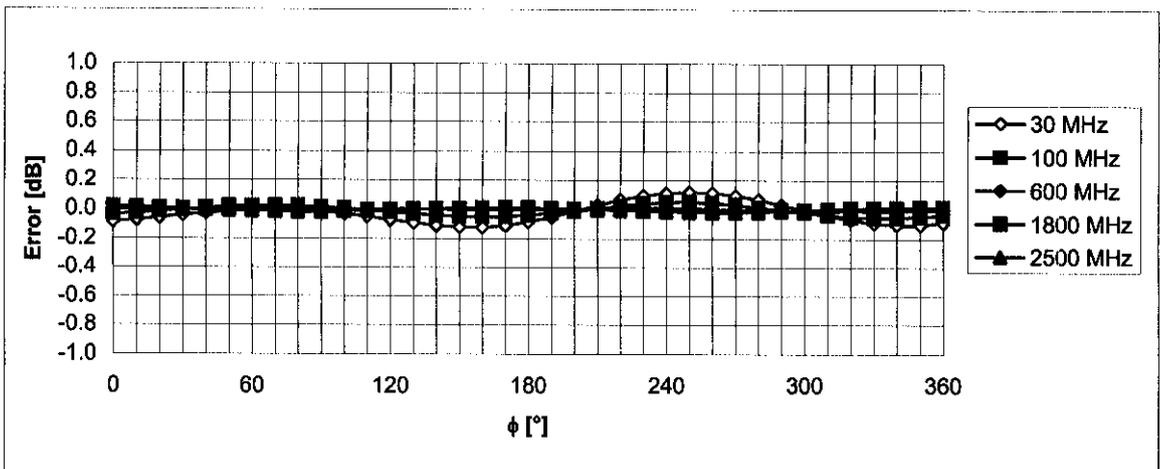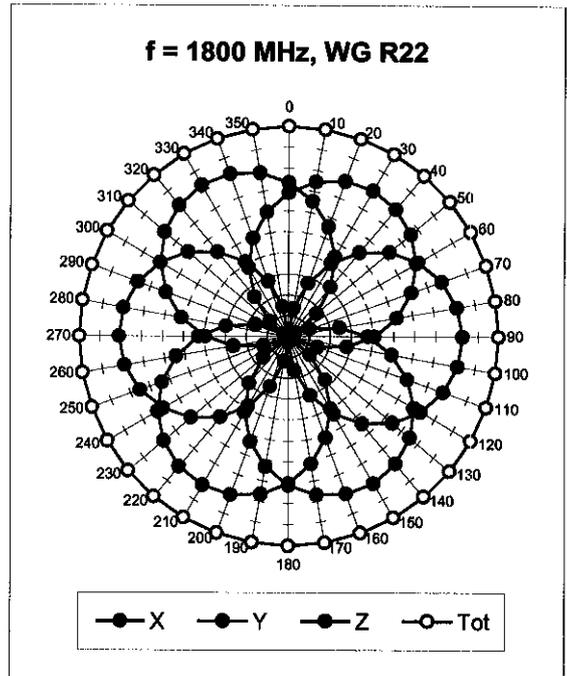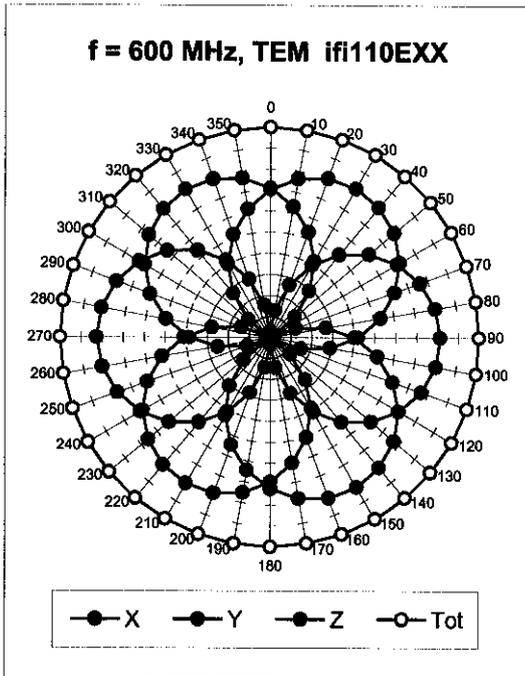| f [MHz]	Validity [MHz]^c	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF	Uncertainty
835	± 50 / ± 100	Head	41.5 ± 5%	0.90 ± 5%	0.85	1.30	5.77	± 11.0% (k=2)
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.83	1.30	5.57	± 11.0% (k=2)
1750	± 50 / ± 100	Head	40.1 ± 5%	1.37 ± 5%	0.75	1.36	4.84	± 11.0% (k=2)
1900	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.92	1.17	4.79	± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.76	1.31	4.32	± 11.8% (k=2)
835	± 50 / ± 100	Body	55.2 ± 5%	0.97 ± 5%	0.80	1.40	5.95	± 11.0% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	0.80	1.30	5.64	± 11.0% (k=2)
1750	± 50 / ± 100	Body	53.4 ± 5%	1.49 ± 5%	0.99	1.17	4.77	± 11.0% (k=2)
1900	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.90	1.18	4.56	± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.80	1.15	4.10	± 11.8% (k=2)

^{c} The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

Deviation from Isotropy in HSL
Error (ϕ, ϑ), f = 900 MHz

Legend:
■ -1.00--0.80 ■ -0.80--0.60 ■ -0.60--0.40 ■ -0.40--0.20 ■ -0.20-0.00
▨ 0.00-0.20 ■ 0.20-0.40 ▨ 0.40-0.60 ■ 0.60-0.80 ■ 0.80-1.00

Uncertainty of Spherical Isotropy Assessment: ± 2.6% (k=2)

