SAR TEST REPORT

Equipment Under Test	SP510
Brand Name	Wistron
Company Name	Wistron Corporation
Company Address	21F,88,Sec.1,Hsin Tai Wu Rd.,Hsichih,Taipei Hsien 221, Taiwan, R.O.C.
Date of Receipt	2009.03.04
Date of Test(s)	2009.03.14-2009.04.01
Date of Issue	2009.04.02

Standards:

FCC OET Bulletin 65 supplement C, ANSI/IEEE C95.1, C95.3, IEEE 1528 FCC KDB648474 is applicable

In the configuration tested, the EUT complied with the standards specified above.

Remarks:

This report details the results of the testing carried out on one sample, the results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS Taiwan Electronic & Communication Laboratory or testing done by SGS Taiwan Electronic & Communication Laboratory in connection with distribution or use of the product described in this report must be approved by SGS Taiwan Electronic & Communication Laboratory in writing.

Tested by : **Ricky Huang**   Date : **2009.04.02**
          Asst. Supervisor

Approved by : **Robert Chang**   Date : **2009.04.02**
          Tech Manager

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1. General Information

1.1 Testing Laboratory

SGS Taiwan Ltd. Electronics & Communication Laboratory	
134, Wu Kung Road, Wuku industrial zone	
Taipei county, Taiwan, R.O.C.	
Telephone	+886-2-2299-3279
Fax	+886-2-2298-0488
Internet	http://www.tw.sgs.com/

1.2 Details of Applicant

Company Name	Wistron Corporation
Company Address	21F,88,Sec.1,Hsin Tai Wu Rd.,Hsichih,Taipei Hsien 221, Taiwan, R.O.C
Contact Person	Ivy Yang
TEL	886-2-86912888 Ext.6727
Fax	888-2-86912080
E-mail	Ivy_Yang@wistron.com

1.3 Description of EUT

EUT Name	SP510
FCC ID	PU5-N7SP510
Model Name	SP510
Brand Name	Wistron
IMEI Code	35778002000453
Mode of Operation	GSM /GPRS/EDGE/WCDMA/HSDPA band
Definition	Production unit

Modulation Mode	GSM/GMSK/8PSK/QPSK/16QAM			
Duty Cycle	GSM		GPRS	WCDMA
	1/8		1/2	1
Maximum RF Conducted Power (Average)	GSM 850	GSM1900	WCDMA B2	WCDMA B5
	33.8dbm	30.6dbm	24.1dbm	23.42dbm
TX Frequency Range (MHz)	GSM 850	GSM1900	WCDMA B2	WCDMA B5
	824.2-848.8	1850.2-1909.8	1852.4-1907.6	826.4-846.6
Channel Number (ARFCN)	GSM 850	GSM1900	WCDMA B2	WCDMA B5
	128-251	512-810	9262-9538	4132-4233
Battery Type	3.7 V Lithium-Ion			
Antenna Type	Internal Antenna			
Max. SAR Measured (1 g)	Head		Body	
	0.764 mW/g (At WCDMA B2 Left Head_ (Cheek Position)_ 9262 channel_ repeated with Memory card)		**1.24 mW/g** (At GSM850 Body _251 Channel_)	

Note:

1. HSDPA conducted power :

Mode	Sub-test	Band	**WCDMA B2**		
		Channel	9262	9400	9538
HSDPA	1	ßc(2/15)	23.65dbm	22.73dbm	23.1dbm
	2	ßc(12/15)	22.36dbm	22.19dbm	22.32dbm
	3	ßc(15/15)	22.38dbm	22.21dbm	22.29dbm
	4	ßc(2/15)	22.16dbm	22.08dbm	22.12dbm

Mode	Sub-test	Band	**WCDMA B5**		
		Channel	4132	4132	4132
HSDPA	1	ßc(2/15)	23.1dbm	22.63dbm	22.32dbm
	2	ßc(12/15)	22.91dbm	22.53dbm	22.24dbm
	3	ßc(15/15)	22.86dbm	22.48dbm	22.21dbm
	4	ßc(2/15)	22.55dbm	22.13dbm	22.03dbm

1.4 Test Environment

    Ambient Temperature: 22±2° C
    Tissue Simulating Liquid: 22±2° C

1.5 Operation description

<u>General</u>:

1. The EUT is controlled by using a Radio Communication Tester (R&S CMU200), and the communication between the EUT and the tester is established by air link. Measurements are performed respectively on the lowest, middle and highest channels of the operating band(s). The EUT is set to maximum power level during all tests, and at the beginning of each test the battery is fully charged.
2. During the SAR testing, the DASY4 system checks power drift by comparing the e-field strength of one specific location measured at the beginning with that measured at the end of the SAR testing.
3. Testing Head SAR at lowest, middle and highest channel for all bands with LET/LEC/RET/REC conditions.
4. Testing body-worn SAR by separating **1.5cm** between the back of the EUT and the flat phantom in GPRS mode.

<u>Additional configuration(Head)</u>:

5. For highest SAR configuration in this band repeated with external Memory card inside.

<u>Additional configuration(Body)</u>:

6. For highest SAR configuration in this band repeated with external Memory card inside.
7. For highest SAR configuration in this band repeated with headset.

1.6 Positioning Procedure
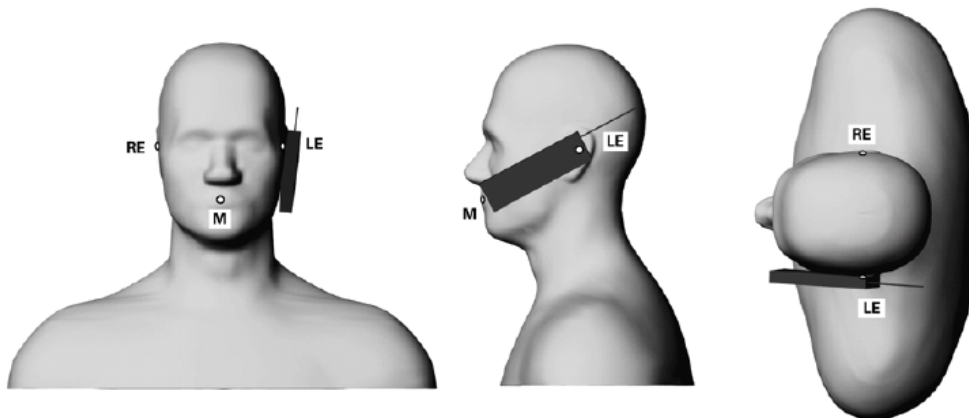
Phone position 1, "cheek" or "touch" position. The reference points for the right ear (RE), left ear (LE) and mouth (M), which define the reference plane for phone positioning
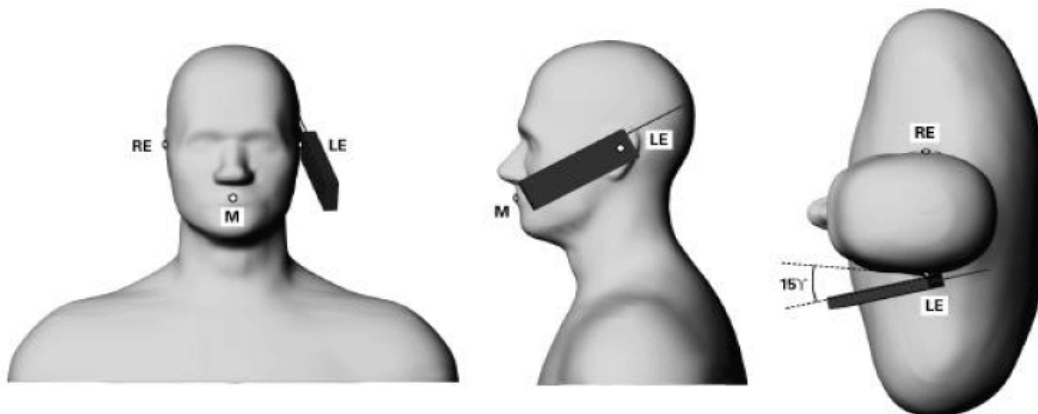
Phone position 2, "tilted position." The reference points for the right ear (RE), left ear (LE) and mouth (M), which define the reference plane for phone positioning

Cheek/Touch Position:

the handset was brought toward the mouth of the head phantom by pivoting against the ear reference point until any point of the mouthpiece or keypad touched the phantom.

Ear/Tilt Position:

With the phone aligned in the Cheek/Touch position, the handset was tilted away from the mouth with respect to the test device reference point by 15 degrees.

1.7 Evaluation Procedures

The entire evaluation of the spatial peak values is performed within the Post-processing engine (SEMCAD). The system always gives the maximum values for the 1 g and 10 g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

1. The extraction of the measured data (grid and values) from the Zoom Scan.
2. The calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
3. The generation of a high-resolution mesh within the measured volume
4. The interpolation of all measured values from the measurement grid to the high-resolution grid
5. The extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
6. The calculation of the averaged SAR within masses of 1g and 10g.

The probe is calibrated at the center of the dipole sensors that is located 1 to 2.7mm away from the probe tip. During measurements, the probe stops shortly above the phantom surface, depending on the probe and the surface detecting system. Both distances are included as parameters in the probe configuration file. The software always knows exactly how far away the measured point is from the surface. As the probe cannot directly measure at the surface, the values between the deepest measured point and the surface must be extrapolated. The angle between the probe axis and the surface normal line is less than 30 degree.

In the Area Scan, the gradient of the interpolation function is evaluated to find all the extreme of the SAR distribution. The uncertainty on the locations of the extreme is less than 1/20 of the grid size. Only local maximum within –2 dB of the global maximum are searched and passed for the Cube Scan measurement. In the Cube Scan, the interpolation function is used to extrapolate the Peak SAR from the lowest measurement points to the inner phantom surface (the extrapolation distance). The uncertainty increases with the extrapolation distance. To keep the uncertainty within 1% for the 1 g and 10 g cubes, the extrapolation distance should not be larger than 5mm.

The maximum search is automatically performed after each area scan measurement. It is based on splines in two or three dimensions. The procedure can find the maximum for most SAR distributions even with relatively large grid spacing. After the area scanning measurement, the probe is automatically moved to a position at the interpolated maximum. The following scan can directly use this position for reference, e.g., for a finer resolution grid or the cube evaluations. The 1g and 10g peak evaluations are only available for the predefined cube 7x7x7 scans.

The routines are verified and optimized for the grid dimensions used in these cube measurements. The measured volume of 30x30x30mm contains about 30g of tissue. The first procedure is an extrapolation (incl. Boundary correction) to get the points between the lowest measured plane and the surface. The next step uses 3D interpolation to get all points within the measured volume. In the last step, a 1g cube is placed numerically into the volume and its averaged SAR is calculated. This cube is the moved around until the highest averaged SAR is found.

If the highest SAR is found at the edge of the measured volume, the system will issue a warning: higher SAR values might be found outside of the measured volume. In that case the cube measurement can be repeated, using the new interpolated maximum as the center.

1.8 The SAR Measurement System

A photograph of the SAR measurement System is given in Fig. a. This SAR Measurement System uses a Computer-controlled 3-D stepper motor system (SPEAG DASY 4 professional system). A Model EX3DV3 field probe is used to determine the internal electric fields. The SAR can be obtained from the equation SAR= σ ($|Ei|^2$)/ ρ where σ and ρ are the conductivity and mass density of the tissue-simulant.
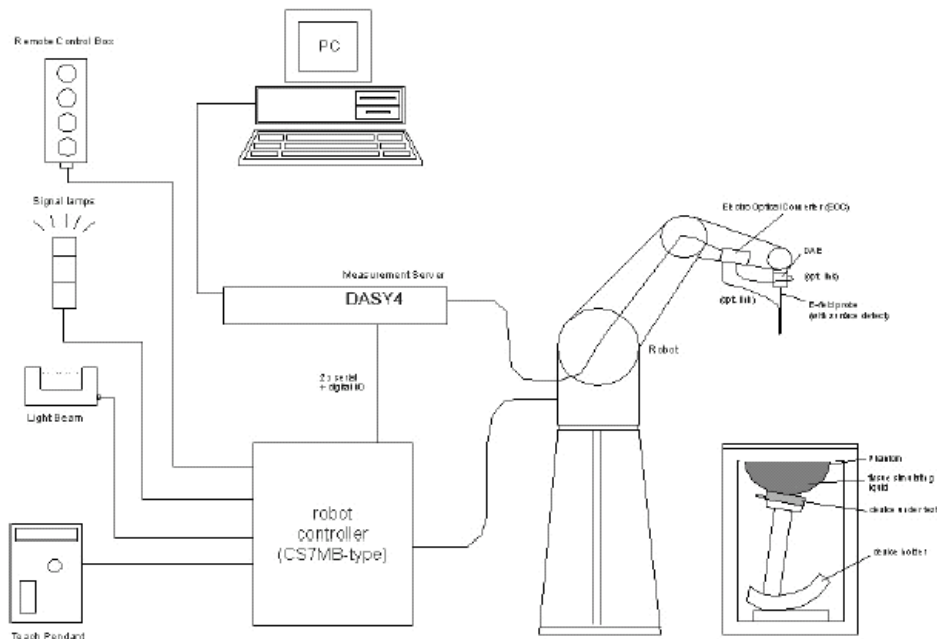
Fig.a The block diagram of SAR system

The DASY4 system for performing compliance tests consists of the following items:

- A standard high precision 6-axis robot (Staubli RX family) with controller, teach pendant and software. An arm extension is for accommodating the data acquisition electronics (DAE).

- A dosimetric probe, i.e., an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.

- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.

- The Electro-optical converter (EOC) performs the conversion between optical and electrical of the signals for the digital communication to the DAE and for the analog signal from the optical surface detection. The EOC is connected to the measurement server.

- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.

- A probe alignment unit which improves the (absolute) accuracy of the probe positioning.

- A computer operating Windows 2000 or Windows XP.
- DASY4 software.
- Remote control with teach pendant and additional circuitry for robot safety such as warning lamps, etc.
  - The SAM twin phantom enabling testing left-hand and right-hand usage.
  - The device holder for handheld mobile phones.
  - Tissue simulating liquid mixed according to the given recipes.
  - Validation dipole kits allowing to validate the proper functioning of the system.

1.9 System Components

EX3DV3 E-Field Probe

Construction:	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration:	Basic Broad Band Calibration in air Conversion Factors (CF) for HSL850/1900 Additional CF for other liquids and frequencies upon request
Frequency:	10 MHz to > 6 GHz; Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity:	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)
Dynamic Range:	10 µW/g to > 100 mW/g; Linearity: ± 0.2 dB (noise: typically < 1 µW/g)
Dimensions:	Overall length: 330 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm
Application:	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%.

EX3DV3 E-Field Probe

SAM PHANTOM V4.0C

Construction:	The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528-200X, CENELEC 50361 and IEC 62209. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by manually teaching three points with the robot.	
Shell Thickness:	2 ± 0.2 mm	
Filling Volume:	Approx. 25 liters	
Dimensions:	Height: 251 mm; Length: 1000 mm; Width: 500 mm	

DEVICE HOLDER

Construction	In combination with the Twin SAM Phantom V4.0/V4.0C or Twin SAM, the Mounting Device (made from POM) enables the rotation of the mounted transmitter in spherical coordinates, whereby the rotation point is the ear opening. The devices can be easily and accurately positioned according to IEC, IEEE, CENELEC, FCC or other specifications. The device holder can be locked at different phantom locations (left head, right head, flat phantom).	 Device Holder

1.10 SAR System Verification

The microwave circuit arrangement for system verification is sketched in Fig. b. The daily system accuracy verification occurs within the flat section of the SAM phantom. A SAR measurement was performed to see if the measured SAR was within +/- 5% from the target SAR values. These tests were done at 850/1900 MHz. The tests were conducted on the same days as the measurement of the DUT. The obtained results from the system accuracy verification are displayed in the table 1. During the tests, the ambient temperature of the laboratory was in the range 22.2°C, the relative humidity was in the range 62% and the liquid depth above the ear reference points was above 15 cm in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values.
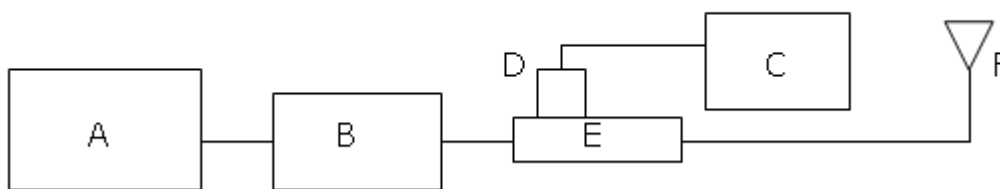

Fig.b The block diagram for SAR system verification

A. Agilent Model 8648D Signal Generator
B. Mini circuits Model ZHL-42 Amplifier
C. Agilent Model E4416A Power Meter
D. Agilent Model 8481H Power Sensor
E. Agilent Model 778D & 777D Dual directional coupling
F. Reference dipole antenna

Photograph of the dipole Antenna

Validation Kit	Frequency (MHz)	Target SAR (1g) (Pin=250mW)	Measured SAR (1g)	Measured Date
D835V2 S/N: 4d063	835 MHz (Head)	2.29 mW/g	2.27 mW/g	2009-03-18
D835V2 S/N: 4d063	835 MHz (Body)	2.44 mW/g	2.35 mW/g	2009-03-14
D1900V2 S/N: 5d027	1900 MHz (Head)	10.3 mW/g	9.88 mW/g	2009-03-19
D1900V2 S/N: 5d027	1900 MHz (Body)	9.64 mW/g	9.73 mW/g	2009-03-14
D835V2 S/N: 4d063	835 MHz (Body)	2.44 mW/g	2.34 mW/g	2009-04-01
D1900V2 S/N: 5d027	1900 MHz (Body)	9.64 mW/g	9.45 mW/g	2009-04-01

Table 1. System validation (follow manufacture target value)

1.11 Tissue Simulant Fluid for the Frequency Band

The dielectric properties for this Head-simulant fluid were measured by using the HP Model 85070D Dielectric Probe (rates frequency band 200 MHz to 20 GHz) in conjunction with HP 8753D Network Analyzer (30 KHz-6000MHz) by using a procedure detailed in Section V.

All dielectric parameters of tissue simulates were measured within 24 hours of SAR measurements. The depth of the tissue simulant in the ear reference point of the phantom was 15cm±5mm during all tests. (Appendix Fig .2)

Frequency (MHz)	Tissue type	Measurement date/ Limits	Dielectric Parameters		
			ρ	σ (S/m)	Simulated Tissue Temperature(° C)
850	Head	Measured, 2009-03-18	42.1	0.878	21.7
		Recommended Limits	38.38-42.42	0.84-0.92	20-24
850	Body	Measured, 2009-03-14	55.1	0.943	21.7
		Recommended Limits	50.73-56.07	0.94-1.04	20-24
1900	Head	Measured, 2009-03-19	41	1.46	21.7
		Recommended Limits	38.10-42.11	1.4-1.54	20-24
1900	Body	Measured, 2009-03-14	53.4	1.58	21.7
		Recommended Limits	48.83-53.97	1.48-1.64	20-24
850	Body	Measured, 2009-04-01	52.8	0.951	21.7
		Recommended Limits	50.73-56.07	0.94-1.04	20-24
1900	Body	Measured, 2009-04-01	51	1.57	21.7
		Recommended Limits	48.83-53.97	1.48-1.64	20-24

Table 2. Dielectric Parameters of Tissue Simulant Fluid

The composition of the brain tissue simulating liquid for 850& 1900 band:

Ingredient	850MHz (Head)	850MHz (Body)	1900MHz (Head)	1900MHz (Body)
DGMBE	X	X	444.52 g	300.67g
Water	532.98 g	631.68 g	552.42 g	716.56 g
Salt	18.3 g	11.72 g	3.06 g	4.0 g
Preventol D-7	2.4 g	1.2 g	X	X
Cellulose	3.2 g	X	X	X
Sugar	766.0 g	600 g	X	X
Total amount	1 L (1.0kg)	1 L (1.0kg)	1 L (1.0kg)	1 L (1.0kg)

Table 3. Recipes for tissue simulating liquid

1.12 Test Standards and Limits

According to FCC 47CFR §2.1093(d) The limits to be used for evaluation are based generally on criteria published by the American National Standards Institute (ANSI) for localized specific absorption rate ("SAR") in Section 4.2 of "IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," ANSI/IEEE C95.1–1992, Copyright 1992 by the Institute of Electrical and Electronics Engineers, Inc., New York, New York 10017.

These criteria for SAR evaluation are similar to those recommended by the National Council on Radiation Protection and Measurements (NCRP) in "Biological Effects and Exposure Criteria for Radio frequency Electromagnetic Fields," NCRP Report No. 86, Section 17.4.5. Copyright NCRP, 1986, Bethesda, Maryland 20814. SAR is a measure of the rate of energy absorption due to exposure to an RF transmitting source.

SAR values have been related to threshold levels for potential biological hazards. The criteria to be used are specified in paragraphs (d)(1) and (d)(2) of this section and shall apply for portable devices transmitting in the frequency range from 100 kHz to 6 GHz. Portable devices that transmit at frequencies above 6 GHz are to be evaluated in terms of the MPE limits specified in § 1.1310 of this chapter.

Measurements and calculations to demonstrate compliance with MPE field strength or power density limits for devices operating above 6 GHz should be made at a minimum distance of 5 cm from the radiating source.

(1) Limits for Occupational/Controlled exposure: 0.4 W/kg as averaged over the whole-body and spatial peak SAR not exceeding 8 W/kg as averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the hands, wrists, feet and ankles where the spatial peak SAR shall not exceed 20 W/kg, as averaged over an 10 grams of tissue (defined as a tissue volume in the shape of a cube). Occupational/Controlled limits apply when persons are exposed as a consequence of their employment provided these persons are fully aware of and exercise control over their exposure. Awareness of exposure can be accomplished by use of warning labels or by specific training or education through appropriate means, such as an RF safety program in a work environment.

 (2) Limits for General Population/Uncontrolled exposure: 0.08 W/kg as averaged over the whole-body and spatial peak SAR not exceeding 1.6 W/kg as averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube). Exceptions are the hands, wrists, feet and ankles where the spatial peak SAR shall not exceed 4 W/kg, as averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube).

General Population/Uncontrolled limits apply when the general public may be exposed, or when persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or do not exercise control over their exposure.

 Warning labels placed on consumer devices such as cellular telephones will not be sufficient reason to allow these devices to be evaluated subject to limits for occupational/controlled exposure in paragraph (d)(1) of this section.(Table .6)

Human Exposure	Uncontrolled Environment General Population	Controlled Environment Occupational
Spatial Peak SAR (Brain)	1.60 m W/g	8.00 m W/g
Spatial Average SAR (Whole Body)	0.08 m W/g	0.40 m W/g
Spatial Peak SAR (Hands/Feet/Ankle/Wrist)	4.00 m W/g	20.00 m W/g

Table 4. RF exposure limits

Notes:
1. Uncontrolled environments are defined as locations where there is potential exposure of individuals who have no knowledge or control of their potential exposure.
2. Controlled environments are defined as locations where there is potential exposure of individuals who have knowledge of their potential exposure and can exercise control over their exposure.

2. Summary of Results

GSM 850 MHZ

Right Head (Cheek Position)

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
850 MHz	128	824.2	32.9dbm	0.124	22.1	21.7
	190	836.6	33dbm	0.148	22.1	21.7
	251	848.8	33.8dbm	0.197	22.1	21.7

Left Head (Cheek Position)

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
850 MHz	128	824.2	32.9dbm	0.140	22.1	21.7
	190	836.6	33dbm	0.188	22.1	21.7
	251	848.8	33.8dbm	0.251	22.1	21.7

Right Head (15° Tilt Position)

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
850 MHz	128	824.2	32.9dbm	0.086	22.1	21.7
	190	836.6	33dbm	0.117	22.1	21.7
	251	848.8	33.8dbm	0.156	22.1	21.7

Left Head (15° Tilt Position)

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
850 MHz	128	824.2	32.9dbm	0.071	22.1	21.7
	190	836.6	33dbm	0.097	22.1	21.7
	251	848.8	33.8dbm	0.139	22.1	21.7

Body worn (testing in GPRS mode)

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
850 MHz	128	824.2	32.4dbm	0.805	22.1	21.7
	190	836.6	32.5dbm	1.01	22.1	21.7
	251	848.8	32.5dbm	1.24	22.1	21.7

Body worn (testing in GPRS mode) _ repeated for EUT front to phantom

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
850 MHz	251	848.8	32.5dbm	0.678	22.1	21.7

Body worn (testing in GPRS mode) _ repeated with Memory card

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
850 MHz	251	848.8	32.5dbm	1.18	22.1	21.7

Body worn (testing in GPRS mode) _ repeated with headset

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
850 MHz	251	848.8	32.5dbm	1.08	22.1	21.7

Body worn (testing in EGPRS mode)

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
	128	824.2	27.3dbm	0.312	22.1	21.7
850 MHz	190	836.6	27.4dbm	0.392	22.1	21.7
	251	848.8	27.2dbm	0.519	22.1	21.7

PCS 1900 MHZ

Right Head (Cheek Position)

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
	512	1850.2	30.6dbm	0.522	22.1	21.7
1900 MHz	661	1880	30.5dbm	0.374	22.1	21.7
	810	1909.8	30.2dbm	0.288	22.1	21.7

Left Head (Cheek Position)

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
	512	1850.2	30.6dbm	0.508	22.1	21.7
1900 MHz	661	1880	30.5dbm	0.385	22.1	21.7
	810	1909.8	30.2dbm	0.276	22.1	21.7

Right Head (15° Tilt Position)

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
1900 MHz	512	1850.2	30.6dbm	0.114	22.1	21.7
	661	1880	30.5dbm	0.084	22.1	21.7
	810	1909.8	30.2dbm	0.069	22.1	21.7

Left Head (15° Tilt Position)

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
1900 MHz	512	1850.2	30.6dbm	0.118	22.1	21.7
	661	1880	30.5dbm	0.103	22.1	21.7
	810	1909.8	30.2dbm	0.073	22.1	21.7

Body worn (testing in GPRS mode)

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
1900 MHz	512	1850.2	30.6dbm	0.707	22.1	21.7
	661	1880	30.1dbm	0.622	22.1	21.7
	810	1909.8	30dbm	0.567	22.1	21.7

Body worn (testing in EGPRS mode)

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
1900 MHz	512	1850.2	27.2dbm	0.423	22.1	21.7
	661	1880	27dbm	0.418	22.1	21.7
	810	1909.8	27.1dbm	0.374	22.1	21.7

WCDMA B2

Right Head (Cheek Position)

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B2	9262	1852.4	24.1dbm	0.695	22.1	21.7
	9400	1880.0	22.92dbm	0.582	22.1	21.7
	9538	1907.6	23.2dbm	0.571	22.1	21.7

Left Head (Cheek Position)

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B2	9262	1852.4	24.1dbm	0.746	22.1	21.7
	9400	1880.0	22.92dbm	0.468	22.1	21.7
	9538	1907.6	23.2dbm	0.462	22.1	21.7

Right Head (15° Tilt Position)

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B2	9262	1852.4	24.1dbm	0.142	22.1	21.7
	9400	1880.0	22.92dbm	0.101	22.1	21.7
	9538	1907.6	23.2dbm	0.112	22.1	21.7

Left Head (15° Tilt Position)

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B2	9262	1852.4	24.1dbm	0.154	22.1	21.7
	9400	1880.0	22.92dbm	0.125	22.1	21.7
	9538	1907.6	23.2dbm	0.137	22.1	21.7

Left Head (Cheek Position)_repeated with Memory card

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B2	9262	1852.4	24.1dbm	0.764	22.1	21.7

Body worn

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B2	9262	1852.4	23.56dbm	0.310	22.1	21.7
	9400	1880.0	22.45dbm	0.231	22.1	21.7
	9538	1907.6	22.72dbm	0.259	22.1	21.7

Body worn _with HSDPA mode						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B2	9262	1852.4	23.65dbm	0.261	22.1	21.7
	9400	1880.0	22.73dbm	0.214	22.1	21.7
	9538	1907.6	23.1dbm	0.239	22.1	21.7

WCDMA B5

Right Head (Cheek Position)						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B5	4132	826.4	23.42dbm	0.150	22.1	21.7
	4183	836.6	22.85dbm	0.148	22.1	21.7
	4233	846.6	22.9dbm	0.149	22.1	21.7

Left Head (Cheek Position)						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B5	4132	826.4	23.42dbm	0.182	22.1	21.7
	4183	836.6	22.85dbm	0.184	22.1	21.7
	4233	846.6	22.9dbm	0.194	22.1	21.7

Right Head (15° Tilt Position)						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B5	4132	826.4	23.42dbm	0.113	22.1	21.7
	4183	836.6	22.85dbm	0.113	22.1	21.7
	4233	846.6	22.9dbm	0.116	22.1	21.7

Left Head (15° Tilt Position)						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B5	4132	826.4	23.42dbm	0.095	22.1	21.7
	4183	836.6	22.85dbm	0.099	22.1	21.7
	4233	846.6	22.9dbm	0.108	22.1	21.7

Body worn

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B5	4132	826.4	23.42dbm	0.299	22.1	21.7
	4183	836.6	22.85dbm	0.294	22.1	21.7
	4233	846.6	22.9dbm	0.292	22.1	21.7

Body worn_with HSDPA mode

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B5	4132	826.4	23.1dbm	0.253	22.1	21.7
	4183	836.6	22.63dbm	0.263	22.1	21.7
	4233	846.6	22.32dbm	0.267	22.1	21.7

3. Instruments List

Manufacturer	Device	Type	Serial number	Date of last calibration
Schmid & Partner Engineering AG	Dosimetric E-FieldProbe	EX3DV3	3526	Aug.26.2008
Schmid & Partner Engineering AG	850/1900MHz System Validation Dipole	D835V2 D1900V2	4d063 5d027	Jun.06.2008 Apr.15.2008
Schmid & Partner Engineering AG	Data acquisition Electronics	DAE4	547	Jan.20.2009
Schmid & Partner Engineering AG	Software	DASY 4 V4.7 Build80	N/A	Calibration not required
Schmid & Partner Engineering AG	Phantom	SAM	N/A	Calibration not required
Agilent	Network Analyzer	8753D	3410A56662	Apr.16.2008
Agilent	Dielectric Probe Kit	85070D	US01440168	Calibration not required
Agilent	Dual-directional coupler	778D	50313	Aug.26.2008
		777D	50014	Aug.26.2008
Agilent	RF Signal Generator	E4438c	MY45093613	May.21.2008
Agilent	Power Sensor	8481H	MY41091361	May.20.2008
R&S	Radio Communication Test	CMU200	113505	Sep.03.2008

4. Measurements

Date/Time: 2009/3/18   00:42:45

RE CHEEK_ CH128

DUT: SP510;

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium: Head 850 MHz Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.868 mho/m; ε_r = 42.2; ρ = 1000 kg/m^3
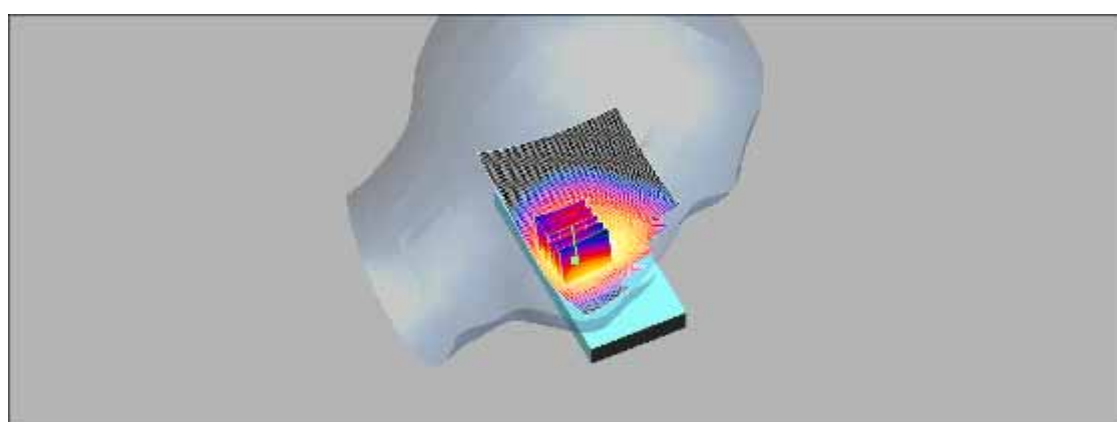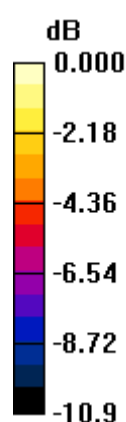Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.138 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.77 V/m; Power Drift = -0.111 dB
Peak SAR (extrapolated) = 0.187 W/kg

