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LD/SEMC/CVVBALE Kent Lorentzon

Approved

BA/SEMC/CVVBAU Jon Kenny

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No.

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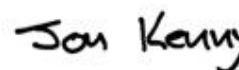
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**Report issued by Accredited SAR Laboratory
for**

FCC ID: PY7A3880092

IC: 4170B-A3880092

Date of test: 2010-07-05 to 2010-07-14**Laboratory:** Sony Ericsson SAR Test Laboratory
Sony Ericsson Mobile Communications AB
Nya Vattentorget
SE-221 88 Lund, Sweden**Testing Engineer:** Kent Lorentzon
Kent.Lorentzon@sonyericsson.com
+46 10 80 19043**Testing Approval:** Jon Kenny
Jon.Kenny@sonyericsson.com
+44 1252 55 5711**Statement of Compliance**

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

Sony Ericsson Type AAD-3880092-BV; FCC ID PY7A3880092; IC 4170B-A3880092to 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)

This laboratory is accredited to ISO/IEC 17025 (SWEDAC accreditation no. 1847).



Laboratories are accredited by the Swedish Board for Accreditation and Conformity Assessment (SWEDAC) under the terms of Swedish legislation. The accredited laboratory activities meet the requirements in SS-EN ISO/IEC 17025 (2005). This report may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

The results and statements contained herein relate only to the items tested. The names of individuals involved may be mentioned only in connection with the statements or results from this report.

Sony Ericsson encourages all feedback, both positive and negative, on this report.

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1 Introduction

In this test report, compliance of the Sony Ericsson FCC ID: PY7A3880092 (E15a) 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 Customer details

Company Name:	Sony Ericsson Mobile Communications AB
Address:	Sony Ericsson, Lund, Sweden
Contact Name:	Adam Al-Mosawi

3 Device Under Test

3.1 Antenna Description

Type	Internal antenna	
Location	Bottom of the phone	
Main and BT antennas distance	50 mm	
Dimensions	Max length	50 mm
	Max width	18 mm
Configuration	PIFA	



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3.2 Device Description

Device model	AAD-3880092-BV					
Market name	E15a					
Serial number (EUT #)	CB511JWH3U (#18578) CB511JWH5L (#18581) – WLAN					
Mode	GSM 850			GSM 1900		
Crest factor	8.3			8.3		
Multiple access scheme	TDMA			TDMA		
Channel No.	128	190	251	512	661	885
Measured Power Level [dBm] ¹ (#18578)	33,9	33,9	33,9	31,0	31,0	30,9
Product Maximum power Level [dBm] ¹	34,0	34,0	34,0	31,0	31,0	31,0
Data mode	GPRS			GPRS		
Crest factor	4.15 (2Tx)			4.15 (2Tx)		
Measured Power Level [dBm] ¹ (#18578)	30,8	30,8	31,0	28,5	28,5	28,5
Product Maximum power Level [dBm] ¹	31,0	31,0	31,0	28,5	28,5	28,5
Crest factor	3.1125 (3Tx)			3.1125 (3Tx)		
Measured Power Level [dBm] ¹ (#18578)	28,8	28,8	28,8	26,4	26,4	26,4
Product Maximum power Level [dBm] ¹	29,0	29,0	29,0	26,5	26,5	26,5
Crest factor	2.075 (4Tx)			2.075 (4Tx)		
Measured Power Level [dBm] ¹ (#18578)	26,8	26,8	26,8	25,0	25,0	24,9
Product Maximum power Level [dBm] ¹	27,0	27,0	27,0	25,0	25,0	25,0
Data mode	EDGE			EDGE		
Crest factor	4.15 (2Tx)			4.15 (2Tx)		
Measured Power Level [dBm] ¹ (#18578)	27,4	27,4	27,4	26,8	26,8	26,8
Product Maximum power Level [dBm] ¹	28,0	28,0	28,0	27,0	27,0	27,0
Crest factor	3.1125 (3Tx)			3.1125 (3Tx)		
Measured Power Level [dBm] ¹ (#18578)	25,3	25,4	25,4	24,7	24,7	24,7
Product Maximum power Level [dBm] ¹	26,0	26,0	26,0	25,0	25,0	25,0
Crest factor	2.075 (4Tx)			2.075 (4Tx)		
Measured Power Level [dBm] ¹ (#18578)	23,3	23,3	23,3	22,7	22,7	22,7
Product Maximum power Level [dBm] ¹	24,0	24,0	24,0	23,0	23,0	23,0
Transmitting frequency range [MHz]	824.0 - 849.0			1850.0 - 1910.0		

¹ These values are supplied by the customer

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Mode	UMTS 2			UMTS 5		
Crest factor	1			1		
Multiple access scheme	WCDMA			WCDMA		
Channel No.	9262	9400	9538	4132	4183	4233
Measured Power Level [dBm]¹ (#18578)	23,7	23,7	23,8	24,7	24,7	24,6
Product Maximum power Level [dBm]¹	23,8	23,8	23,8	24,8	24,8	24,8
Data Mode	(See section 3.3)			(See section 3.3)		
Transmitting frequency range [MHz]	1852.4 – 1907.6			826.4 – 846.6		

GPRS Multislot class	12
EDGE class	12
GPRS Capability class	B
BT class and conducted power	Class 1/ 10 mW.
Prototype or production unit	Preproduction
Hardware Version	AP1
Software version	1.2.A.1.28
Device category	Portable
RF exposure environment	General population / uncontrolled

WLAN Conducted Output Power								
Mode	Max Average Output Power ¹ (dBm)	EUT (#18581) Measured Average Power ¹ (dBm)				EUT (#18581) Measured Peak Power ¹ (dBm)		
		Ch 1	Ch 6	Ch 11		Ch 1	Ch 6	Ch 11
802.11b 1Mbit/sec	18,0	17,7	17,8	17,6		19,7	19,8	19,6
802.11b 2Mbit/sec		17,9	18,0	17,8		19,8	20,0	19,8
802.11b 5.5Mbit/sec		17,8	17,7	17,4		19,7	19,8	19,5
802.11b 11Mbit/sec		17,7	17,7	17,4		19,7	19,6	19,4
802.11g 6Mbit/sec	16,5	15,4	15,6	15,6		24,1	24,3	24,2
802.11g 9Mbit/sec		15,3	15,6	15,6		24,0	24,2	24,2
802.11g 12Mbit/sec		15,4	15,6	15,7		24,1	24,2	24,3
802.11g 18Mbit/sec		15,4	15,6	15,7		24,1	23,9	24,0
802.11g 24Mbit/sec		14,7	15,1	15,0		23,2	23,4	23,2
802.11g 36Mbit/sec		14,9	15,2	15,2		23,3	23,4	23,5
802.11g 48Mbit/sec		14,0	14,2	14,3		23,2	23,2	23,4
802.11g 54Mbit/sec		14,1	14,2	14,3		23,4	23,4	23,5

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3.3 HSPA Power Characteristics

The conducted power of the device was confirmed in two UMTS circuit switched modes (RMC and Voice) and four HSDPA modes. A CMU-200 was used to establish the call processing and modulation settings and an RF power meter was used for measurement. For all HSDPA measurements, the following settings were applied:

H-SET3 QPSK

CQI feedback=2msec

$\Delta\text{ACK} = \Delta\text{NACK} = \Delta\text{CQI} = 8$

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

EUT# 18578					Band 2				Band 5	
				Freq.(MHz)	1852,4	1880,0	1907,6	826,4	836,4	846,6
	βC	βD	ΔHS	max->	23,8	23,8	23,8	24,8	24,8	24,8
CS - RMC	8	15	-		22,9	23,2	23,2	24,2	24,0	24,0
CS - voice	8	15	-		22,9	23,2	23,2	24,2	24,0	24,0
HSDPA - 1	2	15	8		22,7	22,7	22,8	23,8	23,7	23,6
HSDPA - 2	12	15	8		22,7	22,7	22,7	23,7	23,5	23,6
HSDPA - 3	15	8	8		22,2	22,3	22,4	23,3	23,2	23,1
HSDPA - 4	15	4	8		22,2	22,2	22,4	23,3	23,1	23,2

The measured 1-gram averaged SAR values of the device against head and body are provided in the test results chapter. For head and body measurement, the unit was measured in the following (CS) voice modes:

RMC=12.2, βc =8, βd =15

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In HSUPA mode, additional code channels (E-DPCCH, E-DPDCHn) are added for data transfer in the uplink at higher bit rates.

5 sub-tests are defined by 3GPP TS 34.121 [7] according to the following table:

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	$\beta_{hs}^{(1)}$	β_{ec}	β_{ed}	β_{ec} (SF)	β_{ed} (code)	CM (dB) ⁽²⁾	MPR (dB)	AG ⁽⁴⁾ Index	E-TFC I
1	11/15 ⁽³⁾	15/15 ⁽³⁾	64	11/15 ⁽³⁾	22/15	209/225	1039/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed1}:47/15$ $\beta_{ed2}:47/15$	4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15 ⁽⁴⁾	15/15 ⁽⁴⁾	64	15/15 ⁽⁴⁾	30/15	24/15	134/15	4	1	1.0	0.0	21	81

Note 1: $\Delta_{ACK}, \Delta_{NACK}, \Delta_{CQI} = 8 \iff A_{HS} = \beta_{HS}/\beta_c = 30/15 \iff \beta_{HS} = 30/15 * \beta_c$
Note 2: CM = 1 for $\beta_c/\beta_d = 12/15$, $\beta_{HS}/\beta_c = 24/15$. For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference
Note 3: For sub-test 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 10/15$ and $\beta_d = 15/15$
Note 4: For sub-test 5 the β_c/β_d ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 14/15$ and $\beta_d = 15/15$
Note 5: Testing UE using E-DPDCH Physical Layer category 1 sub-test 3 is not required according to TS 25.306 Table 5.1g
Note 6: β_{ed} cannot be set directly; it is set by Absolute Grant Value

EUT# 18578		Band 2			Band 5		
	Freq. (MHz)	1852,4	1880,0	1907,6	826,4	836,4	846,6
	max->	23,8	23,8	23,8	24,8	24,8	24,8
HSUPA - Sub-test 1		21,9	21,6	22,0	23,2	22,8	22,2
HSUPA - Sub-test 2		20,3	20,7	20,4	21,7	21,3	21,7
HSUPA - Sub-test 3		20,8	21,1	21,0	22,3	21,8	21,7
HSUPA - Sub-test 4		21,0	20,6	21,2	21,2	22,0	21,8
HSUPA - Sub-test 5		21,9	21,7	21,9	23,2	22,8	23,1

NOTE: None of the HSDPA/HSUPA settings leads to conducted power values exceeding the conducted power in RMC mode by more than 0.25 dB.

So no additional SAR measurements are required for those test modes.

NOTE: According to the subtest settings shown in Table above a Maximum Power Reduction (MPR) of up to 2dB can be expected in HSUPA subtest 2 - 4. The WCDMA measurement results may show a lower power reduction depending on the chipset features of the DUT [7].

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4 Test equipment

4.1 Dosimetric system

SAR measurements were made using the DASY4 professional system (software version 4.7, Build 80) 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	433	2011-01
E-field probe ES3DV3	3210	2011-03
Dipole Validation Kit, D835V2	4d039	2012-01
Dipole Validation Kit, D1900V2	5d002	2011-01
Dipole Validation Kit, D2450V2	745	2011-03

4.2 Additional equipment

Description	Inventory Number	Due Date
Signal generator R&S SML03	20007666	2011-03
Directional coupler	S/N: 063	2011-03
Power meter R&S NRVD	483920	2011-03
Power sensor R&S NRV-Z5	2333	2011-03
Power sensor R&S NRV-Z5	2334	2011-03
Network analyzer HP 8753C	421671	2011-03
Dielectric probe kit HP 85070D	20000053	Self Cal
R&S CMU200	S/N: 836370/001	2011-03

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5 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/cm ³]
835	Head	Measured 2010-07-06	40.13	0.87	1.00
		Recommended	41.50	0.90	1.00
835	Body	Measured 2010-07-12	52.46	0.96	1.00
		Recommended	55.20	0.97	1.00
1900	Head	Measured 2010-07-07	38.01	1.44	1.00
		Recommended	40.00	1.40	1.00
1900	Body	Measured 2010-07-09	52.24	1.59	1.00
		Recommended	53.30	1.52	1.00
2450	Head	Measured 2010-07-13	37.54	1.83	1.00
		Recommended	39.20	1.80	1.00
2450	Body	Measured 2010-07-14	50.28	2.00	1.00
		Recommended	52.70	1.95	1.00

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6 System accuracy verification

A system accuracy verification of the DASY4 was performed using the dipole validation kit listed in section 4.1. The system verification test was conducted on the same day as the measurement of the DUT. The ambient humidity and temperature of test facility were kept between the range 30-70% and 20.0-25.0 °C respectively. 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	Dielectric Parameters		Density	Liquid T[°C]
				ϵ_r	σ [S/m]	ρ [g/cm ³]	
835	Head	Measured 2010-07-06	9.48	40.13	0.87	1.00	21.7
		Recommended	9.71	41.50	0.90	1.00	22.0
835	Body	Measured 2010-07-12	9.78	52.46	0.96	1.00	21.7
		Recommended	9.90	55.20	0.97	1.00	22.0
1900	Head	Measured 2010-07-07	39.5	38.01	1.44	1.00	21.1
		Recommended	39.9	40.00	1.40	1.00	22.0
1900	Body	Measured 2010-07-09	38.3	52.24	1.59	1.00	21.4
		Recommended	41.5	53.30	1.52	1.00	22.0
2450	Head	Measured 2010-07-13	53.3	37.54	1.83	1.00	23.7
		Recommended	52.9	39.20	1.80	1.00	23.0
2450	Body	Measured 2010-07-14	51.9	50.28	2.00	1.00	21.8
		Recommended	52.4	52.70	1.95	1.00	22.0

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7 SAR measurement uncertainty

SAR measurement uncertainty evaluation for Sony Ericsson PY7A3880092 (E15a) 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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8 Test results

The ambient humidity and temperature of test facility were kept between the range 30-70% and 20.0-25.0 °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 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. The measured 1-gram averaged SAR values of the DUT towards the head are provided in Table 1.

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 headset MH810 was connected to the DUT. The measured 1-gram averaged SAR values of the DUT towards the body are provided in Table 2.

Band	Channel	Measured output power ¹ [dBm]	Position	Liquid T [°C]	Measured SAR [W/Kg]	
					Left-hand 1g mass	Right-hand 1g mass
GSM 850	128	33,9	Cheek	21,7	0,35	0,32
	190	33,9	Cheek	21,7	0,40	0,39
			Tilt	21,7	0,27	0,28
	251	33,9	Cheek	21,7	0,48	0,43
GSM1900	512	31,0	Cheek	21,1	0,44	0,52
	661	31,0	Cheek	21,1	0,55	0,74
			Tilt	21,1	0,30	0,32
	810	30,9	Cheek	21,1	0,56	0,67
UMTS2	9262	23,7	Cheek	21,1	0,96	1,22
	9400	23,7	Cheek	21,1	0,92	1,41
			Tilt	21,1	0,55	0,60
	9538	23,8	Cheek	21,1	0,90	1,15
UMTS5	4132	24,7	Cheek	21,7	0,44	0,40
	4183	24,7	Cheek	21,7	0,39	0,36
			Tilt	21,7	0,25	0,26
	4233	24,6	Cheek	21,7	0,18	0,56
WLAN 802.11b 1Mbps	1	17,7	Cheek	23,7	0,16	0,14
	6	17,8	Cheek	23,7	0,12	0,12
			Tilt	23,7	0,10	0,12
	11	17,6	Cheek	23,7	0,12	0,10

Table 1: SAR measurement result for Sony Ericsson PY7A3880092 telephone at highest possible output power. Measured towards the head.

¹ The measured output power values were provided by the customer.



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Band	Channel	Measured output power ¹ [dBm]	Position / Mode	Liquid T [°C]	Measured SAR [W/kg] 1g mass
GSM 850	128	30,8	Back / GPRS 2Tx	21,7	0,64
		28,8	Back / GPRS 3Tx	21,7	0,59
		26,8	Back / GPRS 4Tx	21,7	0,50
		33,9	Back / Speech PHF	21,7	0,48
		33,9	Back / Speech	21,7	0,64
	190	30,8	Back / GPRS 2Tx	21,7	0,79
		33,9	Back / Speech	21,7	0,69
		31,0	Back / GPRS 2Tx	21,7	0,81
	251	31,0	Front / GPRS 2Tx	21,7	0,40
		33,9	Back / Speech	21,7	0,74
		27,4	Back / Edge 2Tx	21,7	0,37
		28,5	Back / GPRS 2Tx	21,4	0,38
GSM 1900	512	26,4	Back / GPRS 3Tx	21,4	0,36
		25,0	Back / GPRS 4Tx	21,4	0,34
		31,0	Back / Speech	21,4	0,38
		31,0	Back / Speech PHF	21,4	0,35
		28,5	Back / GPRS 2Tx	21,4	0,41
	661	31,0	Back / Speech	21,4	0,40
		28,5	Back / GPRS 2Tx	21,4	0,43
	810	28,5	Front / GPRS 2Tx	21,4	0,24
		26,8	Back / Edge 2Tx	21,4	0,29
		30,9	Back / Speech	21,4	0,38
		23,7	Back / Speech PHF	21,4	0,65
UMTS2	9262	23,7	Back / Speech	21,4	0,66
		23,7	Back / Speech	21,4	0,67
	9538	23,8	Back / Speech	21,4	0,69
		23,8	Front / Speech	21,4	0,30
		24,7	Back / Speech	21,7	0,65
UMTS5	4132	24,7	Back / Speech PHF	21,7	0,55
		24,7	Front / Speech	21,7	0,26
		24,7	Back / Speech	21,7	0,63
	4233	24,6	Back / Speech	21,7	0,58
		17,7	Back	21,8	0,08
WLAN 802.11b 1Mbps	1	17,7	Front	21,8	0,05
		17,8	Back	21,8	0,06
	11	17,6	Back	21,8	0,06

Table 2: SAR measurement result for Sony Ericsson PY7A3880092 telephone at highest possible output power. Measured towards the body.

¹ The measured output power values were provided by the customer.

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Prepared (also subject responsible if other)

LD/SEMC/CVVBALE Kent Lorentzon

Approved

BA/SEMC/CVVBAU Jon Kenny

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Note: Theoretical SAR value (worst case) for multiple transmitters (collateral transmitters) was **1.58** for Cheek Right phone position combine UMTS band 2 and WLAN. The SAR values are calculated to maximum output power for worst case scenario.

The Volume scan SAR measurement has not been made according demand in FCC KDB 648474 document.

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CVVA10:305

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9 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.
- [5] FCC KDB648474. "SAR Evaluation Consideration for HANDSETS with Multiple Transmitters and Antenna", April 2008.
- [6] FCC KDB248227. "SAR Measurement procedure for 802.11a/b/g Transmitters", May 2007.
- [7] PBA KDB Input Tracking number #703553 regarding function of HSUPA MPR (Maximum Power Reduction) of Qualcomm RF chipset.

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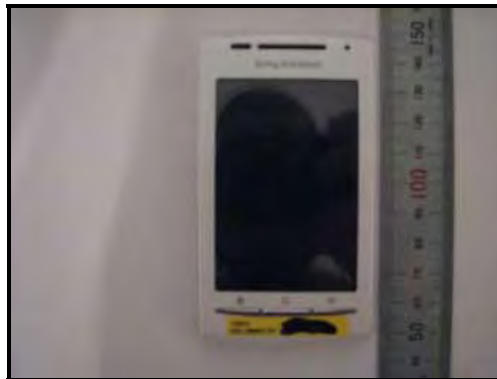
A

Reference

File

Appendix

9.1 Photographs of the device under test



Front



Sides



Back



Back with Battery

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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.

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DUT position towards the body, 15 mm distance



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9.3

Attachments

- System validation
- Measurement plots
- Probe calibration
- Dipole calibration

Date/Time: 2010-07-06 07:27:43

Test Laboratory: Sony Ericsson Mobile Communications AB

System Performance Check 835MHz Head 100706**DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d039**

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

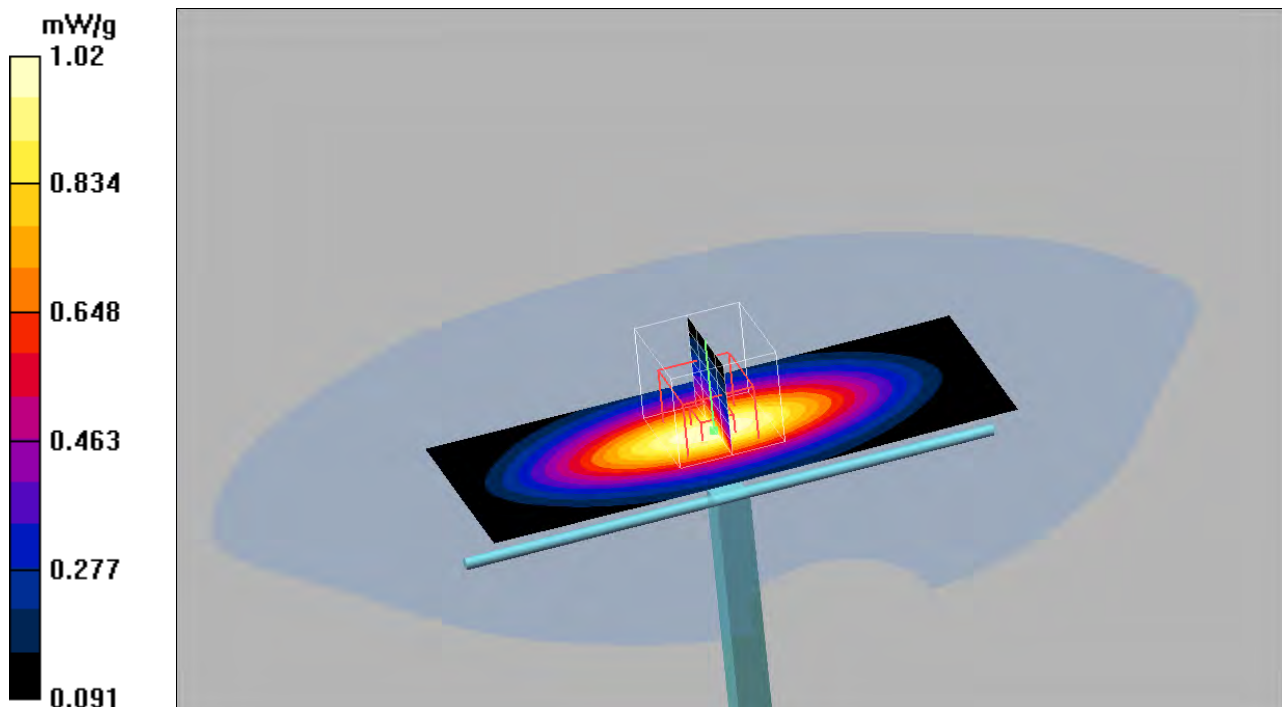
Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.87 \text{ mho/m}$; $\epsilon_r = 40.1$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(6.13, 6.13, 6.13); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

835 MHz Dipole/Area Scan (61x161x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$ Maximum value of SAR (interpolated) = 1.02 mW/g **835 MHz Dipole/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 34.6 V/m ; Power Drift = -0.007 dB Peak SAR (extrapolated) = 1.41 W/kg **SAR(1 g) = 0.948 mW/g ; SAR(10 g) = 0.622 mW/g** Maximum value of SAR (measured) = 1.02 mW/g 

Date/Time: 2010-07-12 07:58:52

Test Laboratory: Sony Ericsson Mobile Communications AB

System Performance Check 835MHz Body 100712**DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d039**

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

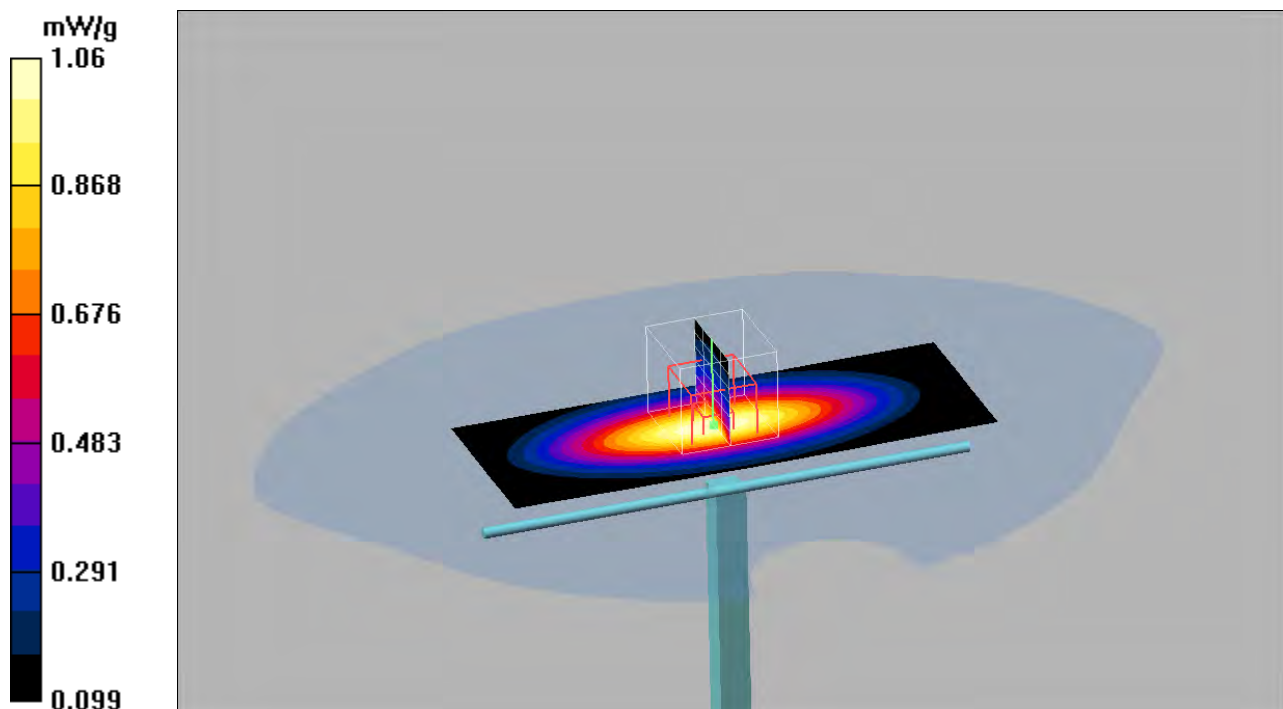
Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.957 \text{ mho/m}$; $\epsilon_r = 52.5$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(6.04, 6.04, 6.04); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

835 MHz Dipole/Area Scan (61x161x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$ Maximum value of SAR (interpolated) = 1.05 mW/g **835 MHz Dipole/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 33.4 V/m ; Power Drift = 0.017 dB Peak SAR (extrapolated) = 1.44 W/kg **SAR(1 g) = 0.978 mW/g ; SAR(10 g) = 0.643 mW/g** Maximum value of SAR (measured) = 1.06 mW/g 

Date/Time: 2010-07-07 08:01:49

Test Laboratory: Sony Ericsson Mobile Communications AB

System Performance Check 1900MHz Head 100707**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d002**

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

Medium parameters used: $f = 1900 \text{ MHz}$; $\sigma = 1.44 \text{ mho/m}$; $\epsilon_r = 38$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(5.07, 5.07, 5.07); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

1900 MHz Dipole/Area Scan (51x91x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (interpolated) = 4.49 mW/g

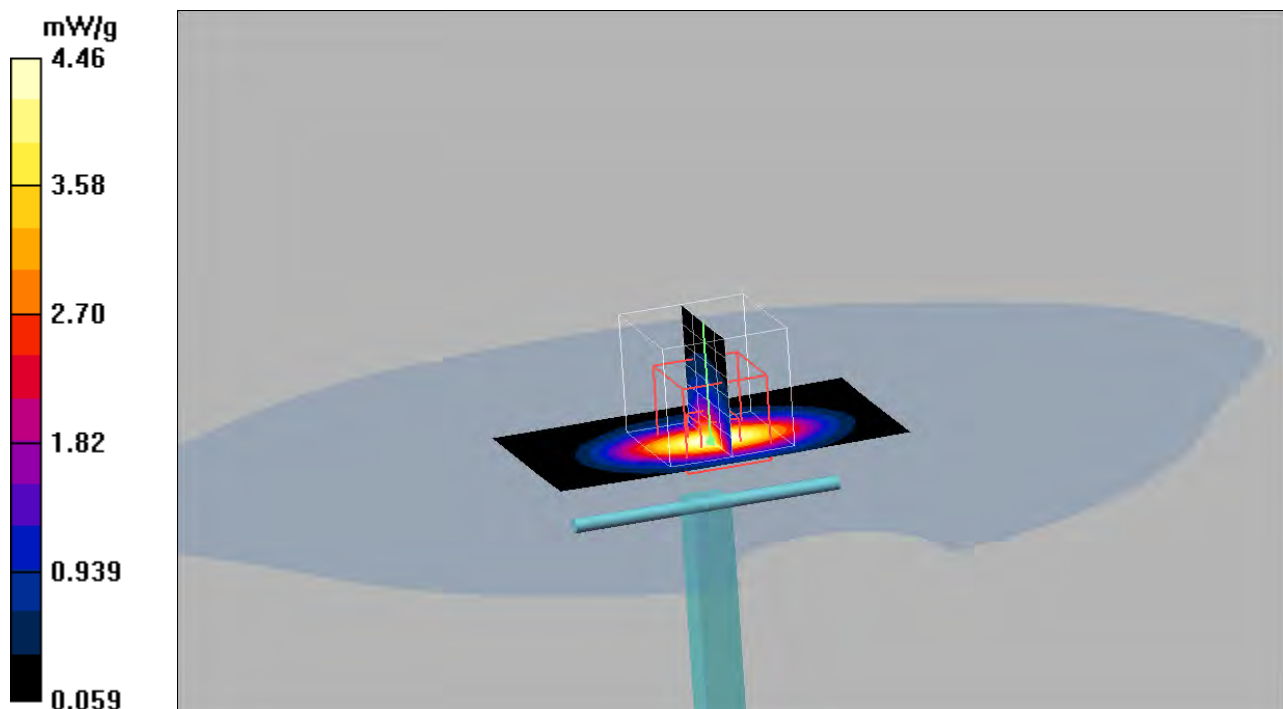
1900 MHz Dipole/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 54.1 V/m; Power Drift = -0.003 dB

Peak SAR (extrapolated) = 7.35 W/kg

SAR(1 g) = 3.95 mW/g; SAR(10 g) = 2.02 mW/g

Maximum value of SAR (measured) = 4.46 mW/g



Date/Time: 2010-07-09 08:23:52

Test Laboratory: Sony Ericsson Mobile Communications AB

System Performance Check 1900MHz Body 100709**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d002**

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

Medium parameters used: $f = 1900 \text{ MHz}$; $\sigma = 1.59 \text{ mho/m}$; $\epsilon_r = 52.2$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(4.74, 4.74, 4.74); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

