SAR TEST REPORT

Equipment Under Test	Smart Phone
Model Name	V03B002
Company Name	DELL Inc.
Company Address	One Dell Way Round Rock Texas 78682 United States
Date of Receipt	2010.07.26
Date of Test(s)	2010.10.06-2010.10.07
Date of Issue	2010.11.01

Standards:

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

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

Remarks:

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

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

Tested by : **Antony Wu** **Date** : **2010.11.01**
Engineer

Approved by : **Robert Chang** **Date** : **2010.11.01**
Tech Manager

Version

Version No.	Date	Description
1.0	Oct. 08, 2010	Initial issue of report
1.1	Nov. 01, 2010	1st modification

Contents

1. General Information

1.1 Testing Laboratory

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1.2 Details of Applicant

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1.3 Description of EUT

EUT Name	Smart Phone
Model Name	V03B002
Market Name	Venue
Brand Name	DELL
TAC Code	01221300
FCC ID	E2KV03B002

Mode of Operation	GSM/GPRS/EGPRS/WCDMA/HSDPA/ HSUPA/WLAN802.11 b/g/n band			
Definition	Production unit			
Duty Cycle	GSM	GPRS	WCDMA B4	WLAN 802.11 b/g/n
	1/8	1/2	1	
TX Frequency Range (MHz)	GSM 850	GSM1900	WCDMA B4	WLAN 802.11 b/g/n
	824.2-848.8 MHZ	1850.2-1909.8MHZ	1712.4-1752.6 MHZ	2412-2462 MHZ
Channel Number (ARFCN)	GSM 850	GSM1900	WCDMA B4	WLAN 802.11 b/g/n
	128-251	512- 810	1312-1513	1-11
VOIP Function	No			
Battery Type	3.7 V Lithium-Ion			
Antenna Type	Internal Antenna			
Max. SAR Measured (1 g)	**GSM850**			
	Head		Body	
	0.650 mW/g (At GSM 850 Left Head (Cheek Position)_ 251 Channel		**1.2 mW/g** (At GSM 850 Body _ 190 channel_repeated with Memory card)	
	GSM1900			
	Head		Body	
	0.526 mW/g (At GSM 1900 Right Head (Cheek Position)_ 810 channel)		**0.439 mW/g** (At GSM 1900 Body _ 512 channel)	

Max. SAR Measured (1 g)	**WCDMA B4**	
	Head	Body
	0.905 mW/g (At WCDMA B4 Right Head (Cheek Position)_ 1412 channel_repeated with Memory card)	**0.840 mW/g** (At WCDMA B4 Body _ 1412 channel)
	WLAN 802.11b	
	Body	
	0.440 mW/g (At WLAN802.11b Body_ 11 channel)	
	WLAN802.11g	
	Body	
	0.319 mW/g (At WLAN802.11g Body_11 channel)	
	WLAN802.11n	
	Body	
	0.246 mW/g (At WLAN802.11n Body_ 6 channel)	

#. Conducted power table:

	GSM 850 (Average)			GSM 1900 (Average)		
Mode\ARFCN	128	190	251	512	661	810
GSM	32.8	32.7	32.6	30.0	30.0	30.0
EGPRS 12	25.9	25.8	25.7	24.6	24.6	24.7
GPRS 12	29.6	29.6	29.5	27.2	27.2	27.3

		WCDMA Band IV Channel		
Mode	**Subtest**	**1312**	**1412**	**1513**
Rel99	R99	22.71	22.88	22.93
Rel6 HSDPA	1	22.54	22.77	22.79
	2	22.59	22.74	22.78
	3	22.06	22.32	22.26
	4	22.13	22.33	22.38
Rel6 HSUPA	1	22.63	22.86	22.87
	2	20.68	20.93	20.91
	3	21.69	21.88	21.95
	4	20.81	20.98	20.95
	5	22.52	22.72	22.78

EUT Mode	Frequency (MHz)	CH	Average Power (dBm)	EUT Mode	Frequency (MHz)	CH	Average Power (dBm)
WLAN802.11b	2412	1	15.52	WLAN802.11n	2412	1	13.09
	2437	6	15.57		2437	6	13.34
	2462	11	15.59		2462	11	13.32

EUT Mode	Frequency (MHz)	CH	Average Power (dBm)
WLAN802.11g	2412	1	15.47
	2437	6	15.55
	2462	11	15.48

1.4 Test Environment

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

1.5 Operation description

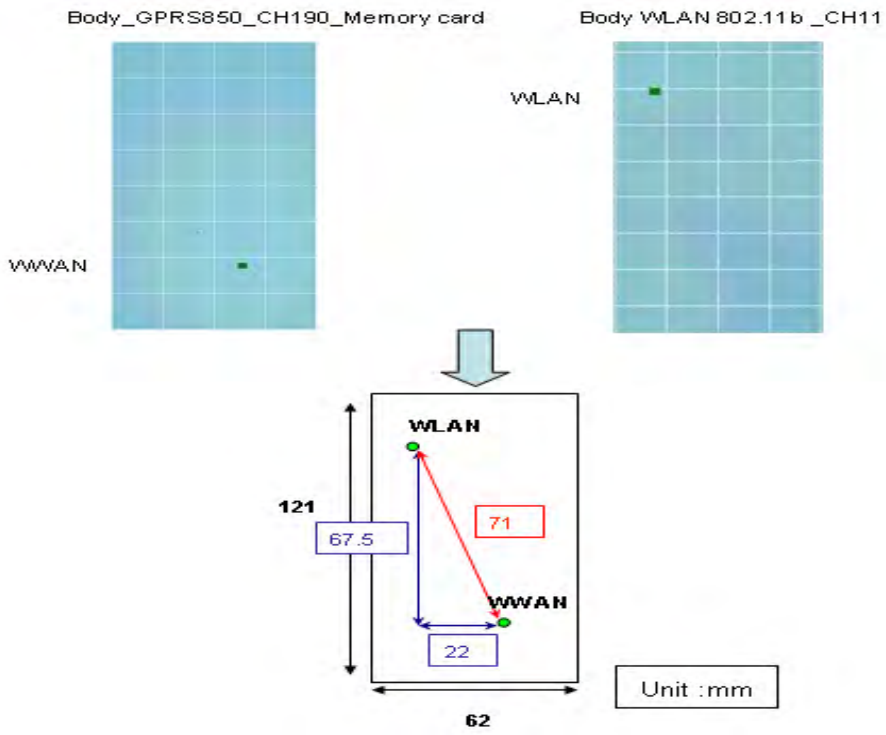
General:

1. The EUT is controlled by using a Radio Communication Tester (Agilent 8960), and the communication between the EUT and the tester is established by air link.
2. Measurements are performed respectively on the lowest, middle and highest channels of the operating band(s). The EUT is set to maximum power level during all tests, and at the beginning of each test the battery is fully charged.
3. The WLAN transmitter is controlled by chip-specific software installed in this PDA phone , to make the EUT transmit at max power.
4. During the SAR testing, the DASY5 system checks power drift by comparing the e-field strength of one specific location measured at the beginning with that measured at the end of the SAR testing.
5. Testing Head SAR at lowest, middle and highest channel for all bands with LET/LEC/RET/REC conditions.
6. Testing body-worn SAR by separating **1.5cm** between the back of the EUT and the flat phantom in GPRS mode.

SAR evaluation considerations for handsets with multiple transmitters:

7. Since the WLAN function of this device does NOT support VoIP function. Users will not use it close to head. SAR evaluation of head adjacent is unnecessary, only Body condition will be considered for WLAN stand-alone situation.
8. The maximum SAR value for licensed transmitter happens on GSM 850 band, Body Position , channel 190_repeated with Memory card. the value is **1.2W/kg(1g)**. And the max SAR value for un-licensed transmitter WLAN 802.11b happens on Body worn, channel 11 The SAR value is **0.44W/kg (1g)** . The summation of the 1g SAR is **1.2+0.440 = 1.640 W/kg, which lower than the limit 1.6W/kg.**

9. By the way , the peak distance(hotspot to hotspot) for WWAN and WLAN is **7.1** cm , we calculate the peak location separation ratio of simultaneous transmitting antenna pair , the value is **0.231** with less than 0.3. **NO simultaneous transmission SAR evaluation is necessary.**



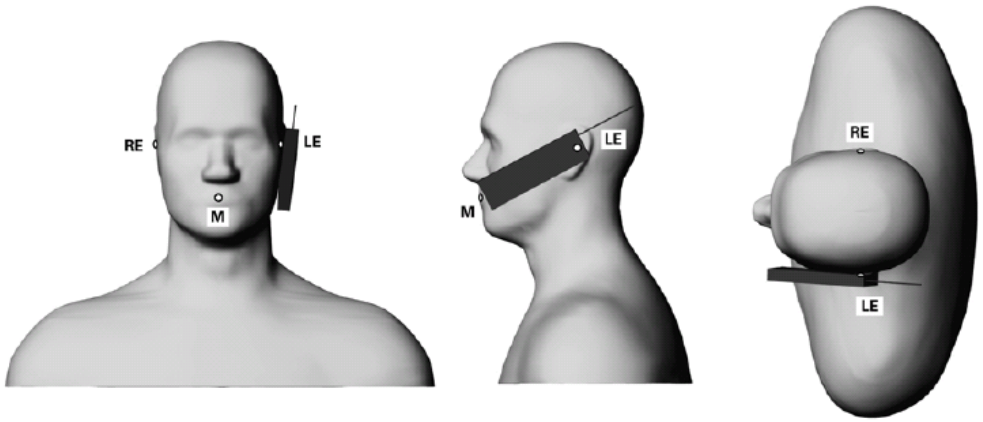
Additional configuration(Head):

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

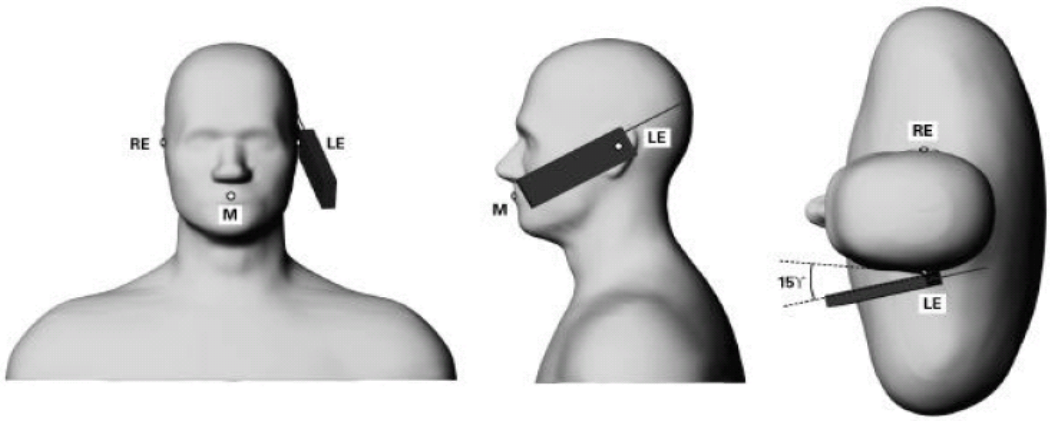
Additional configuration(Body):

11. Testing body-worn SAR with Handset and with Bluetooth transmitter OFF by separating **1.5cm** between the front of the EUT and the flat phantom in GPRS mode.
12. For highest SAR configuration in this band repeated with external Memory card inside.
13. For highest SAR configuration in this band repeated with external PCH Headset .
14. For highest SAR configuration in this band repeated with external Foster Headset.
15. For highest SAR configuration in this band repeated with EGPRS mode.

1.6 Positioning Procedure



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



Phone position 2, "tilted position." The reference points for the right ear (RE), left ear (LE) and mouth (M), which define the reference plane for phone positioning

Cheek/Touch Position:

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

Ear/Tilt Position:

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

1.7 Evaluation Procedures

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

1. The extraction of the measured data (grid and values) from the Zoom Scan.
2. The calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
3. The generation of a high-resolution mesh within the measured volume
4. The interpolation of all measured values from the measurement grid to the high-resolution grid
5. The extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
6. The calculation of the averaged SAR within masses of 1g and 10g.The probe is calibrated at the center of the dipole sensors that is located 1 to 2.7mm away from the probe tip. During measurements, the probe stops shortly above the phantom surface, depending on the probe and the surface detecting system. Both distances are included as parameters in the probe configuration file. The software always knows exactly how far away the measured point is from the surface. As the probe cannot directly measure at the surface, the values between the deepest measured point and the surface must be extrapolated. The angle between the probe axis and the surface normal line is less than 30 degree.

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

The maximum search is automatically performed after each area scan measurement. It is based on splines in two or three dimensions. The procedure can find the maximum for most SAR distributions even with relatively large grid spacing. After the area scanning measurement, the probe is automatically moved to a position at the interpolated maximum. The following scan can directly use this position for reference, e.g., for a finer resolution grid or the cube evaluations. The 1g and 10g peak evaluations are only available for the predefined cube 7x7x7 scans.
The routines are verified and optimized for the grid dimensions used in these cube measurements. The measured volume of 30x30x30mm contains about 30g of tissue. The first procedure is an extrapolation (incl. Boundary correction) to get the points between the lowest measured plane and the surface. The next step uses 3D interpolation to get all points within the measured volume. In the last step, a 1g cube is placed numerically into the volume and its averaged SAR is calculated. This cube is the moved around until the highest averaged SAR is found.
If the highest SAR is found at the edge of the measured volume, the system will issue a warning: higher SAR values might be found outside of the measured volume. In that case the cube measurement can be repeated, using the new interpolated maximum as the center.

1.8 The SAR Measurement System

A photograph of the SAR measurement System is given in Fig. a. This SAR Measurement System uses a Computer-controlled 3-D stepper motor system (SPEAG DASY 5 professional system). A Model ES3DV3 field probe is used to determine the internal electric fields. The SAR can be obtained from the equation SAR= σ ($|Ei|^2$)/ ρ where σ and ρ are the conductivity and mass density of the tissue-simulant.