SAR(1 g) = 0.124 mW/g; **SAR(10 g) = 0.085 mW/g**
Maximum value of SAR (measured) = 0.135 mW/g
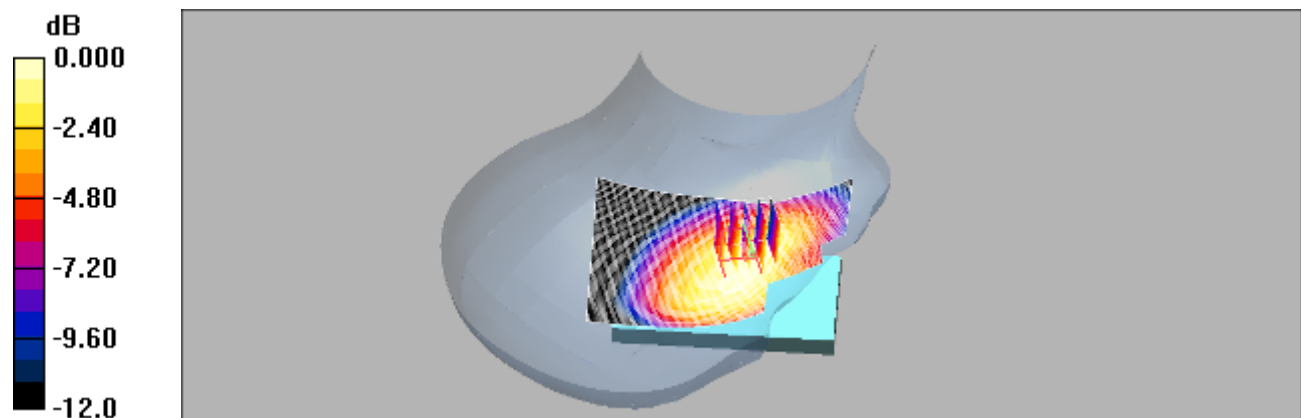
0 dB = 0.135mW/g

RE CHEEK_ CH190

DUT: SP510;

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium: Head 850 MHz Medium parameters used: f = 837 MHz; σ = 0.88 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
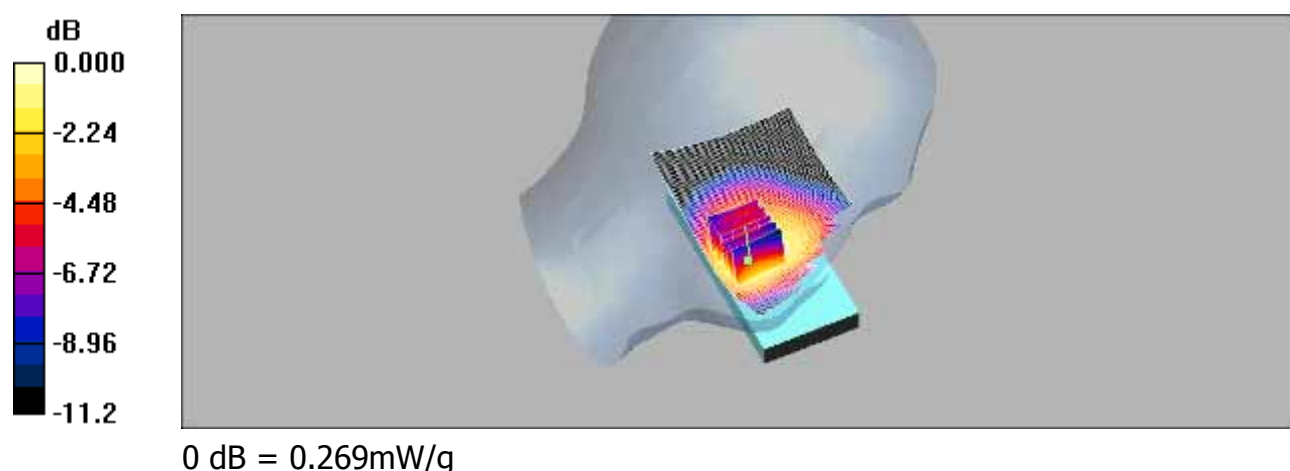Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.164 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.99 V/m; Power Drift = 0.090 dB
Peak SAR (extrapolated) = 0.226 W/kg

SAR(1 g) = 0.148 mW/g; **SAR(10 g) = 0.102 mW/g**
Maximum value of SAR (measured) = 0.160 mW/g

0 dB = 0.160mW/g

RE CHEEK_ CH251

DUT: SP510;

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium: Head 850 MHz Medium parameters used: f = 849 MHz; σ = 0.892 mho/m; ε_r = 41.9; ρ = 1000 kg/m^3
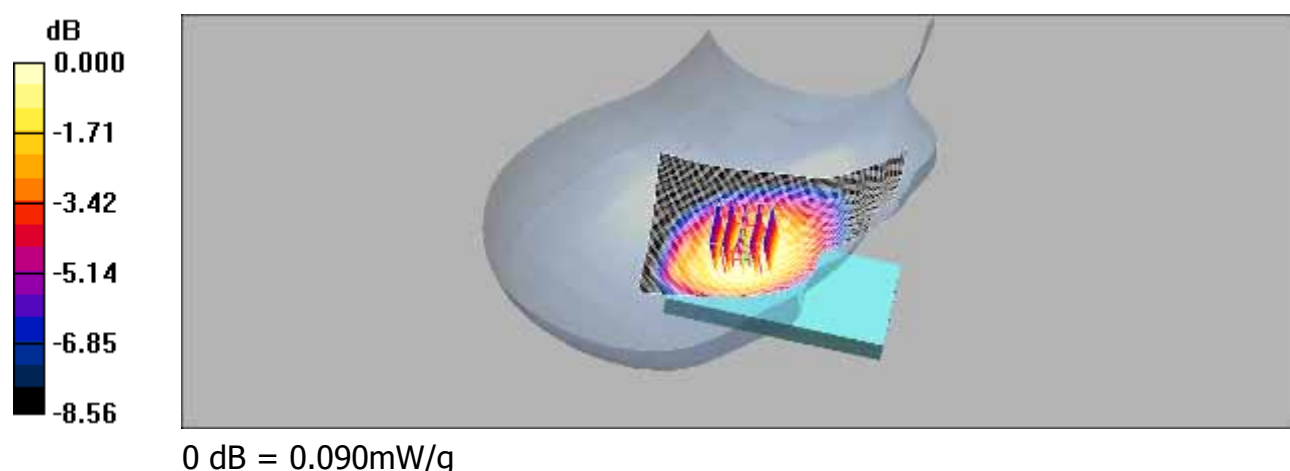Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.219 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.64 V/m; Power Drift = 0.118 dB
Peak SAR (extrapolated) = 0.300 W/kg

SAR(1 g) = 0.197 mW/g; **SAR(10 g) = 0.136 mW/g**
Maximum value of SAR (measured) = 0.211 mW/g

0 dB = 0.211mW/g

LE CHEEK_ CH128

DUT: SP510;

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium: Head 850 MHz Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.868 mho/m; ε_r = 42.2; ρ = 1000 kg/m^3
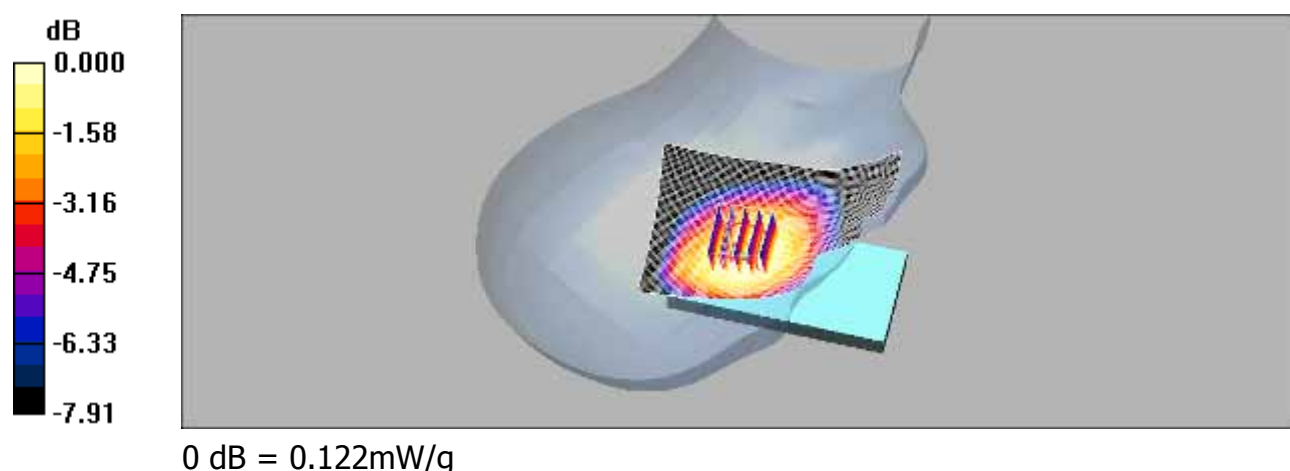Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.154 mW/g

LE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.72 V/m; Power Drift = -0.130 dB
Peak SAR (extrapolated) = 0.185 W/kg

SAR(1 g) = 0.140 mW/g; **SAR(10 g) = 0.102 mW/g**
Maximum value of SAR (measured) = 0.150 mW/g

0 dB = 0.150mW/g

LE CHEEK_ CH190

DUT: **SP510**;

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium: Head 850 MHz Medium parameters used: f = 837 MHz; σ = 0.88 mho/m; ε_r = 42.1;
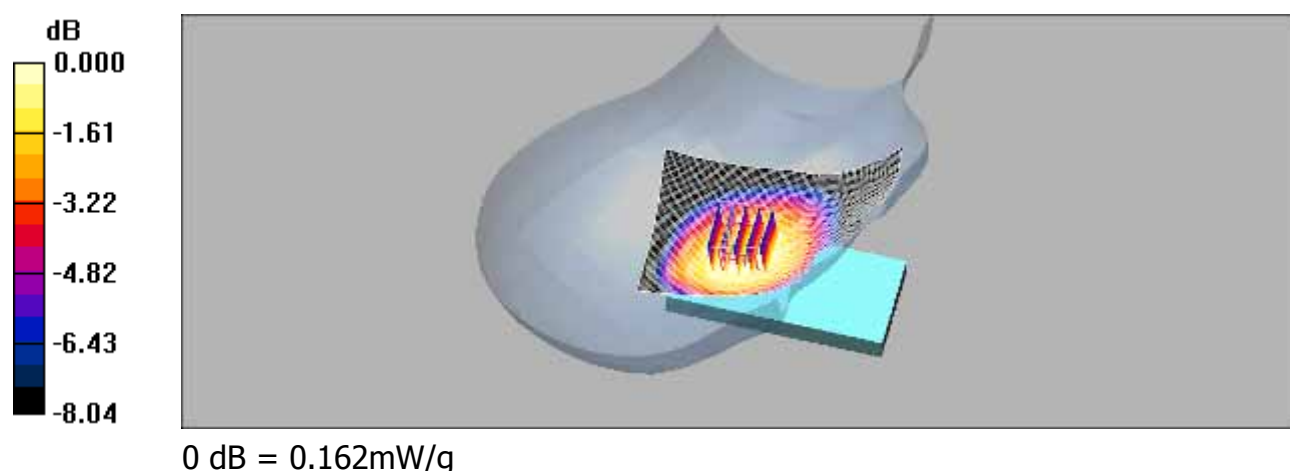ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.212 mW/g

LE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 4.25 V/m; Power Drift = -0.157 dB
Peak SAR (extrapolated) = 0.245 W/kg

SAR(1 g) = 0.188 mW/g; **SAR(10 g) = 0.138 mW/g**
Maximum value of SAR (measured) = 0.201 mW/g
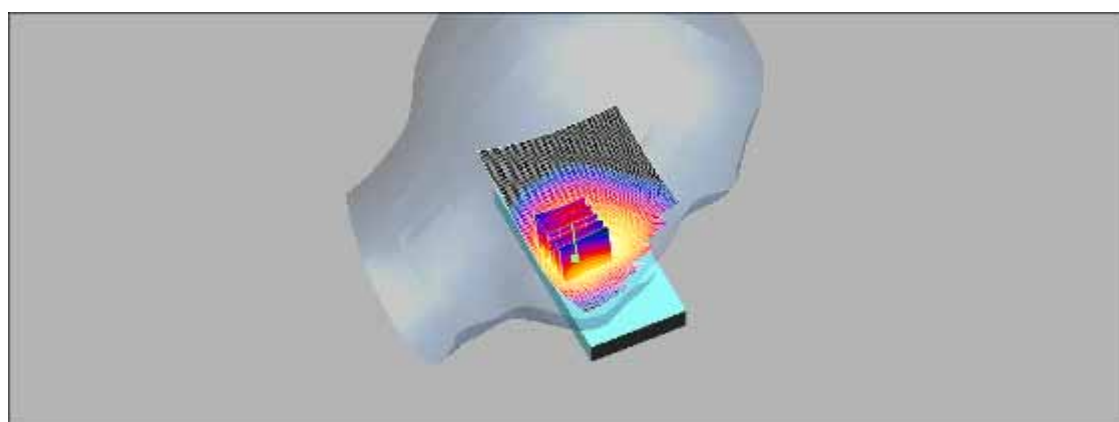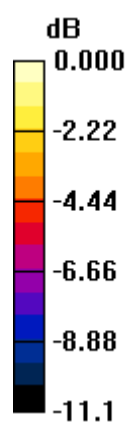
0 dB = 0.201mW/g

LE CHEEK_ CH251

DUT: **SP510**;

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium: Head 850 MHz Medium parameters used: f = 849 MHz; σ = 0.892 mho/m; ε_r = 41.9;
ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.284 mW/g

LE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 4.91 V/m; Power Drift = -0.192 dB
Peak SAR (extrapolated) = 0.333 W/kg

SAR(1 g) = 0.251 mW/g; **SAR(10 g) = 0.183 mW/g**
Maximum value of SAR (measured) = 0.269 mW/g

0 dB = 0.269mW/g

RE TILT_ CH128

DUT: SP510;

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium: Head 850 MHz Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.868 mho/m; ε_r = 42.2; ρ = 1000 kg/m^3
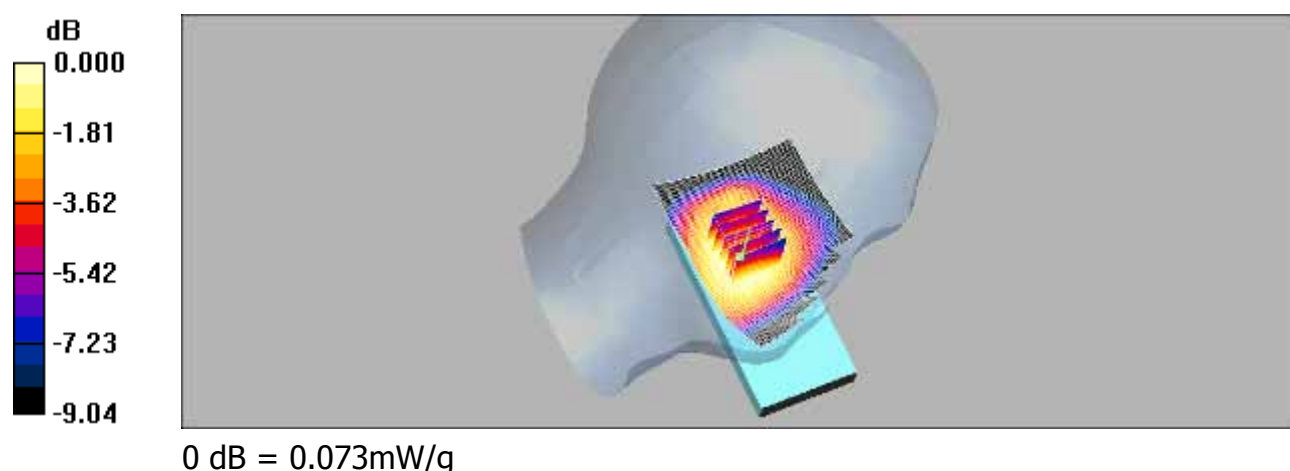Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.090 mW/g

RE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.62 V/m; Power Drift = 0.040 dB
Peak SAR (extrapolated) = 0.106 W/kg

SAR(1 g) = 0.086 mW/g; **SAR(10 g) = 0.066 mW/g**
Maximum value of SAR (measured) = 0.090 mW/g

0 dB = 0.090mW/g

RE TILT_ CH190

DUT: SP510;

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium: Head 850 MHz Medium parameters used: f = 837 MHz; σ = 0.88 mho/m; ε_r = 42.1;
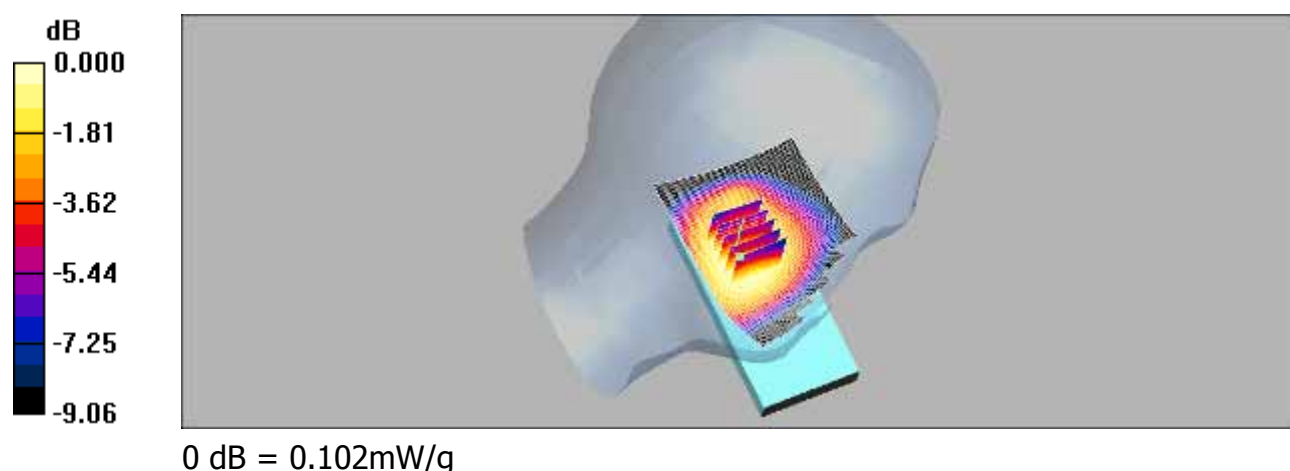ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.123 mW/g

RE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 7.71 V/m; Power Drift = 0.003 dB
Peak SAR (extrapolated) = 0.143 W/kg

SAR(1 g) = 0.117 mW/g; **SAR(10 g) = 0.090 mW/g**
Maximum value of SAR (measured) = 0.122 mW/g

0 dB = 0.122mW/g

RE TILT_ CH251

DUT: **SP510**;

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium: Head 850 MHz Medium parameters used: f = 849 MHz; σ = 0.892 mho/m; ε_r = 41.9; ρ = 1000 kg/m^3
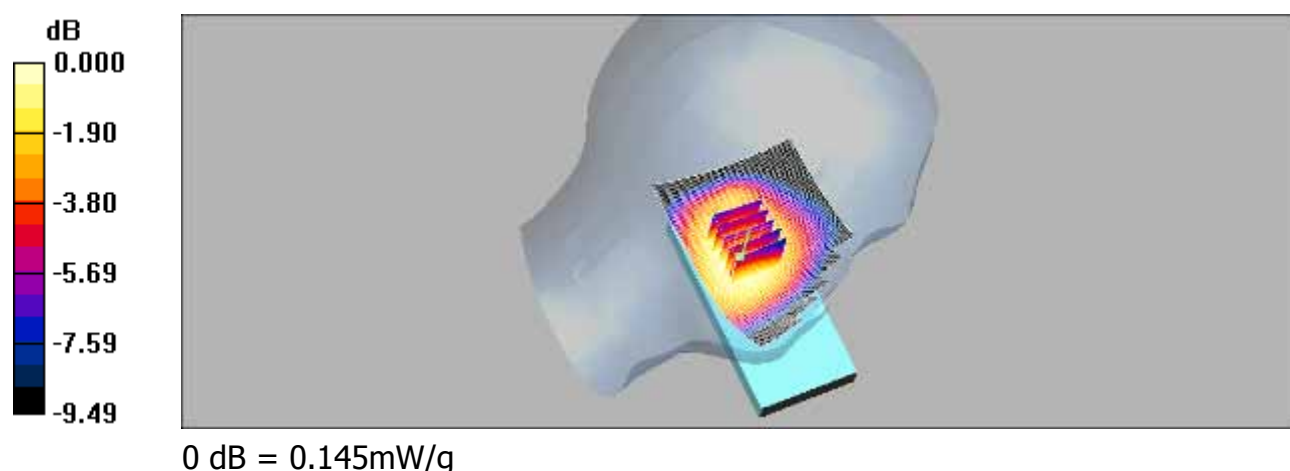Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.163 mW/g

RE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.84 V/m; Power Drift = 0.023 dB
Peak SAR (extrapolated) = 0.194 W/kg

SAR(1 g) = 0.156 mW/g; SAR(10 g) = 0.119 mW/g
Maximum value of SAR (measured) = 0.162 mW/g

0 dB = 0.162mW/g

LE TILT_ CH128

DUT: **SP510**;

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium: Head 850 MHz Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.868 mho/m; ε_r = 42.2; ρ = 1000 kg/m^3
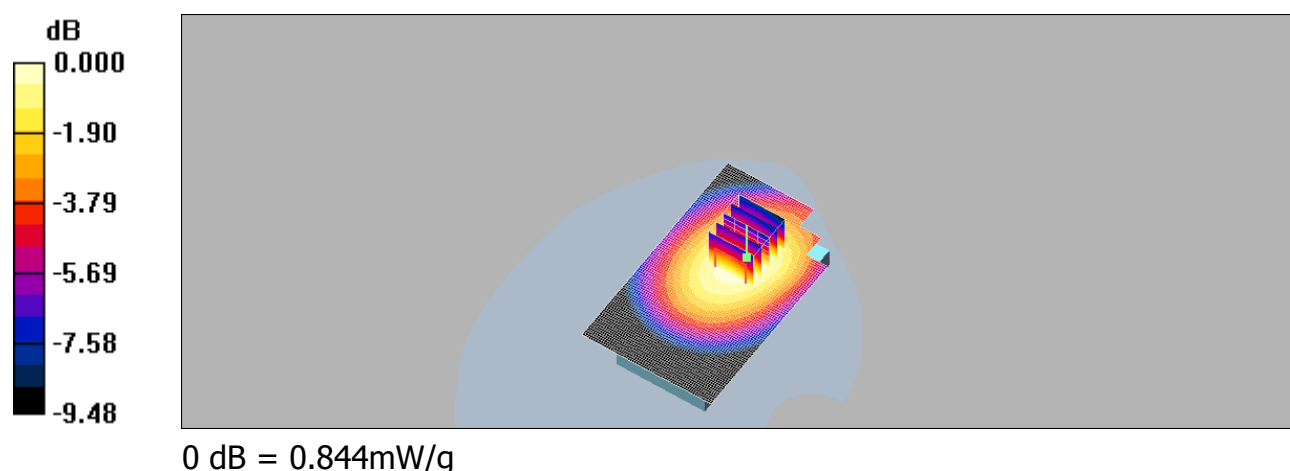Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.073 mW/g

LE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.36 V/m; Power Drift = -0.032 dB
Peak SAR (extrapolated) = 0.086 W/kg

SAR(1 g) = 0.071 mW/g; **SAR(10 g) = 0.055 mW/g**
Maximum value of SAR (measured) = 0.073 mW/g

0 dB = 0.073mW/g

LE TILT_ CH190

DUT: SP510;

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium: Head 850 MHz Medium parameters used: f = 837 MHz; σ = 0.88 mho/m; ε_r = 42.1;
ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.101 mW/g

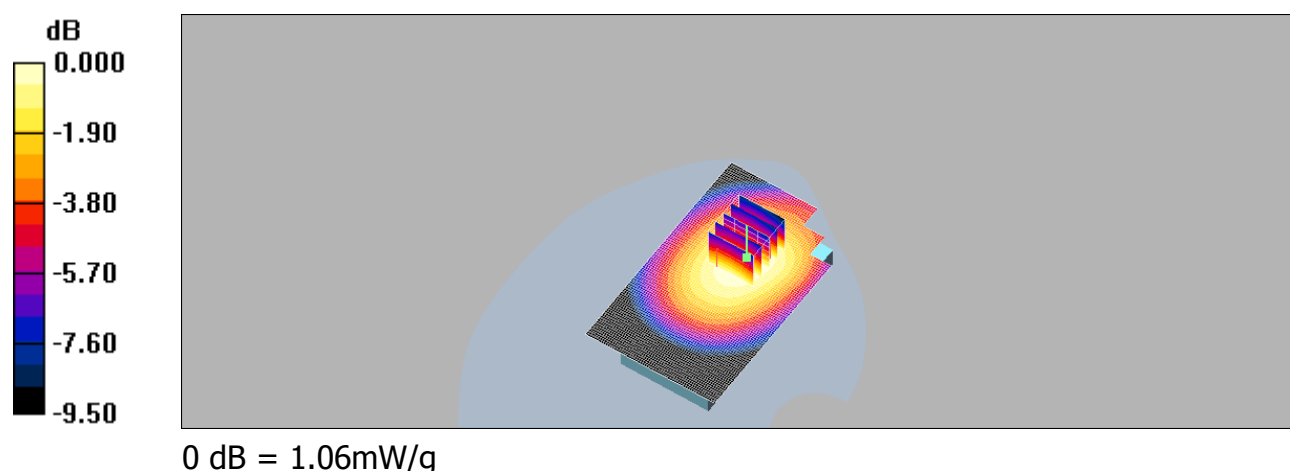**LE_Tilt/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 7.47 V/m; Power Drift = -0.046 dB
Peak SAR (extrapolated) = 0.120 W/kg

SAR(1 g) = 0.097 mW/g; **SAR(10 g) = 0.075 mW/g**
Maximum value of SAR (measured) = 0.102 mW/g

0 dB = 0.102mW/g

LE TILT_ CH251

DUT: **SP510**;

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium: Head 850 MHz Medium parameters used: f = 849 MHz; σ = 0.892 mho/m; $ε_r$ = 41.9;
ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.144 mW/g

LE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.68 V/m; Power Drift = -0.010 dB
Peak SAR (extrapolated) = 0.172 W/kg

SAR(1 g) = 0.139 mW/g; SAR(10 g) = 0.107 mW/g
Maximum value of SAR (measured) = 0.145 mW/g

0 dB = 0.145mW/g

BODY_CH128

DUT: SP510;

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:2

Medium: Muscle 900 MHz Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.941 mho/m; ε_r = 55.2; ρ = 1000 kg/m^3
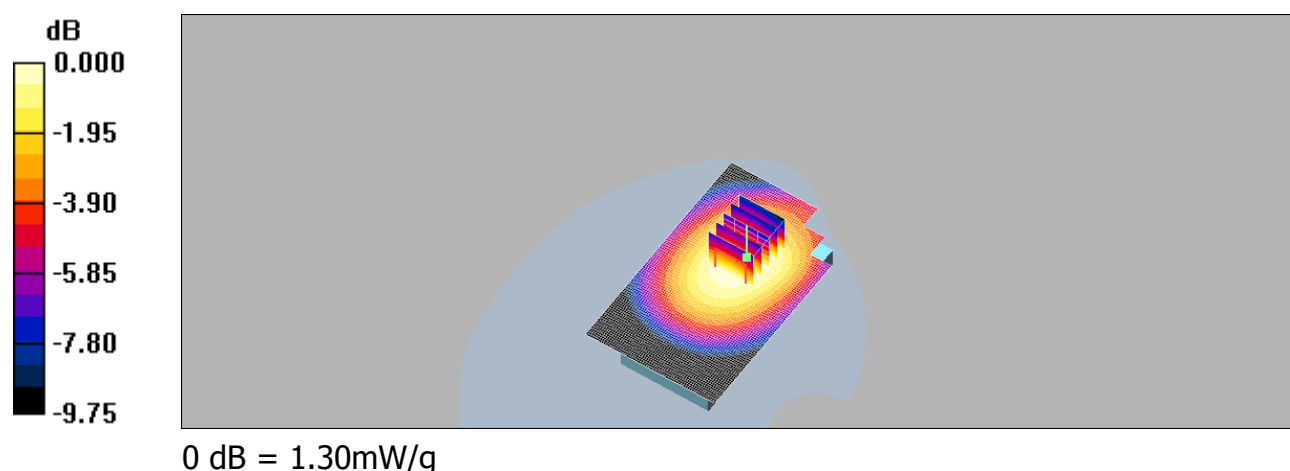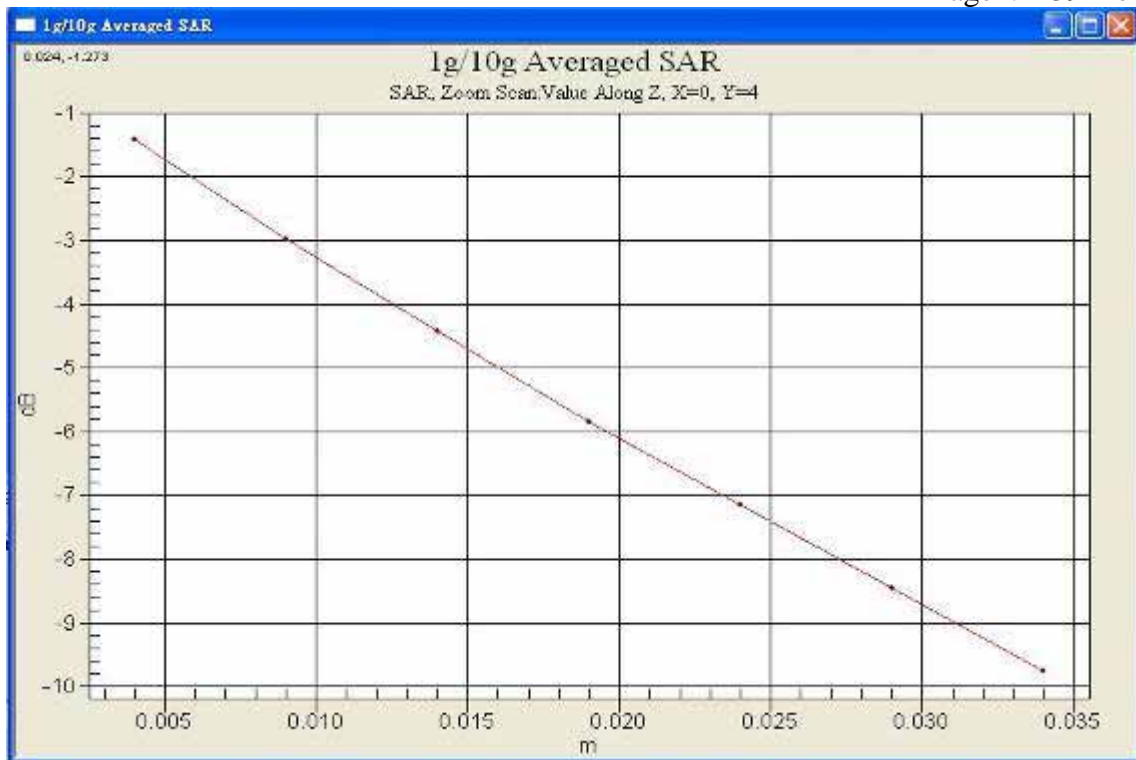
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.87, 10.87, 10.87); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
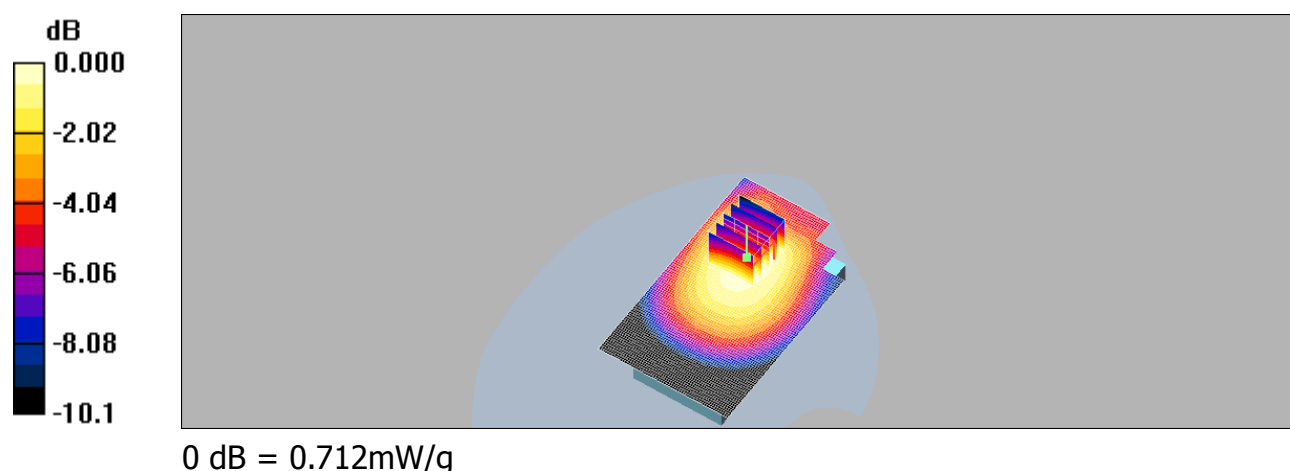
Maximum value of SAR (interpolated) = 0.847 mW/g