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

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Accreditation No.: SCS 108
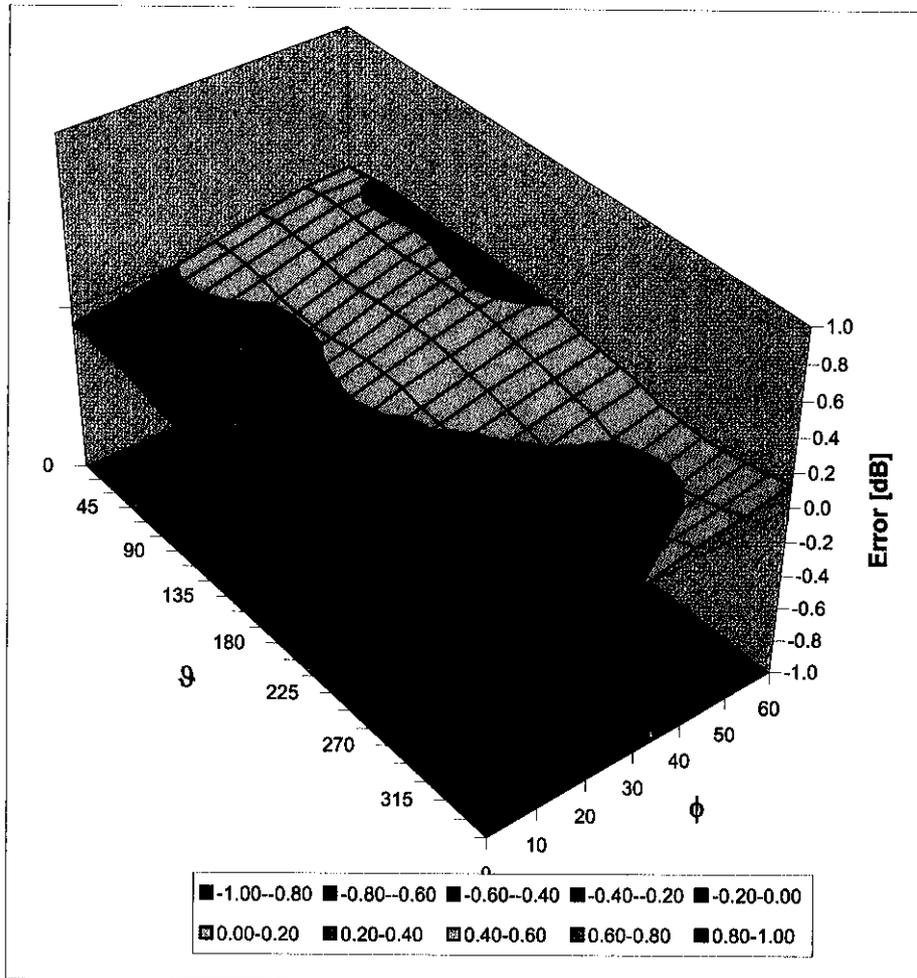
Client	Sony Ericsson Lund	Certificate No: ET3-1569_Jan07

CALIBRATION CERTIFICATE

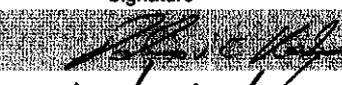|	
Object	ET3DV6 - SN:1569
Calibration procedure(s)	QA CAL-01.v5 Calibration procedure for dosimetric E-field probes
Calibration date:	January 16, 2007
Condition of the calibrated item	In Tolerance

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	5-Apr-06 (METAS, No. 251-00557)	Apr-07
Power sensor E4412A	MY41495277	5-Apr-06 (METAS, No. 251-00557)	Apr-07
Power sensor E4412A	MY41498087	5-Apr-06 (METAS, No. 251-00557)	Apr-07
Reference 3 dB Attenuator	SN: S5054 (3c)	10-Aug-06 (METAS, No. 217-00592)	Aug-07
Reference 20 dB Attenuator	SN: S5086 (20b)	4-Apr-06 (METAS, No. 251-00558)	Apr-07
Reference 30 dB Attenuator	SN: S5129 (30b)	10-Aug-06 (METAS, No. 217-00593)	Aug-07
Reference Probe ES3DV2	SN: 3013	4-Jan-07 (SPEAG, No. ES3-3013_Jan07)	Jan-08
DAE4	SN: 654	21-Jun-06 (SPEAG, No. DAE4-654_Jun06)	Jun-07

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (SPEAG, in house check Nov-05)	In house check: Nov-07
Network Analyzer HP 8753E	US37390585	18-Oct-01 (SPEAG, in house check Oct-06)	In house check: Oct-07

	Name	Function	Signature
Calibrated by:	Katja Pokovic	Technical Manager	
Approved by:	Niels Kuster	Quality Manager	

Issued: January 16, 2007

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Accredited by the Swiss Federal Office of Metrology and Accreditation

Accreditation No.: **SCS 108**

The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConF	sensitivity in TSL / NORMx,y,z
DCP	diode compression point
Polarization φ	φ rotation around probe axis
Polarization ϑ	ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is normal to probe axis

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003

b) CENELEC EN 50361, "Basic standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones (300 MHz - 3 GHz), July 2001

Methods Applied and Interpretation of Parameters:

- *NORMx,y,z:* Assessed for E-field polarization $\vartheta = 0$ (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not effect the E^2-field uncertainty inside TSL (see below *ConvF*).

- *NORM(f)x,y,z = NORMx,y,z * frequency_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.

- *DCPx,y,z:* DCP are numerical linearization parameters assessed based on the data of power sweep (no uncertainty required). DCP does not depend on frequency nor media.

- *ConvF and Boundary Effect Parameters:* Assessed in flat phantom using E-field (or Temperature Transfer Standard for f ≤ 800 MHz) and inside waveguide using analytical field distributions based on power measurements for f > 800 MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to *NORMx,y,z * ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.

- *Spherical isotropy (3D deviation from isotropy):* in a field of low gradients realized using a flat phantom exposed by a patch antenna.

- *Sensor Offset:* The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

Probe ET3DV6

SN:1569

Manufactured: May 19, 2001
Last calibrated: March 16, 2006
Recalibrated: January 16, 2007

Calibrated for DASY Systems

(Note: non-compatible with DASY2 system!)