1900 MHz Dipole/Area Scan (51x91x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (interpolated) = 4.38 mW/g

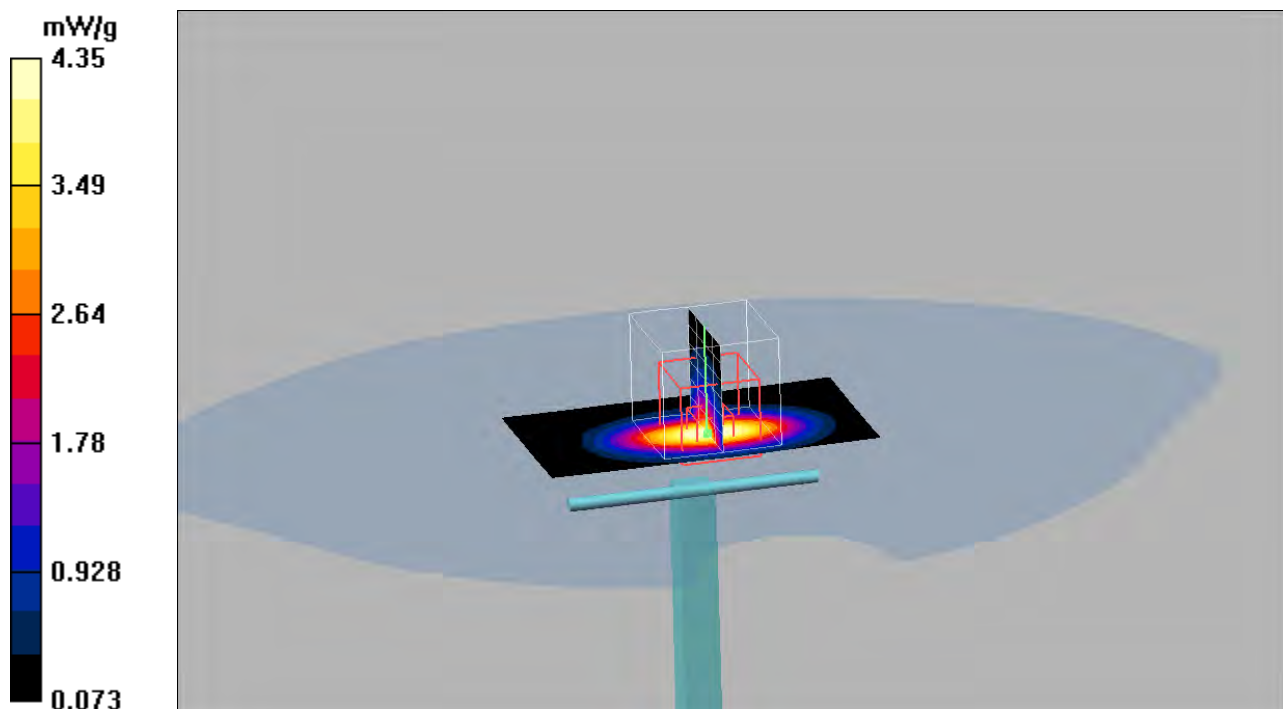
1900 MHz Dipole/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 50.1 V/m; Power Drift = -0.068 dB

Peak SAR (extrapolated) = 6.69 W/kg

SAR(1 g) = 3.83 mW/g; SAR(10 g) = 2 mW/g

Maximum value of SAR (measured) = 4.35 mW/g



Date/Time: 2010-07-13 07:55:58

Test Laboratory: Sony Ericsson Mobile Communications AB

System Performance Check 2450MHz Head 100713**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 745**

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.83$ mho/m; $\epsilon_r = 37.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(4.47, 4.47, 4.47); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

2450 MHz Dipole/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 6.42 mW/g

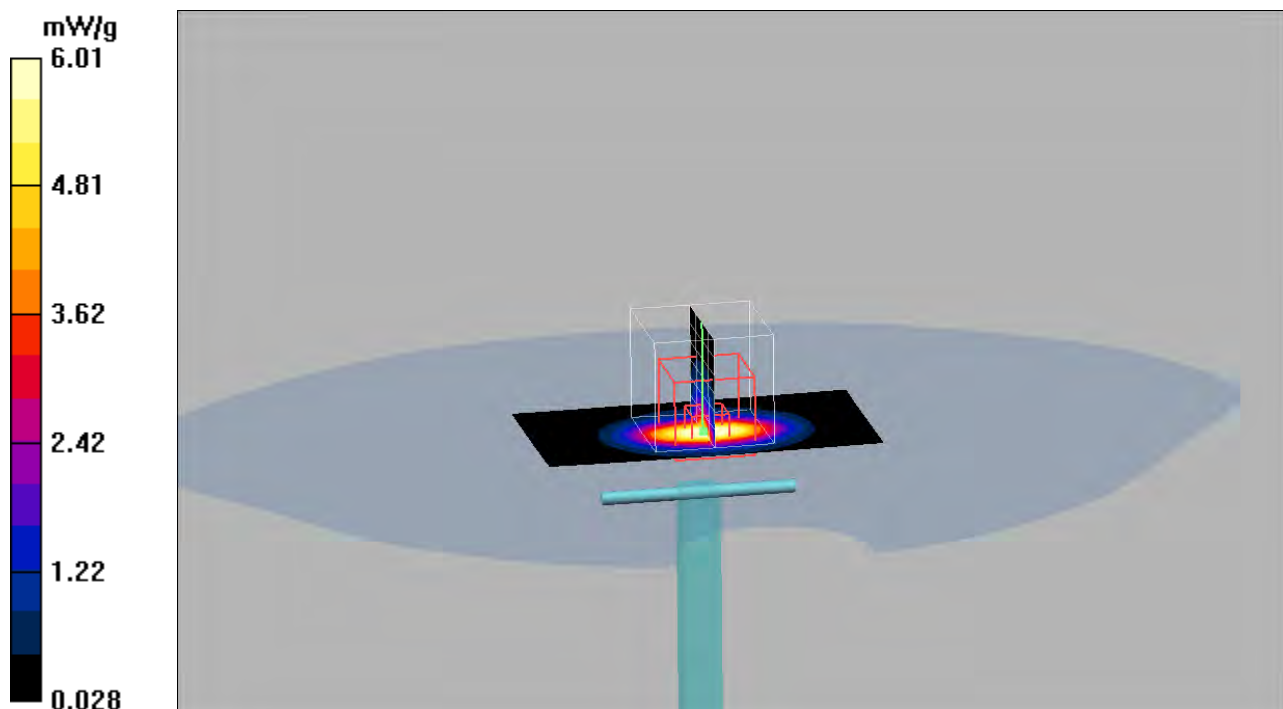
2450 MHz Dipole/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 58.1 V/m; Power Drift = -0.176 dB

Peak SAR (extrapolated) = 11.0 W/kg

SAR(1 g) = 5.33 mW/g; SAR(10 g) = 2.47 mW/g

Maximum value of SAR (measured) = 6.01 mW/g



Date/Time: 2010-07-14 08:07:23

Test Laboratory: Sony Ericsson Mobile Communications AB

System Performance Check 2450MHz Body 100714**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 745**

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1

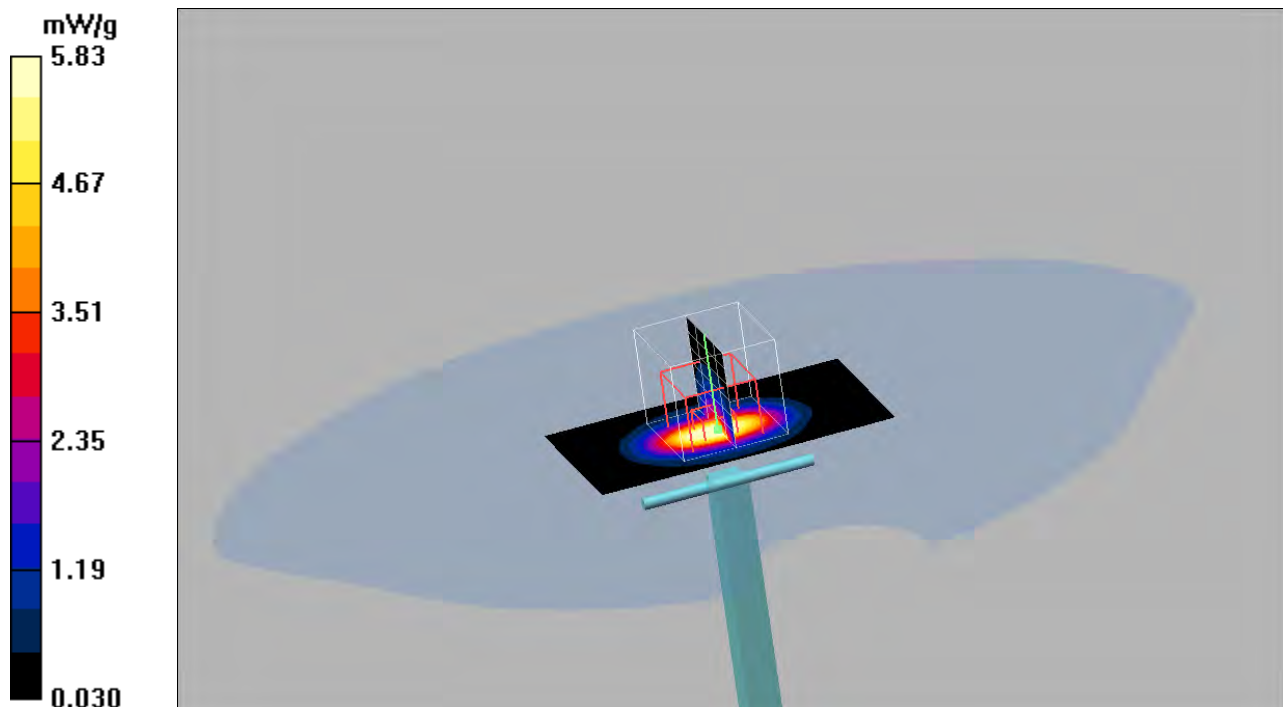
Medium parameters used: $f = 2450 \text{ MHz}$; $\sigma = 2.01 \text{ mho/m}$; $\epsilon_r = 50.3$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(4.31, 4.31, 4.31); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

2450 MHz Dipole/Area Scan (51x91x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$ Maximum value of SAR (interpolated) = 6.38 mW/g **2450 MHz Dipole/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 54.7 V/m ; Power Drift = -0.065 dB Peak SAR (extrapolated) = 10.9 W/kg **SAR(1 g) = 5.19 mW/g ; SAR(10 g) = 2.39 mW/g** Maximum value of SAR (measured) = 5.83 mW/g 

Date/Time: 2010-07-06 08:57:08

Test Laboratory: Sony Ericsson Mobile Communications AB

GSM850 Left Cheek 100706**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium parameters used (interpolated): $f = 848.8$ MHz; $\sigma = 0.884$ mho/m; $\epsilon_r = 40$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(6.13, 6.13, 6.13); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection) Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

High Cheek/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.503 mW/g

High Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.9 V/m; Power Drift = -0.004 dB

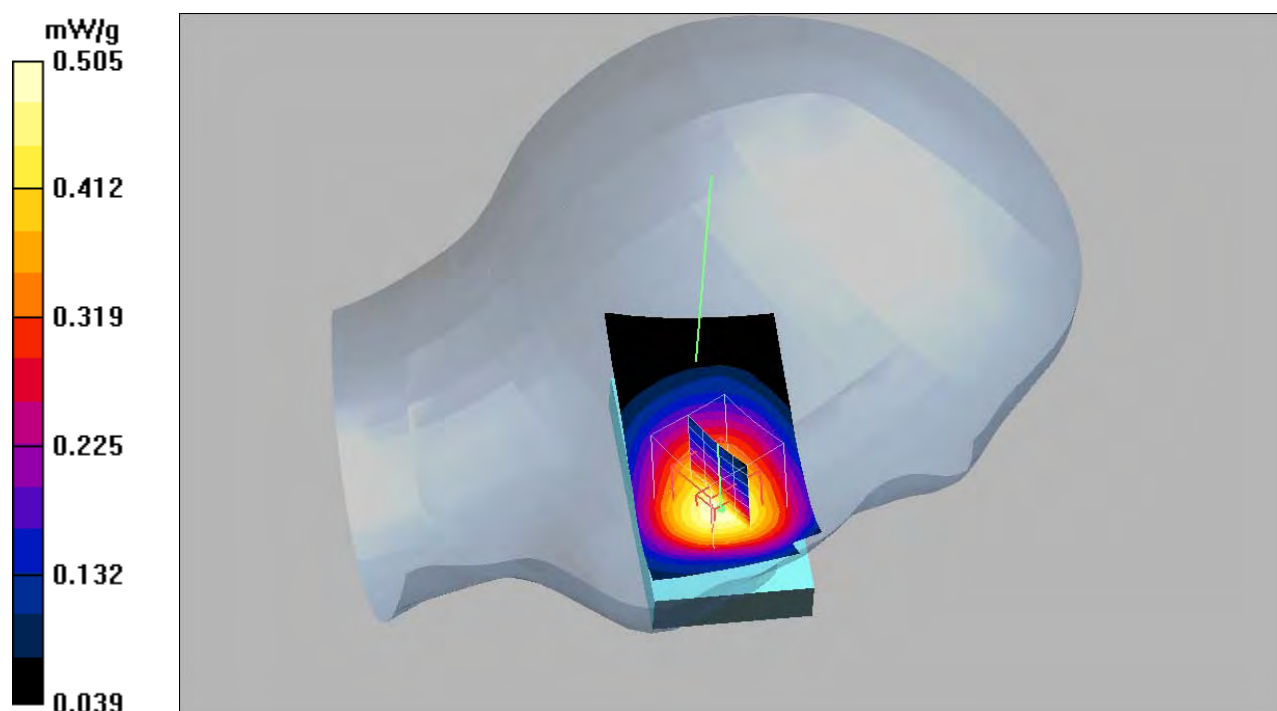
Peak SAR (extrapolated) = 0.592 W/kg

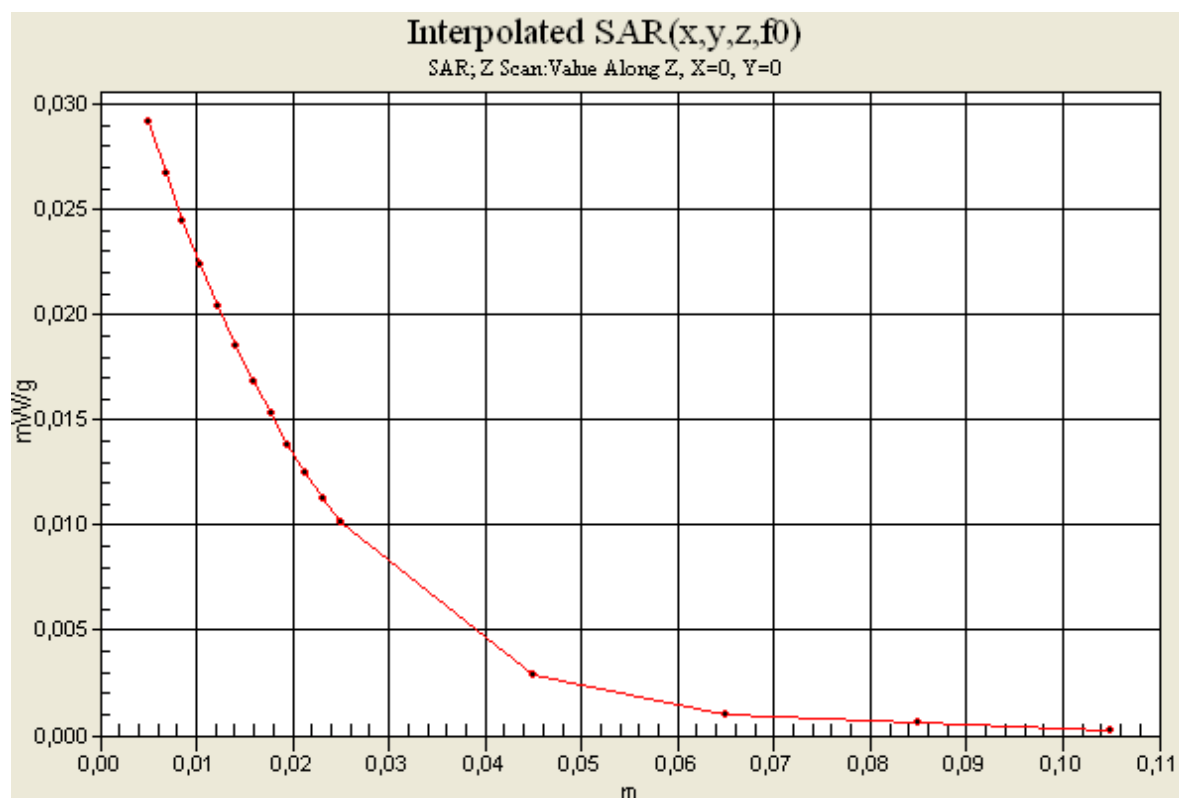
SAR(1 g) = 0.476 mW/g; SAR(10 g) = 0.347 mW/g

Maximum value of SAR (measured) = 0.505 mW/g

High Cheek/Z Scan (1x1x16): Measurement grid: dx=20mm, dy=20mm, dz=20mm

Maximum value of SAR (interpolated) = 0.029 mW/g





Date/Time: 2010-07-06 08:23:00

Test Laboratory: Sony Ericsson Mobile Communications AB

GSM850 Left Tilt 100706**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 0.872$ mho/m; $\epsilon_r = 40.1$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(6.13, 6.13, 6.13); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mid Tilt/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.278 mW/g

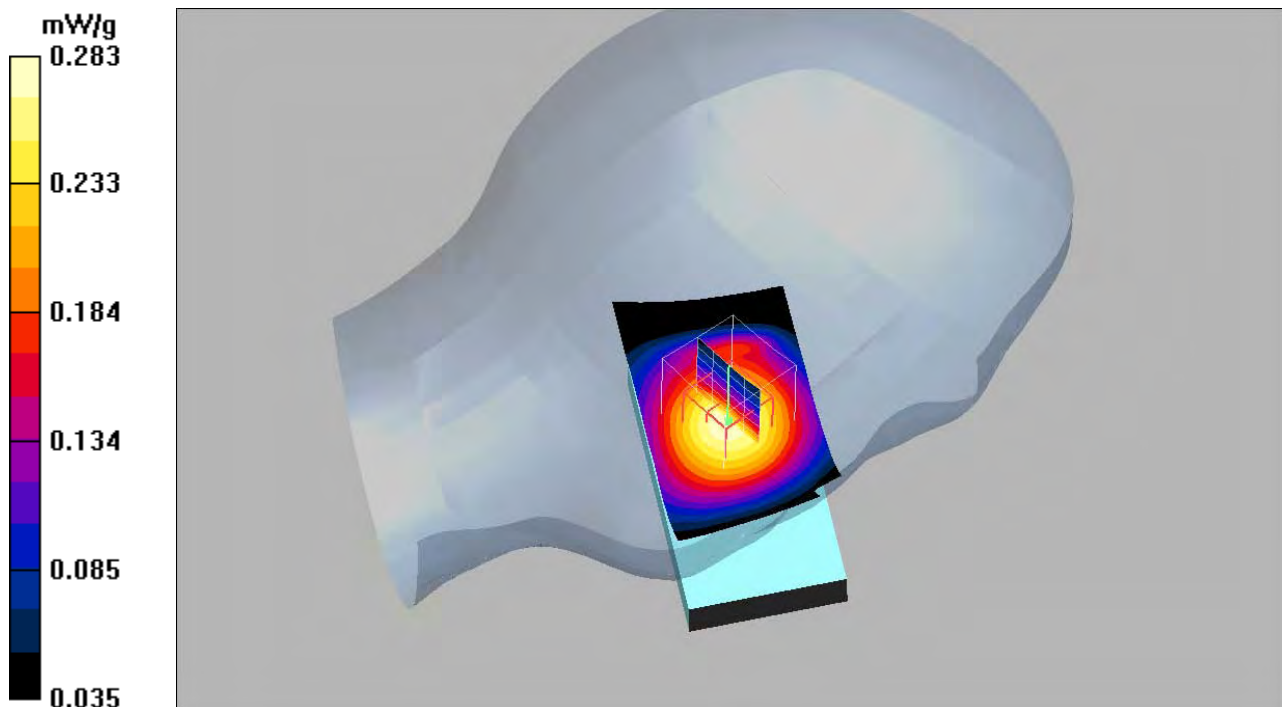
Mid Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.5 V/m; Power Drift = 0.047 dB

Peak SAR (extrapolated) = 0.343 W/kg

SAR(1 g) = 0.266 mW/g; SAR(10 g) = 0.197 mW/g

Maximum value of SAR (measured) = 0.283 mW/g



Date/Time: 2010-07-06 10:05:53

Test Laboratory: Sony Ericsson Mobile Communications AB

GSM850 Right Cheek 100706**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium parameters used (interpolated): $f = 848.8$ MHz; $\sigma = 0.884$ mho/m; $\epsilon_r = 40$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(6.13, 6.13, 6.13); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

High Cheek/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.464 mW/g

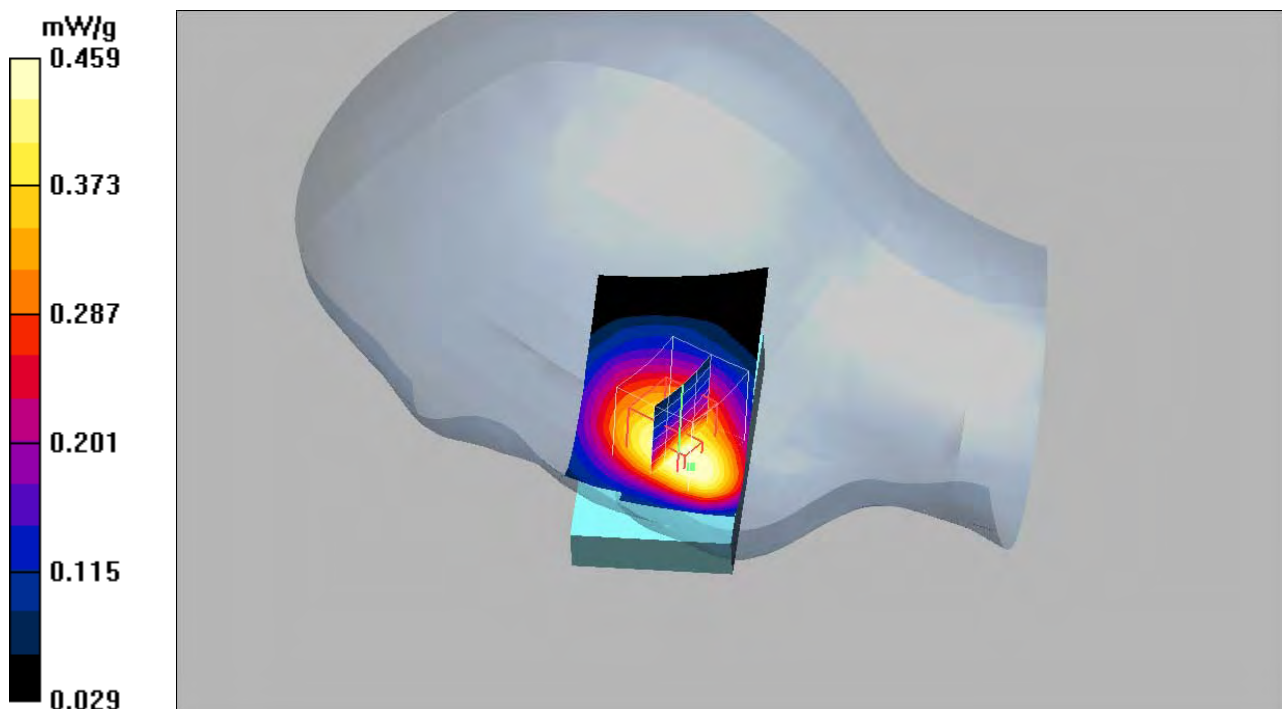
High Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 22.0 V/m; Power Drift = 0.029 dB

Peak SAR (extrapolated) = 0.625 W/kg

SAR(1 g) = 0.432 mW/g; SAR(10 g) = 0.312 mW/g

Maximum value of SAR (measured) = 0.459 mW/g



Date/Time: 2010-07-06 09:34:13

Test Laboratory: Sony Ericsson Mobile Communications AB

GSM850 Right Tilt 100706**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 0.872$ mho/m; $\epsilon_r = 40.1$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(6.13, 6.13, 6.13); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mid Tilt/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.293 mW/g

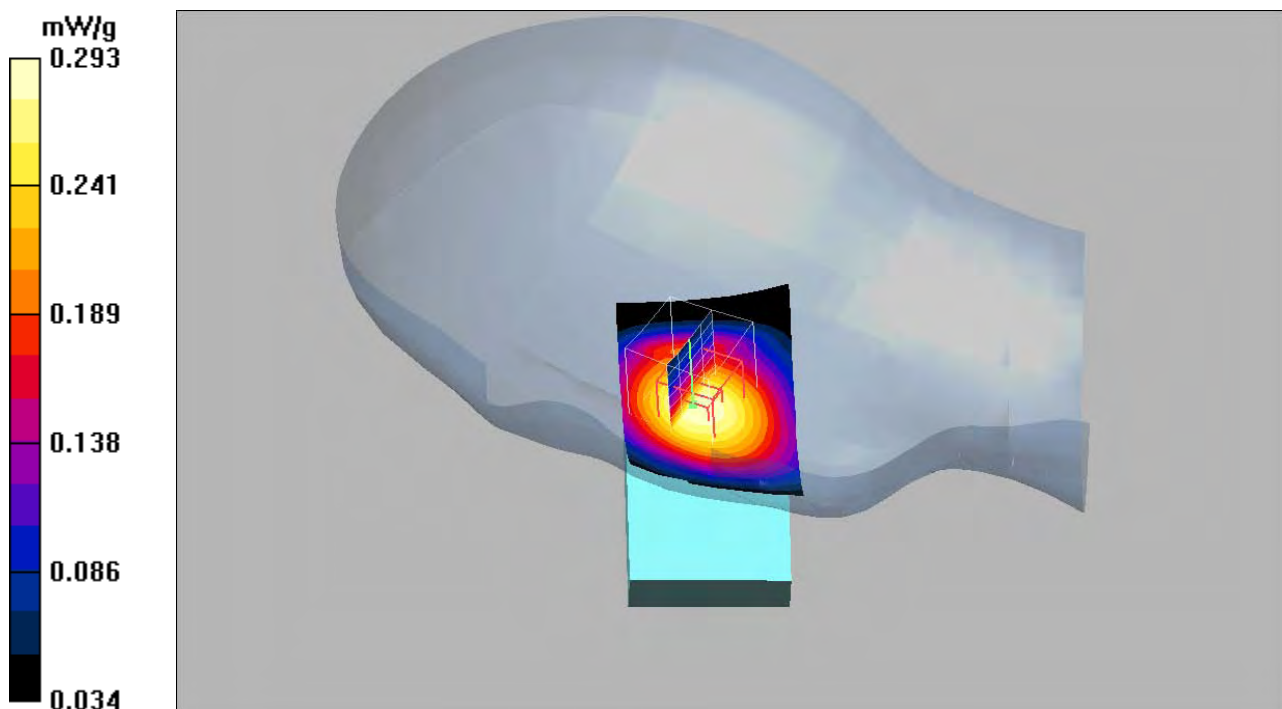
Mid Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.4 V/m; Power Drift = 0.025 dB

Peak SAR (extrapolated) = 0.356 W/kg

SAR(1 g) = 0.279 mW/g; SAR(10 g) = 0.207 mW/g

Maximum value of SAR (measured) = 0.293 mW/g



Date/Time: 2010-07-12 11:06:02

Test Laboratory: Sony Ericsson Mobile Communications AB

GSM850 Body GPRS 2TX 100712**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: GSM850 GPRS2TX; Frequency: 848.8 MHz; Duty Cycle: 1:4.15

Medium parameters used (interpolated): $f = 848.8$ MHz; $\sigma = 0.972$ mho/m; $\epsilon_r = 52.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(6.04, 6.04, 6.04); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection) Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

High, GPRS 2TX/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.853 mW/g

High, GPRS 2TX/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 24.5 V/m; Power Drift = 0.036 dB

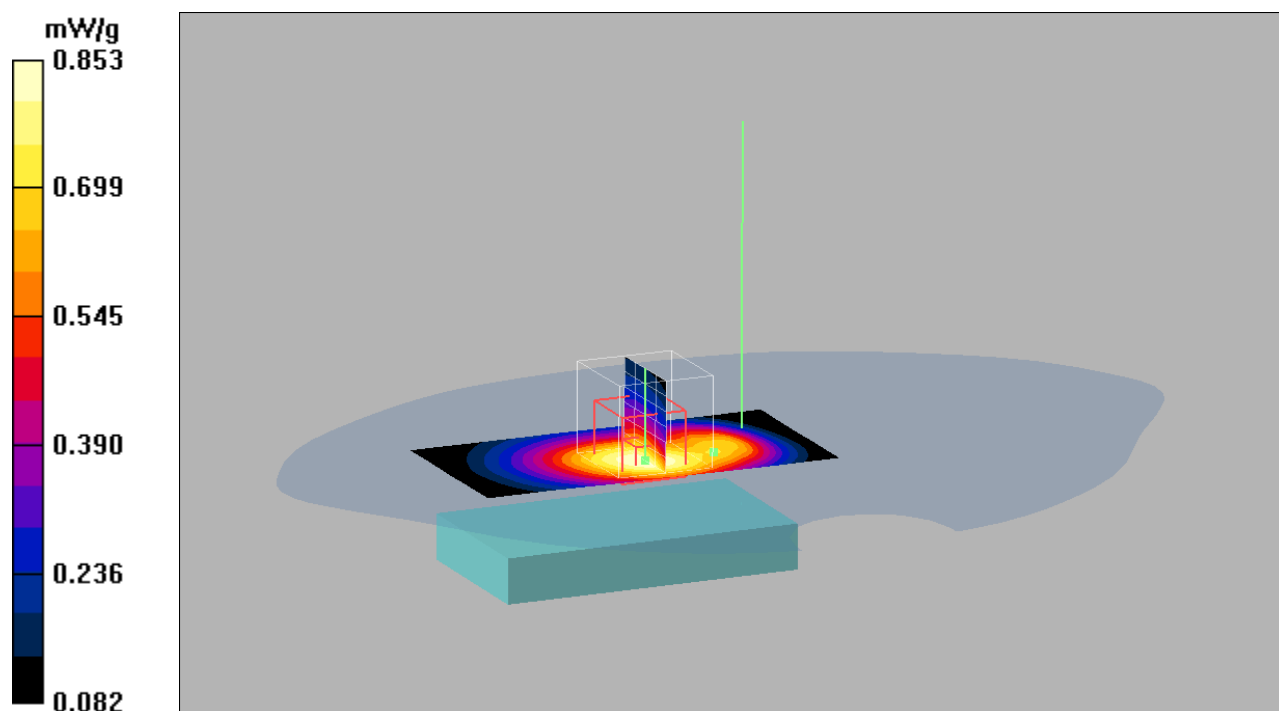
Peak SAR (extrapolated) = 1.07 W/kg

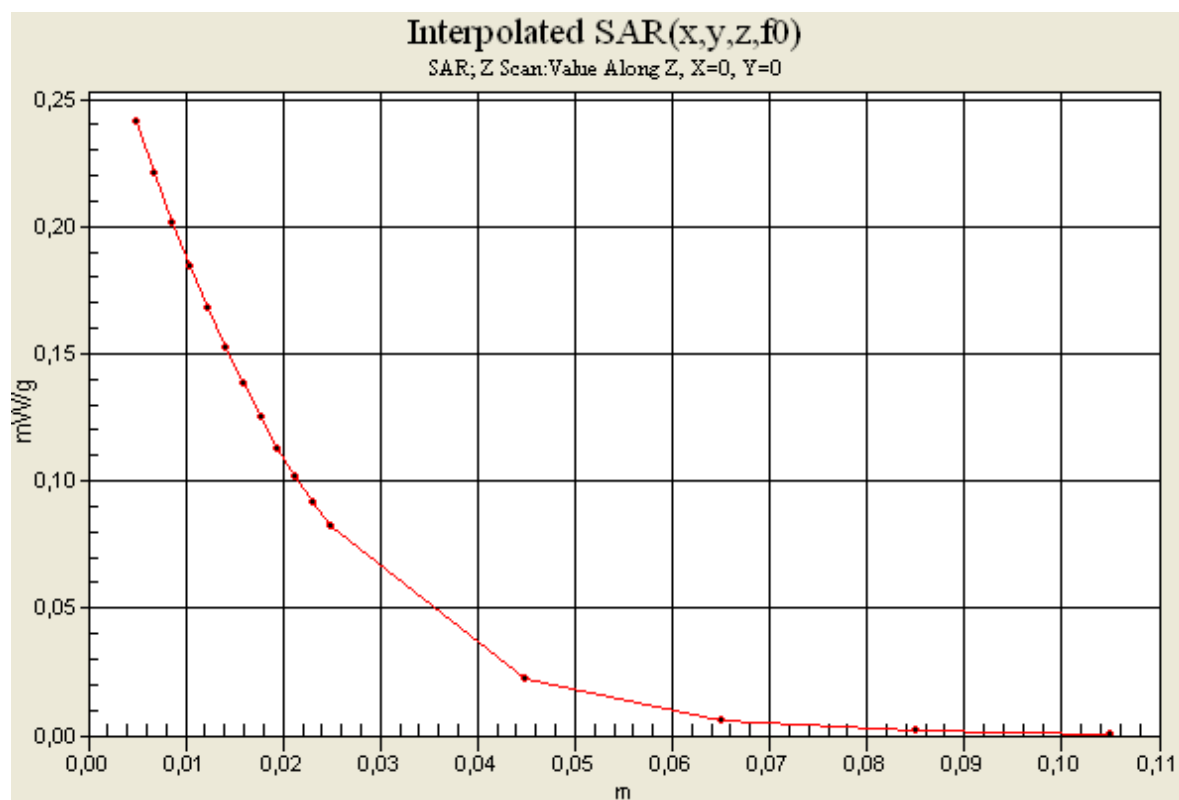
SAR(1 g) = 0.805 mW/g; SAR(10 g) = 0.570 mW/g