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

Reference Value = 10.0 V/m; Power Drift = 0.020 dB

Peak SAR (extrapolated) = 1.05 W/kg

SAR(1 g) = 0.805 mW/g; SAR(10 g) = 0.597 mW/g

Maximum value of SAR (measured) = 0.844 mW/g

0 dB = 0.844mW/g

BODY_CH190

DUT: SP510;

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:2
Medium: Muscle 900 MHz Medium parameters used: f = 837 MHz; σ = 0.946 mho/m; $ε_r$ = 55.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.87, 10.87, 10.87); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.08 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.7 V/m; Power Drift = -0.184 dB
Peak SAR (extrapolated) = 1.31 W/kg

SAR(1 g) = 1.01 mW/g; SAR(10 g) = 0.750 mW/g
Maximum value of SAR (measured) = 1.06 mW/g

0 dB = 1.06mW/g

BODY_CH251

DUT: SP510;

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:2
Medium: Muscle 900 MHz Medium parameters used: f = 849 MHz; σ = 0.951 mho/m; $ε_r$ = 55; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.87, 10.87, 10.87); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.32 mW/g

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

Reference Value = 12.7 V/m; Power Drift = -0.041 dB
Peak SAR (extrapolated) = 1.59 W/kg

SAR(1 g) = 1.24 mW/g; SAR(10 g) = 0.923 mW/g

Maximum value of SAR (measured) = 1.30 mW/g

0 dB = 1.30mW/g

BODY_CH251_ repeated for EUT front to phantom

DUT: SP510;

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:2
Medium: Muscle 900 MHz Medium parameters used: f = 849 MHz; σ = 0.951 mho/m; $ε_r$ = 55;
ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.87, 10.87, 10.87); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.708 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.30 V/m; Power Drift = 0.086 dB
Peak SAR (extrapolated) = 0.893 W/kg

SAR(1 g) = 0.678 mW/g; SAR(10 g) = 0.504 mW/g
Maximum value of SAR (measured) = 0.712 mW/g

0 dB = 0.712mW/g

BODY_CH251_repeated with Memory card

DUT: SP510;

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:2
Medium: Muscle 900 MHz Medium parameters used: f = 849 MHz; σ = 0.951 mho/m; $ε_r$ = 55;
ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.87, 10.87, 10.87); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.34 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.5 V/m; Power Drift = -0.100 dB
Peak SAR (extrapolated) = 1.55 W/kg

SAR(1 g) = 1.18 mW/g; **SAR(10 g) = 0.869 mW/g**
Maximum value of SAR (measured) = 1.24 mW/g

0 dB = 1.24mW/g
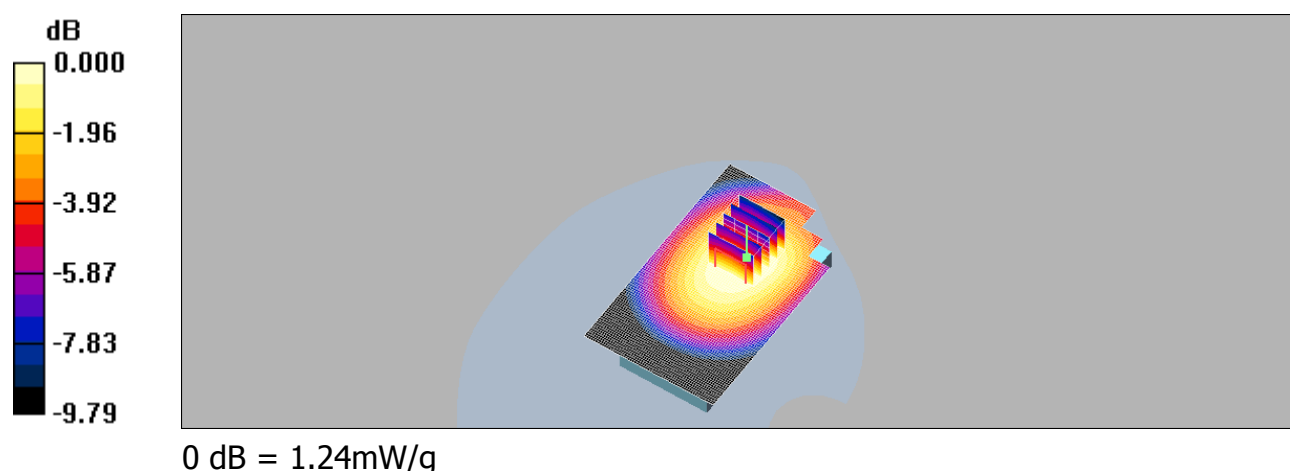
BODY_CH251_repeated with headset

DUT: SP510;

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:2
Medium: Muscle 900 MHz Medium parameters used: f = 849 MHz; σ = 0.951 mho/m; $ε_r$ = 55;
ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.87, 10.87, 10.87); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.18 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 9.46 V/m; Power Drift = -0.193 dB
Peak SAR (extrapolated) = 1.46 W/kg

SAR(1 g) = 1.08 mW/g; SAR(10 g) = 0.783 mW/g
Maximum value of SAR (measured) = 1.15 mW/g

0 dB = 1.15mW/g
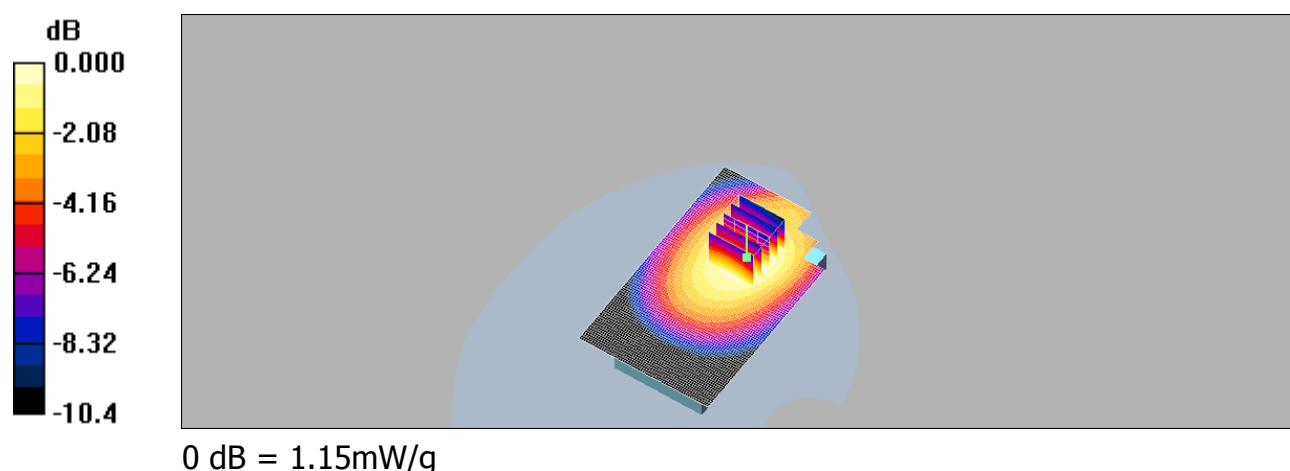
BODY_CH128_EGPRS mode

DUT: **SP510**;

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:2
Medium: Muscle 900 MHz Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.941 mho/m; ε_r = 53; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.87, 10.87, 10.87); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM2; Type: SAM 4.0; Serial: TP:1270
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
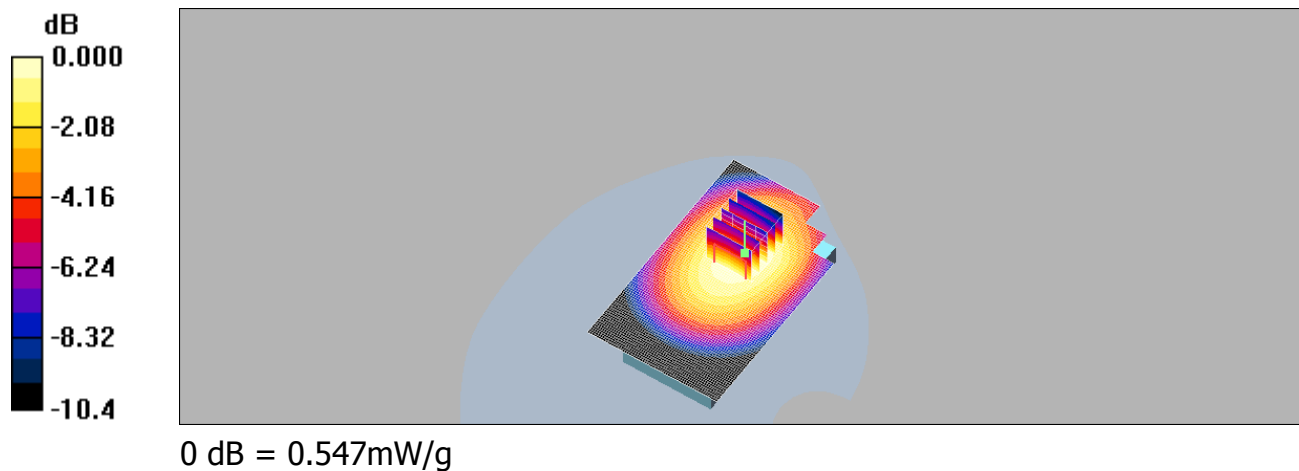Maximum value of SAR (interpolated) = 0.330 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.30 V/m; Power Drift = -0.073 dB
Peak SAR (extrapolated) = 0.412 W/kg
SAR(1 g) = 0.312 mW/g; **SAR(10 g) = 0.229 mW/g**
Maximum value of SAR (measured) = 0.328 mW/g

0 dB = 0.328mW/g
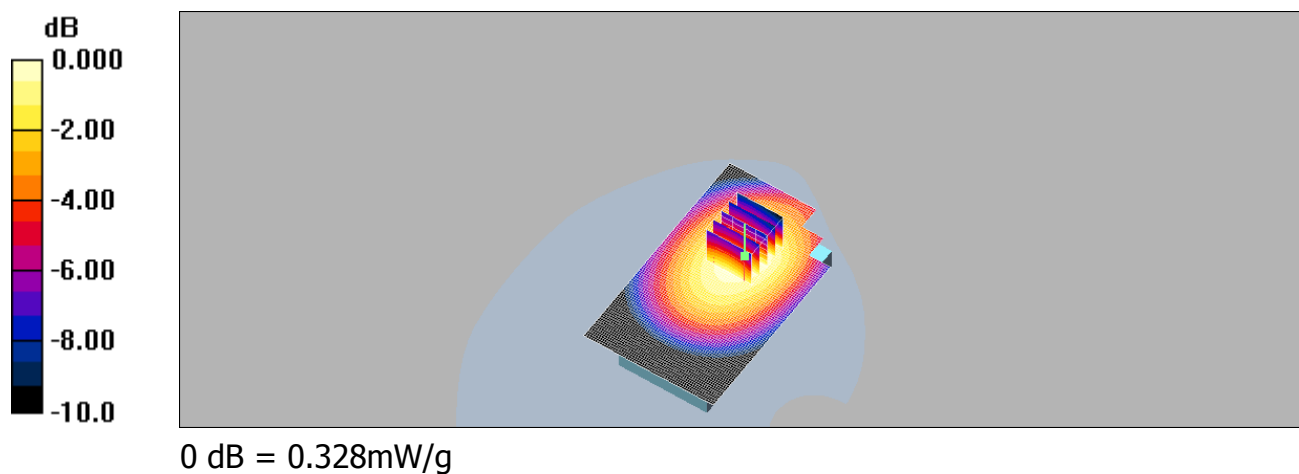
BODY_CH190_EGPRS mode

DUT: SP510;

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:2
Medium: Muscle 900 MHz Medium parameters used: f = 837 MHz; σ = 0.952 mho/m; ε_r = 52.7; ρ = 1000 kg/m^3
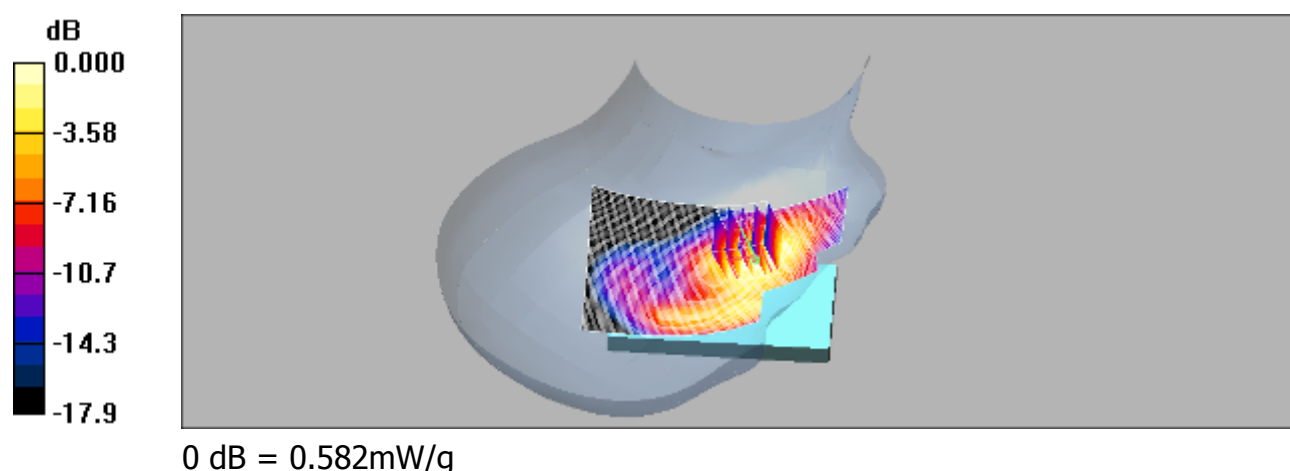Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.87, 10.87, 10.87); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM2; Type: SAM 4.0; Serial: TP:1270
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.417 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.00 V/m; Power Drift = -0.026 dB
Peak SAR (extrapolated) = 0.511 W/kg
SAR(1 g) = 0.392 mW/g; **SAR(10 g) = 0.288 mW/g**
Maximum value of SAR (measured) = 0.411 mW/g

dB
0.000
-2.06
-4.12
-6.18
-8.24
-10.3

0 dB = 0.411mW/g
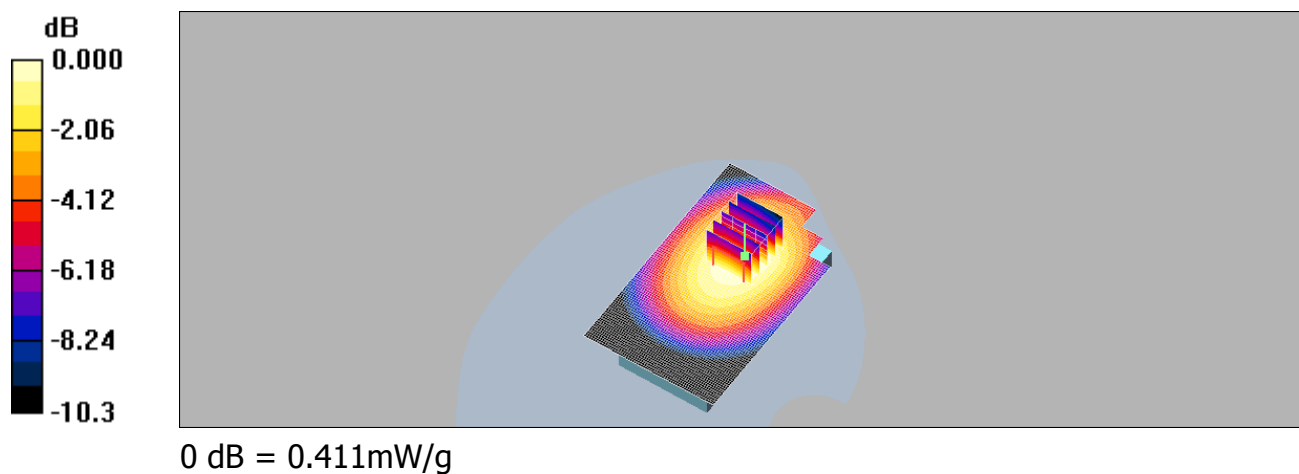
BODY_CH251_EGPRS mode

DUT: SP510;

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:2

Medium: Muscle 900 MHz Medium parameters used: f = 849 MHz; σ = 0.972 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.87, 10.87, 10.87); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM2; Type: SAM 4.0; Serial: TP:1270
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
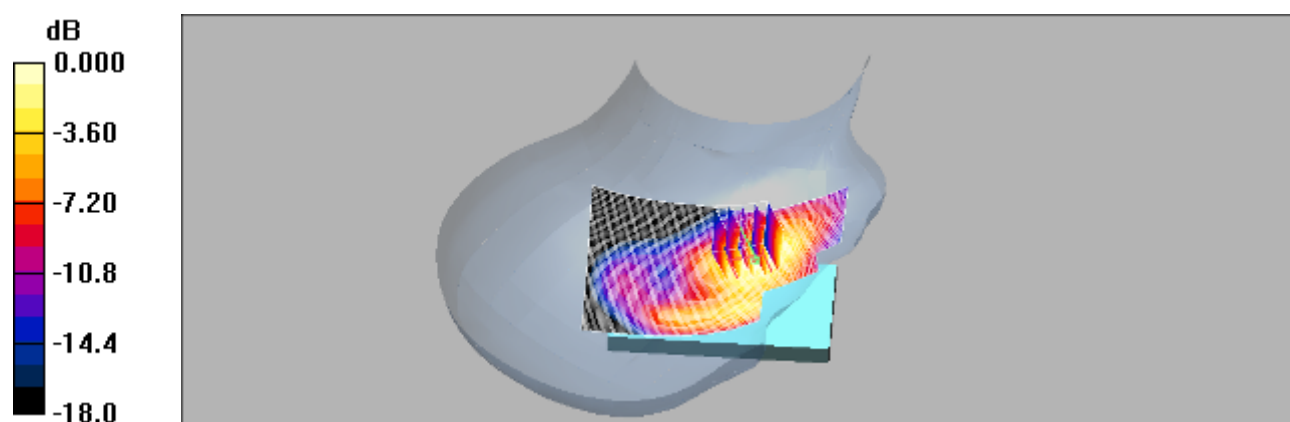
Maximum value of SAR (interpolated) = 0.554 mW/g

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

Reference Value = 8.33 V/m; Power Drift = -0.243 dB

Peak SAR (extrapolated) = 0.682 W/kg

SAR(1 g) = 0.519 mW/g; **SAR(10 g) = 0.382 mW/g**

Maximum value of SAR (measured) = 0.547 mW/g

0 dB = 0.547mW/g

RE CHEEK_ CH512

DUT: SP510;

Communication System: GSM1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium: Head 1900 MHz Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.41 mho/m; ε_r = 41.2; ρ = 1000 kg/m^3
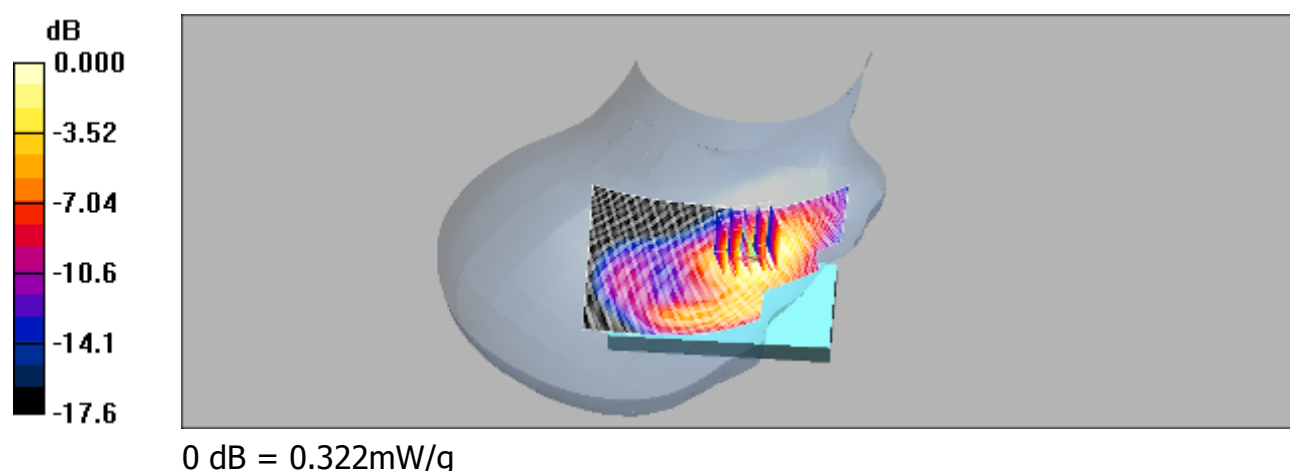Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.602 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.34 V/m; Power Drift = -0.060 dB
Peak SAR (extrapolated) = 0.844 W/kg

SAR(1 g) = 0.522 mW/g; **SAR(10 g) = 0.299 mW/g**
Maximum value of SAR (measured) = 0.582 mW/g

0 dB = 0.582mW/g

RE CHEEK_ CH661

DUT: SP510;

Communication System: GSM1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium: Head 1900 MHz Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 41.1; ρ = 1000 kg/m^3
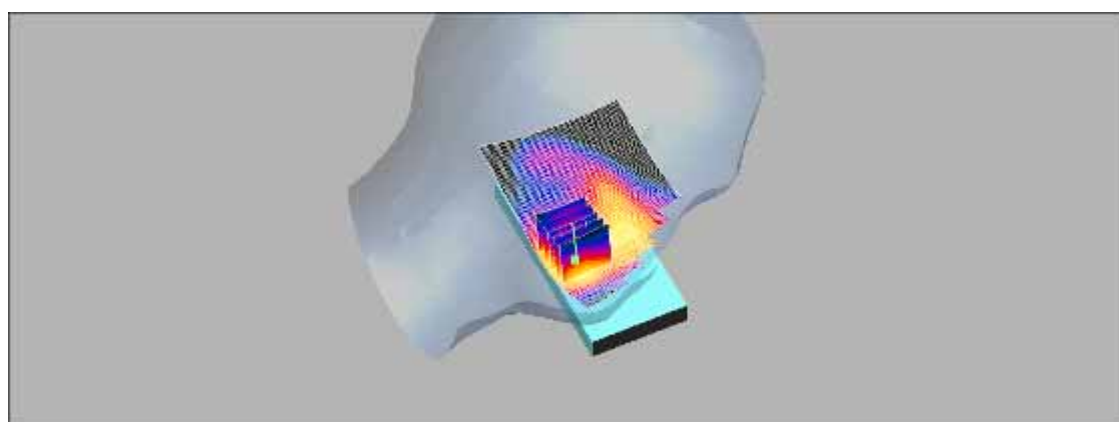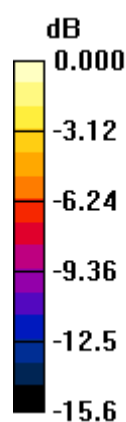Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.416 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.44 V/m; Power Drift = 0.043 dB
Peak SAR (extrapolated) = 0.610 W/kg

SAR(1 g) = 0.374 mW/g; **SAR(10 g) = 0.213 mW/g**
Maximum value of SAR (measured) = 0.416 mW/g

0 dB = 0.416mW/g

RE CHEEK_ CH810

DUT: SP510;

Communication System: GSM1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium: Head 1900 MHz Medium parameters used: f = 1910 MHz; σ = 1.49 mho/m; ε_r = 40.9; ρ = 1000 kg/m^3
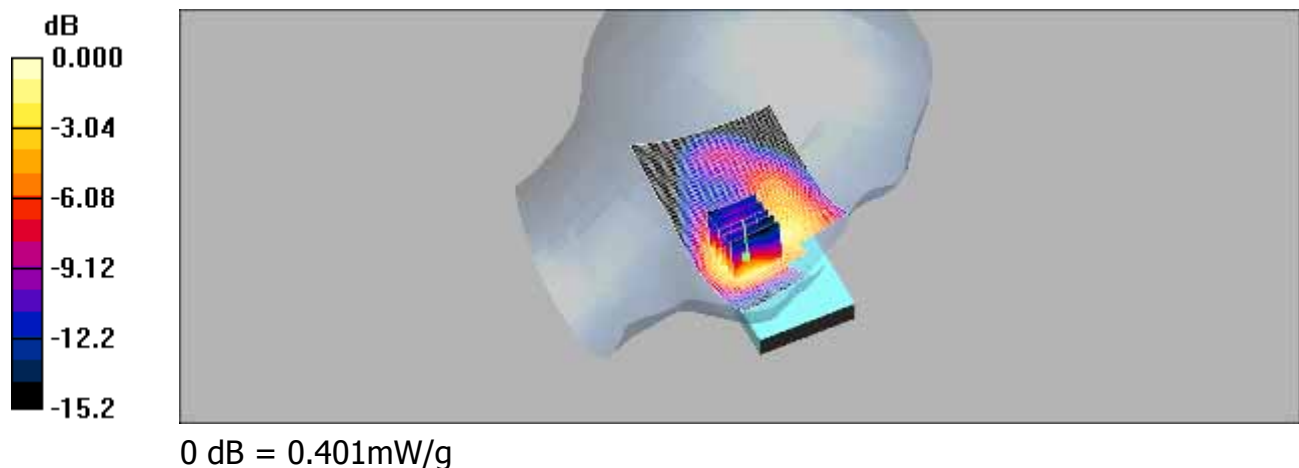Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.321 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.08 V/m; Power Drift = 0.008 dB
Peak SAR (extrapolated) = 0.475 W/kg

SAR(1 g) = 0.288 mW/g; **SAR(10 g) = 0.162 mW/g**
Maximum value of SAR (measured) = 0.322 mW/g

0 dB = 0.322mW/g

LE CHEEK_ CH512

DUT: SP510;

Communication System: GSM1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium: Head 1900 MHz Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.41 mho/m; ε_r = 41.2; ρ = 1000 kg/m^3
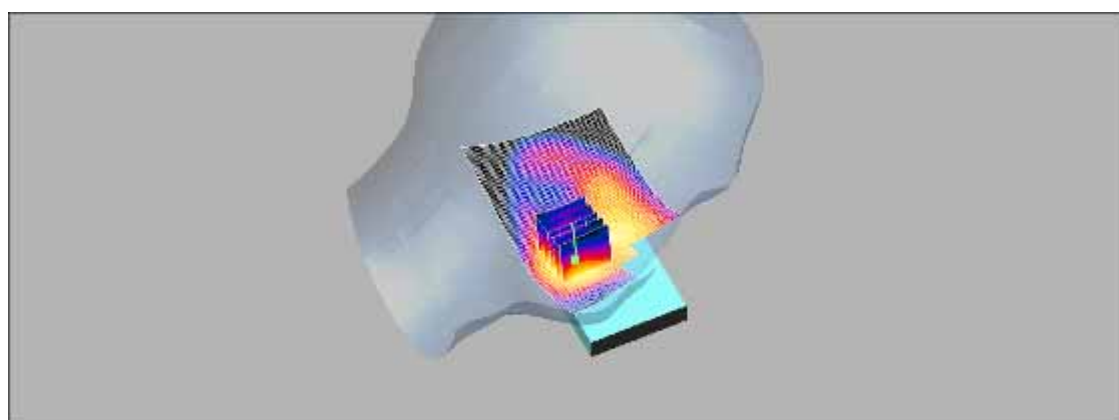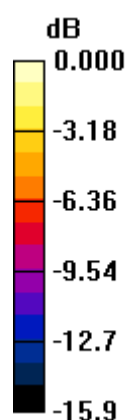Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.593 mW/g

LE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.00 V/m; Power Drift = 0.038 dB
Peak SAR (extrapolated) = 0.807 W/kg

SAR(1 g) = 0.508 mW/g; **SAR(10 g) = 0.296 mW/g**
Maximum value of SAR (measured) = 0.555 mW/g

0 dB = 0.555mW/g

LE CHEEK_ CH661

DUT: SP510;

Communication System: GSM1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium: Head 1900 MHz Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 41.1; ρ = 1000 kg/m^3
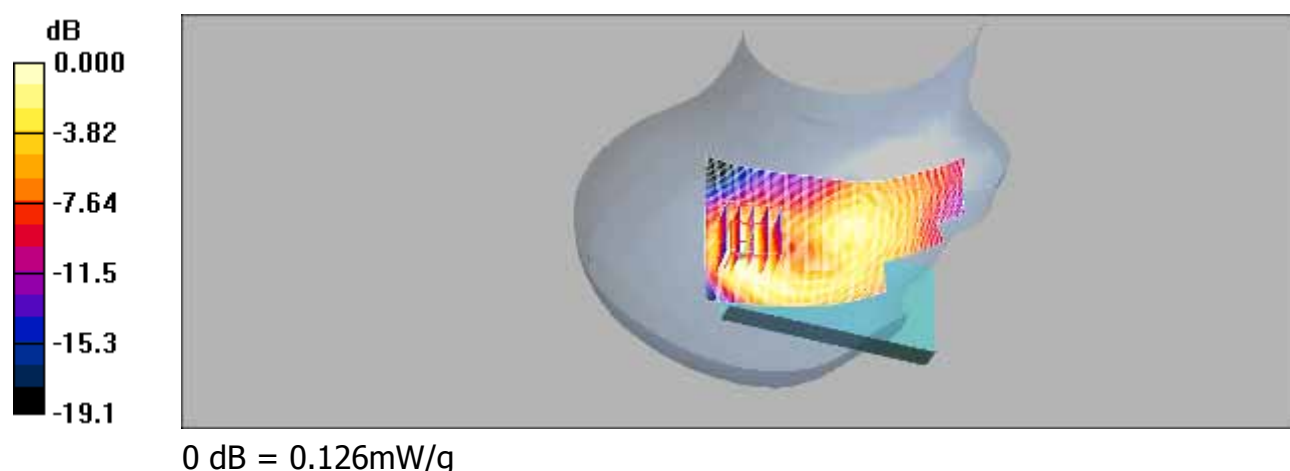Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.418 mW/g

LE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.54 V/m; Power Drift = 0.009 dB
Peak SAR (extrapolated) = 0.627 W/kg

SAR(1 g) = 0.385 mW/g; **SAR(10 g) = 0.219 mW/g**
Maximum value of SAR (measured) = 0.401 mW/g

0 dB = 0.401mW/g

LE CHEEK_ CH810

DUT: SP510;

Communication System: GSM1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium: Head 1900 MHz Medium parameters used: f = 1910 MHz; σ = 1.49 mho/m; ε_r = 40.9; ρ = 1000 kg/m^3
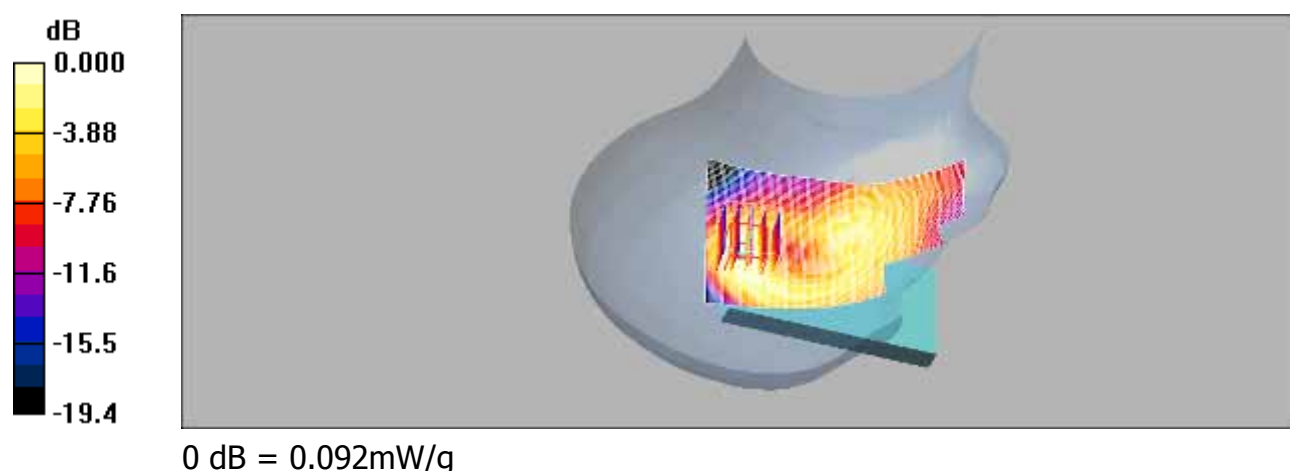Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.304 mW/g

