

## TEST REPORT

Test Report No.: 1-2977-34-03/11



**Testing Laboratory**

**CETECOM ICT Services GmbH**  
 Untertürkheimer Straße 6 – 10  
 66117 Saarbrücken/Germany  
 Phone: + 49 681 5 98 - 0  
 Fax: + 49 681 5 98 - 9075  
 Internet: <http://www.cetecom.com>  
 e-mail: [ict@cetecom.com](mailto:ict@cetecom.com)

**Accredited Test Laboratory:**  
 The test laboratory (area of testing) is accredited according to DIN EN ISO/IEC 17025

DAkkS registration number: D-PL-12076-01-01

**Applicant**

**Sony Ericsson Mobile Communications AB**  
 Nya Vattentornet  
 22188 Lund/Sweden

Phone: +46 46 19 30 00

Contact: Johan Wedin  
 e-mail: [johan.wedin@sonyericsson.com](mailto:johan.wedin@sonyericsson.com)  
 Phone: +46 70 71 95 73 6  
 Fax: +46 46 19 32 95

**Manufacturer**

**Sony Ericsson Mobile Communications AB**  
 Nya Vattentornet  
 22188 Lund/Sweden

**Test Standard/s**

IEEE 1528-2003	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
OET Bulletin 65 Supplement C	Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields
RSS-102 Issue 4	Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands)

For further applied test standards please refer to section 3 of this test report.

**Test Item**

Kind of test item:	Mobile Phone
Device type:	portable device
<b>Model name:</b>	<b>AAB-1880032-BV</b>
S/N serial number:	WUJ0165204 / WUJ0165180 (WLAN)
FCC-ID:	PY7A1880032
IC:	4170B-A1880032
IMEI-Number:	00440214-165204-4 / 00440214-165180-6 (for WLAN)
Hardware status:	AP
Software status:	R3AB007B
Frequency:	see technical details
Antenna:	integrated antenna
Battery option:	BST-43 battery Li-Polymer 3.7V / 1000mAh
Accessories:	stereo headset
Test sample status:	identical prototype
Exposure category:	general population / uncontrolled environment

This test report is electronically signed and valid without handwriting signature. For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

**Test Report authorised:**  


**Test performed:**  


2011-05-11 Thomas Vogler

2011-05-11 Oleksandr Hnatovskiy

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**2 General information**

**2.1 Notes**

The test results of this test report relate exclusively to the test item specified in this test report. CETECOM ICT Services GmbH does not assume responsibility for any conclusions and generalisations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of CETECOM ICT Services GmbH.

This test report is electronically signed and valid without handwriting signature. For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

**2.2 Application details**

Date of receipt of order: 2011-04-29  
 Date of receipt of test item: 2011-04-29  
 Start of test: 2011-05-02  
 End of test: 2011-05-10  
 Person(s) present during the test:

**2.3 Statement of compliance**

The SAR values found for the AAB-1880032-BV Mobile Phone are below the maximum recommended levels of 1.6 W/Kg as averaged over any 1 g tissue according to the FCC rule §2.1093, the ANSI/IEEE C 95.1:1999, the NCRP Report Number 86 for uncontrolled environment, according to the Health Canada’s Safety Code 6 and the Industry Canada Radio Standards Specification RSS-102 for General Population/Uncontrolled exposure.

For body worn operation, this device has been tested and meets FCC RF exposure guidelines when used with any accessory that contains no metal and that positions the handset a minimum of 15 mm from the body. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

## 2.4 Technical details

Band tested for this test report	Technology	Frequency band	Lowest transmit frequency/MHz	Highest transmit frequency/MHz	Lowest receive Frequency/MHz	Highest receive Frequency/MHz	Kind of modulation	Power Class	Tested power control level	GPRS/EGPRS mobile station class	GPRS/EGPRS multislots class	(E)GPRS voice mode or DTM	Test channel low	Test channel middle	Test channel high	Maximum output power/dBm )*
<input type="checkbox"/>	GSM	GSM	880.2	914.8	925.2	959.8	GMSK 8-PSK	4 E2	5	B	10	no	975	37	124	--
<input type="checkbox"/>	GSM	DCS	1710.2	1784.8	1805.2	1879.8	GMSK 8-PSK	1 E2	0	B	10	no	512	698	885	--
<input checked="" type="checkbox"/>	GSM	cellular	824.2	848.8	869.2	893.8	GMSK 8-PSK	4 E2	5	B	10	no	128	190	251	32.7
<input checked="" type="checkbox"/>	GSM	PCS	1850.2	1909.8	1930.2	1989.8	GMSK 8-PSK	1 E2	0	B	10	no	512	661	810	29.7
<input type="checkbox"/>	WLAN	ISM	2412	2472	2412	2472	CCK OFDM	--	max	--	--	--	1	7	13	--
<input checked="" type="checkbox"/>	WLAN US	ISM	2412	2462	2412	2462	CCK OFDM	--	max	--	--	--	1	6	11	18.5
<input type="checkbox"/>	BT	ISM	2412	2462	2412	2462	GFSK	3	max	--	--	--	0	39	78	5.05

)\*: slotted peak power for GSM, averaged maximum power for WLAN and BT.

### 3 Test standard/s:

Test Standard	Version	Test Standard Description
IEEE 1528-2003	2003-04	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
OET Bulletin 65 Supplement C	1997-01 2001-01	Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields
RSS-102 Issue 4	2010-03	Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands)
Canada's Safety Code No. 6	99-EHD-237	Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3 kHz to 300 GHz
IEEE Std. C95-3	1991	Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields – RF and Microwave
IEEE Std. C95-1	1999	Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields

#### 3.1 RF exposure limits

Human Exposure	Uncontrolled Environment General Population	Controlled Environment Occupational
Spatial Peak SAR* (Brain and Trunk)	<b>1.60 mW/g</b>	8.00 mW/g
Spatial Average SAR** (Whole Body)	0.08 mW/g	0.40 mW/g
Spatial Peak SAR*** (Hands/Feet/Ankle/Wrist)	4.00 mW/g	20.00 mW/g

Table 1: RF exposure limits

The limit applied in this test report is shown in bold letters

Notes:

\* The Spatial Peak value of the SAR averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time

\*\* The Spatial Average value of the SAR averaged over the whole body.

\*\*\* The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation).

#### 4 Summary of Measurement Results

<input checked="" type="checkbox"/>	No deviations from the technical specifications ascertained
<input type="checkbox"/>	Deviations from the technical specifications ascertained

#### 5 Test Environment

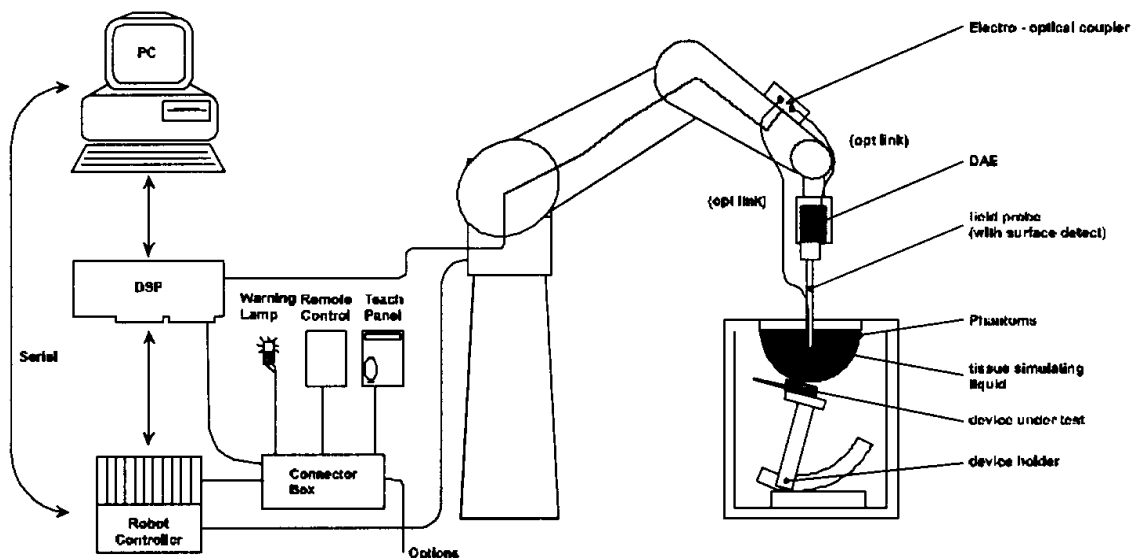
Ambient temperature:	20 – 24 °C
Tissue Simulating liquid:	20 – 24 °C
Relative humidity content:	40 – 50 %
Air pressure:	not relevant for this kind of testing
Power supply:	230 V / 50 Hz

Exact temperature values for each test are shown in the table(s) under 2.5. and/or on the measurement plots.

## 6 Test Set-up

### 6.1 Measurement system

#### 6.1.1 System Description



- The DAS4 system for performing compliance tests consists of the following items:
- A standard high precision 6-axis robot (Stäubli RX family) with controller and software. An arm extension 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 electronic (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.
- A unit to operate the optical surface detector which is connected to the EOC.
- The Electro-Optical Coupler (EOC) performs the conversion from the optical into a digital electric signal of the DAE. The EOC is connected to the DAS4 measurement server.
- The DAS4 measurement server, which performs all real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operation. A computer operating Windows 2000
- DAS4 software and SEMCAD data evaluation software.
- Remote control with teach panel and additional circuitry for robot safety such as warning lamps, etc.
- The generic twin phantom enabling the testing of left-hand and right-hand usage.
- The device holder for handheld mobile phones.
- Tissue simulating liquid mixed according to the given recipes.
- System validation dipoles allowing to validate the proper functioning of the system.

### 6.1.2 Test environment

The DASY4 measurement system is placed at the head end of a room with dimensions: 5 x 2.5 x 3 m<sup>3</sup>, the SAM phantom is placed in a distance of 75 cm from the side walls and 1.1m from the rear wall. Above the test system a 1.5 x 1.5 m<sup>2</sup> array of pyramid absorbers is installed to reduce reflections from the ceiling.

Picture 1 of the photo documentation shows a complete view of the test environment.

The system allows the measurement of SAR values larger than 0.005 mW/g.

### 6.1.3 Probe description

Isotropic E-Field Probe ET3DV6 for Dosimetric Measurements

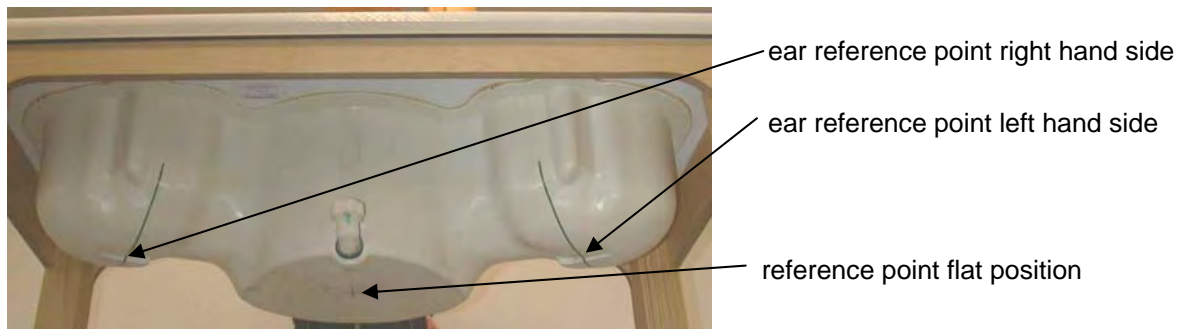
Technical data according to manufacturer information	
Construction	Symmetrical design with triangular core Built-in optical fiber for surface detection system Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., glycoether)
Calibration	In air from 10 MHz to 2.5 GHz In head tissue simulating liquid (HSL) at 900 (800-1000) MHz and 1.8 GHz (1700-1910 MHz) (accuracy $\pm 9.5\%$ ; k=2) Calibration for other liquids and frequencies upon request
Frequency	10 MHz to 3 GHz (dosimetry); Linearity: $\pm 0.2$ dB (30 MHz to 3 GHz)
Directivity	$\pm 0.2$ dB in HSL (rotation around probe axis) $\pm 0.4$ dB in HSL (rotation normal to probe axis)
Dynamic range	5 $\mu$ W/g to > 100 mW/g; Linearity: $\pm 0.2$ dB
Optical Surface Detection	$\pm 0.2$ mm repeatability in air and clear liquids over diffuse reflecting surfaces (ET3DV6 only)
Dimensions	Overall length: 330 mm Tip length: 16 mm Body diameter: 12 mm Tip diameter: 6.8 mm Distance from probe tip to dipole centers: 2.7 mm
Application	General dosimetry up to 3 GHz Compliance tests of mobile phones Fast automatic scanning in arbitrary phantoms (ET3DV6)



#### 6.1.4 Phantom description

The used SAM Phantom meets the requirements specified in Edition 01-01 of Supplement C to OET Bulletin 65 for Specific Absorption Rate (SAR) measurements.

The phantom consists of a fibreglass shell integrated in a wooden table. It allows left-hand and right-hand head as well as body-worn measurements with a maximum liquid depth of 18 cm in head position and 22 cm in planar position (body measurements). The thickness of the Phantom shell is 2 mm +/- 0.1 mm.



#### 6.1.5 Device holder description

The DASY4 device holder has two scales for device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear openings). The plane between the ear openings and the mouth tip has a rotation angle of 65°. The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. This device holder is used for standard mobile phones or PDA's only. If necessary an additional support of polystyrene material is used.



Larger DUT's (e.g. notebooks) cannot be tested using this device holder. Instead a support of bigger polystyrene cubes and thin polystyrene plates is used to position the DUT in all relevant positions to find and measure spots with maximum SAR values.

Therefore those devices are normally only tested at the flat part of the SAM.

### 6.1.6 Scanning procedure

- The DASY4 installation includes predefined files with recommended procedures for measurements and validation. They are read-only document files and destined as fully defined but unmeasured masks. All test positions (head or body-worn) are tested with the same configuration of test steps differing only in the grid definition for the different test positions.
- The „reference“ and „drift“ measurements are located at the beginning and end of the batch process. They measure the field drift at one single point in the liquid over the complete procedure. The indicated drift is mainly the variation of the DUT's output power and should vary max. +/- 5 %.
- The „surface check“ measurement tests the optical surface detection system of the DASY4 system by repeatedly detecting the surface with the optical and mechanical surface detector and comparing the results. The output gives the detecting heights of both systems, the difference between the two systems and the standard deviation of the detection repeatability. Air bubbles or refraction in the liquid due to separation of the sugar-water mixture gives poor repeatability (above  $\pm 0.1\text{mm}$ ). To prevent wrong results tests are only executed when the liquid is free of air bubbles. The difference between the optical surface detection and the actual surface depends on the probe and is specified with each probe. (It does not depend on the surface reflectivity or the probe angle to the surface within  $\pm 30^\circ$ .)
- The „area scan“ measures the SAR above the DUT or verification dipole on a parallel plane to the surface. It is used to locate the approximate location of the peak SAR with 2D spline interpolation. The robot performs a stepped movement along one grid axis while the local electrical field strength is measured by the probe. The probe is touching the surface of the SAM during acquisition of measurement values. The standard scan uses large grid spacing for faster measurement. Standard grid spacing for head measurements is 15 mm in x- and y- dimension. If a finer resolution is needed, the grid spacing can be reduced. Grid spacing and orientation have no influence on the SAR result. For special applications where the standard scan method does not find the peak SAR within the grid, e.g. mobile phones with flip cover, the grid can be adapted in orientation. Results of this coarse scan are shown in annex 2.
- A „7x7x7 zoom scan“ measures the field in a volume around the 2D peak SAR value acquired in the previous „coarse“ scan. This is a fine 7x7 grid where the robot additionally moves the probe in 7 steps along the z-axis away from the bottom of the Phantom. Grid spacing for the cube measurement is 5 mm in x and y-direction and 5 mm in z-direction. DASY4 is also able to perform repeated zoom scans if more than 1 peak is found during area scan. In this document, the evaluated peak 1g and 10g averaged SAR values are shown in the 2D-graphics in annex 2. Test results relevant for the specified standard (see section 3) are shown in table form in section 7.
- A Z-axis scan measures the total SAR value at the x-and y-position of the maximum SAR value found during the cube 7x7x7 scan. The probe is moved away in z-direction from the bottom of the SAM phantom in 2mm steps. This measurement shows the continuity of the liquid and can - depending in the field strength – also show the liquid depth. A z-axis scan of the measurement with maximum SAR value is shown in annex 2.

### 6.1.7 Spatial Peak SAR Evaluation

The spatial peak SAR - value for 1 and 10 g is evaluated after the Cube measurements have been done. The basis of the evaluation are the SAR values measured at the points of the fine cube grid consisting of 7 x 7 x 7 points. The algorithm that finds the maximal averaged volume is separated into three different stages.

- The data between the dipole center of the probe and the surface of the phantom are extrapolated. This data cannot be measured since the center of the dipole is 2.7 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is about 1 mm (see probe calibration sheet). The extrapolated data from a cube measurement can be visualized by selecting 'Graph Evaluated'.
- The maximum interpolated value is searched with a straight-forward algorithm. Around this maximum the SAR - values averaged over the spatial volumes (1g or 10 g) are computed using the 3d-spline interpolation algorithm. If the volume cannot be evaluated (i.e., if a part of the grid was cut off by the boundary of the measurement area) the evaluation will be started on the corners of the bottom plane of the cube.
- All neighboring volumes are evaluated until no neighboring volume with a higher average value is found.

#### Extrapolation

The extrapolation is based on a least square algorithm [W. Gander, Computermathematik, p.168-180]. Through the points in the first 3 cm along the z-axis, polynomials of order four are calculated. These polynomials are then used to evaluate the points between the surface and the probe tip. The points, calculated from the surface, have a distance of 1 mm from each other.

#### Interpolation

The interpolation of the points is done with a 3d-Spline. The 3d-Spline is composed of three one-dimensional splines with the "Not a knot"-condition [W. Gander, Computermathematik, p.141-150] (x, y and z -direction) [Numerical Recipes in C, Second Edition, p.123ff ].

#### Volume Averaging

At First the size of the cube is calculated. Then the volume is integrated with the trapezoidal algorithm. 8000 points (20x20x20) are interpolated to calculate the average.

#### Advanced Extrapolation

DASY4 uses the advanced extrapolation option which is able to compensate boundary effects on E-field probes.

## 6.1.8 Data Storage and Evaluation

### Data Storage

The DASY4 software stores the acquired data from the data acquisition electronics as raw data (in microvolt readings from the probe sensors), together with all necessary software parameters for the data evaluation (probe calibration data, liquid parameters and device frequency and modulation data) in measurement files with the extension ".DA4". The software evaluates the desired unit and format for output each time the data is visualized or exported. This allows verification of the complete software setup even after the measurement and allows correction of incorrect parameter settings. For example, if a measurement has been performed with a wrong crest factor parameter in the device setup, the parameter can be corrected afterwards and the data can be re-evaluated.

The measured data can be visualized or exported in different units or formats, depending on the selected probe type ([V/m], [A/m], [°C], [mW/g], [mW/cm<sup>2</sup>], [dBrel], etc.). Some of these units are not available in certain situations or show meaningless results, e.g., a SAR output in a lossless media will always be zero. Raw data can also be exported to perform the evaluation with other software packages.

### Data Evaluation by SEMCAD

The SEMCAD software automatically executes the following procedures to calculate the field units from the microvolt readings at the probe connector. The parameters used in the evaluation are stored in the configuration modules of the software:

Probe parameters:	- Sensitivity	$\text{Norm}_i, a_{i0}, a_{i1}, a_{i2}$
	- Conversion factor	$\text{ConvF}_i$
	- Diode compression point	$\text{Dcpi}$
Device parameters:	- Frequency	$f$
	- Crest factor	$cf$
Media parameters:	- Conductivity	$\sigma$
	- Density	$\rho$

These parameters must be set correctly in the software. They can be found in the component documents or they can be imported into the software from the configuration files issued for the DASY4 components. In the direct measuring mode of the multimeter option, the parameters of the actual system setup are used. In the scan visualization and export modes, the parameters stored in the corresponding document files are used.

The first step of the evaluation is a linearization of the filtered input signal to account for the compression characteristics of the detector diode. The compensation depends on the input signal, the diode type and the DC-transmission factor from the diode to the evaluation electronics.

If the exciting field is pulsed, the crest factor of the signal must be known to correctly compensate for peak power. The formula for each channel can be given as:

$$V_i = U_i + U_i^2 \cdot cf/dcp_i$$

with  $V_i$  = compensated signal of channel i (i = x, y, z)  
 $U_i$  = input signal of channel i (i = x, y, z)  
 cf = crest factor of exciting field (DASY parameter)  
 $dcp_i$  = diode compression point (DASY parameter)

From the compensated input signals the primary field data for each channel can be evaluated:

E-field probes:  $E_i = (V_i / Norm_i \cdot ConvF)^{1/2}$

H-field probes:  $H_i = (V_i)^{1/2} \cdot (a_{i0} + a_{i1}f + a_{i2}f^2)/f$

with  $V_i$  = compensated signal of channel i (i = x, y, z)  
 $Norm_i$  = sensor sensitivity of channel i (i = x, y, z)  
 [mV/(V/m)<sup>2</sup>] for E-field Probes  
 $ConvF$  = sensitivity enhancement in solution  
 $a_{ij}$  = sensor sensitivity factors for H-field probes  
 $f$  = carrier frequency [GHz]  
 $E_i$  = electric field strength of channel i in V/m  
 $H_i$  = magnetic field strength of channel i in A/m

The RSS value of the field components gives the total field strength (Hermitian magnitude):

$$E_{tot} = (E_x^2 + E_y^2 + E_z^2)^{1/2}$$

The primary field data are used to calculate the derived field units.

$$SAR = (E_{tot}^2 \cdot \sigma) / (\rho \cdot 1000)$$

with SAR = local specific absorption rate in mW/g  
 $E_{tot}$  = total field strength in V/m  
 $\sigma$  = conductivity in [mho/m] or [Siemens/m]  
 $\rho$  = equivalent tissue density in g/cm<sup>3</sup>

Note that the density is normally set to 1 (or 1.06), to account for actual brain density rather than the density of the simulation liquid. The power flow density is calculated assuming the excitation field to be a free space field.

$$P_{pwe} = E_{tot}^2 / 3770 \quad \text{or} \quad P_{pwe} = H_{tot}^2 \cdot 37.7$$

with  $P_{pwe}$  = equivalent power density of a plane wave in mW/cm<sup>2</sup>  
 $E_{tot}$  = total electric field strength in V/m  
 $H_{tot}$  = total magnetic field strength in A/m

### 6.1.9 Tissue simulating liquids: dielectric properties

The following materials are used for producing the tissue-equivalent materials.

(Liquids used for tests described in section 7. are marked with ☒) :

Ingredients (% of weight)	Frequency (MHz)					
	<input type="checkbox"/> 450	<input checked="" type="checkbox"/> 835	<input type="checkbox"/> 900	<input type="checkbox"/> 1800	<input checked="" type="checkbox"/> 1900	<input checked="" type="checkbox"/> 2450
frequency band	<input type="checkbox"/> 450	<input checked="" type="checkbox"/> 835	<input type="checkbox"/> 900	<input type="checkbox"/> 1800	<input checked="" type="checkbox"/> 1900	<input checked="" type="checkbox"/> 2450
Tissue Type	Head	Head	Head	Head	Head	Head
Water	38.56	41.45	40.92	52.64	54.9	62.7
Salt (NaCl)	3.95	1.45	1.48	0.36	0.18	0.5
Sugar	56.32	56.0	56.5	0.0	0.0	0.0
HEC	0.98	1.0	1.0	0.0	0.0	0.0
Bactericide	0.19	0.1	0.1	0.0	0.0	0.0
Triton X-100	0.0	0.0	0.0	0.0	0.0	36.8
DGBE	0.0	0.0	0.0	47.0	44.92	0.0

Table 2: Head tissue dielectric properties

Ingredients (% of weight)	Frequency (MHz)					
	<input type="checkbox"/> 450	<input checked="" type="checkbox"/> 835	<input type="checkbox"/> 900	<input type="checkbox"/> 1800	<input checked="" type="checkbox"/> 1900	<input checked="" type="checkbox"/> 2450
frequency band	<input type="checkbox"/> 450	<input checked="" type="checkbox"/> 835	<input type="checkbox"/> 900	<input type="checkbox"/> 1800	<input checked="" type="checkbox"/> 1900	<input checked="" type="checkbox"/> 2450
Tissue Type	Body	Body	Body	Body	Body	Body
Water	51.16	52.4	56.0	69.91	69.91	73.2
Salt (NaCl)	1.49	1.40	0.76	0.13	0.13	0.04
Sugar	46.78	45.0	41.76	0.0	0.0	0.0
HEC	0.52	1.0	1.21	0.0	0.0	0.0
Bactericide	0.05	0.1	0.27	0.0	0.0	0.0
Triton X-100	0.0	0.0	0.0	0.0	0.0	0.0
DGBE	0.0	0.0	0.0	29.96	29.96	26.7

Table 3: Body tissue dielectric properties

Salt: 99+% Pure Sodium Chloride

Sugar: 98+% Pure Sucrose

Water: De-ionized, 16MΩ+ resistivity

HEC: Hydroxyethyl Cellulose

DGBE: 99+% Di(ethylene glycol) butyl ether, [2-(2-butoxyethoxy)ethanol]

Triton X-100(ultra pure): Polyethylene glycol mono [4-(1,1,3,3-tetramethylbutyl)phenyl]ether

Note: Due to their availability body tissue simulating liquids as defined by FCC OET Bulletin 65 Supplement C are generally used for body worn SAR testing according to European standards.

### 6.1.10 Tissue simulating liquids: parameters

Used Target Frequency	Target Head Tissue		Measured Head Tissue		Measured Date
	Permittivity	Conductivity [S/m]	Permittivity	Conductivity [S/m]	
[MHz]					
835	41.5	0.90	42.0	0.91	2011-05-03
900	41.5	0.97	41.2	0.98	2011-05-03
1900	40.0	1.40	40.0	1.41	2011-05-02
2450	39.2	1.80	38.4	1.85	2011-05-05

Table 4: Parameter of the head tissue simulating liquid

Used Target Frequency	Target Body Tissue		Measured Body Tissue		Measured Date
	Permittivity	Conductivity [S/m]	Permittivity	Conductivity [S/m]	
[MHz]					
835	55.2	0.97	55.6	0.95	2011-05-09
900	55.0	1.05	55.0	1.01	2011-05-09
1900	53.3	1.52	53.1	1.50	2011-05-06
2450	52.7	1.95	51.5	1.99	2011-05-10

Table 5: Parameter of the body tissue simulating liquid

Note: The dielectric properties have been measured using the contact probe method at 22°C.

### 6.1.11 Measurement uncertainty evaluation for SAR test

The overall combined measurement uncertainty of the measurement system is  $\pm 10.3\%$  ( $K=1$ ).  
 The expanded uncertainty ( $k=2$ ) is assessed to be  $\pm 20.6\%$   
 This measurement uncertainty budget is suggested by IEEE 1528-2003 and determined by Schmid & Partner Engineering AG. The breakdown of the individual uncertainties is as follows:

Error Sources	Uncertainty Value	Probability Distribution	Divisor	$c_i$ 1g	$c_i$ 10g	Standard Uncertainty 1g	Standard Uncertainty 10g	$v_i^2$ or $v_{eff}$
<b>Measurement System</b>								
Probe calibration	$\pm 4.8\%$	Normal	1	1	1	$\pm 4.8\%$	$\pm 4.8\%$	$\infty$
Axial isotropy	$\pm 4.7\%$	Rectangular	$\sqrt{3}$	0.7	0.7	$\pm 1.9\%$	$\pm 1.9\%$	$\infty$
Hemispherical isotropy	$\pm 9.6\%$	Rectangular	$\sqrt{3}$	0.7	0.7	$\pm 3.9\%$	$\pm 3.9\%$	$\infty$
Spatial resolution	$\pm 0.0\%$	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0\%$	$\pm 0.0\%$	$\infty$
Boundary effects	$\pm 1.0\%$	Rectangular	$\sqrt{3}$	1	1	$\pm 0.6\%$	$\pm 0.6\%$	$\infty$
Probe linearity	$\pm 4.7\%$	Rectangular	$\sqrt{3}$	1	1	$\pm 2.7\%$	$\pm 2.7\%$	$\infty$
System detection limits	$\pm 1.0\%$	Rectangular	$\sqrt{3}$	1	1	$\pm 0.6\%$	$\pm 0.6\%$	$\infty$
Readout electronics	$\pm 1.0\%$	Normal	1	1	1	$\pm 1.0\%$	$\pm 1.0\%$	$\infty$
Response time	$\pm 0.8\%$	Rectangular	$\sqrt{3}$	1	1	$\pm 0.5\%$	$\pm 0.5\%$	$\infty$
Integration time	$\pm 2.6\%$	Rectangular	$\sqrt{3}$	1	1	$\pm 1.5\%$	$\pm 1.5\%$	$\infty$
RF ambient conditions	$\pm 3.0\%$	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7\%$	$\pm 1.7\%$	$\infty$
Probe positioner	$\pm 0.4\%$	Rectangular	$\sqrt{3}$	1	1	$\pm 0.2\%$	$\pm 0.2\%$	$\infty$
Probe positioning	$\pm 2.9\%$	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7\%$	$\pm 1.7\%$	$\infty$
Max. SAR evaluation	$\pm 1.0\%$	Rectangular	$\sqrt{3}$	1	1	$\pm 0.6\%$	$\pm 0.6\%$	$\infty$
<b>Test Sample Related</b>								
Device positioning	$\pm 2.9\%$	Normal	1	1	1	$\pm 2.9\%$	$\pm 2.9\%$	145
Device holder uncertainty	$\pm 3.6\%$	Normal	1	1	1	$\pm 3.6\%$	$\pm 3.6\%$	5
Power drift	$\pm 5.0\%$	Rectangular	$\sqrt{3}$	1	1	$\pm 2.9\%$	$\pm 2.9\%$	$\infty$
<b>Phantom and Set-up</b>								
Phantom uncertainty	$\pm 4.0\%$	Rectangular	$\sqrt{3}$	1	1	$\pm 2.3\%$	$\pm 2.3\%$	$\infty$
Liquid conductivity (target)	$\pm 5.0\%$	Rectangular	$\sqrt{3}$	0.64	0.43	$\pm 1.8\%$	$\pm 1.2\%$	$\infty$
Liquid conductivity (meas.)	$\pm 2.5\%$	Normal	1	0.64	0.43	$\pm 1.6\%$	$\pm 1.1\%$	$\infty$
Liquid permittivity (target)	$\pm 5.0\%$	Rectangular	$\sqrt{3}$	0.6	0.49	$\pm 1.7\%$	$\pm 1.4\%$	$\infty$
Liquid permittivity (meas.)	$\pm 2.5\%$	Normal	1	0.6	0.49	$\pm 1.5\%$	$\pm 1.2\%$	$\infty$
<b>Combined Uncertainty</b>						$\pm 10.3\%$	$\pm 10.0\%$	330
<b>Expanded Std. Uncertainty</b>						$\pm 20.6\%$	$\pm 20.1\%$	

Table 6: Measurement uncertainties



### 6.1.12 Measurement uncertainty evaluation for system validation

The overall combined measurement uncertainty of the measurement system is  $\pm 8.4\%$  ( $K=1$ ).  
 The expanded uncertainty ( $k=2$ ) is assessed to be  $\pm 16.8\%$   
 This measurement uncertainty budget is suggested by IEEE 1528-2003 and determined by Schmid & Partner Engineering AG. The breakdown of the individual uncertainties is as follows:

Error Sources	Uncertainty Value	Probability Distribution	Divisor	$c_i$ 1g	$c_i$ 10g	Standard Uncertainty 1g	Standard Uncertainty 10g	$v_i^2$ or $v_{eff}$
<b>Measurement System</b>								
Probe calibration	$\pm 4.8\%$	Normal	1	1	1	$\pm 4.8\%$	$\pm 4.8\%$	$\infty$
Axial isotropy	$\pm 4.7\%$	Rectangular	$\sqrt{3}$	0.7	0.7	$\pm 1.9\%$	$\pm 1.9\%$	$\infty$
Hemispherical isotropy	$\pm 0.0\%$	Rectangular	$\sqrt{3}$	0.7	0.7	$\pm 0.0\%$	$\pm 3.9\%$	$\infty$
Boundary effects	$\pm 1.0\%$	Rectangular	$\sqrt{3}$	1	1	$\pm 0.6\%$	$\pm 0.6\%$	$\infty$
Probe linearity	$\pm 4.7\%$	Rectangular	$\sqrt{3}$	1	1	$\pm 2.7\%$	$\pm 2.7\%$	$\infty$
System detection limits	$\pm 1.0\%$	Rectangular	$\sqrt{3}$	1	1	$\pm 0.6\%$	$\pm 0.6\%$	$\infty$
Readout electronics	$\pm 1.0\%$	Normal	1	1	1	$\pm 1.0\%$	$\pm 1.0\%$	$\infty$
Response time	$\pm 0.0\%$	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0\%$	$\pm 0.0\%$	$\infty$
Integration time	$\pm 0.0\%$	Rectangular	$\sqrt{3}$	1	1	$\pm 0.0\%$	$\pm 0.0\%$	$\infty$
RF ambient conditions	$\pm 3.0\%$	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7\%$	$\pm 1.7\%$	$\infty$
Probe positioner	$\pm 0.4\%$	Rectangular	$\sqrt{3}$	1	1	$\pm 0.2\%$	$\pm 0.2\%$	$\infty$
Probe positioning	$\pm 2.9\%$	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7\%$	$\pm 1.7\%$	$\infty$
Max. SAR evaluation	$\pm 1.0\%$	Rectangular	$\sqrt{3}$	1	1	$\pm 0.6\%$	$\pm 0.6\%$	$\infty$
<b>Test Sample Related</b>								
Dipole axis to liquid distance	$\pm 2.0\%$	Normal	1	1	1	$\pm 1.2\%$	$\pm 1.2\%$	$\infty$
Power drift	$\pm 4.7\%$	Rectangular	$\sqrt{3}$	1	1	$\pm 2.7\%$	$\pm 2.7\%$	$\infty$
<b>Phantom and Set-up</b>								
Phantom uncertainty	$\pm 4.0\%$	Rectangular	$\sqrt{3}$	1	1	$\pm 2.3\%$	$\pm 2.3\%$	$\infty$
Liquid conductivity (target)	$\pm 5.0\%$	Rectangular	$\sqrt{3}$	0.64	0.43	$\pm 1.8\%$	$\pm 1.2\%$	$\infty$
Liquid conductivity (meas.)	$\pm 2.5\%$	Normal	1	0.64	0.43	$\pm 1.6\%$	$\pm 1.1\%$	$\infty$
Liquid permittivity (target)	$\pm 5.0\%$	Rectangular	$\sqrt{3}$	0.6	0.49	$\pm 1.7\%$	$\pm 1.4\%$	$\infty$
Liquid permittivity (meas.)	$\pm 2.5\%$	Normal	1	0.6	0.49	$\pm 1.5\%$	$\pm 1.2\%$	$\infty$
<b>Combined Uncertainty</b>						<b><math>\pm 8.4\%</math></b>	<b><math>\pm 8.1\%</math></b>	
<b>Expanded Std. Uncertainty</b>						<b><math>\pm 16.8\%</math></b>	<b><math>\pm 16.2\%</math></b>	

Table 7: Measurement uncertainties

### 6.1.13 System validation

The system validation is performed for verifying the accuracy of the complete measurement system and performance of the software. The system validation is performed with tissue equivalent material according to IEEE 1528. The following table shows validation results for all frequency bands and tissue liquids used during the tests (plot(s) see annex A).

Validation Kit	Frequency	Target Peak SAR (1000 mW) (+/- 10%)	Target SAR <sub>1g</sub> (1000 mW) (+/- 10%)	Measured Peak SAR (1000 mW)	Measured SAR <sub>1g</sub> (1000 mW)	Measured date
D900V2 S/N: 102	900 MHz head	17.1 mW/g	11.2 mW/g	16.7 mW/g	11.0 mW/g	2011-05-03
D900V2 S/N: 102	900 MHz body	17.3 mW/g	11.3 mW/g	16.4 mW/g	10.6 mW/g	2011-05-09
D1900V2 S/N: 5d009	1900 MHz head	73.6 mW/g	40.0 mW/g	68.7 mW/g	40.1 mW/g	2011-05-02
D1900V2 S/N: 5d009	1900 MHz body	69.6 mW/g	41.8 mW/g	63.8 mW/g	38.1 mW/g	2011-05-06
D2450V2 S/N: 710	2450 MHz head	112.4 mW/g	51.6 mW/g	112.6 mW/g	53.0 mW/g	2011-05-05
D2450V2 S/N: 710	2450 MHz body	104.0 mW/g	54.4 mW/g	108.6 mW/g	54.7 mW/g	2011-05-10

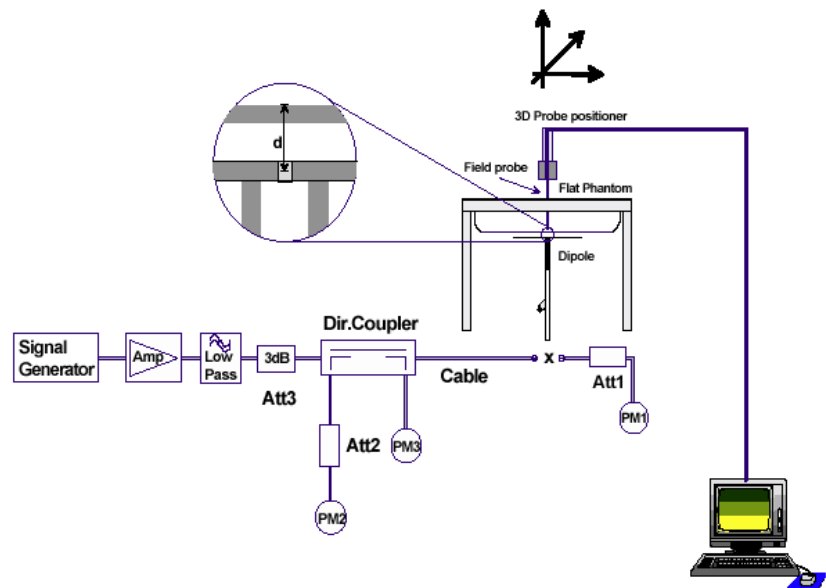
Table 8: Results system validation

Note : 900 MHz probe/dipole calibration is valid +/-100 MHz and fully covers the 850 MHz band.

### 6.1.14 Validation procedure

The validation is performed by using a validation dipole which is positioned parallel to the planar part of the SAM phantom at the reference point. The distance of the dipole to the SAM phantom is determined by a plexiglass spacer. The dipole is connected to the signal source consisting of signal generator and amplifier via a directional coupler, N-connector cable and adaption to SMA. It is fed with a power of 1000 mW. To adjust this power a power meter is used. The power sensor is connected to the cable before the validation to measure the power at this point and do adjustments at the signal generator. At the outputs of the directional coupler both return loss as well as forward power are controlled during the validation to make sure that emitted power at the dipole is kept constant. This can also be checked by the power drift measurement after the test (result on plot).

Validation results have to be equal or near the values determined during dipole calibration (target SAR in table above) with the relevant liquids and test system.



## 7 Detailed Test Results

### 7.1 Conducted power measurements

For the measurements a Rohde & Schwarz Radio Communication Tester CMU 200 was used. The output power was measured using an integrated RF connector and attached RF cable. The conducted output power was also checked before and after each SAR measurement. The resulting power values were within a 0.2 dB tolerance of the values shown below.

Note: CMU200 measures GSM peak and average output power for active timeslots.  
For SAR the timebased average power is relevant. The difference inbetween depends on the duty cycle of the TDMA signal :

<b>No. of timeslots</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Duty Cycle	1 : 8	1: 4	1 : 2.66	1 : 2
timebased avg. power compared to slotted avg. power	- 9 dB	- 6 dB	- 4.25 dB	- 3 dB

The signalling modes differ as follows :

<b>mode</b>	<b>coding scheme</b>	<b>modulation</b>
GPRS	CS1 to CS4	GMSK
EGPRS (EDGE)	MCS1 to MCS4	GMSK
EGPRS (EDGE)	MCS5 to MCS9	8PSK

Apart from modulation change (GMSK/8PSK) coding schemes differ in code rate without influence on the RF signal. Therefore one coding scheme per mode was selected for conducted power measurements.

