SAR TEST REPORT

Equipment Under Test	WLAN VoIP Phone
Model Name	SQ-3500
Company Name	UniData Communication Systems, INC. / Korea
Company Address	3F, BuLim-Bldg, 837-6, Bangbae 4-dong, Seocho-gu, Seoul-si, Korea
Date of Receipt	2009.10.07
Date of Test(s)	2009.10.16-2009.10.19
Date of Issue	2009.11.05

Standards:

FCC OET Bulletin 65 supplement C,
ANSI / IEEE C95.1, C95.3, IEEE 1528
RSS102

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.

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Tested by : **Ricky Huang** **Date** : **2009.10.26**
Asst. Supervisor

Approved by : **Robert Chang** **Date** : **2009.11.05**
Tech Manager

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1. General Information

1.1 Testing Laboratory

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Fax	+886-2-2298-0488
Internet	http://www.tw.sgs.com/

1.2 Details of Applicant

Company Name	UniData Communication Systems, INC. / Korea
Company Address	3F, BuLim-Bldg, 837-6, Bangbae 4-dong, Seocho-gu, Seoul-si, Korea
Contact Person	Park, Byeong-Gil
TEL	+82-2-3443-3390
Fax	+82-2-3443-7102
E-mail	bkpark@udcsystems.com

1.3 Description of EUT

EUT Name	WLAN VoIP Phone
Model Name	SQ-3500
FCC ID	SQMSQ-3500
IC ID	6303A-SQ-3500
Mode of Operation	WLAN802.11 a/b/g
Definition	Production unit
Duty Cycle	WLAN802.11 a/b/g
	1

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<table>
<tr><td rowspan="2">Maximum RF Conducted Power (Peak)</td><td>WLAN802.11 b</td><td>WLAN802.11 g</td><td>WLAN802.11 a</td></tr>
<tr><td>16.76dbm</td><td>17.26dbm</td><td>16.51dbm</td></tr>
<tr><td rowspan="2">TX Frequency Range (MHz)</td><td>WLAN802.11 b</td><td>WLAN802.11 g</td><td>WLAN802.11 a</td></tr>
<tr><td colspan="2">2412-2462</td><td>5150-5250
5725-5850</td></tr>
<tr><td rowspan="2">Channel Number (ARFCN)</td><td>WLAN802.11 b</td><td>WLAN802.11 g</td><td>WLAN802.11 a</td></tr>
<tr><td colspan="2">1-11</td><td>36-165</td></tr>
<tr><td>Battery Type</td><td colspan="3">3.7 V Lithium-Ion</td></tr>
<tr><td>Antenna Type</td><td colspan="3">Internal Antenna</td></tr>
<tr><td rowspan="6">Max. SAR Measured (1 g)</td><td colspan="3">WLAN802.11 a</td></tr>
<tr><td colspan="2">Head</td><td>Body</td></tr>
<tr><td colspan="2">0.127mW/g
(Left Head (Tilt Position)_ 165 Channel)</td><td>0.380 mW/g
(Body_ 40 Channel)</td></tr>
<tr><td colspan="3">WLAN802.11 b</td></tr>
<tr><td colspan="2">Head</td><td>Body</td></tr>
<tr><td colspan="2">0.215mW/g
(Right Head (Tilt Position)_ 11 Channel)</td><td>0.074 mW/g
(Body_ 11 Channel)</td></tr>
<tr><td colspan="3">WLAN802.11 g</td></tr>
<tr><td colspan="2">Head</td><td>Body</td></tr>
<tr><td colspan="2">0.181mW/g
Right Head (Cheek Position)_ 1 Channel)</td><td>0.058 mW/g
(Body_ 11 Channel)</td></tr>
</table>

1.4 Test Environment

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

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1.5 Operation description

General:

1. Use chipset specific software to control the EUT , and makes it transmit in maximum power. Measurements are performed respectively on the lowest, middle and highest channels of the operating band(s).
2. The EUT is set to maximum power level during all tests, and at the beginning of each test the battery is fully charged.
3. 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.
4. Testing Head SAR at lowest, middle and highest channel for all bands with LET/LEC/RET/REC conditions.
5. Testing body-worn SAR by separating **1.5cm** between the back of the EUT and the flat phantom in GPRS mode.

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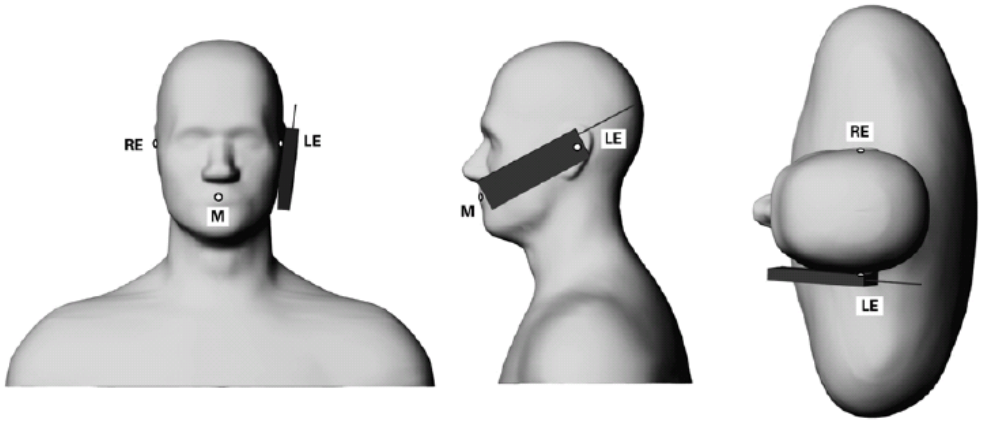
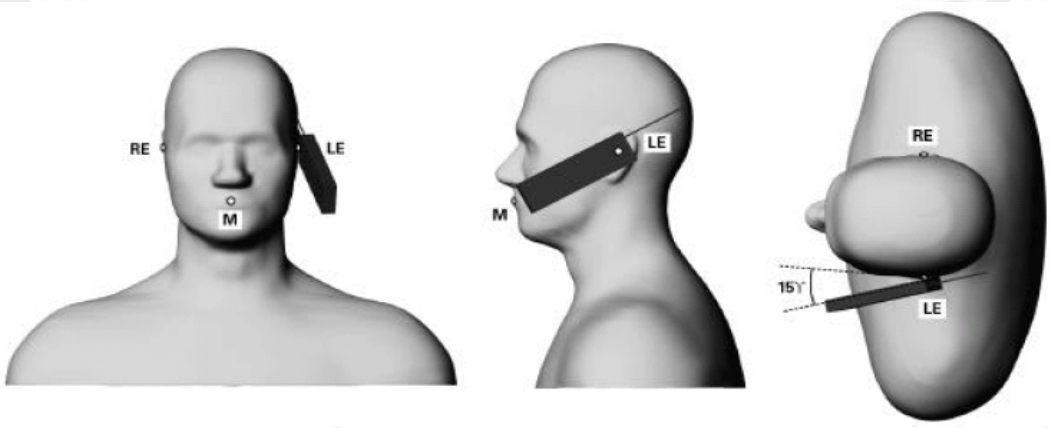
1.6 Positioning Procedure



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.

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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

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scanning measurement, the probe is automatically moved to a position at the interpolated maximum. The following scan can directly use this position for reference, e.g., for a finer resolution grid or the cube evaluations. The 1g and 10g peak evaluations are only available for the predefined cube 7x7x7 scans.

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

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

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1.8 The SAR Measurement System

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

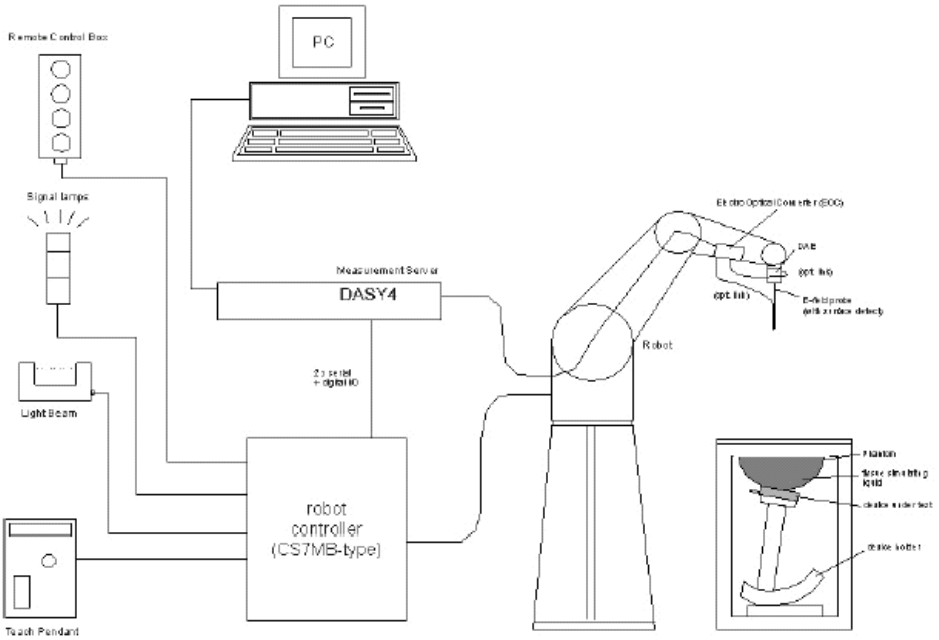

Fig.a The block diagram of SAR system

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

- A standard high precision 6-axis robot (Staubli RX family) with controller, teach pendant and software. An arm extension is for accommodating the data acquisition electronics (DAE).
- A dosimetric probe, i.e., an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion between optical and

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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.

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1.9 System Components

EX3DV3 E-Field Probe

Construction:	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration:	Basic Broad Band Calibration in air Conversion Factors (CF) for HSL2450/5200/5800 Additional CF for other liquids and frequencies upon request
	 E-Field Probe
/EXFrequency:	10 MHz to > 6 GHz; Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity:	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)
Dynamic Range:	10 µW/g to > 100 mW/g; Linearity: ± 0.2 dB (noise: typically < 1 µW/g)
Dimensions:	Overall length: 330 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm
Application:	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%.

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

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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 2450/5200/5800 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.

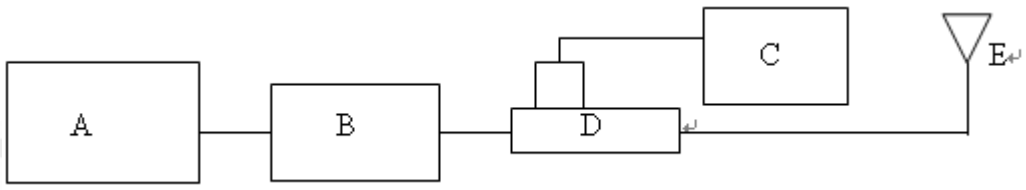
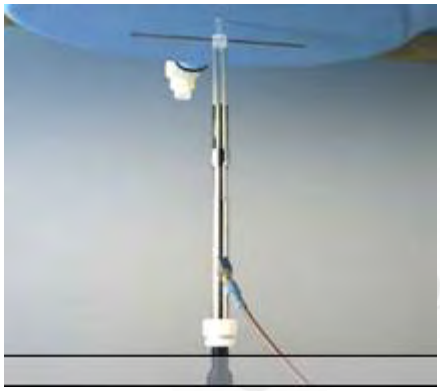


Fig.b The block diagram of system verification

A. Agilent Model 8648D Signal Generator
B. Mini circuits Model ZHL-42 Amplifier
C. Agilent Model U2001B Power Sensor
D. Agilent Model 777D Dual directional coupling
E. Reference dipole antenna



Photograph of the dipole Antenna

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Validation Kit	Frequency (MHz)	Target SAR (1g) (Pin=250mW)	Measured SAR (1g)	Measured Date
D2450V2 S/N: 727	2450 MHz (Head)	13.5 mW/g	13.8 mW/g	2009-10-19
D2450V2 S/N: 727	2450 MHz (Body)	13.2 mW/g	13.5 mW/g	2009-10-19
D5000V2 S/N: 1023	5200 MHz (Head)	7.7 mW/g	7.78 mW/g	2009-10-16
D5000V2 S/N: 1023	5200 MHz (Body)	7.4 mW/g	7.47 mW/g	2009-10-16
D5000V2 S/N: 1023	5800 MHz (Head)	7.81 mW/g	7.77 mW/g	2009-10-16
D5000V2 S/N: 1023	5800 MHz (Body)	7.09 mW/g	7.16 mW/g	2009-10-16

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 conjuncation with HP 8753D Network Analyzer (30 KHz-6000MHz) by using a procedure detailed in Section V.

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

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Frequency (MHz)	Tissue type	Measurement date/ Limits	Dielectric Parameters		
			ρ	σ (S/m)	Simulated Tissue Temperature(° C)
2450	Head	Measured, 2009-10-19	37.5	1.89	21.7
		Recommended Limits	36.10-39.90	1.73-1.91	20-24
2450	Body	Measured, 2009-10-19	51.9	2.01	21.7
		Recommended Limits	51.68-57.12	1.88-2.08	20-24
5200	Head	Measured, 2009-10-16	36.8	4.53	21.7
		Recommended Limits	33.63-37.17	4.3-4.76	20-24
5200	Body	Measured, 2009-10-16	48.2	5.46	21.7
		Recommended Limits	45.32-50.09	5.04-5.57	20-24
5800	Head	Measured, 2009-10-16	34.3	5.12	21.7
		Recommended Limits	32.59-36.02	4.83-5.33	20-24
5800	Body	Measured, 2009-10-16	47	6.3	21.7
		Recommended Limits	43.99-48.62	5.75-6.35	20-24

Table 2. Dielectric Parameters of Tissue Simulant Fluid

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

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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

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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.

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2. Summary of Results

WLAN802.11 a

Right Head (Cheek Position)						
Frequency	Channel	MHz	Conducted Output Power (Peak)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WLAN 802.11 a	36	5180	15.25dbm	0.047	22.1	21.7
	40	5200	15.63dbm	0.059	22.1	21.7
	149	5745	16.51dbm	0.060	22.1	21.7
	165	5825	15.85dbm	0.083	22.1	21.7
Left Head (Cheek Position)						
Fr equency	Channel	MHz	Conducted Output Power (Peak)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WLAN 802.11 a	36	5180	15.25dbm	0.053	22.1	21.7
	40	5200	15.63dbm	0.056	22.1	21.7
	149	5745	16.51dbm	0.079	22.1	21.7
	165	5825	15.85dbm	0.109	22.1	21.7
Right Head (15° Tilt Position)						
Frequency	Channel	MHz	Conducted Output Power(Peak)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WLAN 802.11 a	36	5180	15.25dbm	0.076	22.1	21.7
	40	5200	15.63dbm	0.062	22.1	21.7
	149	5745	16.51dbm	0.076	22.1	21.7
	165	5825	15.85dbm	0.1	22.1	21.7
Left Head (15° Tilt Position)						
Frequency	Channel	MHz	Conducted Output Power (Peak)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WLAN 802.11 a	36	5180	15.25dbm	0.062	22.1	21.7
	40	5200	15.63dbm	0.068	22.1	21.7
	149	5745	16.51dbm	0.087	22.1	21.7
	165	5825	15.85dbm	0.127	22.1	21.7

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Body worn						
Frequency	Channel	MHz	Conducted Output Power (Peak)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WLAN 802.11 a	36	5180	15.25dbm	0.358	22.1	21.7
	40	5200	15.63dbm	0.380	22.1	21.7
	149	5745	16.51dbm	0.217	22.1	21.7
	165	5825	15.85dbm	0.376	22.1	21.7
Body worn_repeated for EUT front to phantom						
Frequency	Channel	MHz	Conducted Output Power (Peak)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WLAN 802.11 a	40	5200	15.63dbm	0.038	22.1	21.7
Body worn_repeated with Memory card(micro SD)						
Frequency	Channel	MHz	Conducted Output Power (Peak)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WLAN 802.11 a	40	5200	15.63dbm	0.318	22.1	21.7

WLAN802.11 b

Right Head (Cheek Position)						
Frequency	Channel	MHz	Conducted Output Power (Peak)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WLAN 802.11 b	1	2412	16.69dbm	0.184	22.1	21.7
	6	2437	16.76dbm	0.196	22.1	21.7
	11	2462	16.30dbm	0.214	22.1	21.7
Left Head (Cheek Position)						
Frequency	Channel	MHz	Conducted Output Power (Peak)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WLAN 802.11 b	1	2412	16.69dbm	0.145	22.1	21.7
	6	2437	16.76dbm	0.150	22.1	21.7
	11	2462	16.30dbm	0.172	22.1	21.7

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Right Head (15° Tilt Position)						
Frequency	Channel	MHz	Conducted Output Power (Peak)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WLAN 802.11 b	1	2412	16.69dbm	0.180	22.1	21.7
	6	2437	16.76dbm	0.189	22.1	21.7
	11	2462	16.30dbm	0.215	22.1	21.7
Left Head (15° Tilt Position)						
Frequency	Channel	MHz	Conducted Output Power (Peak)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WLAN 802.11 b	1	2412	16.69dbm	0.149	22.1	21.7
	6	2437	16.76dbm	0.150	22.1	21.7
	11	2462	16.30dbm	0.181	22.1	21.7
Right Head (15° Tilt Position)_repeated with Memory card(micro SD)						
Frequency	Channel	MHz	Conducted Output Power (Peak)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WLAN 802.11 b	11	2462	16.30dbm	0.208	22.1	21.7
Body worn						
Frequency	Channel	MHz	Conducted Output Power (Peak)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WLAN 802.11 b	1	2412	16.69dbm	0.068	22.1	21.7
	6	2437	16.76dbm	0.065	22.1	21.7
	11	2462	16.30dbm	0.074	22.1	21.7

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WLAN802.11 g

Right Head (Cheek Position)						
Frequency	Channel	MHz	Conducted Output Power (Peak)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WLAN 802.11 g	1	2412	17.26dbm	0.181	22.1	21.7
	6	2437	16.29dbm	0.165	22.1	21.7
	11	2462	16.42dbm	0.163	22.1	21.7
Left Head (Cheek Position)						
Frequency	Channel	MHz	Conducted Output Power (Peak)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WLAN 802.11 g	1	2412	17.26dbm	0.137	22.1	21.7
	6	2437	16.29dbm	0.117	22.1	21.7
	11	2462	16.42dbm	0.126	22.1	21.7
Right Head (15° Tilt Position)						
Frequency	Channel	MHz	Conducted Output Power (Peak)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WLAN 802.11 g	1	2412	17.26dbm	0.162	22.1	21.7
	6	2437	16.29dbm	0.151	22.1	21.7
	11	2462	16.42dbm	0.153	22.1	21.7
Left Head (15° Tilt Position)						
Frequency	Channel	MHz	Conducted Output Power (Peak)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WLAN 802.11 g	1	2412	17.26dbm	0.141	22.1	21.7
	6	2437	16.29dbm	0.134	22.1	21.7
	11	2462	16.42dbm	0.138	22.1	21.7
Body worn						
Frequency	Channel	MHz	Conducted Output Power (Peak)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WLAN 802.11 g	1	2412	17.26dbm	0.057	22.1	21.7
	6	2437	16.29dbm	0.057	22.1	21.7
	11	2462	16.42dbm	0.058	22.1	21.7

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3. Instruments List

Manufacturer	Device	Type	Serial number	Date of last calibration
Schmid & Partner Engineering AG	Dosimetric E-FieldProbe	EX3DV3	3526	Aug.26.2009
Schmid & Partner Engineering AG	2450/5GMHz System Validation Dipole	D2450V2 D5GHzV2	727 1023	Apr.27.2009 Mar.13.2009
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
HP	Network Analyzer	8753D	3410A05547	Mar.31.2009
Agilent	Dielectric Probe Kit	85070D	US01440168	Calibration not required
Agilent	Dual-directional coupler	777D	50014	Aug.27.2009
Agilent	RF Signal Generator	8648D	MY45093613	May.25.2009
Agilent	Power Sensor	U2001B	MY48100169	Apr.23.2009

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4. Measurements

Date/Time: 2009/10/16 01:05:22

RE Cheek_WLAN802.11 a_CH36

DUT: SQ-3500;

Communication System: WLAN802.11 a-FCC; Frequency: 5180 MHz;Duty Cycle: 1:1
Medium: Head5800 Medium parameters used: f = 5180 MHz; σ = 4.46 mho/m; ε_r = 36.9; ρ = 1000 kg/m^3
Phantom section: Right Section

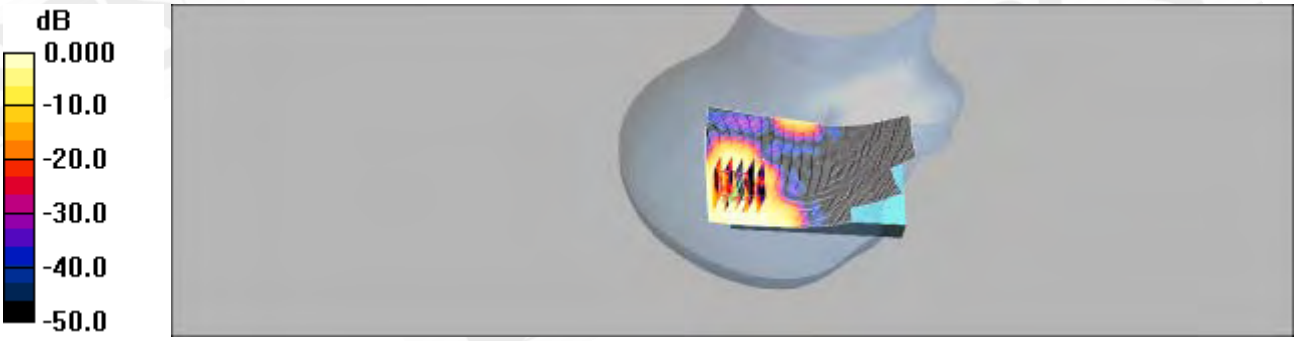
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(5.35, 5.35, 5.35); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.047 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.42 V/m; Power Drift = 0.141 dB
Peak SAR (extrapolated) = 0.174 W/kg