LE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.57 V/m; Power Drift = 0.019 dB
Peak SAR (extrapolated) = 0.453 W/kg

SAR(1 g) = 0.276 mW/g; **SAR(10 g) = 0.157 mW/g**
Maximum value of SAR (measured) = 0.300 mW/g

0 dB = 0.300mW/g

RE TILT_ CH512

DUT: SP510;

Communication System: GSM1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium: Head 1900 MHz Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.41 mho/m; ε_r = 41.2; ρ = 1000 kg/m^3
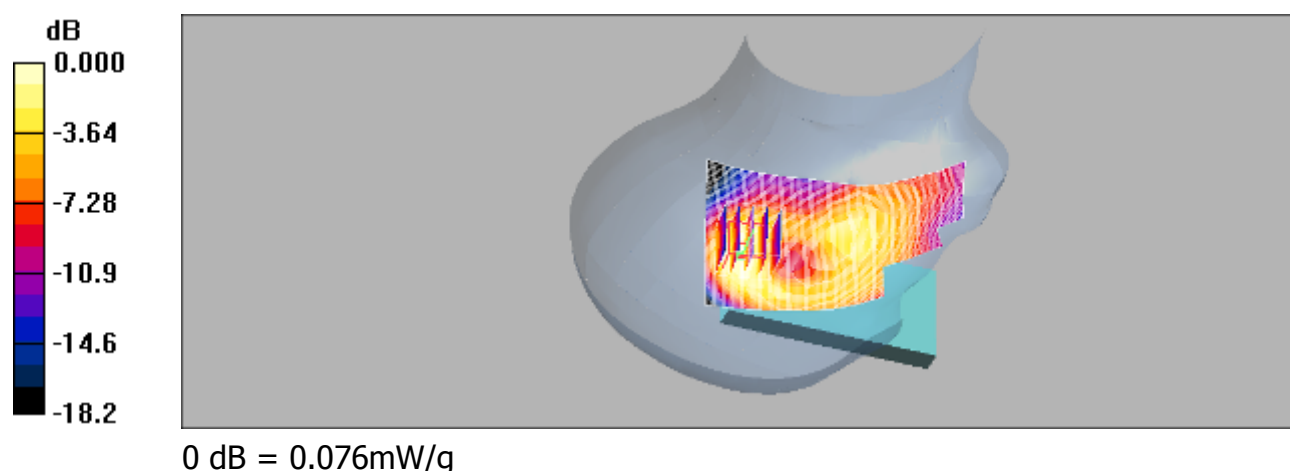Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.129 mW/g

RE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.74 V/m; Power Drift = -0.040 dB
Peak SAR (extrapolated) = 0.190 W/kg

SAR(1 g) = 0.114 mW/g; SAR(10 g) = 0.066 mW/g
Maximum value of SAR (measured) = 0.126 mW/g

0 dB = 0.126mW/g

RE TILT_ CH661

DUT: SP510;

Communication System: GSM1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium: Head 1900 MHz Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 41.1; ρ = 1000 kg/m^3
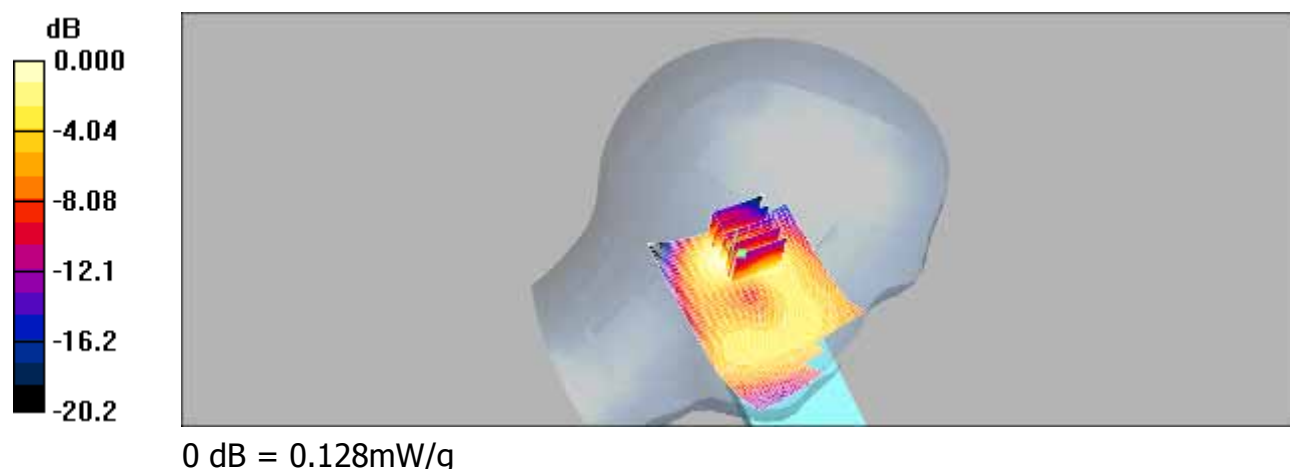Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.094 mW/g

RE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.17 V/m; Power Drift = -0.017 dB
Peak SAR (extrapolated) = 0.141 W/kg

SAR(1 g) = 0.084 mW/g; **SAR(10 g) = 0.047 mW/g**
Maximum value of SAR (measured) = 0.092 mW/g

0 dB = 0.092mW/g

RE TILT_ CH810

DUT: SP510;

Communication System: GSM1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium: Head 1900 MHz Medium parameters used: f = 1910 MHz; σ = 1.49 mho/m; ε_r = 40.9; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.080 mW/g

RE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.35 V/m; Power Drift = 0.003 dB
Peak SAR (extrapolated) = 0.118 W/kg

SAR(1 g) = 0.069 mW/g; SAR(10 g) = 0.038 mW/g
Maximum value of SAR (measured) = 0.076 mW/g

0 dB = 0.076mW/g

LE TILT_ CH512

DUT: SP510;

Communication System: GSM1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium: Head 1900 MHz Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.41 mho/m; ε_r = 41.2; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.134 mW/g

LE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.81 V/m; Power Drift = -0.006 dB
Peak SAR (extrapolated) = 0.197 W/kg

SAR(1 g) = 0.118 mW/g; **SAR(10 g) = 0.067 mW/g**
Maximum value of SAR (measured) = 0.128 mW/g

0 dB = 0.128mW/g

LE TILT_ CH661

DUT: SP510;

Communication System: GSM1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium: Head 1900 MHz Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 41.1; ρ = 1000 kg/m^3
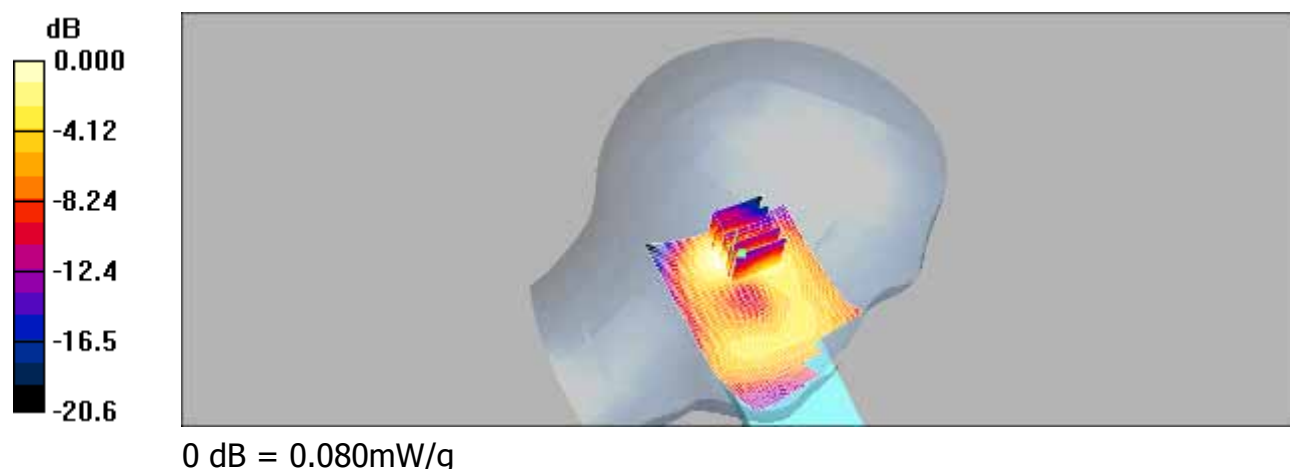Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.123 mW/g

LE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.12 V/m; Power Drift = -0.007 dB
Peak SAR (extrapolated) = 0.172 W/kg

SAR(1 g) = 0.103 mW/g; **SAR(10 g) = 0.059 mW/g**
Maximum value of SAR (measured) = 0.114 mW/g
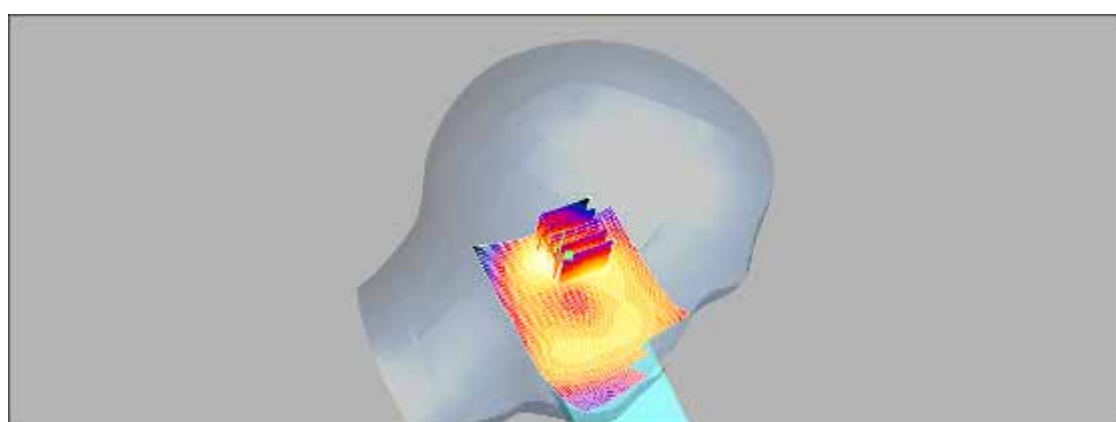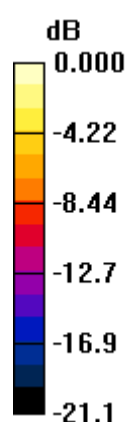
0 dB = 0.114mW/g

LE TILT_ CH810

DUT: SP510;

Communication System: GSM1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium: Head 1900 MHz Medium parameters used: f = 1910 MHz; σ = 1.49 mho/m; ε_r = 40.9; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.088 mW/g

LE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.56 V/m; Power Drift = 0.029 dB
Peak SAR (extrapolated) = 0.124 W/kg

SAR(1 g) = 0.073 mW/g; **SAR(10 g) = 0.042 mW/g**
Maximum value of SAR (measured) = 0.080 mW/g

0 dB = 0.080mW/g

BODY_CH512

DUT: **SP510**;

Communication System: GSM1900; Frequency: 1850.2 MHz;Duty Cycle: 1:2
Medium: M1800 & 1900 Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.53 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

- Probe: EX3DV3 - SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.780 mW/g
BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.3 V/m; Power Drift = -0.031 dB
Peak SAR (extrapolated) = 1.06 W/kg
SAR(1 g) = 0.707 mW/g; **SAR(10 g) = 0.457 mW/g**
Maximum value of SAR (measured) = 0.748 mW/g
BODY/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.3 V/m; Power Drift = -0.031 dB
Peak SAR (extrapolated) = 1.01 W/kg
SAR(1 g) = 0.643 mW/g; **SAR(10 g) = 0.419 mW/g**
Maximum value of SAR (measured) = 0.690 mW/g
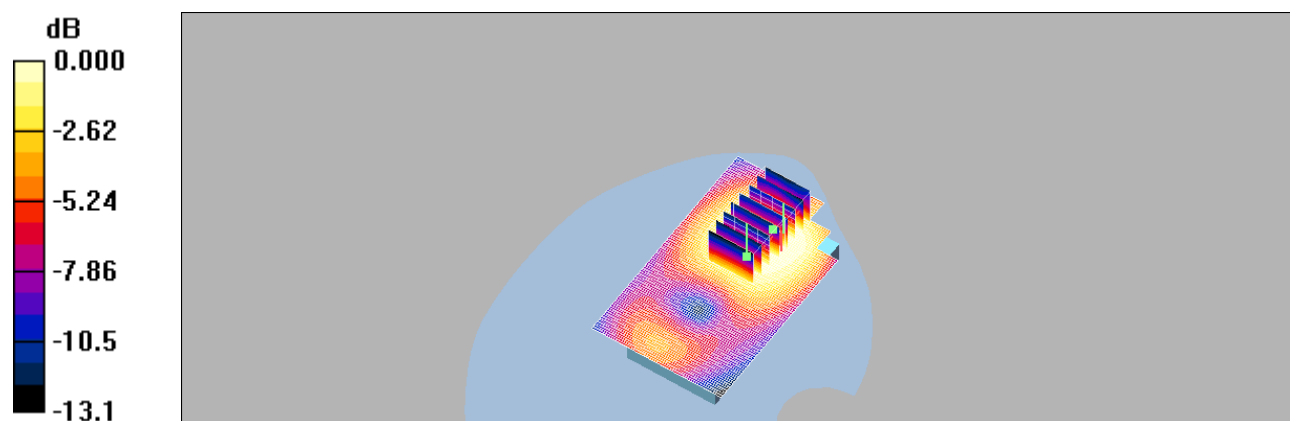
0 dB = 0.690mW/g

BODY_CH661

DUT: **SP510**;

Communication System: GSM1900; Frequency: 1880 MHz;Duty Cycle: 1:2
Medium: M1800 & 1900 Medium parameters used: f = 1880 MHz; σ = 1.56 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

- Probe: EX3DV3 - SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.688 mW/g
BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.72 V/m; Power Drift = 0.050 dB
Peak SAR (extrapolated) = 0.946 W/kg
SAR(1 g) = 0.622 mW/g; **SAR(10 g) = 0.395 mW/g**
Maximum value of SAR (measured) = 0.662 mW/g
BODY/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.72 V/m; Power Drift = 0.050 dB
Peak SAR (extrapolated) = 0.888 W/kg
SAR(1 g) = 0.532 mW/g; **SAR(10 g) = 0.349 mW/g**
Maximum value of SAR (measured) = 0.604 mW/g
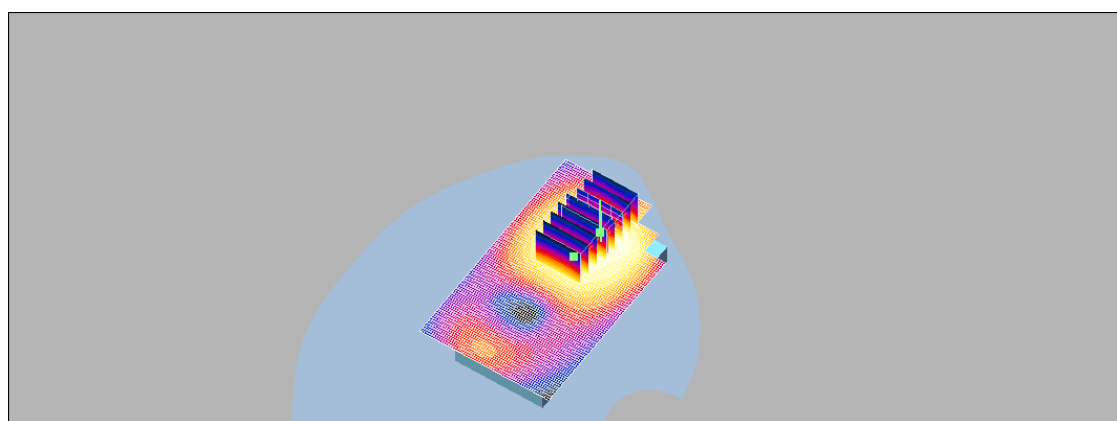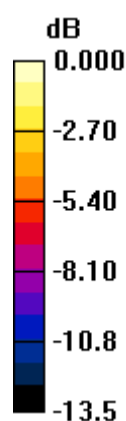
0 dB = 0.604mW/g

BODY_CH810

DUT: SP510;

Communication System: GSM1900; Frequency: 1909.8 MHz;Duty Cycle: 1:2
Medium: M1800 & 1900 Medium parameters used: f = 1910 MHz; σ = 1.59 mho/m; $ε_r$ = 53.4;
ρ = 1000 kg/m^3
Phantom section: Flat Section

- Probe: EX3DV3 - SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.622 mW/g
BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 7.75 V/m; Power Drift = 0.028 dB
Peak SAR (extrapolated) = 0.873 W/kg
SAR(1 g) = 0.567 mW/g; **SAR(10 g) = 0.356 mW/g**
Maximum value of SAR (measured) = 0.607 mW/g
BODY/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 7.75 V/m; Power Drift = 0.028 dB
Peak SAR (extrapolated) = 0.804 W/kg
SAR(1 g) = 0.475 mW/g; **SAR(10 g) = 0.308 mW/g**
Maximum value of SAR (measured) = 0.555 mW/g
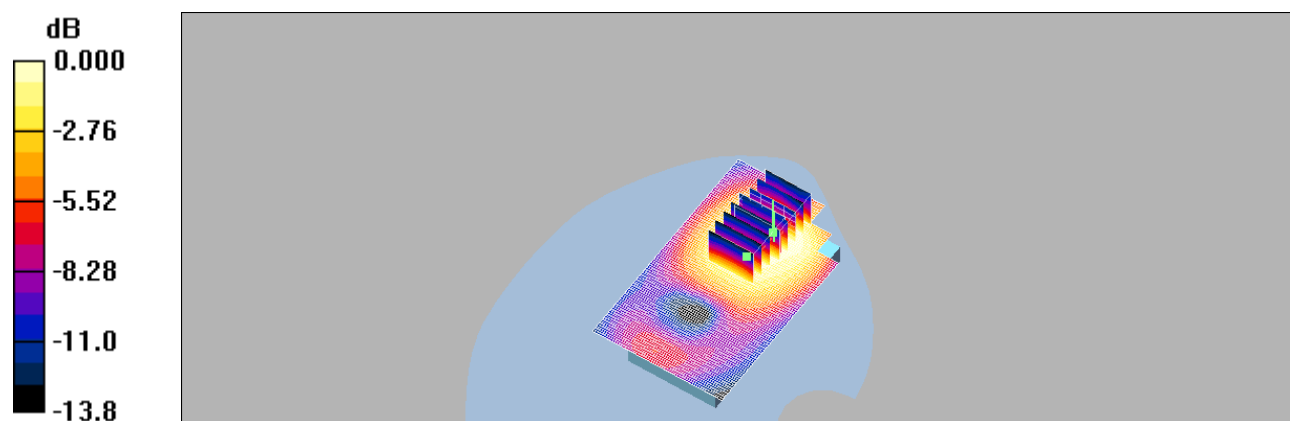
0 dB = 0.555mW/g

BODY_CH512 EGPRS mode

DUT: SP510;

Communication System: GSM1900; Frequency: 1850.2 MHz;Duty Cycle: 1:2
Medium: M1800 & 1900 Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.5 mho/m; ε_r = 51.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM2; Type: SAM 4.0; Serial: TP:1270
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.457 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.1 V/m; Power Drift = -0.149 dB
Peak SAR (extrapolated) = 0.716 W/kg
SAR(1 g) = 0.423 mW/g; **SAR(10 g) = 0.269 mW/g**
Maximum value of SAR (measured) = 0.479 mW/g

0 dB = 0.479mW/g
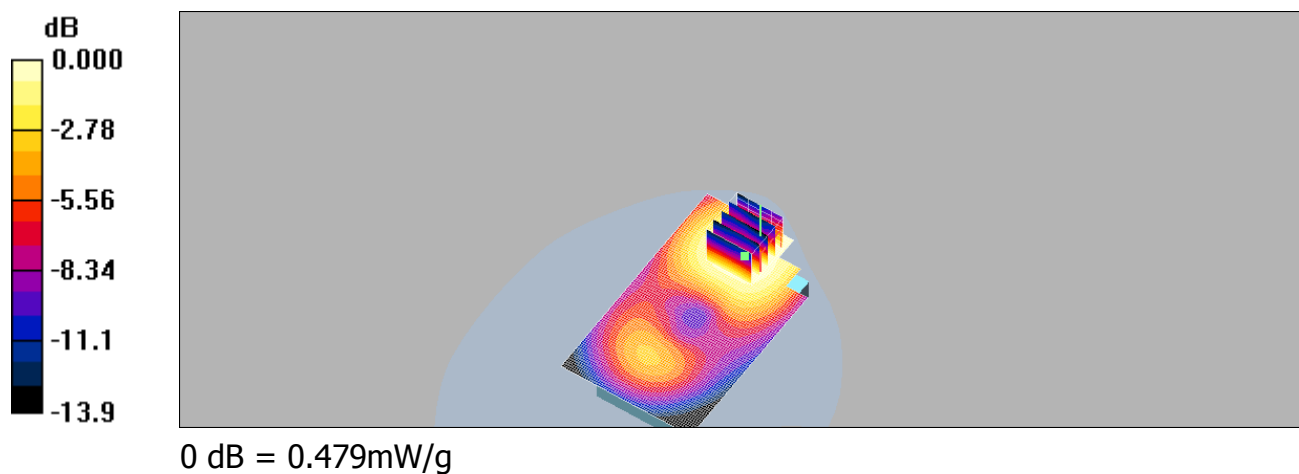
BODY_CH661 EGPRS mode

DUT: **SP510**;

Communication System: GSM1900; Frequency: 1880 MHz;Duty Cycle: 1:2
Medium: M1800 & 1900 Medium parameters used: f = 1880 MHz; σ = 1.54 mho/m; ε_r = 51;
ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM2; Type: SAM 4.0; Serial: TP:1270
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
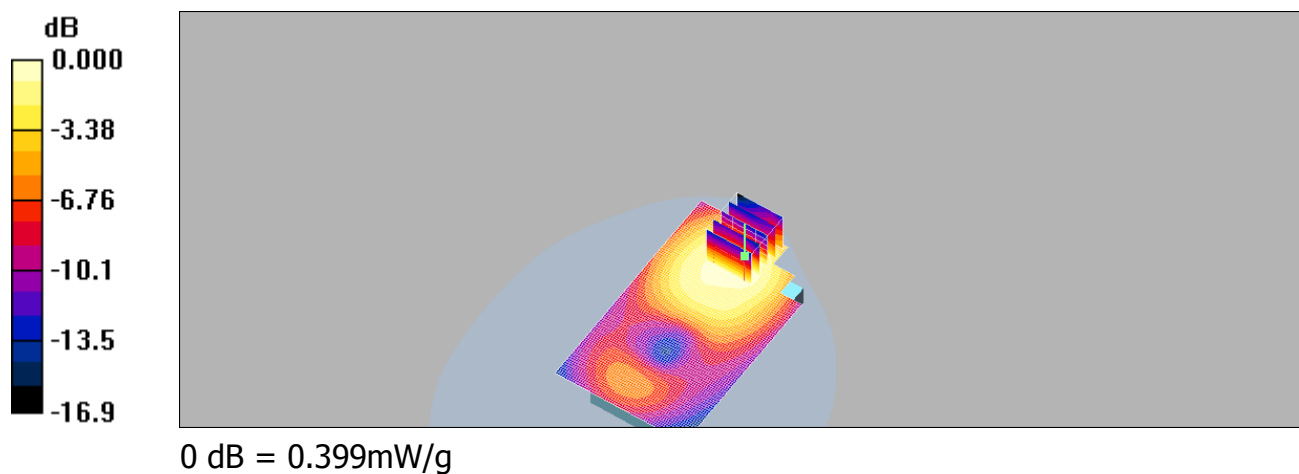Maximum value of SAR (interpolated) = 0.455 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.66 V/m; Power Drift = -0.004 dB
Peak SAR (extrapolated) = 0.672 W/kg
SAR(1 g) = 0.418 mW/g; **SAR(10 g) = 0.257 mW/g**
Maximum value of SAR (measured) = 0.449 mW/g

0 dB = 0.449mW/g
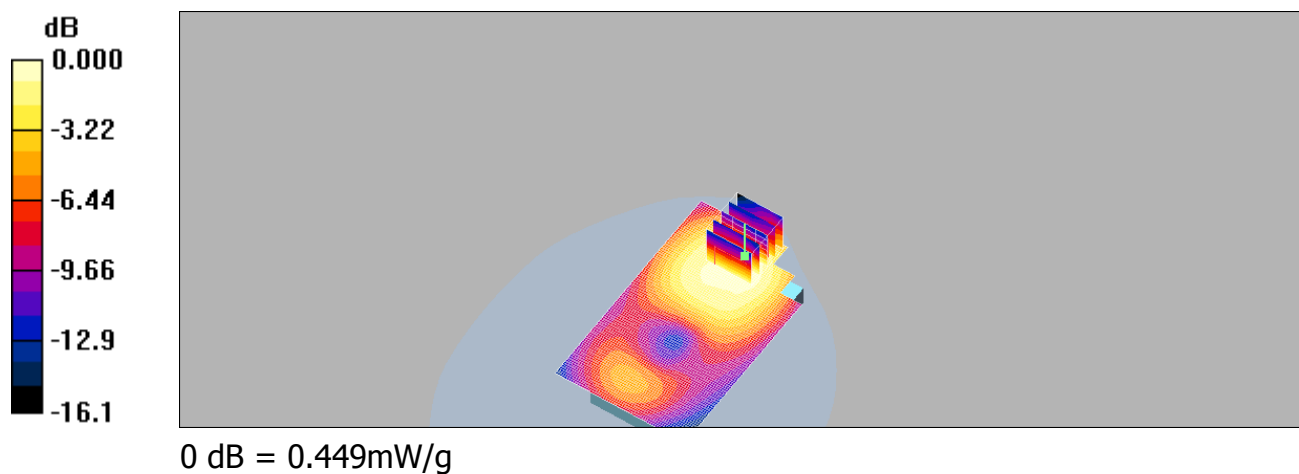
BODY_CH810 EGPRS mode

DUT: SP510;

Communication System: GSM1900; Frequency: 1909.8 MHz;Duty Cycle: 1:2
Medium: M1800 & 1900 Medium parameters used: f = 1910 MHz; σ = 1.59 mho/m; ε_r = 51.1; ρ = 1000 kg/m^3
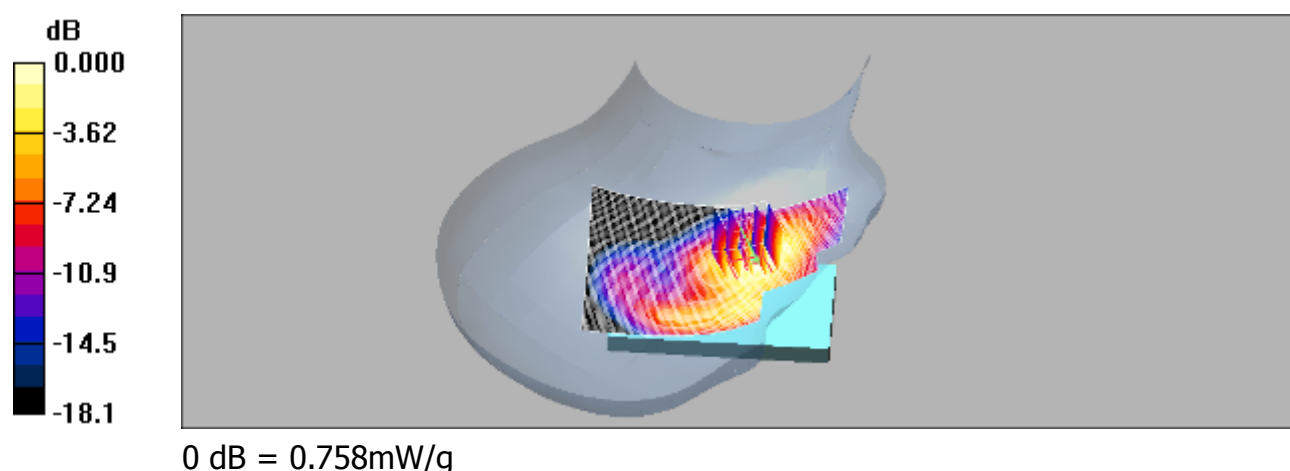Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM2; Type: SAM 4.0; Serial: TP:1270
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.405 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.90 V/m; Power Drift = -0.042 dB
Peak SAR (extrapolated) = 0.599 W/kg
SAR(1 g) = 0.374 mW/g; **SAR(10 g) = 0.229 mW/g**
Maximum value of SAR (measured) = 0.399 mW/g

0 dB = 0.399mW/g

RE CHEEK_ CH9262

DUT: SP510;

Communication System: WCDMA BAND2; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium: Head 1900 MHz Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.41 mho/m; ε_r = 41.2; ρ = 1000 kg/m^3
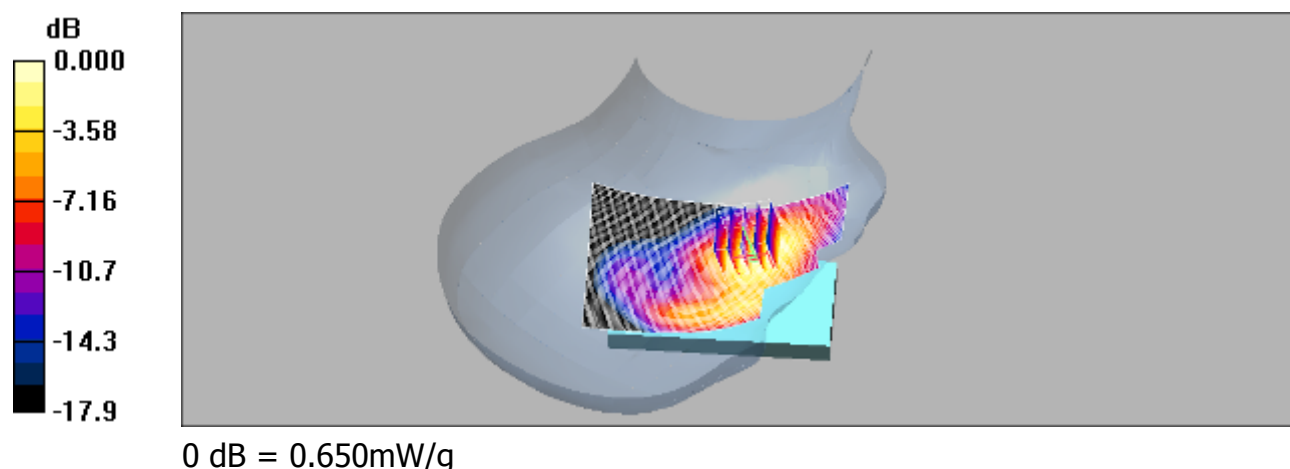Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.774 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.48 V/m; Power Drift = -0.102 dB
Peak SAR (extrapolated) = 1.14 W/kg

SAR(1 g) = 0.695 mW/g; **SAR(10 g) = 0.397 mW/g**
Maximum value of SAR (measured) = 0.758 mW/g

0 dB = 0.758mW/g

RE CHEEK_ CH9400

DUT: SP510;

Communication System: WCDMA BAND2; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium: Head 1900 MHz Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 41.1; ρ = 1000 kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.621 mW/g

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

Reference Value = 5.84 V/m; Power Drift = 0.186 dB

Peak SAR (extrapolated) = 0.968 W/kg

SAR(1 g) = 0.582 mW/g; **SAR(10 g) = 0.326 mW/g**

Maximum value of SAR (measured) = 0.650 mW/g

0 dB = 0.650mW/g

RE CHEEK_ CH9538

DUT: **SP510**;