#### 7.1.1 Conducted power measurements GSM 850 MHz

Channel / frequency	modulation	timeslots	slotted avg. power	time based avg. power (calculated)
128 / 824.2 MHz	GMSK	1	32.7 dBm	23.7 dBm
190 / 836.6 MHz	GMSK	1	32.7 dBm	23.7 dBm
251 / 848.0 MHz	GMSK	1	32.6 dBm	23.6 dBm
128 / 824.2 MHz	GMSK	2	30.5 dBm	<b>24.5 dBm</b>
190 / 836.6 MHz	GMSK	2	30.5 dBm	<b>24.5 dBm</b>
251 / 848.0 MHz	GMSK	2	30.5 dBm	<b>24.5 dBm</b>
128 / 824.2 MHz	8PSK	2	26.9 dBm	20.9 dBm
190 / 836.6 MHz	8PSK	2	26.9 dBm	20.9 dBm
251 / 848.0 MHz	8PSK	2	26.9 dBm	20.9 dBm

Table 9: Test results conducted power measurement GSM 850 MHz

### 7.1.2 Conducted power measurements GSM 1900 MHz

Channel / frequency	modulation	timeslots	slotted avg. power	time based avg. power (calculated)
512 / 1850.2 MHz	GMSK	1	29.6 dBm	20.6 dBm
661 / 1880.0 MHz	GMSK	1	29.6 dBm	20.6 dBm
810 / 1909.8 MHz	GMSK	1	29.7 dBm	20.7 dBm
512 / 1850.2 MHz	GMSK	2	29.6 dBm	<b>23.6 dBm</b>
661 / 1880.0 MHz	GMSK	2	29.6 dBm	<b>23.6 dBm</b>
810 / 1909.8 MHz	GMSK	2	29.7 dBm	<b>23.7 dBm</b>
512 / 1850.2 MHz	8PSK	2	25.7 dBm	19.7 dBm
661 / 1880.0 MHz	8PSK	2	25.7 dBm	19.7 dBm
810 / 1909.8 MHz	8PSK	2	25.7 dBm	19.7 dBm

Table 10: Test results conducted power measurement GSM 1900 MHz

### 7.1.3 Justification of SAR measurements in GSM mode

SAR measurements were performed in GPRS mode with 2 active timeslots because highest time based averaged output power was calculated for that configuration.

For comparison an additional delta measurement was performed with 1 timeslot in speech mode. In EDGE mode no delta measurement was performed.

### 7.1.4 Conducted power measurements WLAN 2.4 GHz

Channel / frequency	modulation	bit rate	timebased avg. power
1 / 2412 MHz	CCK	1 MBit/s	18.5 dBm
6 / 2437 MHz	CCK	1 MBit/s	18.5 dBm
11 / 2462 MHz	CCK	1 MBit/s	18.4 dBm
1 / 2412 MHz	OFDM	6 MBit/s	14.5 dBm
6 / 2437 MHz	OFDM	6 MBit/s	14.5 dBm
11 / 2462 MHz	OFDM	6 MBit/s	14.5 dBm

Table 11: Test results conducted power measurement WLAN 2.4 GHz

### 7.1.5 Multiple Transmitter Information

The following tables list information which is relevant for the decision if a simultaneous transmit evaluation is necessary according to KDB 648474.

important abbreviations:

SPLSR: Antenna pair SAR to Peak Location Separation Ratio  $(SAR_x + SAR_y)/L_{xy}$

$P_{ref}$  : 12 mW at 2.4 GHz

Minimum antenna separation distance between main antenna and WLAN – **55.7 mm**

a) head position

Tx No.	Communication system and frequency band	$P_{avg}$ (mW)	single SAR (W/kg) (see ch. 7.2)	remarks
1a	GSM 850 MHz	250	0.579	routine evaluation
1b	GSM 1900 MHz	125	1.410	routine evaluation
2a	WLAN 2450 MHz	50	0.233	routine evaluation
2b	Bluetooth 2450 MHz	3.2	:=0	$P_2 < P_{ref}$
Sum of all 1g-SAR values			n/a	

Table 12: Communication systems and SAR values in head position

antenna pair (x,y)	peak-locations spacing $L_{xy}$ (cm)	$\Sigma$ 1g-SAR (W/kg)	SPLSR <sub>xy</sub>	sim.-Tx SAR	remarks
(1a,2a)	5.8	0.812	0.14	N	$\Sigma SAR < 1.6$ W/kg and $SPLSR_{xy} < 0.3$
(1b,2a)	6.4	1.643	0.26	N	$\Sigma SAR > 1.6$ W/kg, but $SPLSR_{xy} < 0.3$

Table 13: Antenna distances and SPLSR evaluation in head position

$SPLSR_{xy} = SAR\text{-to-}(peak\text{-locations spacing) ratio} = (SAR_x + SAR_y)/L_{xy}$

$\Sigma$  1g-SAR: sum of the highest SAR of Tx No. 1 and the SAR of Tx No. 2 at the same DUT position or orientation as the highest value of Tx No. 1 i.e. not necessarily the sum of the highest SAR values of both transmitters.

## b) body position

Tx No.	Communication system and frequency band	$P_{avg}$ (mW)	single SAR (W/kg) (see ch. 7.2)	remarks
1a	GSM 850 MHz	500	0.413	routine evaluation
1b	GSM 1900 MHz	250	0.568	routine evaluation
2a	WLAN 2450 MHz	50	0.073	routine evaluation
2b	Bluetooth 2450 MHz	3.2	:=0	$P_2 < P_{ref}$
Sum of all 1g-SAR values			n/a	

Table 14: Communication systems and SAR values in body position

antenna pair (x,y)	peak-locations spacing $L_{xy}$ (cm)	$\Sigma$ 1g-SAR (W/kg)	SPLSR <sub>xy</sub>	sim.-Tx SAR	remarks
(1a,2a)	2.94	0.486	0.17	N	$\Sigma$ SAR < 1.6 W/kg and SPLSR <sub>xy</sub> < 0.3
(1b,2a)	4.76	0.641	0.13	N	$\Sigma$ SAR < 1.6 W/kg and SPLSR <sub>xy</sub> < 0.3

Table 15: Antenna distances and SPLSR evaluation in body position  
 $SPLSR_{xy} = SAR\text{-to-}(peak\text{-locations spacing) ratio} = (SAR_x + SAR_y) / L_{xy}$

## 7.2 SAR test results

### 7.2.1 Results overview

Head SAR GSM 850 MHz (averaged over 1g tissue volume)						
Channel / frequency	Position	Left hand test result	Right hand test result	Limit	Liquid temperature left	Liquid temperature right
128 / 824.2 MHz	cheek	0.460 W/kg	0.429 W/kg	1.6 W/kg	23.1 °C	23.1 °C
190 / 836.6 MHz	cheek	0.520 W/kg	0.522 W/kg	1.6 W/kg	23.1 °C	23.1 °C
251 / 848.8 MHz	cheek	<b>0.579 W/kg</b>	0.577 W/kg	1.6 W/kg	23.1 °C	23.1 °C
128 / 824.2 MHz	tilted 15°	0.212 W/kg	0.230 W/kg	1.6 W/kg	23.1 °C	23.1 °C
190 / 836.6 MHz	tilted 15°	0.259 W/kg	0.246 W/kg	1.6 W/kg	23.1 °C	23.1 °C
251 / 848.8 MHz	tilted 15°	0.273 W/kg	0.265 W/kg	1.6 W/kg	23.1 °C	23.1 °C

Table 16: Test results head SAR GSM 850 MHz

Body SAR GSM 850 MHz (averaged over 1g tissue volume)					
Channel / frequency	Position	test condition	Body worn test result	Limit	Liquid temperature
128 / 824.2 MHz	front	2 time slots	0.179 W/kg	1.6 W/kg	23.3 °C
190 / 836.6 MHz	front	2 time slots	0.190 W/kg	1.6 W/kg	23.3 °C
251 / 848.8 MHz	front	2 time slots	0.186 W/kg	1.6 W/kg	23.3 °C
128 / 824.2 MHz	rear	2 time slots	0.386 W/kg	1.6 W/kg	23.3 °C
190 / 836.6 MHz	rear	2 time slots	<b>0.413 W/kg</b>	1.6 W/kg	23.3 °C
251 / 848.8 MHz	rear	2 time slots	0.403 W/kg	1.6 W/kg	23.3 °C
190 / 836.6 MHz	rear	1 time slot	0.357 W/kg	1.6 W/kg	23.3 °C

Table 17: Test results body SAR GSM 850 MHz

Head SAR GSM 1900 MHz (averaged over 1g tissue volume)						
Channel / frequency	Position	Left hand test result	Right hand test result	Limit	Liquid temperature left	Liquid temperature right
512 / 1850.2 MHz	cheek	<b>1.410 W/kg</b>	0.934 W/kg	1.6 W/kg	22.0 °C	22.0 °C
661 / 1880.0 MHz	cheek	1.340 W/kg	0.906 W/kg	1.6 W/kg	22.0 °C	22.0 °C
810 / 1909.8 MHz	cheek	1.320 W/kg	0.885 W/kg	1.6 W/kg	22.0 °C	22.0 °C
512 / 1850.2 MHz	tilted 15°	0.268 W/kg	0.314 W/kg	1.6 W/kg	22.0 °C	22.0 °C
661 / 1880.0 MHz	tilted 15°	0.246 W/kg	0.307 W/kg	1.6 W/kg	22.0 °C	22.0 °C
810 / 1909.8 MHz	tilted 15°	0.254 W/kg	0.304 W/kg	1.6 W/kg	22.0 °C	22.0 °C

Table 18: Test results head SAR GSM 1900 MHz

Body SAR GSM 1900 MHz (averaged over 1g tissue volume)					
Channel / frequency	Position	test condition	Body worn test result	Limit	Liquid temperature
512 / 1850.2 MHz	front	2 time slots	0.392 W/kg	1.6 W/kg	23.0 °C
661 / 1880.0 MHz	front	2 time slots	0.344 W/kg	1.6 W/kg	23.0 °C
810 / 1909.8 MHz	front	2 time slots	0.320 W/kg	1.6 W/kg	23.0 °C
512 / 1850.2 MHz	rear	2 time slots	<b>0.568 W/kg</b>	1.6 W/kg	23.0 °C
661 / 1880.0 MHz	rear	2 time slots	0.524 W/kg	1.6 W/kg	23.0 °C
810 / 1909.8 MHz	rear	2 time slots	0.533 W/kg	1.6 W/kg	23.0 °C
512 / 1850.2 MHz	rear	1 time slot	0.284 W/kg	1.6 W/kg	23.0 °C

Table 19: Test results body SAR GSM 1900 MHz



Head SAR WLAN 2450 MHz (averaged over 1g tissue volume)						
Channel / frequency	Position	Left hand test result	Right hand test result	Limit	Liquid temperature	
					left	right
1 / 2412 MHz	cheek	0.142 W/kg	0.300 W/kg	1.6 W/kg	22.7 °C	22.7 °C
6 / 2437 MHz	cheek	0.188 W/kg	0.387 W/kg	1.6 W/kg	22.7 °C	22.7 °C
11 / 2462 MHz	cheek	0.233 W/kg	<b>0.499 W/kg</b>	1.6 W/kg	22.7 °C	22.7 °C
1 / 2412 MHz	tilted 15°	0.132 W/kg	0.187 W/kg	1.6 W/kg	22.7 °C	22.7 °C
6 / 2437 MHz	tilted 15°	0.163 W/kg	0.245 W/kg	1.6 W/kg	22.7 °C	22.7 °C
11 / 2462 MHz	tilted 15°	0.190 W/kg	0.298 W/kg	1.6 W/kg	22.7 °C	22.7 °C
6 / 2437 MHz	cheek OFDM 6Mbps		0.228 W/kg	1.6 W/kg	--- °C	22.7 °C

Table 20: Test results head SAR WLAN 2450 MHz

Body SAR WLAN 2450 MHz (averaged over 1g tissue volume)					
Channel / frequency	Position	test condition	Body worn test result	Limit	Liquid temperature
1 / 2412 MHz	front	CCK 1 Mbit/s	0.035 W/kg	1.6 W/kg	22.7 °C
6 / 2437 MHz	front	CCK 1 Mbit/s	0.045 W/kg	1.6 W/kg	22.7 °C
11 / 2462 MHz	front	CCK 1 Mbit/s	0.050 W/kg	1.6 W/kg	22.7 °C
1 / 2412 MHz	rear	CCK 1 Mbit/s	0.042 W/kg	1.6 W/kg	22.7 °C
6 / 2437 MHz	rear	CCK 1 Mbit/s	0.050 W/kg	1.6 W/kg	22.7 °C
11 / 2462 MHz	rear	CCK 1 Mbit/s	<b>0.073 W/kg</b>	1.6 W/kg	22.7 °C
11 / 2462 MHz	rear	OFDM 6 Mbit/s	0.030 W/kg	1.6 W/kg	22.7 °C

Table 21: Test results body SAR WLAN 2450 MHz

**Note:**

The SAR test shall be performed at the high, middle and low frequency channels of each operating mode. If the SAR measured at mid-band channel for each test configuration is at least 3.0 dB lower than the SAR limit (< 0.8 W/kg), testing at the high and low channels is optional.

Tests in body position were performed with 15 mm air gap between DUT and SAM to simulate the use of a non-metallic belt-clip or holster.

The additional GSM body test was performed at worst case with 1 time slot in uplink in accordance with Sony Ericsson requirements.

## 7.2.2 General description of test procedures

The DUT is tested using a CMU 200 communications tester as controller unit to set test channels and maximum output power to the DUT, as well as for measuring the conducted peak power.

Test positions as described in the tables above are in accordance with the specified test standard.

Tests in body position were performed in that configuration, which generates the highest time based averaged output power (see conducted power results).

Tests in head position with GSM were performed in voice mode with 1 timeslot unless GPRS/EGPRS/DTM function allows parallel voice and data traffic on 2 or more timeslots (see section 2.4 for details).

WLAN was tested in 802.11b mode with 1 MBit/s with one delta measurement in 802.11g mode on worst case position.

## 8 Test equipment and ancillaries used for tests

To simplify the identification of the test equipment and/or ancillaries which were used, the reporting of the relevant test cases only refer to the test item number as specified in the table below.

No	used	Equipment	Type	Manufacturer	Serial No.	Last Calibration	Frequency (months)
1	<input checked="" type="checkbox"/>	Dosimetric E-Field Probe	ET3DV6	Schmid & Partner Engineering AG	1558	August 11, 2010	12
2	<input type="checkbox"/>	Dosimetric E-Field Probe	ET3DV6	Schmid & Partner Engineering AG	1559	January 19, 2011	12
3	<input checked="" type="checkbox"/>	900 MHz System Validation Dipole	D900V2	Schmid & Partner Engineering AG	102	August 16, 2010	12
4	<input type="checkbox"/>	1800 MHz System Validation Dipole	D1800V2	Schmid & Partner Engineering AG	287	August 17, 2010	12
5	<input checked="" type="checkbox"/>	1900 MHz System Validation Dipole	D1900V2	Schmid & Partner Engineering AG	531	August 17, 2010	12
6	<input checked="" type="checkbox"/>	2450 MHz System Validation Dipole	D2450V2	Schmid & Partner Engineering AG	710	August 19, 2010	12
7	<input checked="" type="checkbox"/>	Data acquisition electronics	DAE3V1	Schmid & Partner Engineering AG	413	January 13, 2011	12
8	<input type="checkbox"/>	Data acquisition electronics	DAE3V1	Schmid & Partner Engineering AG	477	May 07, 2010	12
9	<input checked="" type="checkbox"/>	Software	DASY 4 V4.5	Schmid & Partner Engineering AG	---	N/A	--
10	<input checked="" type="checkbox"/>	Phantom	SAM	Schmid & Partner Engineering AG	---	N/A	--
11	<input checked="" type="checkbox"/>	Universal Radio Communication Tester	CMU 200	Rohde & Schwarz	106826	January 12, 2011	12
12	<input checked="" type="checkbox"/>	Network Analyser 300 kHz to 6 GHz	8753ES	Hewlett Packard)*	US39174436	July 6, 2010	12
13	<input checked="" type="checkbox"/>	Dielectric Probe Kit	85070C	Hewlett Packard	US99360146	N/A	12
14	<input checked="" type="checkbox"/>	Signal Generator	8665A	Hewlett Packard	2833A00112	January 6, 2011	12
15	<input checked="" type="checkbox"/>	Amplifier	25S1G4 (25 Watt)	Amplifier Research	20452	N/A	--
16	<input checked="" type="checkbox"/>	Power Meter	NRP	Rohde & Schwarz	101367	January 6, 2011	12
17	<input checked="" type="checkbox"/>	Power Meter Sensor	NRP Z22	Rohde & Schwarz	100227	January 6, 2011	12
18	<input checked="" type="checkbox"/>	Power Meter Sensor	NRP Z22	Rohde & Schwarz	100234	January 6, 2011	12

)\* : Network analyzer probe calibration against air, distilled water and a shorting block performed before measuring liquid parameters.

## 9 Observations

No observations exceeding those reported with the single test cases have been made.

## Annex A: System performance verification

Date/Time: 03.05.2011 10:36:50 Date/Time: 03.05.2011 10:40:28

### System Performance Check-D900 head 2011-05-03

DUT: Dipole 900 MHz; Type: D900V2; Serial: 102

Communication System: CW; Frequency: 900 MHz; Duty Cycle: 1:1

Medium: HSL900 Medium parameters used:  $f = 900 \text{ MHz}$ ;  $\sigma = 0.98 \text{ mho/m}$ ;  $\epsilon_r = 41.2$ ;  $\rho = 1000 \text{ kg/m}^3$ 

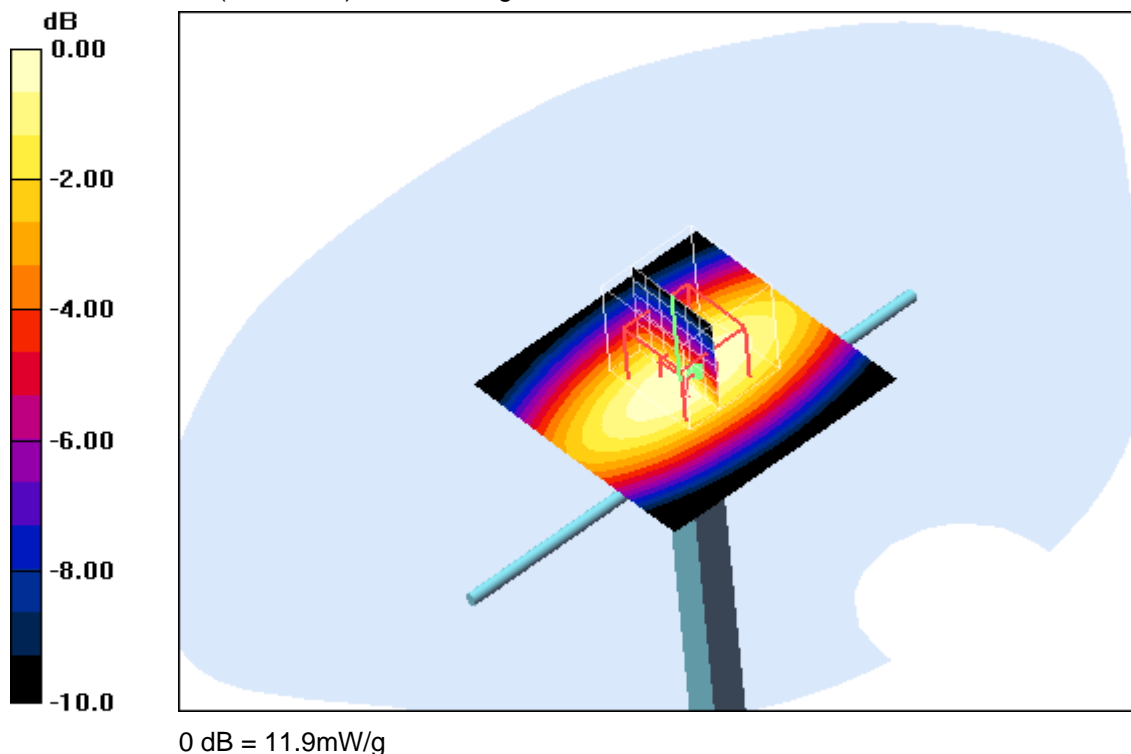
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.8, 5.8, 5.8); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**d=15mm, Pin=1000mW/Area Scan (51x51x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (interpolated) = 11.8 mW/g

**d=15mm, Pin=1000mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  
dx=5mm, dy=5mm, dz=5mm  
Reference Value = 114.9 V/m; Power Drift = -0.024 dB  
Peak SAR (extrapolated) = 16.7 W/kg  
**SAR(1 g) = 11 mW/g; SAR(10 g) = 7.07 mW/g**  
Maximum value of SAR (measured) = 11.9 mW/g



#### Additional information:

ambient temperature: 23.1°C; liquid temperature: 23.0°C

Date/Time: 09.05.2011 09:35:09 Date/Time: 09.05.2011 09:38:48

### System Performance Check-D900 body 2011-05-09

**DUT: Dipole 900 MHz; Type: D900V2; Serial: 102**

Communication System: CW; Frequency: 900 MHz; Duty Cycle: 1:1

Medium: M900 Medium parameters used:  $f = 900 \text{ MHz}$ ;  $\sigma = 1.01 \text{ mho/m}$ ;  $\epsilon_r = 55$ ;  $\rho = 1000 \text{ kg/m}^3$

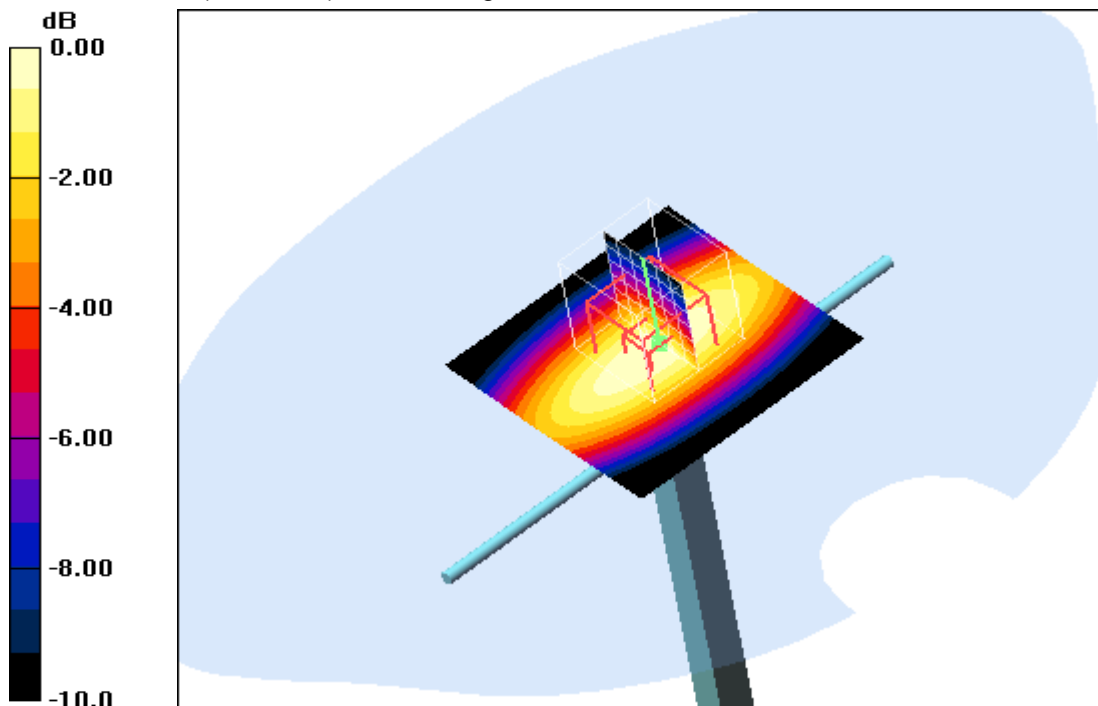
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.73, 5.73, 5.73); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**d=15mm, Pin=1000mW/Area Scan (51x51x1):** Measurement grid: dx=15mm, dy=15mm  
 Maximum value of SAR (interpolated) = 11.3 mW/g

**d=15mm, Pin=1000mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  
 dx=5mm, dy=5mm, dz=5mm  
 Reference Value = 110.9 V/m; Power Drift = -0.058 dB  
 Peak SAR (extrapolated) = 16.4 W/kg  
**SAR(1 g) = 10.6 mW/g; SAR(10 g) = 6.84 mW/g**  
 Maximum value of SAR (measured) = 11.5 mW/g



0 dB = 11.5mW/g

**Additional information:**

ambient temperature: 23.5°C; liquid temperature: 23.0°C

Date/Time: 02.05.2011 09:22:19 Date/Time: 02.05.2011 09:25:57

### System Performance Check-D1900 head 2011-05-02

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d009**

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

Medium: HSL1900 Medium parameters used:  $f = 1900 \text{ MHz}$ ;  $\sigma = 1.41 \text{ mho/m}$ ;  $\epsilon_r = 40$ ;  $\rho = 1000 \text{ kg/m}^3$

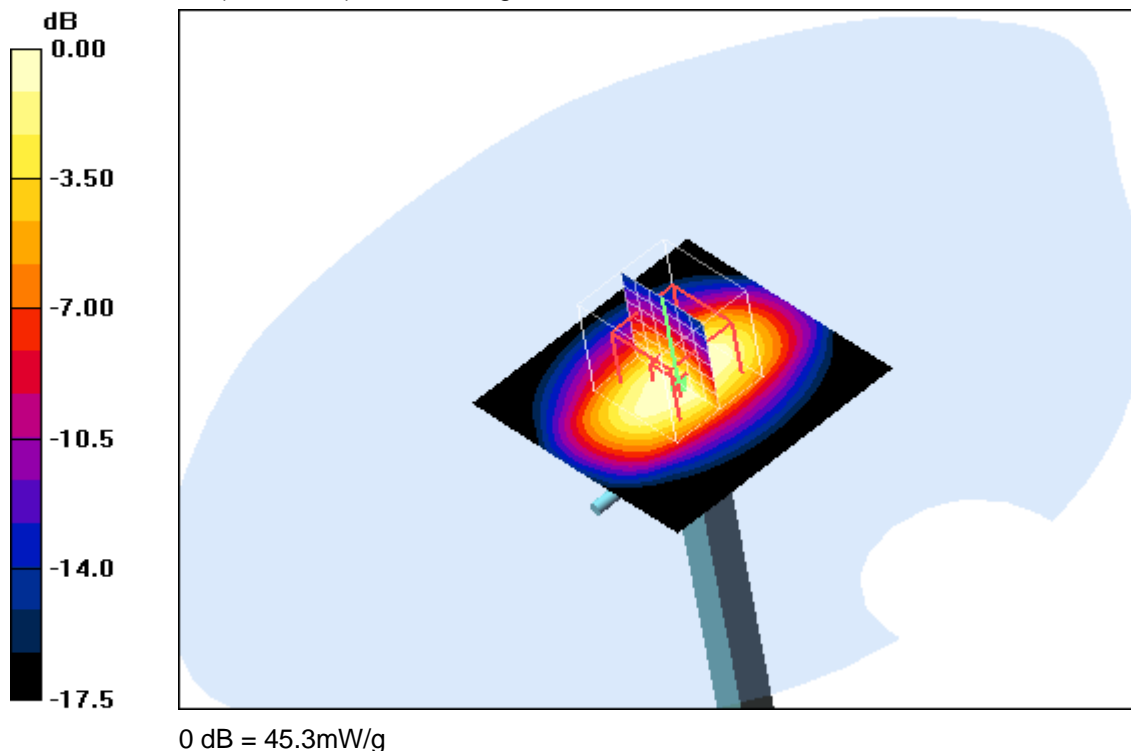
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.76, 4.76, 4.76); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**d=10mm, Pin=1000mW/Area Scan (51x51x1):** Measurement grid: dx=15mm, dy=15mm  
 Maximum value of SAR (interpolated) = 54.3 mW/g

**d=10mm, Pin=1000mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  
 dx=5mm, dy=5mm, dz=5mm  
 Reference Value = 191.3 V/m; Power Drift = -0.011 dB  
 Peak SAR (extrapolated) = 68.7 W/kg  
**SAR(1 g) = 40.1 mW/g; SAR(10 g) = 21.2 mW/g**  
 Maximum value of SAR (measured) = 45.3 mW/g



**Additional information:**

ambient temperature: 22.2°C; liquid temperature: 21.8°C

Date/Time: 06.05.2011 13:15:31 Date/Time: 06.05.2011 13:19:10

### System Performance Check-D1900 body 2011-05-06

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d009**

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

Medium: M1900 Medium parameters used:  $f = 1900 \text{ MHz}$ ;  $\sigma = 1.5 \text{ mho/m}$ ;  $\epsilon_r = 53.1$ ;  $\rho = 1000 \text{ kg/m}^3$

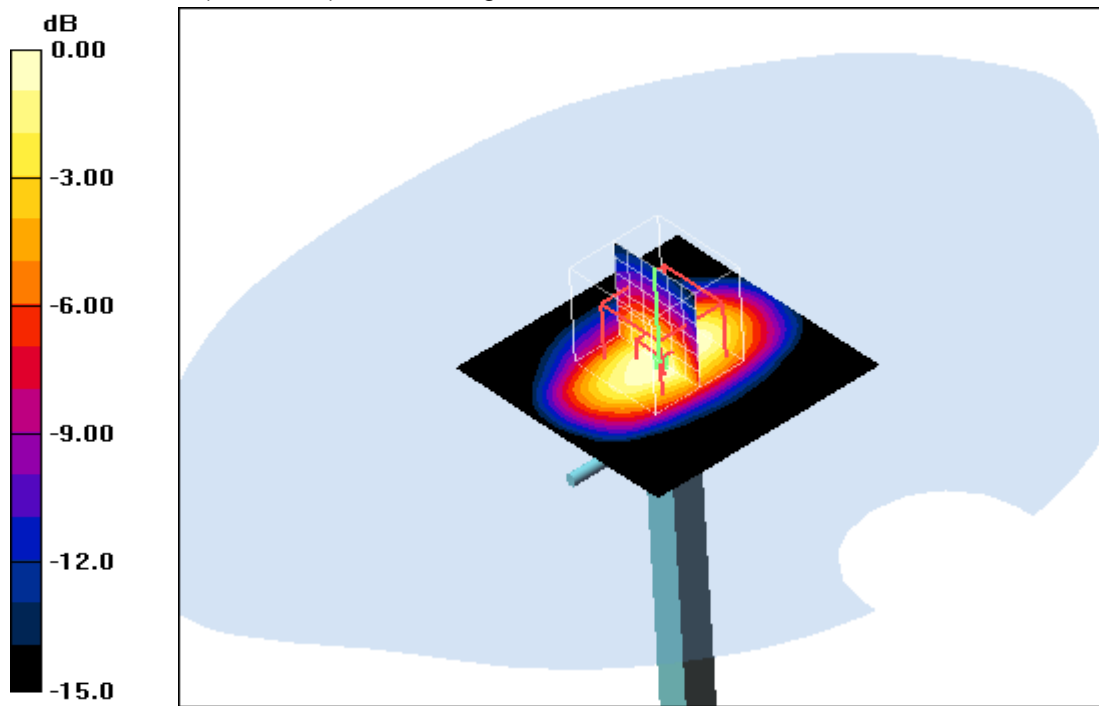
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.35, 4.35, 4.35); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**d=10mm, Pin=1000mW/Area Scan (51x51x1):** Measurement grid: dx=15mm, dy=15mm  
 Maximum value of SAR (interpolated) = 51.6 mW/g

**d=10mm, Pin=1000mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  
 dx=5mm, dy=5mm, dz=5mm  
 Reference Value = 179.8 V/m; Power Drift = -0.035 dB  
 Peak SAR (extrapolated) = 63.8 W/kg  
**SAR(1 g) = 38.1 mW/g; SAR(10 g) = 20.5 mW/g**  
 Maximum value of SAR (measured) = 43.6 mW/g



0 dB = 43.6mW/g

**Additional information:**

ambient temperature: 23.5°C; liquid temperature: 23.0°C

Date/Time: 05.05.2011 08:38:34 Date/Time: 05.05.2011 08:42:10

### System Performance Check-D2450 head 2011-05-05

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 710**

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

Medium: HSL2450 Medium parameters used:  $f = 2450 \text{ MHz}$ ;  $\sigma = 1.85 \text{ mho/m}$ ;  $\epsilon_r = 38.4$ ;  $\rho = 1000 \text{ kg/m}^3$

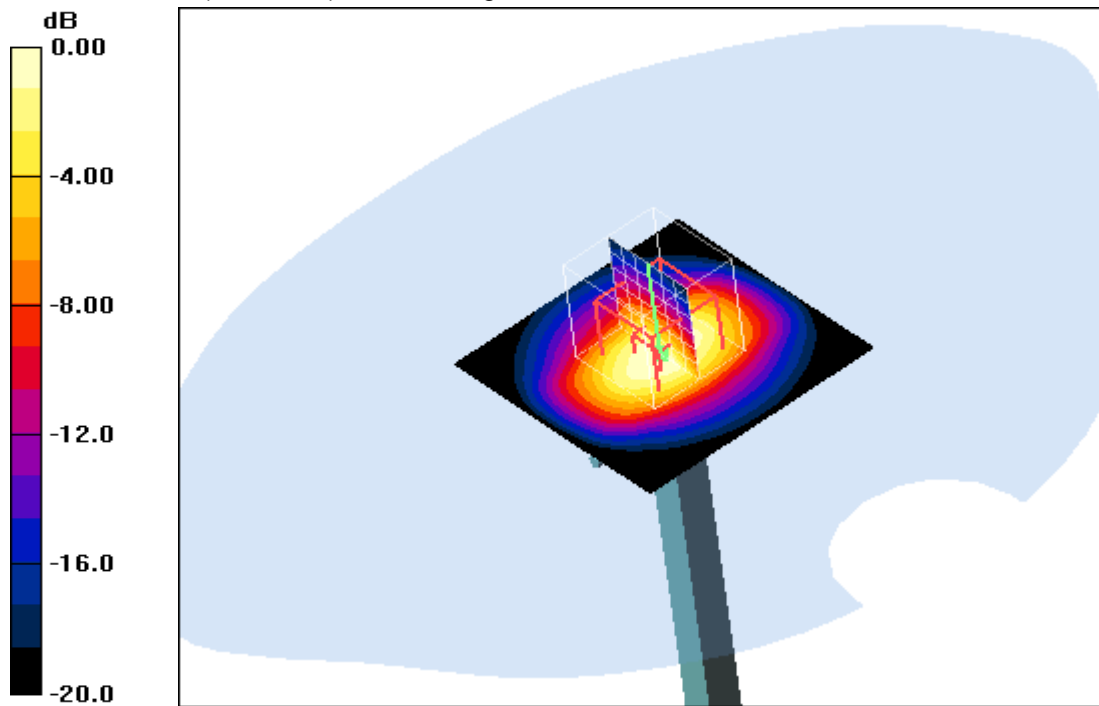
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.14, 4.14, 4.14); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**d=10mm, Pin=1000mW/Area Scan (51x51x1):** Measurement grid: dx=15mm, dy=15mm  
 Maximum value of SAR (interpolated) = 74.7 mW/g

**d=10mm, Pin=1000mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  
 dx=5mm, dy=5mm, dz=5mm  
 Reference Value = 187.6 V/m; Power Drift = 0.046 dB  
 Peak SAR (extrapolated) = 112.6 W/kg  
**SAR(1 g) = 53 mW/g; SAR(10 g) = 24.9 mW/g**  
 Maximum value of SAR (measured) = 59.6 mW/g



0 dB = 59.6mW/g

**Additional information:**

ambient temperature: 23.2°C; liquid temperature: 22.7°C

Date/Time: 10.05.2011 15:10:54 Date/Time: 10.05.2011 15:14:35

## System Performance Check-D2450 body 2011-05-10

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 710**

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

Medium: M2450 Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.99$  mho/m;  $\epsilon_r = 51.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

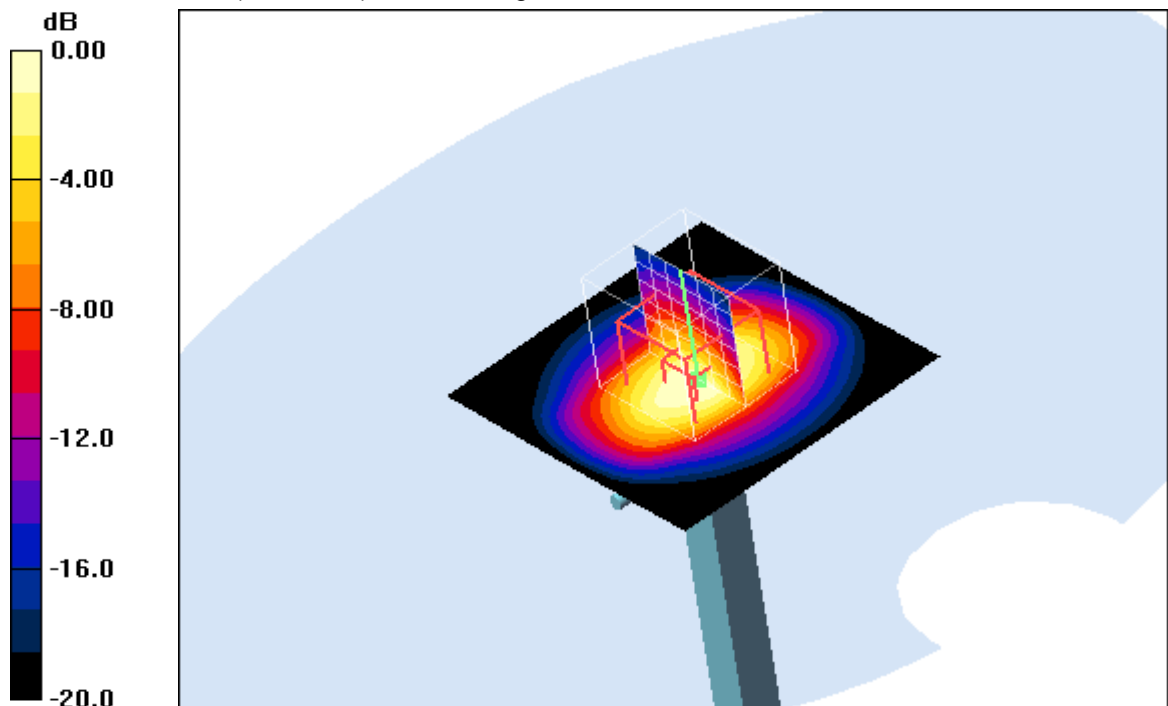
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.03, 4.03, 4.03); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**d=10mm, Pin=1000mW/Area Scan (51x51x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (interpolated) = 79.0 mW/g

**d=10mm, Pin=1000mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  
dx=5mm, dy=5mm, dz=5mm  
Reference Value = 187.0 V/m; Power Drift = -0.053 dB  
Peak SAR (extrapolated) = 108.6 W/kg  
**SAR(1 g) = 54.7 mW/g; SAR(10 g) = 25.5 mW/g**  
Maximum value of SAR (measured) = 62.1 mW/g



0 dB = 62.1mW/g

### Additional information:

ambient temperature: 23.7°C; liquid temperature: 22.7°C



**Annex A.1: GSM 850MHz head**

Date/Time: 03.05.2011 18:24:28 Date/Time: 03.05.2011 18:30:24

**IEEE1528\_OET65-LeftHandSide-GSM850**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:8

Medium: HSL850 Medium parameters used:  $f = 824.2 \text{ MHz}$ ;  $\sigma = 0.91 \text{ mho/m}$ ;  $\epsilon_r = 42$ ;  $\rho = 1000 \text{ kg/m}^3$

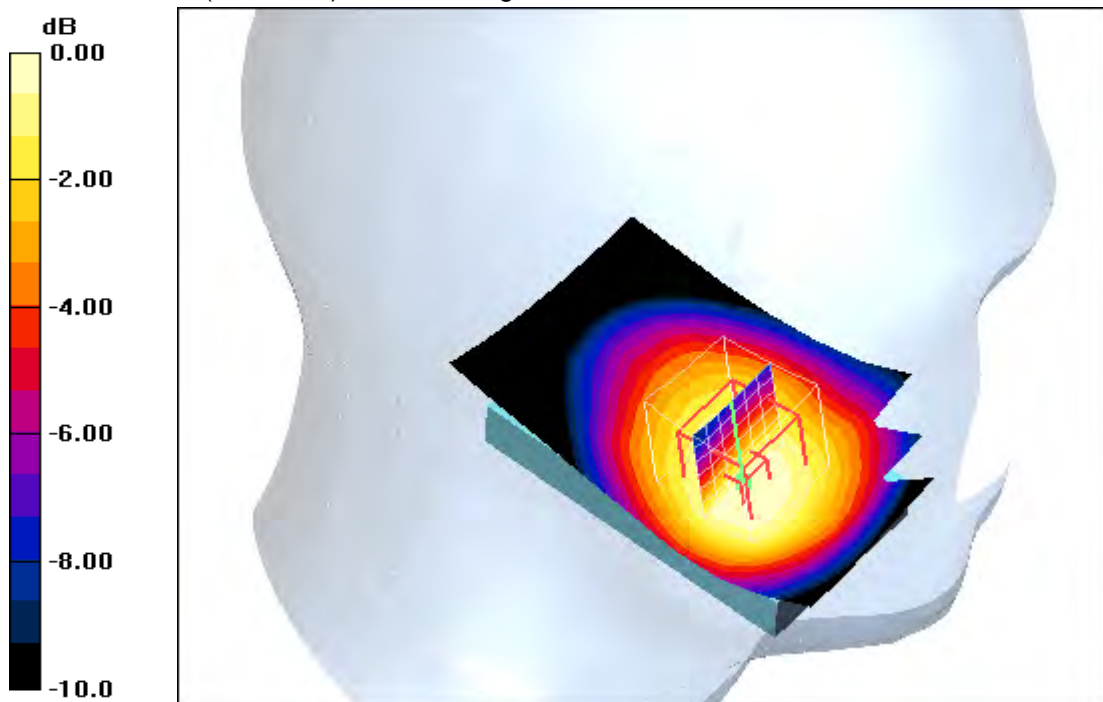
Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.92, 5.92, 5.92); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Touch position - Low/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
 Maximum value of SAR (interpolated) = 0.493 mW/g

