

SAR TEST REPORT

Equipment Under Test	PDA phone
Model Name	SAPP310
Company Name	HTC Corporation
Company Address	No.23, Xinghua Rd., Taoyuan City, Taoyuan County 330, Taiwan, R.O.C.
Date of Receipt	2009.08.10
Date of Test(s)	2009.08.14-2009.08.23;2009.09.16; 2009.09.25 -2009.09.26;2009.10.15
Date of Issue	2009.10.23

Standards:

**FCC OET Bulletin 65 supplement C,
ANSI/IEEE C95.1, C95.3, IEEE 1528**

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 : 2009.10.16
Asst. Supervisor

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1. General Information

1.1 Testing Laboratory

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1.2 Details of Applicant

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1.3 Description of EUT

EUT Name	PDA phone
FCC ID	NM8SPRM2
Model Name	SAPP310
Brand Name	HTC
IMEI Code	Original & Third solution :356221030011169 Second & Fourth solution :356221030010112
Mode of Operation	GSM /GPRS/EDGE/WCDMA/HSDPA/HSUPA/WLAN802.11 b/g band
Definition	Production unit

Modulation Mode	GSM/GMSK/8PSK/QPSK/16QAM		
VoIP function	NO		
Duty Cycle	GSM	GPRS	WCDMA B4
	1/8	1/4	1
TX Frequency Range (MHz)	GSM 850	GSM1900	WCDMA B4
	824.2-848.8	1850.2-1909.8	1712.4-1752.6
Channel Number (ARFCN)	GSM 850	GSM1900	WCDMA B4
	128-251	512-810	1312-1513
Battery Type	3.7 V Lithium-Ion		
Antenna Type	Internal Antenna		
Variations	In addition to the Original sample shown in these test results, model SAPP310 also [1. Has an option for a camera and LCM (Liquid crystal display module); 2. Has the housing changed to a different color]. SAR values were checked on these options using the spot check method. We found results were same or lower than Original for GSM850/GSM1900/WCDMA B4/WLAN 802.11b/g but still within 20% of highest measured SAR.		
Max. SAR Measured (1 g)	GSM850		
	Head		Body
	1.24 mW/g (Left Head (Cheek Position)_ 251 channel)		1.19 mW/g (Body_ 190 Channel)
	GSM1900		
	Head		Body
	1.31 mW/g (Right Head (Cheek Position)_ 661 channel)		0.851 mW/g (Body_ 661 Channel)

	WCDMA B4	
	Head	Body
	1.39 mW/g (Right Head (Cheek Position)_ 1513 channel)	0.480 mW/g (Body_ 1513 Channel)
	WLAN802.11 b/g	
	Body	
	0.142 mW/g (Body_11 channel)	

#Note: WCDMA B4 HSDPA & HSUPA conducted power:

	WCDMA Band 4 Channel			
Mode	Subtest	1312	1412	1513
Rel99	R99	23.48	23.62	23.61
Rel6 HSDPA	1	23.7	23.87	23.8
	2	23.41	23.51	23.48
	3	23.24	23.39	23.31
	4	23.29	23.43	23.37
Rel6 HSUPA	1	23.44	23.55	23.53
	2	21.5	21.63	21.57
	3	22.48	22.61	22.60
	4	21.55	21.69	21.65
	5	23.3	23.28	23.42

1.4 Test Environment

Ambient Temperature: 22±2° C

Tissue Simulating Liquid: 22±2° C

1.5 Operation description

General:

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.
2. WLAN part is controlled by chip-specific software to make it transmit at max power.
3. 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.
4. 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.
5. Testing Head SAR at lowest, middle and highest channel for all bands with LET/LEC/RET/REC conditions.
6. Testing body-worn SAR by separating **1.5cm** between the back of the EUT and the flat phantom in GPRS mode.

SAR evaluation considerations for handsets with multiple transmitters:

7. Since the WLAN function of this device does NOT support VoIP function. Users will not use it close to head. SAR evaluation of head adjacent is unnecessary, only Body condition will be considered for WLAN stand-alone situation.

The maximum SAR value for licensed transmitter happens on WCDMA B4 band, Right Head (Cheek Position), channel 1513. the value is **1.39W/kg(1g)**. And the max SAR value for un-licensed transmitter WLAN 802.11b happens on Body worn, channel 11. The SAR value is **0.142W/kg (1g)** . The summation of the 1g SAR is $1.39+0.142 = 1.53 \text{ W/kg}$, which lower than the limit **1.6W/kg**. **NO simultaneous transmission SAR evaluation is necessary.**

Additional configuration(Head):

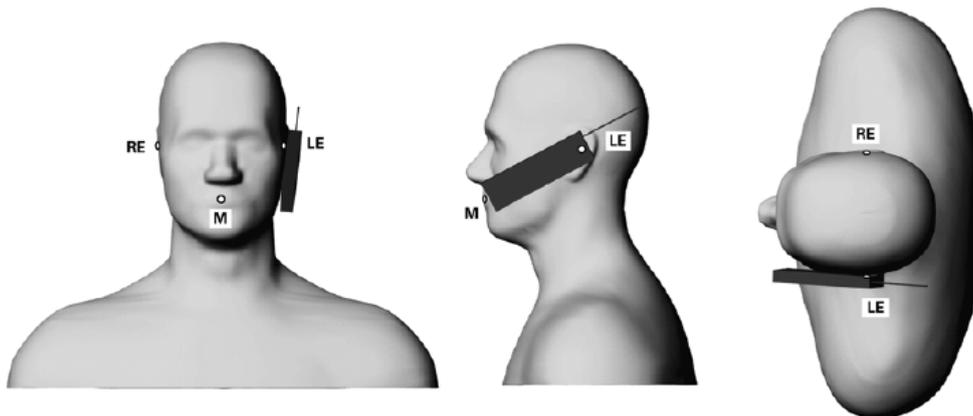
8. For highest SAR configuration in this band repeated with external Memory card inside.
9. For highest SAR configuration in this band repeated with 2nd Battery.

Additional configuration(Body):

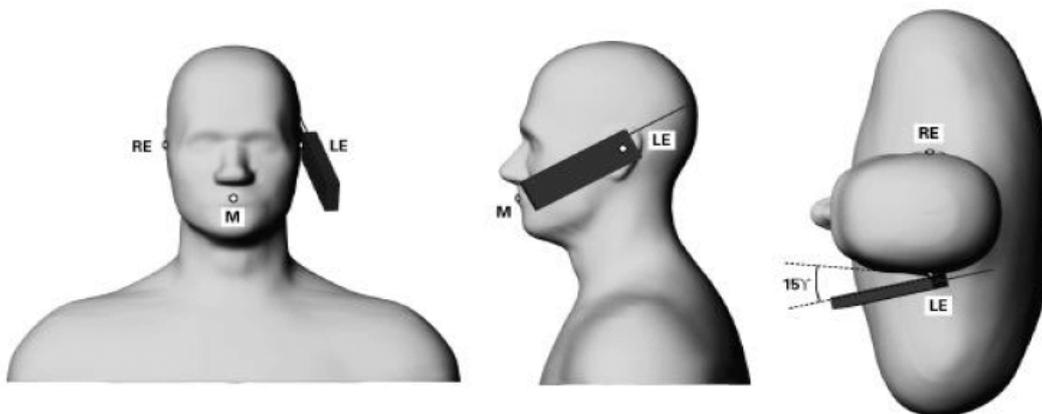
10. For highest SAR configuration in this band repeated with external Memory card inside.
11. For highest SAR configuration in this band repeated with 2nd Battery.
12. For highest SAR configuration in this band repeated with EGPRS mode.

13. Since WLAN and Bluetooth use same antenna, both WLAN and Bluetooth turn ON co-transmit is evaluated.

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 then 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 ES3DV3/EX3DV3 field probe is used to determine the internal electric fields. The SAR can be obtained from the equation $SAR = \sigma (|E_i|^2) / \rho$ where σ and ρ are the conductivity and mass density of the tissue-simulant.

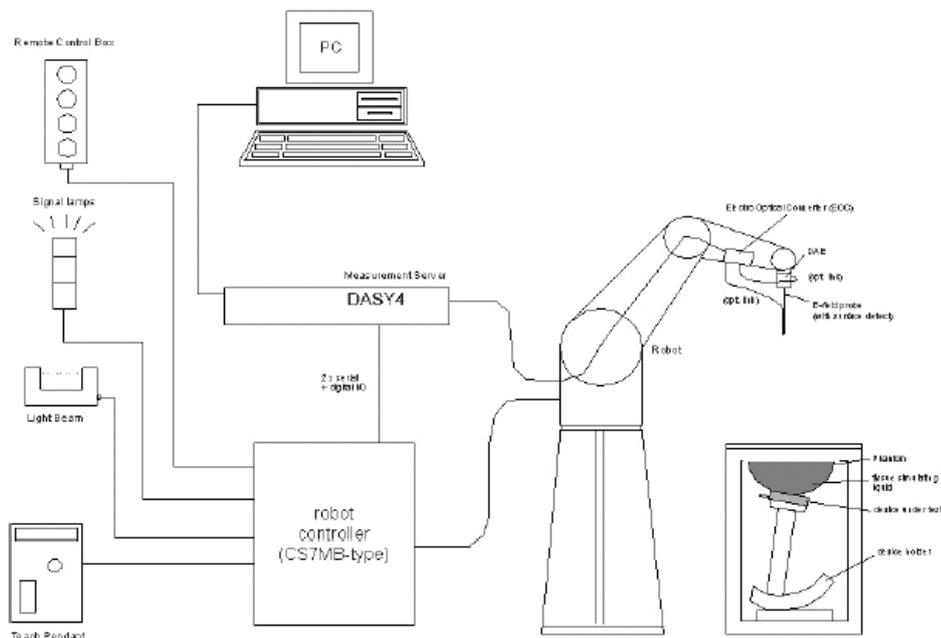


Fig.a The block diagram of SAR system

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

ES3DV3/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 HSL835/1750/1900/2450 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 μ W/g to > 100 mW/g; Linearity: ± 0.2 dB (noise: typically < 1 μ W/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%.	

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
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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 835/1750/1900/2450 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 22.1°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.

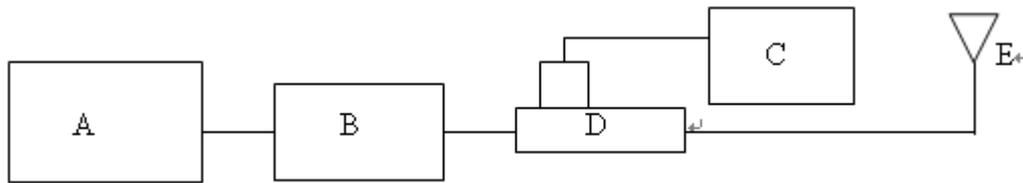


Fig.b The block diagram of system verification

- A. Agilent Model 8648D Signal Generator
- B. Mini circuits Model ZHL-42 Amplifier
- C. Agilent Model U2001B Power Sensor
- D. Agilent Model 778D & 777D Dual directional coupling
- E. 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)	2.38 mW/g	2.41mW/g	2009/08/14
D835V2 S/N: 4d063	835 MHz (Body)	2.55 mW/g	2.47mW/g	2009/09/26
D1750V2 S/N: 1008	1750 MHz (Head)	9.59 mW/g	9.28 mW/g	2009/10/15
D1750V2 S/N: 1008	1750 MHz (Body)	9.25 mW/g	9.03mW/g	2009/09/25
D1900V2 S/N: 5d027	1900 MHz (Head)	10.5 mW/g	10.5 mW/g	2009/08/14
D1900V2 S/N: 5d027	1900 MHz (Body)	10.6 mW/g	10.5mW/g	2009/09/25

D2450V2 S/N: 727	2450 MHz (Body)	13.2 mW/g	13.7mW/g	2009/08/14
D835V2 S/N: 4d063	835 MHz (Head)	2.38 mW/g	2.37mW/g	2009/08/22
D1900V2 S/N: 5d027	1900 MHz (Head)	10.5 mW/g	10.4mW/g	2009/08/22
D2450V2 S/N: 727	2450 MHz (Body)	13.2 mW/g	13.6mW/g	2009/08/22
D2450V2 S/N: 727	2450 MHz (Body)	13.2 mW/g	12.8mW/g	2009/09/16

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 Agilent 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 $15\text{cm} \pm 5\text{mm}$ during all tests. (Appendix Fig .2)

Frequency (MHz)	Tissue type	Measurement date/ Limits	Dielectric Parameters		
			ρ	σ (S/m)	Simulated Tissue Temperature($^{\circ}$ C)
850	Head	Measured, 2009.08.14	40.9	0.903	21.7
		Recommended Limits	38.76-42.84	0.85-0.93	20-24
850	Body	Measured, 2009.09.26	55	1.01	21.7
		Recommended Limits	51.11-56.49	0.96-1.06	20-24
1750	Head	Measured, 2009.10.15	39.9	1.41	21.0
		Recommended Limits	36.96-40.85	1.3-1.44	20-24
1750	Body	Measured, 2009.09.25	53	1.46	21.7
		Recommended Limits	52.44-57.96	1.36-1.5	20-24
1900	Head	Measured, 2009.08.14	39.7	1.45	21.7
		Recommended Limits	36.67-40.53	1.4-1.54	20-24
1900	Body	Measured, 2009.09.25	53.3	1.57	21.7
		Recommended Limits	52.16-57.65	1.48-1.64	20-24
2450	Body	Measured, 2009.08.14	51.9	2.01	21.7
		Recommended Limits	51.68-57.12	1.88-2.08	20-24
850	Head	Measured, 2009.08.22	42.4	0.889	21.7
		Recommended Limits	38.76-42.84	0.85-0.93	20-24
1900	Head	Measured, 2009.08.22	39.7	1.44	21.7
		Recommended Limits	36.67-40.53	1.4-1.54	20-24
2450	Body	Measured, 2009.08.22	52.1	2.01	21.7
		Recommended Limits	51.68-57.12	1.88-2.08	20-24
2450	Body	Measured, 2009.09.16	52.3	1.96	21.7
		Recommended Limits	51.68-57.12	1.88-2.08	20-24

Table 2. Dielectric Parameters of Tissue Simulant Fluid

The composition of the brain tissue simulating liquid for 850& 1800 &1900 & 2450 band:

Ingredient	850MHz (Head)	850MHz (Body)	1800MHz (Head)	1800MHz (Body)	1900MHz (Head)	1900MHz (Body)	2450MHz (Body)
DGMBE	X	X	444.52 g	300.67g	444.52 g	300.67g	301.7 ml
Water	532.98 g	631.68 g	552.42 g	716.56 g	552.42 g	716.56 g	698.3 ml
Salt	18.3 g	11.72 g	3.06 g	4.0 g	3.06 g	4.0 g	X
Preventol D-7	2.4 g	1.2 g	X	X	X	X	X
Cellulose	3.2 g	X	X	X	X	X	X
Sugar	766.0 g	600 g	X	X	X	X	X
Total amount	1 L (1.0kg)	1 L (1.0kg)	1 L (1.0kg)	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

Original solution measurement result

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	33.1dbm	0.606	22.1	21.7
	190	836.6	32.9dbm	0.849	22.1	21.7
	251	848.8	32.7dbm	0.991	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	33.1dbm	0.728	22.1	21.7
	190	836.6	32.9dbm	1.05	22.1	21.7
	251	848.8	32.7dbm	1.24	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	33.1dbm	0.414	22.1	21.7
	190	836.6	32.9dbm	0.578	22.1	21.7
	251	848.8	32.7dbm	0.678	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	33.1dbm	0.398	22.1	21.7
	190	836.6	32.9dbm	0.631	22.1	21.7
	251	848.8	32.7dbm	0.747	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	32.6dbm	1.03	22.1	21.7
	190	836.6	32.4dbm	1.19	22.1	21.7
	251	848.8	32.1dbm	1.06	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	190	836.6	32.4dbm	0.848	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	190	836.6	32.4dbm	1.14	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]
850 MHz	190	836.6	26.1dbm	0.359	22.1	21.7
Body worn (testing in GPRS mode)_repeated with 2nd battery						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
850 MHz	190	836.6	32.4dbm	1.03	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]
1900 MHz	512	1850.2	29.7dbm	1.23	22.1	21.7
	661	1880	29.6dbm	1.29	22.1	21.7
	810	1909.8	29.5dbm	1.07	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]
1900 MHz	512	1850.2	29.7dbm	0.854	22.1	21.7
	661	1880	29.6dbm	0.929	22.1	21.7

	810	1909.8	29.5dbm	0.805	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	29.7dbm	0.449	22.1	21.7
	661	1880	29.6dbm	0.474	22.1	21.7
	810	1909.8	29.5dbm	0.403	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	29.7dbm	0.390	22.1	21.7
	661	1880	29.6dbm	0.439	22.1	21.7
	810	1909.8	29.5dbm	0.402	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	29.2dbm	0.771	22.1	21.7
	661	1880	29dbm	0.815	22.1	21.7
	810	1909.8	28.9dbm	0.554	22.1	21.7

WCDMA BAND 4

Right Head (Cheek Position)						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B4	1312	1712.4	23.48dbm	1.33	22.5	21.3
	1412	1732.6	23.62dbm	1.13	22.5	21.3
	1513	1752.6	23.61dbm	1.39	21.5	21.2
Left Head (Cheek Position)						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B4	1312	1712.4	23.48dbm	0.977	22.5	21.3
	1412	1732.6	23.62dbm	0.832	22.5	21.3
	1513	1752.6	23.61dbm	1.11	22.5	21.3

Right Head (15° Tilt Position)						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B4	1312	1712.4	23.48dbm	0.483	22.5	21.3
	1412	1732.6	23.62dbm	0.403	22.5	21.3
	1513	1752.6	23.61dbm	0.552	22.5	21.3
Left Head (15° Tilt Position)						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B4	1312	1712.4	23.48dbm	0.427	22.5	21.3
	1412	1732.6	23.62dbm	0.355	22.5	21.3
	1513	1752.6	23.61dbm	0.499	22.5	21.3
Right 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 B4	1513	1752.6	23.61dbm	1.35	22.5	21.3
Right Head (Cheek Position) _repeated with 2nd Battery						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B4	1513	1752.6	23.61dbm	1.33	22.5	21.3
Body worn						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B4	1312	1712.4	23.48dbm	0.461	22.1	21.7
	1412	1732.6	23.62dbm	0.364	22.1	21.7
	1513	1752.6	23.61dbm	0.478	22.1	21.7

WCDMA BAND 4 HSDPA mode

Body worn						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B4	1312	1712.4	23.7dbm	0.430	22.1	21.7
	1412	1732.6	23.87dbm	0.341	22.1	21.7
	1513	1752.6	23.8dbm	0.444	22.1	21.7

WCDMA BAND 4 HSUPA mode

Body worn						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B4	1312	1712.4	23.3dbm	0.426	22.1	21.7
	1412	1732.6	23.28dbm	0.336	22.1	21.7
	1513	1752.6	23.42dbm	0.443	22.1	21.7

WLAN802.11 b

Body worn						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WLAN 802.11 b	1	2412	16.92dbm	0.090	22.1	21.7
	6	2437	17.13dbm	0.107	22.1	21.7
	11	2462	17.02dbm	0.142	22.1	21.7

Body worn- repeated with Memory card

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WLAN 802.11 b	11	2462	17.02dbm	0.135	22.1	21.7

Body worn- repeated for EUT front to phantom

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WLAN 802.11 b	11	2462	17.02dbm	0.042	22.1	21.7

Body worn-repeated with Bluetooth active						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WLAN 802.11 b	11	2462	17.02dbm	0.141	22.1	21.7
Body worn- repeated with 2nd Battery						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WLAN 802.11 b	11	2462	17.02dbm	0.135	22.1	21.7

WLAN 802.11 g

Body worn						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WLAN 802.11 g	1	2412	13.16dbm	0.022	22.1	21.7
	6	2437	13.1dbm	0.026	22.1	21.7
	11	2462	12.93dbm	0.037	22.1	21.7

Bluetooth

Body worn						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
Bluetooth	0	2402	0.26dbm	0.00167	22.1	21.7
	39	2441	0.18dbm	0.000982	22.1	21.7
	78	2480	0.1dbm	0.00152	22.1	21.7

Second solution measurement result

GSM 850 MHZ

Left Head (Cheek Position)						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
850 MHz	251	848.8	32.9dbm	1.21	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	190	836.6	32.4dbm	0.913	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]
1900 MHz	661	1880	29.6dbm	1.31	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	661	1880	29dbm	0.843	22.1	21.7

WCDMA BAND 4

Right Head (Cheek Position)						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B4	1513	1752.6	23.61dbm	1.36	22.5	21.3
Body worn						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B4	1513	1752.6	23.61dbm	0.472	22.1	21.7

WLAN802.11 b

Body worn						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WLAN 802.11 b	11	2462	17.02dbm	0.140	22.1	21.7

WLAN 802.11 g

Body worn						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WLAN 802.11 g	11	2462	12.93dbm	0.036	22.1	21.7

Third solution measurement result

GSM 850 MHZ

Left Head (Cheek Position)						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
850 MHz	251	848.8	32.7dbm	1.18	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	190	836.6	32.4dbm	0.969	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]
1900 MHz	661	1880	29.6dbm	1.26	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	661	1880	29dbm	0.819	22.1	21.7

WCDMA BAND 4

Right Head (Cheek Position)						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B4	1513	1752.6	23.61dbm	1.37	22.5	21.3
Body worn						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B4	1513	1752.6	23.61dbm	0.480	22.1	21.7

WLAN802.11 b

Body worn						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WLAN 802.11 b	11	2462	17.02dbm	0.139	22.1	21.7

WLAN 802.11 g

Body worn						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WLAN 802.11 g	11	2462	12.93dbm	0.036	22.1	21.7

Fourth solution measurement result

GSM 850 MHZ

Left Head (Cheek Position)						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
850 MHz	251	848.8	32.7dbm	1.08	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	190	836.6	32.4dbm	0.962	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]
1900 MHz	661	1880	29.6dbm	1.3	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	661	1880	29dbm	0.851	22.1	21.7

WCDMA BAND 4

Right Head (Cheek Position)						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B4	1513	1752.6	23.61dbm	1.34	22.5	21.3
Body worn						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B4	1513	1752.6	23.61dbm	0.471	22.1	21.7

WLAN802.11 b

Body worn						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WLAN 802.11 b	11	2462	17.02dbm	0.137	22.1	21.7

WLAN 802.11 g

Body worn						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WLAN 802.11 g	11	2462	12.93dbm	0.038	22.1	21.7

3. Instruments List

Manufacturer	Device	Type	Serial number	Date of last calibration
Schmid & Partner Engineering AG	Dosimetric E-FieldProbe	ES3DV3	3172	May.27.2009
		EX3DV3	3526	Aug.26.2009
Schmid & Partner Engineering AG	850/1750/1900/2450MHz System Validation Dipole	D835V2	4d063	May.25.2009
		D1750V2	1008	May.07.2009
		D1900V2	5d027	Apr.27.2009
		D2450V2	727	Apr.27.2009
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	3410A05547	Mar.31.2009
Agilent	Dielectric Probe Kit	85070D	US01440168	Calibration not required
Agilent	Dual-directional coupler	778D	50313	Aug.26.2008
				Aug.26.2009
		777D	50014	Aug.26.2008
				Aug.27.2009
Agilent	RF Signal Generator	8648D	MY45093613	May.25.2009
Agilent	Power Sensor	U2001B	MY48100169	Apr.23.2009
R&S	Radio Communication Test	CMU200	113505	Sep.03.2008
			109326	Mar.17.2009

4. Measurements

Date/Time: 2009/8/14 01:05:17

Re Cheek_CH128

DUT: SAPP310;

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

Medium: Head 900 MHz Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.889$ mho/m; $\epsilon_r = 41.1$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.83, 5.83,5.83); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.642 mW/g

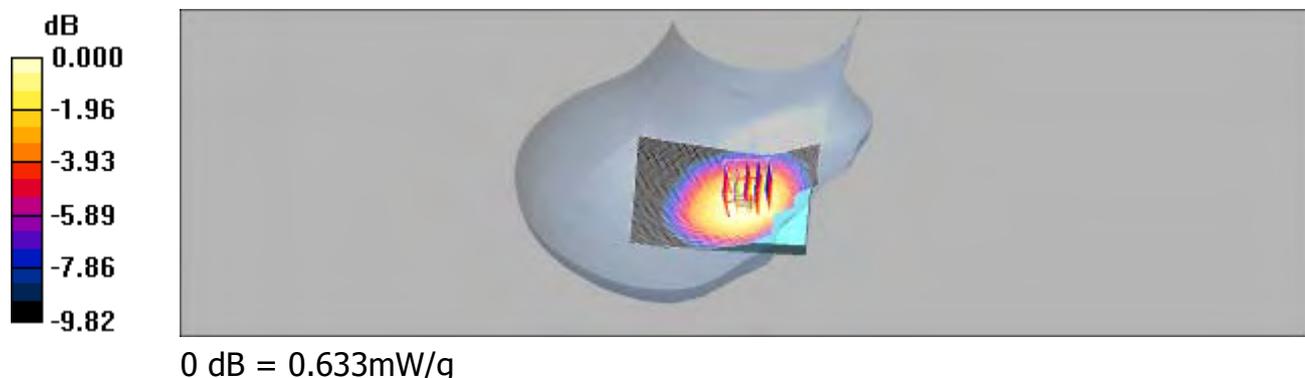
RE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.86 V/m; Power Drift = -0.149 dB

Peak SAR (extrapolated) = 0.762 W/kg

SAR(1 g) = 0.606 mW/g; SAR(10 g) = 0.453 mW/g

Maximum value of SAR (measured) = 0.633 mW/g



Re Cheek_CH190

DUT: SAPP310;

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: Head 900 MHz Medium parameters used: $f = 837$ MHz; $\sigma = 0.906$ mho/m; $\epsilon_r = 40.9$;
 $\rho = 1000$ kg/m³
Phantom section: Right Section

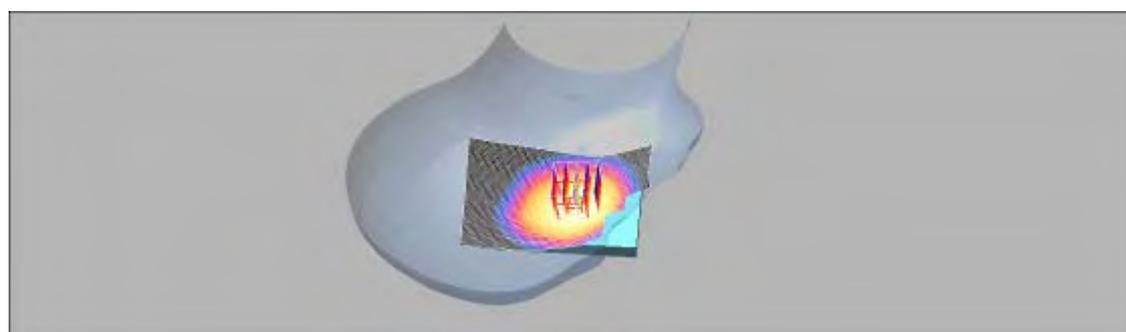
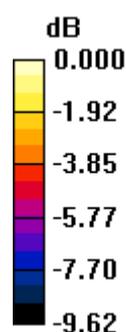
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.83, 5.83,5.83); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.894 mW/g

RE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 10.0 V/m; Power Drift = -0.046 dB
Peak SAR (extrapolated) = 1.06 W/kg

SAR(1 g) = 0.849 mW/g; SAR(10 g) = 0.634 mW/g
Maximum value of SAR (measured) = 0.887 mW/g



0 dB = 0.887mW/g

Re Cheek_CH251

DUT: SAPP310;

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

Medium: Head 900 MHz Medium parameters used: $f = 849$ MHz; $\sigma = 0.921$ mho/m; $\epsilon_r = 40.7$;
 $\rho = 1000$ kg/m³

Phantom section: Right Section

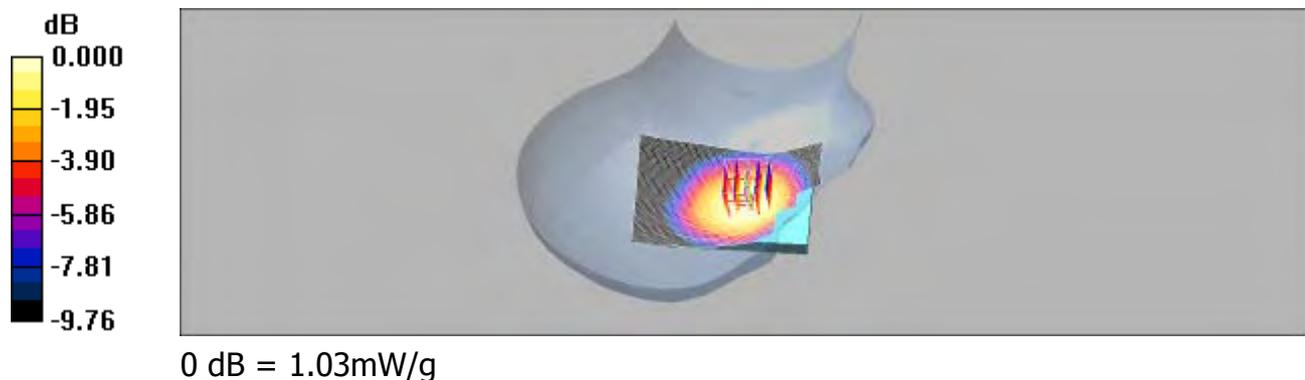
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.83, 5.83, 5.83); Calibrated: 2009/5/27
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; 0020 Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE Cheek/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.03 mW/g

RE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 10.7 V/m; Power Drift = 0.019 dB
Peak SAR (extrapolated) = 1.24 W/kg

SAR(1 g) = 0.991 mW/g; SAR(10 g) = 0.737 mW/g
Maximum value of SAR (measured) = 1.03 mW/g



Le Cheek_CH128

DUT: SAPP310;

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:8.3
Medium: Head 900 MHz Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.889$ mho/m; $\epsilon_r = 41.1$; $\rho = 1000$ kg/m³
Phantom section: Left Section

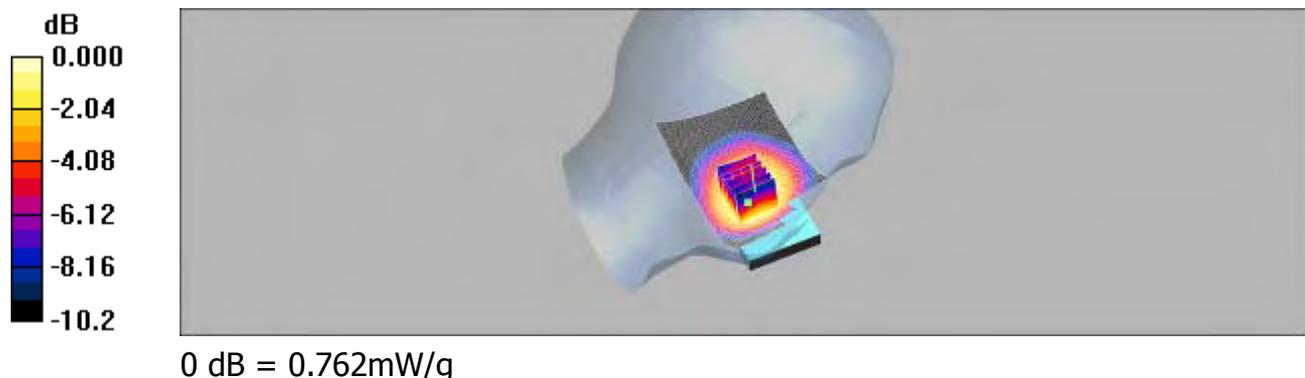
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.83, 5.83, 5.83); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.775 mW/g

LE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.10 V/m; Power Drift = -0.115 dB
Peak SAR (extrapolated) = 0.930 W/kg

SAR(1 g) = 0.728 mW/g; SAR(10 g) = 0.542 mW/g
Maximum value of SAR (measured) = 0.762 mW/g



Le Cheek_CH190

DUT: SAPP310;

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: Head 900 MHz Medium parameters used: $f = 837$ MHz; $\sigma = 0.906$ mho/m; $\epsilon_r = 40.9$;
 $\rho = 1000$ kg/m³
Phantom section: Left Section

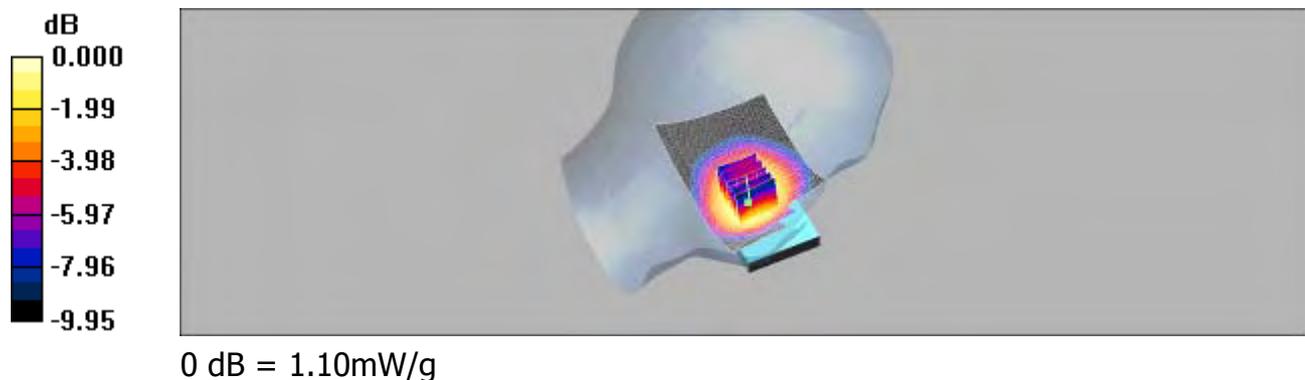
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.83, 5.83, 5.83); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.11 mW/g

LE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.5 V/m; Power Drift = 0.039 dB
Peak SAR (extrapolated) = 1.33 W/kg

SAR(1 g) = 1.05 mW/g; SAR(10 g) = 0.777 mW/g
Maximum value of SAR (measured) = 1.10 mW/g



Le Cheek_CH251

DUT: SAPP310;

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3
Medium: Head 900 MHz Medium parameters used: $f = 849$ MHz; $\sigma = 0.921$ mho/m; $\epsilon_r = 40.7$;
 $\rho = 1000$ kg/m³
Phantom section: Left Section

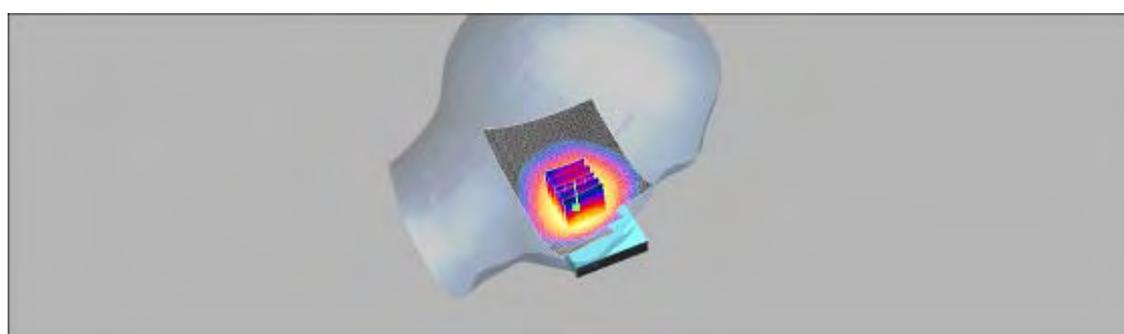
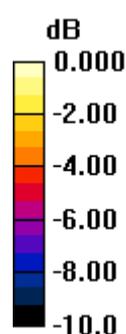
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.83, 5.83, 5.83); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.32 mW/g

LE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 11.5 V/m; Power Drift = 0.029 dB
Peak SAR (extrapolated) = 1.59 W/kg

SAR(1 g) = 1.24 mW/g; SAR(10 g) = 0.919 mW/g
Maximum value of SAR (measured) = 1.29 mW/g



0 dB = 1.29mW/g

Re Tilt_CH128

DUT: SAPP310;

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:8.3
Medium: Head 900 MHz Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.889$ mho/m; $\epsilon_r = 41.1$; $\rho = 1000$ kg/m³
Phantom section: Right Section