DASY - Parameters of Probe: ET3DV6 SN:1569

Sensitivity in Free Space[A]

NormX	**1.79** ± 10.1%	$\mu V/(V/m)^2$
NormY	**2.08** ± 10.1%	$\mu V/(V/m)^2$
NormZ	**1.91** ± 10.1%	$\mu V/(V/m)^2$

Diode Compression[B]

DCP X	**95** mV
DCP Y	**95** mV
DCP Z	**93** mV

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

Please see Page 8.

Boundary Effect

TSL   **900 MHz**   **Typical SAR gradient: 5 % per mm**

		3.7 mm	4.7 mm
Sensor Center to Phantom Surface Distance		**3.7 mm**	**4.7 mm**
SAR_{be} [%]	Without Correction Algorithm	7.2	3.9
SAR_{be} [%]	With Correction Algorithm	0.1	0.1

TSL   **1750 MHz**   **Typical SAR gradient: 10 % per mm**

		3.7 mm	4.7 mm
Sensor Center to Phantom Surface Distance		**3.7 mm**	**4.7 mm**
SAR_{be} [%]	Without Correction Algorithm	6.2	3.7
SAR_{be} [%]	With Correction Algorithm	0.1	0.3

Sensor Offset

Probe Tip to Sensor Center	**2.7** mm

> **The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.**

[A] The uncertainties of NormX,Y,Z do not affect the E^2-field uncertainty inside TSL (see Page 8).

[B] Numerical linearization parameter: uncertainty not required.

Frequency Response of E-Field

(TEM-Cell:ifi110 EXX, Waveguide: R22)

Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

Receiving Pattern (ϕ), $\vartheta = 0°$

f = 600 MHz, TEM ifi110EXX

f = 1800 MHz, WG R22

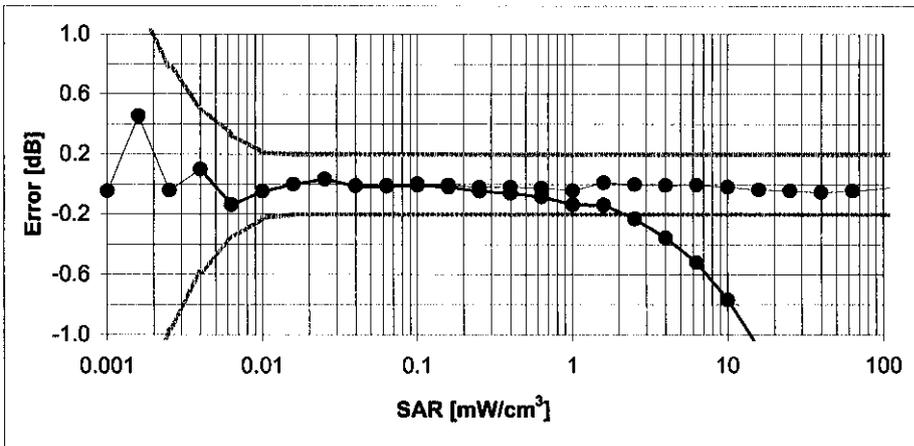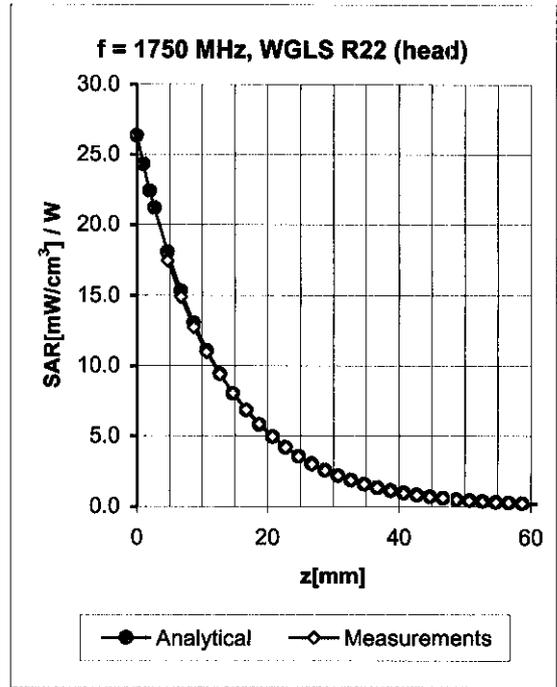
Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

Dynamic Range f(SAR$_{head}$)

(Waveguide R22, f = 1800 MHz)

Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Conversion Factor Assessment

f = 900 MHz, WGLS R9 (head)

f = 1750 MHz, WGLS R22 (head)

f [MHz]	Validity [MHz]^c	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF	Uncertainty
835	± 50 / ± 100	Head	41.5 ± 5%	0.90 ± 5%	0.27	2.56	6.89	± 11.0% (k=2)
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.28	2.66	6.85	± 11.0% (k=2)
1750	± 50 / ± 100	Head	40.1 ± 5%	1.37 ± 5%	0.44	2.88	5.47	± 11.0% (k=2)
1900	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.48	2.69	5.33	± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.51	2.39	4.72	± 11.8% (k=2)
835	± 50 / ± 100	Body	55.2 ± 5%	0.97 ± 5%	0.25	2.73	6.94	± 11.0% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	0.28	2.77	6.57	± 11.0% (k=2)
1750	± 50 / ± 100	Body	53.4 ± 5%	1.49 ± 5%	0.52	2.90	4.96	± 11.0% (k=2)
1900	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.62	2.56	4.79	± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.52	1.97	4.17	± 11.8% (k=2)

^{c} The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS
of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

Deviation from Isotropy in HSL
Error (φ, ϑ), f = 900 MHz

Uncertainty of Spherical Isotropy Assessment: ± 2.6% (k=2)