Maximum value of SAR (measured) = 0.853 mW/g

High, GPRS 2TX/Z Scan (1x1x16): Measurement grid: dx=20mm, dy=20mm, dz=20mm

Maximum value of SAR (interpolated) = 0.241 mW/g





Date/Time: 2010-07-12 11:56:49

Test Laboratory: Sony Ericsson Mobile Communications AB

GSM850 Body Front GPRS 2TX 100712**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: GSM850 GPRS2TX; Frequency: 848.8 MHz; Duty Cycle: 1:4.15

Medium parameters used (interpolated): $f = 848.8$ MHz; $\sigma = 0.972$ mho/m; $\epsilon_r = 52.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(6.04, 6.04, 6.04); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

High, GPRS 2TX Front/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.453 mW/g

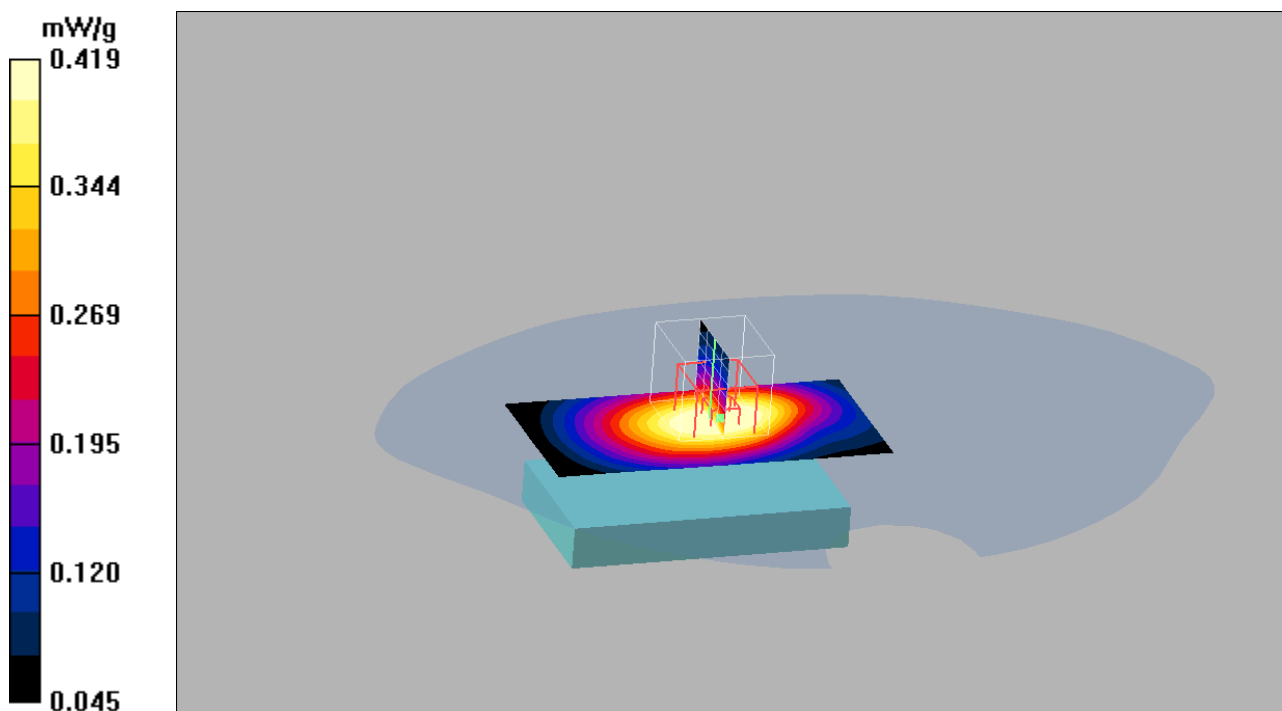
High, GPRS 2TX Front/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.5 V/m; Power Drift = -0.118 dB

Peak SAR (extrapolated) = 0.519 W/kg

SAR(1 g) = 0.399 mW/g; SAR(10 g) = 0.290 mW/g

Maximum value of SAR (measured) = 0.419 mW/g



Date/Time: 2010-07-12 09:20:37

Test Laboratory: Sony Ericsson Mobile Communications AB

GSM850 Body Speech 100712**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium parameters used (interpolated): $f = 848.8$ MHz; $\sigma = 0.972$ mho/m; $\epsilon_r = 52.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(6.04, 6.04, 6.04); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

High, Speech BT/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.800 mW/g

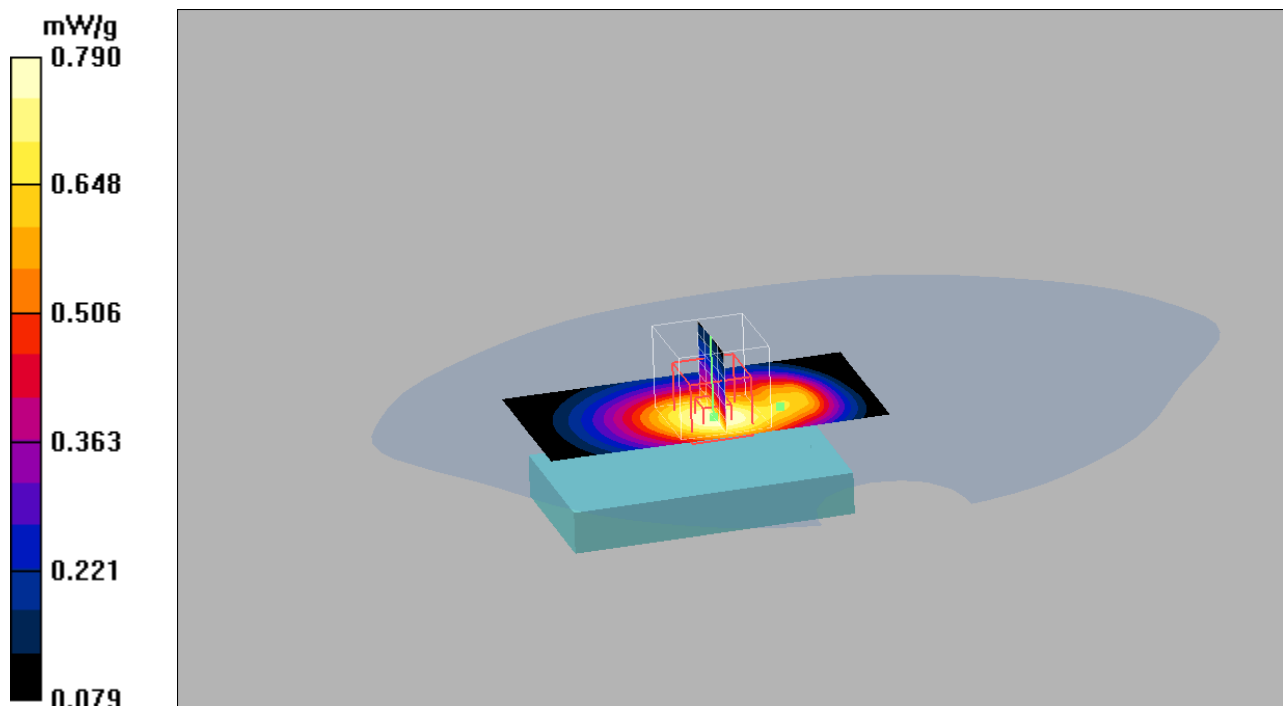
High, Speech BT/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.6 V/m; Power Drift = -0.016 dB

Peak SAR (extrapolated) = 1.00 W/kg

SAR(1 g) = 0.743 mW/g; SAR(10 g) = 0.525 mW/g

Maximum value of SAR (measured) = 0.790 mW/g



Date/Time: 2010-07-12 08:51:30

Test Laboratory: Sony Ericsson Mobile Communications AB

GSM850 Body Speech PHF 100712**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:8.3

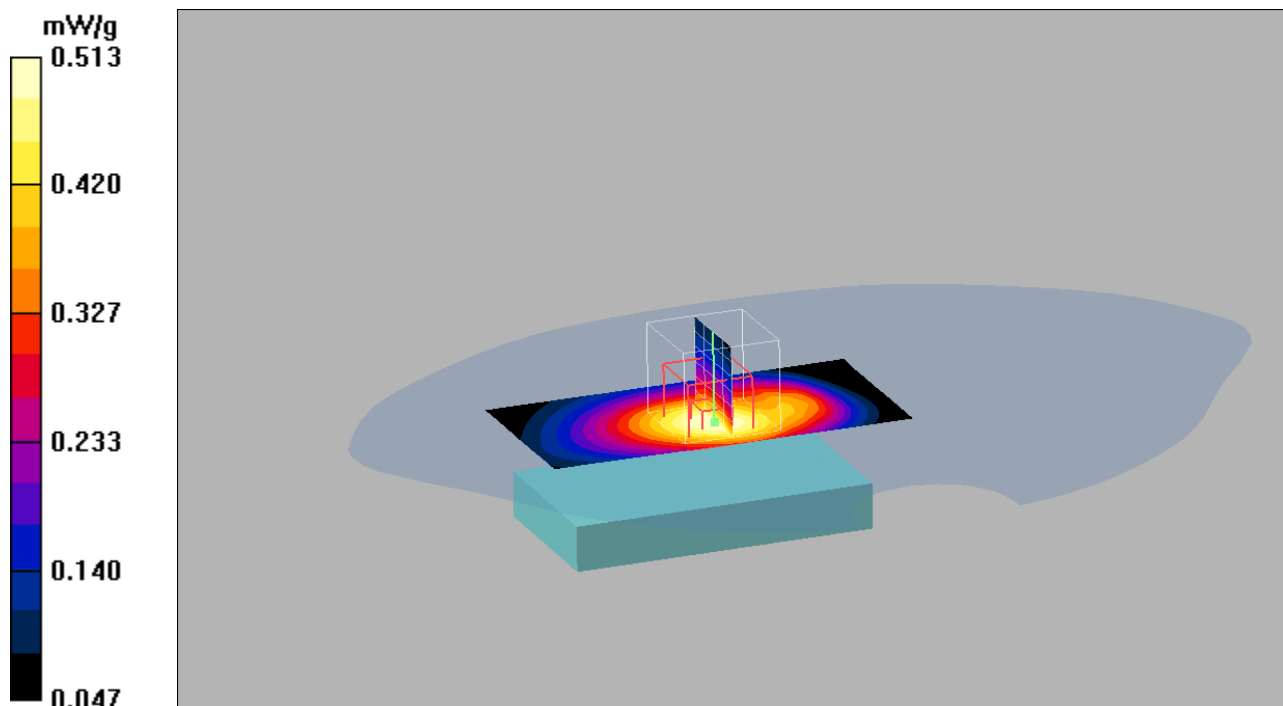
Medium parameters used: $f = 825 \text{ MHz}$; $\sigma = 0.948 \text{ mho/m}$; $\epsilon_r = 52.6$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(6.04, 6.04, 6.04); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Low, Speech PHF/Area Scan (61x121x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$ Maximum value of SAR (interpolated) = 0.510 mW/g **Low, Speech PHF/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 17.5 V/m ; Power Drift = -0.025 dB Peak SAR (extrapolated) = 0.652 W/kg **SAR(1 g) = 0.481 mW/g ; SAR(10 g) = 0.342 mW/g** Maximum value of SAR (measured) = 0.513 mW/g 

Date/Time: 2010-07-07 13:11:25

Test Laboratory: Sony Ericsson Mobile Communications AB

GSM1900 Left Cheek 100707**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: GSM 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 38$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(5.07, 5.07, 5.07); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

High Cheek/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.604 mW/g

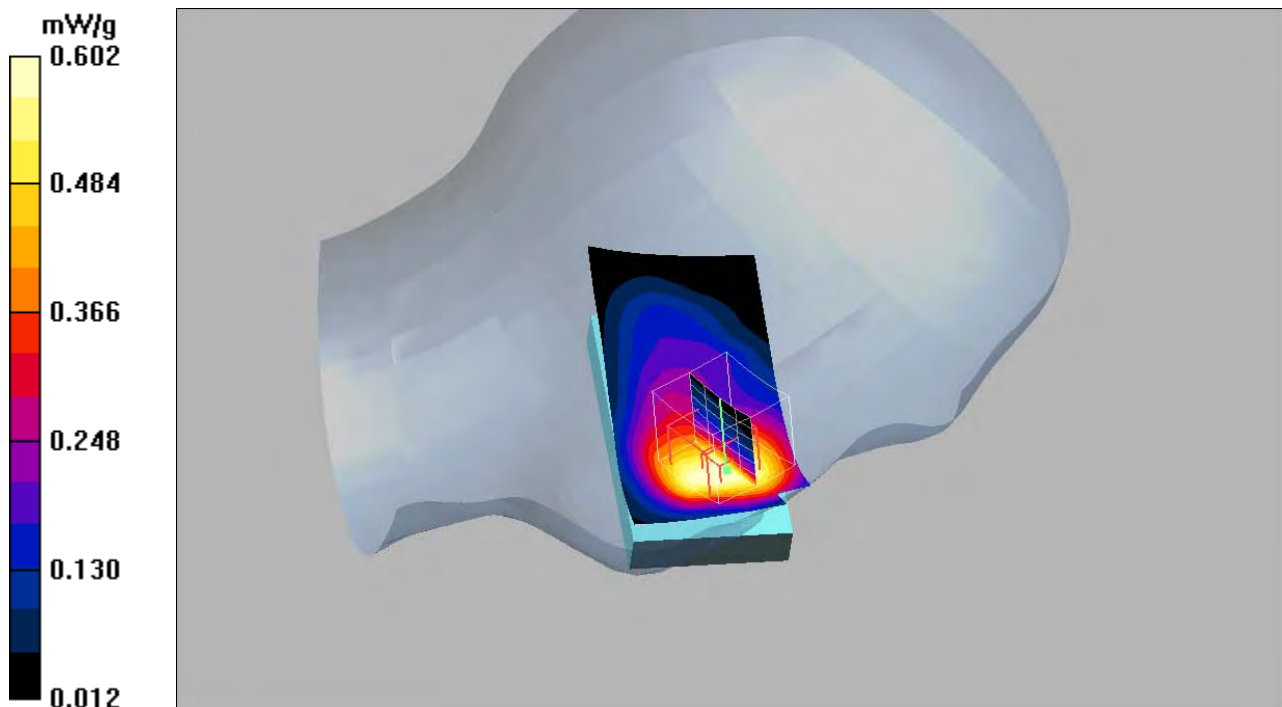
High Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 19.6 V/m; Power Drift = -0.040 dB

Peak SAR (extrapolated) = 0.872 W/kg

SAR(1 g) = 0.556 mW/g; SAR(10 g) = 0.348 mW/g

Maximum value of SAR (measured) = 0.602 mW/g



Date/Time: 2010-07-07 12:29:45

Test Laboratory: Sony Ericsson Mobile Communications AB

GSM1900 Left Tilt 100707**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

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

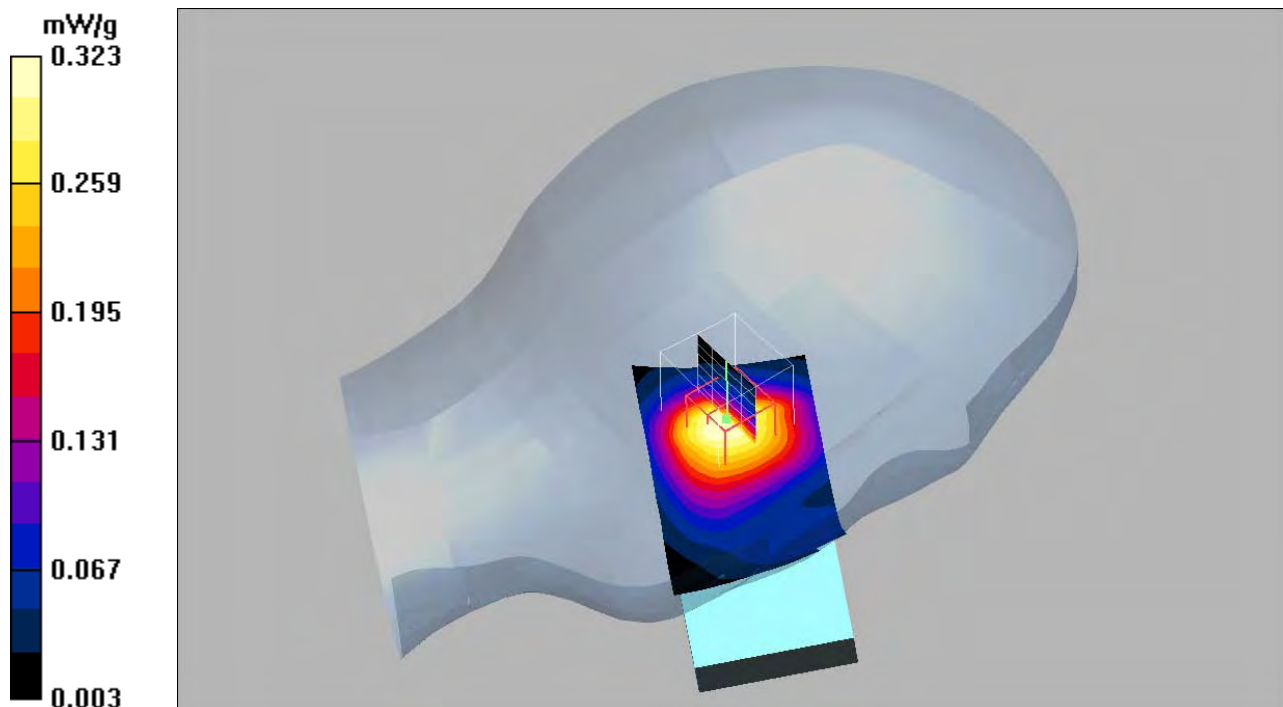
Medium parameters used: $f = 1880 \text{ MHz}$; $\sigma = 1.42 \text{ mho/m}$; $\epsilon_r = 38.1$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(5.07, 5.07, 5.07); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mid Tilt/Area Scan (61x121x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$ Maximum value of SAR (interpolated) = 0.323 mW/g **Mid Tilt/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 6.35 V/m ; Power Drift = 0.025 dB Peak SAR (extrapolated) = 0.469 W/kg **SAR(1 g) = 0.302 mW/g ; SAR(10 g) = 0.186 mW/g** Maximum value of SAR (measured) = 0.323 mW/g 

Date/Time: 2010-07-07 13:36:16

Test Laboratory: Sony Ericsson Mobile Communications AB

GSM1900 Right Cheek 100707**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

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

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 38.1$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(5.07, 5.07, 5.07); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection) Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mid Cheek/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.845 mW/g

Mid Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 18.5 V/m; Power Drift = 0.051 dB

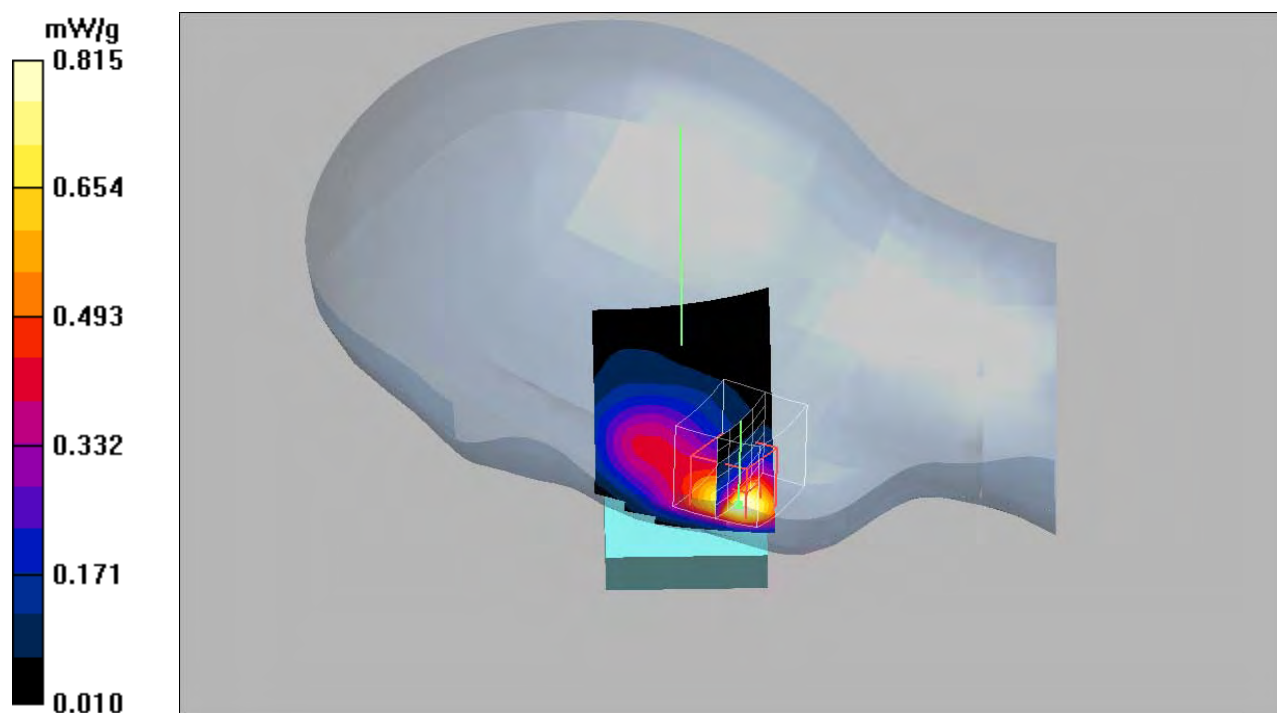
Peak SAR (extrapolated) = 1.36 W/kg

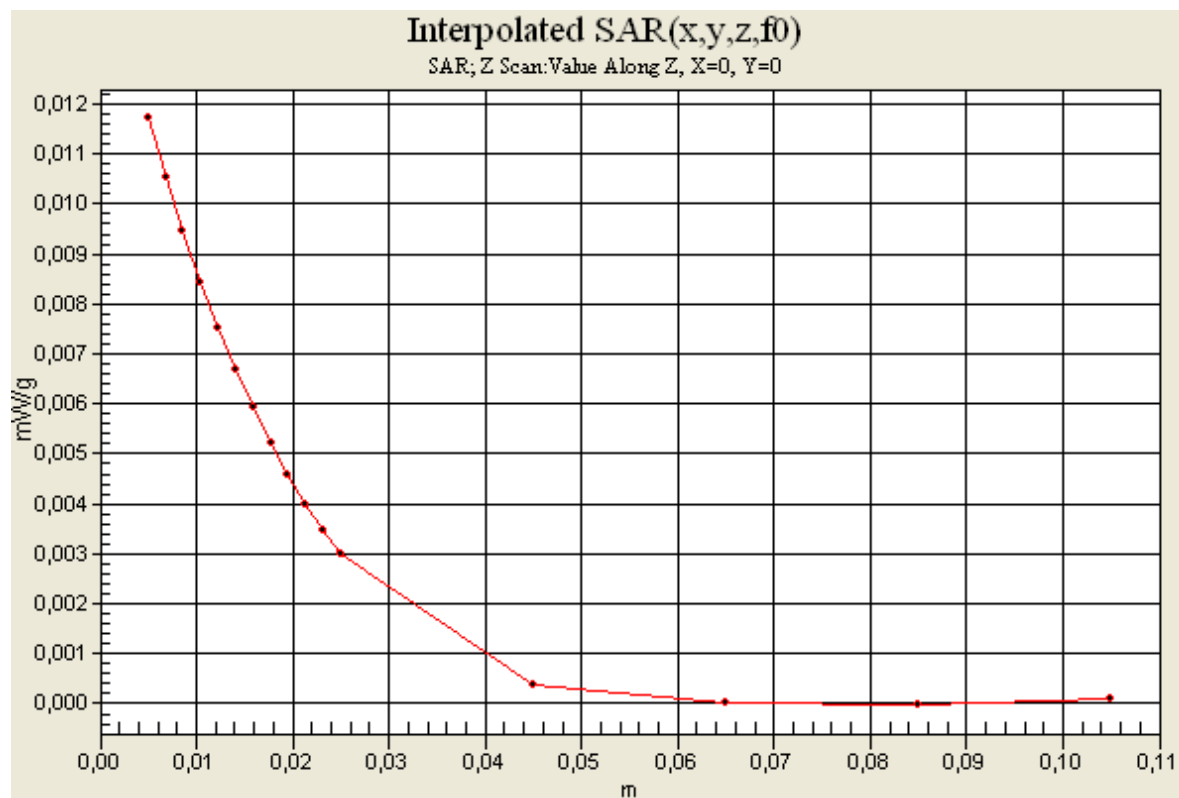
SAR(1 g) = 0.738 mW/g; SAR(10 g) = 0.404 mW/g

Maximum value of SAR (measured) = 0.815 mW/g

Mid Cheek/Z Scan (1x1x16): Measurement grid: dx=20mm, dy=20mm, dz=20mm

Maximum value of SAR (interpolated) = 0.012 mW/g





Date/Time: 2010-07-07 13:54:46

Test Laboratory: Sony Ericsson Mobile Communications AB

GSM1900 Right Tilt 100707**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

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

Medium parameters used: $f = 1880 \text{ MHz}$; $\sigma = 1.42 \text{ mho/m}$; $\epsilon_r = 38.1$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(5.07, 5.07, 5.07); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mid Tilt/Area Scan (61x121x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (interpolated) = 0.357 mW/g

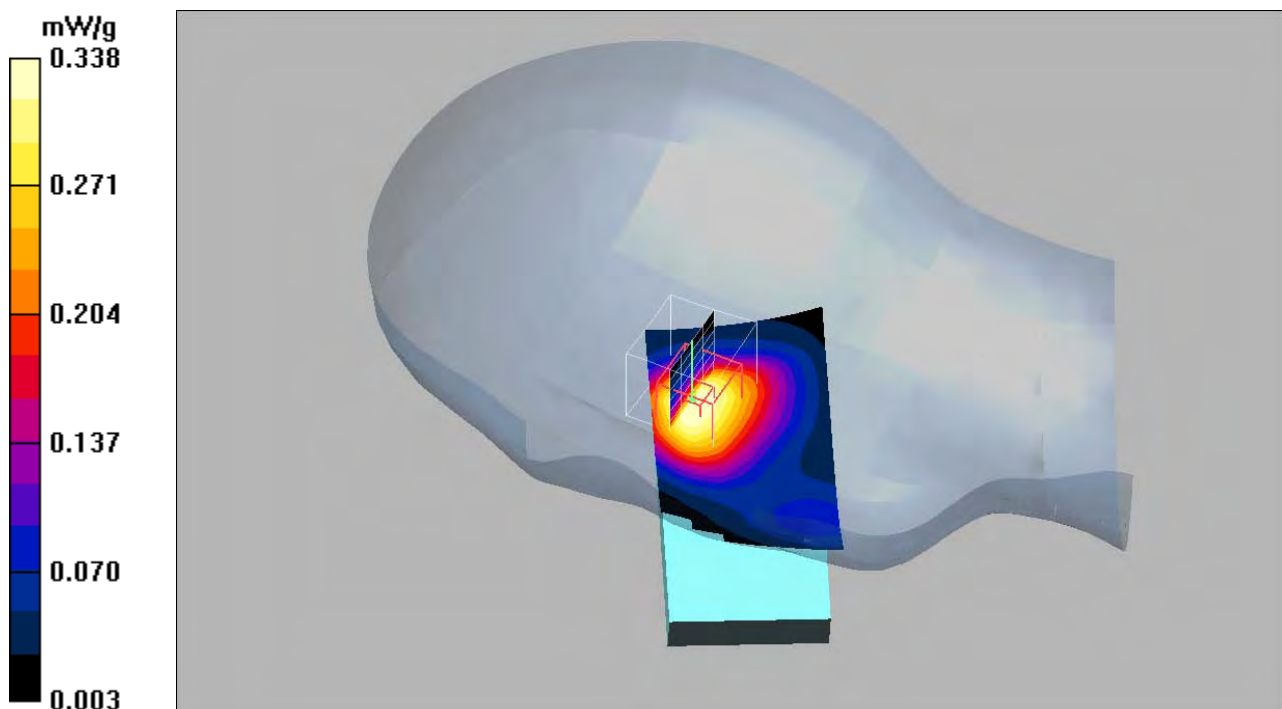
Mid Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 6.53 V/m; Power Drift = 0.014 dB

Peak SAR (extrapolated) = 0.526 W/kg

SAR(1 g) = 0.321 mW/g; SAR(10 g) = 0.200 mW/g

Maximum value of SAR (measured) = 0.338 mW/g



Date/Time: 2010-07-09 11:43:29

Test Laboratory: Sony Ericsson Mobile Communications AB

GSM1900 Body GPRS2TX 100709**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: GSM1900 GPRS2TX; Frequency: 1909.8 MHz; Duty Cycle: 1:4.15

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.6$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(4.74, 4.74, 4.74); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection) Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

High, GPRS 2TX/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.464 mW/g

High, GPRS 2TX/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.3 V/m; Power Drift = -0.033 dB

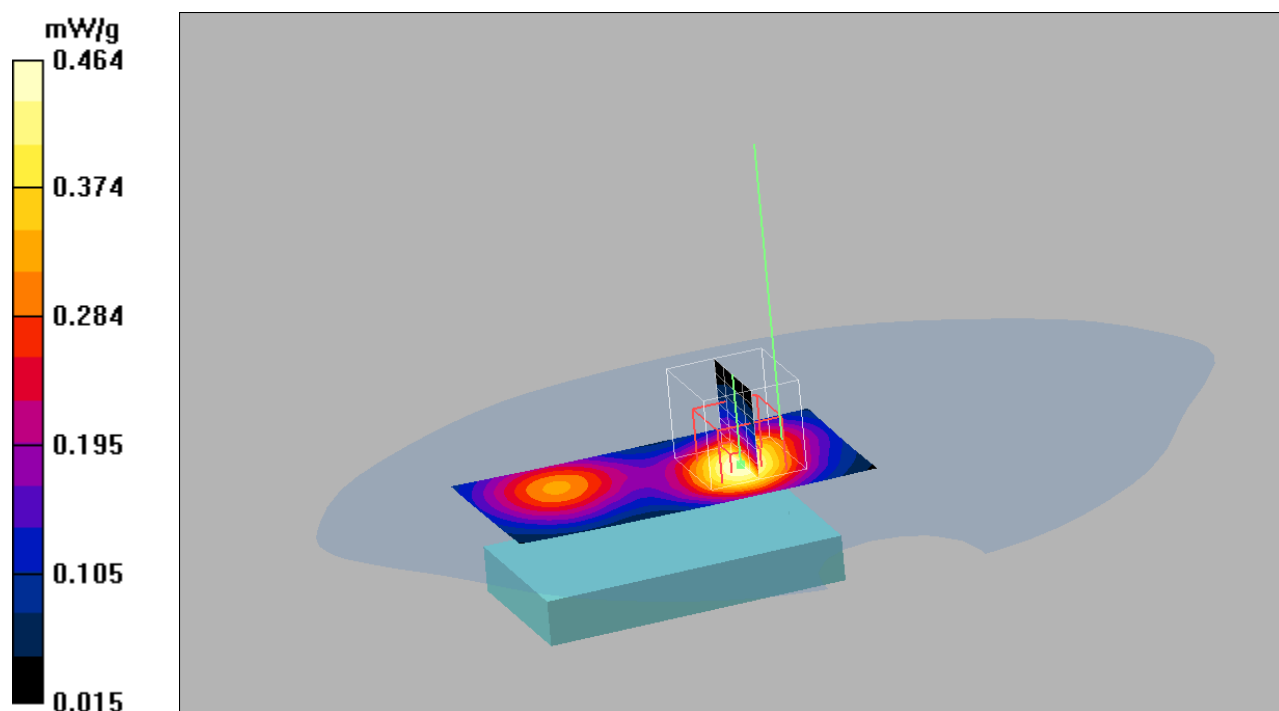
Peak SAR (extrapolated) = 0.655 W/kg

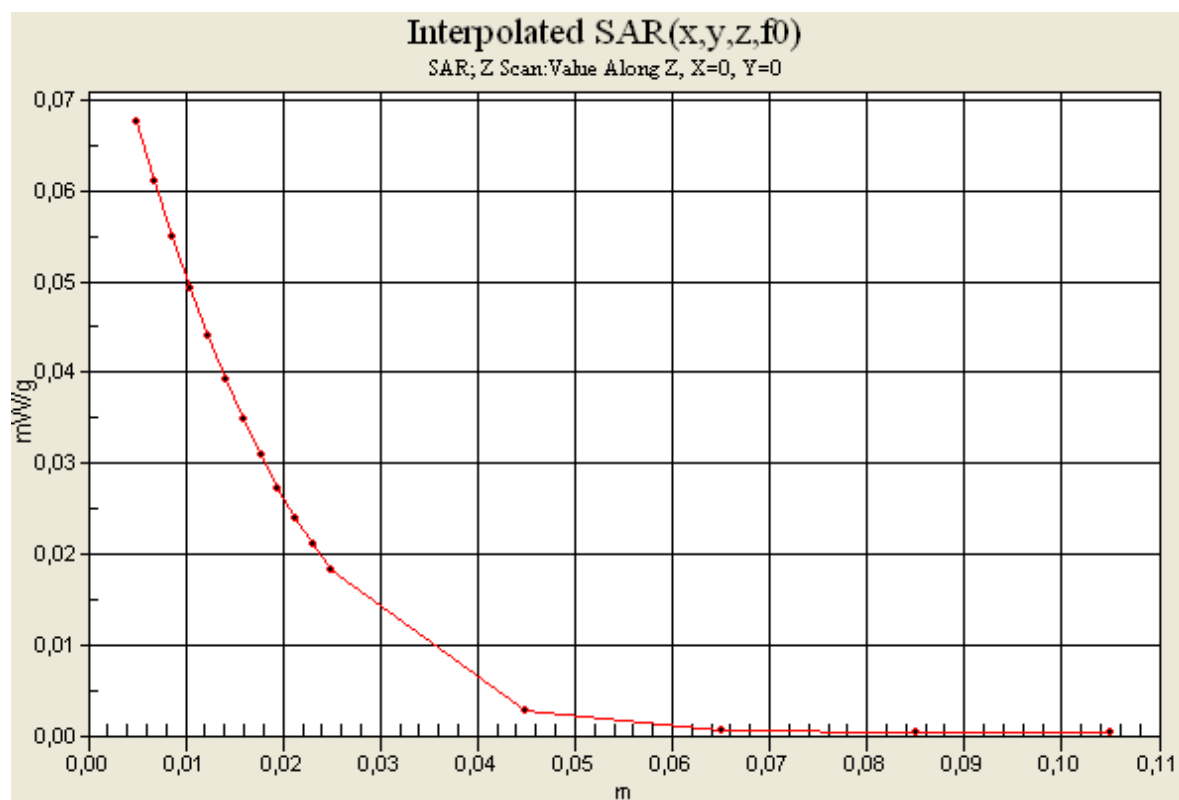
SAR(1 g) = 0.428 mW/g; SAR(10 g) = 0.264 mW/g