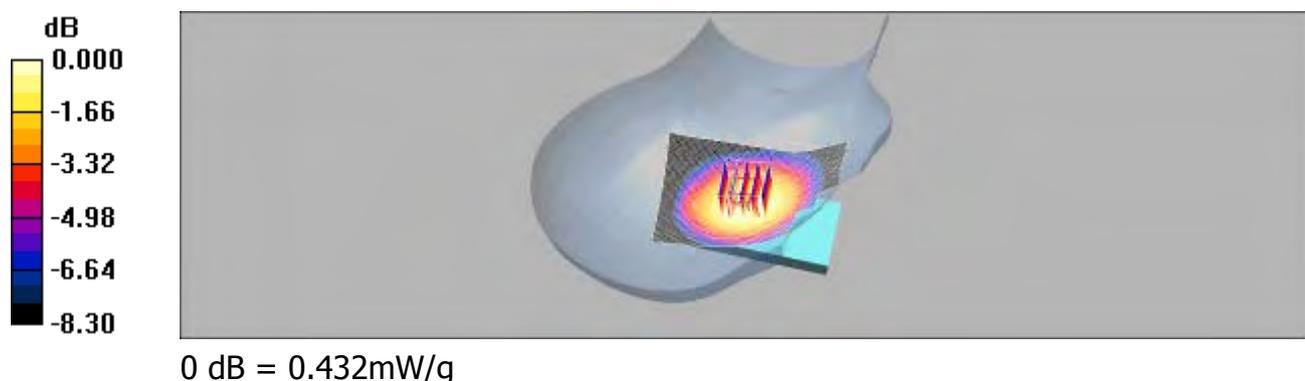
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.83, 5.83, 5.83); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.438 mW/g

RE Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.2 V/m; Power Drift = -0.004 dB
Peak SAR (extrapolated) = 0.523 W/kg

SAR(1 g) = 0.414 mW/g; SAR(10 g) = 0.315 mW/g
Maximum value of SAR (measured) = 0.432 mW/g



Re Tilt_CH190

DUT: SAPP310;

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: Head 900 MHz Medium parameters used: $f = 837$ MHz; $\sigma = 0.906$ mho/m; $\epsilon_r = 40.9$;
 $\rho = 1000$ kg/m³
Phantom section: Right Section

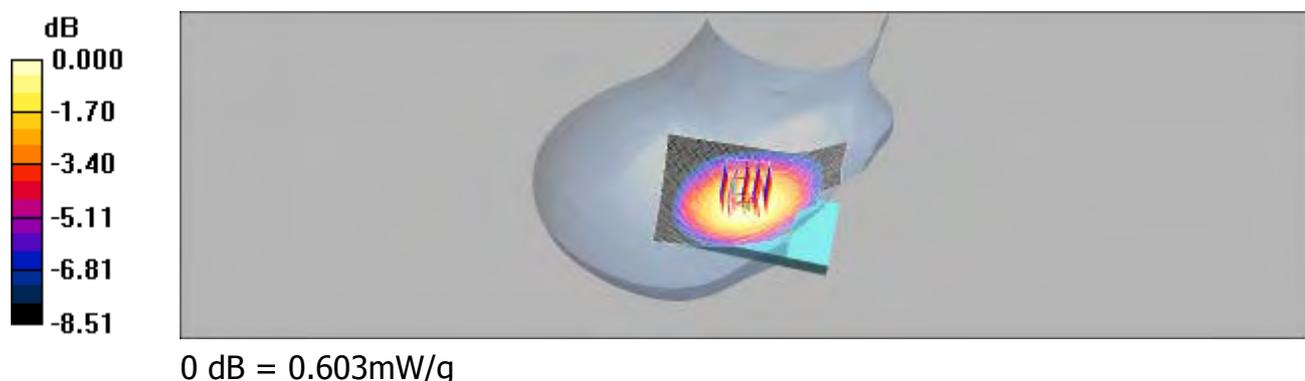
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.83, 5.83, 5.83); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.611 mW/g

RE Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.3 V/m; Power Drift = 0.033 dB
Peak SAR (extrapolated) = 0.723 W/kg

SAR(1 g) = 0.578 mW/g; SAR(10 g) = 0.436 mW/g
Maximum value of SAR (measured) = 0.603 mW/g



Re Tilt_CH251

DUT: SAPP310;

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3
Medium: Head 900 MHz Medium parameters used: $f = 849$ MHz; $\sigma = 0.921$ mho/m; $\epsilon_r = 40.7$;
 $\rho = 1000$ kg/m³
Phantom section: Right Section

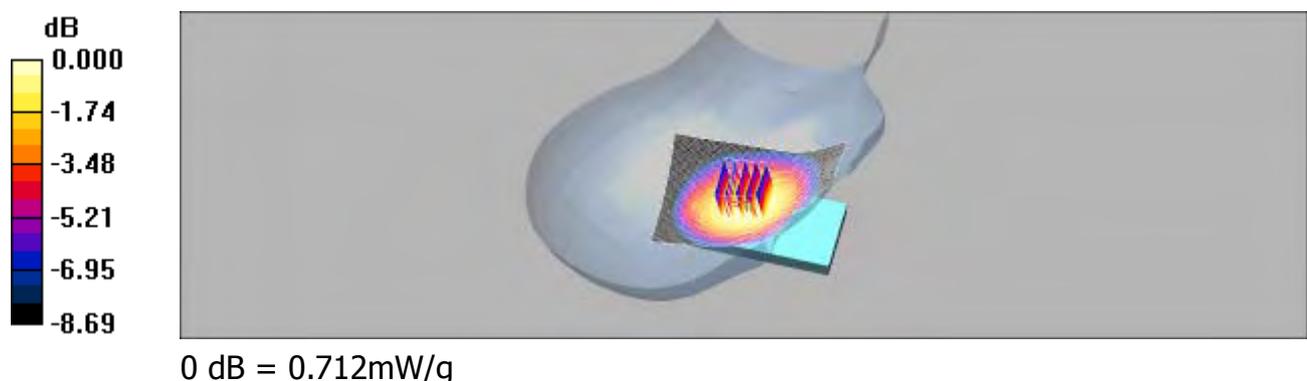
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.83, 5.83,5.83); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.715 mW/g

RE Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 16.4 V/m; Power Drift = 0.083 dB
Peak SAR (extrapolated) = 0.852 W/kg

SAR(1 g) = 0.678 mW/g; SAR(10 g) = 0.512 mW/g
Maximum value of SAR (measured) = 0.712 mW/g



Le Tilt_CH128

DUT: SAPP310;

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:8.3
Medium: Head 900 MHz Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.889$ mho/m; $\epsilon_r = 41.1$; $\rho = 1000$ kg/m³
Phantom section: Left Section

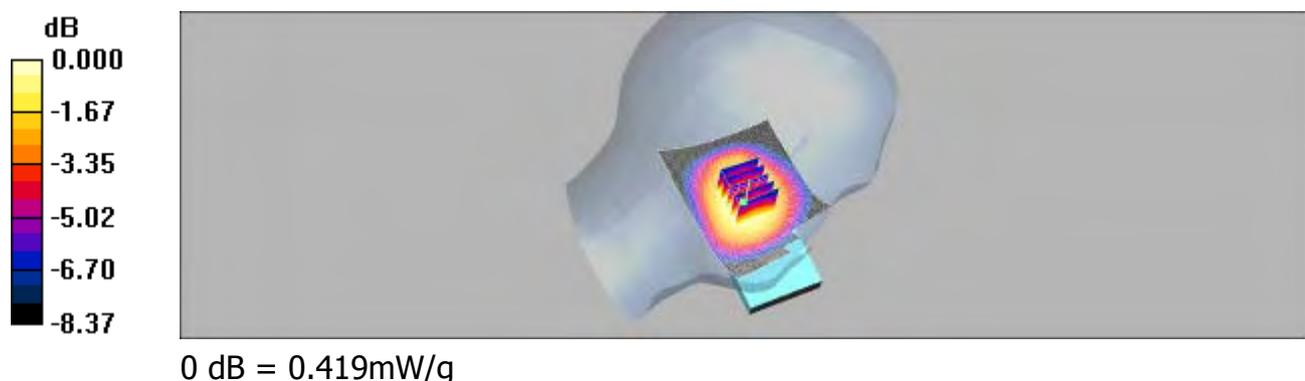
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.83, 5.83, 5.83); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.418 mW/g

LE Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.9 V/m; Power Drift = -0.081 dB
Peak SAR (extrapolated) = 0.504 W/kg

SAR(1 g) = 0.398 mW/g; SAR(10 g) = 0.298 mW/g
Maximum value of SAR (measured) = 0.419 mW/g



Le Tilt_CH190

DUT: SAPP310;

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3
Medium: Head 900 MHz Medium parameters used: $f = 837$ MHz; $\sigma = 0.906$ mho/m; $\epsilon_r = 40.9$;
 $\rho = 1000$ kg/m³
Phantom section: Left Section

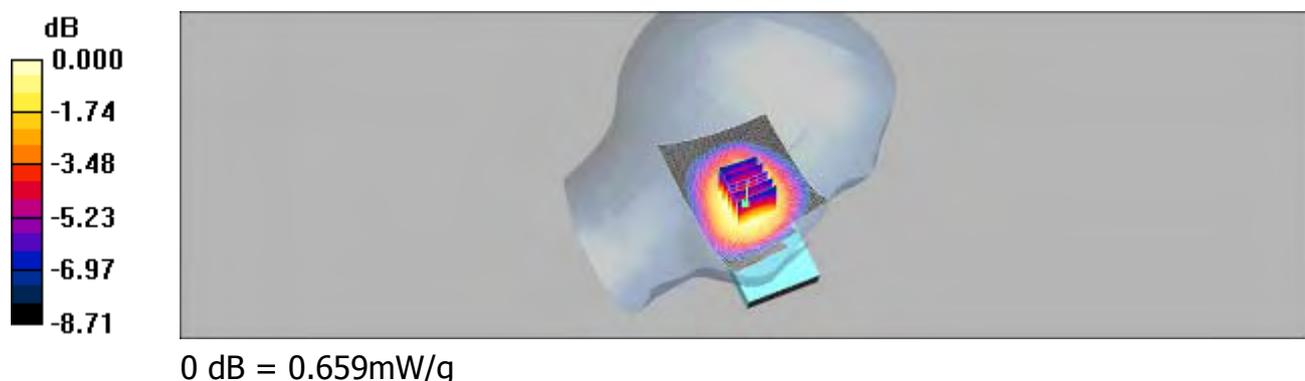
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.83, 5.83, 5.83); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.670 mW/g

LE Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 15.6 V/m; Power Drift = -0.032 dB
Peak SAR (extrapolated) = 0.788 W/kg

SAR(1 g) = 0.631 mW/g; SAR(10 g) = 0.476 mW/g
Maximum value of SAR (measured) = 0.659 mW/g



Le Tilt_CH251

DUT: SAPP310;

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3
Medium: Head 900 MHz Medium parameters used: $f = 849$ MHz; $\sigma = 0.921$ mho/m; $\epsilon_r = 40.7$;
 $\rho = 1000$ kg/m³
Phantom section: Left Section

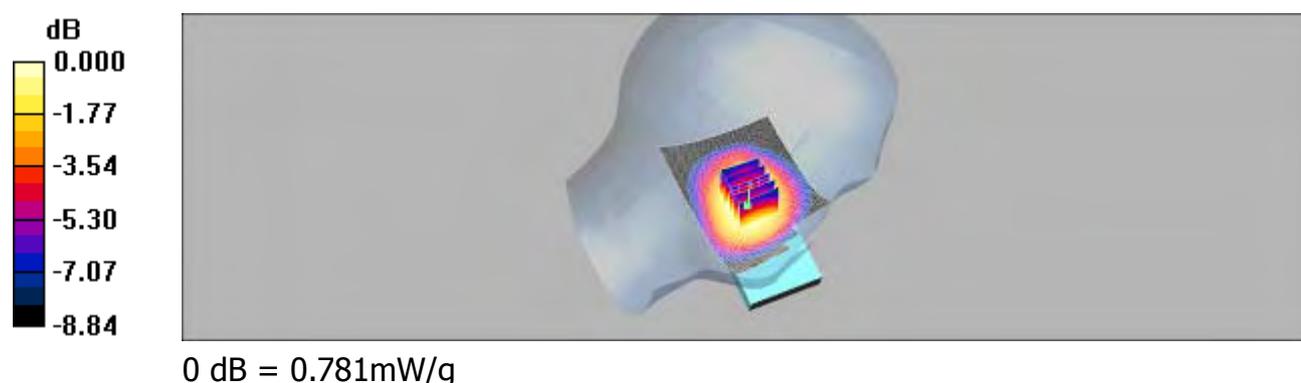
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.83, 5.83, 5.83); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.793 mW/g

LE Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 16.7 V/m; Power Drift = 0.023 dB
Peak SAR (extrapolated) = 0.920 W/kg

SAR(1 g) = 0.747 mW/g; SAR(10 g) = 0.563 mW/g
Maximum value of SAR (measured) = 0.781 mW/g



BODY_CH128

DUT: SAPP310;

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:4
Medium: Muscle 900 MHz Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.996$ mho/m; $\epsilon_r = 54.9$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

- Probe: ES3DV3 - SN3172; ConvF(5.81, 5.81, 5.81); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.09 mW/g

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

Reference Value = 17.0 V/m; Power Drift = -0.039 dB

Peak SAR (extrapolated) = 1.36 W/kg

SAR(1 g) = 1.03 mW/g; SAR(10 g) = 0.749 mW/g

Maximum value of SAR (measured) = 1.09 mW/g

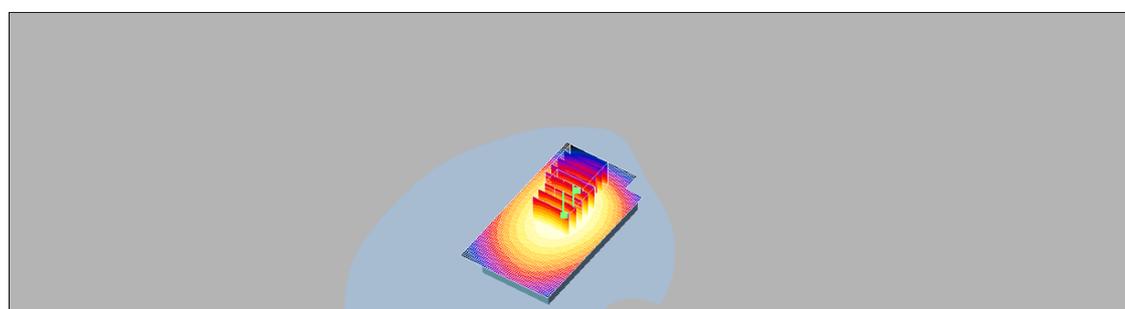
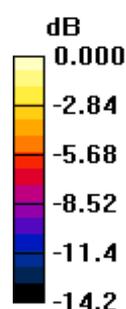
BODY/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.0 V/m; Power Drift = -0.039 dB

Peak SAR (extrapolated) = 1.37 W/kg

SAR(1 g) = 0.963 mW/g; SAR(10 g) = 0.669 mW/g

Maximum value of SAR (measured) = 1.03 mW/g



0 dB = 1.03mW/g

BODY_CH190

DUT: SAPP310;

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:4

Medium: Muscle 900 MHz Medium parameters used: $f = 837$ MHz; $\sigma = 1.01$ mho/m; $\epsilon_r = 54.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

- Probe: ES3DV3 - SN3172; ConvF(5.81, 5.81, 5.81); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.26 mW/g

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

Reference Value = 15.3 V/m; Power Drift = -0.049 dB

Peak SAR (extrapolated) = 1.56 W/kg

SAR(1 g) = 1.19 mW/g; SAR(10 g) = 0.867 mW/g

Maximum value of SAR (measured) = 1.26 mW/g

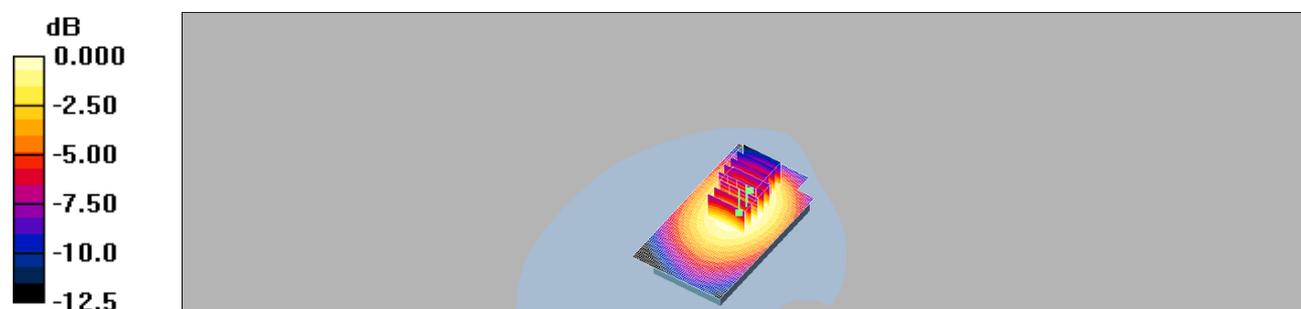
BODY/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.3 V/m; Power Drift = -0.049 dB

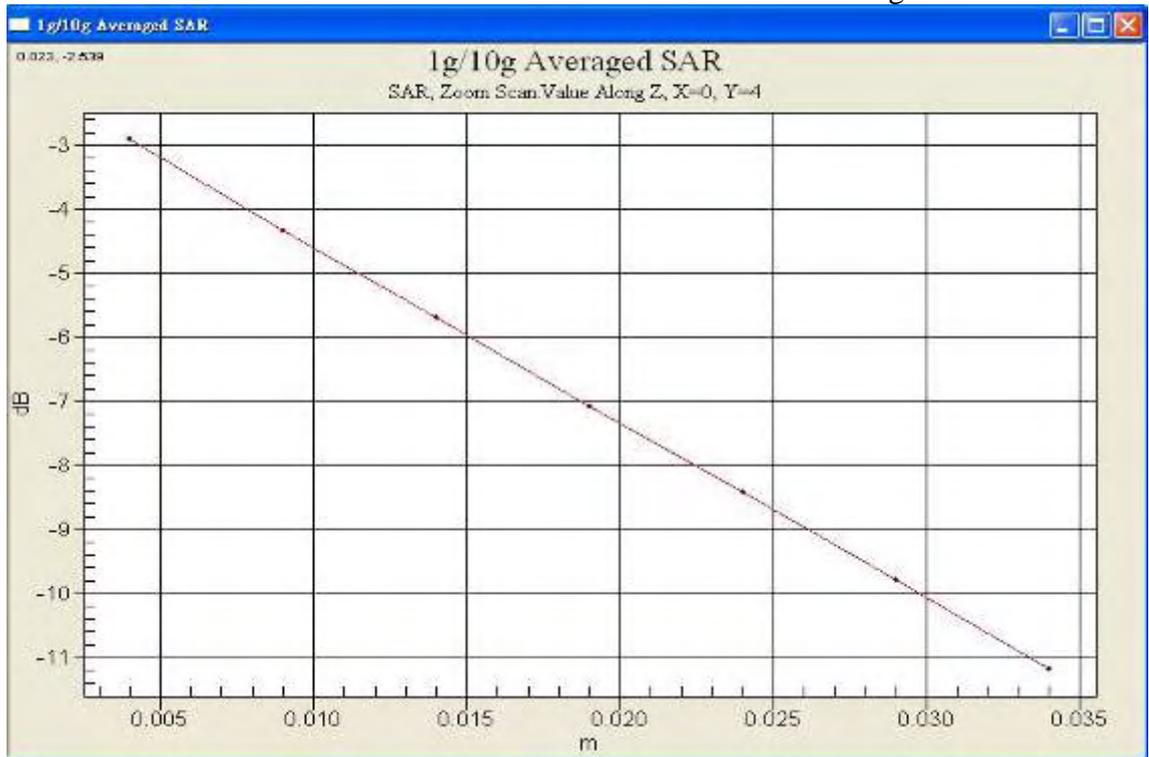
Peak SAR (extrapolated) = 1.53 W/kg

SAR(1 g) = 1.13 mW/g; SAR(10 g) = 0.811 mW/g

Maximum value of SAR (measured) = 1.23 mW/g



0 dB = 1.23mW/g



BODY_CH251

DUT: SAPP310;

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:4

Medium: Muscle 900 MHz Medium parameters used: $f = 849$ MHz; $\sigma = 1.02$ mho/m; $\epsilon_r = 54.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

- Probe: ES3DV3 - SN3172; ConvF(5.81, 5.81, 5.81); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.24 mW/g

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

Reference Value = 17.5 V/m; Power Drift = -0.009 dB

Peak SAR (extrapolated) = 1.65 W/kg

SAR(1 g) = 1.06 mW/g; SAR(10 g) = 0.710 mW/g

Maximum value of SAR (measured) = 1.14 mW/g

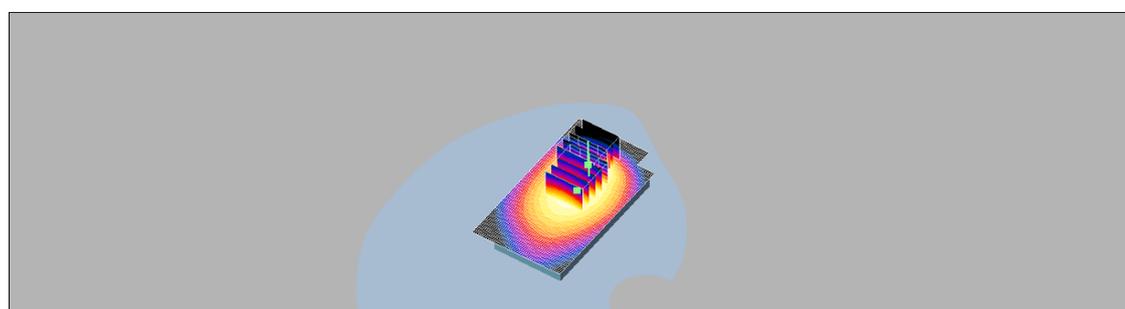
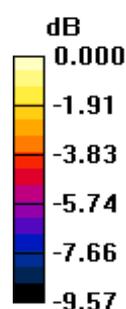
BODY/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.5 V/m; Power Drift = -0.009 dB

Peak SAR (extrapolated) = 1.32 W/kg

SAR(1 g) = 0.981 mW/g; SAR(10 g) = 0.714 mW/g

Maximum value of SAR (measured) = 1.05 mW/g



0 dB = 1.05mW/g

BODY_CH190_repeated for EUT front to phantom

DUT: SAPP310;

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:4

Medium: Muscle 900 MHz Medium parameters used: $f = 837$ MHz; $\sigma = 1.01$ mho/m; $\epsilon_r = 54.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.81, 5.81, 5.81); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.898 mW/g

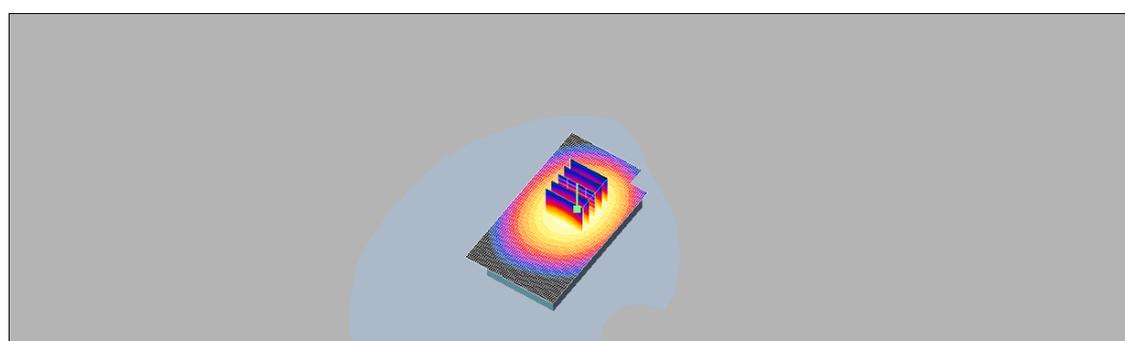
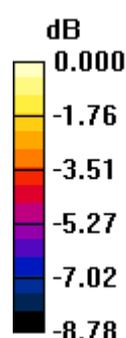
BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm

Reference Value = 13.1 V/m; Power Drift = -0.071 dB

Peak SAR (extrapolated) = 1.11 W/kg

SAR(1 g) = 0.848 mW/g; SAR(10 g) = 0.627 mW/g

Maximum value of SAR (measured) = 0.897 mW/g



0 dB = 0.897mW/g

BODY_CH190_repeated with Memory card

DUT: SAPP310;

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:4

Medium: Muscle 900 MHz Medium parameters used: $f = 837$ MHz; $\sigma = 1.01$ mho/m; $\epsilon_r = 54.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

- Probe: ES3DV3 - SN3172; ConvF(5.81, 5.81, 5.81); Calibrated: 2009/5/27
- 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 (51x91x1): 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 = 19.2 V/m; Power Drift = -0.197 dB

Peak SAR (extrapolated) = 1.65 W/kg

SAR(1 g) = 1.11 mW/g; SAR(10 g) = 0.771 mW/g

Maximum value of SAR (measured) = 1.18 mW/g

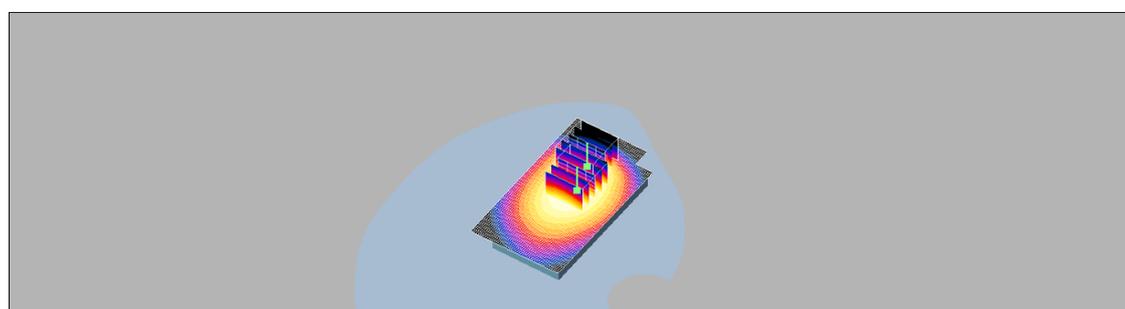
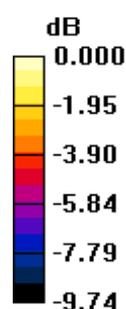
BODY/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 19.2 V/m; Power Drift = -0.197 dB

Peak SAR (extrapolated) = 1.51 W/kg

SAR(1 g) = 1.14 mW/g; SAR(10 g) = 0.823 mW/g

Maximum value of SAR (measured) = 1.20 mW/g



0 dB = 1.20mW/g

BODY_CH190_repeated with EGPRS mode

DUT: SAPP310;

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:4
Medium: Muscle 900 MHz Medium parameters used: $f = 837$ MHz; $\sigma = 1.01$ mho/m; $\epsilon_r = 54.9$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

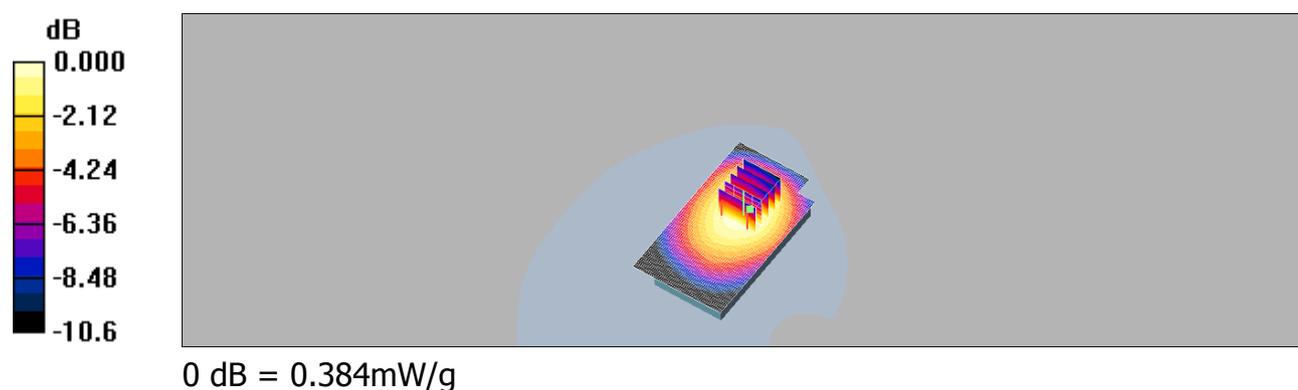
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.81, 5.81, 5.81); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.373 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.23 V/m; Power Drift = -0.031 dB
Peak SAR (extrapolated) = 0.494 W/kg

SAR(1 g) = 0.359 mW/g; SAR(10 g) = 0.260 mW/g
Maximum value of SAR (measured) = 0.384 mW/g



BODY_CH190_repeated with 2nd battery

DUT: SAPP310;

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:4

Medium: Muscle 900 MHz Medium parameters used: $f = 837$ MHz; $\sigma = 1.01$ mho/m; $\epsilon_r = 54.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

- Probe: ES3DV3 - SN3172; ConvF(5.81, 5.81, 5.81); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.09 mW/g

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

Reference Value = 16.3 V/m; Power Drift = -0.105 dB

Peak SAR (extrapolated) = 1.35 W/kg

SAR(1 g) = 1.03 mW/g; SAR(10 g) = 0.754 mW/g

Maximum value of SAR (measured) = 1.08 mW/g

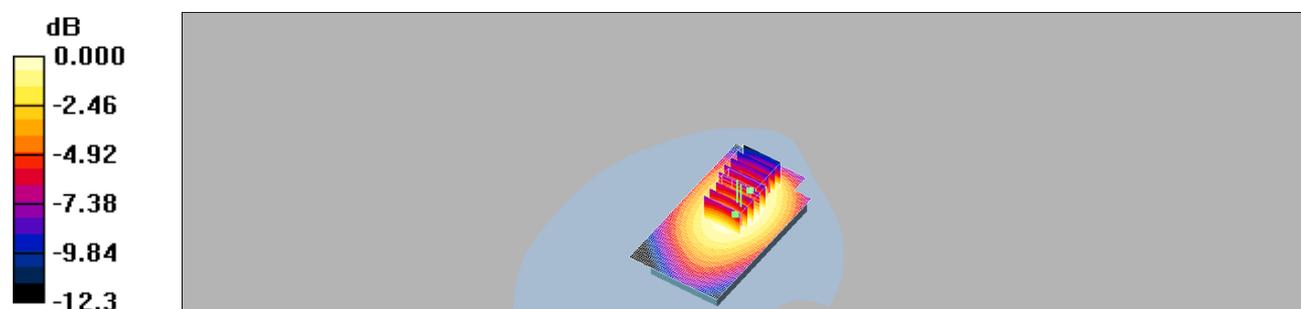
BODY/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.3 V/m; Power Drift = -0.105 dB

Peak SAR (extrapolated) = 1.35 W/kg

SAR(1 g) = 0.974 mW/g; SAR(10 g) = 0.700 mW/g

Maximum value of SAR (measured) = 1.06 mW/g



0 dB = 1.06mW/g

RE Cheek_CH512

DUT: SAPP310;

Communication System: GSM1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3
Medium: Head 1900 MHz Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 40.2$; $\rho = 1000$ kg/m³
Phantom section: Right Section

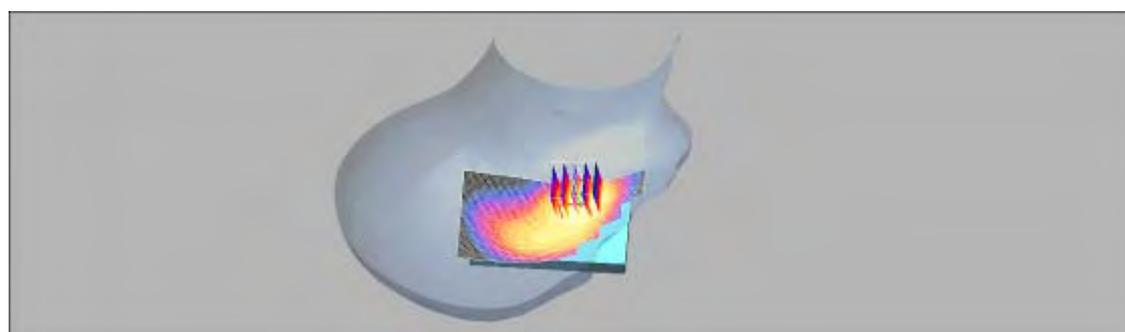
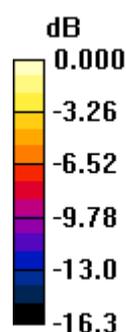
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.86, 4.86,4.86); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.42 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.2 V/m; Power Drift = 0.025 dB
Peak SAR (extrapolated) = 2.03 W/kg

SAR(1 g) = 1.23 mW/g; SAR(10 g) = 0.720 mW/g
Maximum value of SAR (measured) = 1.36 mW/g



0 dB = 1.36mW/g

RE Cheek_CH661

DUT: SAPP310;

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head 1900 MHz Medium parameters used: $f = 1880$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 40$;
 $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.86, 4.86,4.86); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.48 mW/g

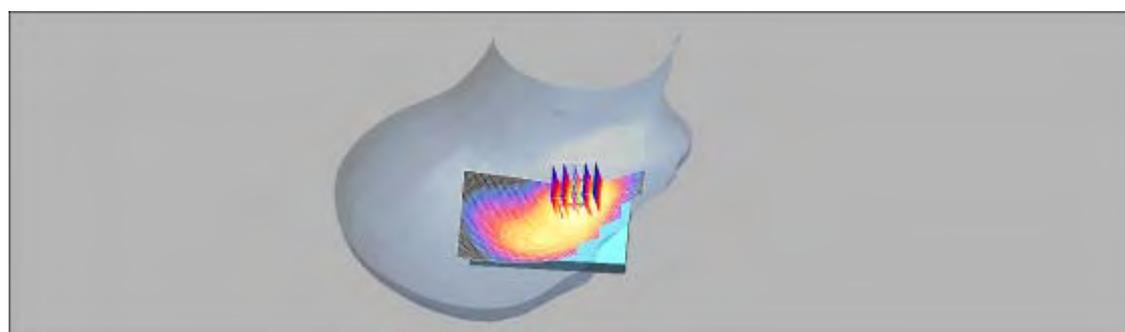
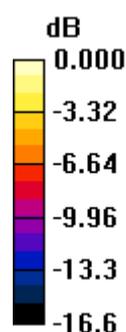
RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm

Reference Value = 10.4 V/m; Power Drift = -0.012 dB

Peak SAR (extrapolated) = 2.14 W/kg

SAR(1 g) = 1.29 mW/g; SAR(10 g) = 0.748 mW/g

Maximum value of SAR (measured) = 1.43 mW/g



0 dB = 1.43mW/g

RE Cheek_CH810

DUT: SAPP310;

Communication System: GSM1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3
Medium: Head 1900 MHz Medium parameters used: $f = 1910$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 39.6$; $\rho = 1000$ kg/m³
Phantom section: Right Section

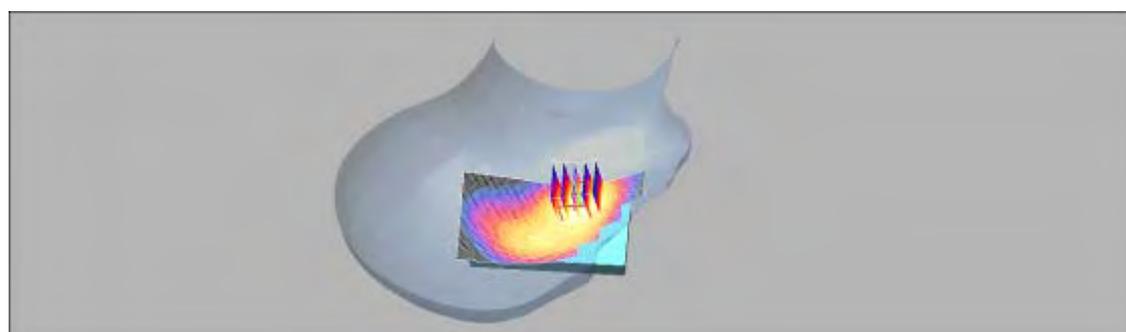
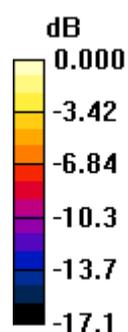
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.86, 4.86,4.86); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.23 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.60 V/m; Power Drift = -0.002 dB
Peak SAR (extrapolated) = 1.82 W/kg

SAR(1 g) = 1.07 mW/g; SAR(10 g) = 0.614 mW/g
Maximum value of SAR (measured) = 1.18 mW/g



0 dB = 1.18mW/g

LE Cheek_CH512

DUT: SAPP310;

Communication System: GSM1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Medium: Head 1900 MHz Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 40.2$; $\rho = 1000$ kg/m³