SAR(1 g) = 0.047 mW/g; SAR(10 g) = 0.019 mW/g
Maximum value of SAR (measured) = 0.051 mW/g



0 dB = 0.051mW/g

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RE Cheek_WLAN802.11 a_CH40

DUT: SQ-3500;

Communication System: WLAN802.11 a-FCC; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium: Head5800 Medium parameters used: f = 5200 MHz; σ = 4.53 mho/m; ε_r = 36.8; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(5.35, 5.35, 5.35); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.052 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.31 V/m; Power Drift = 0.162 dB
Peak SAR (extrapolated) = 0.270 W/kg

SAR(1 g) = 0.059 mW/g; SAR(10 g) = 0.023 mW/g
Maximum value of SAR (measured) = 0.050 mW/g

0 dB = 0.050mW/g

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RE Cheek_WLAN802.11 a_CH149

DUT: SQ-3500;

Communication System: WLAN802.11 a-FCC; Frequency: 5745 MHz;Duty Cycle: 1:1
Medium: Head5800 Medium parameters used (interpolated): f = 5745 MHz; σ = 5.03 mho/m; ε_r = 35.2; ρ = 1000 kg/m^3
Phantom section: Right Section

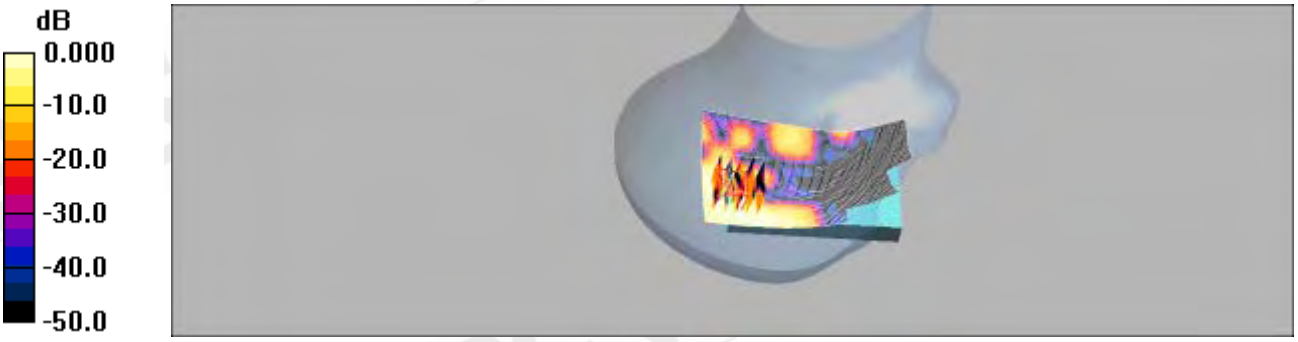
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(4.61, 4.61, 4.61); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.066 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.01 V/m; Power Drift = 0.093 dB
Peak SAR (extrapolated) = 0.172 W/kg

SAR(1 g) = 0.060 mW/g; SAR(10 g) = 0.024 mW/g
Maximum value of SAR (measured) = 0.064 mW/g



0 dB = 0.064mW/g

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RE Cheek_WLAN802.11 a_CH165

DUT: SQ-3500;

Communication System: WLAN802.11 a-FCC; Frequency: 5825 MHz;Duty Cycle: 1:1
Medium: Head5800 Medium parameters used (interpolated): f = 5825 MHz; σ = 5.25 mho/m; ε_r = 34.6; ρ = 1000 kg/m^3
Phantom section: Right Section

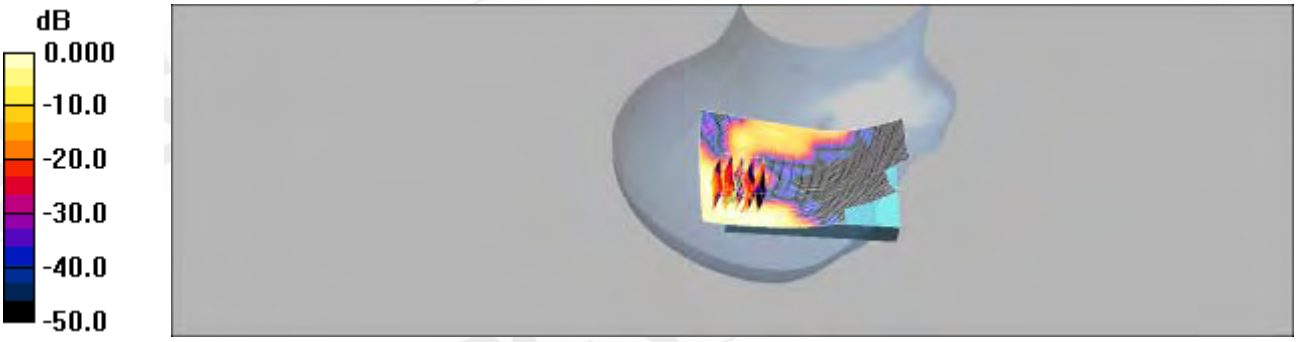
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(4.61, 4.61, 4.61); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.086 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.85 V/m; Power Drift = 0.174 dB
Peak SAR (extrapolated) = 0.239 W/kg

SAR(1 g) = 0.083 mW/g; SAR(10 g) = 0.033 mW/g
Maximum value of SAR (measured) = 0.090 mW/g



0 dB = 0.090mW/g

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LE Cheek_WLAN802.11 a_CH36

DUT: SQ-3500;

Communication System: WLAN802.11 a-FCC; Frequency: 5180 MHz;Duty Cycle: 1:1
Medium: Head5800 Medium parameters used: f = 5180 MHz; σ = 4.46 mho/m; ε_r = 36.9; ρ = 1000 kg/m^3
Phantom section: Left Section

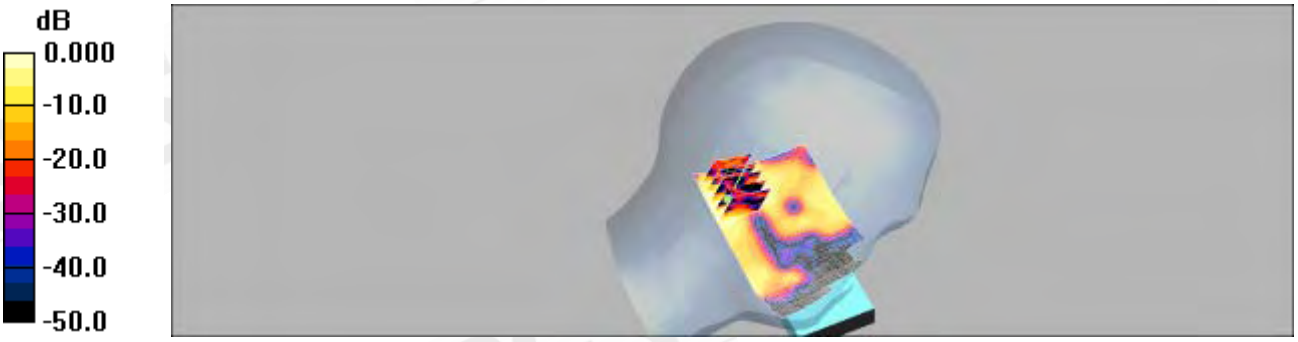
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(5.35, 5.35, 5.35); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.061 mW/g

LE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.65 V/m; Power Drift = -0.145 dB
Peak SAR (extrapolated) = 0.148 W/kg

SAR(1 g) = 0.053 mW/g; SAR(10 g) = 0.020 mW/g
Maximum value of SAR (measured) = 0.060 mW/g



0 dB = 0.060mW/g

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LE Cheek_WLAN802.11 a_CH40

DUT: SQ-3500;

Communication System: WLAN802.11 a-FCC; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium: Head5800 Medium parameters used: f = 5200 MHz; σ = 4.53 mho/m; ε_r = 36.8; ρ = 1000 kg/m^3
Phantom section: Left Section

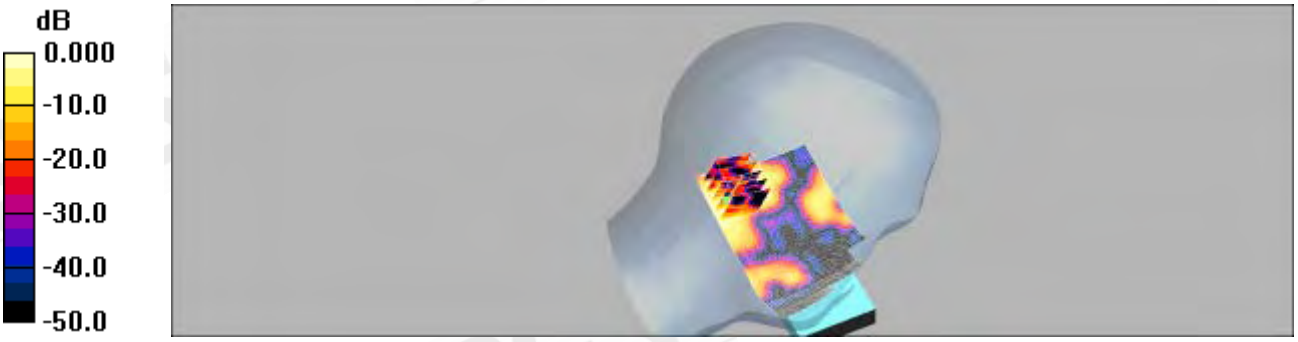
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(5.35, 5.35, 5.35); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.059 mW/g

LE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.27 V/m; Power Drift = 0.135 dB
Peak SAR (extrapolated) = 0.154 W/kg

SAR(1 g) = 0.056 mW/g; SAR(10 g) = 0.020 mW/g
Maximum value of SAR (measured) = 0.061 mW/g



0 dB = 0.061mW/g

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LE Cheek_WLAN802.11 a_CH149

DUT: SQ-3500;

Communication System: WLAN802.11 a-FCC; Frequency: 5745 MHz;Duty Cycle: 1:1
Medium: Head5800 Medium parameters used (interpolated): f = 5745 MHz; σ = 5.03 mho/m; ε_r = 35.2; ρ = 1000 kg/m^3
Phantom section: Left Section

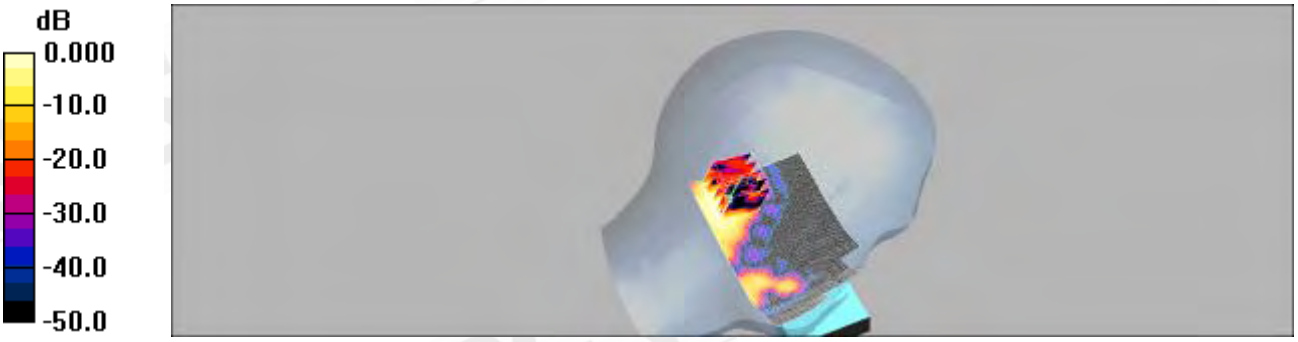
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(4.61, 4.61, 4.61); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.098 mW/g

LE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.15 V/m; Power Drift = 0.144 dB
Peak SAR (extrapolated) = 0.243 W/kg

SAR(1 g) = 0.079 mW/g; SAR(10 g) = 0.029 mW/g
Maximum value of SAR (measured) = 0.088 mW/g



0 dB = 0.088mW/g

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LE Cheek_WLAN802.11 a_CH165

DUT: SQ-3500;

Communication System: WLAN802.11 a-FCC; Frequency: 5825 MHz;Duty Cycle: 1:1
Medium: Head5800 Medium parameters used (interpolated): f = 5825 MHz; σ = 5.25 mho/m; ε_r = 34.6; ρ = 1000 kg/m^3
Phantom section: Left Section

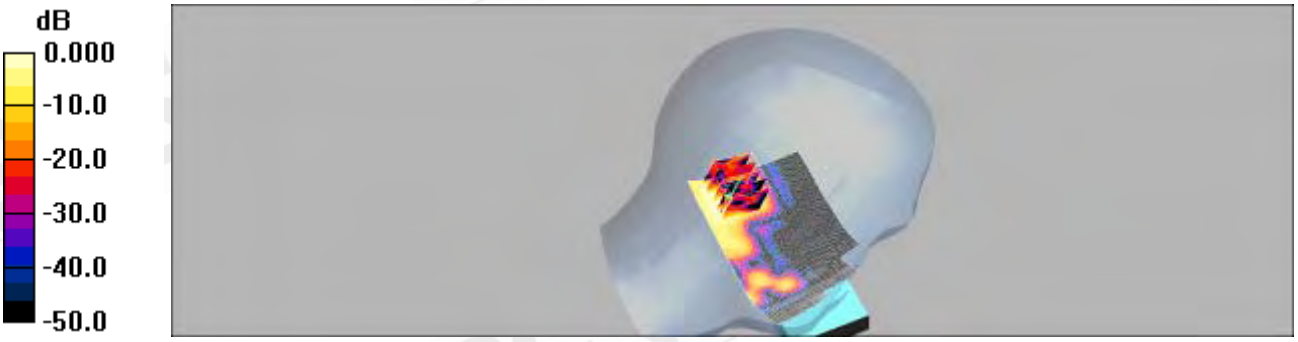
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(4.61, 4.61, 4.61); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.121 mW/g

LE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.76 V/m; Power Drift = -0.008 dB
Peak SAR (extrapolated) = 0.314 W/kg

SAR(1 g) = 0.109 mW/g; SAR(10 g) = 0.041 mW/g
Maximum value of SAR (measured) = 0.124 mW/g



0 dB = 0.124mW/g

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RE Tilt_WLAN802.11 a_CH36

DUT: SQ-3500;

Communication System: WLAN802.11 a-FCC; Frequency: 5180 MHz;Duty Cycle: 1:1
Medium: Head5800 Medium parameters used: f = 5180 MHz; σ = 4.46 mho/m; ε_r = 36.9; ρ = 1000 kg/m^3
Phantom section: Right Section

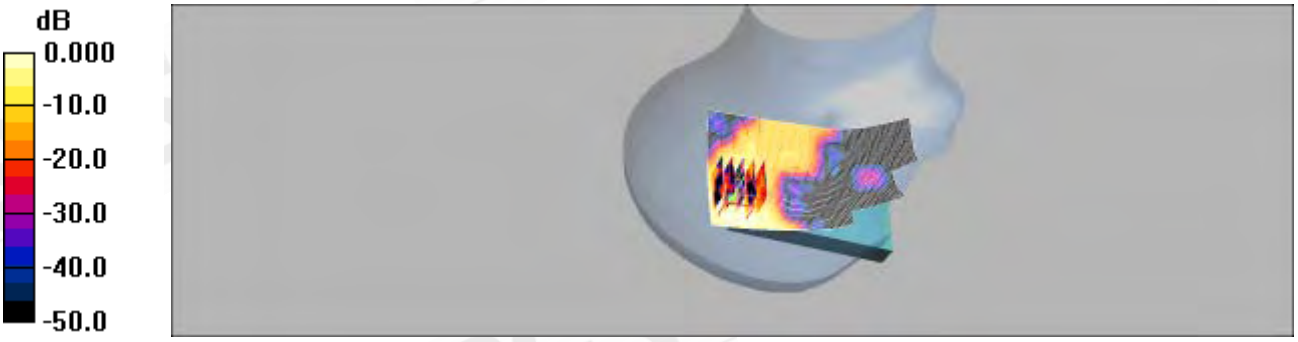
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(5.35, 5.35, 5.35); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.064 mW/g

RE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.40 V/m; Power Drift = 0.117 dB
Peak SAR (extrapolated) = 0.358 W/kg

SAR(1 g) = 0.076 mW/g; SAR(10 g) = 0.029 mW/g
Maximum value of SAR (measured) = 0.066 mW/g



0 dB = 0.066mW/g

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RE Tilt_WLAN802.11 a_CH40

DUT: SQ-3500;

Communication System: WLAN802.11 a-FCC; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium: Head5800 Medium parameters used: f = 5200 MHz; σ = 4.53 mho/m; ε_r = 36.8; ρ = 1000 kg/m^3
Phantom section: Right Section

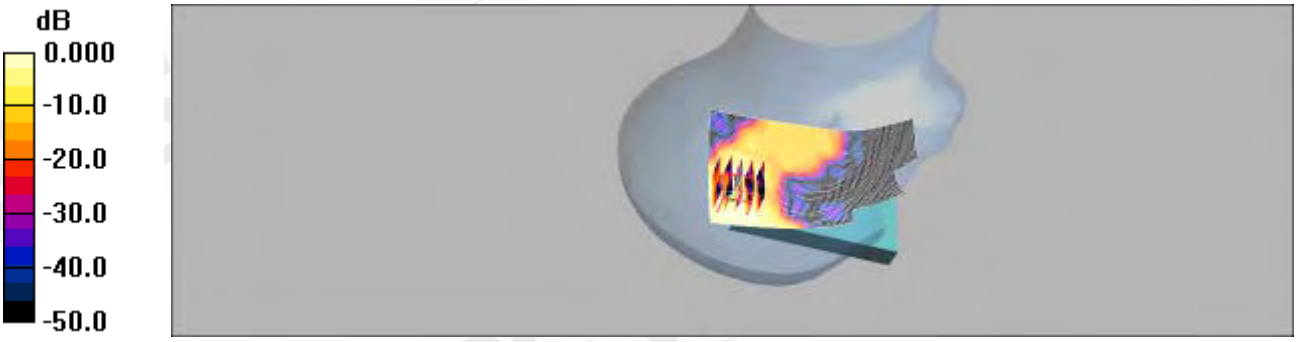
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(5.35, 5.35, 5.35); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.069 mW/g

RE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.16 V/m; Power Drift = 0.182 dB
Peak SAR (extrapolated) = 0.168 W/kg

SAR(1 g) = 0.062 mW/g; SAR(10 g) = 0.025 mW/g
Maximum value of SAR (measured) = 0.070 mW/g



0 dB = 0.070mW/g

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RE Tilt_WLAN802.11 a_CH149

DUT: SQ-3500;

Communication System: WLAN802.11 a-FCC; Frequency: 5745 MHz;Duty Cycle: 1:1
Medium: Head5800 Medium parameters used (interpolated): f = 5745 MHz; σ = 5.03 mho/m; ε_r = 35.2; ρ = 1000 kg/m^3
Phantom section: Right Section

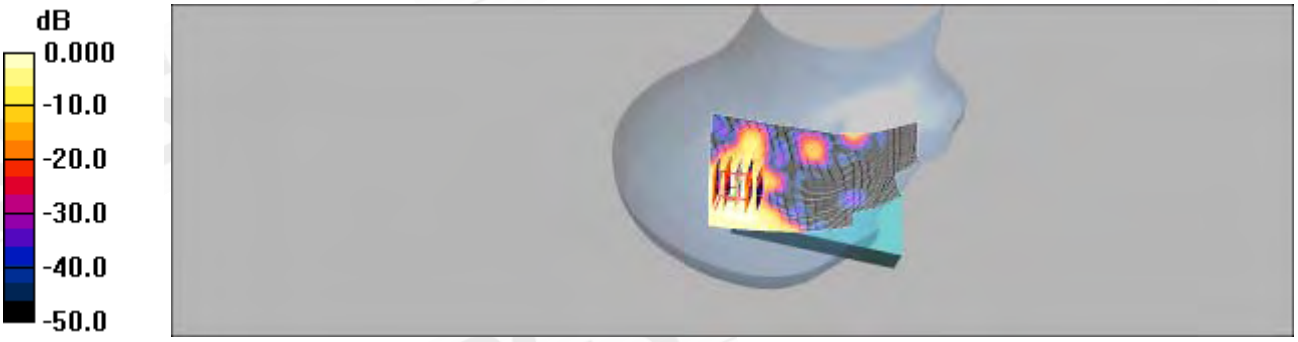
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(4.61, 4.61, 4.61); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.083 mW/g

RE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.88 V/m; Power Drift = 0.109 dB
Peak SAR (extrapolated) = 0.218 W/kg

SAR(1 g) = 0.076 mW/g; SAR(10 g) = 0.030 mW/g
Maximum value of SAR (measured) = 0.083 mW/g



0 dB = 0.083mW/g

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RE Tilt_WLAN802.11 a_CH165

DUT: SQ-3500;

Communication System: WLAN802.11 a-FCC; Frequency: 5825 MHz;Duty Cycle: 1:1
Medium: Head5800 Medium parameters used (interpolated): f = 5825 MHz; σ = 5.25 mho/m; ε_r = 34.6; ρ = 1000 kg/m^3
Phantom section: Right Section

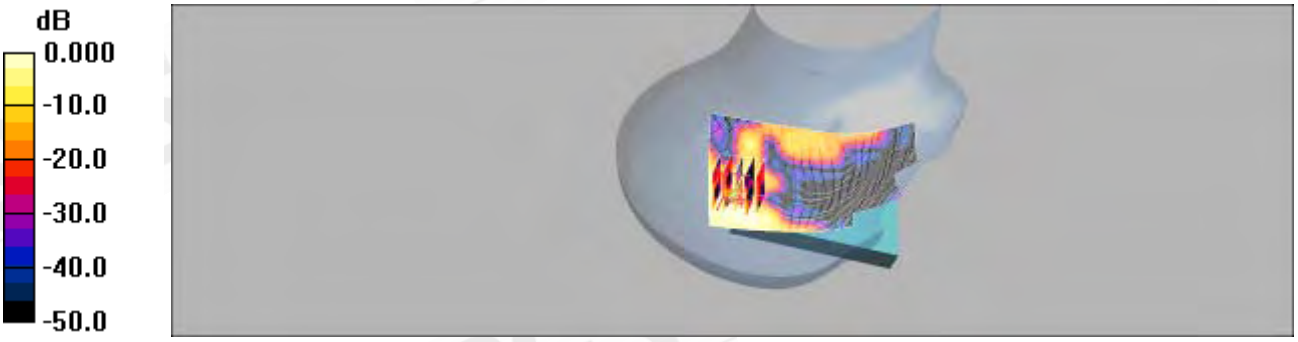
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(4.61, 4.61, 4.61); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.115 mW/g

