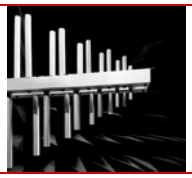
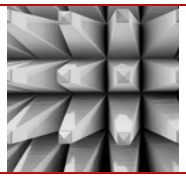




CETECOM™
CETECOM ICT Services
consulting - testing - certification

TEST REPORT

Deutscher Akkreditierungs Rat DAR

Test Report No.: 1-2205-03-02/10

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

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

DAR registration number: DGA-PL-176/94-D1

Applicant

Ericsson AB
Lindholmspiren 11
41756 Gothenburg/SWEDEN

Phone:

Contact: Anna Jansson
e-mail: anna.jansson@ericsson.com
Phone: +46 10 712 21 38
Fax: +46 10 712 60 33

Manufacturer

Ericsson AB
Lindholmspiren 11
41756 Gothenburg/SWEDEN

Test Standard/s

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:	WWAN Module installed in generic host computer in portable exposure conditions
Device type:	portable device
Model name:	**F5521gw**
S/N serial number:	C370024JES.
FCC-ID:	VV7-MBMF5521GW1
IC:	287AG-MBMF5521GW1
IMEI-Number:	004401700665835
Hardware status:	FP1.1
Software status:	R2A07
Frequency:	see technical details
Antenna:	2 antennas, see technical details
Accessories:	Netbook Dell Inspiron mini 10, metallic ground plane
Test sample status:	identical prototype
Exposure category:	general population / uncontrolled environment

Important note : FCC KDB inquiry tracking no. : 351923

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 performed:

cn=Oleksandr Hnatovskiy, o=CETECOM ICT, ou=HNA-100728, email=Oleksandr.Hnatovskiy@cetecom.com, c=DE
2011.03.21 09:28:26 +01'00'

2011-03-21 Oleksandr Hnatovskiy

Test Report authorised:

cn=Thomas Vogler, o=CETECOM ICT Services GmbH, ou=VOG-100727, email=thomas.vogler@cetecom.com, c=DE
2011.03.18 15:56:37 +01'00'

2011-03-21 Thomas Vogler

1 Table of contents

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:	2011-02-03
Date of receipt of test item:	2011-02-04
Start of test:	2011-02-04
End of test:	2011-02-10

Person(s) present during the test:

2.3 Target of this test report

FCC KDB 616217 defines generic procedures to determine requirements for portable RF exposure compliance of radio transmitter modules that can be implemented in a large variety of hosts with different design.

The GSM/UMTS module described herein has been tested according to these generic procedures.
The background of these measurements is to facilitate SAR compliance for notebook/netbook implementation that allows a certain minimum antenna-to-user distance.
KDB 616217 defines several SAR limits below the compliance limit of 1.6 W/kg that require an increased limitation to certain host configurations with rising SAR.

The lowest SAR level which allows most versatile host configurations is 0.4 W/kg.

Therefore a test configuration has been selected that allows the determination of the minimum distance to the transmitting antenna, at which the SAR of 0.4 W/kg is not exceeded.

Despite the need for a universal approach the transmitter/antenna configuration has to be installed in a well defined environment. Antennas mounted in portable hosts are generally well matched to the surrounding structure to reach a maximum of efficiency.

Therefore the test set-up has been optimized for operating conditions that exist in notebook/netbook displays with a 13 x 23 cm² metal plate as ground-plane for the used antennas.

A representative construction simulating the size of a 10 inch netbook display has been provided by the antenna manufacturer for 2 different antenna types with a cable length of 15 cm.
A netbook host for the WWAN module was used, to which the antennas were connected via a short cable that was long enough to offer sufficient distance between netbook and SAR phantom as well as a low attenuation of the RF signal fed to the antenna under test.

By applying this construction a minimum distance for an SAR < 0.4 W/kg could be determined that allows the module manufacturer and the OEM integrators to assess the minimum antenna-to-user distance for similar applications of display-mounted antennas.

Section 7.2 of this test report gives a detailed overview of the test results.

According to chapter 7.2.5 a minimum distance of 30 and 35 mm respectively has been determined to reach an SAR of 0.4 W/kg for the two tested antennas. Therefore a general antenna to user distance of 40 mm is recommended.

2.4 Technical details

Band tested for this SAR 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 multislot class	(E)GPRS voice mode or DTM	Test channel low	Test channel middle	Test channel high	Maximum output power/dBm)*
☐	GSM	GSM	880.2	914.8	925.2	959.8	GMSK 8-PSK	4 E2	5	B	10	no	975	37	124	---
☐	GSM	DCS	1710.2	1784.8	1805.2	1879.8	GMSK 8-PSK	1 E2	0	B	10	no	512	698	885	---
☒	GSM	cellular	824.2	848.8	869.2	893.8	GMSK 8-PSK	4 E2	5	B	10	no	128	190	251	32.4
☒	GSM	PCS	1850.2	1909.8	1930.2	1989.8	GMSK 8-PSK	1 E2	0	B	10	no	512	661	810	29.0
☐	UMTS	FDD I	1922.4	1977.6	2112.4	2167.6	QPSK	3	max	--	--	--	9612	9750	9888	---
☒	UMTS	FDD II	1852.4	1907.6	1982.4	1987.6	QPSK	3	max	--	--	--	9262	9400	9538	22.59
☐	UMTS	FDD IV	1712.4	1752.6	1807.4	1877.6	QPSK	3	max	--	--	--	1312	1412	1513	---
☒	UMTS	FDD V	826.4	846.6	871.4	891.6	QPSK	3	max	--	--	--	4132	4182	4233	23.80
☐	UMTS	FDD VIII	882.4	912.6	927.4	957.6	QPSK	3	max	--	--	--	2712	2787	2863	---

)*: slotted peak power for GSM, averaged max. RMS power for UMTS.

Antenna details :

Antenna no.	Antenna type	Max gain at 850 MHz	Max Gain at 1900 MHz	Photo no.
1	Coupling antenna	1.70 dBi	3.33 dBi	3 – 6
2	IFA antenna	1.86 dBi	3.23 dBi	7 – 10

Antennas manufactured by Yageo.

3 Test standard/s:

Test Standard	Version	Test Standard Description
OET Bulletin 65 Supplement C	1997-01 2001-01	Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields
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

Additionally FCC KDB 616217 was applied.

3.1 RF exposure limits

Human Exposure	Uncontrolled Environment General Population	Controlled Environment Occupational
Spatial Peak SAR* (Brain)	**1.60 mW/g**	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

☒	**No deviations from the technical specifications ascertained**
☐	Deviations from the technical specifications ascertained

5 Test Environment

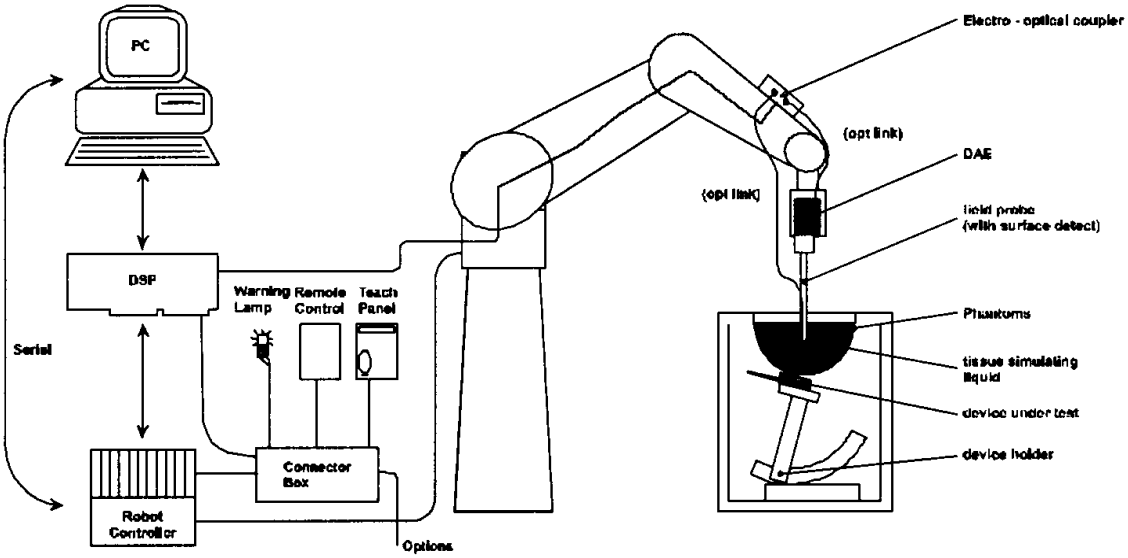
Ambient temperature:	20 – 24 °C
Tissue Simulating liquid:	20 – 24 °C
Relative humidity content:	40 – 50 %
Air pressure:	not relevant for this kind of testing
Power supply:	230 V / 50 Hz

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 DASY4 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 DASY4 measurement server.
- The DASY4 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
- DASY4 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 m³, 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 m² 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.

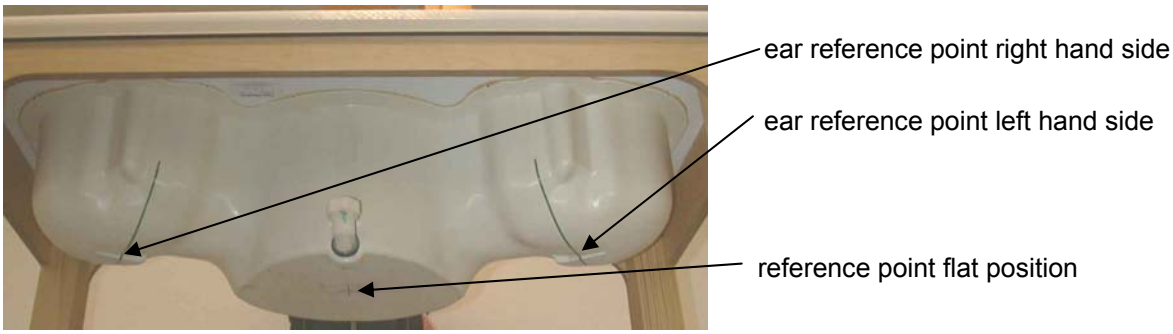
6.1.3 Probe description

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., glycolether)
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 ± 9.5%; k=2) Calibration for other liquids and frequencies upon request
Frequency	10 MHz to 3 GHz (dosimetry); Linearity: ± 0.2 dB (30 MHz to 3 GHz)
Directivity	± 0.2 dB in HSL (rotation around probe axis) ± 0.4 dB in HSL (rotation normal to probe axis)
Dynamic range	5 µW/g to > 100 mW/g; Linearity: ± 0.2 dB
Optical Surface Detection	± 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 ± 0.1mm). 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 ± 30°.)

- 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 strenth 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 compansate 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/cm²], [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	$Norm_i$, a_{i0}, a_{i1}, a_{i2}
	- Conversion factor	$ConvF_i$
	- Diode compression point	Dcpi
Device parameters:	- Frequency	f
	- Crest factor	cf
Media parameters:	- Conductivity	σ
	- Density	ρ

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 [mV/(V/m)^2] for E-field Probes	(i = x, y, z)
	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
	σ	= conductivity in [mho/m] or [Siemens/m]
	ρ	= equivalent tissue density in g/cm^3

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^2
	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)**					
frequency band	☐ 450	☒ 835	☐ 900	☐ 1800	☒ 1900	☐ 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 2: 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 Body Tissue		Measured Body Tissue		Measured Date
[MHz]	Permittivity	Conductivity [S/m]	Permittivity	Conductivity [S/m]	
835	55.2	0.97	55.5	0.96	2011-02-04
900	55.0	1.05	54.9	1.02	2011-02-04
1900	53.3	1.52	53.3	1.56	2011-02-09

Table 3: 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 ± 10.3% (K=1).
The expanded uncertainty (k=2) is assessed to be ± 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	Divi-sor	c_i 1g	c_i 10g	Standard Uncertainty 1g	Standard Uncertainty 10g	v_i^2 or v_{eff}
Measurement System								
Probe calibration	± 4.8%	Normal	1	1	1	± 4.8%	± 4.8%	∞
Axial isotropy	± 4.7%	Rectangular	√3	0.7	0.7	± 1.9%	± 1.9%	∞
Hemispherical isotropy	± 9.6%	Rectangular	√3	0.7	0.7	± 3.9%	± 3.9%	∞
Spatial resolution	± 0.0%	Rectangular	√3	1	1	± 0.0%	± 0.0%	∞
Boundary effects	± 1.0%	Rectangular	√3	1	1	± 0.6%	± 0.6%	∞
Probe linearity	± 4.7%	Rectangular	√3	1	1	± 2.7%	± 2.7%	∞
System detection limits	± 1.0%	Rectangular	√3	1	1	± 0.6%	± 0.6%	∞
Readout electronics	± 1.0%	Normal	1	1	1	± 1.0%	± 1.0%	∞
Response time	± 0.8%	Rectangular	√3	1	1	± 0.5%	± 0.5%	∞
Integration time	± 2.6%	Rectangular	√3	1	1	± 1.5%	± 1.5%	∞
RF ambient conditions	± 3.0%	Rectangular	√3	1	1	± 1.7%	± 1.7%	∞
Probe positioner	± 0.4%	Rectangular	√3	1	1	± 0.2%	± 0.2%	∞
Probe positioning	± 2.9%	Rectangular	√3	1	1	± 1.7%	± 1.7%	∞
Max. SAR evaluation	± 1.0%	Rectangular	√3	1	1	± 0.6%	± 0.6%	∞
Test Sample Related								
Device positioning	± 2.9%	Normal	1	1	1	± 2.9%	± 2.9%	145
Device holder uncertainty	± 3.6%	Normal	1	1	1	± 3.6%	± 3.6%	5
Power drift	± 5.0%	Rectangular	√3	1	1	± 2.9%	± 2.9%	∞
Phantom and Set-up								
Phantom uncertainty	± 4.0%	Rectangular	√3	1	1	± 2.3%	± 2.3%	∞
Liquid conductivity (target)	± 5.0%	Rectangular	√3	0.64	0.43	± 1.8%	± 1.2%	∞
Liquid conductivity (meas.)	± 2.5%	Normal	1	0.64	0.43	± 1.6%	± 1.1%	∞
Liquid permittivity (target)	± 5.0%	Rectangular	√3	0.6	0.49	± 1.7%	± 1.4%	∞
Liquid permittivity (meas.)	± 2.5%	Normal	1	0.6	0.49	± 1.5%	± 1.2%	∞
Combined Uncertainty						± 10.3%	± 10.0%	330
Expanded Std. Uncertainty						**± 20.6%**	**± 20.1%**	

Table 4: Measurement uncertainties

6.1.12 Measurement uncertainty evaluation for system validation

The overall combined measurement uncertainty of the measurement system is ± 8.4% (K=1).
The expanded uncertainty (k=2) is assessed to be ± 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	Divi-sor	c_i 1g	c_i 10g	Standard Uncertainty 1g	Standard Uncertainty 10g	v_i^2 or v_{eff}
Measurement System								
Probe calibration	± 4.8%	Normal	1	1	1	± 4.8%	± 4.8%	∞
Axial isotropy	± 4.7%	Rectangular	√3	0.7	0.7	± 1.9%	± 1.9%	∞
Hemispherical isotropy	± 0.0%	Rectangular	√3	0.7	0.7	± 0.0%	± 3.9%	∞
Boundary effects	± 1.0%	Rectangular	√3	1	1	± 0.6%	± 0.6%	∞
Probe linearity	± 4.7%	Rectangular	√3	1	1	± 2.7%	± 2.7%	∞
System detection limits	± 1.0%	Rectangular	√3	1	1	± 0.6%	± 0.6%	∞
Readout electronics	± 1.0%	Normal	1	1	1	± 1.0%	± 1.0%	∞
Response time	± 0.0%	Rectangular	√3	1	1	± 0.0%	± 0.0%	∞
Integration time	± 0.0%	Rectangular	√3	1	1	± 0.0%	± 0.0%	∞
RF ambient conditions	± 3.0%	Rectangular	√3	1	1	± 1.7%	± 1.7%	∞
Probe positioner	± 0.4%	Rectangular	√3	1	1	± 0.2%	± 0.2%	∞
Probe positioning	± 2.9%	Rectangular	√3	1	1	± 1.7%	± 1.7%	∞
Max. SAR evaluation	± 1.0%	Rectangular	√3	1	1	± 0.6%	± 0.6%	∞
Test Sample Related								
Dipole axis to liquid distance	± 2.0%	Normal	1	1	1	± 1.2%	± 1.2%	∞
Power drift	± 4.7%	Rectangular	√3	1	1	± 2.7%	± 2.7%	∞
Phantom and Set-up								
Phantom uncertainty	± 4.0%	Rectangular	√3	1	1	± 2.3%	± 2.3%	∞
Liquid conductivity (target)	± 5.0%	Rectangular	√3	0.64	0.43	± 1.8%	± 1.2%	∞
Liquid conductivity (meas.)	± 2.5%	Normal	1	0.64	0.43	± 1.6%	± 1.1%	∞
Liquid permittivity (target)	± 5.0%	Rectangular	√3	0.6	0.49	± 1.7%	± 1.4%	∞
Liquid permittivity (meas.)	± 2.5%	Normal	1	0.6	0.49	± 1.5%	± 1.2%	∞
Combined Uncertainty						**± 8.4%**	**± 8.1%**	
Expanded Std. Uncertainty						**± 16.8%**	**± 16.2%**	

Table 5: 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).

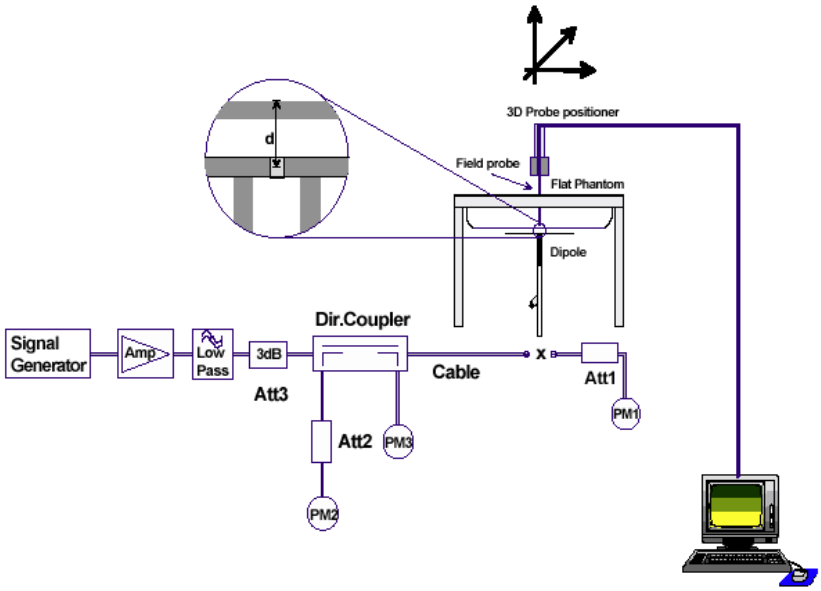
Validation Kit	Frequency	Target Peak SAR (1000 mW) (+/- 10%)	Target SAR_{1g} (1000 mW) (+/- 10%)	Measured Peak SAR (1000 mW)	Measured SAR_{1g} (1000 mW)	Measured date
D900V2 S/N: 102	**900 MHz body**	17.3 mW/g	11.3 mW/g	16.1 mW/g	11.2 mW/g	2011-02-04
D900V2 S/N: 102	**900 MHz body**	17.3 mW/g	11.3 mW/g	16.5 mW/g	11.4 mW/g	2011-02-07
D900V2 S/N: 102	**900 MHz body**	17.3 mW/g	11.3 mW/g	16.3 mW/g	11.2 mW/g	2011-02-08
D900V2 S/N: 102	**900 MHz body**	17.3 mW/g	11.3 mW/g	16.0 mW/g	11.2 mW/g	2011-02-09
D1900V2 S/N: 5d009	**1900 MHz body**	69.6 mW/g	41.8 mW/g	64.3 mW/g	40.4 mW/g	2011-02-09
D1900V2 S/N: 5d009	**1900 MHz body**	69.6 mW/g	41.8 mW/g	63.6 mW/g	40.0 mW/g	2011-02-10

Table 6: 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 :

No. of timeslots	***1***	***2***	***3***	***4***
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 :

mode	***coding scheme***	***modulation***
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	32.2dBm	23.2dBm
190 / 836.6 MHz	GMSK	1	32.3dBm	23.3dBm
251 / 848.0 MHz	GMSK	1	32.4dBm	23.4dBm
128 / 824.2 MHz	GMSK	2	32.2dBm	**26.2**dBm
190 / 836.6 MHz	GMSK	2	32.3dBm	**26.3**dBm
251 / 848.0 MHz	GMSK	2	32.4dBm	**26.4**dBm
128 / 824.2 MHz	8PSK	2	26.7dBm	20.7dBm
190 / 836.6 MHz	8PSK	2	26.6dBm	20.6dBm
251 / 848.0 MHz	8PSK	2	26.5dBm	20.5dBm

Table 7: 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	28.7dBm	19.7dBm
661 / 1880.0 MHz	GMSK	1	28.9dBm	19.9dBm
810 / 1909.8 MHz	GMSK	1	29.0dBm	20.0dBm
512 / 1850.2 MHz	GMSK	2	28.7dBm	**22.7**dBm
661 / 1880.0 MHz	GMSK	2	28.9dBm	**22.9**dBm
810 / 1909.8 MHz	GMSK	2	29.0dBm	**23.0**dBm
512 / 1850.2 MHz	8PSK	2	25.4dBm	19.4dBm
661 / 1880.0 MHz	8PSK	2	25.5dBm	19.5dBm
810 / 1909.8 MHz	8PSK	2	25.5dBm	19.5dBm

Table 8: 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 WCDMA FDD V (850 MHz)

Max. RMS output power 850 MHz (FDD V) / dBm			
	Channel / frequency		
mode	4132 / 826.4 MHz	4182 / 836.6 MHz	4233 / 846.6 MHz
RMC 12.2 kbit/s	**23.80**	**23.80**	**23.75**
HSDPA Sub test 1	**23.10**	**22.91**	**22.94**
HSDPA Sub test 2	21.64	21.58	21.62
HSDPA Sub test 3	20.47	20.15	20.18
HSDPA Sub test 4	19.67	19.76	19.89
HSUPA Sub test 1	23.12	23.01	23.03
HSUPA Sub test 2	21.04	20.89	20.92
HSUPA Sub test 3	22.07	21.99	22.05
HSUPA Sub test 4	21.10	21.00	21.01
HSUPA Sub test 5	**23.16**	**22.93**	**23.05**

Table 9: Test results conducted power measurement WCDMA 850

7.1.5 Conducted power measurements WCDMA FDD II (1900 MHz)

Max. RMS output power 1900 MHz (FDD II) / dBm			
	Channel / frequency		
mode	9262 / 1852.4 MHz	9400 / 1880.0 MHz	9538 / 1907.6 MHz
RMC 12.2 kbit/s	**22.59**	**22.59**	**22.35**
HSDPA Sub test 1	**21.95**	**21.97**	**21.73**
HSDPA Sub test 2	20.58	20.50	20.37
HSDPA Sub test 3	19.42	19.50	19.65
HSDPA Sub test 4	18.76	18.80	18.67
HSUPA Sub test 1	22.04	22.03	21.90
HSUPA Sub test 2	19.98	20.01	19.86
HSUPA Sub test 3	21.12	21.09	21.05
HSUPA Sub test 4	20.11	20.05	19.83
HSUPA Sub test 5	**22.06**	**22.17**	**21.90**

Table 10: Test results conducted power measurement WCDMA 1900

Remark: None of the HSDPA/HSUPA settings leads to conducted power values exceeding the conducted power in RMC mode by more than 0.25 dB.
Therefore no additional SAR measurements were performed in HSDPA/HSUPA mode.

7.1.6 Test-set-up information for WCDMA / HSPDA / HSUPA

a) RMC

In RMC (reference measurement channel) mode the conducted power at 4 different bit rates was measured. They correspond with the used spreading factors as follows :

Bit rate	***12.2 kbit/s***	***64 kbit/s***	***144 kbit/s***	***384 kbit/s***
Spreading factor (SF)	64	16	8	4

In RMC mode only DPCCH and DPDCH are active. As bit rate changes do not influence the relative power of any code channel the measured RMS output power remains on the same level which is set to maximum by TPC (Transmit power control) pattern type 'All 1'.

b) HSDPA

HSDPA adds the HS-DPCCH in uplink as a control channel for high speed data transfer in downlink.
In HSDPA mode 4 sub-tests are defined by 3GPP 34.121 according to the following table:

Sub-test	**β_c**	**β_d**	**β_d (SF)**	**β_c/β_d**	**β_{hs}(1)**	**CM(dB)(2)**
1	2/15	15/15	64	2/15	4/15	0.0
2	12/15(3)	15/15(3)	64	12/15(3)	24/15	1.0
3	15/15	8/15	64	15/8	30/15	1.5
4	15/15	4/15	64	15/4	30/15	1.5
Note 1: Δ_{ACK}, Δ_{NACK}, Δ_{CQI} = 8 $\Longleftrightarrow$ $A_{hs} = \beta_{hs}/\beta_c = 30/15 \Longleftrightarrow \beta_{hs} = 30/15 * \beta_c$ Note 2 : CM = 1 for β_c/β_d = 12/15, β_{hs}/β_c = 24/15 Note 3 : For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1,TF1) to β_c = 11/15 and β_d = 15/15						

Table 11: Sub-tests for UMTS Release 5 HSDPA

The β_c and β_d gain factors for DPCCH and DPDCH were set according to the values in the above table, β_{hs} for HS-DPCCH is set automatically to the correct value when Δ_{ACK}, Δ_{NACK}, Δ_{CQI} = 8. The variation of the β_c/β_d ratio causes a power reduction at sub-tests 2 - 4.

The measurements were performed with a Fixed Reference Channel(FRC) and H-Set 1 QPSK.

Parameter	***Value***
Nominal average inf. bit rate	534 kbit/s
Inter-TTI Distance	3 TTI's
Number of HARQ Processes	2 Processes
Information Bit Payload	3202 Bits
MAC-d PDU size	336 Bits
Number Code Blocks	1 Block
Binary Channel Bits Per TTI	4800 Bits
Total Available SMLs in UE	19200 SMLs
Number of SMLs per HARQ Process	9600 SMLs
Coding Rate	0.67
Number of Physical Channel Codes	5

Table 12: settings of required H-Set 1 QPSK acc. to 3GPP 34.121

c) HSUPA

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

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

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

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

Table 13: Subtests for UMTS Release 6 HSUPA

To achieve the settings above some additional procedures were defined by 3GPP 34.121. Those have been included in an application note for the CMU200 and were exactly followed :

- Test mode connection (BS signal tab) :
RMC 12.2 kbit/s + HSPA 34.108 with loop mode 1
- HS-DSCH settings (BS signal tab):
- FRC with H-set 1 QPSK
- ACK-NACK repetition factor = 3
- CQI feedback cycle = 4ms
- CQI repetition factor = 2
- HSUPA-specific signalling settings (UE signal tab) :
- E-TFCI table index = 0
- E-DCH minimum set E-TFCI = 9
- Puncturing limit non-max = 0.84
- max. number of channelisation codes = 2x SF4
- Initial Serving Grant Value = Off
- HSDPA and HSUPA Gain factors (UE signal tab)

Sub-test	β_c	β_d	Δ_{ACK}, Δ_{NACK}, Δ_{CQI}	**ΔE–DPCCH)***
1	10	15	8	6
2	6	15	8	8
3	15	9	8	8
4	2	15	8	5
5	14	15	8	7

)* : β_{ec} and β_{ed} ratios (relative to β_c and β_d) are set by ΔE–DPCCH

- HSUPA Reference E-TFCIs (UE signal tab > HSUPA gain factors) :

Sub-test	**1, 2, 4, 5**				
Number of E-TFCIs	5				
Reference E-TFCI	11	67	71	75	81
Reference E-TFCI power offset	4	18	23	26	27

Sub-test	**3**	
Number of E-TFCIs	2	
Reference E-TFCI	11	92
Reference E-TFCI power offset	4	18

- HSUPA-specific generator parameters (BS Signal tab > HSUPA > E-AGCH > AG Pattern)

Sub-test	***Absolute Grant Value (AG Index)***
1	20
2	12
3	15
4	17
5	21

- Power Level settings (BS Signal tab > Node B-settings):
- Level reference : Output Channel Power (Ior)
- Output Channel Power (Ior) : -86 dBm

- Downlink Physical Channel Settings (BS signal tab)
- P-CPICH : -10 dB
- S-CPICH : Off
- P-SCH : -15 dB
- S-SCH : -15 dB
- P-CCPCH : -12 dB
- S-CCPCH : -12 dB
- PICH : -15 dB
- AICH : -12 dB
- DPDCH : -10 dB
- HS-SCCH : -8 dB
- HS-PDSCH : -3 dB
- E-AGCH : -20 dB
- E-RGCH/E-HICH - 20 dB
- E-RGCH Active : Off

The settings above were stored once for each sub-test and recalled before the measurement.

HSUPA test procedure :

To reach maximum output power in HSUPA mode the following procedures were followed:

3 different TPC patterns were defined :
Set 1 : Closed loop with target power 10 dBm
Set 2 : Single Pattern+Alternating with binary pattern '11111' for 1 dB steps 'up'
Set 3 : Single Pattern+Alternating with binary pattern '00000' for 1 dB steps 'down'

After recalling a certain HSUPA sub-test the HSUPA E-AGCH graph with E-TFCI event counter is displayed.
After starting with the closed loop command the power is increased in 1 dB steps by activating pattern set 2 until the UE decreases the transmitted E-TFCI.
At this point set 3 is activated once to reduce the output power to the value at which the original E-TFCI, which is required for the sub-test, appears again.

For conducted power measurements the same steps are repeated in the power menu to read out the corresponding maximum RMS output power with the target E-TFCI.
For SAR measurements it is useful to switch to Code Domain Power vs. Time display.
Here the CMU200 shows relative power values (max. and min.) of each code channel which should roughly correspond to the numerators of the gain factors e.g. :

Sub-test	β_c	β_d	β_{hs}	β_{ec}	β_{ed}
5	15	15	30	24	134

By this way a surveillance of signalling conditions is possible to make sure that HSUPA code channels are active during the complete SAR measurement.

7.2 SAR test results

7.2.1 Description of generic test set-up

The 2 antennas under test are fixed on a metal plate serving as a ground-plane with the size of a 10'' netbook display. This ground-plane is fixed on additional non-metallic stabilizing material itself.
The antennas are properly connected to the metal plate by metallic tape. So they are well matched for optimized radiation characteristics.
The antennas are connected to the WWAN module by a 10 cm cable (as short as possible to reduce attenuation). The WWAN module is inserted into a Dell netbook host.
The metal plate has been placed at the underside of the netbook with as much as possible distance between antenna and netbook to have a better handling and to reduce the influence of the netbook on the measurement to a minimum.
This configuration has been placed close to the SAM phantom to determine the minimum distance for an SAR < 0.4 W/kg. The tables below give an overview of all performed measurements with increased test distances for 3 antenna orientations which are possible due to the limitation by the ground plane.

7.2.2 Results overview Antenna #1

Body SAR GSM 850 MHz (averaged over 1g tissue volume)					
Channel / frequency	Position	Distance	test condition	Body worn test result	Liquid temperature
190 / 836.6 MHz	front	25	2 time slots	0.473 W/kg	21.5 °C
190 / 836.6 MHz	front	30	2 time slots	0.326 W/kg	21.7 °C
190 / 836.6 MHz	rear	25	2 time slots	0.526 W/kg	21.5 °C
128 / 824.2 MHz	rear	30	2 time slots	0.349 W/kg	21.5 °C
190 / 836.6 MHz	rear	30	2 time slots	0.327 W/kg	21.5 °C
251 / 848.8 MHz	**rear**	**30**	**2 time slots**	**0.353 W/kg**	**21.5 °C**
128 / 824.2 MHz	top	10	2 time slots	1.610 W/kg	21.8 °C
190 / 836.6 MHz	top	10	2 time slots	1.470 W/kg	21.8 °C
251 / 848.8 MHz	top	10	2 time slots	1.510 W/kg	21.8 °C
128 / 824.2 MHz	top	15	2 time slots	0.848 W/kg	21.8 °C
128 / 824.2 MHz	top	20	2 time slots	0.478 W/kg	21.8 °C
128 / 824.2 MHz	top	25	2 time slots	0.311 W/kg	21.8 °C
190 / 836.6 MHz	top	30	2 time slots	0.186 W/kg	21.7 °C

Table 14: Test results body SAR GSM 850 MHz Antenna #1

Body SAR GSM 1900 MHz (averaged over 1g tissue volume)					
Channel / frequency	Position	Distance	test condition	Body worn test result	Liquid temperature
661 / 1880.0 MHz	front	30	2 time slots	0.195 W/kg	21.7 °C
512 / 1850.2 MHz	rear	30	2 time slots	0.251 W/kg	21.7 °C
661 / 1880.0 MHz	rear	30	2 time slots	**0.264 W/kg**	21.7 °C
810 / 1909.8 MHz	rear	30	2 time slots	0.209 W/kg	21.7 °C
661 / 1880.0 MHz	top	30	2 time slots	0.125 W/kg	21.7 °C

Table 15: Test results body SAR GSM 1900 MHz Antenna #1

Body SAR UMTS FDD V 850 MHz (averaged over 1g tissue volume)					
Channel / frequency	Position	Distance	test condition	Body worn test result	Liquid temperature
4132 / 826.4 MHz	front	30	RMC, 12.2 kbit/s	0.245 W/kg	21.7 °C
4182 / 836.4 MHz	front	30	RMC, 12.2 kbit/s	**0.298 W/kg**	21.7 °C
4233 / 846.6 MHz	front	30	RMC, 12.2 kbit/s	0.278 W/kg	21.7 °C
4182 / 836.4 MHz	rear	30	RMC, 12.2 kbit/s	0.287 W/kg	21.7 °C
4182 / 836.4 MHz	top	30	RMC, 12.2 kbit/s	0.172 W/kg	21.7 °C

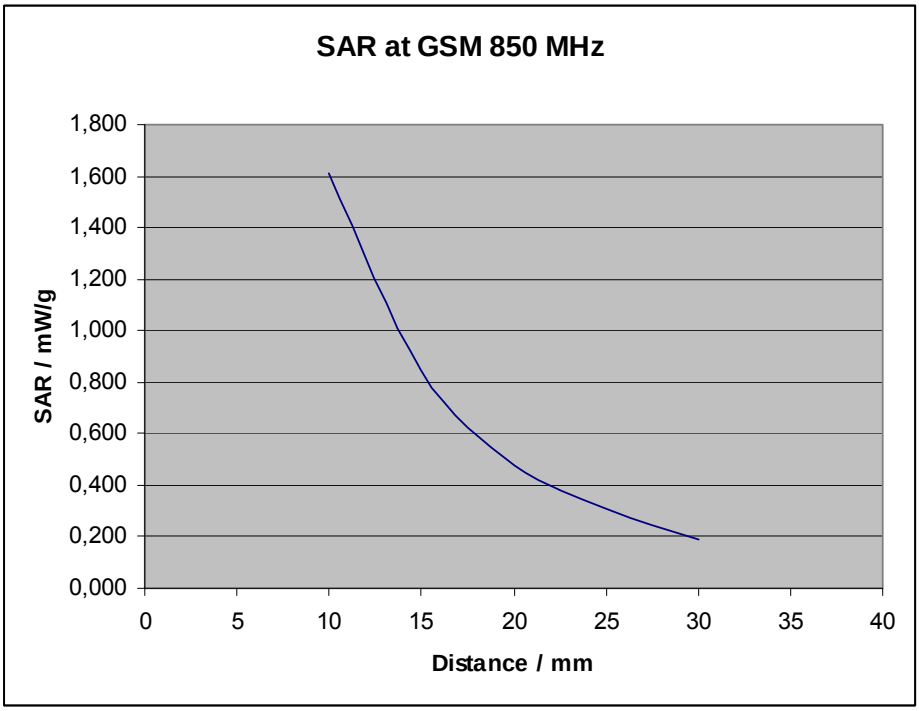
Table 16: Test results body SAR UMTS FDD V 850 MHz Antenna #1

Body SAR UMTS FDD II 1900 MHz (averaged over 1g tissue volume)					
Channel / frequency	Position	Distance	test condition	Body worn test result	Liquid temperature
9400 / 1880.0 MHz	front	30	RMC, 12.2 kbit/s	0.199 W/kg	21.7 °C
9262 / 1852.4 MHz	rear	30	RMC, 12.2 kbit/s	**0.266 W/kg**	21.7 °C
9400 / 1880.0 MHz	rear	30	RMC, 12.2 kbit/s	0.265 W/kg	21.7 °C
9538 / 1907.6 MHz	rear	30	RMC, 12.2 kbit/s	0.214 W/kg	21.7 °C
9400 / 1880.0 MHz	top	30	RMC, 12.2 kbit/s	0.115 W/kg	21.7 °C

Table 17: Test results body SAR UMTS FDD II 1900 MHz Antenna #1

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 30 mm air gap between Antenna and SAM in all frequency bands after this distance has been determined with GSM 850 (worst case band).