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

ilac-MRA

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Accreditation No.: **SCS 108**
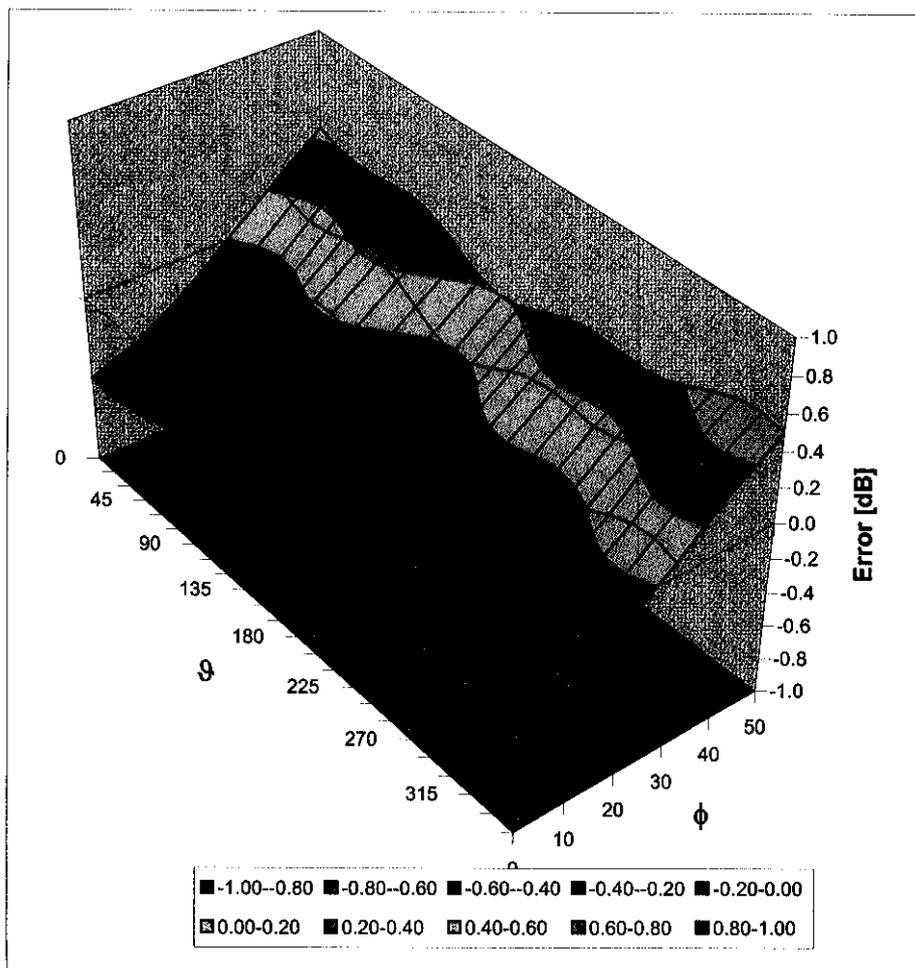
Client   **Sony Ericsson Lund**

Certificate No: **D1900V2-5d002_Jan07**

CALIBRATION CERTIFICATE

Object	**D1900V2 - SN: 5d002**
Calibration procedure(s)	**QA CAL-05.v6** **Calibration procedure for dipole validation kits**
Calibration date:	**January 16, 2007**
Condition of the calibrated item	**In Tolerance**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	03-Oct-06 (METAS, No. 217-00608)	Oct-07
Power sensor HP 8481A	US37292783	03-Oct-06 (METAS, No. 217-00608)	Oct-07
Reference 20 dB Attenuator	SN: 5086 (20g)	10-Aug-06 (METAS, No 217-00591)	Aug-07
Reference 10 dB Attenuator	SN: 5047.2 (10r)	10-Aug-06 (METAS, No 217-00591)	Aug-07
Reference Probe ET3DV6	SN: 1507	19-Oct-06 (SPEAG, No. ET3-1507_Oct06)	Oct-07
Reference Probe ES3DV3	SN: 3025	19-Oct-06 (SPEAG, No. ES3-3025_Oct06)	Oct-07
DAE4	SN 907	20-Jul-06 (SPEAG, No. DAE4-907_Jul06)	Jul-07

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (SPEAG, in house check Oct-05)	In house check: Oct-07
RF generator Agilent E4421B	MY41000675	11-May-05 (SPEAG, in house check Nov-05)	In house check: Nov-07
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (SPEAG, in house check Oct-06)	In house check: Oct-07

	Name	Function	Signature
Calibrated by:	**Marcel Fehr**	**Laboratory Technician**	
Approved by:	**Katja Pokovic**	**Technical Manager**	

Issued: January 17, 2007

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Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003

b) CENELEC EN 50361, "Basic standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones (300 MHz - 3 GHz), July 2001

c) Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

d) DASY4 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.

- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.

- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.

- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.

- *SAR measured:* SAR measured at the stated antenna input power.

- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.

- SAR for nominal TSL parameters: The measured TSL parameters are used to calculate the nominal SAR result.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY4	V4.7
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1900 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	40.0	1.40 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	38.8 ± 6 %	1.43 mho/m ± 6 %
Head TSL temperature during test	(22.0 ± 0.2) °C	-----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	condition	
SAR measured	250 mW input power	9.61 mW / g
SAR normalized	normalized to 1W	38.4 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**37.4 mW / g ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	Condition	
SAR measured	250 mW input power	5.04 mW / g
SAR normalized	normalized to 1W	20.2 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**19.8 mW / g ± 16.5 % (k=2)**

---

[1] Correction to nominal TSL parameters according to d), chapter "SAR Sensitivities"

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	53.3	1.52 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	51.9 ± 6 %	1.55 mho/m ± 6 %
Body TSL temperature during test	(21.1 ± 0.2) °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	9.94 mW / g
SAR normalized	normalized to 1W	39.8 mW / g
SAR for nominal Body TSL parameters [2]	normalized to 1W	**38.6 mW / g ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.24 mW / g
SAR normalized	normalized to 1W	21.0 mW / g
SAR for nominal Body TSL parameters [2]	normalized to 1W	**20.6 mW / g ± 16.5 % (k=2)**

---

[2] Correction to nominal TSL parameters according to d), chapter "SAR Sensitivities"