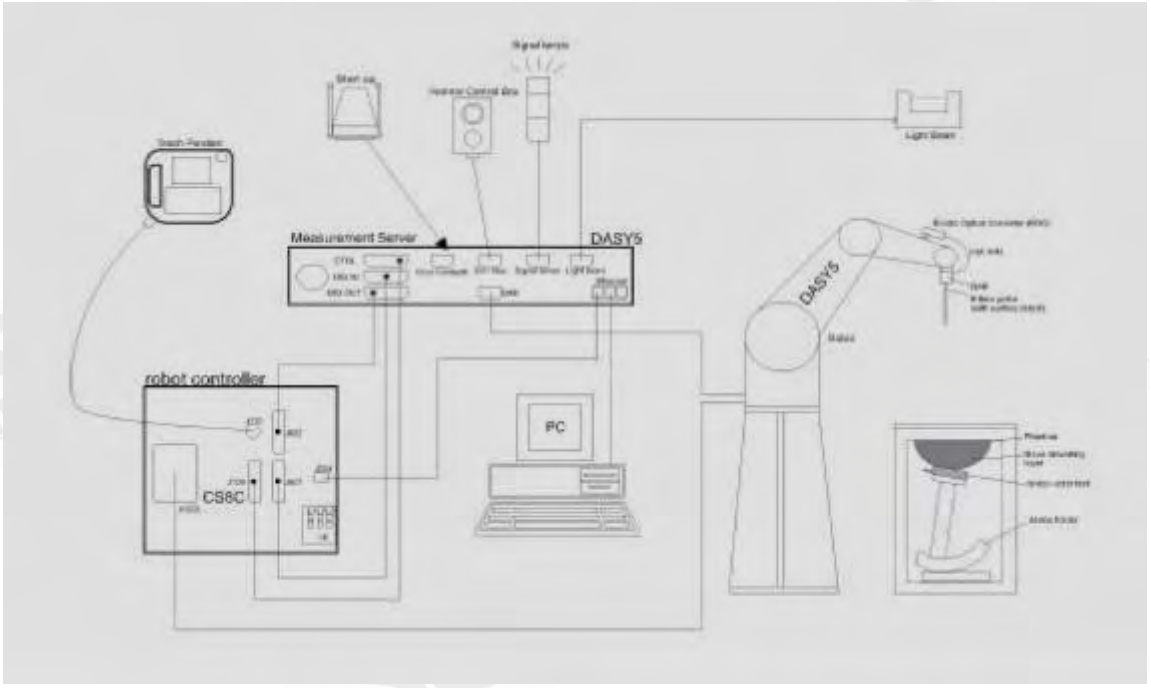


Fig.a The block diagram of SAR system

The DASY5 system for performing compliance tests consists of the following items:

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

- A dosimetric probe, i.e., an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion between optical and electrical of the signals for the digital communication to the DAE and for the analog signal from the optical surface detection. The EOC is connected to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- A probe alignment unit which improves the (absolute) accuracy of the probe positioning.
- A computer operating Windows 2000 or Windows XP.
- DASY5 software.
- Remote control with teach pendant and additional circuitry for robot safety such as warning lamps, etc.
- The SAM twin phantom enabling testing left-hand and right-hand usage.
- The device holder for handheld mobile phones.
- Tissue simulating liquid mixed according to the given recipes.
- Validation dipole kits allowing to validate the proper functioning of the system.

1.9 System Components

ES3DV3 E-Field Probe

Construction:	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration:	Basic Broad Band Calibration in air Conversion Factors (CF) for HSL850/1750/1900/2450 MHz Additional CF for other liquids and frequencies upon request
Frequency:	10 MHz to > 4 GHz; Linearity: ± 0.6 dB (30 MHz to 6 GHz)
Directivity:	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)
Dynamic Range:	10 µW/g to > 100 mW/g; Linearity: ± 0.6 dB (noise: typically < 1 µW/g)
Dimensions:	Overall length: 337 mm (Tip: 10 mm) Tip diameter: 4 mm (Body: 10 mm) Typical distance from probe tip to dipole centers: 2 mm
Application:	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%.

ES3DV3 E-Field Probe

SAM PHANTOM V4.0C

Construction:	The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528-200X, CENELEC 50361 and IEC 62209. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by manually teaching three points with the robot.
Shell Thickness:	2 ± 0.2 mm
Filling Volume:	Approx. 25 liters
Dimensions:	Height: 850 mm; Length: 1000 mm; Width: 500 mm

DEVICE HOLDER

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

Device Holder

1.10 SAR System Verification

The microwave circuit arrangement for system verification is sketched in Fig. b. The daily system accuracy verification occurs within the flat section of the SAM phantom. A SAR measurement was performed to see if the measured SAR was within +/-5% from the target SAR values. These tests were done at 850/1750/1900/2450 MHz. The tests were conducted on the same days as the measurement of the DUT. The obtained results from the system accuracy verification are displayed in the table 1. During the tests, the ambient temperature of the laboratory was in the range 22.1°C, the relative humidity was in the range 62% and the liquid depth above the ear reference points was above 15 cm in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values.

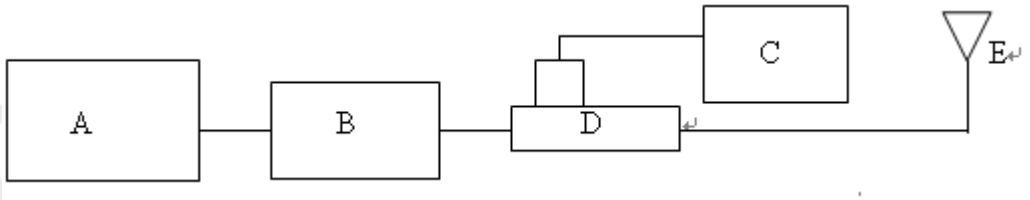
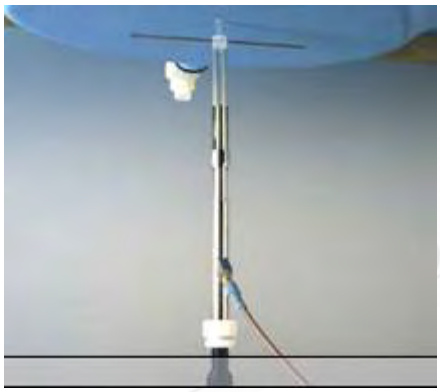


Fig.b The bloack diagram of system verification

A. Agilent Model 8648D Signal Generator
B. Mini circuits Model ZHL-42 Amplifier
C. Agilent Model U2001B Power Sensor
D. Agilent Model 778D/777D Dual directional coupling
E. Reference dipole antenna



Photograph of the dipole Antenna

Validation Kit	Frequency (MHz)	Target SAR (1g) (Pin=250mW)	Measured SAR (1g)	Measured Date
D835V2 S/N: 4d063	835 MHz (Head)	2.42 mW/g	2.43 mW/g	2010/10/06
D835V2 S/N: 4d063	835 MHz (Body)	2.53 mW/g	2.52 mW/g	2010/10/06
D1750V2 S/N: 1008	1750 MHz (Head)	8.84 m W/g	8.92 mW/g	2010/10/07
D1750V2 S/N: 1008	1750 MHz (Body)	9.46 m W/g	9.5 m W/g	2010/10/07
D1900V2 S/N: 5d027	1900 MHz (Head)	9.91 mW/g	10 mW/g	2010/10/06
D1900V2 S/N: 5d027	1900 MHz (Body)	10.1 mW/g	10.4 mW/g	2010/10/06
D2450V2 S/N: 727	2450 MHz (Body)	13.4 mW/g	13.6 mW/g	2010/10/07

Table 1. System validation (follow manufacture target value)

1.11 Tissue Simulant Fluid for the Frequency Band

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

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

Frequency (MHz)	Tissue type	Measurement date/ Limits	Dielectric Parameters		
			ρ	σ (S/m)	Simulated Tissue Temperature(° C)
850	Head	Measured, 2010-10-06	42.5	0.897	21.7
		Recommended Limits	39.62-43.79	0.86-0.96	20-24
850	Body	Measured, 2010-10-06	53.3	1	21.7
		Recommended Limits	51.49-56.91	0.93-1.03	20-24
1750	Head	Measured, 2010-10-07	39.1	1.38	21.7
		Recommended Limits	37.81-41.79	1.26-1.40	20-24
1750	Body	Measured, 2010-10-07	53.7	1.47	21.7
		Recommended Limits	51.40-56.80	1.36-1.50	20-24
1900	Head	Measured, 2010-10-06	39.6	1.42	21.7
		Recommended Limits	38.48-42.53	1.34-1.48	20-24
1900	Body	Measured, 2010-10-06	52.9	1.55	21.7
		Recommended Limits	52.06-57.54	1.45-1.61	20-24
2450	Body	Measured, 2010-10-07	52.5	1.96	21.7
		Recommended Limits	51.49-56.91	1.91-2.11	20-24

Table 2. Dielectric Parameters of Tissue Simulant Fluid

The composition of the brain tissue simulating liquid:

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

Table 3. Recipes for tissue simulating liquid

1.12 Test Standards and Limits

According to FCC 47CFR §2.1093(d) The limits to be used for evaluation are based generally on criteria published by the American National Standards Institute (ANSI) for localized specific absorption rate ("SAR") in Section 4.2 of "IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," ANSI/IEEE C95.1–1992, Copyright 1992 by the Institute of Electrical and Electronics Engineers, Inc., New York, New York 10017. These criteria for SAR evaluation are similar to those recommended by the National Council on Radiation Protection and Measurements (NCRP) in "Biological Effects and Exposure Criteria for Radio frequency Electromagnetic Fields," NCRP Report No. 86, Section 17.4.5. Copyright NCRP, 1986, Bethesda, Maryland 20814. SAR is a measure of the rate of energy absorption due to exposure to an RF transmitting source. SAR values have been related to threshold levels for potential biological hazards. The criteria to be used are specified in paragraphs (d)(1) and (d)(2) of this section and shall apply for portable devices transmitting in the frequency range from 100 kHz to 6 GHz. Portable devices that transmit at frequencies above 6 GHz are to be evaluated in terms of the MPE limits specified in § 1.1310 of this chapter.

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

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

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

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

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

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

Table 4. RF exposure limits

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

2. Summary of Results

GSM 850 MHZ

Right Head (Cheek Position)						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
850 MHz	128	824.2	32.80 dBm	0.482	22.1	21.7
	190	836.6	32.70 dBm	0.535	22.1	21.7
	251	848.8	32.60 dBm	0.602	22.1	21.7
Left Head (Cheek Position)						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
850 MHz	128	824.2	32.80 dBm	0.521	22.1	21.7
	190	836.6	32.70 dBm	0.584	22.1	21.7
	251	848.8	32.60 dBm	0.650	22.1	21.7
Right Head (15° Tilt Position)						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
850 MHz	128	824.2	32.80 dBm	0.377	22.1	21.7
	190	836.6	32.70 dBm	0.415	22.1	21.7
	251	848.8	32.60 dBm	0.456	22.1	21.7
Left Head (15° Tilt Position)						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
850 MHz	128	824.2	32.80 dBm	0.367	22.1	21.7
	190	836.6	32.70 dBm	0.390	22.1	21.7
	251	848.8	32.60 dBm	0.427	22.1	21.7

Body worn (testing in GPRS mode)						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
850 MHz	128	824.2	29.60 dBm	1.09	22.1	21.7
	190	836.6	29.60 dBm	1.19	22.1	21.7
	251	848.8	29.50 dBm	1.18	22.1	21.7
Body worn (testing in GPRS mode)_repeated for EUT front to phantom						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
850 MHz	190	836.6	29.60 dBm	1.02	22.1	21.7
Body worn (testing in GPRS mode)_repeated with Memory card						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
850 MHz	190	836.6	29.60 dBm	**1.2**	22.1	21.7
Body worn (testing in GPRS mode)_repeated with PCH Headset						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
850 MHz	190	836.6	29.60 dBm	1.02	22.1	21.7
Body worn (testing in GPRS mode)_repeated with Foster Headset						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
850 MHz	190	836.6	29.60 dBm	0.971	22.1	21.7
Body worn (testing in EGPRS mode)_repeated with EGPRS mode						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
850 MHz	190	836.6	29.60 dBm	0.531	22.1	21.7

PCS 1900 MHZ

Right Head (Cheek Position)						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
1900 MHz	512	1850.2	30.0 dBm	0.478	22.1	21.7
	661	1880	30.0 dBm	0.499	22.1	21.7
	810	1909.8	30.0 dBm	0.526	22.1	21.7
Left Head (Cheek Position)						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
1900 MHz	512	1850.2	30.0 dBm	0.302	22.1	21.7
	661	1880	30.0 dBm	0.302	22.1	21.7
	810	1909.8	30.0 dBm	0.329	22.1	21.7
Right Head (15° Tilt Position)						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
1900 MHz	512	1850.2	30.0 dBm	0.305	22.1	21.7
	661	1880	30.0 dBm	0.298	22.1	21.7
	810	1909.8	30.0 dBm	0.318	22.1	21.7
Left Head (15° Tilt Position)						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
1900 MHz	512	1850.2	30.0 dBm	0.281	22.1	21.7
	661	1880	30.0 dBm	0.279	22.1	21.7
	810	1909.8	30.0 dBm	0.294	22.1	21.7

Body worn (testing in GPRS mode)						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
1900 MHz	512	1850.2	27.20 dBm	0.439	22.1	21.7
	661	1880	27.20 dBm	0.408	22.1	21.7
	810	1909.8	27.30 dBm	0.412	22.1	21.7