7.2.3 Results overview Antenna #2

Body SAR GSM 850 MHz (averaged over 1g tissue volume)					
Channel / frequency	Position	Distance	test condition	Body worn test result	Liquid temperature
190 / 836.6 MHz	front	10	2 time slots	2.250 W/kg	21.7 °C
190 / 836.6 MHz	front	15	2 time slots	1.470 W/kg	21.7 °C
190 / 836.6 MHz	front	20	2 time slots	0.967 W/kg	21.7 °C
190 / 836.6 MHz	front	25	2 time slots	0.657 W/kg	21.7 °C
190 / 836.6 MHz	front	30	2 time slots	0.445 W/kg	21.7 °C
128 / 824.2 MHz	front	35	2 time slots	0.245 W/kg	21.7 °C
190 / 836.6 MHz	front	35	2 time slots	0.307 W/kg	21.7 °C
251 / 848.8 MHz	front	**35**	**2 time slots**	**0.407 W/kg**	**21.5 °C**
190 / 836.6 MHz	rear	10	2 time slots	1.970 W/kg	21.7 °C
190 / 836.6 MHz	rear	35	2 time slots	0.277 W/kg	21.5 °C
190 / 836.6 MHz	top	10	2 time slots	0.467 W/kg	21.7 °C
190 / 836.6 MHz	top	35	2 time slots	0.093 W/kg	21.5 °C

Table 18: Test results body SAR GSM 850 MHz Antenna #2

Body SAR GSM 1900 MHz (averaged over 1g tissue volume)					
Channel / frequency	Position	Distance	test condition	Body worn test result	Liquid temperature
661 / 1880.0 MHz	front	35	2 time slots	0.185 W/kg	22.4 °C
661 / 1880.0 MHz	rear	35	2 time slots	0.181 W/kg	22.4 °C
512 / 1850.2 MHz	top	35	2 time slots	**0.275 W/kg**	21.7 °C
661 / 1880.0 MHz	top	35	2 time slots	0.235 W/kg	22.4 °C
810 / 1909.8 MHz	top	35	2 time slots	0.201 W/kg	21.7 °C

Table 19: Test results body SAR GSM 1900 MHz Antenna #2

Body SAR UMTS FDD V 850 MHz (averaged over 1g tissue volume)					
Channel / frequency	Position	Distance	test condition	Body worn test result	Liquid temperature
4132 / 826.4 MHz	front	35	RMC, 12.2 kbit/s	0.198 W/kg	21.5 °C
4182 / 836.4 MHz	front	35	RMC, 12.2 kbit/s	0.189 W/kg	21.7 °C
4233 / 846.6 MHz	front	35	RMC, 12.2 kbit/s	**0.224 W/kg**	21.5 °C
4182 / 836.4 MHz	rear	35	RMC, 12.2 kbit/s	0.178 W/kg	21.5 °C
4182 / 836.4 MHz	top	35	RMC, 12.2 kbit/s	0.066 W/kg	21.5 °C

Table 20: Test results body SAR UMTS FDD V 850 MHz Antenna #2

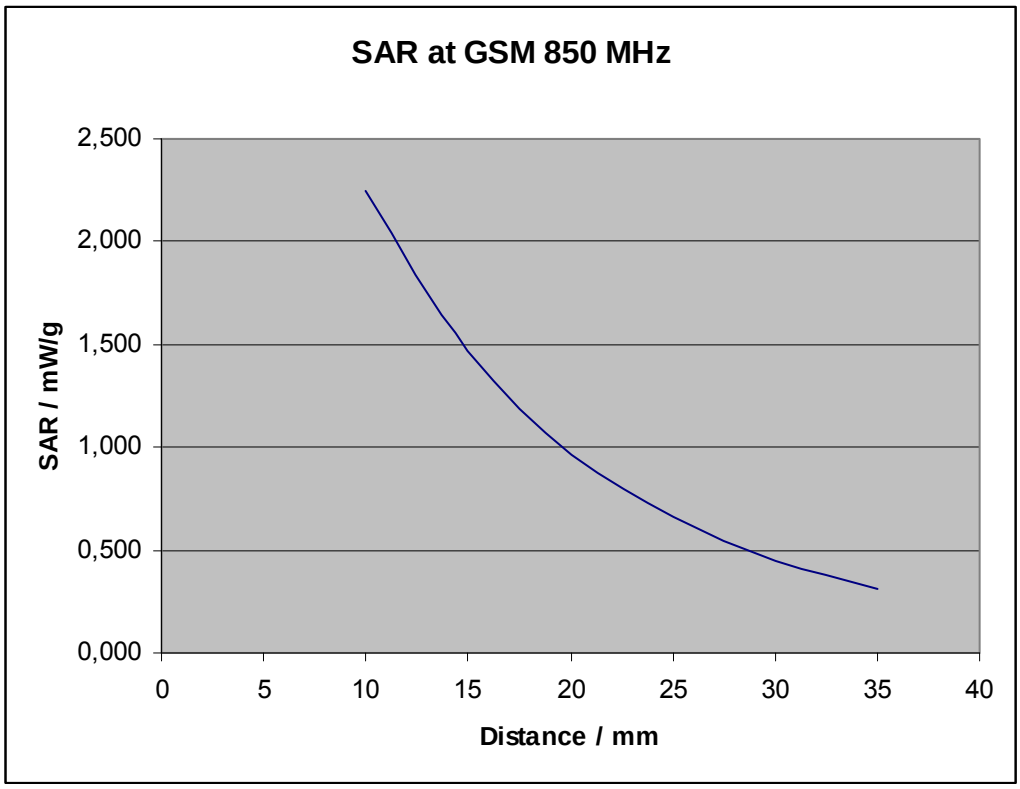
Body SAR UMTS FDD II 1900 MHz (averaged over 1g tissue volume)					
Channel / frequency	Position	Distance	test condition	Body worn test result	Liquid temperature
9400 / 1880.0 MHz	front	35	RMC, 12.2 kbit/s	0.195 W/kg	22.4 °C
9400 / 1880.0 MHz	rear	35	RMC, 12.2 kbit/s	0.189 W/kg	22.4 °C
9262 / 1852.4 MHz	top	35	RMC, 12.2 kbit/s	**0.270 W/kg**	21.7 °C
9400 / 1880.0 MHz	top	35	RMC, 12.2 kbit/s	0.254 W/kg	22.4 °C
9538 / 1907.6 MHz	top	35	RMC, 12.2 kbit/s	0.212 W/kg	21.7 °C

Table 21: Test results body SAR UMTS FDD II 1900 MHz Antenna #2

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 35 mm air gap between Antenna and SAM in all frequency bands after this distance has been determined with GSM 850 (worst case band).



7.2.4 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).
UMTS was tested in RMC mode with 12.2 kbit/s and TPC bits set to 'all 1'.

7.2.5 Final verdict

During the generic SAR measurements of the F5521gw WWAN module described above the following verdict can be returned:

The SAR is on or below the limit of 0.4 W/kg at:

- **30 mm** distance for the **coupling antenna**
- **35 mm** distance for the **IFA antenna**

Therefore the recommended minimum distance is **40 mm.**

This distance has been determined in 3 spatial orientations which represent the implementation of the antenna at the top or bottom edge of a netbook display with the long side in parallel to the user's lap.
Additional plastic cover of displays may additionally reduce the SAR.
End products need to offer the above mentioned minimum distance between user and antenna and the antenna needs to be implemented in the same horizontal orientation, with a cable length of 15 cm to the module.
This test report does not cover the implementation of antennas alongside the left and right display edges with the antenna tips pointing towards the user's lap.
Simultaneous transmission requirements have not been taken into account for this stand-alone SAR test.
If additional modules and antennas are installed in end products FCC KDB 616217 simultaneous transmission rules need to be considered.

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	☒	Dosimetric E-Field Probe	ET3DV6	Schmid & Partner Engineering AG	1558	August 11, 2010	12
2	☐	Dosimetric E-Field Probe	ET3DV6	Schmid & Partner Engineering AG	1559	January 19, 2011	12
3	☒	900 MHz System Validation Dipole	D900V2	Schmid & Partner Engineering AG	102	August 16, 2010	12
4	☐	1800 MHz System Validation Dipole	D1800V2	Schmid & Partner Engineering AG	287	August 17, 2010	12
5	☒	1900 MHz System Validation Dipole	D1900V2	Schmid & Partner Engineering AG	531	August 17, 2010	12
6	☐	2450 MHz System Validation Dipole	D2450V2	Schmid & Partner Engineering AG	710	August 19, 2010	12
7	☐	Data acquisition electronics	DAE3V1	Schmid & Partner Engineering AG	413	January 13, 2011	12
8	☒	Data acquisition electronics	DAE3V1	Schmid & Partner Engineering AG	477	May 07, 2010	12
9	☒	Software	DASY 4 V4.5	Schmid & Partner Engineering AG	---	N/A	--
10	☒	Phantom	SAM	Schmid & Partner Engineering AG	---	N/A	--
11	☒	Universal Radio Communication Tester	CMU 200	Rohde & Schwarz	106826	January 12, 2011	12
12	☒	Network Analyser 300 kHz to 6 GHz	8753ES	Hewlett Packard)*	US39174436	July 6, 2010	12
13	☒	Dielectric Probe Kit	85070C	Hewlett Packard	US99360146	N/A	12
14	☒	Signal Generator	8665A	Hewlett Packard	2833A00112	January 6, 2011	12
15	☒	Amplifier	25S1G4 (25 Watt)	Amplifier Reasearch	20452	N/A	--
16	☒	Power Meter	NRP	Rohde & Schwarz	101367	January 6, 2011	12
17	☒	Power Meter Sensor	NRP Z22	Rohde & Schwarz	100227	January 6, 2011	12
18	☒	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: 04.02.2011 11:33:26Date/Time: 04.02.2011 11:37:05

SystemPerformanceCheck-D900-850 body 2011-02-04

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

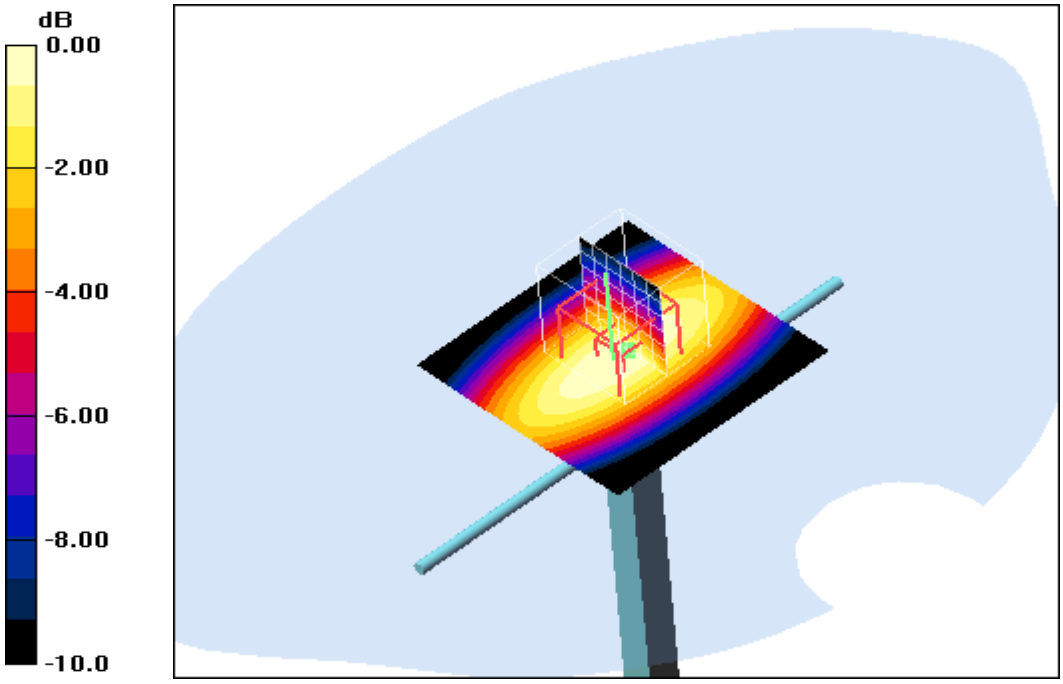
Communication System: CW; Frequency: 900 MHz; Duty Cycle: 1:1
Medium: M850 Medium parameters used: f = 900 MHz; σ = 1.02 mho/m; ε_r = 54.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.73, 5.73, 5.73); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- 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) = 11.9 mW/g

d=15mm, Pin=1000mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 113.9 V/m; Power Drift = -0.037 dB
Peak SAR (extrapolated) = 16.1 W/kg
SAR(1 g) = 11.2 mW/g; SAR(10 g) = 7.26 mW/g
Maximum value of SAR (measured) = 12.1 mW/g



0 dB = 12.1mW/g

Additional information:
ambient temperature: 22.7°C; liquid temperature: 21.8°C

Date/Time: 07.02.2011 09:51:02Date/Time: 07.02.2011 09:54:40

SystemPerformanceCheck-D900-850 body 2011-02-07

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

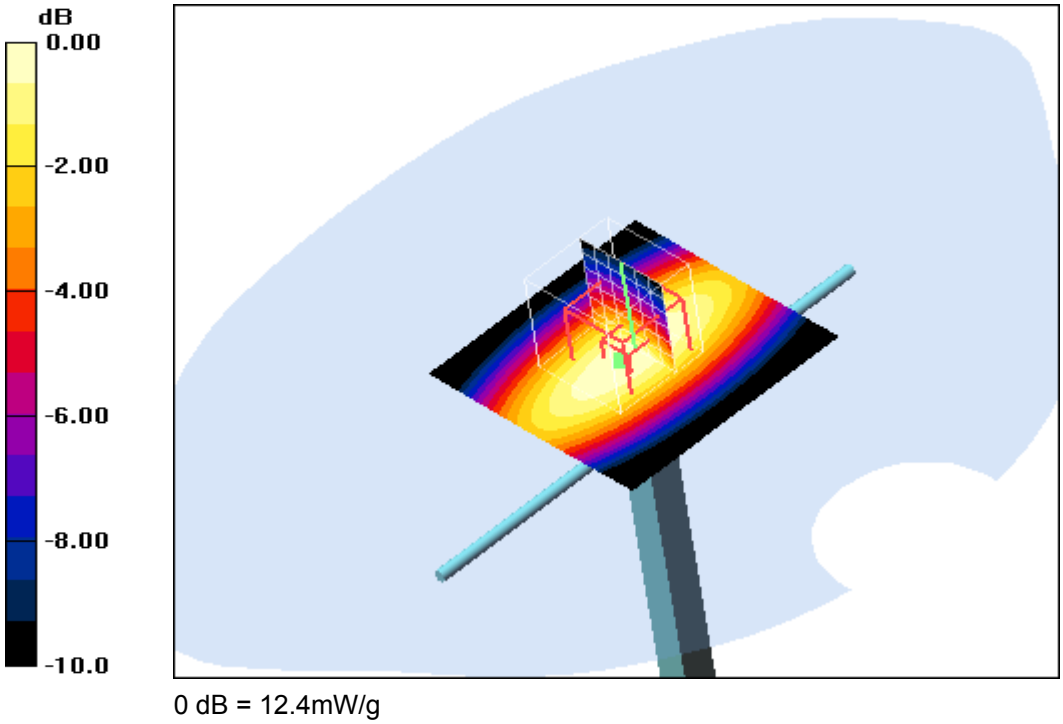
Communication System: CW; Frequency: 900 MHz; Duty Cycle: 1:1
Medium: M850 Medium parameters used: f = 900 MHz; σ = 1.02 mho/m; ε_r = 54.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.73, 5.73, 5.73); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- 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) = 12.2 mW/g

d=15mm, Pin=1000mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 115.4 V/m; Power Drift = -0.012 dB
Peak SAR (extrapolated) = 16.5 W/kg
SAR(1 g) = 11.4 mW/g; SAR(10 g) = 7.41 mW/g
Maximum value of SAR (measured) = 12.4 mW/g



0 dB = 12.4mW/g

Additional information:
ambient temperature: 22.6°C; liquid temperature: 21.5°C

Date/Time: 08.02.2011 07:52:39Date/Time: 08.02.2011 07:56:19

SystemPerformanceCheck-D900-850 body 2011-02-08

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

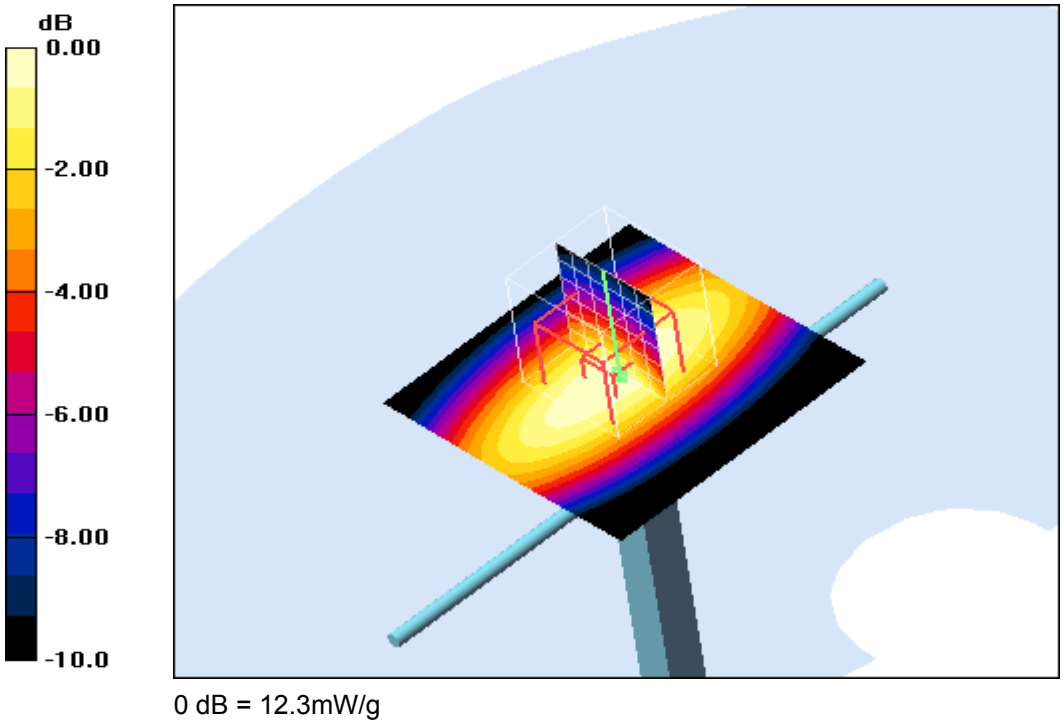
Communication System: CW; Frequency: 900 MHz; Duty Cycle: 1:1
Medium: M850 Medium parameters used: f = 900 MHz; σ = 1.02 mho/m; ε_r = 54.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.73, 5.73, 5.73); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- 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) = 12.1 mW/g

d=15mm, Pin=1000mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 111.8 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 16.3 W/kg
SAR(1 g) = 11.2 mW/g; SAR(10 g) = 7.3 mW/g
Maximum value of SAR (measured) = 12.3 mW/g



0 dB = 12.3mW/g

Additional information:
ambient temperature: 22.5°C; liquid temperature: 21.7°C

Date/Time: 09.02.2011 08:10:34Date/Time: 09.02.2011 08:14:14

SystemPerformanceCheck-D900-850 body 2011-02-09

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

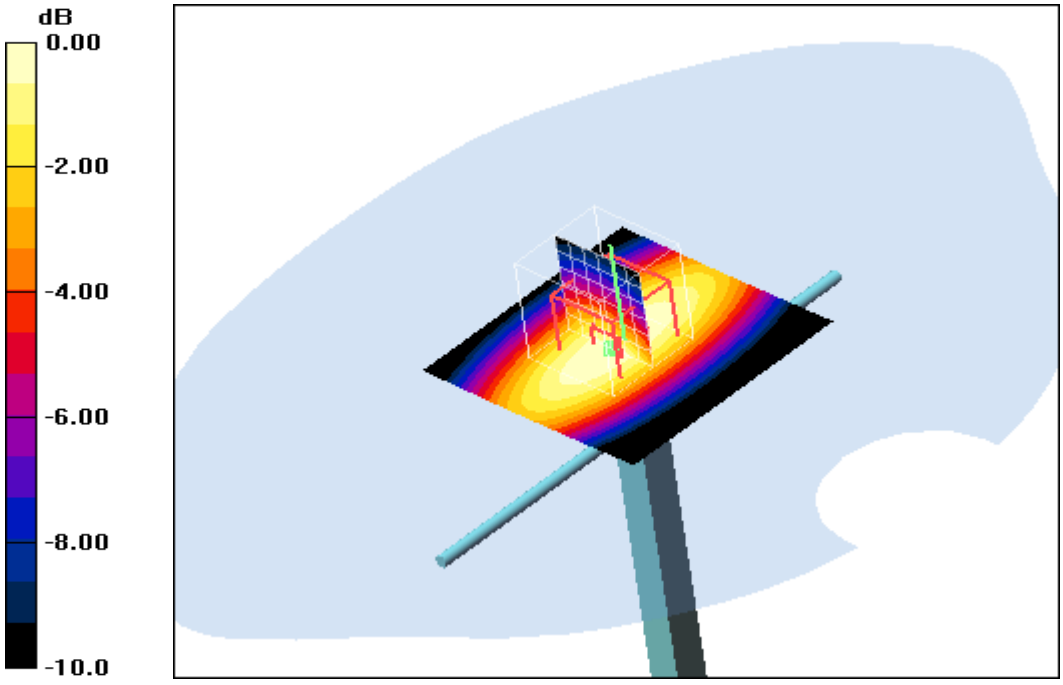
Communication System: CW; Frequency: 900 MHz; Duty Cycle: 1:1
Medium: M850 Medium parameters used: f = 900 MHz; σ = 1.02 mho/m; ε_r = 54.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.73, 5.73, 5.73); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- 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) = 12.1 mW/g

d=15mm, Pin=1000mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 111.6 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 16.0 W/kg
SAR(1 g) = 11.2 mW/g; SAR(10 g) = 7.27 mW/g
Maximum value of SAR (measured) = 12.1 mW/g



0 dB = 12.1mW/g

Additional information:
ambient temperature: 22.6°C; liquid temperature: 21.5°C

Date/Time: 09.02.2011 14:00:45Date/Time: 09.02.2011 14:04:23

SystemPerformanceCheck-D1900 body 2011-02-09

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

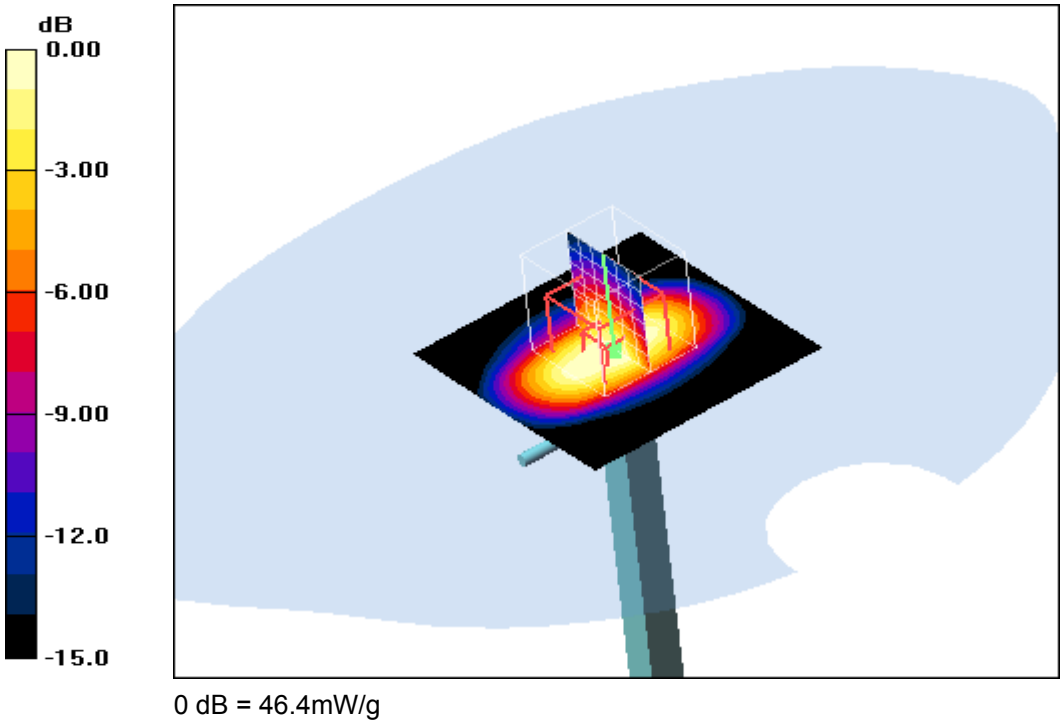
Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: M1900 Medium parameters used: f = 1900 MHz; σ = 1.56 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(4.35, 4.35, 4.35); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- 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) = 57.6 mW/g

d=10mm, Pin=1000mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 186.5 V/m; Power Drift = -0.029 dB
Peak SAR (extrapolated) = 64.3 W/kg
SAR(1 g) = 40.4 mW/g; SAR(10 g) = 21.7 mW/g
Maximum value of SAR (measured) = 46.4 mW/g



0 dB = 46.4mW/g

Additional information:
ambient temperature: 22.9°C; liquid temperature: 22.4°C

Date/Time: 10.02.2011 10:48:52Date/Time: 10.02.2011 10:52:30

SystemPerformanceCheck-D1900 body 2011-02-10

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

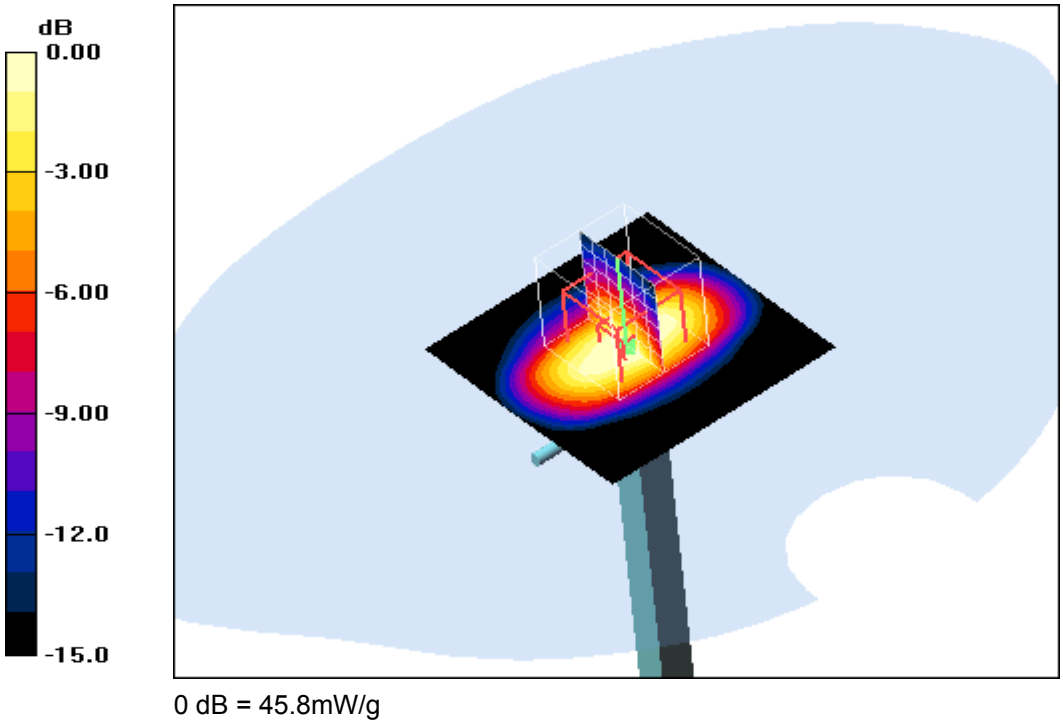
Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: M1900 Medium parameters used: f = 1900 MHz; σ = 1.56 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(4.35, 4.35, 4.35); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- 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) = 57.4 mW/g

d=10mm, Pin=1000mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 186.4 V/m; Power Drift = -0.023 dB
Peak SAR (extrapolated) = 63.6 W/kg
SAR(1 g) = 40 mW/g; SAR(10 g) = 21.6 mW/g
Maximum value of SAR (measured) = 45.8 mW/g



0 dB = 45.8mW/g

Additional information:
ambient temperature: 22.6°C; liquid temperature: 21.7°C

Annex B: DASY4 measurement results

Annex B.1: GSM 850 MHz Antenna #1

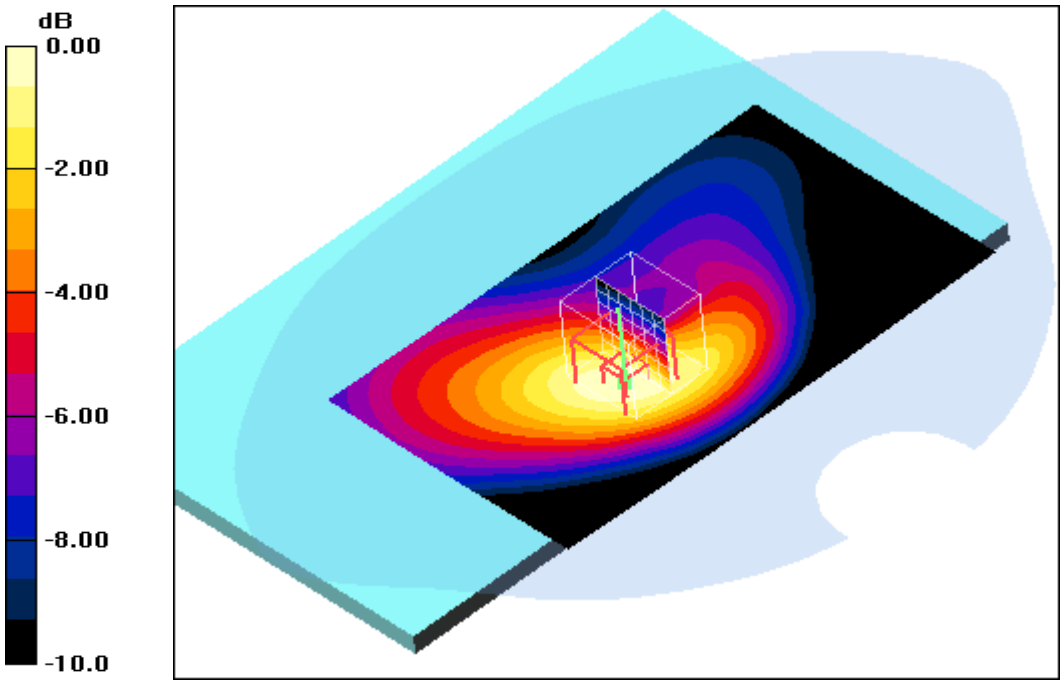
Date/Time: 07.02.2011 10:53:49Date/Time: 07.02.2011 11:04:41

IEEE1528_OET65-Body-GSM850 GPRS 2TS

DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: GSM 850 GPRS 2TS; Frequency: 836.6 MHz; Duty Cycle: 1:4
Medium: M850 Medium parameters used: f = 836.6 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 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 Sn477; Calibrated: 07.05.2010
- 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 (71x121x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.501 mW/g

Front position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.5 V/m; Power Drift = -0.041 dB
Peak SAR (extrapolated) = 0.686 W/kg
SAR(1 g) = 0.473 mW/g; SAR(10 g) = 0.315 mW/g
Maximum value of SAR (measured) = 0.508 mW/g



0 dB = 0.508mW/g

Additional information:
position or distance of DUT to SAM: 25 mm
ambient temperature: 22.6°C; liquid temperature: 21.5°C