Communication System: WCDMA BAND2; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium: Head 1900 MHz Medium parameters used: f = 1908 MHz; σ = 1.49 mho/m; $ε_r$ = 40.9; ρ = 1000 kg/m^3
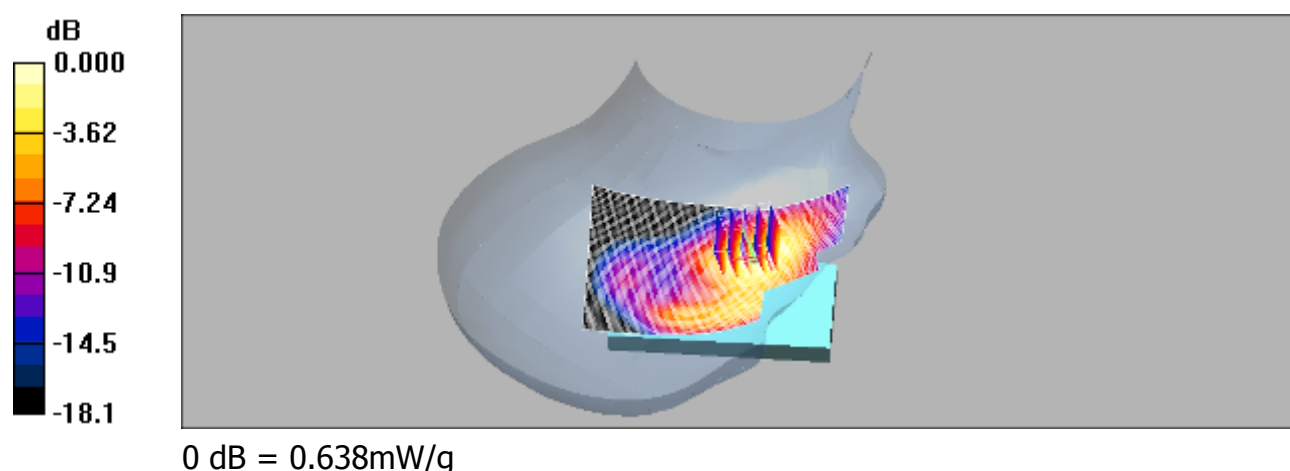Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.651 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.45 V/m; Power Drift = -0.060 dB
Peak SAR (extrapolated) = 0.963 W/kg

SAR(1 g) = 0.571 mW/g; **SAR(10 g) = 0.317 mW/g**
Maximum value of SAR (measured) = 0.638 mW/g

0 dB = 0.638mW/g

LE CHEEK_ CH9262

DUT: SP510;

Communication System: WCDMA BAND2; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium: Head 1900 MHz Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.41 mho/m; ε_r = 41.2; ρ = 1000 kg/m³
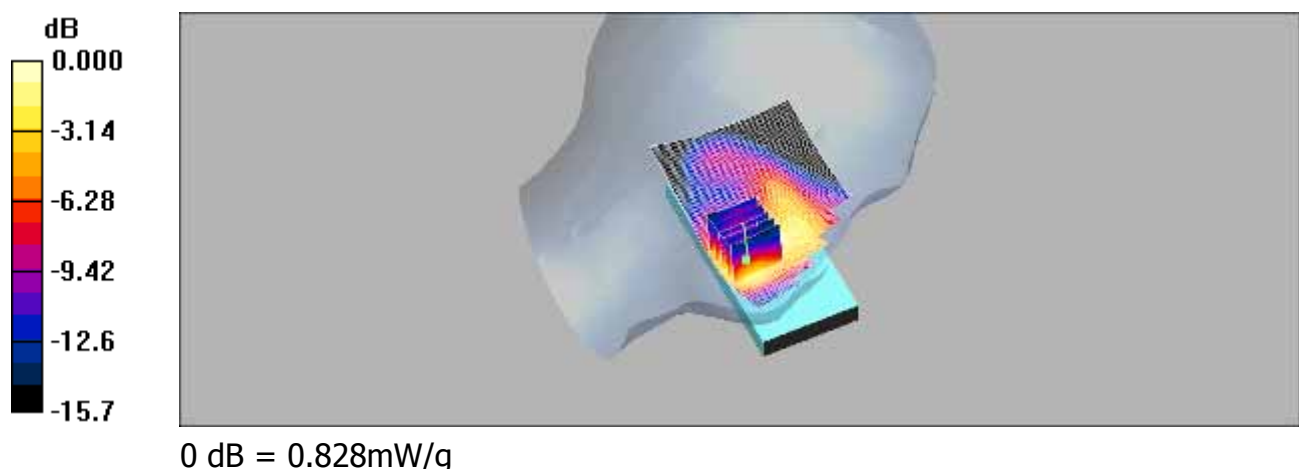Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.930 mW/g

LE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.77 V/m; Power Drift = -0.176 dB
Peak SAR (extrapolated) = 1.18 W/kg

SAR(1 g) = 0.746 mW/g; **SAR(10 g) = 0.435 mW/g**
Maximum value of SAR (measured) = 0.828 mW/g

0 dB = 0.828mW/g

LE CHEEK_ CH9400

DUT: SP510;

Communication System: WCDMA BAND2; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: Head 1900 MHz Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 41.1; ρ = 1000 kg/m^3
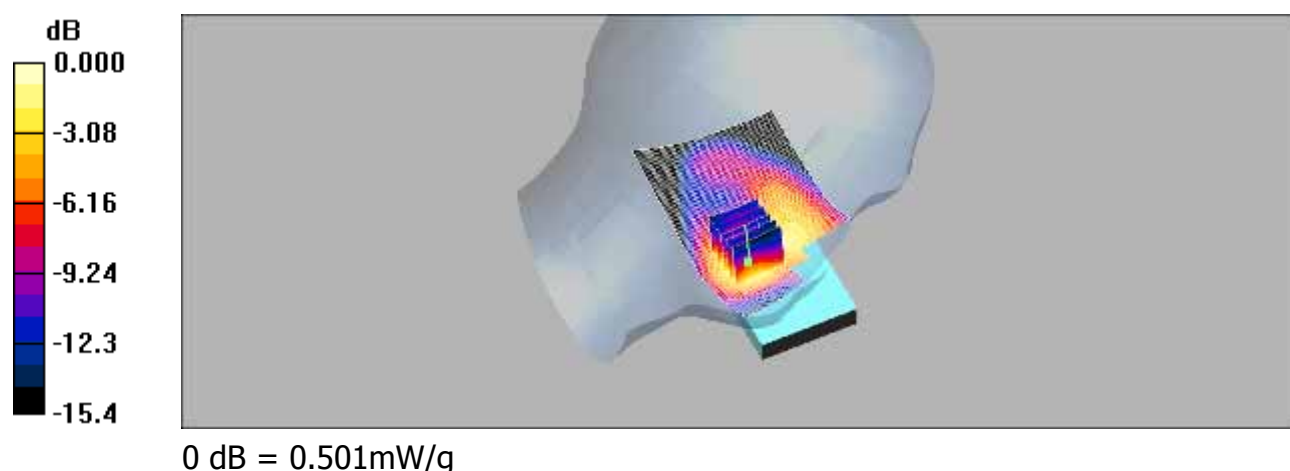Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.510 mW/g

LE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.37 V/m; Power Drift = 0.143 dB
Peak SAR (extrapolated) = 0.748 W/kg

SAR(1 g) = 0.468 mW/g; **SAR(10 g) = 0.270 mW/g**
Maximum value of SAR (measured) = 0.501 mW/g

0 dB = 0.501mW/g

LE CHEEK_ CH9538

DUT: SP510;

Communication System: WCDMA BAND2; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium: Head 1900 MHz Medium parameters used: f = 1908 MHz; σ = 1.49 mho/m; ε_r = 40.9; ρ = 1000 kg/m^3
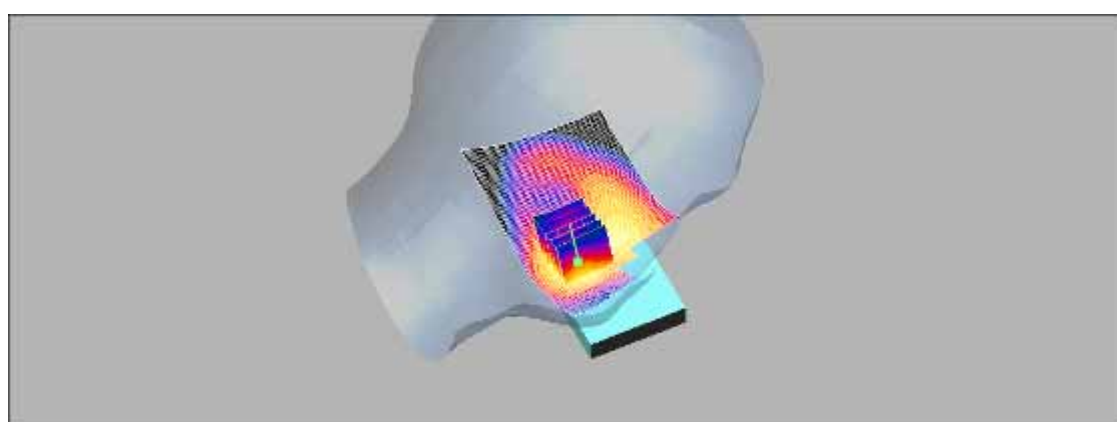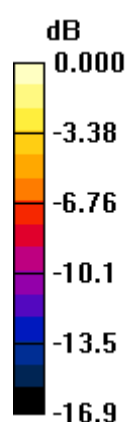Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.507 mW/g

LE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.91 V/m; Power Drift = -0.048 dB
Peak SAR (extrapolated) = 0.757 W/kg

SAR(1 g) = 0.462 mW/g; **SAR(10 g) = 0.263 mW/g**
Maximum value of SAR (measured) = 0.495 mW/g

0 dB = 0.495mW/g

RE TILT_ CH9262

DUT: SP510;

Communication System: WCDMA BAND2; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium: Head 1900 MHz Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.41 mho/m; ε_r = 41.2; ρ = 1000 kg/m^3
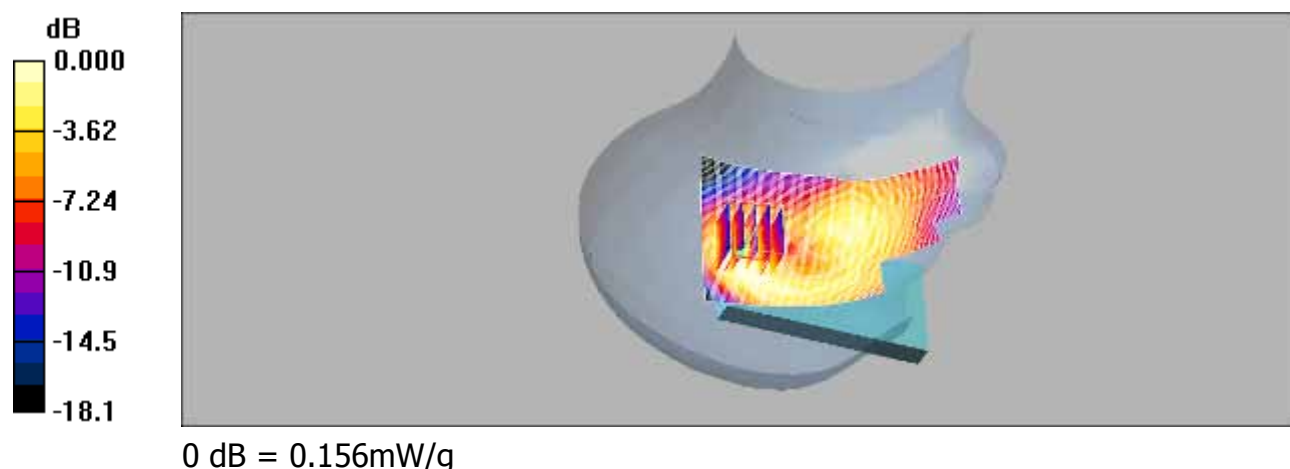Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.162 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.0 V/m; Power Drift = -0.132 dB
Peak SAR (extrapolated) = 0.240 W/kg

SAR(1 g) = 0.142 mW/g; **SAR(10 g) = 0.082 mW/g**
Maximum value of SAR (measured) = 0.156 mW/g

0 dB = 0.156mW/g

RE TILT _ CH9400

DUT: SP510;

Communication System: WCDMA BAND2; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: Head 1900 MHz Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 41.1; ρ = 1000 kg/m^3
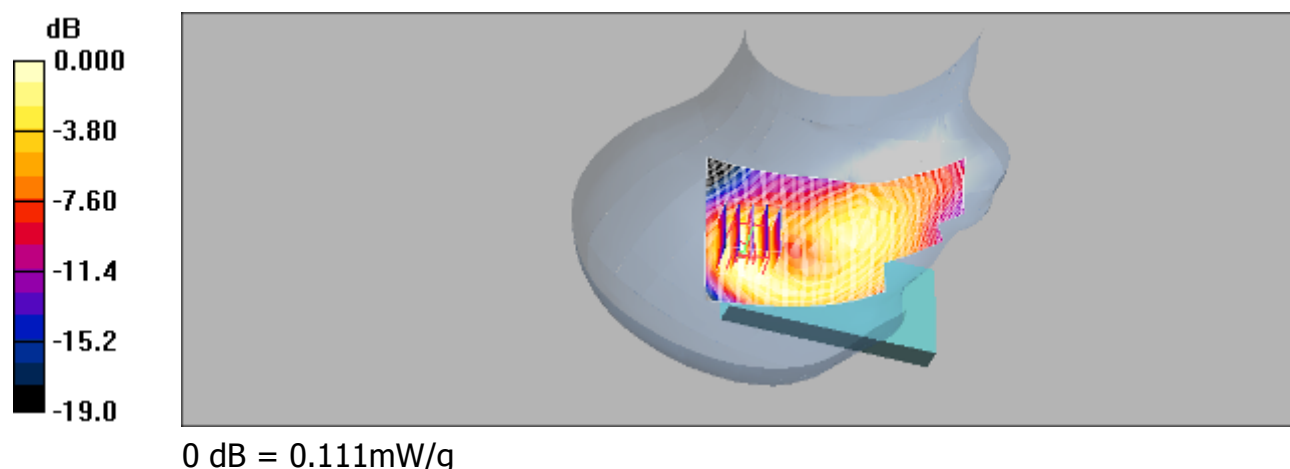Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.112 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.91 V/m; Power Drift = -0.031 dB
Peak SAR (extrapolated) = 0.172 W/kg

SAR(1 g) = 0.101 mW/g; **SAR(10 g) = 0.057 mW/g**
Maximum value of SAR (measured) = 0.111 mW/g

0 dB = 0.111mW/g

RE TILT _ CH9538

DUT: SP510;

Communication System: WCDMA BAND2; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium: Head 1900 MHz Medium parameters used: f = 1908 MHz; σ = 1.49 mho/m; ε$_r$ = 40.9; ρ = 1000 kg/m^3
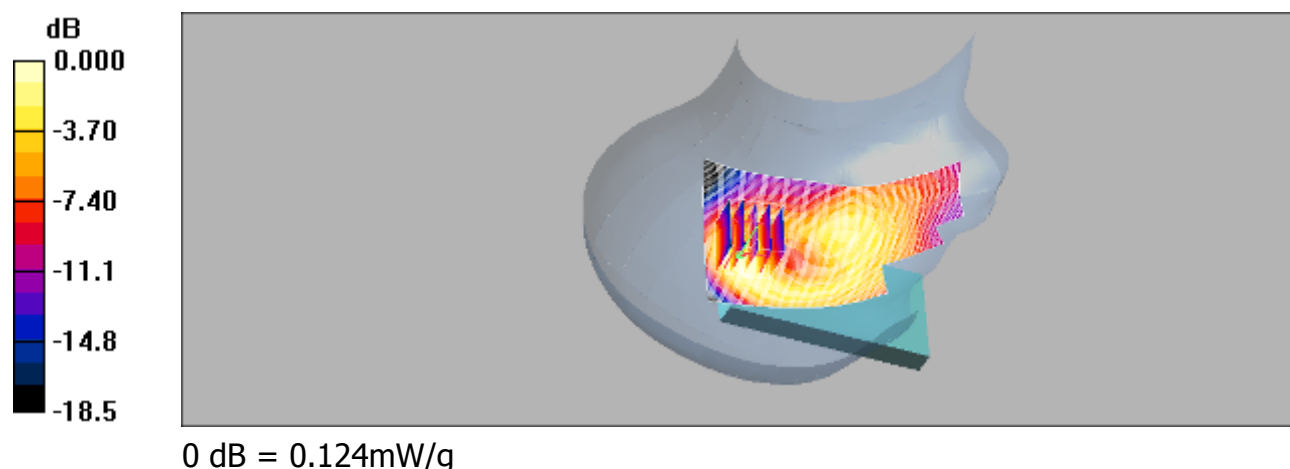Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.130 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.38 V/m; Power Drift = -0.018 dB
Peak SAR (extrapolated) = 0.193 W/kg

SAR(1 g) = 0.112 mW/g; **SAR(10 g) = 0.062 mW/g**
Maximum value of SAR (measured) = 0.124 mW/g

0 dB = 0.124mW/g

LE TILT_ CH9262

DUT: SP510;

Communication System: WCDMA BAND2; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium: Head 1900 MHz Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.41 mho/m; ε_r = 41.2; ρ = 1000 kg/m^3
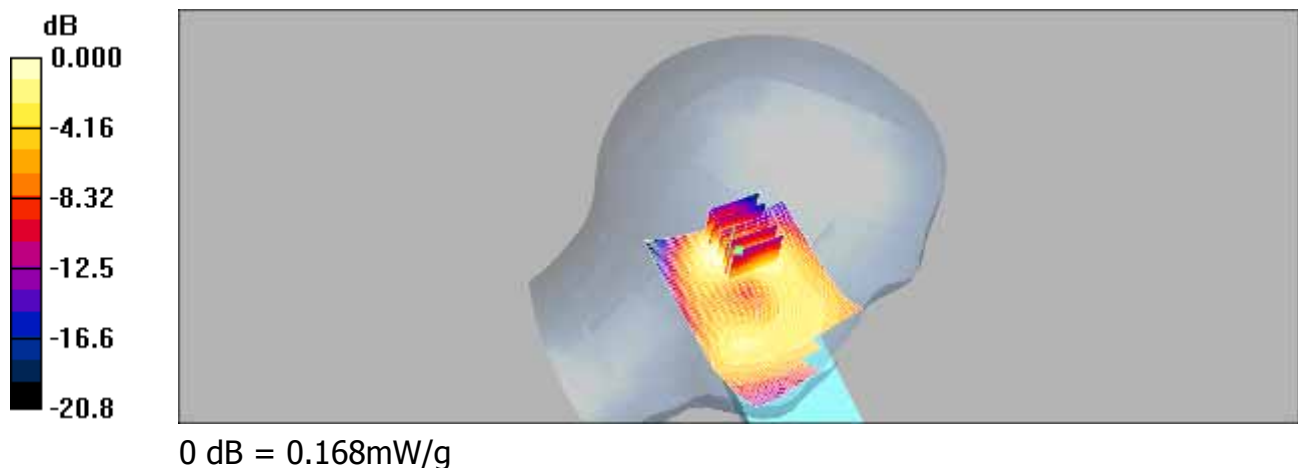Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.183 mW/g

LE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.7 V/m; Power Drift = -0.131 dB
Peak SAR (extrapolated) = 0.257 W/kg

SAR(1 g) = 0.154 mW/g; **SAR(10 g) = 0.089 mW/g**
Maximum value of SAR (measured) = 0.168 mW/g

0 dB = 0.168mW/g

LE TILT_ CH9400

DUT: SP510;

Communication System: WCDMA BAND2; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: Head 1900 MHz Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 41.1; ρ = 1000 kg/m^3
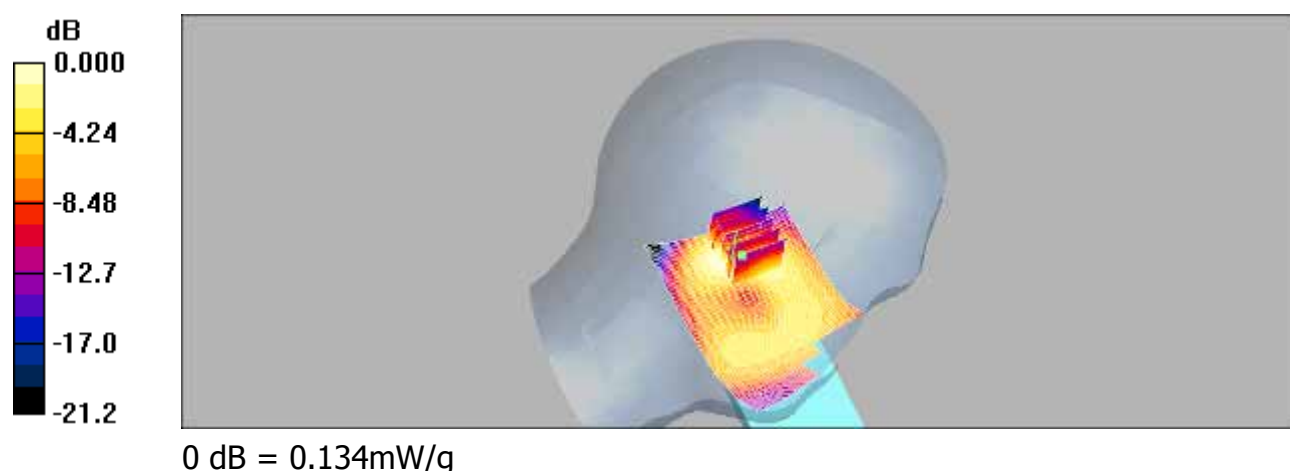Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.144 mW/g

LE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.0 V/m; Power Drift = -0.100 dB
Peak SAR (extrapolated) = 0.208 W/kg

SAR(1 g) = 0.125 mW/g; **SAR(10 g) = 0.071 mW/g**
Maximum value of SAR (measured) = 0.134 mW/g

0 dB = 0.134mW/g

LE TILT_ CH9538

DUT: SP510;

Communication System: WCDMA BAND2; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium: Head 1900 MHz Medium parameters used: f = 1908 MHz; σ = 1.49 mho/m; $ε_r$ = 40.9; ρ = 1000 kg/m^3
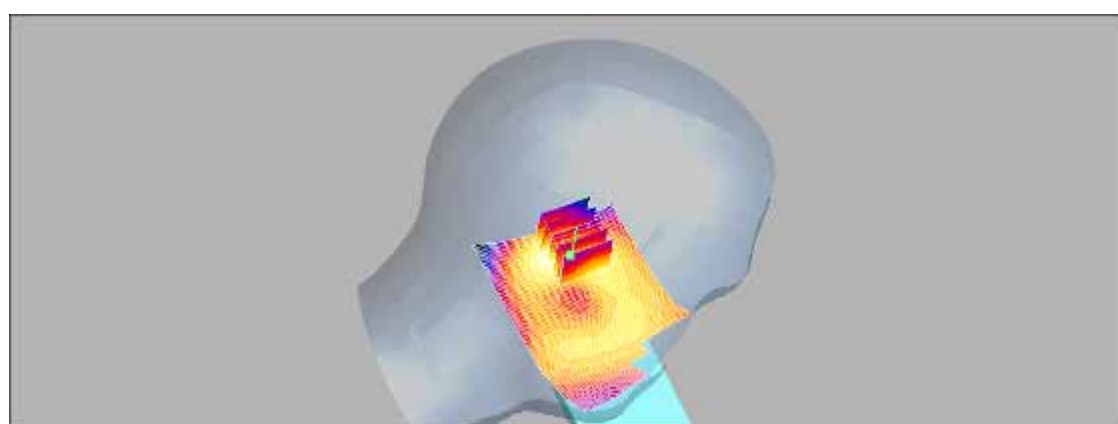Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.152 mW/g

LE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.50 V/m; Power Drift = 0.173 dB
Peak SAR (extrapolated) = 0.230 W/kg

SAR(1 g) = 0.137 mW/g; **SAR(10 g) = 0.078 mW/g**
Maximum value of SAR (measured) = 0.149 mW/g

0 dB = 0.149mW/g

LE CHEEK_ CH9262_repeated with Memory card

DUT: SP510;

Communication System: WCDMA BAND2; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium: Head 1900 MHz Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.41
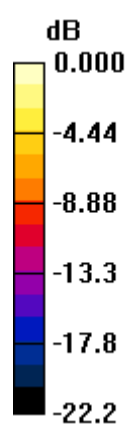mho/m; ε_r = 41.2; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.926 mW/g

LE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.85 V/m; Power Drift = -0.187 dB
Peak SAR (extrapolated) = 1.28 W/kg

SAR(1 g) = 0.764 mW/g; SAR(10 g) = 0.434 mW/g
Maximum value of SAR (measured) = 0.831 mW/g

0 dB = 0.831mW/g

BODY_CH9262

DUT: **SP510**;

Communication System: WCDMA BAND2; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium: M1800 & 1900 Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.53
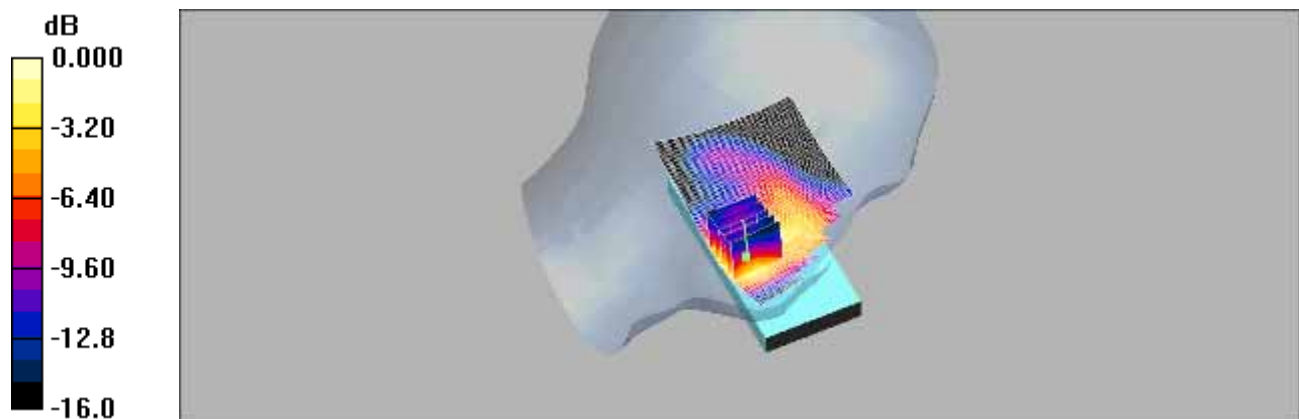mho/m; ε_r = 53.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186
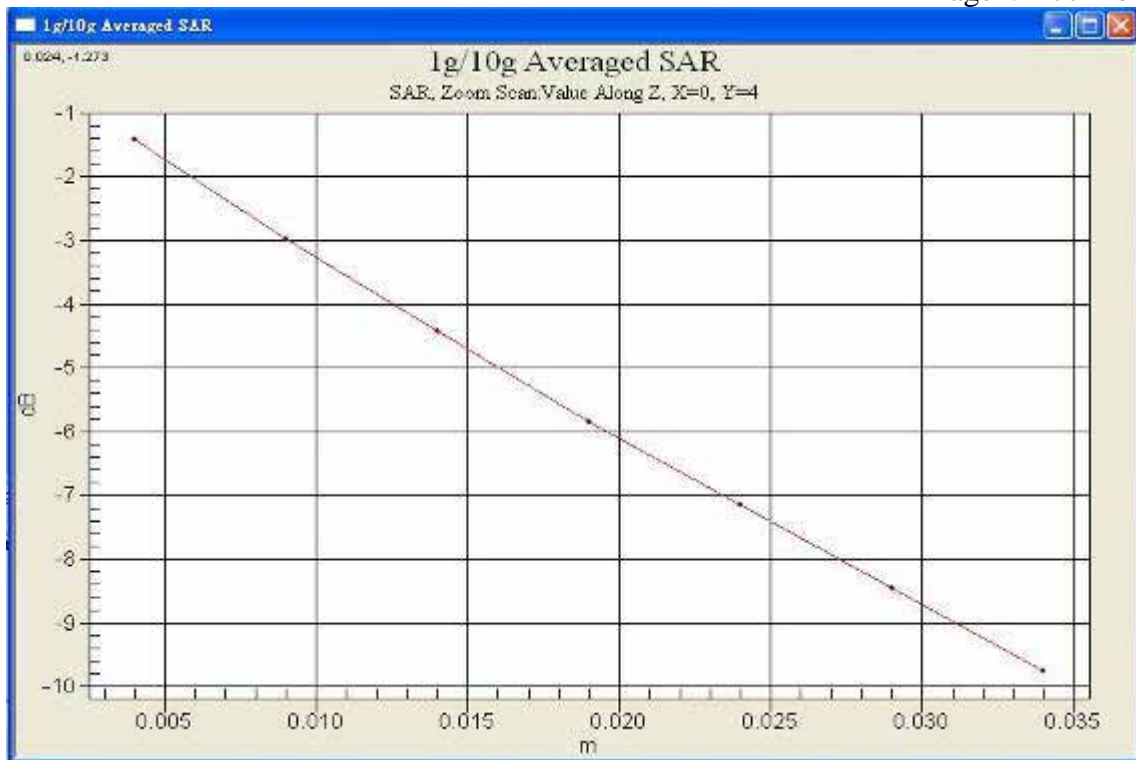
BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.355 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.08 V/m; Power Drift = -0.143 dB
Peak SAR (extrapolated) = 0.472 W/kg

SAR(1 g) = 0.310 mW/g; SAR(10 g) = 0.199 mW/g
Maximum value of SAR (measured) = 0.334 mW/g

0 dB = 0.334mW/g

BODY_CH9400

DUT: SP510;

Communication System: WCDMA BAND2; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium: M1800 & 1900 Medium parameters used: f = 1880 MHz; σ = 1.56 mho/m; $ε_r$ = 53.5; ρ = 1000 kg/m^3
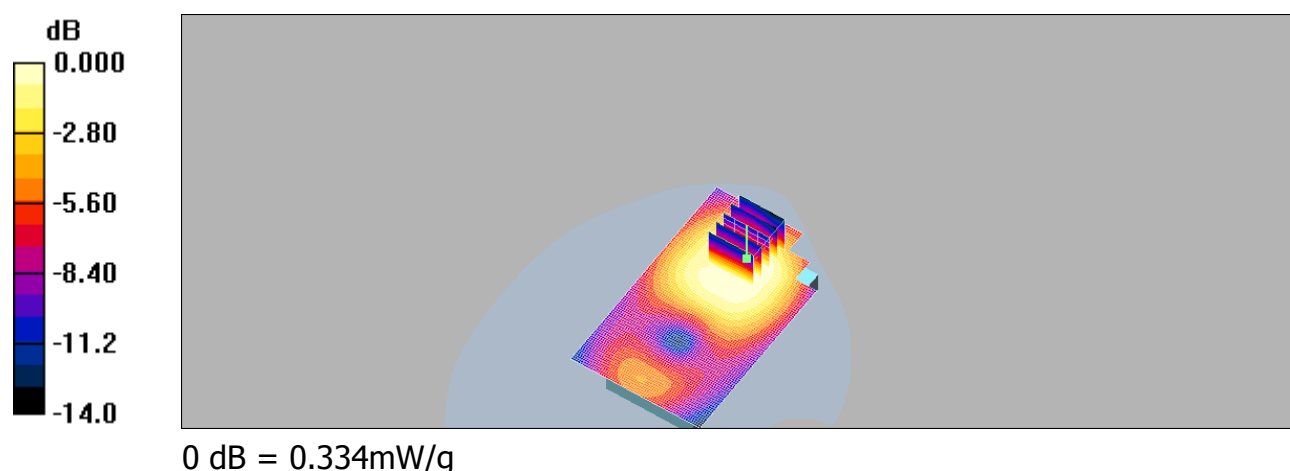
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.254 mW/g

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

Reference Value = 5.84 V/m; Power Drift = 0.184 dB

Peak SAR (extrapolated) = 0.356 W/kg

SAR(1 g) = 0.231 mW/g; SAR(10 g) = 0.146 mW/g

Maximum value of SAR (measured) = 0.251 mW/g

0 dB = 0.251mW/g

BODY_CH9538

DUT: SP510;