**Touch position - Low/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  
 $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$   
 Reference Value = 24.3 V/m; Power Drift = -0.101 dB  
 Peak SAR (extrapolated) = 0.616 W/kg  
**SAR(1 g) = 0.460 mW/g; SAR(10 g) = 0.332 mW/g**  
 Maximum value of SAR (measured) = 0.489 mW/g



0 dB = 0.489mW/g

**Additional information:**

ambient temperature: 23.9°C; liquid temperature: 23.1°C

Date/Time: 03.05.2011 18:45:07 Date/Time: 03.05.2011 18:51:03

**IEEE1528\_OET65-LeftHandSide-GSM850**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8

Medium: HSL850 Medium parameters used:  $f = 836.6 \text{ MHz}$ ;  $\sigma = 0.91 \text{ mho/m}$ ;  $\epsilon_r = 42$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.92, 5.92, 5.92); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Touch position - Middle/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.551 mW/g

**Touch position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:

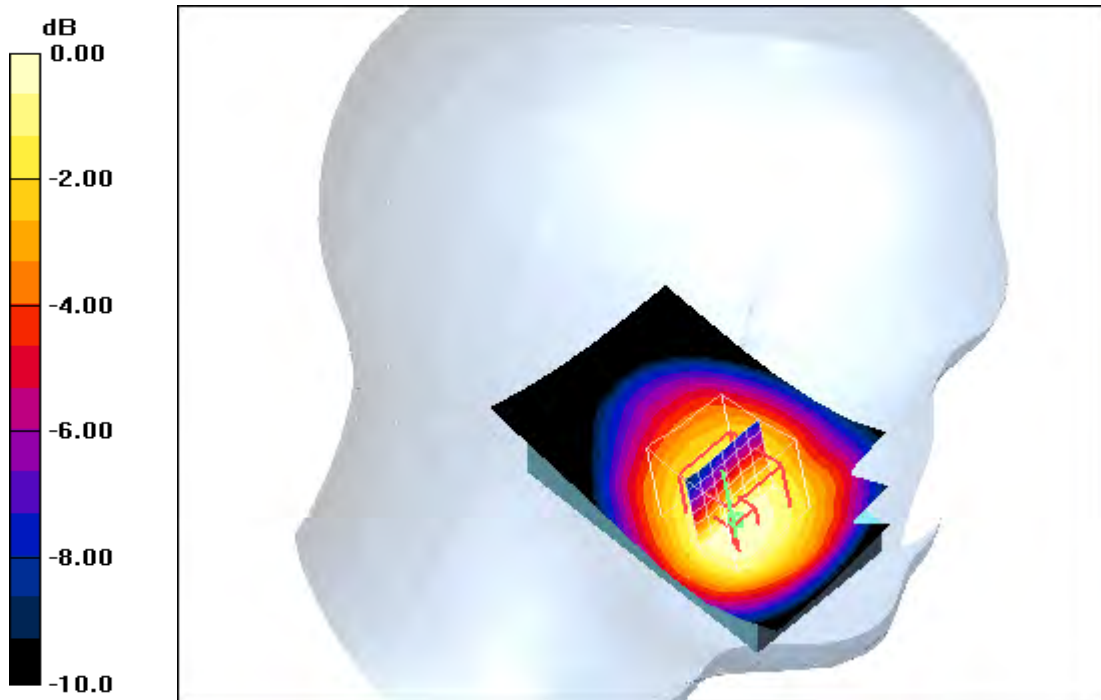
$dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 25.6 V/m; Power Drift = 0.025 dB

Peak SAR (extrapolated) = 0.731 W/kg

**SAR(1 g) = 0.520 mW/g; SAR(10 g) = 0.369 mW/g**

Maximum value of SAR (measured) = 0.552 mW/g



0 dB = 0.552mW/g

**Additional information:**

ambient temperature: 23.9°C; liquid temperature: 23.1°C

Date/Time: 03.05.2011 19:05:32 Date/Time: 03.05.2011 19:11:30

**IEEE1528\_OET65-LeftHandSide-GSM850**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8

Medium: HSL850 Medium parameters used:  $f = 848.8 \text{ MHz}$ ;  $\sigma = 0.91 \text{ mho/m}$ ;  $\epsilon_r = 42$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.92, 5.92, 5.92); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Touch position - High/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.607 mW/g

**Touch position - High/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:

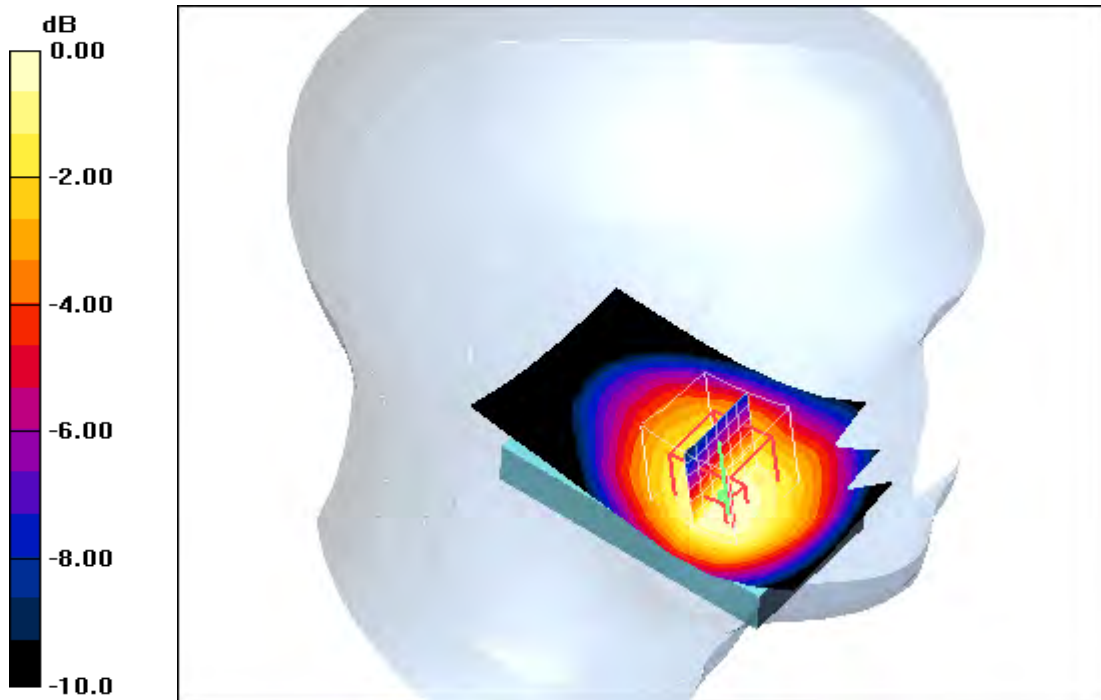
$dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 26.9 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.848 W/kg

**SAR(1 g) = 0.579 mW/g; SAR(10 g) = 0.406 mW/g**

Maximum value of SAR (measured) = 0.617 mW/g



0 dB = 0.617mW/g

**Additional information:**

ambient temperature: 23.9°C; liquid temperature: 23.1°C

Date/Time: 03.05.2011 16:49:33 Date/Time: 03.05.2011 16:55:26

**IEEE1528\_OET65-LeftHandSide-GSM850**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:8

Medium: HSL850 Medium parameters used:  $f = 824.2 \text{ MHz}$ ;  $\sigma = 0.91 \text{ mho/m}$ ;  $\epsilon_r = 42$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.92, 5.92, 5.92); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Tilt position - Low/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.219 mW/g

**Tilt position - Low/Zoom Scan (7x7x7) (7x11x7)/Cube 0:** Measurement grid:

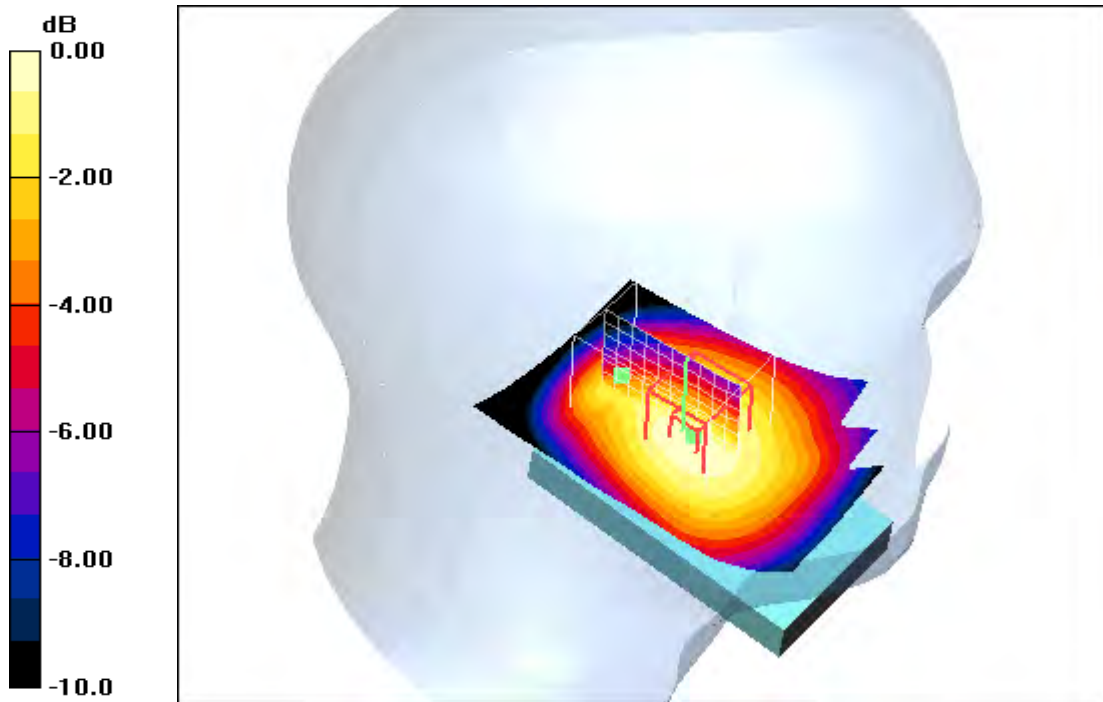
$dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 15.7 V/m; Power Drift = -0.056 dB

Peak SAR (extrapolated) = 0.266 W/kg

**SAR(1 g) = 0.212 mW/g; SAR(10 g) = 0.157 mW/g**

Maximum value of SAR (measured) = 0.220 mW/g



0 dB = 0.220mW/g

**Additional information:**

ambient temperature: 23.9°C; liquid temperature: 23.1°C

Date/Time: 03.05.2011 16:20:33 Date/Time: 03.05.2011 16:26:25

**IEEE1528\_OET65-LeftHandSide-GSM850**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8

Medium: HSL850 Medium parameters used:  $f = 836.6 \text{ MHz}$ ;  $\sigma = 0.91 \text{ mho/m}$ ;  $\epsilon_r = 42$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.92, 5.92, 5.92); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Tilt position - Middle/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.266 mW/g

**Tilt position - Middle/Zoom Scan (7x7x7) (7x11x7)/Cube 0:** Measurement grid:

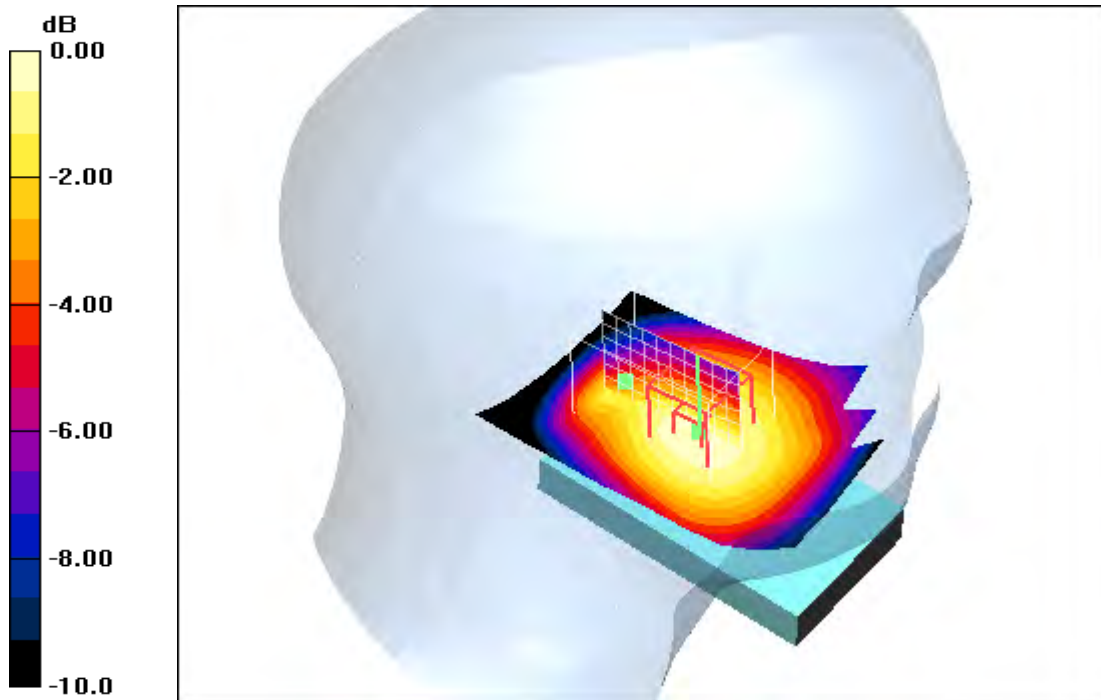
$dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 17.4 V/m; Power Drift = -0.050 dB

Peak SAR (extrapolated) = 0.327 W/kg

**SAR(1 g) = 0.259 mW/g; SAR(10 g) = 0.192 mW/g**

Maximum value of SAR (measured) = 0.270 mW/g



0 dB = 0.270mW/g

**Additional information:**

ambient temperature: 23.9°C; liquid temperature: 23.1°C

Date/Time: 03.05.2011 15:53:45 Date/Time: 03.05.2011 16:01:13

**IEEE1528\_OET65-LeftHandSide-GSM850**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8

Medium: HSL850 Medium parameters used:  $f = 848.8 \text{ MHz}$ ;  $\sigma = 0.91 \text{ mho/m}$ ;  $\epsilon_r = 42$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.92, 5.92, 5.92); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Tilt position - High/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.279 mW/g

**Tilt position - High/Zoom Scan (7x7x7) (7x11x7)/Cube 0:** Measurement grid:

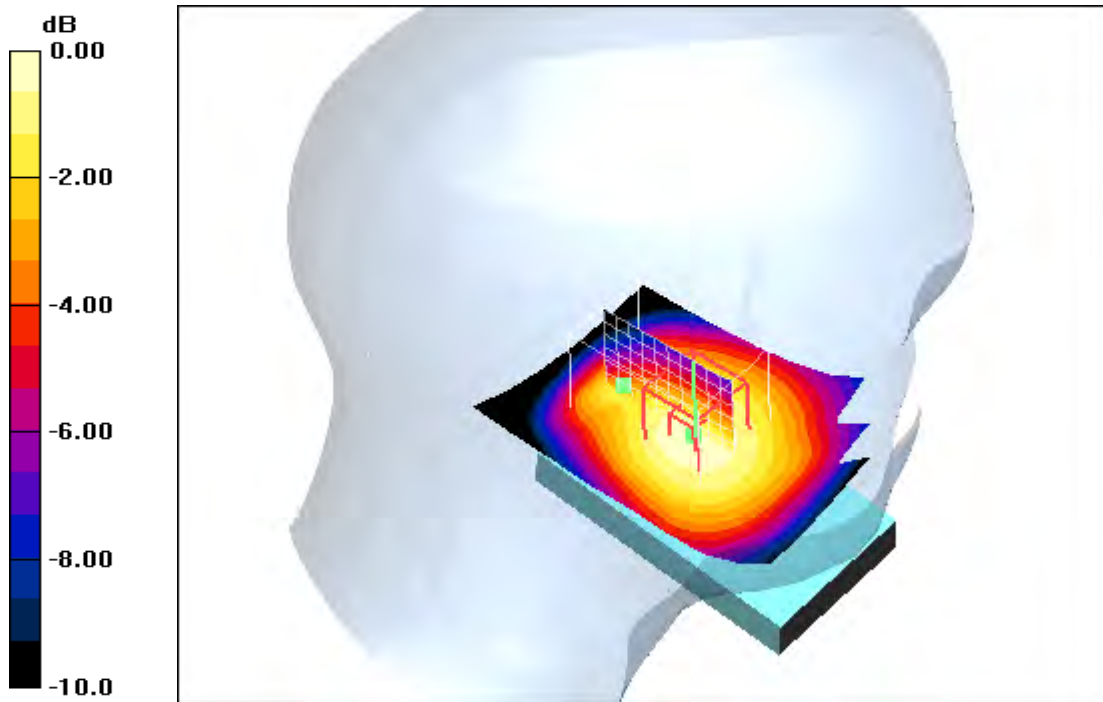
$dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 17.8 V/m; Power Drift = 0.019 dB

Peak SAR (extrapolated) = 0.345 W/kg

**SAR(1 g) = 0.273 mW/g; SAR(10 g) = 0.201 mW/g**

Maximum value of SAR (measured) = 0.286 mW/g



0 dB = 0.286mW/g

**Additional information:**

ambient temperature: 23.9°C; liquid temperature: 23.1°C



Date/Time: 03.05.2011 13:23:10 Date/Time: 03.05.2011 13:29:01

**IEEE1528\_OET65-RightHandSide-GSM850**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:8

Medium: HSL850 Medium parameters used:  $f = 824.2 \text{ MHz}$ ;  $\sigma = 0.91 \text{ mho/m}$ ;  $\epsilon_r = 42$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.92, 5.92, 5.92); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Touch position - Low/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.457 mW/g

**Touch position - Low/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:

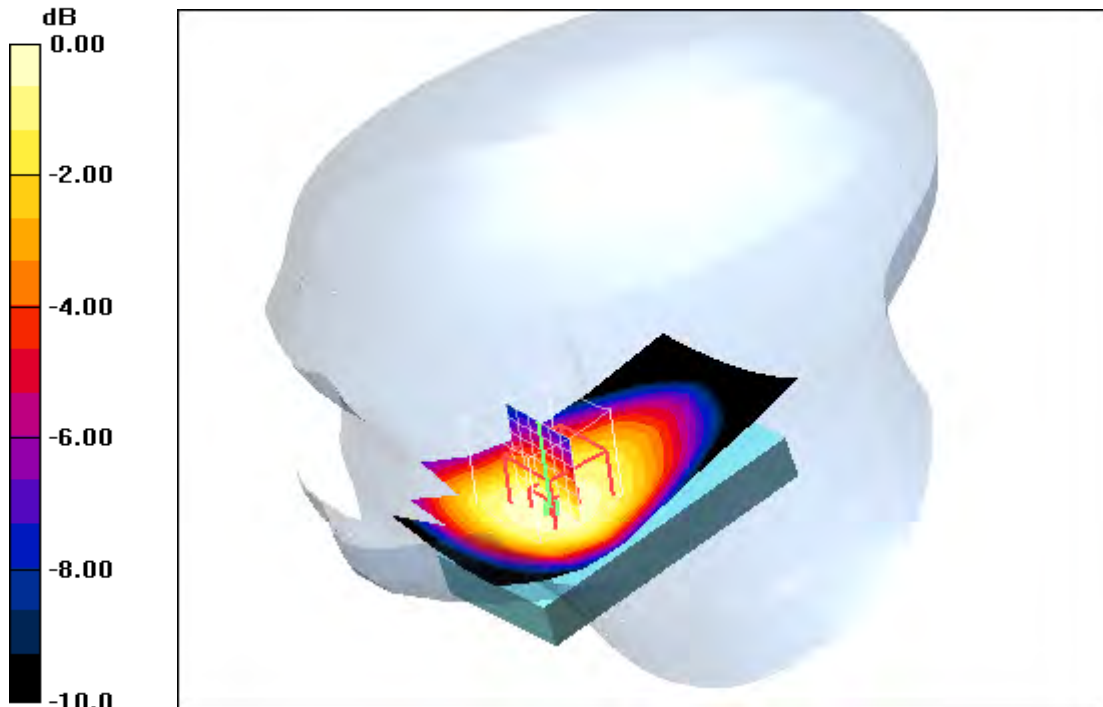
$dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 23.0 V/m; Power Drift = -0.019 dB

Peak SAR (extrapolated) = 0.544 W/kg

**SAR(1 g) = 0.429 mW/g; SAR(10 g) = 0.317 mW/g**

Maximum value of SAR (measured) = 0.456 mW/g



**Additional information:**

ambient temperature: 23.8°C; liquid temperature: 23.1°C

Date/Time: 03.05.2011 13:43:32 Date/Time: 03.05.2011 13:49:23

**IEEE1528\_OET65-RightHandSide-GSM850**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8

Medium: HSL850 Medium parameters used:  $f = 836.6 \text{ MHz}$ ;  $\sigma = 0.91 \text{ mho/m}$ ;  $\epsilon_r = 42$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.92, 5.92, 5.92); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Touch position - Middle/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.546 mW/g

**Touch position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:

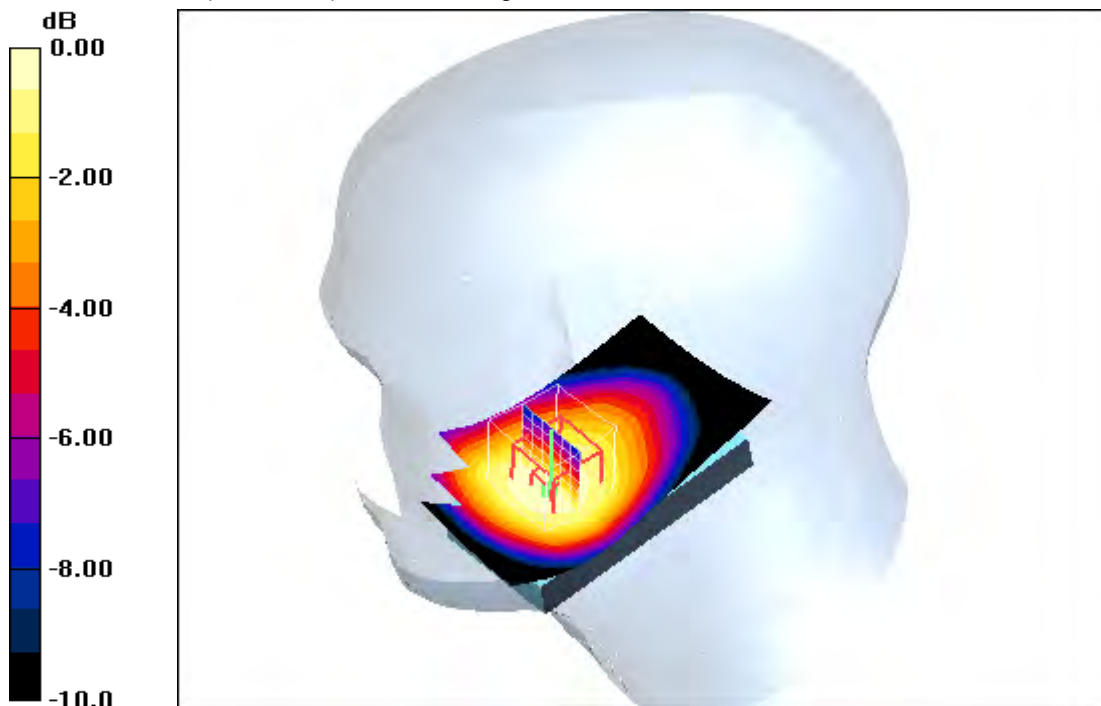
$dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 25.2 V/m; Power Drift = -0.081 dB

Peak SAR (extrapolated) = 0.665 W/kg

**SAR(1 g) = 0.522 mW/g; SAR(10 g) = 0.383 mW/g**

Maximum value of SAR (measured) = 0.552 mW/g



0 dB = 0.552mW/g

**Additional information:**

ambient temperature: 23.8°C; liquid temperature: 23.1°C



Date/Time: 03.05.2011 14:04:23 Date/Time: 03.05.2011 14:10:14

**IEEE1528\_OET65-RightHandSide-GSM850**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8

Medium: HSL850 Medium parameters used:  $f = 848.8 \text{ MHz}$ ;  $\sigma = 0.91 \text{ mho/m}$ ;  $\epsilon_r = 42$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.92, 5.92, 5.92); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Touch position - High/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

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

**Touch position - High/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:

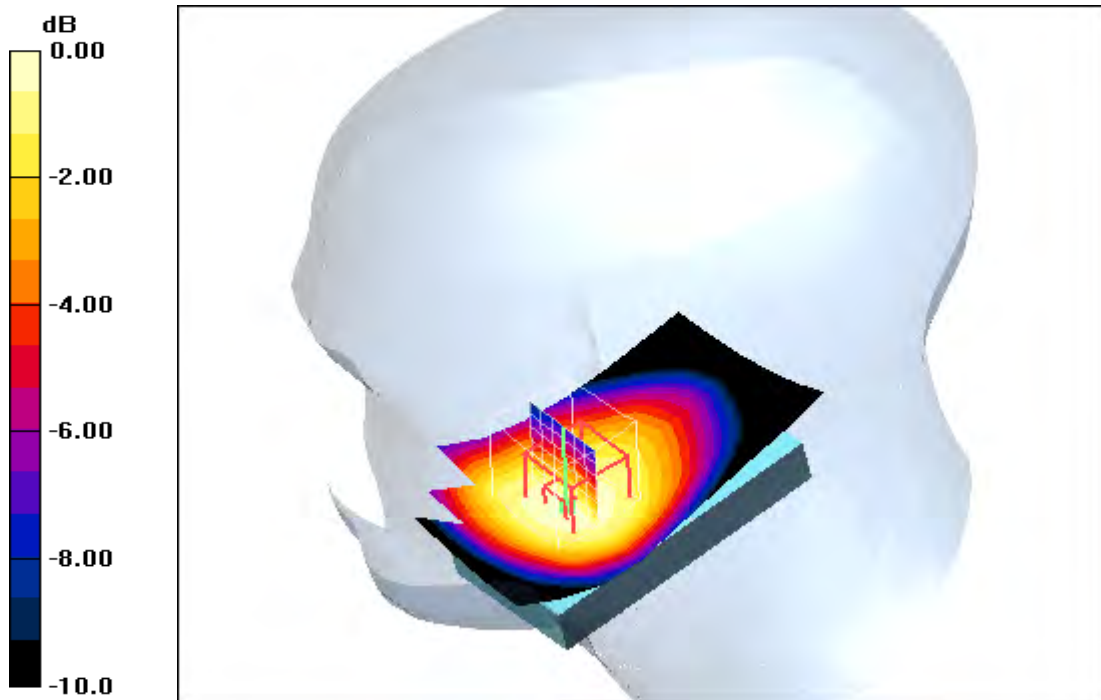
$dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 26.4 V/m; Power Drift = 0.088 dB

Peak SAR (extrapolated) = 0.737 W/kg

**SAR(1 g) = 0.577 mW/g; SAR(10 g) = 0.425 mW/g**

Maximum value of SAR (measured) = 0.613 mW/g



0 dB = 0.613mW/g

**Additional information:**

ambient temperature: 23.8°C; liquid temperature: 23.1°C

Date/Time: 03.05.2011 14:27:00 Date/Time: 03.05.2011 14:35:26

**IEEE1528\_OET65-RightHandSide-GSM850**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:8

Medium: HSL850 Medium parameters used:  $f = 824.2 \text{ MHz}$ ;  $\sigma = 0.91 \text{ mho/m}$ ;  $\epsilon_r = 42$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.92, 5.92, 5.92); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Tilt position - Low/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.237 mW/g

**Tilt position - Low/Zoom Scan (7x7x7) (7x11x7)/Cube 0:** Measurement grid:

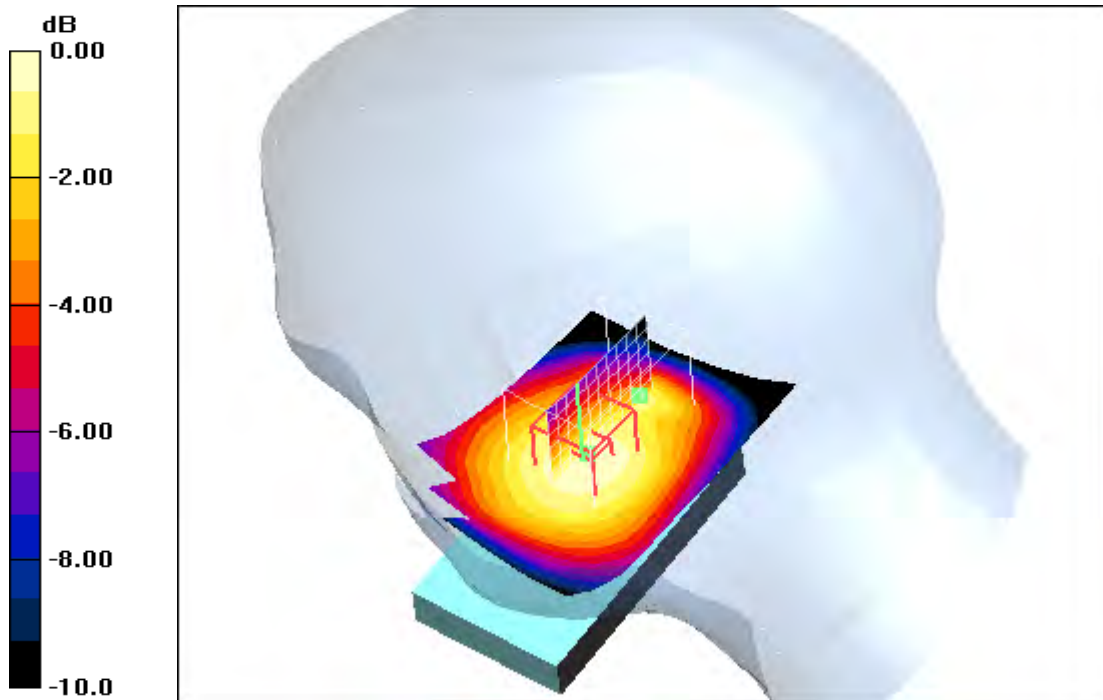
$dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 16.3 V/m; Power Drift = 0.034 dB

Peak SAR (extrapolated) = 0.298 W/kg

**SAR(1 g) = 0.230 mW/g; SAR(10 g) = 0.171 mW/g**

Maximum value of SAR (measured) = 0.243 mW/g



0 dB = 0.243mW/g

**Additional information:**

ambient temperature: 23.8°C; liquid temperature: 23.1°C

Date/Time: 03.05.2011 14:58:49 Date/Time: 03.05.2011 15:04:41

**IEEE1528\_OET65-RightHandSide-GSM850**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8

Medium: HSL850 Medium parameters used:  $f = 836.6 \text{ MHz}$ ;  $\sigma = 0.91 \text{ mho/m}$ ;  $\epsilon_r = 42$ ;  $\rho = 1000 \text{ kg/m}^3$

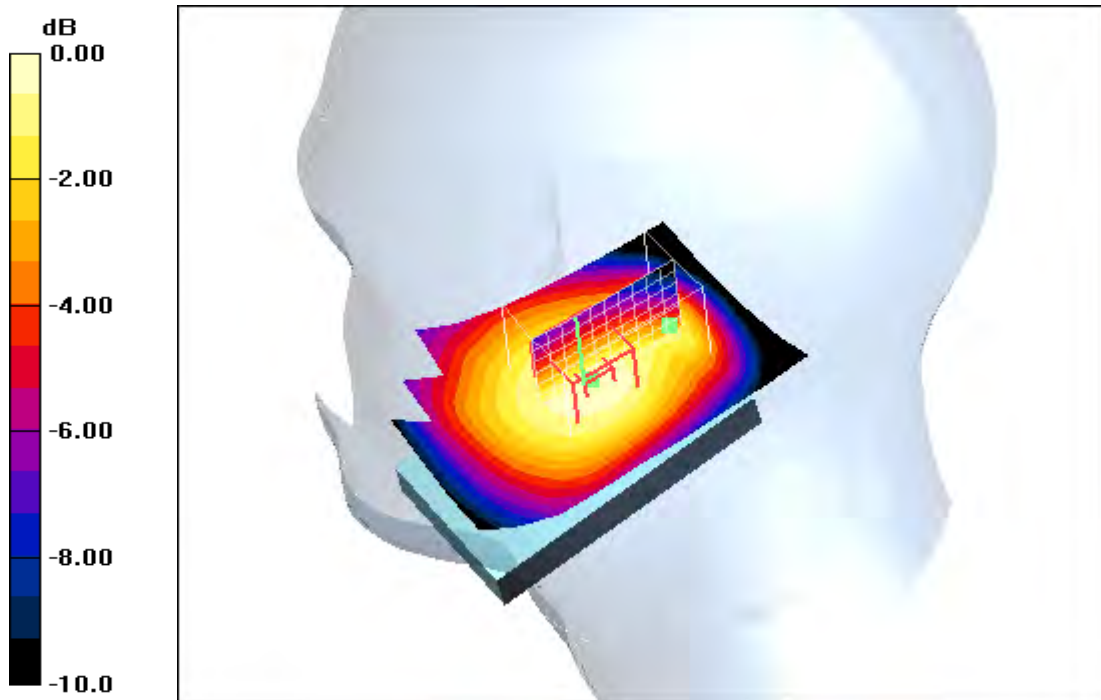
Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.92, 5.92, 5.92); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Tilt position - Middle/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
 Maximum value of SAR (interpolated) = 0.253 mW/g

**Tilt position - Middle/Zoom Scan (7x7x7) (7x11x7)/Cube 0:** Measurement grid:  
 $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$   
 Reference Value = 17.1 V/m; Power Drift = 0.027 dB  
 Peak SAR (extrapolated) = 0.316 W/kg  
**SAR(1 g) = 0.246 mW/g; SAR(10 g) = 0.181 mW/g**  
 Maximum value of SAR (measured) = 0.258 mW/g



0 dB = 0.258mW/g

**Additional information:**

ambient temperature: 23.8°C; liquid temperature: 23.1°C

Date/Time: 03.05.2011 15:23:37 Date/Time: 03.05.2011 15:29:31

**IEEE1528\_OET65-RightHandSide-GSM850**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8

Medium: HSL850 Medium parameters used:  $f = 848.8 \text{ MHz}$ ;  $\sigma = 0.91 \text{ mho/m}$ ;  $\epsilon_r = 42$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.92, 5.92, 5.92); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Tilt position - High/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.275 mW/g

**Tilt position - High/Zoom Scan (7x7x7) (7x11x7)/Cube 0:** Measurement grid:

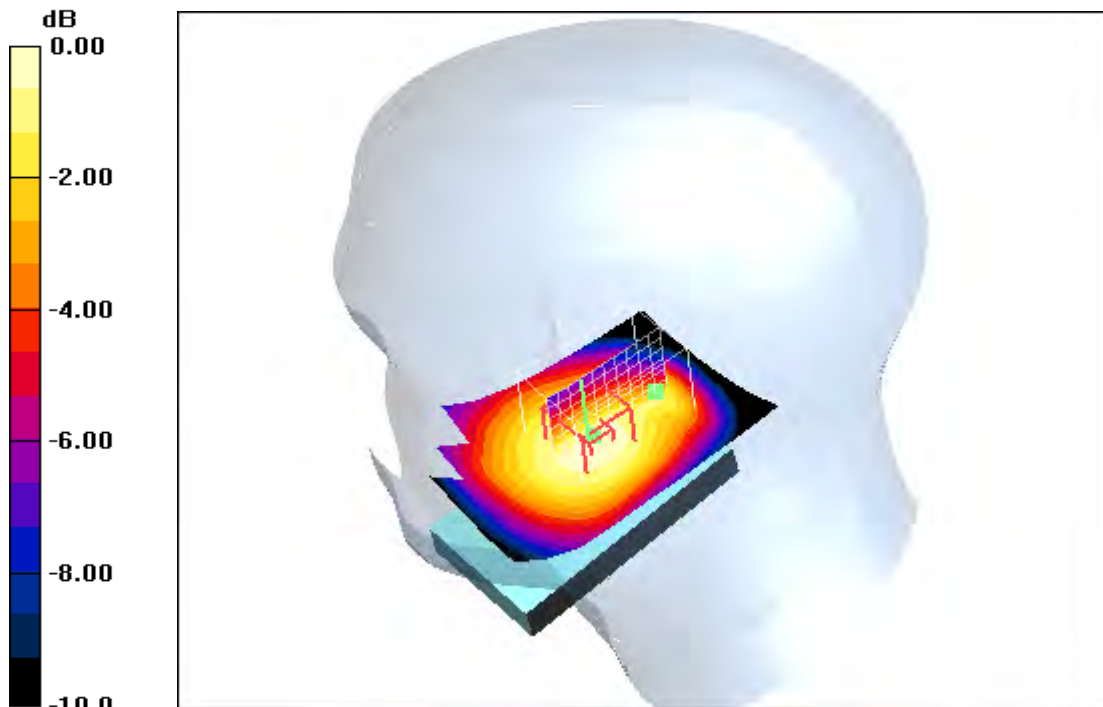
$dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 17.8 V/m; Power Drift = 0.019 dB

Peak SAR (extrapolated) = 0.342 W/kg

**SAR(1 g) = 0.265 mW/g; SAR(10 g) = 0.195 mW/g**

Maximum value of SAR (measured) = 0.280 mW/g



0 dB = 0.280mW/g

**Additional information:**

ambient temperature: 23.8°C; liquid temperature: 23.1°C

**Annex A.2: GSM 850MHz body**

Date/Time: 09.05.2011 15:41:02 Date/Time: 09.05.2011 16:53:03

**IEEE1528\_OET65-Body-GSM850 GPRS 2TS**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 850 GPRS 2TS; Frequency: 824.2 MHz; Duty Cycle: 1:4

Medium: M850 Medium parameters used:  $f = 824.2 \text{ MHz}$ ;  $\sigma = 0.95 \text{ mho/m}$ ;  $\epsilon_r = 55.6$ ;  $\rho = 1000 \text{ kg/m}^3$

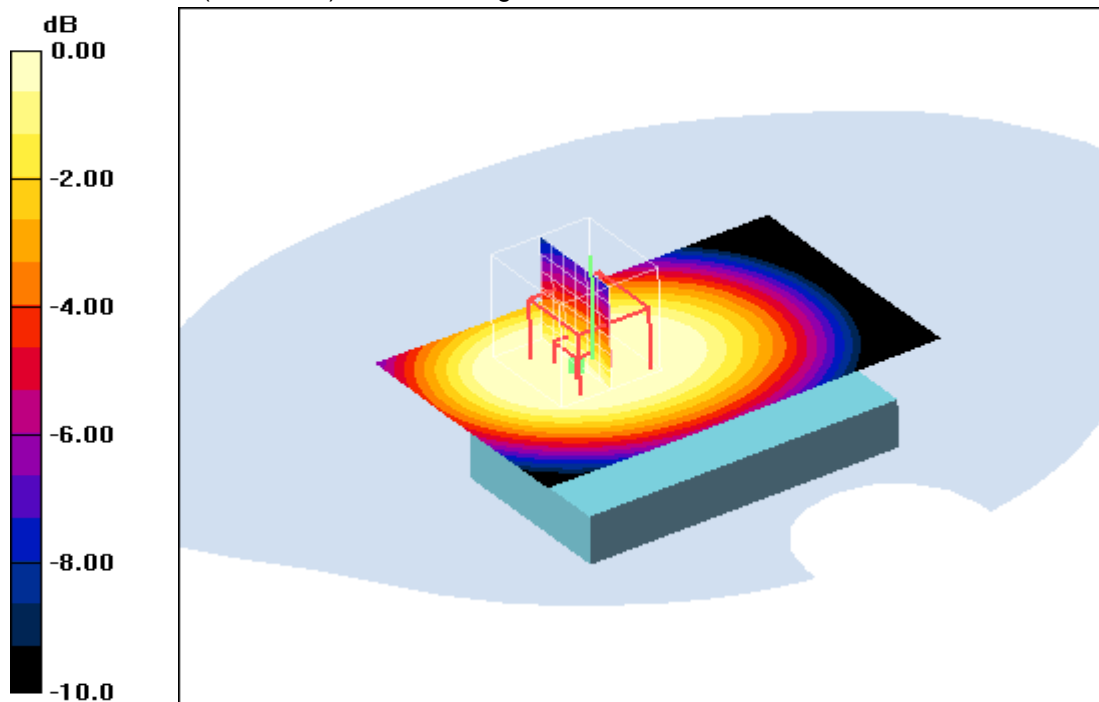
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Front position - Low/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
 Maximum value of SAR (interpolated) = 0.231 mW/g