Maximum value of SAR (measured) = 0.464 mW/g

High, GPRS 2TX/Z Scan (1x1x16): Measurement grid: dx=20mm, dy=20mm, dz=20mm

Maximum value of SAR (interpolated) = 0.068 mW/g





Date/Time: 2010-07-09 11:59:21

Test Laboratory: Sony Ericsson Mobile Communications AB

GSM1900 Body Front GPRS2TX 100709**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: GSM1900 GPRS2TX; Frequency: 1909.8 MHz; Duty Cycle: 1:4.15

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.6$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(4.74, 4.74, 4.74); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

High, GPRS 2TX Front/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.263 mW/g

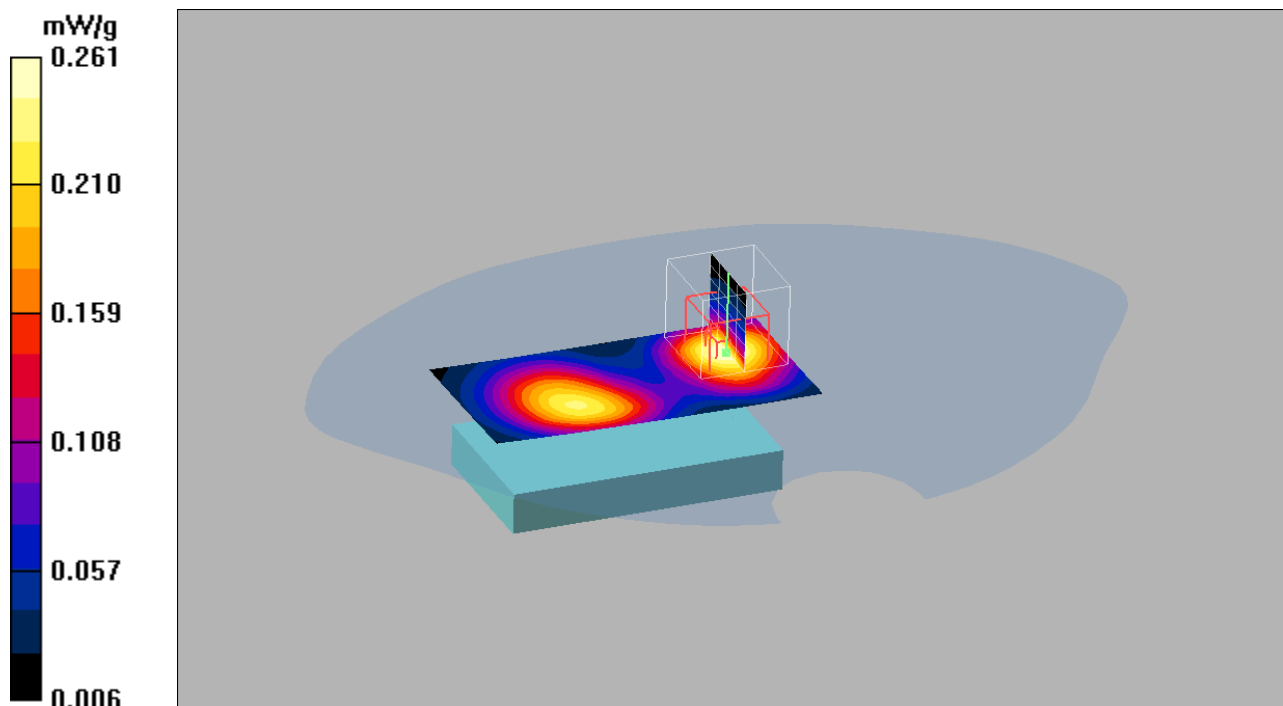
High, GPRS 2TX Front/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.1 V/m; Power Drift = -0.029 dB

Peak SAR (extrapolated) = 0.375 W/kg

SAR(1 g) = 0.240 mW/g; SAR(10 g) = 0.143 mW/g

Maximum value of SAR (measured) = 0.261 mW/g



Date/Time: 2010-07-09 09:26:51

Test Laboratory: Sony Ericsson Mobile Communications AB

GSM1900 Body Speech 100709**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

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

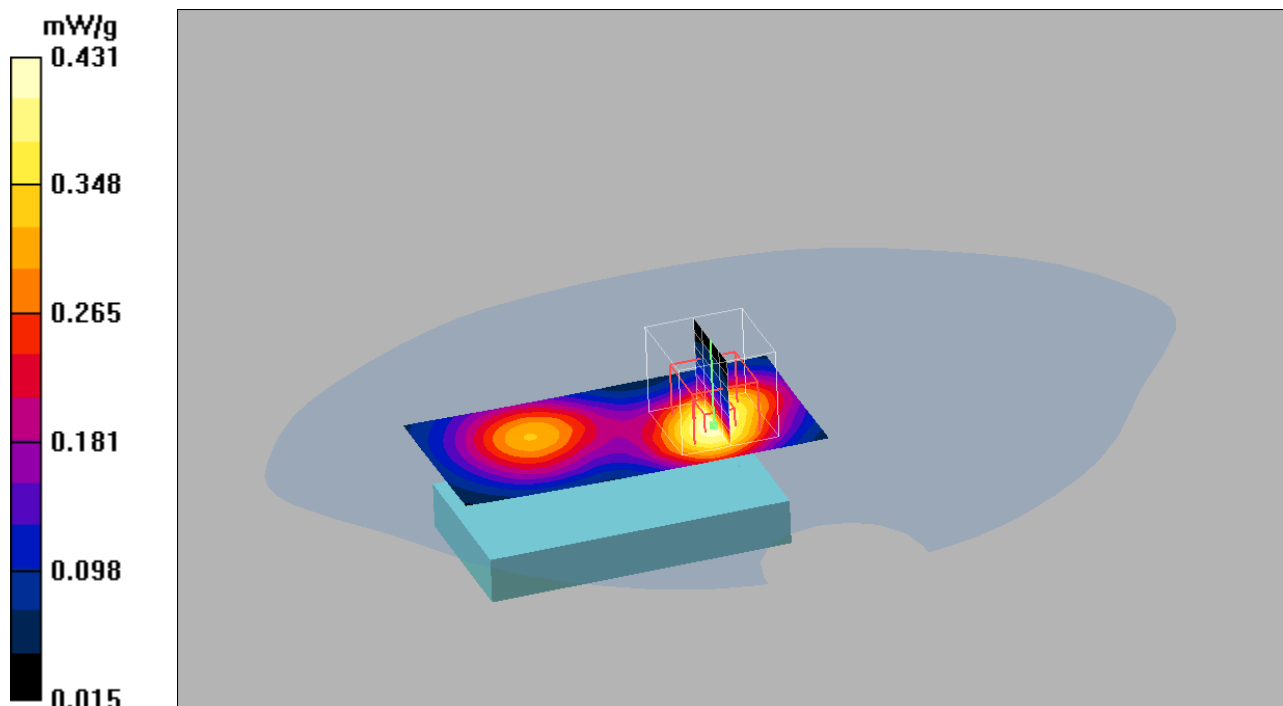
Medium parameters used: $f = 1880 \text{ MHz}$; $\sigma = 1.57 \text{ mho/m}$; $\epsilon_r = 52.3$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(4.74, 4.74, 4.74); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mid, Speech BT/Area Scan (61x121x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$ Maximum value of SAR (interpolated) = 0.423 mW/g **Mid, Speech BT/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 16.1 V/m ; Power Drift = -0.017 dB Peak SAR (extrapolated) = 0.591 W/kg **SAR(1 g) = 0.397 mW/g ; SAR(10 g) = 0.247 mW/g** Maximum value of SAR (measured) = 0.431 mW/g 

Date/Time: 2010-07-09 09:09:23

Test Laboratory: Sony Ericsson Mobile Communications AB

GSM1900 Body Speech PHF 100709**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

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

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.53$ mho/m; $\epsilon_r = 52.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(4.74, 4.74, 4.74); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Low, Speech PHF/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.370 mW/g

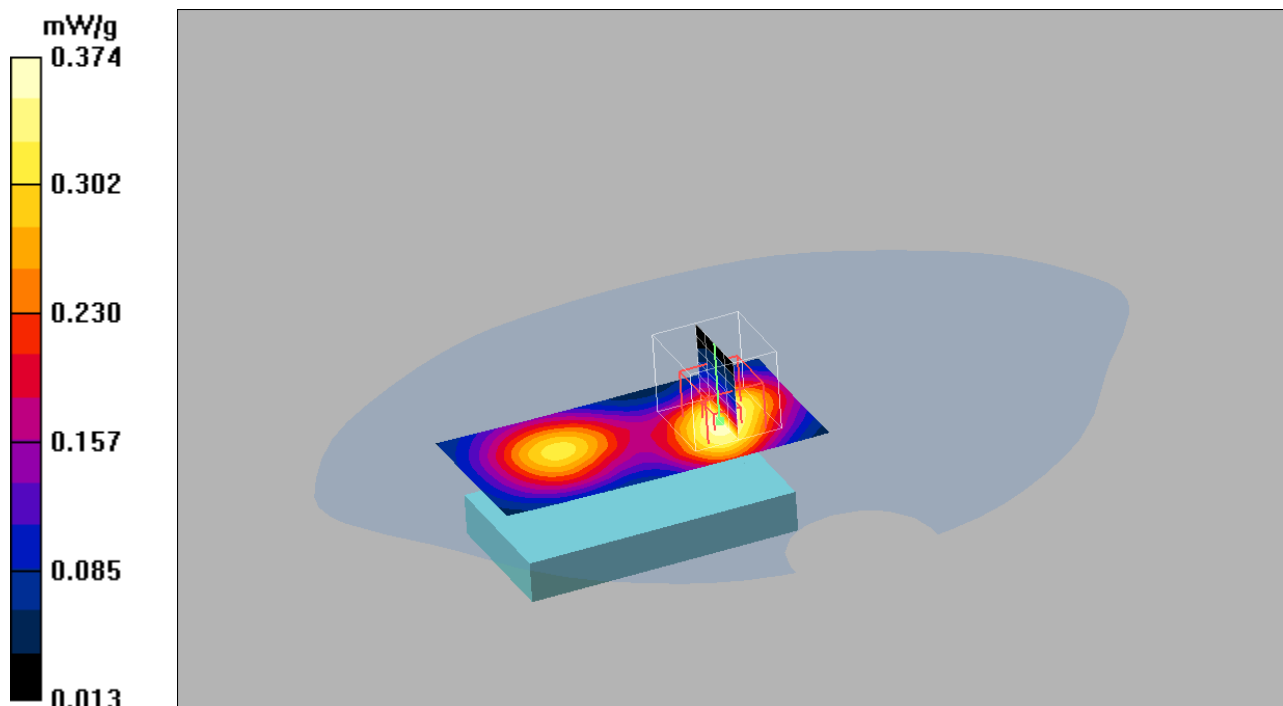
Low, Speech PHF/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.5 V/m; Power Drift = -0.003 dB

Peak SAR (extrapolated) = 0.514 W/kg

SAR(1 g) = 0.345 mW/g; SAR(10 g) = 0.216 mW/g

Maximum value of SAR (measured) = 0.374 mW/g



Date/Time: 2010-07-07 09:13:16

Test Laboratory: Sony Ericsson Mobile Communications AB

UMTS2 Left Cheek 100707**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: UMTS_band2; Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 38.2$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(5.07, 5.07, 5.07); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Low Cheek/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1.04 mW/g

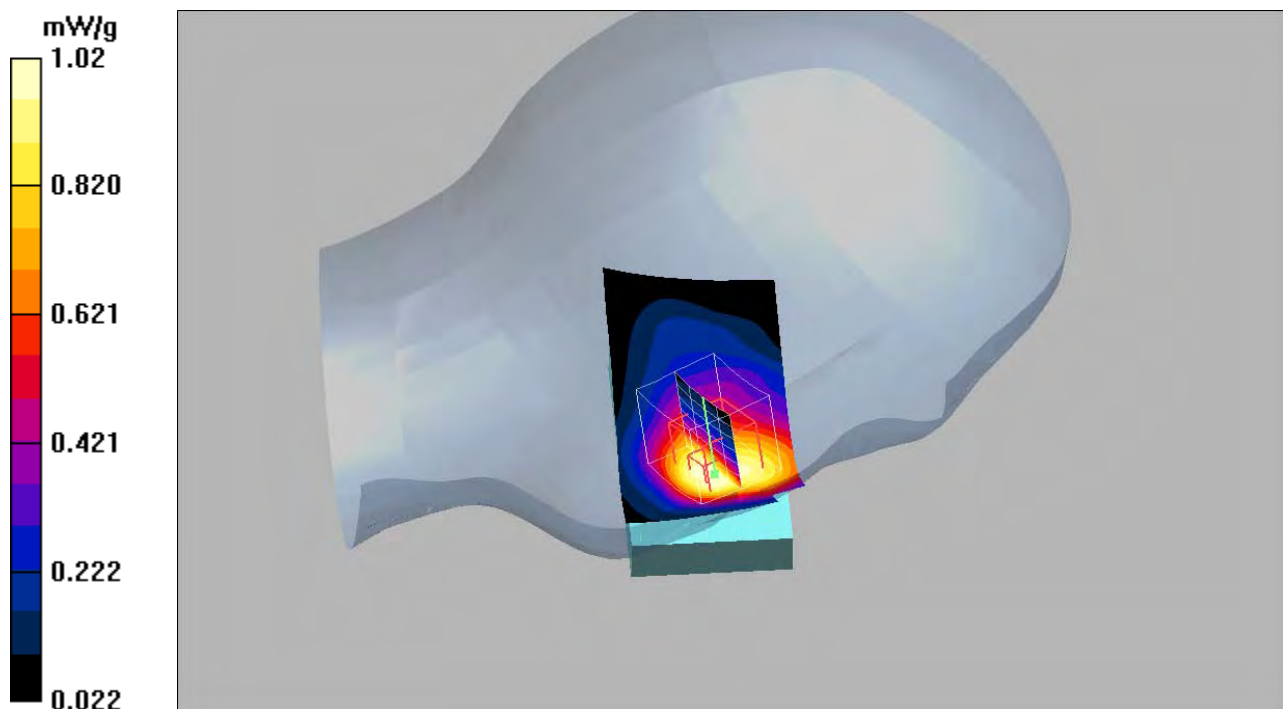
Low Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 27.6 V/m; Power Drift = -0.013 dB

Peak SAR (extrapolated) = 1.32 W/kg

SAR(1 g) = 0.958 mW/g; SAR(10 g) = 0.629 mW/g

Maximum value of SAR (measured) = 1.02 mW/g



Date/Time: 2010-07-07 08:54:34

Test Laboratory: Sony Ericsson Mobile Communications AB

UMTS2 Left Tilt 100707**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: UMTS_band2; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 38.1$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(5.07, 5.07, 5.07); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mid Tilt/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.601 mW/g

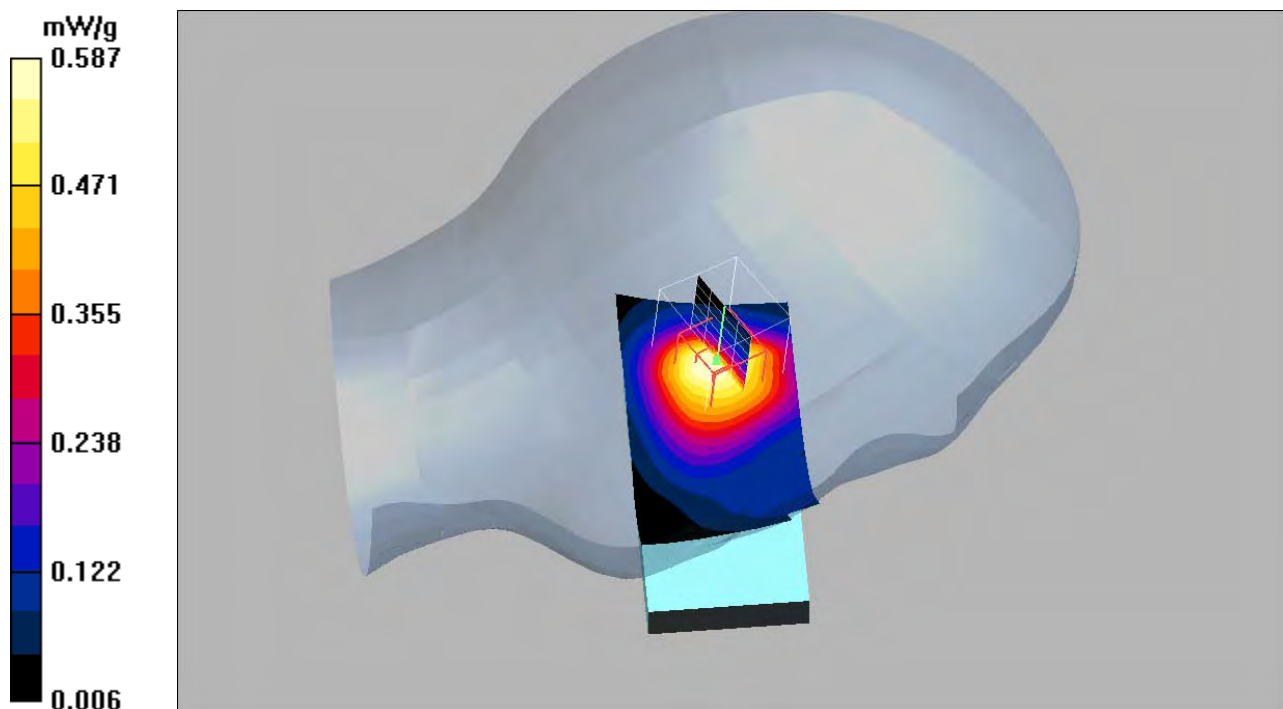
Mid Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.44 V/m; Power Drift = 0.043 dB

Peak SAR (extrapolated) = 0.860 W/kg

SAR(1 g) = 0.545 mW/g; SAR(10 g) = 0.337 mW/g

Maximum value of SAR (measured) = 0.587 mW/g



Date/Time: 2010-07-07 09:49:39

Test Laboratory: Sony Ericsson Mobile Communications AB

UMTS2 Right Cheek 100707**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: UMTS_band2; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 38.1$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(5.07, 5.07, 5.07); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection) Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mid Cheek/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1.62 mW/g

Mid Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 25.6 V/m; Power Drift = 0.090 dB

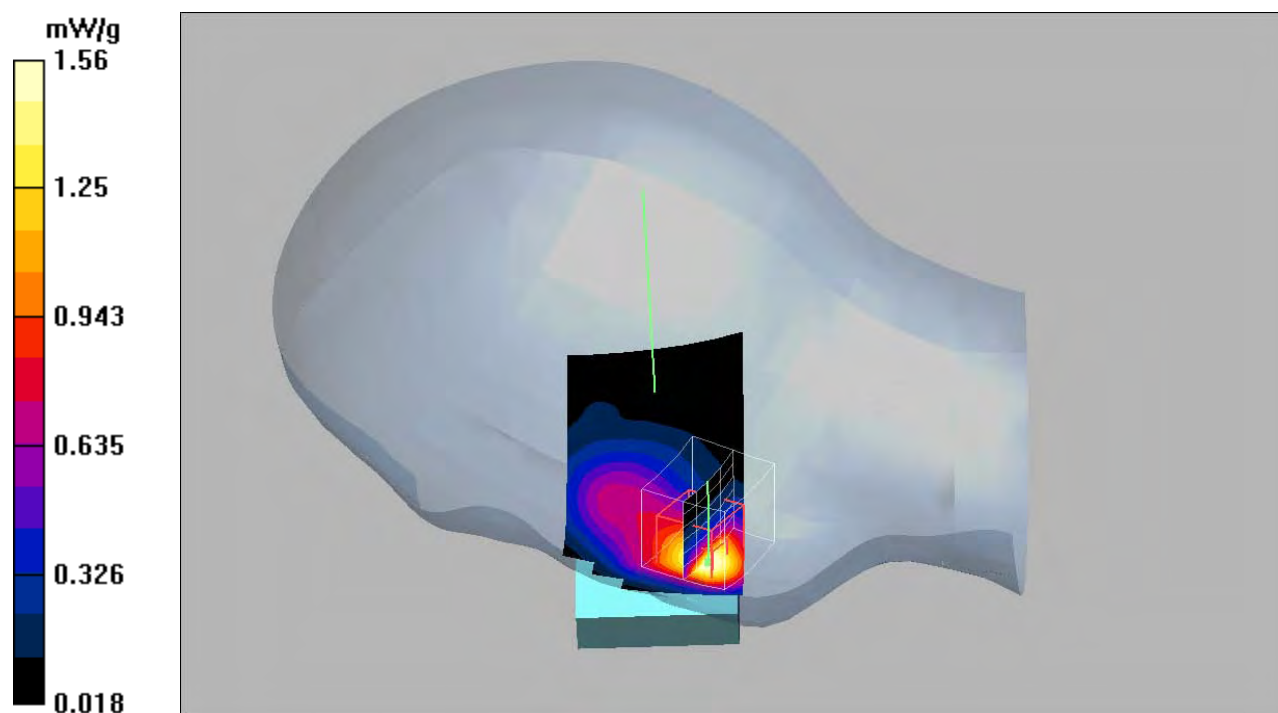
Peak SAR (extrapolated) = 2.66 W/kg

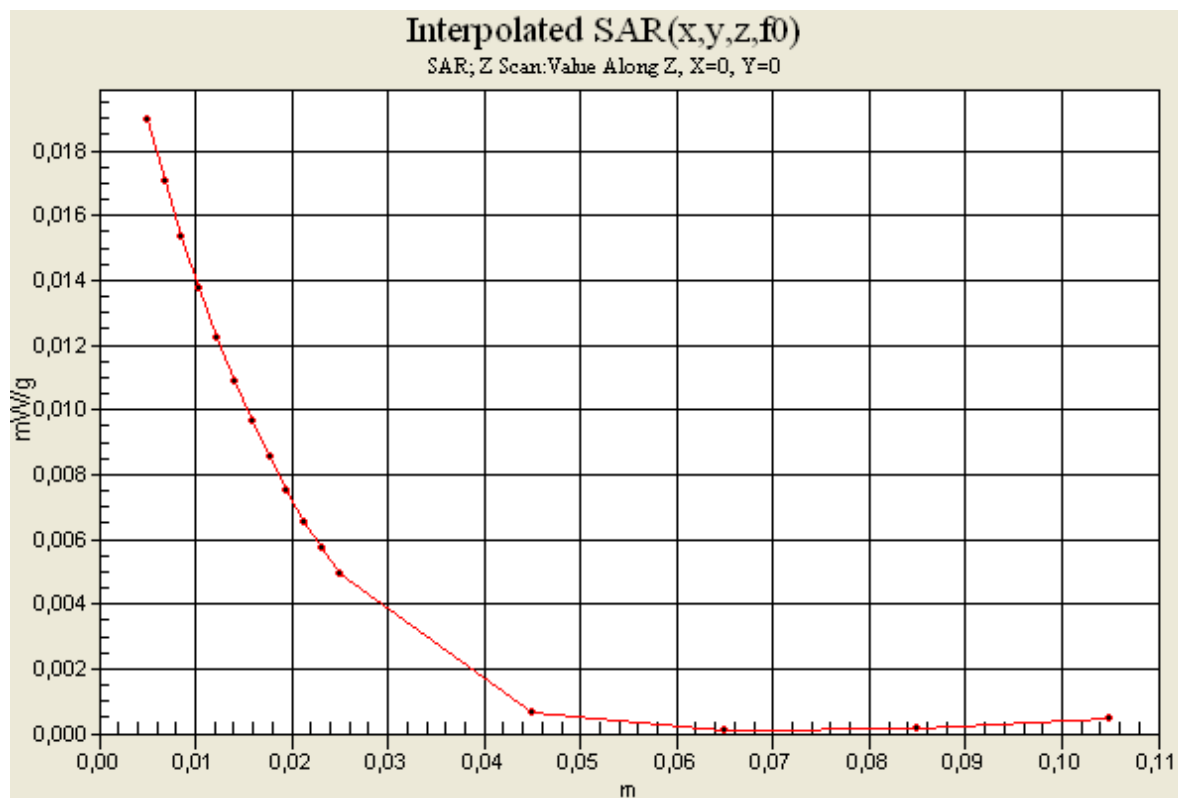
SAR(1 g) = 1.41 mW/g; SAR(10 g) = 0.766 mW/g

Maximum value of SAR (measured) = 1.56 mW/g

Mid Cheek/Z Scan (1x1x16): Measurement grid: dx=20mm, dy=20mm, dz=20mm

Maximum value of SAR (interpolated) = 0.019 mW/g





Date/Time: 2010-07-07 10:10:58

Test Laboratory: Sony Ericsson Mobile Communications AB

UMTS2 Right Tilt 100707**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: UMTS_band2; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 38.1$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(5.07, 5.07, 5.07); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mid Tilt/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.655 mW/g

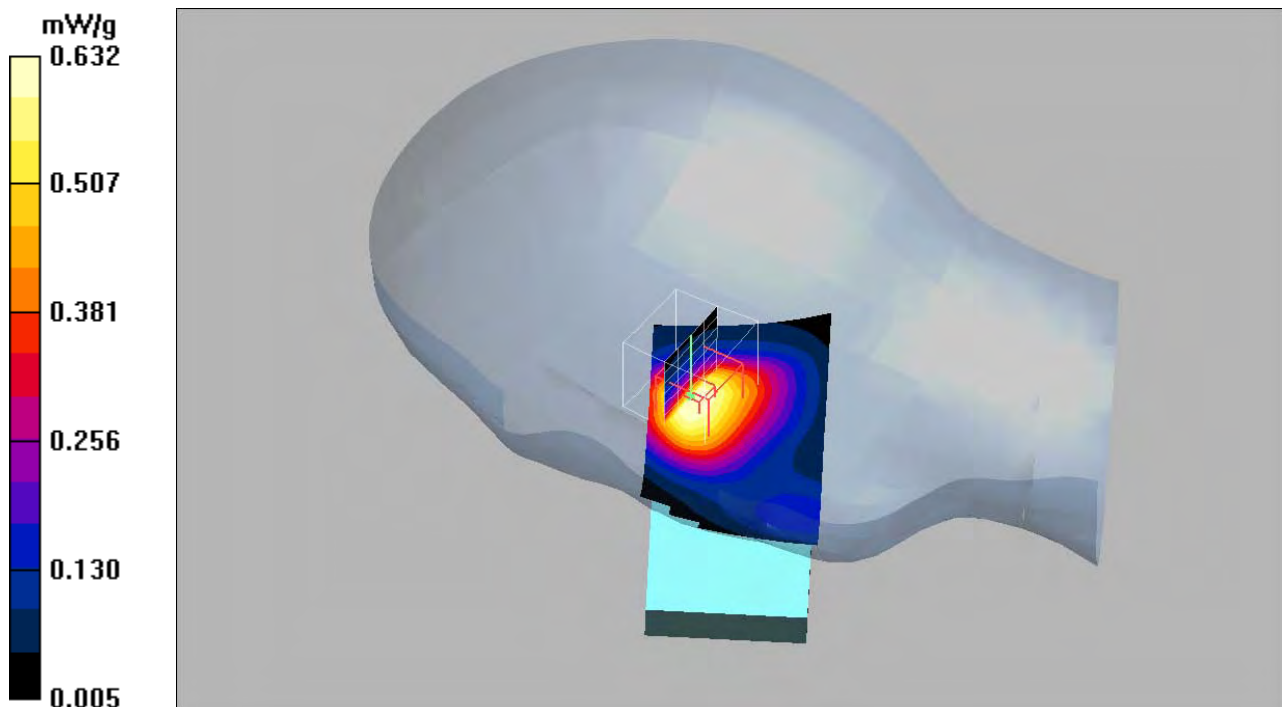
Mid Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.95 V/m; Power Drift = 0.027 dB

Peak SAR (extrapolated) = 0.961 W/kg

SAR(1 g) = 0.597 mW/g; SAR(10 g) = 0.372 mW/g

Maximum value of SAR (measured) = 0.632 mW/g



Date/Time: 2010-07-09 13:58:38

Test Laboratory: Sony Ericsson Mobile Communications AB

UMTS2 Body Front Speech 100709**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: UMTS_band2; Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1907.6$ MHz; $\sigma = 1.6$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(4.74, 4.74, 4.74); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

High, Speech BT Front/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.332 mW/g