RE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.91 V/m; Power Drift = 0.107 dB
Peak SAR (extrapolated) = 0.286 W/kg

SAR(1 g) = 0.100 mW/g; SAR(10 g) = 0.040 mW/g
Maximum value of SAR (measured) = 0.110 mW/g



0 dB = 0.110mW/g

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LE Tilt_WLAN802.11 a_CH36

DUT: SQ-3500;

Communication System: WLAN802.11 a-FCC; Frequency: 5180 MHz;Duty Cycle: 1:1
Medium: Head5800 Medium parameters used: f = 5180 MHz; σ = 4.46 mho/m; ε_r = 36.9; ρ = 1000 kg/m^3
Phantom section: Left Section

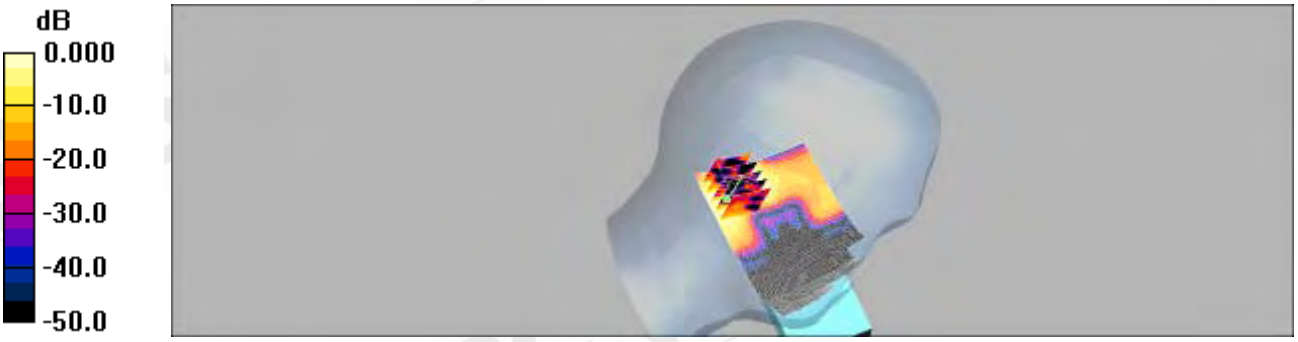
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(5.35, 5.35, 5.35); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.067 mW/g

LE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.13 V/m; Power Drift = 0.126 dB
Peak SAR (extrapolated) = 0.169 W/kg

SAR(1 g) = 0.062 mW/g; SAR(10 g) = 0.023 mW/g
Maximum value of SAR (measured) = 0.069 mW/g



0 dB = 0.069mW/g

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LE Tilt_WLAN802.11 a_CH40

DUT: SQ-3500;

Communication System: WLAN802.11 a-FCC; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium: Head5800 Medium parameters used: f = 5200 MHz; σ = 4.53 mho/m; ε_r = 36.8; ρ = 1000 kg/m^3
Phantom section: Left Section

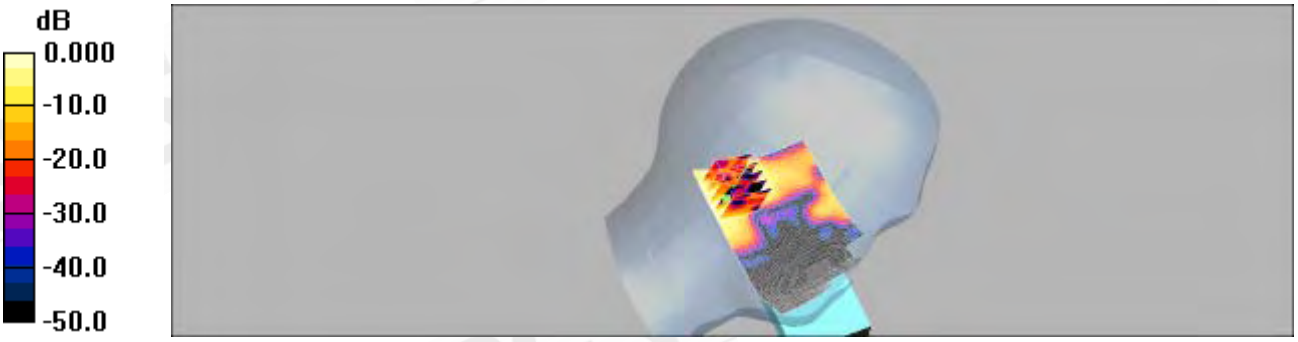
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(5.35, 5.35, 5.35); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.075 mW/g

LE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.23 V/m; Power Drift = 0.198 dB
Peak SAR (extrapolated) = 0.186 W/kg

SAR(1 g) = 0.068 mW/g; SAR(10 g) = 0.025 mW/g
Maximum value of SAR (measured) = 0.072 mW/g



0 dB = 0.072mW/g

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LE Tilt_WLAN802.11 a_CH149

DUT: SQ-3500;

Communication System: WLAN802.11 a-FCC; Frequency: 5745 MHz;Duty Cycle: 1:1
Medium: Head5800 Medium parameters used (interpolated): f = 5745 MHz; σ = 5.03 mho/m; ε_r = 35.2; ρ = 1000 kg/m^3
Phantom section: Left Section

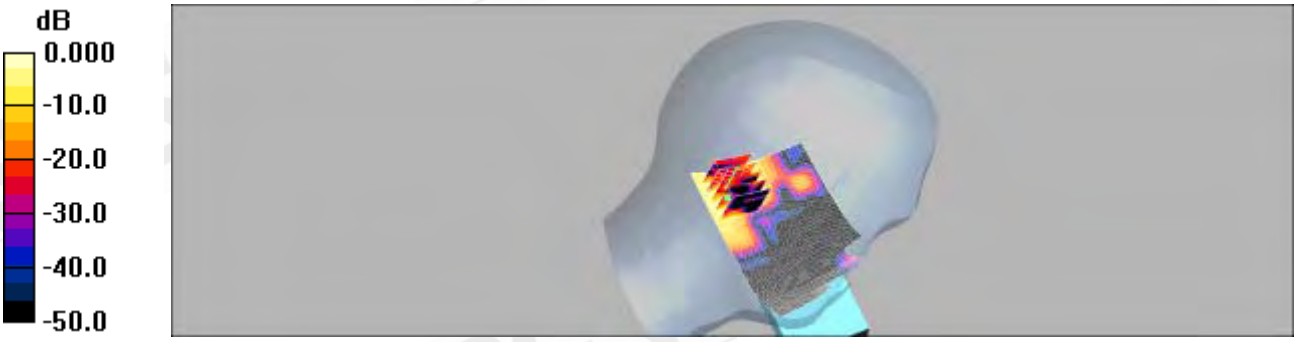
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(4.61, 4.61, 4.61); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.096 mW/g

LE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.06 V/m; Power Drift = 0.195 dB
Peak SAR (extrapolated) = 0.252 W/kg

SAR(1 g) = 0.087 mW/g; SAR(10 g) = 0.033 mW/g
Maximum value of SAR (measured) = 0.095 mW/g



0 dB = 0.095mW/g

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LE Tilt_WLAN802.11 a_CH165

DUT: SQ-3500;

Communication System: WLAN802.11 a-FCC; Frequency: 5825 MHz;Duty Cycle: 1:1
Medium: Head5800 Medium parameters used (interpolated): f = 5825 MHz; σ = 5.25 mho/m; ε_r = 34.6; ρ = 1000 kg/m^3
Phantom section: Left Section

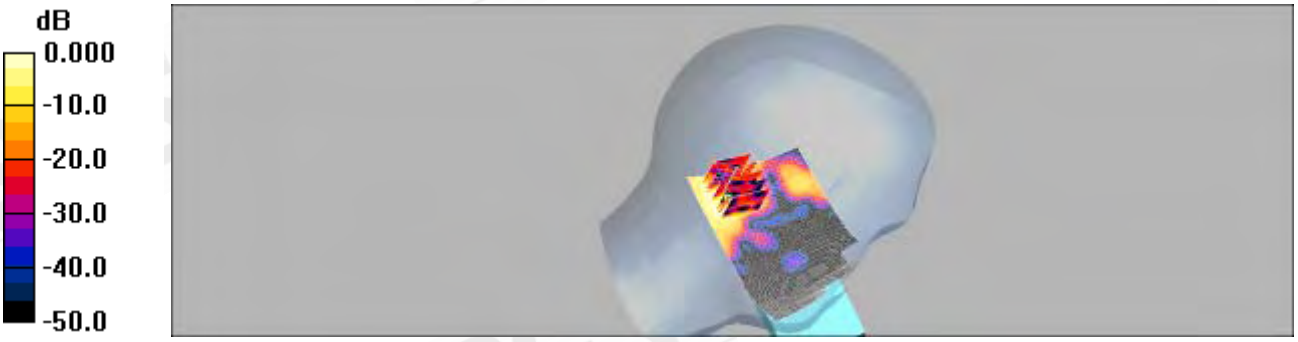
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(4.61, 4.61, 4.61); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.149 mW/g

LE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.51 V/m; Power Drift = 0.105 dB
Peak SAR (extrapolated) = 0.359 W/kg

SAR(1 g) = 0.127 mW/g; SAR(10 g) = 0.048 mW/g
Maximum value of SAR (measured) = 0.137 mW/g



0 dB = 0.137mW/g

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Body_WLAN802.11 a_CH36

DUT: SQ-3500;

Communication System: WLAN802.11 a-FCC; Frequency: 5180 MHz;Duty Cycle: 1:1
Medium: Muscle5800 Medium parameters used: f = 5180 MHz; σ = 5.42 mho/m; ε_r = 48.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

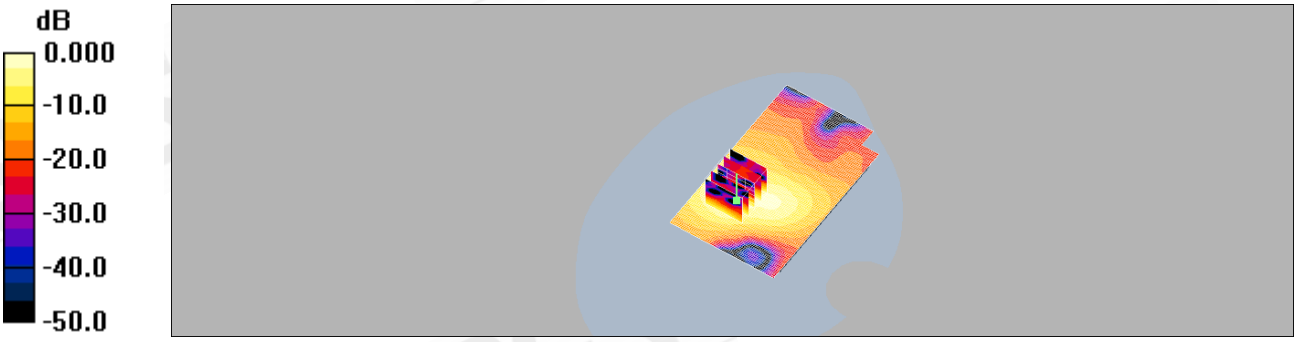
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(4.29, 4.29, 4.29); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

body/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.349 mW/g

body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.93 V/m; Power Drift = 0.155 dB
Peak SAR (extrapolated) = 1.39 W/kg

SAR(1 g) = 0.358 mW/g; SAR(10 g) = 0.128 mW/g
Maximum value of SAR (measured) = 0.370 mW/g



0 dB = 0.370mW/g

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Body_WLAN802.11 a_CH40

DUT: SQ-3500;

Communication System: WLAN802.11 a-FCC; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium: Muscle5800 Medium parameters used: f = 5200 MHz; σ = 5.46 mho/m; ε_r = 48.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

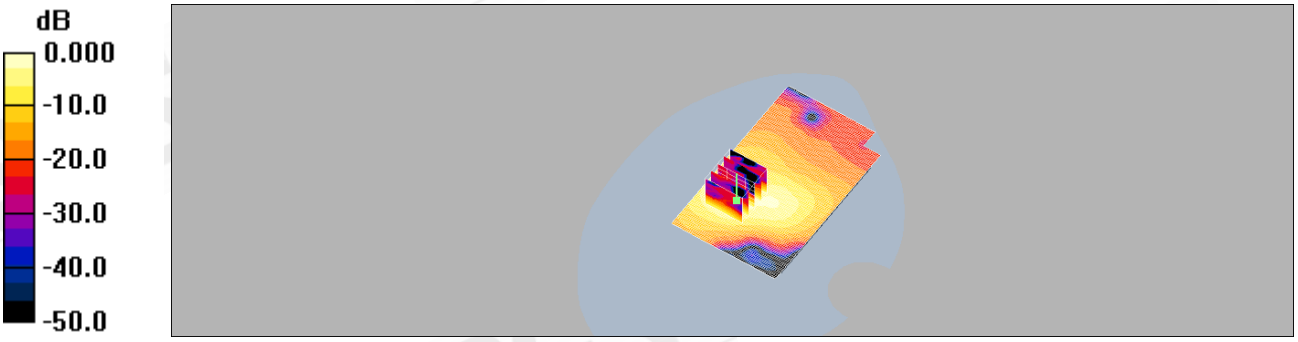
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(4.29, 4.29, 4.29); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

body/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.361 mW/g

body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.98 V/m; Power Drift = 0.113 dB
Peak SAR (extrapolated) = 1.47 W/kg

SAR(1 g) = 0.380 mW/g; SAR(10 g) = 0.137 mW/g
Maximum value of SAR (measured) = 0.402 mW/g



0 dB = 0.402mW/g

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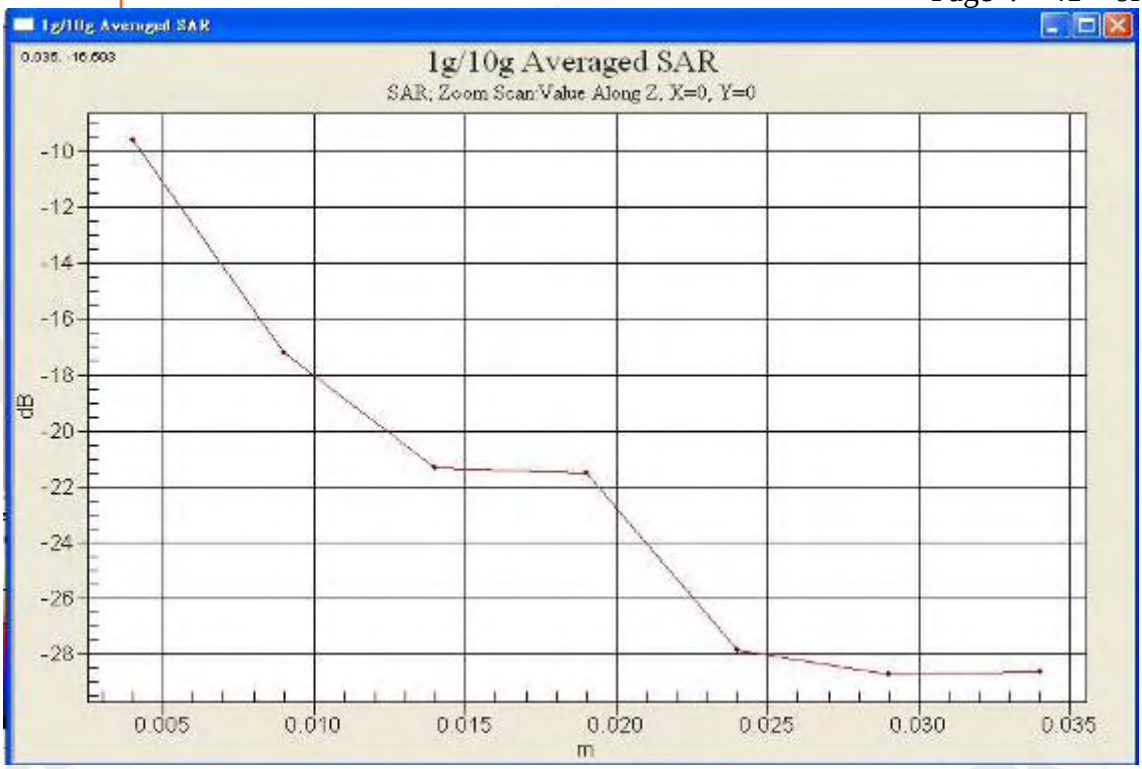

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Body_WLAN802.11 a_CH149

DUT: SQ-3500;

Communication System: WLAN802.11 a-FCC; Frequency: 5745 MHz;Duty Cycle: 1:1
Medium: Muscle5800 Medium parameters used (interpolated): f = 5745 MHz; σ = 6.27 mho/m; ε_r = 47.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

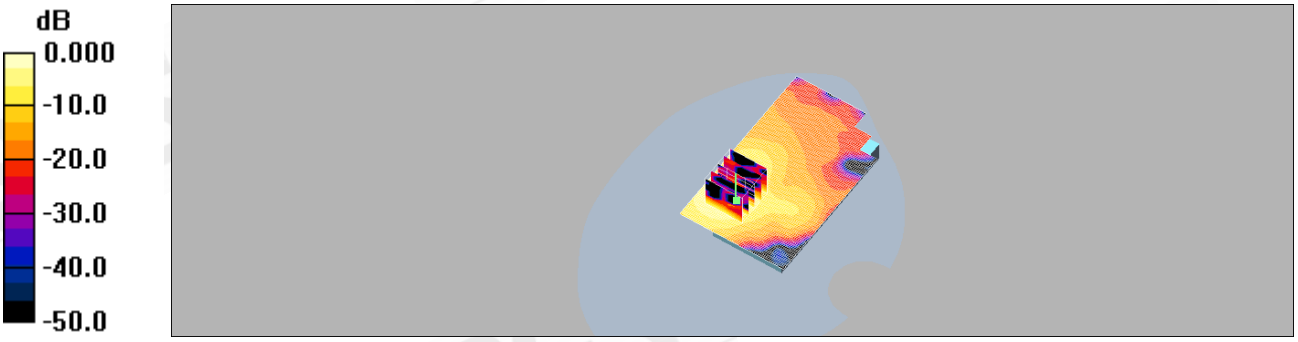
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(4.05, 4.05, 4.05); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

body/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.276 mW/g

body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.29 V/m; Power Drift = -0.106 dB
Peak SAR (extrapolated) = 0.795 W/kg

SAR(1 g) = 0.217 mW/g; SAR(10 g) = 0.086 mW/g
Maximum value of SAR (measured) = 0.295 mW/g



0 dB = 0.295mW/g

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Body_WLAN802.11 a_CH165

DUT: SQ-3500;

Communication System: WLAN802.11 a-FCC; Frequency: 5825 MHz;Duty Cycle: 1:1
Medium: Muscle5800 Medium parameters used (extrapolated): f = 5825 MHz; σ = 6.29 mho/m; ε_r = 47; ρ = 1000 kg/m^3
Phantom section: Flat Section

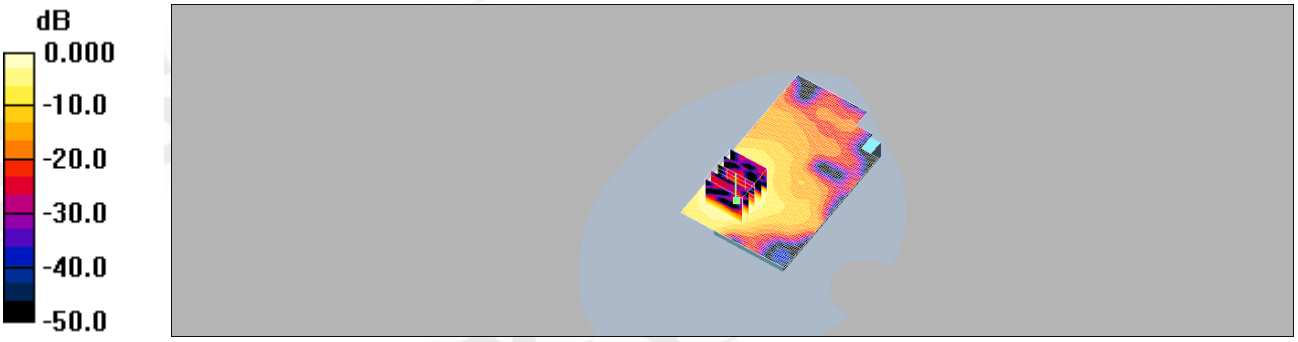
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(4.05, 4.05, 4.05); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

body/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.373 mW/g

body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.52 V/m; Power Drift = 0.035 dB
Peak SAR (extrapolated) = 1.47 W/kg

SAR(1 g) = 0.376 mW/g; SAR(10 g) = 0.136 mW/g
Maximum value of SAR (measured) = 0.380 mW/g



0 dB = 0.380mW/g

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Body_WLAN802.11 a_CH40_repeated for EUT front to phantom

DUT: SQ-3500;

Communication System: WLAN802.11 a-FCC; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium: Muscle5800 Medium parameters used: f = 5200 MHz; σ = 5.46 mho/m; ε_r = 48.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