WCDMA B4

Right Head (Cheek Position)						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B4	1312	1712.4	22.74 dBm	0.571	22.1	21.7
	1412	1732.4	22.88 dBm	0.891	22.1	21.7
	1513	1752.6	22.93 dBm	0.871	22.1	21.7
Right Head (Cheek Position) _repeated with Memory card						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B4	1412	1732.4	22.88 dBm	**0.905**	22.1	21.7
Left Head (Cheek Position)						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B4	1312	1712.4	22.74 dBm	0.330	22.1	21.7
	1412	1732.4	22.88 dBm	0.564	22.1	21.7
	1513	1752.6	22.93 dBm	0.523	22.1	21.7
Right Head (15° Tilt Position)						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B4	1312	1712.4	22.74 dBm	0.260	22.1	21.7
	1412	1732.4	22.88 dBm	0.420	22.1	21.7
	1513	1752.6	22.93 dBm	0.413	22.1	21.7

Left Head (15° Tilt Position)						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B4	1312	1712.4	22.74 dBm	0.205	22.1	21.7
	1412	1732.4	22.88 dBm	0.389	22.1	21.7
	1513	1752.6	22.93 dBm	0.379	22.1	21.7
Body worn (testing in R99 mode)						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
WCDMA B4	1312	1712.4	22.74 dBm	0.561	22.1	21.7
	1412	1732.4	22.88 dBm	0.840	22.1	21.7
	1513	1752.6	22.93 dBm	0.695	22.1	21.7

WLAN802.11 b

Body worn						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
2450 MHz	1	2412	15.52 dBm	0.287	22.1	21.7
	6	2437	15.57 dBm	0.290	22.1	21.7
	11	2462	15.59 dBm	**0.440**	22.1	21.7
Body worn-repeated for EUT front to phantom						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
2450 MHz	11	2462	15.59 dBm	0.224	22.1	21.7
Body worn-repeated with Memory card						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
2450 MHz	11	2462	15.59 dBm	0.314	22.1	21.7

Body worn-repeated with PCH Headset						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
2450 MHz	11	2462	15.59 dBm	0.273	22.1	21.7
Body worn-repeated with Foster Headset						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
2450 MHz	11	2462	15.59 dBm	0.392	22.1	21.7

WLAN 802.11 g

Body worn						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
2450 MHz	1	2412	15.47 dBm	0.258	22.1	21.7
	6	2437	15.55 dBm	0.253	22.1	21.7
	11	2462	15.48 dBm	0.319	22.1	21.7

WLAN 802.11 n

Body worn						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[°C]	Liquid Temp[°C]
2450 MHz	1	2412	13.09 dBm	0.223	22.1	21.7
	6	2437	13.34 dBm	0.246	22.1	21.7
	11	2462	13.32 dBm	0.243	22.1	21.7

3. Instruments List

Manufacturer	Device	Type	Serial number	Date of last calibration
Schmid & Partner Engineering AG	Dosimetric E-Field Probe	ES3DV3	3172	May.21.2010
Schmid & Partner Engineering AG	835/1750/1900/2450 MHz System Validation Dipole	D835V2	4d063	May.21.2010
		D1750V2	1008	May.26.2010
		D1900V2	5d027	Apr.28.2010
		D2450V2	727	Apr.29.2010
Schmid & Partner Engineering AG	Data acquisition Electronics	DAE4	856	May.20.2010
Schmid & Partner Engineering AG	Software	DASY 5 V5.0 Build 125	N/A	Calibration not required
Schmid & Partner Engineering AG	Phantom	SAM	N/A	Calibration not required
HP	Network Analyzer	8753D	3410A05662	Mar.30.2010
HP	Dielectric Probe Kit	85070D	US01440168	Calibration not required
Agilent	Dual-directional coupler	778D	50313	Aug.25.2010
		777D	50114	Aug.25.2010
Agilent	RF Signal Generator	8648D	3847M00432	Jun.04.2010
Agilent	Power Sensor	U2001B	MY48100169	Apr.30.2010
Agilent	Radio Communication Test	E5515c	GB44051912	Jul.27 .2010

4. Measurements

Date: 2010/10/06

RE Cheek_CH128

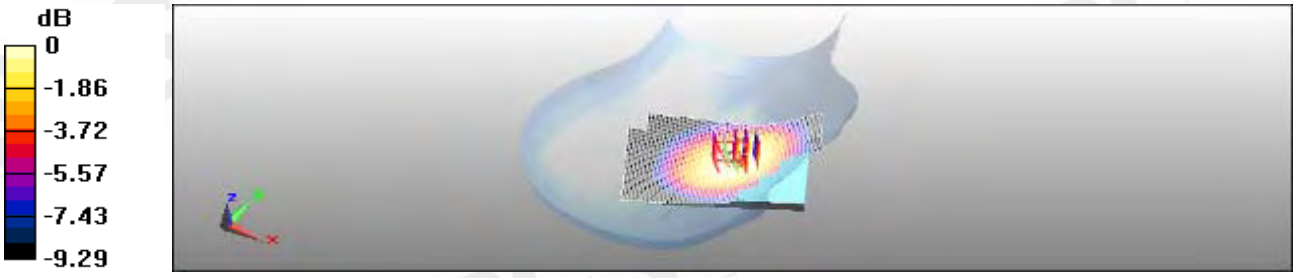
DUT: V03B002

Communication System: Generic GSM; Frequency: 824.2 MHz;
Medium parameters used: f = 824.2 MHz; σ = 0.886 mho/m; ε_r = 42.6; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

- Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Cheek/Area Scan (61x101x1): Measurement grid:
dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.534 mW/g
Configuration/RE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:
dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.1 V/m; Power Drift = -0.143 dB
Peak SAR (extrapolated) = 0.605 W/kg

SAR(1 g) = 0.482 mW/g; SAR(10 g) = 0.364 mW/g
Maximum value of SAR (measured) = 0.502 mW/g



0 dB = 0.502mW/g

Date: 2010/10/06

RE Cheek_CH190

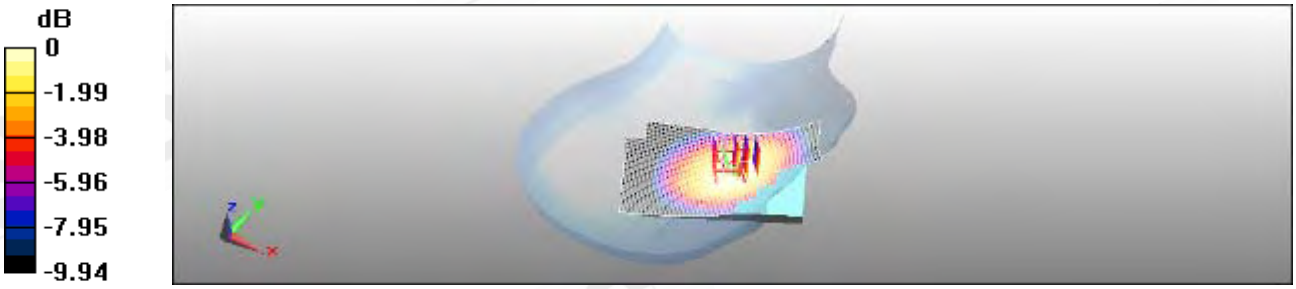
DUT: V03B002

Communication System: Generic GSM; Frequency: 836.6 MHz;
Medium parameters used: f = 837 MHz; σ = 0.9 mho/m; ε_r = 42.5; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Cheek/Area Scan (61x101x1): Measurement grid:
dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.562 mW/g
Configuration/RE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:
dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.6 V/m; Power Drift = -0.129 dB
Peak SAR (extrapolated) = 0.671 W/kg

SAR(1 g) = 0.535 mW/g; SAR(10 g) = 0.403 mW/g
Maximum value of SAR (measured) = 0.556 mW/g



0 dB = 0.556mW/g

Date: 2010/10/06

RE Cheek_CH251

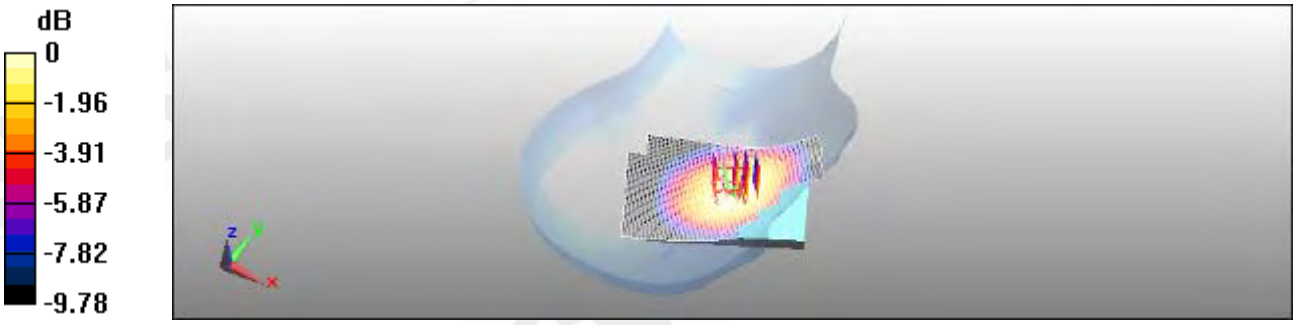
DUT: V03B002

Communication System: Generic GSM; Frequency: 848.6 MHz;
Medium parameters used: f = 849 MHz; σ = 0.91 mho/m; ε_r = 42.3; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Cheek/Area Scan (61x101x1): Measurement grid:
dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.626 mW/g
Configuration/RE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:
dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.1 V/m; Power Drift = 0.089 dB
Peak SAR (extrapolated) = 0.757 W/kg

SAR(1 g) = 0.602 mW/g; SAR(10 g) = 0.452 mW/g
Maximum value of SAR (measured) = 0.627 mW/g



0 dB = 0.627mW/g

Date: 2010/10/06

LE Cheek_CH128

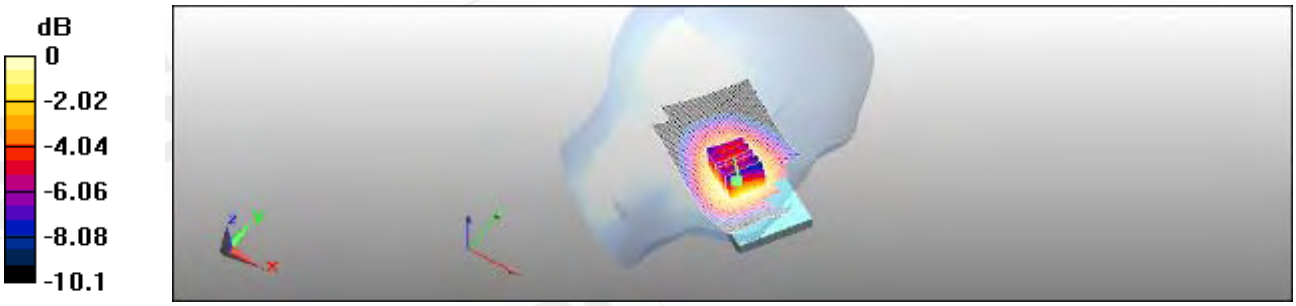
DUT: V03B002

Communication System: Generic GSM; Frequency: 824.2 MHz;
Medium parameters used: f = 824.2 MHz; σ = 0.886 mho/m; ε_r = 42.6; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/LE Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.545 mW/g
Configuration/LE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.7 V/m; Power Drift = -0.075 dB
Peak SAR (extrapolated) = 0.637 W/kg

SAR(1 g) = 0.521 mW/g; SAR(10 g) = 0.396 mW/g
Maximum value of SAR (measured) = 0.547 mW/g



0 dB = 0.547mW/g

Date: 2010/10/06

LE Cheek_CH190

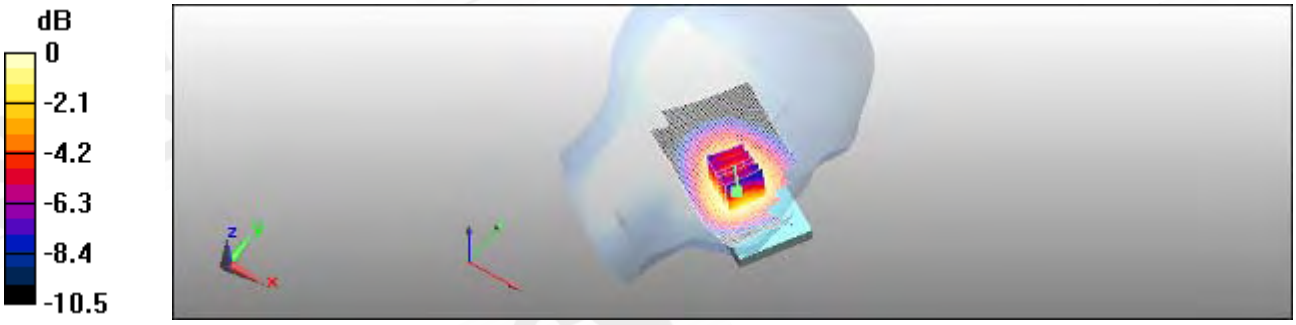
DUT: V03B002

Communication System: Generic GSM; Frequency: 836.6 MHz;
Medium parameters used: f = 837 MHz; σ = 0.9 mho/m; ε_r = 42.5; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/LE Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.609 mW/g
Configuration/LE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.6 V/m; Power Drift = 0.012 dB
Peak SAR (extrapolated) = 0.729 W/kg

SAR(1 g) = 0.584 mW/g; SAR(10 g) = 0.441 mW/g
Maximum value of SAR (measured) = 0.608 mW/g