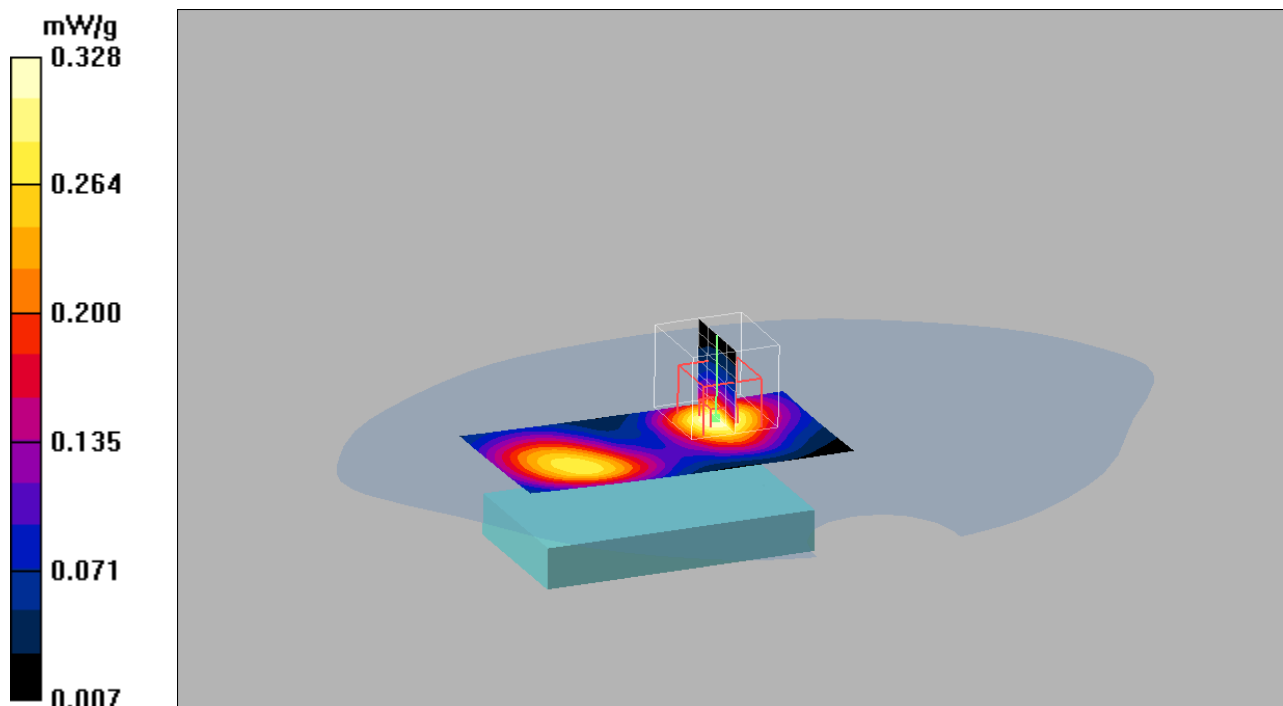
High, Speech BT Front/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.7 V/m; Power Drift = -0.014 dB

Peak SAR (extrapolated) = 0.472 W/kg

SAR(1 g) = 0.300 mW/g; SAR(10 g) = 0.178 mW/g

Maximum value of SAR (measured) = 0.328 mW/g



Date/Time: 2010-07-09 13:39:35

Test Laboratory: Sony Ericsson Mobile Communications AB

UMTS2 Body Speech 100709**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: UMTS_band2; Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1907.6$ MHz; $\sigma = 1.6$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(4.74, 4.74, 4.74); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection) Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

High, Speech BT/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.743 mW/g

High, Speech BT/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.0 V/m; Power Drift = 0.017 dB

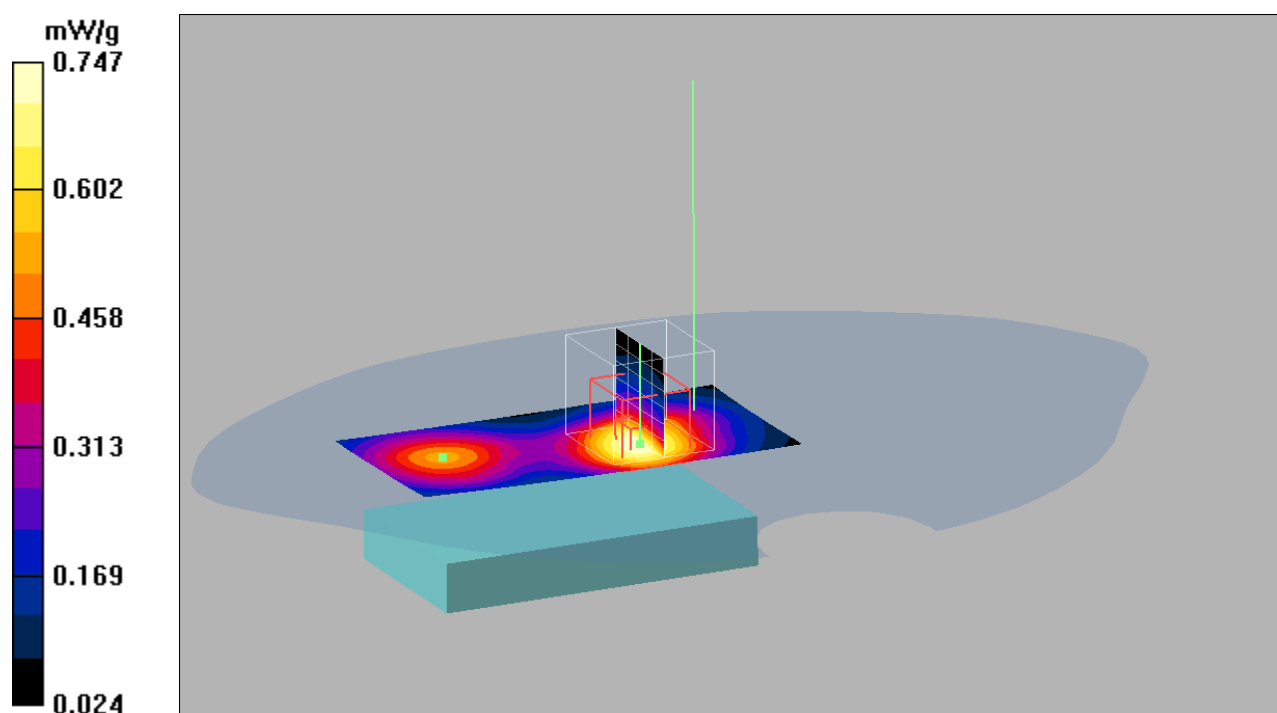
Peak SAR (extrapolated) = 1.04 W/kg

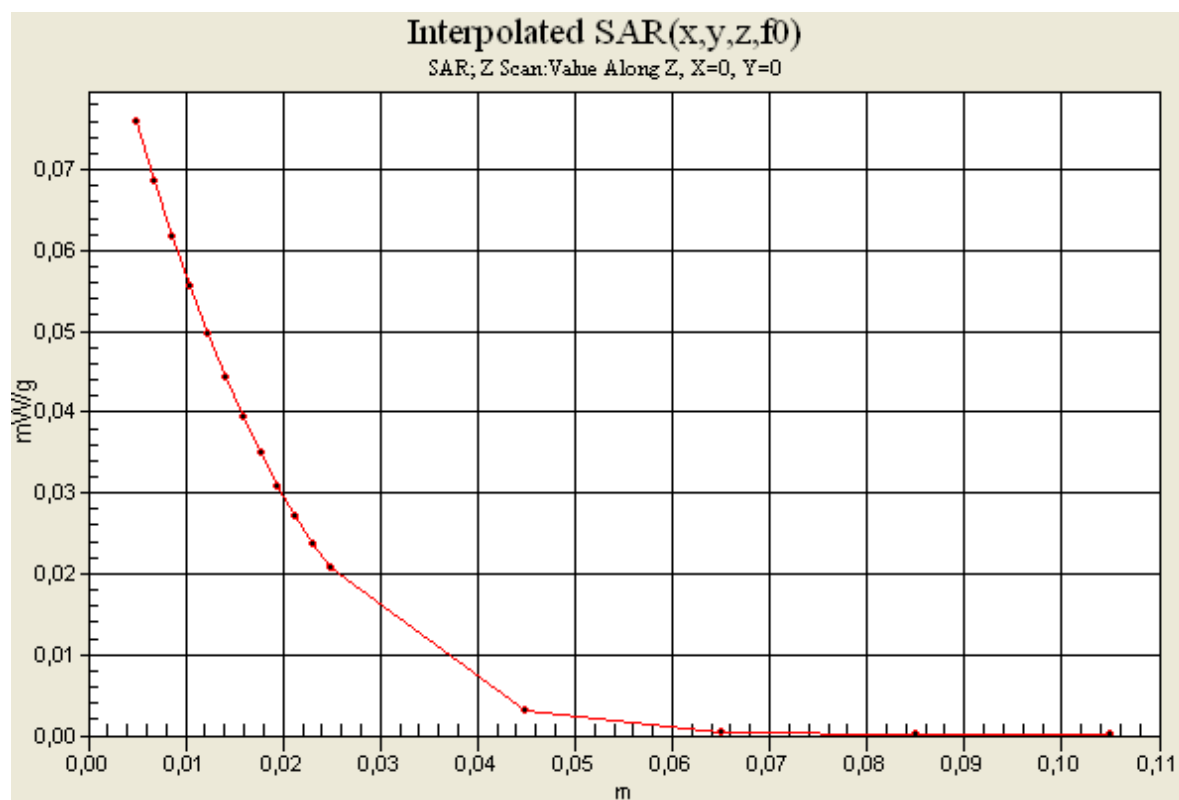
SAR(1 g) = 0.687 mW/g; SAR(10 g) = 0.424 mW/g

Maximum value of SAR (measured) = 0.747 mW/g

High, Speech BT/Z Scan (1x1x16): Measurement grid: dx=20mm, dy=20mm, dz=20mm

Maximum value of SAR (interpolated) = 0.076 mW/g





Date/Time: 2010-07-09 13:12:22

Test Laboratory: Sony Ericsson Mobile Communications AB

UMTS2 Body Speech PHF 100709**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: UMTS_band2; Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 52.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(4.74, 4.74, 4.74); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Low, Speech PHF/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.721 mW/g

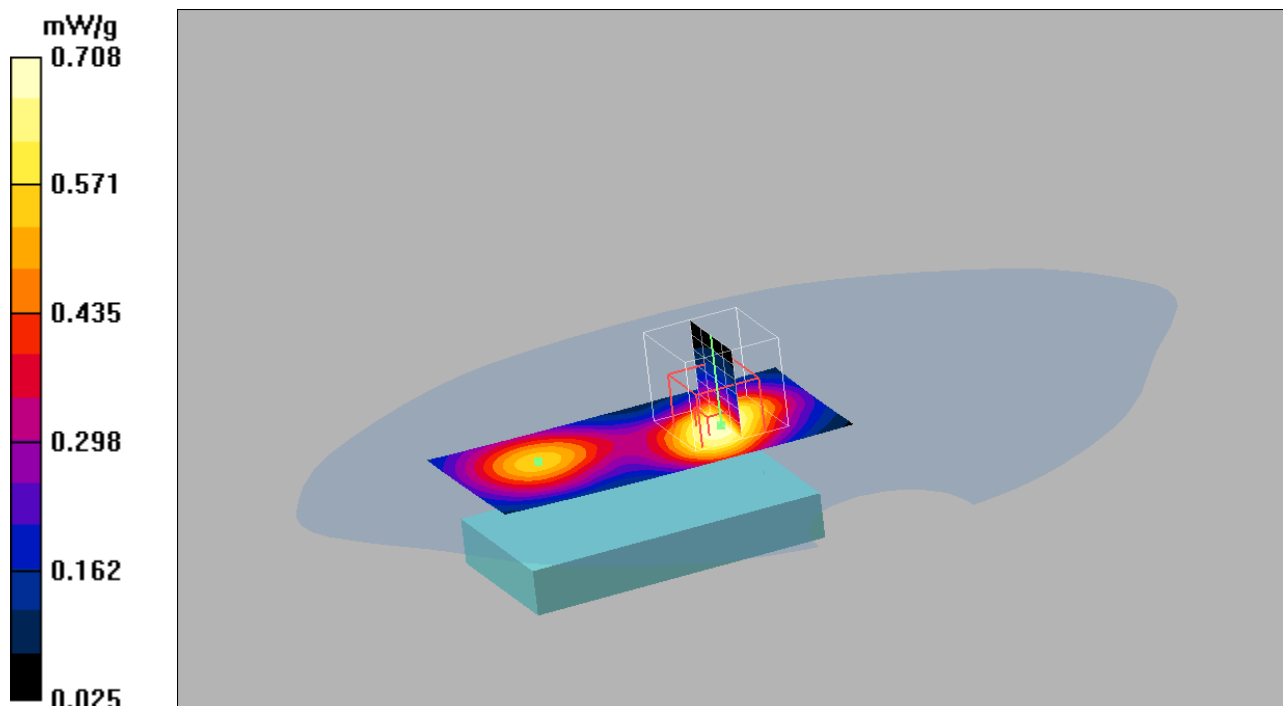
Low, Speech PHF/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 19.6 V/m; Power Drift = -0.077 dB

Peak SAR (extrapolated) = 0.971 W/kg

SAR(1 g) = 0.653 mW/g; SAR(10 g) = 0.411 mW/g

Maximum value of SAR (measured) = 0.708 mW/g



Date/Time: 2010-07-06 13:42:55

Test Laboratory: Sony Ericsson Mobile Communications AB

UMTS5 Left Cheek 100706**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: UMTS_band5; Frequency: 826.4 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 826.4$ MHz; $\sigma = 0.862$ mho/m; $\epsilon_r = 40.3$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(6.13, 6.13, 6.13); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Low Cheek/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.461 mW/g

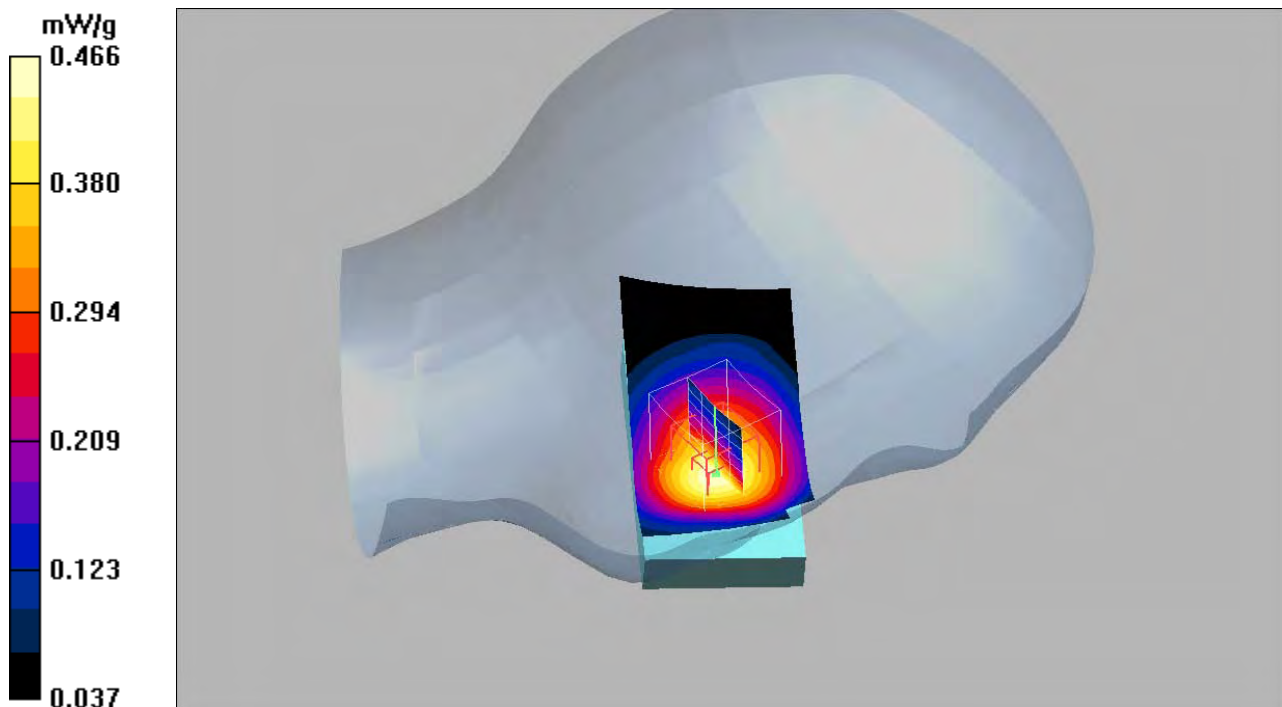
Low Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.1 V/m; Power Drift = 0.049 dB

Peak SAR (extrapolated) = 0.544 W/kg

SAR(1 g) = 0.437 mW/g; SAR(10 g) = 0.320 mW/g

Maximum value of SAR (measured) = 0.466 mW/g



Date/Time: 2010-07-06 13:18:53

Test Laboratory: Sony Ericsson Mobile Communications AB

UMTS5 Left Tilt 100706**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: UMTS_band5; Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 0.872$ mho/m; $\epsilon_r = 40.1$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(6.13, 6.13, 6.13); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mid Tilt/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.260 mW/g

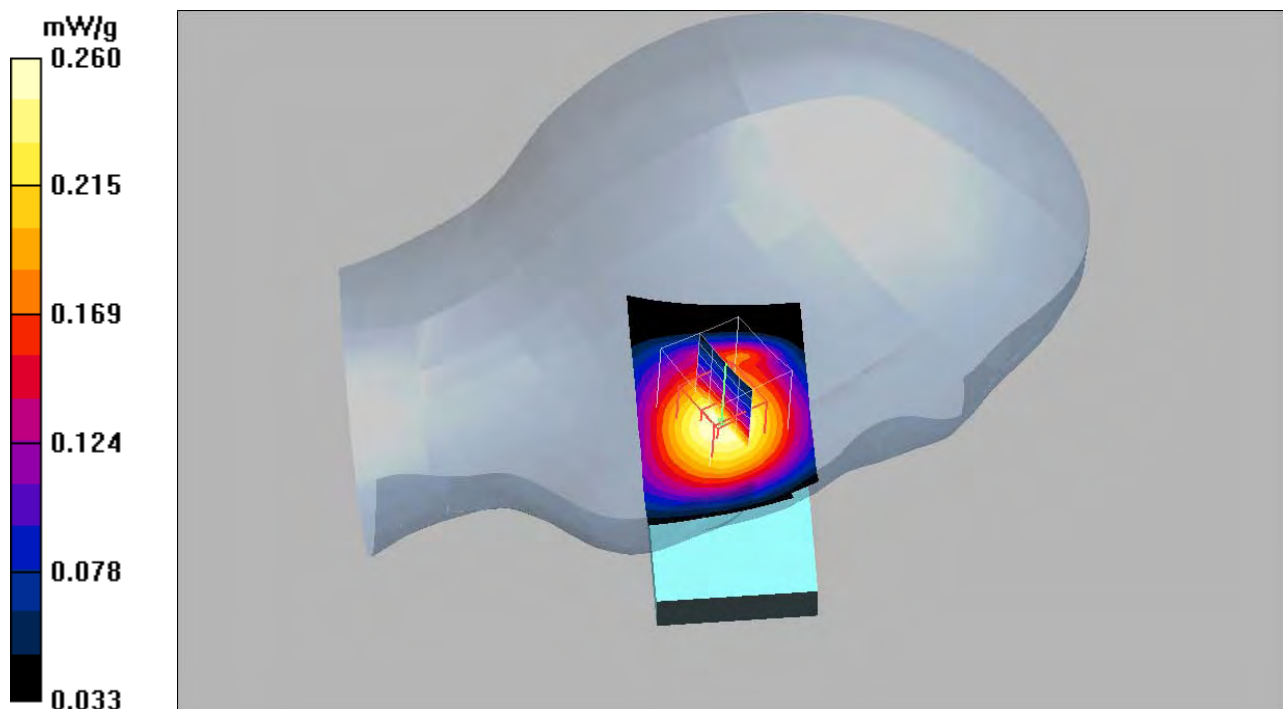
Mid Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.0 V/m; Power Drift = 0.021 dB

Peak SAR (extrapolated) = 0.316 W/kg

SAR(1 g) = 0.246 mW/g; SAR(10 g) = 0.182 mW/g

Maximum value of SAR (measured) = 0.260 mW/g



Date/Time: 2010-07-06 11:58:12

Test Laboratory: Sony Ericsson Mobile Communications AB

UMTS5 Right Cheek 100706**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: UMTS_band5; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 846.6$ MHz; $\sigma = 0.881$ mho/m; $\epsilon_r = 40$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(6.13, 6.13, 6.13); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection) Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

High Cheek/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.596 mW/g

High Cheek/Zoom Scan (5x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 24.9 V/m; Power Drift = 0.015 dB

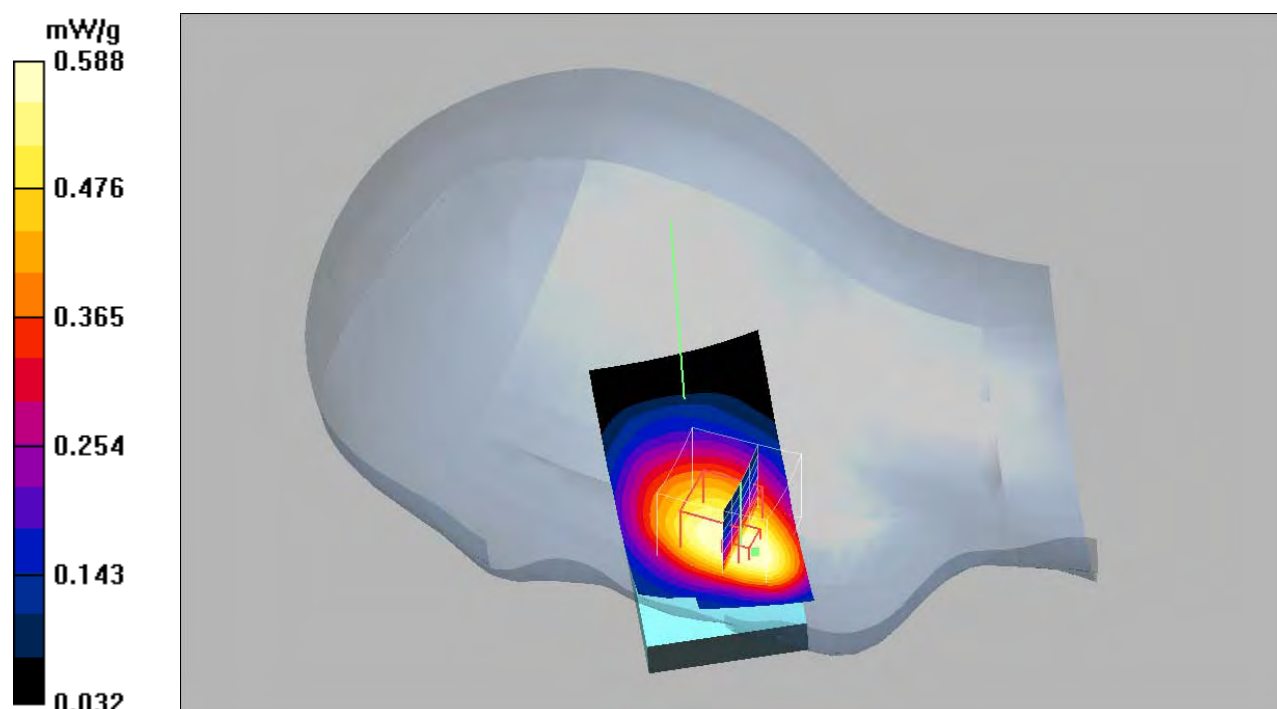
Peak SAR (extrapolated) = 0.816 W/kg

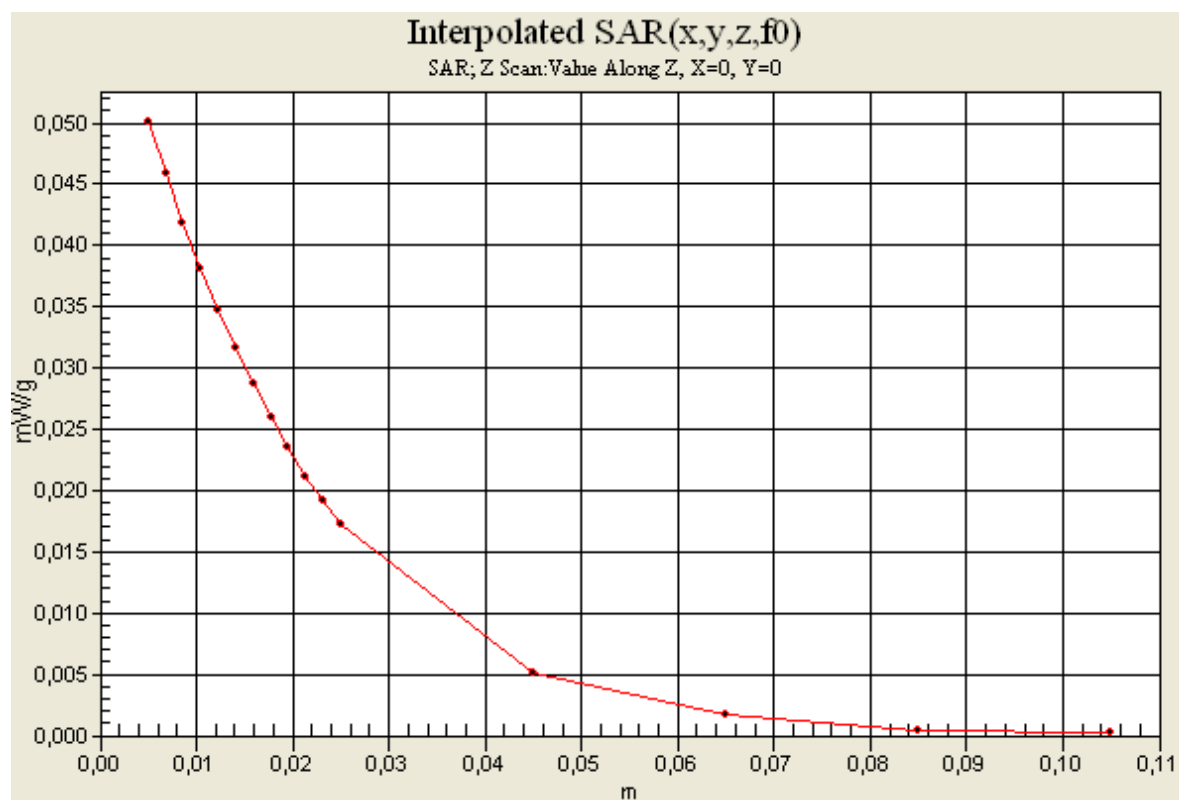
SAR(1 g) = 0.556 mW/g; SAR(10 g) = 0.400 mW/g

Maximum value of SAR (measured) = 0.588 mW/g

High Cheek/Z Scan (1x1x16): Measurement grid: dx=20mm, dy=20mm, dz=20mm

Maximum value of SAR (interpolated) = 0.050 mW/g





Date/Time: 2010-07-06 11:31:40

Test Laboratory: Sony Ericsson Mobile Communications AB

UMTS5 Right Tilt 100706**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: UMTS_band5; Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 0.872$ mho/m; $\epsilon_r = 40.1$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(6.13, 6.13, 6.13); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mid Tilt/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.276 mW/g

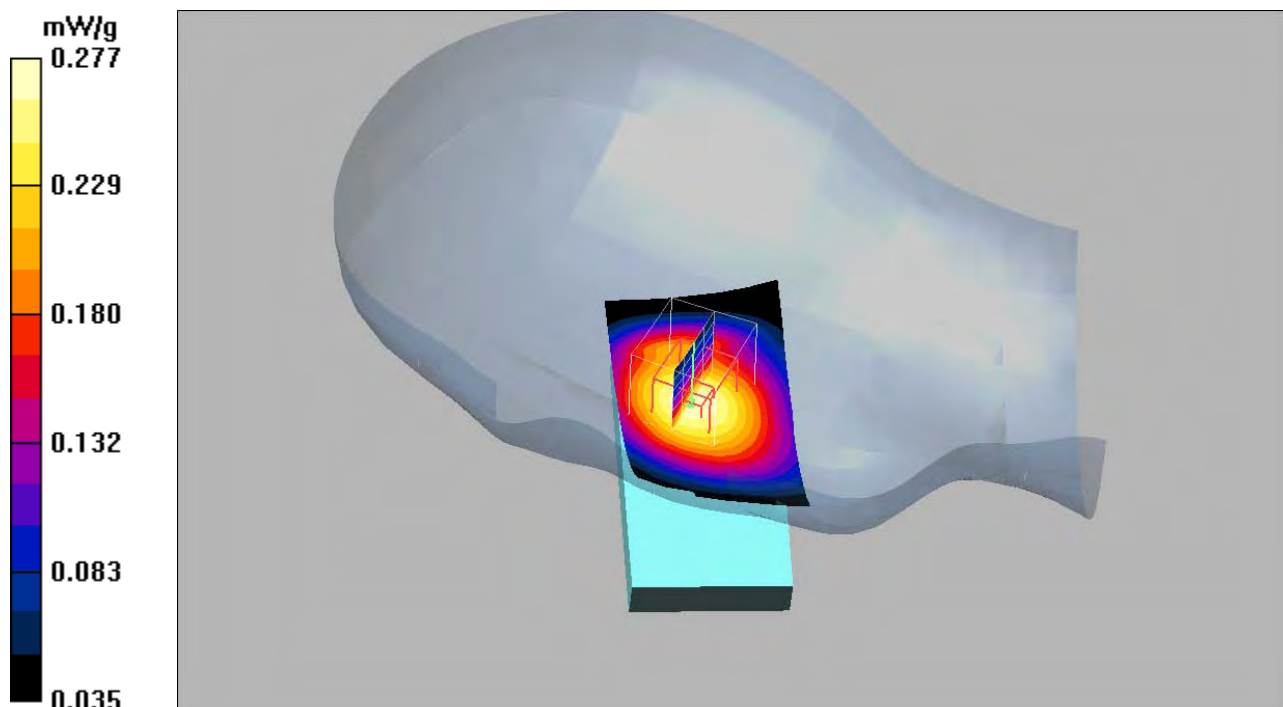
Mid Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.9 V/m; Power Drift = 0.040 dB

Peak SAR (extrapolated) = 0.337 W/kg

SAR(1 g) = 0.261 mW/g; SAR(10 g) = 0.193 mW/g

Maximum value of SAR (measured) = 0.277 mW/g



Date/Time: 2010-07-12 14:11:04

Test Laboratory: Sony Ericsson Mobile Communications AB

UMTS5 Body Front Speech 100712**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: UMTS_band5; Frequency: 826.4 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 826.4$ MHz; $\sigma = 0.949$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(6.04, 6.04, 6.04); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Low BT Front/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.299 mW/g

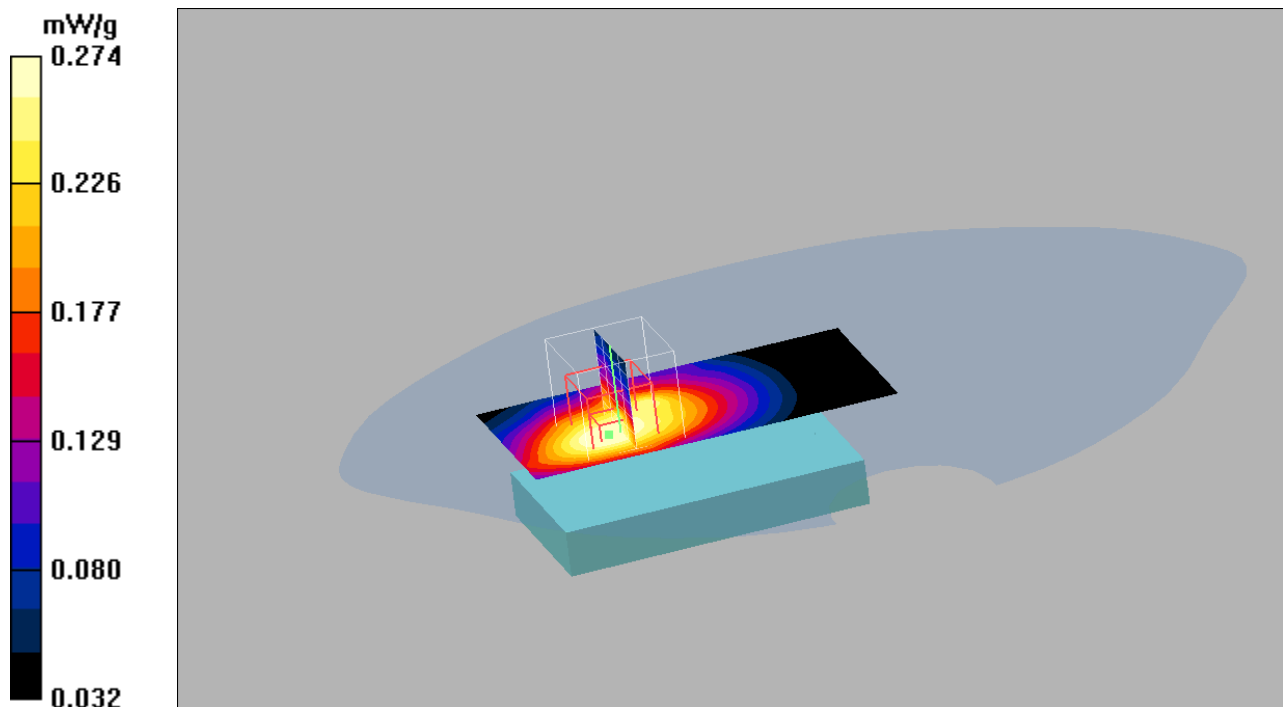
Low BT Front/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.67 V/m; Power Drift = 0.299 dB