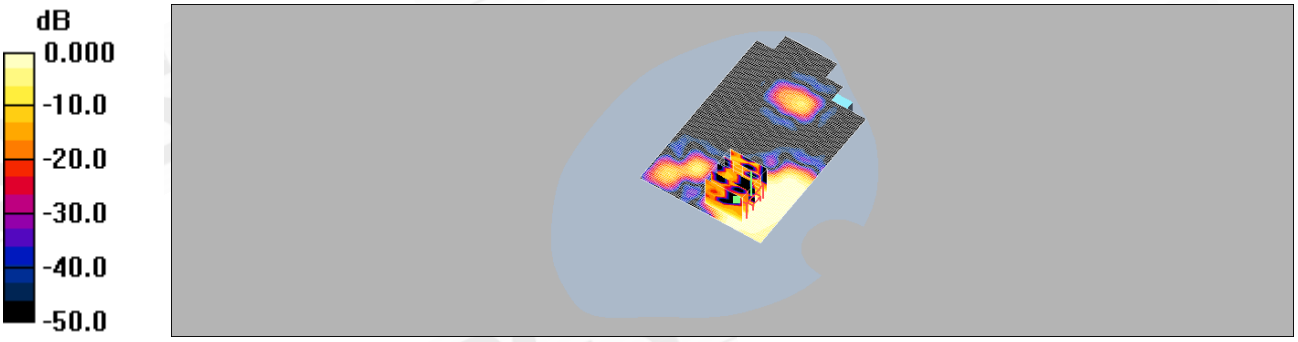
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(4.29, 4.29, 4.29); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

body/Area Scan (71x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.046 mW/g

body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.10 V/m; Power Drift = 0.167 dB
Peak SAR (extrapolated) = 0.166 W/kg

SAR(1 g) = 0.038 mW/g; SAR(10 g) = 0.015 mW/g
Maximum value of SAR (measured) = 0.033 mW/g



0 dB = 0.033mW/g

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Body_WLAN802.11 a_CH40_repeated with Memory card(micro SD)

DUT: SQ-3500;

Communication System: WLAN802.11 a-FCC; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium: Muscle5800 Medium parameters used: f = 5200 MHz; σ = 5.46 mho/m; ε_r = 48.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

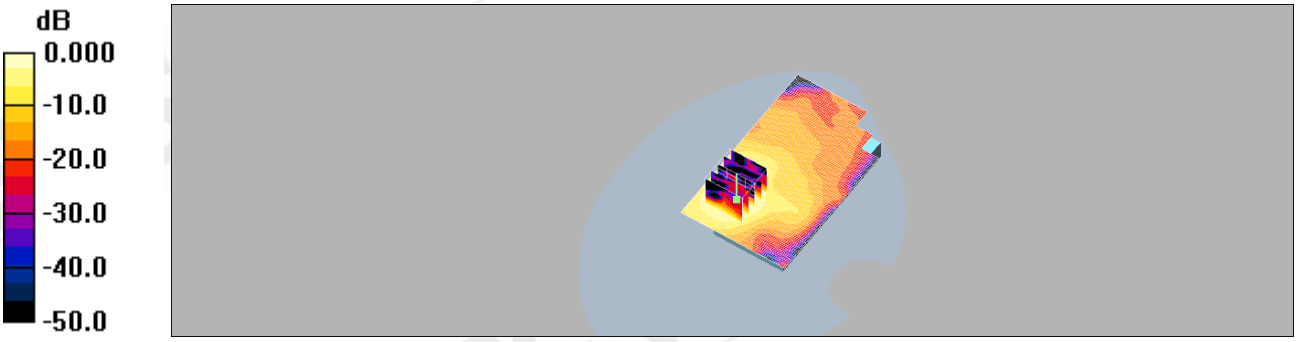
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(4.29, 4.29, 4.29); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

body/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.392 mW/g

body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.94 V/m; Power Drift = 0.170 dB
Peak SAR (extrapolated) = 0.894 W/kg

SAR(1 g) = 0.318 mW/g; SAR(10 g) = 0.118 mW/g
Maximum value of SAR (measured) = 0.374 mW/g



0 dB = 0.374mW/g

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RE Cheek_WLAN802.11 b_CH1

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: HEAD 2450 Medium parameters used: f = 2412 MHz; σ = 1.85 mho/m; ε_r = 37.6; ρ = 1000 kg/m^3
Phantom section: Right Section

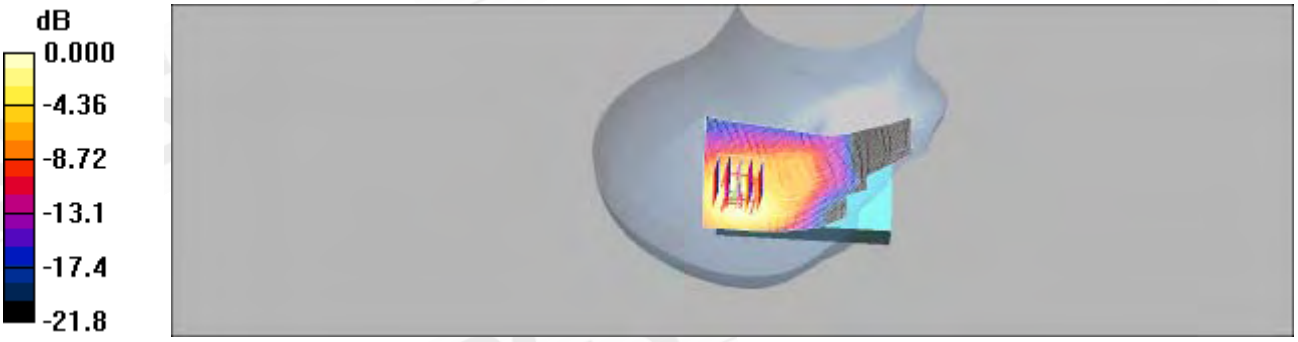
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.43, 8.43, 8.43); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.185 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.32 V/m; Power Drift = 0.164 dB
Peak SAR (extrapolated) = 0.348 W/kg

SAR(1 g) = 0.184 mW/g; SAR(10 g) = 0.100 mW/g
Maximum value of SAR (measured) = 0.196 mW/g



0 dB = 0.196mW/g

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RE Cheek_WLAN802.11 b_CH6

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: HEAD 2450 Medium parameters used: f = 2437 MHz; σ = 1.87 mho/m; ε_r = 37.5; ρ = 1000 kg/m^3
Phantom section: Right Section

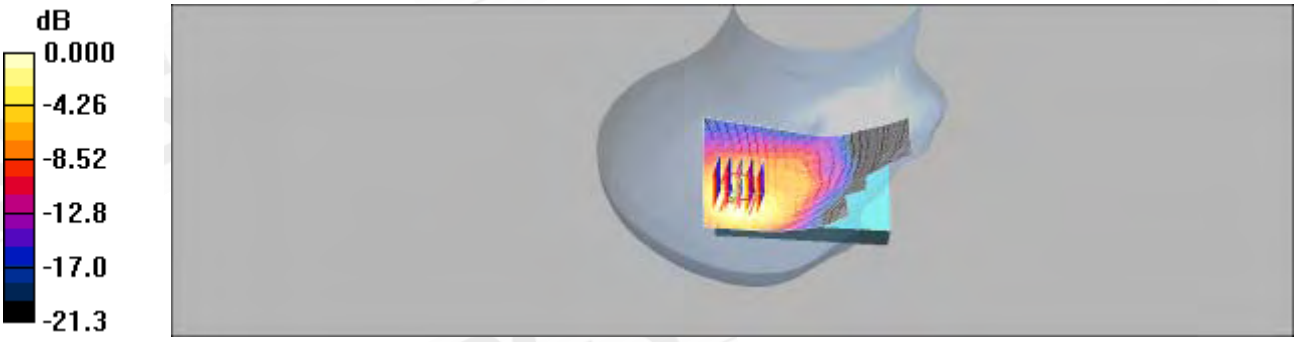
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.43, 8.43, 8.43); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.209 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.53 V/m; Power Drift = -0.005 dB
Peak SAR (extrapolated) = 0.379 W/kg

SAR(1 g) = 0.196 mW/g; SAR(10 g) = 0.103 mW/g
Maximum value of SAR (measured) = 0.211 mW/g



0 dB = 0.211mW/g

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RE Cheek_WLAN802.11 b_CH11

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: HEAD 2450 Medium parameters used: f = 2462 MHz; σ = 1.9 mho/m; ε_r = 37.4; ρ = 1000 kg/m^3
Phantom section: Right Section

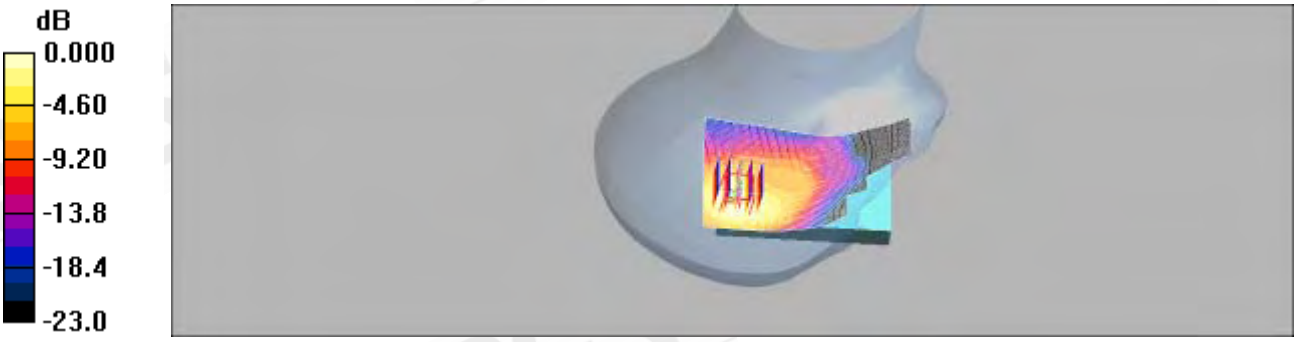
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.43, 8.43, 8.43); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.227 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.70 V/m; Power Drift = -0.049 dB
Peak SAR (extrapolated) = 0.421 W/kg

SAR(1 g) = 0.214 mW/g; SAR(10 g) = 0.111 mW/g
Maximum value of SAR (measured) = 0.231 mW/g



0 dB = 0.231mW/g

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LE Cheek_WLAN802.11 b_CH1

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: HEAD 2450 Medium parameters used: f = 2412 MHz; σ = 1.85 mho/m; ε_r = 37.6; ρ = 1000 kg/m^3
Phantom section: Left Section

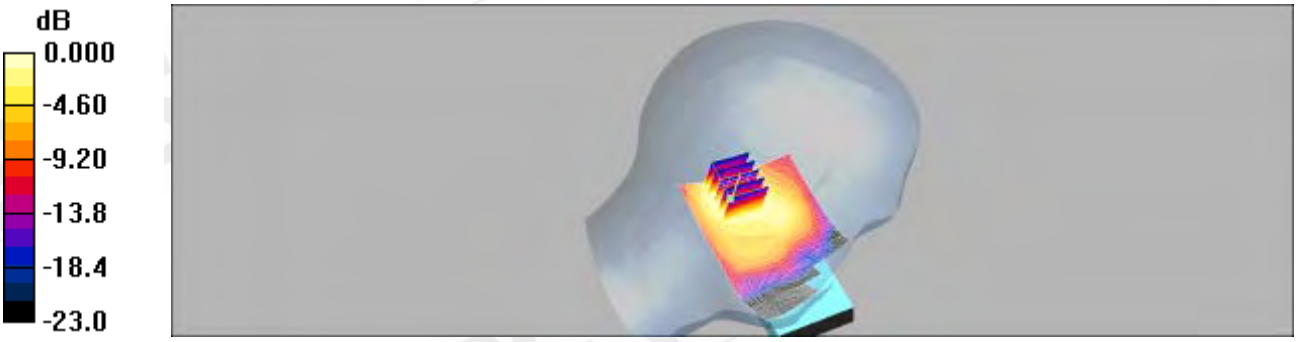
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.43, 8.43, 8.43); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.157 mW/g

LE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.43 V/m; Power Drift = 0.136 dB
Peak SAR (extrapolated) = 0.271 W/kg

SAR(1 g) = 0.145 mW/g; SAR(10 g) = 0.078 mW/g
Maximum value of SAR (measured) = 0.159 mW/g



0 dB = 0.159mW/g

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LE Cheek_WLAN802.11 b_CH6

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: HEAD 2450 Medium parameters used: f = 2437 MHz; σ = 1.87 mho/m; ε_r = 37.5; ρ = 1000 kg/m^3
Phantom section: Left Section

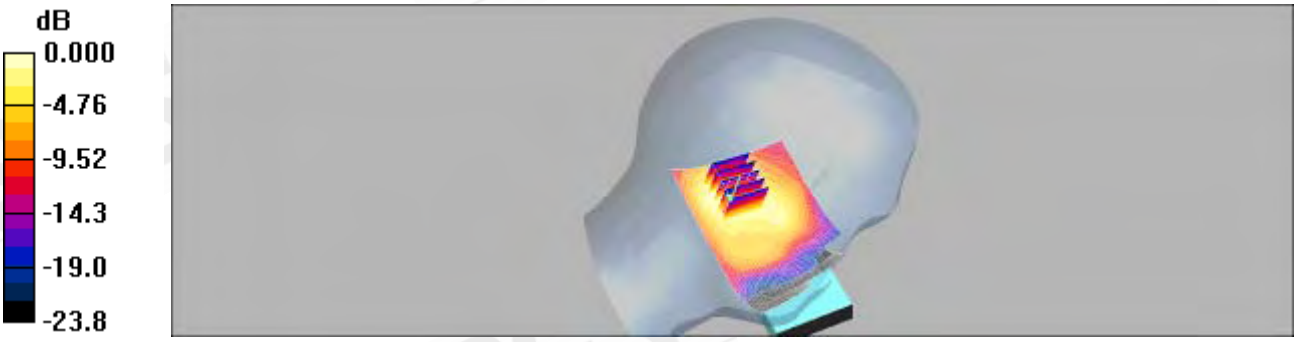
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.43, 8.43, 8.43); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.172 mW/g

LE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.35 V/m; Power Drift = 0.047 dB
Peak SAR (extrapolated) = 0.278 W/kg

SAR(1 g) = 0.150 mW/g; SAR(10 g) = 0.081 mW/g
Maximum value of SAR (measured) = 0.163 mW/g



0 dB = 0.163mW/g

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LE Cheek_WLAN802.11 b_CH11

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: HEAD 2450 Medium parameters used: f = 2462 MHz; σ = 1.9 mho/m; ε_r = 37.4; ρ = 1000 kg/m^3
Phantom section: Left Section

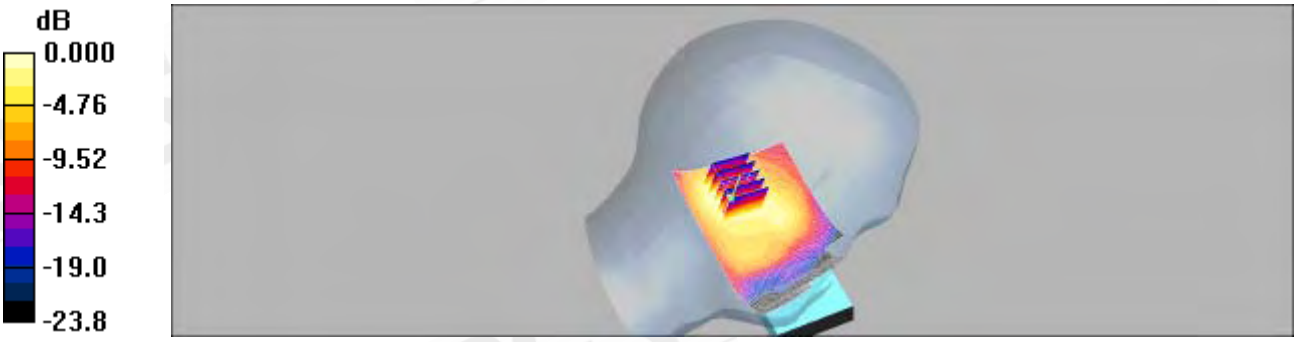
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.43, 8.43, 8.43); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.188 mW/g

LE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.85 V/m; Power Drift = 0.126 dB
Peak SAR (extrapolated) = 0.328 W/kg

SAR(1 g) = 0.172 mW/g; SAR(10 g) = 0.091 mW/g
Maximum value of SAR (measured) = 0.186 mW/g



0 dB = 0.186mW/g

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RE Tilt_WLAN802.11 b_CH1

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: HEAD 2450 Medium parameters used: f = 2412 MHz; σ = 1.85 mho/m; ε_r = 37.6; ρ = 1000 kg/m^3
Phantom section: Right Section

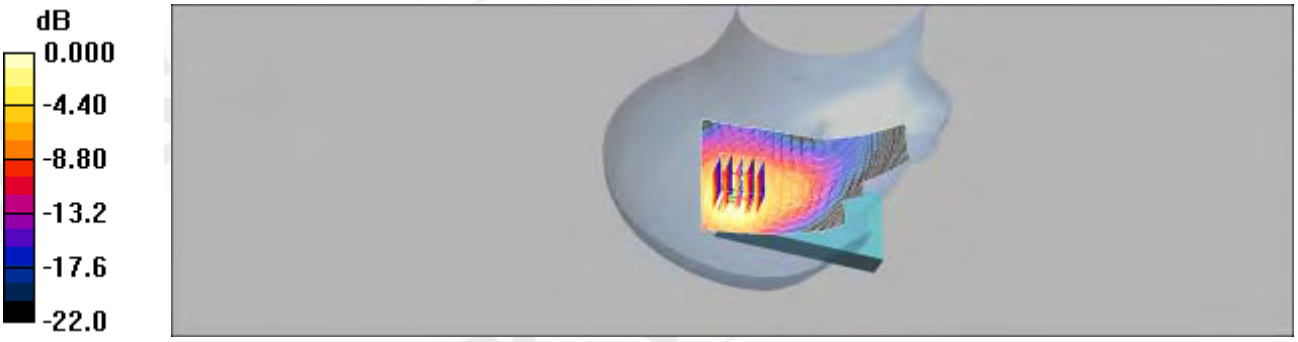
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.43, 8.43, 8.43); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.191 mW/g

RE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.02 V/m; Power Drift = 0.061 dB
Peak SAR (extrapolated) = 0.345 W/kg

SAR(1 g) = 0.180 mW/g; SAR(10 g) = 0.094 mW/g
Maximum value of SAR (measured) = 0.195 mW/g



0 dB = 0.195mW/g

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RE Tilt_WLAN802.11 b_CH6

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: HEAD 2450 Medium parameters used: f = 2437 MHz; σ = 1.87 mho/m; ε_r = 37.5; ρ = 1000 kg/m^3
Phantom section: Right Section

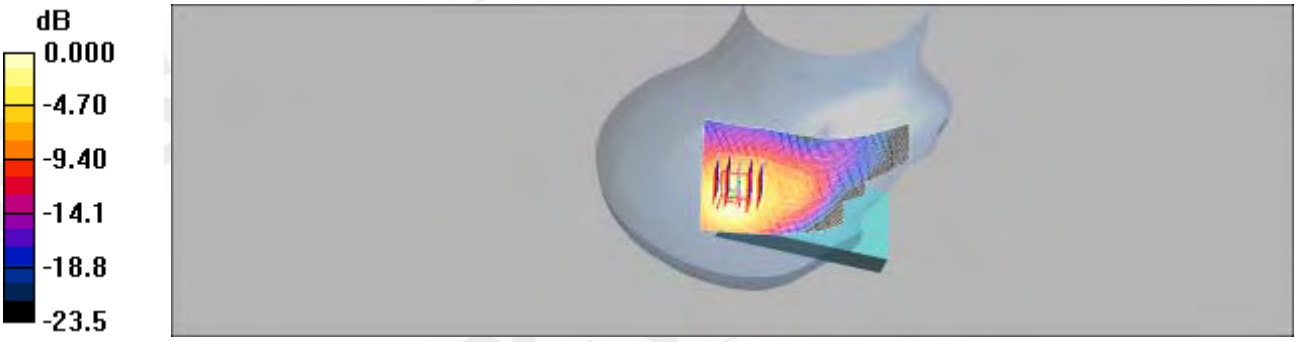
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.43, 8.43, 8.43); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.206 mW/g

RE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.10 V/m; Power Drift = 0.098 dB
Peak SAR (extrapolated) = 0.371 W/kg

SAR(1 g) = 0.189 mW/g; SAR(10 g) = 0.098 mW/g
Maximum value of SAR (measured) = 0.204 mW/g



0 dB = 0.204mW/g

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RE Tilt_WLAN802.11 b_CH11

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: HEAD 2450 Medium parameters used: f = 2462 MHz; σ = 1.9 mho/m; ε_r = 37.4; ρ = 1000 kg/m^3
Phantom section: Right Section

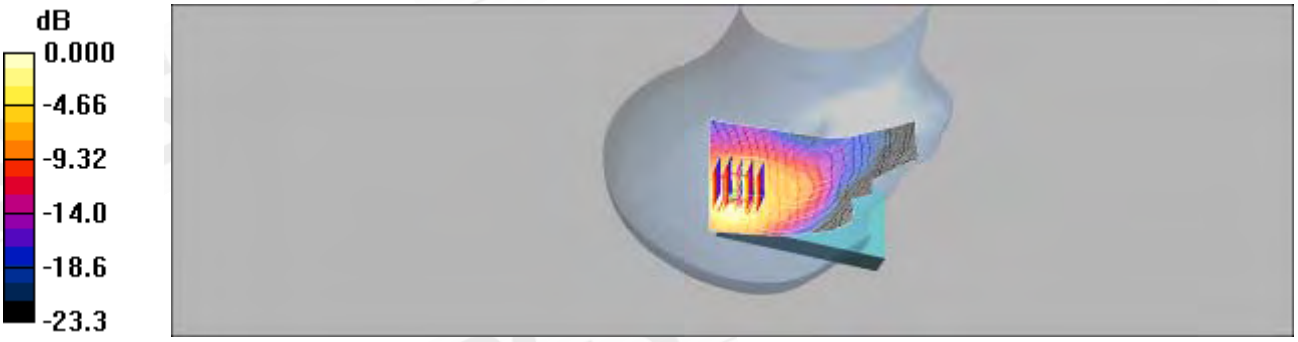
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.43, 8.43, 8.43); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.222 mW/g

RE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.52 V/m; Power Drift = -0.005 dB
Peak SAR (extrapolated) = 0.425 W/kg

SAR(1 g) = 0.215 mW/g; SAR(10 g) = 0.109 mW/g
Maximum value of SAR (measured) = 0.232 mW/g