**Front position - Low/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  
 $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$   
 Reference Value = 14.6 V/m; Power Drift = 0.032 dB  
 Peak SAR (extrapolated) = 0.230 W/kg  
**SAR(1 g) = 0.179 mW/g; SAR(10 g) = 0.131 mW/g**  
 Maximum value of SAR (measured) = 0.188 mW/g



0 dB = 0.188mW/g

**Additional information:**

position or distance of DUT to SAM: 15 mm  
 ambient temperature: 24.0°C; liquid temperature: 23.3°C

Date/Time: 09.05.2011 16:00:25 Date/Time: 09.05.2011 16:39:31

**IEEE1528\_OET65-Body-GSM850 GPRS 2TS****DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 850 GPRS 2TS; Frequency: 836.6 MHz; Duty Cycle: 1:4

Medium: M850 Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 0.95$  mho/m;  $\epsilon_r = 55.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Front position - Middle/Area Scan (51x81x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.240 mW/g

**Front position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:

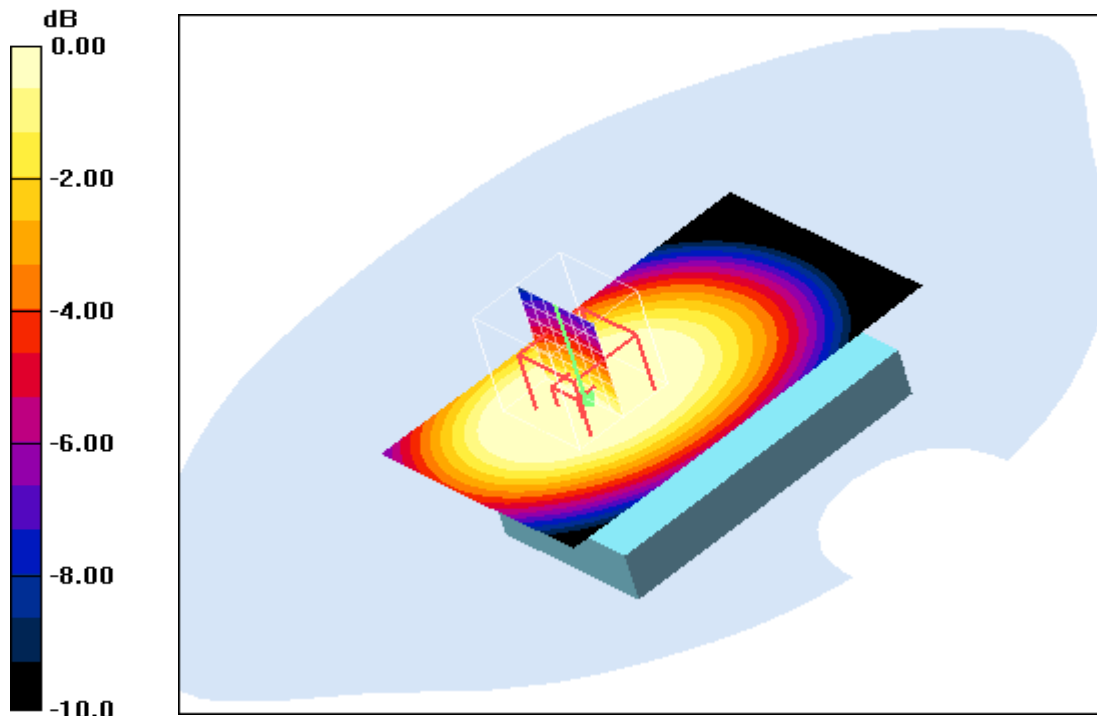
dx=5mm, dy=5mm, dz=5mm

Reference Value = 15.1 V/m; Power Drift = -0.018 dB

Peak SAR (extrapolated) = 0.246 W/kg

**SAR(1 g) = 0.190 mW/g; SAR(10 g) = 0.139 mW/g**

Maximum value of SAR (measured) = 0.200 mW/g



0 dB = 0.200mW/g

**Additional information:**

position or distance of DUT to SAM: 15 mm

ambient temperature: 24.0°C; liquid temperature: 23.3°C

Date/Time: 09.05.2011 16:19:47 Date/Time: 09.05.2011 16:25:40

## IEEE1528\_OET65-Body-GSM850 GPRS 2TS

DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204

Communication System: GSM 850 GPRS 2TS; Frequency: 848.8 MHz; Duty Cycle: 1:4

Medium: M850 Medium parameters used:  $f = 848.8 \text{ MHz}$ ;  $\sigma = 0.95 \text{ mho/m}$ ;  $\epsilon_r = 55.6$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Front position - High/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.199 mW/g

**Front position - High/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:

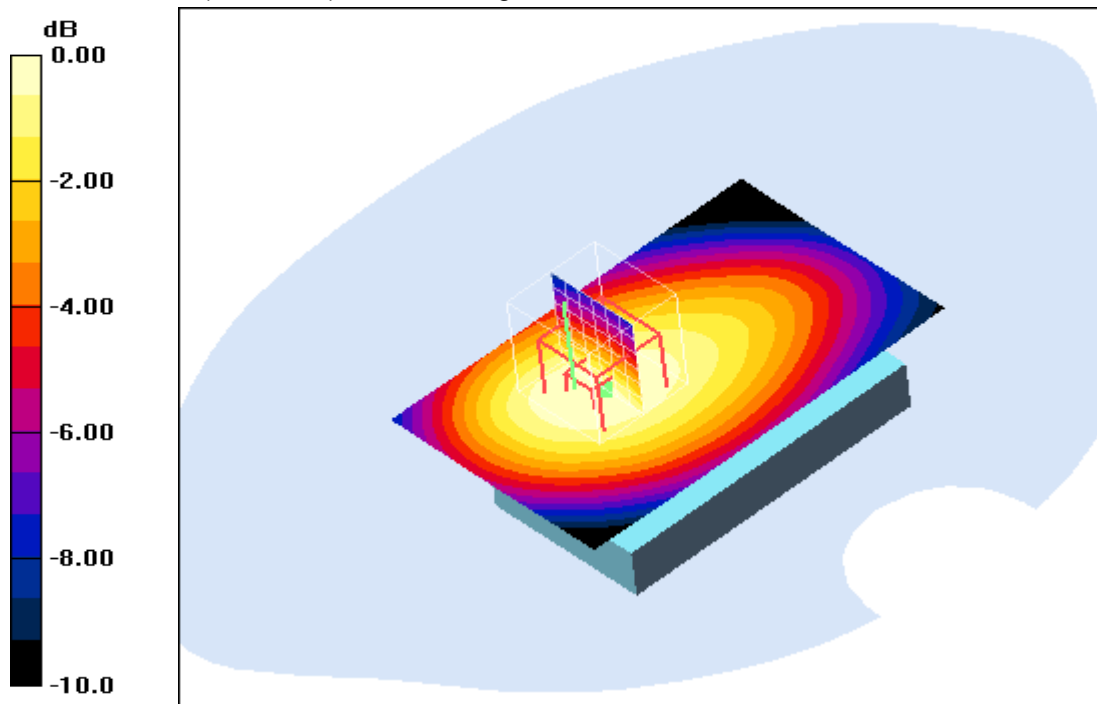
$dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 15.0 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 0.243 W/kg

**SAR(1 g) = 0.186 mW/g; SAR(10 g) = 0.136 mW/g**

Maximum value of SAR (measured) = 0.197 mW/g



0 dB = 0.197mW/g

### Additional information:

position or distance of DUT to SAM: 15 mm

ambient temperature: 24.0°C; liquid temperature: 23.3°C



Date/Time: 09.05.2011 13:19:09 Date/Time: 09.05.2011 13:26:25

### IEEE1528\_OET65-Body-GSM850 GPRS 2TS

DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204

Communication System: GSM 850 GPRS 2TS; Frequency: 824.2 MHz; Duty Cycle: 1:4

Medium: M850 Medium parameters used:  $f = 824.2 \text{ MHz}$ ;  $\sigma = 0.95 \text{ mho/m}$ ;  $\epsilon_r = 55.6$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Rear position - Low/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.404 mW/g

**Rear position - Low/Zoom Scan (7x7x7) (7x11x7)/Cube 0:** Measurement grid:

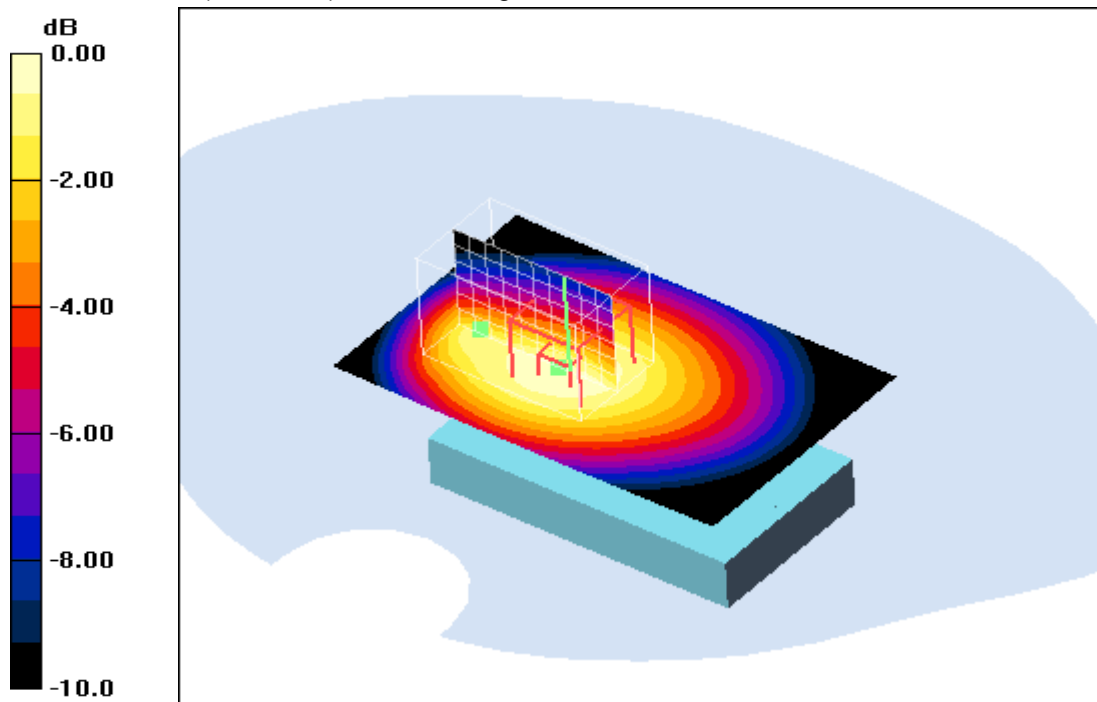
$dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 21.4 V/m; Power Drift = 0.044 dB

Peak SAR (extrapolated) = 0.536 W/kg

**SAR(1 g) = 0.386 mW/g; SAR(10 g) = 0.268 mW/g**

Maximum value of SAR (measured) = 0.413 mW/g



0 dB = 0.413mW/g

**Additional information:**

position or distance of DUT to SAM: 15 mm

ambient temperature: 24.0°C; liquid temperature: 23.3°C



Date/Time: 09.05.2011 13:47:20 Date/Time: 09.05.2011 13:54:23

**IEEE1528\_OET65-Body-GSM850 GPRS 2TS**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 850 GPRS 2TS; Frequency: 836.6 MHz; Duty Cycle: 1:4

Medium: M850 Medium parameters used:  $f = 836.6 \text{ MHz}$ ;  $\sigma = 0.95 \text{ mho/m}$ ;  $\epsilon_r = 55.6$ ;  $\rho = 1000 \text{ kg/m}^3$

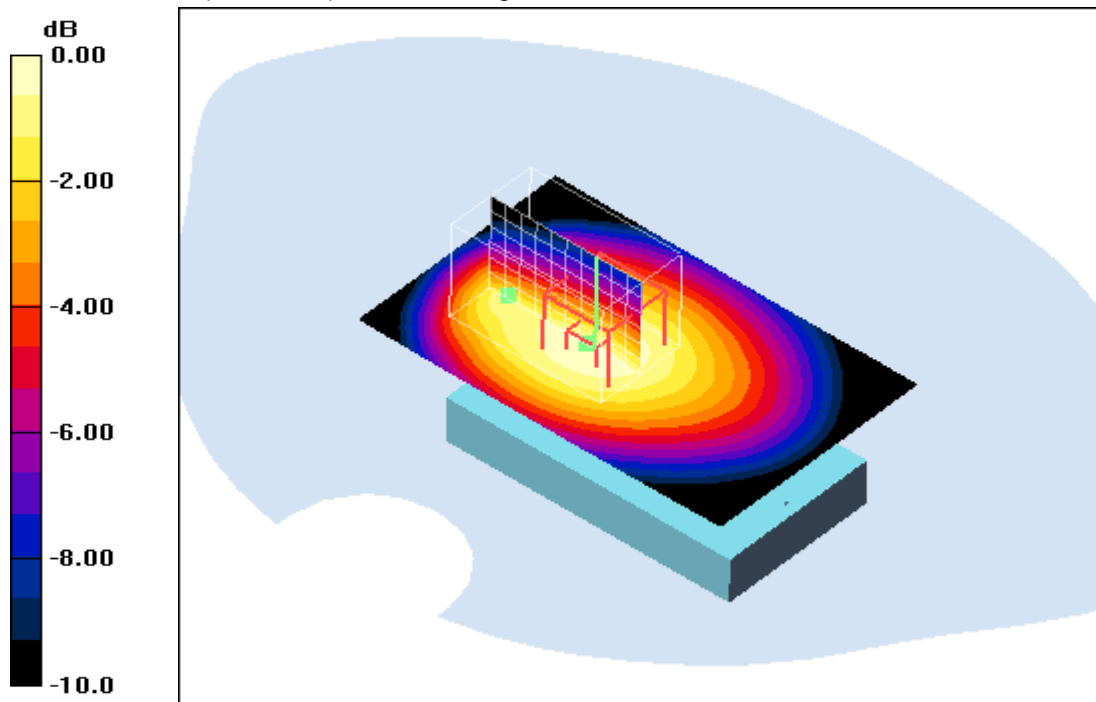
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Rear position - Middle/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
 Maximum value of SAR (interpolated) = 0.430 mW/g

**Rear position - Middle/Zoom Scan (7x7x7) (7x11x7)/Cube 0:** Measurement grid:  
 $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$   
 Reference Value = 22.0 V/m; Power Drift = -0.028 dB  
 Peak SAR (extrapolated) = 0.585 W/kg  
**SAR(1 g) = 0.413 mW/g; SAR(10 g) = 0.287 mW/g**  
 Maximum value of SAR (measured) = 0.443 mW/g



0 dB = 0.443mW/g

**Additional information:**

position or distance of DUT to SAM: 15 mm  
 ambient temperature: 24.0°C; liquid temperature: 23.3°C

Date/Time: 09.05.2011 14:15:14 Date/Time: 09.05.2011 14:22:56

**IEEE1528\_OET65-Body-GSM850 GPRS 2TS**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 850 GPRS 2TS; Frequency: 848.8 MHz; Duty Cycle: 1:4

Medium: M850 Medium parameters used:  $f = 848.8 \text{ MHz}$ ;  $\sigma = 0.95 \text{ mho/m}$ ;  $\epsilon_r = 55.6$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Rear position - High/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.422 mW/g

**Rear position - High/Zoom Scan (7x7x7) (7x12x7)/Cube 0:** Measurement grid:

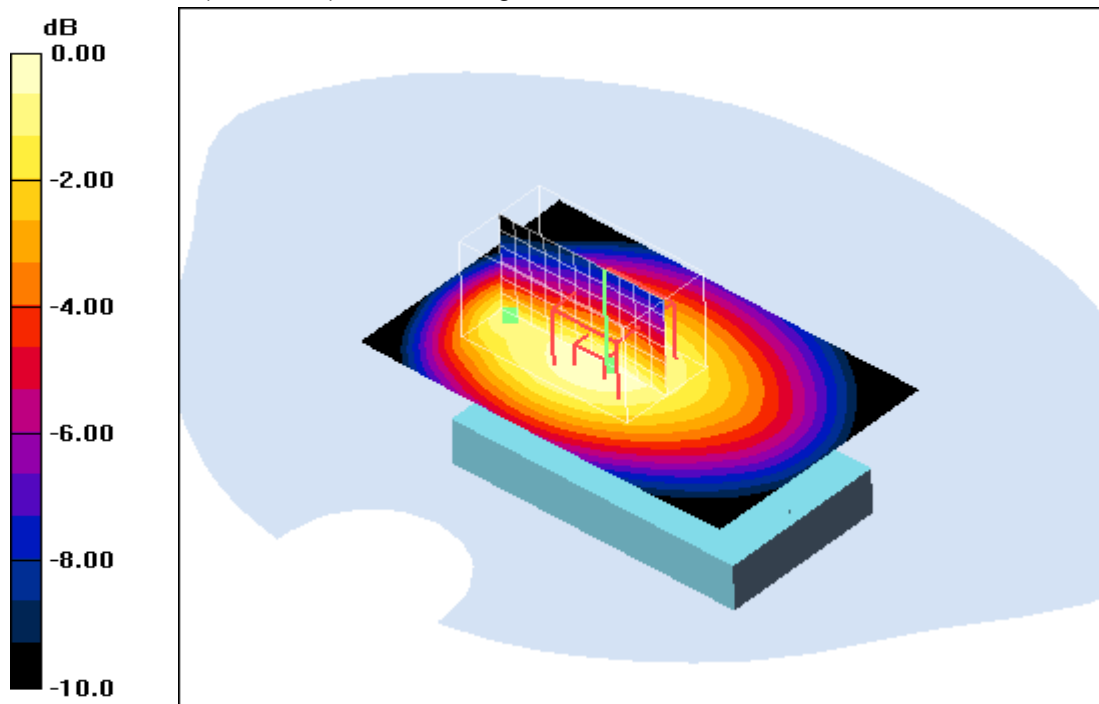
$dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 21.5 V/m; Power Drift = -0.010 dB

Peak SAR (extrapolated) = 0.567 W/kg

**SAR(1 g) = 0.403 mW/g; SAR(10 g) = 0.282 mW/g**

Maximum value of SAR (measured) = 0.430 mW/g



0 dB = 0.430mW/g

**Additional information:**

position or distance of DUT to SAM: 15 mm

ambient temperature: 24.0°C; liquid temperature: 23.3°C

Date/Time: 09.05.2011 14:45:20 Date/Time: 09.05.2011 14:51:39

### IEEE1528\_OET65-Body-GSM850 1TS

DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8

Medium: M850 Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 0.95$  mho/m;  $\epsilon_r = 55.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

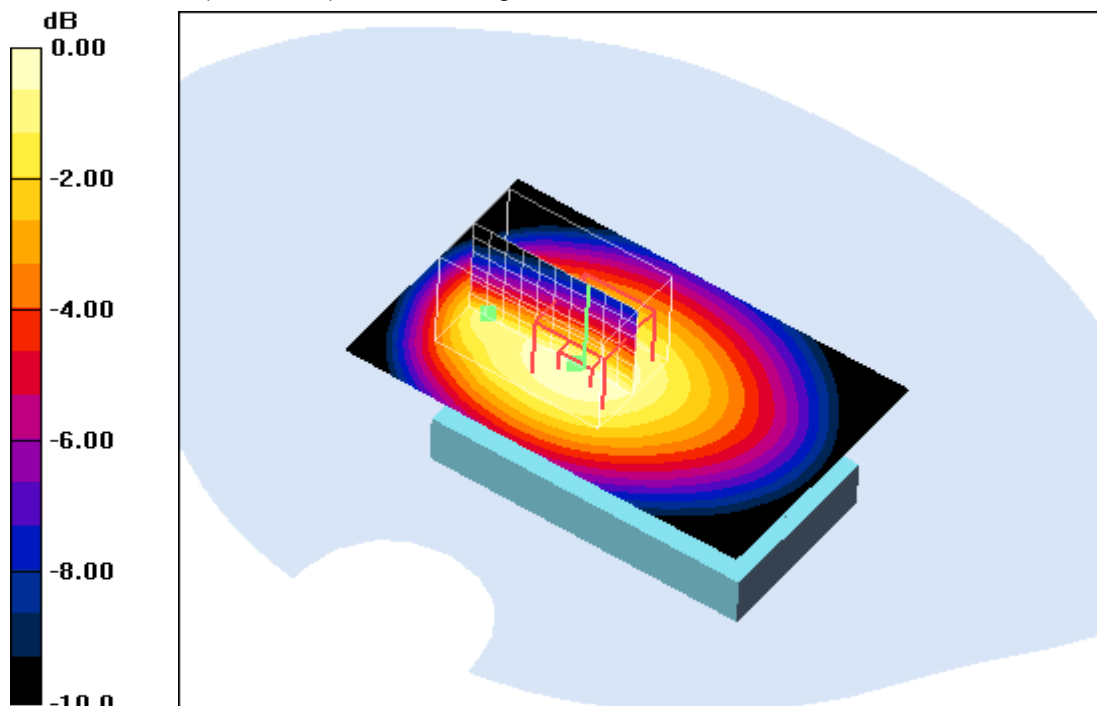
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Rear position - Middle/Area Scan (51x81x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (interpolated) = 0.376 mW/g

**Rear position - Middle/Zoom Scan (7x7x7) (7x11x7)/Cube 0:** Measurement grid:  
dx=5mm, dy=5mm, dz=5mm  
Reference Value = 20.6 V/m; Power Drift = -0.055 dB  
Peak SAR (extrapolated) = 0.498 W/kg  
**SAR(1 g) = 0.357 mW/g; SAR(10 g) = 0.248 mW/g**  
Maximum value of SAR (measured) = 0.381 mW/g



0 dB = 0.381mW/g

#### Additional information:

position or distance of DUT to SAM: 15 mm

ambient temperature: 24.0°C; liquid temperature: 23.3°C

**Annex A.3: GSM 1900MHz head**

Date/Time: 02.05.2011 10:30:32 Date/Time: 02.05.2011 10:36:23

**IEEE1528\_OET65-LeftHandSide-GSM1900**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8

Medium: HSL1900 Medium parameters used:  $f = 1850.2 \text{ MHz}$ ;  $\sigma = 1.41 \text{ mho/m}$ ;  $\epsilon_r = 40$ ;  $\rho = 1000 \text{ kg/m}^3$

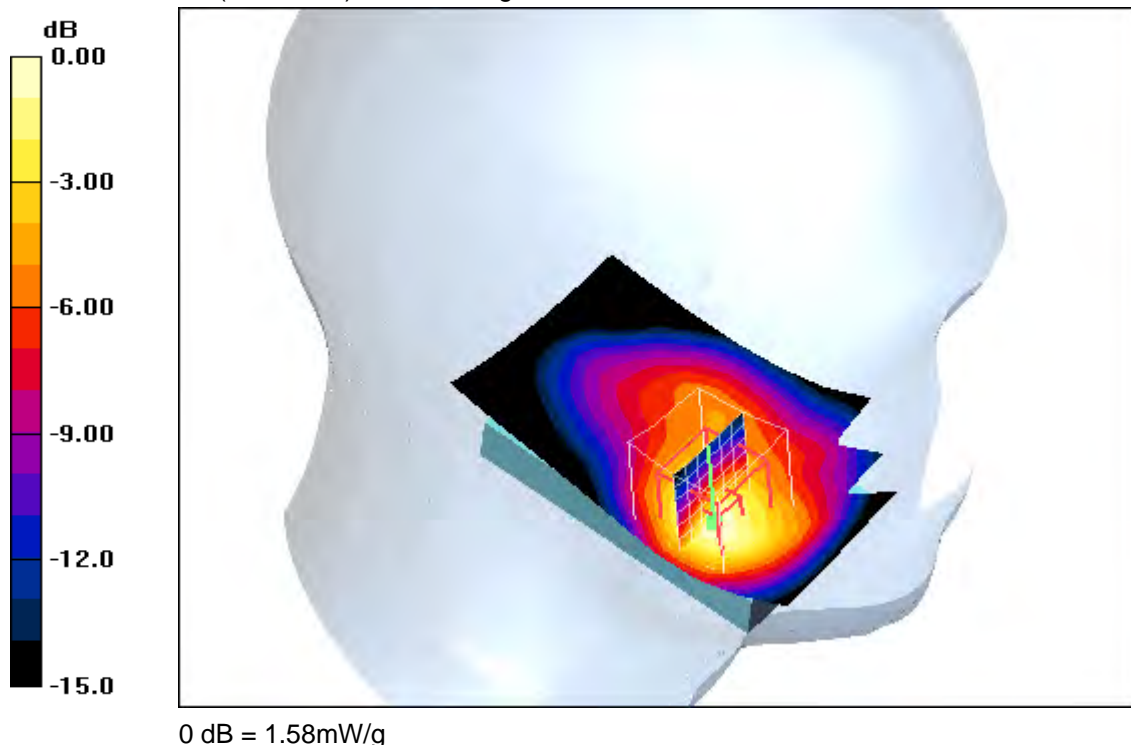
Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.76, 4.76, 4.76); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Touch position - Low/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
 Maximum value of SAR (interpolated) = 1.49 mW/g

**Touch position - Low/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  
 $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$   
 Reference Value = 30.7 V/m; Power Drift = 0.042 dB  
 Peak SAR (extrapolated) = 2.29 W/kg  
**SAR(1 g) = 1.41 mW/g; SAR(10 g) = 0.767 mW/g**  
 Maximum value of SAR (measured) = 1.58 mW/g



**Additional information:**  
 ambient temperature: 22.9°C; liquid temperature: 22.0°C

Date/Time: 02.05.2011 10:54:01 Date/Time: 02.05.2011 10:59:53

**IEEE1528\_OET65-LeftHandSide-GSM1900**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 1900; Frequency: 1880 MHz; Duty Cycle: 1:8

Medium: HSL1900 Medium parameters used:  $f = 1880 \text{ MHz}$ ;  $\sigma = 1.41 \text{ mho/m}$ ;  $\epsilon_r = 40$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.76, 4.76, 4.76); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Touch position - Middle/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 1.41 mW/g

**Touch position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:

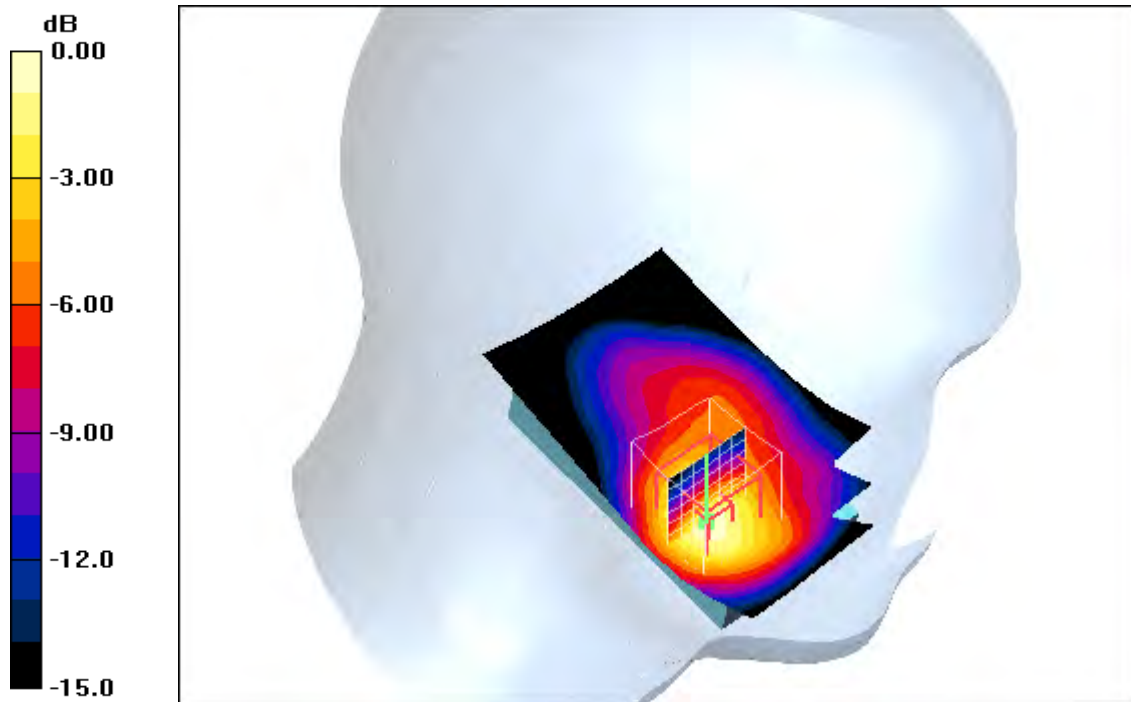
$dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 30.0 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 2.21 W/kg

**SAR(1 g) = 1.34 mW/g; SAR(10 g) = 0.725 mW/g**

Maximum value of SAR (measured) = 1.50 mW/g



0 dB = 1.50mW/g

**Additional information:**

ambient temperature: 22.9°C; liquid temperature: 22.0°C

Date/Time: 02.05.2011 11:20:50 Date/Time: 02.05.2011 11:26:42

### IEEE1528\_OET65-LeftHandSide-GSM1900

DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204

Communication System: GSM 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8

Medium: HSL1900 Medium parameters used:  $f = 1909.8$  MHz;  $\sigma = 1.41$  mho/m;  $\epsilon_r = 40$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.76, 4.76, 4.76); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Touch position - High/Area Scan (51x81x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.40 mW/g

**Touch position - High/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:

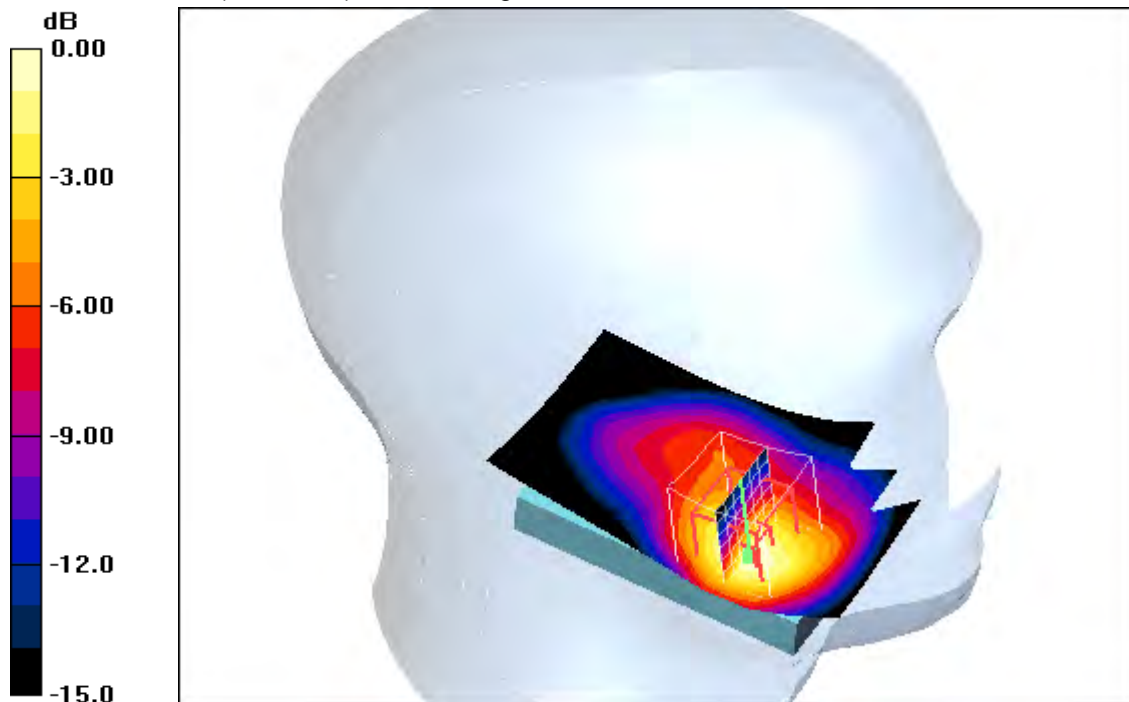
dx=5mm, dy=5mm, dz=5mm

Reference Value = 29.7 V/m; Power Drift = -0.035 dB

Peak SAR (extrapolated) = 2.21 W/kg

**SAR(1 g) = 1.32 mW/g; SAR(10 g) = 0.709 mW/g**

Maximum value of SAR (measured) = 1.47 mW/g



0 dB = 1.47mW/g

#### Additional information:

ambient temperature: 22.9°C; liquid temperature: 22.0°C

Date/Time: 02.05.2011 12:23:28 Date/Time: 02.05.2011 12:29:25

**IEEE1528\_OET65-LeftHandSide-GSM1900**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8

Medium: HSL1900 Medium parameters used:  $f = 1850.2 \text{ MHz}$ ;  $\sigma = 1.41 \text{ mho/m}$ ;  $\epsilon_r = 40$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.76, 4.76, 4.76); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Tilt position - Low/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.310 mW/g

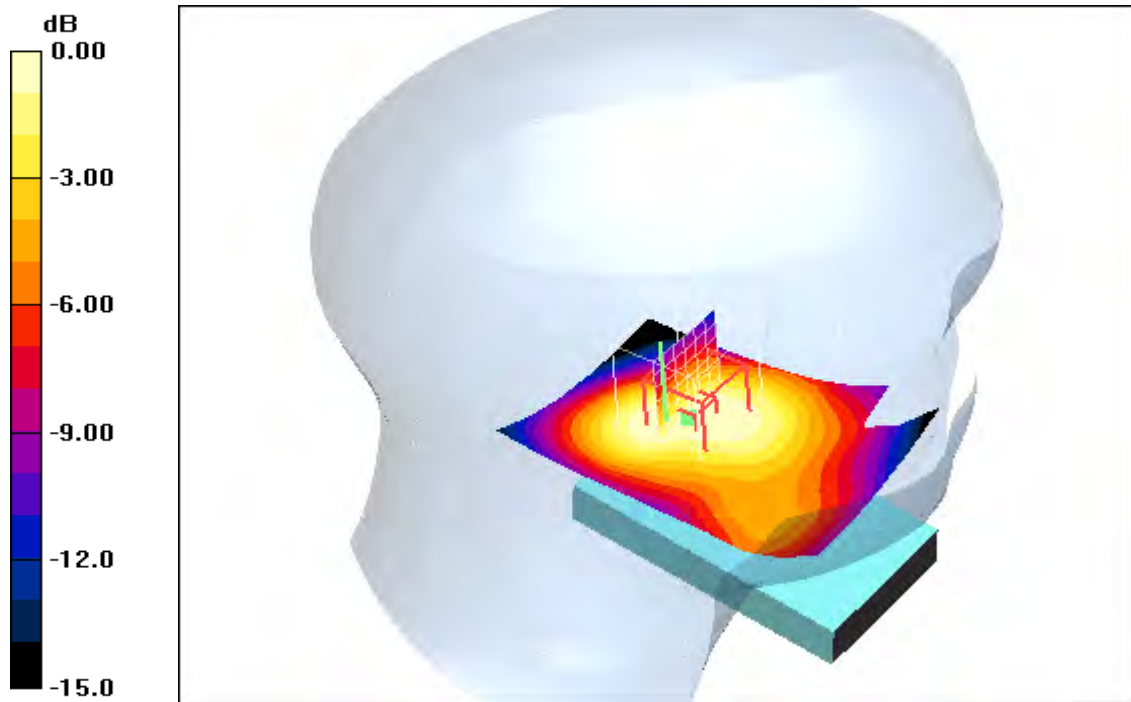
**Tilt position - Low/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 14.7 V/m; Power Drift = 0.028 dB

Peak SAR (extrapolated) = 0.359 W/kg

**SAR(1 g) = 0.268 mW/g; SAR(10 g) = 0.180 mW/g**

Maximum value of SAR (measured) = 0.287 mW/g



0 dB = 0.287mW/g

**Additional information:**

ambient temperature: 22.9°C; liquid temperature: 22.0°C



Date/Time: 02.05.2011 12:04:16 Date/Time: 02.05.2011 12:10:12

**IEEE1528\_OET65-LeftHandSide-GSM1900**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 1900; Frequency: 1880 MHz; Duty Cycle: 1:8

Medium: HSL1900 Medium parameters used:  $f = 1880 \text{ MHz}$ ;  $\sigma = 1.41 \text{ mho/m}$ ;  $\epsilon_r = 40$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.76, 4.76, 4.76); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Tilt position - Middle/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.288 mW/g

**Tilt position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:

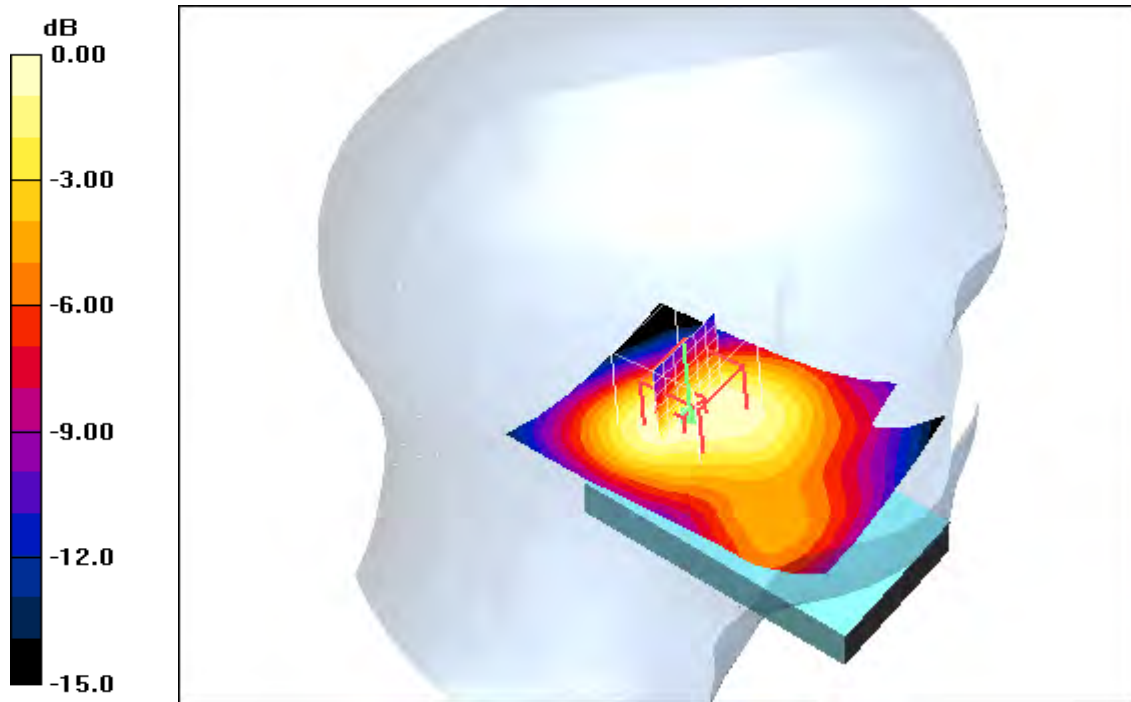
$dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 14.2 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.340 W/kg

**SAR(1 g) = 0.246 mW/g; SAR(10 g) = 0.162 mW/g**

Maximum value of SAR (measured) = 0.265 mW/g



**Additional information:**

ambient temperature: 22.9°C; liquid temperature: 22.0°C



Date/Time: 02.05.2011 11:42:11 Date/Time: 02.05.2011 11:48:08

**IEEE1528\_OET65-LeftHandSide-GSM1900**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8

Medium: HSL1900 Medium parameters used:  $f = 1909.8 \text{ MHz}$ ;  $\sigma = 1.41 \text{ mho/m}$ ;  $\epsilon_r = 40$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.76, 4.76, 4.76); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Tilt position - High/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

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

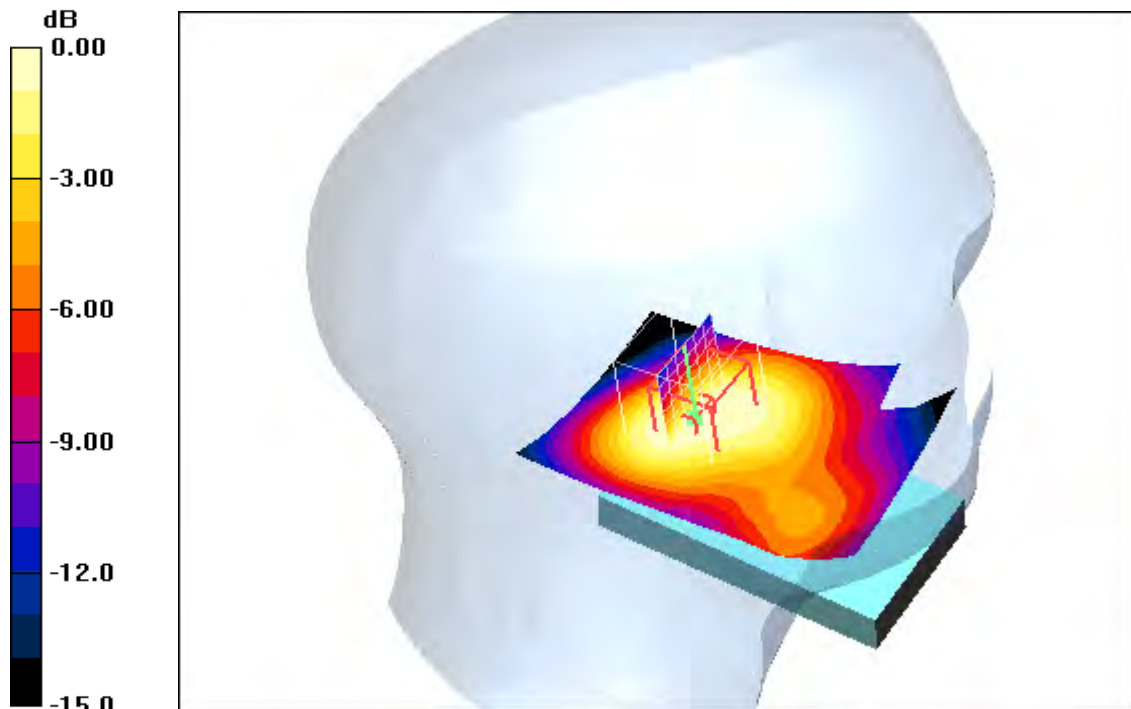
**Tilt position - High/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 14.4 V/m; Power Drift = 0.024 dB