0 dB = 0.608mW/g

Date: 2010/10/06

LE Cheek_CH251

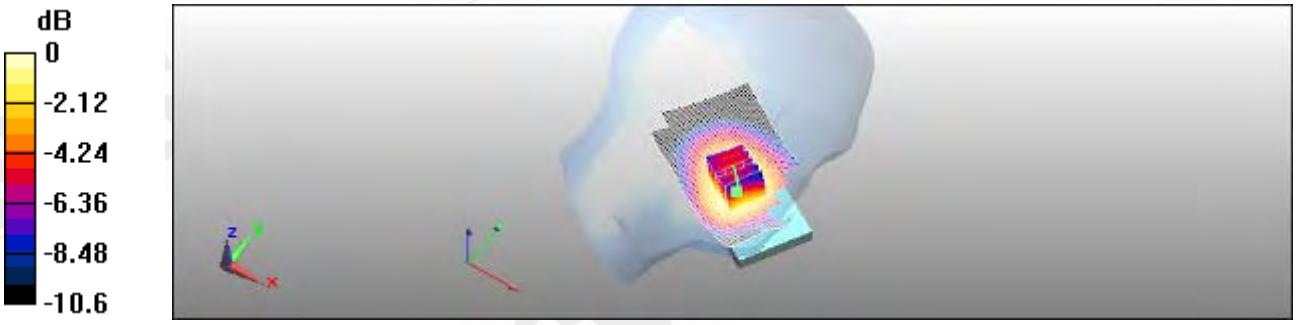
DUT: V03B002

Communication System: Generic GSM; Frequency: 848.6 MHz;
Medium parameters used: f = 849 MHz; σ = 0.91 mho/m; ε_r = 42.3; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/LE Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.679 mW/g
Configuration/LE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.2 V/m; Power Drift = 0.056 dB
Peak SAR (extrapolated) = 0.807 W/kg

SAR(1 g) = 0.650 mW/g; SAR(10 g) = 0.488 mW/g
Maximum value of SAR (measured) = 0.687 mW/g



0 dB = 0.687mW/g

Date: 2010/10/06

RE Tilt_CH128

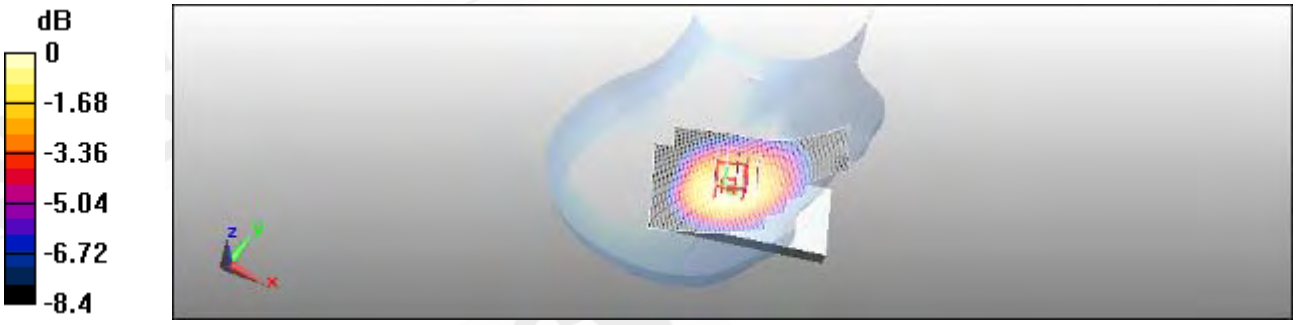
DUT: V03B002

Communication System: Generic GSM; Frequency: 824.2 MHz;
Medium parameters used: f = 824.2 MHz; σ = 0.886 mho/m; ε_r = 42.6; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.398 mW/g
Configuration/RE Tilt/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.3 V/m; Power Drift = 0.062 dB
Peak SAR (extrapolated) = 0.475 W/kg

SAR(1 g) = 0.377 mW/g; SAR(10 g) = 0.285 mW/g
Maximum value of SAR (measured) = 0.396 mW/g



0 dB = 0.396mW/g

Date: 2010/10/06

RE Tilt_CH190

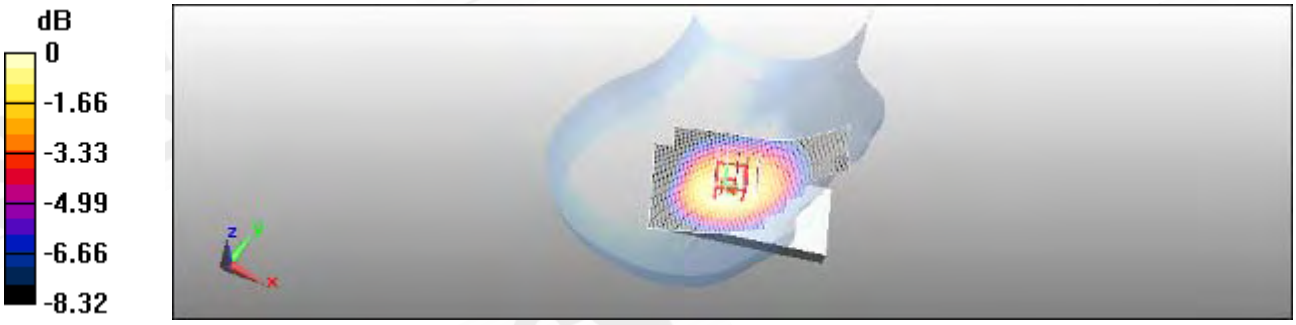
DUT: V03B002

Communication System: Generic GSM; Frequency: 836.6 MHz;
Medium parameters used: f = 837 MHz; σ = 0.9 mho/m; ε_r = 42.5; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.437 mW/g
Configuration/RE Tilt/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.2 V/m; Power Drift = -0.116 dB
Peak SAR (extrapolated) = 0.521 W/kg

SAR(1 g) = 0.415 mW/g; SAR(10 g) = 0.313 mW/g
Maximum value of SAR (measured) = 0.433 mW/g



0 dB = 0.433mW/g

Date: 2010/10/06

RE Tilt_CH251

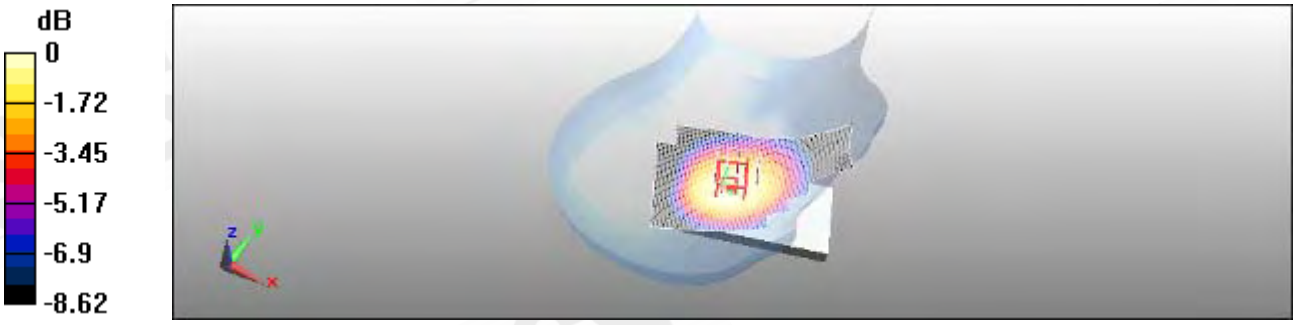
DUT: V03B002

Communication System: Generic GSM; Frequency: 848.6 MHz;
Medium parameters used: f = 849 MHz; σ = 0.91 mho/m; ε_r = 42.3; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.478 mW/g
Configuration/RE Tilt/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.6 V/m; Power Drift = 0.084 dB
Peak SAR (extrapolated) = 0.572 W/kg

SAR(1 g) = 0.456 mW/g; SAR(10 g) = 0.343 mW/g
Maximum value of SAR (measured) = 0.477 mW/g



0 dB = 0.477mW/g

Date: 2010/10/06

LE Tilt_CH128

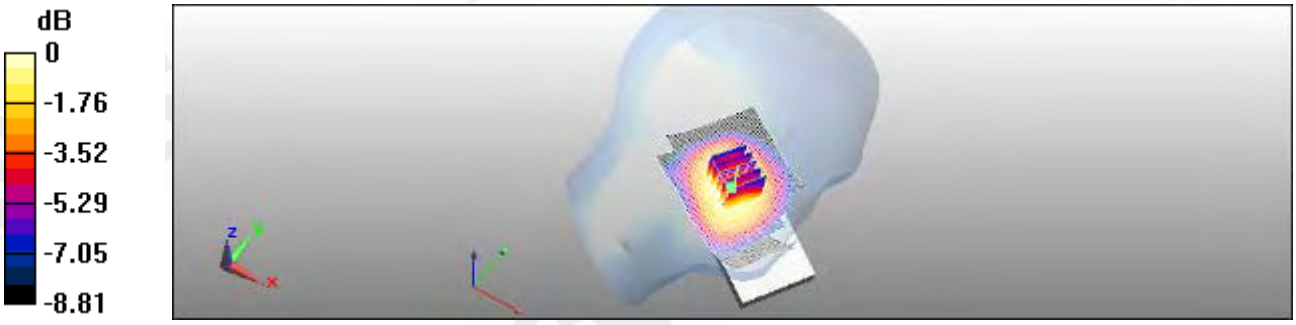
DUT: V03B002

Communication System: Generic GSM; Frequency: 824.2 MHz;
Medium parameters used: f = 824.2 MHz; σ = 0.886 mho/m; ε_r = 42.6; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/LE Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.384 mW/g
Configuration/LE Tilt/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.9 V/m; Power Drift = 0.00761 dB
Peak SAR (extrapolated) = 0.468 W/kg

SAR(1 g) = 0.367 mW/g; SAR(10 g) = 0.278 mW/g
Maximum value of SAR (measured) = 0.386 mW/g



0 dB = 0.386mW/g

Date: 2010/10/06

LE Tilt_CH190

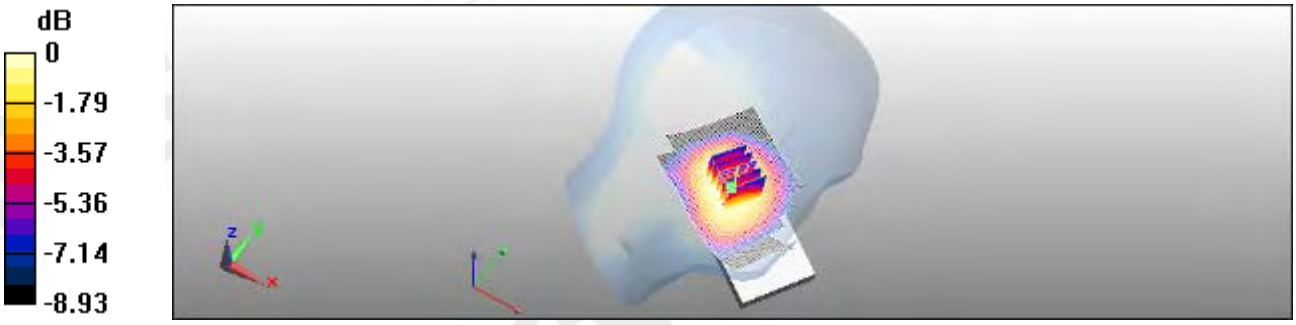
DUT: V03B002

Communication System: Generic GSM; Frequency: 836.6 MHz;
Medium parameters used: f = 837 MHz; σ = 0.9 mho/m; ε_r = 42.5; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/LE Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.416 mW/g
Configuration/LE Tilt/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.4 V/m; Power Drift = -0.021 dB
Peak SAR (extrapolated) = 0.487 W/kg

SAR(1 g) = 0.390 mW/g; SAR(10 g) = 0.295 mW/g
Maximum value of SAR (measured) = 0.407 mW/g



0 dB = 0.407mW/g

Date: 2010/10/06

LE Tilt_CH251

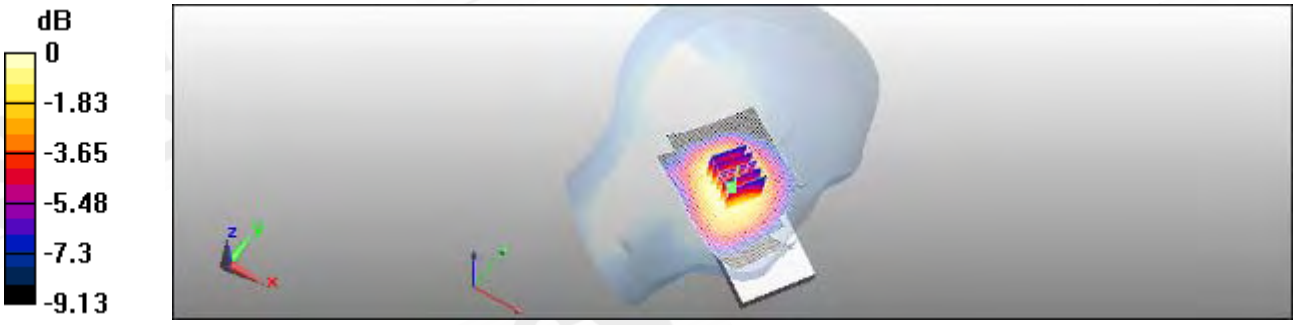
DUT: V03B002

Communication System: Generic GSM; Frequency: 848.6 MHz;
Medium parameters used: f = 849 MHz; σ = 0.91 mho/m; ε_r = 42.3; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/LE Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.450 mW/g
Configuration/LE Tilt/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.9 V/m; Power Drift = -0.031 dB
Peak SAR (extrapolated) = 0.546 W/kg

SAR(1 g) = 0.427 mW/g; SAR(10 g) = 0.320 mW/g
Maximum value of SAR (measured) = 0.449 mW/g