Phantom section: Left Section

- Probe: ES3DV3 - SN3172; ConvF(4.86, 4.86,4.86); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.940 mW/g

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

Reference Value = 10.1 V/m; Power Drift = -0.152 dB

Peak SAR (extrapolated) = 1.24 W/kg

SAR(1 g) = 0.854 mW/g; SAR(10 g) = 0.547 mW/g

Maximum value of SAR (measured) = 0.899 mW/g

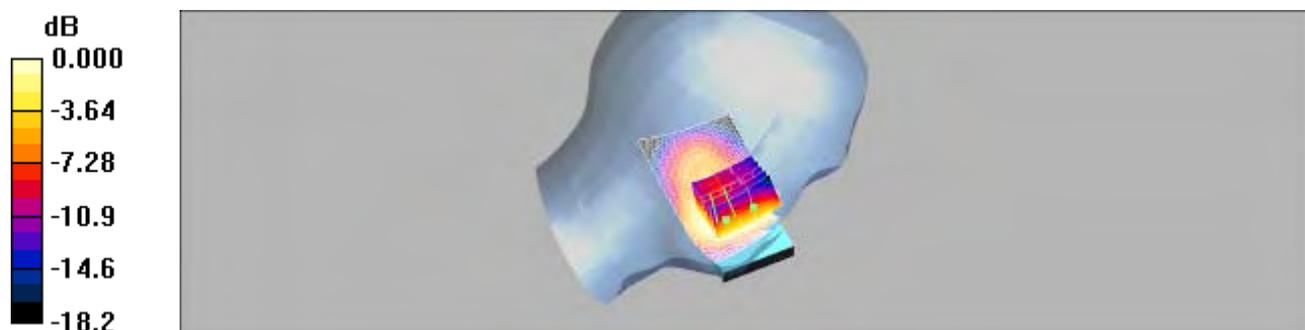
LE_Cheek/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.1 V/m; Power Drift = -0.152 dB

Peak SAR (extrapolated) = 1.13 W/kg

SAR(1 g) = 0.741 mW/g; SAR(10 g) = 0.473 mW/g

Maximum value of SAR (measured) = 0.826 mW/g



0 dB = 0.826mW/g

LE Cheek_CH661

DUT: SAPP310;

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head 1900 MHz Medium parameters used: $f = 1880$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 40$;
 $\rho = 1000$ kg/m³

Phantom section: Left Section

- Probe: ES3DV3 - SN3172; ConvF(4.86, 4.86,4.86); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.01 mW/g

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

Reference Value = 10.2 V/m; Power Drift = -0.140 dB

Peak SAR (extrapolated) = 1.39 W/kg

SAR(1 g) = 0.929 mW/g; SAR(10 g) = 0.584 mW/g

Maximum value of SAR (measured) = 0.998 mW/g

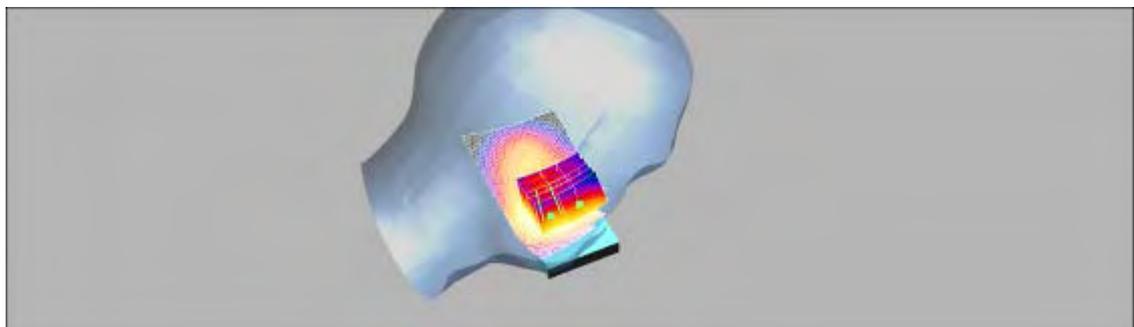
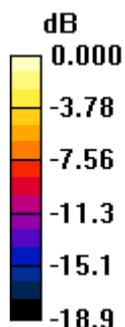
LE_Cheek/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.2 V/m; Power Drift = -0.140 dB

Peak SAR (extrapolated) = 1.18 W/kg

SAR(1 g) = 0.770 mW/g; SAR(10 g) = 0.491 mW/g

Maximum value of SAR (measured) = 0.854 mW/g



0 dB = 0.854mW/g

LE Cheek_CH810

DUT: SAPP310;

Communication System: GSM1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: Head 1900 MHz Medium parameters used: $f = 1910$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 39.6$; $\rho = 1000$ kg/m³

Phantom section: Left Section

- Probe: ES3DV3 - SN3172; ConvF(4.86, 4.86,4.86); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.872 mW/g

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

Reference Value = 9.83 V/m; Power Drift = -0.062 dB

Peak SAR (extrapolated) = 1.21 W/kg

SAR(1 g) = 0.805 mW/g; SAR(10 g) = 0.500 mW/g

Maximum value of SAR (measured) = 0.863 mW/g

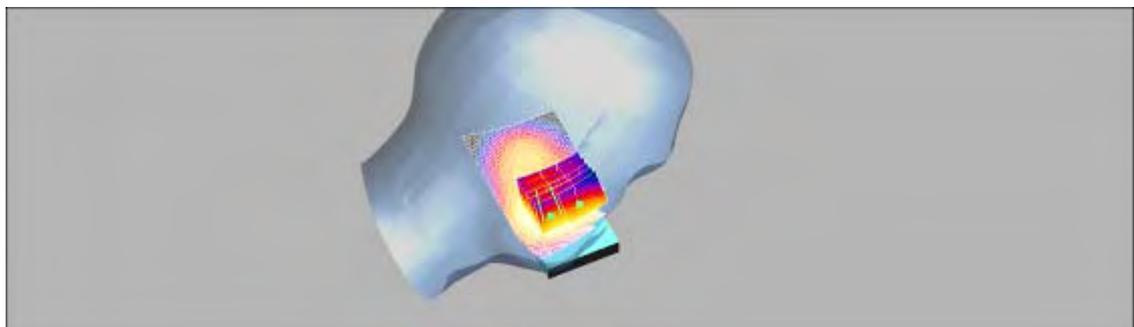
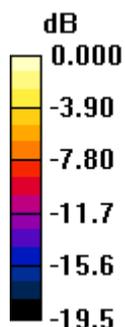
LE_Cheek/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.83 V/m; Power Drift = -0.062 dB

Peak SAR (extrapolated) = 1.03 W/kg

SAR(1 g) = 0.663 mW/g; SAR(10 g) = 0.419 mW/g

Maximum value of SAR (measured) = 0.739 mW/g



0 dB = 0.739mW/g

RE Tilt_CH512

DUT: SAPP310;

Communication System: GSM1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3
Medium: Head 1900 MHz Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 40.2$; $\rho = 1000$ kg/m³
Phantom section: Right Section

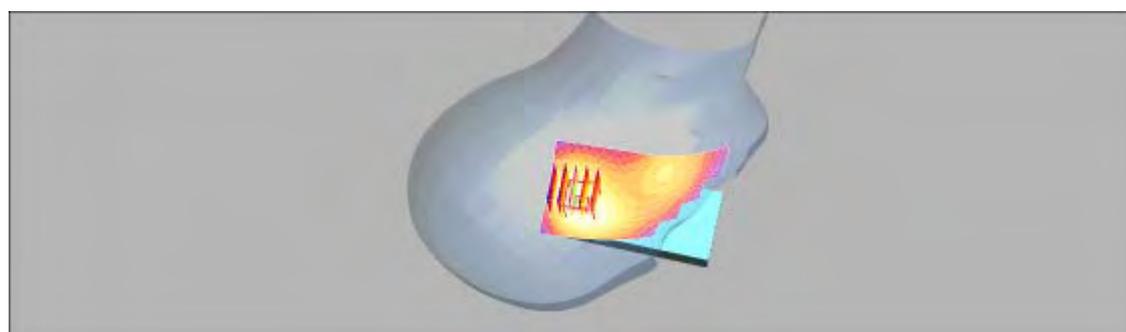
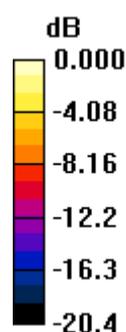
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.86, 4.86,4.86); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.533 mW/g

RE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.4 V/m; Power Drift = -0.020 dB
Peak SAR (extrapolated) = 0.665 W/kg

SAR(1 g) = 0.449 mW/g; SAR(10 g) = 0.288 mW/g
Maximum value of SAR (measured) = 0.476 mW/g



0 dB = 0.476mW/g

RE Tilt_CH661

DUT: SAPP310;

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head 1900 MHz Medium parameters used: $f = 1880$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 40$;
 $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.86, 4.86,4.86); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.579 mW/g

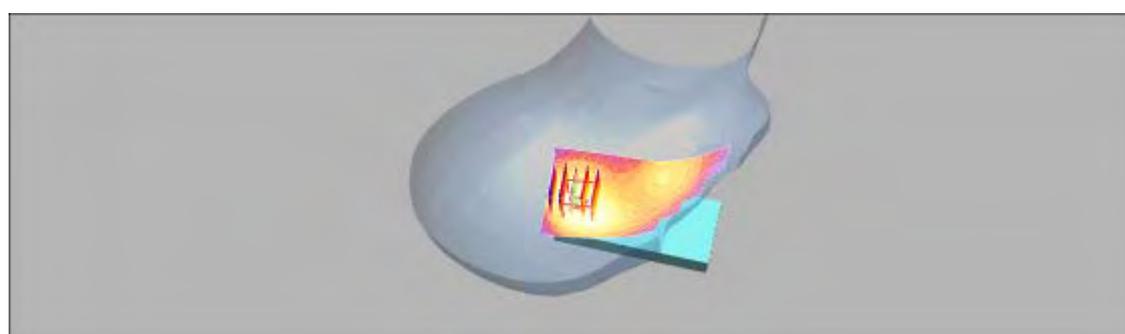
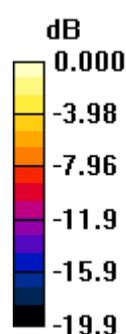
RE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm

Reference Value = 18.1 V/m; Power Drift = -0.102 dB

Peak SAR (extrapolated) = 0.705 W/kg

SAR(1 g) = 0.474 mW/g; SAR(10 g) = 0.302 mW/g

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



0 dB = 0.505mW/g

RE Tilt_CH810

DUT: SAPP310;

Communication System: GSM1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3
Medium: Head 1900 MHz Medium parameters used: $f = 1910$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 39.6$; $\rho = 1000$ kg/m³
Phantom section: Right Section

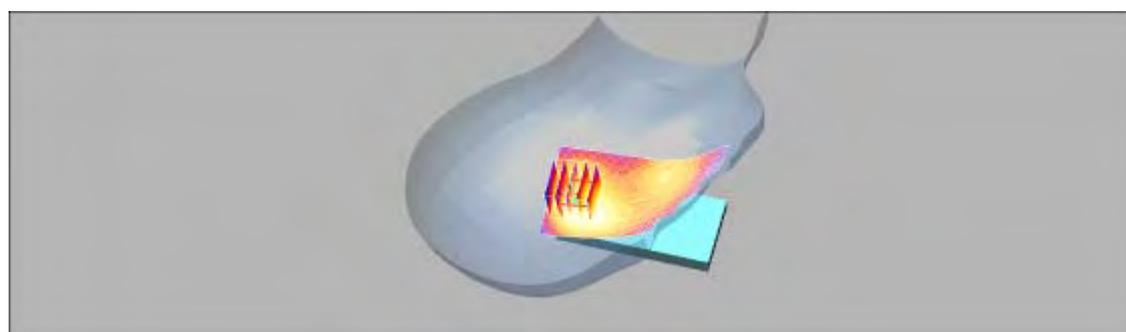
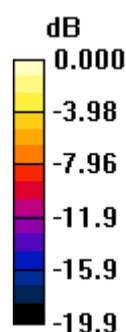
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.86, 4.86,4.86); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.486 mW/g

RE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.6 V/m; Power Drift = 0.028 dB
Peak SAR (extrapolated) = 0.615 W/kg

SAR(1 g) = 0.403 mW/g; SAR(10 g) = 0.253 mW/g
Maximum value of SAR (measured) = 0.431 mW/g



0 dB = 0.431mW/g

LE Tilt_CH512

DUT: SAPP310;

Communication System: GSM1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3
Medium: Head 1900 MHz Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 40.2$; $\rho = 1000$ kg/m³
Phantom section: Left Section

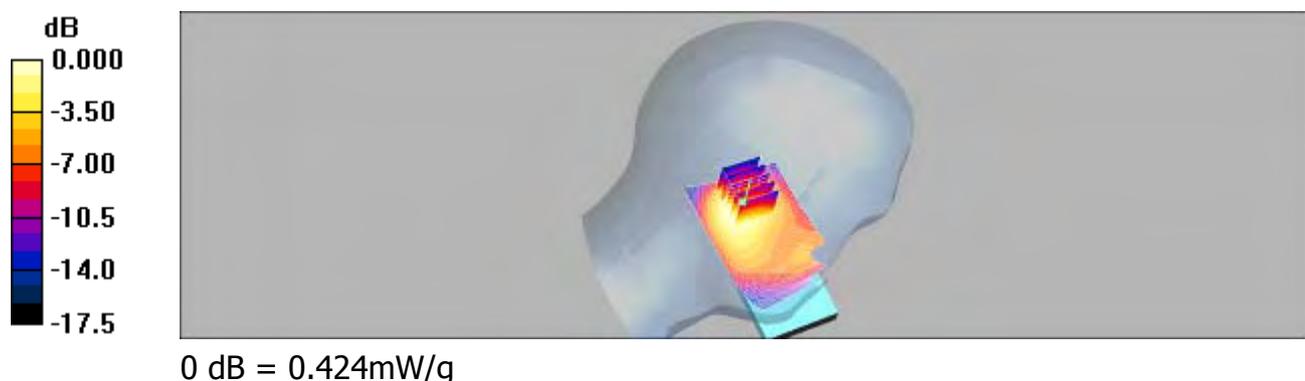
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.86, 4.86,4.86); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.438 mW/g

LE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.6 V/m; Power Drift = -0.019 dB
Peak SAR (extrapolated) = 0.616 W/kg

SAR(1 g) = 0.390 mW/g; SAR(10 g) = 0.238 mW/g
Maximum value of SAR (measured) = 0.424 mW/g



LE Tilt_CH661

DUT: SAPP310;

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3
Medium: Head 1900 MHz Medium parameters used: $f = 1880$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 40$;
 $\rho = 1000$ kg/m³
Phantom section: Left Section

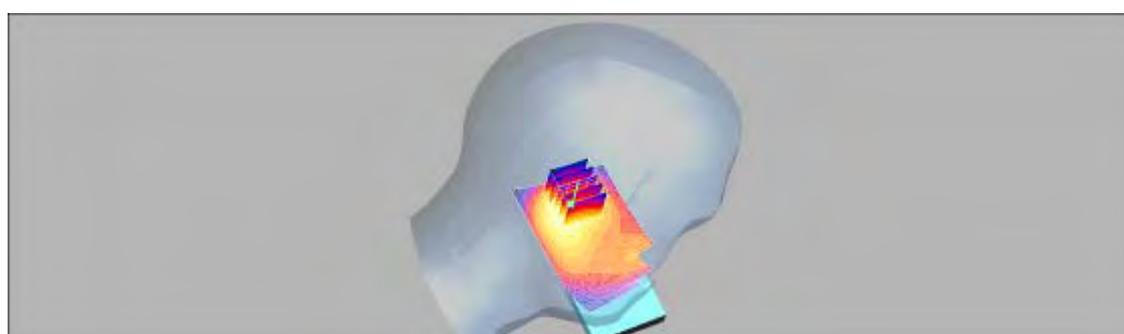
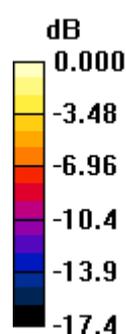
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.86, 4.86,4.86); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.503 mW/g

LE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 16.6 V/m; Power Drift = -0.024 dB
Peak SAR (extrapolated) = 0.696 W/kg

SAR(1 g) = 0.439 mW/g; SAR(10 g) = 0.264 mW/g
Maximum value of SAR (measured) = 0.479 mW/g



0 dB = 0.479mW/g

LE Tilt_CH810

DUT: SAPP310;

Communication System: GSM1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3
Medium: Head 1900 MHz Medium parameters used: $f = 1910$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 39.6$; $\rho = 1000$ kg/m³
Phantom section: Left Section

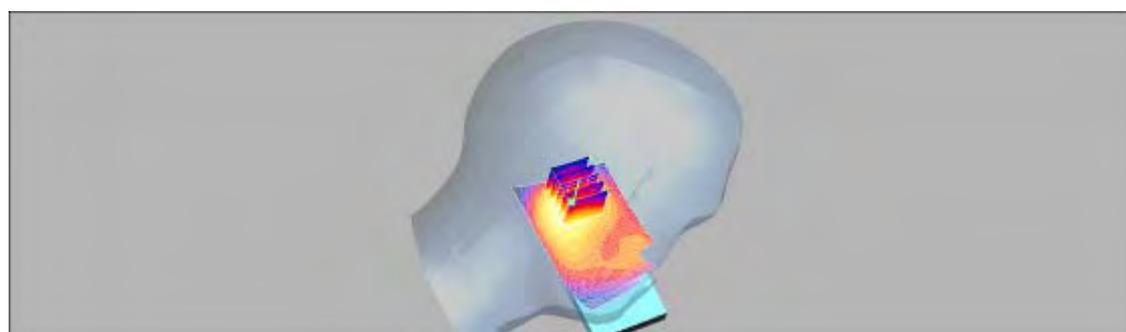
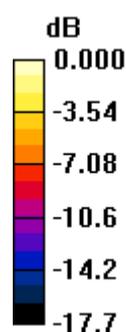
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.86, 4.86,4.86); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.465 mW/g

LE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.7 V/m; Power Drift = 0.119 dB
Peak SAR (extrapolated) = 0.647 W/kg

SAR(1 g) = 0.402 mW/g; SAR(10 g) = 0.238 mW/g
Maximum value of SAR (measured) = 0.440 mW/g



0 dB = 0.440mW/g

BODY_CH512

DUT: SAPP310;

Communication System: GSM1900; Frequency: 1850.2 MHz; Duty Cycle: 1:4
Medium: M1800 & 1900 Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.51$ mho/m; $\epsilon_r = 53.4$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

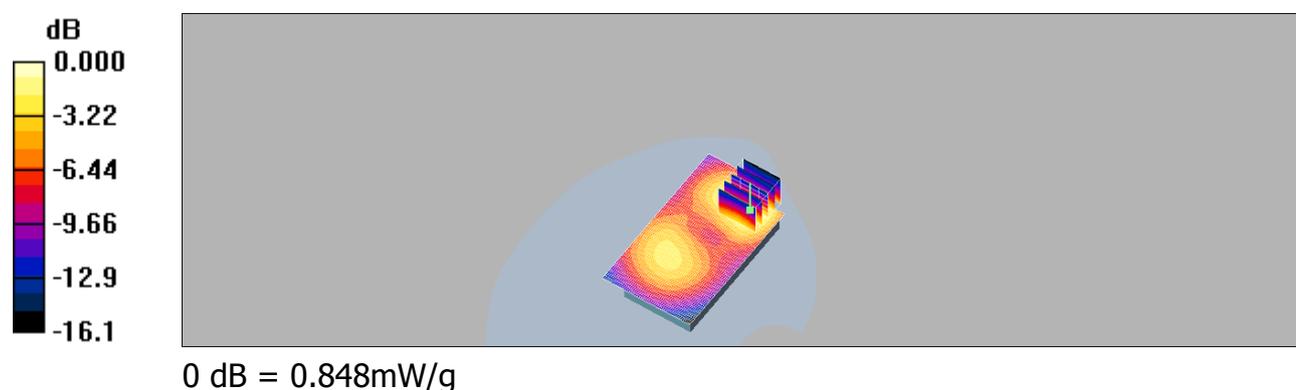
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.54, 4.54, 4.54); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.869 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.8 V/m; Power Drift = 0.036 dB
Peak SAR (extrapolated) = 1.28 W/kg

SAR(1 g) = 0.771 mW/g; SAR(10 g) = 0.446 mW/g
Maximum value of SAR (measured) = 0.848 mW/g



BODY_CH661

DUT: SAPP310;

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:4
Medium: M1800 & 1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.55$ mho/m; $\epsilon_r = 53.3$;
 $\rho = 1000$ kg/m³
Phantom section: Flat Section

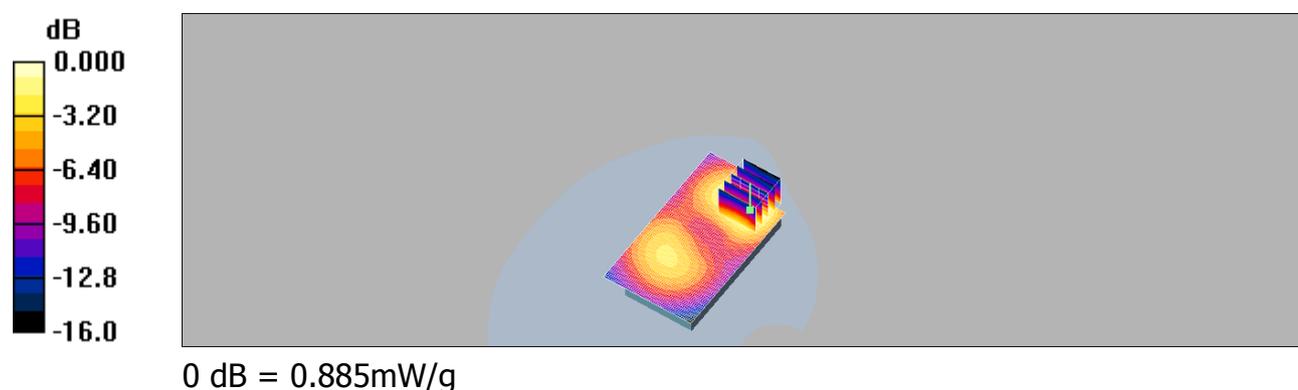
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.54, 4.54, 4.54); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.925 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 12.3 V/m; Power Drift = -0.104 dB
Peak SAR (extrapolated) = 1.34 W/kg

SAR(1 g) = 0.815 mW/g; SAR(10 g) = 0.476 mW/g
Maximum value of SAR (measured) = 0.885 mW/g



BODY_CH810

DUT: SAPP310;

Communication System: GSM1900; Frequency: 1909.8 MHz; Duty Cycle: 1:4
Medium: M1800 & 1900 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.59$ mho/m; $\epsilon_r = 53.4$;
 $\rho = 1000$ kg/m³
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.54, 4.54, 4.54); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.633 mW/g

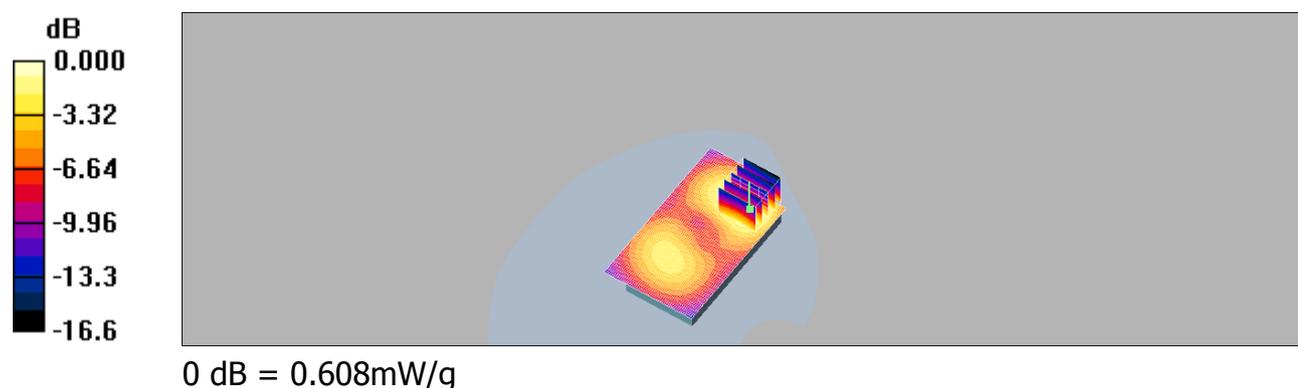
BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm

Reference Value = 11.5 V/m; Power Drift = -0.062 dB

Peak SAR (extrapolated) = 0.918 W/kg

SAR(1 g) = 0.554 mW/g; SAR(10 g) = 0.324 mW/g

Maximum value of SAR (measured) = 0.608 mW/g



RE Cheek_CH1312

DUT: SAPP310;

Communication System: WCDMA BAND4; Frequency: 1712.4 MHz; Duty Cycle: 1:1
Medium: Head 1800 MHz Medium parameters used (interpolated): $f = 1712.4$ MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³
Phantom section: Right Section

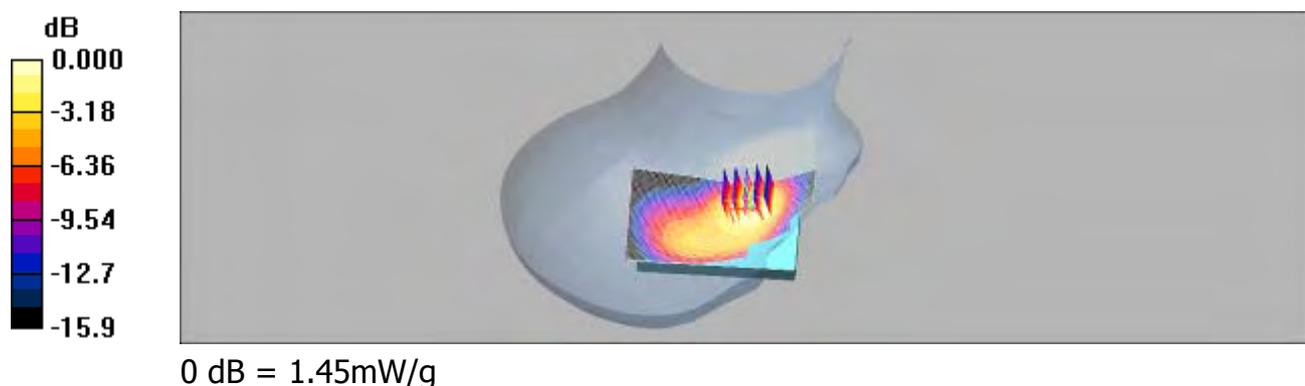
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.75, 9.75, 9.75); Calibrated: 2009/8/26
- 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

RE_Cheek/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.46 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.6 V/m; Power Drift = 0.117 dB
Peak SAR (extrapolated) = 2.17 W/kg

SAR(1 g) = 1.33 mW/g; SAR(10 g) = 0.786 mW/g
Maximum value of SAR (measured) = 1.45 mW/g



RE Cheek_CH1412

DUT: SAPP310;

Communication System: WCDMA BAND4; Frequency: 1732.4 MHz; Duty Cycle: 1:1
Medium: Head 1800 MHz Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 39.8$; $\rho = 1000$ kg/m³
Phantom section: Right Section

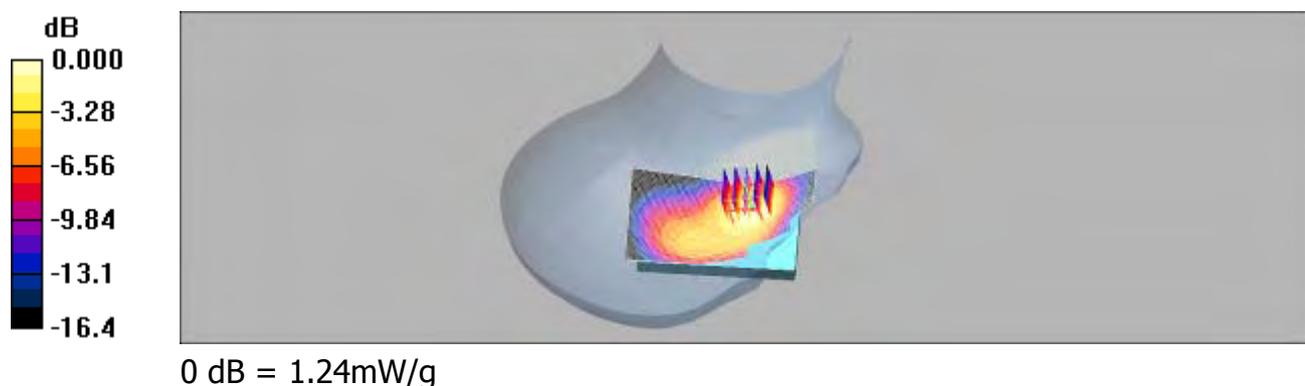
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.75, 9.75, 9.75); Calibrated: 2009/8/26
- 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

RE_Cheek/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.24 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.6 V/m; Power Drift = 0.080 dB
Peak SAR (extrapolated) = 1.86 W/kg

SAR(1 g) = 1.13 mW/g; SAR(10 g) = 0.664 mW/g
Maximum value of SAR (measured) = 1.24 mW/g



RE Cheek_CH1513

DUT: SAPP310;

Communication System: WCDMA BAND4; Frequency: 1752.6 MHz; Duty Cycle: 1:1
Medium: Head 1800 MHz Medium parameters used: $f = 1753$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³
Phantom section: Right Section

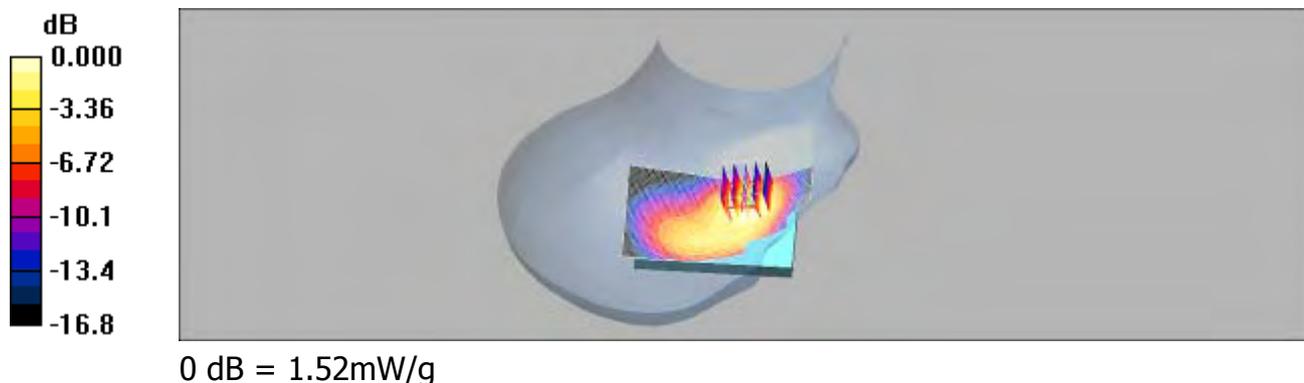
DASY4 Configuration:

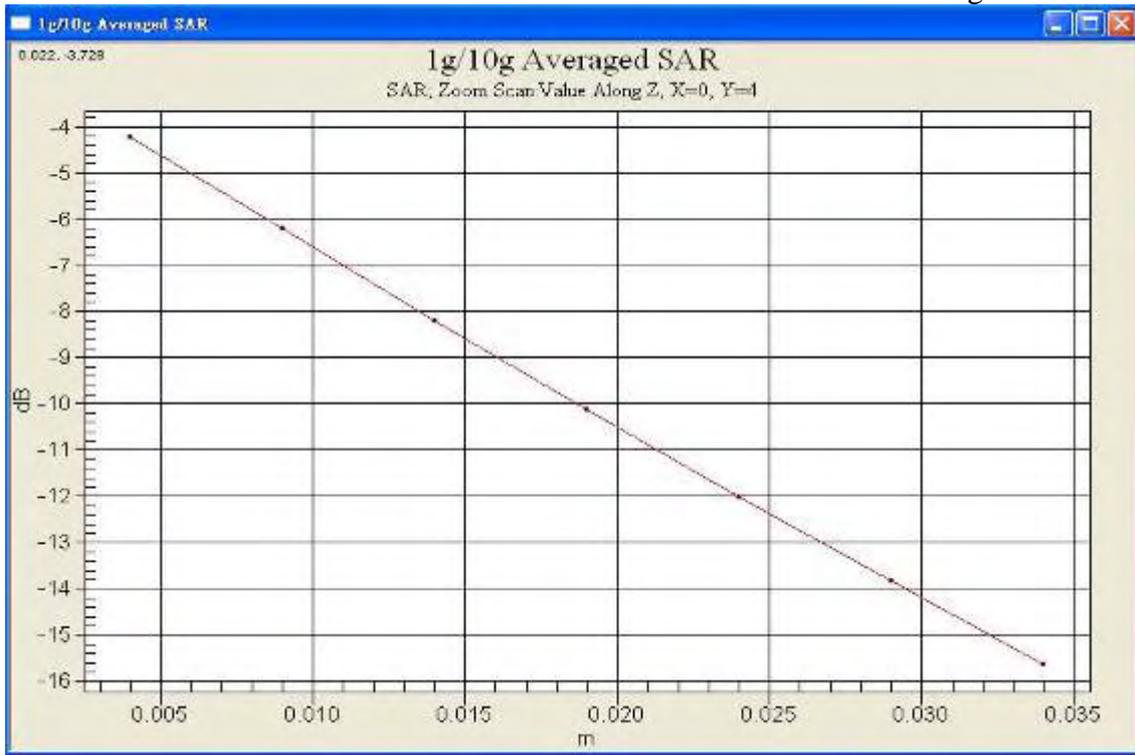
- Probe: EX3DV3 - SN3526; ConvF(9.75, 9.75, 9.75); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM2; Type: SAM 4.0; Serial: TP:1270
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Cheek/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.51 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.3 V/m; Power Drift = 0.008 dB
Peak SAR (extrapolated) = 2.31 W/kg

SAR(1 g) = 1.39 mW/g; SAR(10 g) = 0.815 mW/g
Maximum value of SAR (measured) = 1.52 mW/g





LE Cheek_CH1312

DUT: SAPP310;

Communication System: WCDMA BAND4; Frequency: 1712.4 MHz; Duty Cycle: 1:1
Medium: Head 1800 MHz Medium parameters used (interpolated): $f = 1712.4$ MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³
Phantom section: Left Section

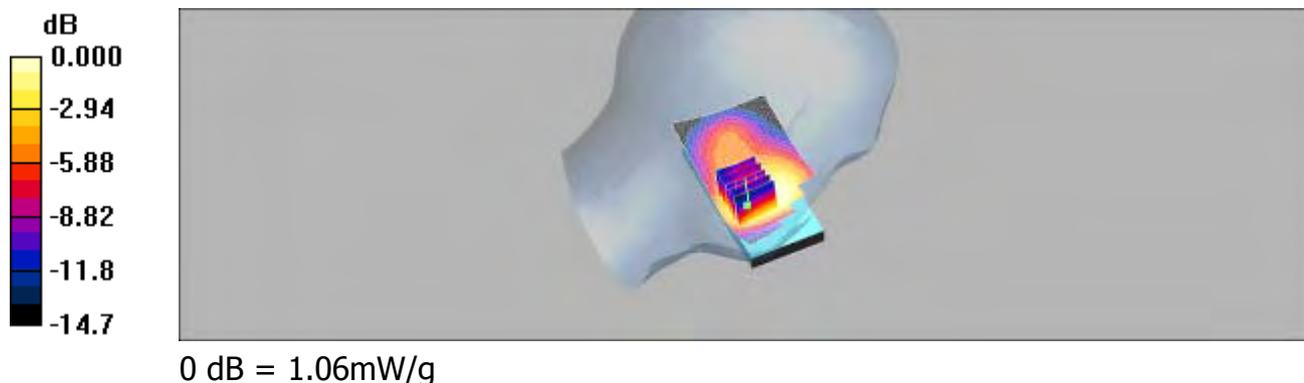
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.75, 9.75, 9.75); Calibrated: 2009/8/26
- 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

LE_Cheek/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.11 mW/g

LE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.9 V/m; Power Drift = 0.039 dB
Peak SAR (extrapolated) = 1.43 W/kg

SAR(1 g) = 0.977 mW/g; SAR(10 g) = 0.650 mW/g
Maximum value of SAR (measured) = 1.06 mW/g



LE Cheek_CH1412

DUT: SAPP310;

Communication System: WCDMA BAND4; Frequency: 1732.4 MHz; Duty Cycle: 1:1
Medium: Head 1800 MHz Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 39.8$; $\rho = 1000$ kg/m³
Phantom section: Left Section