Peak SAR (extrapolated) = 0.348 W/kg

**SAR(1 g) = 0.254 mW/g; SAR(10 g) = 0.167 mW/g**

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



0 dB = 0.274mW/g

**Additional information:**

ambient temperature: 22.9°C; liquid temperature: 22.0°C

Date/Time: 02.05.2011 13:46:59 Date/Time: 02.05.2011 13:52:51

**IEEE1528\_OET65-RightHandSide-GSM1900**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8

Medium: HSL1900 Medium parameters used:  $f = 1850.2 \text{ MHz}$ ;  $\sigma = 1.41 \text{ mho/m}$ ;  $\epsilon_r = 40$ ;  $\rho = 1000 \text{ kg/m}^3$

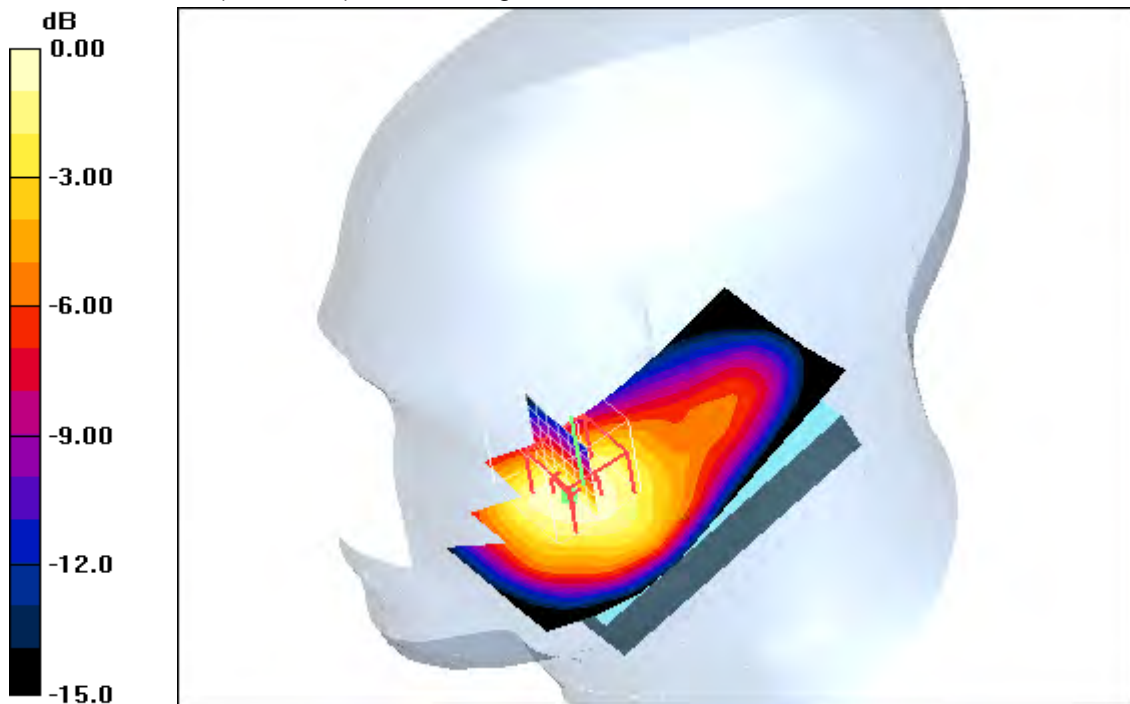
Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.76, 4.76, 4.76); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Touch position - Low/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
 Maximum value of SAR (interpolated) = 1.01 mW/g

**Touch position - Low/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  
 $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$   
 Reference Value = 27.5 V/m; Power Drift = -0.047 dB  
 Peak SAR (extrapolated) = 1.38 W/kg  
**SAR(1 g) = 0.934 mW/g; SAR(10 g) = 0.569 mW/g**  
 Maximum value of SAR (measured) = 1.01 mW/g



0 dB = 1.01mW/g

**Additional information:**

ambient temperature: 23.3°C; liquid temperature: 22.0°C

Date/Time: 02.05.2011 14:07:34 Date/Time: 02.05.2011 14:13:26

**IEEE1528\_OET65-RightHandSide-GSM1900**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 1900; Frequency: 1880 MHz; Duty Cycle: 1:8

Medium: HSL1900 Medium parameters used:  $f = 1880 \text{ MHz}$ ;  $\sigma = 1.41 \text{ mho/m}$ ;  $\epsilon_r = 40$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.76, 4.76, 4.76); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Touch position - Middle/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.980 mW/g

**Touch position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:

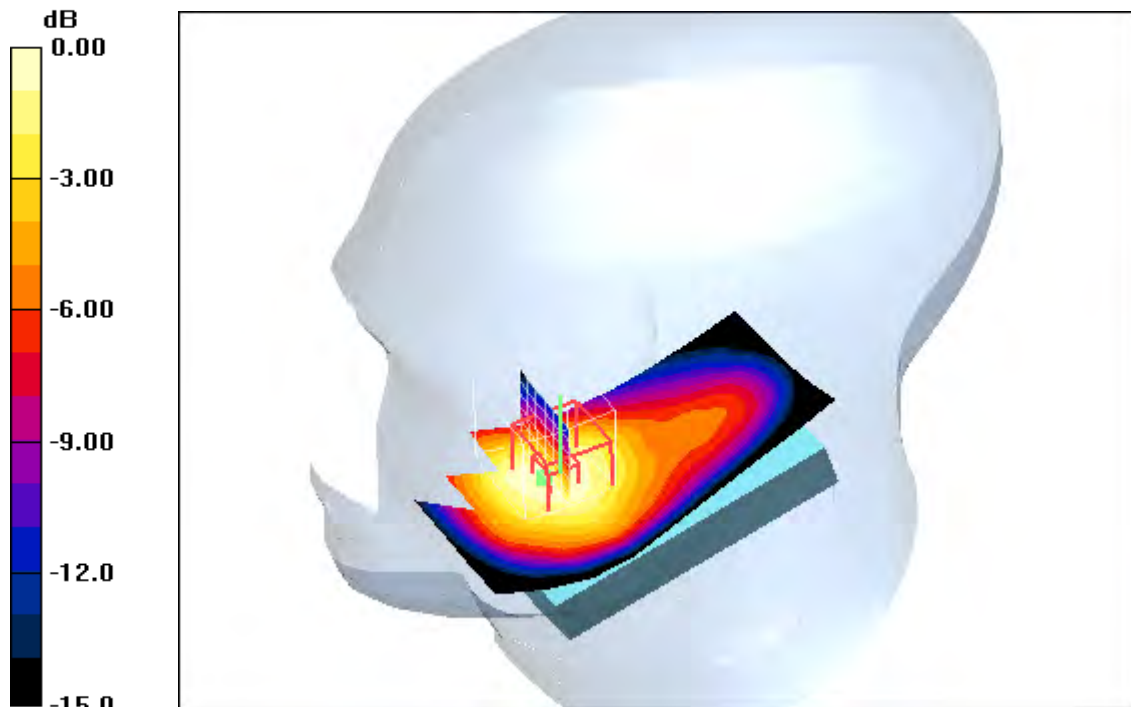
$dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 26.9 V/m; Power Drift = -0.038 dB

Peak SAR (extrapolated) = 1.37 W/kg

**SAR(1 g) = 0.906 mW/g; SAR(10 g) = 0.549 mW/g**

Maximum value of SAR (measured) = 0.983 mW/g



0 dB = 0.983mW/g

**Additional information:**

ambient temperature: 23.3°C; liquid temperature: 22.0°C

Date/Time: 02.05.2011 14:28:33 Date/Time: 02.05.2011 14:34:28

**IEEE1528\_OET65-RightHandSide-GSM1900**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8

Medium: HSL1900 Medium parameters used:  $f = 1909.8 \text{ MHz}$ ;  $\sigma = 1.41 \text{ mho/m}$ ;  $\epsilon_r = 40$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.76, 4.76, 4.76); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Touch position - High/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.961 mW/g

**Touch position - High/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:

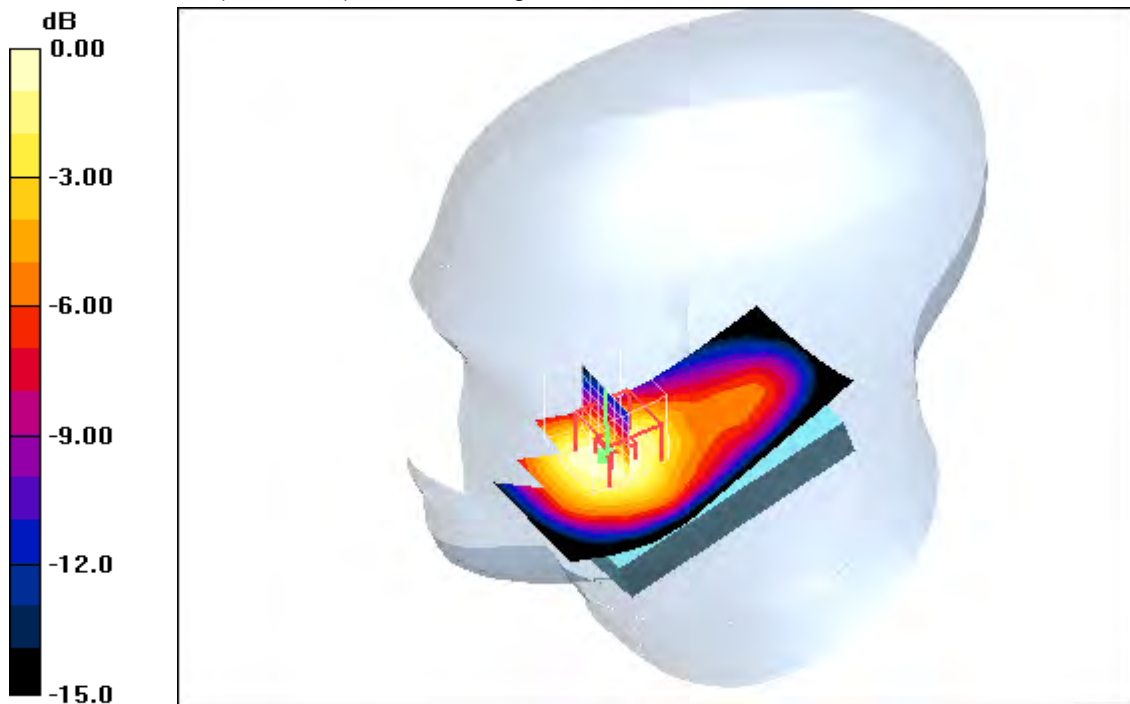
$dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 26.6 V/m; Power Drift = 0.019 dB

Peak SAR (extrapolated) = 1.35 W/kg

**SAR(1 g) = 0.885 mW/g; SAR(10 g) = 0.531 mW/g**

Maximum value of SAR (measured) = 0.964 mW/g



0 dB = 0.964mW/g

**Additional information:**

ambient temperature: 23.3°C; liquid temperature: 22.0°C

Date/Time: 02.05.2011 12:45:02 Date/Time: 02.05.2011 12:50:58

**IEEE1528\_OET65-RightHandSide-GSM1900**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8

Medium: HSL1900 Medium parameters used:  $f = 1850.2 \text{ MHz}$ ;  $\sigma = 1.41 \text{ mho/m}$ ;  $\epsilon_r = 40$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.76, 4.76, 4.76); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Tilt position - Low/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.361 mW/g

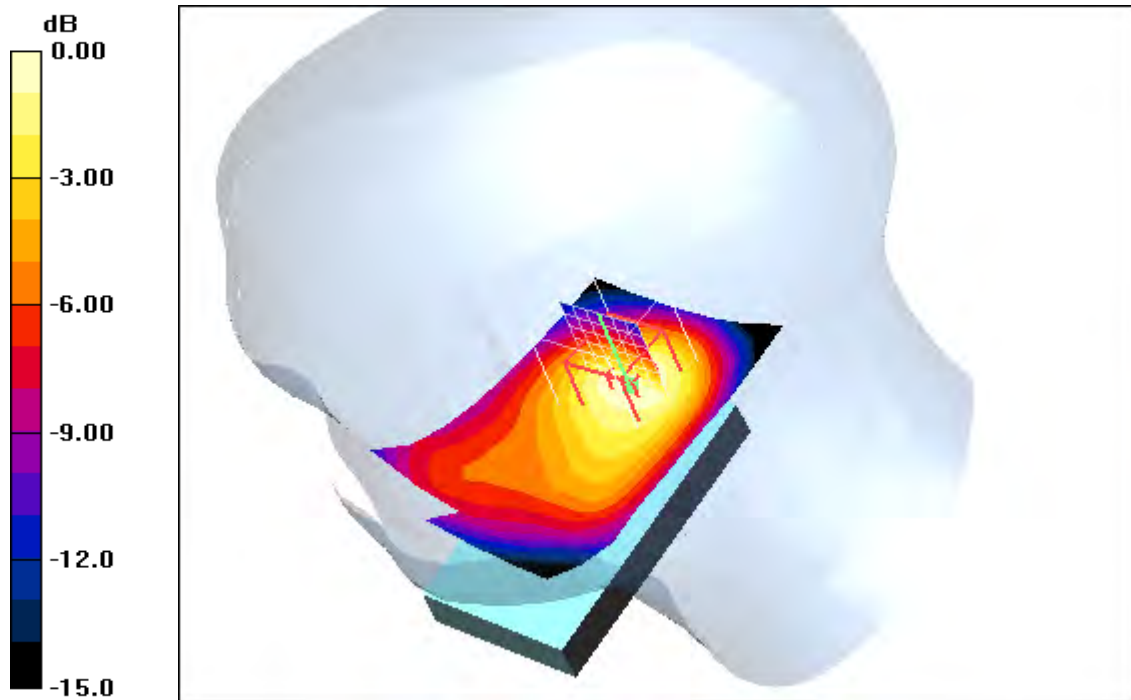
**Tilt position - Low/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 16.0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.436 W/kg

**SAR(1 g) = 0.314 mW/g; SAR(10 g) = 0.197 mW/g**

Maximum value of SAR (measured) = 0.340 mW/g



0 dB = 0.340mW/g

**Additional information:**

ambient temperature: 23.3°C; liquid temperature: 22.0°C

Date/Time: 02.05.2011 13:03:56 Date/Time: 02.05.2011 13:09:51

**IEEE1528\_OET65-RightHandSide-GSM1900**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 1900; Frequency: 1880 MHz; Duty Cycle: 1:8

Medium: HSL1900 Medium parameters used:  $f = 1880 \text{ MHz}$ ;  $\sigma = 1.41 \text{ mho/m}$ ;  $\epsilon_r = 40$ ;  $\rho = 1000 \text{ kg/m}^3$

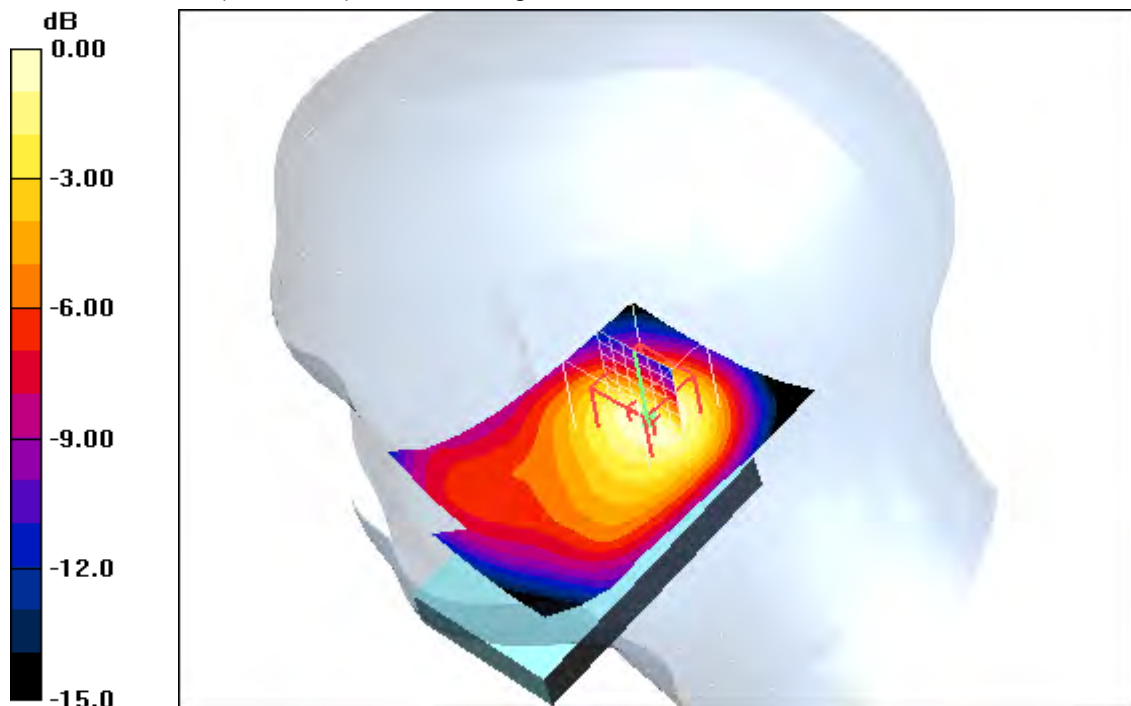
Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.76, 4.76, 4.76); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Tilt position - Middle/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
 Maximum value of SAR (interpolated) = 0.358 mW/g

**Tilt position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  
 $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$   
 Reference Value = 15.9 V/m; Power Drift = -0.011 dB  
 Peak SAR (extrapolated) = 0.430 W/kg  
**SAR(1 g) = 0.307 mW/g; SAR(10 g) = 0.191 mW/g**  
 Maximum value of SAR (measured) = 0.334 mW/g



**Additional information:**

ambient temperature: 23.3°C; liquid temperature: 22.0°C



Date/Time: 02.05.2011 13:23:11 Date/Time: 02.05.2011 13:29:08

**IEEE1528\_OET65-RightHandSide-GSM1900**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8

Medium: HSL1900 Medium parameters used:  $f = 1909.8 \text{ MHz}$ ;  $\sigma = 1.41 \text{ mho/m}$ ;  $\epsilon_r = 40$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.76, 4.76, 4.76); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Tilt position - High/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.362 mW/g

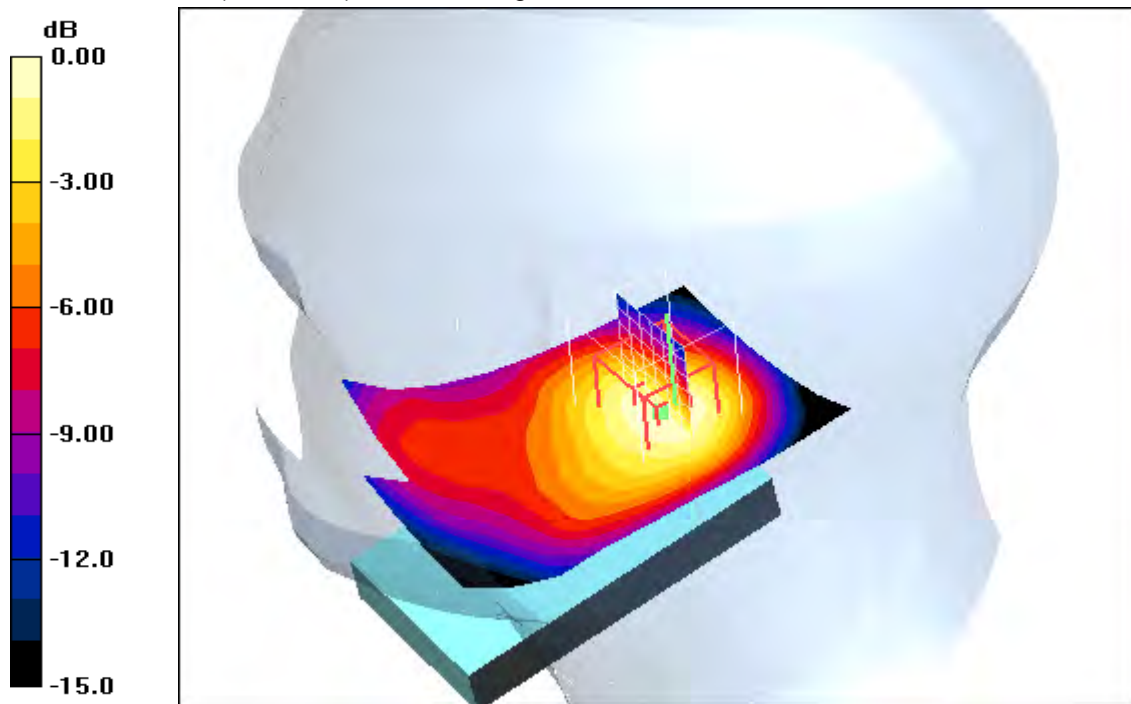
**Tilt position - High/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 16.1 V/m; Power Drift = -0.178 dB

Peak SAR (extrapolated) = 0.439 W/kg

**SAR(1 g) = 0.304 mW/g; SAR(10 g) = 0.186 mW/g**

Maximum value of SAR (measured) = 0.330 mW/g



0 dB = 0.330mW/g

**Additional information:**

ambient temperature: 23.3°C; liquid temperature: 22.0°C

## Annex A.4: GSM 1900MHz body

Date/Time: 06.05.2011 13:36:05 Date/Time: 06.05.2011 13:45:38

### IEEE1528\_OET65-Body-GSM1900 GPRS 2TS

DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204

Communication System: GSM 1900 GPRS 2TS; Frequency: 1850.2 MHz; Duty Cycle: 1:4

Medium: M1900 Medium parameters used:  $f = 1850.2 \text{ MHz}$ ;  $\sigma = 1.5 \text{ mho/m}$ ;  $\epsilon_r = 53.1$ ;  $\rho = 1000 \text{ kg/m}^3$ 

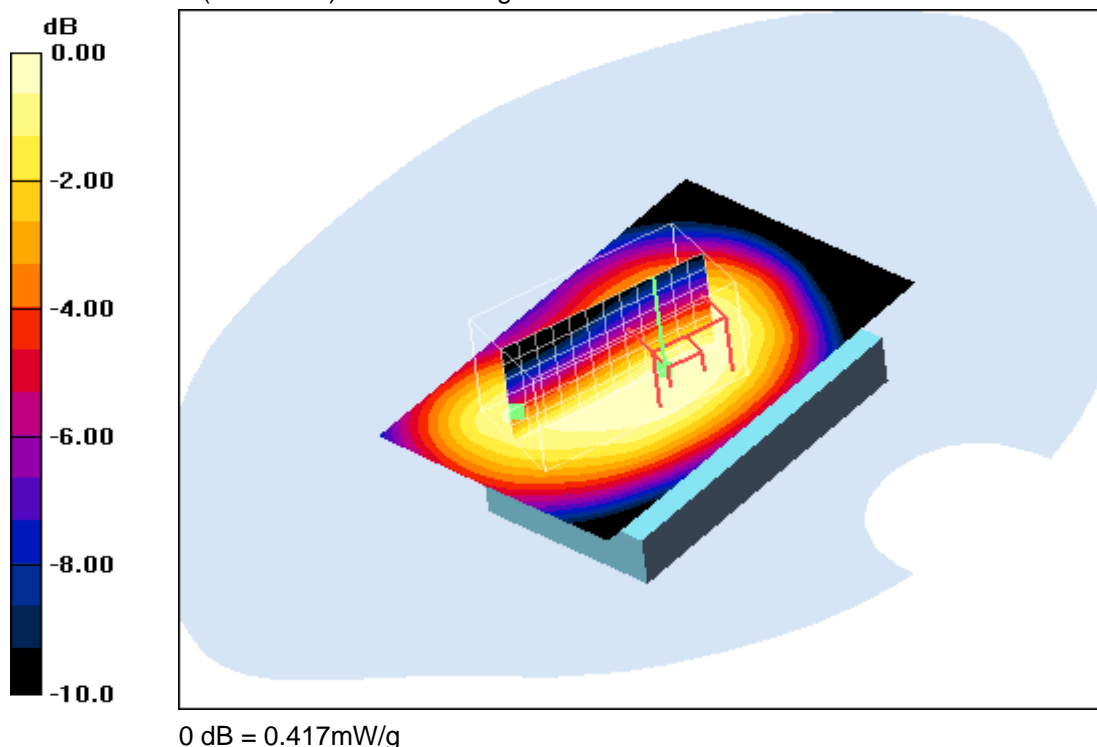
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.35, 4.35, 4.35); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Front position - Low/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
 Maximum value of SAR (interpolated) = 0.431 mW/g

**Front position - Low/Zoom Scan (7x7x7) (7x13x7)/Cube 0:** Measurement grid:  
 $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$   
 Reference Value = 18.5 V/m; Power Drift = -0.142 dB  
 Peak SAR (extrapolated) = 0.506 W/kg  
**SAR(1 g) = 0.392 mW/g; SAR(10 g) = 0.272 mW/g**  
 Maximum value of SAR (measured) = 0.417 mW/g



#### Additional information:

position or distance of DUT to SAM: 15 mm

ambient temperature: 23.5°C; liquid temperature: 23.0°C



Date/Time: 06.05.2011 14:09:23 Date/Time: 06.05.2011 14:17:38

**IEEE1528\_OET65-Body-GSM1900 GPRS 2TS**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 1900 GPRS 2TS; Frequency: 1880 MHz; Duty Cycle: 1:4

Medium: M1900 Medium parameters used:  $f = 1880 \text{ MHz}$ ;  $\sigma = 1.5 \text{ mho/m}$ ;  $\epsilon_r = 53.1$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.35, 4.35, 4.35); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Front position - Middle/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

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

**Front position - Middle/Zoom Scan (7x7x7) (7x14x7)/Cube 0:** Measurement grid:

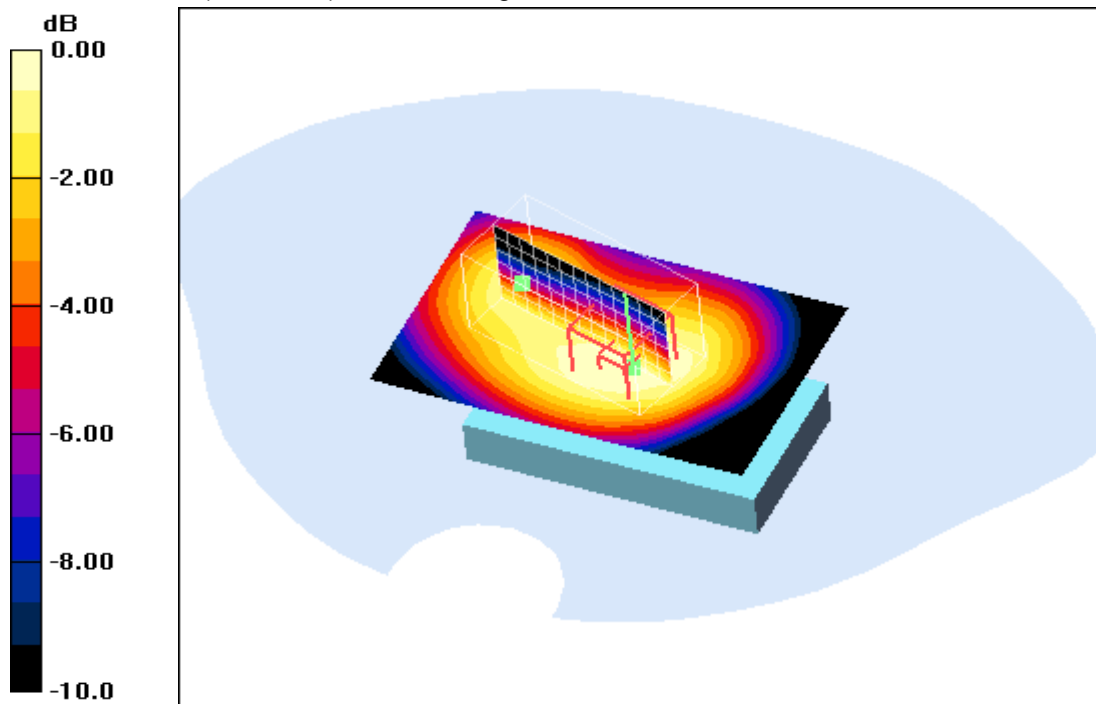
$dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 16.9 V/m; Power Drift = -0.058 dB

Peak SAR (extrapolated) = 0.460 W/kg

**SAR(1 g) = 0.344 mW/g; SAR(10 g) = 0.234 mW/g**

Maximum value of SAR (measured) = 0.369 mW/g



0 dB = 0.369mW/g

**Additional information:**

position or distance of DUT to SAM: 15 mm

ambient temperature: 23.5°C; liquid temperature: 23.0°C

Date/Time: 06.05.2011 14:42:43 Date/Time: 06.05.2011 14:50:29 Date/Time: 06.05.2011 15:01:57

**IEEE1528\_OET65-Body-GSM1900 GPRS 2TS**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 1900 GPRS 2TS; Frequency: 1909.8 MHz; Duty Cycle: 1:4

Medium: M1900 Medium parameters used:  $f = 1909.8 \text{ MHz}$ ;  $\sigma = 1.5 \text{ mho/m}$ ;  $\epsilon_r = 53.1$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

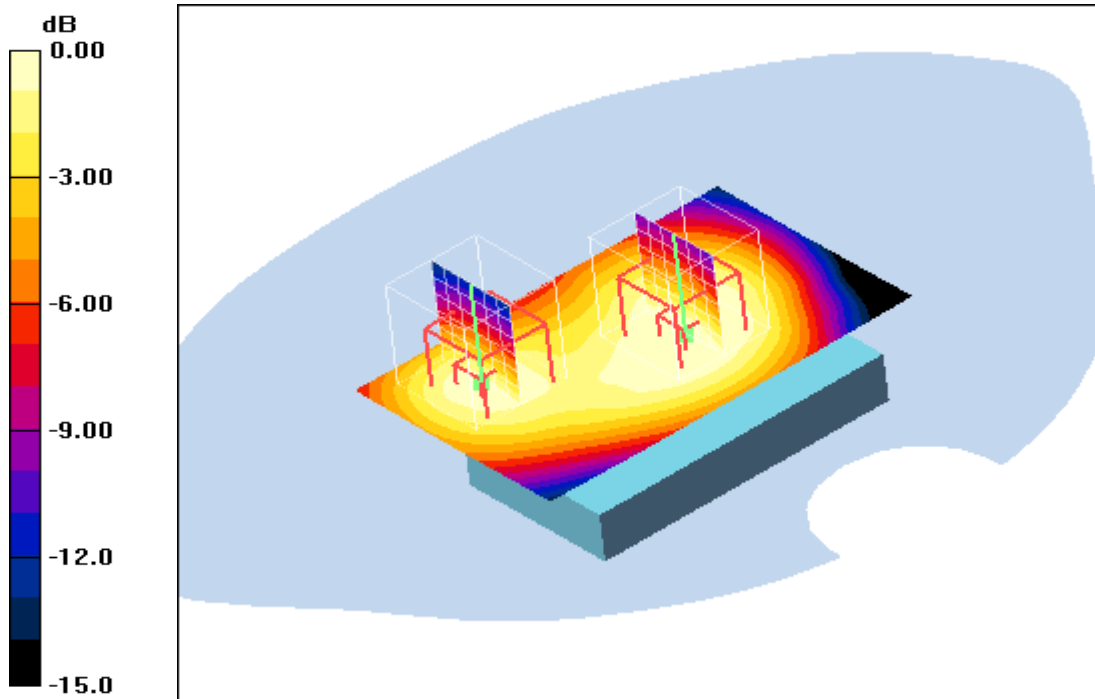
- Probe: ET3DV6 - SN1558; ConvF(4.35, 4.35, 4.35); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Front position - High/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
 Maximum value of SAR (interpolated) = 0.351 mW/g

**Front position - High/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  
 $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$   
 Reference Value = 16.5 V/m; Power Drift = -0.024 dB  
 Peak SAR (extrapolated) = 0.429 W/kg

**SAR(1 g) = 0.320 mW/g; SAR(10 g) = 0.216 mW/g**  
 Maximum value of SAR (measured) = 0.343 mW/g

**Front position - High/Zoom Scan (7x7x7) (7x7x7)/Cube 1:** Measurement grid:  
 $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$   
 Reference Value = 16.5 V/m; Power Drift = -0.024 dB  
 Peak SAR (extrapolated) = 0.437 W/kg  
**SAR(1 g) = 0.278 mW/g; SAR(10 g) = 0.170 mW/g**  
 Maximum value of SAR (measured) = 0.305 mW/g



0 dB = 0.305mW/g

**Additional information:**

position or distance of DUT to SAM: 15 mm  
 ambient temperature: 23.5°C; liquid temperature: 23.0°C

Date/Time: 06.05.2011 15:18:04 Date/Time: 06.05.2011 15:24:49

**IEEE1528\_OET65-Body-GSM1900 GPRS 2TS**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 1900 GPRS 2TS; Frequency: 1850.2 MHz; Duty Cycle: 1:4

Medium: M1900 Medium parameters used:  $f = 1850.2 \text{ MHz}$ ;  $\sigma = 1.5 \text{ mho/m}$ ;  $\epsilon_r = 53.1$ ;  $\rho = 1000 \text{ kg/m}^3$

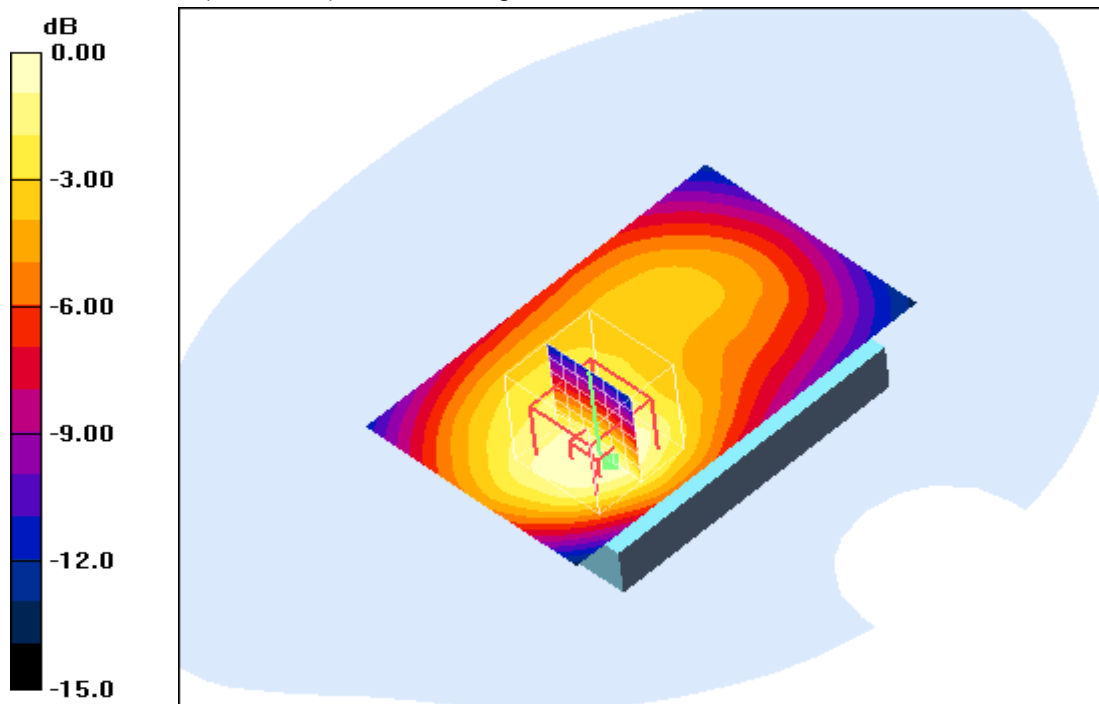
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.35, 4.35, 4.35); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Rear position - Low/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
 Maximum value of SAR (interpolated) = 0.644 mW/g

**Rear position - Low/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  
 $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$   
 Reference Value = 20.8 V/m; Power Drift = 0.052 dB  
 Peak SAR (extrapolated) = 0.827 W/kg  
**SAR(1 g) = 0.568 mW/g; SAR(10 g) = 0.356 mW/g**  
 Maximum value of SAR (measured) = 0.617 mW/g



0 dB = 0.617mW/g

**Additional information:**

position or distance of DUT to SAM: 15 mm  
 ambient temperature: 23.5°C; liquid temperature: 23.0°C

Date/Time: 06.05.2011 15:40:06 Date/Time: 06.05.2011 15:47:10

**IEEE1528\_OET65-Body-GSM1900 GPRS 2TS**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 1900 GPRS 2TS; Frequency: 1880 MHz; Duty Cycle: 1:4

Medium: M1900 Medium parameters used:  $f = 1880 \text{ MHz}$ ;  $\sigma = 1.5 \text{ mho/m}$ ;  $\epsilon_r = 53.1$ ;  $\rho = 1000 \text{ kg/m}^3$

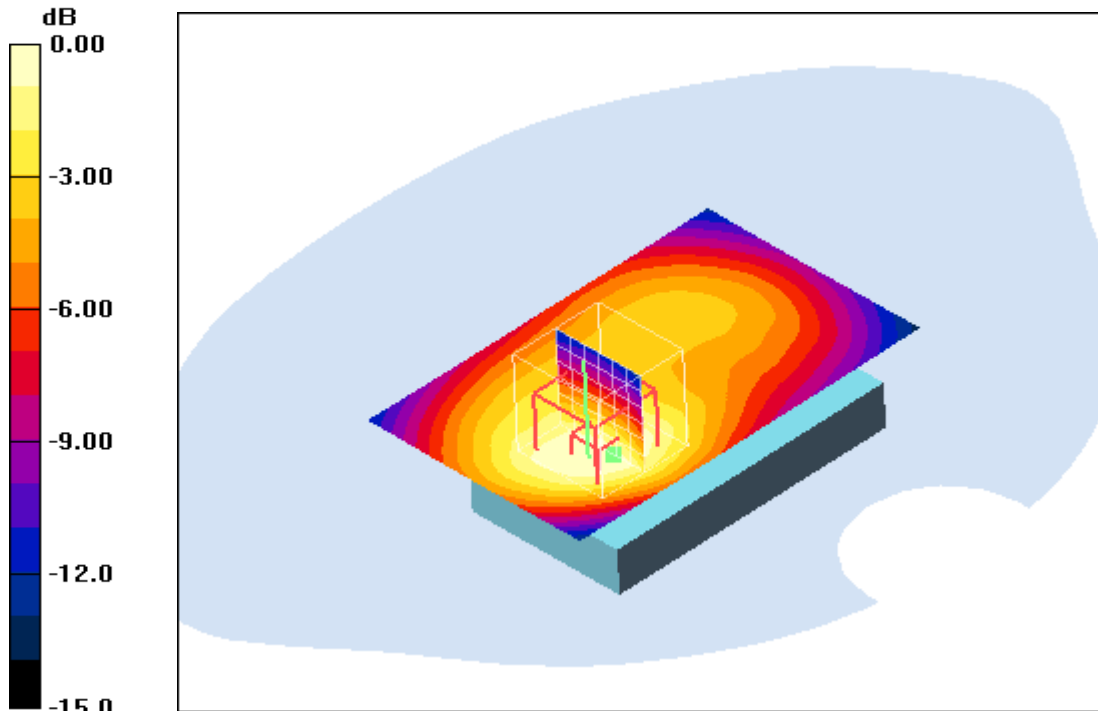
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.35, 4.35, 4.35); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Rear position - Middle/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
 Maximum value of SAR (interpolated) = 0.603 mW/g

**Rear position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  
 $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$   
 Reference Value = 20.1 V/m; Power Drift = -0.040 dB  
 Peak SAR (extrapolated) = 0.762 W/kg  
**SAR(1 g) = 0.524 mW/g; SAR(10 g) = 0.326 mW/g**  
 Maximum value of SAR (measured) = 0.567 mW/g



0 dB = 0.567mW/g

**Additional information:**

position or distance of DUT to SAM: 15 mm  
 ambient temperature: 23.5°C; liquid temperature: 23.0°C