Communication System: WCDMA BAND2; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium: M1800 & 1900 Medium parameters used: f = 1908 MHz; σ = 1.59 mho/m; $ε_r$ = 53.4;
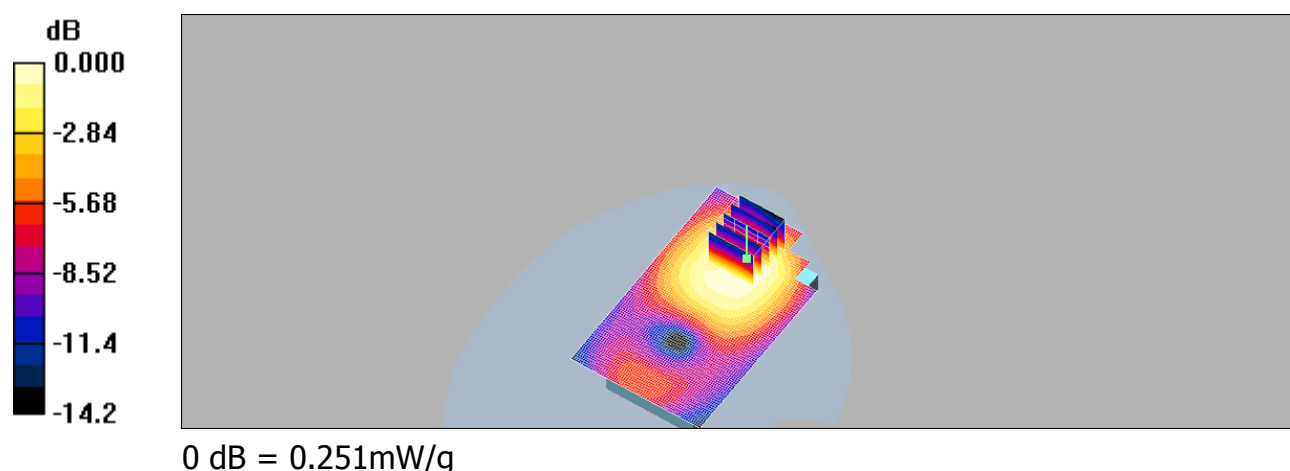ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.291 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.37 V/m; Power Drift = -0.035 dB
Peak SAR (extrapolated) = 0.405 W/kg

SAR(1 g) = 0.259 mW/g; SAR(10 g) = 0.161 mW/g
Maximum value of SAR (measured) = 0.283 mW/g

0 dB = 0.283mW/g

BODY_CH9262_HSDPA mode

DUT: SP510;

Communication System: WCDMA BAND2; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium: M1800 & 1900 Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.53
mho/m; ε_r = 53.5; ρ = 1000 kg/m^3
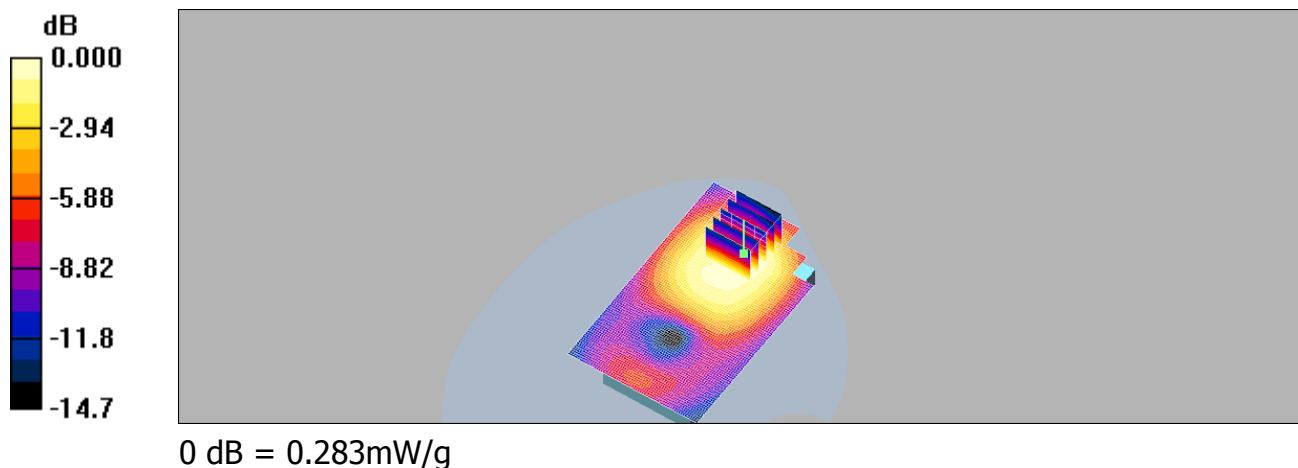Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.300 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.57 V/m; Power Drift = -0.163 dB
Peak SAR (extrapolated) = 0.400 W/kg

SAR(1 g) = 0.261 mW/g; SAR(10 g) = 0.167 mW/g
Maximum value of SAR (measured) = 0.281 mW/g

0 dB = 0.281mW/g

BODY_CH9400_ HSDPA mode

DUT: SP510;

Communication System: WCDMA BAND2; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: M1800 & 1900 Medium parameters used: f = 1880 MHz; σ = 1.56 mho/m; $ε_r$ = 53.5;
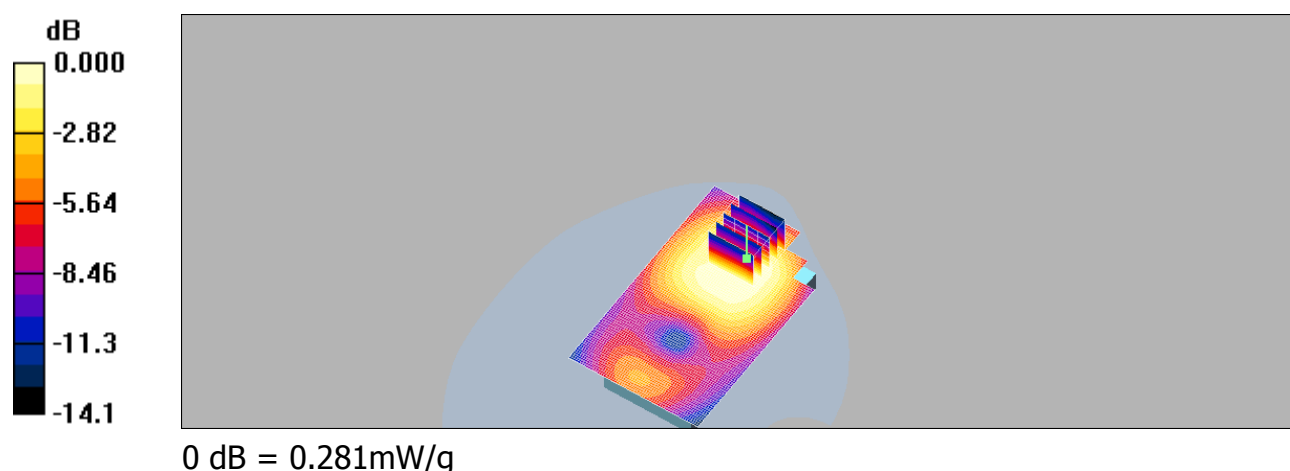ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.239 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.74 V/m; Power Drift = 0.039 dB
Peak SAR (extrapolated) = 0.330 W/kg

SAR(1 g) = 0.214 mW/g; SAR(10 g) = 0.135 mW/g
Maximum value of SAR (measured) = 0.232 mW/g

0 dB = 0.232mW/g

BODY_CH9538_ HSDPA mode

DUT: SP510;

Communication System: WCDMA BAND2; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium: M1800 & 1900 Medium parameters used: f = 1908 MHz; σ = 1.59 mho/m; ε_r = 53.4;
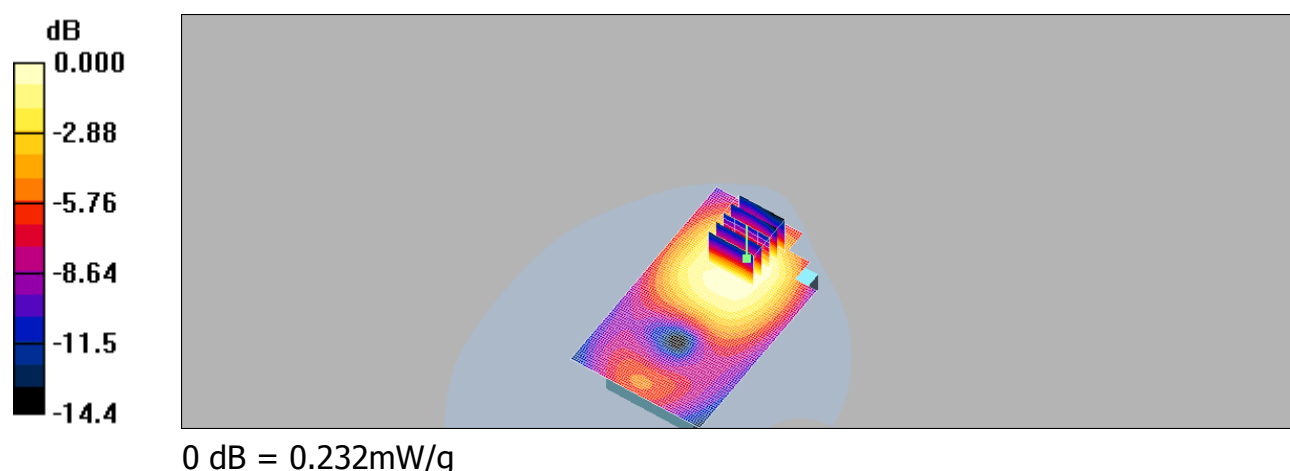ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.274 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.21 V/m; Power Drift = -0.065 dB
Peak SAR (extrapolated) = 0.374 W/kg

SAR(1 g) = 0.239 mW/g; SAR(10 g) = 0.149 mW/g
Maximum value of SAR (measured) = 0.260 mW/g

0 dB = 0.260mW/g

RE CHEEK_ CH4132

DUT: SP510;

Communication System: WCDMA BAND5; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium: Head 850 MHz Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.871
mho/m; ε_r = 42.2; ρ = 1000 kg/m^3
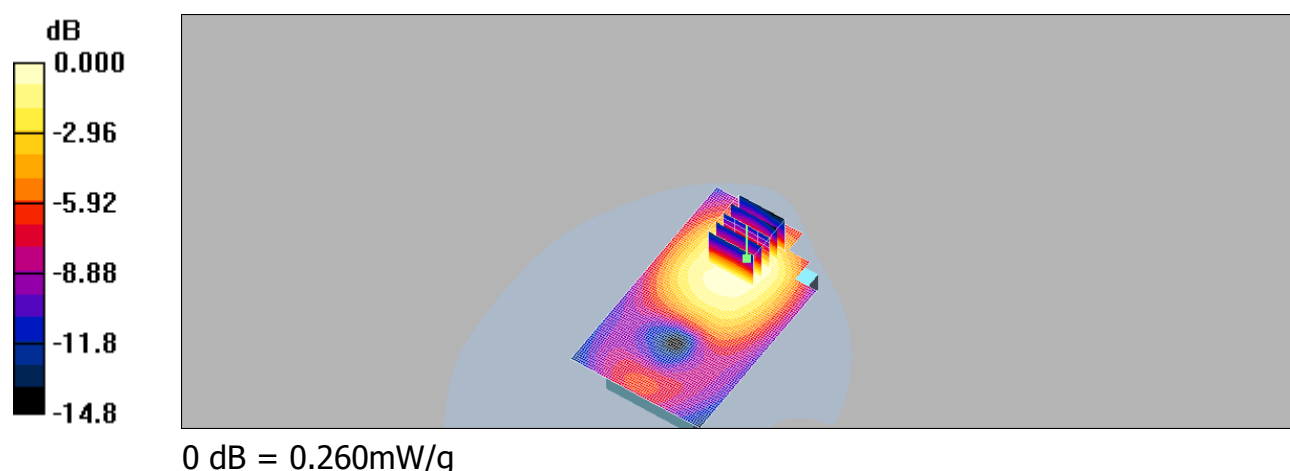Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.166 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 4.63 V/m; Power Drift = -0.132 dB
Peak SAR (extrapolated) = 0.207 W/kg

SAR(1 g) = 0.150 mW/g; **SAR(10 g) = 0.117 mW/g**
Maximum value of SAR (measured) = 0.156 mW/g

0 dB = 0.156mW/g

RE CHEEK_ CH4183

DUT: **SP510**;

Communication System: WCDMA BAND5; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium: Head 850 MHz Medium parameters used: f = 837 MHz; σ = 0.88 mho/m; ε_r = 42.1;
ρ = 1000 kg/m^3
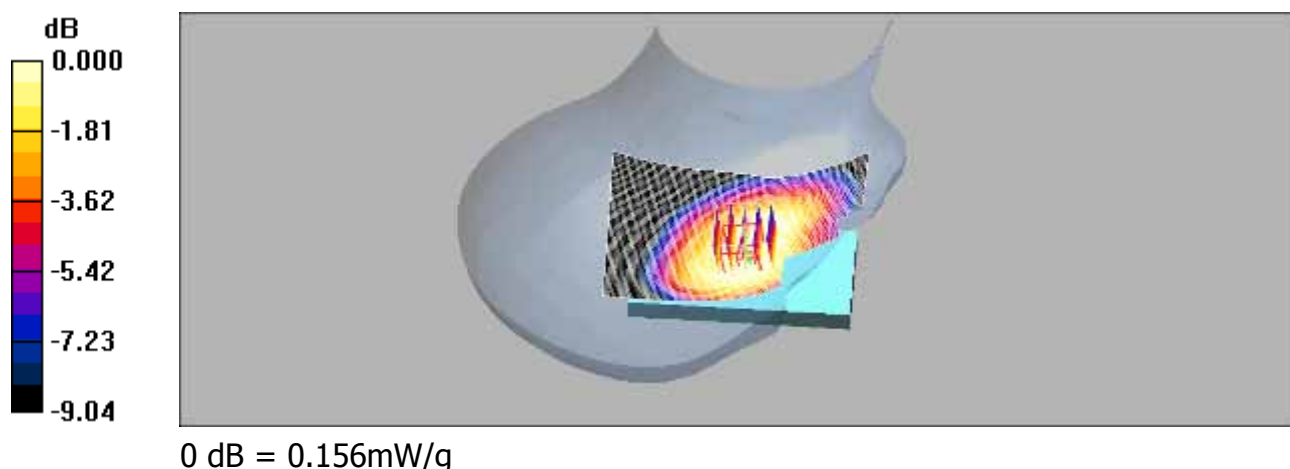Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.162 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 4.30 V/m; Power Drift = -0.038 dB
Peak SAR (extrapolated) = 0.200 W/kg

SAR(1 g) = 0.148 mW/g; **SAR(10 g) = 0.115 mW/g**
Maximum value of SAR (measured) = 0.155 mW/g

0 dB = 0.155mW/g

RE CHEEK_ CH4233

DUT: SP510;

Communication System: WCDMA BAND5; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium: Head 850 MHz Medium parameters used: f = 847 MHz; σ = 0.89 mho/m; ε_r = 41.9;
ρ = 1000 kg/m^3
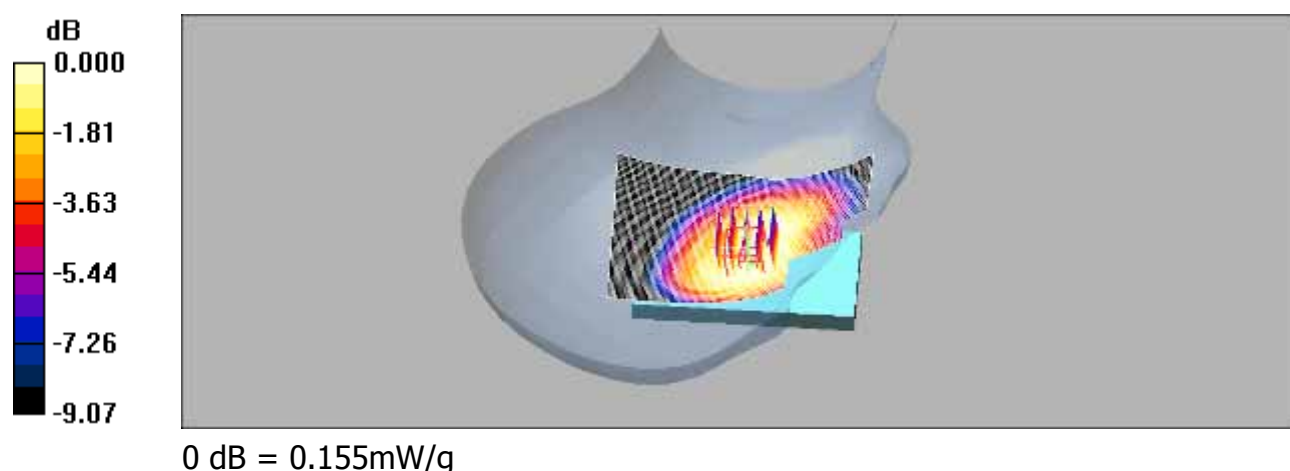Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.159 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 4.27 V/m; Power Drift = 0.052 dB
Peak SAR (extrapolated) = 0.194 W/kg

SAR(1 g) = 0.149 mW/g; **SAR(10 g) = 0.116 mW/g**
Maximum value of SAR (measured) = 0.155 mW/g

0 dB = 0.155mW/g

LE CHEEK_ CH4132

DUT: SP510;

Communication System: WCDMA BAND5; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium: Head 850 MHz Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.871 mho/m; ε_r = 42.2; ρ = 1000 kg/m³
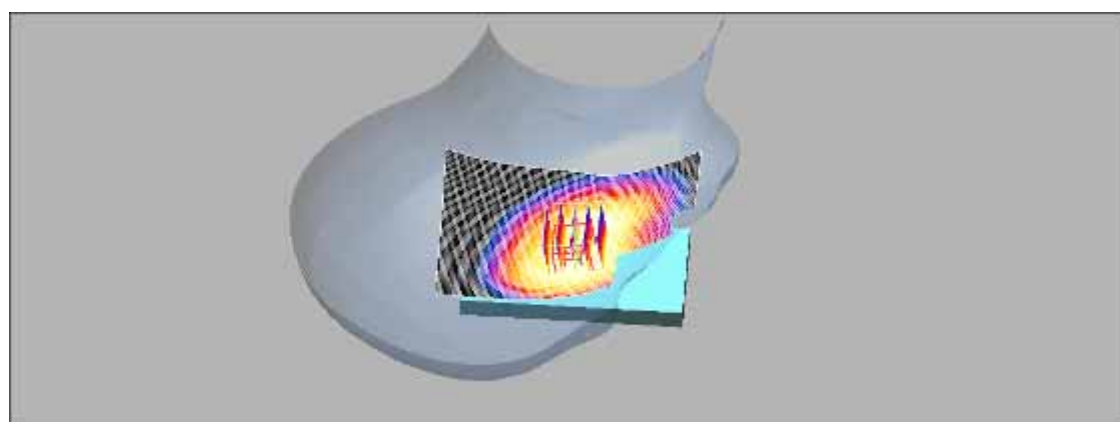Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.198 mW/g

LE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.49 V/m; Power Drift = 0.030 dB
Peak SAR (extrapolated) = 0.230 W/kg

SAR(1 g) = 0.182 mW/g; **SAR(10 g) = 0.136 mW/g**
Maximum value of SAR (measured) = 0.194 mW/g

0 dB = 0.194mW/g

LE CHEEK_ CH4183

DUT: **SP510**;

Communication System: WCDMA BAND5; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium: Head 850 MHz Medium parameters used: f = 837 MHz; σ = 0.88 mho/m; $ε_r$ = 42.1; ρ = 1000 kg/m^3
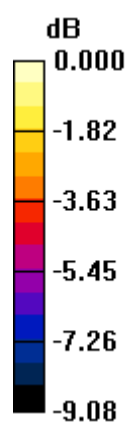Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.200 mW/g

LE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.52 V/m; Power Drift = -0.118 dB
Peak SAR (extrapolated) = 0.232 W/kg

SAR(1 g) = 0.184 mW/g; **SAR(10 g) = 0.137 mW/g**
Maximum value of SAR (measured) = 0.196 mW/g

0 dB = 0.196mW/g

LE CHEEK_ CH4233

DUT: SP510;

Communication System: WCDMA BAND5; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium: Head 850 MHz Medium parameters used: f = 847 MHz; σ = 0.89 mho/m; ε_r = 41.9; ρ = 1000 kg/m^3
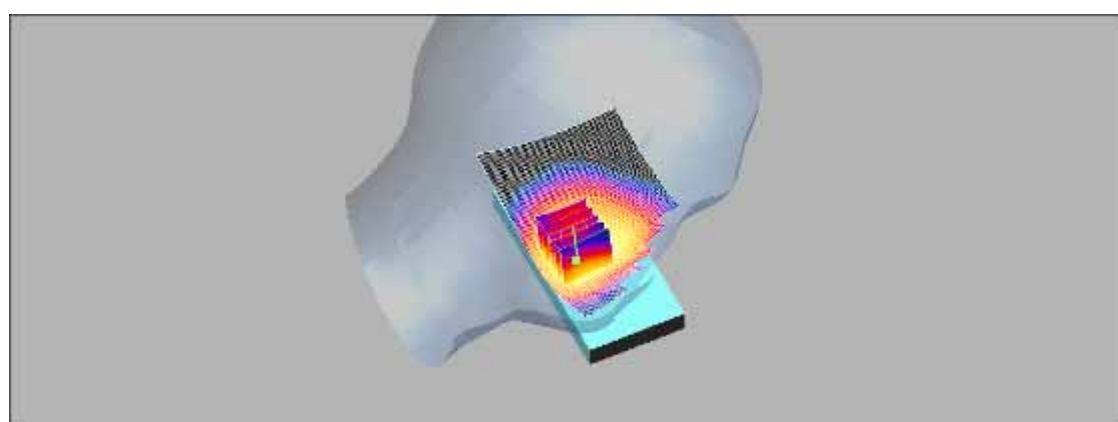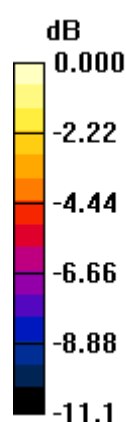Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.208 mW/g

LE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.45 V/m; Power Drift = 0.043 dB
Peak SAR (extrapolated) = 0.245 W/kg

SAR(1 g) = 0.194 mW/g; **SAR(10 g) = 0.145 mW/g**
Maximum value of SAR (measured) = 0.207 mW/g

0 dB = 0.207mW/g

RE TILT_ CH4132

DUT: SP510;

Communication System: WCDMA BAND5; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium: Head 850 MHz Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.871 mho/m; ε_r = 42.2; ρ = 1000 kg/m^3
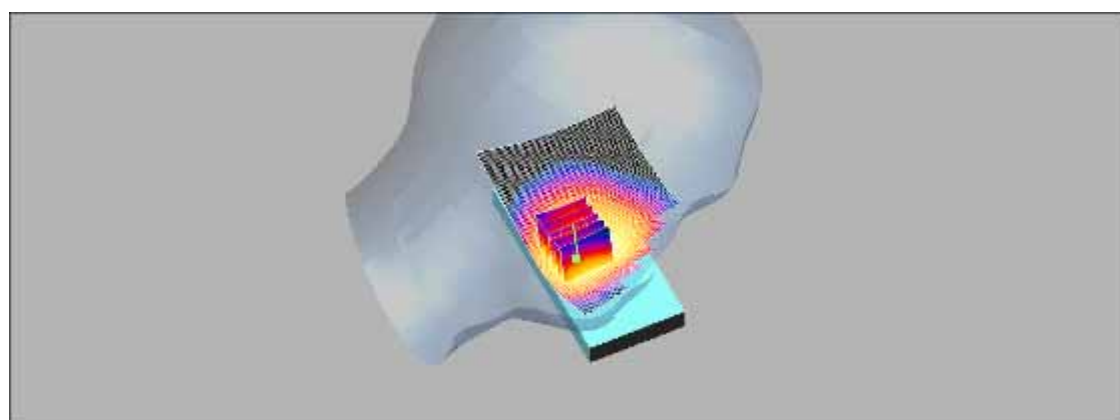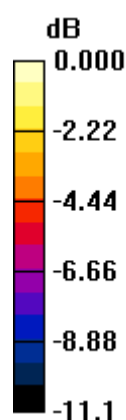Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.118 mW/g

RE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.32 V/m; Power Drift = 0.089 dB
Peak SAR (extrapolated) = 0.138 W/kg

SAR(1 g) = 0.113 mW/g; SAR(10 g) = 0.087 mW/g
Maximum value of SAR (measured) = 0.118 mW/g

0 dB = 0.118mW/g

RE TILT_ CH4183

DUT: **SP510**;

Communication System: WCDMA BAND5; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium: Head 850 MHz Medium parameters used: f = 837 MHz; σ = 0.88 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
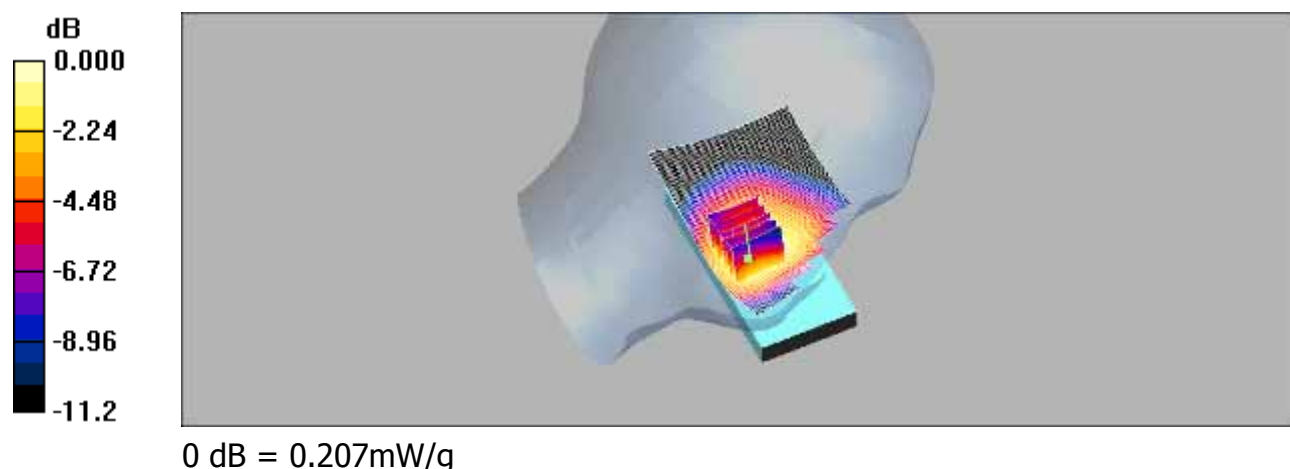Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.120 mW/g

RE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.36 V/m; Power Drift = -0.040 dB
Peak SAR (extrapolated) = 0.139 W/kg

SAR(1 g) = 0.113 mW/g; SAR(10 g) = 0.087 mW/g
Maximum value of SAR (measured) = 0.118 mW/g

0 dB = 0.118mW/g

RE TILT_ CH4233

DUT: SP510;

Communication System: WCDMA BAND5; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium: Head 850 MHz Medium parameters used: f = 847 MHz; σ = 0.89 mho/m; ε_r = 41.9;
ρ = 1000 kg/m^3
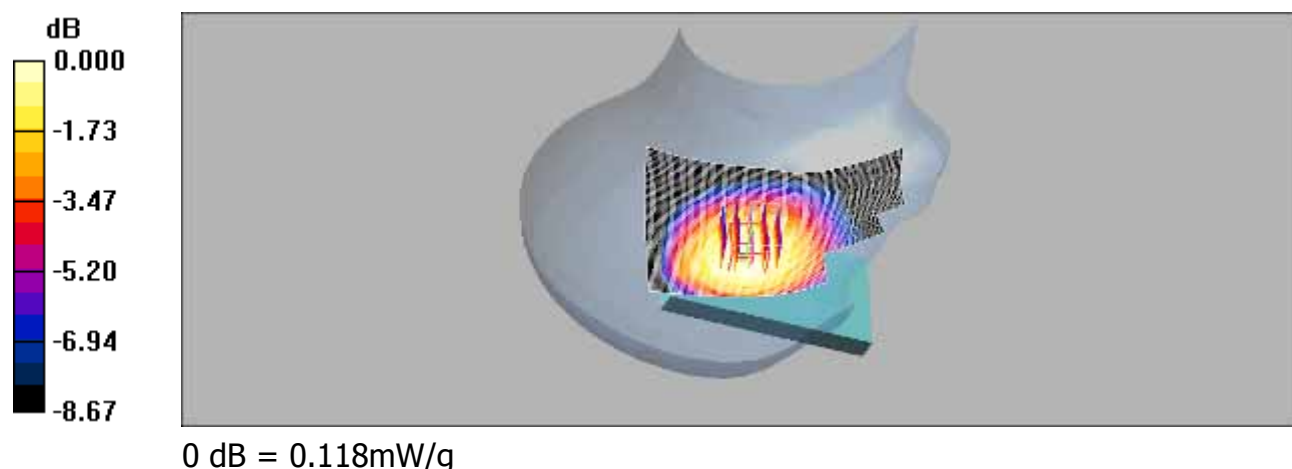Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.120 mW/g

RE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 7.33 V/m; Power Drift = 0.054 dB
Peak SAR (extrapolated) = 0.142 W/kg

SAR(1 g) = 0.116 mW/g; **SAR(10 g) = 0.089 mW/g**
Maximum value of SAR (measured) = 0.120 mW/g

0 dB = 0.120mW/g

LE TILT_ CH4132

DUT: SP510;

Communication System: WCDMA BAND5; Frequency: 826.4 MHz; Duty Cycle: 1:1
Medium: Head 850 MHz Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.871 mho/m; ε_r = 42.2; ρ = 1000 kg/m^3
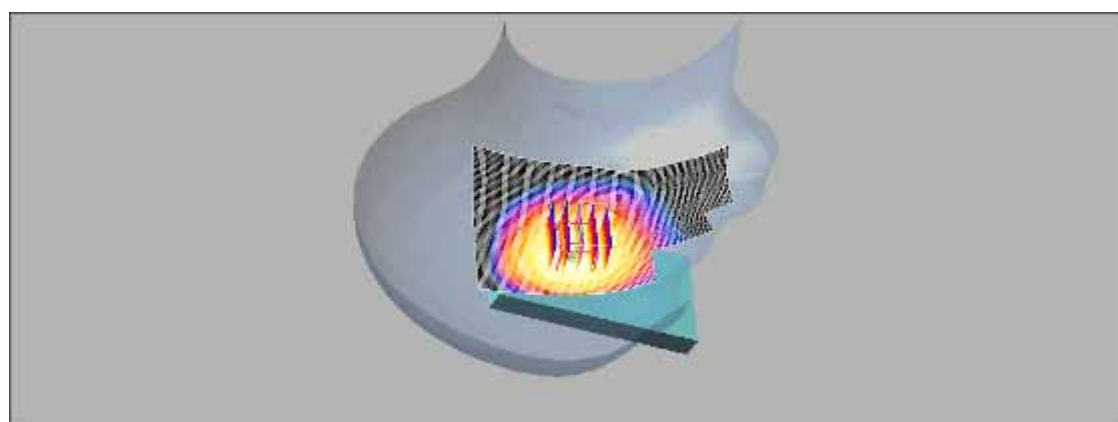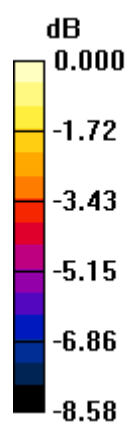Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.100 mW/g

LE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.16 V/m; Power Drift = -0.012 dB
Peak SAR (extrapolated) = 0.116 W/kg

SAR(1 g) = 0.095 mW/g; **SAR(10 g) = 0.074 mW/g**
Maximum value of SAR (measured) = 0.099 mW/g

0 dB = 0.099mW/g

LE TILT_ CH4183

DUT: SP510;

Communication System: WCDMA BAND5; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium: Head 850 MHz Medium parameters used: f = 837 MHz; σ = 0.88 mho/m; ε_r = 42.1;
ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.104 mW/g

LE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 7.28 V/m; Power Drift = -0.059 dB
Peak SAR (extrapolated) = 0.121 W/kg

SAR(1 g) = 0.099 mW/g; **SAR(10 g) = 0.077 mW/g**
Maximum value of SAR (measured) = 0.104 mW/g

0 dB = 0.104mW/g

LE TILT_ CH4233

DUT: SP510;