0 dB = 0.449mW/g

Date: 2010/10/06

BODY_CH128

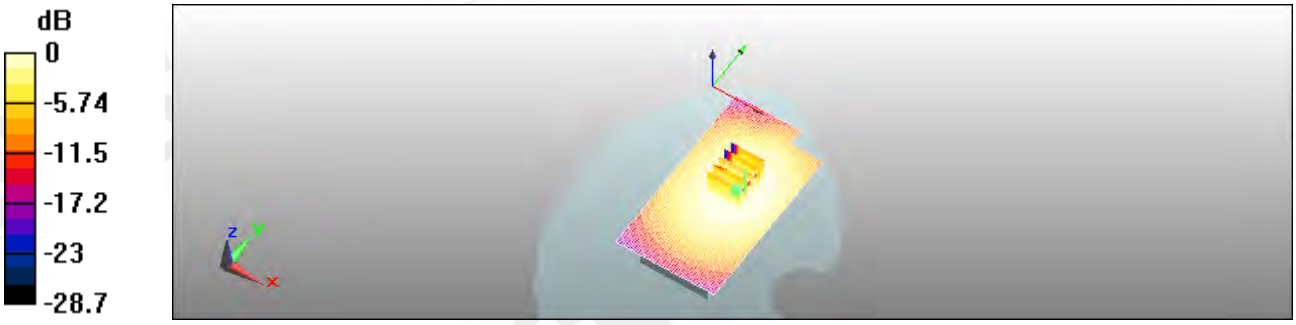
DUT: V03B002

Communication System: GPRS(Class 12); Frequency: 824.2 MHz;
Medium parameters used: f = 824.2 MHz; σ = 0.992 mho/m; ε_r = 53.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.84, 5.84, 5.84); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.17 mW/g
Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.4 V/m; Power Drift = -0.155 dB
Peak SAR (extrapolated) = 2.02 W/kg

SAR(1 g) = 1.09 mW/g; SAR(10 g) = 0.825 mW/g
Maximum value of SAR (measured) = 1.14 mW/g



0 dB = 1.14mW/g

Date: 2010/10/06

BODY_CH190

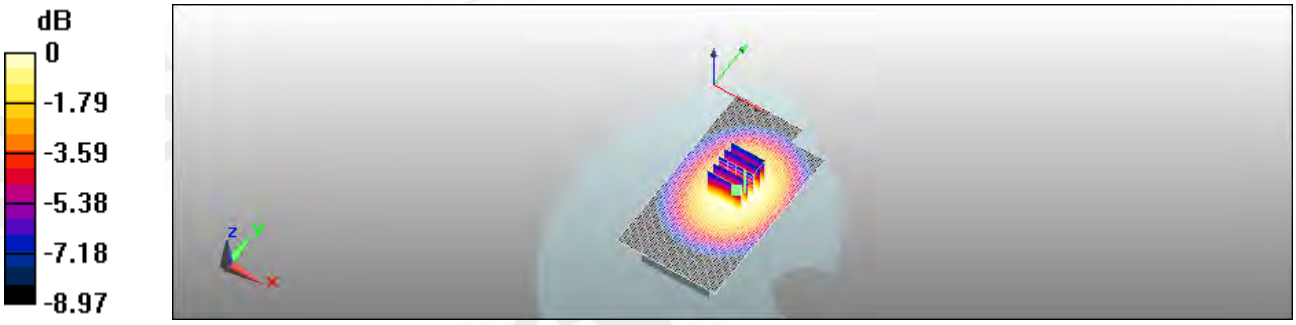
DUT: V03B002

Communication System: GPRS(Class 12); Frequency: 836.6 MHz;
Medium parameters used: f = 837 MHz; σ = 1.01 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.84, 5.84, 5.84); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.27 mW/g
Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.4 V/m; Power Drift = -0.076 dB
Peak SAR (extrapolated) = 1.5 W/kg

SAR(1 g) = 1.19 mW/g; SAR(10 g) = 0.889 mW/g
Maximum value of SAR (measured) = 1.25 mW/g



0 dB = 1.25mW/g

Date: 2010/10/06

BODY_CH251

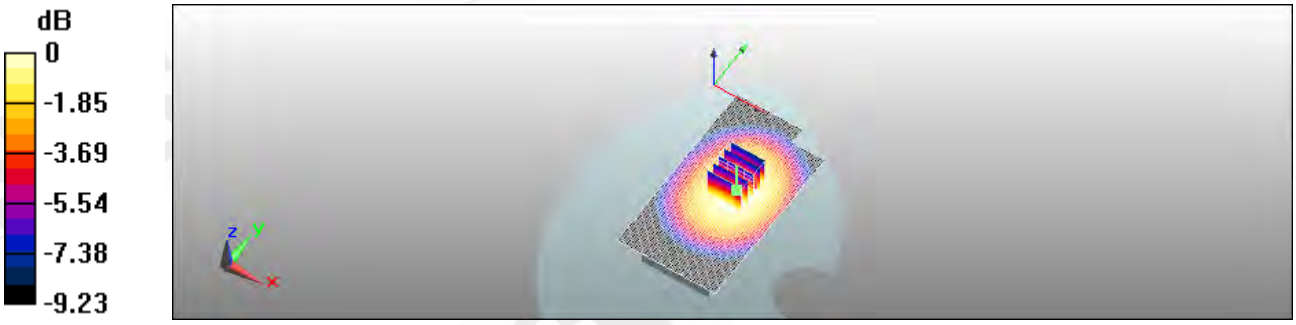
DUT: V03B002

Communication System: GPRS(Class 12); Frequency: 848.8 MHz;
Medium parameters used: f = 849 MHz; σ = 1.02 mho/m; ε_r = 53.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.84, 5.84, 5.84); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.27 mW/g
Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 22.2 V/m; Power Drift = -0.096 dB
Peak SAR (extrapolated) = 1.49 W/kg

SAR(1 g) = 1.18 mW/g; SAR(10 g) = 0.880 mW/g
Maximum value of SAR (measured) = 1.25 mW/g



0 dB = 1.25mW/g

Date: 2010/10/06

BODY_CH190_repeated for EUT front to phantom

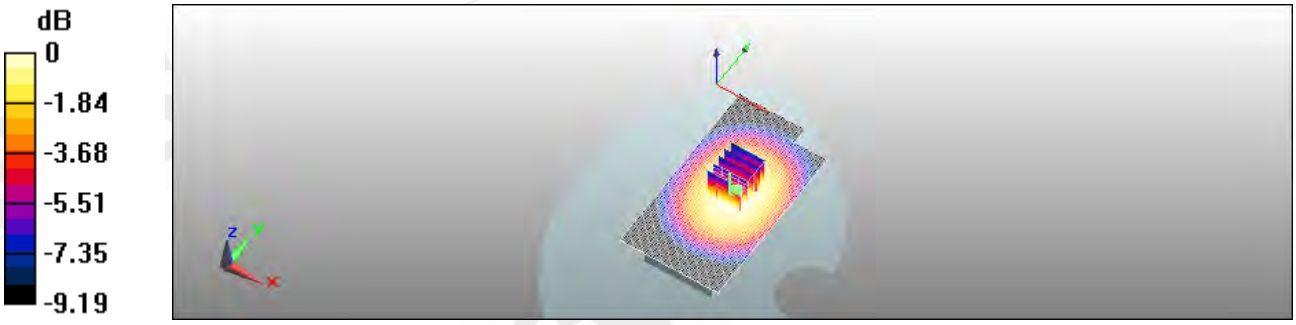
DUT: V03B002

Communication System: GPRS(Class 12); Frequency: 836.6 MHz;
Medium parameters used: f = 837 MHz; σ = 1.01 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.84, 5.84, 5.84); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.07 mW/g
Cofiguration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.7 V/m; Power Drift = 0.00505 dB
Peak SAR (extrapolated) = 1.28 W/kg

SAR(1 g) = 1.02 mW/g; SAR(10 g) = 0.767 mW/g
Maximum value of SAR (measured) = 1.07 mW/g



0 dB = 1.07mW/g

Date: 2010/10/06

BODY_CH190_repeated with Memory card

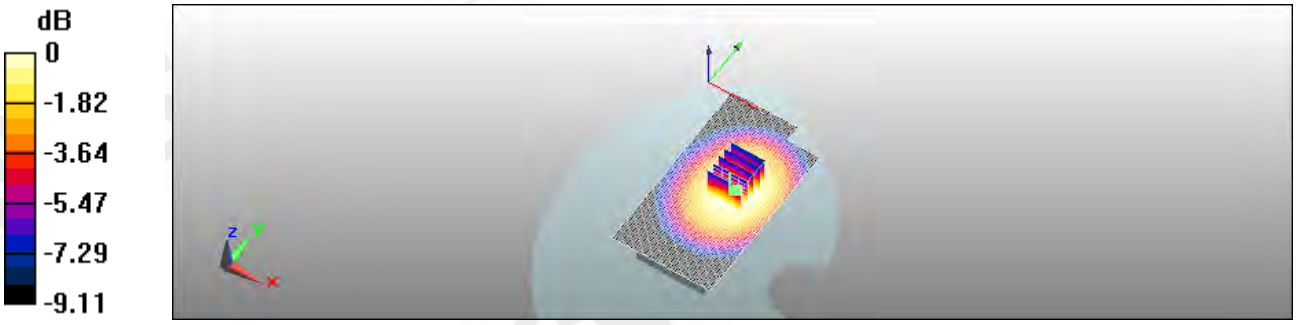
DUT: V03B002

Communication System: GPRS(Class 12); Frequency: 836.6 MHz;
Medium parameters used: f = 837 MHz; σ = 1.01 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

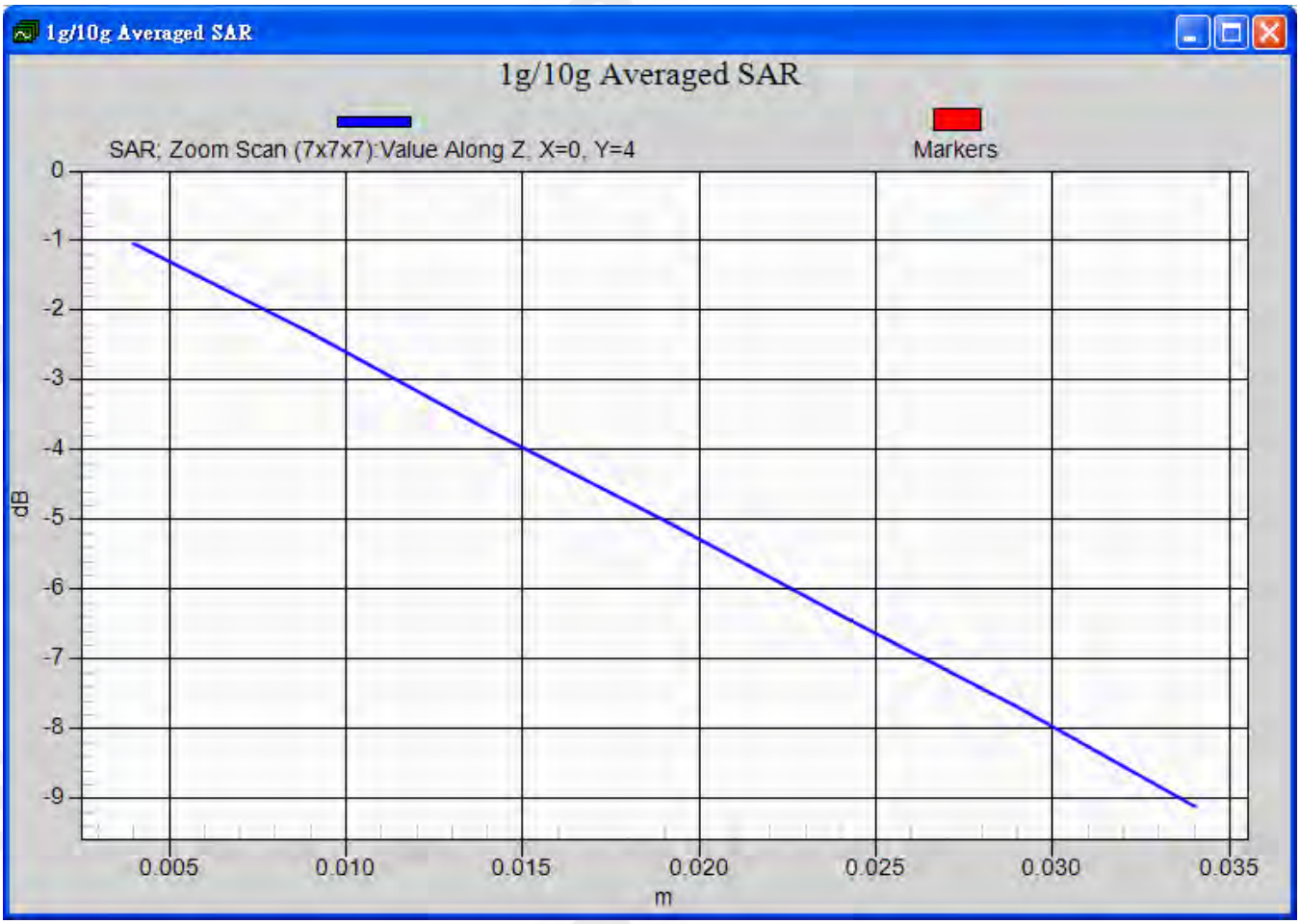
- Probe: ES3DV3 - SN3172; ConvF(5.84, 5.84, 5.84); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.27 mW/g
Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 22 V/m; Power Drift = -0.102 dB
Peak SAR (extrapolated) = 1.5 W/kg

SAR(1 g) = 1.2 mW/g; SAR(10 g) = 0.897 mW/g
Maximum value of SAR (measured) = 1.26 mW/g