Date/Time: 06.05.2011 16:00:32 Date/Time: 06.05.2011 16:07:49

**IEEE1528\_OET65-Body-GSM1900 GPRS 2TS**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 1900 GPRS 2TS; Frequency: 1909.8 MHz; Duty Cycle: 1:4

Medium: M1900 Medium parameters used:  $f = 1909.8 \text{ MHz}$ ;  $\sigma = 1.5 \text{ mho/m}$ ;  $\epsilon_r = 53.1$ ;  $\rho = 1000 \text{ kg/m}^3$

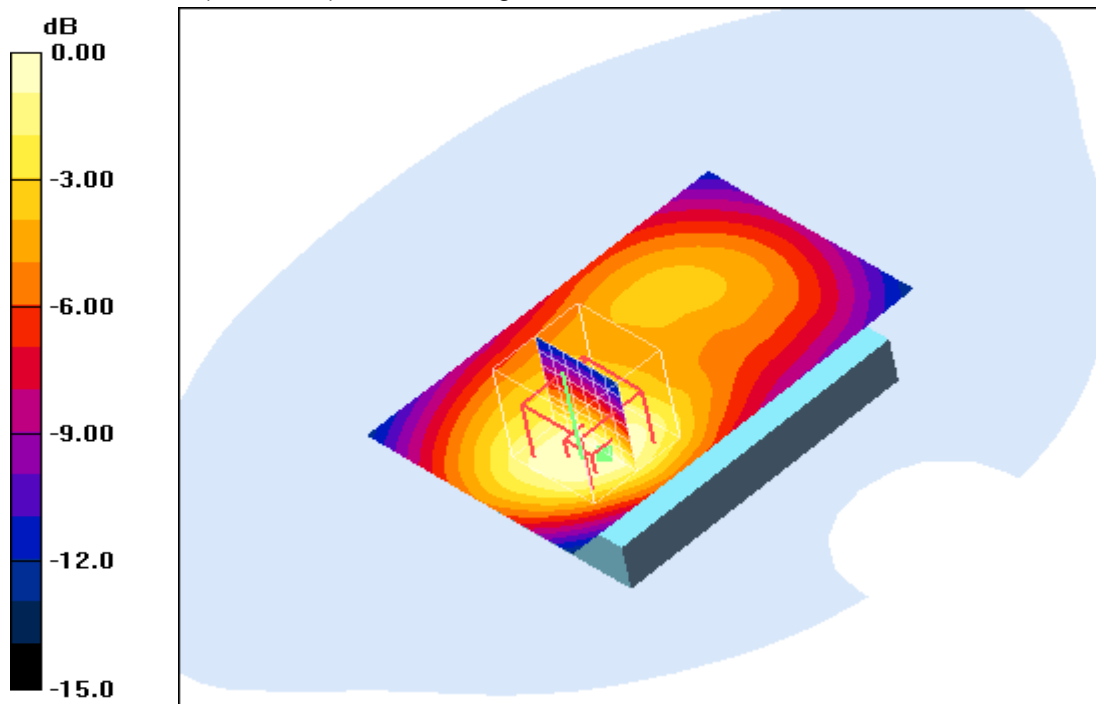
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.35, 4.35, 4.35); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Rear position - High/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
 Maximum value of SAR (interpolated) = 0.615 mW/g

**Rear position - High/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  
 $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$   
 Reference Value = 20.4 V/m; Power Drift = -0.046 dB  
 Peak SAR (extrapolated) = 0.787 W/kg  
**SAR(1 g) = 0.533 mW/g; SAR(10 g) = 0.329 mW/g**  
 Maximum value of SAR (measured) = 0.577 mW/g



0 dB = 0.577mW/g

**Additional information:**

position or distance of DUT to SAM: 15 mm  
 ambient temperature: 23.5°C; liquid temperature: 23.0°C

Date/Time: 06.05.2011 16:36:28 Date/Time: 06.05.2011 16:42:13

**IEEE1528\_OET65-Body-GSM1900 1TS**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165204**

Communication System: GSM 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8

Medium: M1900 Medium parameters used:  $f = 1850.2 \text{ MHz}$ ;  $\sigma = 1.5 \text{ mho/m}$ ;  $\epsilon_r = 53.1$ ;  $\rho = 1000 \text{ kg/m}^3$

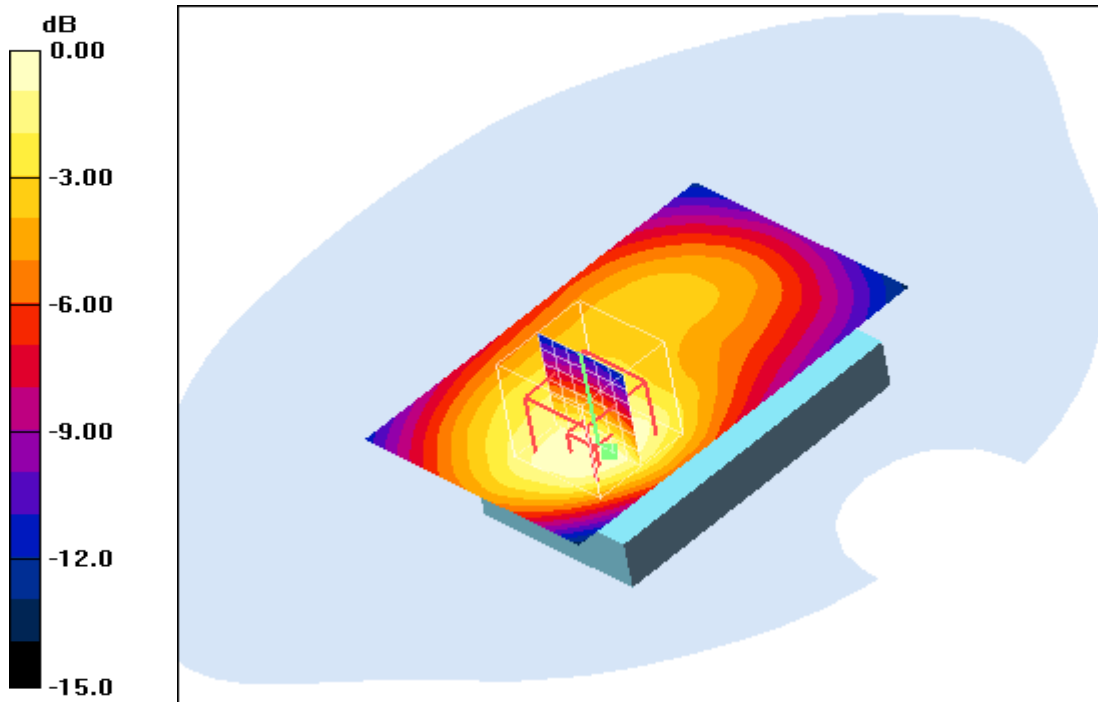
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.35, 4.35, 4.35); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Rear position - Low/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
 Maximum value of SAR (interpolated) = 0.326 mW/g

**Rear position - Low/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  
 $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$   
 Reference Value = 14.8 V/m; Power Drift = -0.017 dB  
 Peak SAR (extrapolated) = 0.412 W/kg  
**SAR(1 g) = 0.284 mW/g; SAR(10 g) = 0.178 mW/g**  
 Maximum value of SAR (measured) = 0.309 mW/g



**Additional information:**  
 position or distance of DUT to SAM: 15 mm  
 ambient temperature: 23.5°C; liquid temperature: 23.0°C

## Annex A.5: WLAN 2450MHz head

Date/Time: 05.05.2011 09:02:50 Date/Time: 05.05.2011 09:08:49

### IEEE1528\_OET65-LeftHandSide-WLAN

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165180**

Communication System: WLAN 2450 US; Frequency: 2412 MHz; Duty Cycle: 1:1

Medium: HSL2450 Medium parameters used:  $f = 2412$  MHz;  $\sigma = 1.85$  mho/m;  $\epsilon_r = 38.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

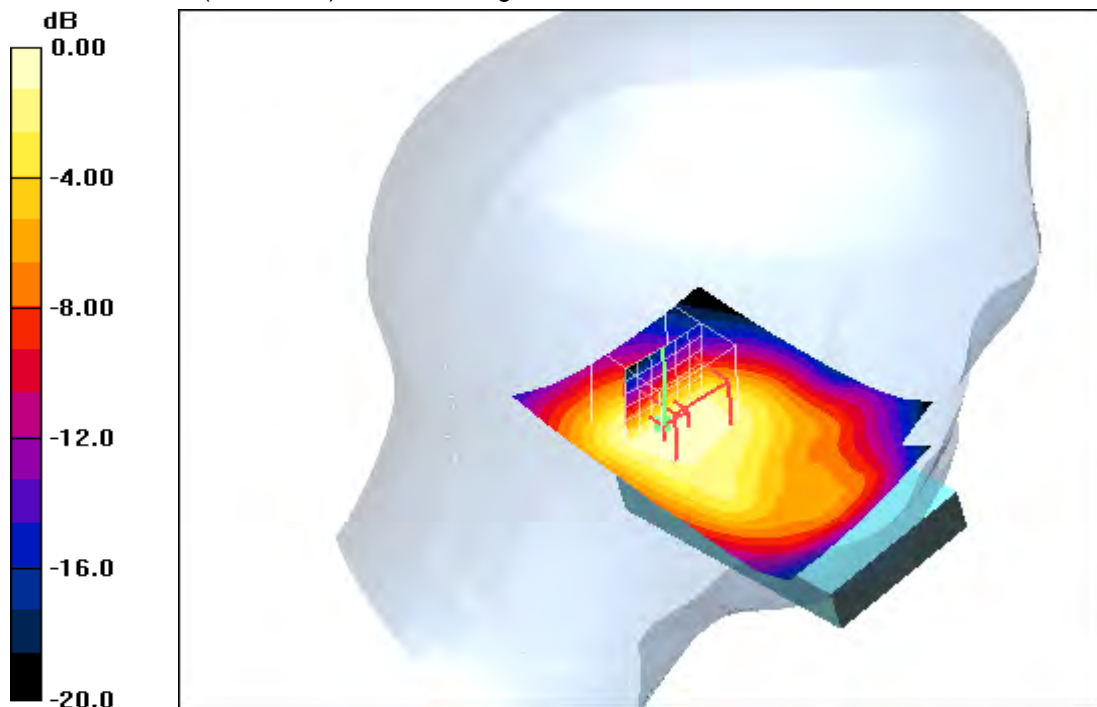
Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.14, 4.14, 4.14); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Touch position - Low/Area Scan (51x81x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (interpolated) = 0.162 mW/g

**Touch position - Low/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  
dx=5mm, dy=5mm, dz=5mm  
Reference Value = 9.04 V/m; Power Drift = -0.089 dB  
Peak SAR (extrapolated) = 0.285 W/kg  
**SAR(1 g) = 0.142 mW/g; SAR(10 g) = 0.078 mW/g**  
Maximum value of SAR (measured) = 0.155 mW/g



0 dB = 0.155mW/g

#### Additional information:

ambient temperature: 23.2°C; liquid temperature: 22.7°C



Date/Time: 05.05.2011 11:29:14 Date/Time: 05.05.2011 11:35:16

**IEEE1528\_OET65-LeftHandSide-WLAN**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165180**

Communication System: WLAN 2450 US; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: HSL2450 Medium parameters used:  $f = 2437 \text{ MHz}$ ;  $\sigma = 1.85 \text{ mho/m}$ ;  $\epsilon_r = 38.4$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.14, 4.14, 4.14); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Touch position - Middle/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.206 mW/g

**Touch position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:

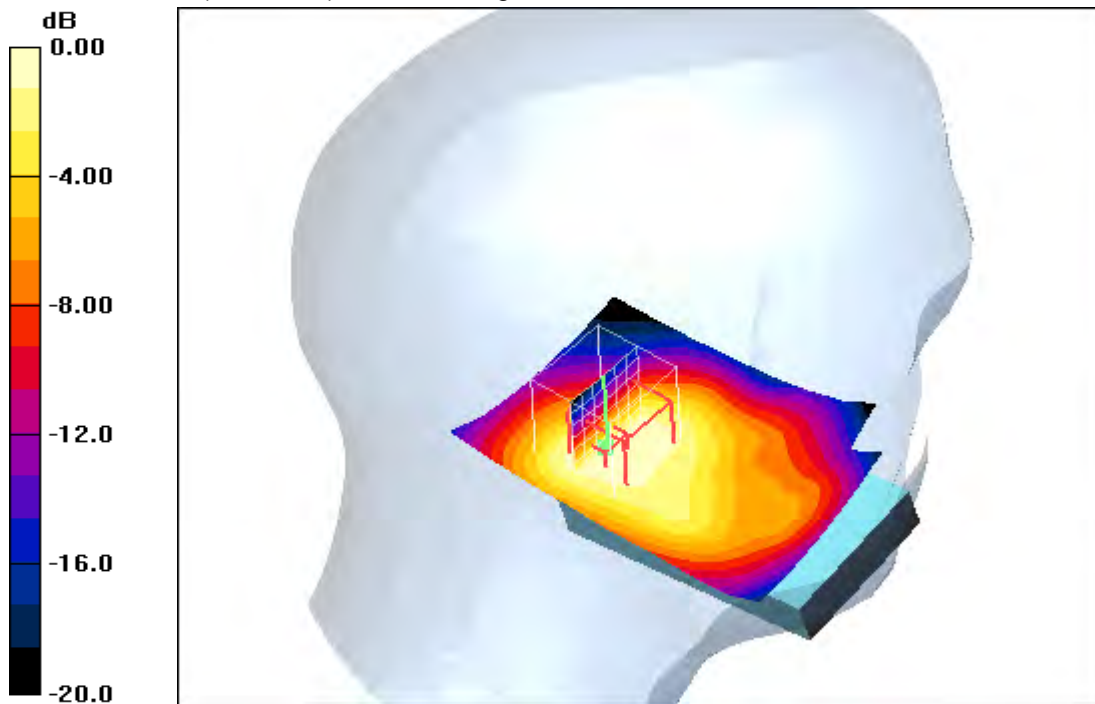
$dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 10.0 V/m; Power Drift = -0.021 dB

Peak SAR (extrapolated) = 0.394 W/kg

**SAR(1 g) = 0.188 mW/g; SAR(10 g) = 0.102 mW/g**

Maximum value of SAR (measured) = 0.204 mW/g



**Additional information:**

ambient temperature: 23.2°C; liquid temperature: 22.7°C



Date/Time: 05.05.2011 11:52:39 Date/Time: 05.05.2011 11:58:42

## IEEE1528\_OET65-LeftHandSide-WLAN

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165180**

Communication System: WLAN 2450 US; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: HSL2450 Medium parameters used (interpolated):  $f = 2462$  MHz;  $\sigma = 1.85$  mho/m;  $\epsilon_r = 38.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.14, 4.14, 4.14); Calibrated: 11.08.2010

- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)

- Electronics: DAE3 Sn413; Calibrated: 13.01.2011

- Phantom: SAM 12; Type: SAM; Serial: 1043

- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Touch position - High/Area Scan (51x81x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.255 mW/g

**Touch position - High/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:

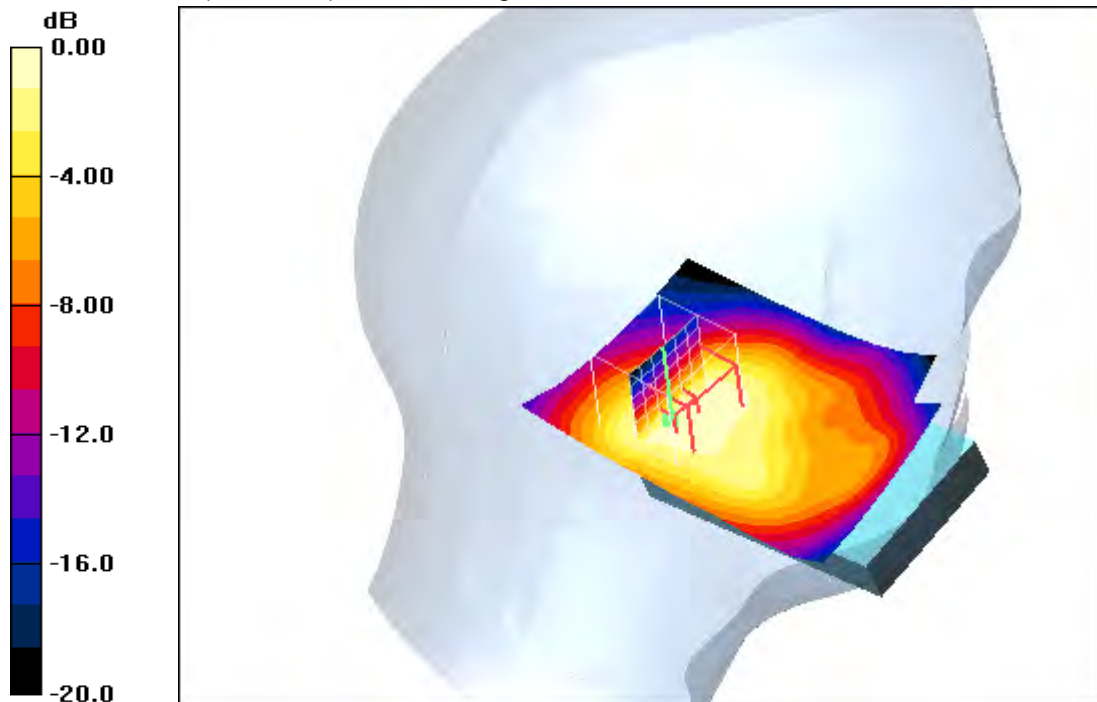
dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.3 V/m; Power Drift = -0.048 dB

Peak SAR (extrapolated) = 0.475 W/kg

**SAR(1 g) = 0.233 mW/g; SAR(10 g) = 0.126 mW/g**

Maximum value of SAR (measured) = 0.253 mW/g



0 dB = 0.253mW/g

### Additional information:

ambient temperature: 23.2°C; liquid temperature: 22.7°C

Date/Time: 05.05.2011 09:22:48 Date/Time: 05.05.2011 09:28:48

**IEEE1528\_OET65-LeftHandSide-WLAN**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165180**

Communication System: WLAN 2450 US; Frequency: 2412 MHz; Duty Cycle: 1:1

Medium: HSL2450 Medium parameters used:  $f = 2412 \text{ MHz}$ ;  $\sigma = 1.85 \text{ mho/m}$ ;  $\epsilon_r = 38.4$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.14, 4.14, 4.14); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Tilt position - Low/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

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

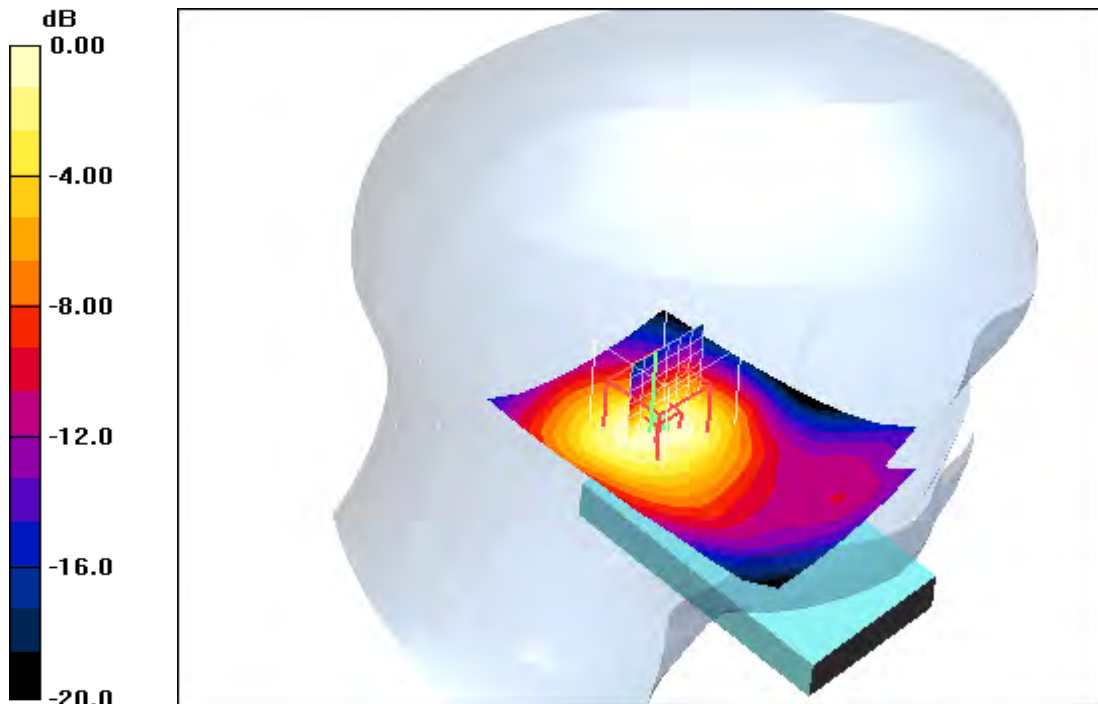
**Tilt position - Low/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 8.86 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 0.246 W/kg

**SAR(1 g) = 0.132 mW/g; SAR(10 g) = 0.070 mW/g**

Maximum value of SAR (measured) = 0.145 mW/g



0 dB = 0.145mW/g

**Additional information:**

ambient temperature: 23.2°C; liquid temperature: 22.7°C

Date/Time: 05.05.2011 11:09:42 Date/Time: 05.05.2011 11:15:42

**IEEE1528\_OET65-LeftHandSide-WLAN**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165180**

Communication System: WLAN 2450 US; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: HSL2450 Medium parameters used:  $f = 2437 \text{ MHz}$ ;  $\sigma = 1.85 \text{ mho/m}$ ;  $\epsilon_r = 38.4$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.14, 4.14, 4.14); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Tilt position - Middle/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.189 mW/g

**Tilt position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:

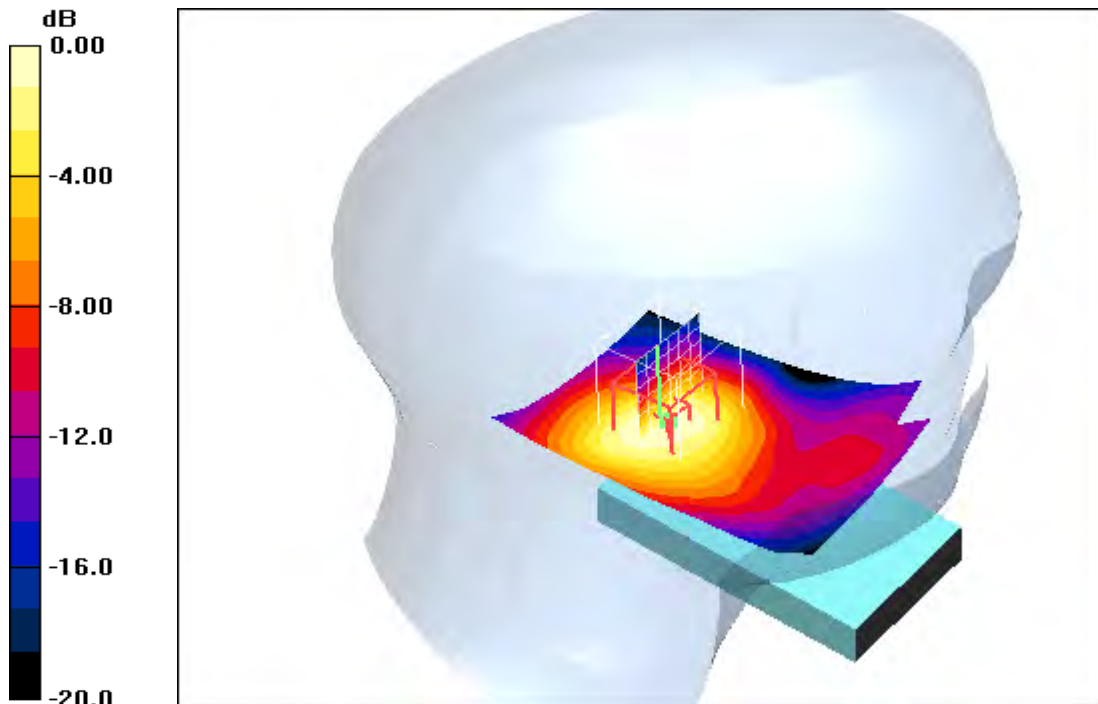
$dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 9.70 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.296 W/kg

**SAR(1 g) = 0.163 mW/g; SAR(10 g) = 0.087 mW/g**

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



0 dB = 0.178mW/g

**Additional information:**

ambient temperature: 23.2°C; liquid temperature: 22.7°C

Date/Time: 05.05.2011 12:13:04 Date/Time: 05.05.2011 12:19:08

**IEEE1528\_OET65-LeftHandSide-WLAN**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165180**

Communication System: WLAN 2450 US; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: HSL2450 Medium parameters used (interpolated):  $f = 2462$  MHz;  $\sigma = 1.85$  mho/m;  $\epsilon_r = 38.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.14, 4.14, 4.14); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Tilt position - High/Area Scan (51x81x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.215 mW/g

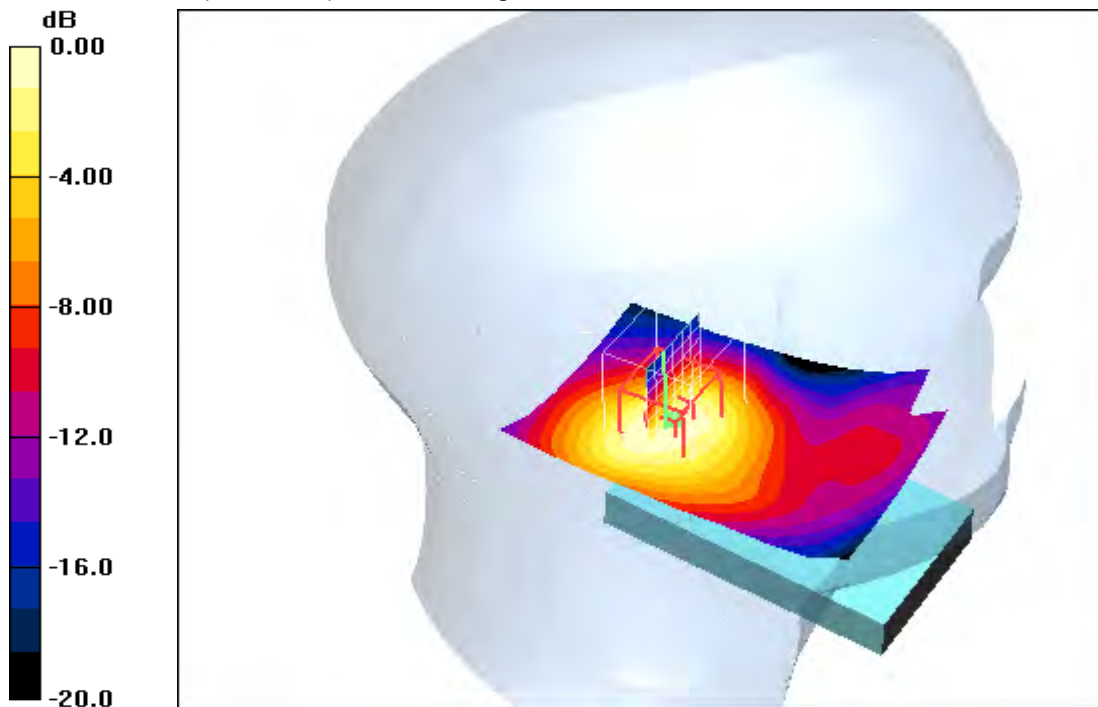
**Tilt position - High/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 10.5 V/m; Power Drift = -0.014 dB

Peak SAR (extrapolated) = 0.355 W/kg

**SAR(1 g) = 0.190 mW/g; SAR(10 g) = 0.101 mW/g**

Maximum value of SAR (measured) = 0.207 mW/g



0 dB = 0.207mW/g

**Additional information:**

ambient temperature: 23.2°C; liquid temperature: 22.7°C

Date/Time: 05.05.2011 10:03:00 Date/Time: 05.05.2011 10:08:58

**IEEE1528\_OET65-RightHandSide-WLAN**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165180**

Communication System: WLAN 2450 US; Frequency: 2412 MHz; Duty Cycle: 1:1

Medium: HSL2450 Medium parameters used:  $f = 2412 \text{ MHz}$ ;  $\sigma = 1.85 \text{ mho/m}$ ;  $\epsilon_r = 38.4$ ;  $\rho = 1000 \text{ kg/m}^3$

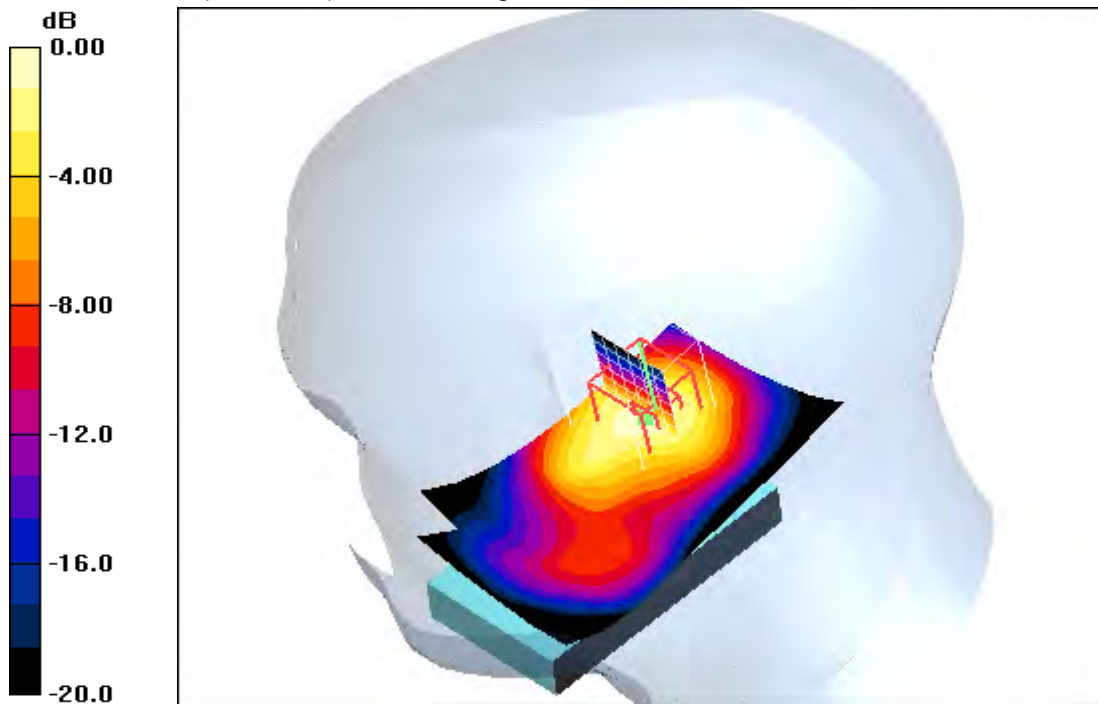
Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.14, 4.14, 4.14); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Touch position - Low/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
 Maximum value of SAR (interpolated) = 0.287 mW/g

**Touch position - Low/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  
 $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$   
 Reference Value = 12.5 V/m; Power Drift = -0.038 dB  
 Peak SAR (extrapolated) = 0.775 W/kg  
**SAR(1 g) = 0.300 mW/g; SAR(10 g) = 0.138 mW/g**  
 Maximum value of SAR (measured) = 0.331 mW/g



0 dB = 0.331mW/g

**Additional information:**

ambient temperature: 23.2°C; liquid temperature: 22.7°C

Date/Time: 05.05.2011 10:24:04 Date/Time: 05.05.2011 10:30:03

**IEEE1528\_OET65-RightHandSide-WLAN**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165180**

Communication System: WLAN 2450 US; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: HSL2450 Medium parameters used:  $f = 2437 \text{ MHz}$ ;  $\sigma = 1.85 \text{ mho/m}$ ;  $\epsilon_r = 38.4$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.14, 4.14, 4.14); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Touch position - Middle/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.362 mW/g

**Touch position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:

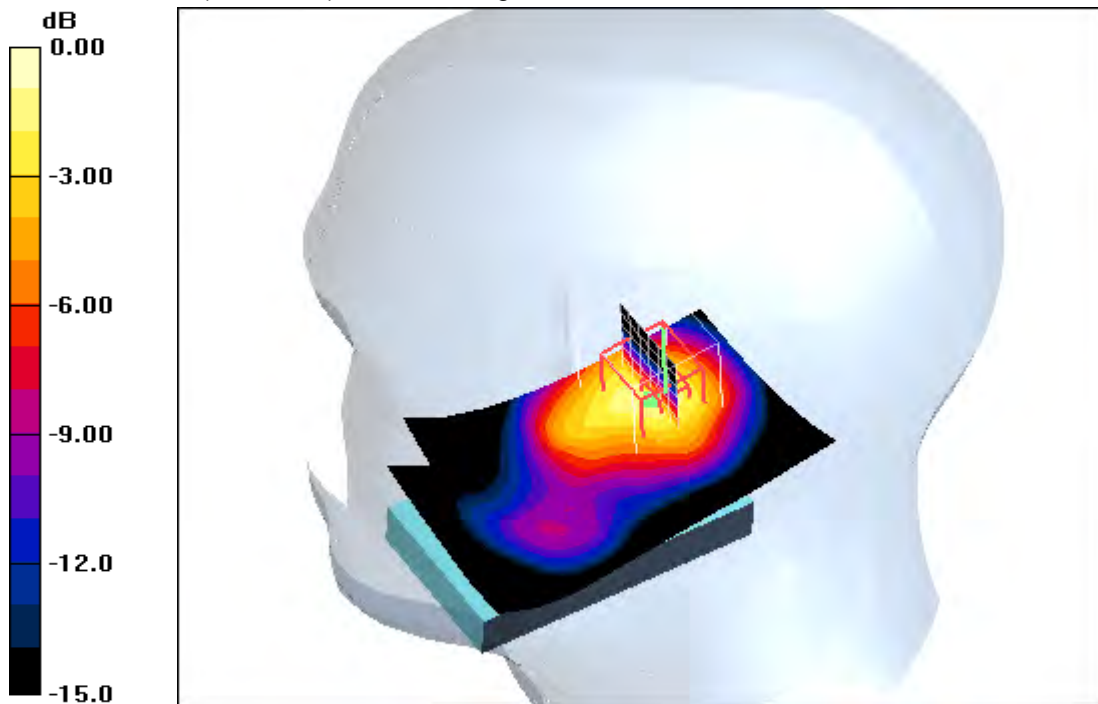
$dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 14.2 V/m; Power Drift = 0.079 dB

Peak SAR (extrapolated) = 1.01 W/kg

**SAR(1 g) = 0.387 mW/g; SAR(10 g) = 0.180 mW/g**

Maximum value of SAR (measured) = 0.428 mW/g



0 dB = 0.486mW/g

**Additional information:**

ambient temperature: 23.2°C; liquid temperature: 22.7°C



Date/Time: 05.05.2011 12:54:05 Date/Time: 05.05.2011 13:00:05

### IEEE1528\_OET65-RightHandSide-WLAN

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165180**

Communication System: WLAN 2450 US; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: HSL2450 Medium parameters used (interpolated):  $f = 2462 \text{ MHz}$ ;  $\sigma = 1.85 \text{ mho/m}$ ;  $\epsilon_r = 38.4$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.14, 4.14, 4.14); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Touch position - High/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.486 mW/g

**Touch position - High/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:

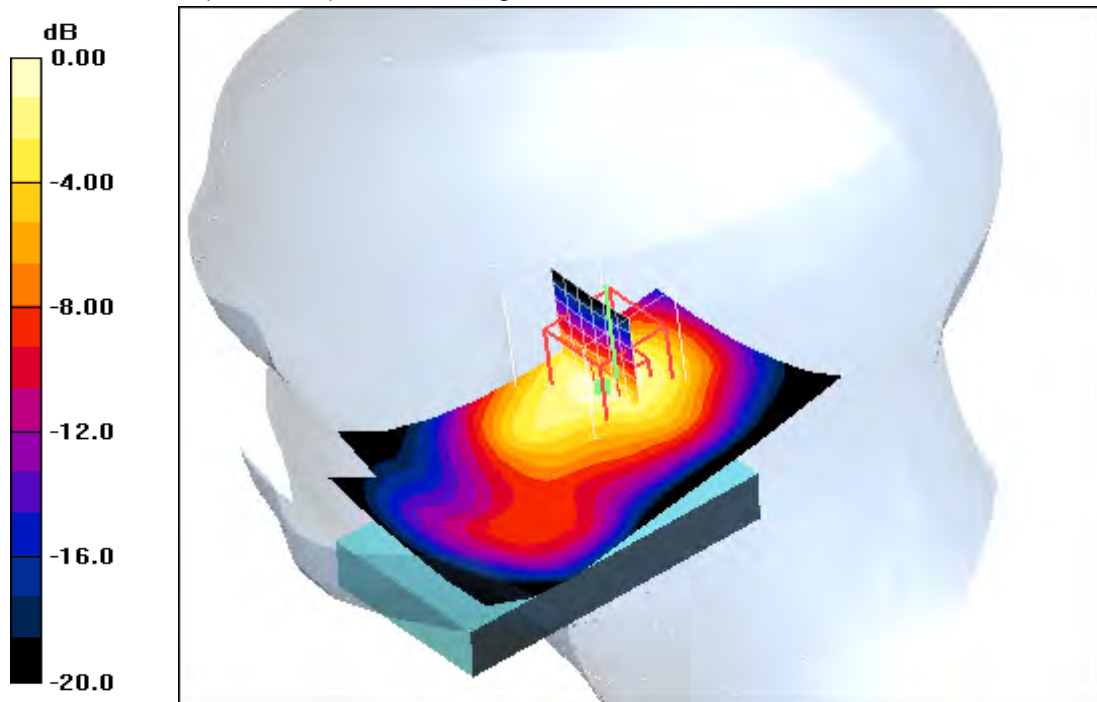
$dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 16.6 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 1.31 W/kg

**SAR(1 g) = 0.499 mW/g; SAR(10 g) = 0.229 mW/g**

Maximum value of SAR (measured) = 0.546 mW/g



0 dB = 0.546mW/g

**Additional information:**

ambient temperature: 23.2°C; liquid temperature: 22.7°C



Date/Time: 05.05.2011 09:43:08 Date/Time: 05.05.2011 09:49:10

**IEEE1528\_OET65-RightHandSide-WLAN**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165180**

Communication System: WLAN 2450 US; Frequency: 2412 MHz; Duty Cycle: 1:1

Medium: HSL2450 Medium parameters used:  $f = 2412 \text{ MHz}$ ;  $\sigma = 1.85 \text{ mho/m}$ ;  $\epsilon_r = 38.4$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.14, 4.14, 4.14); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Tilt position - Low/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.180 mW/g

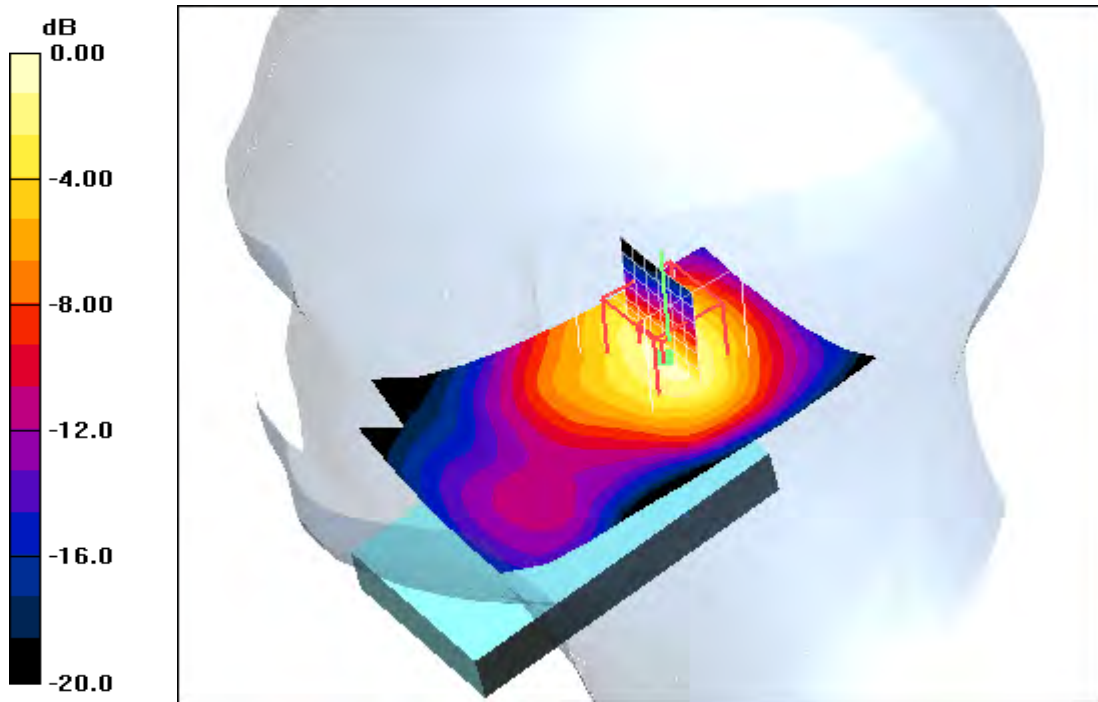
**Tilt position - Low/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 10.2 V/m; Power Drift = 0.032 dB