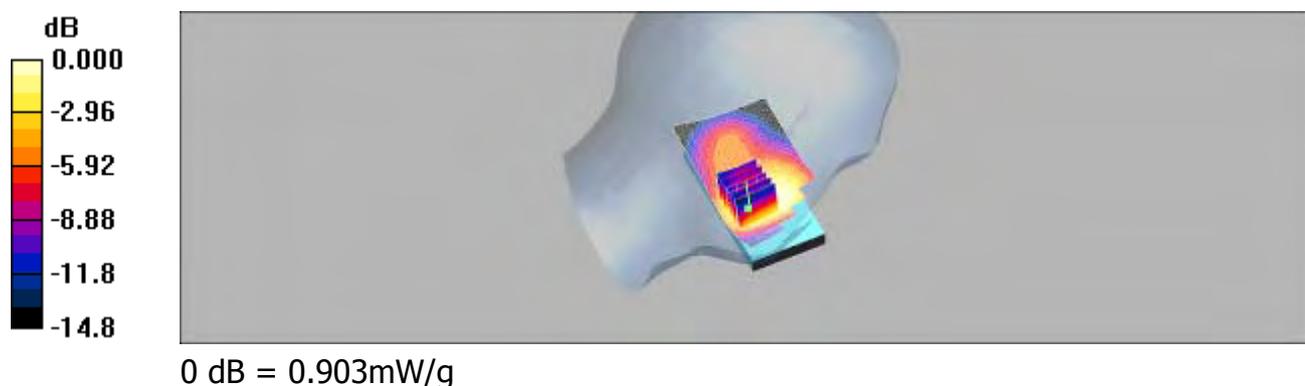
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.75, 9.75, 9.75); Calibrated: 2009/8/26
- 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

LE_Cheek/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.953 mW/g

LE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.1 V/m; Power Drift = -0.088 dB
Peak SAR (extrapolated) = 1.21 W/kg

SAR(1 g) = 0.832 mW/g; SAR(10 g) = 0.549 mW/g
Maximum value of SAR (measured) = 0.903 mW/g



LE Cheek_CH1513

DUT: SAPP310;

Communication System: WCDMA BAND4; Frequency: 1752.6 MHz; Duty Cycle: 1:1
Medium: Head 1800 MHz Medium parameters used: $f = 1753$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³
Phantom section: Left Section

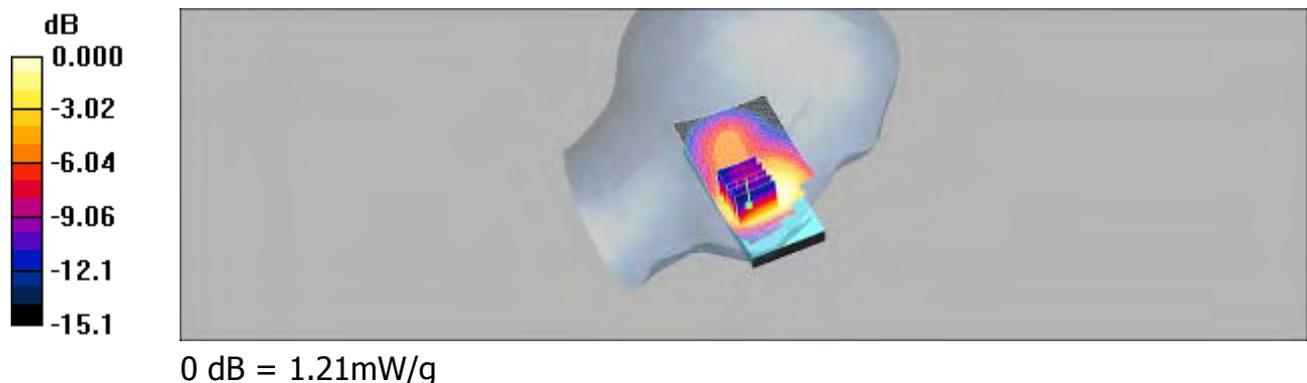
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.75, 9.75, 9.75); Calibrated: 2009/8/26
- 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

LE_Cheek/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.25 mW/g

LE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.7 V/m; Power Drift = 0.043 dB
Peak SAR (extrapolated) = 1.62 W/kg

SAR(1 g) = 1.11 mW/g; SAR(10 g) = 0.723 mW/g
Maximum value of SAR (measured) = 1.21 mW/g



RE Tilt_CH1312

DUT: SAPP310;

Communication System: WCDMA BAND4; Frequency: 1712.4 MHz; Duty Cycle: 1:1
Medium: Head 1800 MHz Medium parameters used (interpolated): $f = 1712.4$ MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³
Phantom section: Right Section

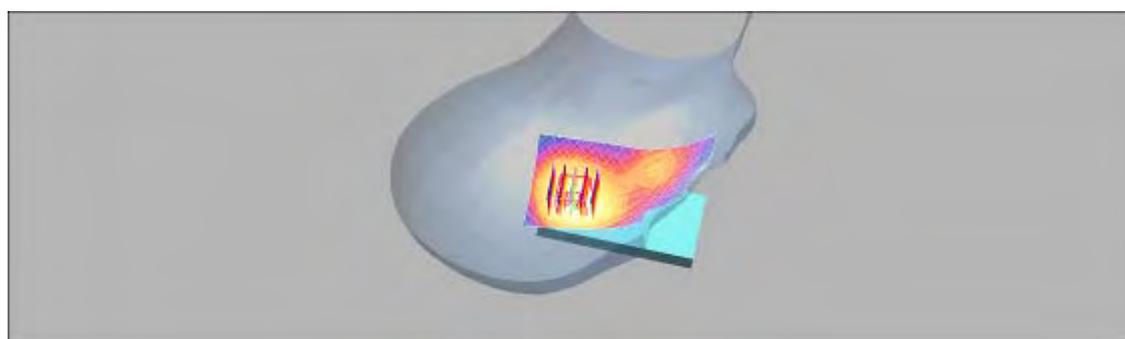
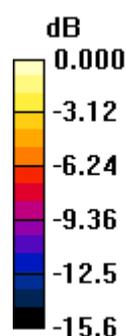
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.75, 9.75, 9.75); Calibrated: 2009/8/26
- 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

RE_Tilt/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.542 mW/g

RE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.5 V/m; Power Drift = 0.012 dB
Peak SAR (extrapolated) = 0.692 W/kg

SAR(1 g) = 0.483 mW/g; SAR(10 g) = 0.318 mW/g
Maximum value of SAR (measured) = 0.517 mW/g



0 dB = 0.517mW/g

RE Tilt_CH1412

DUT: SAPP310;

Communication System: WCDMA BAND4; Frequency: 1732.4 MHz; Duty Cycle: 1:1
Medium: Head 1800 MHz Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 39.8$; $\rho = 1000$ kg/m³
Phantom section: Right Section

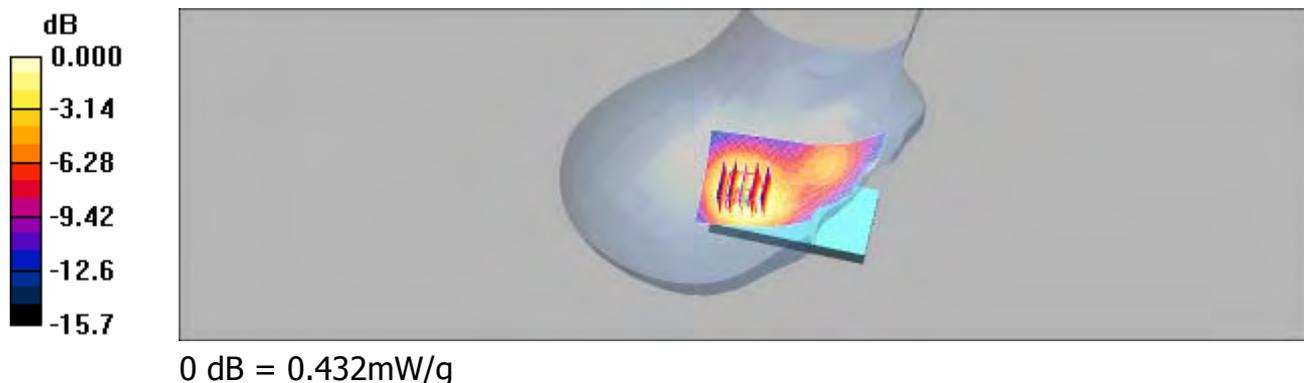
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.75, 9.75, 9.75); Calibrated: 2009/8/26
- 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

RE_Tilt/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.455 mW/g

RE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.1 V/m; Power Drift = -0.074 dB
Peak SAR (extrapolated) = 0.583 W/kg

SAR(1 g) = 0.403 mW/g; SAR(10 g) = 0.263 mW/g
Maximum value of SAR (measured) = 0.432 mW/g



RE Tilt_CH1513

DUT: SAPP310;

Communication System: WCDMA BAND4; Frequency: 1752.6 MHz; Duty Cycle: 1:1
Medium: Head 1800 MHz Medium parameters used: $f = 1753$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³
Phantom section: Right Section

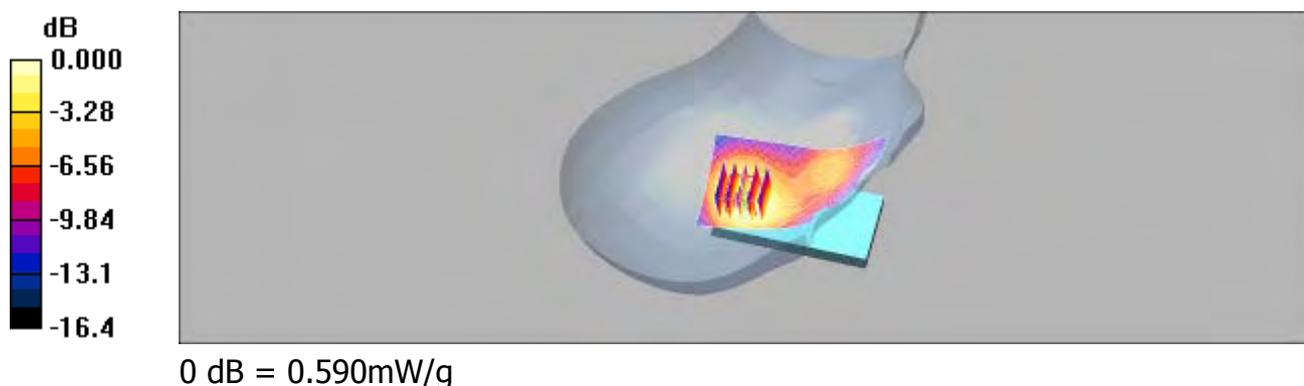
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.75, 9.75, 9.75); Calibrated: 2009/8/26
- 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

RE_Tilt/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.627 mW/g

RE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.7 V/m; Power Drift = 0.004 dB
Peak SAR (extrapolated) = 0.802 W/kg

SAR(1 g) = 0.552 mW/g; SAR(10 g) = 0.358 mW/g
Maximum value of SAR (measured) = 0.590 mW/g



LE Tilt_CH1312

DUT: SAPP310;

Communication System: WCDMA BAND4; Frequency: 1712.4 MHz; Duty Cycle: 1:1
Medium: Head 1800 MHz Medium parameters used (interpolated): $f = 1712.4$ MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³
Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.75, 9.75, 9.75); Calibrated: 2009/8/26
- 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

LE_Tilt/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.492 mW/g

LE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.7 V/m; Power Drift = 0.047 dB
Peak SAR (extrapolated) = 0.638 W/kg

SAR(1 g) = 0.427 mW/g; SAR(10 g) = 0.273 mW/g
Maximum value of SAR (measured) = 0.462 mW/g



LE Tilt_CH1412

DUT: SAPP310;

Communication System: WCDMA BAND4; Frequency: 1732.4 MHz; Duty Cycle: 1:1
Medium: Head 1800 MHz Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 39.8$; $\rho = 1000$ kg/m³
Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.75, 9.75, 9.75); Calibrated: 2009/8/26
- 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

LE_Tilt/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.412 mW/g

LE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.1 V/m; Power Drift = -0.036 dB
Peak SAR (extrapolated) = 0.536 W/kg

SAR(1 g) = 0.355 mW/g; SAR(10 g) = 0.225 mW/g
Maximum value of SAR (measured) = 0.385 mW/g



LE Tilt_CH1513

DUT: SAPP310;

Communication System: WCDMA BAND4; Frequency: 1752.6 MHz; Duty Cycle: 1:1
Medium: Head 1800 MHz Medium parameters used: $f = 1753$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³
Phantom section: Left Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.75, 9.75, 9.75); Calibrated: 2009/8/26
- 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

LE_Tilt/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.585 mW/g

LE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.9 V/m; Power Drift = 0.031 dB
Peak SAR (extrapolated) = 0.762 W/kg

SAR(1 g) = 0.499 mW/g; SAR(10 g) = 0.313 mW/g
Maximum value of SAR (measured) = 0.542 mW/g



RE Cheek_CH1513_repeated with Memory card

DUT: SAPP310;

Communication System: WCDMA BAND4; Frequency: 1752.6 MHz; Duty Cycle: 1:1
Medium: Head 1800 MHz Medium parameters used: $f = 1753$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³
Phantom section: Right Section

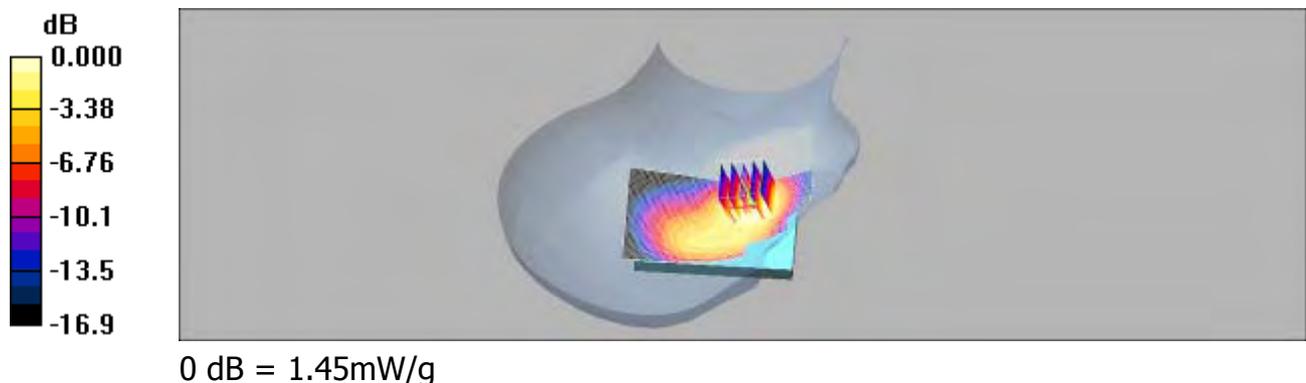
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.75, 9.75, 9.75); Calibrated: 2009/8/26
- 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

RE_Cheek/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.50 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.78 V/m; Power Drift = 0.106 dB
Peak SAR (extrapolated) = 2.23 W/kg

SAR(1 g) = 1.35 mW/g; SAR(10 g) = 0.785 mW/g
Maximum value of SAR (measured) = 1.45 mW/g



RE Cheek_CH1513_repeated with 2nd Battery

DUT: SAPP310;

Communication System: WCDMA BAND4; Frequency: 1752.6 MHz; Duty Cycle: 1:1
Medium: Head 1800 MHz Medium parameters used: $f = 1753$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³
Phantom section: Right Section

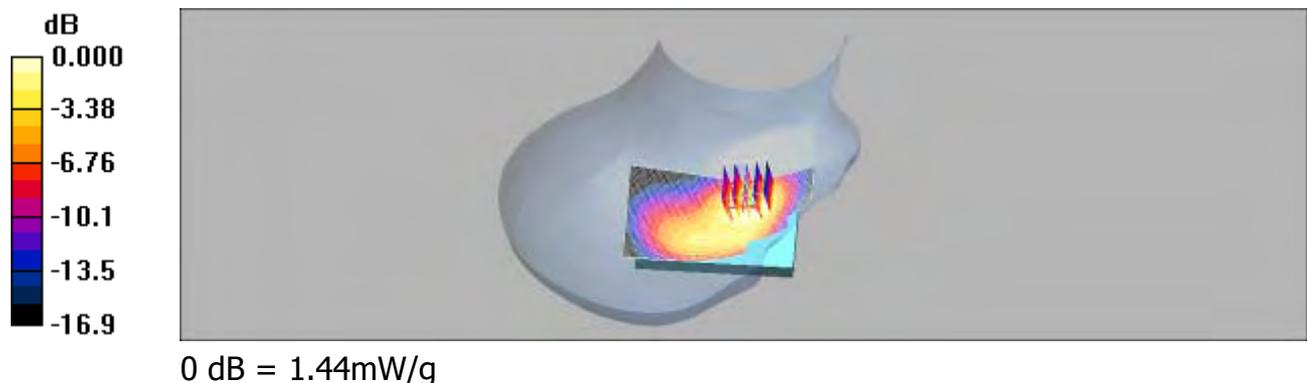
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.75, 9.75, 9.75); Calibrated: 2009/8/26
- 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

RE_Cheek/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.47 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.1 V/m; Power Drift = -0.045 dB
Peak SAR (extrapolated) = 2.20 W/kg

SAR(1 g) = 1.33 mW/g; SAR(10 g) = 0.777 mW/g
Maximum value of SAR (measured) = 1.44 mW/g



BODY_CH1312

DUT: SAPP310;

Communication System: WCDMA BAND4; Frequency: 1712.4 MHz; Duty Cycle: 1:1
Medium: M1800 & 1900 Medium parameters used (interpolated): $f = 1712.4$ MHz; $\sigma = 1.44$ mho/m; $\epsilon_r = 55.5$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

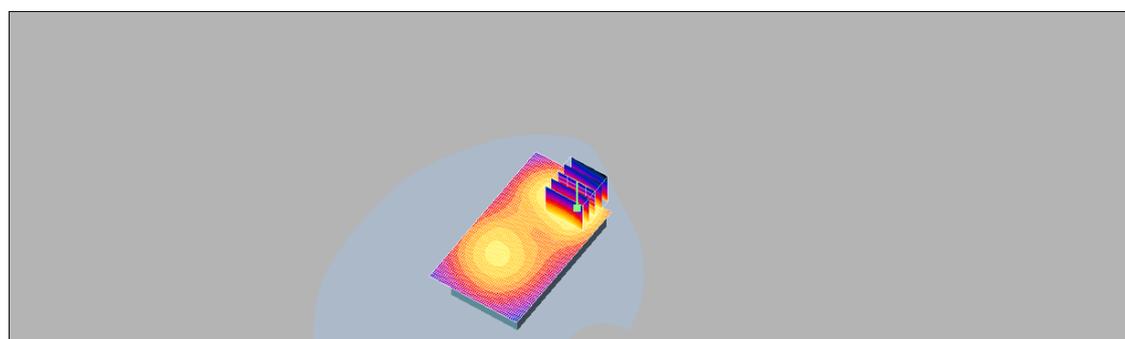
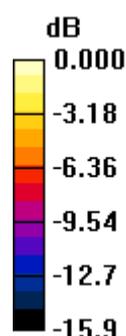
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.69, 4.69, 4.69); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.504 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.73 V/m; Power Drift = 0.183 dB
Peak SAR (extrapolated) = 0.758 W/kg

SAR(1 g) = 0.461 mW/g; SAR(10 g) = 0.274 mW/g
Maximum value of SAR (measured) = 0.503 mW/g



0 dB = 0.503mW/g

BODY_CH1412

DUT: SAPP310;

Communication System: WCDMA BAND4; Frequency: 1732.4 MHz; Duty Cycle: 1:1
Medium: M1800 & 1900 Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.46$ mho/m; $\epsilon_r = 55.3$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

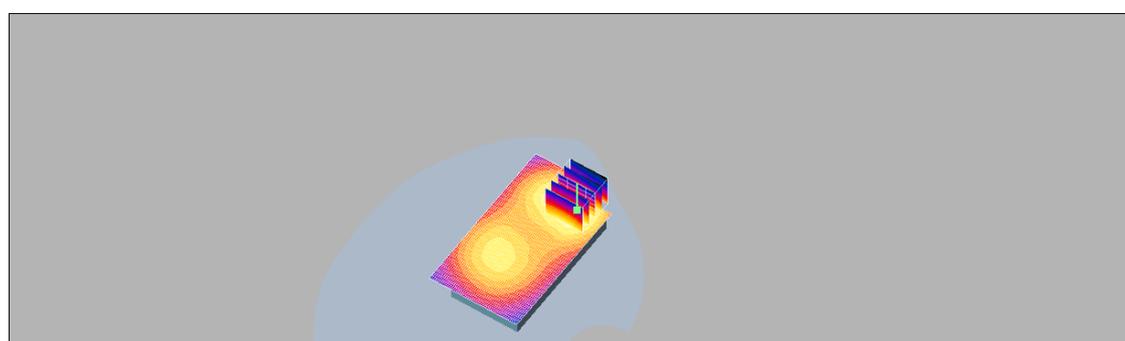
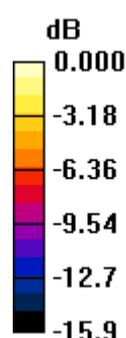
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.69, 4.69, 4.69); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.410 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.77 V/m; Power Drift = -0.097 dB
Peak SAR (extrapolated) = 0.598 W/kg

SAR(1 g) = 0.364 mW/g; SAR(10 g) = 0.217 mW/g
Maximum value of SAR (measured) = 0.393 mW/g



0 dB = 0.393mW/g

BODY_CH1513

DUT: SAPP310;

Communication System: WCDMA BAND4; Frequency: 1752.6 MHz; Duty Cycle: 1:1
Medium: M1800 & 1900 Medium parameters used: $f = 1753$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 55.2$;
 $\rho = 1000$ kg/m³
Phantom section: Flat Section

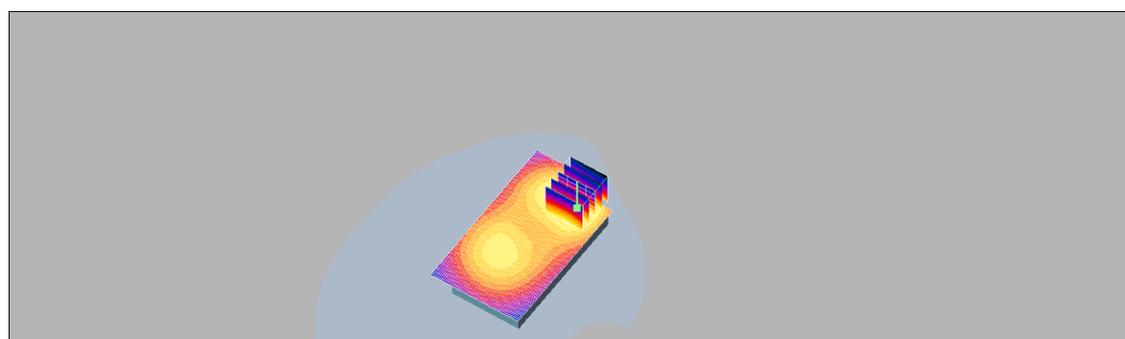
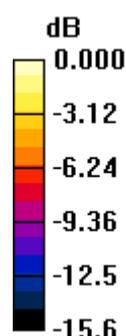
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.69, 4.69, 4.69); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.525 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 9.97 V/m; Power Drift = 0.093 dB
Peak SAR (extrapolated) = 0.791 W/kg

SAR(1 g) = 0.478 mW/g; SAR(10 g) = 0.283 mW/g
Maximum value of SAR (measured) = 0.522 mW/g



0 dB = 0.522mW/g

BODY_CH1312_HSDPA mode

DUT: SAPP310;

Communication System: WCDMA BAND4; Frequency: 1712.4 MHz; Duty Cycle: 1:1
Medium: M1800 & 1900 Medium parameters used (interpolated): $f = 1712.4$ MHz; $\sigma = 1.44$ mho/m; $\epsilon_r = 55.5$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

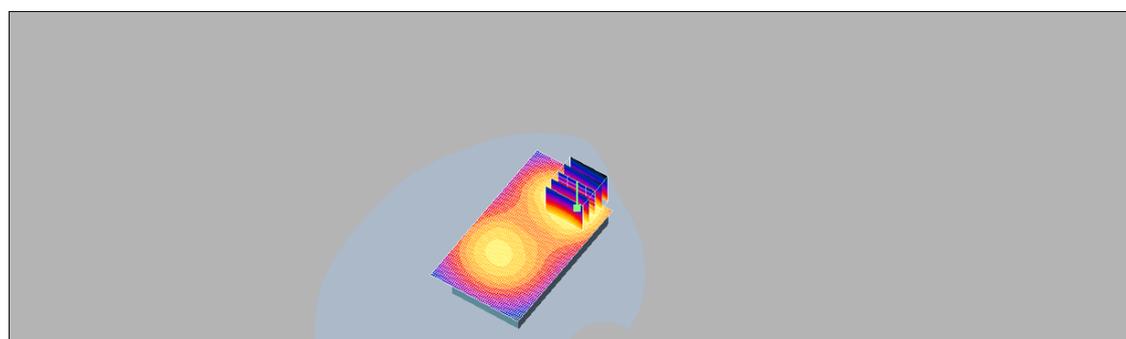
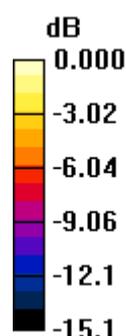
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.69, 4.69, 4.69); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.476 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.43 V/m; Power Drift = 0.024 dB
Peak SAR (extrapolated) = 0.701 W/kg

SAR(1 g) = 0.430 mW/g; SAR(10 g) = 0.255 mW/g
Maximum value of SAR (measured) = 0.470 mW/g



0 dB = 0.470mW/g

BODY_CH1412_HSDPA mode

DUT: SAPP310;

Communication System: WCDMA BAND4; Frequency: 1732.4 MHz; Duty Cycle: 1:1
Medium: M1800 & 1900 Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.46$ mho/m; $\epsilon_r = 55.3$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

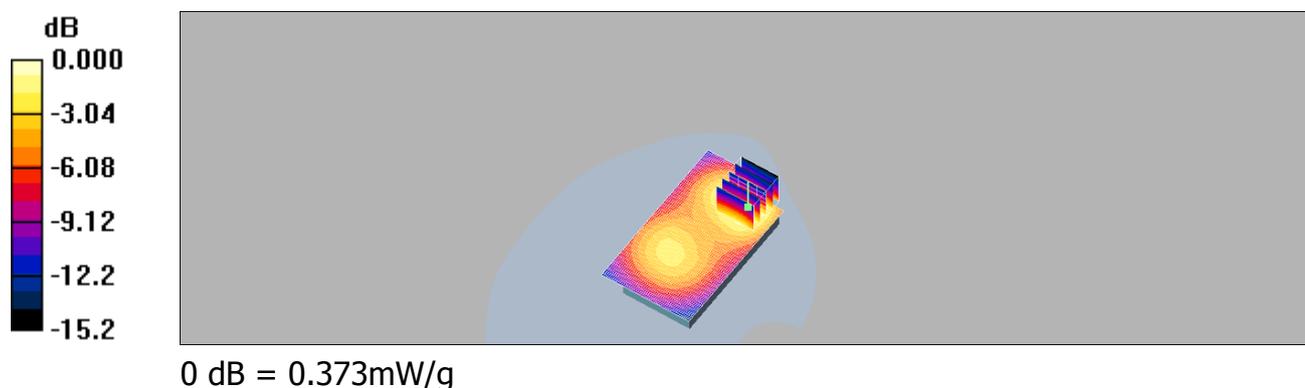
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.69, 4.69, 4.69); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.376 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.26 V/m; Power Drift = -0.060 dB
Peak SAR (extrapolated) = 0.558 W/kg

SAR(1 g) = 0.341 mW/g; SAR(10 g) = 0.203 mW/g
Maximum value of SAR (measured) = 0.373 mW/g



BODY_CH1513_HSDPA mode

DUT: SAPP310;

Communication System: WCDMA BAND4; Frequency: 1752.6 MHz; Duty Cycle: 1:1
Medium: M1800 & 1900 Medium parameters used: $f = 1753$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 55.2$;
 $\rho = 1000$ kg/m³
Phantom section: Flat Section

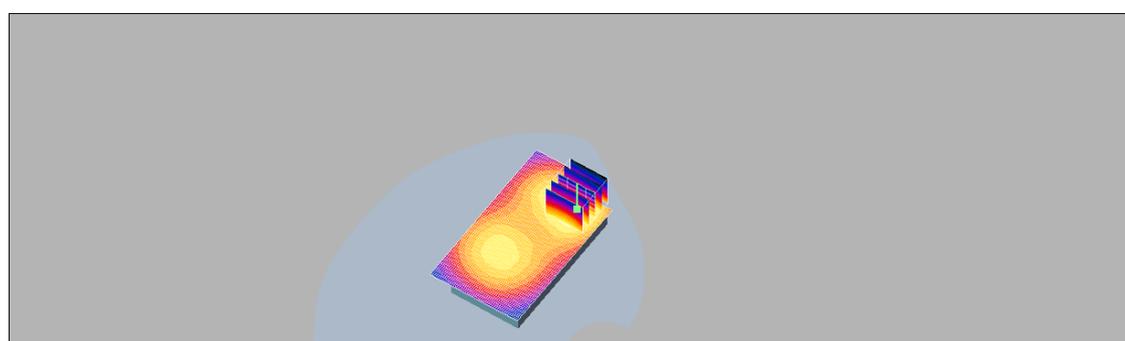
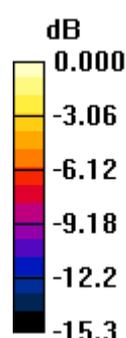
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.69, 4.69, 4.69); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.495 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 9.56 V/m; Power Drift = 0.018 dB
Peak SAR (extrapolated) = 0.729 W/kg

SAR(1 g) = 0.444 mW/g; SAR(10 g) = 0.264 mW/g
Maximum value of SAR (measured) = 0.484 mW/g



0 dB = 0.484mW/g

BODY_CH1312_HSUPA mode

DUT: SAPP310;

Communication System: WCDMA BAND4; Frequency: 1712.4 MHz; Duty Cycle: 1:1
Medium: M1800 & 1900 Medium parameters used (interpolated): $f = 1712.4$ MHz; $\sigma = 1.44$ mho/m; $\epsilon_r = 55.5$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

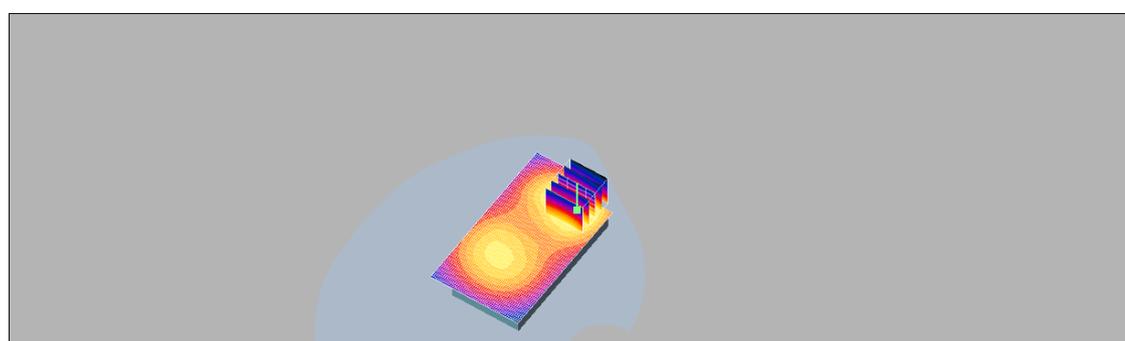
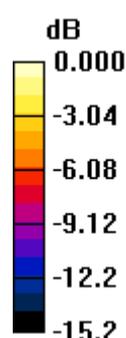
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.69, 4.69, 4.69); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.473 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.40 V/m; Power Drift = 0.083 dB
Peak SAR (extrapolated) = 0.694 W/kg

SAR(1 g) = 0.426 mW/g; SAR(10 g) = 0.253 mW/g
Maximum value of SAR (measured) = 0.467 mW/g



0 dB = 0.467mW/g

BODY_CH1412_HSUPA mode

DUT: SAPP310;

Communication System: WCDMA BAND4; Frequency: 1732.4 MHz; Duty Cycle: 1:1
Medium: M1800 & 1900 Medium parameters used (interpolated): $f = 1732.4$ MHz; $\sigma = 1.46$ mho/m; $\epsilon_r = 55.3$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

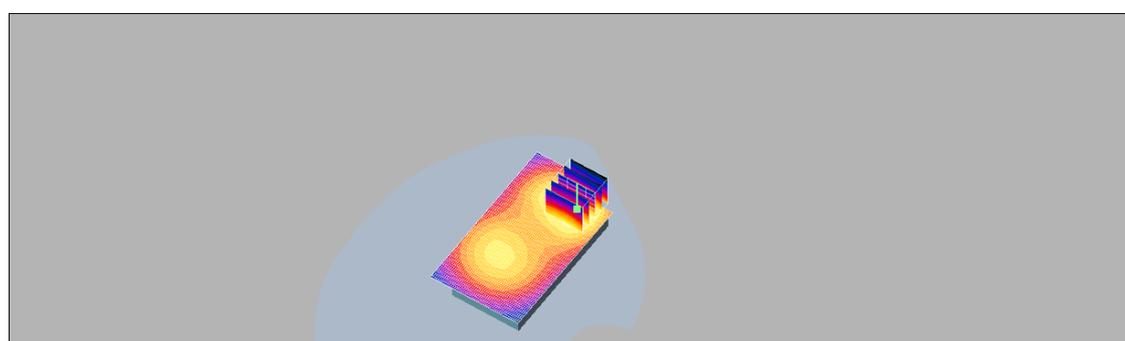
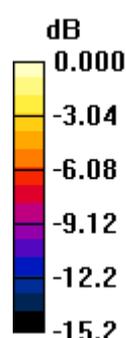
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.69, 4.69, 4.69); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.373 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.19 V/m; Power Drift = 0.009 dB
Peak SAR (extrapolated) = 0.552 W/kg

SAR(1 g) = 0.336 mW/g; SAR(10 g) = 0.200 mW/g
Maximum value of SAR (measured) = 0.366 mW/g



0 dB = 0.366mW/g

BODY_CH1513_HSUPA mode

DUT: SAPP310;

Communication System: WCDMA BAND4; Frequency: 1752.6 MHz; Duty Cycle: 1:1
Medium: M1800 & 1900 Medium parameters used: $f = 1753$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 55.2$;
 $\rho = 1000$ kg/m³
Phantom section: Flat Section

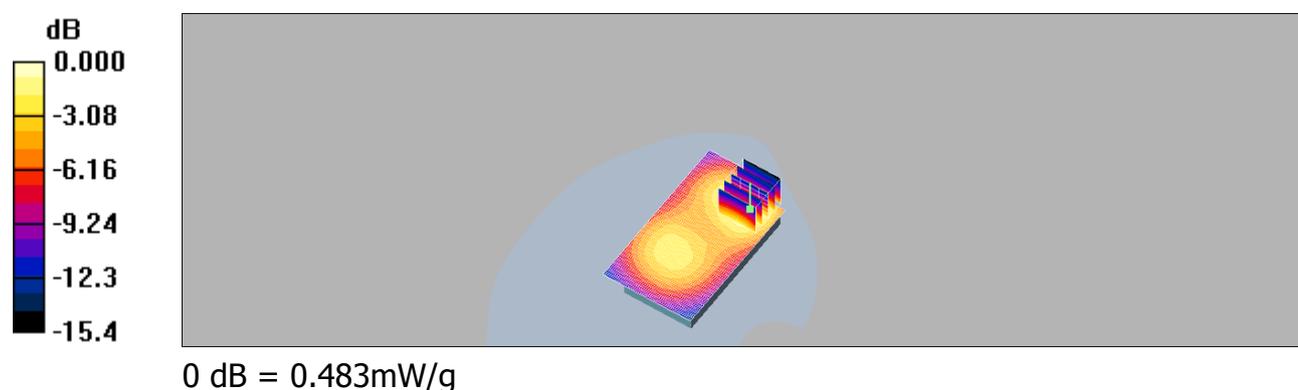
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.69, 4.69, 4.69); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.492 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 9.55 V/m; Power Drift = 0.045 dB
Peak SAR (extrapolated) = 0.726 W/kg

SAR(1 g) = 0.443 mW/g; SAR(10 g) = 0.263 mW/g
Maximum value of SAR (measured) = 0.483 mW/g



BODY_WALN802.11 b_CH1

DUT: SAPP310;

Communication System: Wireless LAN; Frequency: 2412 MHz; Duty Cycle: 1:1
Medium: Muscle 2450 Medium parameters used: $f = 2412$ MHz; $\sigma = 1.94$ mho/m; $\epsilon_r = 52$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