0 dB = 1.26mW/g



Date: 2010/10/06

BODY_CH190_repeated with PCH headset

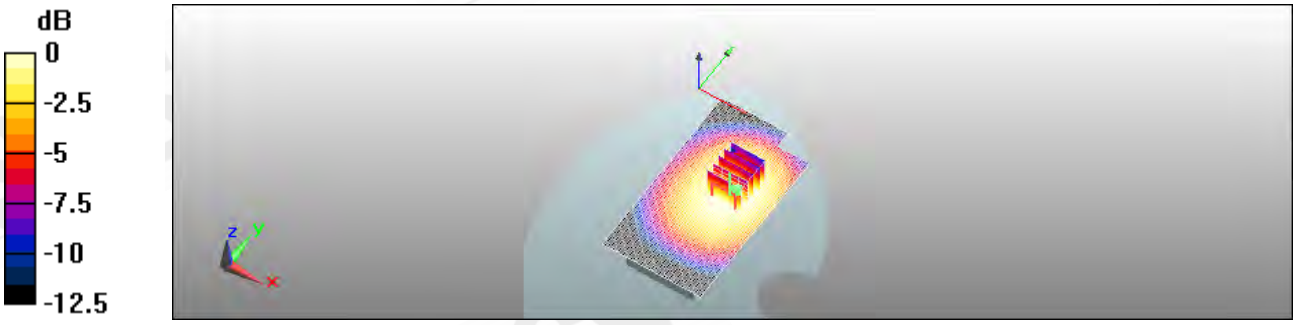
DUT: V03B002

Communication System: GPRS(Class 12); Frequency: 836.6 MHz;
Medium parameters used: f = 837 MHz; σ = 1.01 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.84, 5.84, 5.84); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.1 mW/g
Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19 V/m; Power Drift = -0.081 dB
Peak SAR (extrapolated) = 1.31 W/kg

SAR(1 g) = 1.02 mW/g; SAR(10 g) = 0.761 mW/g
Maximum value of SAR (measured) = 1.08 mW/g



0 dB = 1.08mW/g

Date: 2010/10/06

BODY_CH190_repeated with Foster headset

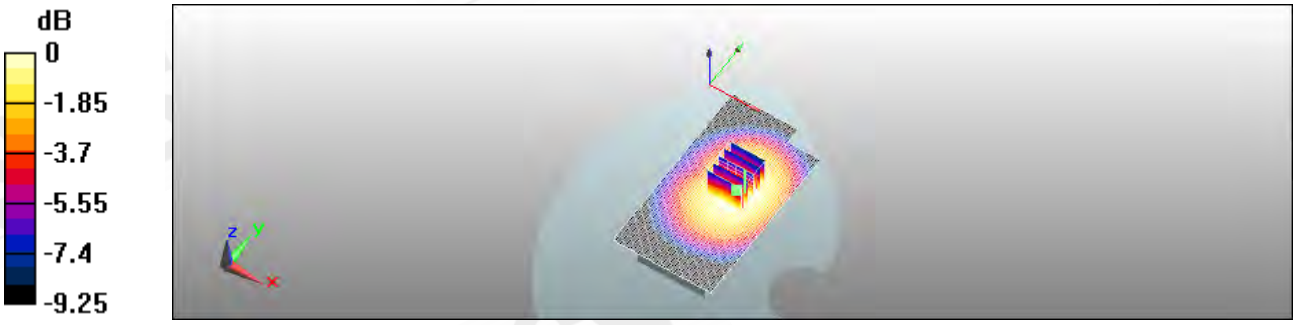
DUT: V03B002

Communication System: GPRS(Class 12); Frequency: 836.6 MHz;
Medium parameters used: f = 837 MHz; σ = 1.01 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.84, 5.84, 5.84); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.03 mW/g
Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19.6 V/m; Power Drift = -0.092 dB
Peak SAR (extrapolated) = 1.24 W/kg

SAR(1 g) = 0.971 mW/g; SAR(10 g) = 0.725 mW/g
Maximum value of SAR (measured) = 1.02 mW/g



0 dB = 1.02mW/g

Date: 2010/10/06

BODY_CH190_repeated with EGPRS mode

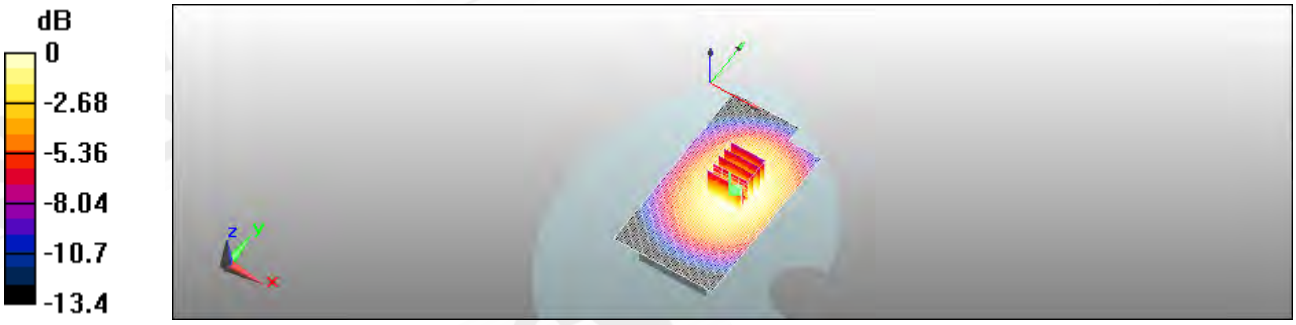
DUT: V03B002

Communication System: GPRS(Class 12); Frequency: 836.6 MHz;
Medium parameters used: f = 837 MHz; σ = 1.01 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.84, 5.84, 5.84); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.515 mW/g
Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.6 V/m; Power Drift = -0.184 dB
Peak SAR (extrapolated) = 1.12 W/kg

SAR(1 g) = 0.531 mW/g; SAR(10 g) = 0.384 mW/g
Maximum value of SAR (measured) = 0.542 mW/g



0 dB = 0.542mW/g

Date: 2010/10/06

RE Cheek_CH512

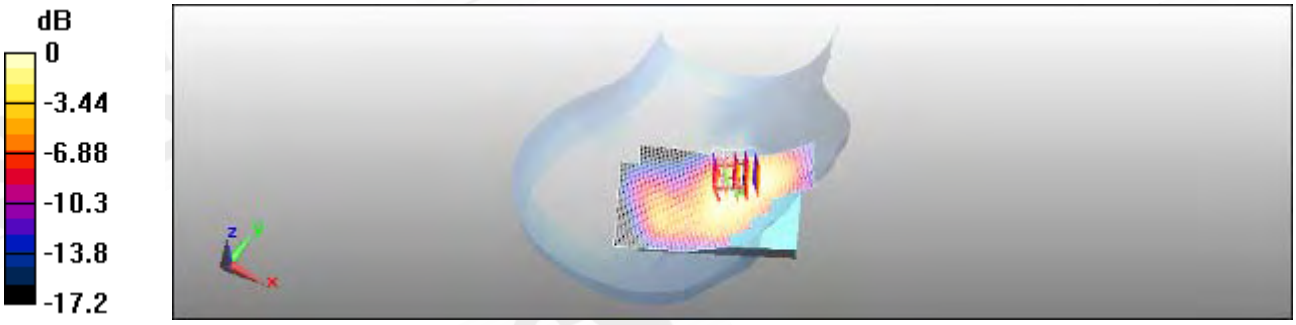
DUT: V03B002

Communication System: Generic GSM; Frequency: 1850.2 MHz;
Medium parameters used: f = 1850.2 MHz; σ = 1.36 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Cheek/Area Scan (61x101x1): Measurement grid:
dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.523 mW/g
Configuration/RE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:
dx=8mm, dy=8mm, dz=5mm
Reference Value = 10 V/m; Power Drift = -0.076 dB
Peak SAR (extrapolated) = 0.679 W/kg

SAR(1 g) = 0.478 mW/g; SAR(10 g) = 0.307 mW/g
Maximum value of SAR (measured) = 0.518 mW/g



0 dB = 0.518mW/g

Date: 2010/10/06

RE Cheek_CH661

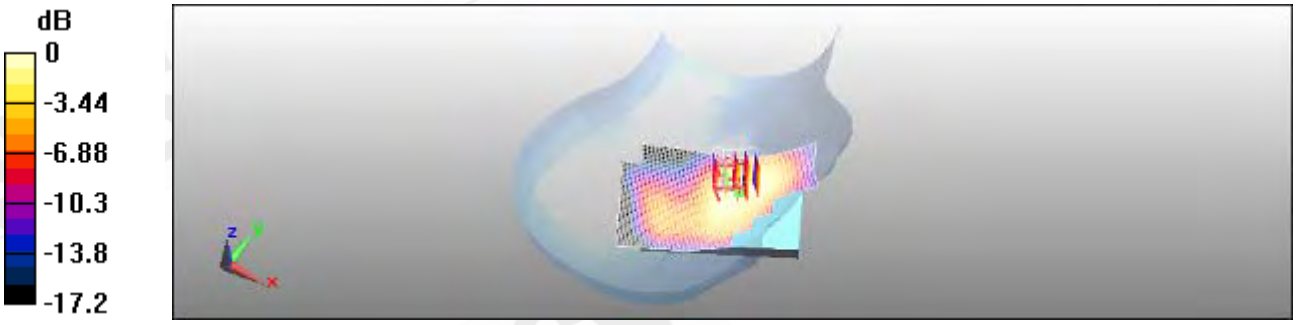
DUT: V03B002

Communication System: Generic GSM; Frequency: 1880 MHz;
Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ε_r = 39.7; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Cheek/Area Scan (61x101x1): Measurement grid:
dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.549 mW/g
Configuration/RE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:
dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.8 V/m; Power Drift = 0.00977 dB
Peak SAR (extrapolated) = 0.708 W/kg

SAR(1 g) = 0.499 mW/g; SAR(10 g) = 0.321 mW/g
Maximum value of SAR (measured) = 0.543 mW/g



0 dB = 0.543mW/g

Date: 2010/10/06

RE Cheek_CH810

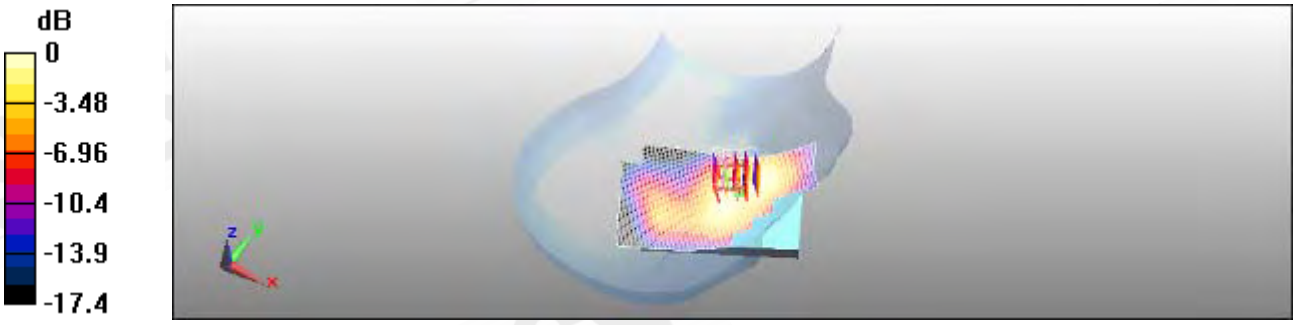
DUT: V03B002

Communication System: Generic GSM; Frequency: 1909.8 MHz;
Medium parameters used: f = 1910 MHz; σ = 1.43 mho/m; ε_r = 39.5; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Cheek/Area Scan (61x101x1): Measurement grid:
dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.577 mW/g
Configuration/RE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:
dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.4 V/m; Power Drift = 0.00419 dB
Peak SAR (extrapolated) = 0.759 W/kg

SAR(1 g) = 0.526 mW/g; SAR(10 g) = 0.335 mW/g
Maximum value of SAR (measured) = 0.573 mW/g



0 dB = 0.573mW/g

Date: 2010/10/06

LE Cheek_CH512

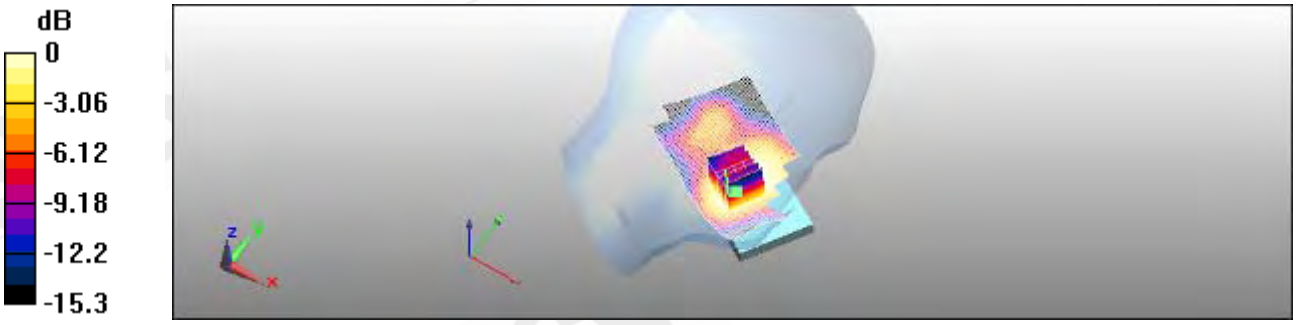
DUT: V03B002

Communication System: Generic GSM; Frequency: 1850.2 MHz;
Medium parameters used: f = 1850.2 MHz; σ = 1.36 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/LE Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.336 mW/g
Configuration/LE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.8 V/m; Power Drift = -0.023 dB
Peak SAR (extrapolated) = 0.420 W/kg

SAR(1 g) = 0.302 mW/g; SAR(10 g) = 0.203 mW/g
Maximum value of SAR (measured) = 0.321 mW/g