Peak SAR (extrapolated) = 0.498 W/kg

**SAR(1 g) = 0.187 mW/g; SAR(10 g) = 0.086 mW/g**

Maximum value of SAR (measured) = 0.208 mW/g



0 dB = 0.208mW/g

**Additional information:**

ambient temperature: 23.2°C; liquid temperature: 22.7°C

Date/Time: 05.05.2011 10:48:31 Date/Time: 05.05.2011 10:54:33

**IEEE1528\_OET65-RightHandSide-WLAN**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165180**

Communication System: WLAN 2450 US; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: HSL2450 Medium parameters used:  $f = 2437 \text{ MHz}$ ;  $\sigma = 1.85 \text{ mho/m}$ ;  $\epsilon_r = 38.4$ ;  $\rho = 1000 \text{ kg/m}^3$

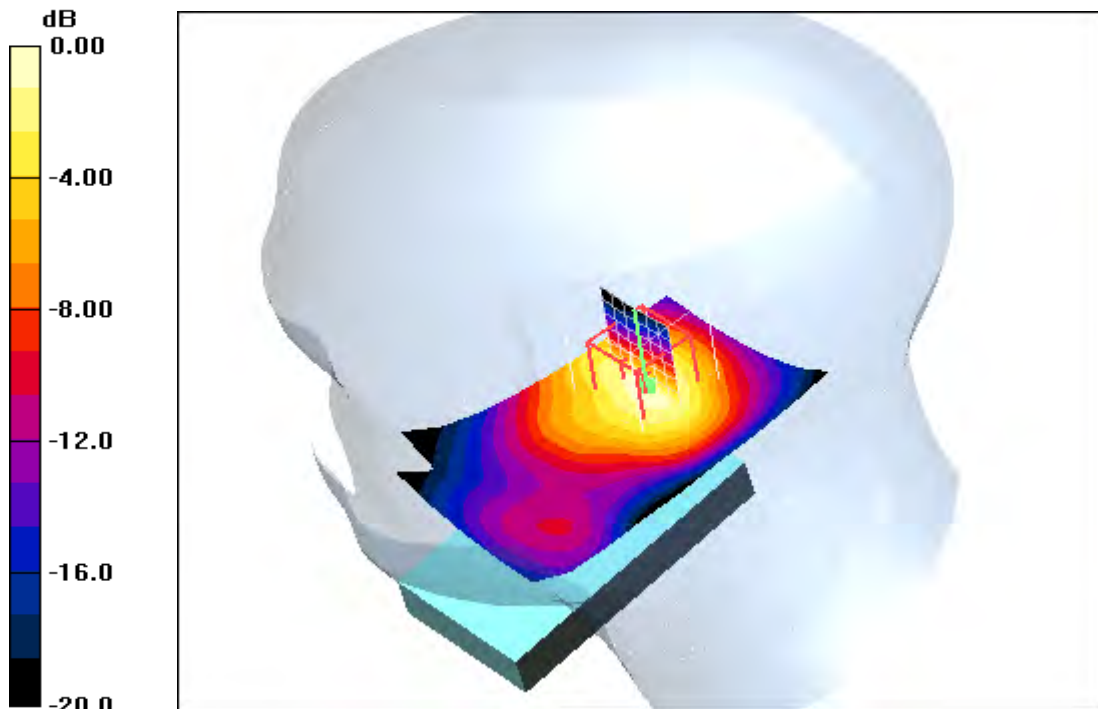
Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.14, 4.14, 4.14); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Tilt position - Middle/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$   
 Maximum value of SAR (interpolated) = 0.235 mW/g

**Tilt position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  
 $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$   
 Reference Value = 11.6 V/m; Power Drift = 0.013 dB  
 Peak SAR (extrapolated) = 0.663 W/kg  
**SAR(1 g) = 0.245 mW/g; SAR(10 g) = 0.111 mW/g**  
 Maximum value of SAR (measured) = 0.262 mW/g



0 dB = 0.262mW/g

**Additional information:**

ambient temperature: 23.2°C; liquid temperature: 22.7°C

Date/Time: 05.05.2011 12:34:03 Date/Time: 05.05.2011 12:40:07

**IEEE1528\_OET65-RightHandSide-WLAN**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165180**

Communication System: WLAN 2450 US; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: HSL2450 Medium parameters used (interpolated):  $f = 2462 \text{ MHz}$ ;  $\sigma = 1.85 \text{ mho/m}$ ;  $\epsilon_r = 38.4$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.14, 4.14, 4.14); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Tilt position - High/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.287 mW/g

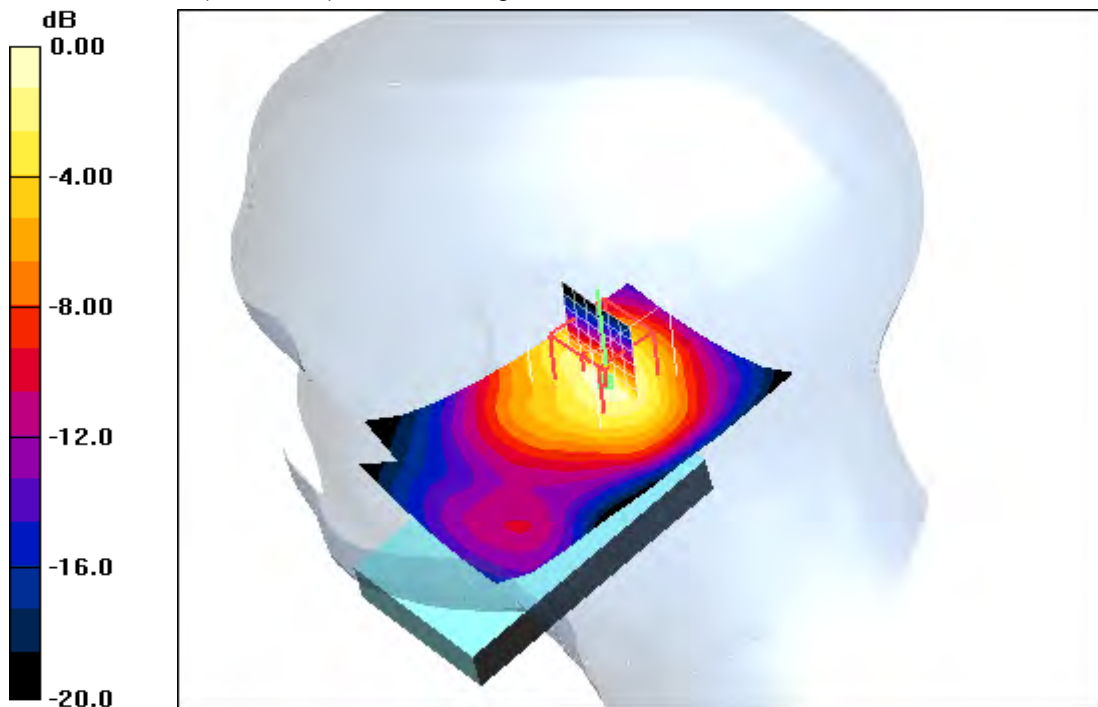
**Tilt position - High/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 12.7 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.801 W/kg

**SAR(1 g) = 0.298 mW/g; SAR(10 g) = 0.134 mW/g**

Maximum value of SAR (measured) = 0.323 mW/g



0 dB = 0.323mW/g

**Additional information:**

ambient temperature: 23.2°C; liquid temperature: 22.7°C

Date/Time: 05.05.2011 13:39:49 Date/Time: 05.05.2011 13:45:52

**IEEE1528\_OET65-RightHandSide-WLAN**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165180**

Communication System: WLAN 2450 US; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: HSL2450 Medium parameters used (interpolated):  $f = 2462 \text{ MHz}$ ;  $\sigma = 1.85 \text{ mho/m}$ ;  $\epsilon_r = 38.4$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.14, 4.14, 4.14); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Touch position - High 6Mbps/Area Scan (51x81x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.227 mW/g

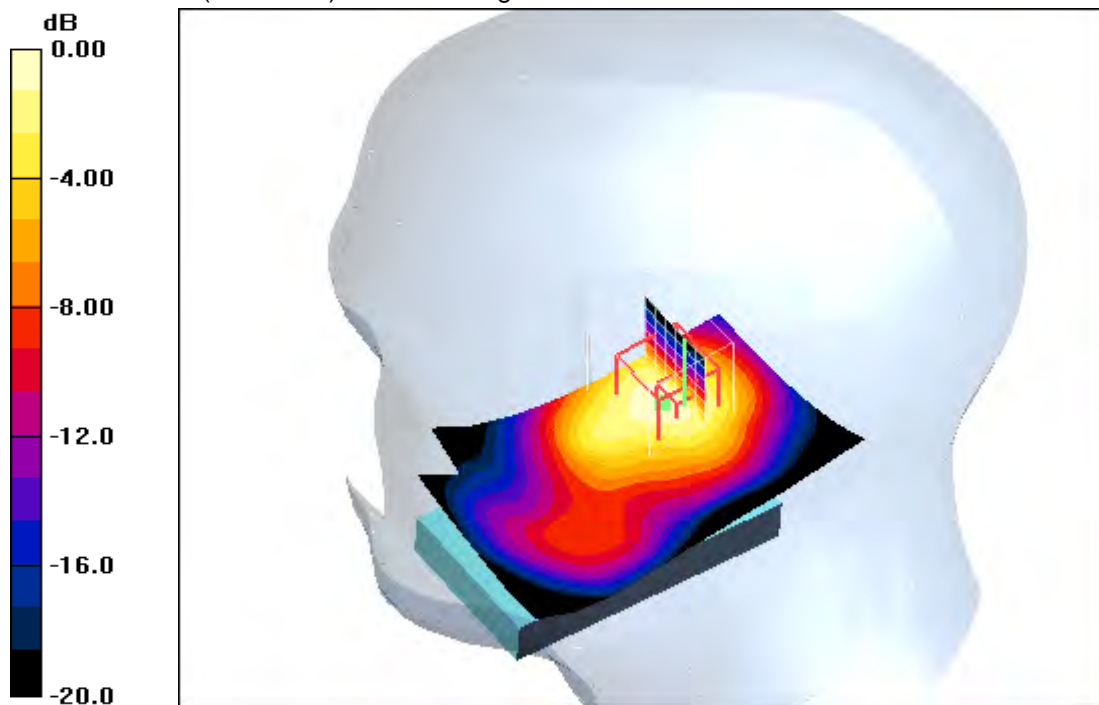
**Touch position - High 6Mbps/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 11.1 V/m; Power Drift = 0.042 dB

Peak SAR (extrapolated) = 0.593 W/kg

**SAR(1 g) = 0.228 mW/g; SAR(10 g) = 0.105 mW/g**

Maximum value of SAR (measured) = 0.245 mW/g



0 dB = 0.245mW/g

**Additional information:**

ambient temperature: 23.2°C; liquid temperature: 22.7°C

## Annex A.6: WLAN 2450MHz body

Date/Time: 10.05.2011 15:30:36 Date/Time: 10.05.2011 15:36:20 Date/Time: 10.05.2011 15:48:04

### IEEE1528\_OET65-Body-WLAN

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165180**

Communication System: WLAN 2450 US; Frequency: 2412 MHz; Duty Cycle: 1:1

Medium: M2450 Medium parameters used (interpolated):  $f = 2412$  MHz;  $\sigma = 1.99$  mho/m;  $\epsilon_r = 51.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.03, 4.03, 4.03); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Front position - Low/Area Scan (51x81x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.039 mW/g

**Front position - Low/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:

dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.53 V/m; Power Drift = -0.042 dB

Peak SAR (extrapolated) = 0.067 W/kg

**SAR(1 g) = 0.035 mW/g; SAR(10 g) = 0.021 mW/g**

Maximum value of SAR (measured) = 0.037 mW/g

**Front position - Low/Zoom Scan (7x7x7) (7x7x7)/Cube 1:** Measurement grid:

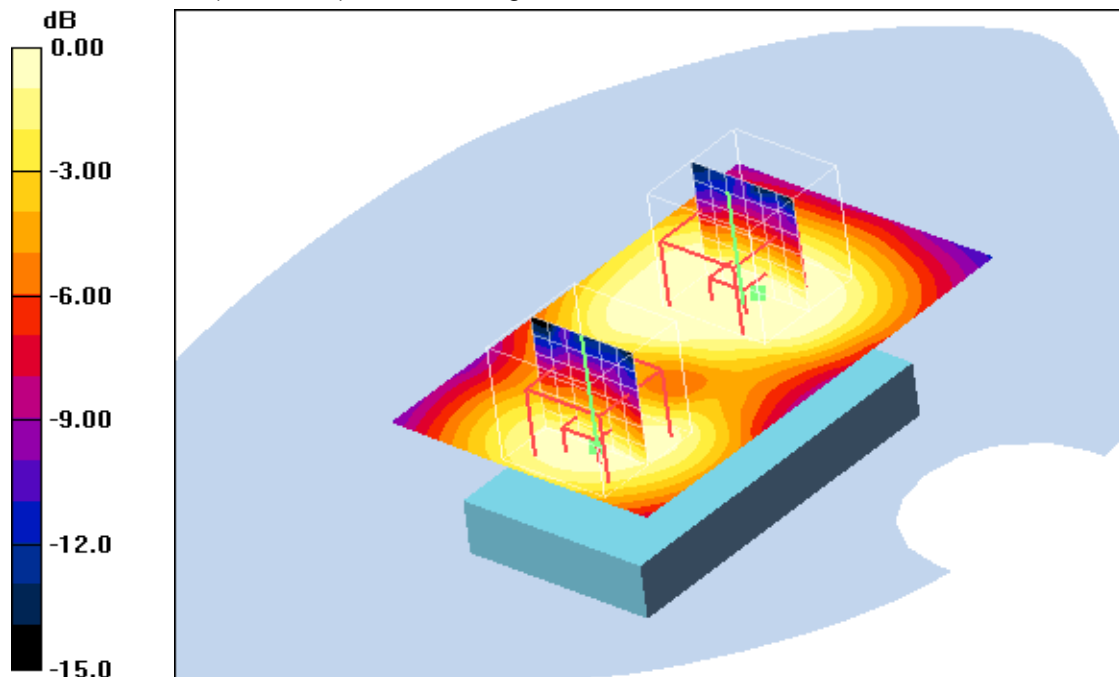
dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.53 V/m; Power Drift = -0.042 dB

Peak SAR (extrapolated) = 0.046 W/kg

**SAR(1 g) = 0.025 mW/g; SAR(10 g) = 0.014 mW/g**

Maximum value of SAR (measured) = 0.026 mW/g



0 dB = 0.026mW/g

#### Additional information:

position or distance of DUT to SAM: 15 mm

ambient temperature: 23.7°C; liquid temperature: 22.7°C

Date/Time: 10.05.2011 19:04:55 Date/Time: 10.05.2011 19:10:45 Date/Time: 10.05.2011 19:22:11

**IEEE1528\_OET65-Body-WLAN****DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165180**

Communication System: WLAN 2450 US; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: M2450 Medium parameters used (interpolated):  $f = 2437$  MHz;  $\sigma = 1.99$  mho/m;  $\epsilon_r = 51.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.03, 4.03, 4.03); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Front position - Middle/Area Scan (51x81x1):** Measurement grid: dx=15mm, dy=15mm

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

**Front position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:

dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.11 V/m; Power Drift = 0.054 dB

Peak SAR (extrapolated) = 0.085 W/kg

**SAR(1 g) = 0.045 mW/g; SAR(10 g) = 0.027 mW/g**

Maximum value of SAR (measured) = 0.048 mW/g

**Front position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 1:** Measurement grid:

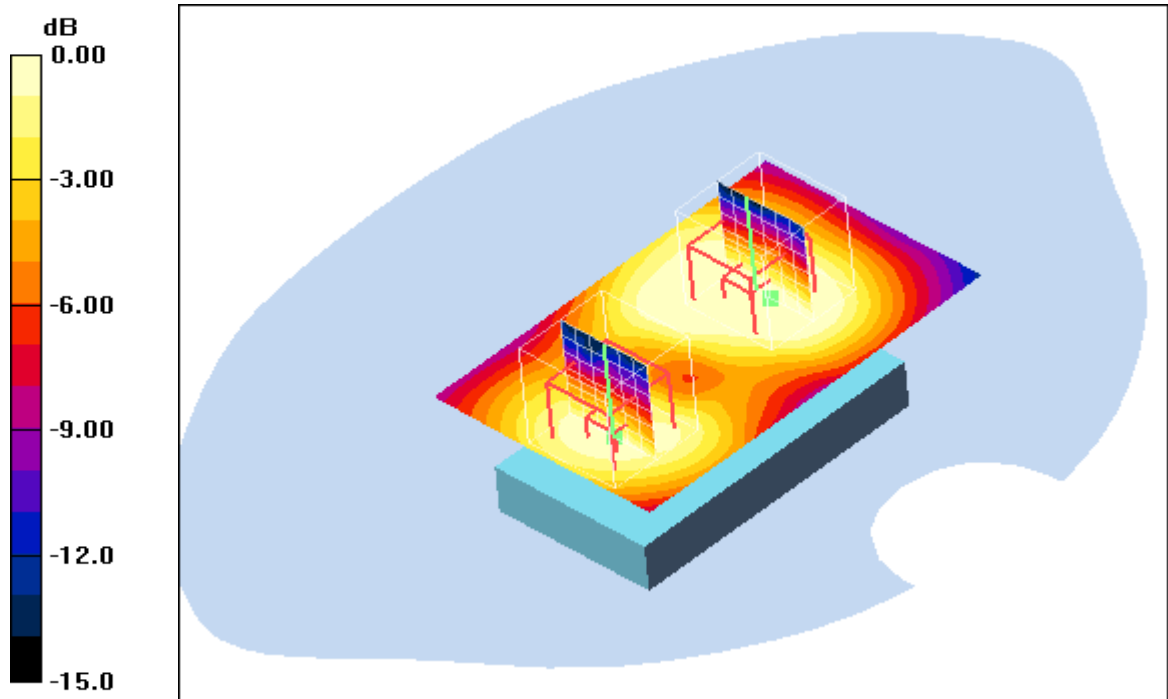
dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.11 V/m; Power Drift = 0.054 dB

Peak SAR (extrapolated) = 0.059 W/kg

**SAR(1 g) = 0.031 mW/g; SAR(10 g) = 0.018 mW/g**

Maximum value of SAR (measured) = 0.034 mW/g



0 dB = 0.034mW/g

**Additional information:**

position or distance of DUT to SAM: 15 mm

ambient temperature: 23.7°C; liquid temperature: 22.7°C



Date/Time: 10.05.2011 18:33:14 Date/Time: 10.05.2011 18:39:04 Date/Time: 10.05.2011 18:50:19

**IEEE1528\_OET65-Body-WLAN**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165180**

Communication System: WLAN 2450 US; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: M2450 Medium parameters used (interpolated):  $f = 2462$  MHz;  $\sigma = 1.99$  mho/m;  $\epsilon_r = 51.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.03, 4.03, 4.03); Calibrated: 11.08.2010

- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection) Sensor-Surface: 4mm (Mechanical Surface Detection)

- Electronics: DAE3 Sn413; Calibrated: 13.01.2011

- Phantom: SAM 12; Type: SAM; Serial: 1043

- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Front position - High/Area Scan (51x81x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.058 mW/g

**Front position - High/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:

dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.46 V/m; Power Drift = -0.105 dB

Peak SAR (extrapolated) = 0.092 W/kg

**SAR(1 g) = 0.050 mW/g; SAR(10 g) = 0.030 mW/g**

Maximum value of SAR (measured) = 0.053 mW/g

**Front position - High/Zoom Scan (7x7x7) (7x7x7)/Cube 1:** Measurement grid:

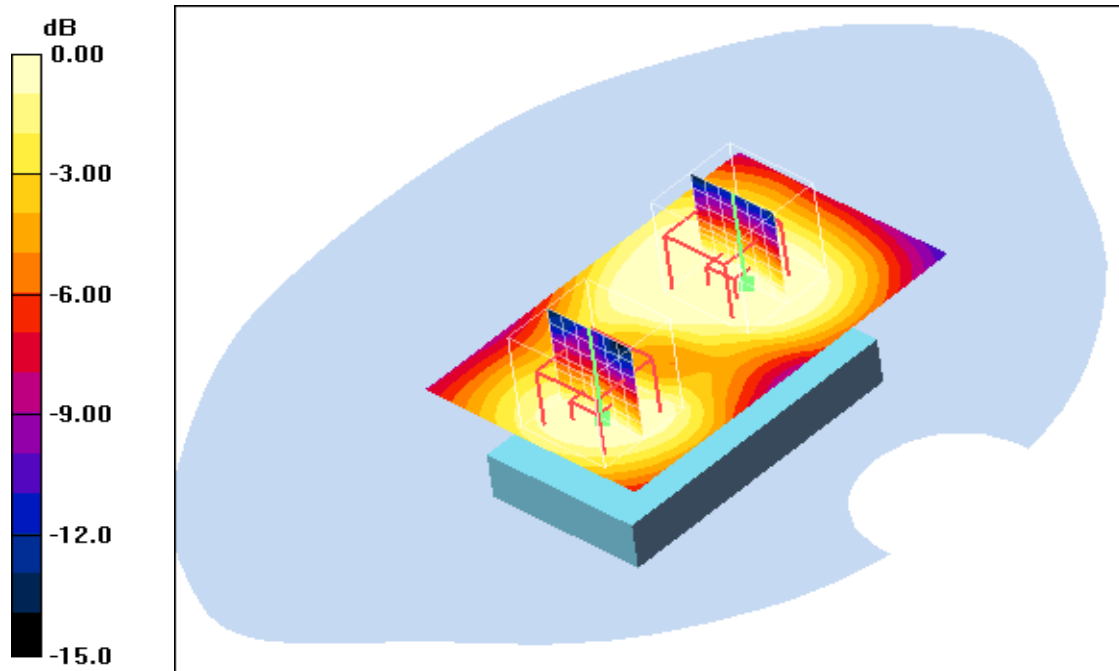
dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.46 V/m; Power Drift = -0.105 dB

Peak SAR (extrapolated) = 0.063 W/kg

**SAR(1 g) = 0.034 mW/g; SAR(10 g) = 0.020 mW/g**

Maximum value of SAR (measured) = 0.037 mW/g



0 dB = 0.037mW/g

**Additional information:**

position or distance of DUT to SAM: 15 mm

ambient temperature: 23.7°C; liquid temperature: 22.7°C



Date/Time: 10.05.2011 16:03:23 Date/Time: 10.05.2011 16:09:11

**IEEE1528\_OET65-Body-WLAN**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165180**

Communication System: WLAN 2450 US; Frequency: 2412 MHz; Duty Cycle: 1:1

Medium: M2450 Medium parameters used (interpolated):  $f = 2412$  MHz;  $\sigma = 1.99$  mho/m;  $\epsilon_r = 51.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.03, 4.03, 4.03); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Rear position - Low/Area Scan (51x81x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.044 mW/g

**Rear position - Low/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:

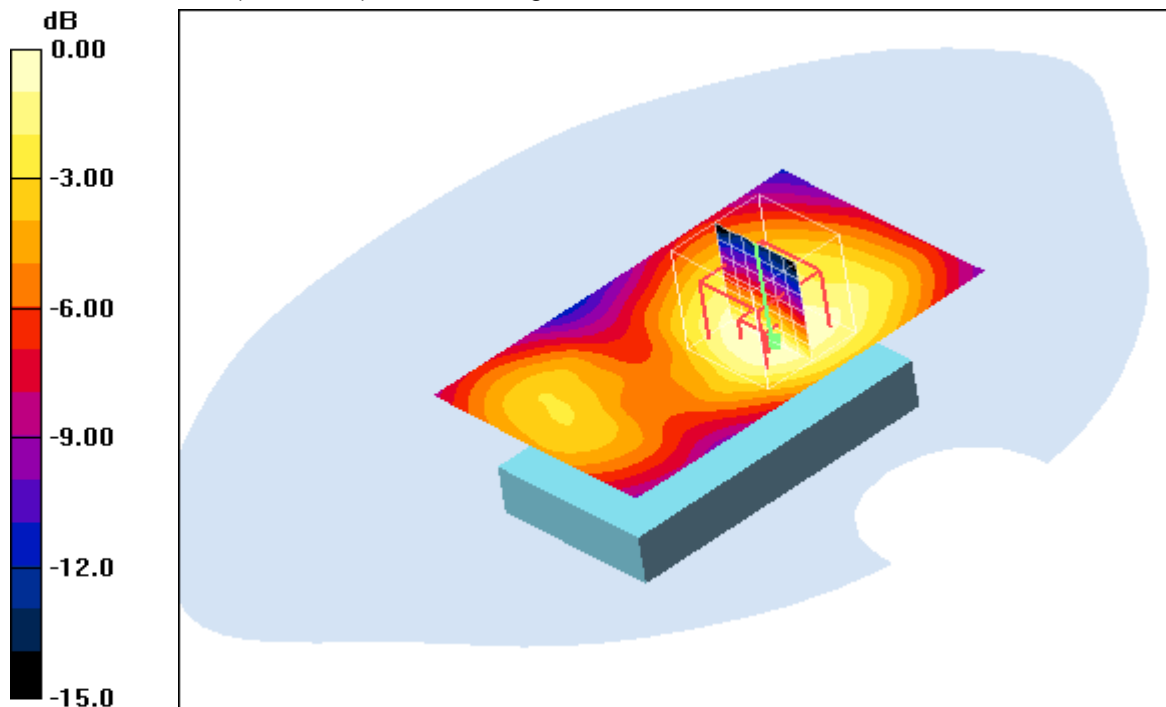
dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.78 V/m; Power Drift = 0.028 dB

Peak SAR (extrapolated) = 0.083 W/kg

**SAR(1 g) = 0.042 mW/g; SAR(10 g) = 0.024 mW/g**

Maximum value of SAR (measured) = 0.044 mW/g



**Additional information:**

position or distance of DUT to SAM: 15 mm

ambient temperature: 23.7°C; liquid temperature: 22.7°C

Date/Time: 10.05.2011 16:23:56 Date/Time: 10.05.2011 16:29:43

**IEEE1528\_OET65-Body-WLAN**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165180**

Communication System: WLAN 2450 US; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: M2450 Medium parameters used (interpolated):  $f = 2437$  MHz;  $\sigma = 1.99$  mho/m;  $\epsilon_r = 51.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.03, 4.03, 4.03); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Rear position - Middle/Area Scan (51x81x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.053 mW/g

**Rear position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:

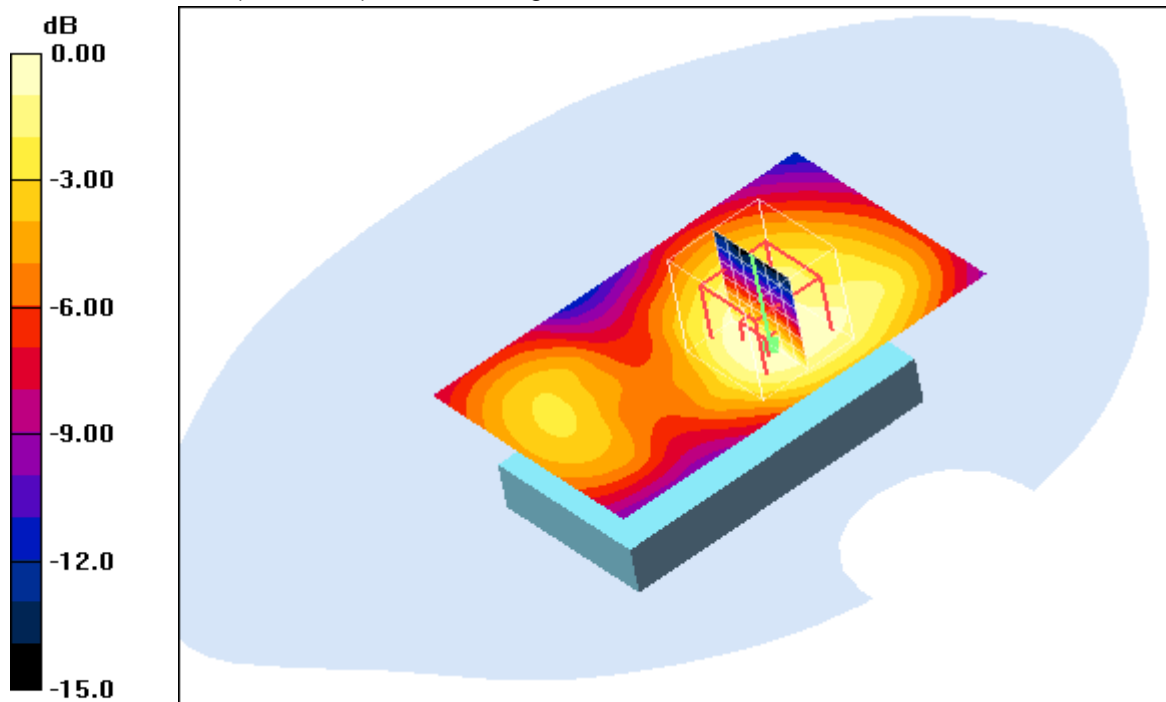
dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.24 V/m; Power Drift = 0.031 dB

Peak SAR (extrapolated) = 0.096 W/kg

**SAR(1 g) = 0.050 mW/g; SAR(10 g) = 0.029 mW/g**

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



0 dB = 0.052mW/g

**Additional information:**

position or distance of DUT to SAM: 15 mm

ambient temperature: 23.7°C; liquid temperature: 22.7°C

Date/Time: 10.05.2011 16:44:40 Date/Time: 10.05.2011 16:50:29

**IEEE1528\_OET65-Body-WLAN**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165180**

Communication System: WLAN 2450 US; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: M2450 Medium parameters used (interpolated):  $f = 2462$  MHz;  $\sigma = 1.99$  mho/m;  $\epsilon_r = 51.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

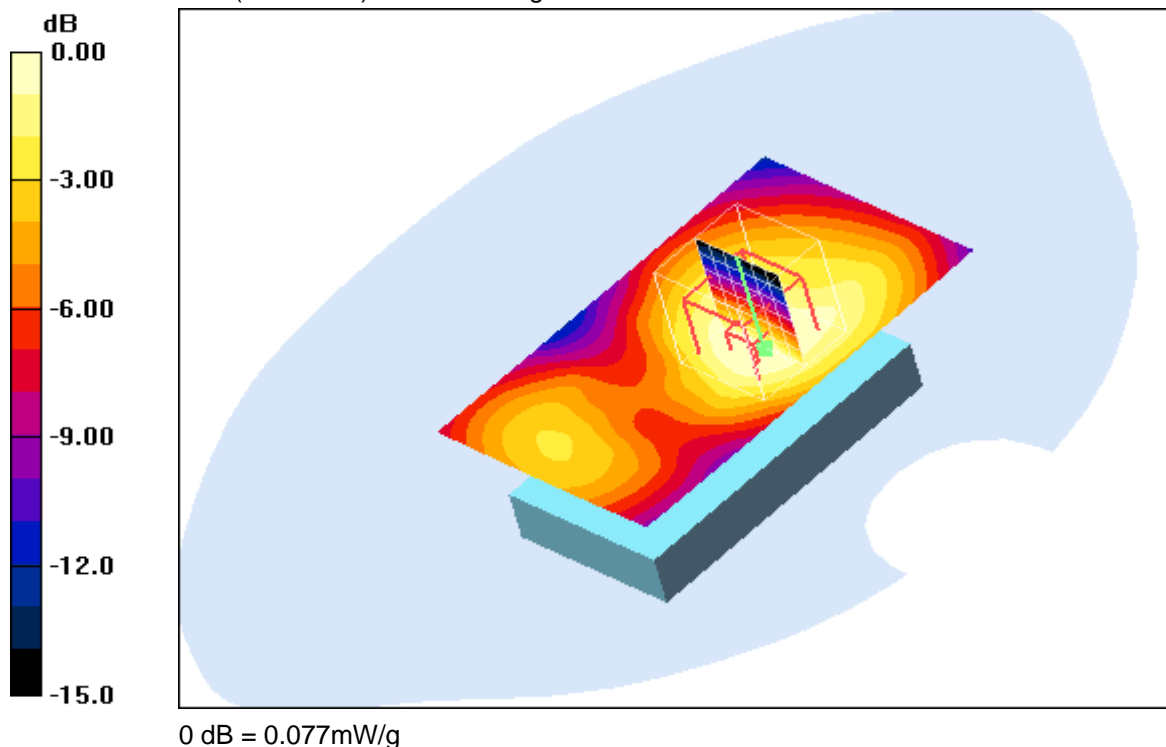
Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.03, 4.03, 4.03); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection) Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Rear position - High/Area Scan (51x81x1):** Measurement grid: dx=15mm, dy=15mm  
 Maximum value of SAR (interpolated) = 0.080 mW/g

**Rear position - High/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid:  
 dx=5mm, dy=5mm, dz=5mm  
 Reference Value = 6.26 V/m; Power Drift = -0.016 dB  
 Peak SAR (extrapolated) = 0.141 W/kg  
**SAR(1 g) = 0.073 mW/g; SAR(10 g) = 0.042 mW/g**  
 Maximum value of SAR (measured) = 0.077 mW/g



**Additional information:**  
 position or distance of DUT to SAM: 15 mm  
 ambient temperature: 23.7°C; liquid temperature: 22.7°C

Date/Time: 10.05.2011 17:25:50 Date/Time: 10.05.2011 17:31:43

**IEEE1528\_OET65-Body-WLAN**

**DUT: Sony Ericsson; Type: AAB-1880032-BV; Serial: WUJ0165180**

Communication System: WLAN 2450 US; Frequency: 2462 MHz; Duty Cycle: 1:1

Medium: M2450 Medium parameters used (interpolated):  $f = 2462$  MHz;  $\sigma = 1.99$  mho/m;  $\epsilon_r = 51.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY4 Configuration:

- Probe: ET3DV6 - SN1558; ConvF(4.03, 4.03, 4.03); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection) Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn413; Calibrated: 13.01.2011
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

**Rear position - High 6Mbps/Area Scan (51x81x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.032 mW/g

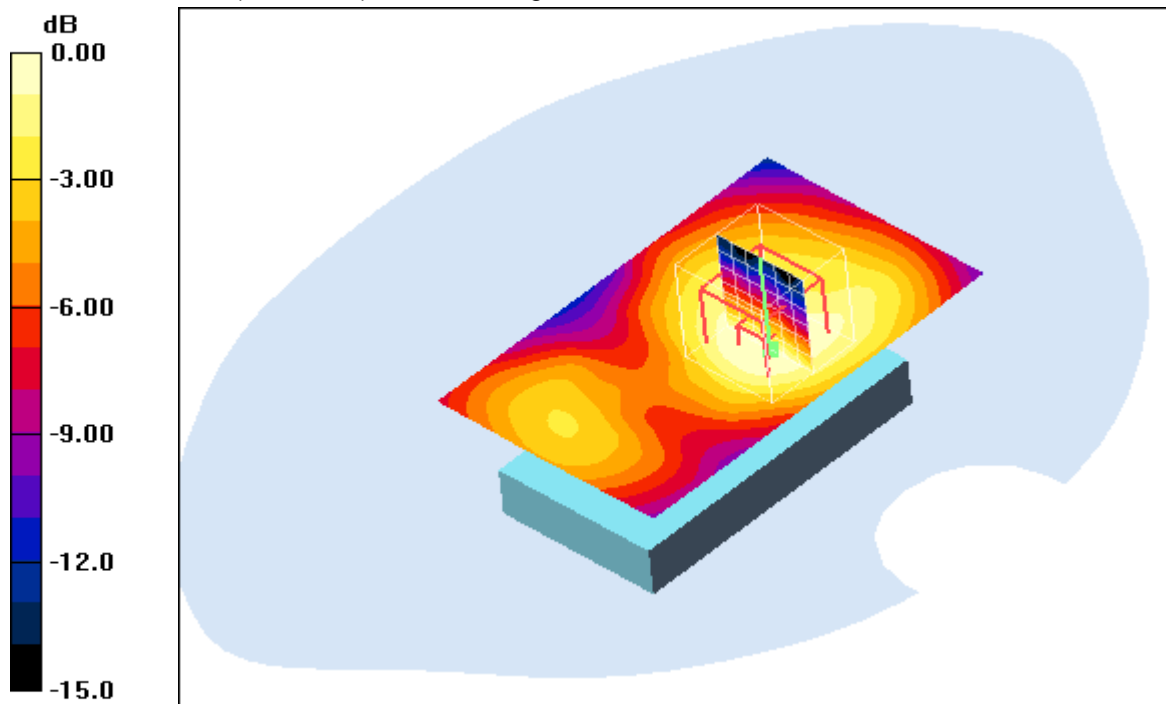
**Rear position - High 6Mbps/Zoom Scan (7x7x7) (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.97 V/m; Power Drift = 0.043 dB