0 dB = 0.232mW/g

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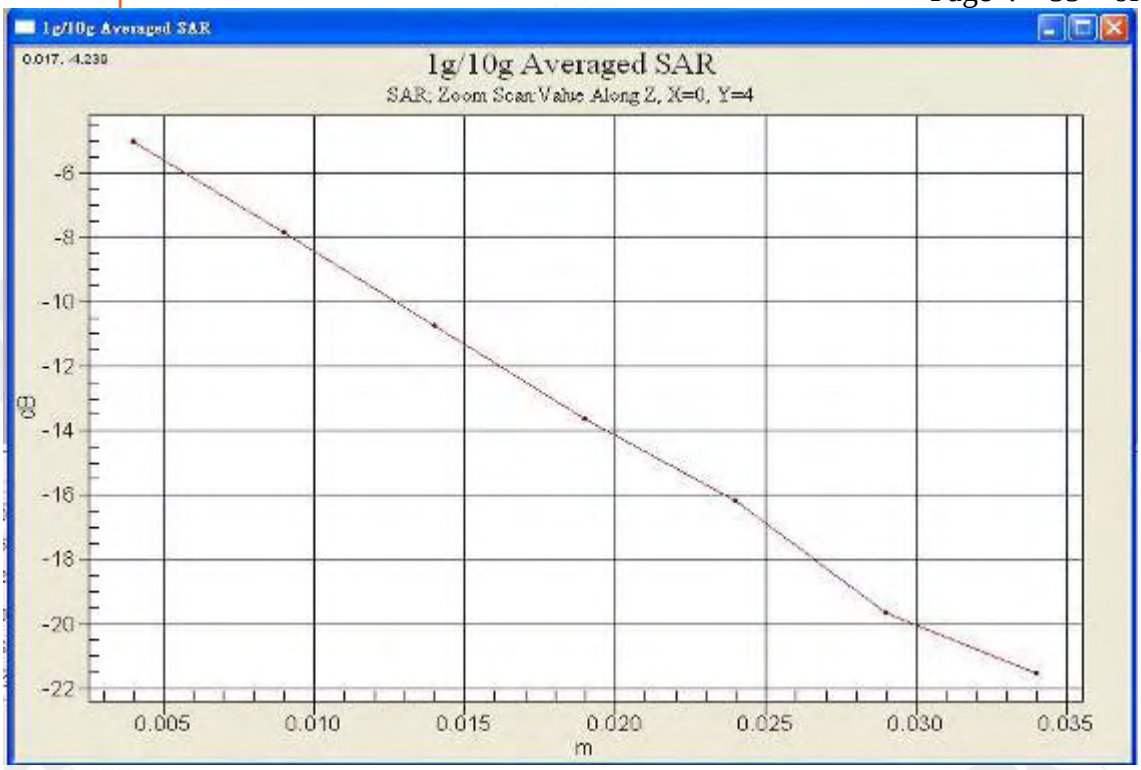

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LE Tilt_WLAN802.11 b_CH1

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: HEAD 2450 Medium parameters used: f = 2412 MHz; σ = 1.85 mho/m; ε_r = 37.6; ρ = 1000 kg/m^3
Phantom section: Left Section

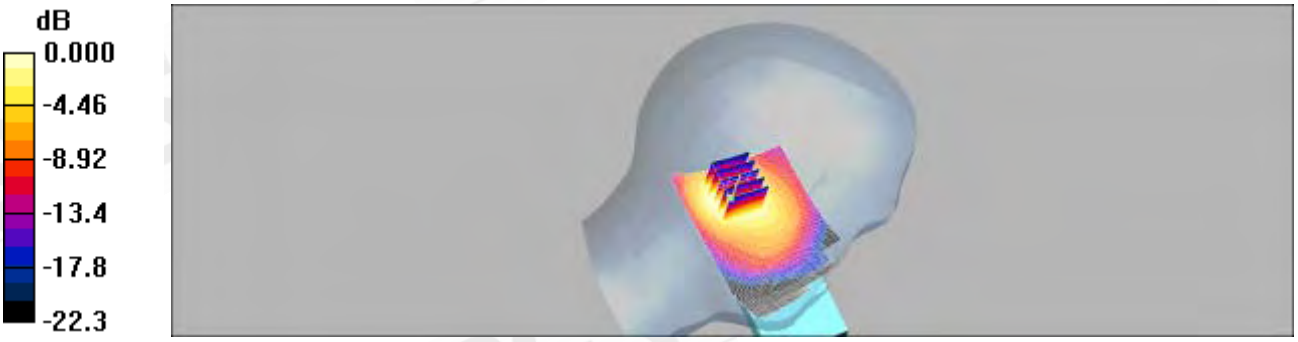
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.43, 8.43, 8.43); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.169 mW/g

LE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.06 V/m; Power Drift = -0.015 dB
Peak SAR (extrapolated) = 0.277 W/kg

SAR(1 g) = 0.149 mW/g; SAR(10 g) = 0.081 mW/g
Maximum value of SAR (measured) = 0.160 mW/g



0 dB = 0.160mW/g

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LE Tilt_WLAN802.11 b_CH6

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: HEAD 2450 Medium parameters used: f = 2437 MHz; σ = 1.87 mho/m; ε_r = 37.5; ρ = 1000 kg/m^3
Phantom section: Left Section

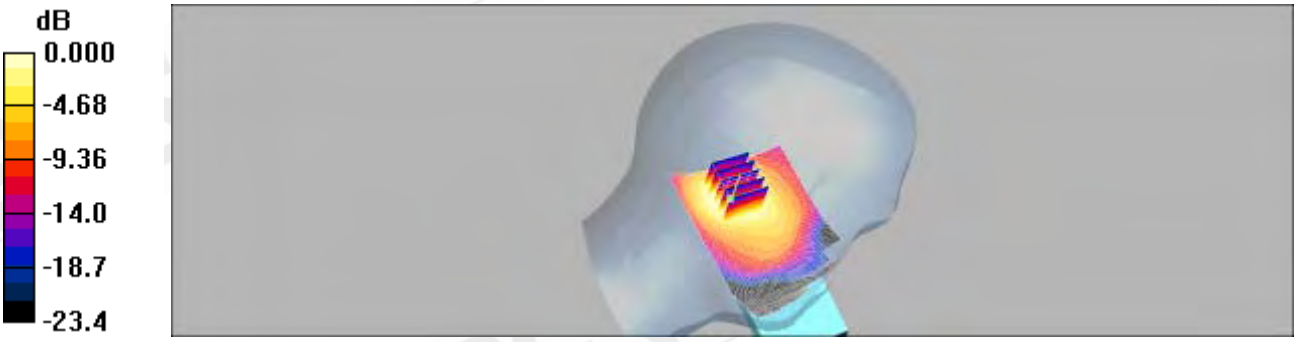
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.43, 8.43, 8.43); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.168 mW/g

LE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.98 V/m; Power Drift = 0.048 dB
Peak SAR (extrapolated) = 0.282 W/kg

SAR(1 g) = 0.150 mW/g; SAR(10 g) = 0.081 mW/g
Maximum value of SAR (measured) = 0.163 mW/g



0 dB = 0.163mW/g

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LE Tilt_WLAN802.11 b_CH11

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: HEAD 2450 Medium parameters used: f = 2462 MHz; σ = 1.9 mho/m; ε_r = 37.4; ρ = 1000 kg/m^3
Phantom section: Left Section

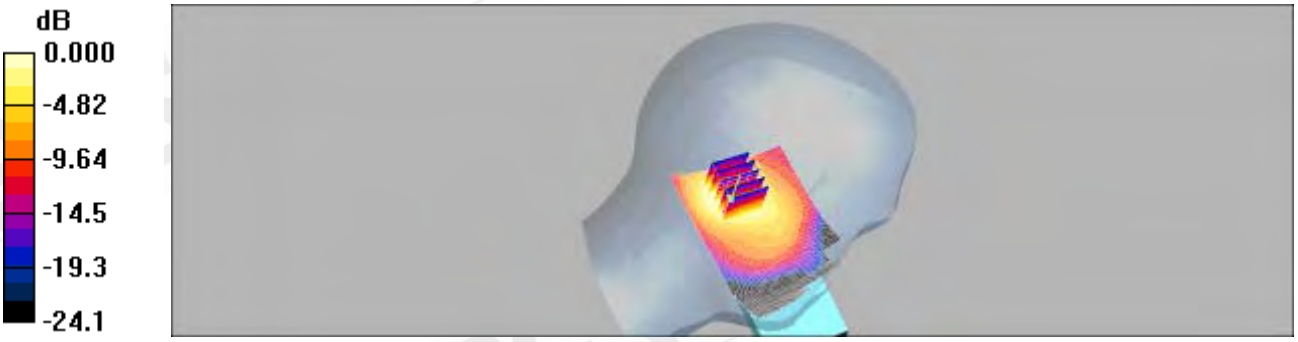
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.43, 8.43, 8.43); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.206 mW/g

LE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.49 V/m; Power Drift = 0.124 dB
Peak SAR (extrapolated) = 0.345 W/kg

SAR(1 g) = 0.181 mW/g; SAR(10 g) = 0.097 mW/g
Maximum value of SAR (measured) = 0.195 mW/g



0 dB = 0.195mW/g

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RE Tilt_WLAN802.11 b_CH11_repeated with Memory card(micro SD)

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: HEAD 2450 Medium parameters used: f = 2462 MHz; σ = 1.9 mho/m; ε_r = 37.4; ρ = 1000 kg/m^3
Phantom section: Right Section

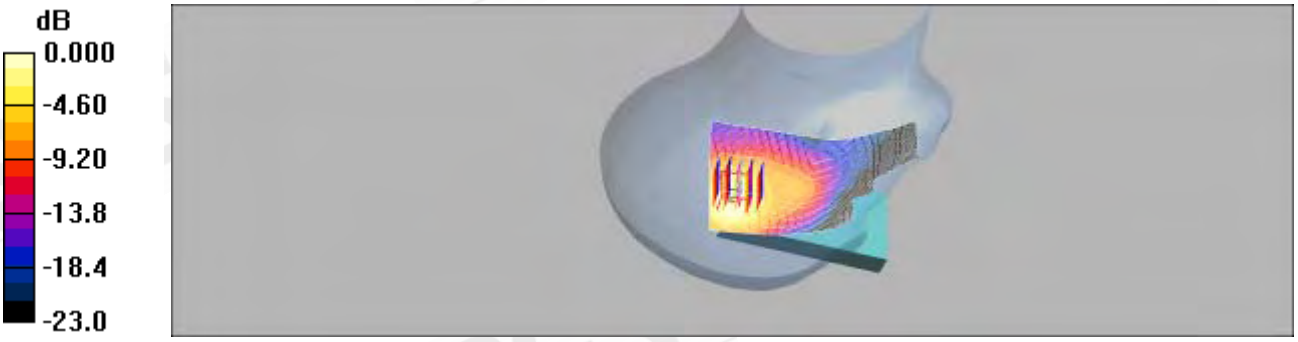
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.43, 8.43, 8.43); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.234 mW/g

RE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.60 V/m; Power Drift = 0.036 dB
Peak SAR (extrapolated) = 0.403 W/kg

SAR(1 g) = 0.208 mW/g; SAR(10 g) = 0.108 mW/g
Maximum value of SAR (measured) = 0.225 mW/g



0 dB = 0.225mW/g

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Body_WLAN802.11 b_CH1

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: Muscle 2450 Medium parameters used: f = 2412 MHz; σ = 1.94 mho/m; ε_r = 52; ρ = 1000 kg/m^3
Phantom section: Flat Section

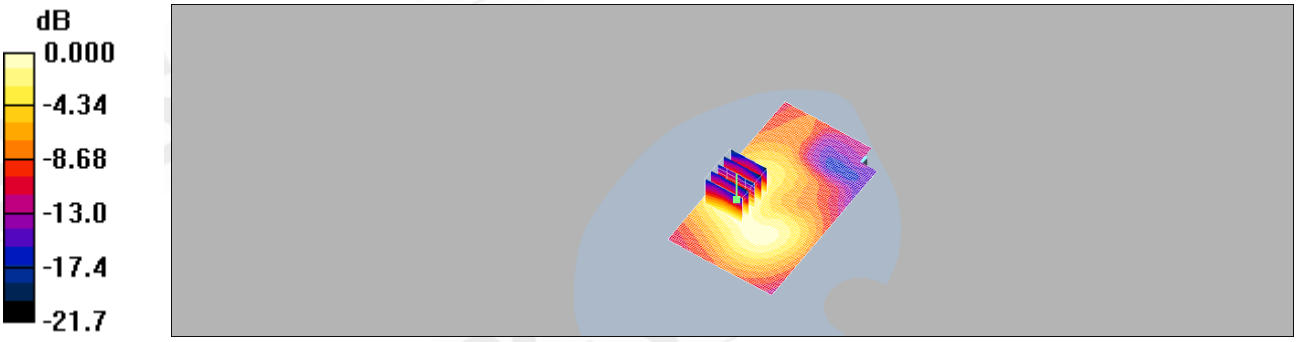
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.52, 8.52, 8.52); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

body/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.071 mW/g

body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.14 V/m; Power Drift = -0.043 dB
Peak SAR (extrapolated) = 0.129 W/kg

SAR(1 g) = 0.068 mW/g; SAR(10 g) = 0.038 mW/g
Maximum value of SAR (measured) = 0.074 mW/g



0 dB = 0.074mW/g

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Body_WLAN802.11 b_CH6

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: Muscle 2450 Medium parameters used: f = 2437 MHz; σ = 1.98 mho/m; ε_r = 51.9; ρ = 1000 kg/m^3
Phantom section: Flat Section

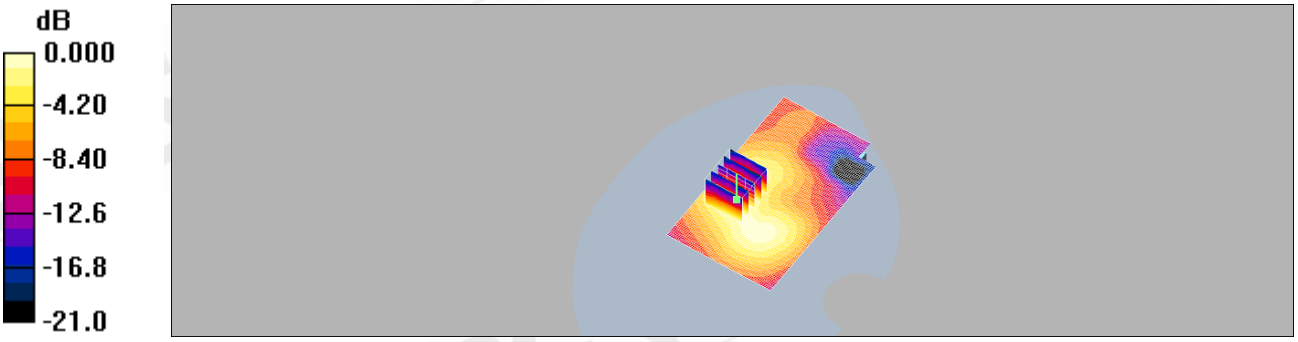
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.52, 8.52, 8.52); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

body/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.067 mW/g

body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.97 V/m; Power Drift = 0.188 dB
Peak SAR (extrapolated) = 0.117 W/kg

SAR(1 g) = 0.065 mW/g; SAR(10 g) = 0.037 mW/g
Maximum value of SAR (measured) = 0.070 mW/g



0 dB = 0.070mW/g

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Body_WLAN802.11 b_CH11

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: Muscle 2450 Medium parameters used: f = 2462 MHz; σ = 2.03 mho/m; ε_r = 51.9; ρ = 1000 kg/m^3
Phantom section: Flat Section

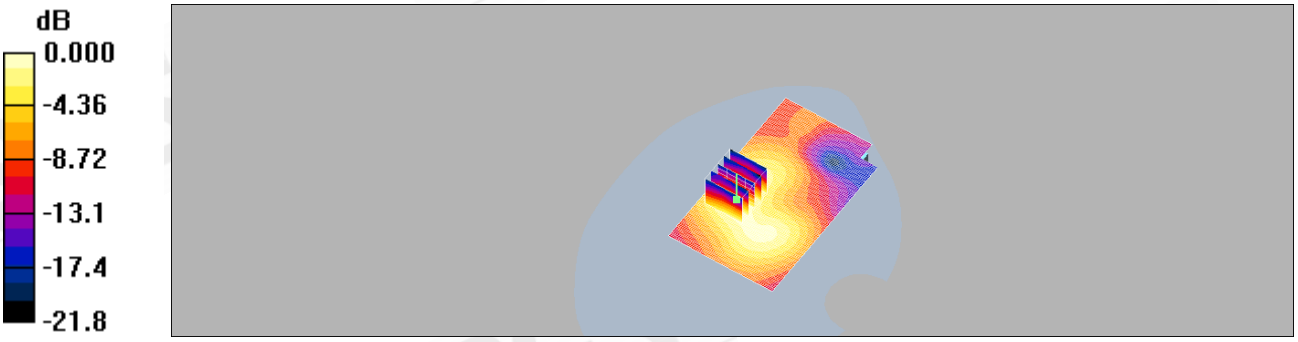
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.52, 8.52, 8.52); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

body/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.079 mW/g

body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.19 V/m; Power Drift = 0.110 dB
Peak SAR (extrapolated) = 0.137 W/kg

SAR(1 g) = 0.074 mW/g; SAR(10 g) = 0.042 mW/g
Maximum value of SAR (measured) = 0.080 mW/g



0 dB = 0.080mW/g

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RE Cheek_WLAN802.11 g_CH1

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: HEAD 2450 Medium parameters used: f = 2412 MHz; σ = 1.85 mho/m; ε_r = 37.6; ρ = 1000 kg/m^3
Phantom section: Right Section

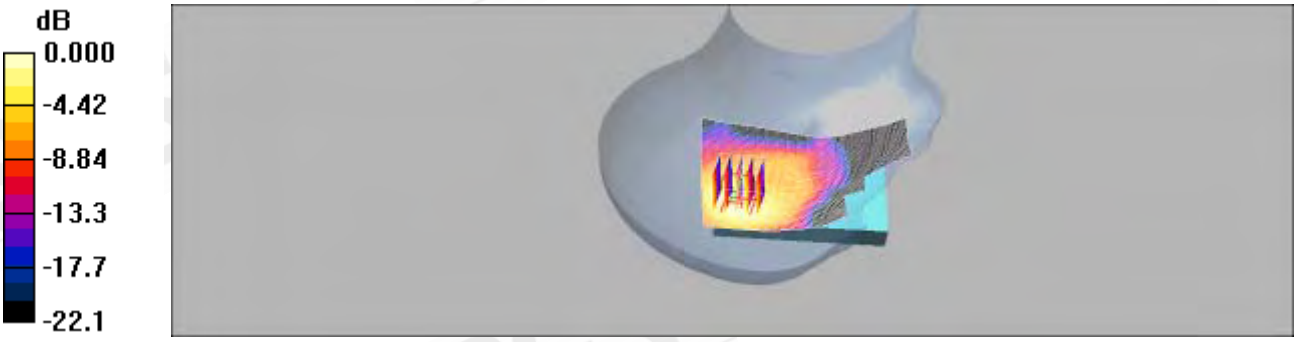
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.43, 8.43, 8.43); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.88 V/m; Power Drift = 0.147 dB
Peak SAR (extrapolated) = 0.347 W/kg

SAR(1 g) = 0.181 mW/g; SAR(10 g) = 0.096 mW/g
Maximum value of SAR (measured) = 0.195 mW/g



0 dB = 0.195mW/g

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RE Cheek_WLAN802.11 g_CH6

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: HEAD 2450 Medium parameters used: f = 2437 MHz; σ = 1.87 mho/m; ε_r = 37.5; ρ = 1000 kg/m^3
Phantom section: Right Section

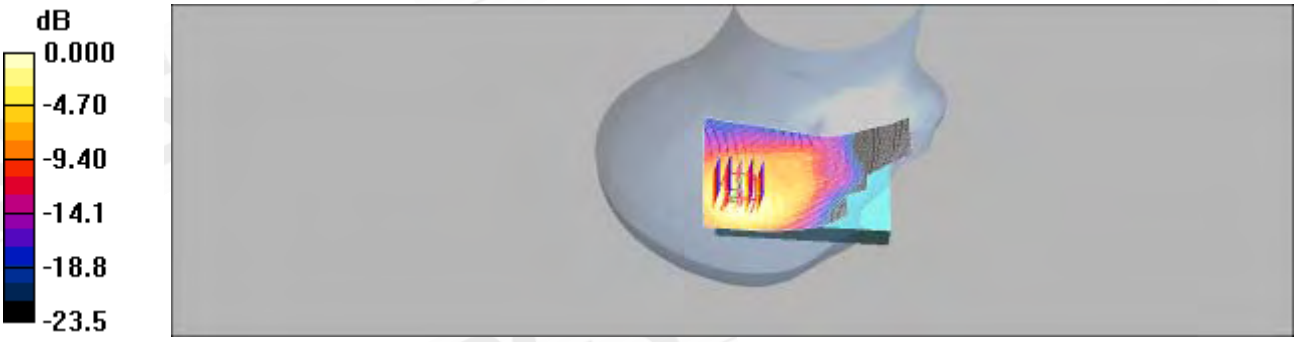
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.43, 8.43, 8.43); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.176 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.77 V/m; Power Drift = 0.067 dB
Peak SAR (extrapolated) = 0.318 W/kg

SAR(1 g) = 0.165 mW/g; SAR(10 g) = 0.087 mW/g
Maximum value of SAR (measured) = 0.180 mW/g



0 dB = 0.180mW/g

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RE Cheek_WLAN802.11 g_CH11

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: HEAD 2450 Medium parameters used: f = 2462 MHz; σ = 1.9 mho/m; ε_r = 37.4; ρ = 1000 kg/m^3
Phantom section: Right Section