Date/Time: 08.02.2011 09:50:46Date/Time: 08.02.2011 10:01:50

IEEE1528_OET65-Body-GSM850 GPRS 2TS

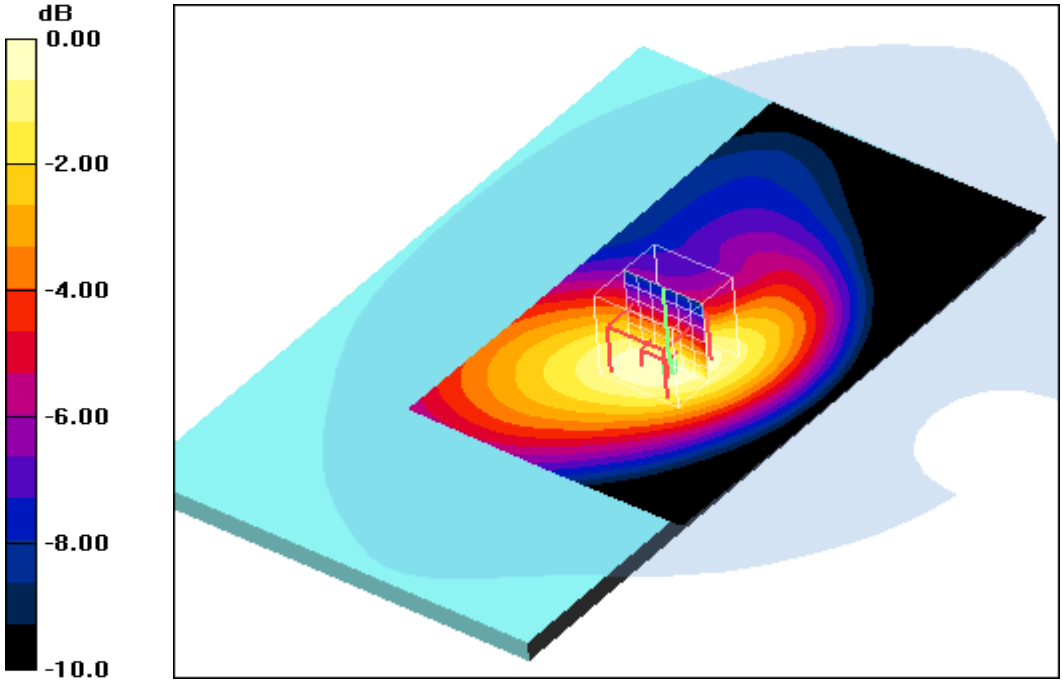
DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: GSM 850 GPRS 2TS; Frequency: 836.6 MHz; Duty Cycle: 1:4
Medium: M850 Medium parameters used: f = 836.6 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Front position - Middle 30mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.344 mW/g

Front position - Middle 30mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.0 V/m; Power Drift = -0.046 dB
Peak SAR (extrapolated) = 0.446 W/kg
SAR(1 g) = 0.326 mW/g; SAR(10 g) = 0.227 mW/g
Maximum value of SAR (measured) = 0.348 mW/g



0 dB = 0.348mW/g

Additional information:
position or distance of DUT to SAM: 30 mm
ambient temperature: 22.5°C; liquid temperature: 21.7°C

Date/Time: 07.02.2011 12:45:19Date/Time: 07.02.2011 12:56:09

IEEE1528_OET65-Body-GSM850 GPRS 2TS

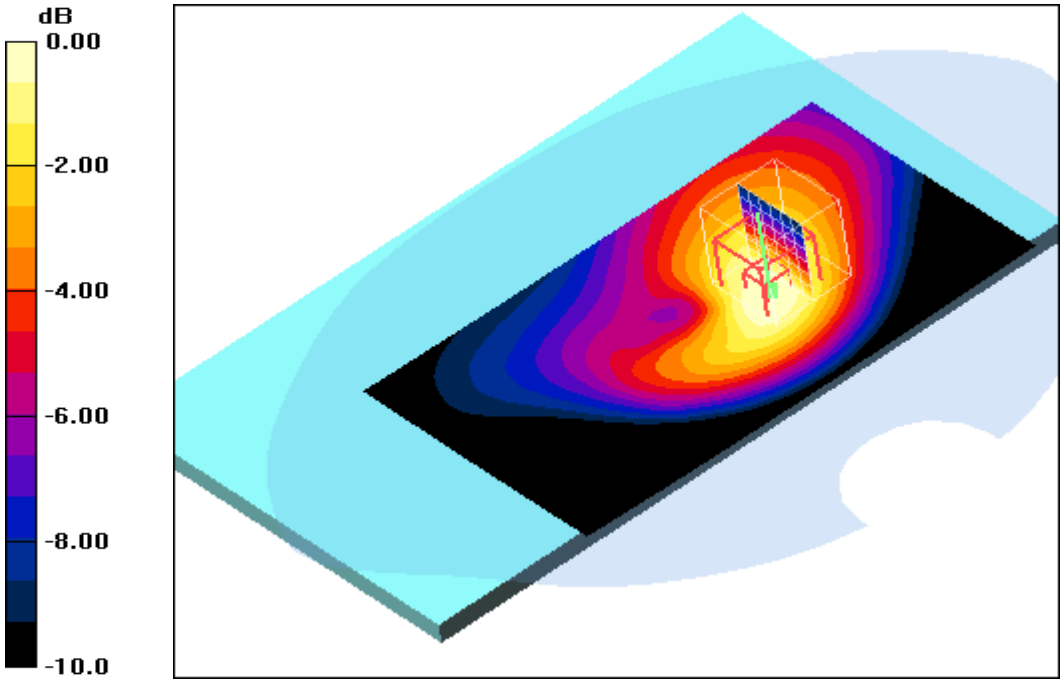
DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: GSM 850 GPRS 2TS; Frequency: 836.6 MHz; Duty Cycle: 1:4
Medium: M850 Medium parameters used: f = 836.6 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Rear position - Middle 25mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.586 mW/g

Rear position - Middle 25mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 24.4 V/m; Power Drift = -0.085 dB
Peak SAR (extrapolated) = 0.753 W/kg
SAR(1 g) = 0.526 mW/g; SAR(10 g) = 0.350 mW/g
Maximum value of SAR (measured) = 0.569 mW/g



0 dB = 0.569mW/g

Additional information:
position or distance of DUT to SAM: 25 mm
ambient temperature: 22.6°C; liquid temperature: 21.5°C

Date/Time: 07.02.2011 13:41:45Date/Time: 07.02.2011 13:52:39

IEEE1528_OET65-Body-GSM850 GPRS 2TS

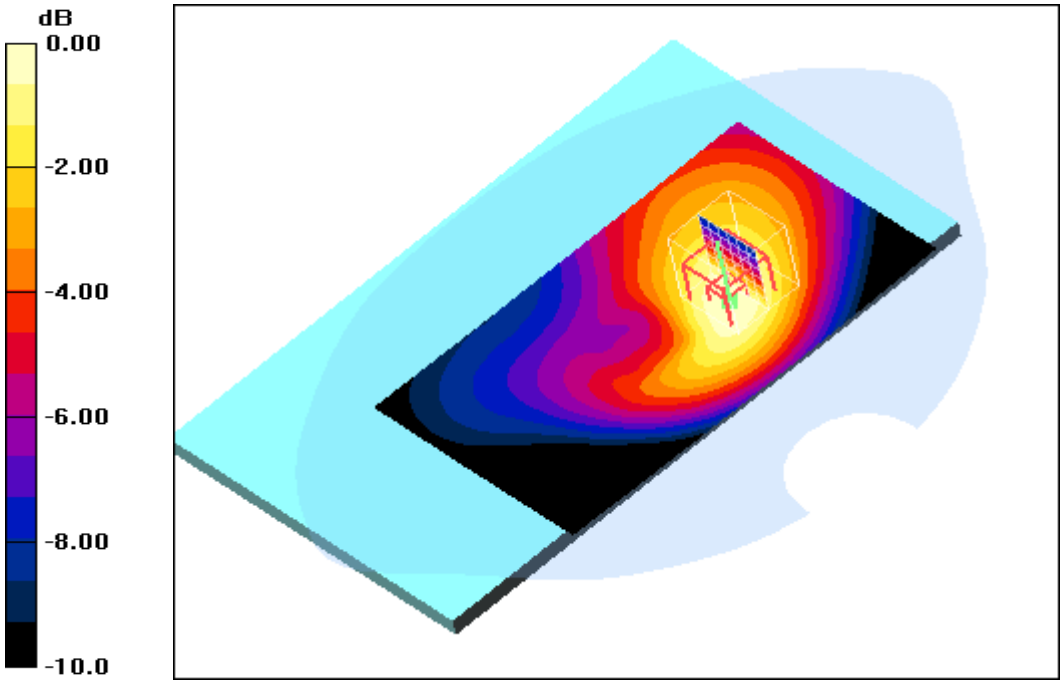
DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: GSM 850 GPRS 2TS; Frequency: 824.2 MHz; Duty Cycle: 1:4
Medium: M850 Medium parameters used: f = 824.2 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Rear position - Low 30mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.376 mW/g

Rear position - Low 30mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 20.3 V/m; Power Drift = -0.010 dB
Peak SAR (extrapolated) = 0.473 W/kg
SAR(1 g) = 0.349 mW/g; SAR(10 g) = 0.242 mW/g
Maximum value of SAR (measured) = 0.374 mW/g



0 dB = 0.374mW/g

Additional information:
position or distance of DUT to SAM: 30 mm
ambient temperature: 22.6°C; liquid temperature: 21.5°C

Date/Time: 07.02.2011 13:15:37Date/Time: 07.02.2011 13:26:31

IEEE1528_OET65-Body-GSM850 GPRS 2TS

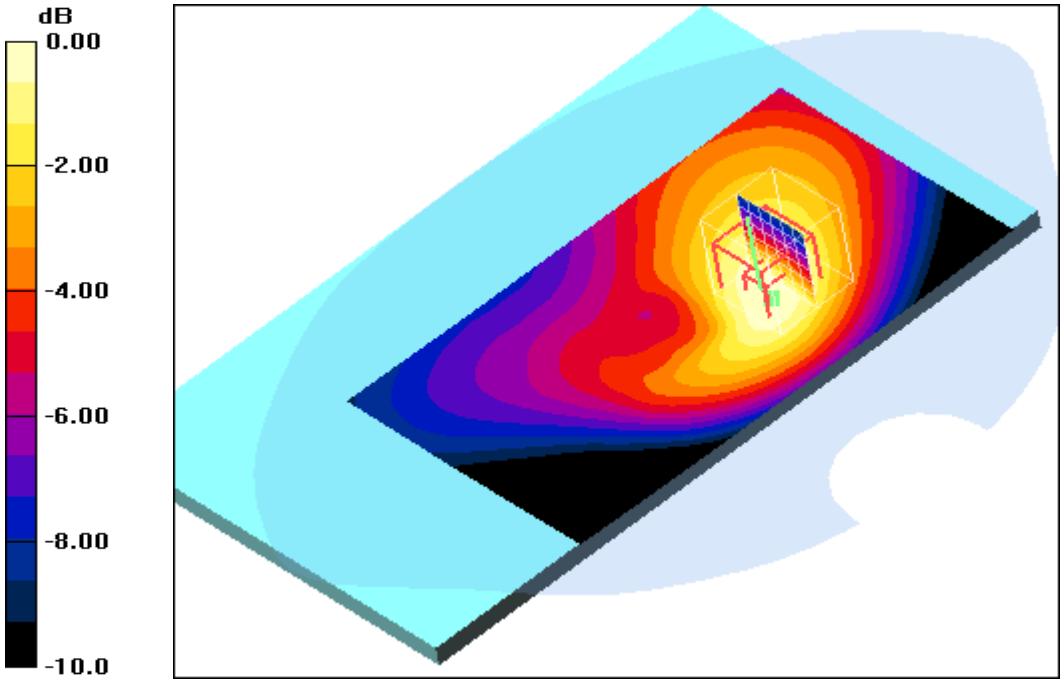
DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: GSM 850 GPRS 2TS; Frequency: 836.6 MHz; Duty Cycle: 1:4
Medium: M850 Medium parameters used: f = 836.6 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Rear position - Middle 30mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.351 mW/g

Rear position - Middle 30mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 19.8 V/m; Power Drift = -0.098 dB
Peak SAR (extrapolated) = 0.458 W/kg
SAR(1 g) = 0.327 mW/g; SAR(10 g) = 0.224 mW/g
Maximum value of SAR (measured) = 0.348 mW/g



0 dB = 0.348mW/g

Additional information:
position or distance of DUT to SAM: 30 mm
ambient temperature: 22.6°C; liquid temperature: 21.5°C

Date/Time: 07.02.2011 14:06:38Date/Time: 07.02.2011 14:17:34

IEEE1528_OET65-Body-GSM850 GPRS 2TS

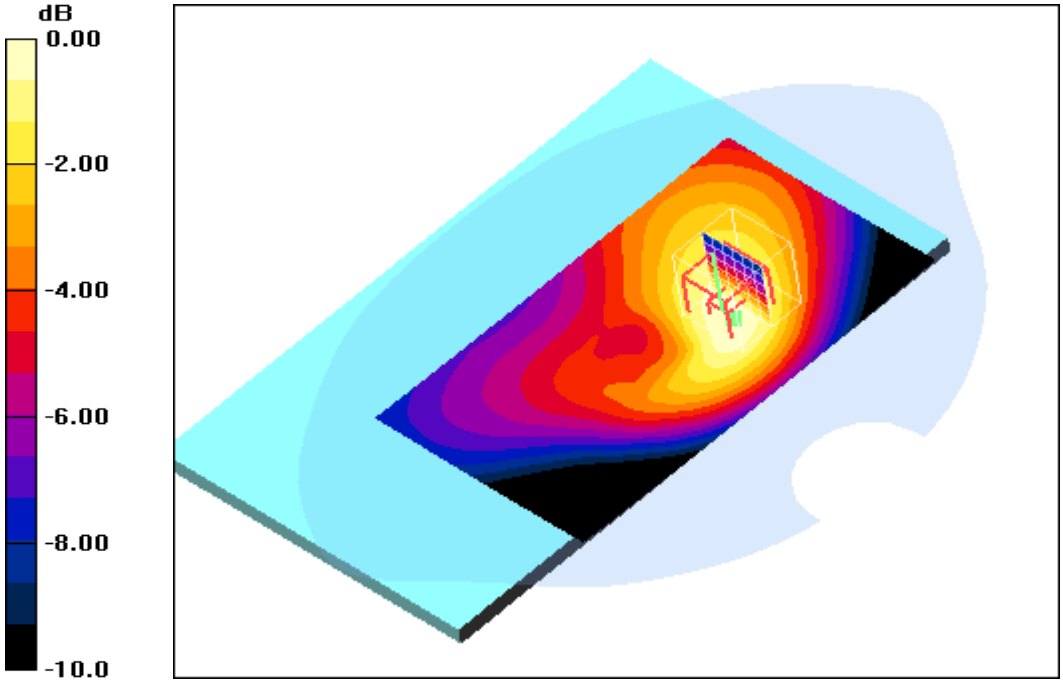
DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: GSM 850 GPRS 2TS; Frequency: 848.8 MHz; Duty Cycle: 1:4
Medium: M850 Medium parameters used: f = 848.8 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Rear position - High 30mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.378 mW/g

Rear position - High 30mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 20.7 V/m; Power Drift = -0.075 dB
Peak SAR (extrapolated) = 0.493 W/kg
SAR(1 g) = 0.353 mW/g; SAR(10 g) = 0.243 mW/g
Maximum value of SAR (measured) = 0.377 mW/g



0 dB = 0.377mW/g

Additional information:
position or distance of DUT to SAM: 30 mm
ambient temperature: 22.6°C; liquid temperature: 21.5°C

Date/Time: 04.02.2011 13:48:36Date/Time: 04.02.2011 13:58:02

IEEE1528_OET65-Body-GSM850 GPRS 2TS

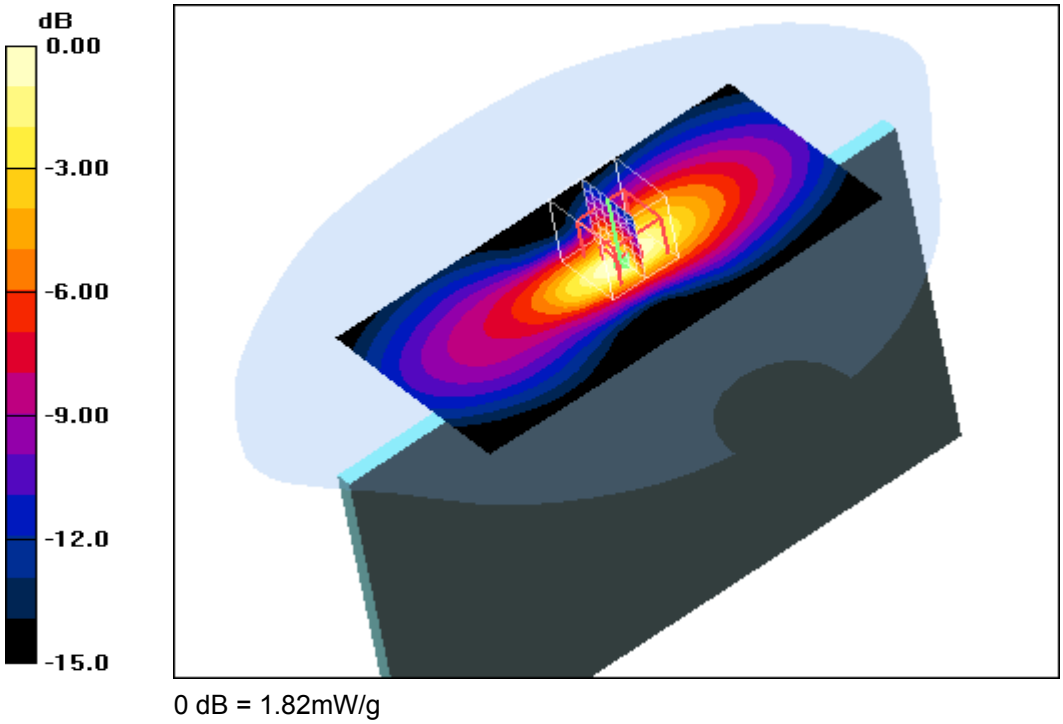
DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: GSM 850 GPRS 2TS; Frequency: 824.2 MHz; Duty Cycle: 1:4
Medium: M850 Medium parameters used: f = 824.2 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Top edge - Low/Area Scan (61x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.80 mW/g

Top edge - Low/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 43.5 V/m; Power Drift = 0.024 dB
Peak SAR (extrapolated) = 3.09 W/kg
SAR(1 g) = 1.61 mW/g; SAR(10 g) = 0.859 mW/g
Maximum value of SAR (measured) = 1.82 mW/g



0 dB = 1.82mW/g

Additional information:
position or distance of DUT to SAM: 10 mm
ambient temperature: 22.7°C; liquid temperature: 21.8°C

Date/Time: 04.02.2011 12:23:33Date/Time: 04.02.2011 12:50:23

IEEE1528_OET65-Body-GSM850 GPRS 2TS

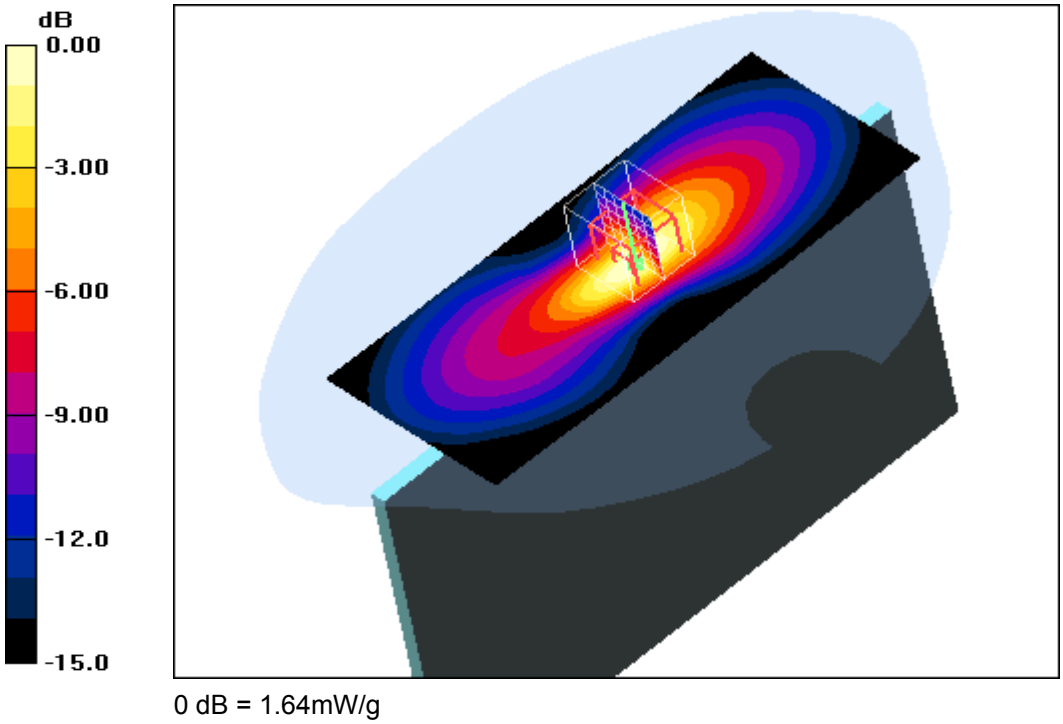
DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: GSM 850 GPRS 2TS; Frequency: 836.6 MHz; Duty Cycle: 1:4
Medium: M850 Medium parameters used: f = 836.6 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Top edge - Middle/Area Scan (61x141x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.66 mW/g

Top edge - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 42.0 V/m; Power Drift = -0.037 dB
Peak SAR (extrapolated) = 2.88 W/kg
SAR(1 g) = 1.47 mW/g; SAR(10 g) = 0.781 mW/g
Maximum value of SAR (measured) = 1.64 mW/g



0 dB = 1.64mW/g

Additional information:
position or distance of DUT to SAM: 10 mm
ambient temperature: 22.7°C; liquid temperature: 21.8°C

Date/Time: 04.02.2011 14:12:24Date/Time: 04.02.2011 14:21:53

IEEE1528_OET65-Body-GSM850 GPRS 2TS

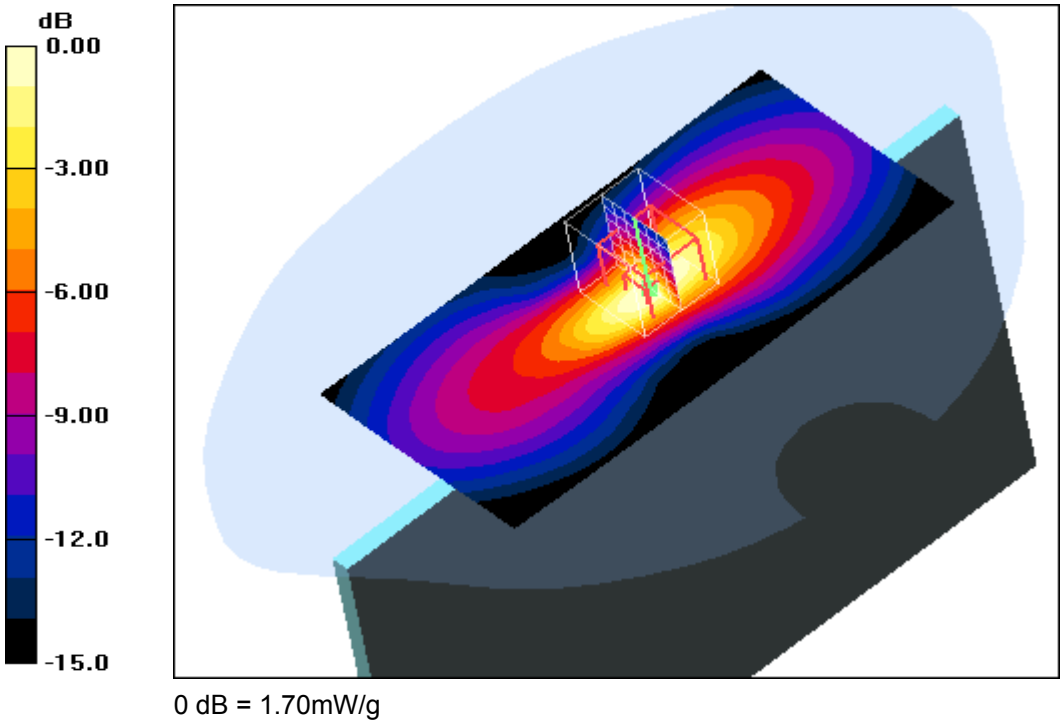
DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: GSM 850 GPRS 2TS; Frequency: 848.8 MHz; Duty Cycle: 1:4
Medium: M850 Medium parameters used: f = 848.8 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Top edge - High/Area Scan (61x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.69 mW/g

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

Reference Value = 42.6 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 2.89 W/kg
SAR(1 g) = 1.51 mW/g; SAR(10 g) = 0.802 mW/g
Maximum value of SAR (measured) = 1.70 mW/g



0 dB = 1.70mW/g

Additional information:
position or distance of DUT to SAM: 10 mm
ambient temperature: 22.7°C; liquid temperature: 21.8°C

Date/Time: 04.02.2011 14:41:06Date/Time: 04.02.2011 14:50:37

IEEE1528_OET65-Body-GSM850 GPRS 2TS

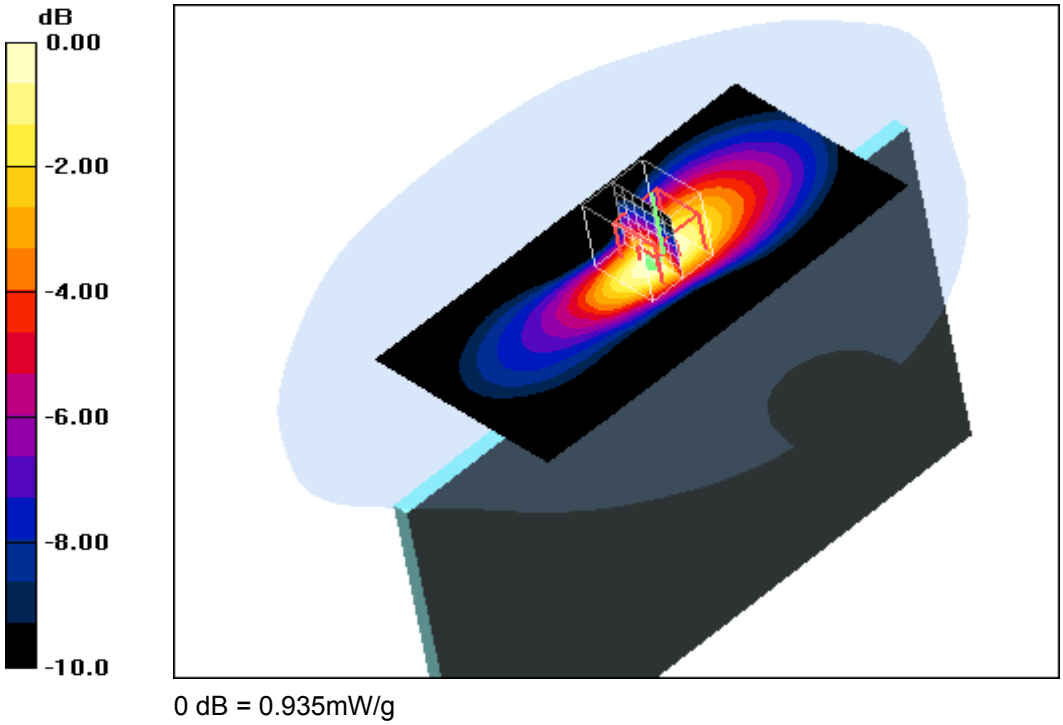
DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: GSM 850 GPRS 2TS; Frequency: 824.2 MHz; Duty Cycle: 1:4
Medium: M850 Medium parameters used: f = 824.2 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Top edge - Low 15mm/Area Scan (61x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.970 mW/g

Top edge - Low 15mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 31.1 V/m; Power Drift = -0.078 dB
Peak SAR (extrapolated) = 1.40 W/kg
SAR(1 g) = 0.848 mW/g; SAR(10 g) = 0.503 mW/g
Maximum value of SAR (measured) = 0.935 mW/g



0 dB = 0.935mW/g

Additional information:
position or distance of DUT to SAM: 15 mm
ambient temperature: 22.7°C; liquid temperature: 21.8°C

Date/Time: 04.02.2011 15:05:59Date/Time: 04.02.2011 15:15:30

IEEE1528_OET65-Body-GSM850 GPRS 2TS

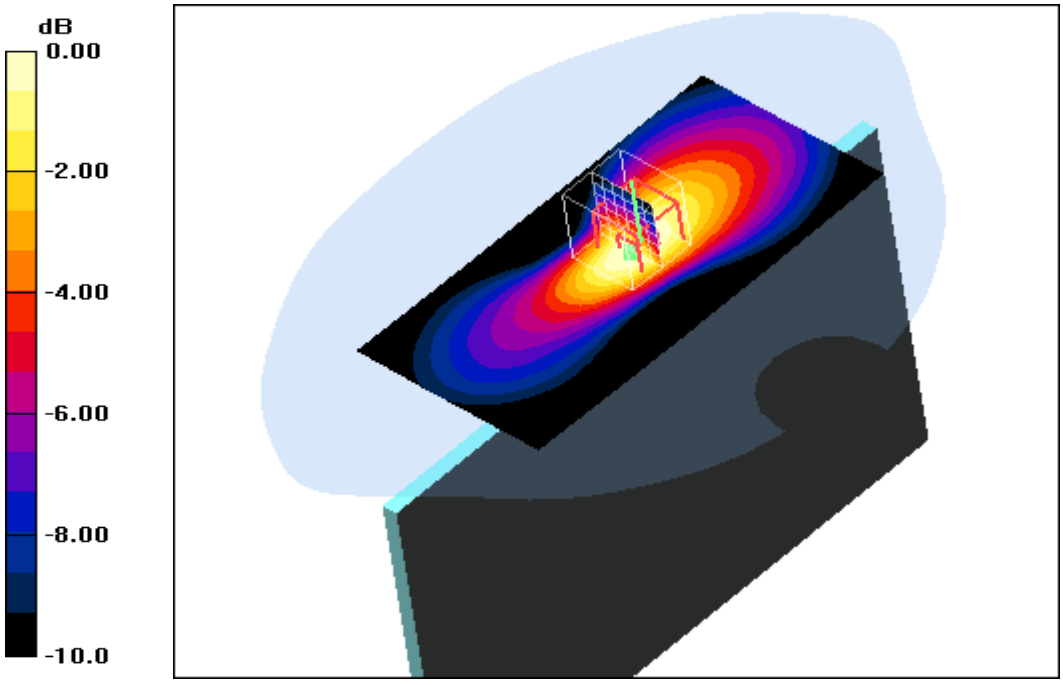
DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: GSM 850 GPRS 2TS; Frequency: 824.2 MHz; Duty Cycle: 1:4
Medium: M850 Medium parameters used: f = 824.2 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Top edge - Low 20mm/Area Scan (61x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.541 mW/g

Top edge - Low 20mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.9 V/m; Power Drift = 0.055 dB
Peak SAR (extrapolated) = 0.704 W/kg
SAR(1 g) = 0.478 mW/g; SAR(10 g) = 0.307 mW/g
Maximum value of SAR (measured) = 0.514 mW/g



0 dB = 0.514mW/g

Additional information:
position or distance of DUT to SAM: 20 mm
ambient temperature: 22.7°C; liquid temperature: 21.8°C

Date/Time: 04.02.2011 15:35:08Date/Time: 04.02.2011 15:44:42

IEEE1528_OET65-Body-GSM850 GPRS 2TS

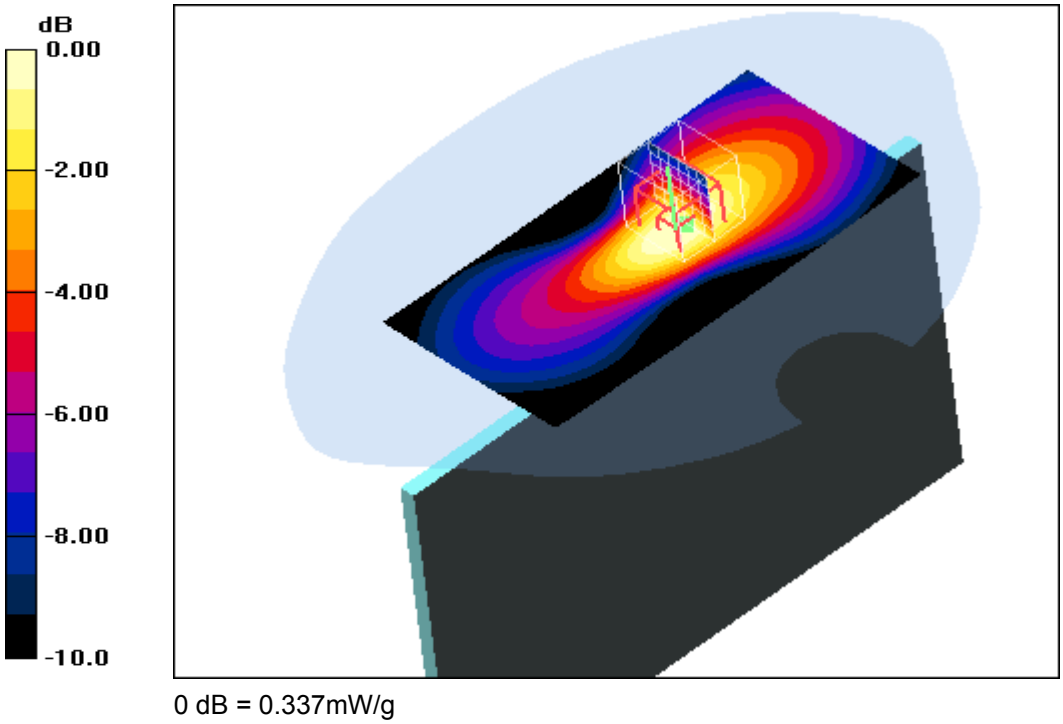
DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: GSM 850 GPRS 2TS; Frequency: 824.2 MHz; Duty Cycle: 1:4
Medium: M850 Medium parameters used: f = 824.2 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Top edge - Low 25mm/Area Scan (61x121x1): Measurement grid: dx=15mm, dy=15mm

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

Top edge - Low 25mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.3 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 0.444 W/kg
SAR(1 g) = 0.311 mW/g; SAR(10 g) = 0.208 mW/g
Maximum value of SAR (measured) = 0.337 mW/g



0 dB = 0.337mW/g

Additional information:
position or distance of DUT to SAM: 25 mm
ambient temperature: 22.7°C; liquid temperature: 21.8°C