Peak SAR (extrapolated) = 0.282 W/kg

SAR(1 g) = 0.261 mW/g; SAR(10 g) = 0.199 mW/g

Maximum value of SAR (measured) = 0.274 mW/g



Date/Time: 2010-07-12 12:30:33

Test Laboratory: Sony Ericsson Mobile Communications AB

UMTS5 Body Speech 100712**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: UMTS_band5; Frequency: 826.4 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 826.4$ MHz; $\sigma = 0.949$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(6.04, 6.04, 6.04); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection) Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Low, BT/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.701 mW/g

Low, BT/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.85 V/m; Power Drift = -0.058 dB

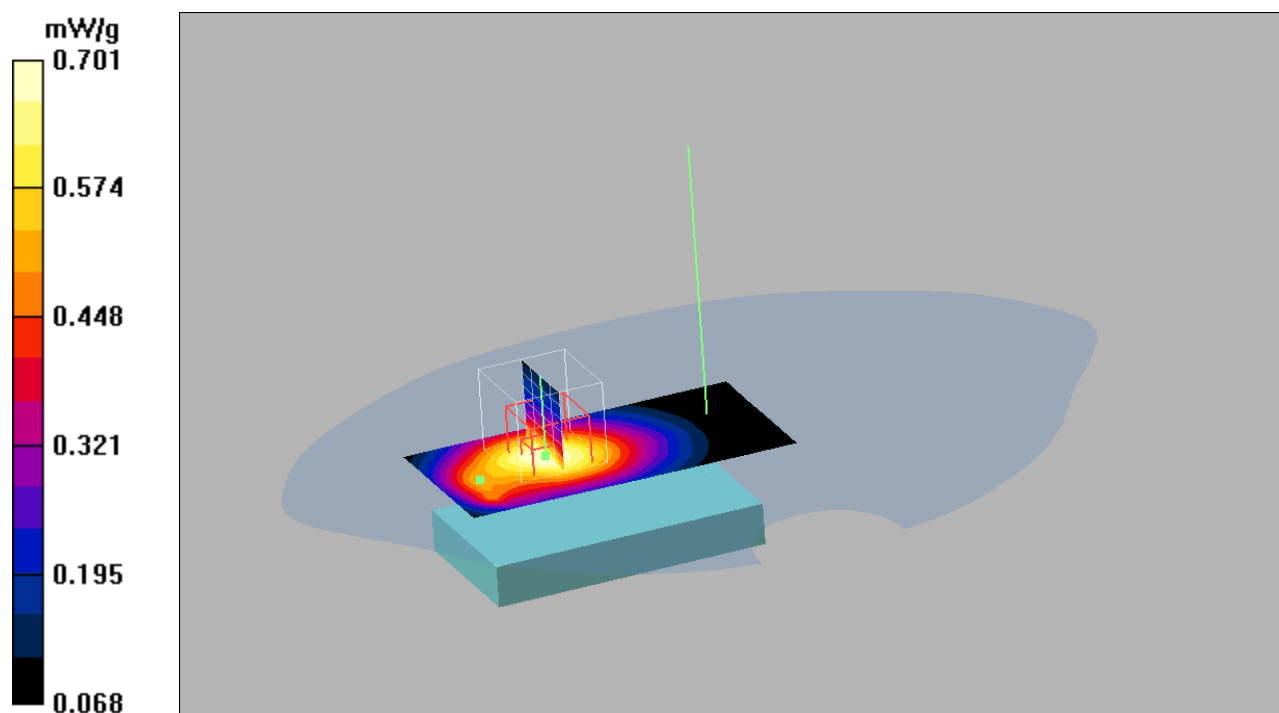
Peak SAR (extrapolated) = 0.804 W/kg

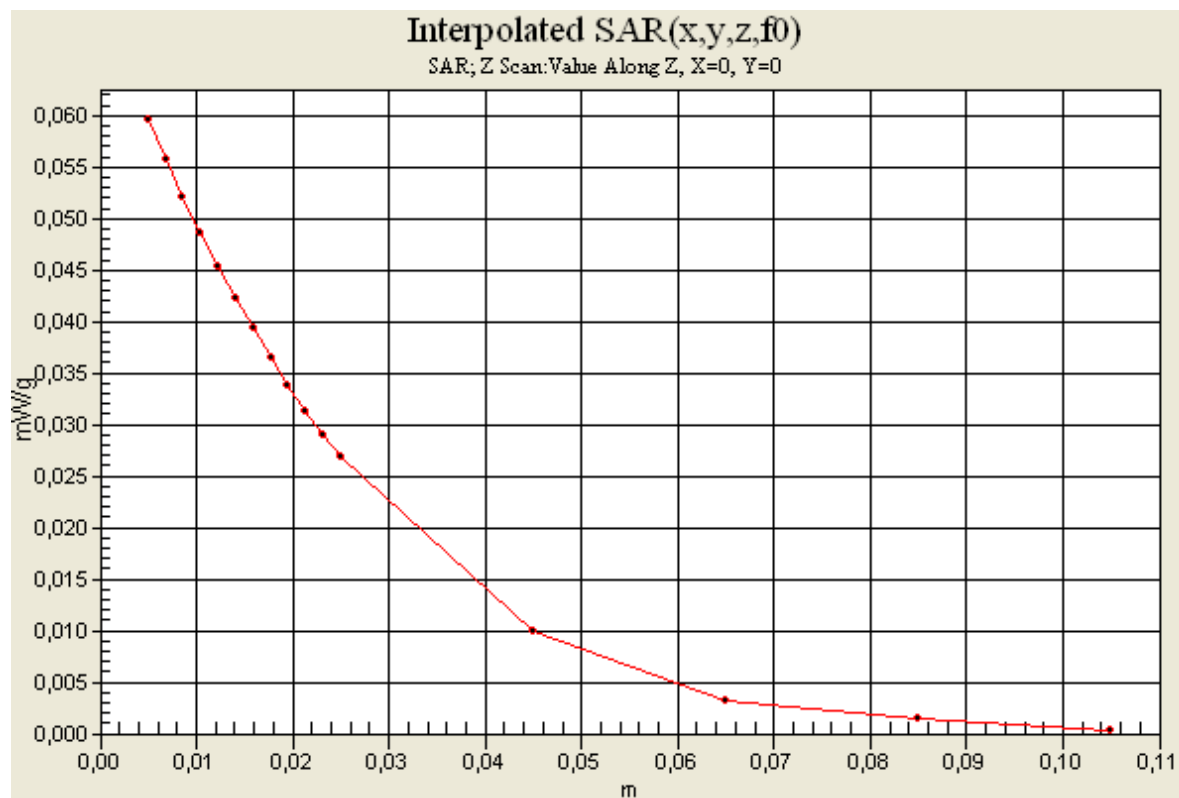
SAR(1 g) = 0.651 mW/g; SAR(10 g) = 0.475 mW/g

Maximum value of SAR (measured) = 0.701 mW/g

Low, BT/Z Scan (1x1x16): Measurement grid: dx=20mm, dy=20mm, dz=20mm

Maximum value of SAR (interpolated) = 0.060 mW/g





Date/Time: 2010-07-12 12:54:43

Test Laboratory: Sony Ericsson Mobile Communications AB

UMTS5 Body Speech PHF 100712**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: UMTS_band5; Frequency: 826.4 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 826.4$ MHz; $\sigma = 0.949$ mho/m; $\epsilon_r = 52.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(6.04, 6.04, 6.04); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Low, PHF/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.585 mW/g

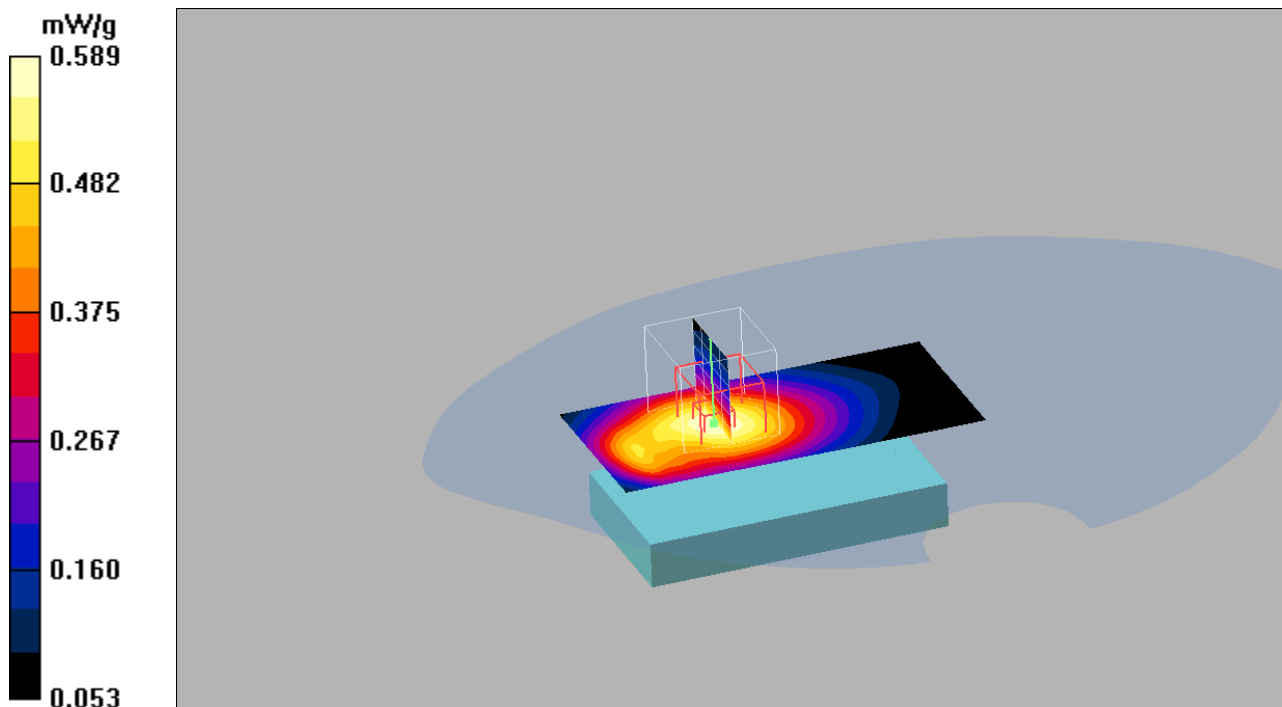
Low, PHF/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.5 V/m; Power Drift = 0.044 dB

Peak SAR (extrapolated) = 0.748 W/kg

SAR(1 g) = 0.551 mW/g; SAR(10 g) = 0.388 mW/g

Maximum value of SAR (measured) = 0.589 mW/g



Date/Time: 2010-07-13 12:43:05

Test Laboratory: Sony Ericsson Mobile Communications AB

WLAN Left Cheek 100713**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: WLAN; Frequency: 2412 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 2412$ MHz; $\sigma = 1.79$ mho/m; $\epsilon_r = 37.7$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(4.47, 4.47, 4.47); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection) Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Low Cheek/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.181 mW/g

Low Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.78 V/m; Power Drift = -0.020 dB

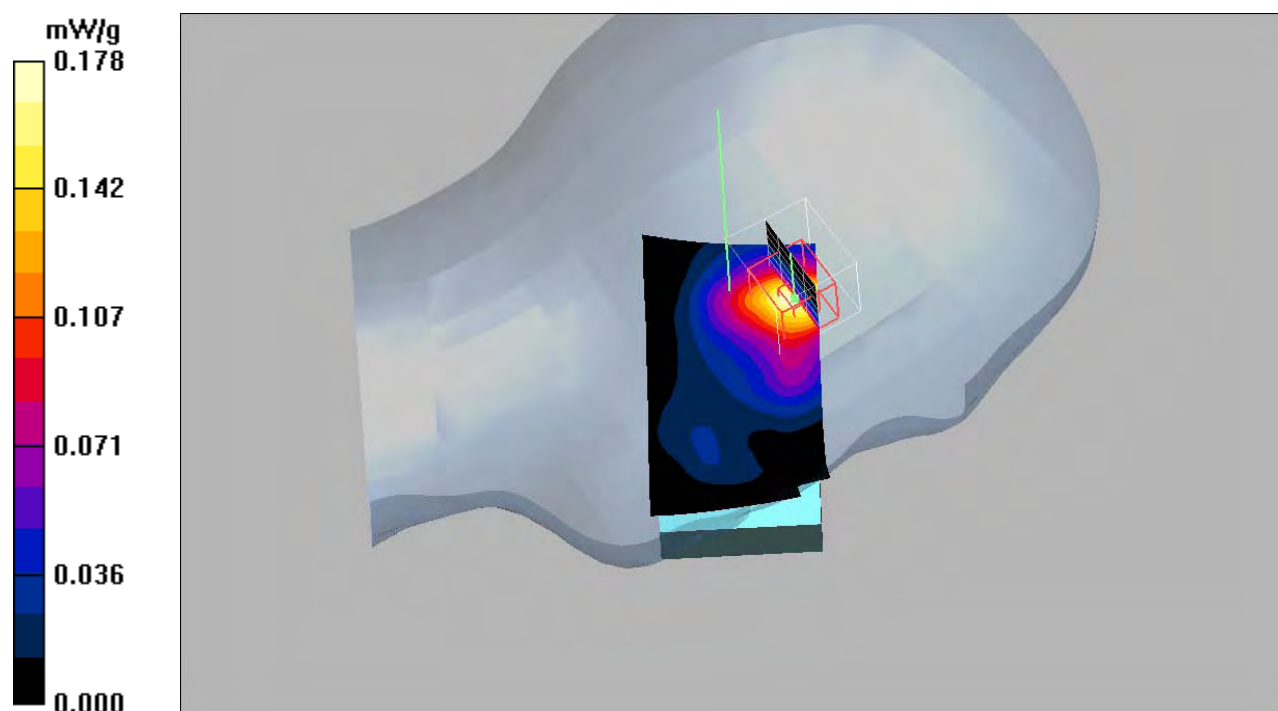
Peak SAR (extrapolated) = 0.327 W/kg

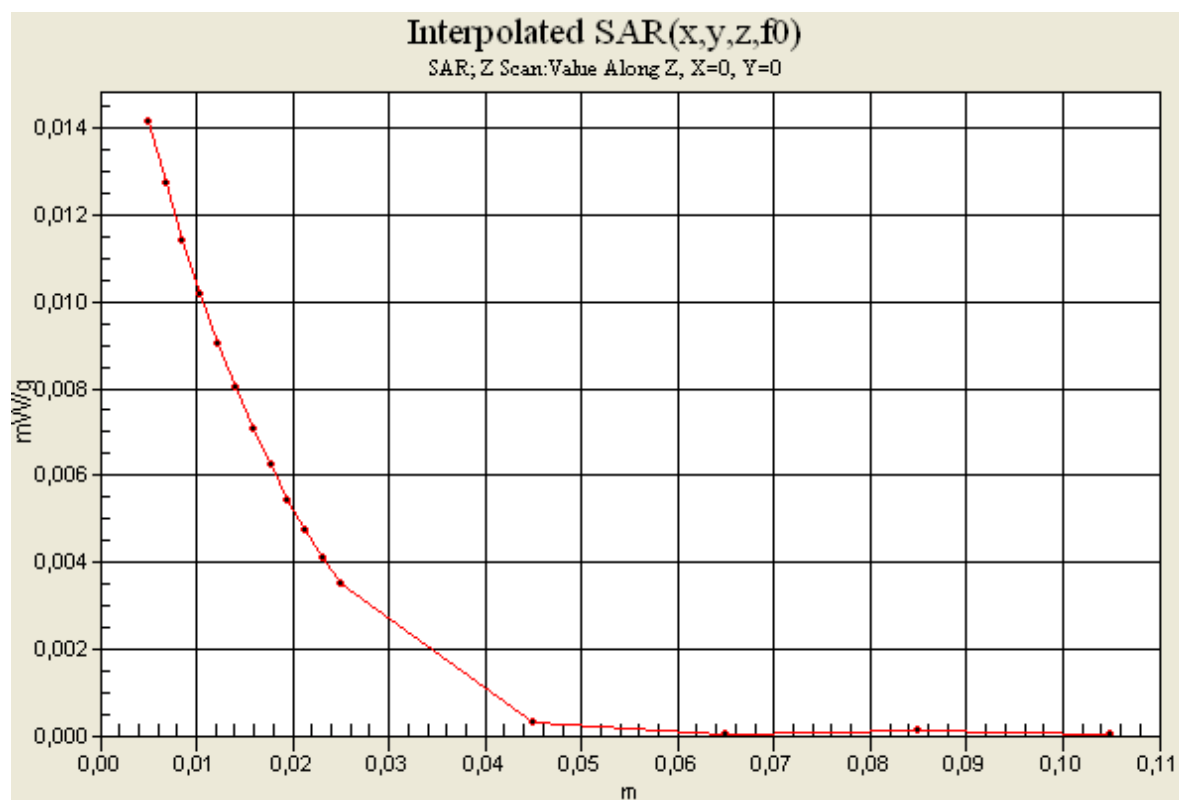
SAR(1 g) = 0.158 mW/g; SAR(10 g) = 0.078 mW/g

Maximum value of SAR (measured) = 0.178 mW/g

Low Cheek/Z Scan (1x1x16): Measurement grid: dx=20mm, dy=20mm, dz=20mm

Maximum value of SAR (interpolated) = 0.014 mW/g





Date/Time: 2010-07-13 11:40:23

Test Laboratory: Sony Ericsson Mobile Communications AB

WLAN Left Tilt 100713**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: WLAN; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 2437$ MHz; $\sigma = 1.82$ mho/m; $\epsilon_r = 37.6$; $\rho = 1000$ kg/m³

Phantom section: Left Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(4.47, 4.47, 4.47); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mid Tilt/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.116 mW/g

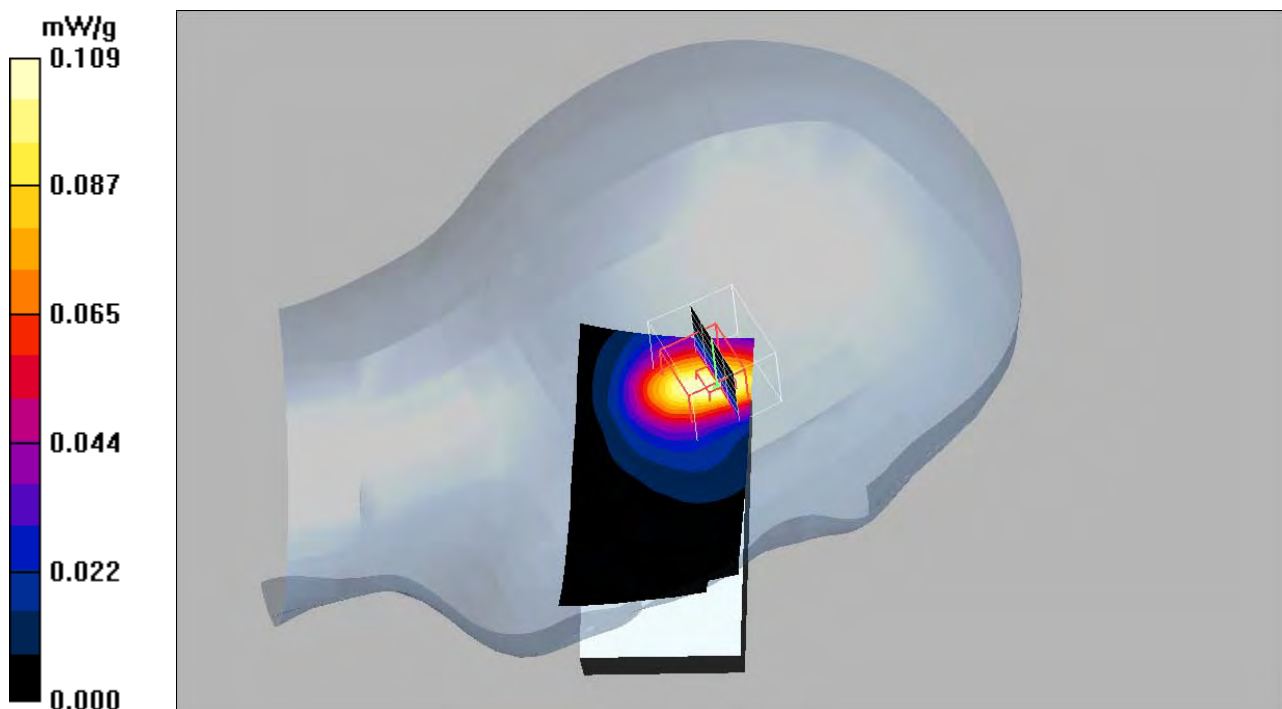
Mid Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.90 V/m; Power Drift = 0.053 dB

Peak SAR (extrapolated) = 0.202 W/kg

SAR(1 g) = 0.097 mW/g; SAR(10 g) = 0.050 mW/g

Maximum value of SAR (measured) = 0.109 mW/g



Date/Time: 2010-07-13 14:50:28

Test Laboratory: Sony Ericsson Mobile Communications AB

WLAN Right Cheek 100713**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: WLAN; Frequency: 2412 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 2412$ MHz; $\sigma = 1.79$ mho/m; $\epsilon_r = 37.7$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(4.47, 4.47, 4.47); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Low Cheek/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.154 mW/g

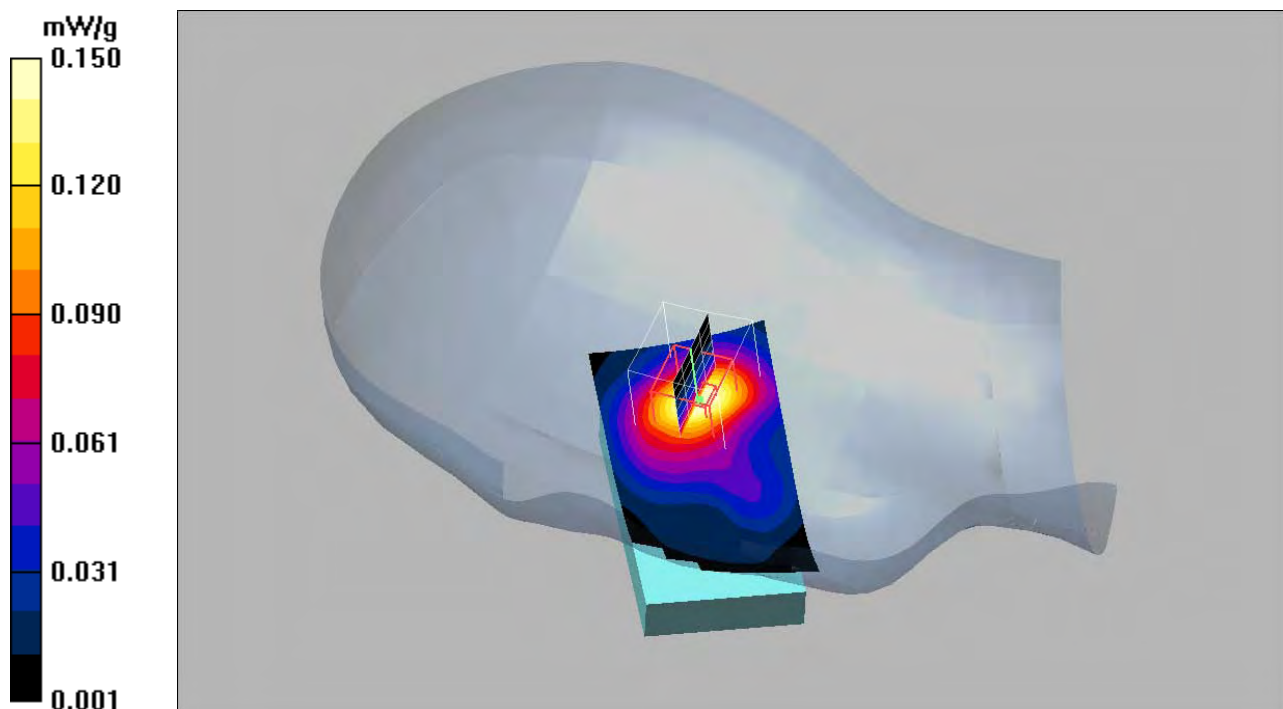
Low Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.42 V/m; Power Drift = -0.077 dB

Peak SAR (extrapolated) = 0.250 W/kg

SAR(1 g) = 0.135 mW/g; SAR(10 g) = 0.071 mW/g

Maximum value of SAR (measured) = 0.150 mW/g



Date/Time: 2010-07-13 17:06:50

Test Laboratory: Sony Ericsson Mobile Communications AB

WLAN Right Tilt 100713**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: WLAN; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 2437$ MHz; $\sigma = 1.82$ mho/m; $\epsilon_r = 37.6$; $\rho = 1000$ kg/m³

Phantom section: Right Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(4.47, 4.47, 4.47); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 1; Type: Twin SAM; Serial: TP-1144
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Mid Tilt/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.137 mW/g

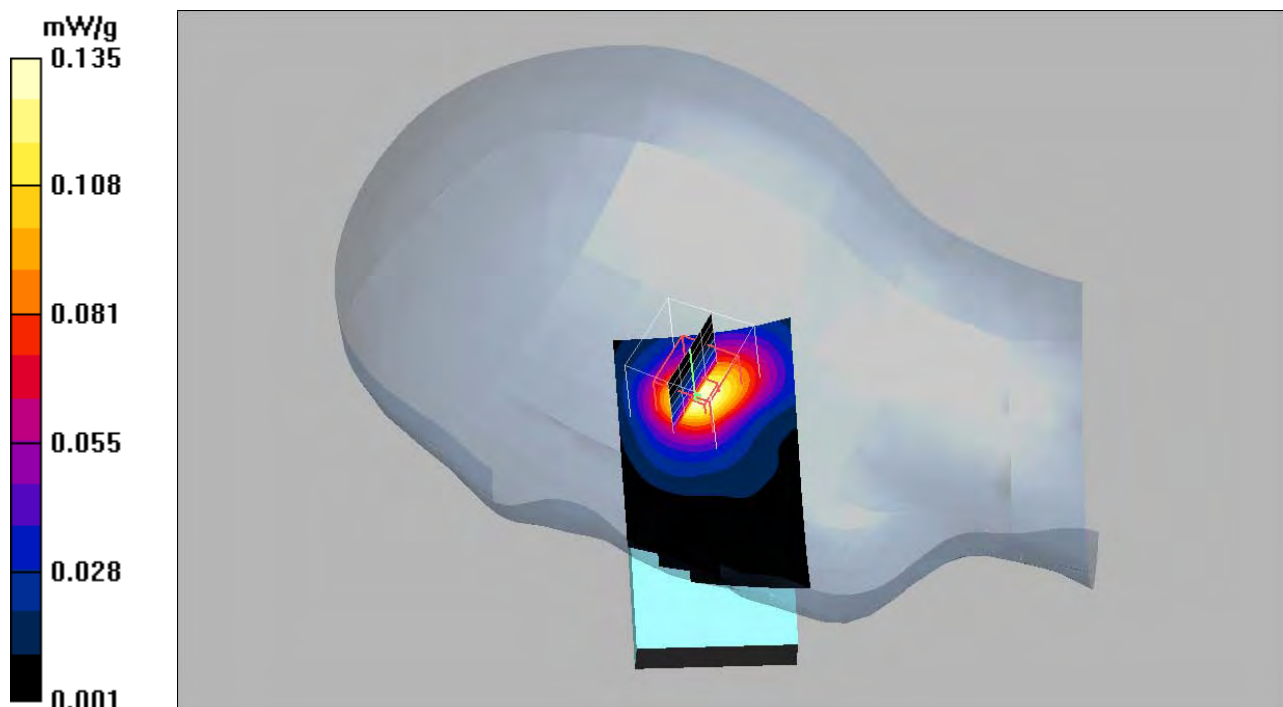
Mid Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.32 V/m; Power Drift = 0.004 dB

Peak SAR (extrapolated) = 0.230 W/kg

SAR(1 g) = 0.121 mW/g; SAR(10 g) = 0.062 mW/g

Maximum value of SAR (measured) = 0.135 mW/g



Date/Time: 2010-07-14 08:35:09

Test Laboratory: Sony Ericsson Mobile Communications AB

WLAN Body Back 100714**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: WLAN; Frequency: 2412 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 2412$ MHz; $\sigma = 1.96$ mho/m; $\epsilon_r = 50.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(4.31, 4.31, 4.31); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection) Sensor-Surface: 0mm (Fix Surface)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Low, Back/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.088 mW/g

Low, Back/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.72 V/m; Power Drift = -0.091 dB

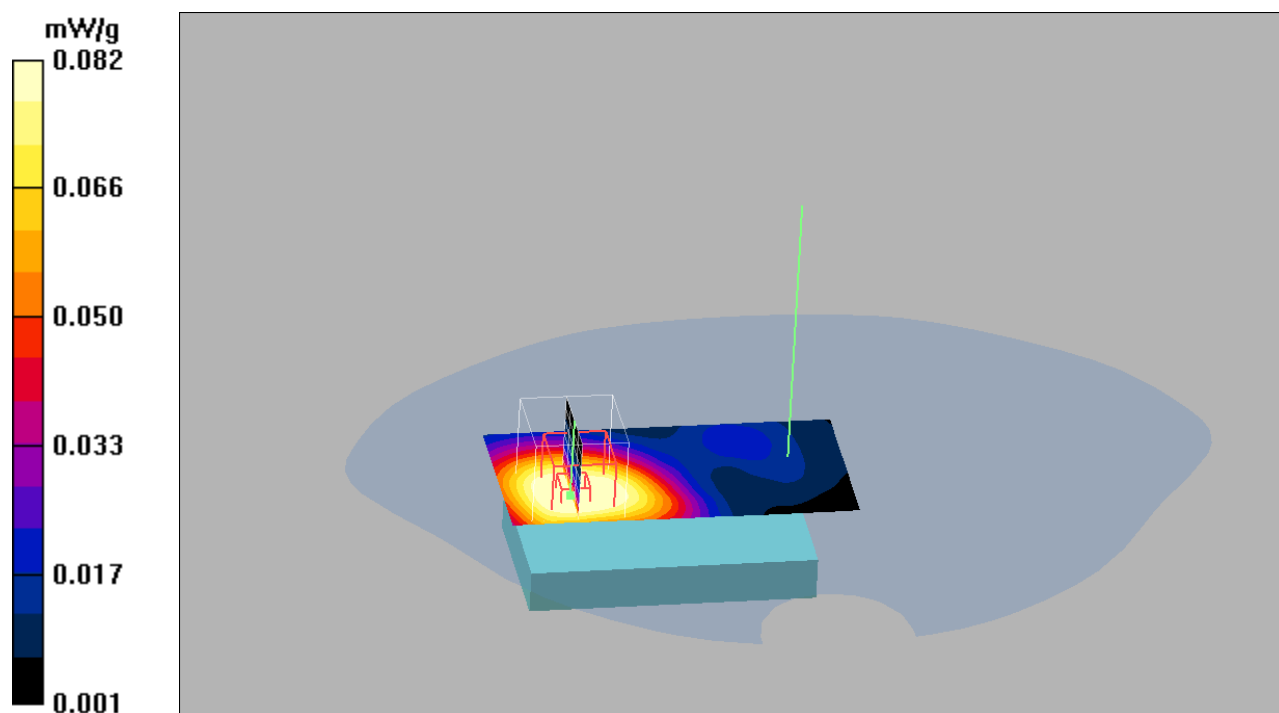
Peak SAR (extrapolated) = 0.138 W/kg

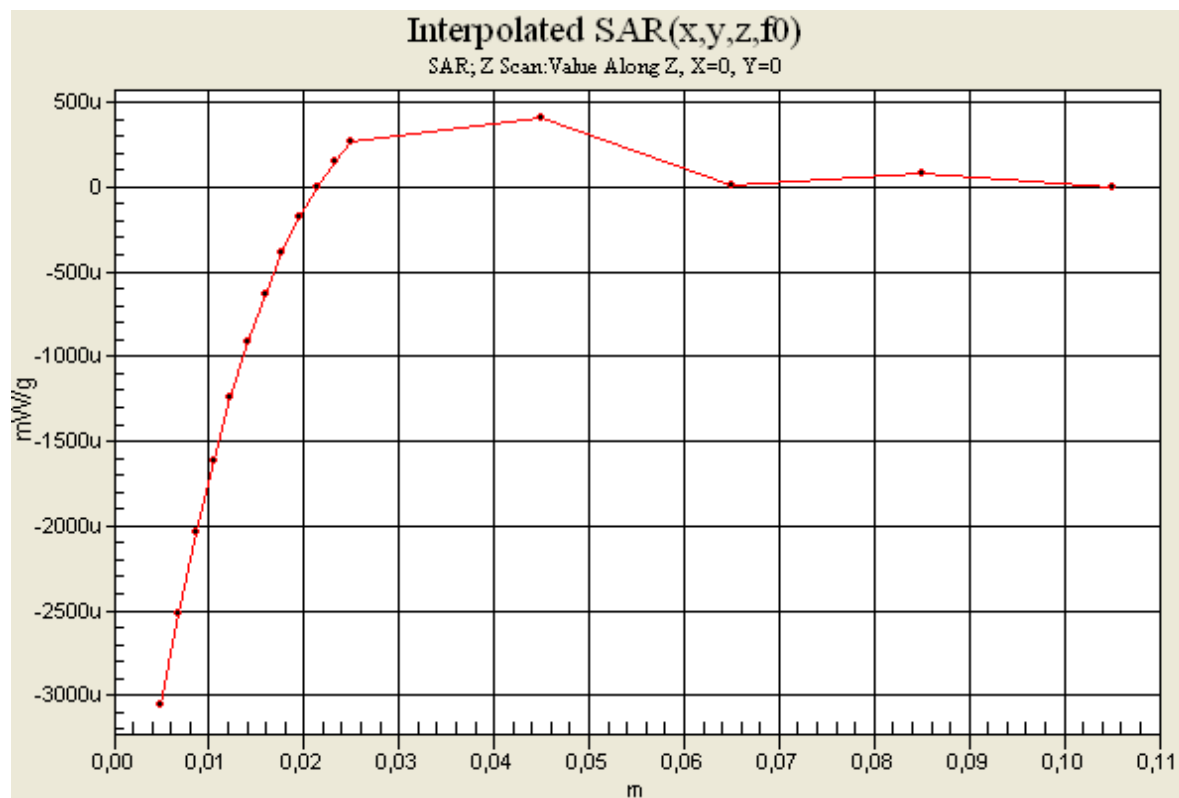
SAR(1 g) = 0.078 mW/g; SAR(10 g) = 0.047 mW/g