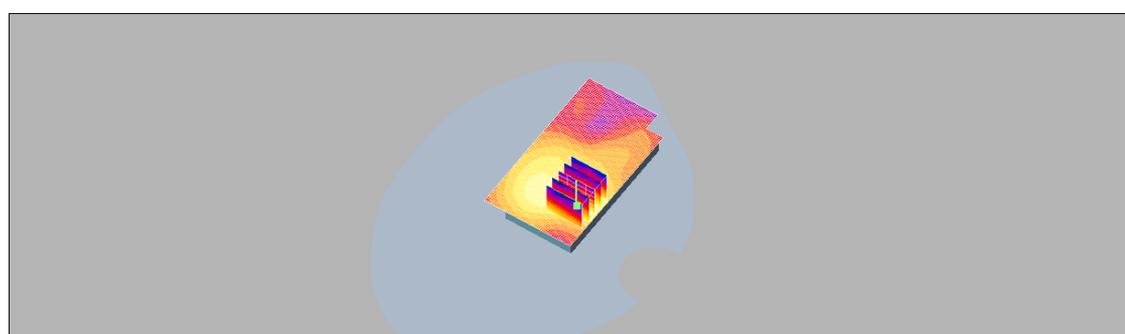
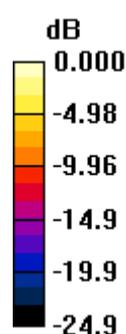
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.02, 4.02,4.02); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.100 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.61 V/m; Power Drift = 0.140 dB
Peak SAR (extrapolated) = 0.175 W/kg

SAR(1 g) = 0.090 mW/g; SAR(10 g) = 0.044 mW/g
Maximum value of SAR (measured) = 0.103 mW/g



0 dB = 0.103mW/g

BODY_WALN802.11 b_CH6

DUT: SAPP310;

Communication System: Wireless LAN; Frequency: 2437 MHz; Duty Cycle: 1:1
Medium: Muscle 2450 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.98$ mho/m; $\epsilon_r = 52$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

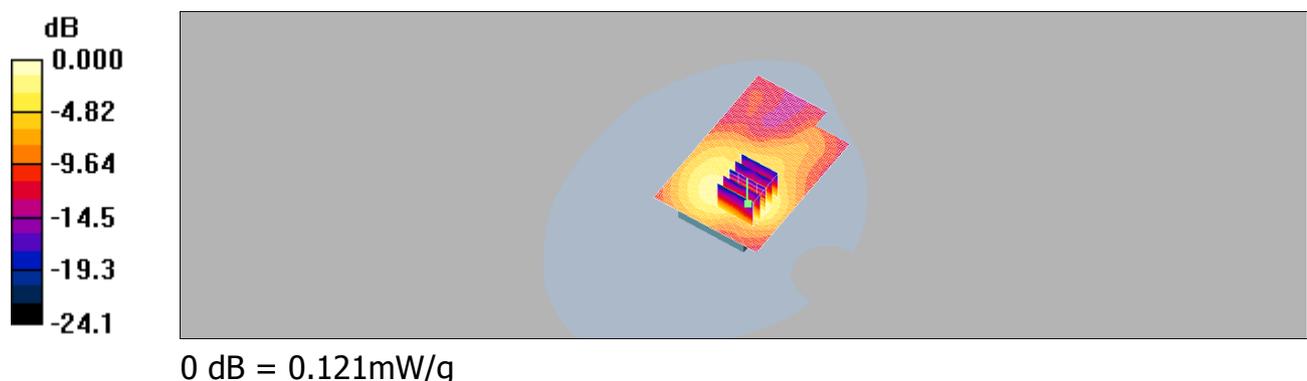
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.02, 4.02,4.02); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.126 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.08 V/m; Power Drift = 0.100 dB
Peak SAR (extrapolated) = 0.217 W/kg

SAR(1 g) = 0.107 mW/g; SAR(10 g) = 0.052 mW/g
Maximum value of SAR (measured) = 0.121 mW/g



BODY_WALN802.11 b_CH11

DUT: SAPP310;

Communication System: Wireless LAN; Frequency: 2462 MHz; Duty Cycle: 1:1
Medium: Muscle 2450 Medium parameters used: $f = 2462$ MHz; $\sigma = 2.03$ mho/m; $\epsilon_r = 51.9$;
 $\rho = 1000$ kg/m³
Phantom section: Flat Section

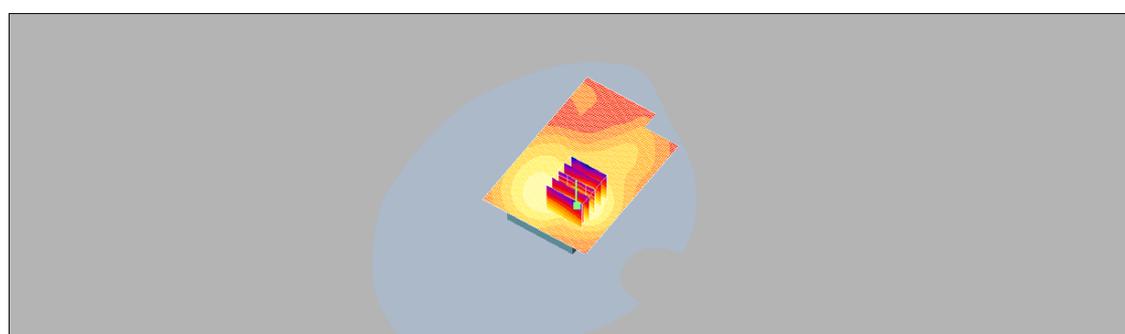
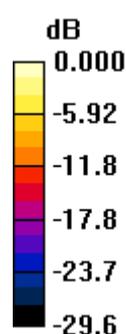
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.02, 4.02,4.02); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.171 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 5.93 V/m; Power Drift = 0.000 dB
Peak SAR (extrapolated) = 0.279 W/kg

SAR(1 g) = 0.142 mW/g; SAR(10 g) = 0.069 mW/g
Maximum value of SAR (measured) = 0.162 mW/g



0 dB = 0.162mW/g

BODY_WALN802.11 b_CH11_repeated with Memory card

DUT: SAPP310;

Communication System: Wireless LAN; Frequency: 2462 MHz; Duty Cycle: 1:1
Medium: Muscle 2450 Medium parameters used: $f = 2462$ MHz; $\sigma = 2.03$ mho/m; $\epsilon_r = 51.9$;
 $\rho = 1000$ kg/m³
Phantom section: Flat Section

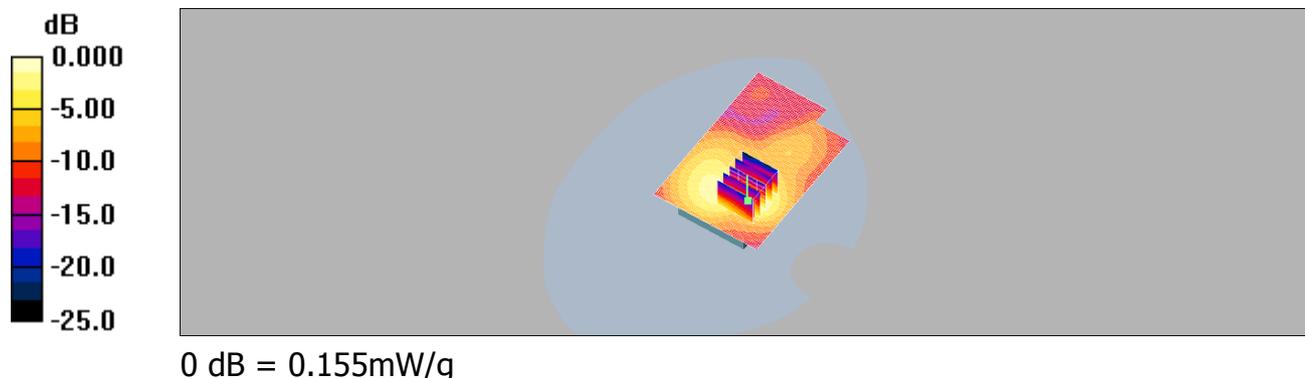
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.02, 4.02,4.02); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.160 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 5.93 V/m; Power Drift = 0.132 dB
Peak SAR (extrapolated) = 0.276 W/kg

SAR(1 g) = 0.135 mW/g; SAR(10 g) = 0.065 mW/g
Maximum value of SAR (measured) = 0.155 mW/g



BODY_WALN802.11 b_CH11_repeated for EUT front phantom

DUT: SAPP310;

Communication System: Wireless LAN; Frequency: 2462 MHz; Duty Cycle: 1:1
Medium: Muscle 2450 Medium parameters used: $f = 2462$ MHz; $\sigma = 2.03$ mho/m; $\epsilon_r = 51.9$;
 $\rho = 1000$ kg/m³
Phantom section: Flat Section

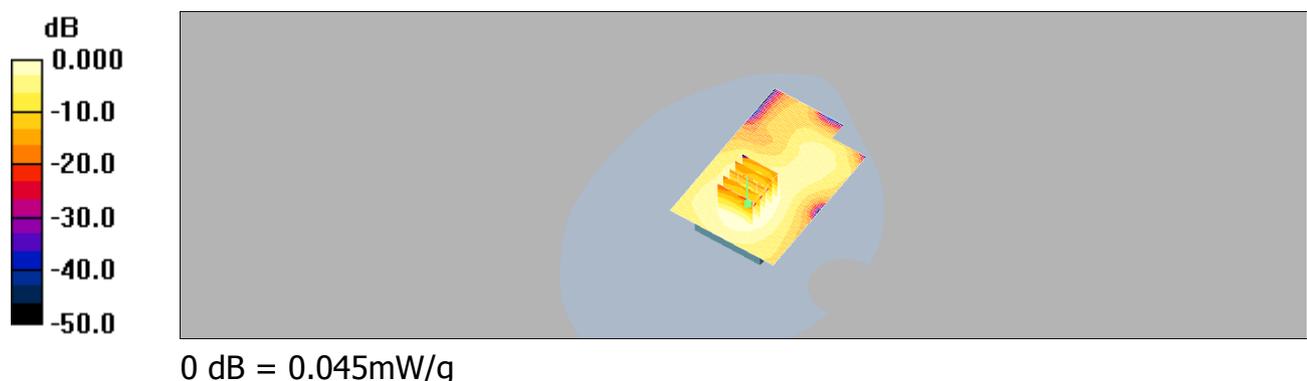
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.02, 4.02,4.02); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.048 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 3.56 V/m; Power Drift = 0.091 dB
Peak SAR (extrapolated) = 0.073 W/kg

SAR(1 g) = 0.042 mW/g; SAR(10 g) = 0.024 mW/g
Maximum value of SAR (measured) = 0.045 mW/g



BODY_WALN802.11 b_CH11_repeated with Memory card

DUT: SAPP310;

Communication System: Wireless LAN; Frequency: 2462 MHz; Duty Cycle: 1:1
Medium: Muscle 2450 Medium parameters used: $f = 2462$ MHz; $\sigma = 2.03$ mho/m; $\epsilon_r = 51.9$;
 $\rho = 1000$ kg/m³
Phantom section: Flat Section

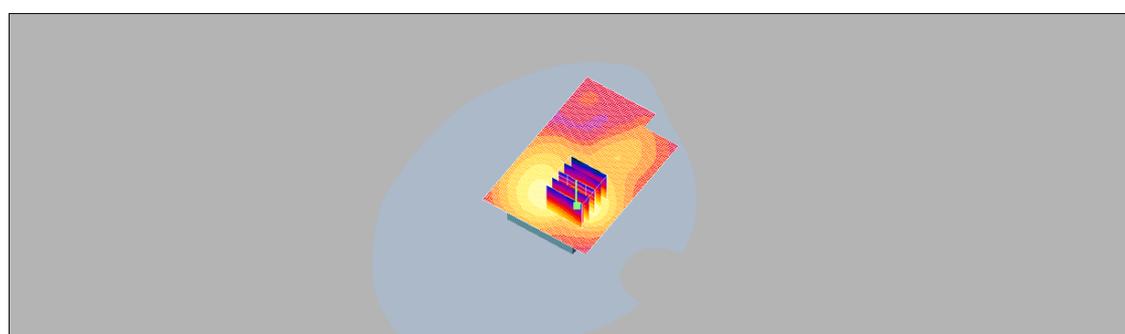
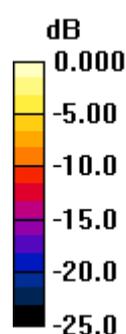
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.02, 4.02,4.02); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.160 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 5.93 V/m; Power Drift = 0.132 dB
Peak SAR (extrapolated) = 0.276 W/kg

SAR(1 g) = 0.135 mW/g; SAR(10 g) = 0.065 mW/g
Maximum value of SAR (measured) = 0.155 mW/g



0 dB = 0.155mW/g

BODY_WALN802.11 b_CH11_repeated with Bluetooth active

DUT: SAPP310;

Communication System: Wireless LAN; Frequency: 2462 MHz; Duty Cycle: 1:1
Medium: Muscle 2450 Medium parameters used: $f = 2462$ MHz; $\sigma = 2.03$ mho/m; $\epsilon_r = 51.9$;
 $\rho = 1000$ kg/m³
Phantom section: Flat Section

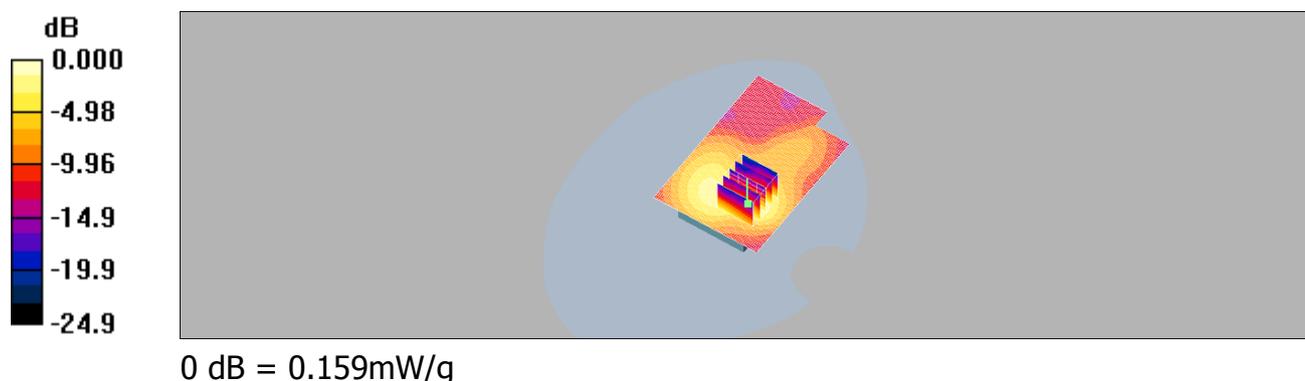
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.02, 4.02,4.02); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.166 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 6.05 V/m; Power Drift = 0.155 dB
Peak SAR (extrapolated) = 0.283 W/kg

SAR(1 g) = 0.141 mW/g; SAR(10 g) = 0.068 mW/g
Maximum value of SAR (measured) = 0.159 mW/g



BODY_WALN802.11 b_CH11_repeated for EUT front phantom

DUT: SAPP310;

Communication System: Wireless LAN; Frequency: 2462 MHz; Duty Cycle: 1:1
Medium: Muscle 2450 Medium parameters used: $f = 2462$ MHz; $\sigma = 2.03$ mho/m; $\epsilon_r = 51.9$;
 $\rho = 1000$ kg/m³
Phantom section: Flat Section

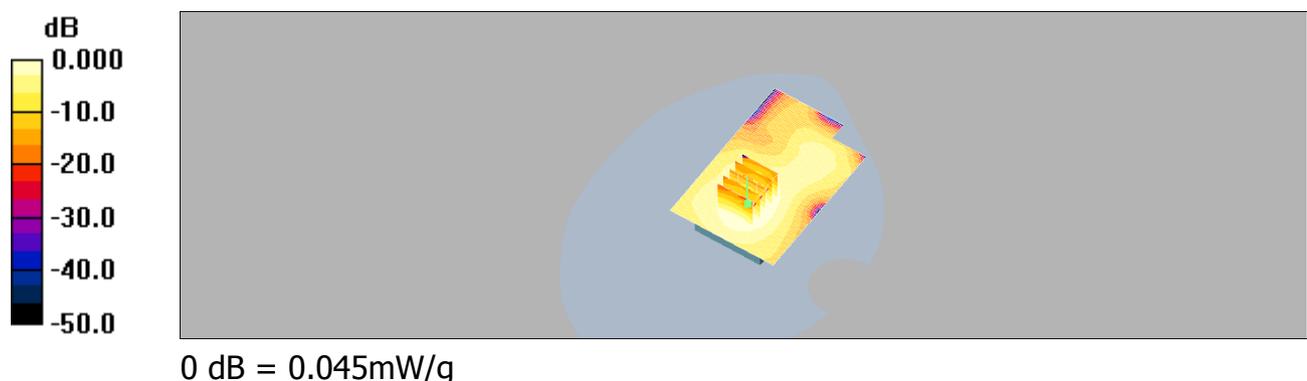
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.02, 4.02,4.02); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.048 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 3.56 V/m; Power Drift = 0.091 dB
Peak SAR (extrapolated) = 0.073 W/kg

SAR(1 g) = 0.042 mW/g; SAR(10 g) = 0.024 mW/g
Maximum value of SAR (measured) = 0.045 mW/g



BODY_WALN802.11 b_CH11_repeated with 2nd battery

DUT: SAPP310;

Communication System: Wireless LAN; Frequency: 2462 MHz; Duty Cycle: 1:1
Medium: Muscle 2450 Medium parameters used: $f = 2462$ MHz; $\sigma = 2.03$ mho/m; $\epsilon_r = 51.9$;
 $\rho = 1000$ kg/m³
Phantom section: Flat Section

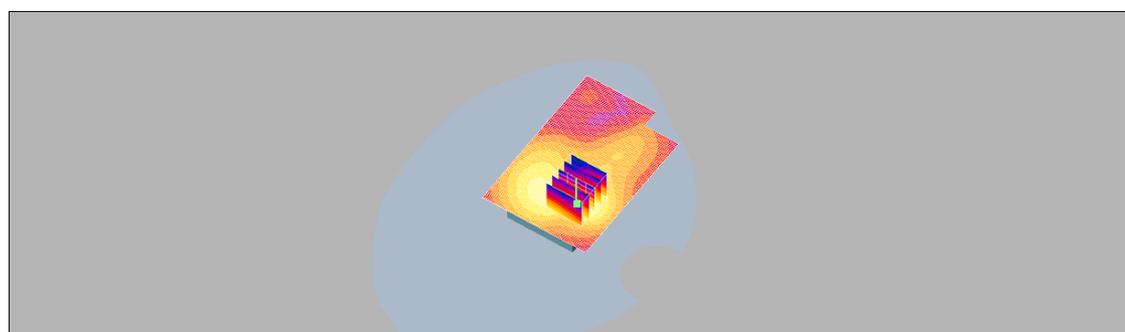
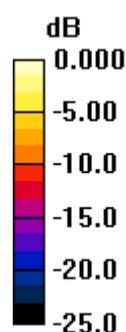
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.02, 4.02,4.02); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.162 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 5.95 V/m; Power Drift = -0.028 dB
Peak SAR (extrapolated) = 0.273 W/kg

SAR(1 g) = 0.135 mW/g; SAR(10 g) = 0.065 mW/g
Maximum value of SAR (measured) = 0.155 mW/g



BODY_WALN802.11 b_CH11_repeated with 2nd battery

DUT: SAPP310;

Communication System: Wireless LAN; Frequency: 2462 MHz; Duty Cycle: 1:1
Medium: Muscle 2450 Medium parameters used: $f = 2462$ MHz; $\sigma = 2.03$ mho/m; $\epsilon_r = 51.9$;
 $\rho = 1000$ kg/m³
Phantom section: Flat Section

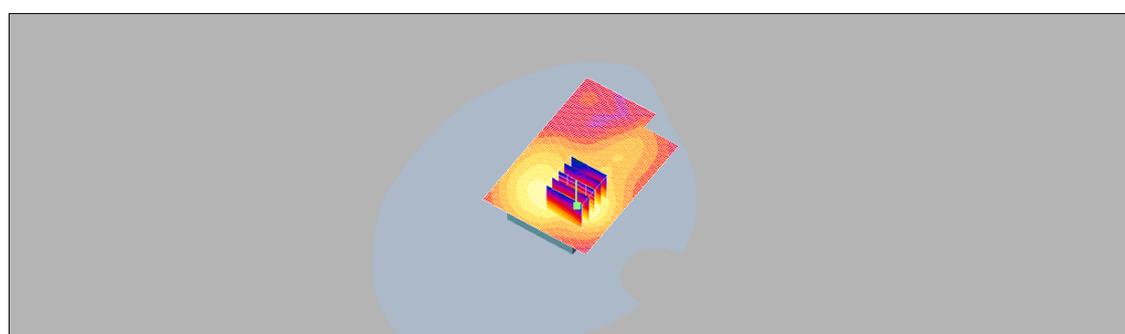
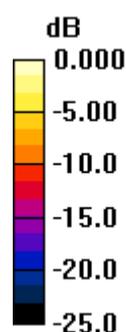
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.02, 4.02,4.02); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.162 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 5.95 V/m; Power Drift = -0.028 dB
Peak SAR (extrapolated) = 0.273 W/kg

SAR(1 g) = 0.135 mW/g; SAR(10 g) = 0.065 mW/g
Maximum value of SAR (measured) = 0.155 mW/g



0 dB = 0.155mW/g

BODY_WALN802.11 g_CH1

DUT: SAPP310;

Communication System: Wireless LAN; Frequency: 2412 MHz; Duty Cycle: 1:1
Medium: Muscle 2450 Medium parameters used: $f = 2412$ MHz; $\sigma = 1.94$ mho/m; $\epsilon_r = 52$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

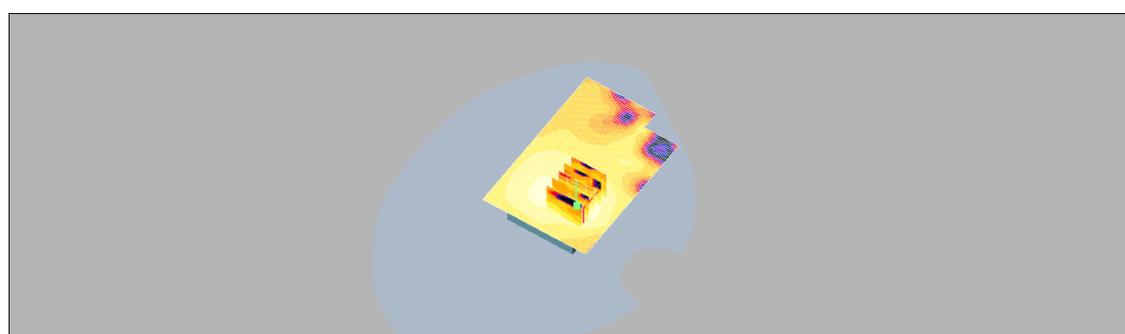
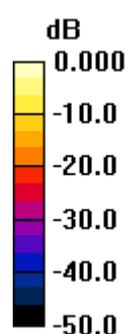
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.02, 4.02,4.02); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.026 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.33 V/m; Power Drift = 0.151 dB
Peak SAR (extrapolated) = 0.050 W/kg

SAR(1 g) = 0.022 mW/g; SAR(10 g) = 0.011 mW/g
Maximum value of SAR (measured) = 0.025 mW/g



0 dB = 0.025mW/g

BODY_WALN802.11 g_CH6

DUT: SAPP310;

Communication System: Wireless LAN; Frequency: 2437 MHz; Duty Cycle: 1:1
Medium: Muscle 2450 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.98$ mho/m; $\epsilon_r = 52$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

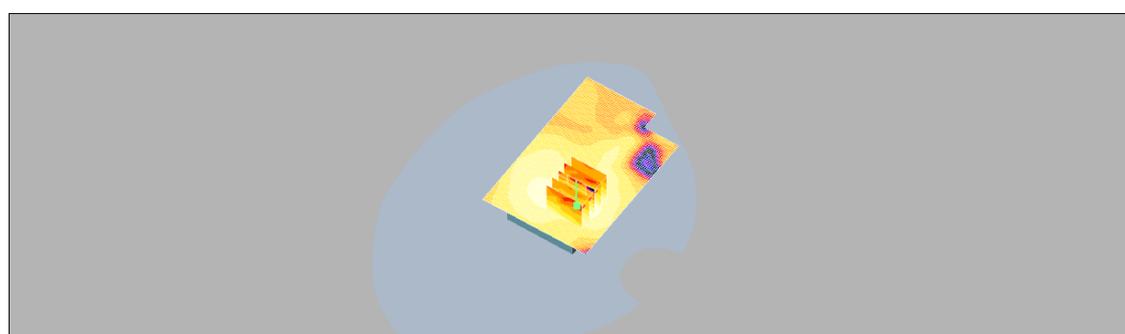
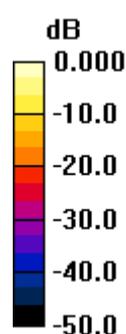
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.02, 4.02,4.02); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.029 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.55 V/m; Power Drift = 0.150 dB
Peak SAR (extrapolated) = 0.051 W/kg

SAR(1 g) = 0.026 mW/g; SAR(10 g) = 0.012 mW/g
Maximum value of SAR (measured) = 0.030 mW/g



0 dB = 0.030mW/g

BODY_WALN802.11 g_CH11

DUT: SAPP310;

Communication System: Wireless LAN; Frequency: 2462 MHz; Duty Cycle: 1:1
Medium: Muscle 2450 Medium parameters used: $f = 2462$ MHz; $\sigma = 2.03$ mho/m; $\epsilon_r = 51.9$;
 $\rho = 1000$ kg/m³
Phantom section: Flat Section

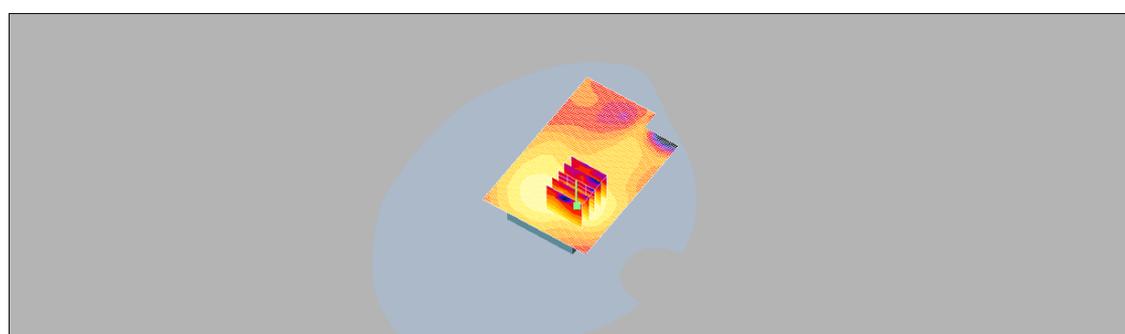
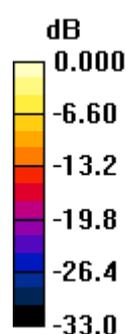
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.02, 4.02,4.02); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.042 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 3.00 V/m; Power Drift = 0.158 dB
Peak SAR (extrapolated) = 0.074 W/kg

SAR(1 g) = 0.037 mW/g; SAR(10 g) = 0.017 mW/g
Maximum value of SAR (measured) = 0.042 mW/g



0 dB = 0.042mW/g

BODY_CHO_Bluetooth mode

DUT: SAPP310;

Communication System: Bluetooth; Frequency: 2402 MHz; Duty Cycle: 1:1
Medium: Muscle 2450 Medium parameters used: $f = 2402$ MHz; $\sigma = 1.89$ mho/m; $\epsilon_r = 52.6$;
 $\rho = 1000$ kg/m³
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.02, 4.02, 4.02); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.002 mW/g

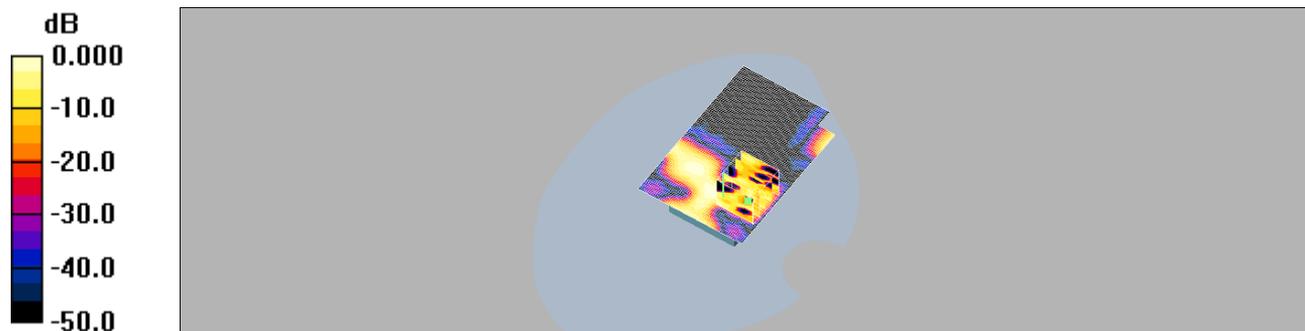
BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm

Reference Value = 0.628 V/m; Power Drift = 0.132 dB

Peak SAR (extrapolated) = 0.006 W/kg

SAR(1 g) = 0.00167 mW/g; SAR(10 g) = 0.000569 mW/g

Maximum value of SAR (measured) = 0.002 mW/g



0 dB = 0.002mW/g

BODY_CH39_Bluetooth mode

DUT: SAPP310;

Communication System: Bluetooth; Frequency: 2441 MHz; Duty Cycle: 1:1
Medium: Muscle 2450 Medium parameters used: $f = 2441$ MHz; $\sigma = 1.94$ mho/m; $\epsilon_r = 52.4$;
 $\rho = 1000$ kg/m³
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.02, 4.02, 4.02); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.002 mW/g

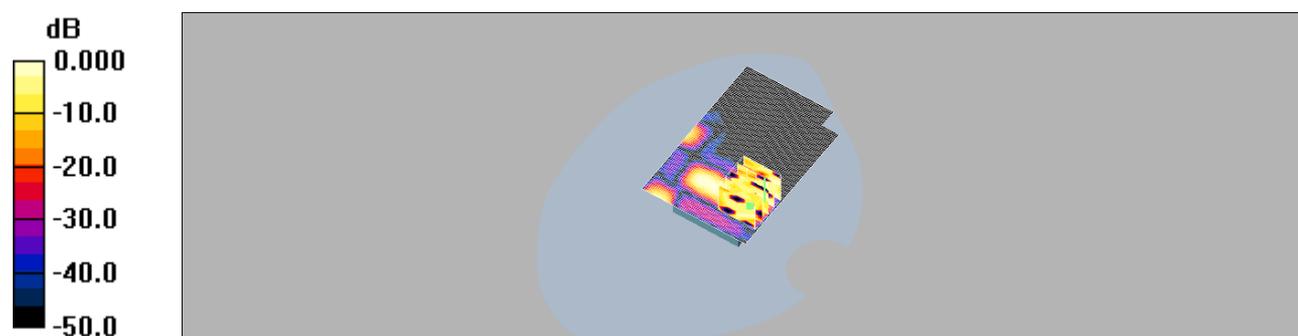
BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm

Reference Value = 0.668 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 0.003 W/kg

SAR(1 g) = 0.000982 mW/g; SAR(10 g) = 0.000341 mW/g

Maximum value of SAR (measured) = 0.001 mW/g



0 dB = 0.001mW/g

BODY_CH78_Bluetooth mode

DUT: SAPP310;

Communication System: Bluetooth; Frequency: 2480 MHz; Duty Cycle: 1:1

Medium: Muscle 2450 Medium parameters used: $f = 2480$ MHz; $\sigma = 2$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.02, 4.02, 4.02); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.002 mW/g

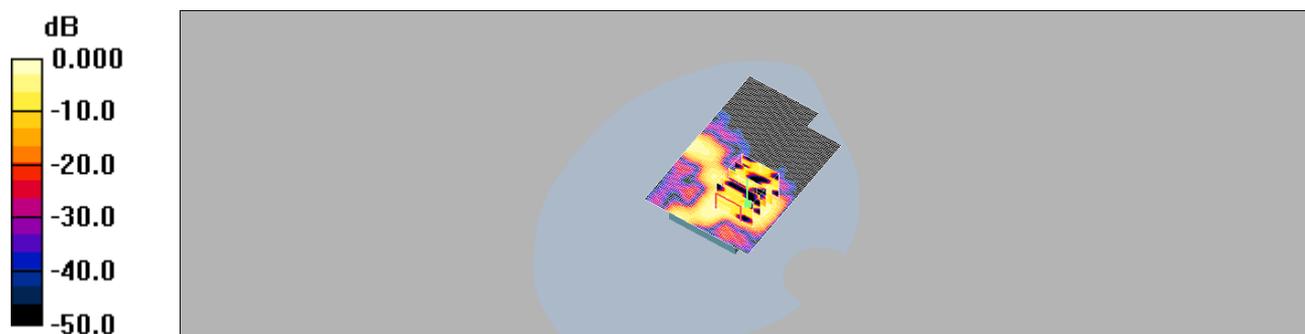
BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 0.644 V/m; Power Drift = 0.147 dB

Peak SAR (extrapolated) = 0.002 W/kg

SAR(1 g) = 0.00152 mW/g; SAR(10 g) = 0.00049 mW/g

Maximum value of SAR (measured) = 0.002 mW/g



0 dB = 0.002mW/g

Le Cheek_CH251_(Second solution)

DUT: SAPP310;

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3
Medium: Head 900 MHz Medium parameters used: $f = 849$ MHz; $\sigma = 0.903$ mho/m; $\epsilon_r = 42.3$;
 $\rho = 1000$ kg/m³
Phantom section: Left Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.83, 5.83, 5.83); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.30 mW/g

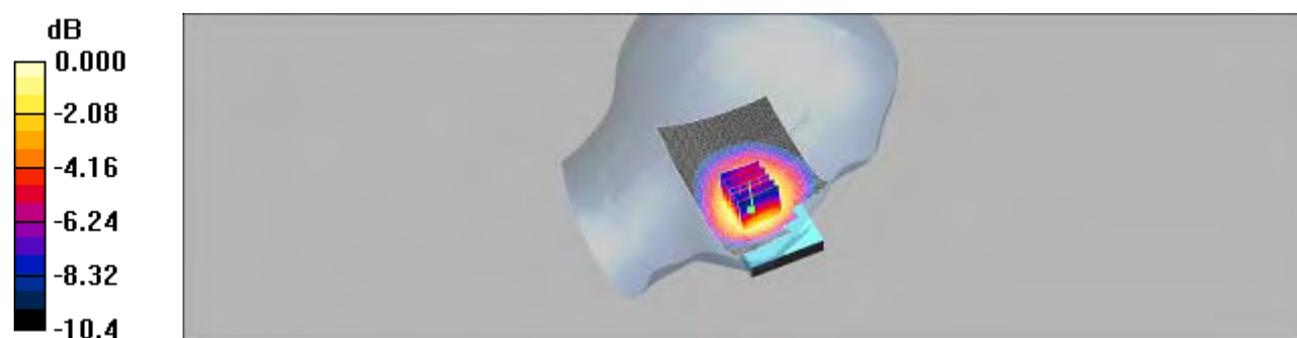
LE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm

Reference Value = 9.46 V/m; Power Drift = -0.185 dB

Peak SAR (extrapolated) = 1.58 W/kg

SAR(1 g) = 1.21 mW/g; SAR(10 g) = 0.889 mW/g

Maximum value of SAR (measured) = 1.27 mW/g



0 dB = 1.27mW/g

BODY_CH190_(Second solution)

DUT: SAPP310;

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:4
Medium: Muscle 900 MHz Medium parameters used: $f = 837$ MHz; $\sigma = 1.01$ mho/m; $\epsilon_r = 54.9$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