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	51.8 Ω - 0.3 jΩ
Return Loss	- 34.9 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	48.2 Ω + 2.3 jΩ
Return Loss	- 30.5 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.177 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	February 14, 2002

DASY4 Validation Report for Head TSL

Date/Time: 09.01.2007 13:35:34

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d002

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: HSL U10 BB;
Medium parameters used: f = 1900 MHz; σ = 1.43 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507 (HF); ConvF(4.97, 4.97, 4.97); Calibrated: 19.10.2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn907; Calibrated: 20.07.2006
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; ;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

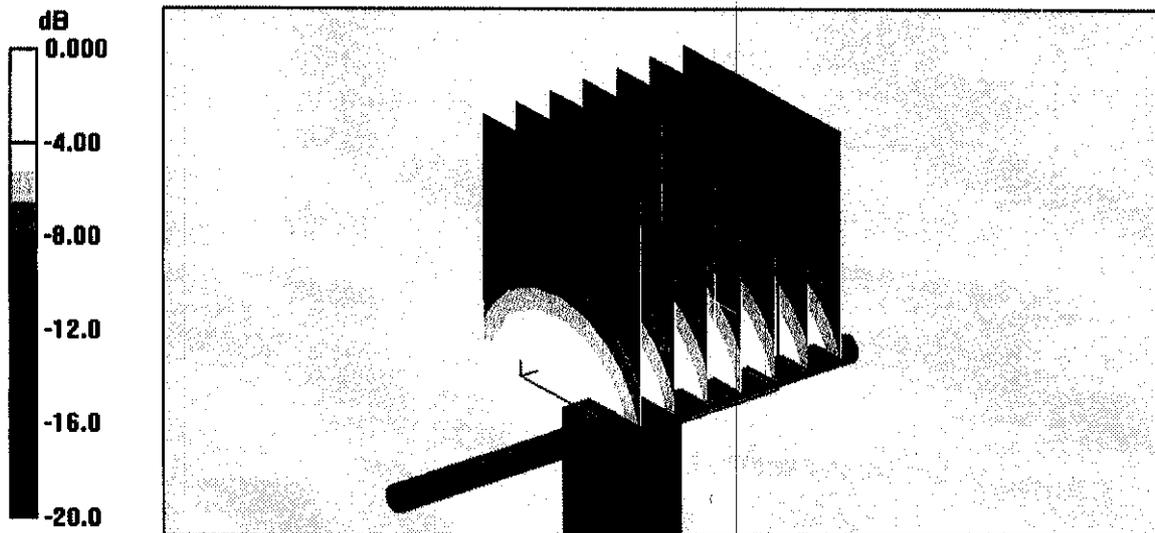## Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 91.7 V/m; Power Drift = 0.033 dB
Peak SAR (extrapolated) = 17.0 W/kg
SAR(1 g) = 9.61 mW/g; SAR(10 g) = 5.04 mW/g
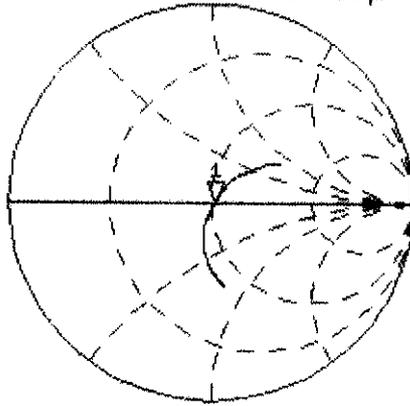Maximum value of SAR (measured) = 11.0 mW/g

0 dB = 11.0mW/g

Impedance Measurement Plot for Head TSL

9 Jan 2007 11:53:45

CH1 S11   1 U FS   1: 51.803 Ω   -298.83 mΩ 280.31 pF   1 900.000 000 MHz

*

Del
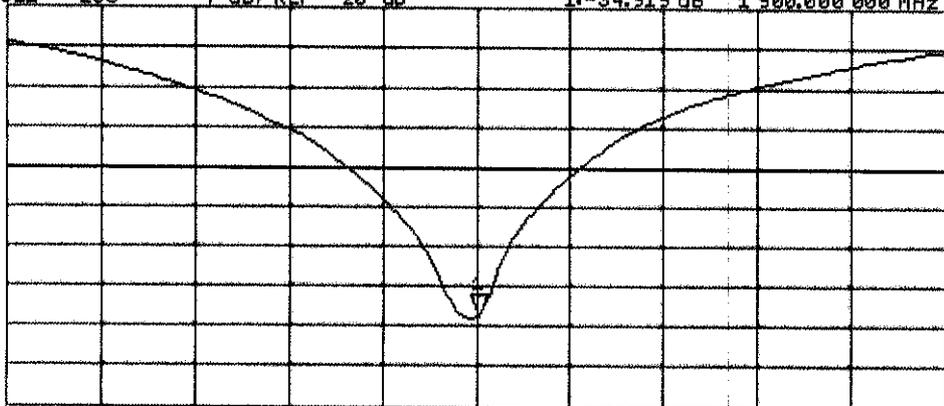
CΔ

Avg
16

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CH2 S11   LOG   4 dB/ REF -20 dB   1:-34.919 dB   1 900.000 000 MHz

CΔ

Avg
16

↑

CENTER 1 900.000 000 MHz   SPAN 400.000 000 MHz

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d002

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: MSL U10 BB;
Medium parameters used: f = 1900 MHz; σ = 1.55 mho/m; ε_r = 52.1; ρ = 1000 kg/m³
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507 (HF); ConvF(4.43, 4.43, 4.43); Calibrated: 19.10.2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn907; Calibrated: 20.07.2006
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; ;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