Communication System: WCDMA BAND5; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium: Head 850 MHz Medium parameters used: f = 847 MHz; σ = 0.89 mho/m; $ε_r$ = 41.9;
ρ = 1000 kg/m^3
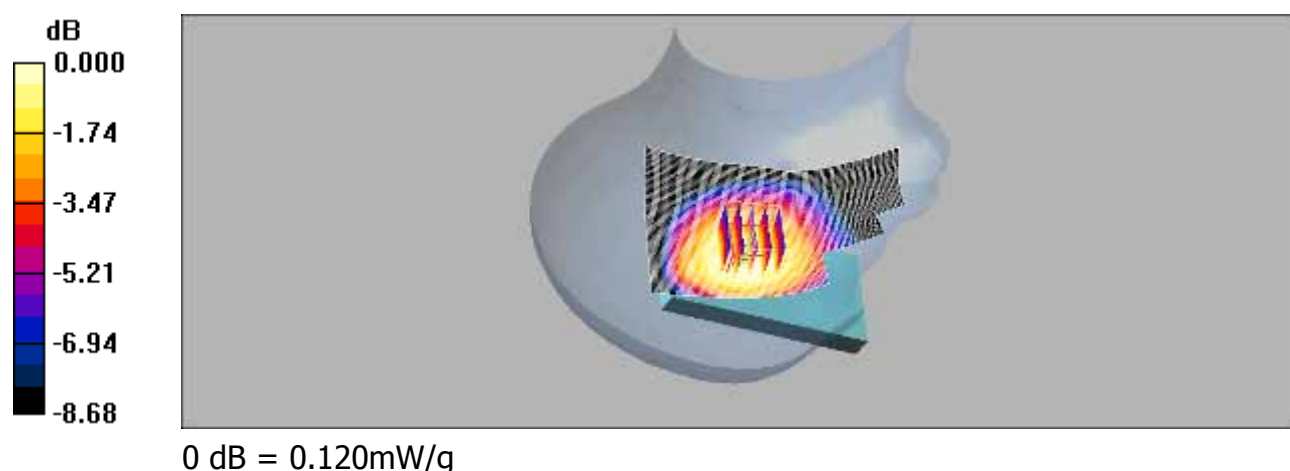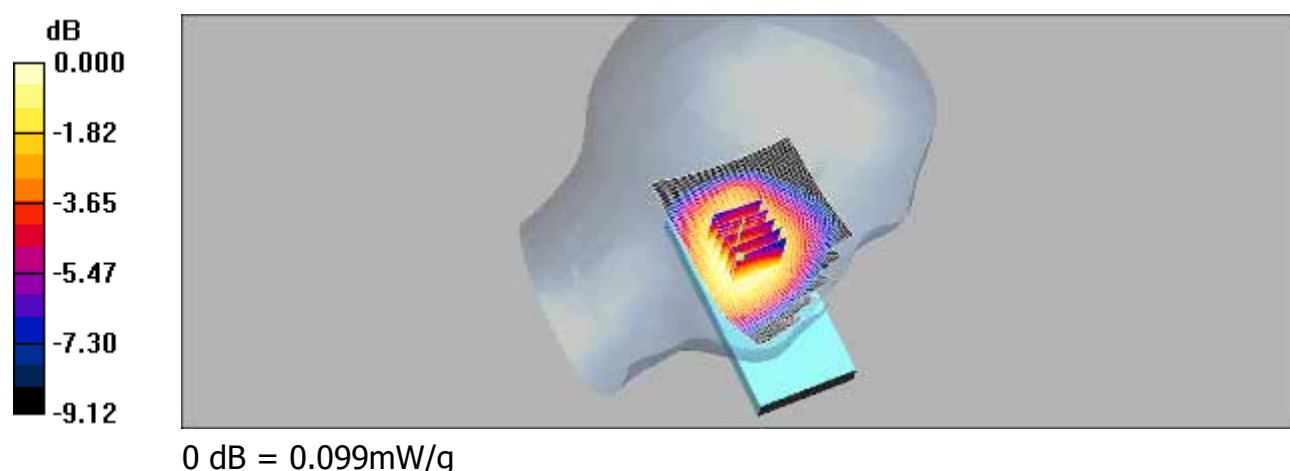Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.112 mW/g

LE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 7.42 V/m; Power Drift = 0.056 dB
Peak SAR (extrapolated) = 0.132 W/kg

SAR(1 g) = 0.108 mW/g; **SAR(10 g) = 0.083 mW/g**
Maximum value of SAR (measured) = 0.113 mW/g

0 dB = 0.113mW/g

BODY_CH4132

DUT: SP510;

Communication System: WCDMA BAND5; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium: Muscle 900 MHz Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.94 mho/m; ε_r = 55.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.87, 10.87, 10.87); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.318 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.10 V/m; Power Drift = -0.108 dB
Peak SAR (extrapolated) = 0.390 W/kg

SAR(1 g) = 0.299 mW/g; SAR(10 g) = 0.220 mW/g
Maximum value of SAR (measured) = 0.314 mW/g

0 dB = 0.314mW/g

BODY_CH4183

DUT: SP510;

Communication System: WCDMA BAND5; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium: Muscle 900 MHz Medium parameters used: f = 837 MHz; σ = 0.945 mho/m; $ε_r$ = 55.1; ρ = 1000 kg/m^3
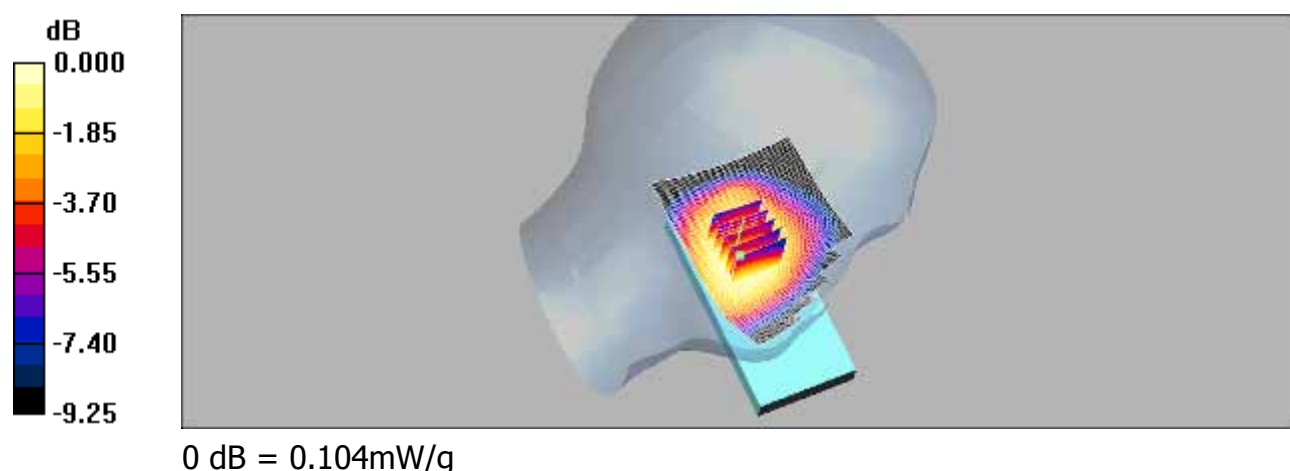Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.87, 10.87, 10.87); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.314 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.99 V/m; Power Drift = 0.017 dB
Peak SAR (extrapolated) = 0.382 W/kg

SAR(1 g) = 0.294 mW/g; **SAR(10 g) = 0.218 mW/g**
Maximum value of SAR (measured) = 0.308 mW/g

0 dB = 0.308mW/g

BODY_CH4233

DUT: SP510;

Communication System: WCDMA BAND5; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium: Muscle 900 MHz Medium parameters used: f = 847 MHz; σ = 0.949 mho/m; ε_r = 55;
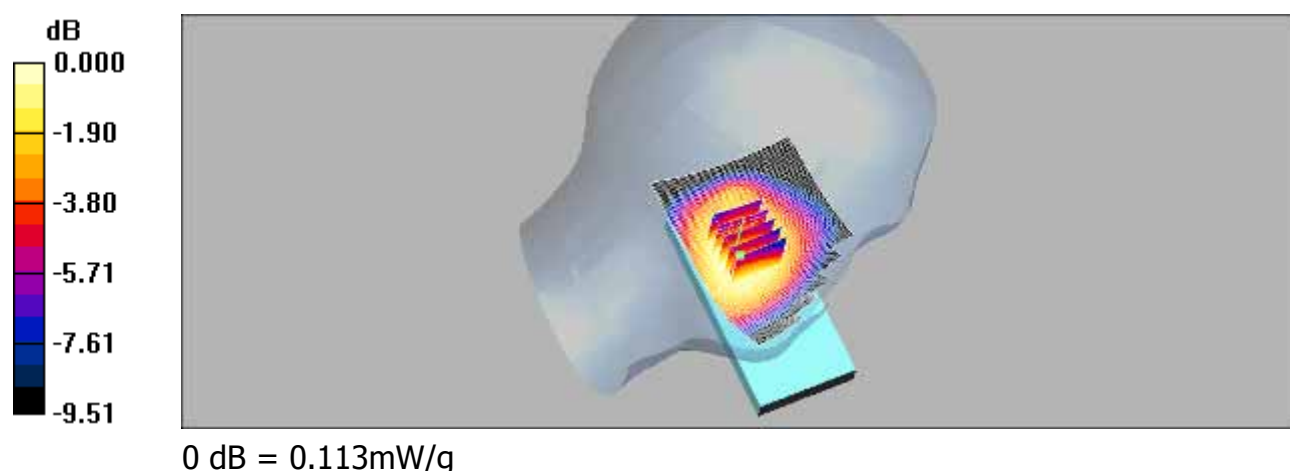ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.87, 10.87, 10.87); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.312 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 5.94 V/m; Power Drift = -0.033 dB
Peak SAR (extrapolated) = 0.382 W/kg

SAR(1 g) = 0.292 mW/g; **SAR(10 g) = 0.215 mW/g**
Maximum value of SAR (measured) = 0.308 mW/g

0 dB = 0.308mW/g

BODY_CH4132_ HSDPA mode

DUT: SP510;

Communication System: WCDMA BAND5; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium: Muscle 900 MHz Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.94
mho/m; ε_r = 55.2; ρ = 1000 kg/m^3
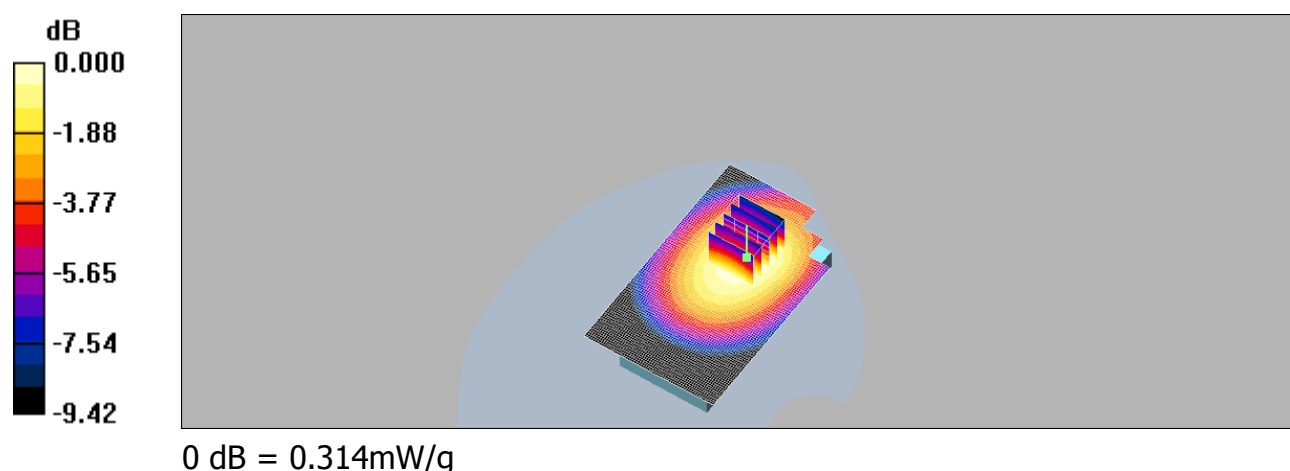Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.87, 10.87, 10.87); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.269 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 5.29 V/m; Power Drift = 0.055 dB
Peak SAR (extrapolated) = 0.329 W/kg

SAR(1 g) = 0.253 mW/g; **SAR(10 g) = 0.188 mW/g**
Maximum value of SAR (measured) = 0.267 mW/g

0 dB = 0.267mW/g

BODY_CH4183_ HSDPA mode

DUT: SP510;

Communication System: WCDMA BAND5; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium: Muscle 900 MHz Medium parameters used: f = 837 MHz; σ = 0.945 mho/m; $ε_r$ = 55.1; ρ = 1000 kg/m^3
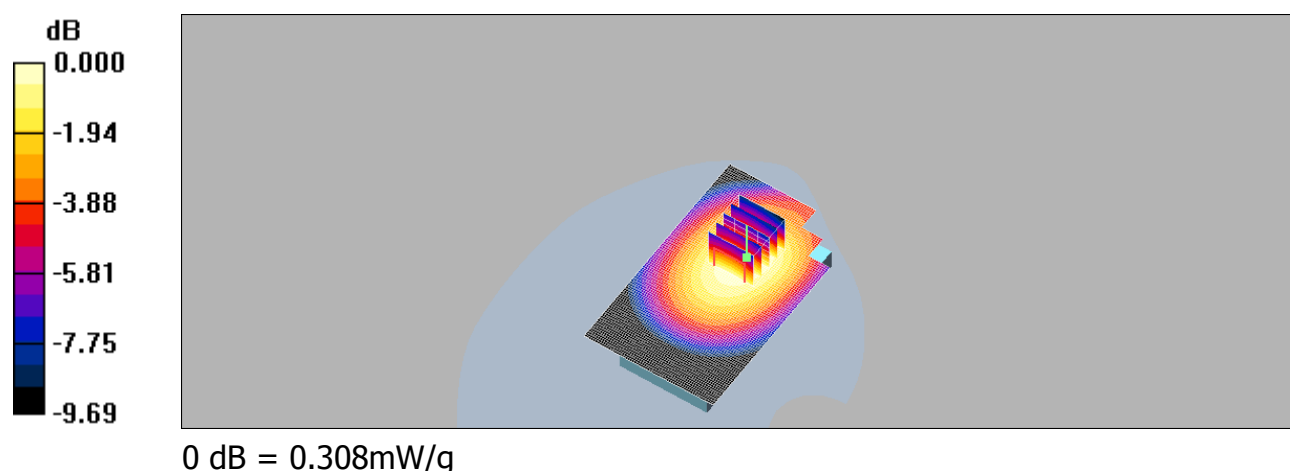Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.87, 10.87, 10.87); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.282 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.45 V/m; Power Drift = -0.067 dB
Peak SAR (extrapolated) = 0.341 W/kg

SAR(1 g) = 0.263 mW/g; **SAR(10 g) = 0.194 mW/g**
Maximum value of SAR (measured) = 0.276 mW/g

0 dB = 0.276mW/g

BODY_CH4233_ HSDPA mode

DUT: SP510;

Communication System: WCDMA BAND5; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium: Muscle 900 MHz Medium parameters used: f = 847 MHz; σ = 0.949 mho/m; ε_r = 55;
ρ = 1000 kg/m^3
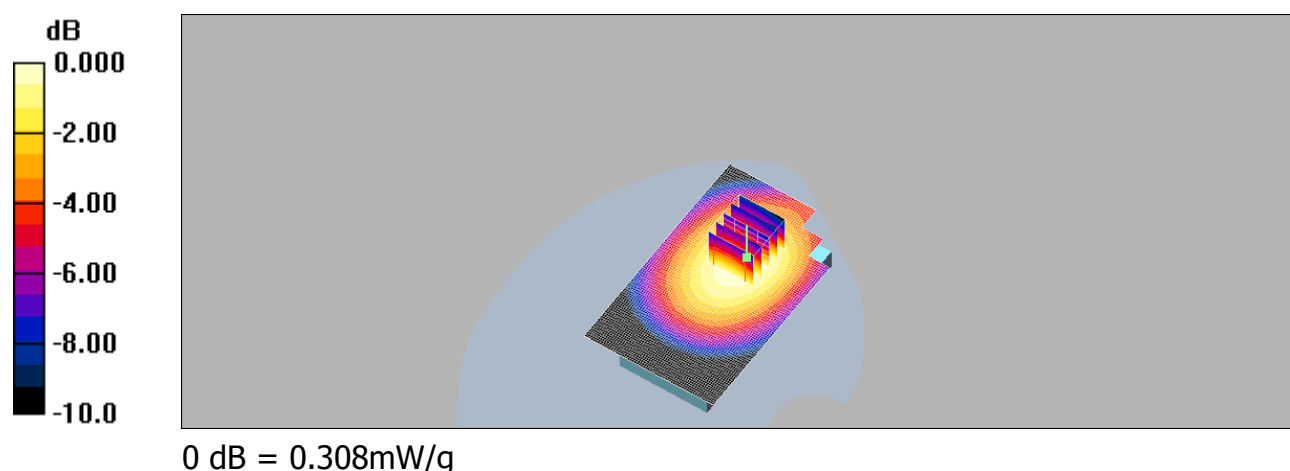Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.87, 10.87, 10.87); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.283 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 5.47 V/m; Power Drift = -0.050 dB
Peak SAR (extrapolated) = 0.348 W/kg

SAR(1 g) = 0.267 mW/g; **SAR(10 g) = 0.198 mW/g**
Maximum value of SAR (measured) = 0.280 mW/g

0 dB = 0.280mW/g

5. System Verification

Date/Time: 2009/3/18   00:03:52

DUT: Dipole 835 MHz;

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: Head 900 MHz Medium parameters used: f = 835 MHz; σ = 0.878 mho/m; $ε_r$ = 42.1;
ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.93, 10.93, 10.93); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.45 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm,
dy=5mm, dz=5mm
Reference Value = 52.7 V/m; Power Drift = -0.020 dB
Peak SAR (extrapolated) = 3.39 W/kg

SAR(1 g) = 2.27 mW/g; SAR(10 g) = 1.49 mW/g
Maximum value of SAR (measured) = 2.44 mW/g
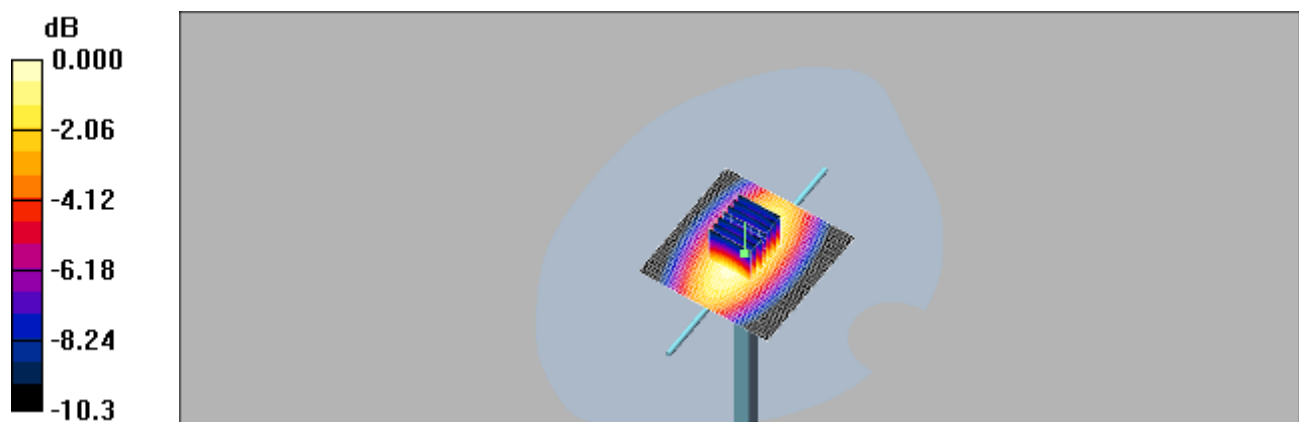
0 dB = 2.44mW/g

DUT: Dipole 835 MHz;

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: Muscle 900 MHz Medium parameters used: f = 835 MHz; σ = 0.943 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
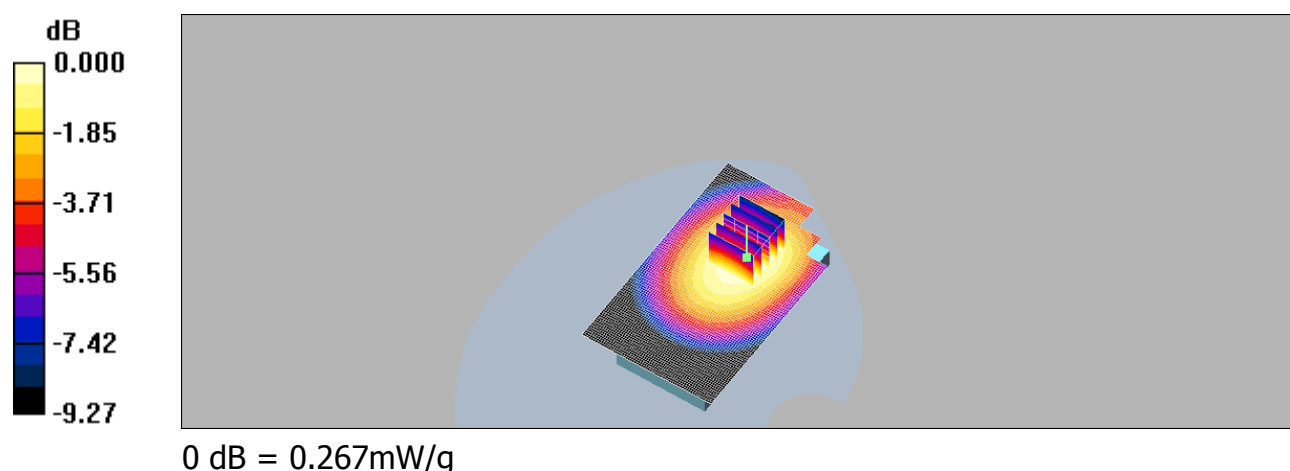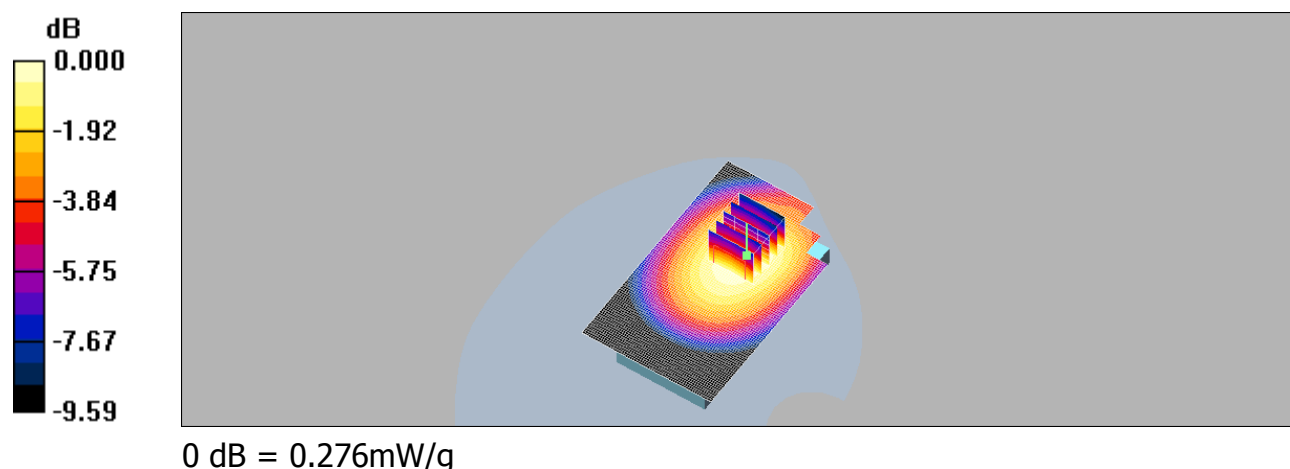Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.87, 10.87, 10.87); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.53 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 52.0 V/m; Power Drift = -0.047 dB
Peak SAR (extrapolated) = 3.48 W/kg

SAR(1 g) = 2.35 mW/g; **SAR(10 g) = 1.55 mW/g**
Maximum value of SAR (measured) = 2.53 mW/g
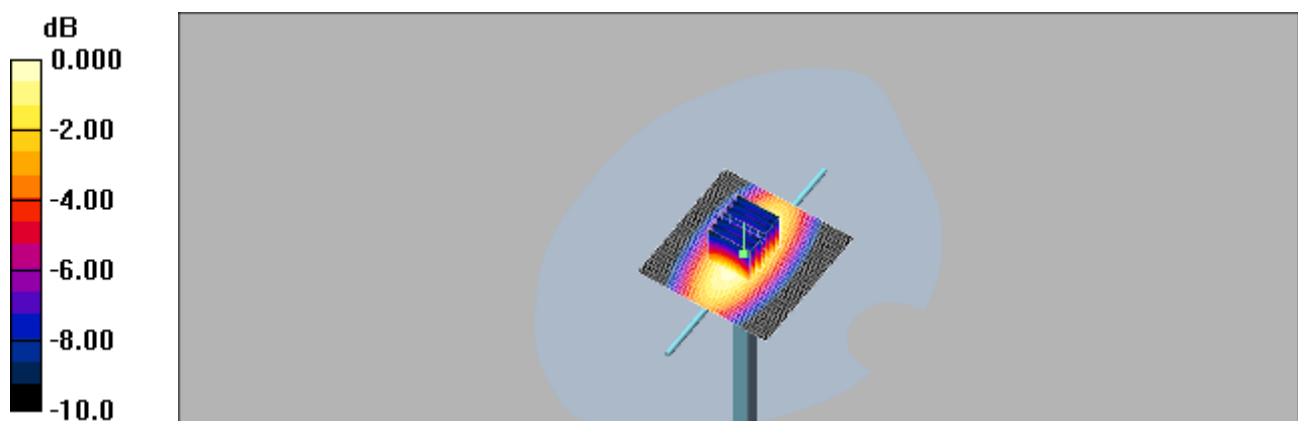
0 dB = 2.53mW/g

DUT: Dipole 1900 MHz;

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: Head 1900MHz Medium parameters used: f = 1900 MHz; σ = 1.46 mho/m; $ε_r$ = 41;
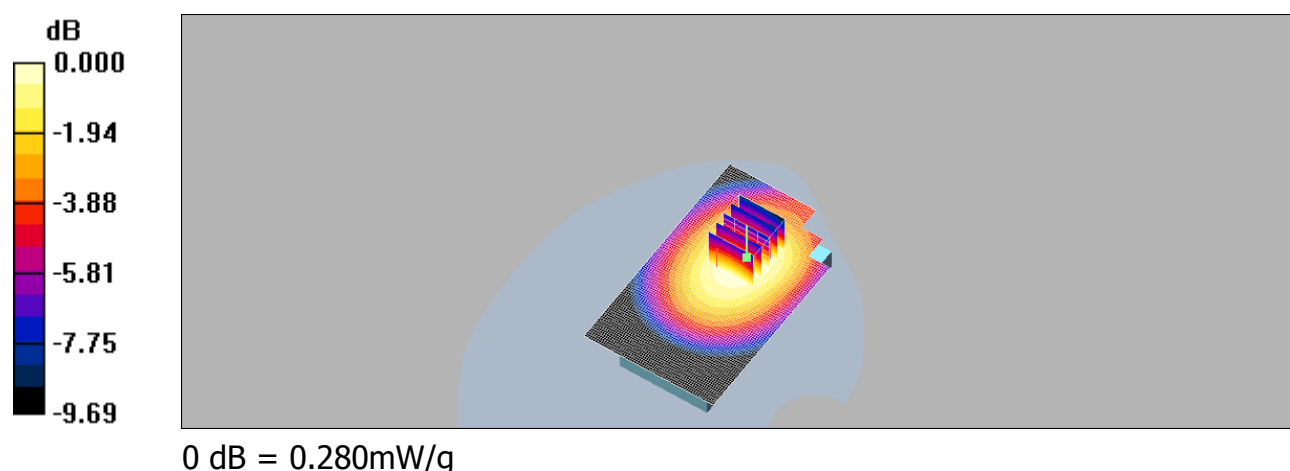ρ = 1000 kg/m³
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.46, 9.46, 9.46); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Pin=250mw/Area Scan (51x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 11.8 mW/g

Pin=250mw/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm,
dy=5mm, dz=5mm
Reference Value = 85.0 V/m; Power Drift = 0.023 dB
Peak SAR (extrapolated) = 19.0 W/kg

SAR(1 g) = 9.88 mW/g; **SAR(10 g) = 5.03 mW/g**
Maximum value of SAR (measured) = 10.9 mW/g

0 dB = 10.9mW/g

DUT: Dipole 1900 MHz;

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: M1800 & 1900 Medium parameters used: f = 1900 MHz; σ = 1.58 mho/m; $ε_r$ = 53.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Pin=250mW/Area Scan (51x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 12.8 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 83.7 V/m; Power Drift = 0.002 dB
Peak SAR (extrapolated) = 18.2 W/kg

SAR(1 g) = 9.73 mW/g; **SAR(10 g) = 4.98 mW/g**
Maximum value of SAR (measured) = 11.0 mW/g

0 dB = 11.0mW/g

DUT: Dipole 835 MHz;

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: Muscle 900 MHz Medium parameters used: f = 835 MHz; σ = 0.951 mho/m; $ε_r$ = 52.8; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(10.87, 10.87, 10.87); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM2; Type: SAM 4.0; Serial: TP:1270
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.40 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 50.2 V/m; Power Drift = 0.003 dB
Peak SAR (extrapolated) = 3.32 W/kg
SAR(1 g) = 2.34 mW/g; **SAR(10 g) = 1.58 mW/g**
Maximum value of SAR (measured) = 2.41 mW/g
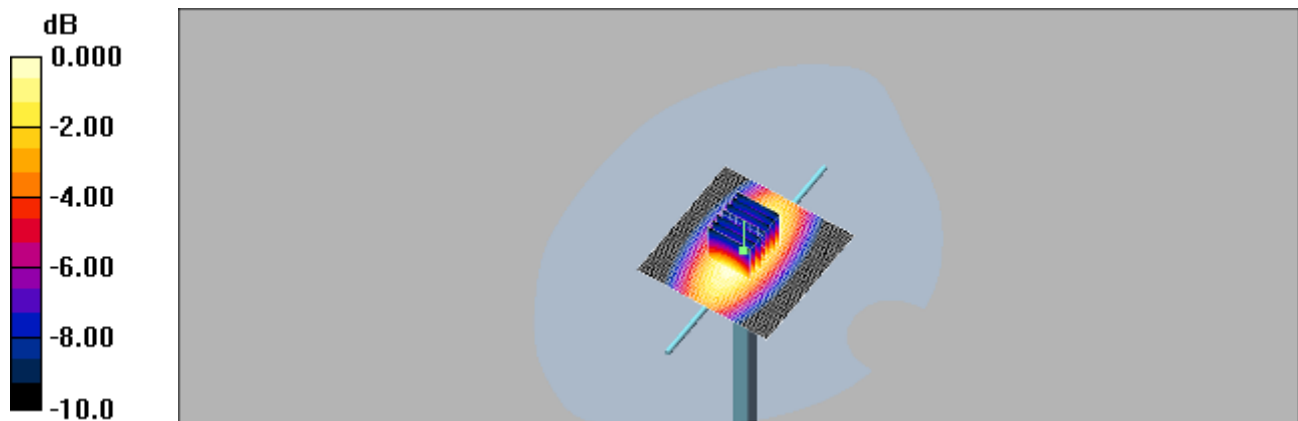
0 dB = 2.41mW/g

DUT: Dipole 1900 MHz;