Date/Time: 08.02.2011 10:21:32Date/Time: 08.02.2011 10:31:19

IEEE1528_OET65-Body-GSM850 GPRS 2TS

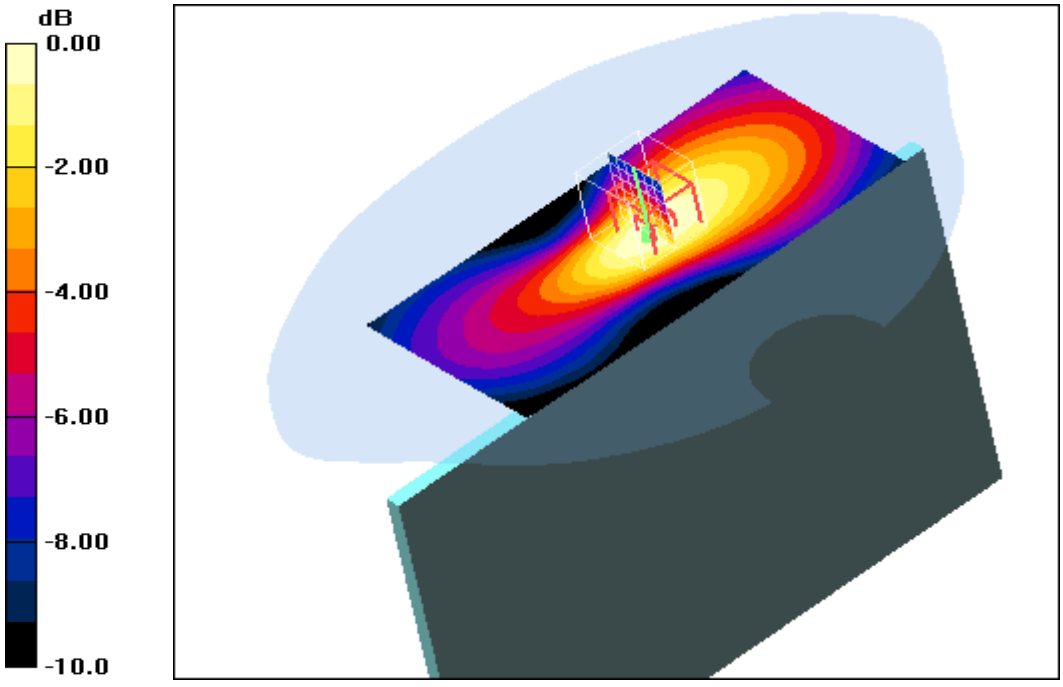
DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: GSM 850 GPRS 2TS; Frequency: 836.6 MHz; Duty Cycle: 1:4
Medium: M850 Medium parameters used: f = 836.6 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Top edge - Middle 30mm/Area Scan (61x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.201 mW/g

Top edge - Middle 30mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 14.8 V/m; Power Drift = 0.041 dB
Peak SAR (extrapolated) = 0.254 W/kg
SAR(1 g) = 0.186 mW/g; SAR(10 g) = 0.130 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: 30 mm
ambient temperature: 22.5°C; liquid temperature: 21.7°C

Annex B.2: GSM 1900 MHz Antenna #1

Date/Time: 10.02.2011 12:38:49Date/Time: 10.02.2011 12:49:31

IEEE1528_OET65-Body-GSM1900 GPRS 2TS

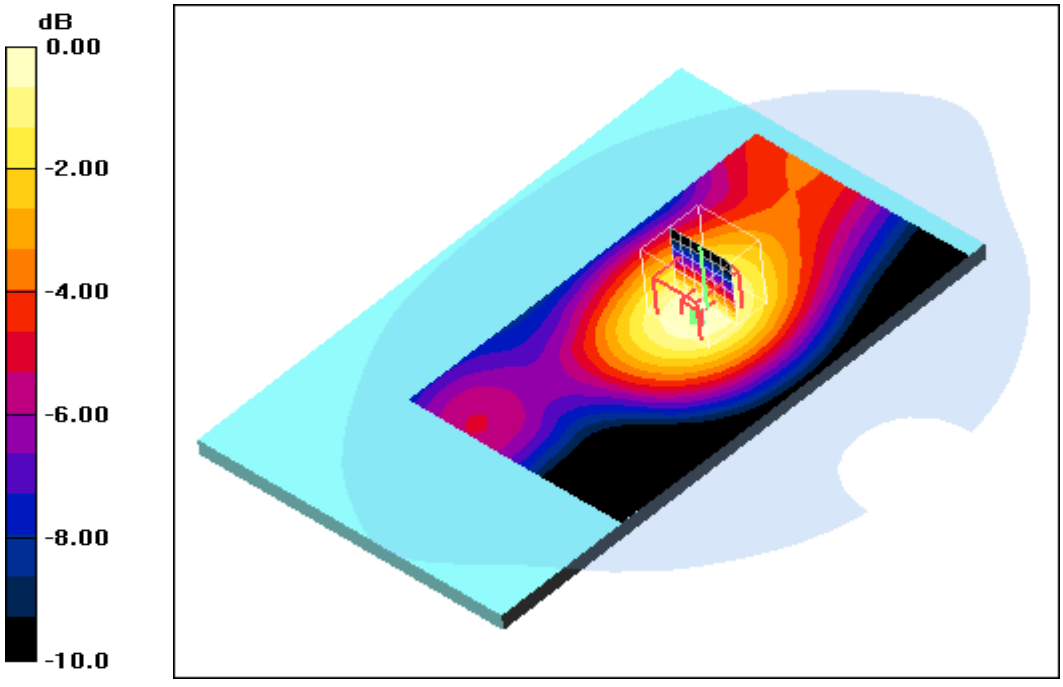
DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: GSM 1900 GPRS 2TS; Frequency: 1880 MHz; Duty Cycle: 1:4
Medium: M1900 Medium parameters used: f = 1880 MHz; σ = 1.56 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(4.35, 4.35, 4.35); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Front position - Middle 30mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

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

Front position - Middle 30mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.5 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.283 W/kg
SAR(1 g) = 0.195 mW/g; SAR(10 g) = 0.129 mW/g
Maximum value of SAR (measured) = 0.208 mW/g



0 dB = 0.208mW/g

Additional information:
position or distance of DUT to SAM: 30 mm
ambient temperature: 22.6°C; liquid temperature: 21.7°C

Date/Time: 10.02.2011 15:18:50Date/Time: 10.02.2011 15:29:37

IEEE1528_OET65-Body-GSM1900 GPRS 2TS

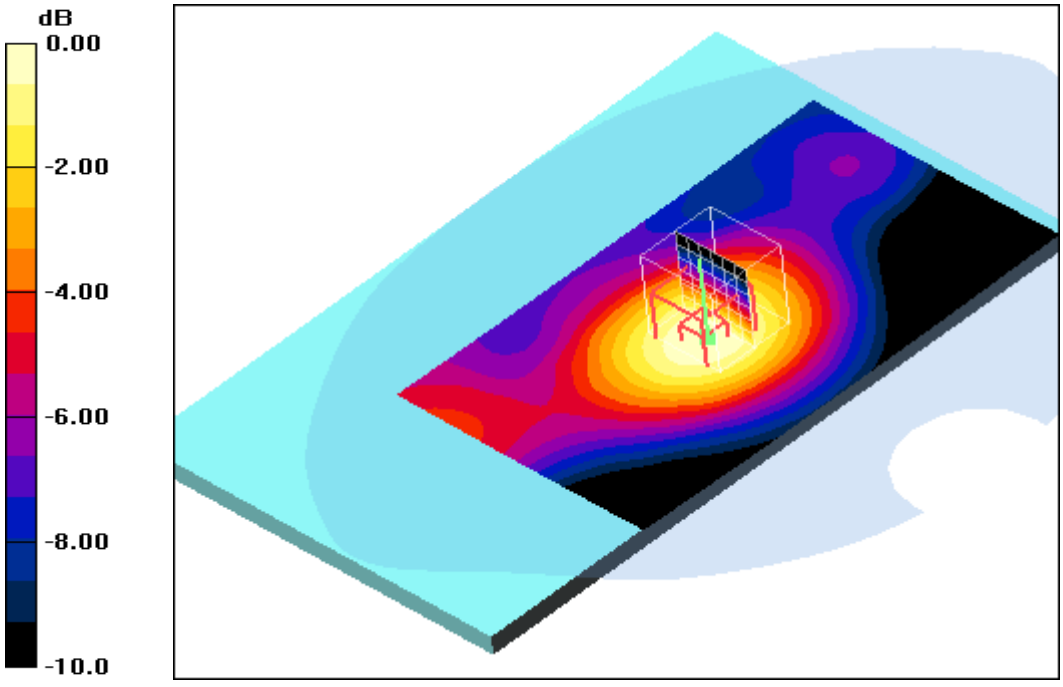
DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: GSM 1900 GPRS 2TS; Frequency: 1850.2 MHz; Duty Cycle: 1:4
Medium: M1900 Medium parameters used: f = 1850.2 MHz; σ = 1.56 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(4.35, 4.35, 4.35); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Rear position - Low 30mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.273 mW/g

Rear position - Low 30mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 14.1 V/m; Power Drift = -0.030 dB
Peak SAR (extrapolated) = 0.345 W/kg
SAR(1 g) = 0.251 mW/g; SAR(10 g) = 0.167 mW/g
Maximum value of SAR (measured) = 0.271 mW/g



0 dB = 0.271mW/g

Additional information:
position or distance of DUT to SAM: 30 mm
ambient temperature: 22.6°C; liquid temperature: 21.7°C

Date/Time: 10.02.2011 11:16:57Date/Time: 10.02.2011 11:27:34

IEEE1528_OET65-Body-GSM1900 GPRS 2TS

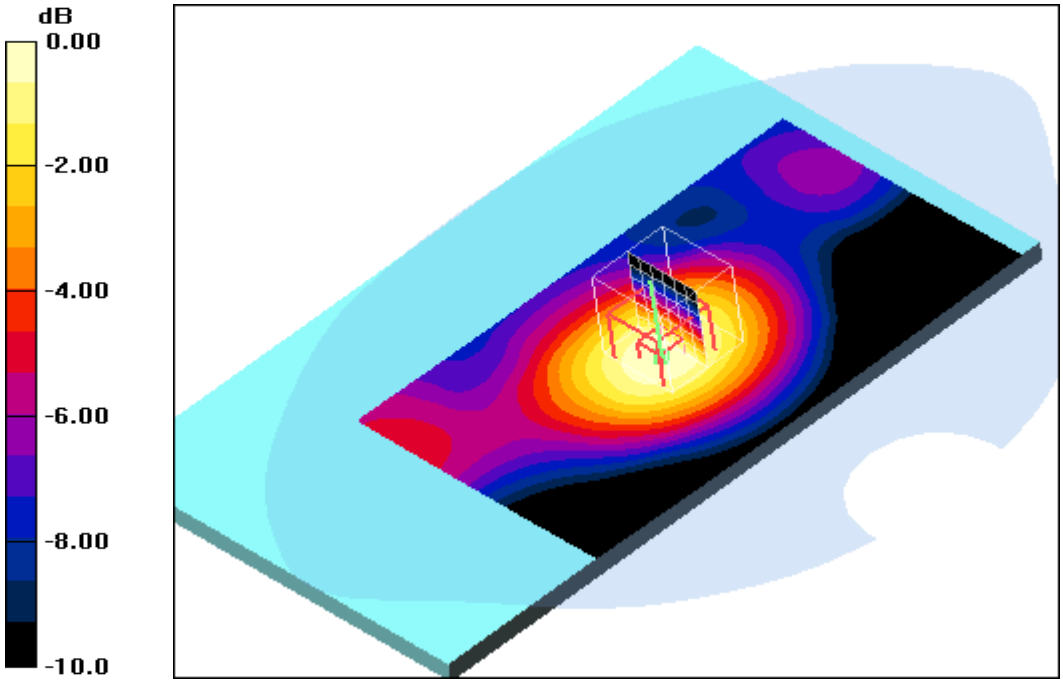
DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: GSM 1900 GPRS 2TS; Frequency: 1880 MHz; Duty Cycle: 1:4
Medium: M1900 Medium parameters used: f = 1880 MHz; σ = 1.56 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(4.35, 4.35, 4.35); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Rear position - Middle 30mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.282 mW/g

Rear position - Middle 30mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 14.3 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.371 W/kg
SAR(1 g) = 0.264 mW/g; SAR(10 g) = 0.174 mW/g
Maximum value of SAR (measured) = 0.284 mW/g



0 dB = 0.284mW/g

Additional information:
position or distance of DUT to SAM: 30 mm
ambient temperature: 22.6°C; liquid temperature: 21.7°C

Date/Time: 10.02.2011 15:44:04Date/Time: 10.02.2011 15:54:53

IEEE1528_OET65-Body-GSM1900 GPRS 2TS

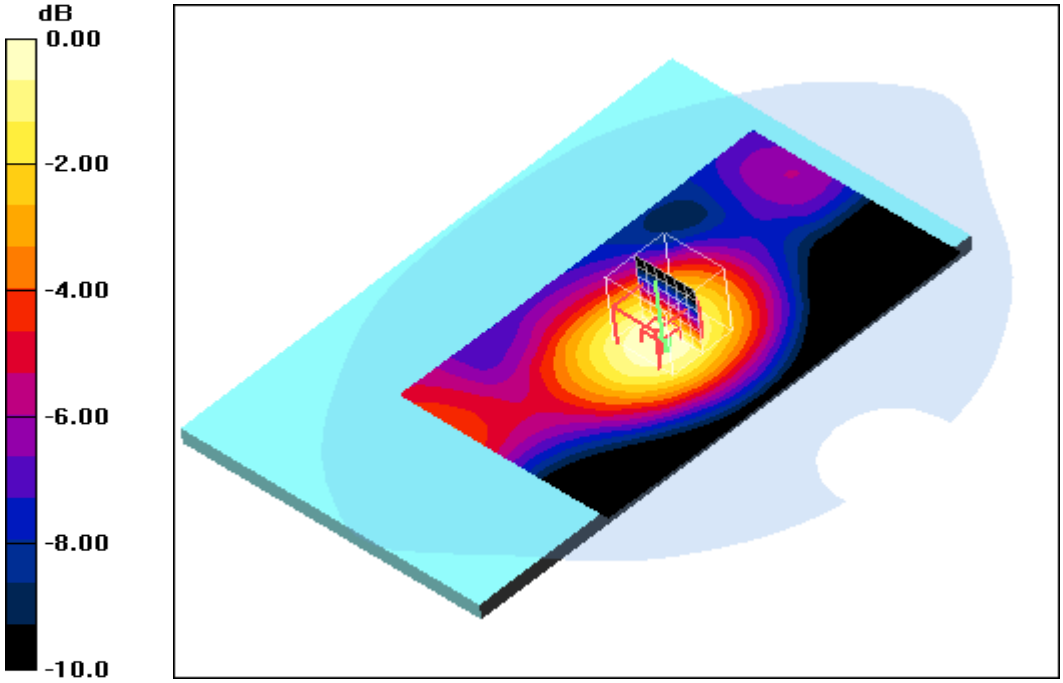
DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: GSM 1900 GPRS 2TS; Frequency: 1909.8 MHz; Duty Cycle: 1:4
Medium: M1900 Medium parameters used: f = 1909.8 MHz; σ = 1.56 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(4.35, 4.35, 4.35); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Rear position - High 30mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.226 mW/g

Rear position - High 30mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.7 V/m; Power Drift = -0.024 dB
Peak SAR (extrapolated) = 0.295 W/kg
SAR(1 g) = 0.209 mW/g; SAR(10 g) = 0.137 mW/g
Maximum value of SAR (measured) = 0.226 mW/g



0 dB = 0.226mW/g

Additional information:
position or distance of DUT to SAM: 30 mm
ambient temperature: 22.6°C; liquid temperature: 21.7°C

Date/Time: 10.02.2011 13:04:34Date/Time: 10.02.2011 13:15:02Date/Time: 10.02.2011 13:26:30

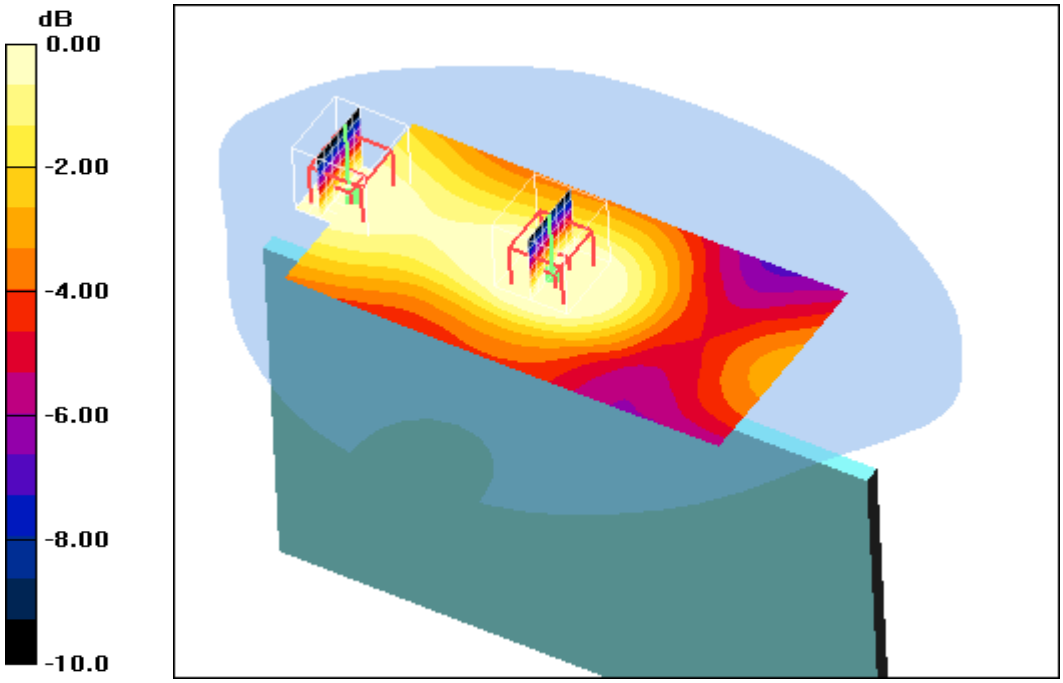
IEEE1528_OET65-Body-GSM1900 GPRS 2TS

DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: GSM 1900 GPRS 2TS; Frequency: 1880 MHz; Duty Cycle: 1:4
Medium: M1900 Medium parameters used: f = 1880 MHz; σ = 1.56 mho/m; ε_r = 53.3; ρ = 1000 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 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Top edge - Middle 30mm/Area Scan (61x121x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.134 mW/g

Top edge - Middle 30mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.94 V/m; Power Drift = 0.044 dB
Peak SAR (extrapolated) = 0.176 W/kg
SAR(1 g) = 0.125 mW/g; SAR(10 g) = 0.083 mW/g
Maximum value of SAR (measured) = 0.134 mW/g

Top edge - Middle 30mm/Zoom Scan (7x7x7) (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.94 V/m; Power Drift = 0.044 dB
Peak SAR (extrapolated) = 0.128 W/kg
SAR(1 g) = 0.093 mW/g; SAR(10 g) = 0.064 mW/g
Maximum value of SAR (measured) = 0.099 mW/g



0 dB = 0.099mW/g

Additional information:
position or distance of DUT to SAM: 30 mm
ambient temperature: 22.6°C; liquid temperature: 21.7°C

Annex B.3: WCDMA FDD V 850 MHz Antenna #1

Date/Time: 08.02.2011 08:59:15Date/Time: 08.02.2011 09:10:10

IEEE1528_OET65-Body-WCDMA FDD V

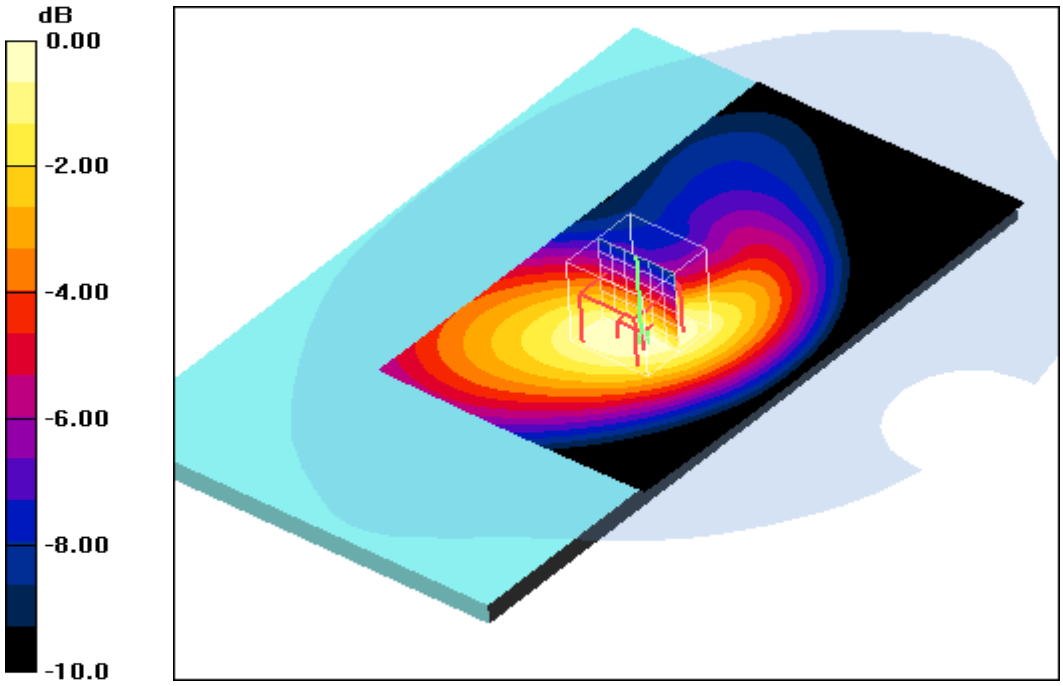
DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: WCDMA FDD V; Frequency: 826.4 MHz; Duty Cycle: 1:1
Medium: M850 Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Front position - Low 30mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

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

Front position - Low 30mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.9 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.334 W/kg
SAR(1 g) = 0.245 mW/g; SAR(10 g) = 0.171 mW/g
Maximum value of SAR (measured) = 0.262 mW/g



0 dB = 0.262mW/g

Additional information:
position or distance of DUT to SAM: 30 mm
ambient temperature: 22.5°C; liquid temperature: 21.7°C

Date/Time: 08.02.2011 08:30:20Date/Time: 08.02.2011 08:41:11

IEEE1528_OET65-Body-WCDMA FDD V

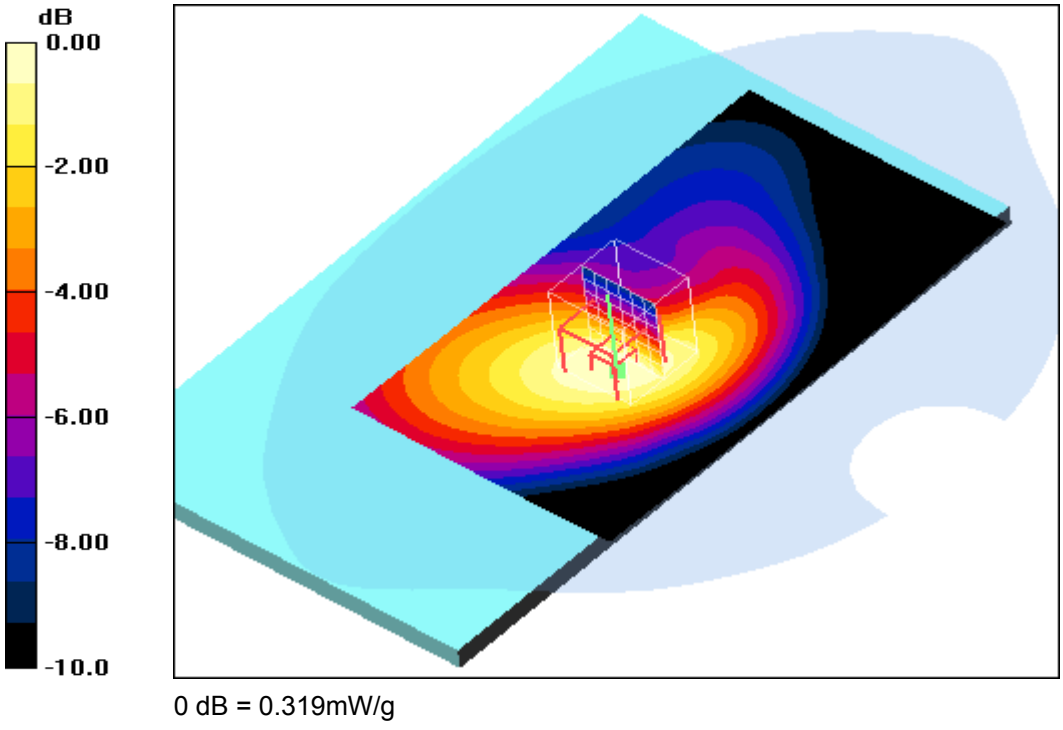
DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: WCDMA FDD V; Frequency: 836.4 MHz; Duty Cycle: 1:1
Medium: M850 Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Front position - Middle 30mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.322 mW/g

Front position - Middle 30mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.7 V/m; Power Drift = -0.039 dB
Peak SAR (extrapolated) = 0.404 W/kg
SAR(1 g) = 0.298 mW/g; SAR(10 g) = 0.208 mW/g
Maximum value of SAR (measured) = 0.319 mW/g



0 dB = 0.319mW/g

Additional information:
position or distance of DUT to SAM: 30 mm
ambient temperature: 22.5°C; liquid temperature: 21.7°C

Date/Time: 08.02.2011 09:23:36Date/Time: 08.02.2011 09:34:33

IEEE1528_OET65-Body-WCDMA FDD V

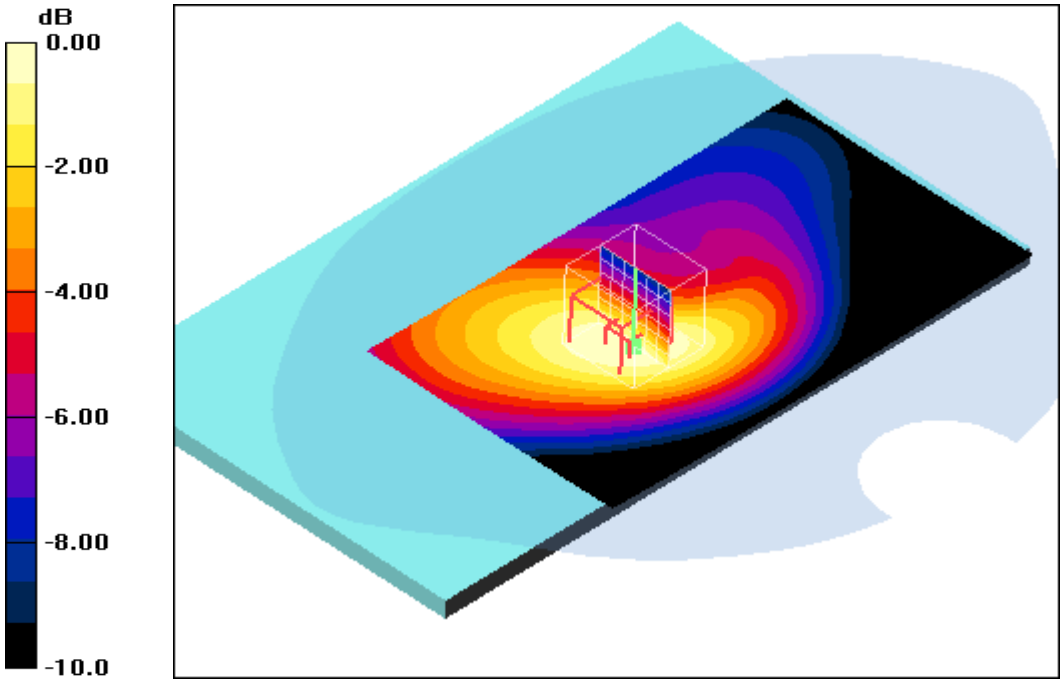
DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: WCDMA FDD V; Frequency: 846.6 MHz; Duty Cycle: 1:1
Medium: M850 Medium parameters used (interpolated): f = 846.6 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Front position - High 30mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.295 mW/g

Front position - High 30mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 18.1 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.380 W/kg
SAR(1 g) = 0.278 mW/g; SAR(10 g) = 0.194 mW/g
Maximum value of SAR (measured) = 0.295 mW/g



0 dB = 0.295mW/g

Additional information:
position or distance of DUT to SAM: 30 mm
ambient temperature: 22.5°C; liquid temperature: 21.7°C

Date/Time: 07.02.2011 14:36:36Date/Time: 07.02.2011 14:47:25

IEEE1528_OET65-Body-WCDMA FDD V

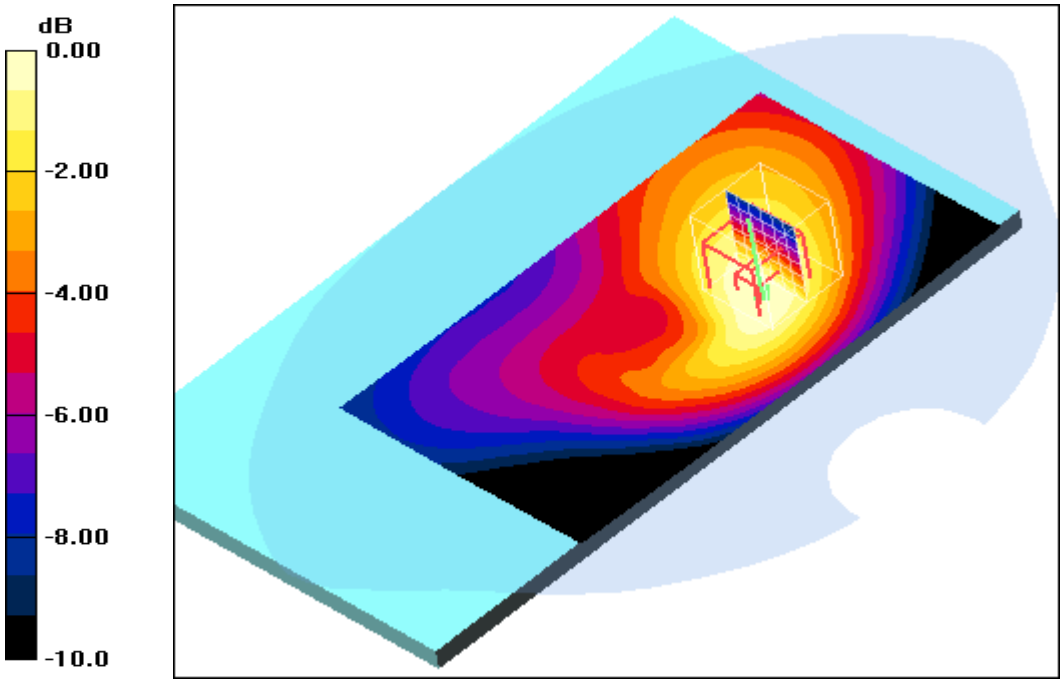
DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: WCDMA FDD V; Frequency: 836.4 MHz; Duty Cycle: 1:1
Medium: M850 Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Rear position - Middle 30mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.314 mW/g

Rear position - Middle 30mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 18.4 V/m; Power Drift = -0.055 dB
Peak SAR (extrapolated) = 0.396 W/kg
SAR(1 g) = 0.287 mW/g; SAR(10 g) = 0.197 mW/g
Maximum value of SAR (measured) = 0.306 mW/g



0 dB = 0.306mW/g

Additional information:
position or distance of DUT to SAM: 30 mm
ambient temperature: 22.6°C; liquid temperature: 21.5°C

Date/Time: 08.02.2011 10:47:12Date/Time: 08.02.2011 10:56:49

IEEE1528_OET65-Body-WCDMA FDD V

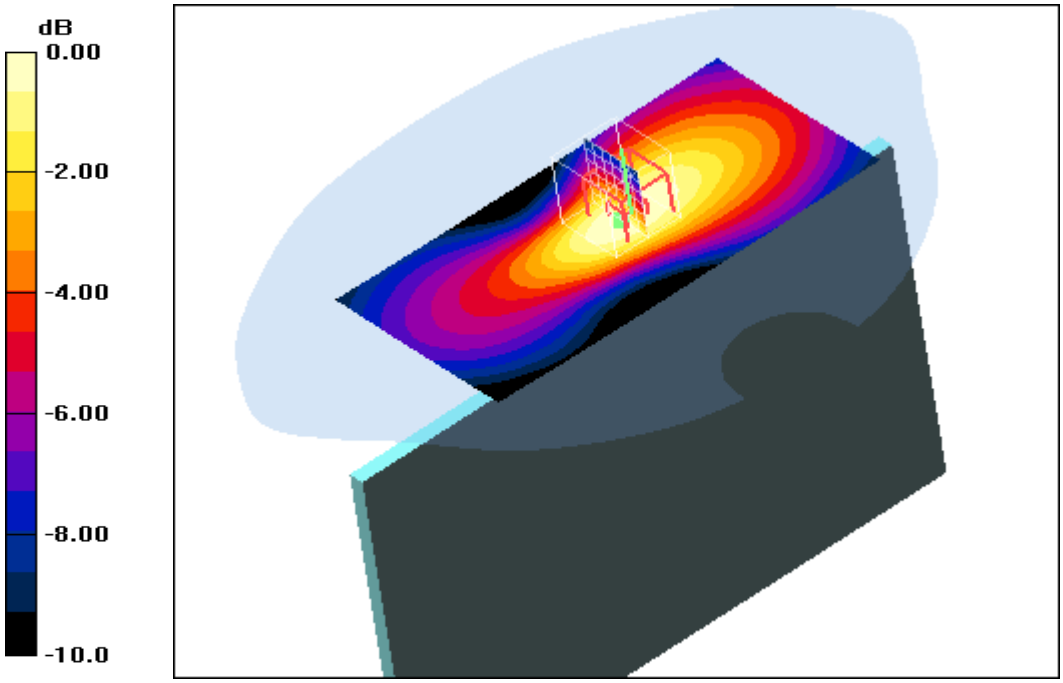
DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: WCDMA FDD V; Frequency: 836.4 MHz; Duty Cycle: 1:1
Medium: M850 Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Top edge - Middle 30mm/Area Scan (61x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.187 mW/g

Top edge - Middle 30mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 14.3 V/m; Power Drift = 0.011 dB
Peak SAR (extrapolated) = 0.237 W/kg
SAR(1 g) = 0.172 mW/g; SAR(10 g) = 0.120 mW/g
Maximum value of SAR (measured) = 0.185 mW/g



0 dB = 0.185mW/g

Additional information:
position or distance of DUT to SAM: 30 mm
ambient temperature: 22.5°C; liquid temperature: 21.7°C