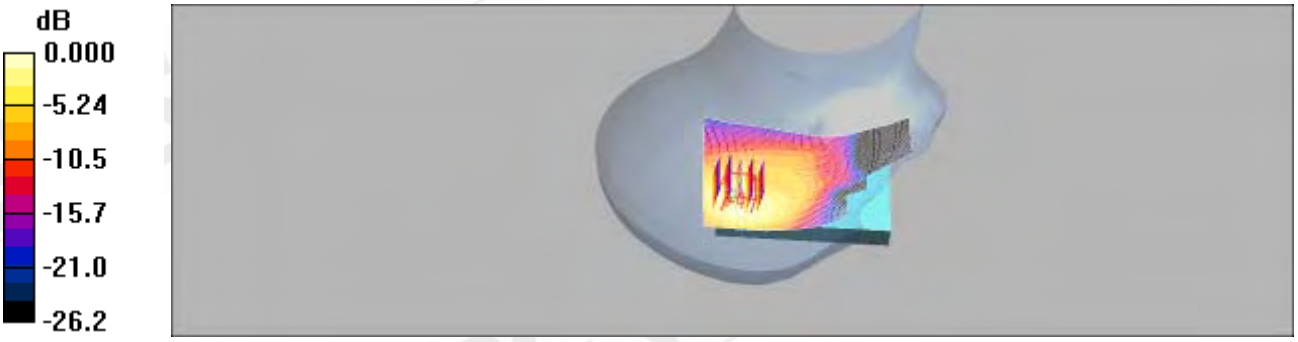
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.43, 8.43, 8.43); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.178 mW/g

RE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.63 V/m; Power Drift = 0.086 dB
Peak SAR (extrapolated) = 0.315 W/kg

SAR(1 g) = 0.163 mW/g; SAR(10 g) = 0.086 mW/g
Maximum value of SAR (measured) = 0.177 mW/g



0 dB = 0.177mW/g

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LE Cheek_WLAN802.11 g_CH1

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: HEAD 2450 Medium parameters used: f = 2412 MHz; σ = 1.85 mho/m; ε_r = 37.6; ρ = 1000 kg/m^3
Phantom section: Left Section

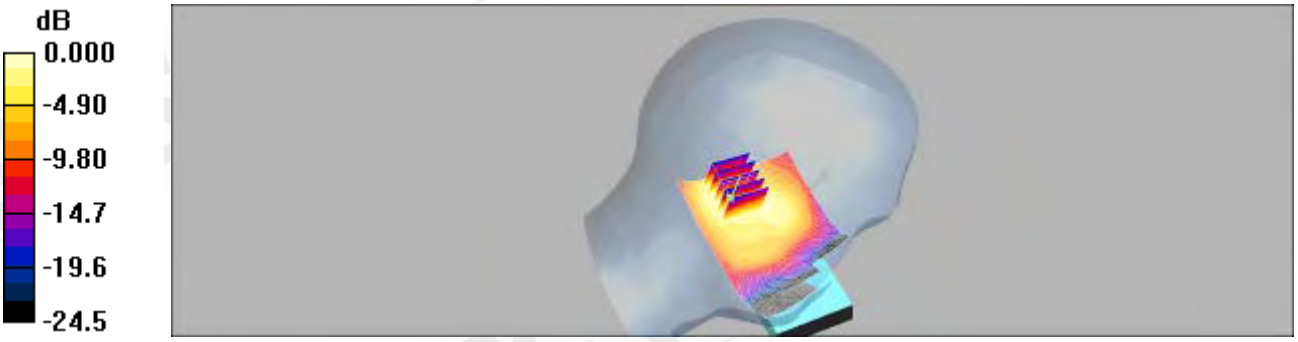
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.43, 8.43, 8.43); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.153 mW/g

LE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.34 V/m; Power Drift = -0.044 dB
Peak SAR (extrapolated) = 0.256 W/kg

SAR(1 g) = 0.137 mW/g; SAR(10 g) = 0.074 mW/g
Maximum value of SAR (measured) = 0.150 mW/g



0 dB = 0.150mW/g

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LE Cheek_WLAN802.11 g_CH6

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: HEAD 2450 Medium parameters used: f = 2437 MHz; σ = 1.87 mho/m; ε_r = 37.5; ρ = 1000 kg/m^3
Phantom section: Left Section

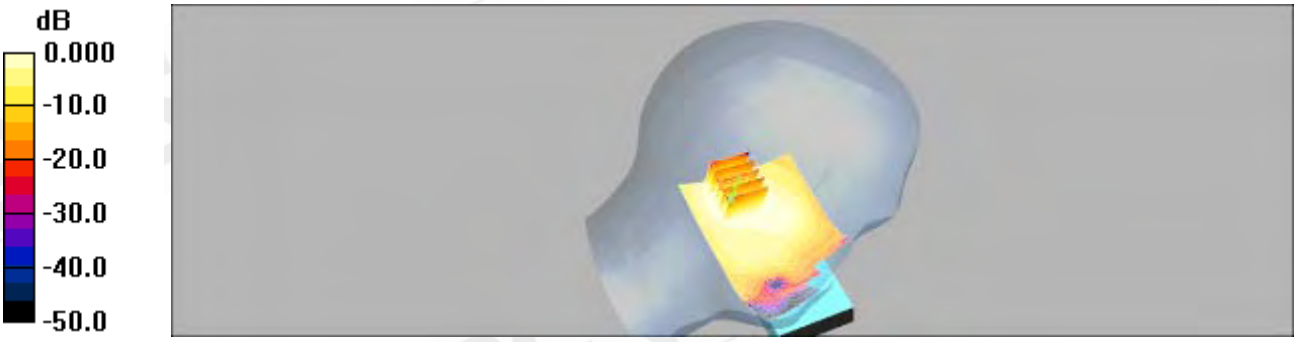
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.43, 8.43, 8.43); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.136 mW/g

LE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.90 V/m; Power Drift = -0.102 dB
Peak SAR (extrapolated) = 0.220 W/kg

SAR(1 g) = 0.117 mW/g; SAR(10 g) = 0.064 mW/g
Maximum value of SAR (measured) = 0.127 mW/g



0 dB = 0.127mW/g

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LE Cheek_WLAN802.11 g_CH11

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: HEAD 2450 Medium parameters used: f = 2462 MHz; σ = 1.9 mho/m; ε_r = 37.4; ρ = 1000 kg/m^3
Phantom section: Left Section

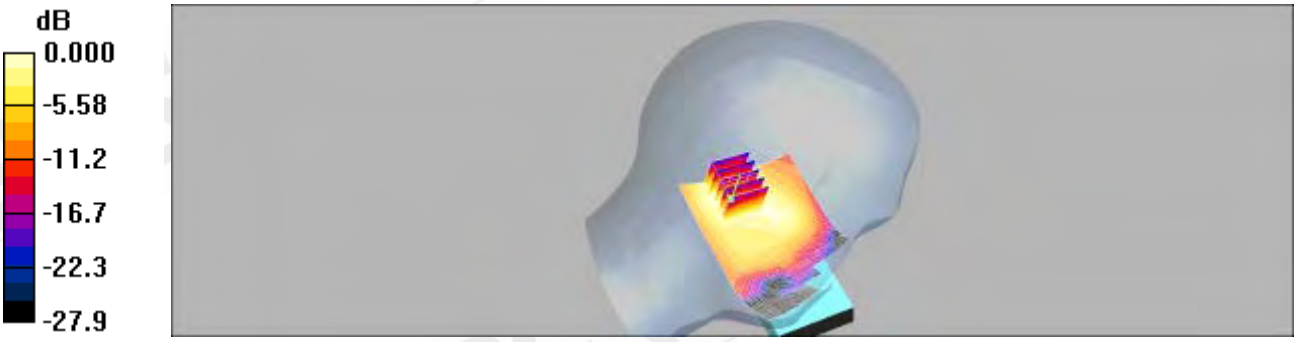
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.43, 8.43, 8.43); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.137 mW/g

LE_Cheek/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.69 V/m; Power Drift = 0.127 dB
Peak SAR (extrapolated) = 0.238 W/kg

SAR(1 g) = 0.126 mW/g; SAR(10 g) = 0.068 mW/g
Maximum value of SAR (measured) = 0.137 mW/g



0 dB = 0.137mW/g

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RE Tilt_WLAN802.11 g_CH1

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: HEAD 2450 Medium parameters used: f = 2412 MHz; σ = 1.85 mho/m; ε_r = 37.6; ρ = 1000 kg/m^3
Phantom section: Right Section

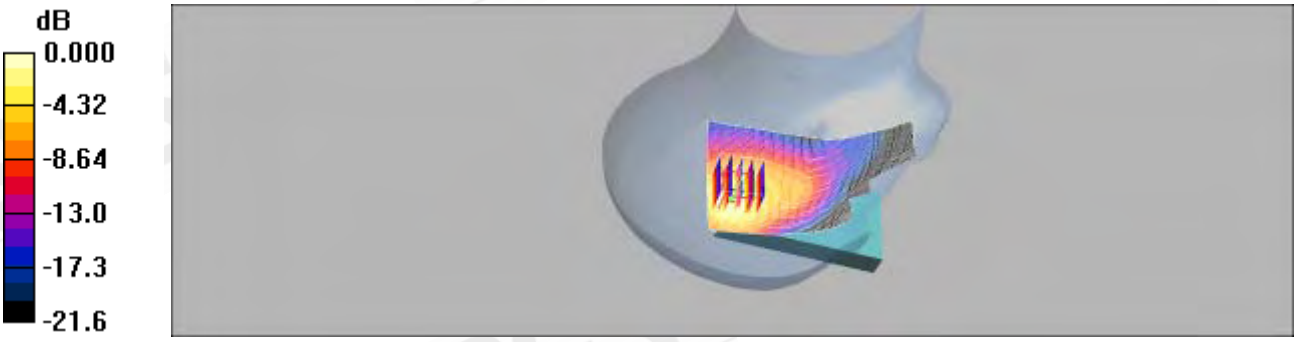
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.43, 8.43, 8.43); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.179 mW/g

RE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.61 V/m; Power Drift = 0.010 dB
Peak SAR (extrapolated) = 0.308 W/kg

SAR(1 g) = 0.162 mW/g; SAR(10 g) = 0.085 mW/g
Maximum value of SAR (measured) = 0.177 mW/g



0 dB = 0.177mW/g

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RE Tilt_WLAN802.11 g_CH6

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: HEAD 2450 Medium parameters used: f = 2437 MHz; σ = 1.87 mho/m; ε_r = 37.5; ρ = 1000 kg/m^3
Phantom section: Right Section

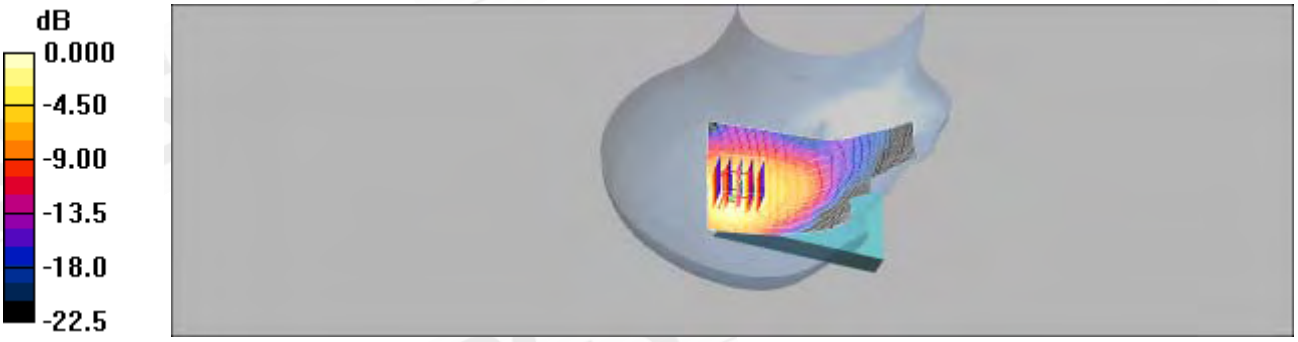
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.43, 8.43, 8.43); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.167 mW/g

RE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.41 V/m; Power Drift = 0.066 dB
Peak SAR (extrapolated) = 0.289 W/kg

SAR(1 g) = 0.151 mW/g; SAR(10 g) = 0.080 mW/g
Maximum value of SAR (measured) = 0.165 mW/g



0 dB = 0.165mW/g

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RE Tilt_WLAN802.11 g_CH11

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: HEAD 2450 Medium parameters used: f = 2462 MHz; σ = 1.9 mho/m; ε_r = 37.4; ρ = 1000 kg/m^3
Phantom section: Right Section

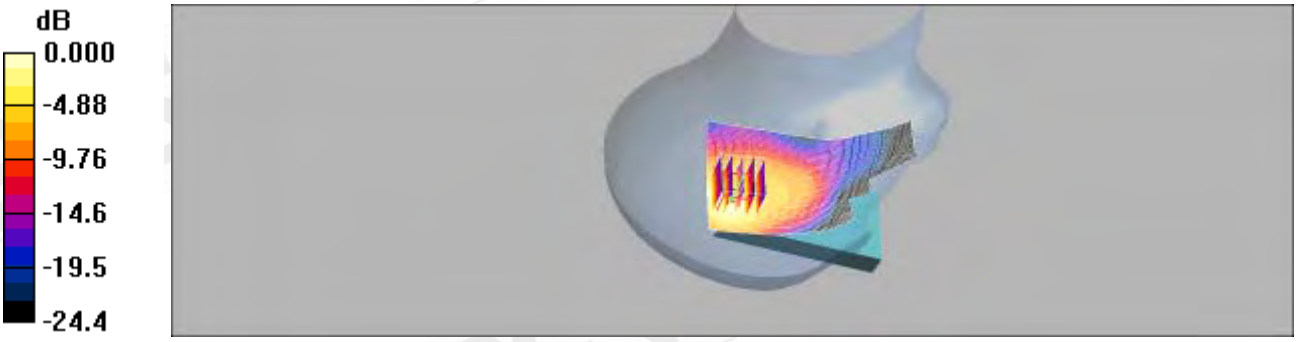
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.43, 8.43, 8.43); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

RE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.172 mW/g

RE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.11 V/m; Power Drift = 0.062 dB
Peak SAR (extrapolated) = 0.301 W/kg

SAR(1 g) = 0.153 mW/g; SAR(10 g) = 0.079 mW/g
Maximum value of SAR (measured) = 0.165 mW/g



0 dB = 0.165mW/g

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LE Tilt_WLAN802.11 g_CH1

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: HEAD 2450 Medium parameters used: f = 2412 MHz; σ = 1.85 mho/m; ε_r = 37.6; ρ = 1000 kg/m^3
Phantom section: Left Section

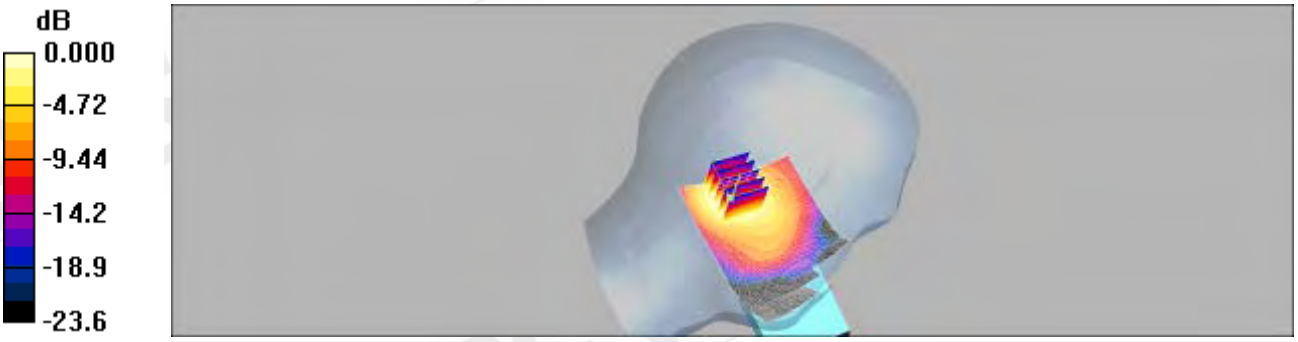
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.43, 8.43, 8.43); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.158 mW/g

LE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.72 V/m; Power Drift = 0.044 dB
Peak SAR (extrapolated) = 0.263 W/kg

SAR(1 g) = 0.141 mW/g; SAR(10 g) = 0.076 mW/g
Maximum value of SAR (measured) = 0.154 mW/g



0 dB = 0.154mW/g

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LE Tilt_WLAN802.11 g_CH6

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: HEAD 2450 Medium parameters used: f = 2437 MHz; σ = 1.87 mho/m; ε_r = 37.5; ρ = 1000 kg/m^3
Phantom section: Left Section

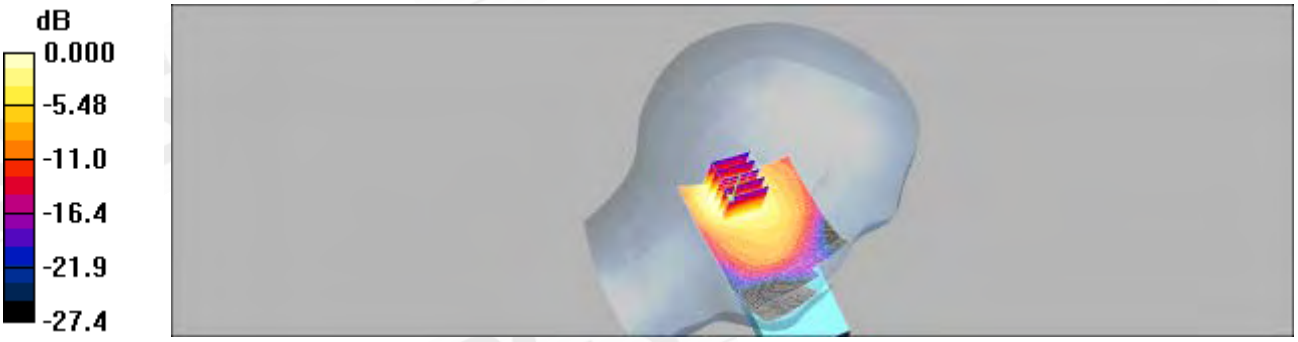
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.43, 8.43, 8.43); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

LE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.33 V/m; Power Drift = -0.018 dB
Peak SAR (extrapolated) = 0.252 W/kg

SAR(1 g) = 0.134 mW/g; SAR(10 g) = 0.071 mW/g
Maximum value of SAR (measured) = 0.146 mW/g



0 dB = 0.146mW/g

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LE Tilt_WLAN802.11 g_CH11

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: HEAD 2450 Medium parameters used: f = 2462 MHz; σ = 1.9 mho/m; ε_r = 37.4; ρ = 1000 kg/m^3
Phantom section: Left Section

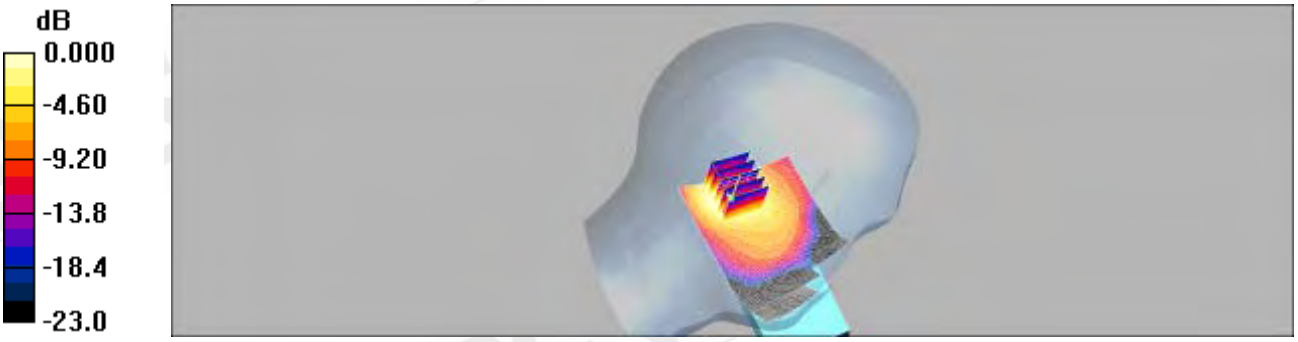
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.43, 8.43, 8.43); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

LE_Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.161 mW/g

LE_Tilt/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.56 V/m; Power Drift = -0.162 dB
Peak SAR (extrapolated) = 0.263 W/kg

SAR(1 g) = 0.138 mW/g; SAR(10 g) = 0.073 mW/g
Maximum value of SAR (measured) = 0.149 mW/g



0 dB = 0.149mW/g

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Body_WLAN802.11 g_CH1

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium: Muscle 2450 Medium parameters used: f = 2412 MHz; σ = 1.94 mho/m; ε_r = 52; ρ = 1000 kg/m^3
Phantom section: Flat Section

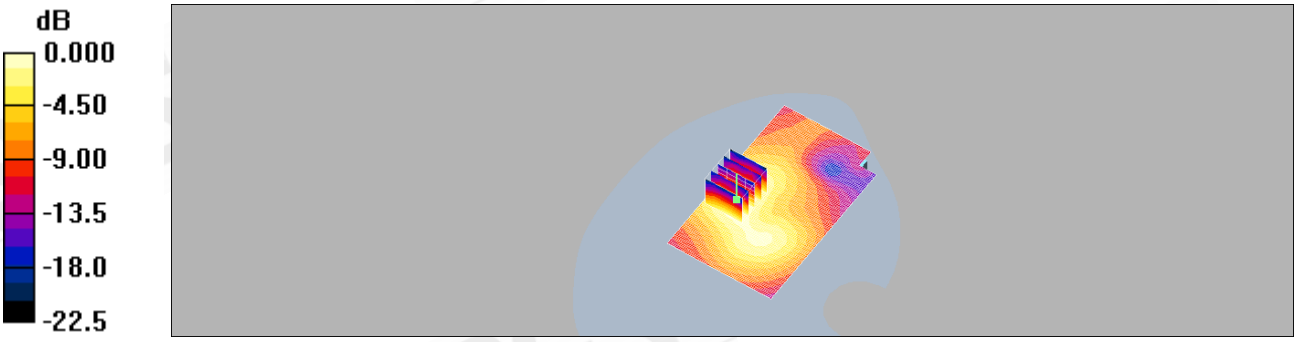
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.52, 8.52, 8.52); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

body/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.060 mW/g

body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.50 V/m; Power Drift = -0.029 dB
Peak SAR (extrapolated) = 0.107 W/kg