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: M1800 & 1900 Medium parameters used: f = 1900 MHz; σ = 1.57 mho/m; ε_r = 51;
ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.28, 9.28, 9.28); Calibrated: 2008/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM2; Type: SAM 4.0; Serial: TP:1270
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Pin=250mW/Area Scan (51x61x1): Measurement grid: dx=15mm, dy=15mm
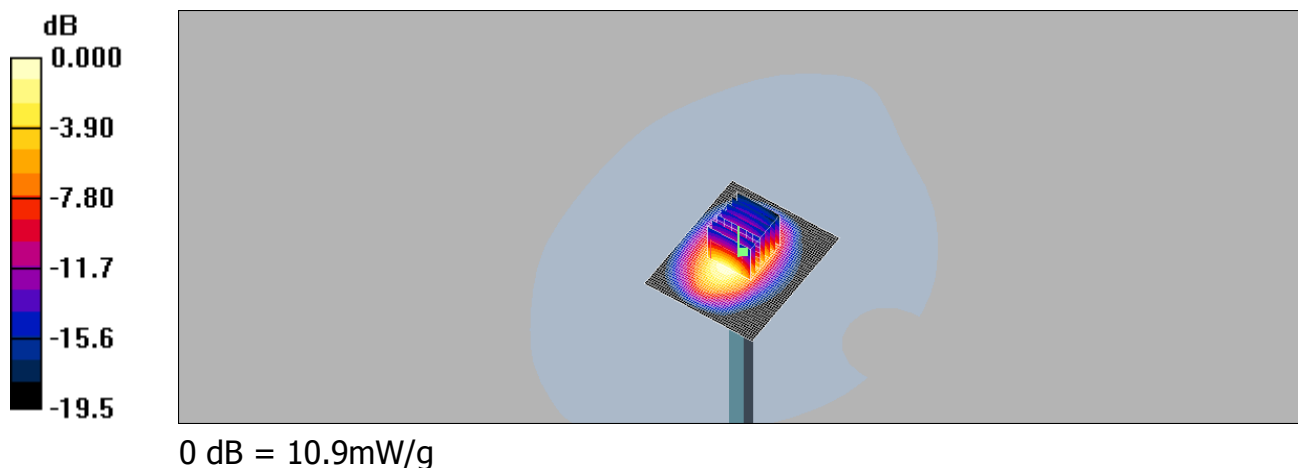Maximum value of SAR (interpolated) = 12.4 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm,
dy=5mm, dz=5mm
Reference Value = 81.3 V/m; Power Drift = 0.086 dB
Peak SAR (extrapolated) = 17.6 W/kg
SAR(1 g) = 9.45 mW/g; **SAR(10 g) = 4.82 mW/g**
Maximum value of SAR (measured) = 10.7 mW/g

0 dB = 10.7mW/g
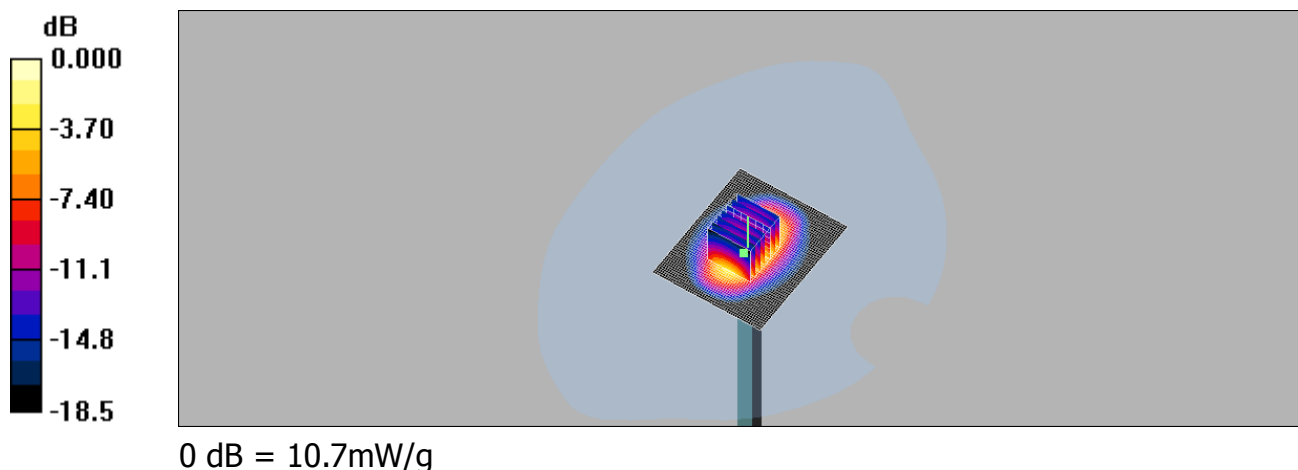
6. DAE & Probe Calibration certificate

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

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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **SGS (Auden)**

Certificate No: **DAE4-547_Jan09**

CALIBRATION CERTIFICATE

Object	DAE4 - SD 000 D04 BJ - SN: 547
Calibration procedure(s)	QA CAL-06.v12 Calibration procedure for the data acquisition electronics (DAE)
Calibration date:	January 19, 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 (Certificate No.)	Scheduled Calibration
Fluke Process Calibrator Type 702	SN: 6295803	30-Sep-08 (No: 7673)	Sep-09
Keithley Multimeter Type 2001	SN: 0810278	30-Sep-08 (No: 7670)	Sep-09

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Calibrator Box V1.1	SE UMS 006 AB 1004	06-Jun-08 (in house check)	In house check: Jun-09

	Name	Function	Signature
Calibrated by:	Daniel Hess	Technician	D. Hess
Approved by:	Fin Bomholt	R&D Director	i.V. Bl

Issued: January 20, 2009

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

Certificate No: DAE4-547_Jan09   Page 1 of 5

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Accreditation No.: **SCS 108**

Client	**SGS (Auden)**	Certificate No: **EX3-3526_Aug08**

CALIBRATION CERTIFICATE

Object	EX3DV3 - SN:3526
Calibration procedure(s)	QA CAL-01.v6, QA CAL-14.v3 and QA CAL-23.v3 Calibration procedure for dosimetric E-field probes
Calibration date:	August 26, 2008
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 (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	1-Apr-08 (No. 217-00788)	Apr-09
Power sensor E4412A	MY41495277	1-Apr-08 (No. 217-00788)	Apr-09
Power sensor E4412A	MY41498087	1-Apr-08 (No. 217-00788)	Apr-09
Reference 3 dB Attenuator	SN: S5054 (3c)	1-Jul-08 (No. 217-00865)	Jul-09
Reference 20 dB Attenuator	SN: S5086 (20b)	31-Mar-08 (No. 217-00787)	Apr-09
Reference 30 dB Attenuator	SN: S5129 (30b)	1-Jul-08 (No. 217-00866)	Jul-09
Reference Probe ES3DV2	SN: 3013	2-Jan-08 (No. ES3-3013_Jan08)	Jan-09
DAE4	SN: 660	3-Sep-07 (No. DAE4-660_Sep07)	Sep-08

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Oct-07)	In house check: Oct-09
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-07)	In house check: Oct-08

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

Issued: August 26, 2008

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Certificate No: EX3-3526_Aug08   Page 1 of 9

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Accreditation No.: **SCS 108**

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

Glossary:

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

Calibration is Performed According to the Following Standards:

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

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

Methods Applied and Interpretation of Parameters:

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

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

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

- *ConvF and Boundary Effect Parameters:* Assessed in flat phantom using E-field (or Temperature Transfer Standard for f $\leq$ 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 *NORMx,y,z * ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.

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

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

EX3DV3 SN:3526

August 26, 2008

Probe EX3DV3

SN:3526

Manufactured: March 19, 2004
Last calibrated: August 29, 2007
Recalibrated: August 26, 2008

Calibrated for DASY Systems

(Note: non-compatible with DASY2 system!)

EX3DV3 SN:3526   August 26, 2008

DASY - Parameters of Probe: EX3DV3 SN:3526

Sensitivity in Free Space[A]   Diode Compression[B]

NormX	$0.99 \pm 10.1\%$	$\mu V/(V/m)^2$	DCP X	93 mV
NormY	$0.81 \pm 10.1\%$	$\mu V/(V/m)^2$	DCP Y	94 mV
NormZ	$0.89 \pm 10.1\%$	$\mu V/(V/m)^2$	DCP Z	94 mV

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

Please see Page 8.

Boundary Effect

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

		2.0 mm	3.0 mm
Sensor Center to Phantom Surface Distance		2.0 mm	3.0 mm
SAR_{be} [%]	Without Correction Algorithm	8.9	5.3
SAR_{be} [%]	With Correction Algorithm	0.8	0.4

TSL   **1810 MHz**   **Typical SAR gradient: 10 % per mm**

		2.0 mm	3.0 mm
Sensor Center to Phantom Surface Distance		2.0 mm	3.0 mm
SAR_{be} [%]	Without Correction Algorithm	6.8	3.6
SAR_{be} [%]	With Correction Algorithm	0.5	0.2

Sensor Offset

Probe Tip to Sensor Center   **1.0** mm

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

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

[B] Numerical linearization parameter: uncertainty not required.

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EX3DV3 SN:3526   August 26, 2008

Frequency Response of E-Field

(TEM-Cell:ifi110 EXX, Waveguide: R22)
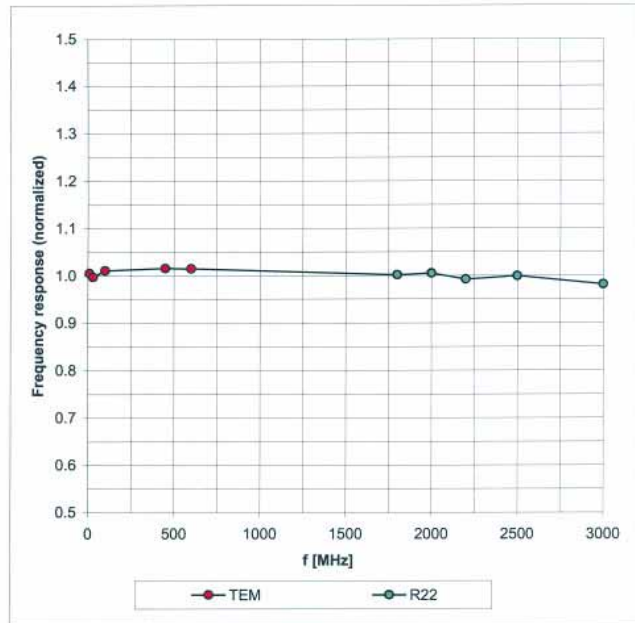
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

EX3DV3 SN:3526

August 26, 2008

Receiving Pattern (φ), ϑ = 0°

f = 600 MHz, TEM ifi110EXX

f = 1800 MHz, WG R22
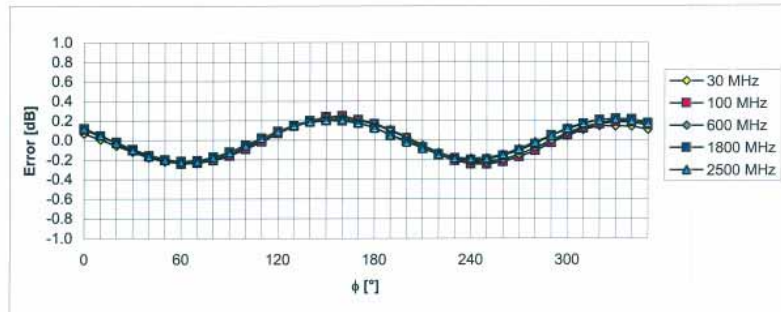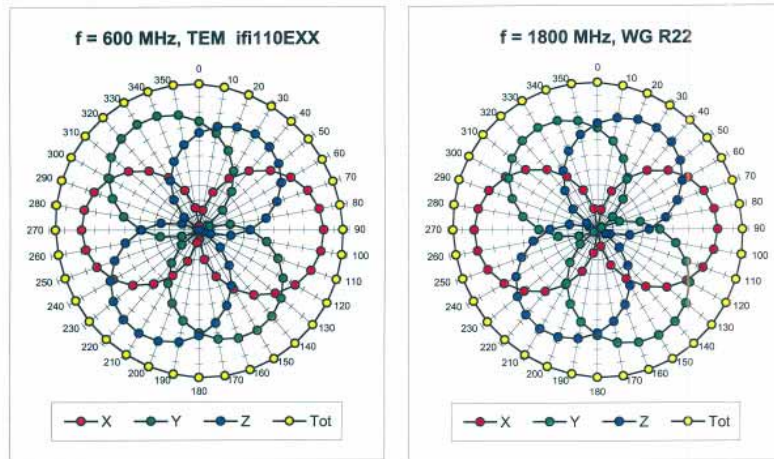
Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

EX3DV3 SN:3526   August 26, 2008

Dynamic Range f(SAR_head)
(Waveguide R22, f = 1800 MHz)
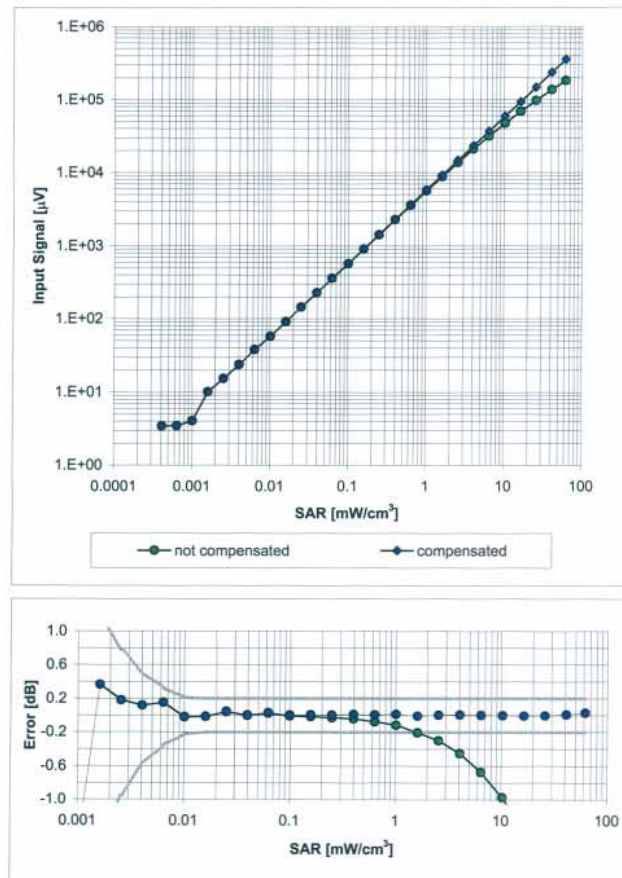
Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Certificate No: EX3-3526_Aug08   Page 7 of 9

EX3DV3 SN:3526   August 26, 2008

Conversion Factor Assessment

f [MHz]	Validity [MHz]^C	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.54	0.76	10.93 ± 11.0% (k=2)
1810	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.52	0.68	9.46 ± 11.0% (k=2)
1950	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.58	0.61	9.15 ± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.42	0.74	8.49 ± 11.0% (k=2)
2600	± 50 / ± 100	Head	39.0 ± 5%	1.96 ± 5%	0.42	0.75	8.53 ± 11.0% (k=2)
3500	± 50 / ± 100	Head	37.9 ± 5%	2.91 ± 5%	0.30	1.20	8.15 ± 13.1% (k=2)
5200	± 50 / ± 100	Head	36.0 ± 5%	4.66 ± 5%	0.40	1.65	5.68 ± 13.1% (k=2)
5500	± 50 / ± 100	Head	35.6 ± 5%	4.96 ± 5%	0.40	1.65	5.01 ± 13.1% (k=2)
5800	± 50 / ± 100	Head	35.3 ± 5%	5.27 ± 5%	0.40	1.65	4.90 ± 13.1% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	0.66	0.68	10.87 ± 11.0% (k=2)
1810	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.50	0.74	9.28 ± 11.0% (k=2)
1950	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.45	0.78	9.17 ± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.44	0.80	8.18 ± 11.0% (k=2)
2600	± 50 / ± 100	Body	52.5 ± 5%	2.16 ± 5%	0.47	0.76	8.14 ± 11.0% (k=2)
3500	± 50 / ± 100	Body	51.3 ± 5%	3.31 ± 5%	0.30	1.20	7.36 ± 13.1% (k=2)
5200	± 50 / ± 100	Body	49.0 ± 5%	5.30 ± 5%	0.40	1.70	4.89 ± 13.1% (k=2)
5500	± 50 / ± 100	Body	48.6 ± 5%	5.65 ± 5%	0.40	1.70	4.39 ± 13.1% (k=2)
5800	± 50 / ± 100	Body	48.2 ± 5%	6.00 ± 5%	0.40	1.70	4.44 ± 13.1% (k=2)

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

EX3DV3 SN:3526

August 26, 2008

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

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

7. Uncertainty Analysis

DASY4 Uncertainty Budget
According to IEEE P1528 [1]
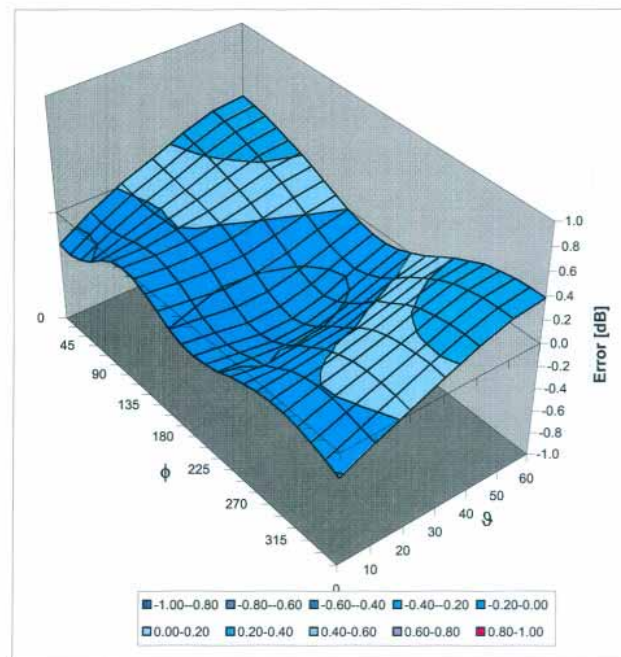
Error Description	Uncertainty value	Prob. Dist.	Div.	(c_i) 1g	(c_i) 10g	Std. Unc. (1g)	Std. Unc. (10g)	(v_i) v_{eff}
Measurement System								
Probe Calibration	±4.8 %	N	1	1	1	±4.8 %	±4.8 %	∞
Axial Isotropy	±4.7 %	R	$\sqrt{3}$	0.7	0.7	±1.9 %	±1.9 %	∞
Hemispherical Isotropy	±9.6 %	R	$\sqrt{3}$	0.7	0.7	±3.9 %	±3.9 %	∞
Boundary Effects	±1.0 %	R	$\sqrt{3}$	1	1	±0.6 %	±0.6 %	∞
Linearity	±4.7 %	R	$\sqrt{3}$	1	1	±2.7 %	±2.7 %	∞
System Detection Limits	±1.0 %	R	$\sqrt{3}$	1	1	±0.6 %	±0.6 %	∞
Readout Electronics	±1.0 %	N	1	1	1	±1.0 %	±1.0 %	∞
Response Time	±0.8 %	R	$\sqrt{3}$	1	1	±0.5 %	±0.5 %	∞
Integration Time	±2.6 %	R	$\sqrt{3}$	1	1	±1.5 %	±1.5 %	∞
RF Ambient Conditions	±3.0 %	R	$\sqrt{3}$	1	1	±1.7 %	±1.7 %	∞
Probe Positioner	±0.4 %	R	$\sqrt{3}$	1	1	±0.2 %	±0.2 %	∞
Probe Positioning	±2.9 %	R	$\sqrt{3}$	1	1	±1.7 %	±1.7 %	∞
Max. SAR Eval.	±1.0 %	R	$\sqrt{3}$	1	1	±0.6 %	±0.6 %	∞
Test Sample Related								
Device Positioning	±2.9 %	N	1	1	1	±2.9 %	±2.9 %	875
Device Holder	±3.6 %	N	1	1	1	±3.6 %	±3.6 %	5
Power Drift	±5.0 %	R	$\sqrt{3}$	1	1	±2.9 %	±2.9 %	∞
Phantom and Setup								
Phantom Uncertainty	±4.0 %	R	$\sqrt{3}$	1	1	±2.3 %	±2.3 %	∞
Liquid Conductivity (target)	±5.0 %	R	$\sqrt{3}$	0.64	0.43	±1.8 %	±1.2 %	∞
Liquid Conductivity (meas.)	±2.5 %	N	1	0.64	0.43	±1.6 %	±1.1 %	∞
Liquid Permittivity (target)	±5.0 %	R	$\sqrt{3}$	0.6	0.49	±1.7 %	±1.4 %	∞
Liquid Permittivity (meas.)	±2.5 %	N	1	0.6	0.49	±1.5 %	±1.2 %	∞
Combined Std. Uncertainty						±10.3 %	±10.0 %	331
Expanded STD Uncertainty						±20.6 %	±20.1 %	

8. Phantom description

Schmid & Partner Engineering AG

s p e a g

Zeughausstrasse 43, 8004 Zurich, Switzerland
Phone +41 1 245 9700, Fax +41 1 245 9779
info@speag.com, http://www.speag.com

Certificate of Conformity / First Article Inspection

Item	SAM Twin Phantom V4.0
Type No	QD 000 P40 C
Series No	TP-1150 and higher
Manufacturer	SPEAG Zeughausstrasse 43 CH-8004 Zürich Switzerland

Tests

The series production process used allows the limitation to test of first articles.
Complete tests were made on the pre-series Type No. QD 000 P40 AA, Serial No. TP-1001 and on the
series first article Type No. QD 000 P40 BA, Serial No. TP-1006. Certain parameters have been retested
using further series items (called samples) or are tested at each item.

Test	Requirement	Details	Units tested
Dimensions	Compliant with the geometry according to the CAD model.	IT'IS CAD File (*)	First article, Samples
Material thickness of shell	Compliant with the requirements according to the standards	2mm +/- 0.2mm in flat and specific areas of head section	First article, Samples, TP-1314 ff.
Material thickness at ERP	Compliant with the requirements according to the standards	6mm +/- 0.2mm at ERP	First article, All items
Material parameters	Dielectric parameters for required frequencies	300 MHz – 6 GHz: Relative permittivity < 5, Loss tangent < 0.05	Material samples
Material resistivity	The material has been tested to be compatible with the liquids defined in the standards if handled and cleaned according to the instructions. Observe technical Note for material compatibility.	DEGMBE based simulating liquids	Pre-series, First article, Material samples
Sagging	Compliant with the requirements according to the standards. Sagging of the flat section when filled with tissue simulating liquid.	< 1% typical < 0.8% if filled with 155mm of HSL900 and without DUT below	Prototypes, Sample testing

Standards
[1]   CENELEC EN 50361
[2]   IEEE Std 1528-2003
[3]   IEC 62209 Part I
[4]   FCC OET Bulletin 65, Supplement C, Edition 01-01
(*)   The IT'IS CAD file is derived from [2] and is also within the tolerance requirements of the shapes of
the other documents.

Conformity
Based on the sample tests above, we certify that this item is in compliance with the uncertainty
requirements of SAR measurements specified in standards [1] to [4].

Date   07.07.2005   **s p e a g**

Signature / Stamp   Schmid & Partner Engineering AG
                                            Zeughausstrasse 43, 8004 Zurich, Switzerland
                                            Phone +41 1 245 9700, Fax +41 1 245 9779
                                            info@speag.com, http://www.speag.com

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9. System Validation from Original equipment supplier

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

ilac-MRA

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

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 108**

Client **SGS (Auden)**

Certificate No: **D835V2-4d063_Jun08**

CALIBRATION CERTIFICATE

Object	D835V2 - SN: 4d063
Calibration procedure(s)	QA CAL-05.v7 Calibration procedure for dipole validation kits
Calibration date:	June 06, 2008
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	04-Oct-07 (METAS, No. 217-00736)	Oct-08
Power sensor HP 8481A	US37292783	04-Oct-07 (METAS, No. 217-00736)	Oct-08
Reference 20 dB Attenuator	SN: 5086 (20g)	07-Aug-07 (METAS, No 217-00718)	Aug-08
Type-N mismatch combination	SN: 5047.2 / 06327	08-Aug-07 (No. 217-00721)	Aug-08
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 (SPEAG, in house check Oct-07)	In house check: Oct-09
RF generator R&S SMT-06	100005	04-Aug-99 (SPEAG, in house check Oct-07)	In house check: Oct-09
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (SPEAG, in house check Oct-07)	In house check: Oct-08

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: June 13, 2008

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

Certificate No: D835V2-4d063_Jun08   Page 1 of 9

DASY4 Validation Report for Head TSL

Date/Time: 05.06.2008 14:11:53

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d063

Communication System: CW-835; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: HSL 900 MHz;
Medium parameters used: f = 835 MHz; σ = 0.879 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(5.97, 5.97, 5.97); Calibrated: 28.04.2008

- Sensor-Surface: 3.4mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn601; Calibrated: 14.03.2008

- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; ;

- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184
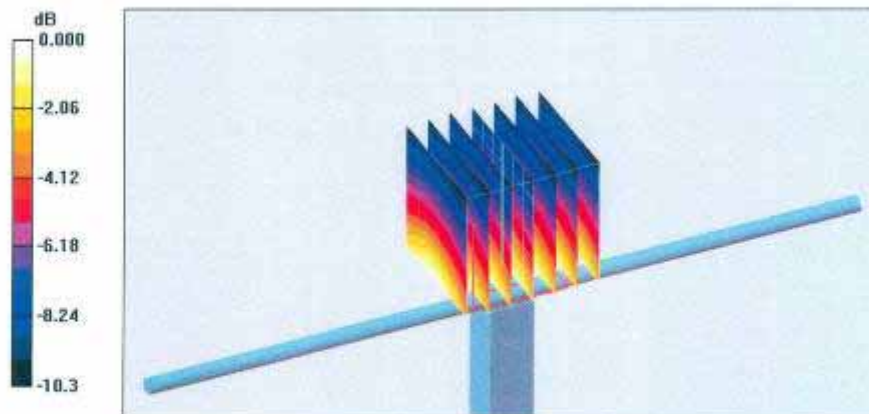
Pin=250mW; dip=15mm; dist=3.4mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm,
dy=5mm, dz=5mm
Reference Value = 55.3 V/m; Power Drift = -0.021 dB
Peak SAR (extrapolated) = 3.36 W/kg
SAR(1 g) = 2.29 mW/g; SAR(10 g) = 1.52 mW/g
Maximum value of SAR (measured) = 2.58 mW/g

0 dB = 2.58mW/g

Certificate No: D835V2-4d063_Jun08   Page 6 of 9

DASY4 Validation Report for Body TSL

Date/Time: 06.06.2008 14:01:1

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d063

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: MSL900;
Medium parameters used: f = 835 MHz; σ = 0.99 mho/m; ε_r = 53.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(5.9, 5.9, 5.9); Calibrated: 28.04.2008

- Sensor-Surface: 3.4mm (Mechanical Surface Detection)

- Electronics: DAE4 Sn601; Calibrated: 14.03.2008

- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; ;

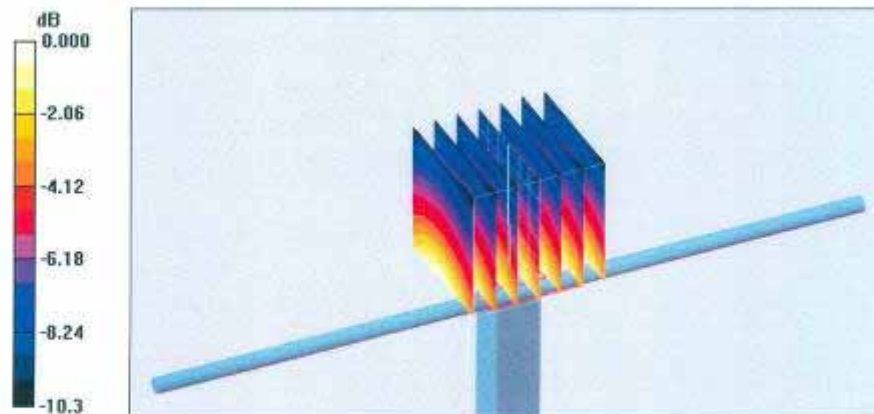- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Pin = 250mW, d = 15mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 53.6 V/m; Power Drift = 0.010 dB
Peak SAR (extrapolated) = 3.53 W/kg
SAR(1 g) = 2.44 mW/g; SAR(10 g) = 1.61 mW/g
Maximum value of SAR (measured) = 2.73 mW/g

0 dB = 2.73mW/g

Certificate No: D835V2-4d063_Jun08   Page 8 of 9

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

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SWISS CALIBRATION

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

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

Accreditation No.: **SCS 108**

Client	**SGS (Auden)**	Certificate No: **D1900V2-5d027_Apr08**

CALIBRATION CERTIFICATE

Object	D1900V2 - SN: 5d027
Calibration procedure(s)	QA CAL-05.v7 Calibration procedure for dipole validation kits
Calibration date:	April 15, 2008
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 $(22 \pm 3)°C$ 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	04-Oct-07 (No. 217-00736)	Oct-08
Power sensor HP 8481A	US37292783	04-Oct-07 (No. 217-00736)	Oct-08
Reference 20 dB Attenuator	SN: 5086 (20g)	07-Aug-07 (No. 217-00718)	Aug-08
Type-N mismatch combination	SN: 5047.2 / 06327	08-Aug-07 (No. 217-00721)	Aug-08
Reference Probe ES3DV2	SN: 3025	01-Mar-08 (No. ES3-3025_Mar08)	Mar-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-08
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-07)	In house check: Oct-09
Network Analyzer HP 8753E	US37380585 S4206	18-Oct-01 (in house check Oct-07)	In house check: Oct-08

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

Issued: April 17, 2008

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

DASY4 Validation Report for Head TSL

Date/Time: 08.04.2008 13:49:58

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d027

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: HSL U10 BB;
Medium parameters used: f = 1900 MHz; σ = 1.47 mho/m; ε_r = 40.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(4.9, 4.9, 4.9); Calibrated: 01.03.2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 14.03.2008
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; :
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 172
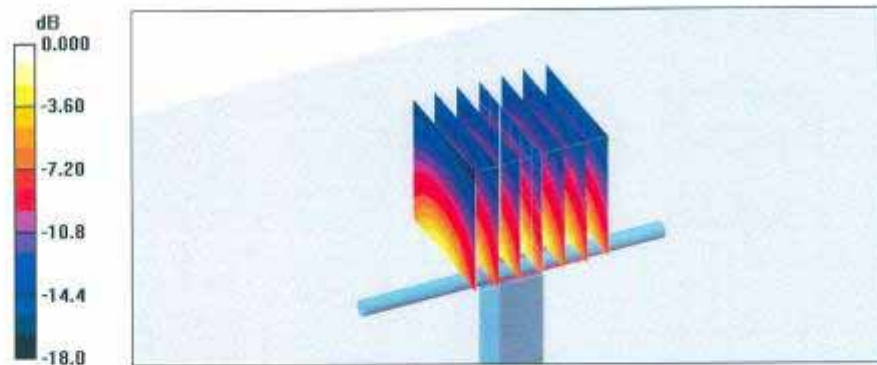
Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 92.2 V/m; Power Drift = 0.033 dB
Peak SAR (extrapolated) = 19.1 W/kg
SAR(1 g) = 10.3 mW/g; SAR(10 g) = 5.3 mW/g
Maximum value of SAR (measured) = 11.9 mW/g

0 dB = 11.9mW/g

DASY4 Validation Report for Body TSL

Date/Time: 15.04.2008 13:51:25

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d027

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: MSL U10 BB;
Medium parameters used: f = 1900 MHz; σ = 1.56 mho/m; ε_r = 51.6; ρ = 1000 kg/m³
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(4.5, 4.5, 4.5); Calibrated: 01.03.2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 14.03.2008
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; :
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 172

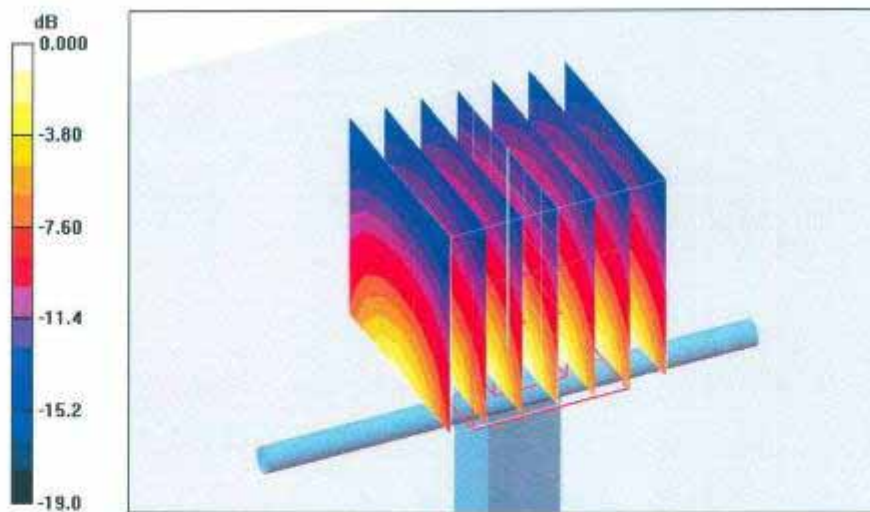**Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0:**
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 89.3 V/m; Power Drift = -0.022 dB
Peak SAR (extrapolated) = 17.4 W/kg
SAR(1 g) = 9.64 mW/g; SAR(10 g) = 5.07 mW/g
Maximum value of SAR (measured) = 11.7 mW/g

0 dB = 11.7mW/g

Certificate No: D1900V2-5d027_Apr08   Page 8 of 9

End of 1ˢᵗ part of report