Annex B.4: WCDMA FDD II 1900 MHz Antenna #1

Date/Time: 10.02.2011 12:13:06Date/Time: 10.02.2011 12:23:46

IEEE1528_OET65-Body-WCDMA FDD II

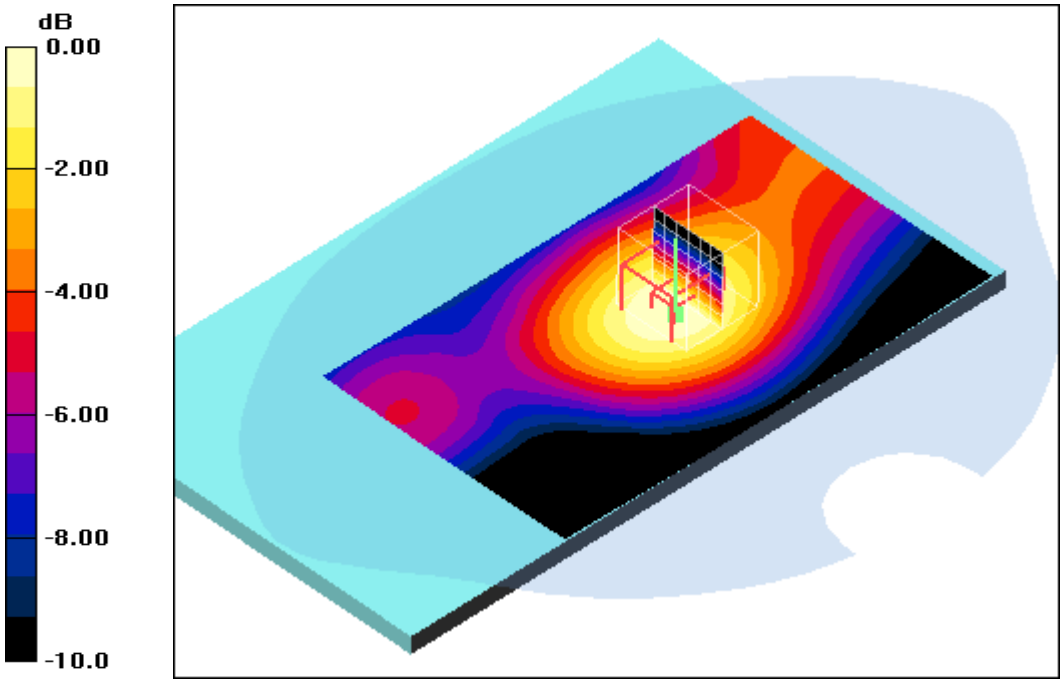
DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: WCDMA FDD II; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: M1900 Medium parameters used: f = 1880 MHz; σ = 1.56 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(4.35, 4.35, 4.35); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Front position - Middle 30mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.213 mW/g

Front position - Middle 30mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.7 V/m; Power Drift = -0.044 dB
Peak SAR (extrapolated) = 0.289 W/kg
SAR(1 g) = 0.199 mW/g; SAR(10 g) = 0.131 mW/g
Maximum value of SAR (measured) = 0.214 mW/g



0 dB = 0.214mW/g

Additional information:
position or distance of DUT to SAM: 30 mm
ambient temperature: 22.6°C; liquid temperature: 21.7°C

Date/Time: 10.02.2011 14:25:18Date/Time: 10.02.2011 14:35:59

IEEE1528_OET65-Body-WCDMA FDD II

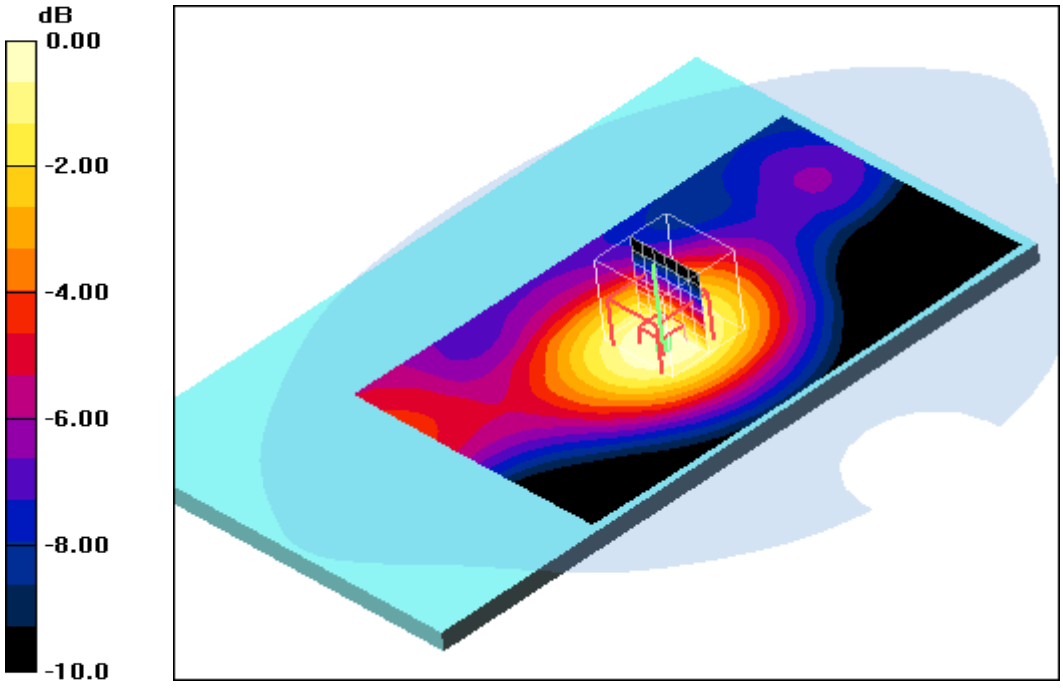
DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: WCDMA FDD II; Frequency: 1852.5 MHz; Duty Cycle: 1:1
Medium: M1900 Medium parameters used (interpolated): f = 1852.5 MHz; σ = 1.56 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(4.35, 4.35, 4.35); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Rear position - Low 30mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.292 mW/g

Rear position - Low 30mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 14.6 V/m; Power Drift = -0.026 dB
Peak SAR (extrapolated) = 0.366 W/kg
SAR(1 g) = 0.266 mW/g; SAR(10 g) = 0.177 mW/g
Maximum value of SAR (measured) = 0.287 mW/g



0 dB = 0.287mW/g

Additional information:
position or distance of DUT to SAM: 30 mm
ambient temperature: 22.6°C; liquid temperature: 21.7°C

Date/Time: 10.02.2011 11:46:52Date/Time: 10.02.2011 11:57:33

IEEE1528_OET65-Body-WCDMA FDD II

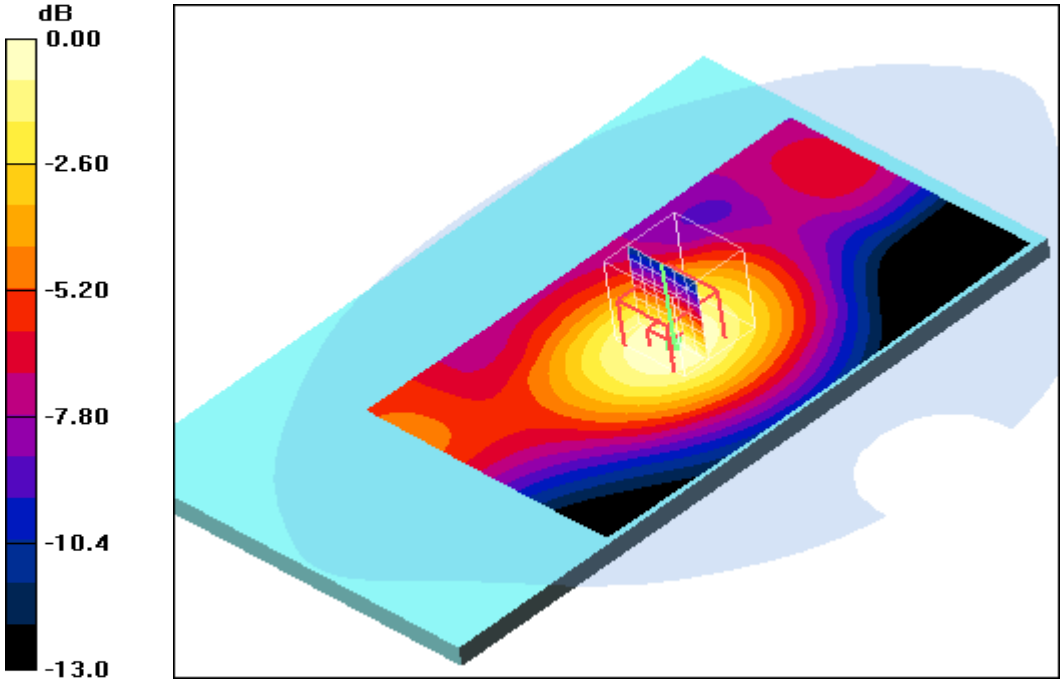
DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: WCDMA FDD II; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: M1900 Medium parameters used: f = 1880 MHz; σ = 1.56 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(4.35, 4.35, 4.35); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Rear position - Middle 30mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.285 mW/g

Rear position - Middle 30mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 14.4 V/m; Power Drift = -0.019 dB
Peak SAR (extrapolated) = 0.370 W/kg
SAR(1 g) = 0.265 mW/g; SAR(10 g) = 0.175 mW/g
Maximum value of SAR (measured) = 0.286 mW/g



0 dB = 0.286mW/g

Additional information:
position or distance of DUT to SAM: 30 mm
ambient temperature: 22.6°C; liquid temperature: 21.7°C

Date/Time: 10.02.2011 14:50:35Date/Time: 10.02.2011 15:02:09

IEEE1528_OET65-Body-WCDMA FDD II

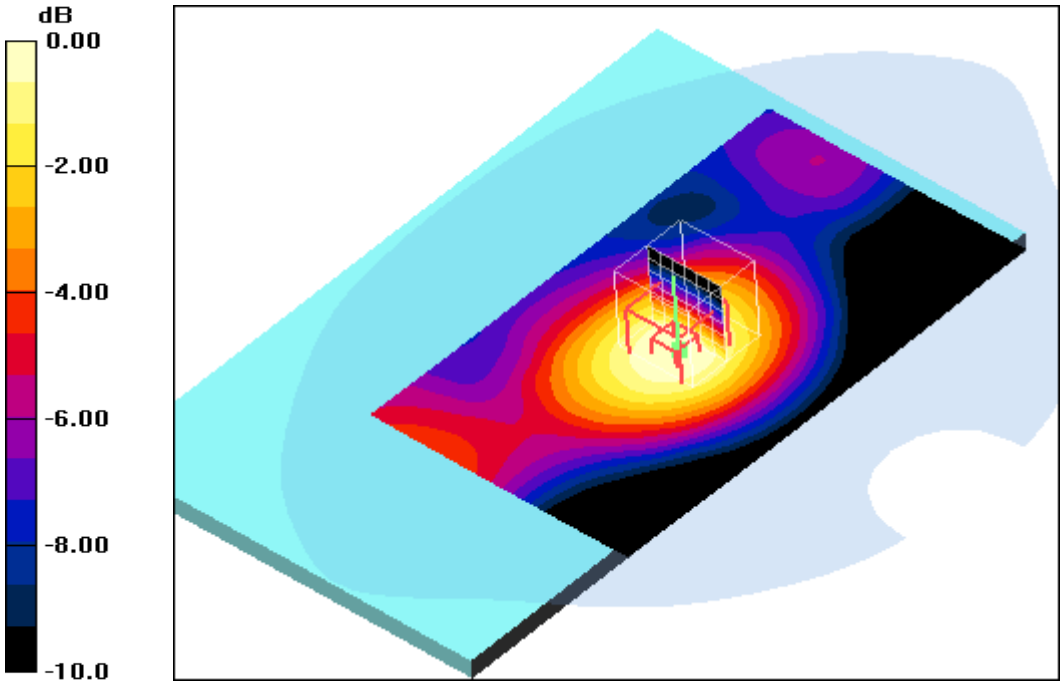
DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: WCDMA FDD II; Frequency: 1907.6 MHz; Duty Cycle: 1:1
Medium: M1900 Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.56 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(4.35, 4.35, 4.35); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Rear position - High 30mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.235 mW/g

Rear position - High 30mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.8 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.304 W/kg
SAR(1 g) = 0.214 mW/g; SAR(10 g) = 0.141 mW/g
Maximum value of SAR (measured) = 0.231 mW/g



0 dB = 0.231mW/g

Additional information:
position or distance of DUT to SAM: 30 mm
ambient temperature: 22.6°C; liquid temperature: 21.7°C

Date/Time: 10.02.2011 13:41:47Date/Time: 10.02.2011 13:51:13Date/Time: 10.02.2011 14:02:46

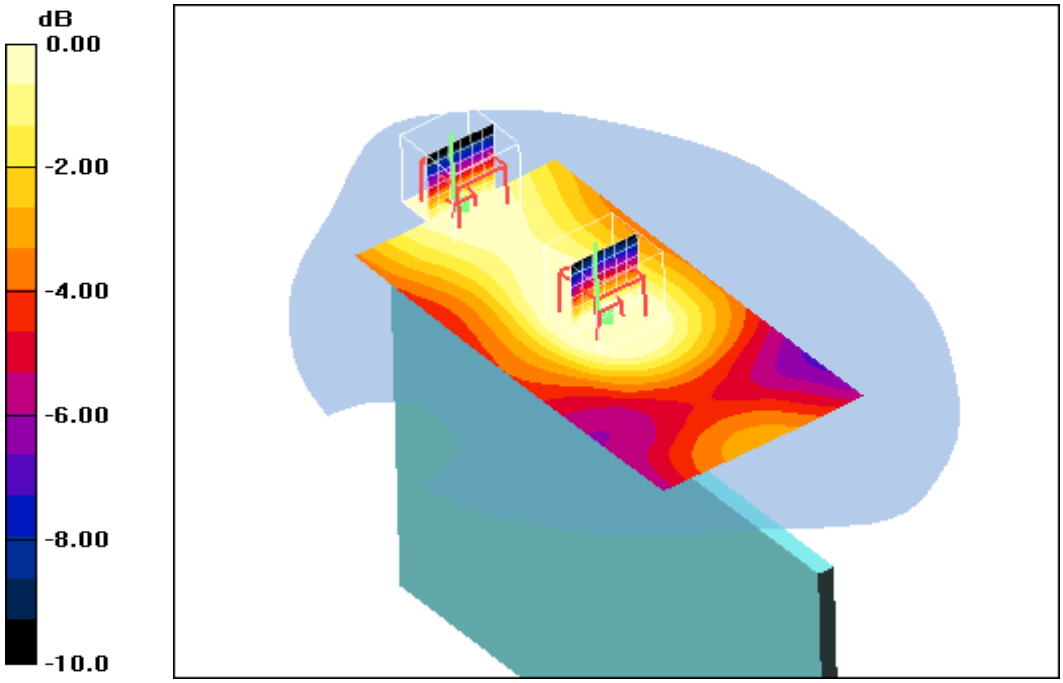
IEEE1528_OET65-Body-WCDMA FDD II

DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: WCDMA FDD II; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: M1900 Medium parameters used: f = 1880 MHz; σ = 1.56 mho/m; ε_r = 53.3; ρ = 1000 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 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Top edge - Middle 30mm/Area Scan (61x121x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.124 mW/g

Top edge - Middle 30mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.49 V/m; Power Drift = 0.030 dB
Peak SAR (extrapolated) = 0.162 W/kg
SAR(1 g) = 0.115 mW/g; SAR(10 g) = 0.076 mW/g
Maximum value of SAR (measured) = 0.124 mW/g

Top edge - Middle 30mm/Zoom Scan (7x7x7) (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.49 V/m; Power Drift = 0.030 dB
Peak SAR (extrapolated) = 0.116 W/kg
SAR(1 g) = 0.084 mW/g; SAR(10 g) = 0.059 mW/g
Maximum value of SAR (measured) = 0.090 mW/g



0 dB = 0.090mW/g

Additional information:
position or distance of DUT to SAM: 30 mm
ambient temperature: 22.6°C; liquid temperature: 21.7°C

Annex B.5: GSM 850 MHz Antenna #2

Date/Time: 08.02.2011 13:44:04Date/Time: 08.02.2011 13:54:53

IEEE1528_OET65-Body-GSM850 GPRS 2TS_2

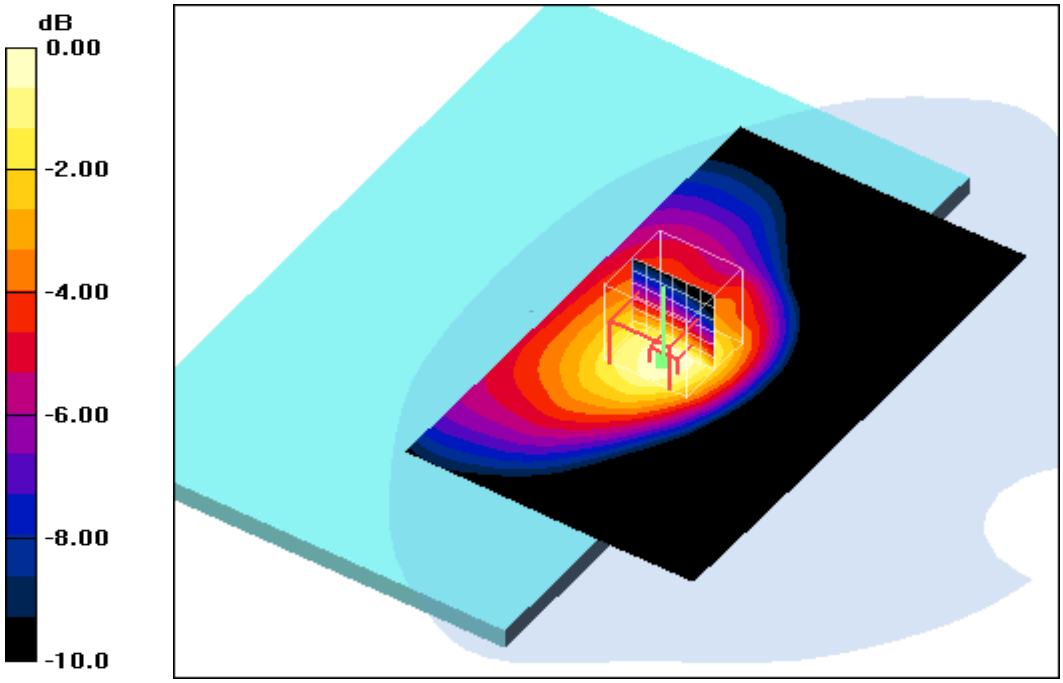
DUT: Ericsson; Type: F5521gw; Serial: #2
Communication System: GSM 850 GPRS 2TS; Frequency: 836.6 MHz; Duty Cycle: 1:4
Medium: M850 Medium parameters used: f = 836.6 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- 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 (71x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 2.43 mW/g

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 49.7 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 3.70 W/kg
SAR(1 g) = 2.25 mW/g; SAR(10 g) = 1.42 mW/g
Maximum value of SAR (measured) = 2.43 mW/g



0 dB = 2.43mW/g

Additional information:
position or distance of DUT to SAM: 10 mm
ambient temperature: 22.5°C; liquid temperature: 21.7°C

Date/Time: 08.02.2011 14:10:55Date/Time: 08.02.2011 14:21:44

IEEE1528_OET65-Body-GSM850 GPRS 2TS_2

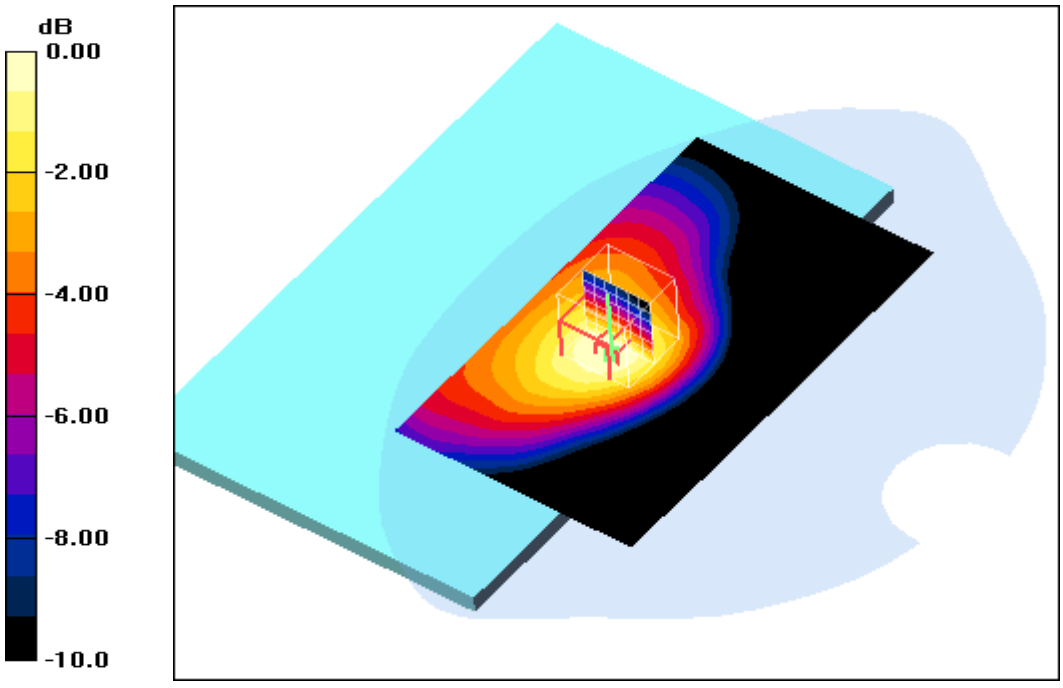
DUT: Ericsson; Type: F5521gw; Serial: #2
Communication System: GSM 850 GPRS 2TS; Frequency: 836.6 MHz; Duty Cycle: 1:4
Medium: M850 Medium parameters used: f = 836.6 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Front position - Middle 15mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.61 mW/g

Front position - Middle 15mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 41.6 V/m; Power Drift = -0.067 dB
Peak SAR (extrapolated) = 2.24 W/kg
SAR(1 g) = 1.47 mW/g; SAR(10 g) = 0.992 mW/g
Maximum value of SAR (measured) = 1.57 mW/g



0 dB = 1.57mW/g

Additional information:
position or distance of DUT to SAM: 15 mm
ambient temperature: 22.5°C; liquid temperature: 21.7°C

Date/Time: 08.02.2011 14:38:04Date/Time: 08.02.2011 14:48:40

IEEE1528_OET65-Body-GSM850 GPRS 2TS_2

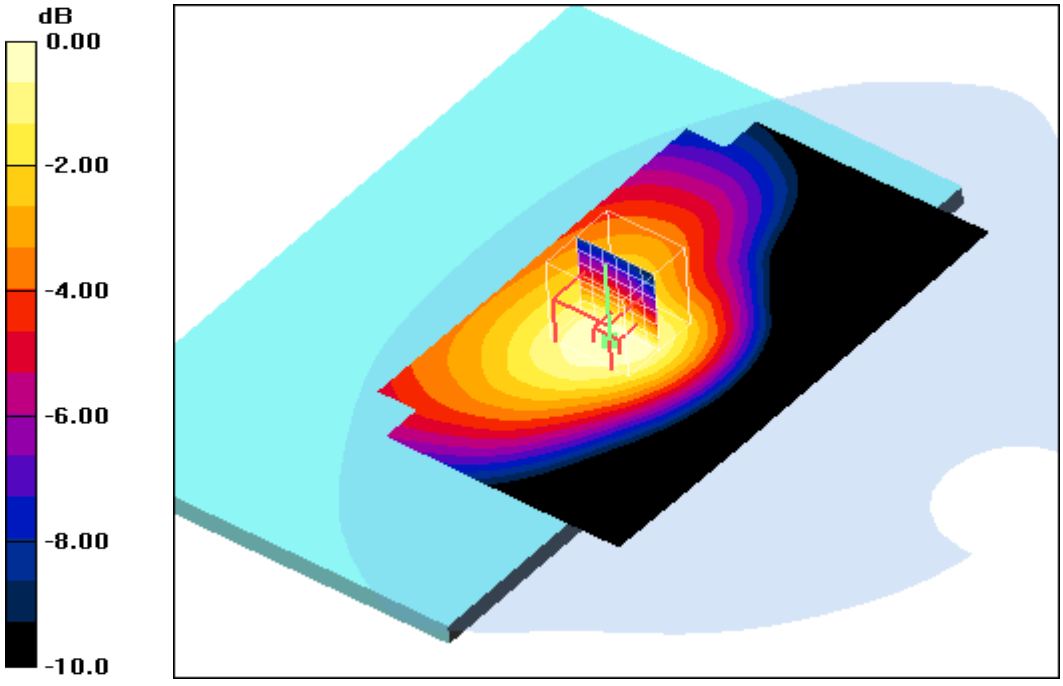
DUT: Ericsson; Type: F5521gw; Serial: #2
Communication System: GSM 850 GPRS 2TS; Frequency: 836.6 MHz; Duty Cycle: 1:4
Medium: M850 Medium parameters used: f = 836.6 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Front position - Middle 20mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

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

Front position - Middle 20mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 34.0 V/m; Power Drift = -0.039 dB
Peak SAR (extrapolated) = 1.37 W/kg
SAR(1 g) = 0.967 mW/g; SAR(10 g) = 0.679 mW/g
Maximum value of SAR (measured) = 1.03 mW/g



0 dB = 1.03mW/g

Additional information:
position or distance of DUT to SAM: 20 mm
ambient temperature: 22.5°C; liquid temperature: 21.7°C

Date/Time: 08.02.2011 15:08:05Date/Time: 08.02.2011 15:18:43

IEEE1528_OET65-Body-GSM850 GPRS 2TS_2

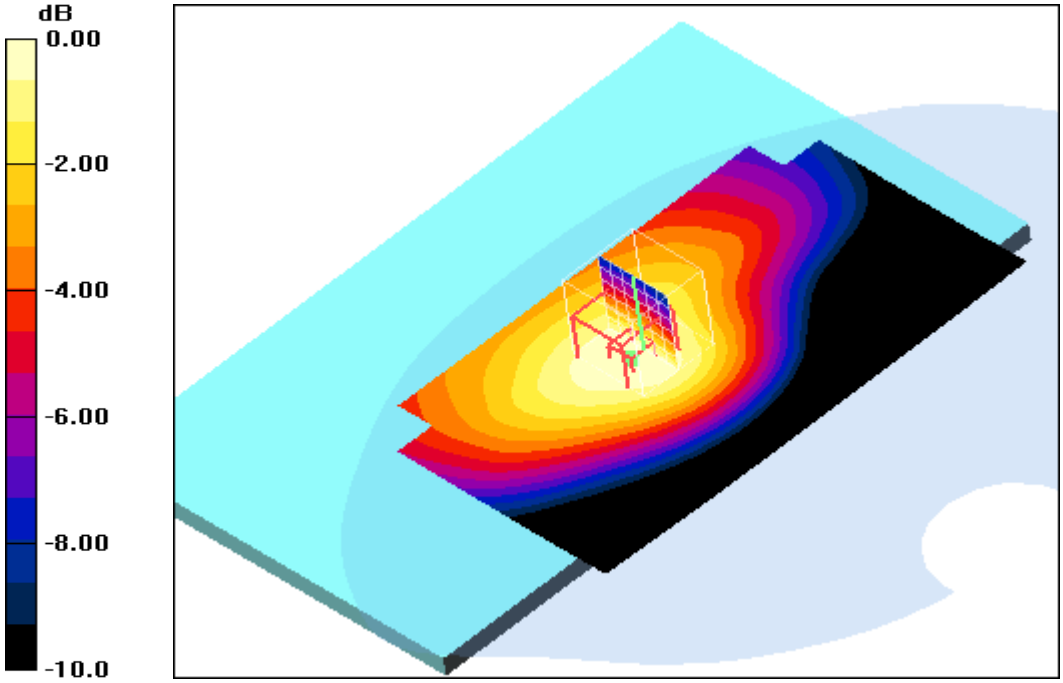
DUT: Ericsson; Type: F5521gw; Serial: #2
Communication System: GSM 850 GPRS 2TS; Frequency: 836.6 MHz; Duty Cycle: 1:4
Medium: M850 Medium parameters used: f = 836.6 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Front position - Middle 25mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.705 mW/g

Front position - Middle 25mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 27.9 V/m; Power Drift = -0.018 dB
Peak SAR (extrapolated) = 0.883 W/kg
SAR(1 g) = 0.657 mW/g; SAR(10 g) = 0.474 mW/g
Maximum value of SAR (measured) = 0.692 mW/g



0 dB = 0.692mW/g

Additional information:
position or distance of DUT to SAM: 25 mm
ambient temperature: 22.5°C; liquid temperature: 21.7°C

Date/Time: 08.02.2011 15:47:11Date/Time: 08.02.2011 15:57:49

IEEE1528_OET65-Body-GSM850 GPRS 2TS_2

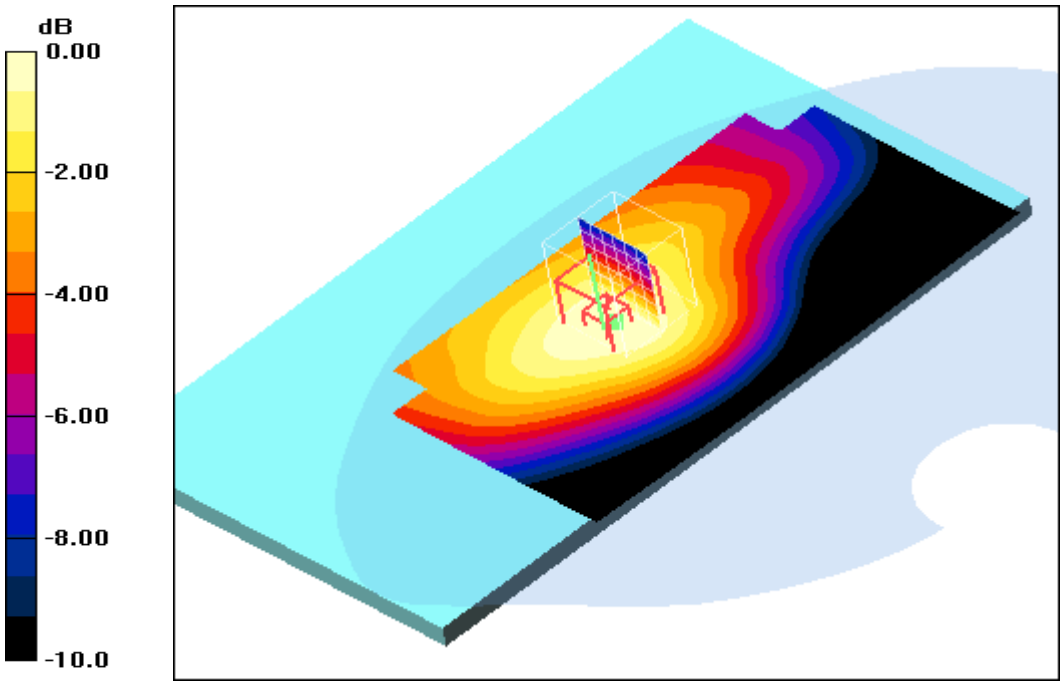
DUT: Ericsson; Type: F5521gw; Serial: #2
Communication System: GSM 850 GPRS 2TS; Frequency: 836.6 MHz; Duty Cycle: 1:4
Medium: M850 Medium parameters used: f = 836.6 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Front position - Middle 30mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.476 mW/g

Front position - Middle 30mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.7 V/m; Power Drift = 0.020 dB
Peak SAR (extrapolated) = 0.583 W/kg
SAR(1 g) = 0.445 mW/g; SAR(10 g) = 0.325 mW/g
Maximum value of SAR (measured) = 0.469 mW/g



0 dB = 0.469mW/g

Additional information:
position or distance of DUT to SAM: 30 mm
ambient temperature: 22.5°C; liquid temperature: 21.7°C

Date/Time: 08.02.2011 17:20:42Date/Time: 08.02.2011 17:31:30

IEEE1528_OET65-Body-GSM850 GPRS 2TS_2

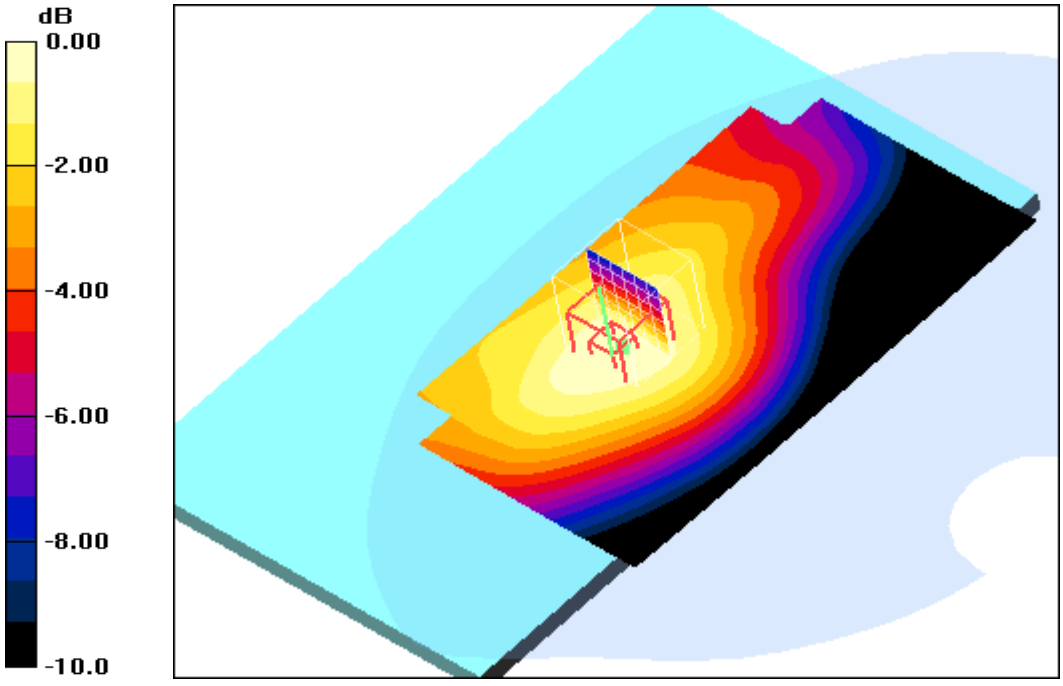
DUT: Ericsson; Type: F5521gw; Serial: #2
Communication System: GSM 850 GPRS 2TS; Frequency: 824.2 MHz; Duty Cycle: 1:4
Medium: M850 Medium parameters used: f = 824.2 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Front position - Low 35mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.257 mW/g