Peak SAR (extrapolated) = 0.058 W/kg

**SAR(1 g) = 0.030 mW/g; SAR(10 g) = 0.017 mW/g**

Maximum value of SAR (measured) = 0.031 mW/g



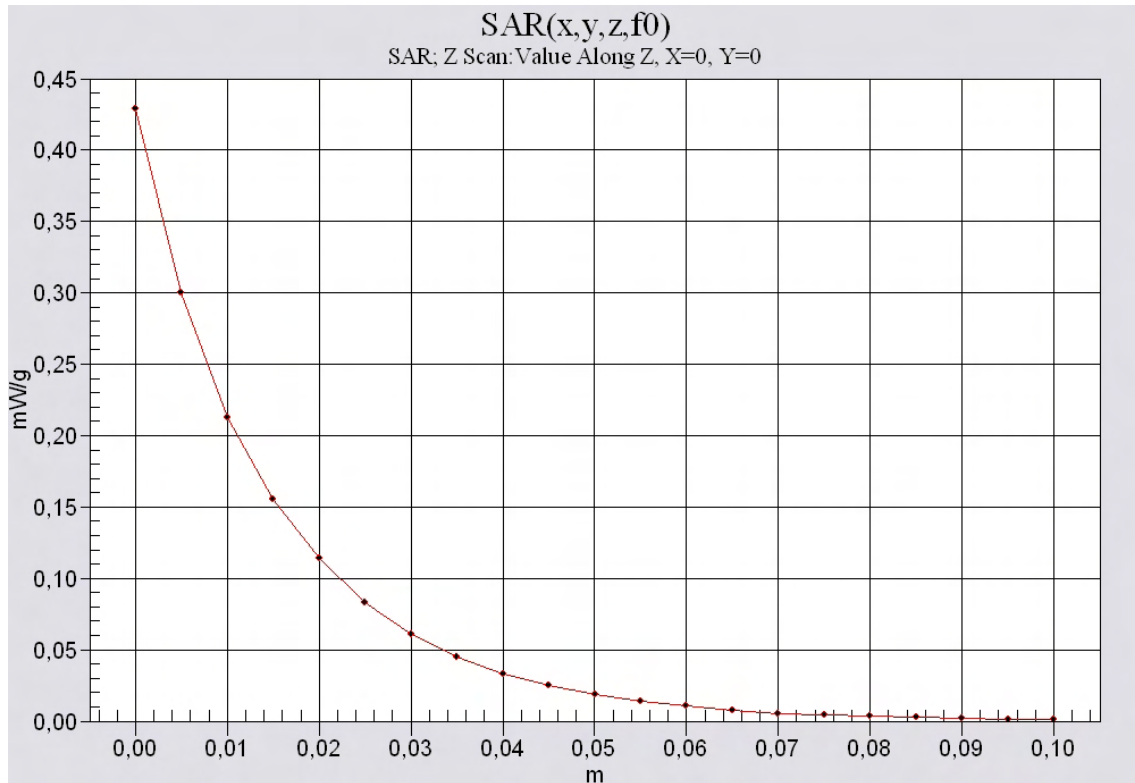
0 dB = 0.031mW/g

**Additional information:**

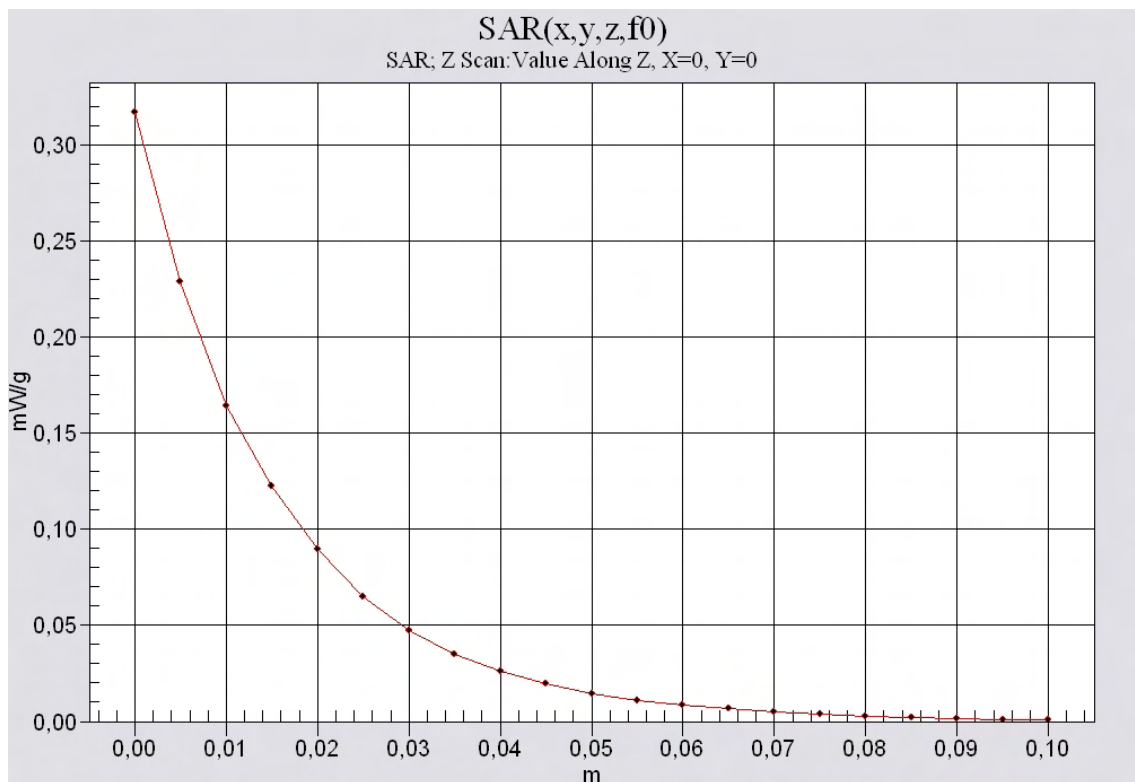
position or distance of DUT to SAM: 15 mm

ambient temperature: 23.7°C; liquid temperature: 22.7°C

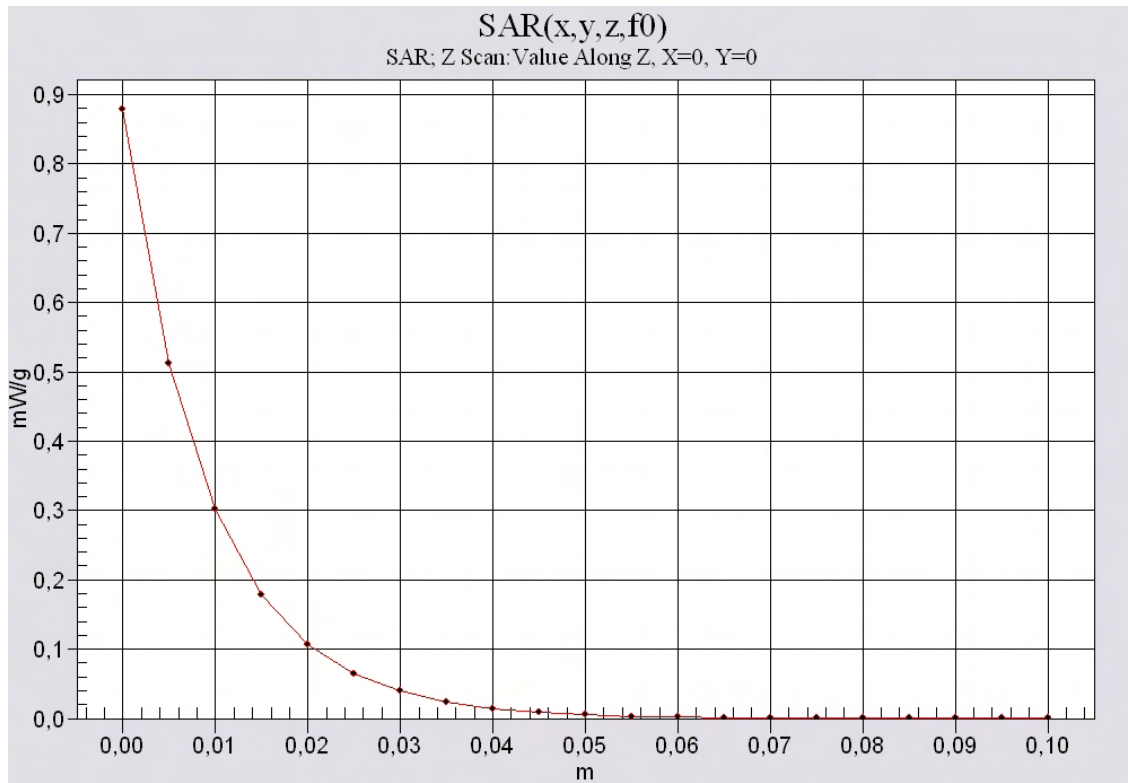
Annex A.7: Z-axis scan



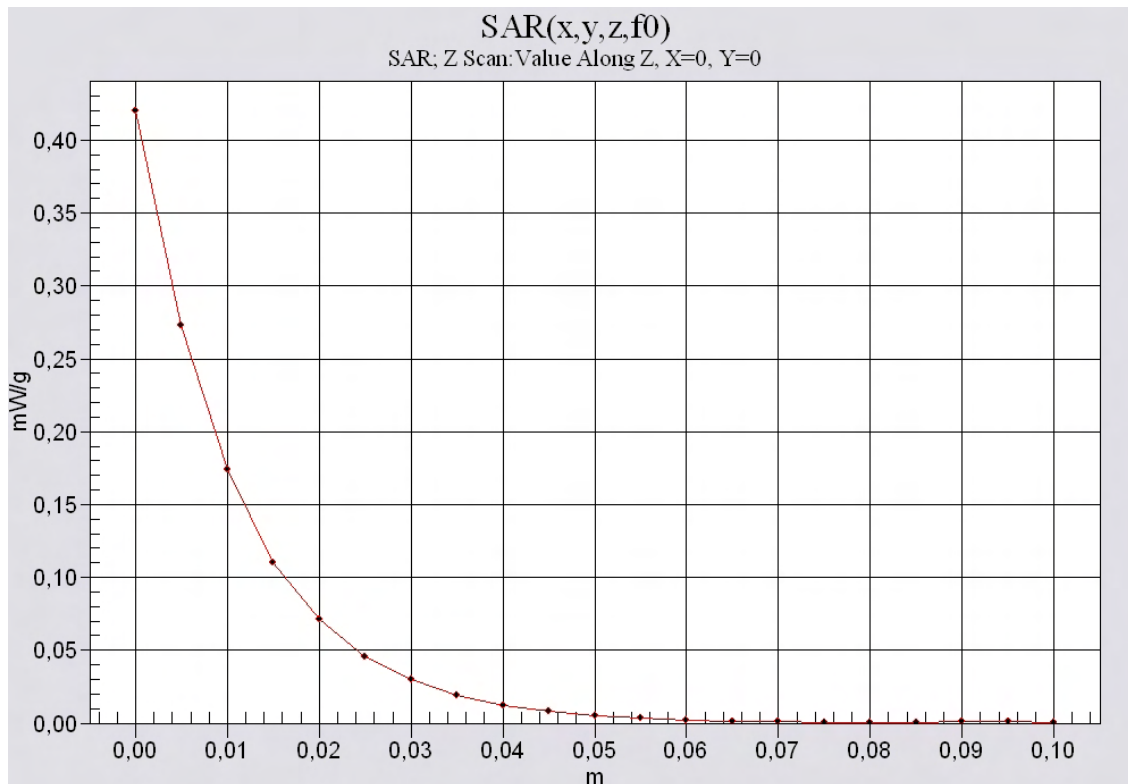
850 head



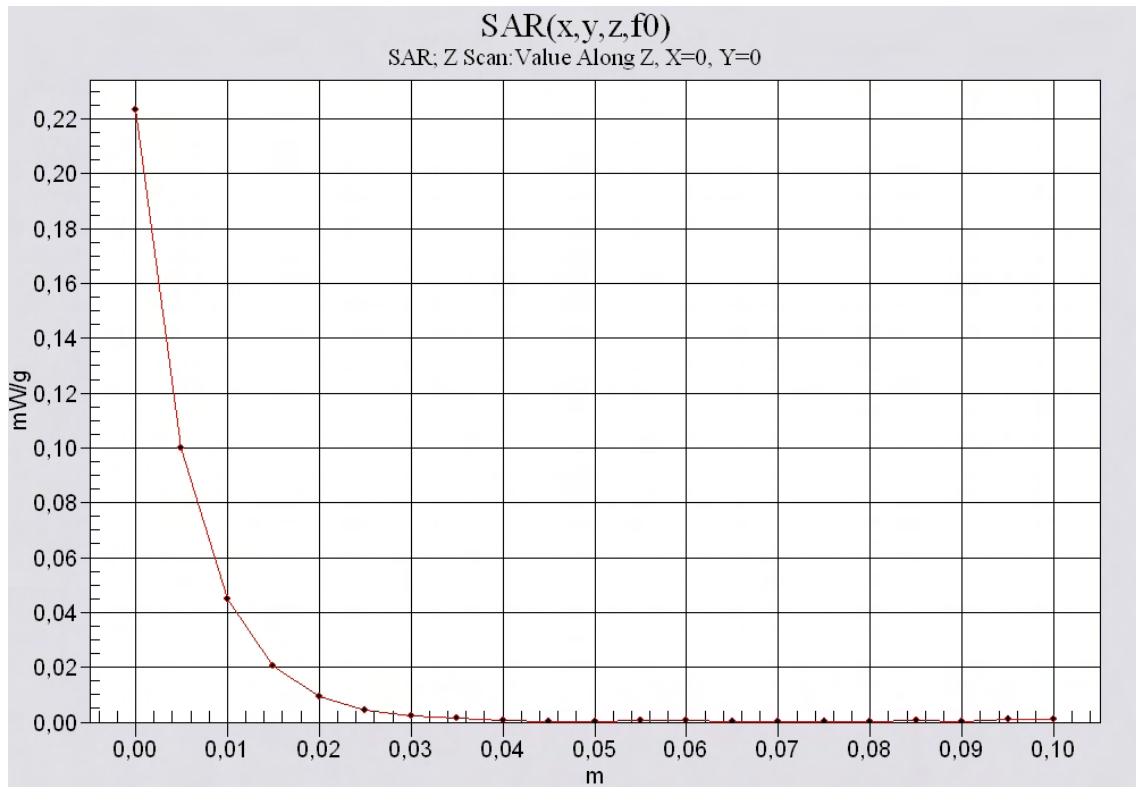
850 body



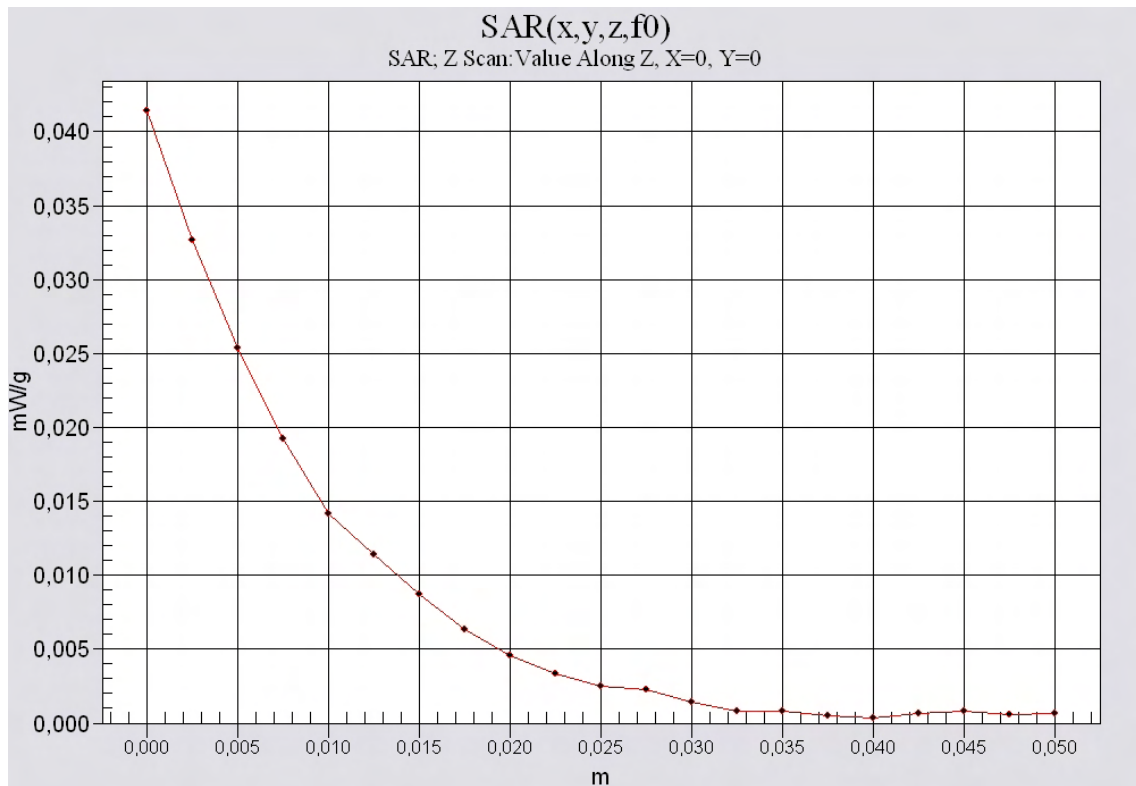
1900 head



1900 body



2450 head



2450 body



**Annex A.8: Liquid depth**

**Photo 1: Liquid depth 850 MHz head simulating liquid**



**Photo 2: Liquid depth 850 MHz body simulating liquid**



Photo 3: Liquid depth 1900MHz head simulating liquid

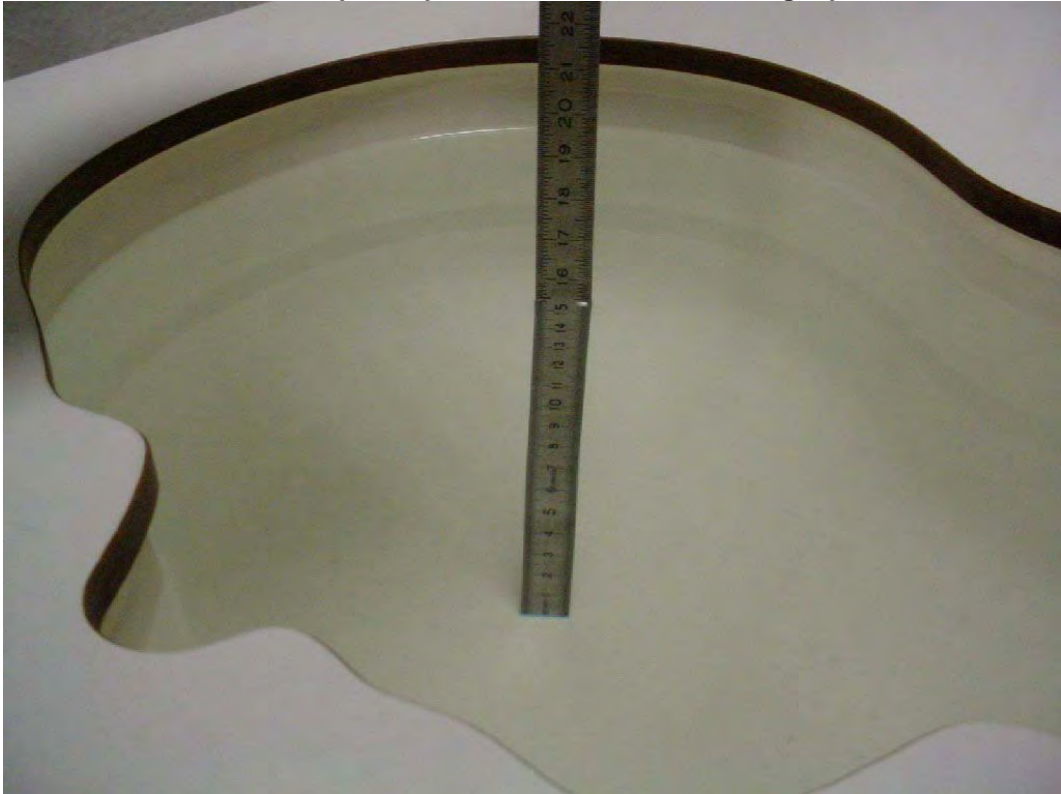


Photo 4: Liquid depth 1900 MHz body simulating liquid

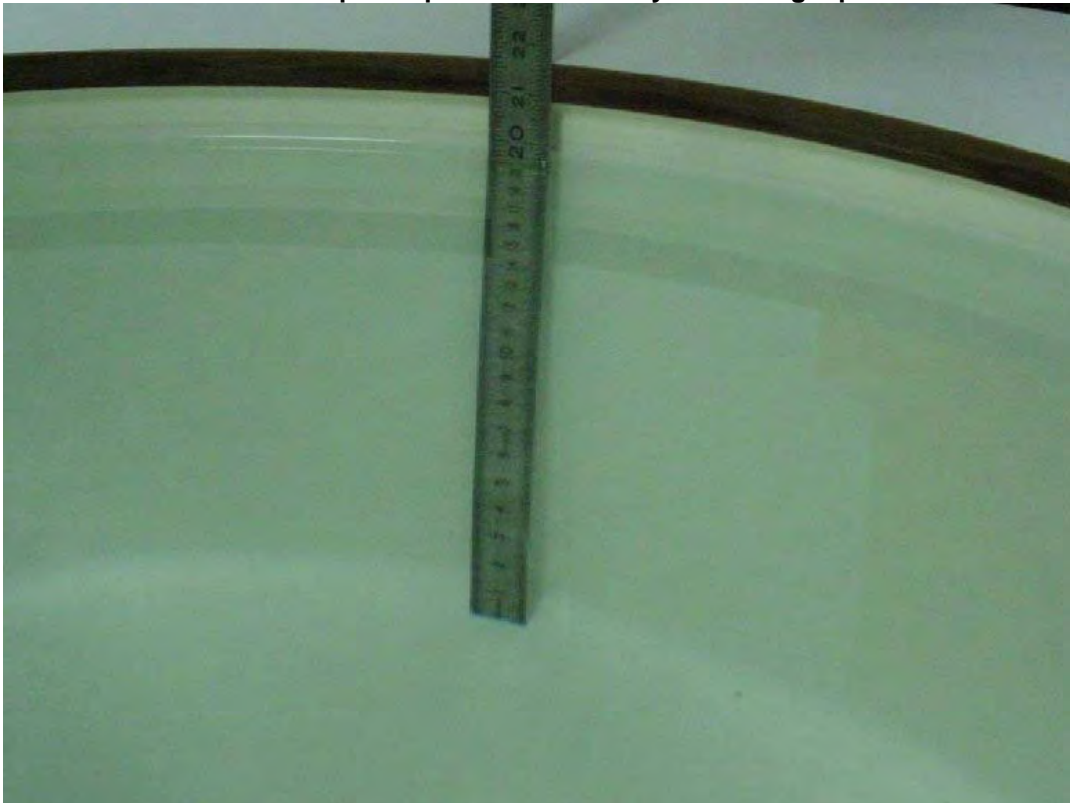


Photo 5: Liquid depth 2450MHz head simulating liquid

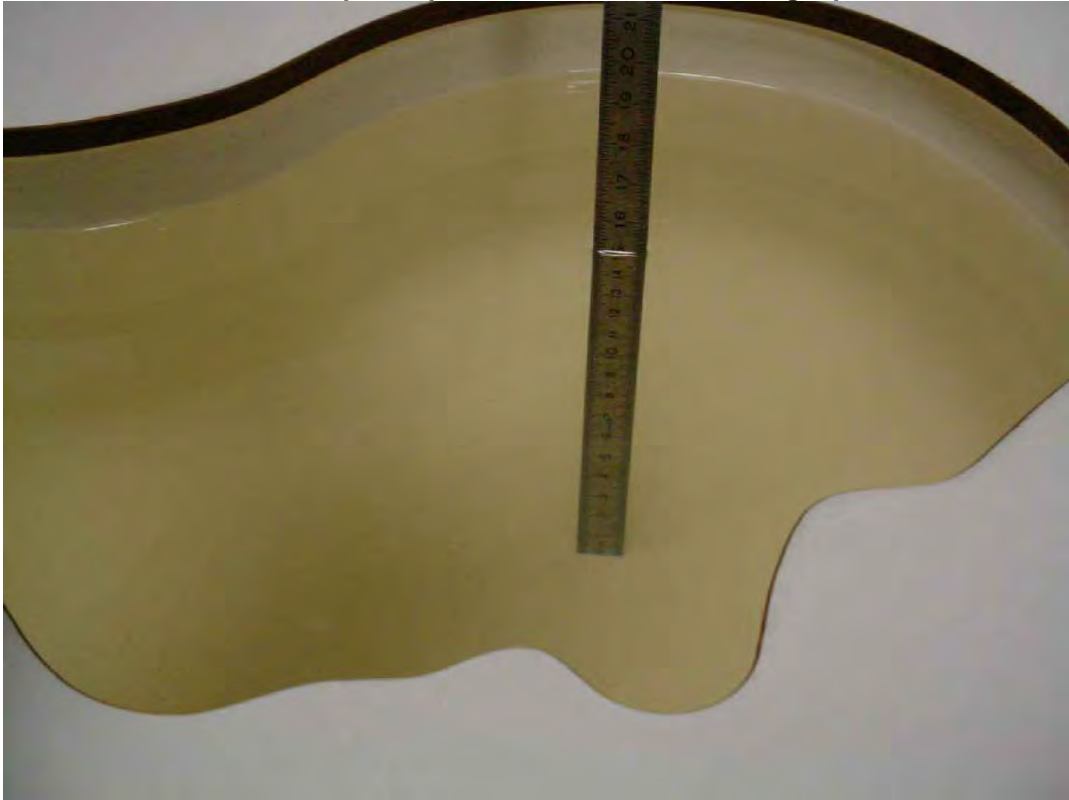


Photo 6: Liquid depth 2450 MHz body simulating liquid





**Annex B: Photo documentation**

Photo 1: Measurement System DASY 4



Photo 2: DUT - front view

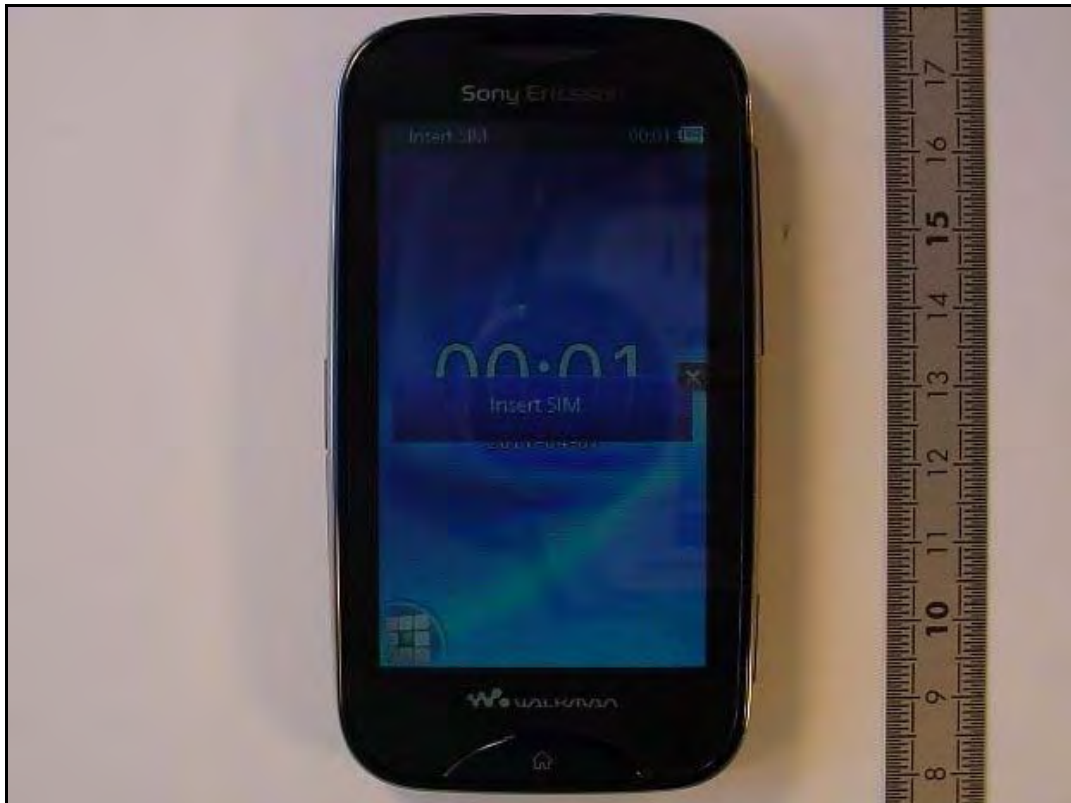


Photo 3: DUT - side view



Photo 4: DUT - rear view



Photo 5: DUT - rear view (open)



Photo 6: DUT - rear view (open) without battery





Photo 7: DUT - rear view (label)



Photo 8: Battery





Photo 9: Test position left hand touched

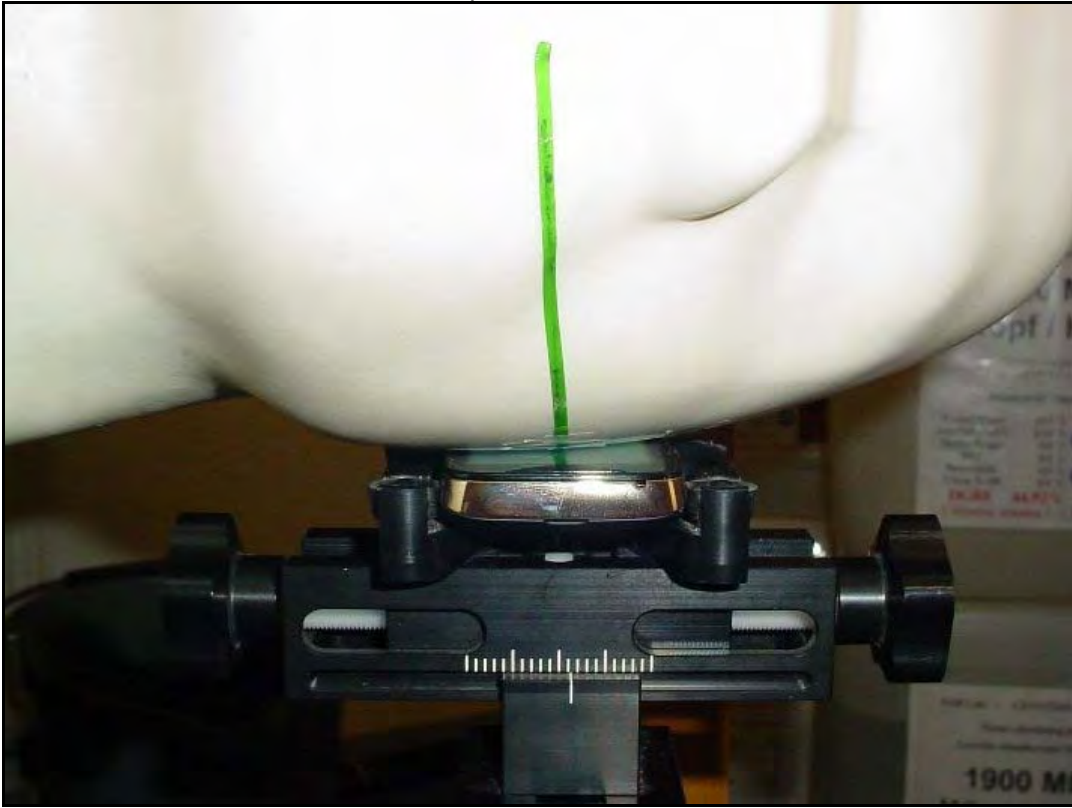


Photo 10: Test position left hand touched



Photo 11: Test position left hand touched

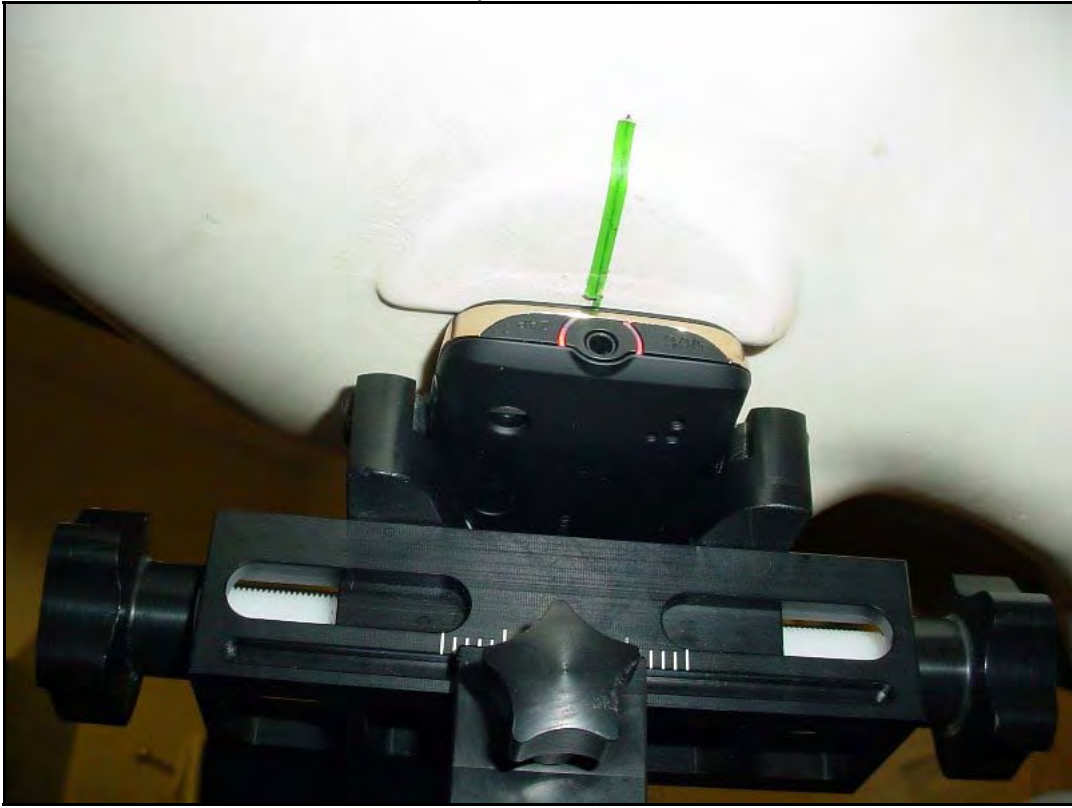


Photo 12: Test position left hand tilted 15°

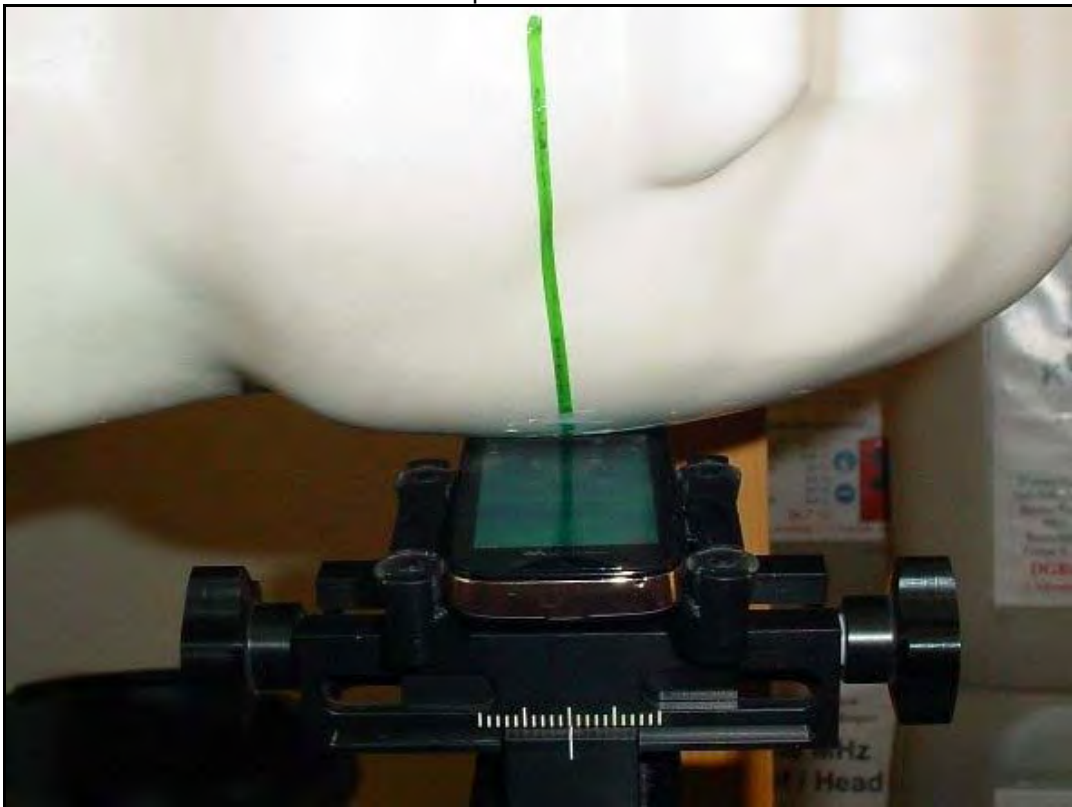


Photo 13: Test position left hand tilted 15°



Photo 14: Test position right hand touched

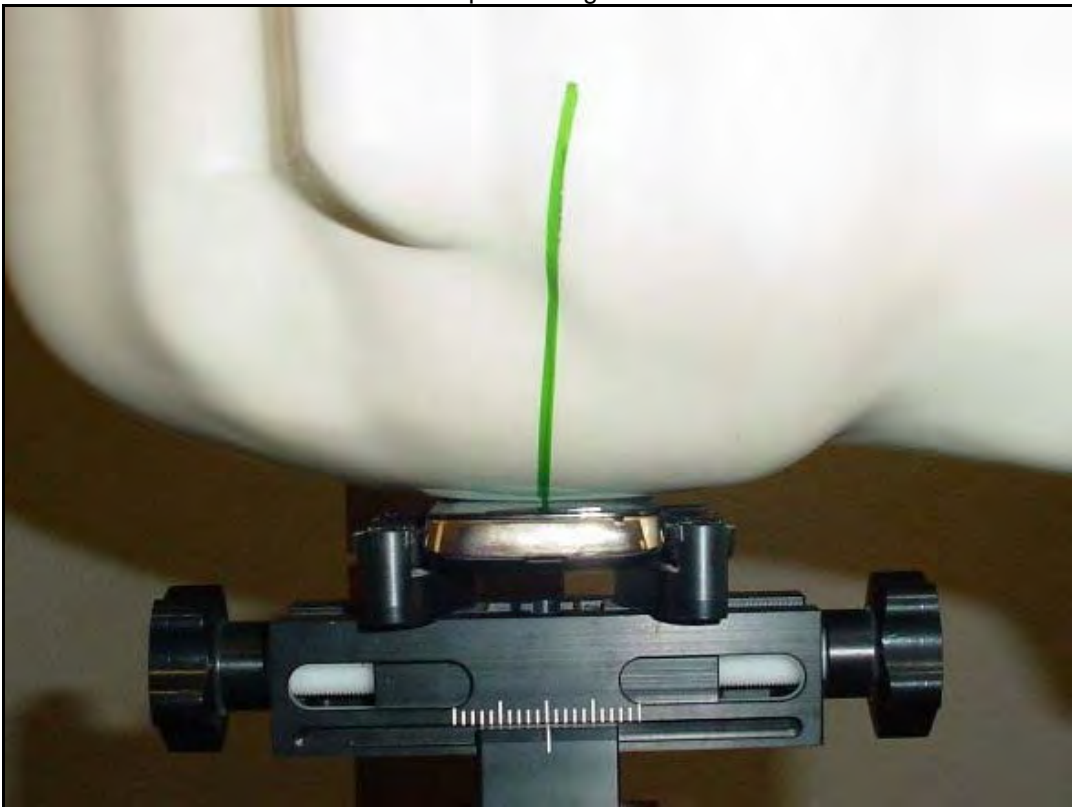




Photo 15: Test position right hand touched



Photo 16: Test position right hand touched



Photo 17: Test position right hand tilted 15°

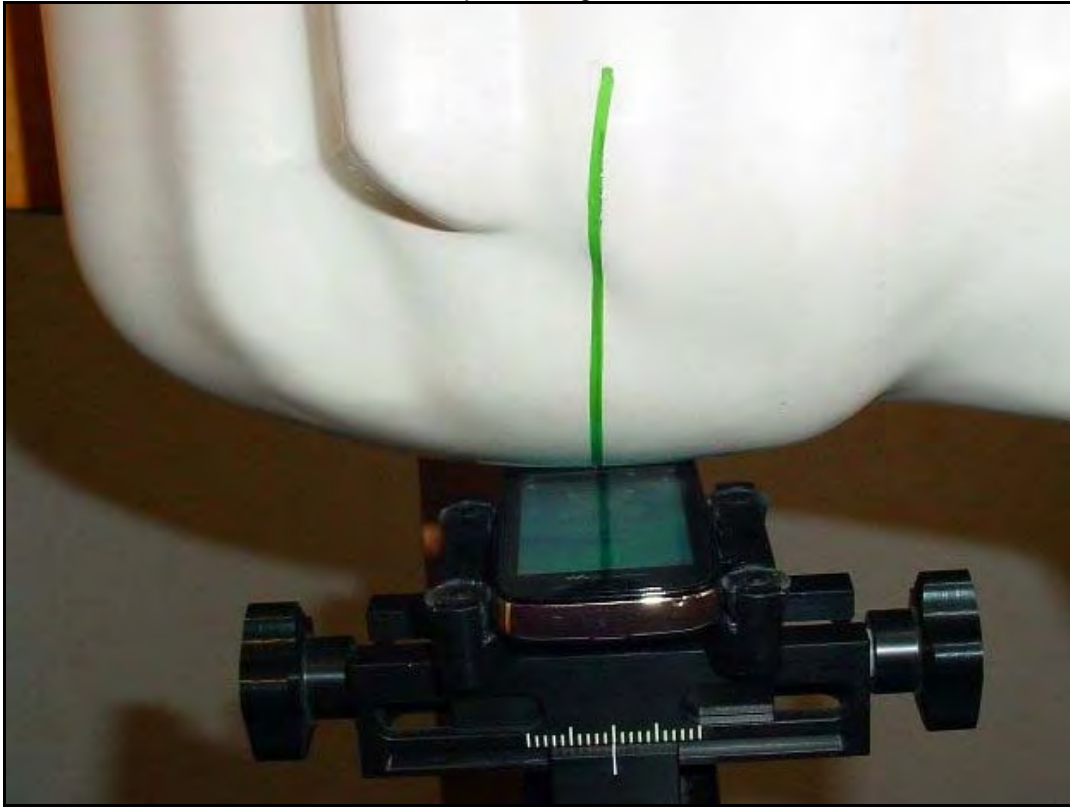


Photo 18: Test position right hand tilted 15°



Photo 19: Test position body worn front side with 15 mm distance



Photo 20: Test position body worn rear side with 15 mm distance



**Annex C: RF Technical Brief Cover Sheet acc. to RSS-102 Annex A**

1. COMPANY NUMBER: 4170B

2. MODEL NUMBER: A1880032

3. MANUFACTURER: **Sony Ericsson Mobile Communications AB**

4. TYPE OF EVALUATION:

(a) SAR Evaluation: Device used in the Vicinity of the Human Head

- Multiple transmitters: Yes  No
- Evaluated against exposure limits: General Public Use  Controlled Use
- Duty cycle used in evaluation: 12.5 %
- Standard used for evaluation: RSS-102 Issue 4 (2010-03)
- SAR value: **1.410 W/kg.** Measured  Computed  Calculated


(b) SAR Evaluation: Body-worn Device

- Multiple transmitters: Yes  No
- Evaluated against exposure limits: General Public Use  Controlled Use
- Duty cycle used in evaluation: 25 %
- Standard used for evaluation: RSS-102 Issue 4 (2010-03)
- SAR value: **0.568 W/kg.** Measured  Computed  Calculated

**Annex C.9: Declaration of RF Exposure Compliance**

ATTESTATION: I attest that the information provided in Annex C: is correct; that a Technical Brief was prepared and the information it contains is correct; that the device evaluation was performed or supervised by me; that applicable measurement methods and evaluation methodologies have been followed and that the device meets the SAR and/or RF exposure limits of RSS-102.

Signature:



Date: 2011-05-11

NAME : **Thomas Vogler**

TITLE : Dipl.-Ing. (FH)

COMPANY : CETECOM ICT Services GmbH



## Annex D: Calibration parameters

Calibration parameters are described in the additional document :

### Appendix to test report no. 1-2977-34-03/11 Calibration data, Phantom certificate and detail information of the DASY4 System

## Annex E: Document History

Version	Applied Changes	Date of Release
	Initial Release	2011-05-11

## Annex F: Further Information

### Glossary

DUT	-	Device under Test
EUT	-	Equipment under Test
FCC	-	Federal Communication Commission
FCC ID	-	Company Identifier at FCC
HW	-	Hardware
IC	-	Industry Canada
Inv. No.	-	Inventory number
N/A	-	not applicable
SAR	-	Specific Absorption Rate
S/N	-	Serial Number
SW	-	Software