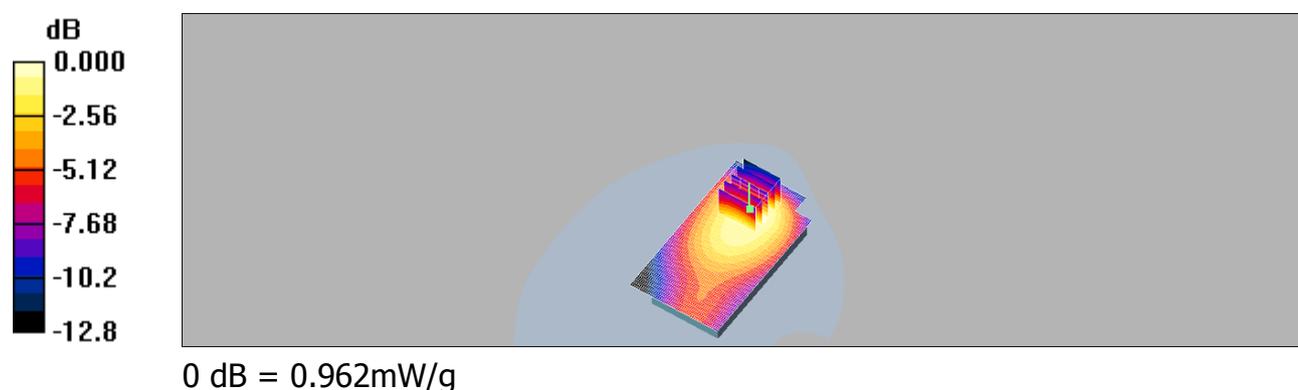
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.81, 5.81, 5.81); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.01 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.0 V/m; Power Drift = -0.182 dB
Peak SAR (extrapolated) = 1.40 W/kg

SAR(1 g) = 0.913 mW/g; SAR(10 g) = 0.600 mW/g
Maximum value of SAR (measured) = 0.962 mW/g



RE Cheek_CH661_(Second solution)

DUT: SAPP310;

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head 1900 MHz Medium parameters used: $f = 1880$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.86, 4.86,4.86); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.54 mW/g

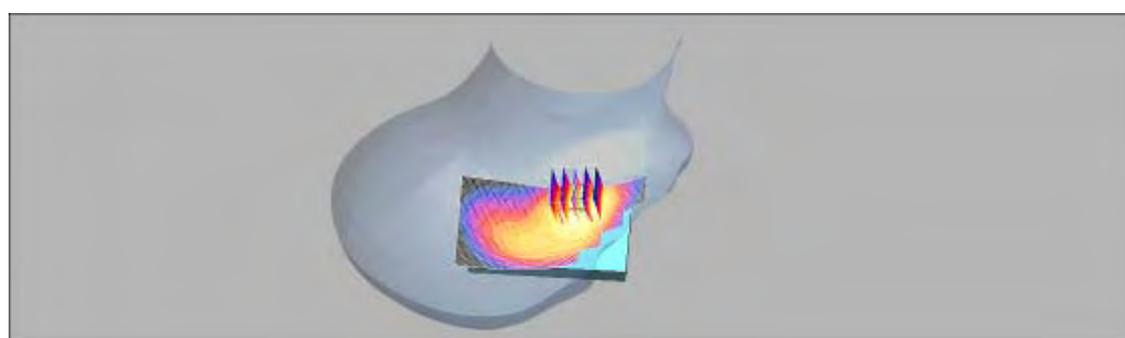
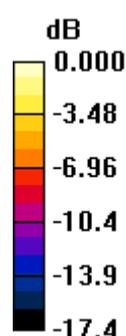
RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.2 V/m; Power Drift = 0.021 dB

Peak SAR (extrapolated) = 2.23 W/kg

SAR(1 g) = 1.31 mW/g; SAR(10 g) = 0.746 mW/g

Maximum value of SAR (measured) = 1.45 mW/g



0 dB = 1.45mW/g

BODY_CH661_(Second solution)

DUT: SAPP310;

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:4
Medium: M1800 & 1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.55$ mho/m; $\epsilon_r = 53.3$;
 $\rho = 1000$ kg/m³
Phantom section: Flat Section

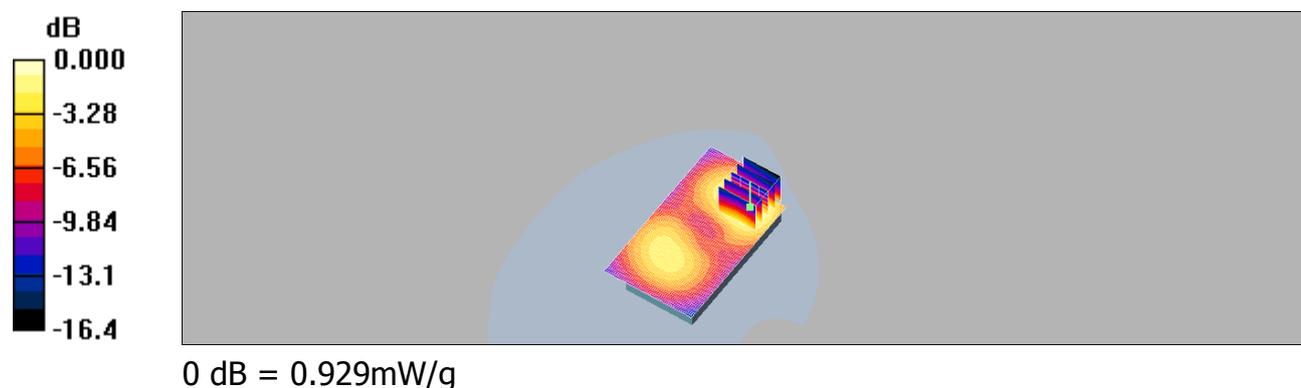
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.54, 4.54, 4.54); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.966 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 14.9 V/m; Power Drift = -0.120 dB
Peak SAR (extrapolated) = 1.41 W/kg

SAR(1 g) = 0.843 mW/g; SAR(10 g) = 0.489 mW/g
Maximum value of SAR (measured) = 0.929 mW/g



RE Cheek_CH1513_(Second solution)

DUT: SAPP310;

Communication System: WCDMA BAND4; Frequency: 1752.6 MHz; Duty Cycle: 1:1
Medium: Head 1800 MHz Medium parameters used: $f = 1753$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³
Phantom section: Right Section

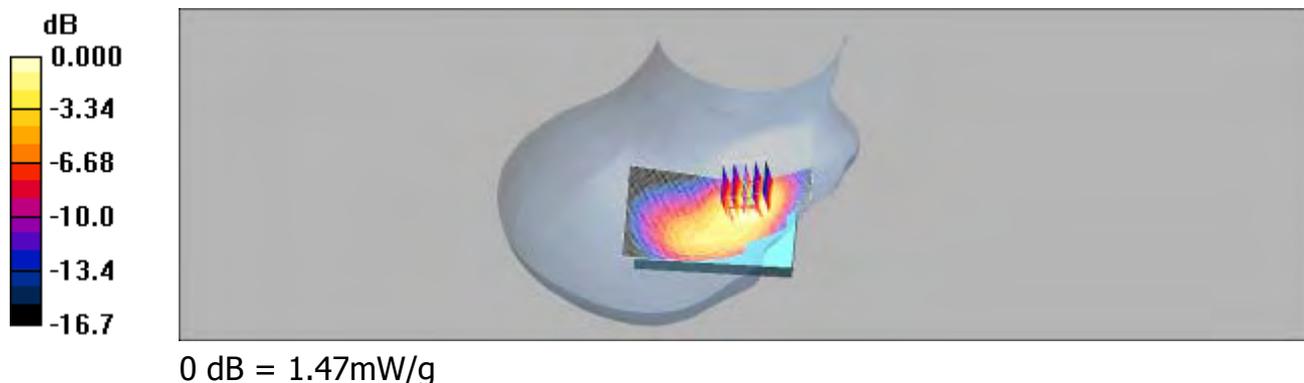
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.75, 9.75, 9.75); Calibrated: 2009/8/26
- 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

RE_Cheek/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.45 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.1 V/m; Power Drift = 0.140 dB
Peak SAR (extrapolated) = 2.25 W/kg

SAR(1 g) = 1.36 mW/g; SAR(10 g) = 0.797 mW/g
Maximum value of SAR (measured) = 1.47 mW/g



BODY_CH1513_(Second solution)

DUT: SAPP310;

Communication System: WCDMA BAND4; Frequency: 1752.6 MHz; Duty Cycle: 1:1
Medium: M1800 & 1900 Medium parameters used: $f = 1753$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 55.2$;
 $\rho = 1000$ kg/m³
Phantom section: Flat Section

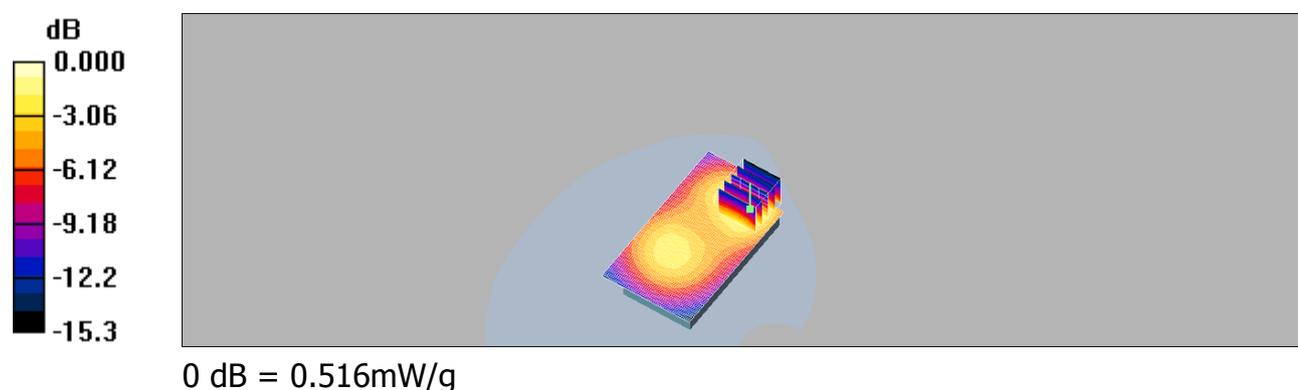
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.69, 4.69, 4.69); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.491 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 9.07 V/m; Power Drift = 0.170 dB
Peak SAR (extrapolated) = 0.780 W/kg

SAR(1 g) = 0.472 mW/g; SAR(10 g) = 0.280 mW/g
Maximum value of SAR (measured) = 0.516 mW/g



BODY_WLAN802.11 b_CH11_(Second solution)

DUT: SAPP310;

Communication System: Wireless LAN; Frequency: 2462 MHz; Duty Cycle: 1:1
Medium: Muscle 2450 Medium parameters used: $f = 2462$ MHz; $\sigma = 2.03$ mho/m; $\epsilon_r = 52$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

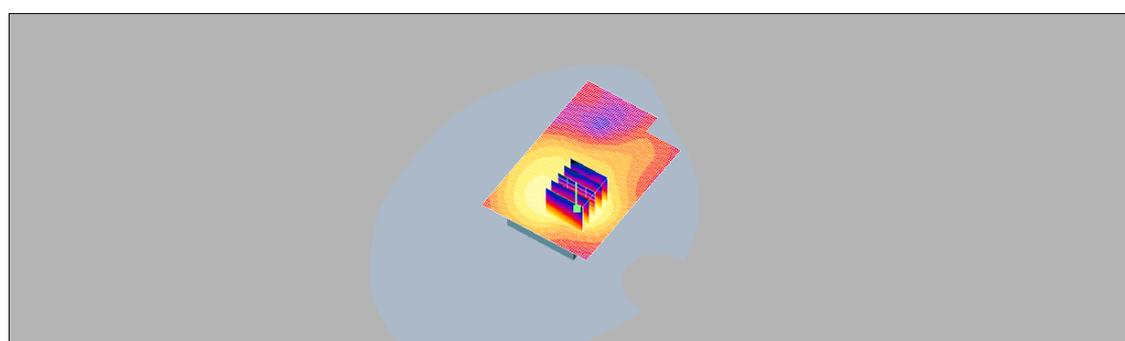
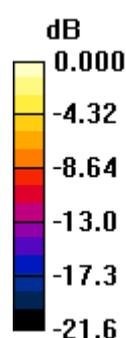
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.02, 4.02,4.02); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.158 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.24 V/m; Power Drift = -0.042 dB
Peak SAR (extrapolated) = 0.276 W/kg

SAR(1 g) = 0.140 mW/g; SAR(10 g) = 0.072 mW/g
Maximum value of SAR (measured) = 0.157 mW/g



0 dB = 0.157mW/g

BODY_WLAN802.11 g_CH11_(Second solution)

DUT: SAPP310;

Communication System: Wireless LAN; Frequency: 2462 MHz; Duty Cycle: 1:1
Medium: Muscle 2450 Medium parameters used: $f = 2462$ MHz; $\sigma = 2.03$ mho/m; $\epsilon_r = 52$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

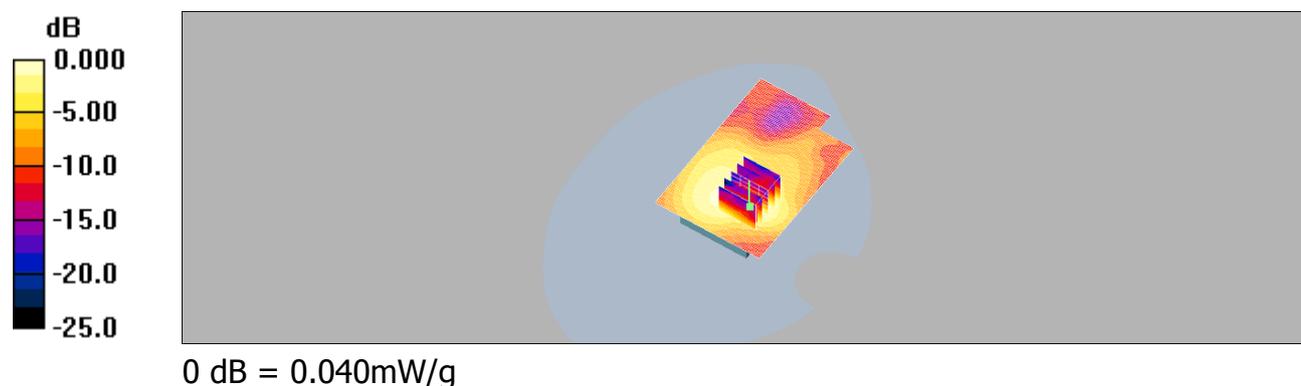
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.02, 4.02,4.02); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.042 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.14 V/m; Power Drift = 0.192 dB
Peak SAR (extrapolated) = 0.065 W/kg

SAR(1 g) = 0.036 mW/g; SAR(10 g) = 0.018 mW/g
Maximum value of SAR (measured) = 0.040 mW/g



Le Cheek_CH251_(Third solution)

DUT: SAPP310;

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3
Medium: Head 900 MHz Medium parameters used: $f = 849$ MHz; $\sigma = 0.903$ mho/m; $\epsilon_r = 42.3$;
 $\rho = 1000$ kg/m³
Phantom section: Left Section

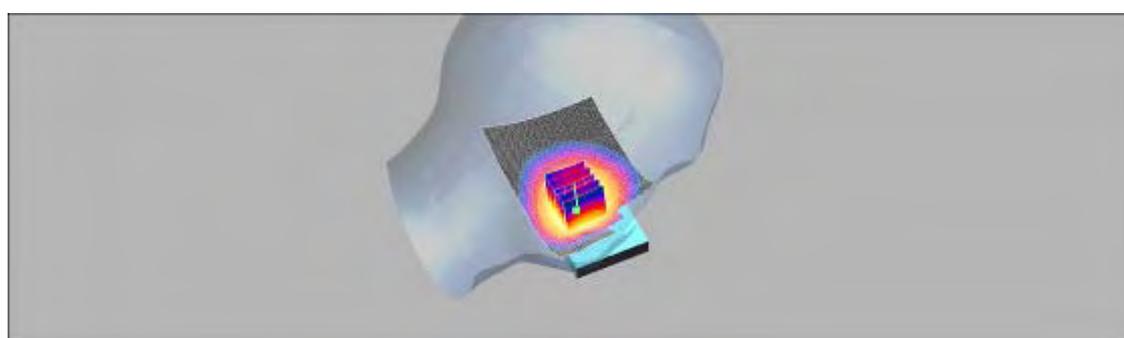
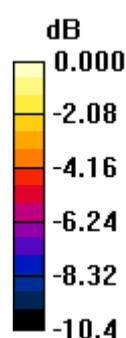
DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.27, 8.27, 8.27); Calibrated: 2009/6/26
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.29 mW/g

LE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 10.4 V/m; Power Drift = -0.160 dB
Peak SAR (extrapolated) = 1.57 W/kg

SAR(1 g) = 1.18 mW/g; SAR(10 g) = 0.866 mW/g
Maximum value of SAR (measured) = 1.24 mW/g



0 dB = 1.24mW/g

BODY_CH190_(Third solution)

DUT: SAPP310;

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:4

Medium: Muscle 900 MHz Medium parameters used: $f = 837$ MHz; $\sigma = 1.01$ mho/m; $\epsilon_r = 54.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

- Probe: ES3DV3 - SN3172; ConvF(5.81, 5.81, 5.81); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.06 mW/g

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

Reference Value = 16.0 V/m; Power Drift = -0.115 dB

Peak SAR (extrapolated) = 1.34 W/kg

SAR(1 g) = 0.951 mW/g; SAR(10 g) = 0.688 mW/g

Maximum value of SAR (measured) = 1.01 mW/g

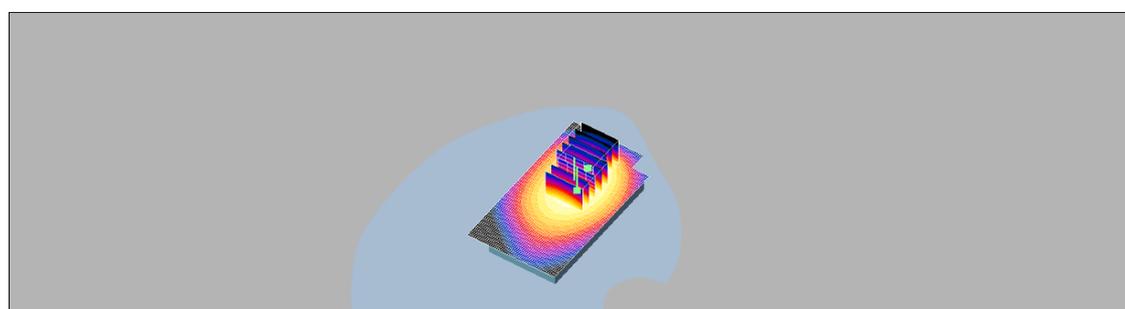
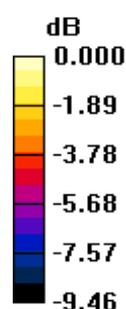
BODY/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.0 V/m; Power Drift = -0.115 dB

Peak SAR (extrapolated) = 1.27 W/kg

SAR(1 g) = 0.969 mW/g; SAR(10 g) = 0.708 mW/g

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



0 dB = 1.02mW/g

RE Cheek_CH661_(Third solution)

DUT: SAPP310;

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head 1900 MHz Medium parameters used: $f = 1880$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.86, 4.86,4.86); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.46 mW/g

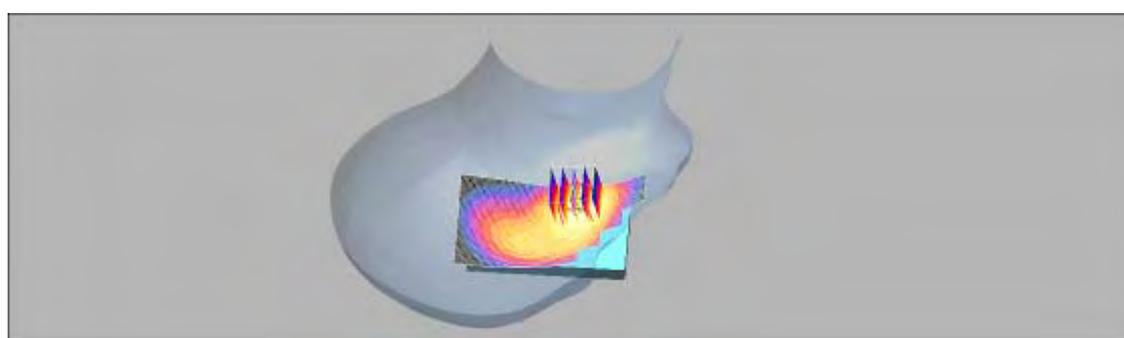
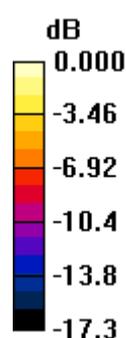
RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.0 V/m; Power Drift = -0.024 dB

Peak SAR (extrapolated) = 2.14 W/kg

SAR(1 g) = 1.26 mW/g; SAR(10 g) = 0.716 mW/g

Maximum value of SAR (measured) = 1.39 mW/g



0 dB = 1.39mW/g

BODY_CH661_(Third solution)

DUT: SAPP310;

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:4
Medium: M1800 & 1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.55$ mho/m; $\epsilon_r = 53.3$;
 $\rho = 1000$ kg/m³
Phantom section: Flat Section

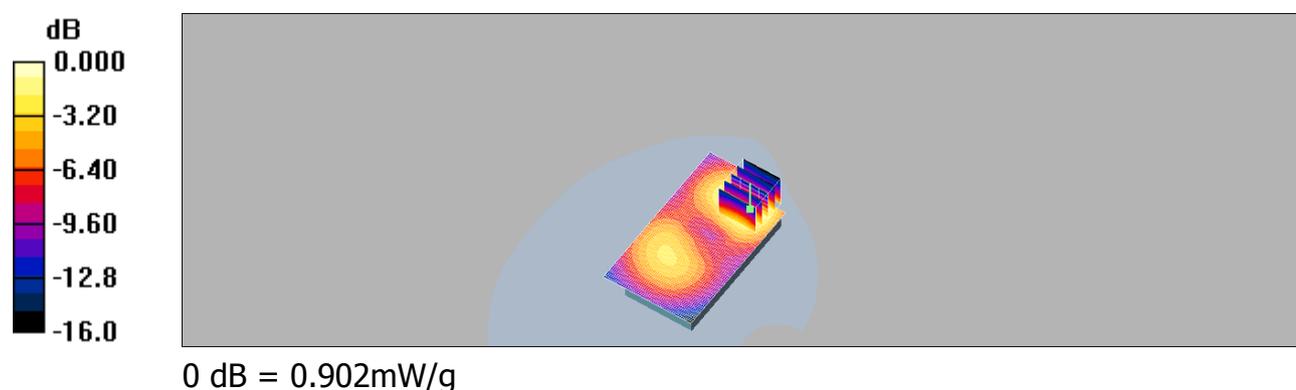
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.54, 4.54, 4.54); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.923 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 12.1 V/m; Power Drift = -0.055 dB
Peak SAR (extrapolated) = 1.36 W/kg

SAR(1 g) = 0.819 mW/g; SAR(10 g) = 0.477 mW/g
Maximum value of SAR (measured) = 0.902 mW/g



RE Cheek_CH1513_(Third solution)

DUT: SAPP310;

Communication System: WCDMA BAND4; Frequency: 1752.6 MHz; Duty Cycle: 1:1
Medium: Head 1800 MHz Medium parameters used: $f = 1753$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³
Phantom section: Right Section

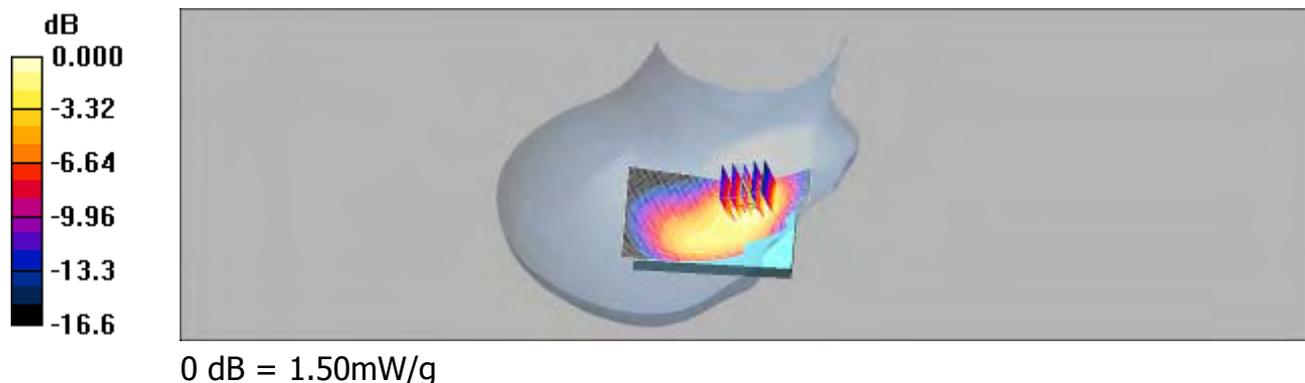
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.75, 9.75, 9.75); Calibrated: 2009/8/26
- 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

RE_Cheek/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.50 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.4 V/m; Power Drift = -0.026 dB
Peak SAR (extrapolated) = 2.28 W/kg

SAR(1 g) = 1.37 mW/g; SAR(10 g) = 0.802 mW/g
Maximum value of SAR (measured) = 1.50 mW/g



BODY_CH1513_(Third solution)

DUT: SAPP310;

Communication System: WCDMA BAND4; Frequency: 1752.6 MHz; Duty Cycle: 1:1
Medium: M1800 & 1900 Medium parameters used: $f = 1753$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 55.2$;
 $\rho = 1000$ kg/m³
Phantom section: Flat Section

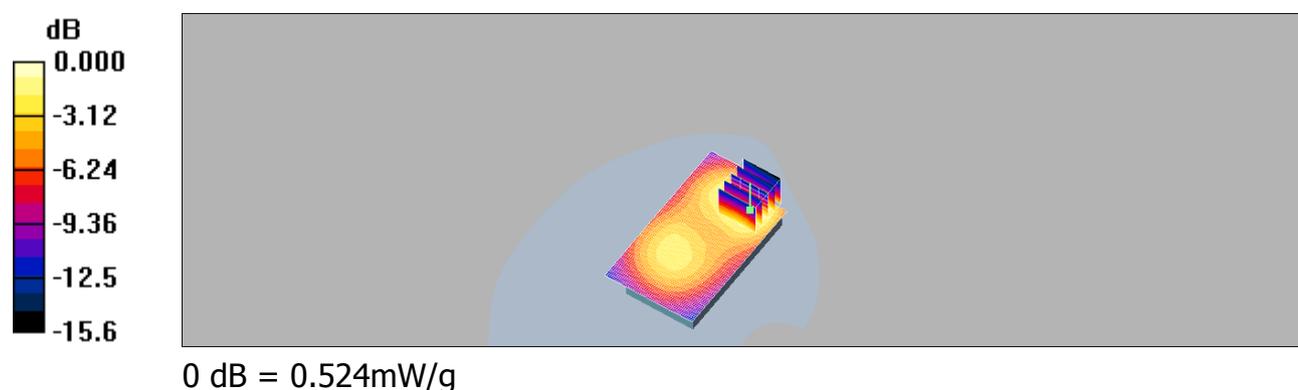
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.69, 4.69, 4.69); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.534 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 10.3 V/m; Power Drift = 0.004 dB
Peak SAR (extrapolated) = 0.789 W/kg

SAR(1 g) = 0.480 mW/g; SAR(10 g) = 0.286 mW/g
Maximum value of SAR (measured) = 0.524 mW/g



BODY_WLAN802.11 b_CH11_(Third solution)

DUT: SAPP310;

Communication System: Wireless LAN; Frequency: 2462 MHz; Duty Cycle: 1:1
Medium: Muscle 2450 Medium parameters used: $f = 2462$ MHz; $\sigma = 2.03$ mho/m; $\epsilon_r = 52$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

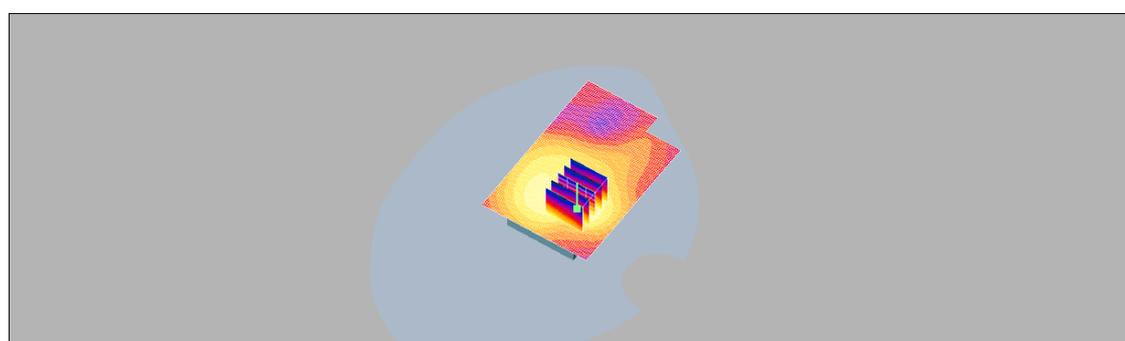
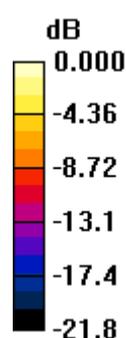
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.02, 4.02,4.02); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.154 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.19 V/m; Power Drift = 0.118 dB
Peak SAR (extrapolated) = 0.274 W/kg

SAR(1 g) = 0.139 mW/g; SAR(10 g) = 0.071 mW/g
Maximum value of SAR (measured) = 0.155 mW/g



0 dB = 0.155mW/g

BODY_WLAN802.11 g_CH11_(Third solution)

DUT: SAPP310;

Communication System: Wireless LAN; Frequency: 2462 MHz; Duty Cycle: 1:1
Medium: Muscle 2450 Medium parameters used: $f = 2462$ MHz; $\sigma = 2.03$ mho/m; $\epsilon_r = 52$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

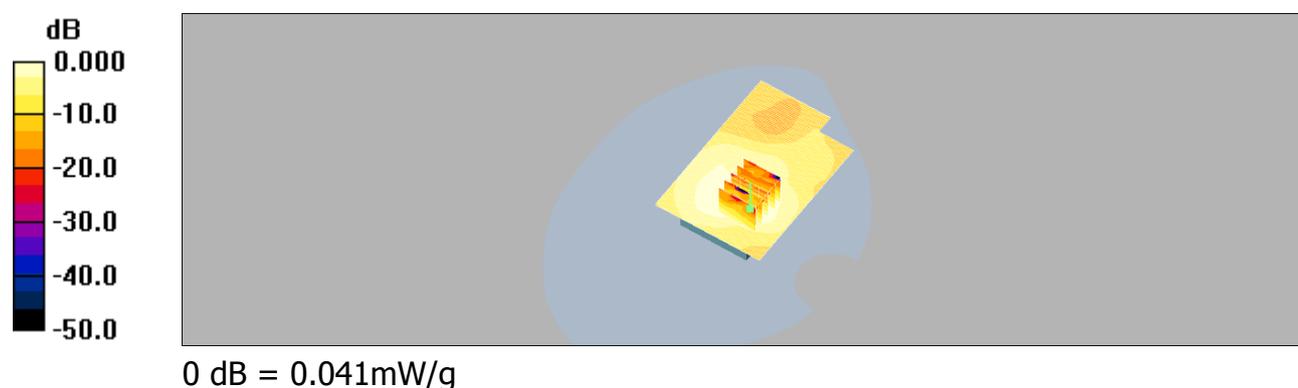
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.02, 4.02,4.02); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.041 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.12 V/m; Power Drift = 0.133 dB
Peak SAR (extrapolated) = 0.070 W/kg

SAR(1 g) = 0.036 mW/g; SAR(10 g) = 0.018 mW/g
Maximum value of SAR (measured) = 0.041 mW/g



Le Cheek_CH251_(fourth solution)

DUT: SAPP310;

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3
Medium: Head 900 MHz Medium parameters used: $f = 849$ MHz; $\sigma = 0.903$ mho/m; $\epsilon_r = 42.3$;
 $\rho = 1000$ kg/m³
Phantom section: Left Section

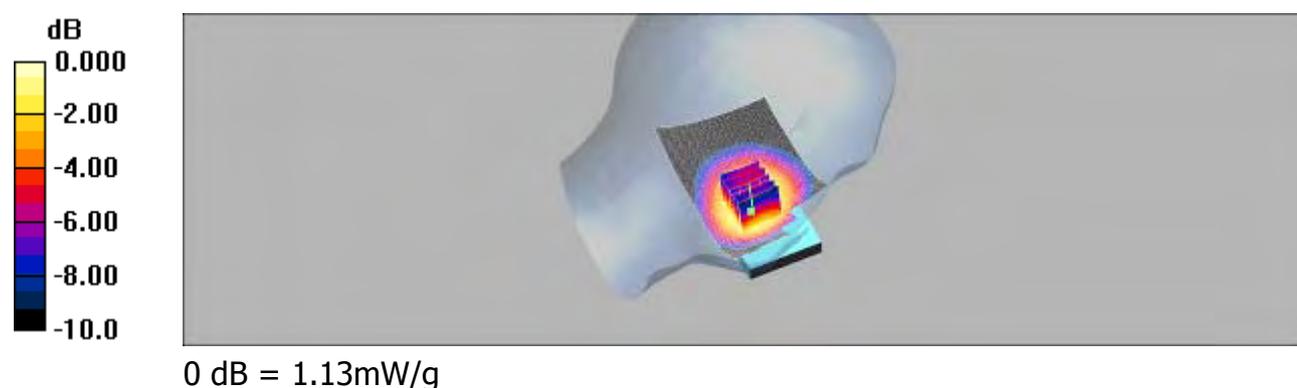
DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.27, 8.27, 8.27); Calibrated: 2009/6/26
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.13 mW/g

LE Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 9.62 V/m; Power Drift = 0.003 dB
Peak SAR (extrapolated) = 1.39 W/kg

SAR(1 g) = 1.08 mW/g; SAR(10 g) = 0.801 mW/g
Maximum value of SAR (measured) = 1.13 mW/g



BODY_CH190_(Fourth solution)

DUT: SAPP310;

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:4
Medium: Muscle 900 MHz Medium parameters used: $f = 837$ MHz; $\sigma = 1.01$ mho/m; $\epsilon_r = 54.9$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

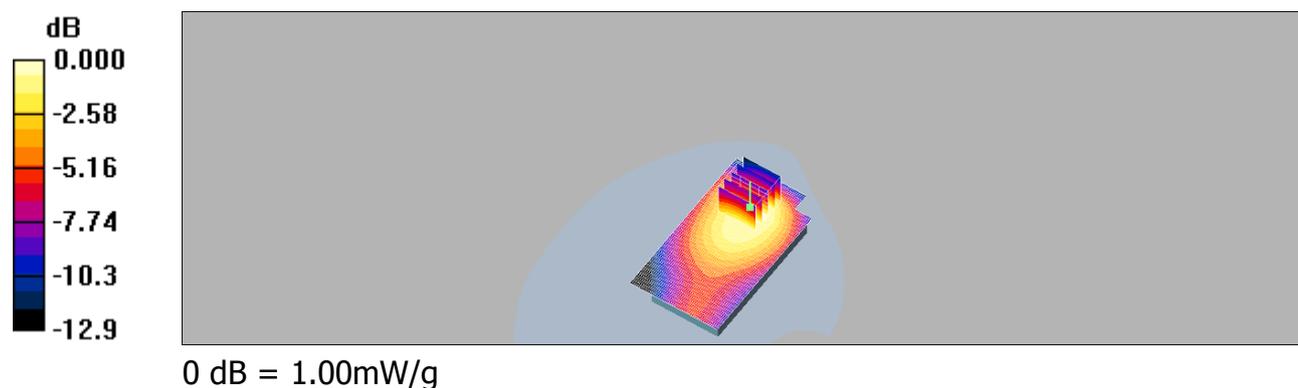
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.81, 5.81, 5.81); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.05 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.1 V/m; Power Drift = -0.117 dB
Peak SAR (extrapolated) = 1.47 W/kg

SAR(1 g) = 0.962 mW/g; SAR(10 g) = 0.630 mW/g
Maximum value of SAR (measured) = 1.00 mW/g



RE Cheek_CH661_(Fourth solution)

DUT: SAPP310;

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium: Head 1900 MHz Medium parameters used: $f = 1880$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.86, 4.86,4.86); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.52 mW/g

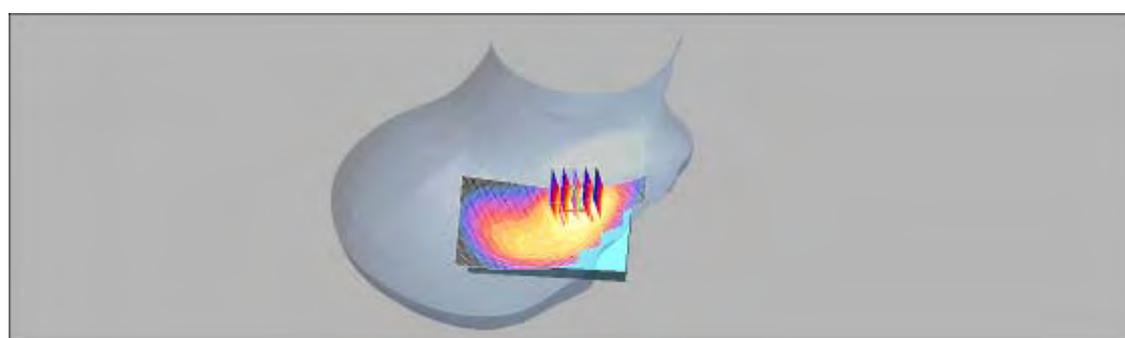
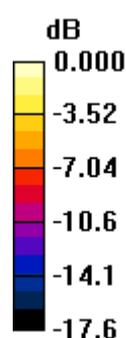
RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.2 V/m; Power Drift = -0.027 dB