Front position - Low 35mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.8 V/m; Power Drift = -0.013 dB
Peak SAR (extrapolated) = 0.317 W/kg
SAR(1 g) = 0.245 mW/g; SAR(10 g) = 0.179 mW/g
Maximum value of SAR (measured) = 0.258 mW/g



0 dB = 0.258mW/g

Additional information:
position or distance of DUT to SAM: 35 mm
ambient temperature: 22.5°C; liquid temperature: 21.7°C

Date/Time: 08.02.2011 16:19:14Date/Time: 08.02.2011 16:29:58

IEEE1528_OET65-Body-GSM850 GPRS 2TS_2

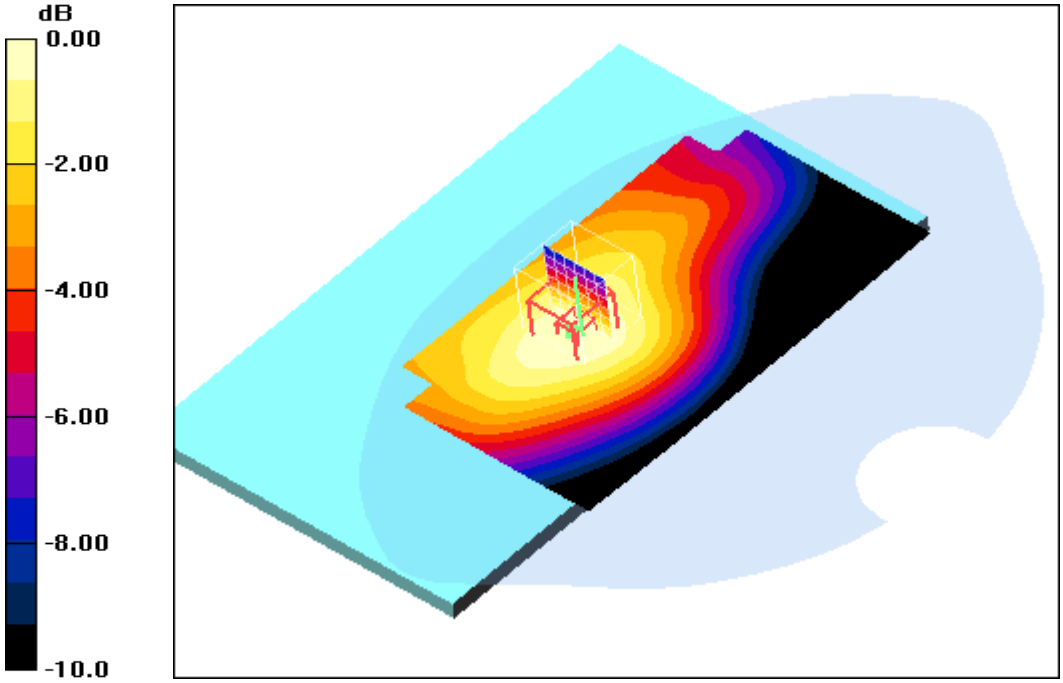
DUT: Ericsson; Type: F5521gw; Serial: #2
Communication System: GSM 850 GPRS 2TS; Frequency: 836.6 MHz; Duty Cycle: 1:4
Medium: M850 Medium parameters used: f = 836.6 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Front position - Middle 35mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

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

Front position - Middle 35mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.8 V/m; Power Drift = 0.039 dB
Peak SAR (extrapolated) = 0.404 W/kg
SAR(1 g) = 0.307 mW/g; SAR(10 g) = 0.225 mW/g
Maximum value of SAR (measured) = 0.323 mW/g



0 dB = 0.323mW/g

Additional information:
position or distance of DUT to SAM: 35 mm
ambient temperature: 22.5°C; liquid temperature: 21.7°C

Date/Time: 09.02.2011 08:25:50Date/Time: 09.02.2011 08:36:32

IEEE1528_OET65-Body-GSM850 GPRS 2TS_2

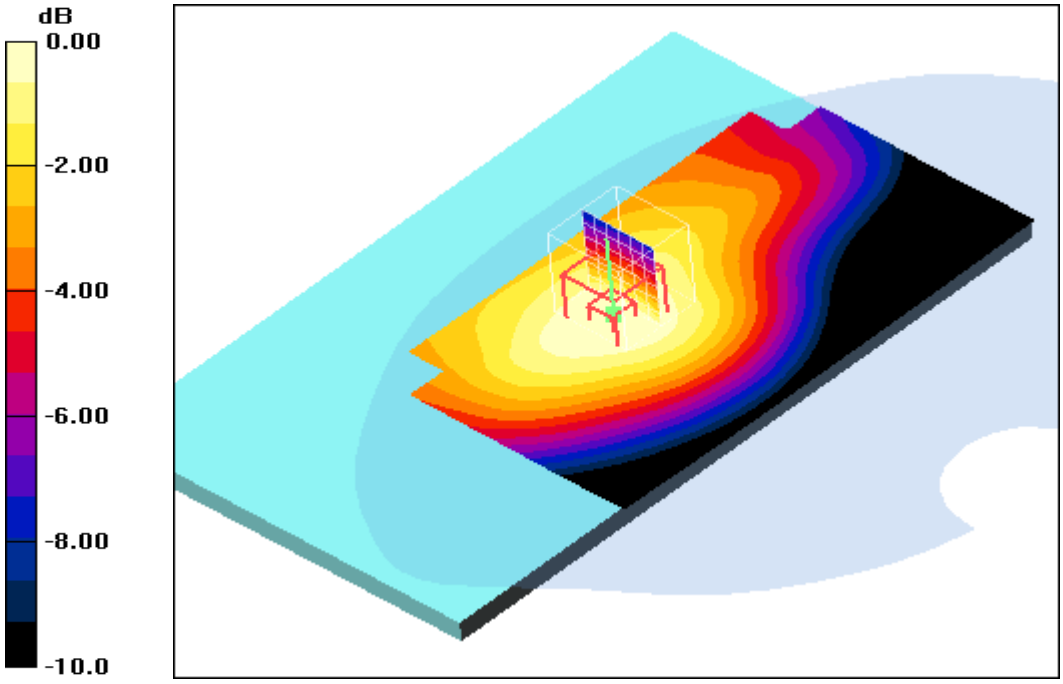
DUT: Ericsson; Type: F5521gw; Serial: #2
Communication System: GSM 850 GPRS 2TS; Frequency: 848.8 MHz; Duty Cycle: 1:4
Medium: M850 Medium parameters used: f = 848.8 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Front position - High 35mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.438 mW/g

Front position - High 35mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 21.5 V/m; Power Drift = -0.042 dB
Peak SAR (extrapolated) = 0.526 W/kg
SAR(1 g) = 0.407 mW/g; SAR(10 g) = 0.299 mW/g
Maximum value of SAR (measured) = 0.427 mW/g



0 dB = 0.427mW/g

Additional information:
position or distance of DUT to SAM: 35 mm
ambient temperature: 22.6°C; liquid temperature: 21.5°C

Date/Time: 08.02.2011 13:11:10Date/Time: 08.02.2011 13:21:57

IEEE1528_OET65-Body-GSM850 GPRS 2TS_2

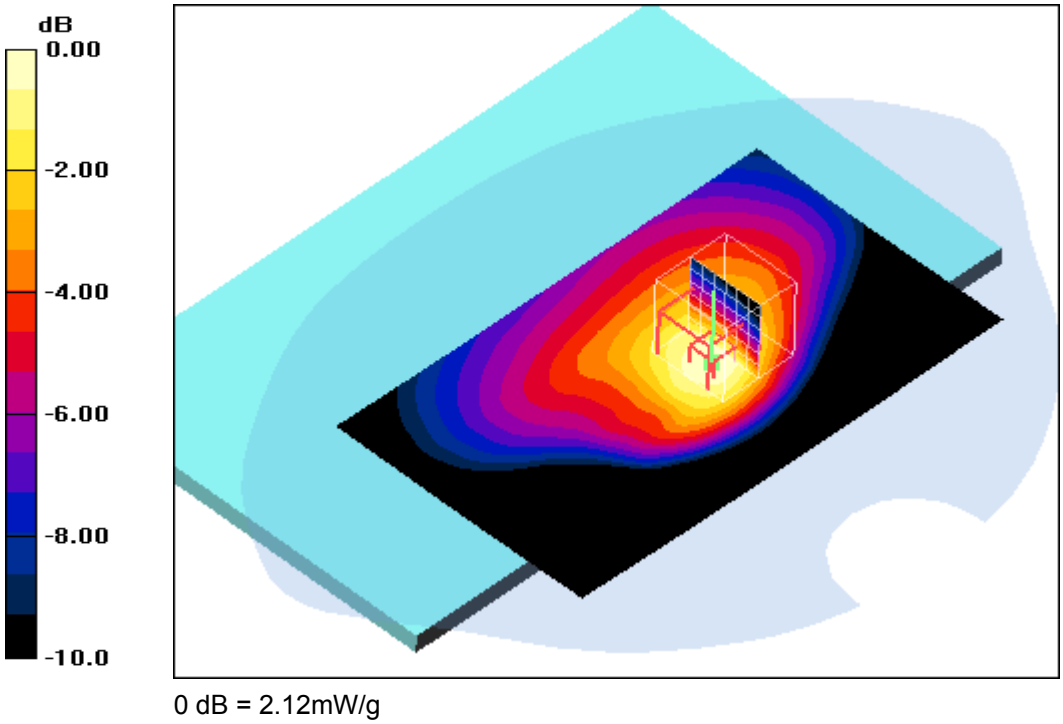
DUT: Ericsson; Type: F5521gw; Serial: #2
Communication System: GSM 850 GPRS 2TS; Frequency: 836.6 MHz; Duty Cycle: 1:4
Medium: M850 Medium parameters used: f = 836.6 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- 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 (71x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 2.21 mW/g

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 48.6 V/m; Power Drift = -0.072 dB
Peak SAR (extrapolated) = 3.04 W/kg
SAR(1 g) = 1.97 mW/g; SAR(10 g) = 1.26 mW/g
Maximum value of SAR (measured) = 2.12 mW/g



0 dB = 2.12mW/g

Additional information:
position or distance of DUT to SAM: 10 mm
ambient temperature: 22.5°C; liquid temperature: 21.7°C

Date/Time: 09.02.2011 08:56:57Date/Time: 09.02.2011 09:07:52

IEEE1528_OET65-Body-GSM850 GPRS 2TS_2

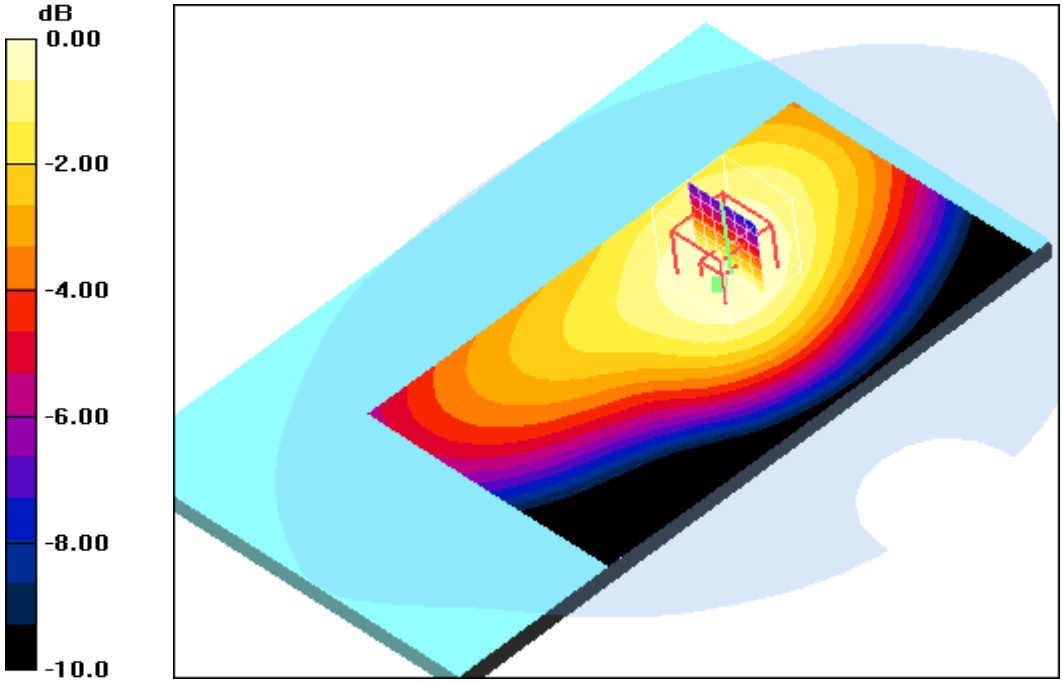
DUT: Ericsson; Type: F5521gw; Serial: #2
Communication System: GSM 850 GPRS 2TS; Frequency: 836.6 MHz; Duty Cycle: 1:4
Medium: M850 Medium parameters used: f = 836.6 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Rear position - Middle 35mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.297 mW/g

Rear position - Middle 35mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 17.9 V/m; Power Drift = -0.054 dB
Peak SAR (extrapolated) = 0.362 W/kg
SAR(1 g) = 0.277 mW/g; SAR(10 g) = 0.205 mW/g
Maximum value of SAR (measured) = 0.292 mW/g



0 dB = 0.292mW/g

Additional information:
position or distance of DUT to SAM: 35 mm
ambient temperature: 22.6°C; liquid temperature: 21.5°C

Date/Time: 08.02.2011 12:39:33Date/Time: 08.02.2011 12:49:03

IEEE1528_OET65-Body-GSM850 GPRS 2TS_2

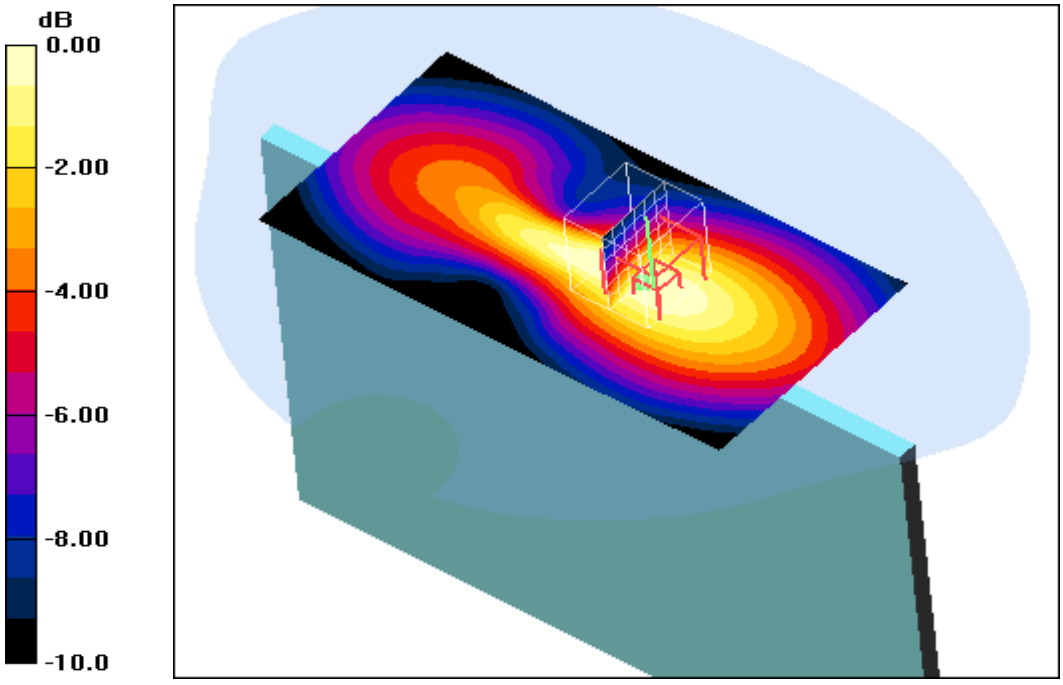
DUT: Ericsson; Type: F5521gw; Serial: #2
Communication System: GSM 850 GPRS 2TS; Frequency: 836.6 MHz; Duty Cycle: 1:4
Medium: M850 Medium parameters used: f = 836.6 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Top edge - Middle/Area Scan (61x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.507 mW/g

Top edge - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 23.8 V/m; Power Drift = 0.023 dB
Peak SAR (extrapolated) = 0.887 W/kg
SAR(1 g) = 0.467 mW/g; SAR(10 g) = 0.312 mW/g
Maximum value of SAR (measured) = 0.503 mW/g



0 dB = 0.503mW/g

Additional information:
position or distance of DUT to SAM: 10 mm
ambient temperature: 22.5°C; liquid temperature: 21.7°C

Date/Time: 09.02.2011 11:51:10Date/Time: 09.02.2011 12:00:52

IEEE1528_OET65-Body-GSM850 GPRS 2TS_2

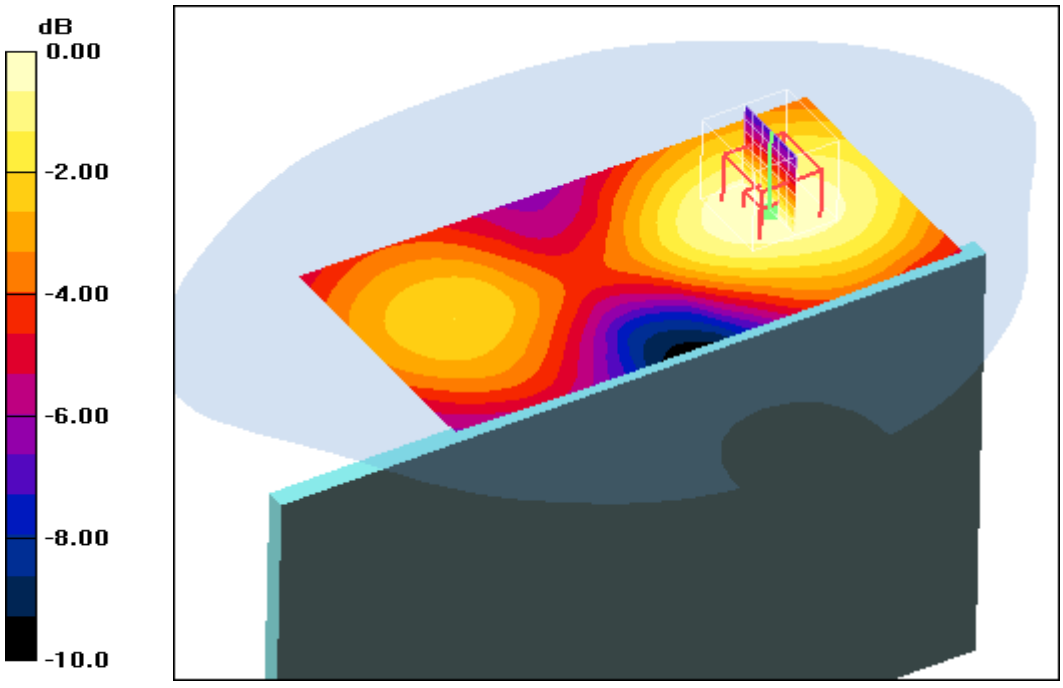
DUT: Ericsson; Type: F5521gw; Serial: #2
Communication System: GSM 850 GPRS 2TS; Frequency: 836.6 MHz; Duty Cycle: 1:4
Medium: M850 Medium parameters used: f = 836.6 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Top edge - Middle 35mm/Area Scan (61x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.099 mW/g

Top edge - Middle 35mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 10.4 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.118 W/kg
SAR(1 g) = 0.093 mW/g; SAR(10 g) = 0.069 mW/g
Maximum value of SAR (measured) = 0.098 mW/g



0 dB = 0.098mW/g

Additional information:
position or distance of DUT to SAM: 35 mm
ambient temperature: 22.6°C; liquid temperature: 21.5°C

Annex B.6: GSM 1900 MHz Antenna #2

Date/Time: 09.02.2011 16:10:55Date/Time: 09.02.2011 16:21:36

IEEE1528_OET65-Body-GSM1900 GPRS 2TS_2

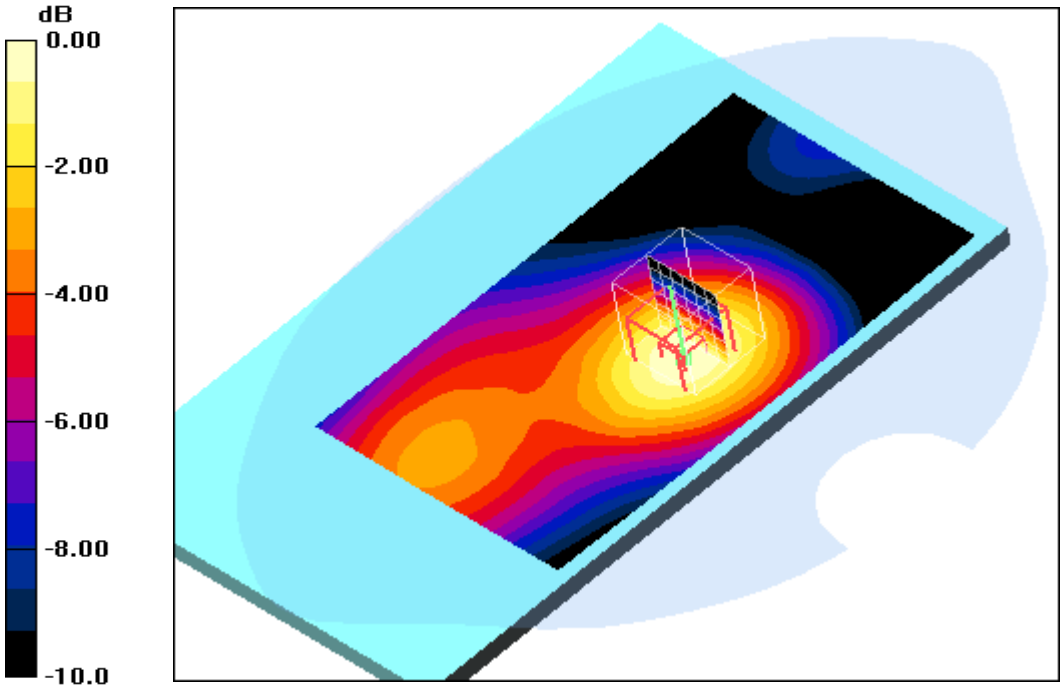
DUT: Ericsson; Type: F5521gw; Serial: #2
Communication System: GSM 1900 GPRS 2TS; Frequency: 1880 MHz; Duty Cycle: 1:4
Medium: M1900 Medium parameters used: f = 1880 MHz; σ = 1.56 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(4.35, 4.35, 4.35); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Front position - Middle 35mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.198 mW/g

Front position - Middle 35mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.1 V/m; Power Drift = 0.068 dB
Peak SAR (extrapolated) = 0.255 W/kg
SAR(1 g) = 0.185 mW/g; SAR(10 g) = 0.123 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: 35 mm
ambient temperature: 22.9°C; liquid temperature: 22.4°C

Date/Time: 09.02.2011 15:42:36Date/Time: 09.02.2011 15:53:20

IEEE1528_OET65-Body-GSM1900 GPRS 2TS_2

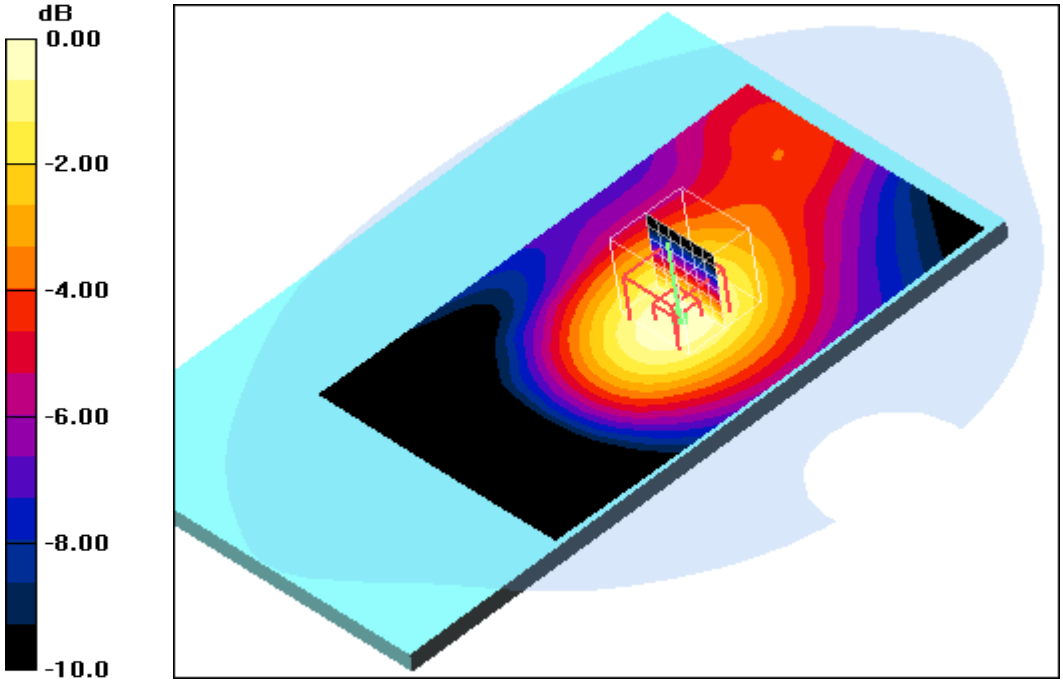
DUT: Ericsson; Type: F5521gw; Serial: #2
Communication System: GSM 1900 GPRS 2TS; Frequency: 1880 MHz; Duty Cycle: 1:4
Medium: M1900 Medium parameters used: f = 1880 MHz; σ = 1.56 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(4.35, 4.35, 4.35); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Rear position - Middle 35mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.193 mW/g

Rear position - Middle 35mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.2 V/m; Power Drift = -0.013 dB
Peak SAR (extrapolated) = 0.265 W/kg
SAR(1 g) = 0.181 mW/g; SAR(10 g) = 0.119 mW/g
Maximum value of SAR (measured) = 0.195 mW/g



0 dB = 0.195mW/g

Additional information:
position or distance of DUT to SAM: 35 mm
ambient temperature: 22.9°C; liquid temperature: 22.4°C

Date/Time: 10.02.2011 09:58:53Date/Time: 10.02.2011 10:08:19

IEEE1528_OET65-Body-GSM1900 GPRS 2TS_2

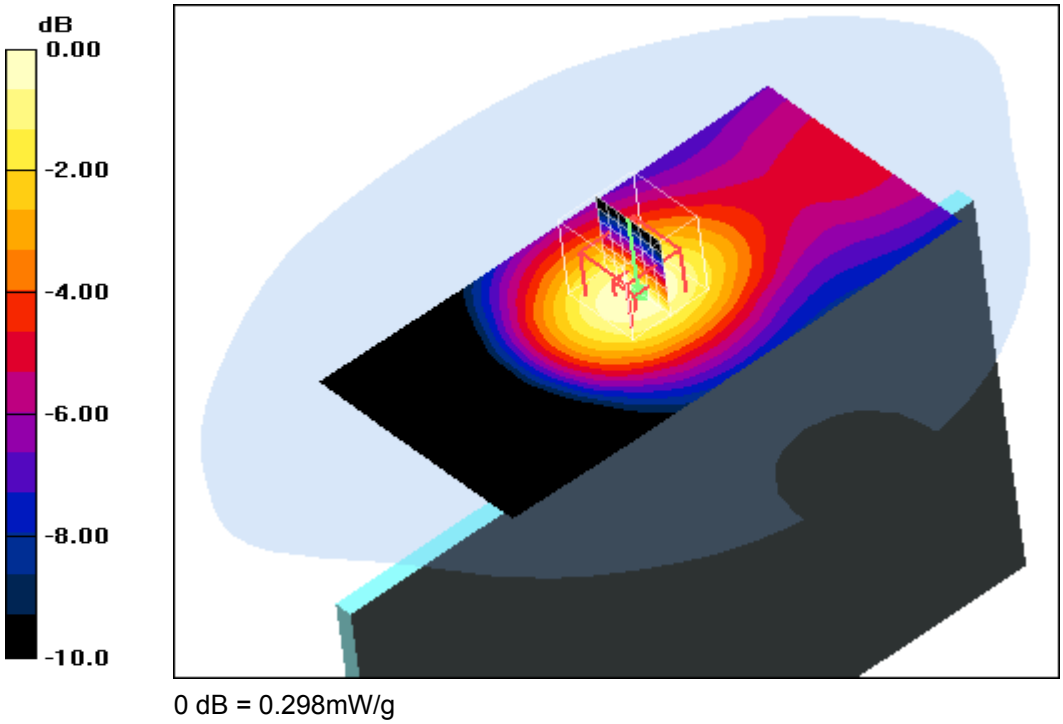
DUT: Ericsson; Type: F5521gw; Serial: #2
Communication System: GSM 1900 GPRS 2TS; Frequency: 1850.2 MHz; Duty Cycle: 1:4
Medium: M1900 Medium parameters used: f = 1850.2 MHz; σ = 1.56 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(4.35, 4.35, 4.35); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Top edge - Low 35mm/Area Scan (61x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.297 mW/g

Top edge - Low 35mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.9 V/m; Power Drift = -0.015 dB
Peak SAR (extrapolated) = 0.381 W/kg
SAR(1 g) = 0.275 mW/g; SAR(10 g) = 0.183 mW/g
Maximum value of SAR (measured) = 0.298 mW/g



0 dB = 0.298mW/g

Additional information:
position or distance of DUT to SAM: 35 mm
ambient temperature: 22.6°C; liquid temperature: 21.7°C

Date/Time: 09.02.2011 14:21:19Date/Time: 09.02.2011 14:30:38

IEEE1528_OET65-Body-GSM1900 GPRS 2TS_2

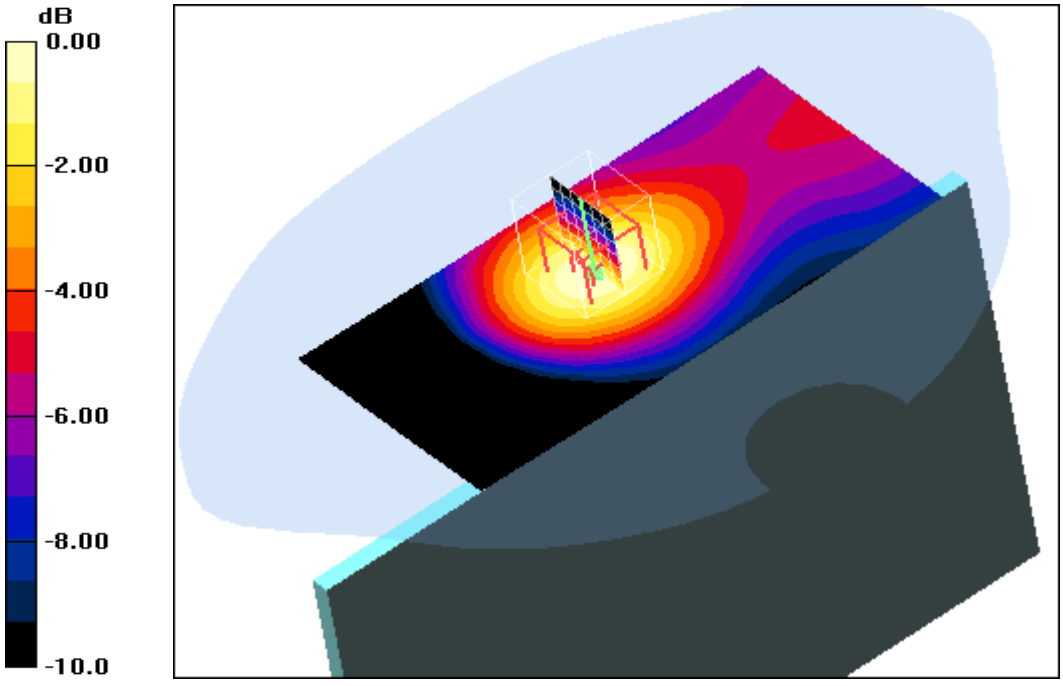
DUT: Ericsson; Type: F5521gw; Serial: #2
Communication System: GSM 1900 GPRS 2TS; Frequency: 1880 MHz; Duty Cycle: 1:4
Medium: M1900 Medium parameters used: f = 1880 MHz; σ = 1.56 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(4.35, 4.35, 4.35); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Top edge - Middle 35mm/Area Scan (61x121x1): Measurement grid: dx=15mm, dy=15mm

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

Top edge - Middle 35mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 13.5 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 0.328 W/kg
SAR(1 g) = 0.235 mW/g; SAR(10 g) = 0.155 mW/g
Maximum value of SAR (measured) = 0.253 mW/g



0 dB = 0.253mW/g

Additional information:
position or distance of DUT to SAM: 35 mm
ambient temperature: 22.9°C; liquid temperature: 22.4°C

Date/Time: 10.02.2011 10:22:44Date/Time: 10.02.2011 10:32:10

IEEE1528_OET65-Body-GSM1900 GPRS 2TS_2

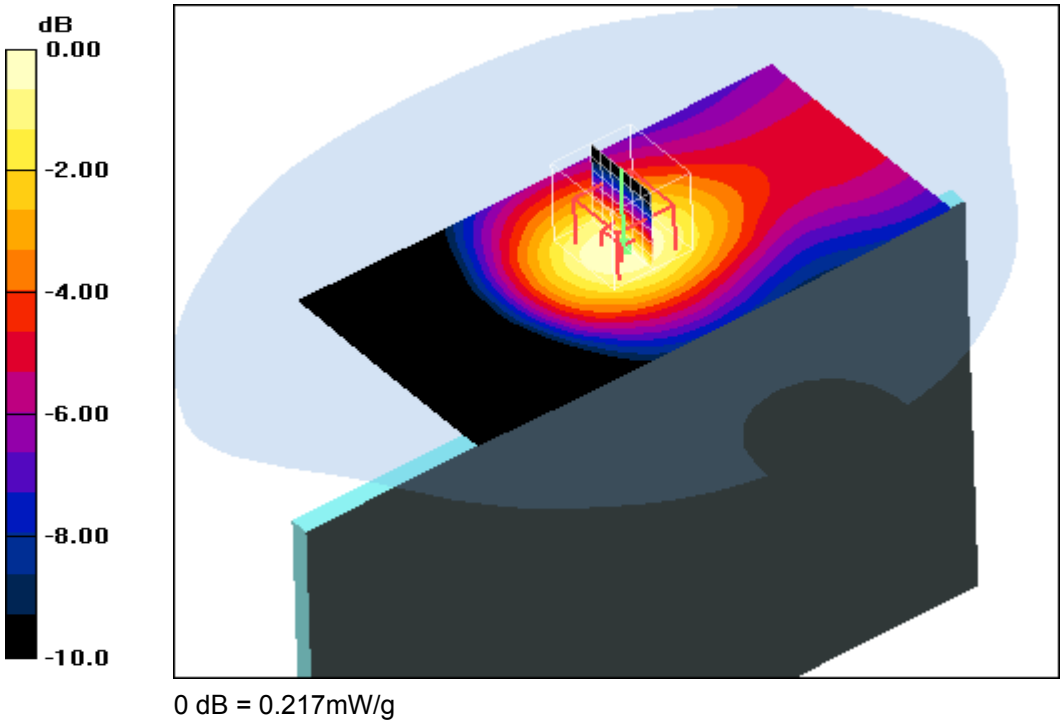
DUT: Ericsson; Type: F5521gw; Serial: #2
Communication System: GSM 1900 GPRS 2TS; Frequency: 1909.8 MHz; Duty Cycle: 1:4
Medium: M1900 Medium parameters used: f = 1909.8 MHz; σ = 1.56 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(4.35, 4.35, 4.35); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Top edge - High 35mm/Area Scan (61x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.218 mW/g