Maximum value of SAR (measured) = 0.082 mW/g

Low, Back/Z Scan (1x1x16): Measurement grid: dx=20mm, dy=20mm, dz=20mm

Maximum value of SAR (interpolated) = 0.000 mW/g





Date/Time: 2010-07-14 09:57:24

Test Laboratory: Sony Ericsson Mobile Communications AB

WLAN Body Front 100714**DUT: PY7A3880092 (E15a); Type: GSM, UMTS, WLAN; Serial: #18578**

Communication System: WLAN; Frequency: 2412 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 2412$ MHz; $\sigma = 1.96$ mho/m; $\epsilon_r = 50.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV3 - SN3210; ConvF(4.31, 4.31, 4.31); Calibrated: 2010-03-10
- Sensor-Surface: 4mm (Mechanical Surface Detection (Locations From Previous Scan Used))
Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn433; Calibrated: 2010-01-15
- Phantom: SAM 2; Type: SAM QD 000 P40 CB; Serial: TP-1396
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Low, Front/Area Scan (61x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.052 mW/g

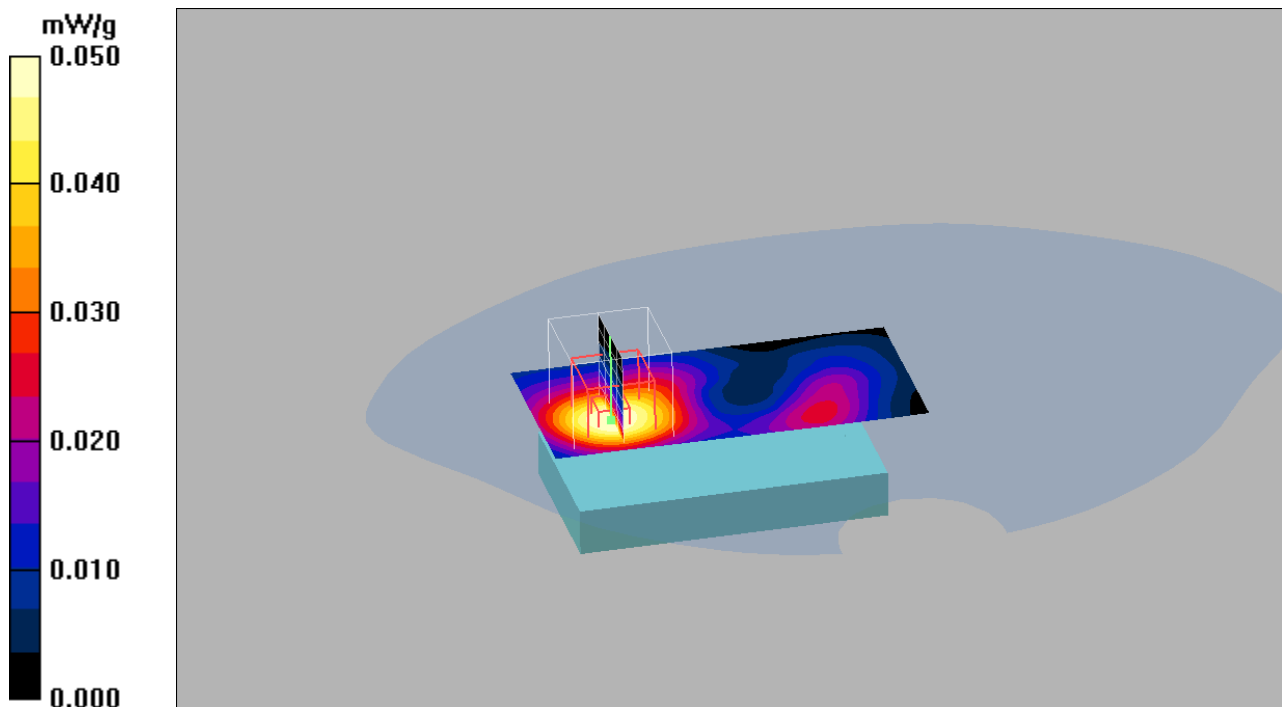
Low, Front/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.04 V/m; Power Drift = 0.031 dB

Peak SAR (extrapolated) = 0.084 W/kg

SAR(1 g) = 0.046 mW/g; SAR(10 g) = 0.026 mW/g

Maximum value of SAR (measured) = 0.050 mW/g





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 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **Sony Ericsson Lund**

Certificate No: **D835V2-4d039_Jan10**

CALIBRATION CERTIFICATE

Object **D835V2 - SN: 4d039**

Calibration procedure(s) **QA CAL-05.v7**
Calibration procedure for dipole validation kits

Calibration date: **January 14, 2010**

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 $(22 \pm 3)^{\circ}\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	06-Oct-09 (No. 217-01086)	Oct-10
Power sensor HP 8481A	US37292783	06-Oct-09 (No. 217-01086)	Oct-10
Reference 20 dB Attenuator	SN: 5086 (20g)	31-Mar-09 (No. 217-01025)	Mar-10
Type-N mismatch combination	SN: 5047.2 / 06327	31-Mar-09 (No. 217-01029)	Mar-10
Reference Probe ES3DV3	SN: 3205	26-Jun-09 (No. ES3-3205_Jun09)	Jun-10
DAE4	SN: 601	07-Mar-09 (No. DAE4-601_Mar09)	Mar-10
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-09)	In house check: Oct-11
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-09)	In house check: Oct-10

Calibrated by: **Jeton Kastrati** Name: **Jeton Kastrati** Function: **Laboratory Technician**

Approved by: **Katja Pokovic** Name: **Katja Pokovic** Function: **Technical Manager**

Signature

Issued: January 18, 2010

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



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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:

- 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
- 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
- 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:

- DASY4/5 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	DASY5	V5.2
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 $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.2 °C	41.5	0.90 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	41.4 $\pm$ 6 %	0.89 mho/m $\pm$ 6 %
Head TSL temperature during test	(21.5 $\pm$ 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	2.41 mW / g
SAR normalized	normalized to 1W	9.64 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	9.71 mW / g $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.57 mW / g
SAR normalized	normalized to 1W	6.28 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	6.31 mW / g $\pm$ 16.5 % (k=2)

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	54.6 ± 6 %	0.98 mho/m ± 6 %
Body TSL temperature during test	(22.0 ± 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	2.50 mW / g
SAR normalized	normalized to 1W	10.0 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	9.90 mW / g ± 17.0 % (k=2)

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.64 mW / g
SAR normalized	normalized to 1W	6.56 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	6.51 mW / g ± 16.5 % (k=2)

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	51.4 Ω - 2.4 j Ω
Return Loss	- 31.3 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	47.1 Ω - 4.7 j Ω
Return Loss	- 24.9 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.390 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	September 20, 2005

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d039

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

Medium: HSL900

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.89 \text{ mho/m}$; $\epsilon_r = 41.2$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.04, 6.04, 6.04); Calibrated: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

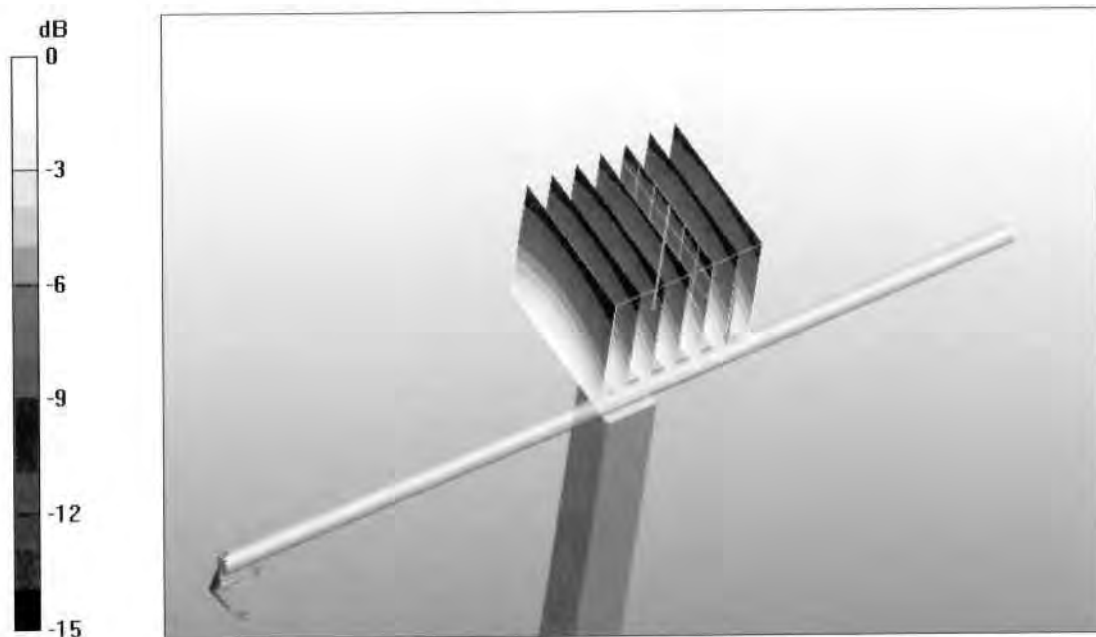
Pin=250 mW /d=15mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement
grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 57.5 V/m; Power Drift = 0.00944 dB

Peak SAR (extrapolated) = 3.61 W/kg

SAR(1 g) = 2.41 mW/g; SAR(10 g) = 1.57 mW/g

Maximum value of SAR (measured) = 2.81 mW/g

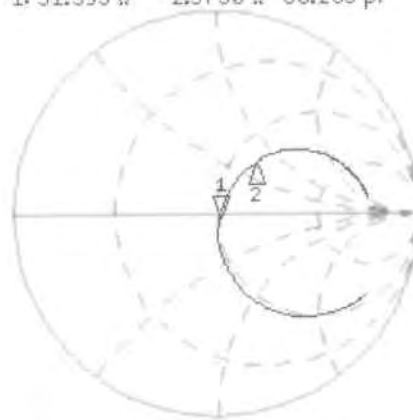


0 dB = 2.81 mW/g

Impedance Measurement Plot for Head TSL

11 Jan 2010 15:44:53
 CH1 S11 1 U FS 1: 51.395 Ω -2.3750 Ω 80.255 pF 835.000 000 MHz

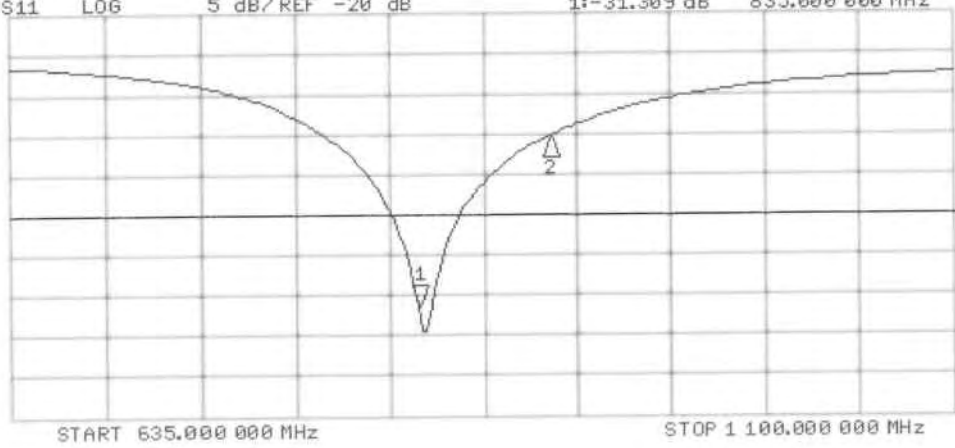
*
 Del
 Cor
 Avg
 16



CH1 Markers
 2: 62.928 Ω
 33.924 Ω
 900.000 MHz

CH2 S11 LOG 5 dB/REF -20 dB 1: -31.309 dB 835.000 000 MHz

Cor
 Avg
 16



CH2 Markers
 2: -10.231 dB
 900.000 MHz

DASY5 Validation Report for Body

Date/Time: 14.01.2010 15:19:23

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d039

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

Medium: MSL900

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.98 \text{ mho/m}$; $\epsilon_r = 54.6$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(5.97, 5.97, 5.97); Calibrated: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

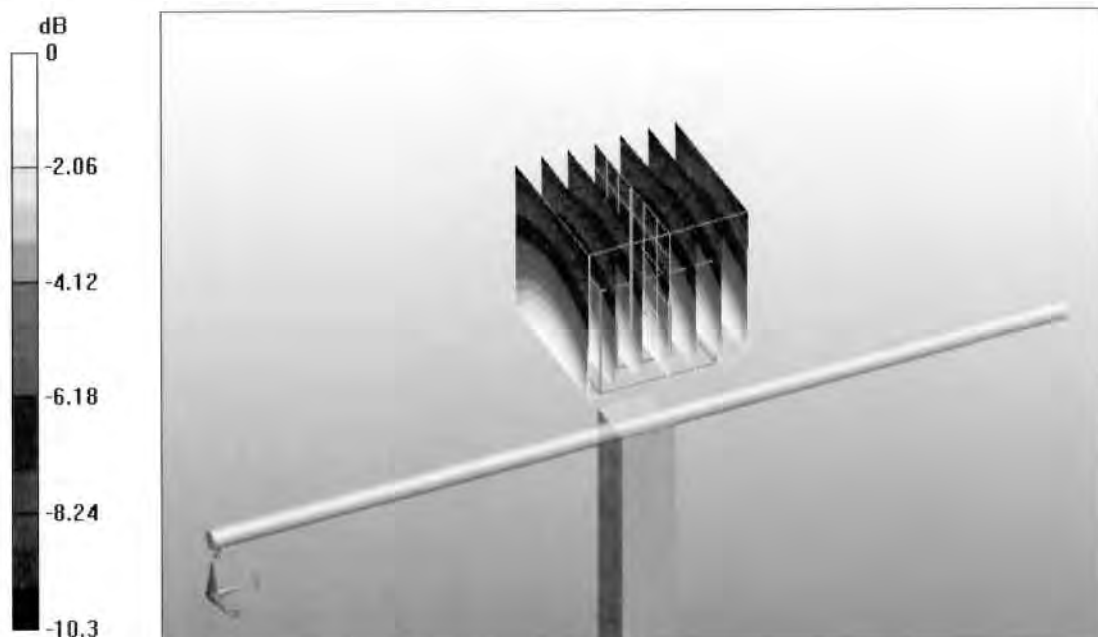
Pin250 mW /d=15mm, dist=3.0mm (ES-Probe) 2 2/Zoom Scan (7x7x7)/Cube 0: Measurement
grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 55.3 V/m; Power Drift = 0.024 dB

Peak SAR (extrapolated) = 3.69 W/kg

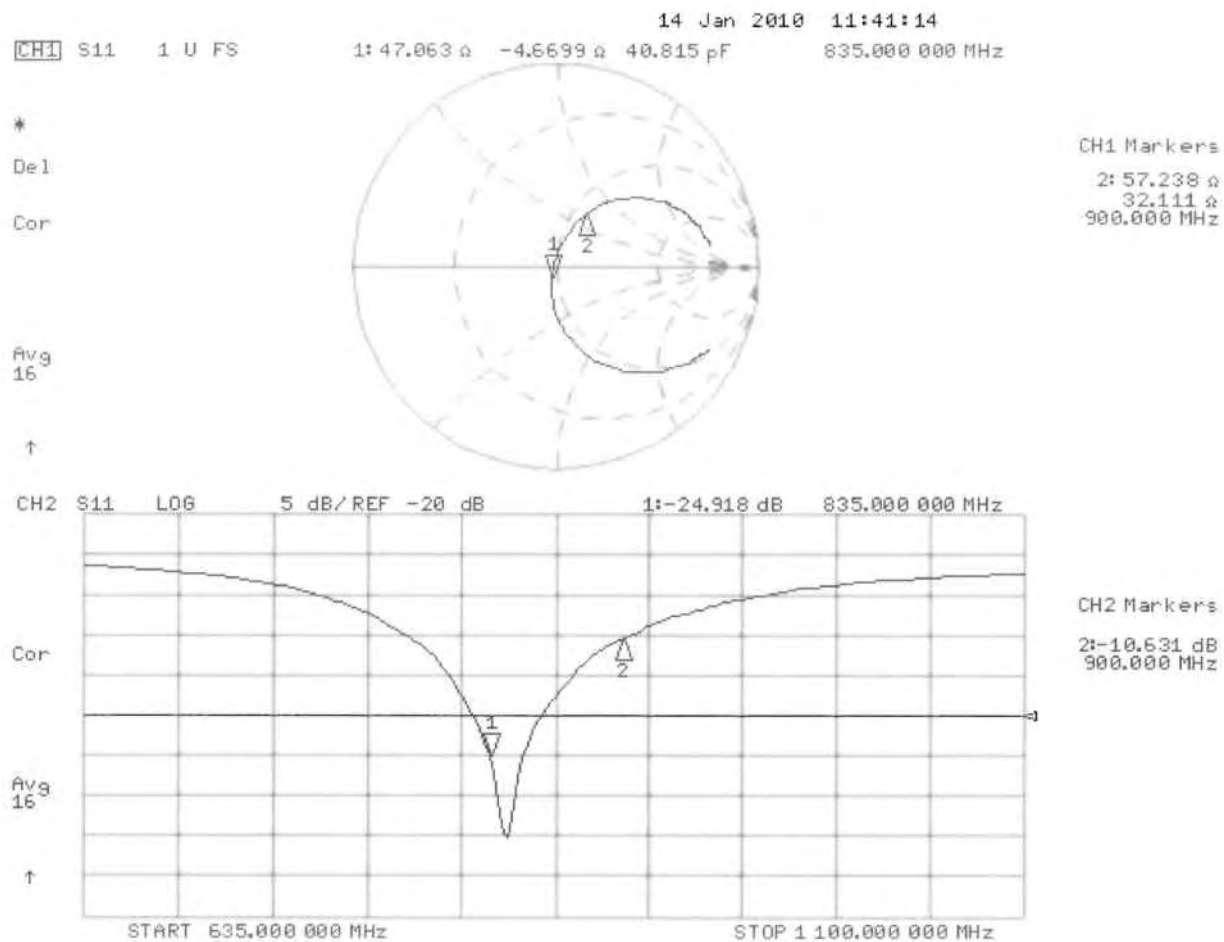
SAR(1 g) = 2.5 mW/g; SAR(10 g) = 1.64 mW/g

Maximum value of SAR (measured) = 2.93 mW/g



0 dB = 2.93mW/g

Impedance Measurement Plot for Body TSL





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Accreditation No.: **SCS 108**

Client **Sony Ericsson Lund**

Certificate No: **D1900V2-5d002-Jan09**

CALIBRATION CERTIFICATE

Object **D1900V2 - SN: 5d002**

Calibration procedure(s) **QA CAL-05.v7**
Calibration procedure for dipole validation kits

Calibration date: **January 13, 2009**

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	08-Oct-08 (No. 217-00898)	Oct-09
Power sensor HP 8481A	US37292783	08-Oct-08 (No. 217-00898)	Oct-09
Reference 20 dB Attenuator	SN: 5086 (20g)	01-Jul-08 (No. 217-00864)	Jul-09
Type-N mismatch combination	SN: 5047.2 / 06327	01-Jul-08 (No. 217-00867)	Jul-09
Reference Probe ES3DV2	SN: 3025	28-Apr-08 (No. ES3-3025_Apr08)	Apr-09
DAE4	SN: 601	14-Mar-08 (No. DAE4-601_Mar08)	Mar-09

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-07)	In house check: Oct-09
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-07)	In house check: Oct-09
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-08)	In house check: Oct-09

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	

Approved by:	Katja Pokovic	Technical Manager
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Issued: January 13, 2009

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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:

- 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
- 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
- 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:

- DASY4/5 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	DASY5	V5.0
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 $\pm$ 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 $\pm$ 0.2) °C	39.2 $\pm$ 6 %	1.47 mho/m $\pm$ 6 %
Head TSL temperature during test	(21.0 $\pm$ 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	10.3 mW / g
SAR normalized	normalized to 1W	41.2 mW / g
SAR for nominal Head TSL parameters ¹	normalized to 1W	39.9 mW / g $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	Condition	
SAR measured	250 mW input power	5.32 mW / g
SAR normalized	normalized to 1W	21.3 mW / g
SAR for nominal Head TSL parameters ¹	normalized to 1W	20.9 mW / g $\pm$ 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	54.7 ± 6 %	1.57 mho/m ± 6 %
Body TSL temperature during test	(21.0 ± 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	10.5 mW / g
SAR normalized	normalized to 1W	42.0 mW / g
SAR for nominal Body TSL parameters ²	normalized to 1W	41.5 mW / g ± 17.0 % (k=2)

SAR averaged over 10 cm ³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.54 mW / g
SAR normalized	normalized to 1W	22.2 mW / g
SAR for nominal Body TSL parameters ²	normalized to 1W	22.1 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	$50.0\ \Omega + 1.7\ j\Omega$
Return Loss	- 35.4 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	$46.3\ \Omega + 2.6\ j\Omega$
Return Loss	- 26.7 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

DASY5 Validation Report for Head TSL

Date/Time: 06.01.2009 13:38:20

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; $\sigma = 1.47$ mho/m; $\epsilon_r = 39.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(4.9, 4.9, 4.9); Calibrated: 28.04.2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 14.03.2008
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

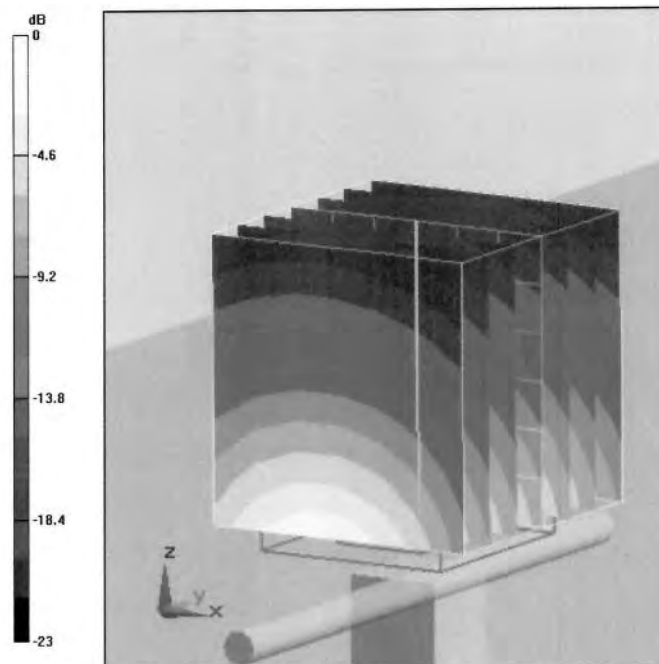
Pin = 250 mW; dip = 10 mm, scan at 3.4mm/Zoom Scan (dist=3.4mm, probe 0deg)
(7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 92.6 V/m; Power Drift = 0.016 dB

Peak SAR (extrapolated) = 19.1 W/kg

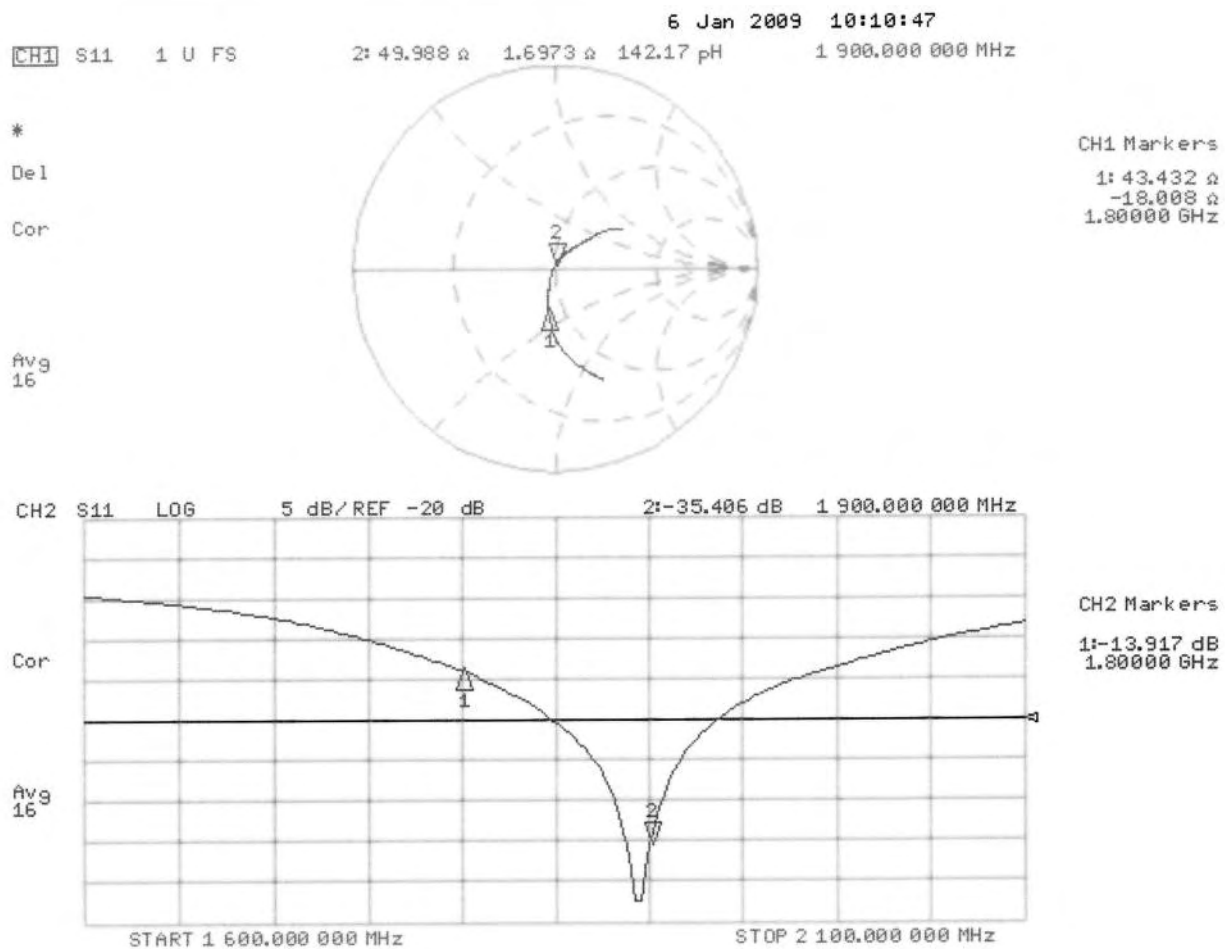
SAR(1 g) = 10.3 mW/g; SAR(10 g) = 5.32 mW/g

Maximum value of SAR (measured) = 12 mW/g



0 dB = 12mW/g

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date/Time: 13.01.2009 13:28:04

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; $\sigma = 1.57$ mho/m; $\epsilon_r = 54.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(4.5, 4.5, 4.5); Calibrated: 28.04.2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 14.03.2008
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

Pin = 250 mW; dip = 10 mm, scan at 3.4mm 2 2/Zoom Scan (dist=3.4mm, probe 0deg)

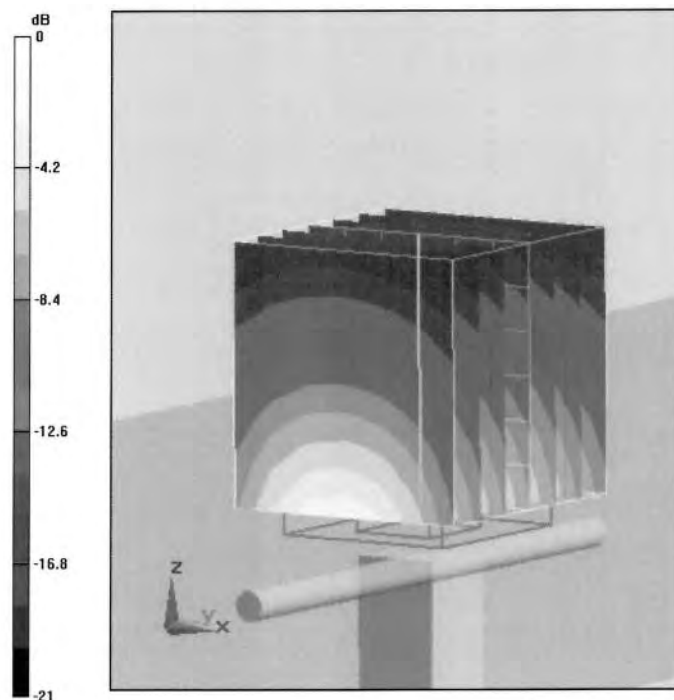
(7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 92.6 V/m; Power Drift = 0.00319 dB

Peak SAR (extrapolated) = 18.5 W/kg

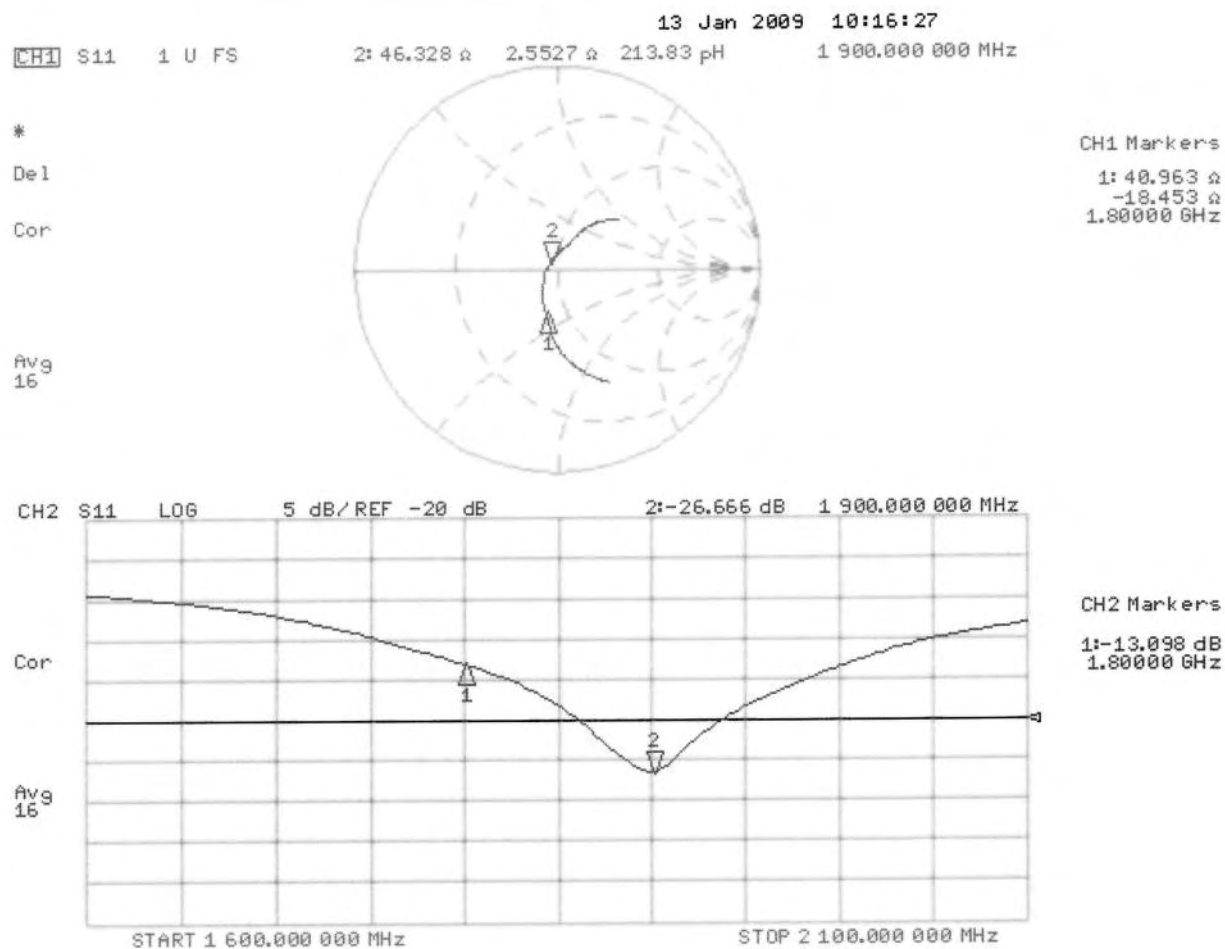
SAR(1 g) = 10.5 mW/g; SAR(10 g) = 5.54 mW/g

Maximum value of SAR (measured) = 12.6 mW/g



0 dB = 12.6mW/g

Impedance Measurement Plot for Body TSL





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 Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **Sony Ericsson Lund**

Certificate No: **D2450V2-745_Mar09**

CALIBRATION CERTIFICATE

Object **D2450V2 - SN: 745**

Calibration procedure(s) **QA CAL-05.v7**
Calibration procedure for dipole validation kits

Calibration date: **March 10, 2009**

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%.