Peak SAR (extrapolated) = 2.24 W/kg

SAR(1 g) = 1.3 mW/g; SAR(10 g) = 0.739 mW/g

Maximum value of SAR (measured) = 1.45 mW/g



0 dB = 1.45mW/g

BODY_CH661_(Fourth solution)

DUT: SAPP310;

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:4
Medium: M1800 & 1900 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.55$ mho/m; $\epsilon_r = 53.3$;
 $\rho = 1000$ kg/m³
Phantom section: Flat Section

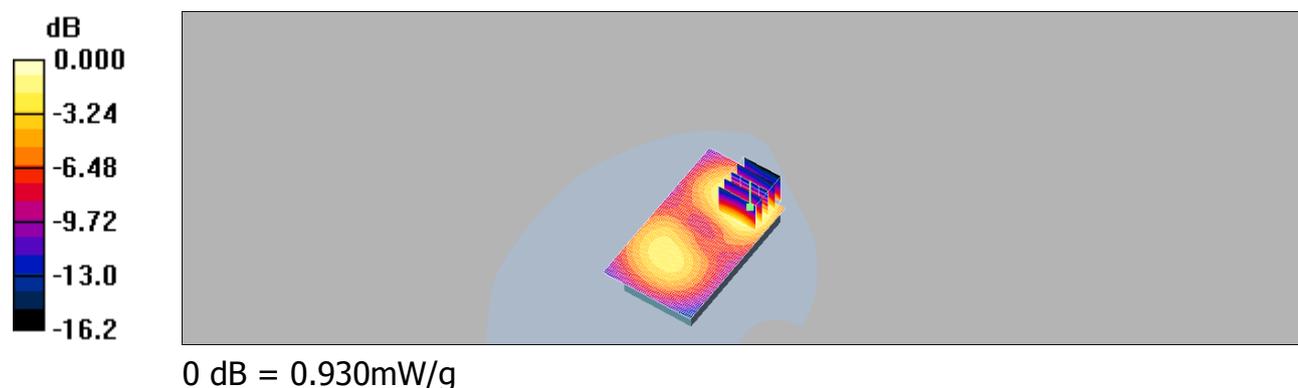
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.54, 4.54, 4.54); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.988 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 14.3 V/m; Power Drift = -0.136 dB
Peak SAR (extrapolated) = 1.43 W/kg

SAR(1 g) = 0.851 mW/g; SAR(10 g) = 0.494 mW/g
Maximum value of SAR (measured) = 0.930 mW/g



RE Cheek_CH1513_(Fourth solution)

DUT: SAPP310;

Communication System: WCDMA BAND4; Frequency: 1752.6 MHz; Duty Cycle: 1:1
Medium: Head 1800 MHz Medium parameters used: $f = 1753$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 41.9$; $\rho = 1000$ kg/m³
Phantom section: Right Section

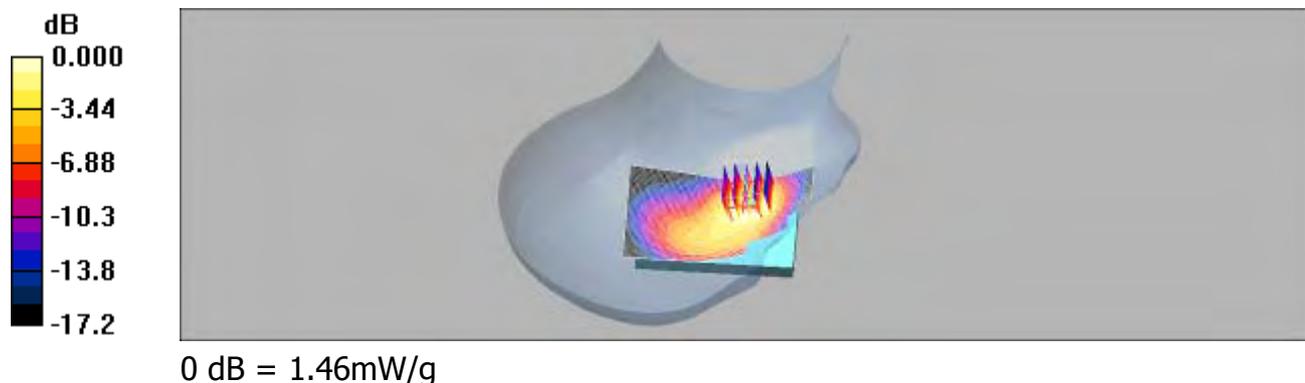
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.75, 9.75, 9.75); Calibrated: 2009/8/26
- 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

RE_Cheek/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.46 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.94 V/m; Power Drift = 0.098 dB
Peak SAR (extrapolated) = 2.23 W/kg

SAR(1 g) = 1.34 mW/g; SAR(10 g) = 0.772 mW/g
Maximum value of SAR (measured) = 1.46 mW/g



BODY_CH1513_(Fourth solution)

DUT: SAPP310;

Communication System: WCDMA BAND4; Frequency: 1752.6 MHz; Duty Cycle: 1:1
Medium: M1800 & 1900 Medium parameters used: $f = 1753$ MHz; $\sigma = 1.47$ mho/m; $\epsilon_r = 55.2$;
 $\rho = 1000$ kg/m³
Phantom section: Flat Section

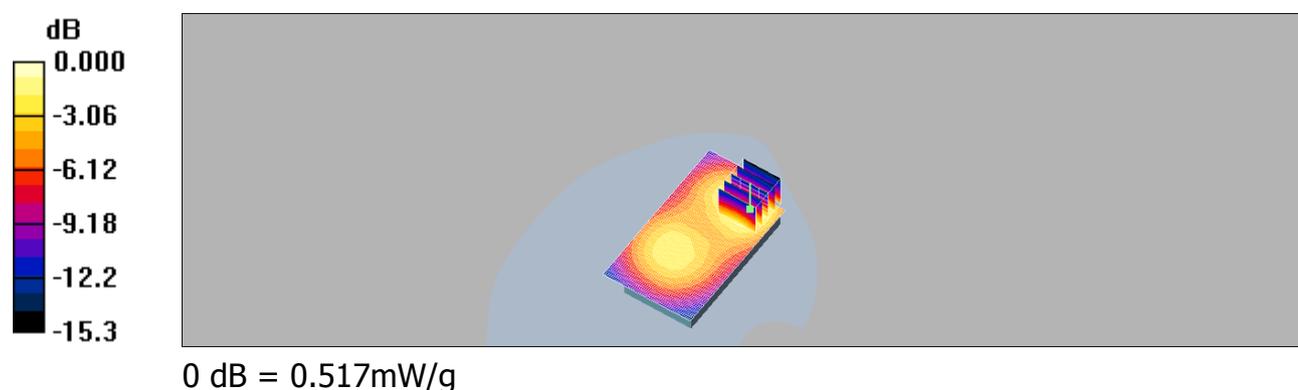
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.69, 4.69, 4.69); Calibrated: 2009/5/27
- 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.524 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm,
dz=5mm
Reference Value = 9.89 V/m; Power Drift = -0.082 dB
Peak SAR (extrapolated) = 0.779 W/kg

SAR(1 g) = 0.471 mW/g; SAR(10 g) = 0.278 mW/g
Maximum value of SAR (measured) = 0.517 mW/g



BODY_WLAN802.11 b_CH11_(fourth solution)

DUT: SAPP310;

Communication System: Wireless LAN; Frequency: 2462 MHz; Duty Cycle: 1:1
Medium: Muscle 2450 Medium parameters used: $f = 2462$ MHz; $\sigma = 2.03$ mho/m; $\epsilon_r = 52$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

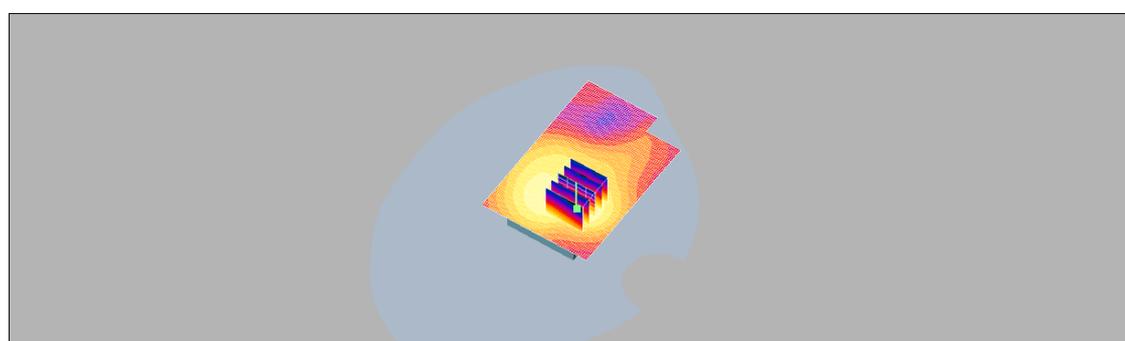
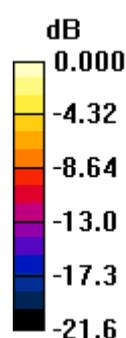
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.02, 4.02,4.02); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.155 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.22 V/m; Power Drift = 0.036 dB
Peak SAR (extrapolated) = 0.265 W/kg

SAR(1 g) = 0.137 mW/g; SAR(10 g) = 0.070 mW/g
Maximum value of SAR (measured) = 0.152 mW/g



0 dB = 0.152mW/g

BODY_WLAN802.11 g_CH11_(fourth solution)

DUT: SAPP310;

Communication System: Wireless LAN; Frequency: 2462 MHz; Duty Cycle: 1:1
Medium: Muscle 2450 Medium parameters used: $f = 2462$ MHz; $\sigma = 2.03$ mho/m; $\epsilon_r = 52$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

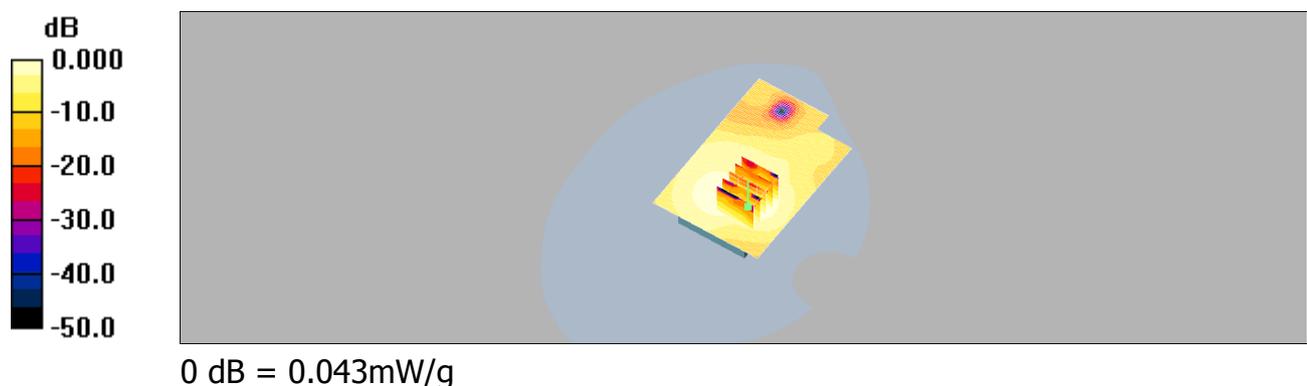
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.02, 4.02,4.02); Calibrated: 2009/5/27
- 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.039 mW/g

BODY/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.24 V/m; Power Drift = -0.075 dB
Peak SAR (extrapolated) = 0.079 W/kg

SAR(1 g) = 0.038 mW/g; SAR(10 g) = 0.019 mW/g
Maximum value of SAR (measured) = 0.043 mW/g



5. System Verification

Date/Time: 2009/8/14 00:18:39

DUT: Dipole 835 MHz;

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

Medium: Head 900 MHz Medium parameters used: $f = 835$ MHz; $\sigma = 0.903$ mho/m; $\epsilon_r = 40.9$;
 $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.83, 5.83, 5.83); Calibrated: 2009/5/27
- 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) = 2.59 mW/g

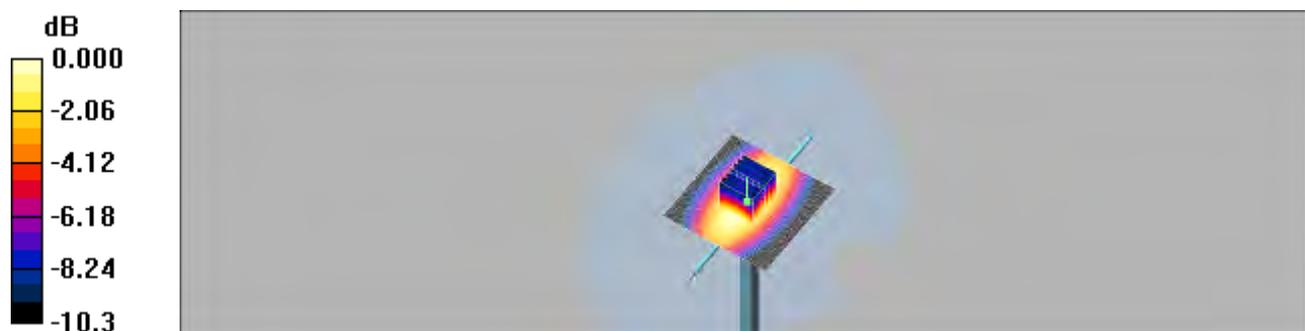
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm,
dy=5mm, dz=5mm

Reference Value = 53.5 V/m; Power Drift = -0.008 dB

Peak SAR (extrapolated) = 3.59 W/kg

SAR(1 g) = 2.41 mW/g; SAR(10 g) = 1.58 mW/g

Maximum value of SAR (measured) = 2.59 mW/g



0 dB = 2.59mW/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; $\sigma = 1.01$ mho/m; $\epsilon_r = 55$;
 $\rho = 1000$ kg/m³

Phantom section: Flat Section

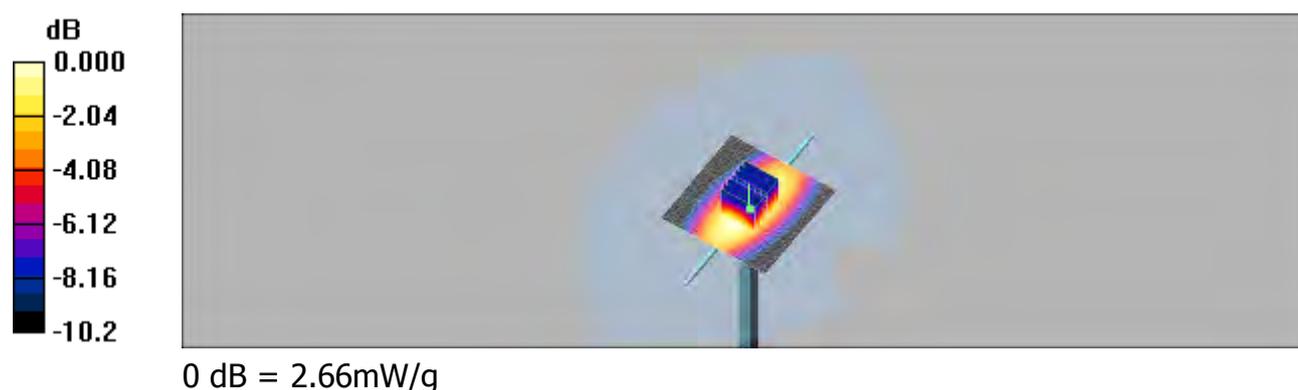
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.81, 5.81, 5.81); Calibrated: 2009/5/27
- 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) = 2.67 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm,
dy=5mm, dz=5mm
Reference Value = 51.0 V/m; Power Drift = -0.030 dB
Peak SAR (extrapolated) = 3.67 W/kg

SAR(1 g) = 2.47 mW/g; SAR(10 g) = 1.63 mW/g
Maximum value of SAR (measured) = 2.66 mW/g



DUT: Dipole 1750 MHz;

Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: Head 1800 MHz Medium parameters used: $f = 1750$ MHz; $\sigma = 1.41$ mho/m; $\epsilon_r = 39.9$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

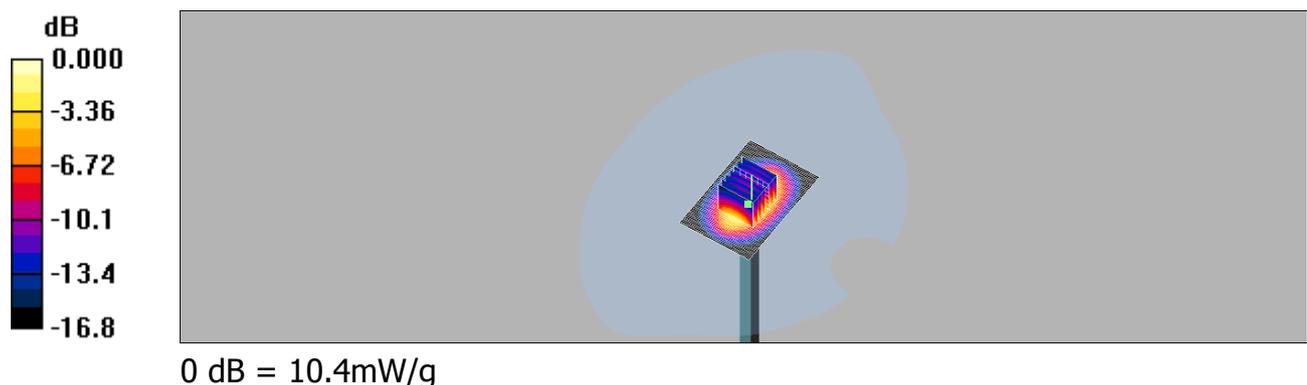
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(9.75, 9.75, 9.75); Calibrated: 2009/8/26
- 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 (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 10.5 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 85.4 V/m; Power Drift = -0.045 dB
Peak SAR (extrapolated) = 16.9 W/kg

SAR(1 g) = 9.28 mW/g; SAR(10 g) = 4.95 mW/g
Maximum value of SAR (measured) = 10.4 mW/g



DUT: Dipole 1750 MHz;

Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: M1800 & 1900 Medium parameters used: $f = 1750$ MHz; $\sigma = 1.46$ mho/m; $\epsilon_r = 53$;
 $\rho = 1000$ kg/m³
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.69, 4.69, 4.69); Calibrated: 2009/5/27
- 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) = 11.1 mW/g

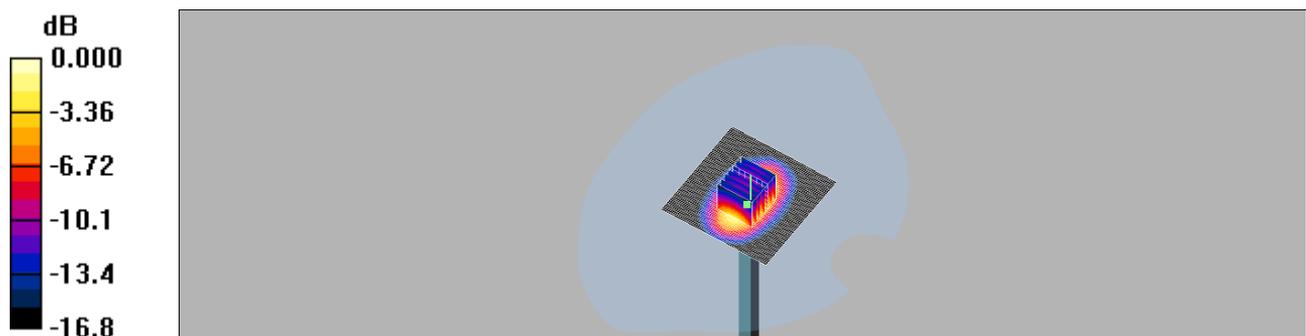
Pin=250mW /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm,
dy=5mm, dz=5mm

Reference Value = 81.4 V/m; Power Drift = -0.061 dB

Peak SAR (extrapolated) = 16.4 W/kg

SAR(1 g) = 9.03 mW/g; SAR(10 g) = 4.81 mW/g

Maximum value of SAR (measured) = 10.1 mW/g



0 dB = 10.1mW/g

DUT: Dipole 1900 MHz;

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: Head 1900 MHz Medium parameters used: $f = 1900$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 39.7$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

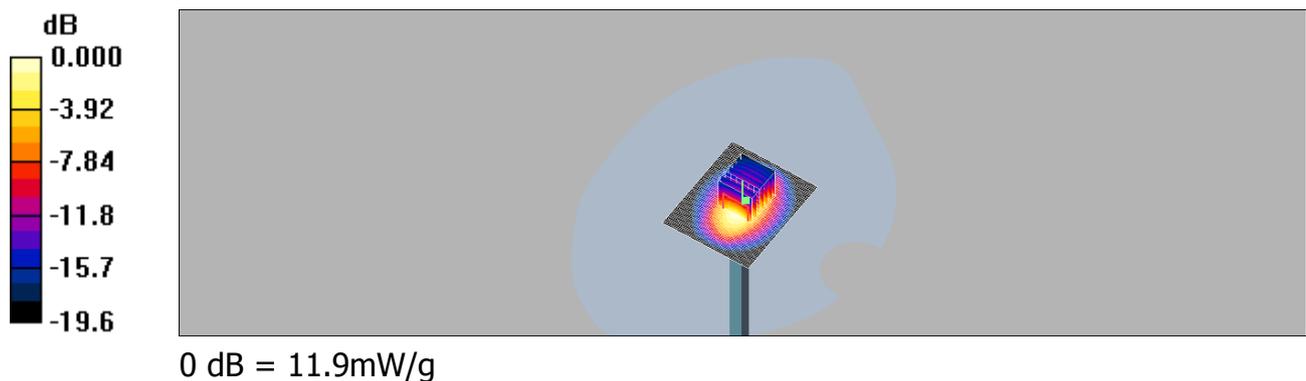
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.86, 4.86,4.86); Calibrated: 2009/5/27
- 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) = 13.4 mW/g

Pin=250mw/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 89.5 V/m; Power Drift = -0.095 dB
Peak SAR (extrapolated) = 20.1 W/kg

SAR(1 g) = 10.5 mW/g; SAR(10 g) = 5.36 mW/g
Maximum value of SAR (measured) = 11.9 mW/g



DUT: Dipole 1900 MHz;

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: M1800 & 1900 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 53.3$;
 $\rho = 1000$ kg/m³
Phantom section: Flat Section

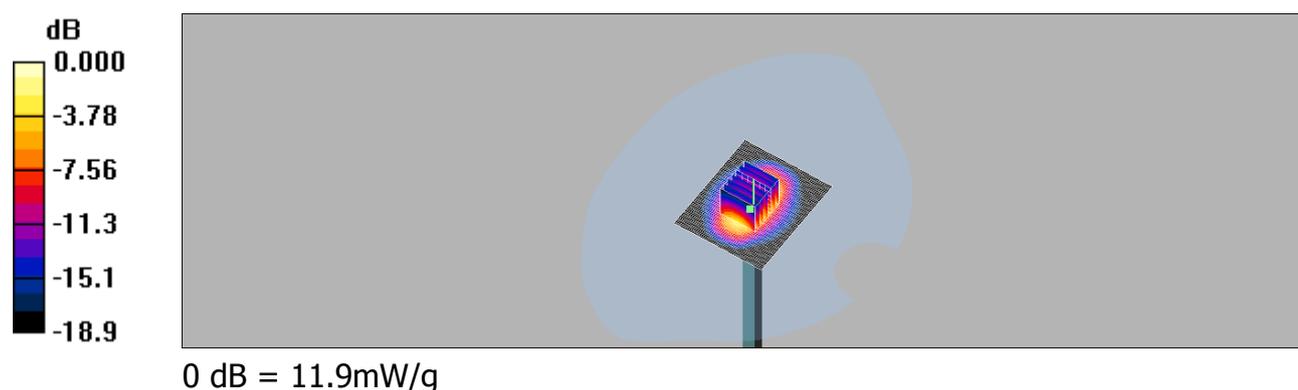
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.54, 4.54, 4.54); Calibrated: 2009/5/27
- 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) = 13.7 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 89.6 V/m; Power Drift = -0.011 dB
Peak SAR (extrapolated) = 19.1 W/kg

SAR(1 g) = 10.5 mW/g; SAR(10 g) = 5.38 mW/g
Maximum value of SAR (measured) = 11.9 mW/g



DUT: Dipole 2450 MHz;

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

Medium: M 2450 Medium parameters used: $f = 2450$ MHz; $\sigma = 2.01$ mho/m; $\epsilon_r = 51.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

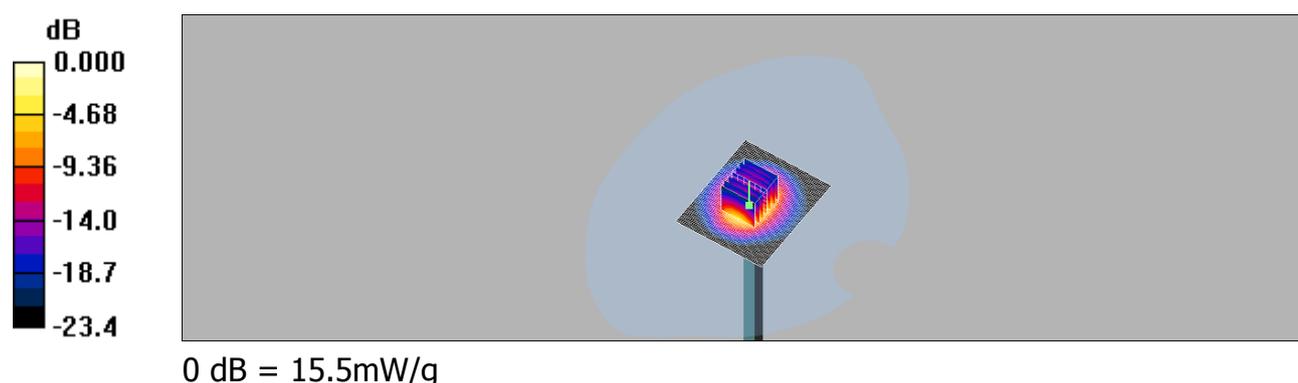
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.02, 4.02,4.02); Calibrated: 2009/5/27
- 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) = 17.5 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 88.4 V/m; Power Drift = 0.011 dB
Peak SAR (extrapolated) = 30.1 W/kg

SAR(1 g) = 13.7 mW/g; SAR(10 g) = 6.2 mW/g
Maximum value of SAR (measured) = 15.5 mW/g



DUT: Dipole 835 MHz;

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

Medium: Head 900 MHz Medium parameters used: $f = 835$ MHz; $\sigma = 0.889$ mho/m; $\epsilon_r = 42.4$;
 $\rho = 1000$ kg/m³

Phantom section: Flat Section

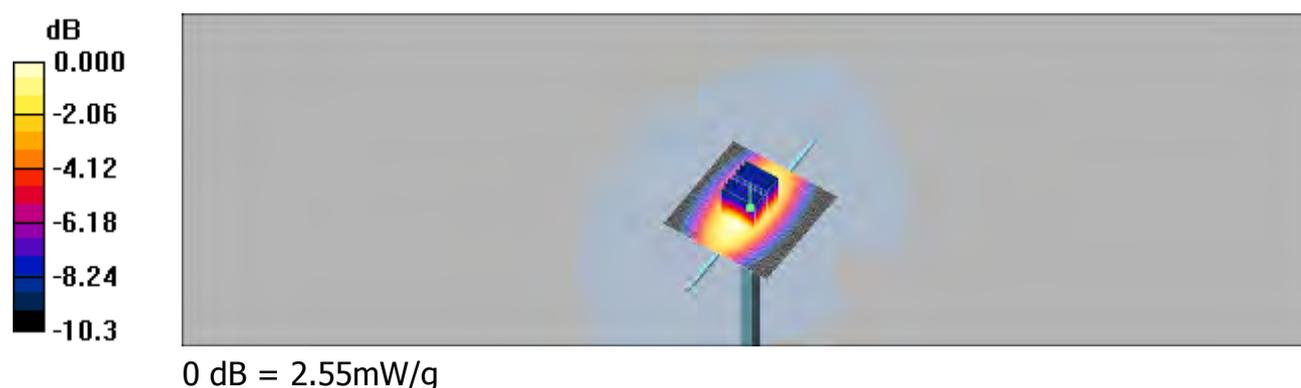
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.83, 5.83, 5.83); Calibrated: 2009/5/27
- 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) = 2.55 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm,
dy=5mm, dz=5mm
Reference Value = 53.5 V/m; Power Drift = -0.004 dB
Peak SAR (extrapolated) = 3.54 W/kg

SAR(1 g) = 2.37 mW/g; SAR(10 g) = 1.55 mW/g
Maximum value of SAR (measured) = 2.55 mW/g



DUT: Dipole 1900 MHz;

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: Head 1900MHz Medium parameters used: $f = 1900$ MHz; $\sigma = 1.44$ mho/m; $\epsilon_r = 39.7$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

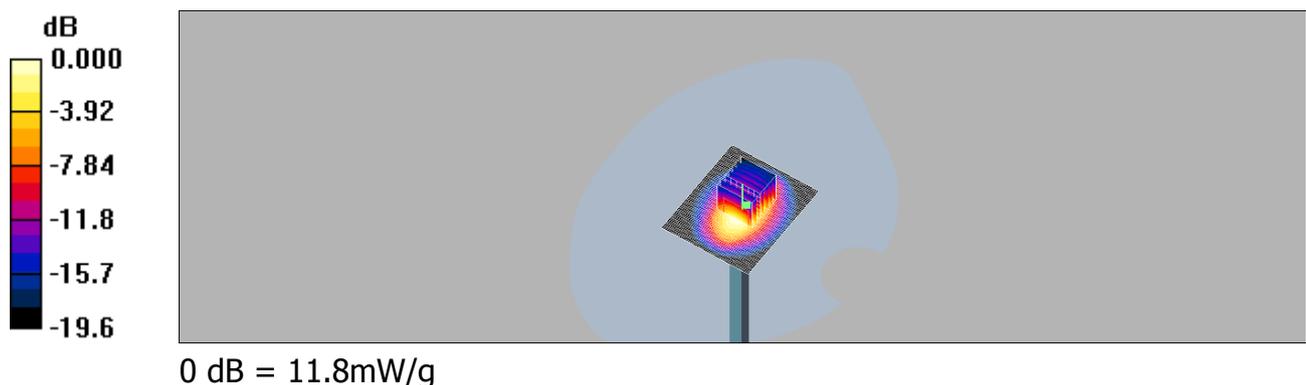
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.86, 4.86,4.86); Calibrated: 2009/5/27
- 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) = 13.3 mW/g

Pin=250mw/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 89.4 V/m; Power Drift = -0.076 dB
Peak SAR (extrapolated) = 20.0 W/kg

SAR(1 g) = 10.4 mW/g; SAR(10 g) = 5.34 mW/g
Maximum value of SAR (measured) = 11.8 mW/g



DUT: Dipole 2450 MHz;

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: M 2450 Medium parameters used: $f = 2450$ MHz; $\sigma = 2.01$ mho/m; $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

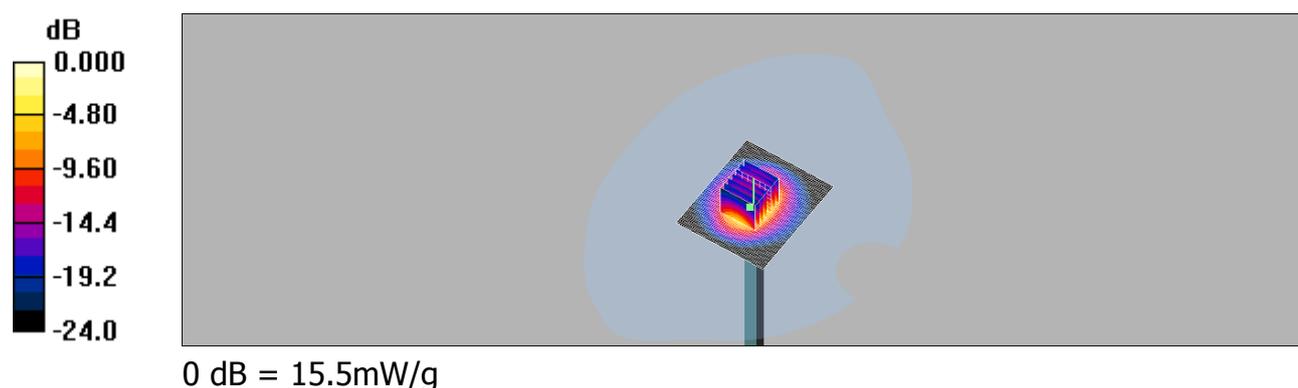
DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.02, 4.02,4.02); Calibrated: 2009/5/27
- 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) = 17.6 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 88.5 V/m; Power Drift = 0.011 dB
Peak SAR (extrapolated) = 30.1 W/kg

SAR(1 g) = 13.6 mW/g; SAR(10 g) = 6.2 mW/g
Maximum value of SAR (measured) = 15.5 mW/g



DUT: Dipole 2450 MHz;

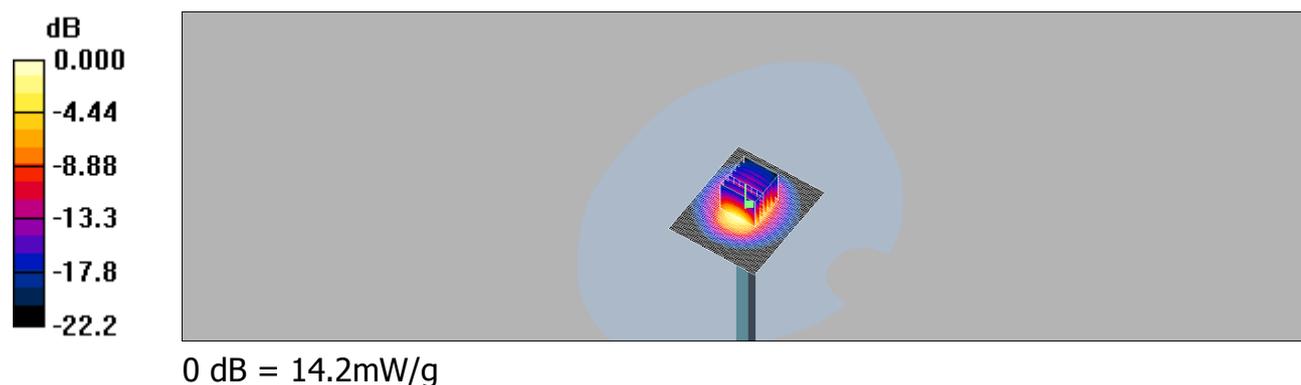
Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: M 2450 Medium parameters used: $f = 2450$ MHz; $\sigma = 1.96$ mho/m; $\epsilon_r = 52.3$; $\rho = 1000$ kg/m³
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.02, 4.02, 4.02); Calibrated: 2009/5/27
- 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) = 17.2 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 84.1 V/m; Power Drift = -0.047 dB
Peak SAR (extrapolated) = 25.2 W/kg
SAR(1 g) = 12.8 mW/g; SAR(10 g) = 5.93 mW/g
Maximum value of SAR (measured) = 14.2 mW/g



6. DAE & Probe Calibration certificate

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



S Schweizerischer Kalibrierdienst
S 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: **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

Calibrated by:

Name	Function	Signature
Daniel Hess	Technician	<i>D. Hess</i>

Approved by:

Name	Function	Signature
Fin Bornholt	R&D Director	<i>F. Bornholt</i>

Issued: January 20, 2009

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

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



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

Accredited by the Swiss 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: **ES3-3172_May09**

CALIBRATION CERTIFICATE

Object: **ES3DV3 - SN:3172**

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

Calibration date: **May 27, 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
Power meter E4419B	GB41293874	1-Apr-09 (No. 217-01030)	Apr-10
Power sensor E4412A	MY41495277	1-Apr-09 (No. 217-01030)	Apr-10
Power sensor E4412A	MY41498087	1-Apr-09 (No. 217-01030)	Apr-10
Reference 3 dB Attenuator	SN: S5054 (3c)	31-Mar-09 (No. 217-01026)	Mar-10
Reference 20 dB Attenuator	SN: S5086 (20b)	31-Mar-09 (No. 217-01028)	Mar-10
Reference 30 dB Attenuator	SN: S5129 (30b)	31-Mar-09 (No. 217-01027)	Mar-10
Reference Probe ES3DV2	SN: 3013	2-Jan-09 (No. ES3-3013_Jan09)	Jan-10
DAE4	SN: 660	9-Sep-08 (No. DAE4-660_Sep08)	Sep-09

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-08)	In house check: Oct-09

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

Issued: May 27, 2009

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

Accreditation No.: **SCS 108**

Glossary:

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

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005

Methods Applied and Interpretation of Parameters:

- NORM_{x,y,z}**: Assessed for E-field polarization $\vartheta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). NORM_{x,y,z} are only intermediate values, i.e., the uncertainties of NORM_{x,y,z} does not effect the E²-field uncertainty inside TSL (see below ConvF).
- NORM(f)_{x,y,z}** = NORM_{x,y,z} * frequency_response (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- DCP_{x,y,z}**: DCP are numerical linearization parameters assessed based on the data of power sweep (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 NORM_{x,y,z} * ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- Spherical isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

ES3DV3 SN:3172

May 27, 2009

Probe ES3DV3

SN:3172

Manufactured:	January 23, 2008
Last calibrated:	June 23, 2008
Recalibrated:	May 27, 2009

Calibrated for DASY Systems

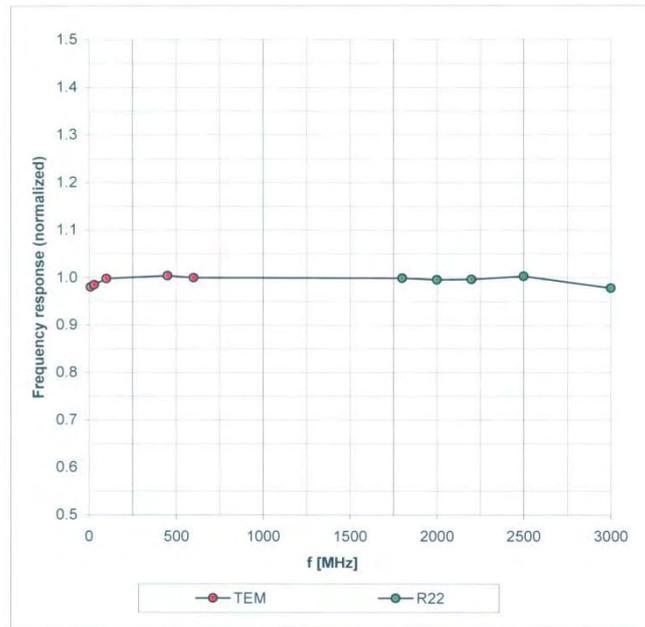
(Note: non-compatible with DASY2 system!)