Top edge - High 35mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.7 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.290 W/kg
SAR(1 g) = 0.201 mW/g; SAR(10 g) = 0.131 mW/g
Maximum value of SAR (measured) = 0.217 mW/g



0 dB = 0.217mW/g

Additional information:
position or distance of DUT to SAM: 35 mm
ambient temperature: 22.6°C; liquid temperature: 21.7°C

Annex B.7: WCDMA FDD V 850 MHz Antenna #2

Date/Time: 09.02.2011 10:06:11Date/Time: 09.02.2011 10:16:48

IEEE1528_OET65-Body-WCDMA FDD V_2

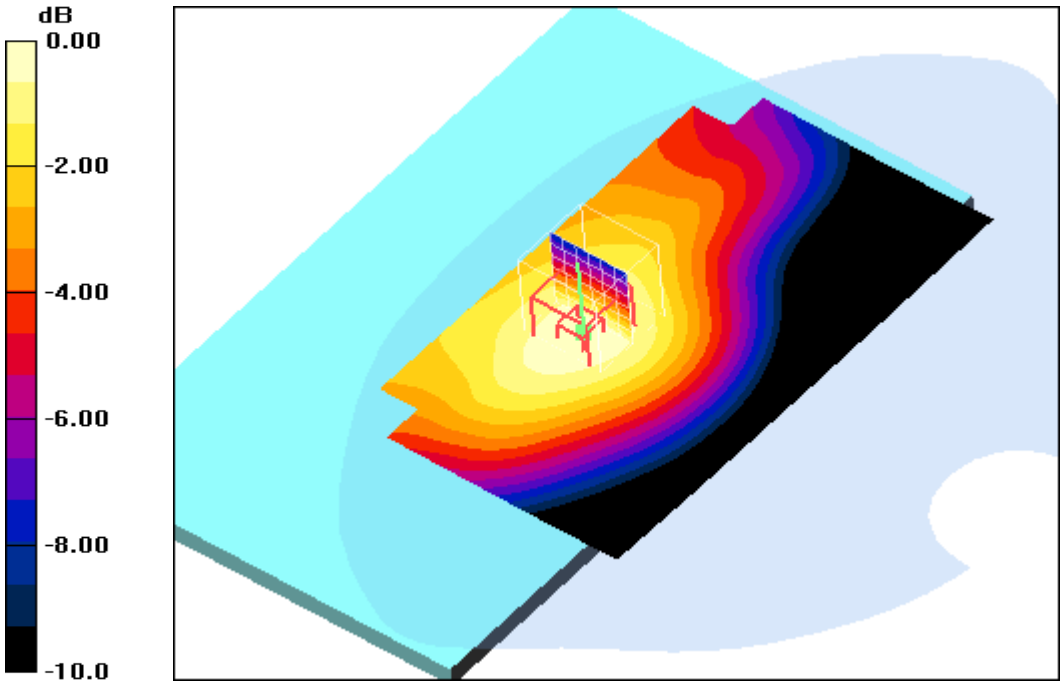
DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: WCDMA FDD V; Frequency: 826.4 MHz; Duty Cycle: 1:1
Medium: M850 Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Front position - Low 35mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.210 mW/g

Front position - Low 35mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 15.1 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.257 W/kg
SAR(1 g) = 0.198 mW/g; SAR(10 g) = 0.144 mW/g
Maximum value of SAR (measured) = 0.209 mW/g



0 dB = 0.209mW/g

Additional information:
position or distance of DUT to SAM: 35 mm
ambient temperature: 22.6°C; liquid temperature: 21.5°C

Date/Time: 08.02.2011 16:53:43Date/Time: 08.02.2011 17:04:23

IEEE1528_OET65-Body-WCDMA FDD V_2

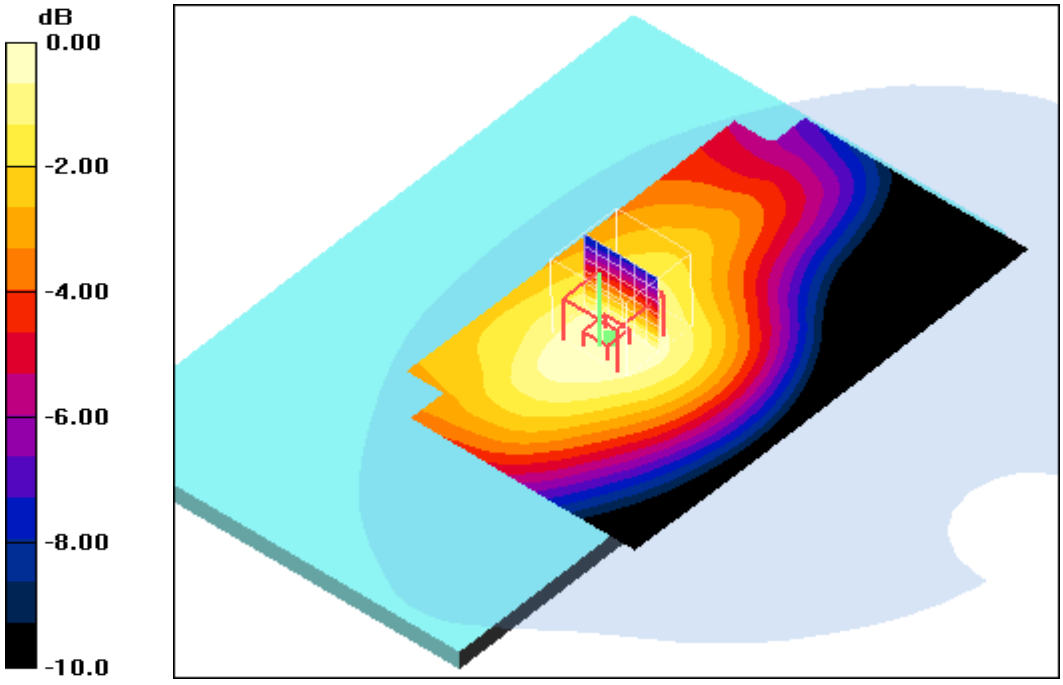
DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: WCDMA FDD V; Frequency: 836.4 MHz; Duty Cycle: 1:1
Medium: M850 Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Front position - Middle 35mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.202 mW/g

Front position - Middle 35mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.7 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.245 W/kg
SAR(1 g) = 0.189 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: 35 mm
ambient temperature: 22.5°C; liquid temperature: 21.7°C

Date/Time: 09.02.2011 10:30:27Date/Time: 09.02.2011 10:41:03

IEEE1528_OET65-Body-WCDMA FDD V_2

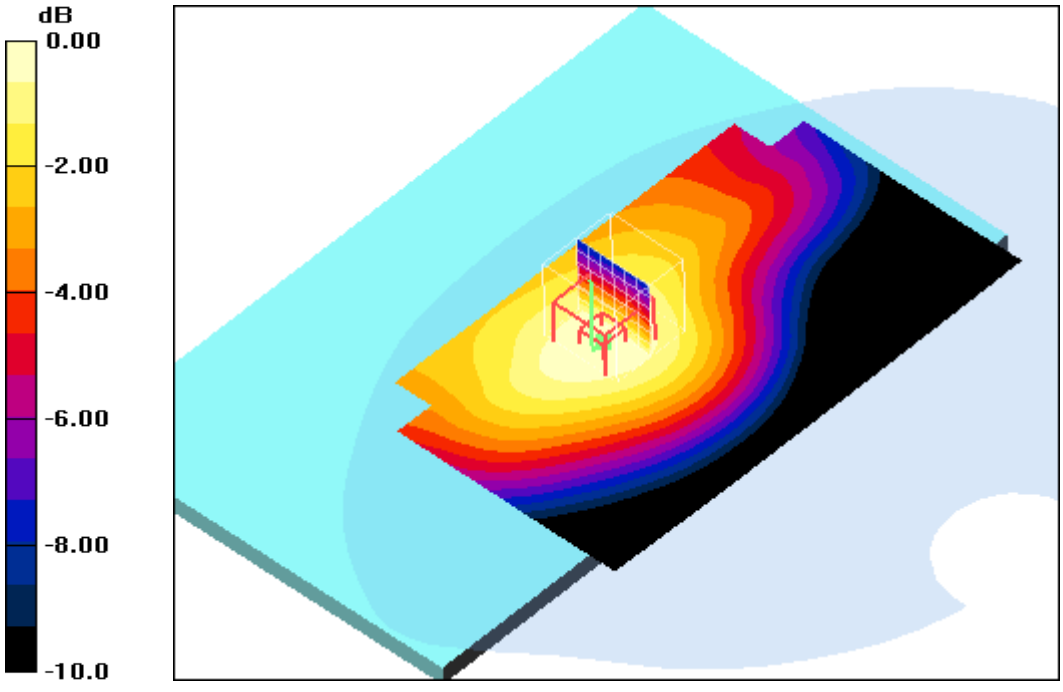
DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: WCDMA FDD V; Frequency: 846.6 MHz; Duty Cycle: 1:1
Medium: M850 Medium parameters used (interpolated): f = 846.6 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Front position - High 35mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.238 mW/g

Front position - High 35mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.1 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 0.293 W/kg
SAR(1 g) = 0.224 mW/g; SAR(10 g) = 0.162 mW/g
Maximum value of SAR (measured) = 0.236 mW/g



0 dB = 0.236mW/g

Additional information:
position or distance of DUT to SAM: 35 mm
ambient temperature: 22.6°C; liquid temperature: 21.5°C

Date/Time: 09.02.2011 09:25:15Date/Time: 09.02.2011 09:48:40

IEEE1528_OET65-Body-WCDMA FDD V_2

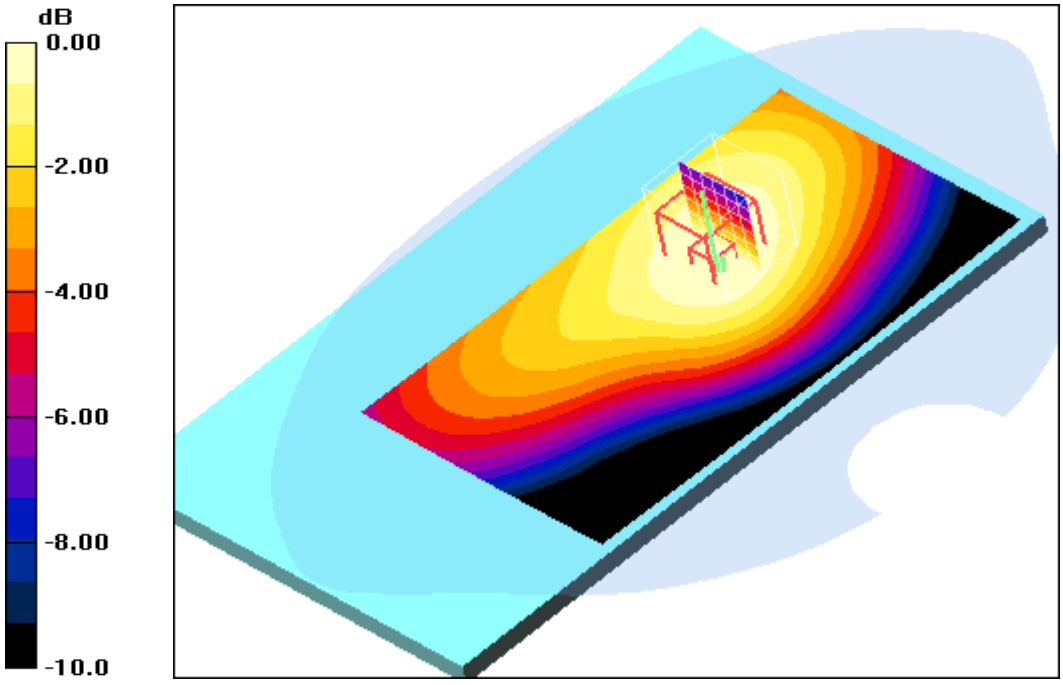
DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: WCDMA FDD V; Frequency: 836.4 MHz; Duty Cycle: 1:1
Medium: M850 Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(5.85, 5.85, 5.85); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Rear position - Middle 35mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.190 mW/g

Rear position - Middle 35mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 14.3 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 0.234 W/kg
SAR(1 g) = 0.178 mW/g; SAR(10 g) = 0.132 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: 35 mm
ambient temperature: 22.6°C; liquid temperature: 21.5°C

Date/Time: 09.02.2011 10:58:14Date/Time: 09.02.2011 11:07:46Date/Time: 09.02.2011 11:19:16

IEEE1528_OET65-Body-WCDMA FDD V_2

DUT: Ericsson; Type: F5521gw; Serial: #1
Communication System: WCDMA FDD V; Frequency: 836.4 MHz; Duty Cycle: 1:1
Medium: M850 Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.96 mho/m; ε_r = 55.5; ρ = 1000 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 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Top edge - Middle 35mm/Area Scan (61x121x1): Measurement grid: dx=15mm, dy=15mm

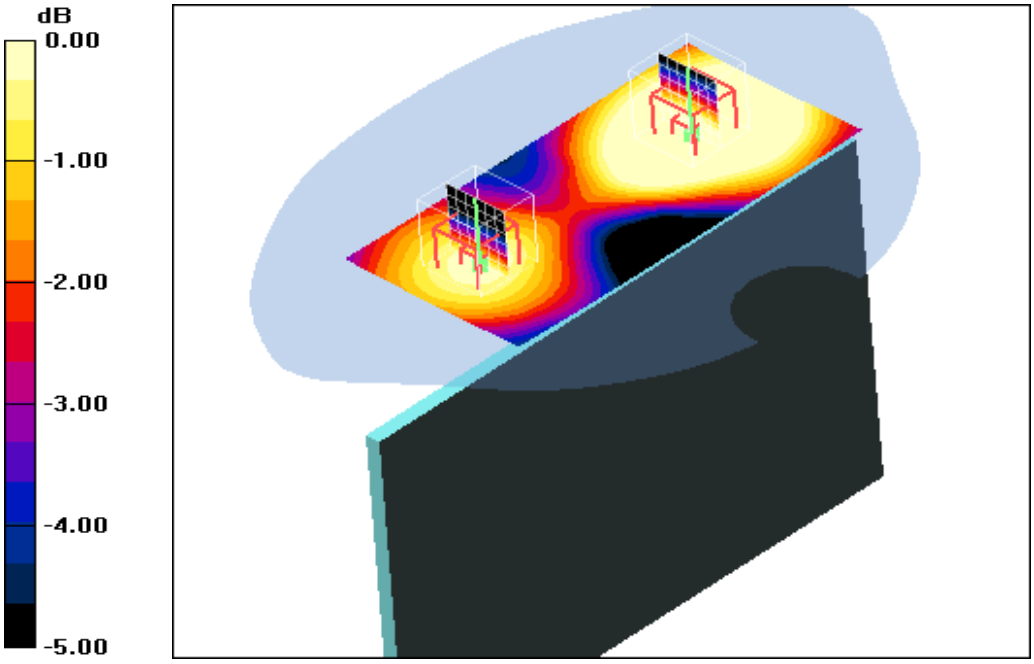
Maximum value of SAR (interpolated) = 0.069 mW/g

Top edge - Middle 35mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.75 V/m; Power Drift = -0.018 dB
Peak SAR (extrapolated) = 0.084 W/kg
SAR(1 g) = 0.066 mW/g; SAR(10 g) = 0.049 mW/g
Maximum value of SAR (measured) = 0.070 mW/g

Top edge - Middle 35mm/Zoom Scan (7x7x7) (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.75 V/m; Power Drift = -0.018 dB
Peak SAR (extrapolated) = 0.054 W/kg
SAR(1 g) = 0.042 mW/g; SAR(10 g) = 0.031 mW/g
Maximum value of SAR (measured) = 0.044 mW/g



0 dB = 0.044mW/g

Additional information:
position or distance of DUT to SAM: 35 mm
ambient temperature: 22.6°C; liquid temperature: 21.5°C

Annex B.8: WCDMA FDD II 1900 MHz Antenna #2

Date/Time: 09.02.2011 16:37:45Date/Time: 09.02.2011 16:48:27

IEEE1528_OET65-Body-WCDMA FDD II_2

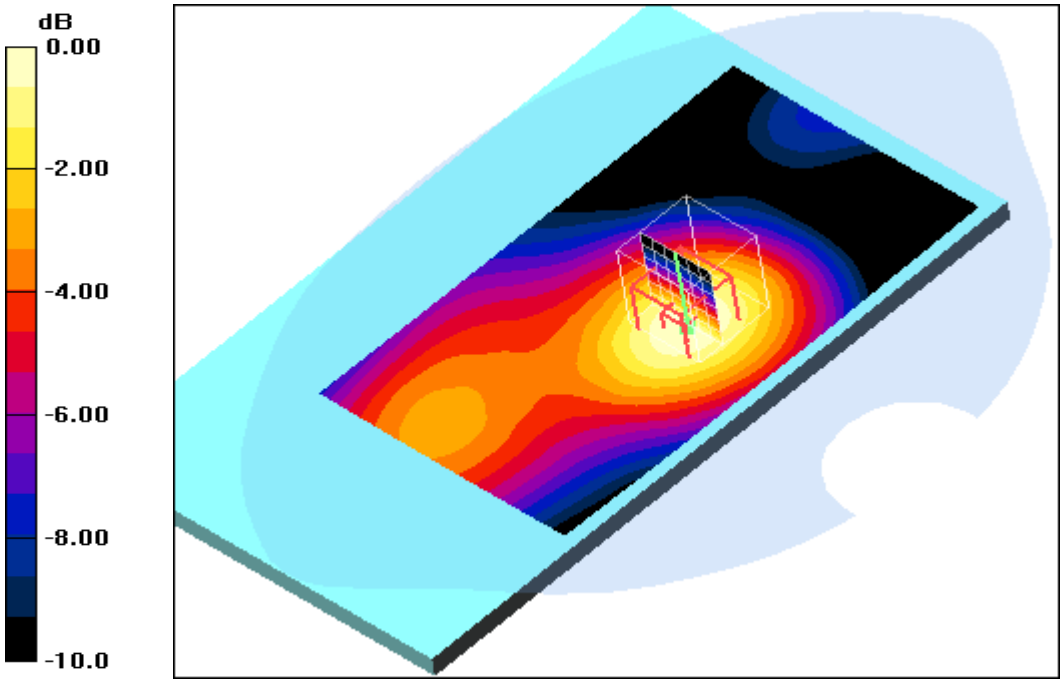
DUT: Ericsson; Type: F5521gw; Serial: #2
Communication System: WCDMA FDD II; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: M1900 Medium parameters used: f = 1880 MHz; σ = 1.56 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(4.35, 4.35, 4.35); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Front position - Middle 35mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.211 mW/g

Front position - Middle 35mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.4 V/m; Power Drift = 0.032 dB
Peak SAR (extrapolated) = 0.267 W/kg
SAR(1 g) = 0.195 mW/g; SAR(10 g) = 0.129 mW/g
Maximum value of SAR (measured) = 0.210 mW/g



0 dB = 0.210mW/g

Additional information:
position or distance of DUT to SAM: 35 mm
ambient temperature: 22.9°C; liquid temperature: 22.4°C

Date/Time: 09.02.2011 15:14:30Date/Time: 09.02.2011 15:25:09

IEEE1528_OET65-Body-WCDMA FDD II_2

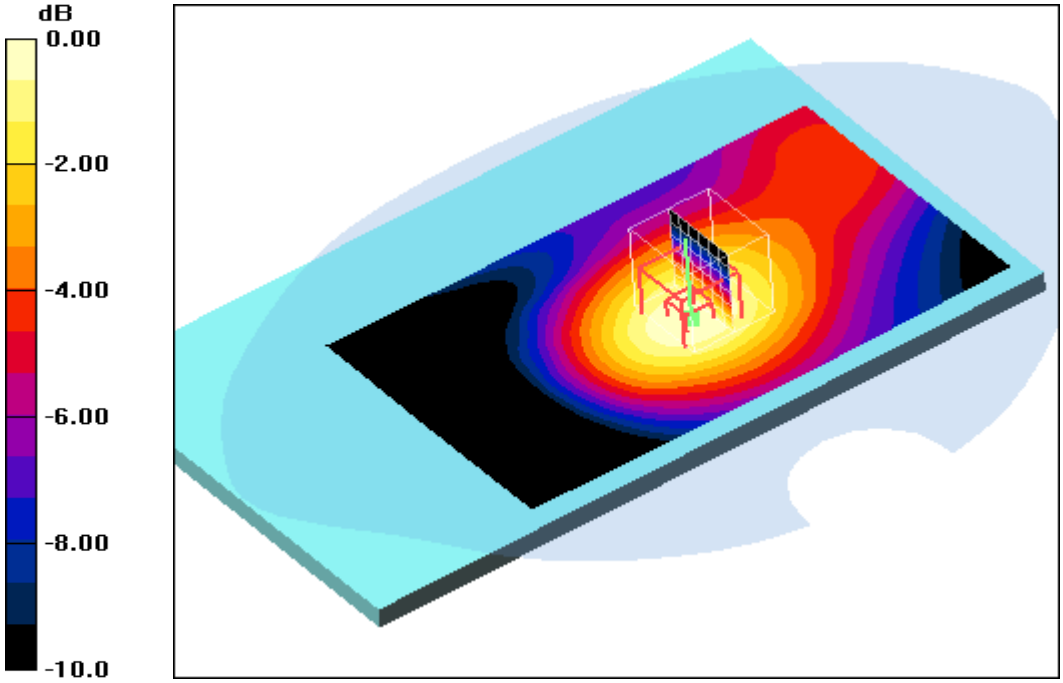
DUT: Ericsson; Type: F5521gw; Serial: #2
Communication System: WCDMA FDD II; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: M1900 Medium parameters used: f = 1880 MHz; σ = 1.56 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(4.35, 4.35, 4.35); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Rear position - Middle 35mm/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm

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

Rear position - Middle 35mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.4 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.273 W/kg
SAR(1 g) = 0.189 mW/g; SAR(10 g) = 0.125 mW/g
Maximum value of SAR (measured) = 0.204 mW/g



0 dB = 0.204mW/g

Additional information:
position or distance of DUT to SAM: 35 mm
ambient temperature: 22.9°C; liquid temperature: 22.4°C

Date/Time: 10.02.2011 08:42:28Date/Time: 10.02.2011 08:51:57

IEEE1528_OET65-Body-WCDMA FDD II_2

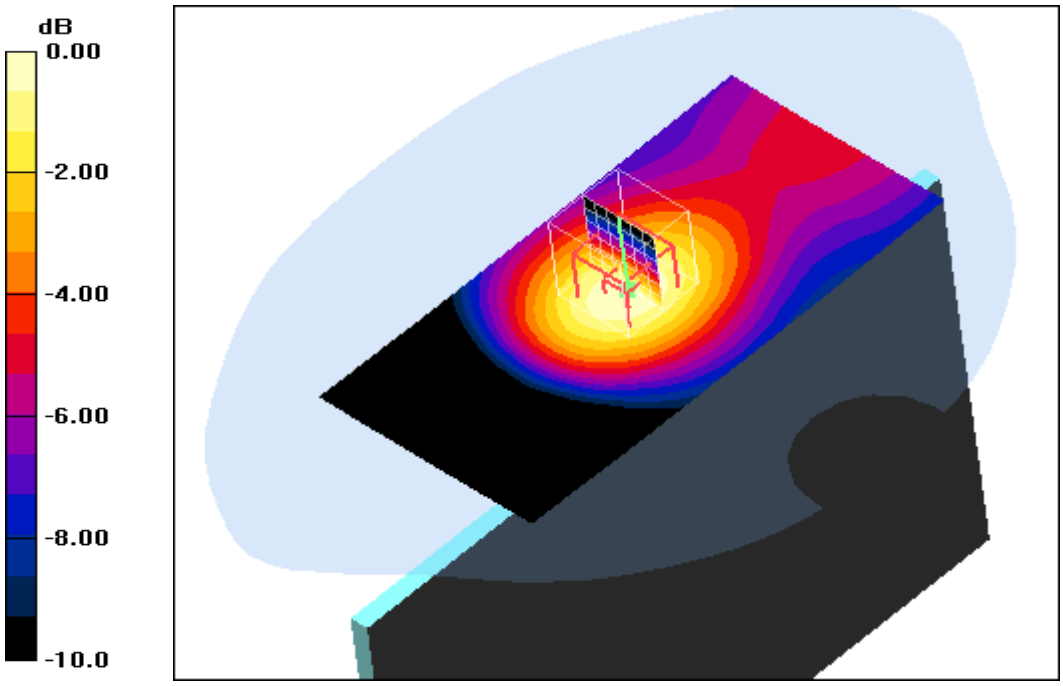
DUT: Ericsson; Type: F5521gw; Serial: #2
Communication System: WCDMA FDD II; Frequency: 1852.5 MHz; Duty Cycle: 1:1
Medium: M1900 Medium parameters used (interpolated): f = 1852.5 MHz; σ = 1.56 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(4.35, 4.35, 4.35); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Top edge - Low 35mm/Area Scan (61x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.291 mW/g

Top edge - Low 35mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.8 V/m; Power Drift = -0.023 dB
Peak SAR (extrapolated) = 0.373 W/kg
SAR(1 g) = 0.270 mW/g; SAR(10 g) = 0.179 mW/g
Maximum value of SAR (measured) = 0.292 mW/g



0 dB = 0.292mW/g

Additional information:
position or distance of DUT to SAM: 35 mm
ambient temperature: 22.6°C; liquid temperature: 21.7°C

Date/Time: 09.02.2011 14:48:05Date/Time: 09.02.2011 14:57:29

IEEE1528_OET65-Body-WCDMA FDD II_2

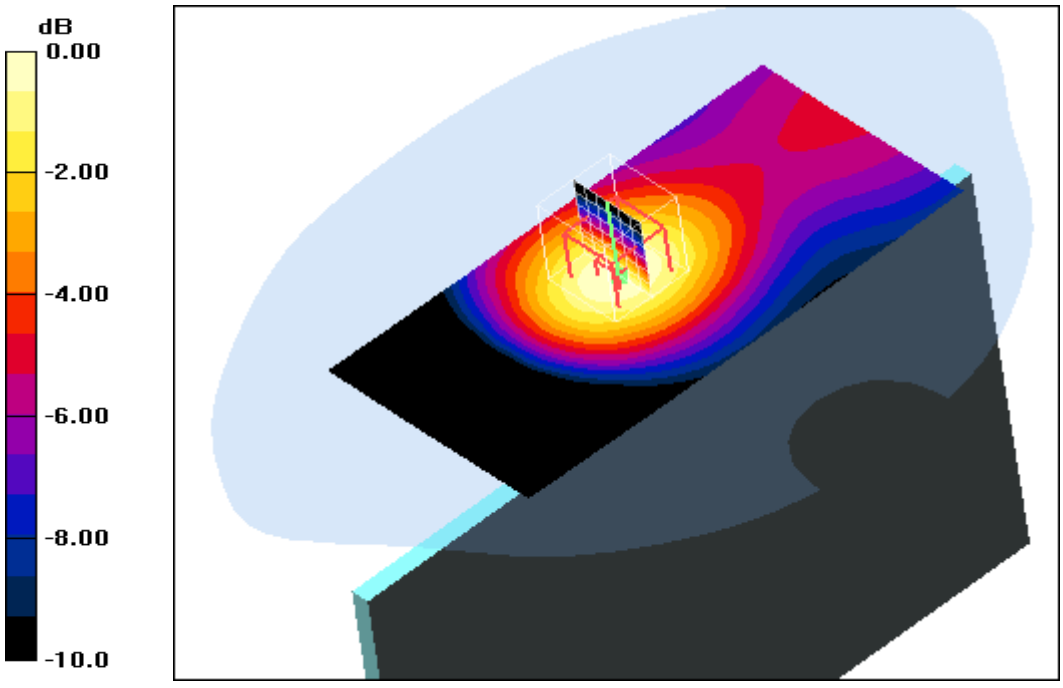
DUT: Ericsson; Type: F5521gw; Serial: #2
Communication System: WCDMA FDD II; Frequency: 1880 MHz; Duty Cycle: 1:1
Medium: M1900 Medium parameters used: f = 1880 MHz; σ = 1.56 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(4.35, 4.35, 4.35); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Top edge - Middle 35mm/Area Scan (61x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.273 mW/g

Top edge - Middle 35mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 14.2 V/m; Power Drift = -0.012 dB
Peak SAR (extrapolated) = 0.354 W/kg
SAR(1 g) = 0.254 mW/g; SAR(10 g) = 0.167 mW/g
Maximum value of SAR (measured) = 0.273 mW/g



0 dB = 0.273mW/g

Additional information:
position or distance of DUT to SAM: 35 mm
ambient temperature: 22.9°C; liquid temperature: 22.4°C

Date/Time: 10.02.2011 09:05:31Date/Time: 10.02.2011 09:14:59

IEEE1528_OET65-Body-WCDMA FDD II_2

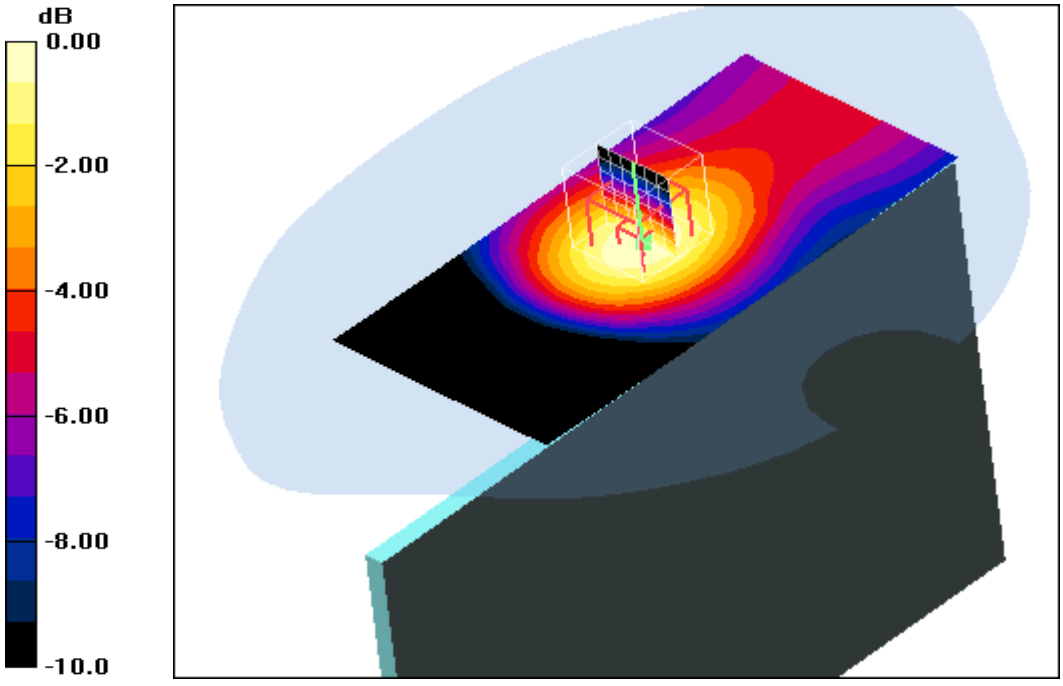
DUT: Ericsson; Type: F5521gw; Serial: #2
Communication System: WCDMA FDD II; Frequency: 1907.6 MHz; Duty Cycle: 1:1
Medium: M1900 Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.56 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
DASY4 Configuration:
- Probe: ET3DV6 - SN1558; ConvF(4.35, 4.35, 4.35); Calibrated: 11.08.2010
- Sensor-Surface: 4mm (Mechanical And Optical Surface Detection)
- Electronics: DAE3 Sn477; Calibrated: 07.05.2010
- Phantom: SAM 12; Type: SAM; Serial: 1043
- Measurement SW: DASY4, V4.5 Build 19; Postprocessing SW: SEMCAD, V1.8 Build 146

Top edge - High 35mm/Area Scan (61x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.226 mW/g

Top edge - High 35mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

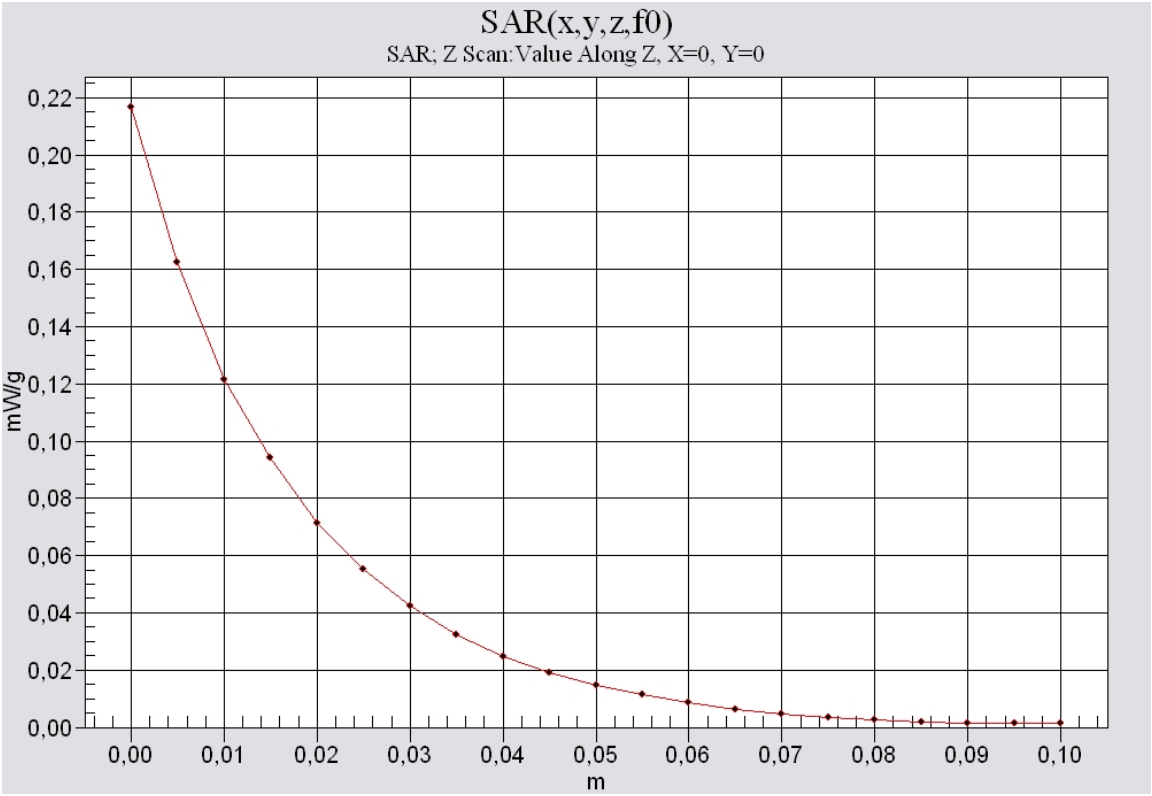
Reference Value = 13.0 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 0.301 W/kg
SAR(1 g) = 0.212 mW/g; SAR(10 g) = 0.139 mW/g
Maximum value of SAR (measured) = 0.227 mW/g