SAR(1 g) = 0.057 mW/g; SAR(10 g) = 0.032 mW/g
Maximum value of SAR (measured) = 0.061 mW/g



0 dB = 0.061mW/g

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Body_WLAN802.11 g_CH6

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: Muscle 2450 Medium parameters used: f = 2437 MHz; σ = 1.98 mho/m; ε_r = 51.9; ρ = 1000 kg/m^3
Phantom section: Flat Section

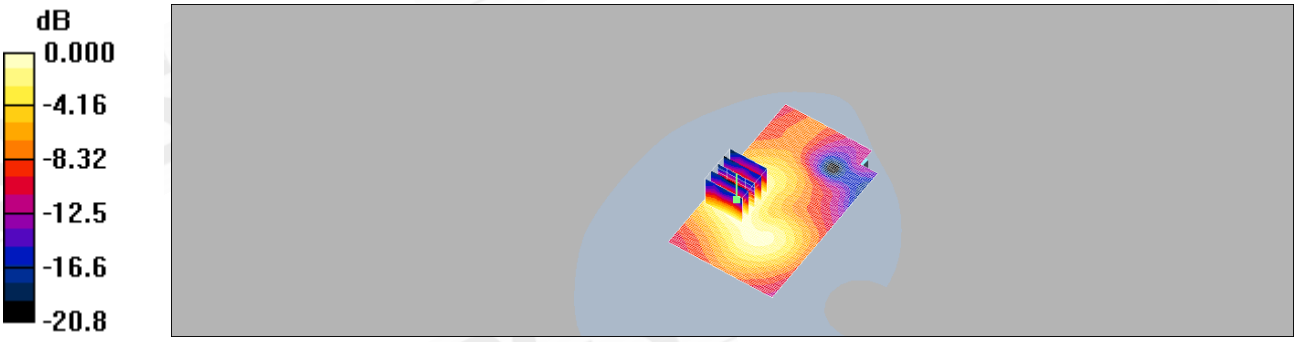
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.52, 8.52, 8.52); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

body/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.060 mW/g

body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.62 V/m; Power Drift = 0.125 dB
Peak SAR (extrapolated) = 0.111 W/kg

SAR(1 g) = 0.057 mW/g; SAR(10 g) = 0.031 mW/g
Maximum value of SAR (measured) = 0.059 mW/g



0 dB = 0.059mW/g

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Body_WLAN802.11 g_CH11

DUT: SQ-3500;

Communication System: Wireless LAN; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: Muscle 2450 Medium parameters used: f = 2462 MHz; σ = 2.03 mho/m; ε_r = 51.9; ρ = 1000 kg/m^3
Phantom section: Flat Section

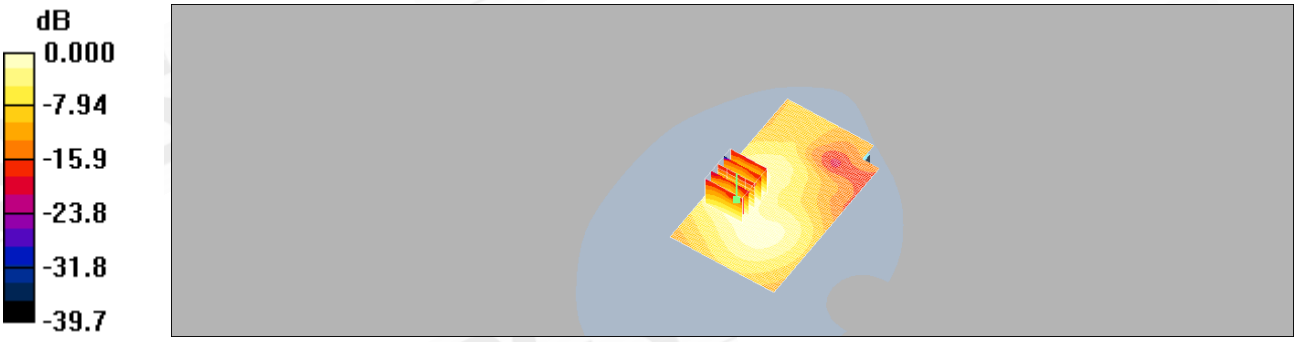
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.52, 8.52, 8.52); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

body/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.059 mW/g

body/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.56 V/m; Power Drift = 0.012 dB
Peak SAR (extrapolated) = 0.108 W/kg

SAR(1 g) = 0.058 mW/g; SAR(10 g) = 0.032 mW/g
Maximum value of SAR (measured) = 0.063 mW/g



0 dB = 0.063mW/g

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5. System Verification

Date/Time: 2009/10/19 00:16:13

DUT: Dipole 2450 MHz;

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: M2450 Medium parameters used: f = 2450 MHz; σ = 1.89 mho/m; ε_r = 37.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

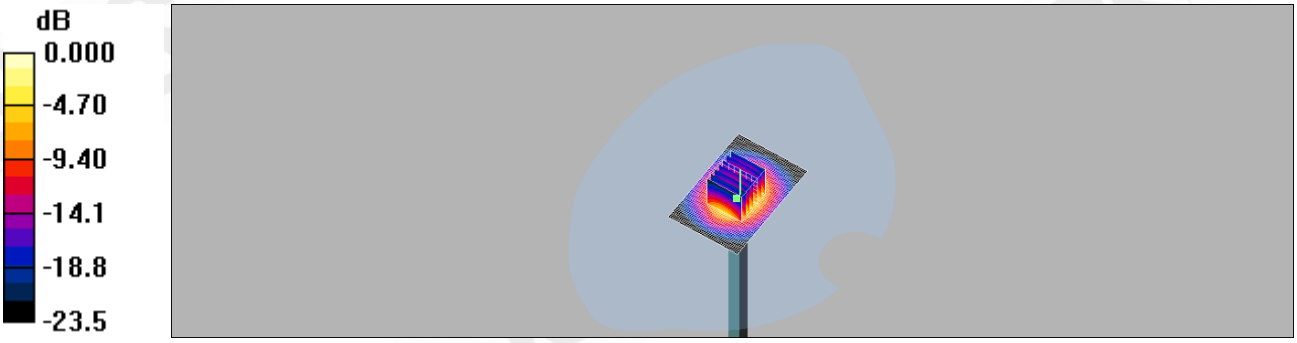
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.43, 8.43, 8.43); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

250mW/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 15.9 mW/g

250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 91.2 V/m; Power Drift = -0.027 dB
Peak SAR (extrapolated) = 29.8 W/kg

SAR(1 g) = 13.8 mW/g; SAR(10 g) = 6.35 mW/g
Maximum value of SAR (measured) = 15.6 mW/g



0 dB = 15.6mW/g

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DUT: Dipole 2450 MHz;

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: M 2450 Medium parameters used: f = 2450 MHz; σ = 2.01 mho/m; ε_r = 51.9; ρ = 1000 kg/m^3
Phantom section: Flat Section

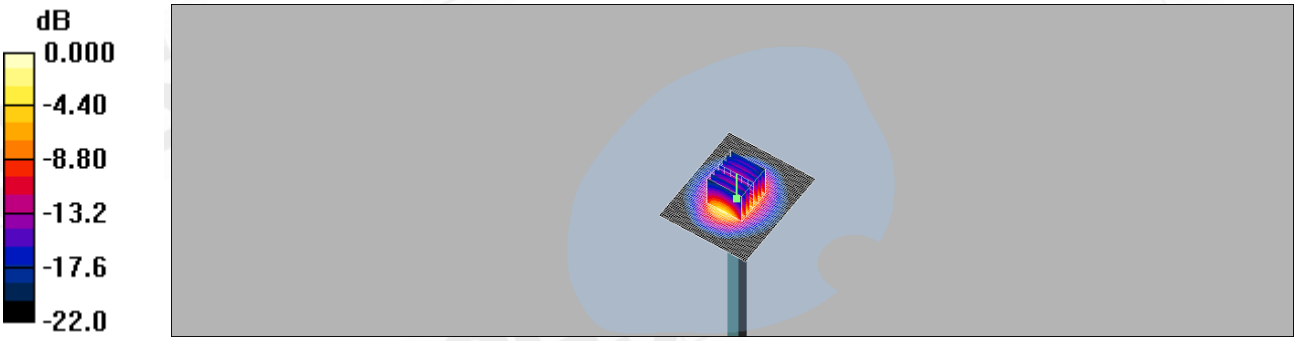
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(8.52, 8.52, 8.52); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Pin=250mW/Area Scan (51x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 17.7 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 = -0.032 dB
Peak SAR (extrapolated) = 28.6 W/kg

SAR(1 g) = 13.5 mW/g; SAR(10 g) = 6.17 mW/g
Maximum value of SAR (measured) = 15.5 mW/g



0 dB = 15.5mW/g

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DUT: Dipole 5200 MHz;

Communication System: CW; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium: Head5200 Medium parameters used: f = 5200 MHz; σ = 4.53 mho/m; ε_r = 36.8; ρ = 1000 kg/m^3
Phantom section: Flat Section

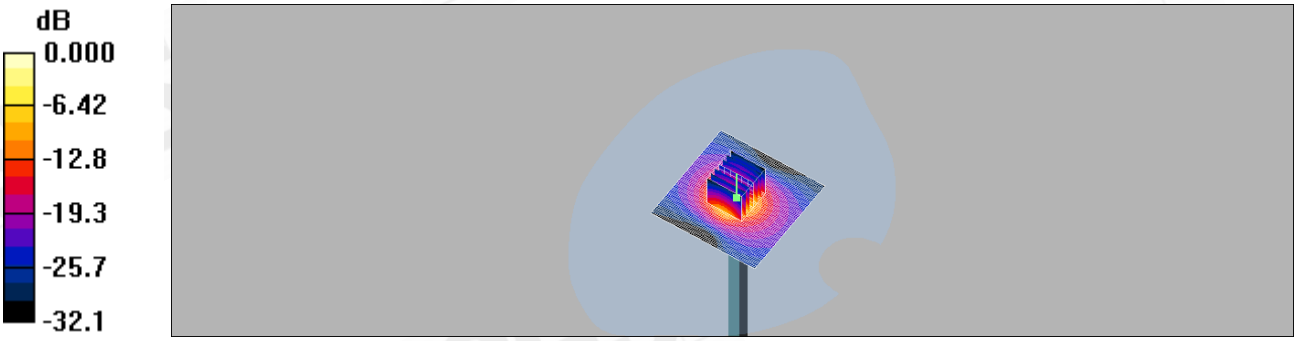
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(5.35, 5.35, 5.35); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Pin=100mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 9.33 mW/g

Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 46.0 V/m; Power Drift = 0.073 dB
Peak SAR (extrapolated) = 21.3 W/kg

SAR(1 g) = 7.78 mW/g; SAR(10 g) = 2.14 mW/g
Maximum value of SAR (measured) = 9.60 mW/g



0 dB = 9.60mW/g

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DUT: Dipole 5200 MHz;

Communication System: CW; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium: Muscle5200 Medium parameters used: f = 5200 MHz; σ = 5.46 mho/m; ε_r = 48.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

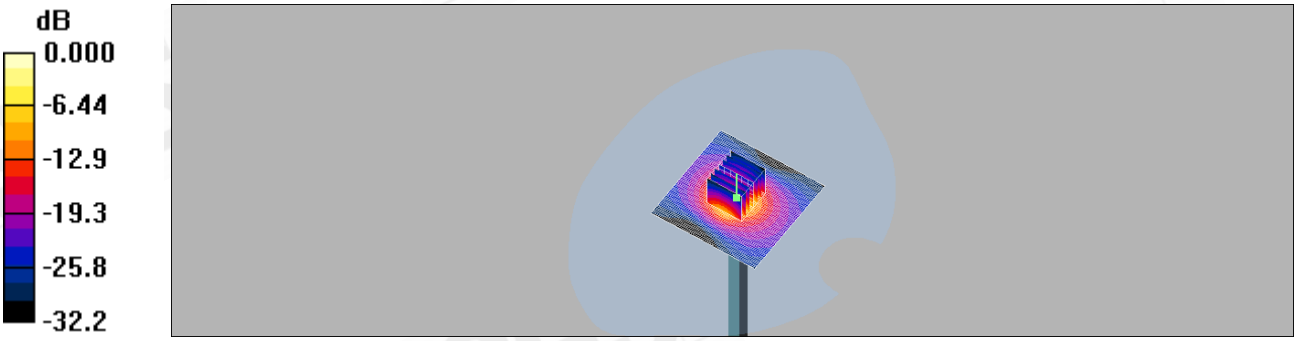
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(4.29, 4.29, 4.29); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Pin=100mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 8.81 mW/g

Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 40.8 V/m; Power Drift = 0.029 dB
Peak SAR (extrapolated) = 19.9 W/kg

SAR(1 g) = 7.47 mW/g; SAR(10 g) = 2.08 mW/g
Maximum value of SAR (measured) = 9.09 mW/g



0 dB = 9.09mW/g

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DUT: Dipole 5800 MHz;

Communication System: CW; Frequency: 5800 MHz;Duty Cycle: 1:1
Medium: Head5800 Medium parameters used: f = 5800 MHz; σ = 5.12 mho/m; ε_r = 34.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

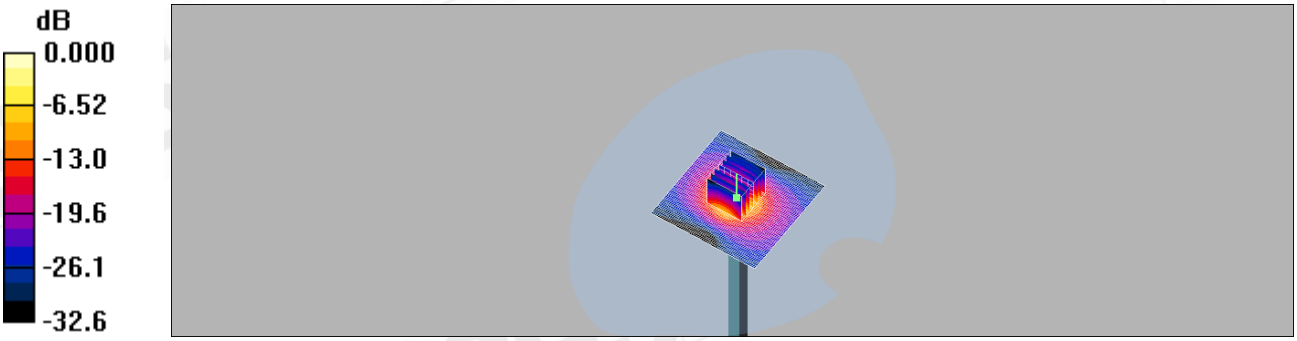
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(4.61, 4.61, 4.61); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Pin=100mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 9.20 mW/g

Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 42.9 V/m; Power Drift = 0.066 dB
Peak SAR (extrapolated) = 21.0 W/kg

SAR(1 g) = 7.77 mW/g; SAR(10 g) = 2.15 mW/g
Maximum value of SAR (measured) = 9.46 mW/g



0 dB = 9.46mW/g

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DUT: Dipole 5800 MHz;

Communication System: CW; Frequency: 5800 MHz;Duty Cycle: 1:1
Medium: Muscle5800 Medium parameters used: f = 5800 MHz; σ = 6.3 mho/m; ε_r = 47; ρ = 1000 kg/m^3
Phantom section: Flat Section

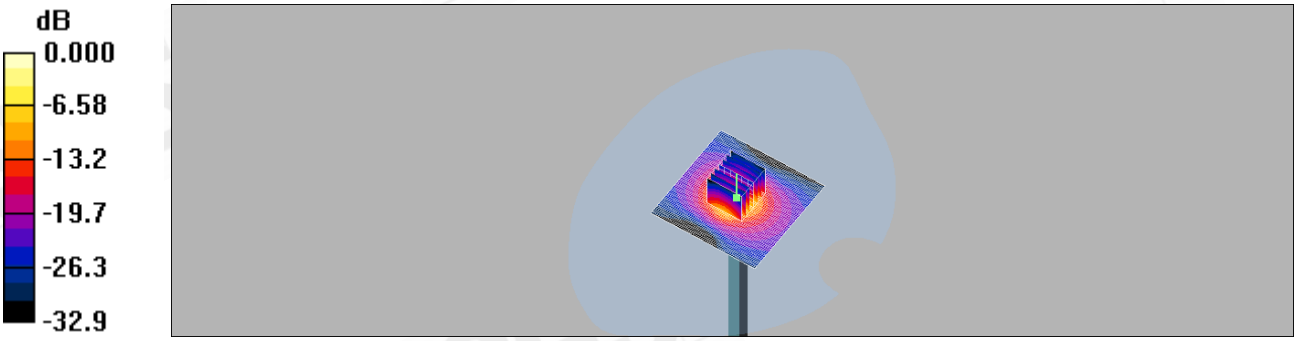
DASY4 Configuration:

- Probe: EX3DV3 - SN3526; ConvF(4.05, 4.05, 4.05); Calibrated: 2009/8/26
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn547; Calibrated: 2009/1/20
- Phantom: SAM1; Type: SAM 4.0; Serial: TP:1419
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Pin=100mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 8.52 mW/g

Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 37.3 V/m; Power Drift = 0.060 dB
Peak SAR (extrapolated) = 19.6 W/kg

SAR(1 g) = 7.16 mW/g; SAR(10 g) = 2.03 mW/g
Maximum value of SAR (measured) = 8.93 mW/g



0 dB = 8.93mW/g

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6. DAE & Probe Calibration certificate

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Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

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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: DAE4-547_Jan09

CALIBRATION CERTIFICATE

Object	DAE4 - SD 000 D04 BJ - SN: 547
Calibration procedure(s)	QA CAL-06.v12 Calibration procedure for the data acquisition electronics (DAE)
Calibration date:	January 19, 2009
Condition of the calibrated item	In Tolerance

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Fluke Process Calibrator Type 702	SN: 6295803	30-Sep-08 (No: 7673)	Sep-09
Keithley Multimeter Type 2001	SN: 0810278	30-Sep-08 (No: 7670)	Sep-09
Secondary Standards	**ID #**	**Check Date (in house)**	**Scheduled Check**
Calibrator Box V1.1	SE UMS 006 AB 1004	06-Jun-08 (in house check)	In house check: Jun-09

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

Issued: January 20, 2009

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

Certificate No: DAE4-547_Jan09 Page 1 of 5

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Accreditation No.: **SCS 108**

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

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

Issued: August 26, 2009

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Accreditation No.: SCS 108

Glossary:

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

Calibration is Performed According to the Following Standards:

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

Methods Applied and Interpretation of Parameters:

- *NORMx,y,z:* Assessed for E-field polarization ϑ = 0 (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not effect the E^2-field uncertainty inside TSL (see below *ConvF*).
- *NORM(f)x,y,z = NORMx,y,z * frequency_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.
- *DCPx,y,z:* DCP are numerical linearization parameters assessed based on the data of power sweep (no uncertainty required). DCP does not depend on frequency nor media.
- *ConvF and Boundary Effect Parameters:* Assessed in flat phantom using E-field (or Temperature Transfer Standard for f ≤ 800 MHz) and inside waveguide using analytical field distributions based on power measurements for f > 800 MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to *NORMx,y,z * ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- *Spherical isotropy (3D deviation from isotropy)*: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- *Sensor Offset*: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

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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!)

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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%	$\mu V/(V/m)^2$	DCP X	**94** mV
NormY	**0.82** ± 10.1%	$\mu V/(V/m)^2$	DCP Y	**97** mV
NormZ	**0.91** ± 10.1%	$\mu V/(V/m)^2$	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 E^2-field uncertainty inside TSL (see Page 8).

[B] Numerical linearization parameter: uncertainty not required.