ES3DV3 SN:3172

May 27, 2009

Frequency Response of E-Field

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

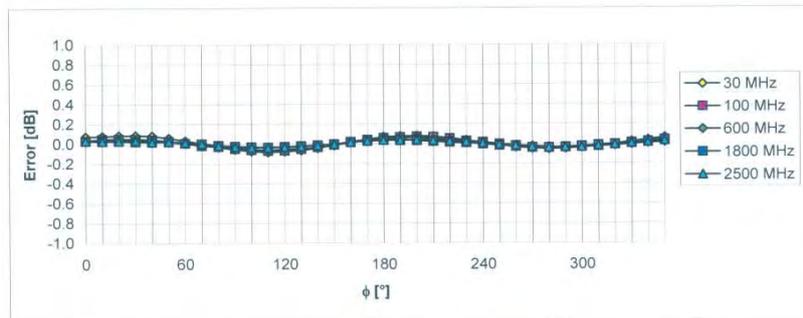
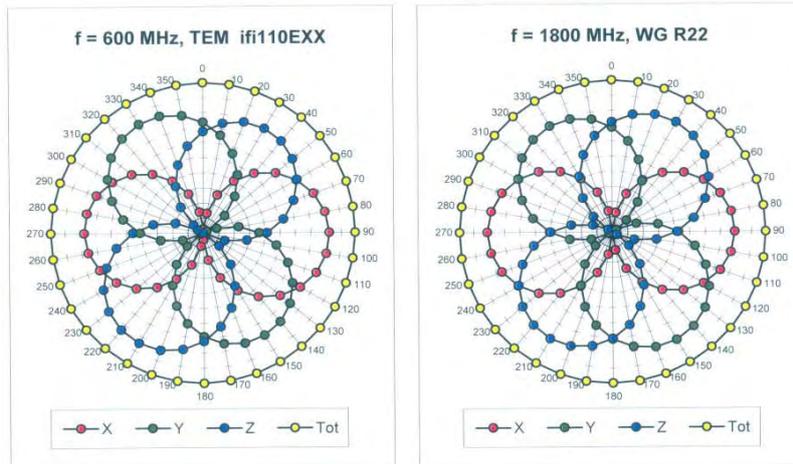


Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ ($k=2$)

ES3DV3 SN:3172

May 27, 2009

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

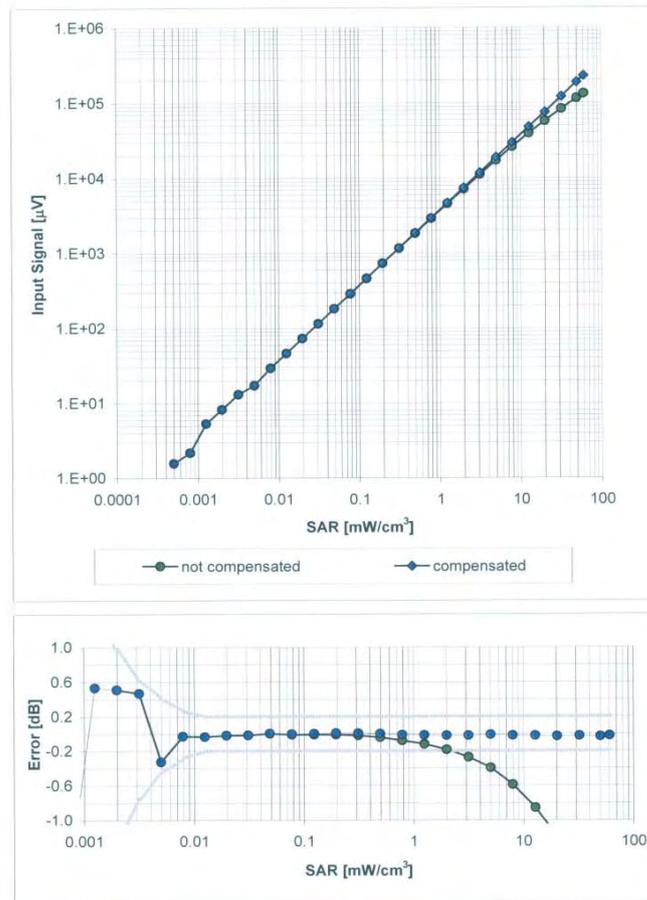


Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ ($k=2$)

ES3DV3 SN:3172

May 27, 2009

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

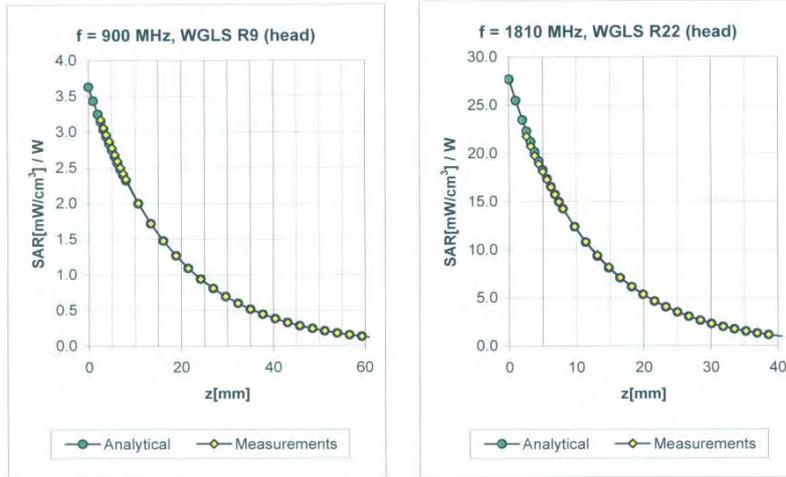


Uncertainty of Linearity Assessment: $\pm 0.6\%$ ($k=2$)

ES3DV3 SN:3172

May 27, 2009

Conversion Factor Assessment



f [MHz]	Validity [MHz] ^c	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
835	± 50 / ± 100	Head	41.5 ± 5%	0.90 ± 5%	0.86	1.08	5.83 ± 11.0% (k=2)
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.87	1.08	5.65 ± 11.0% (k=2)
1750	± 50 / ± 100	Head	40.1 ± 5%	1.37 ± 5%	0.35	1.81	4.99 ± 11.0% (k=2)
1810	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.38	1.73	4.86 ± 11.0% (k=2)
1950	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.48	1.51	4.71 ± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.41	1.78	4.33 ± 11.0% (k=2)
835	± 50 / ± 100	Body	55.2 ± 5%	0.97 ± 5%	0.78	1.15	5.81 ± 11.0% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	0.78	1.15	5.67 ± 11.0% (k=2)
1750	± 50 / ± 100	Body	53.4 ± 5%	1.49 ± 5%	0.45	1.75	4.69 ± 11.0% (k=2)
1810	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.33	2.23	4.54 ± 11.0% (k=2)
1950	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.27	2.99	4.53 ± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.40	1.40	4.02 ± 11.0% (k=2)

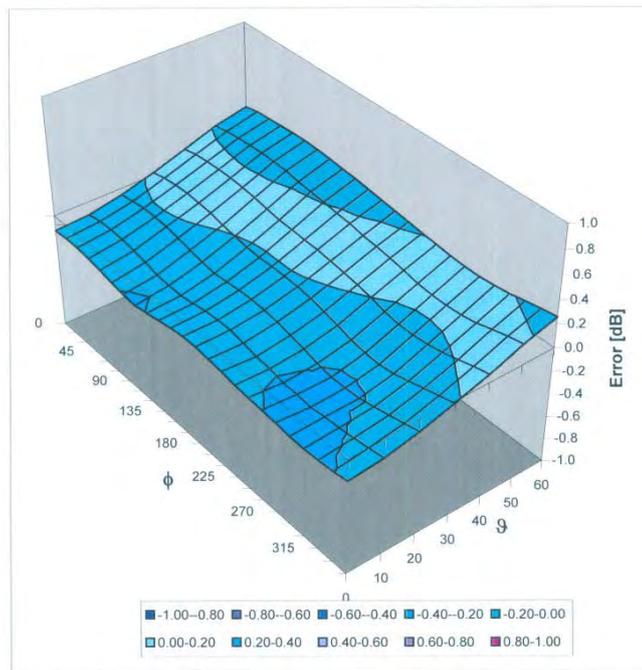
^c The validity of ± 100 MHz only applies for DASYS v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

ES3DV3 SN:3172

May 27, 2009

Deviation from Isotropy in HSL

Error (ϕ , ϑ), $f = 900$ MHz



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

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Accreditation No.: **SCS 108**

Client **SGS (Auden)**

Certificate No: **EX3-3526_Aug09**

CALIBRATION CERTIFICATE

Object: **EX3DV3 - SN:3526**

Calibration procedure(s): **QA CAL-01.v6, QA CAL-14.v3, QA CAL-23.v3 and QA CAL-25.v2
 Calibration procedure for dosimetric E-field probes**

Calibration date: **August 26, 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
Power meter E4419B	GB41293874	1-Apr-09 (No. 217-01030)	Apr-10
Power sensor E4412A	MY41495277	1-Apr-09 (No. 217-01030)	Apr-10
Power sensor E4412A	MY41498087	1-Apr-09 (No. 217-01030)	Apr-10
Reference 3 dB Attenuator	SN: S5054 (3c)	31-Mar-09 (No. 217-01026)	Mar-10
Reference 20 dB Attenuator	SN: S5086 (20b)	31-Mar-09 (No. 217-01028)	Mar-10
Reference 30 dB Attenuator	SN: S5129 (30b)	31-Mar-09 (No. 217-01027)	Mar-10
Reference Probe ES3DV2	SN: 3013	2-Jan-09 (No. ES3-3013_Jan09)	Jan-10
DAE4	SN: 660	9-Sep-08 (No. DAE4-660_Sep08)	Sep-09
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-08)	In house check: Oct-09

Calibrated by: **Name: Katja Pokovic, Function: Technical Manager, Signature: [Signature]**

Approved by: **Name: Niels Kuster, Function: Quality Manager, Signature: [Signature]**

Issued: August 26, 2009

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Accreditation No.: SCS 108

Glossary:

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

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005

Methods Applied and Interpretation of Parameters:

- NORM_{x,y,z}**: Assessed for E-field polarization $\vartheta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). NORM_{x,y,z} are only intermediate values, i.e., the uncertainties of NORM_{x,y,z} does not effect the E^2 -field uncertainty inside TSL (see below ConvF).
- NORM(f)_{x,y,z}** = NORM_{x,y,z} * frequency_response (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- DCP_{x,y,z}**: DCP are numerical linearization parameters assessed based on the data of power sweep (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 NORM_{x,y,z} * ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- Spherical isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

EX3DV3 SN:3526

August 26, 2009

Probe EX3DV3

SN:3526

Manufactured:	March 19, 2004
Last calibrated:	August 26, 2008
Recalibrated:	August 26, 2009

Calibrated for DASY Systems

(Note: non-compatible with DASY2 system!)

EX3DV3 SN:3526

August 26, 2009

DASY - Parameters of Probe: EX3DV3 SN:3526

Sensitivity in Free Space ^A			Diode Compression ^B	
NormX	0.99 ± 10.1%	μV/(V/m) ²	DCP X	94 mV
NormY	0.82 ± 10.1%	μV/(V/m) ²	DCP Y	97 mV
NormZ	0.91 ± 10.1%	μV/(V/m) ²	DCP Z	95 mV

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

Please see Page 8.

Boundary Effect

TSL	900 MHz	Typical SAR gradient: 5 % per mm	
	Sensor Center to Phantom Surface Distance	2.0 mm	3.0 mm
	SAR _{be} [%] Without Correction Algorithm	9.2	6.0
	SAR _{be} [%] With Correction Algorithm	0.9	0.4
TSL	1750 MHz	Typical SAR gradient: 10 % per mm	
	Sensor Center to Phantom Surface Distance	2.0 mm	3.0 mm
	SAR _{be} [%] Without Correction Algorithm	3.6	1.3
	SAR _{be} [%] With Correction Algorithm	0.8	0.3

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%.

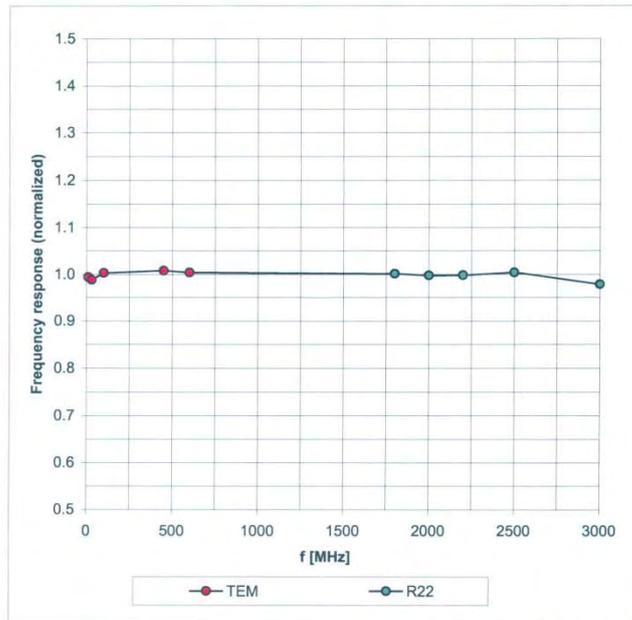
^A The uncertainties of NormX,Y,Z do not affect the E²-field uncertainty inside TSL (see Page 8).
^B Numerical linearization parameter: uncertainty not required.

EX3DV3 SN:3526

August 26, 2009

Frequency Response of E-Field

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

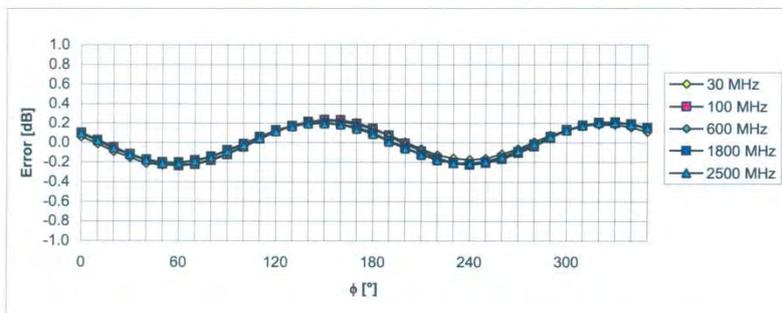
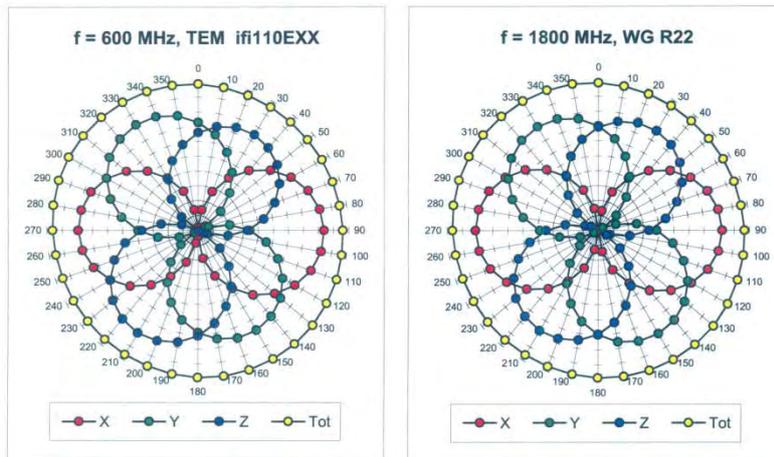


Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ (k=2)

EX3DV3 SN:3526

August 26, 2009

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

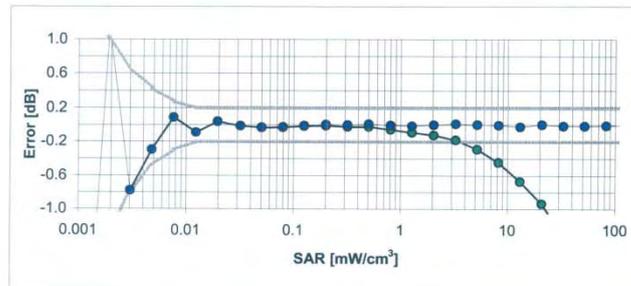
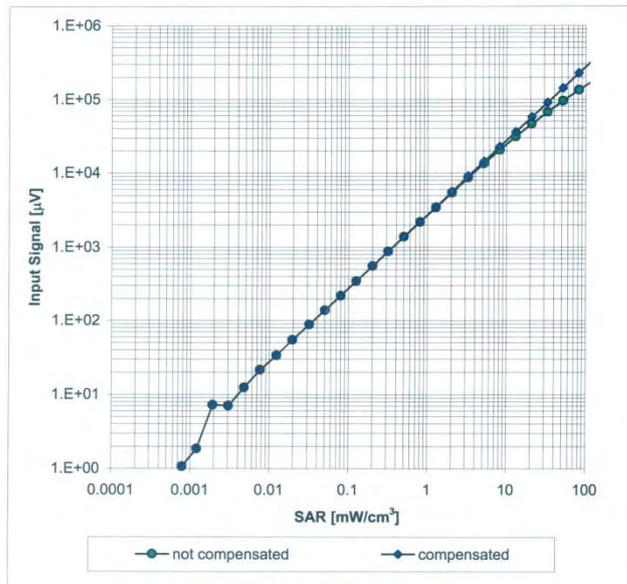


Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ (k=2)

EX3DV3 SN:3526

August 26, 2009

Dynamic Range f(SAR_{head}) (Waveguide R22, f = 1800 MHz)



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

EX3DV3 SN:3526

August 26, 2009

Conversion Factor Assessment

f [MHz]	Validity [MHz] ^c	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
835	± 50 / ± 100	Head	41.5 ± 5%	0.90 ± 5%	0.48	0.74	11.06 ± 11.0% (k=2)
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.46	0.74	10.70 ± 11.0% (k=2)
1750	± 50 / ± 100	Head	40.1 ± 5%	1.37 ± 5%	0.33	0.75	9.75 ± 11.0% (k=2)
1900	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.43	0.68	9.38 ± 11.0% (k=2)
2000	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.42	0.67	9.19 ± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.22	1.01	8.43 ± 11.0% (k=2)
5200	± 50 / ± 100	Head	36.0 ± 5%	4.66 ± 5%	0.40	1.80	5.35 ± 13.1% (k=2)
5300	± 50 / ± 100	Head	35.9 ± 5%	4.76 ± 5%	0.40	1.80	5.06 ± 13.1% (k=2)
5600	± 50 / ± 100	Head	35.5 ± 5%	5.07 ± 5%	0.40	1.80	4.86 ± 13.1% (k=2)
5800	± 50 / ± 100	Head	35.3 ± 5%	5.27 ± 5%	0.50	1.80	4.61 ± 13.1% (k=2)
835	± 50 / ± 100	Body	55.2 ± 5%	0.97 ± 5%	0.47	0.74	10.88 ± 11.0% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	0.51	0.74	10.59 ± 11.0% (k=2)
1750	± 50 / ± 100	Body	53.4 ± 5%	1.49 ± 5%	0.43	0.76	9.29 ± 11.0% (k=2)
1900	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.37	0.78	8.89 ± 11.0% (k=2)
2000	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.30	1.01	9.07 ± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.24	0.94	8.52 ± 11.0% (k=2)
2600	± 50 / ± 100	Body	52.5 ± 5%	2.16 ± 5%	0.51	0.62	8.42 ± 11.0% (k=2)
3500	± 50 / ± 100	Body	51.3 ± 5%	3.31 ± 5%	0.34	1.25	7.36 ± 13.1% (k=2)
5200	± 50 / ± 100	Body	49.0 ± 5%	5.30 ± 5%	0.55	1.90	4.29 ± 13.1% (k=2)
5300	± 50 / ± 100	Body	48.5 ± 5%	5.42 ± 5%	0.55	1.90	3.98 ± 13.1% (k=2)
5600	± 50 / ± 100	Body	48.5 ± 5%	5.77 ± 5%	0.60	1.90	3.69 ± 13.1% (k=2)
5800	± 50 / ± 100	Body	48.2 ± 5%	6.00 ± 5%	0.60	1.90	4.05 ± 13.1% (k=2)

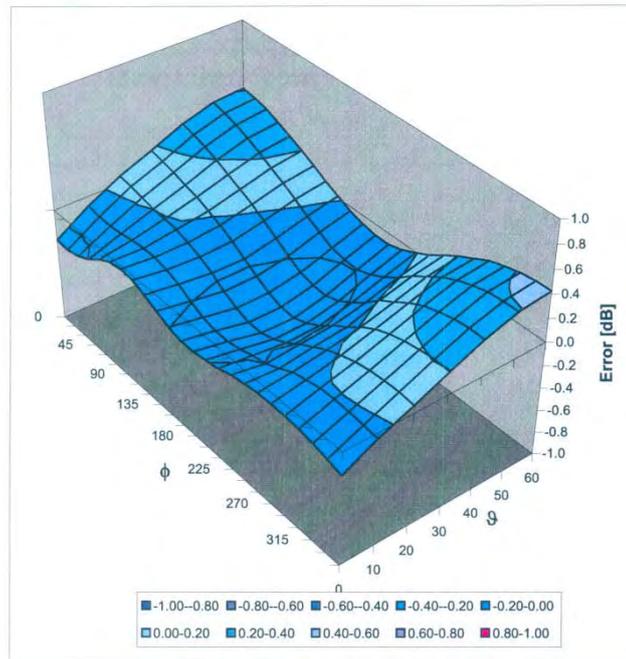
^c The validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2). The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.

EX3DV3 SN:3526

August 26, 2009

Deviation from Isotropy in HSL

Error (ϕ, ϑ), $f = 900$ MHz



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

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

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 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 Zurich 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

Signature / Stamp

s p e a g

Schmid & Partner Engineering AG
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 Phone +41 1 245 9700, Fax +41 1 245 9779
 info@speag.com, http://www.speag.com

9. System Validation from Original equipment supplier

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: **D835V2-4d063_May09**

CALIBRATION CERTIFICATE

Object **D835V2 - SN: 4d063**

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

Calibration date: **May 25, 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
Power meter EPM-442A	GB37480704	08-Oct-08 (No. 217-00898)	Oct-09
Power sensor HP 8481A	US37292783	08-Oct-08 (No. 217-00898)	Oct-09
Reference 20 dB Attenuator	SN: 5086 (20g)	31-Mar-09 (No. 217-01025)	Mar-10
Type-N mismatch combination	SN: 5047.2 / 06327	31-Mar-09 (No. 217-01029)	Mar-10
Reference Probe ES3DV2	SN: 3025	30-Apr-09 (No. ES3-3025_Apr09)	Apr-10
DAE4	SN: 601	07-Mar-09 (No. DAE4-601_Mar09)	Mar-10
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-07)	In house check: Oct-09
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-07)	In house check: Oct-09
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-08)	In house check: Oct-09

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

Issued: May 25, 2009

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

DASY5 Validation Report for Head TSL

Date/Time: 25.05.2009 10:53:04

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; $\sigma = 0.89$ mho/m; $\epsilon_r = 40.7$; $\rho = 1000$ kg/m³
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(5.86, 5.86, 5.86); Calibrated: 30.04.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

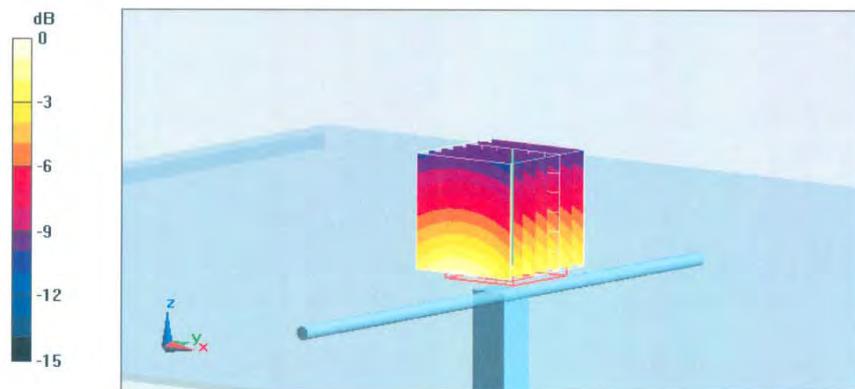
Pin=250mW; dip=15mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 57 V/m; Power Drift = 0.028 dB

Peak SAR (extrapolated) = 3.54 W/kg

SAR(1 g) = 2.38 mW/g; SAR(10 g) = 1.56 mW/g

Maximum value of SAR (measured) = 2.77 mW/g



0 dB = 2.77mW/g

DASY5 Validation Report for Body TSL

Date/Time: 25.05.2009 14:01:33

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; $\sigma = 1.01$ mho/m; $\epsilon_r = 53.8$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(5.79, 5.79, 5.79); Calibrated: 30.04.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

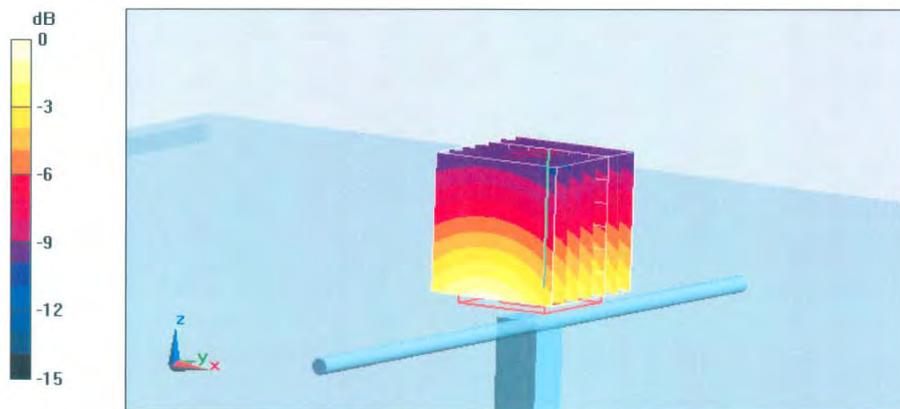
Pin = 250mW, d = 15mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 55.6 V/m; Power Drift = 0.024 dB

Peak SAR (extrapolated) = 3.74 W/kg

SAR(1 g) = 2.55 mW/g; SAR(10 g) = 1.68 mW/g

Maximum value of SAR (measured) = 2.94 mW/g



0 dB = 2.94mW/g

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Accreditation No.: **SCS 108**

Client **SGS (Auden)**

Certificate No: **D1900V2-5d027-Apr09**

CALIBRATION CERTIFICATE

Object: **D1900V2 - SN: 5d027**

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

Calibration date: **April 27, 2009**

Condition of the calibrated item: **In Tolerance**

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	08-Oct-08 (No. 217-00898)	Oct-09
Power sensor HP 8481A	US37292783	08-Oct-08 (No. 217-00898)	Oct-09
Reference 20 dB Attenuator	SN: 5086 (20g)	31-Mar-09 (No. 217-01025)	Mar-10
Type-N mismatch combination	SN: 5047.2 / 06327	31-Mar-09 (No. 217-01029)	Mar-10
Reference Probe ES3DV2	SN: 3025	28-Apr-08 (No. ES3-3025_Apr08)	Apr-09
DAE4	SN: 601	07-Mar-09 (No. DAE4-601_Mar09)	Mar-10
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-07)	In house check: Oct-09
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-07)	In house check: Oct-09
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-08)	In house check: Oct-09

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

Issued: April 28, 2009

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DASY5 Validation Report for Head TSL

Date/Time: 27.04.2009 11:54:57

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; $\sigma = 1.47$ mho/m; $\epsilon_r = 38.7$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(4.9, 4.9, 4.9); Calibrated: 28.04.2008
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

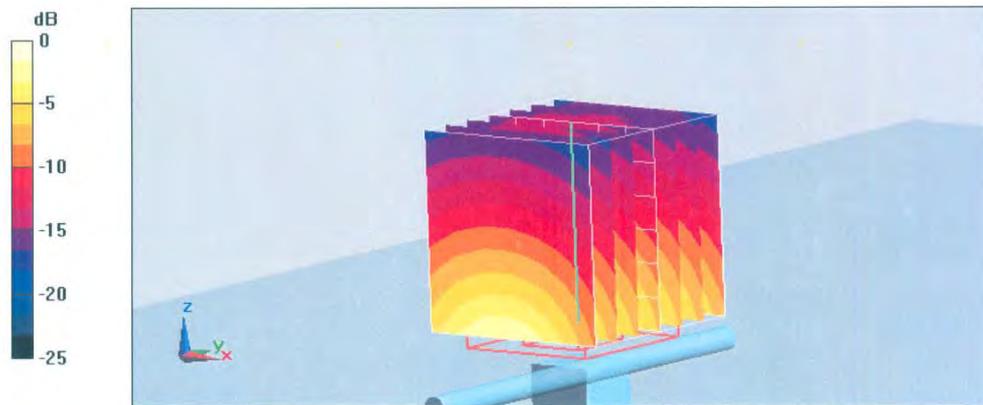
Pin = 250 mW; dip = 10 mm /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 97.1 V/m; Power Drift = 0.044 dB

Peak SAR (extrapolated) = 19.7 W/kg

SAR(1 g) = 10.5 mW/g; SAR(10 g) = 5.38 mW/g

Maximum value of SAR (measured) = 13 mW/g



0 dB = 13mW/g

DASY5 Validation Report for Body TSL

Date/Time: 21.04.2009 14:59:34

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; $\sigma = 1.56$ mho/m; $\epsilon_r = 55$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(4.5, 4.5, 4.5); Calibrated: 28.04.2008
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

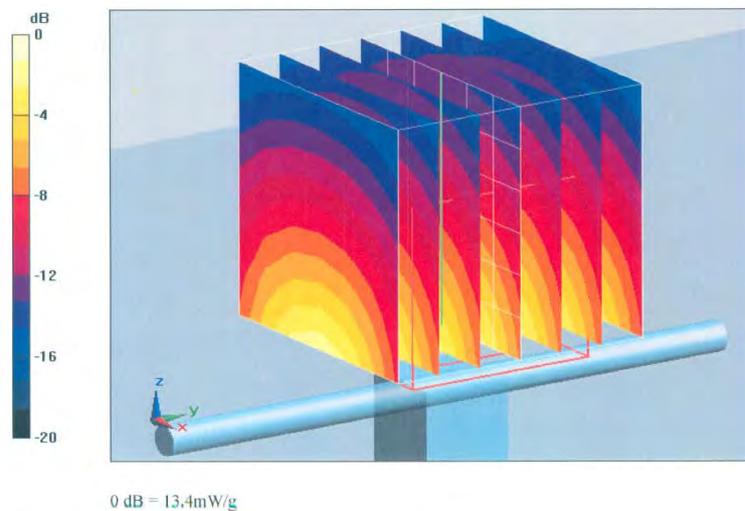
Pin = 250 mW; dip = 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 96 V/m; Power Drift = 0.016 dB

Peak SAR (extrapolated) = 18.5 W/kg

SAR(1 g) = 10.6 mW/g; SAR(10 g) = 5.58 mW/g

Maximum value of SAR (measured) = 13.4 mW/g



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Accreditation No.: **SCS 108**

Client **SGS (Auden)**

Certificate No: **D2450V2-727_Apr09**

CALIBRATION CERTIFICATE

Object **D2450V2 - SN: 727**

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

Calibration date: **April 27, 2009**

Condition of the calibrated item **In Tolerance**

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	08-Oct-08 (No. 217-00898)	Oct-09
Power sensor HP 8481A	US37292783	08-Oct-08 (No. 217-00898)	Oct-09
Reference 20 dB Attenuator	SN: 5086 (20g)	31-Mar-09 (No. 217-01025)	Mar-10
Type-N mismatch combination	SN: 5047.2 / 06327	31-Mar-09 (No. 217-01029)	Mar-10
Reference Probe ES3DV2	SN: 3025	28-Apr-08 (No. ES3-3025_Apr08)	Apr-09
DAE4	SN: 601	07-Mar-09 (No. DAE4-601_Mar09)	Mar-10
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-07)	In house check: Oct-09
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-07)	In house check: Oct-09
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-08)	In house check: Oct-09

Calibrated by: **Jeton Kastrati** (Name) **Laboratory Technician** (Function) *[Signature]* (Signature)

Approved by: **Katja Pokovic** (Name) **Technical Manager** (Function) *[Signature]* (Signature)

Issued: April 28, 2009

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DASY5 Validation Report for Body TSL

Date/Time: 22.04.2009 13:12:14

Test Laboratory: SPEAG, Zurich, Switzerland

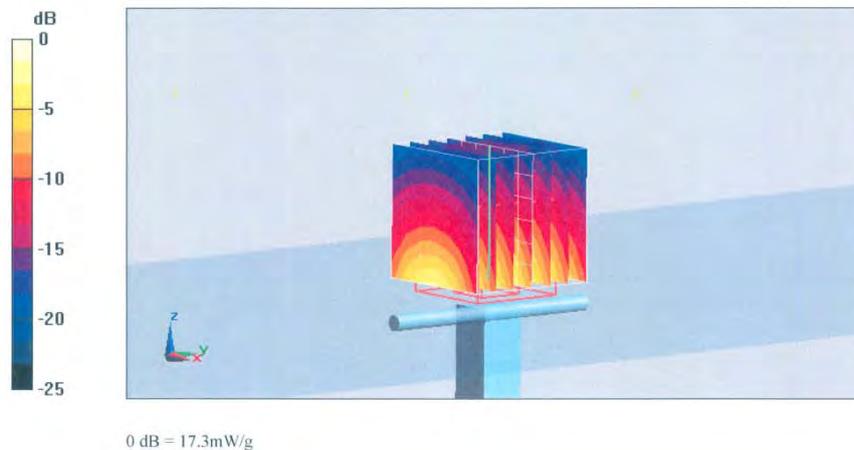
DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:727

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: MSL U10 BB
Medium parameters used: $f = 2450$ MHz; $\sigma = 1.98$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(4.07, 4.07, 4.07); Calibrated: 28.04.2008
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 07.03.2009
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 96.9 V/m; Power Drift = 0.031 dB
Peak SAR (extrapolated) = 26.5 W/kg
SAR(1 g) = 13.2 mW/g; SAR(10 g) = 6.18 mW/g
Maximum value of SAR (measured) = 17.3 mW/g



End of 1st part of report