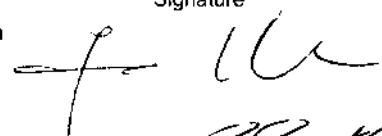
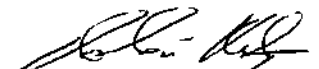
Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	08-Oct-08 (No. 217-00898)	Oct-09
Power sensor HP 8481A	US37292783	08-Oct-08 (No. 217-00898)	Oct-09
Reference 20 dB Attenuator	SN: 5086 (20g)	01-Jul-08 (No. 217-00864)	Jul-09
Type-N mismatch combination	SN: 5047.2 / 06327	01-Jul-08 (No. 217-00867)	Jul-09
Reference Probe ES3DV2	SN: 3025	28-Apr-08 (No. ES3-3025_Apr08)	Apr-09
DAE4	SN: 601	14-Mar-08 (No. DAE4-601_Mar08)	Mar-09
DAE4	SN: 601	07-Mar-09 (No. DAE4-601_Mar09)	Mar-10
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-07)	In house check: Oct-09
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-07)	In house check: Oct-09
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-08)	In house check: Oct-09

Calibrated by: **Jeton Kastrati** Name **Jeton Kastrati** Function **Laboratory Technician**

Approved by: **Katja Pokovic** Name **Katja Pokovic** Function **Technical Manager**

Signature

Issued: March 13, 2009



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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:

- 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
- 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
- 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:

- DASY4/5 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	DASY5	V5.0
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	2450 MHz $\pm$ 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.2	1.80 mho/m
Measured Head TSL parameters	(22.0 $\pm$ 0.2) °C	38.0 $\pm$ 6 %	1.82 mho/m $\pm$ 6 %
Head TSL temperature during test	(21.0 $\pm$ 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	13.4 mW / g
SAR normalized	normalized to 1W	53.6 mW / g
SAR for nominal Head TSL parameters ¹	normalized to 1W	52.9 mW / g $\pm$ 17.0 % (k=2)

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.22 mW / g
SAR normalized	normalized to 1W	24.9 mW / g
SAR for nominal Head TSL parameters ¹	normalized to 1W	24.7 mW / g $\pm$ 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	52.7	1.95 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	54.3 ± 6 %	1.99 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	13.1 mW / g
SAR normalized	normalized to 1W	52.4 mW / g
SAR for nominal Body TSL parameters ²	normalized to 1W	52.1 mW / g ± 17.0 % (k=2)

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	6.11 mW / g
SAR normalized	normalized to 1W	24.4 mW / g
SAR for nominal Body TSL parameters ²	normalized to 1W	24.4 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	$57.1 \Omega - 1.8 j\Omega$
Return Loss	- 23.3 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	$51.9 \Omega + 5.0 j\Omega$
Return Loss	- 25.6 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.162 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	December 01, 2003

DASY5 Validation Report for Head TSL

Date/Time: 03.03.2009 14:36:21

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN745

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: HSL U10 BB

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.83$ mho/m; $\epsilon_r = 38.1$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(4.4, 4.4, 4.4); Calibrated: 28.04.2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 14.03.2008
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

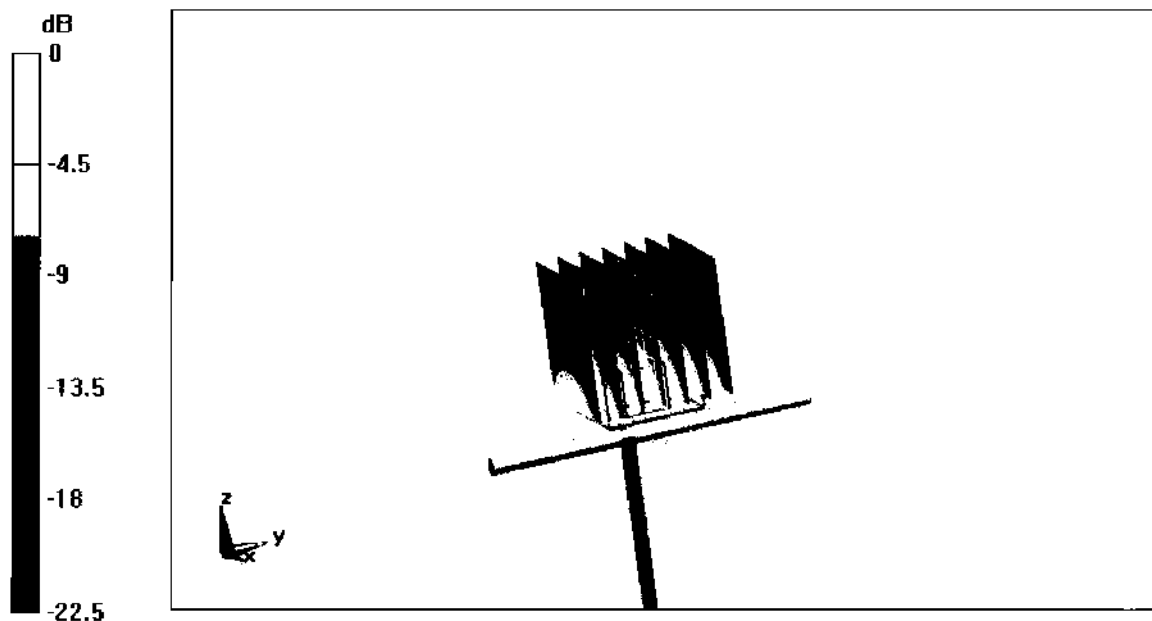
Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 93.7 V/m; Power Drift = 0.086 dB

Peak SAR (extrapolated) = 28.4 W/kg

SAR(1 g) = 13.4 mW/g; SAR(10 g) = 6.22 mW/g

Maximum value of SAR (measured) = 16.4 mW/g



0 dB = 16.4mW/g

Impedance Measurement Plot for Head TSL

3 Mar 2009 10:11:50

[CH1] S11 1 U FS 1: 57.111 Ω 1.8379 Ω 119.39 μH 2 450.000 000 MHz

*

De1

Cor

Avg

16

CH2 S11 LOG 5 dB/REF -20 dB 1: -23.280 dB 2 450.000 000 MHz

Cor

Avg

16

START 2 250.000 000 MHz

STOP 2 650.000 000 MHz

DASY5 Validation Report for Body TSL

Date/Time: 10.03.2009 14:42:41

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:745

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: MSL U10 BB

Medium parameters used: $f = 2450$ MHz; $\sigma = 2$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(4.07, 4.07, 4.07); Calibrated: 28.04.2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

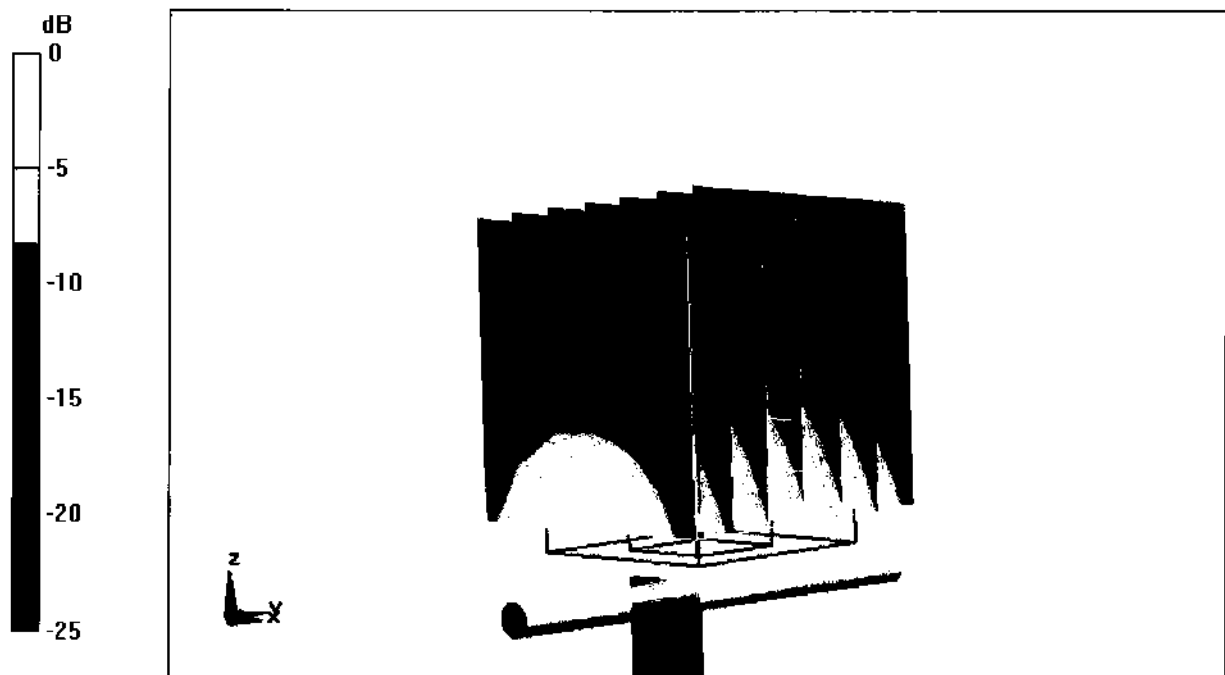
Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 92.7 V/m; Power Drift = 0.00783 dB

Peak SAR (extrapolated) = 26.4 W/kg

SAR(1 g) = 13.1 mW/g; SAR(10 g) = 6.11 mW/g

Maximum value of SAR (measured) = 16.3 mW/g



Impedance Measurement Plot for Body TSL

10 Mar 2009 09:54:38

CH1 S11 1 U FS 1: 51.887 Ω 4.9980 Ω 324.68 pF 2 450.000 000 MHz

*

Del

Cor

Avg

16

CH2 S11 LOG 5 dB/REF -20 dB 1: -25.614 dB 2 450.000 000 MHz

Cor

Avg

16

START 2 250.000 000 MHz

STOP 2 650.000 000 MHz



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Accreditation No.: **SCS 108**

Client **Sony Ericsson Lund**

Certificate No: **ES3-3210_Mar10**

CALIBRATION CERTIFICATE

Object **ES3DV3 - SN:3210**

Calibration procedure(s) **QA CAL-01.v6, QA CAL-23.v3 and QA CAL-25.v2
 Calibration procedure for dosimetric E-field probes**

Calibration date: **March 10, 2010**

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 (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	1-Apr-09 (No. 217-01030)	Apr-10
Power sensor E4412A	MY41495277	1-Apr-09 (No. 217-01030)	Apr-10
Power sensor E4412A	MY41498087	1-Apr-09 (No. 217-01030)	Apr-10
Reference 3 dB Attenuator	SN: S5054 (3c)	31-Mar-09 (No. 217-01026)	Mar-10
Reference 20 dB Attenuator	SN: S5086 (20b)	31-Mar-09 (No. 217-01028)	Mar-10
Reference 30 dB Attenuator	SN: S5129 (30b)	31-Mar-09 (No. 217-01027)	Mar-10
Reference Probe ES3DV2	SN: 3013	30-Dec-09 (No. ES3-3013_Dec09)	Dec-10
DAE4	SN: 660	29-Sep-09 (No. DAE4-660_Sep09)	Sep-10

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-09)	In house check: Oct10

Calibrated by: **Jeton Kastrati** **Laboratory Technician**

Approved by: **Katja Pokovic** **Technical Manager**

Issued: March 15, 2010

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



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Accreditation No.: **SCS 108**

Glossary:

TSL	tissue simulating liquid
NORM _{x,y,z}	sensitivity in free space
ConvF	sensitivity in TSL / NORM _{x,y,z}
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C	modulation dependent linearization parameters
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:

- 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
- 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:

- NORM_{x,y,z}**: Assessed for E-field polarization $\vartheta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). NORM_{x,y,z} are only intermediate values, i.e., the uncertainties of NORM_{x,y,z} does not effect the E^2 -field uncertainty inside TSL (see below **ConvF**).
- NORM(f)_{x,y,z}** = NORM_{x,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**.
- DCP_{x,y,z}**: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- A_{x,y,z}; B_{x,y,z}; C_{x,y,z}; VR_{x,y,z}**: A, B, C are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for $f \leq 800$ 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 NORM_{x,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:3210

Manufactured:	October 14, 2008
Last calibrated:	March 9, 2009
Recalibrated:	March 10, 2010

Calibrated for DASY Systems

(Note: non-compatible with DASY2 system!)

DASY - Parameters of Probe: ES3DV3 SN:3210

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu\text{V}/(\text{V}/\text{m})^2$) ^A	1.40	1.14	1.30	$\pm 10.1\%$
DCP (mV) ^B	92.6	93.3	93.9	

Modulation Calibration Parameters

UID	Communication System Name	PAR		A dB	B dBuV	C	VR mV	Unc ^E (k=2)
10000	CW	0.00	X	0.00	0.00	1.00	300.0	$\pm 1.5\%$
			Y	0.00	0.00	1.00	300.0	
			Z	0.00	0.00	1.00	300.0	

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 E²-field uncertainty inside TSL (see Pages 5 and 6).

^B Numerical linearization parameter: uncertainty not required.

^E Uncertainty is determined using the maximum deviation from linear response applying recatangular distribution and is expressed for the square of the field value.

DASY - Parameters of Probe: ES3DV3 SN:3210

Calibration Parameter Determined in Head Tissue Simulating Media

f [MHz]	Validity [MHz] ^c	Permittivity	Conductivity	ConvF X	ConvF Y	ConvF Z	Alpha	Depth Unc (k=2)
835	± 50 / ± 100	41.5 ± 5%	0.90 ± 5%	6.13	6.13	6.13	0.67	1.18 ± 11.0%
900	± 50 / ± 100	41.5 ± 5%	0.97 ± 5%	6.04	6.04	6.04	0.73	1.15 ± 11.0%
1750	± 50 / ± 100	40.1 ± 5%	1.37 ± 5%	5.26	5.26	5.26	0.39	1.64 ± 11.0%
1900	± 50 / ± 100	40.0 ± 5%	1.40 ± 5%	5.07	5.07	5.07	0.31	1.96 ± 11.0%
2450	± 50 / ± 100	39.2 ± 5%	1.80 ± 5%	4.47	4.47	4.47	0.44	1.76 ± 11.0%

^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.

DASY - Parameters of Probe: ES3DV3 SN:3210

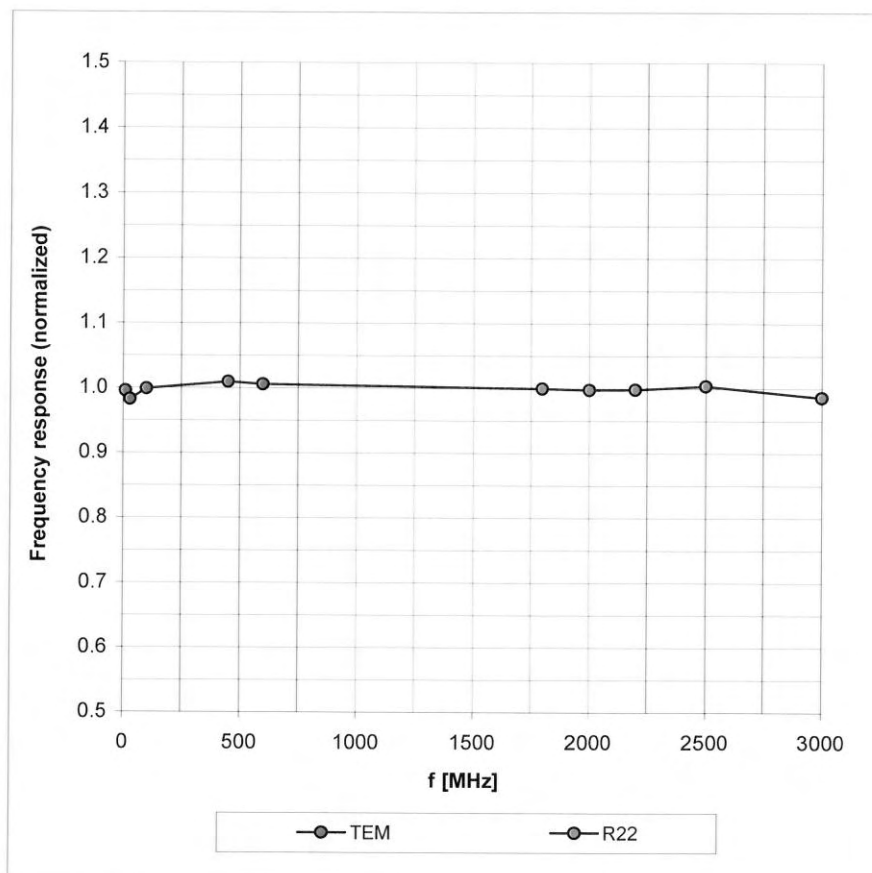
Calibration Parameter Determined in Body Tissue Simulating Media

f [MHz]	Validity [MHz] ^c	Permittivity	Conductivity	ConvF X	ConvF Y	ConvF Z	Alpha	Depth Unc (k=2)
835	± 50 / ± 100	55.2 ± 5%	0.97 ± 5%	6.04	6.04	6.04	0.64	1.24 ± 11.0%
900	± 50 / ± 100	55.0 ± 5%	1.05 ± 5%	5.94	5.94	5.94	0.76	1.20 ± 11.0%
1750	± 50 / ± 100	53.4 ± 5%	1.49 ± 5%	4.96	4.96	4.96	0.37	1.91 ± 11.0%
1900	± 50 / ± 100	53.3 ± 5%	1.52 ± 5%	4.74	4.74	4.74	0.34	2.34 ± 11.0%
2450	± 50 / ± 100	52.7 ± 5%	1.95 ± 5%	4.31	4.31	4.31	0.76	1.25 ± 11.0%

^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.

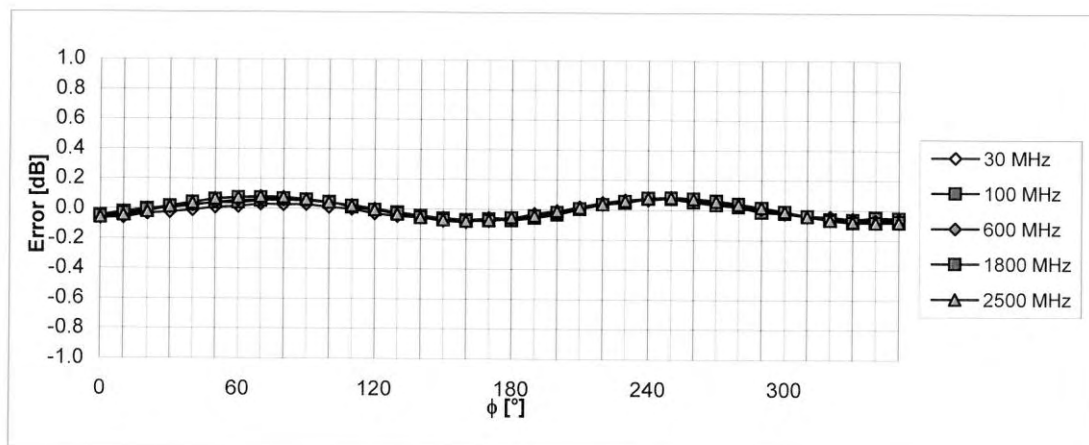
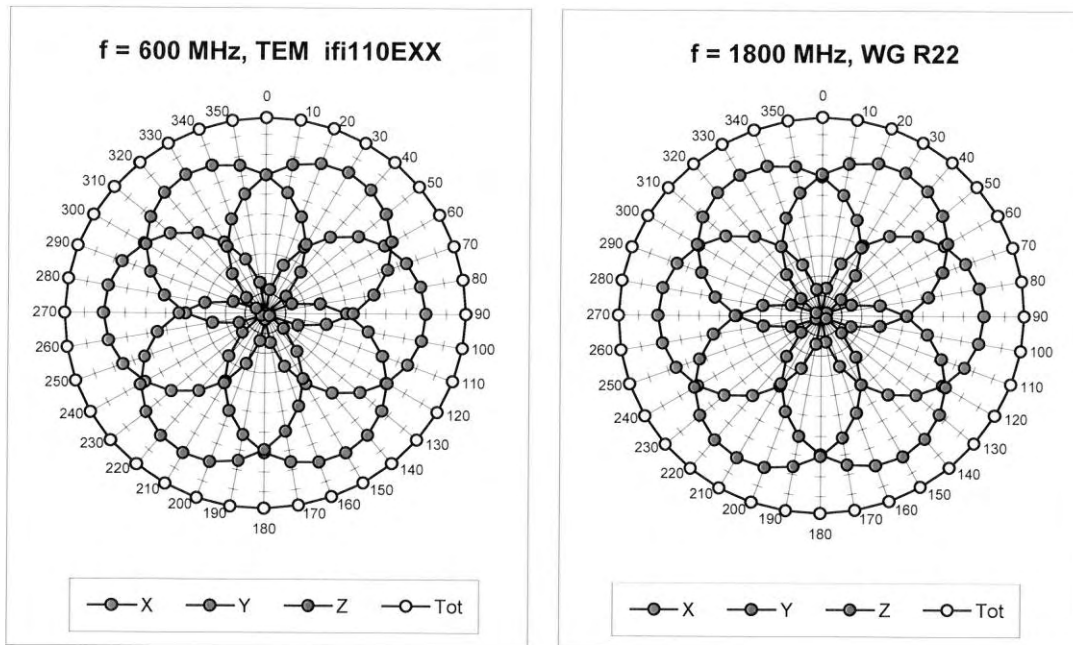
Frequency Response of E-Field

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



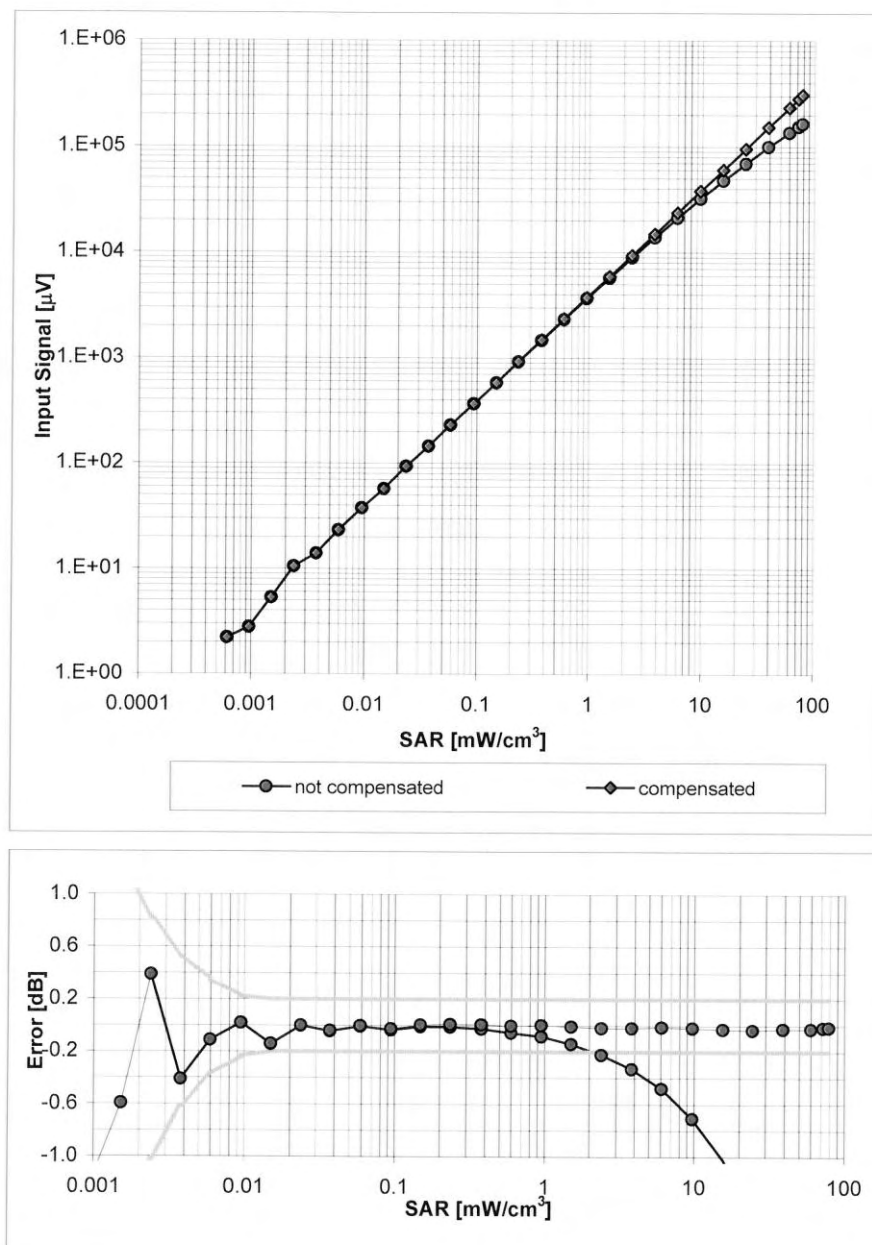
Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ ($k=2$)

Receiving Pattern (ϕ), $\vartheta = 0^\circ$



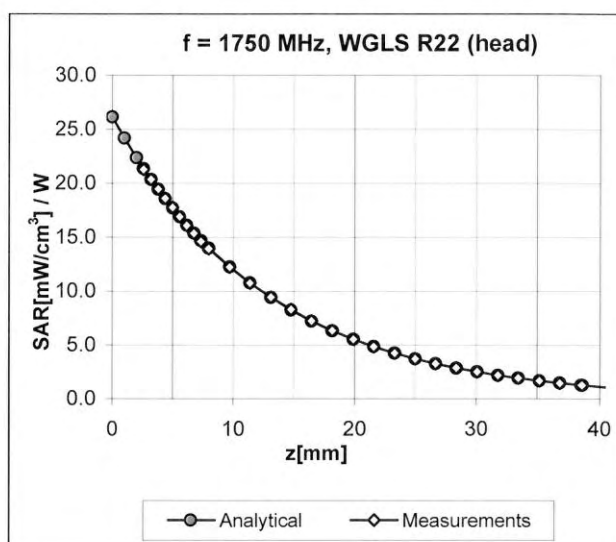
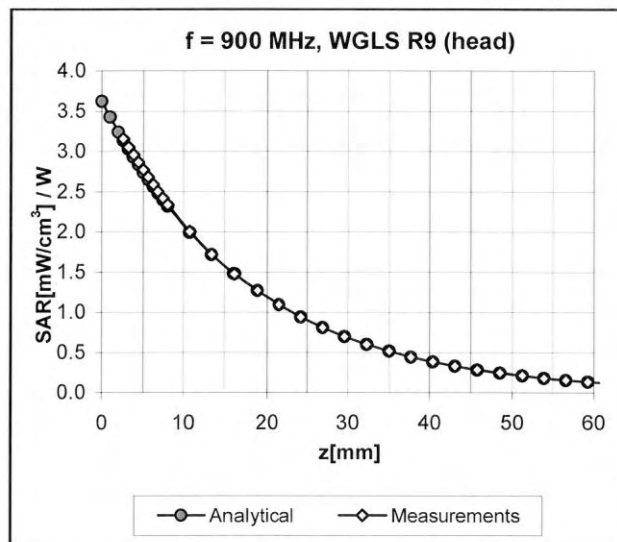
Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ ($k=2$)

Dynamic Range $f(\text{SAR}_{\text{head}})$ (Waveguide R22, $f = 1800 \text{ MHz}$)



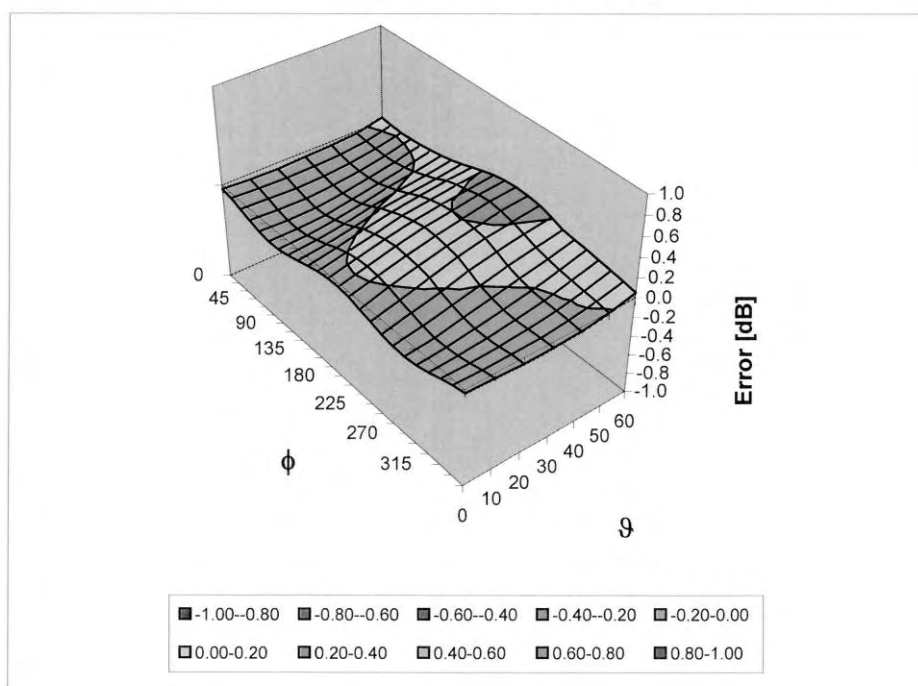
Uncertainty of Linearity Assessment: $\pm 0.6\%$ ($k=2$)

Conversion Factor Assessment



Deviation from Isotropy in HSL

Error (ϕ , ϑ), f = 900 MHz



Uncertainty of Spherical Isotropy Assessment: $\pm 2.6\%$ (k=2)

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	Not applicable
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	10 mm
Tip Diameter	4.0 mm
Probe Tip to Sensor X Calibration Point	2 mm
Probe Tip to Sensor Y Calibration Point	2 mm
Probe Tip to Sensor Z Calibration Point	2 mm
Recommended Measurement Distance from Surface	3 mm