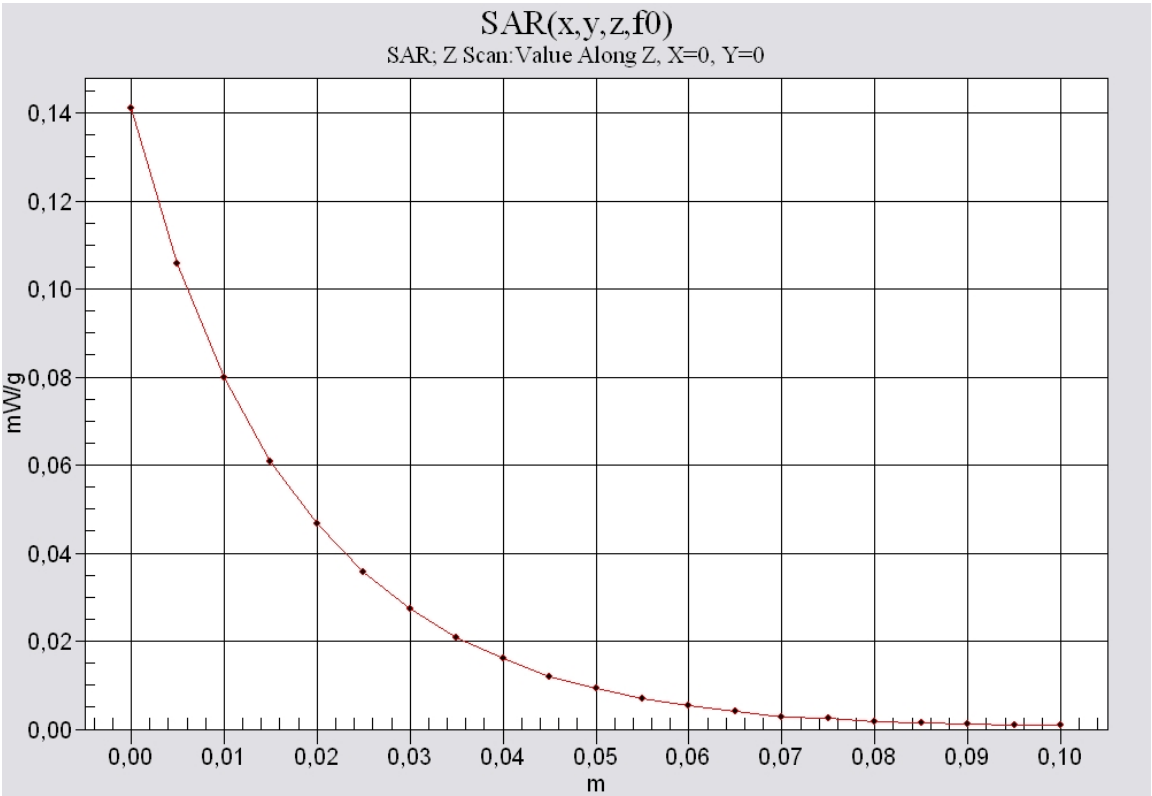
0 dB = 0.227mW/g

Additional information:
position or distance of DUT to SAM: 35 mm
ambient temperature: 22.6°C; liquid temperature: 21.7°C

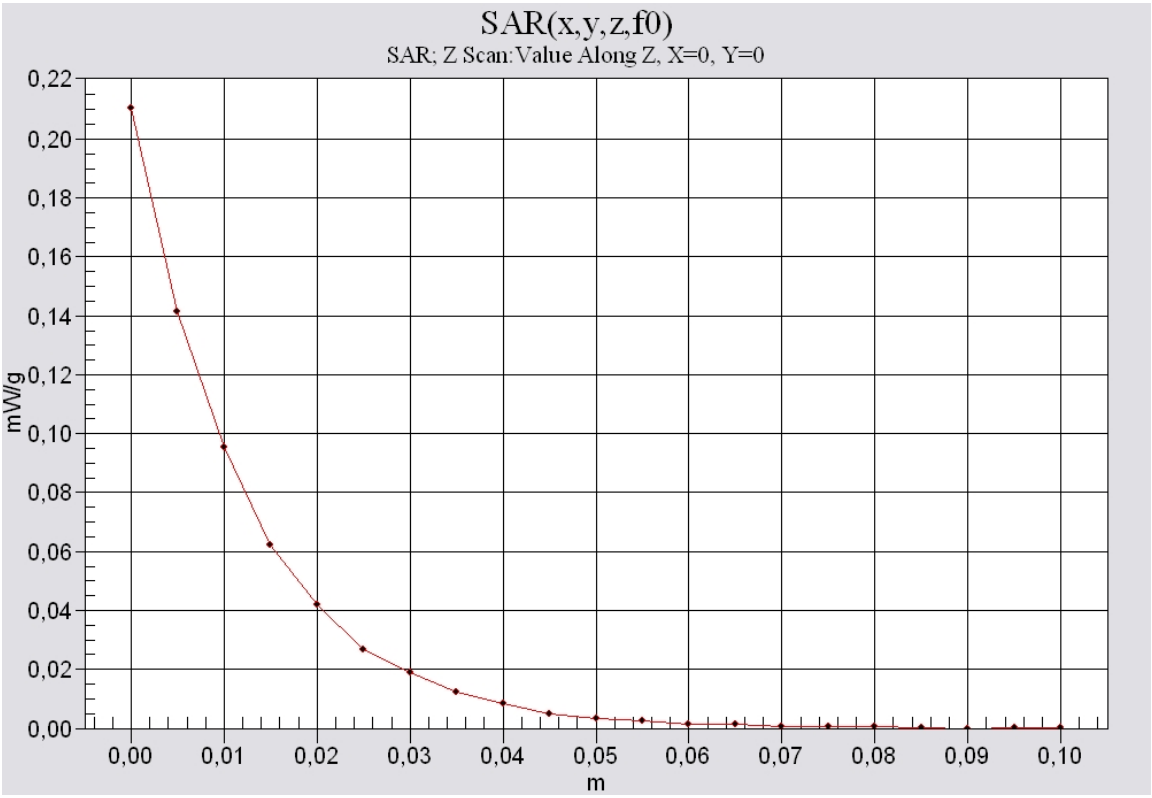
Annex B.9: Z-axis scan



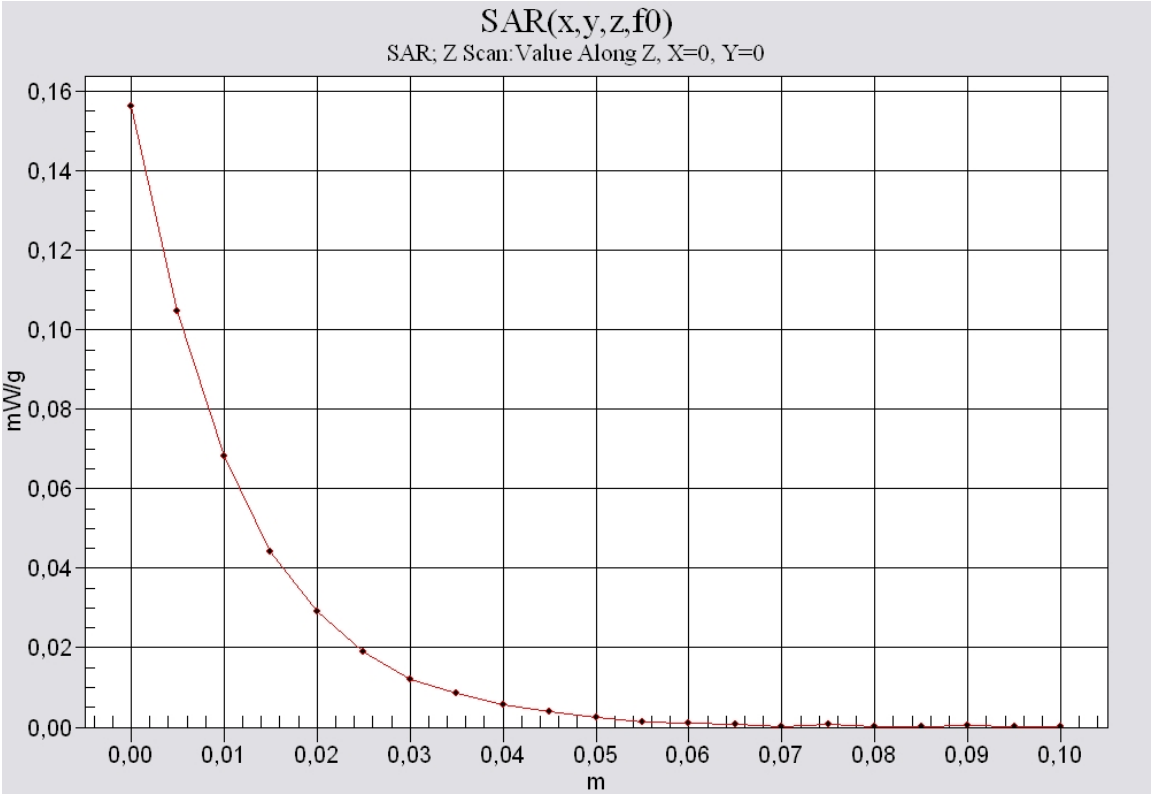
GSM 850 body



WCDMA FDD V body



1900 head

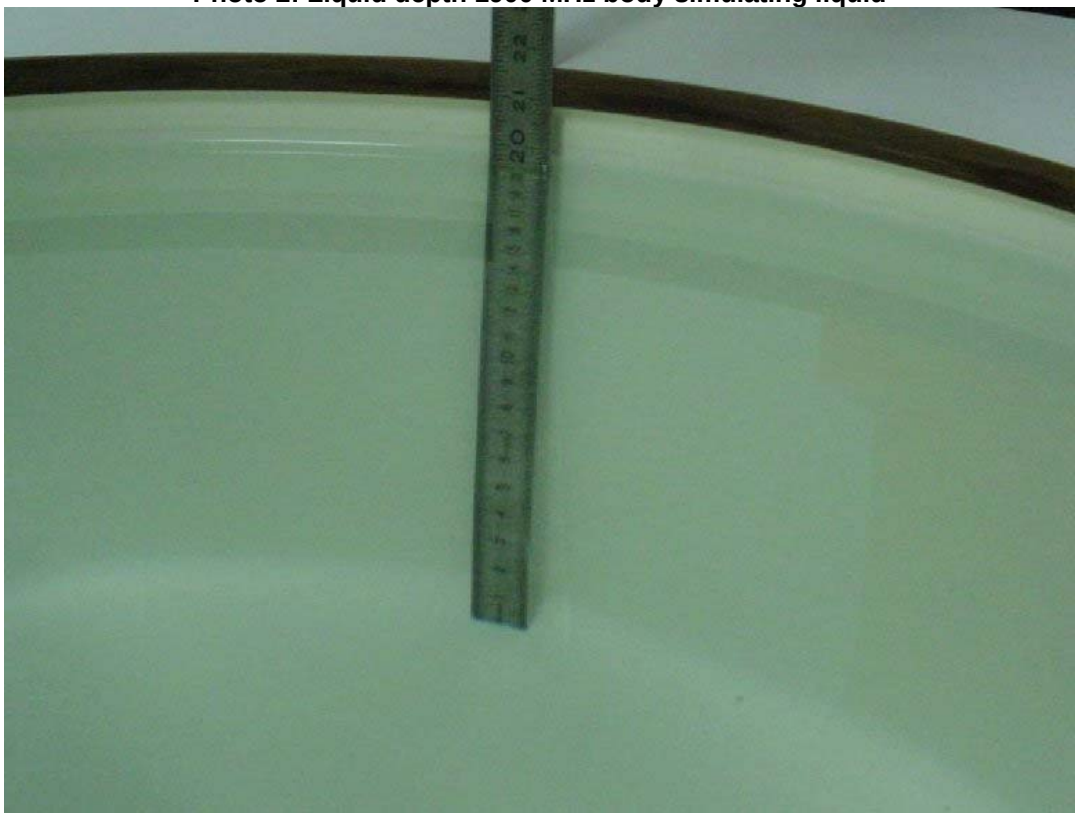


WCDMA FDD II body

Annex B.10: Liquid depth

Photo 1: Liquid depth 850 MHz body simulating liquid

Photo 2: Liquid depth 1900 MHz body simulating liquid



Annex C: Photo documentation

Photo 1: Measurement System DASY 4

Photo 2: WWAN module

Photo 3: Antenna #1 - front view

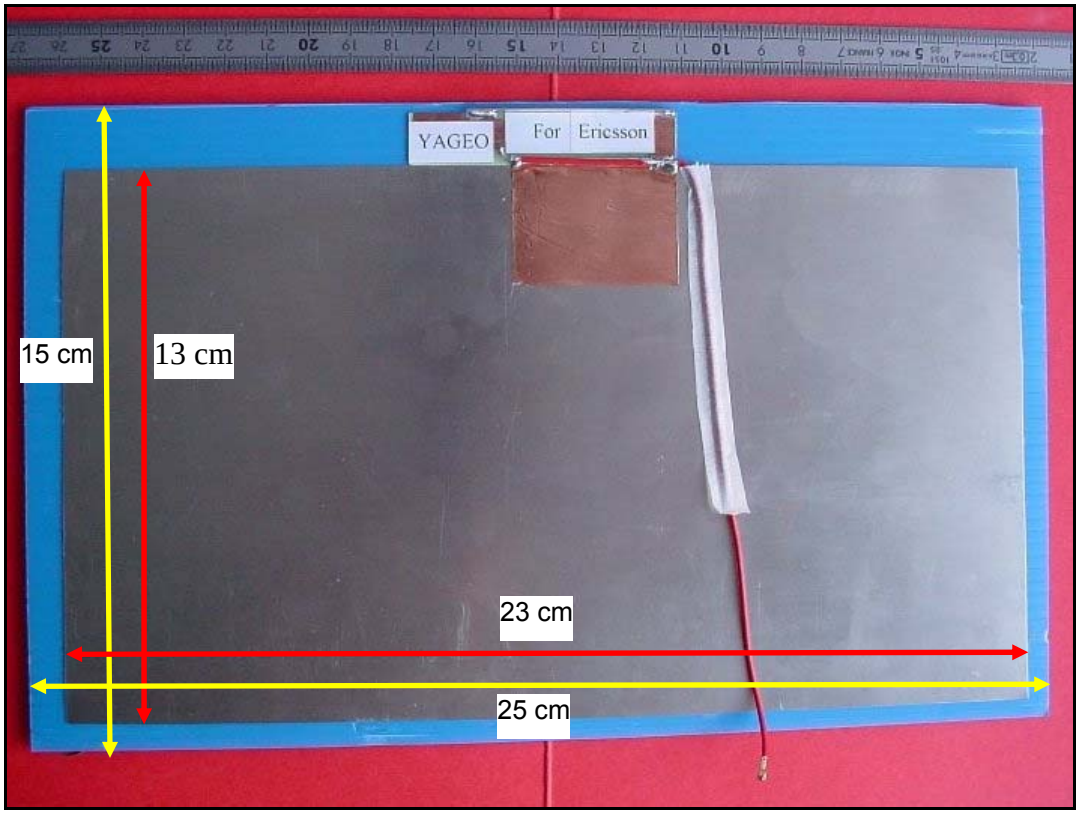


Photo 4: Antenna #1 - front view

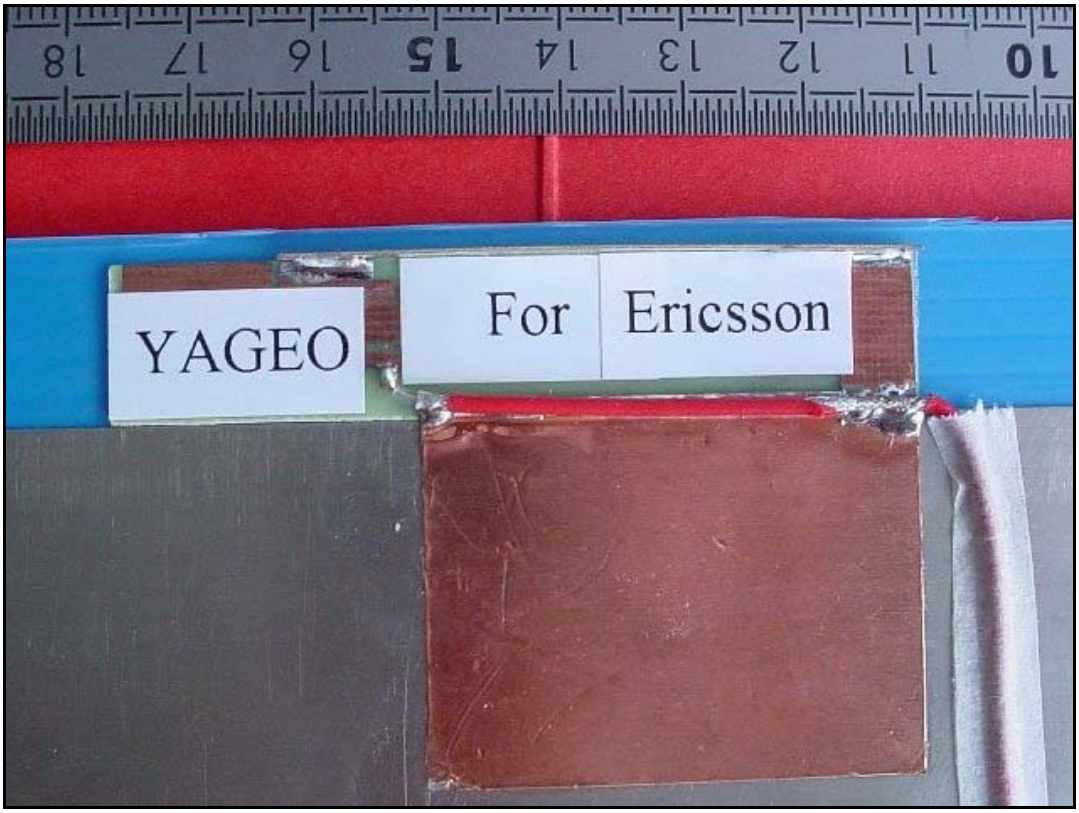


Photo 5: Antenna #1 - top view

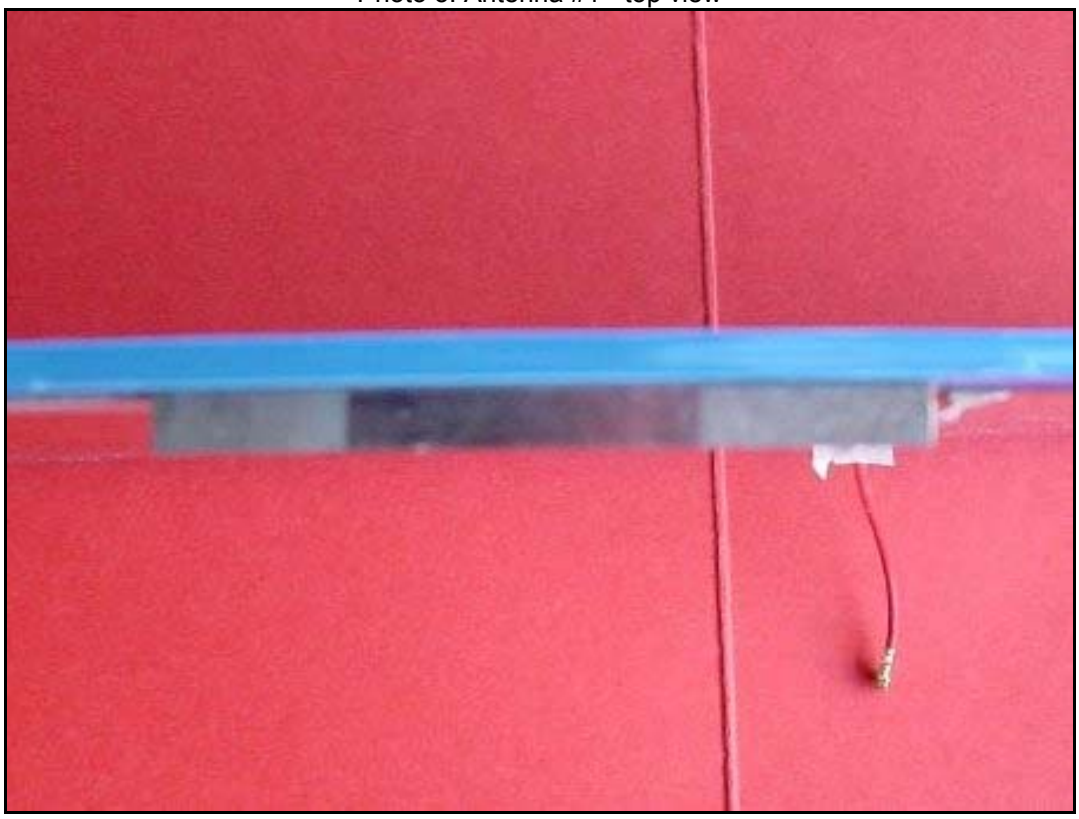


Photo 6: Antenna #1 - side view

Photo 7: Antenna #2 - front view

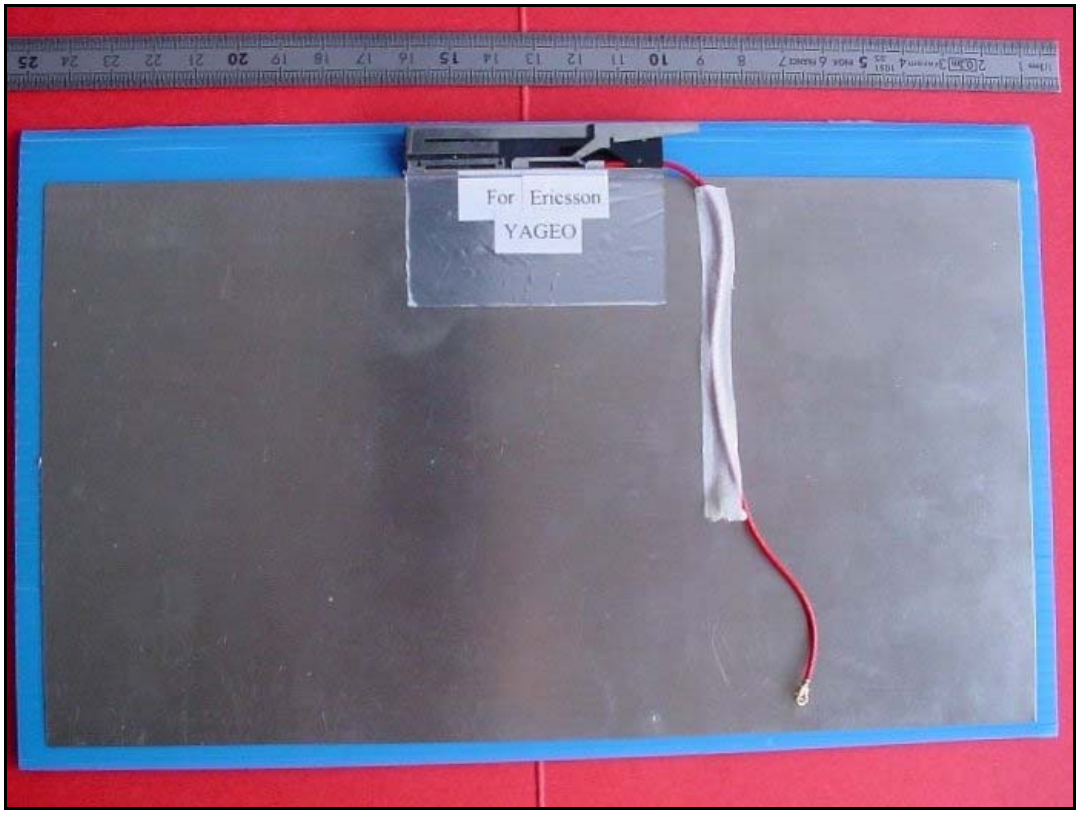


Photo 8: Antenna #2 - front view

Photo 9: Antenna #2 - top view

Photo 10: Antenna #2 - side view

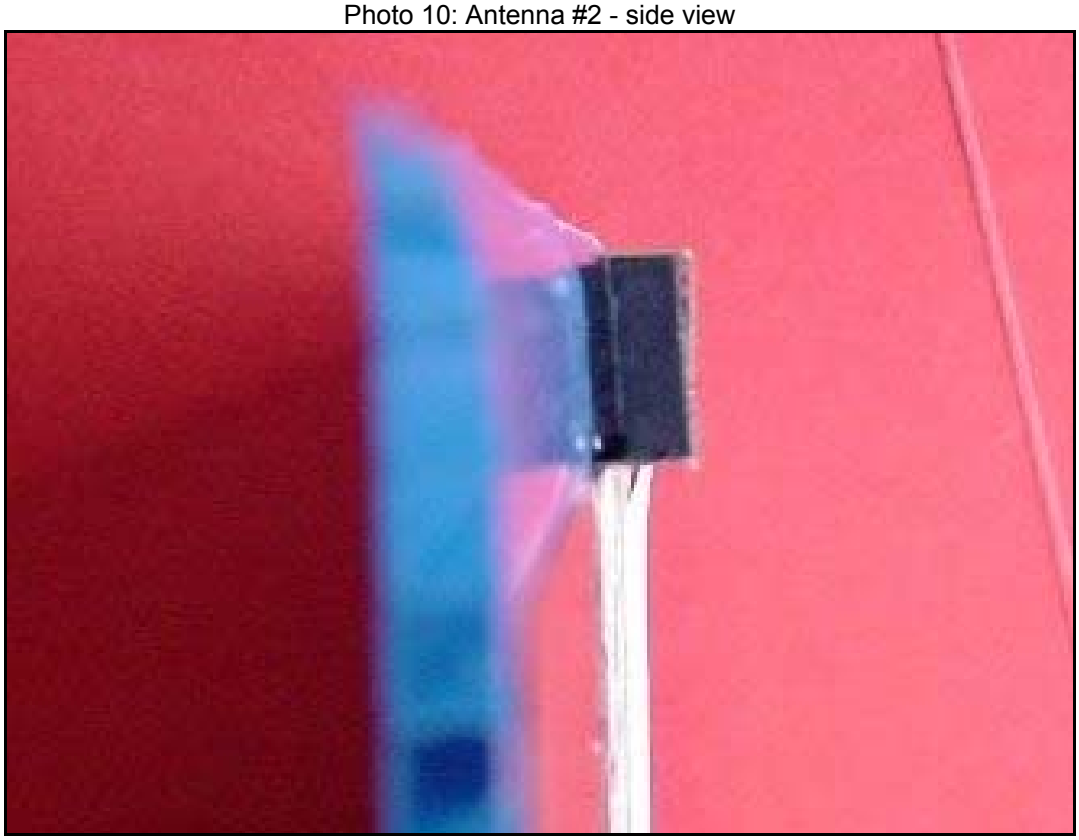


Photo 11: Test body position front side with 30 mm distance - Antenna #1

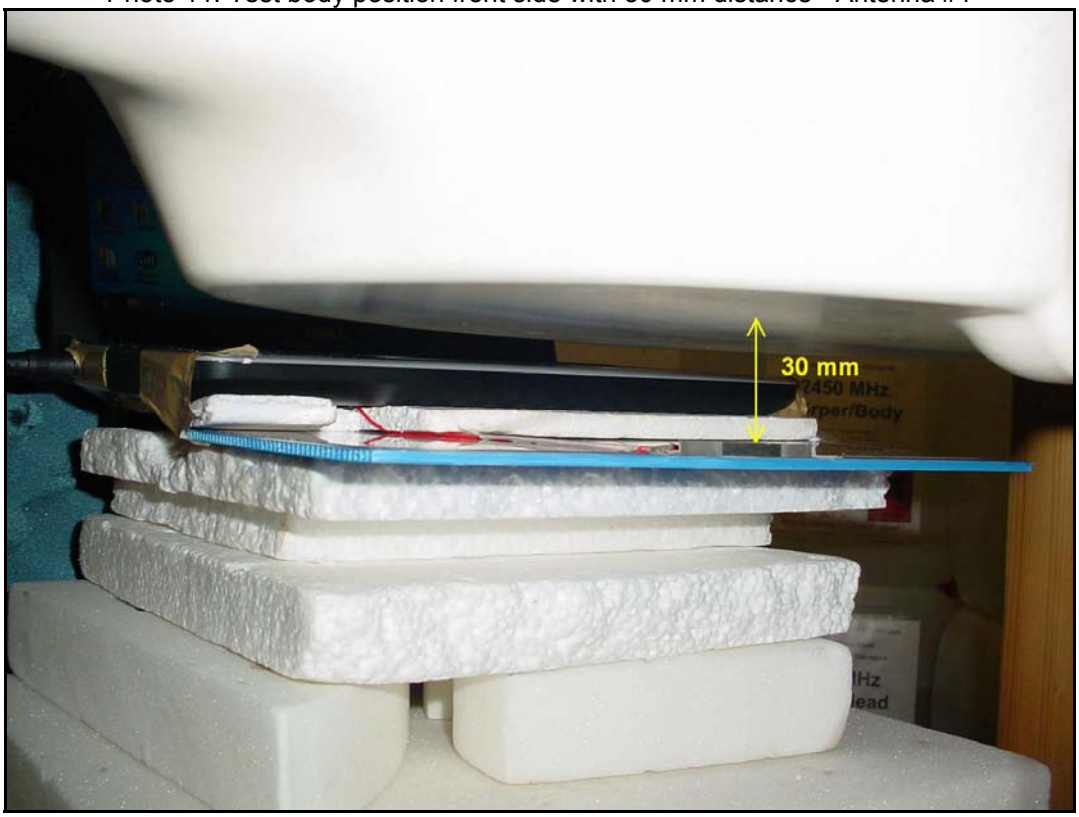


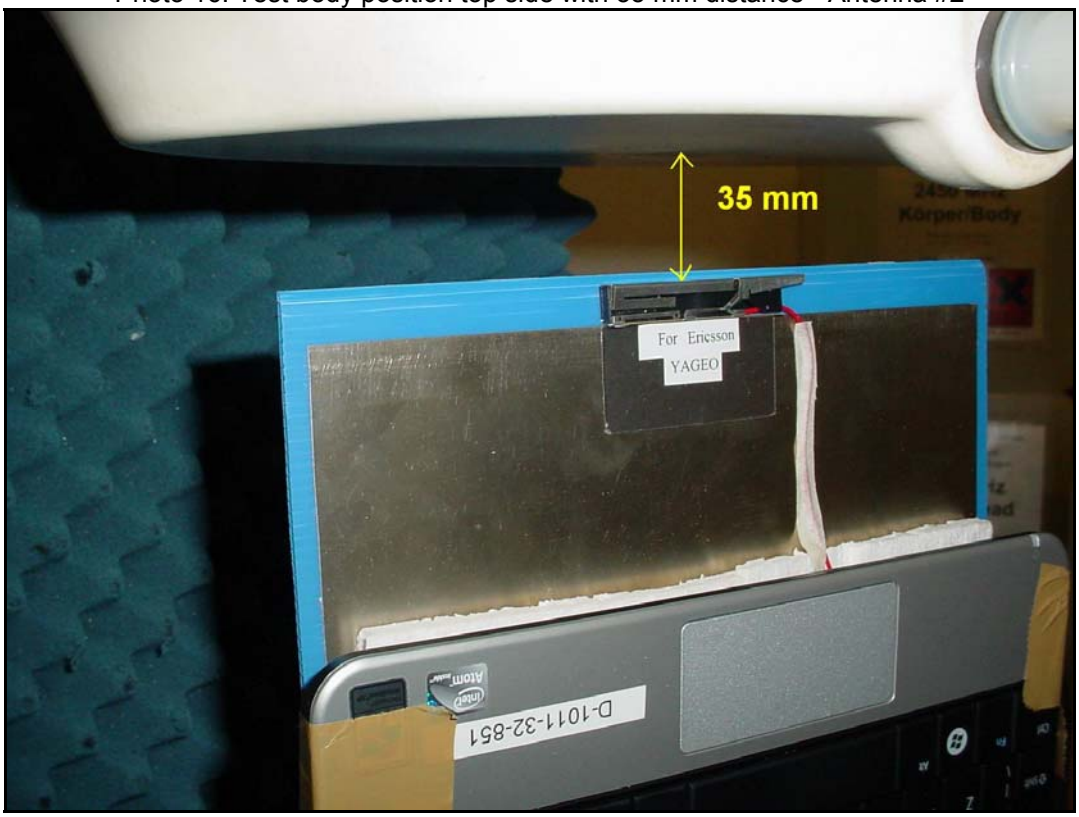
Photo 12: Test body position rear side with 30 mm distance - Antenna #1

Photo 13: Test body position top side with 30 mm distance - Antenna #1

Photo 14: Test body position front side with 35 mm distance - Antenna #2

Photo 15: Test body position rear side with 35 mm distance - Antenna #2

Photo 16: Test body position top side with 35 mm distance - Antenna #2



Annex D: Calibration parameters

Calibration parameters are described in the additional document :

Appendix to test report no. 1-2205-03-02/10
Calibration data, Phantom certificate
and detail information of the DASY4 System

Annex E: Document History

Version	Applied Changes	Date of Release
	Initial Release Generic SAR test with 2 antennas in 3 orientations	2011-03-21

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