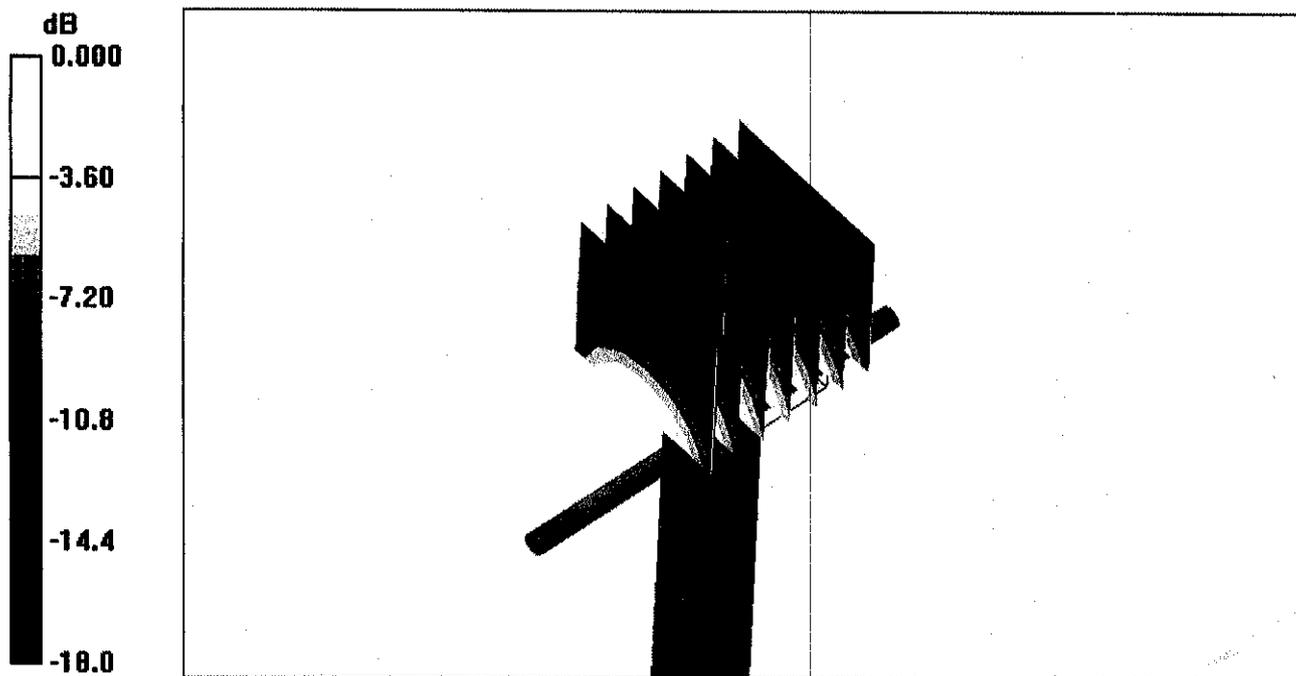## Pin = 250 mW; d = 10 mm 2/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 85.8 V/m; Power Drift = 0.053 dB
Peak SAR (extrapolated) = 17.0 W/kg
SAR(1 g) = 9.94 mW/g; SAR(10 g) = 5.24 mW/g
Maximum value of SAR (measured) = 11.3 mW/g

0 dB = 11.3mW/g

Impedance Measurement Plot for Body TSL

				16 Jan 2007 12:04:42	
CH1 S11	1 U FS	2: 48.154 Ω	2.2793 Ω 190.93 pH	1 900.000 000 MHz	

*
Del

Cor

Avg
16

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CH1 Markers

1: 39.492 Ω
   -17.871 Ω
1.80000 GHz
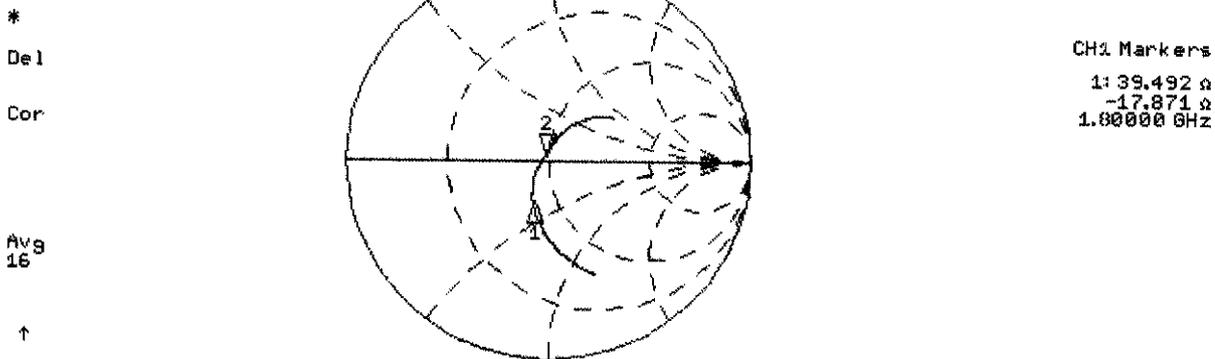
CH2 S11   LOG   5 dB/REF -20 dB   2:-30.502 dB   1 900.000 000 MHz
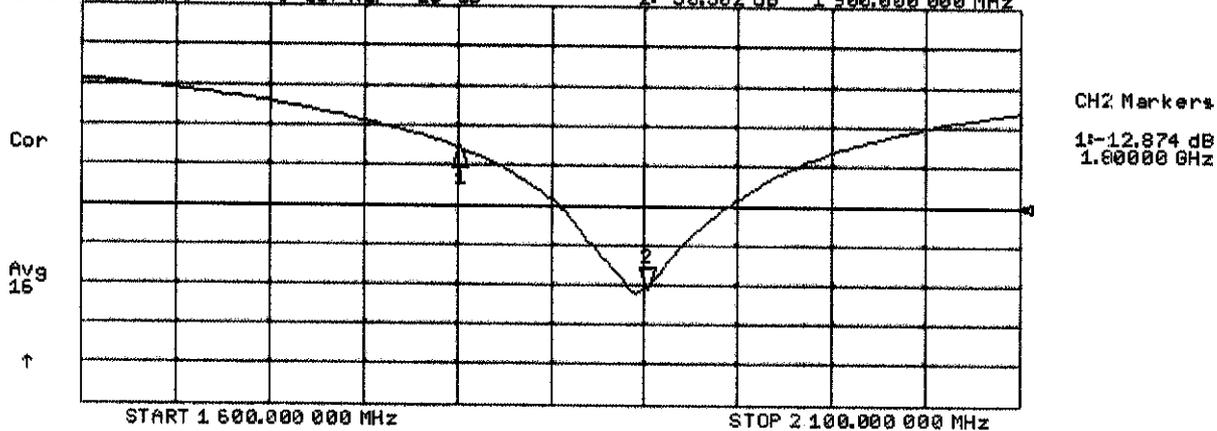
Cor