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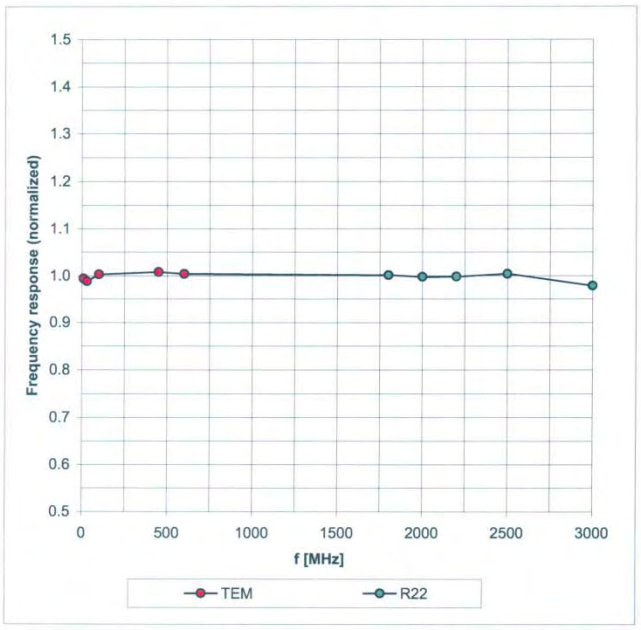
EX3DV3 SN:3526 August 26, 2009

Frequency Response of E-Field

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



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

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SGS Taiwan Ltd. 台灣檢驗科技股份有限公司
No.134, Wu Kung Road, Wuku Industrial Zone, Taipei County, Taiwan /台北縣五股工業區五工路 134 號
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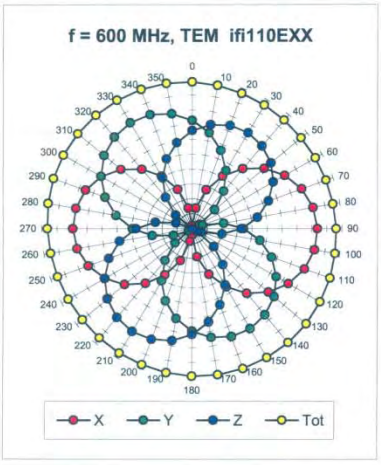
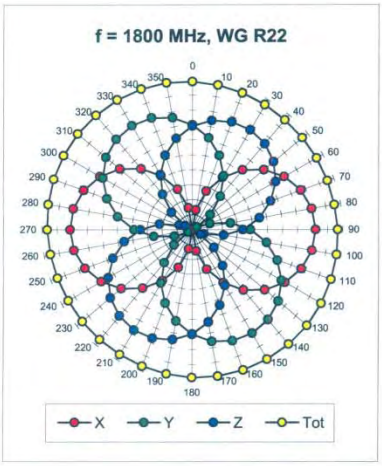
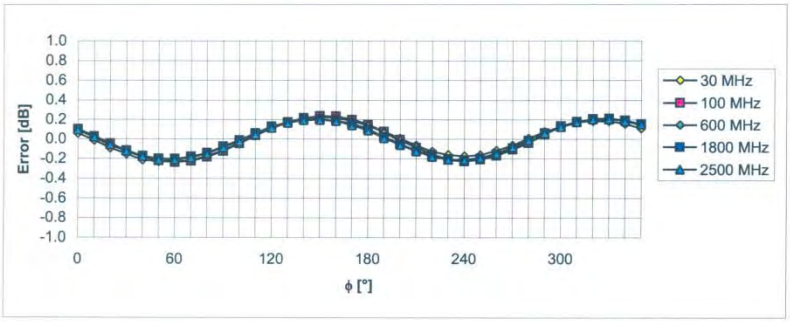
Member of SGS Group

EX3DV3 SN:3526 August 26, 2009

Receiving Pattern (ϕ), ϑ = 0°







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

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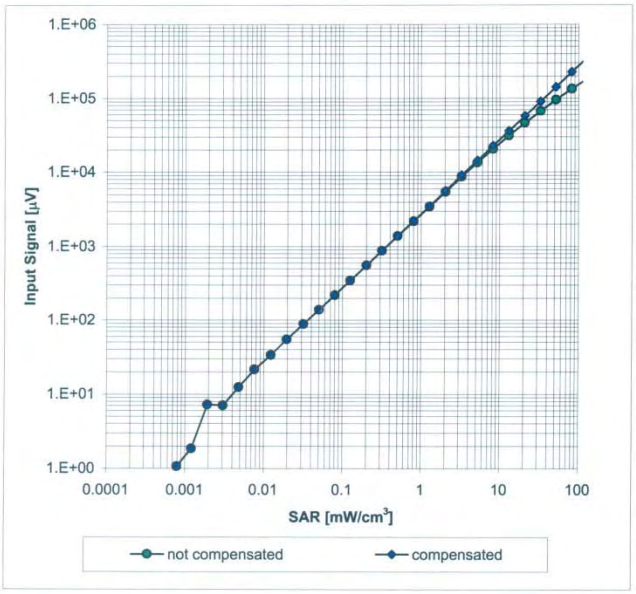
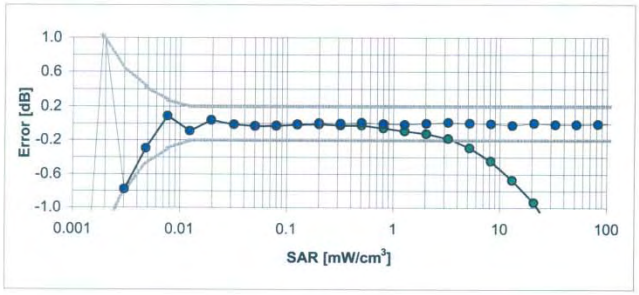
Dynamic Range f(SAR$_{head}$)

(Waveguide R22, f = 1800 MHz)





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

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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.

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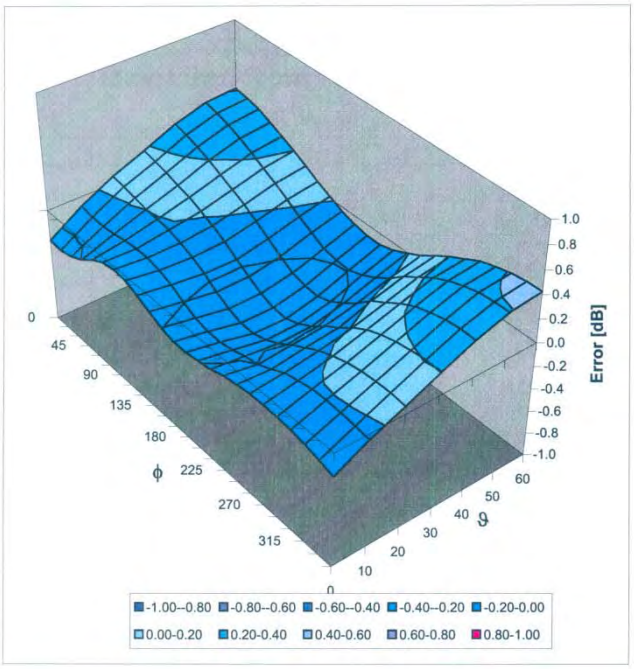
EX3DV3 SN:3526 August 26, 2009

Deviation from Isotropy in HSL

Error (ϕ, ϑ), f = 900 MHz



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

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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%**	

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8. Phantom description

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

Certificate of Conformity / First Article Inspection

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

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

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

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

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

Date 07.07.2005

Signature / Stamp

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

Doc No 881 – QD 000 P40 C – F Page 1 (1)

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9. System Validation from Original equipment supplier

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: 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

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

Issued: April 28, 2009

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

Certificate No: D2450V2-727_Apr09 Page 1 of 9

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DASY5 Validation Report for Head TSL

Date/Time: 27.04.2009 13:40:04

Test Laboratory: SPEAG, Zurich, Switzerland

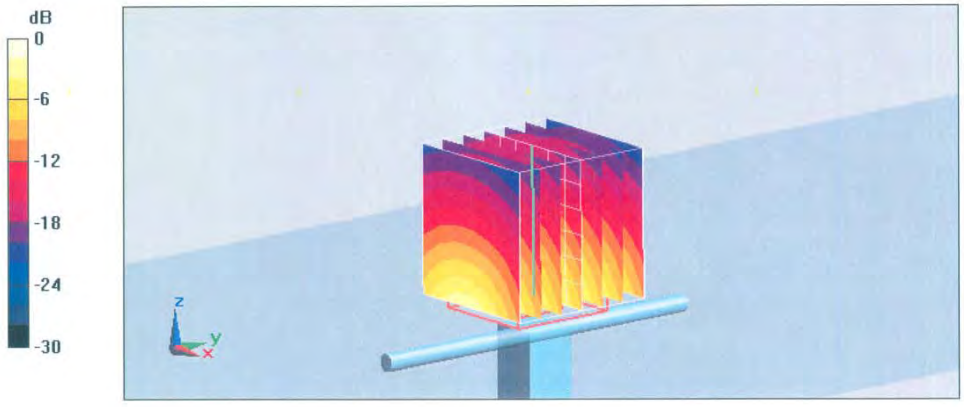
DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN727

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: HSL U10 BB
Medium parameters used: f = 2450 MHz; σ = 1.82 mho/m; ε_r = 38; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(4.4, 4.4, 4.4); Calibrated: 28.04.2008
- Sensor-Surface: 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; d = 10 mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 100.3 V/m; Power Drift = 0.036 dB
Peak SAR (extrapolated) = 28.3 W/kg
SAR(1 g) = 13.5 mW/g; SAR(10 g) = 6.28 mW/g
Maximum value of SAR (measured) = 17.2 mW/g



0 dB = 17.2mW/g

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DASY5 Validation Report for Body TSL

Date/Time: 22.04.2009 13:12:14

Test Laboratory: SPEAG, Zurich, Switzerland

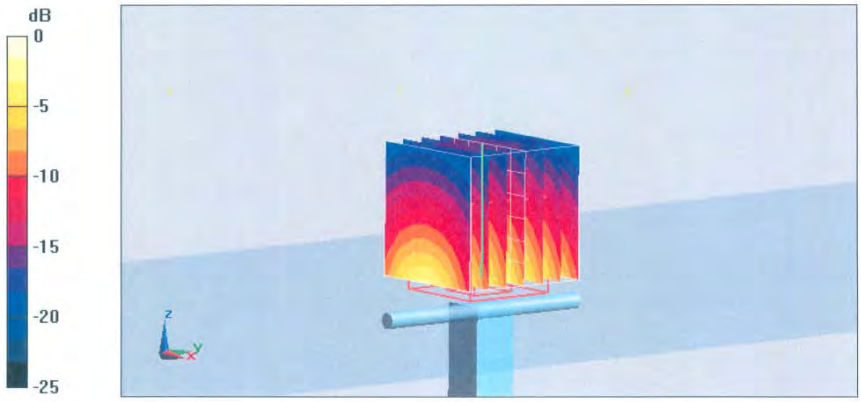
DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:727

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: MSL U10 BB
Medium parameters used: f = 2450 MHz; σ = 1.98 mho/m; ε_r = 54.4; ρ = 1000 kg/m^3
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



0 dB = 17.3mW/g

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

S Schweizerischer Kalibrierdienst
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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: D5GHzV2-1023_Mar09

CALIBRATION CERTIFICATE

Object	D5GHzV2 - SN: 1023
Calibration procedure(s)	QA CAL-22.v1 Calibration procedure for dipole validation kits between 3-6 GHz
Calibration date:	March 13, 2009
Condition of the calibrated item	In Tolerance

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	08-Oct-08 (No. 217-00898)	Oct-09
Power sensor HP 8481A	US37292783	08-Oct-08 (No. 217-00898)	Oct-09
Reference 20 dB Attenuator	SN: 5086 (20g)	01-Jul-08 (No. 217-00864)	Jul-09
Type-N mismatch combination	SN: 5047.2 / 06327	01-Jul-08 (No. 217-00867)	Jul-09
Reference Probe EX3DV4	SN: 3503	11-Mar-09 (No. EX3-3503_Mar09)	Mar-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

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

Issued: March 17, 2009

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Measurement Conditions

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

DASY Version	DASY5	V5.0
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Area Scan resolution	dx, dy = 10 mm	
Zoom Scan Resolution	dx, dy = 4.0 mm, dz = 2.5 mm	
Frequency	5200 MHz ± 1 MHz 5500 MHz ± 1 MHz 5800 MHz ± 1 MHz	

Head TSL parameters at 5200 MHz

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	36.0	4.66 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	35.4 ± 6 %	4.53 mho/m ± 6 %
Head TSL temperature during test	(22.0 ± 0.2) °C	----	----

SAR result with Head TSL at 5200 MHz

SAR averaged over 1 cm^3 (1 g) of Head TSL	condition	
SAR measured	100 mW input power	7.70 mW / g
SAR normalized	normalized to 1W	77.0 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**76.7 mW / g ± 19.9 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.17 mW / g
SAR normalized	normalized to 1W	21.7 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**21.6 mW / g ± 19.5 % (k=2)**

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

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Head TSL parameters at 5500 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.6	4.96 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	34.9 ± 6 %	4.80 mho/m ± 6 %
Head TSL temperature during test	(22.0 ± 0.2) °C	----	----

SAR result with Head TSL at 5500 MHz

SAR averaged over 1 cm^3 (1 g) of Head TSL	condition	
SAR measured	100 mW input power	8.17 mW / g
SAR normalized	normalized to 1W	81.7 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**81.3 mW / g ± 19.9 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.29 mW / g
SAR normalized	normalized to 1W	22.9 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**22.8 mW / g ± 19.5 % (k=2)**

Head TSL parameters at 5800 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	35.3	5.27 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	34.3 ± 6 %	5.08 mho/m ± 6 %
Head TSL temperature during test	(22.0 ± 0.2) °C	----	----

SAR result with Head TSL at 5800 MHz

SAR averaged over 1 cm^3 (1 g) of Head TSL	condition	
SAR measured	100 mW input power	7.81 mW / g
SAR normalized	normalized to 1W	78.1 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**77.6 mW / g ± 19.9 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	100 mW input power	2.19 mW / g
SAR normalized	normalized to 1W	21.9 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**21.7 mW / g ± 19.5 % (k=2)**

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

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Body TSL parameters at 5200 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	49.0	5.30 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	47.7 ± 6 %	5.30 mho/m ± 6 %
Body TSL temperature during test	(21.2 ± 0.2) °C	----	----

SAR result with Body TSL at 5200 MHz

SAR averaged over 1 cm³ (1 g) of Body TSL	condition	
SAR measured	100 mW input power	7.40 mW / g
SAR normalized	normalized to 1W	74.0 mW / g
SAR for nominal Body TSL parameters [1]	normalized to 1W	**73.6 mW / g ± 19.9 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.06 mW / g
SAR normalized	normalized to 1W	20.6 mW / g
SAR for nominal Body TSL parameters [1]	normalized to 1W	**20.5 mW / g ± 19.5 % (k=2)**

Body TSL parameters at 5500 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.6	5.65 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	47.0 ± 6 %	5.68 mho/m ± 6 %
Body TSL temperature during test	(21.0 ± 0.2) °C	----	----

SAR result with Body TSL at 5500 MHz

SAR averaged over 1 cm³ (1 g) of Body TSL	condition	
SAR measured	100 mW input power	7.85 mW / g
SAR normalized	normalized to 1W	78.5 mW / g
SAR for nominal Body TSL parameters [1]	normalized to 1W	**78.0 mW / g ± 19.9 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	100 mW input power	2.17 mW / g
SAR normalized	normalized to 1W	21.7 mW / g
SAR for nominal Body TSL parameters [1]	normalized to 1W	**21.5 mW / g ± 19.5 % (k=2)**

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

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Body TSL parameters at 5800 MHz

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	48.2	6.00 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	46.3 ± 6 %	6.05 mho/m ± 6 %
Body TSL temperature during test	(21.0 ± 0.2) °C	----	----

SAR result with Body TSL at 5800 MHz

SAR averaged over 1 cm^3 (1 g) of Body TSL	condition	
SAR measured	100 mW input power	7.09 mW / g
SAR normalized	normalized to 1W	70.9 mW / g
SAR for nominal Body TSL parameters [1]	normalized to 1W	**70.4 mW / g ± 19.9 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	100 mW input power	1.95 mW / g
SAR normalized	normalized to 1W	19.5 mW / g
SAR for nominal Body TSL parameters [1]	normalized to 1W	**19.3 mW / g ± 19.5 % (k=2)**

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

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Appendix

Antenna Parameters with Head TSL at 5200 MHz

Impedance, transformed to feed point	49.4 Ω - 6.9 jΩ
Return Loss	-23.2 dB

Antenna Parameters with Head TSL at 5500 MHz

Impedance, transformed to feed point	51.3 Ω - 2.3 jΩ
Return Loss	-31.6 dB

Antenna Parameters with Head TSL at 5800 MHz

Impedance, transformed to feed point	57.2 Ω - 1.0 jΩ
Return Loss	-23.4 dB

Antenna Parameters with Body TSL at 5200 MHz

Impedance, transformed to feed point	50.6 Ω - 6.0 jΩ
Return Loss	-24.4 dB

Antenna Parameters with Body TSL at 5500 MHz

Impedance, transformed to feed point	51.7 Ω - 1.2 jΩ
Return Loss	-33.8 dB

Antenna Parameters with Body TSL at 5800 MHz

Impedance, transformed to feed point	56.9 Ω + 0.3 jΩ
Return Loss	-23.8 dB

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DASY5 Validation Report for Head TSL

Date/Time: 12.03.2009 13:05:20

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 5GHz; Type: D5GHz; Serial: D5GHzV2 - SN:1023

Communication System: CW-5GHz; Frequency: 5200 MHzFrequency: 5500 MHzFrequency: 5800 MHz;Duty Cycle: 1:1

Medium: HSL 5800 MHz
Medium parameters used: f = 5200 MHz; σ = 4.5 mho/m; ε_r = 35.2; ρ = 1000 kg/m^3 Medium parameters used: f = 5500 MHz; σ = 4.78 mho/m; ε_r = 34.6; ρ = 1000 kg/m^3 Medium parameters used: f = 5800 MHz; σ = 5.06 mho/m; ε_r = 34.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(5.36, 5.36, 5.36)ConvF(4.85, 4.85, 4.85)ConvF(4.74, 4.74, 4.74); Calibrated: 11.03.2009
- Sensor-Surface: 2mm (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 13.2 Build 87

d=10mm, Pin=100mW, f=5200 MHz/Area Scan (61x61x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 15.9 mW/g

d=10mm, Pin=100mW, f=5200 MHz/Zoom Scan (8x8x10), dist=2mm (8x8x10)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 53.6 V/m; Power Drift = 0.017 dB
Peak SAR (extrapolated) = 29.6 W/kg
SAR(1 g) = 7.7 mW/g; SAR(10 g) = 2.17 mW/g
Maximum value of SAR (measured) = 16.1 mW/g

d=10mm, Pin=100mW, f=5500 MHz 2/Zoom Scan (8x8x10), dist=2mm (8x8x10)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 53 V/m; Power Drift = 0.076 dB
Peak SAR (extrapolated) = 33.1 W/kg
SAR(1 g) = 8.17 mW/g; SAR(10 g) = 2.29 mW/g
Maximum value of SAR (measured) = 17.2 mW/g

d=10mm, Pin=100mW, f=5800 MHz 2/Zoom Scan (8x8x10), dist=2mm (8x8x10)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 50.3 V/m; Power Drift = 0.102 dB
Peak SAR (extrapolated) = 33.1 W/kg
SAR(1 g) = 7.81 mW/g; SAR(10 g) = 2.19 mW/g
Maximum value of SAR (measured) = 16.7 mW/g

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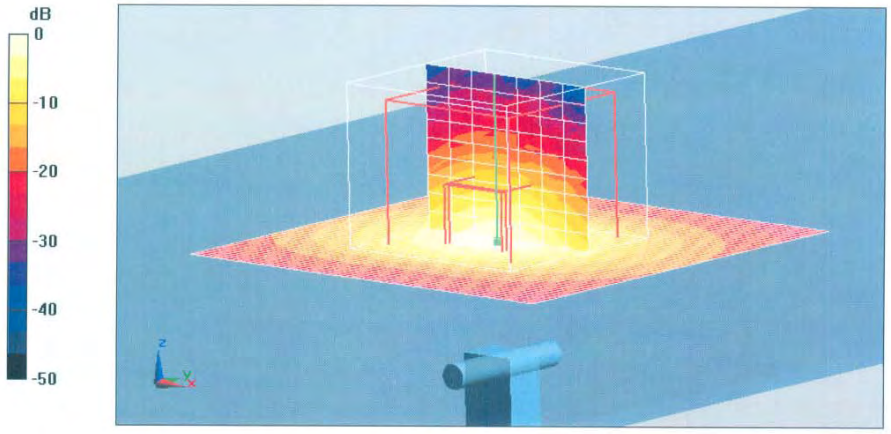

0 dB = 16.7mW/g

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DASY5 Validation Report for Body TSL

Date/Time: 13.03.2009 12:53:56

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 5GHz; Type: D5GHz; Serial: D5GHzV2 - SN:1023

Communication System: CW-5GHz; Frequency: 5200 MHzFrequency: 5500 MHzFrequency: 5800 MHz;Duty Cycle: 1:1

Medium: MSL 5800 MHz
Medium parameters used: f = 5200 MHz; σ = 5.3 mho/m; ε_r = 47.7; ρ = 1000 kg/m^3 Medium parameters used: f = 5500 MHz; σ = 5.68 mho/m; ε_r = 47; ρ = 1000 kg/m^3 Medium parameters used: f = 5800 MHz; σ = 6.05 mho/m; ε_r = 46.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)

DASY5 Configuration:

- Probe: EX3DV4 - SN3503; ConvF(4.88, 4.88, 4.88)ConvF(4.37, 4.37, 4.37)ConvF(4.57, 4.57, 4.57); Calibrated: 11.03.2009
- Sensor-Surface: 2mm (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 13.2 Build 87

d=10mm, Pin=100mW, f=5200 MHz/Area Scan (61x61x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 15.7 mW/g

d=10mm, Pin=100mW, f=5200 MHz/Zoom Scan (8x8x10), dist=2mm (8x8x10)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 49.5 V/m; Power Drift = -0.00808 dB
Peak SAR (extrapolated) = 27.9 W/kg
SAR(1 g) = 7.4 mW/g; SAR(10 g) = 2.06 mW/g
Maximum value of SAR (measured) = 15.2 mW/g

d=10mm, Pin=100mW, f=5500 MHz/Zoom Scan (8x8x10), dist=2mm (8x8x10)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 49.1 V/m; Power Drift = -0.029 dB
Peak SAR (extrapolated) = 31.6 W/kg
SAR(1 g) = 7.85 mW/g; SAR(10 g) = 2.17 mW/g
Maximum value of SAR (measured) = 16.5 mW/g

d=10mm, Pin=100mW, f=5800 MHz/Zoom Scan (8x8x10), dist=2mm (8x8x10)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 44.9 V/m; Power Drift = 0.033 dB
Peak SAR (extrapolated) = 30.3 W/kg
SAR(1 g) = 7.09 mW/g; SAR(10 g) = 1.95 mW/g
Maximum value of SAR (measured) = 15 mW/g

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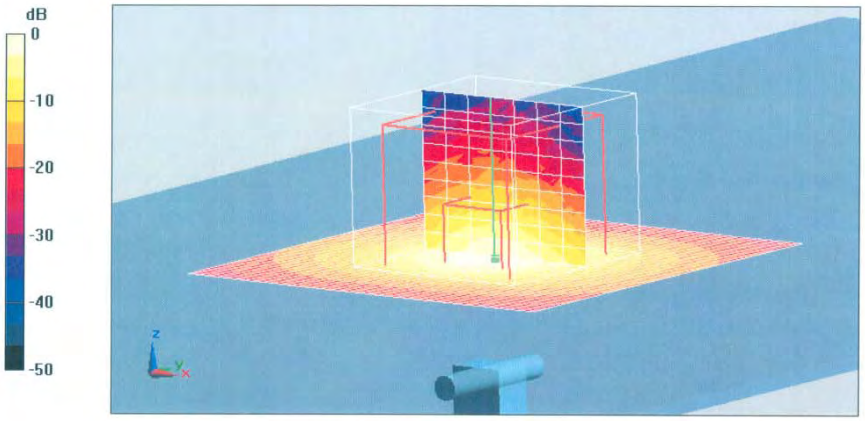

0 dB = 15mW/g

End of 1st part of report

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