0 dB = 0.321mW/g

Date: 2010/10/06

LE Cheek_CH661

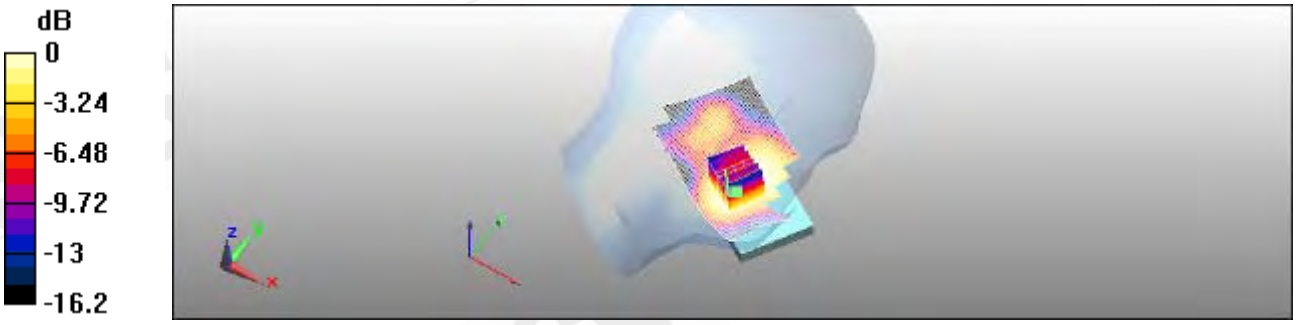
DUT: V03B002

Communication System: Generic GSM; Frequency: 1880 MHz;
Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ε_r = 39.7; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/LE Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.335 mW/g
Configuration/LE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.97 V/m; Power Drift = -0.113 dB
Peak SAR (extrapolated) = 0.420 W/kg

SAR(1 g) = 0.302 mW/g; SAR(10 g) = 0.202 mW/g
Maximum value of SAR (measured) = 0.319 mW/g



0 dB = 0.319mW/g

Date: 2010/10/06

LE Cheek_CH810

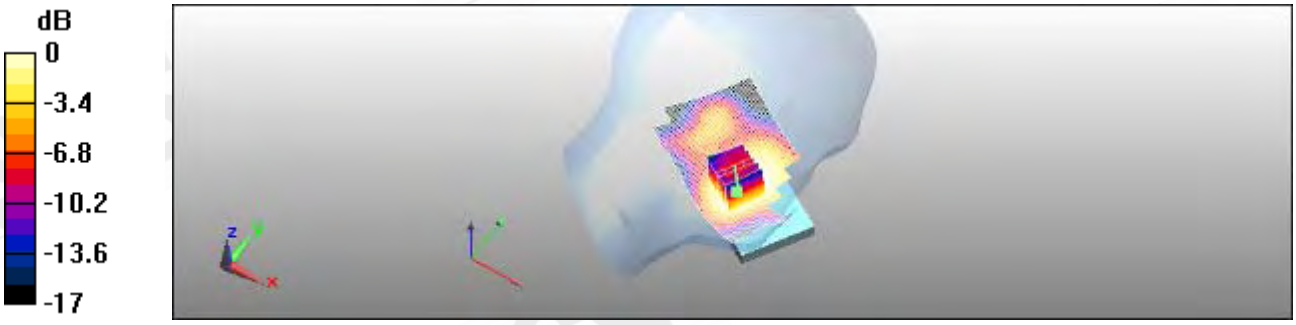
DUT: V03B002

Communication System: Generic GSM; Frequency: 1909.8 MHz;
Medium parameters used: f = 1910 MHz; σ = 1.43 mho/m; ε_r = 39.5; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/LE Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.369 mW/g
Configuration/LE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.3 V/m; Power Drift = -0.121 dB
Peak SAR (extrapolated) = 0.466 W/kg

SAR(1 g) = 0.329 mW/g; SAR(10 g) = 0.220 mW/g
Maximum value of SAR (measured) = 0.346 mW/g



0 dB = 0.346mW/g

Date: 2010/10/06

RE Tilt_CH512

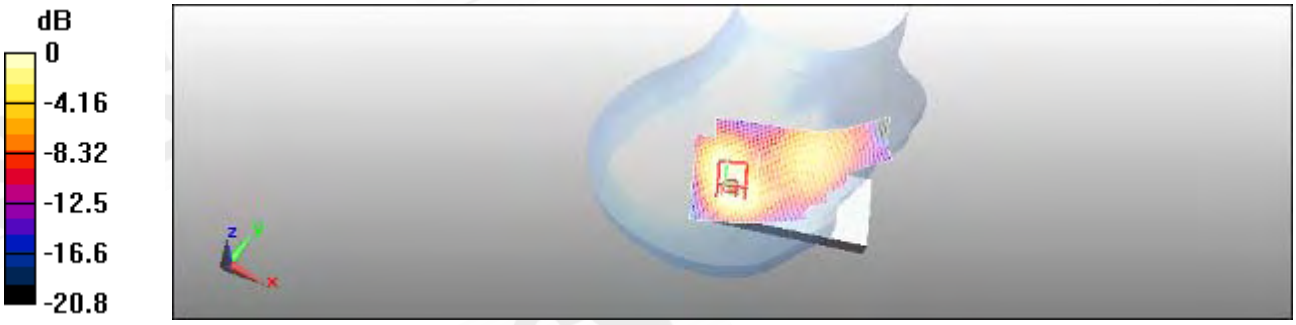
DUT: V03B002

Communication System: Generic GSM; Frequency: 1850.2 MHz;
Medium parameters used: f = 1850.2 MHz; σ = 1.36 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.356 mW/g
Configuration/RE Tilt/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.5 V/m; Power Drift = -0.145 dB
Peak SAR (extrapolated) = 0.510 W/kg

SAR(1 g) = 0.305 mW/g; SAR(10 g) = 0.175 mW/g
Maximum value of SAR (measured) = 0.313 mW/g



0 dB = 0.313mW/g

Date: 2010/10/06

RE Tilt_CH661

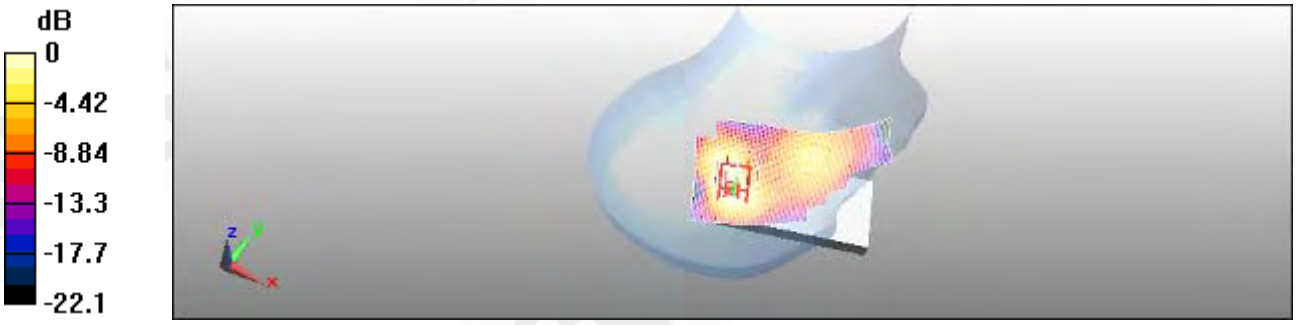
DUT: V03B002

Communication System: Generic GSM; Frequency: 1880 MHz;
Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ε_r = 39.7; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.346 mW/g
Configuration/RE Tilt/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.8 V/m; Power Drift = -0.103 dB
Peak SAR (extrapolated) = 0.525 W/kg

SAR(1 g) = 0.298 mW/g; SAR(10 g) = 0.166 mW/g
Maximum value of SAR (measured) = 0.318 mW/g



0 dB = 0.318mW/g

Date: 2010/10/06

RE Tilt_CH810

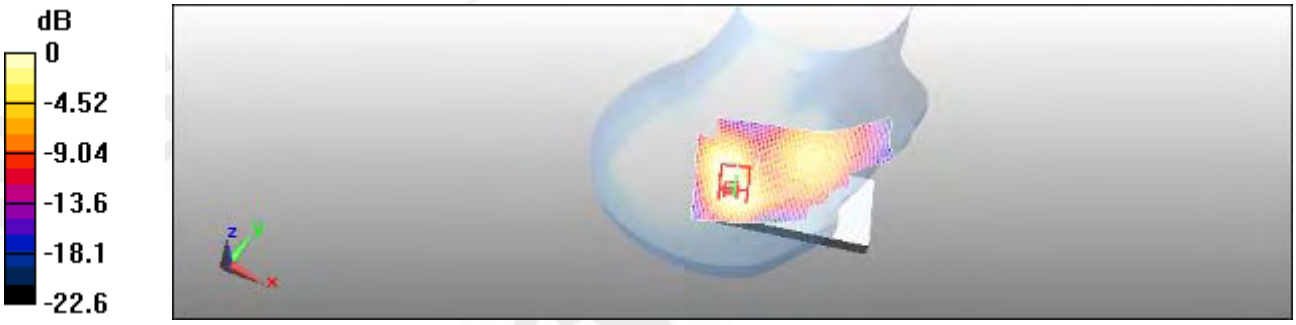
DUT: V03B002

Communication System: Generic GSM; Frequency: 1909.8 MHz;
Medium parameters used: f = 1910 MHz; σ = 1.43 mho/m; ε_r = 39.5; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.364 mW/g
Configuration/RE Tilt/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.6 V/m; Power Drift = -0.149 dB
Peak SAR (extrapolated) = 0.564 W/kg

SAR(1 g) = 0.318 mW/g; SAR(10 g) = 0.171 mW/g
Maximum value of SAR (measured) = 0.330 mW/g



0 dB = 0.330mW/g

Date: 2010/10/06

LE Tilt_CH512

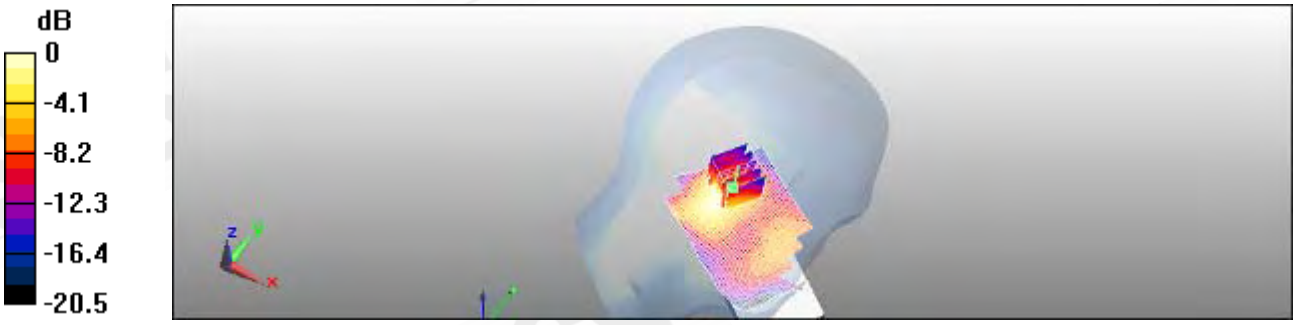
DUT: V03B002

Communication System: Generic GSM; Frequency: 1850.2 MHz;
Medium parameters used: f = 1850.2 MHz; σ = 1.36 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/LE Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.313 mW/g
Configuration/LE Tilt/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.8 V/m; Power Drift = -0.128 dB
Peak SAR (extrapolated) = 0.479 W/kg

SAR(1 g) = 0.281 mW/g; SAR(10 g) = 0.156 mW/g
Maximum value of SAR (measured) = 0.305 mW/g



0 dB = 0.305mW/g

Date: 2010/10/06

LE Tilt_CH661

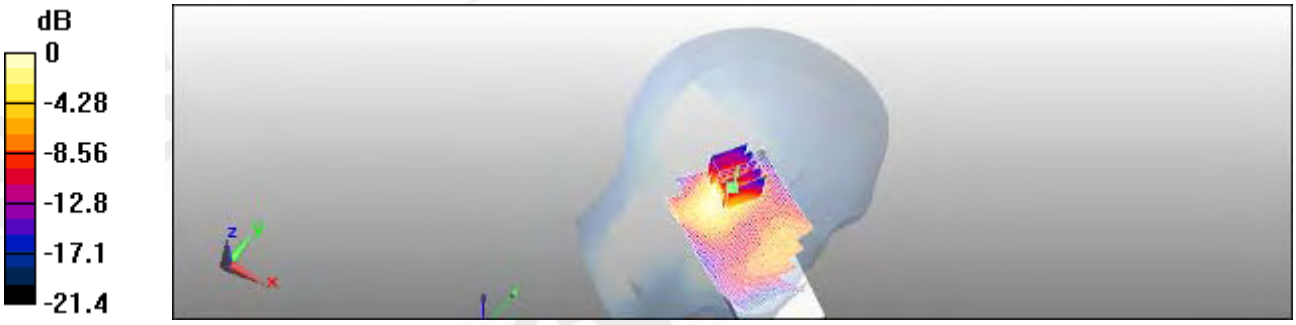
DUT: V03B002

Communication System: Generic GSM; Frequency: 1880 MHz;
Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ε_r = 39.7; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/LE Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.305 mW/g
Configuration/LE Tilt/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.2 V/m; Power Drift = -0.116 dB
Peak SAR (extrapolated) = 0.484 W/kg

SAR(1 g) = 0.279 mW/g; SAR(10 g) = 0.151 mW/g
Maximum value of SAR (measured) = 0.311 mW/g