Avg
16

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CH2 Markers

1:-12.874 dB
1.80000 GHz

START 1 600.000 000 MHz   STOP 2 100.000 000 MHz

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

ilac-MRA

SWISS CALIBRATION

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
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Accredited by the Swiss Federal Office of Metrology and Accreditation
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 108

Client   Sony Ericsson Lund

Certificate No: D835V2-484_Jan07

CALIBRATION CERTIFICATE

Object	D835V2 - SN: 484
Calibration procedure(s)	QA CAL-05.v6 Calibration procedure for dipole validation kits
Calibration date:	January 15, 2007
Condition of the calibrated item	In Tolerance

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	03-Oct-06 (METAS, No. 217-00608)	Oct-07
Power sensor HP 8481A	US37292783	03-Oct-06 (METAS, No. 217-00608)	Oct-07
Reference 20 dB Attenuator	SN: 5086 (20g)	10-Aug-06 (METAS, No 217-00591)	Aug-07
Reference 10 dB Attenuator	SN: 5047.2 (10r)	10-Aug-06 (METAS, No 217-00591)	Aug-07
Reference Probe ET3DV6 (HF)	SN 1507	19-Oct-06 (SPEAG, No. ET3-1507_Oct06)	Oct-07
DAE4	SN 907	20-Jul-06 (SPEAG, No. DAE4-907_Jul06)	Jul-07

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (SPEAG, in house check Oct-05)	In house check: Oct-07
RF generator Agilent E4421B	MY41000675	11-May-05 (SPEAG, in house check Nov-05)	In house check: Nov-07
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (SPEAG, in house check Oct-06)	In house check: Oct-07

	Name	Function	Signature
Calibrated by:	Marcel Fehr	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: January 16, 2007

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

S   Schweizerischer Kalibrierdienst
C   Service suisse d'étalonnage
S   Servizio svizzero di taratura
S   Swiss Calibration Service

Accredited by the Swiss Federal Office of Metrology and Accreditation
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 108

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003

b) CENELEC EN 50361, "Basic standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones (300 MHz - 3 GHz), July 2001

c) Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

d) DASY4 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.

- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.

- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.

- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.

- *SAR measured:* SAR measured at the stated antenna input power.

- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.

- SAR for nominal TSL parameters: The measured TSL parameters are used to calculate the nominal SAR result.

Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY4	V4.7
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V4.9	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	835 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.5	0.90 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	40.2 ± 6 %	0.88 mho/m ± 6 %
Head TSL temperature during test	(22.1 ± 0.2) °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.31 mW / g
SAR normalized	normalized to 1W	9.24 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**9.20 mW / g ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.51 mW / g
SAR normalized	normalized to 1W	6.04 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**6.00 mW / g ± 16.5 % (k=2)**

[1] Correction to nominal TSL parameters according to d), chapter "SAR Sensitivities"

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.2	0.97 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	54.1 ± 6 %	1.01 mho/m ± 6 %
Body TSL temperature during test	(21.9 ± 0.2) °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	condition	
SAR measured	250 mW input power	2.47 mW / g
SAR normalized	normalized to 1W	9.88 mW / g
SAR for nominal Body TSL parameters [2]	normalized to 1W	**9.48 mW / g ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.62 mW / g
SAR normalized	normalized to 1W	6.48 mW / g
SAR for nominal Body TSL parameters [2]	normalized to 1W	**6.29 mW / g ± 16.5 % (k=2)**

[2] Correction to nominal TSL parameters according to d), chapter "SAR Sensitivities"

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	52.4 Ω - 3.2 jΩ
Return Loss	- 28.1 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	48.2 Ω - 4.8 jΩ
Return Loss	- 25.6 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.395 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	April 23, 2003

DASY4 Validation Report for Head TSL

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 484

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: HSL 900 MHz;
Medium parameters used: f = 835 MHz; σ = 0.88 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507 (HF); ConvF(6.09, 6.09, 6.09); Calibrated: 19.10.2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn907; Calibrated: 20.07.2006
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; ;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Pin = 250 mW; d = 15 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 55.7 V/m; Power Drift = -0.006 dB
Peak SAR (extrapolated) = 3.40 W/kg
SAR(1 g) = 2.31 mW/g; SAR(10 g) = 1.51 mW/g
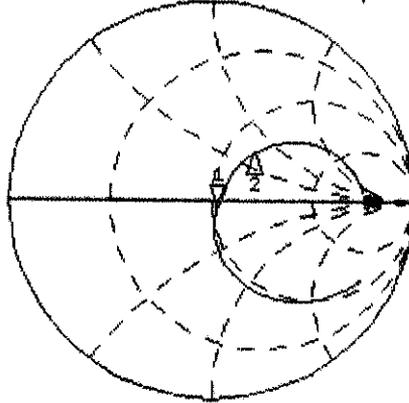Maximum value of SAR (measured) = 2.47 mW/g
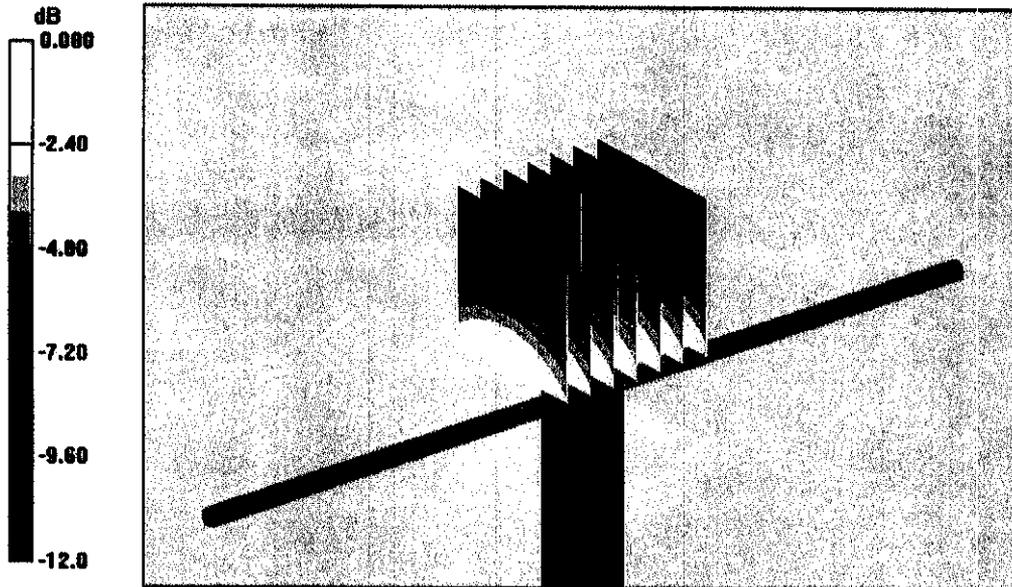
0 dB = 2.47mW/g

Impedance Measurement Plot for Head TSL

CH1 S11   1 U FS   1: 52.436 Ω -3.2129 Ω 59.325 pF   835.000 000 MHz

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Avg
16

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CH1 Markers

2: 65.203 Ω
33.645 Ω
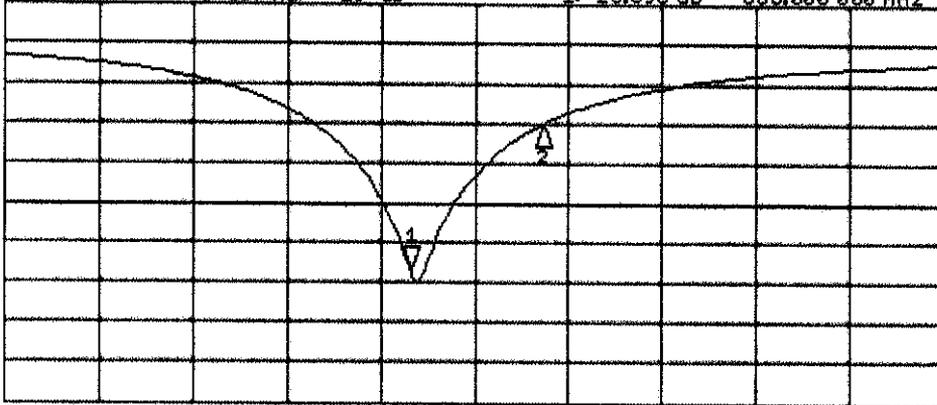900.000 MHz

CH2 S11   LOG   5 dB/ REF -20 dB   1:-28.095 dB   835.000 000 MHz

Cor

Avg
16

↑

CH2 Markers

2:-10.240 dB
900.000 MHz

START 635.000 000 MHz   STOP 1 100.000 000 MHz

DASY4 Validation Report for Body TSL

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:484

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: MSL900;
Medium parameters used: f = 835 MHz; σ = 1.01 mho/m; ε_r = 54.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ET3DV6 - SN1507 (HF); ConvF(5.75, 5.75, 5.75); Calibrated: 19.10.2006
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn907; Calibrated: 20.07.2006
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; ;
- Measurement SW: DASY4, V4.7 Build 53; Postprocessing SW: SEMCAD, V1.8 Build 172

Unnamed procedure/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 53.8 V/m; Power Drift = 0.018 dB
Peak SAR (extrapolated) = 3.55 W/kg
SAR(1 g) = 2.47 mW/g; SAR(10 g) = 1.62 mW/g
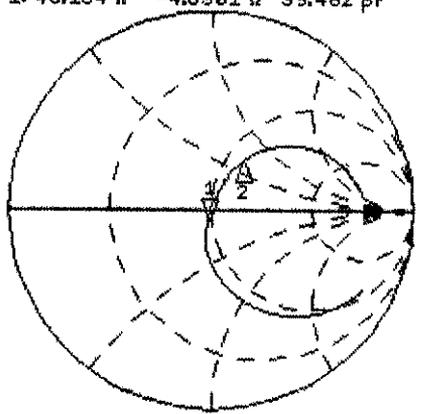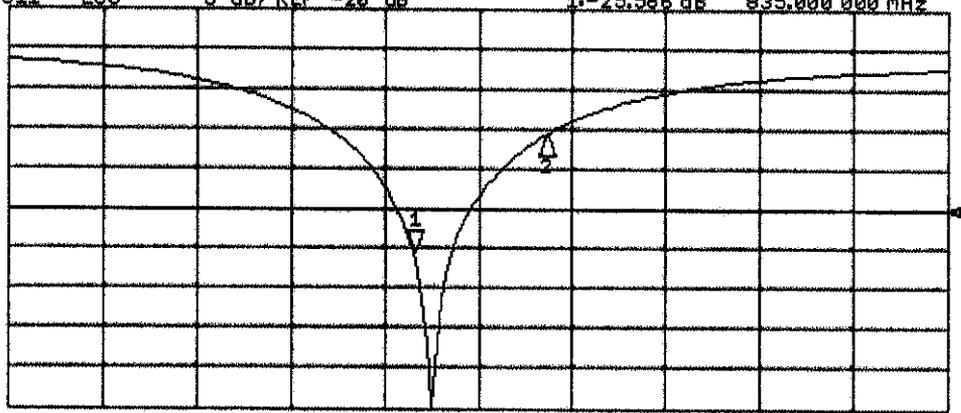Maximum value of SAR (measured) = 2.66 mW/g

0 dB = 2.66mW/g

Impedance Measurement Plot for Body TSL