0 dB = 0.311mW/g

Date: 2010/10/06

LE Tilt_CH810

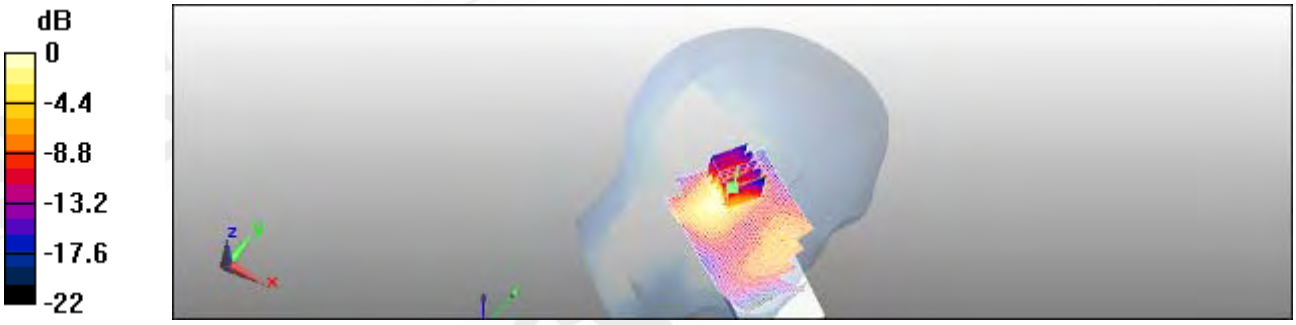
DUT: V03B002

Communication System: Generic GSM; Frequency: 1909.8 MHz;
Medium parameters used: f = 1910 MHz; σ = 1.43 mho/m; ε_r = 39.5; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/LE Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.334 mW/g
Configuration/LE Tilt/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.2 V/m; Power Drift = -0.015 dB
Peak SAR (extrapolated) = 0.525 W/kg

SAR(1 g) = 0.294 mW/g; SAR(10 g) = 0.154 mW/g
Maximum value of SAR (measured) = 0.330 mW/g



0 dB = 0.330mW/g

Date: 2010/10/06

BODY_CH512

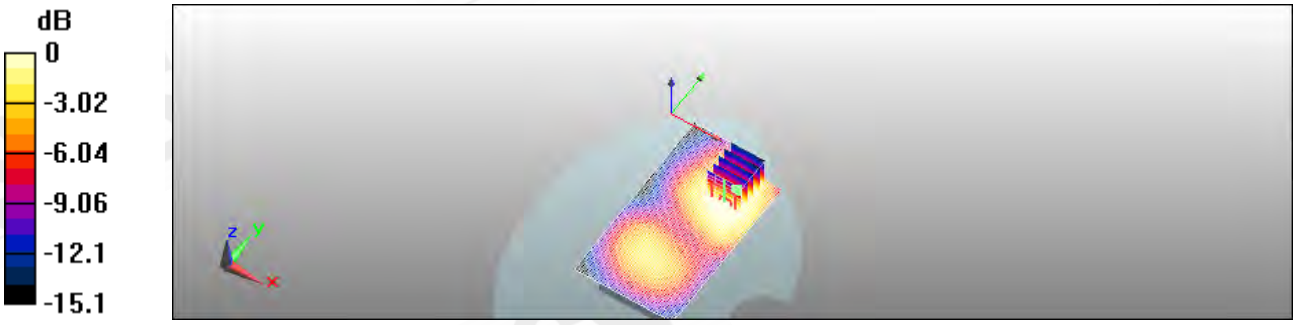
DUT: V03B002

Communication System: GPRS(Class 12); Frequency: 1850.2 MHz;
Medium parameters used: f = 1850.2 MHz; σ = 1.5 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.45, 4.45, 4.45); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.511 mW/g
Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.3 V/m; Power Drift = -0.124 dB
Peak SAR (extrapolated) = 0.728 W/kg

SAR(1 g) = 0.439 mW/g; SAR(10 g) = 0.283 mW/g
Maximum value of SAR (measured) = 0.483 mW/g



0 dB = 0.483mW/g

Date: 2010/10/06

BODY_CH661

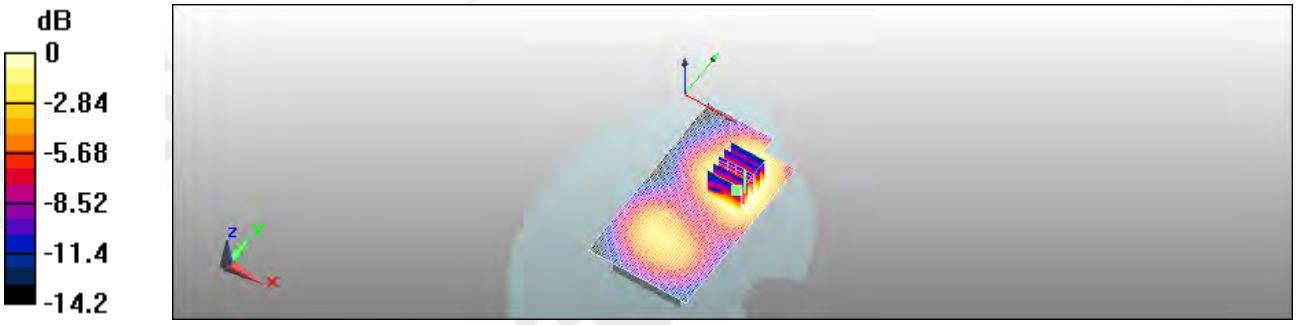
DUT: V03B002

Communication System: GPRS(Class 12); Frequency: 1880 MHz;
Medium parameters used: f = 1880 MHz; σ = 1.54 mho/m; ε_r = 52.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.45, 4.45, 4.45); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.434 mW/g
Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.5 V/m; Power Drift = -0.146 dB
Peak SAR (extrapolated) = 0.594 W/kg

SAR(1 g) = 0.408 mW/g; SAR(10 g) = 0.264 mW/g
Maximum value of SAR (measured) = 0.435 mW/g



0 dB = 0.435mW/g

Date: 2010/10/06

BODY_CH810

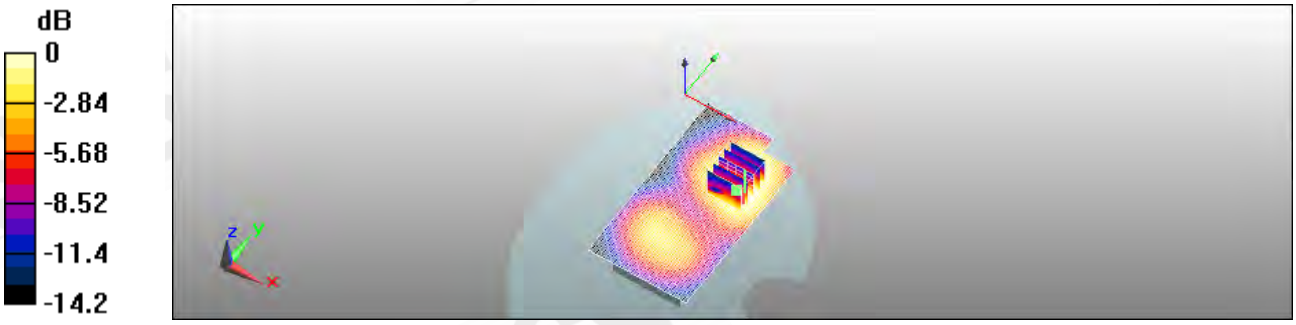
DUT: V03B002

Communication System: GPRS(Class 12); Frequency: 1880 MHz;
Medium parameters used: f = 1909.8 MHz; σ = 1.56 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.45, 4.45, 4.45); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.426 mW/g
Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.3 V/m; Power Drift = -0.161 dB
Peak SAR (extrapolated) = 0.614 W/kg

SAR(1 g) = 0.412 mW/g; SAR(10 g) = 0.257 mW/g
Maximum value of SAR (measured) = 0.435 mW/g



0 dB = 0.435mW/g

Date: 2010/10/07

RE Cheek_CH1312

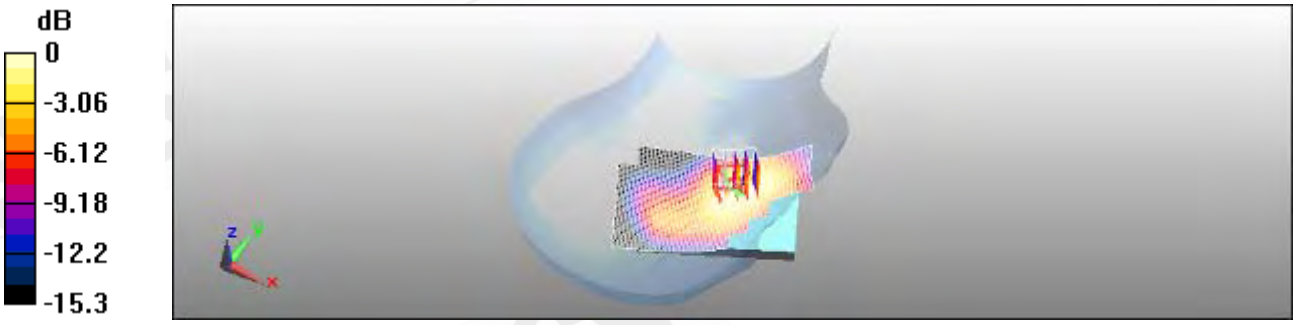
DUT: V03B002

Communication System: WCDMA; Frequency: 1712.4 MHz;
Medium parameters used: f = 1712.4 MHz; σ = 1.35 mho/m; ε_r = 39.4; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.04, 5.04, 5.04); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Cheek/Area Scan (61x101x1): Measurement grid:
dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.626 mW/g
Configuration/RE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:
dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.1 V/m; Power Drift = -0.112 dB
Peak SAR (extrapolated) = 0.829 W/kg

SAR(1 g) = 0.571 mW/g; SAR(10 g) = 0.371 mW/g
Maximum value of SAR (measured) = 0.608 mW/g



0 dB = 0.608mW/g

Date: 2010/10/07

RE Cheek_CH1412

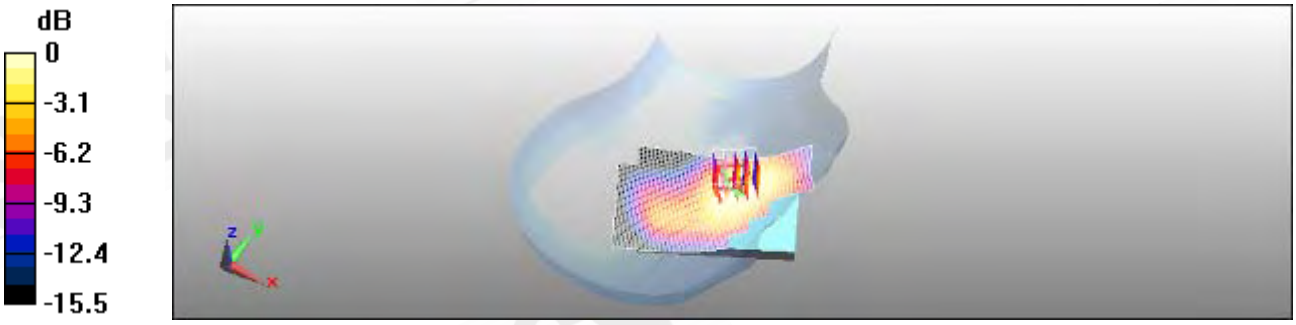
DUT: V03B002

Communication System: WCDMA; Frequency: 1732.4 MHz;
Medium parameters used: f = 1732.4 MHz; σ = 1.35 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.04, 5.04, 5.04); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Cheek/Area Scan (61x101x1): Measurement grid:
dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1 mW/g
Configuration/RE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:
dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.9 V/m; Power Drift = -0.056 dB
Peak SAR (extrapolated) = 1.25 W/kg

SAR(1 g) = 0.891 mW/g; SAR(10 g) = 0.580 mW/g
Maximum value of SAR (measured) = 0.959 mW/g



0 dB = 0.959mW/g

Date: 2010/10/07

RE Cheek_CH1513

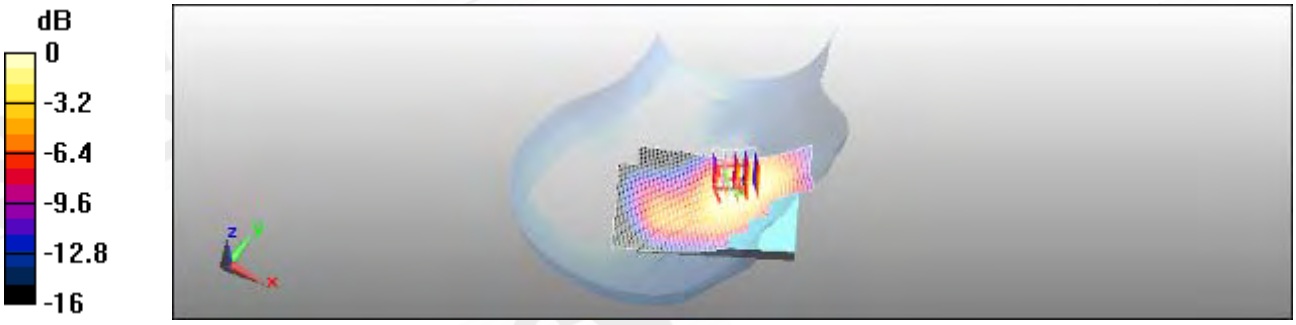
DUT: V03B002

Communication System: WCDMA; Frequency: 1752.6 MHz;
Medium parameters used: f = 1753 MHz; σ = 1.39 mho/m; ε_r = 39.1; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.04, 5.04, 5.04); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Cheek/Area Scan (61x101x1): Measurement grid:
dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.965 mW/g
Configuration/RE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:
dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.8 V/m; Power Drift = -0.090 dB
Peak SAR (extrapolated) = 1.24 W/kg

SAR(1 g) = 0.871 mW/g; SAR(10 g) = 0.564 mW/g
Maximum value of SAR (measured) = 0.943 mW/g



0 dB = 0.943mW/g

Date: 2010/10/07

RE Cheek_CH1412_repeated with Memory card

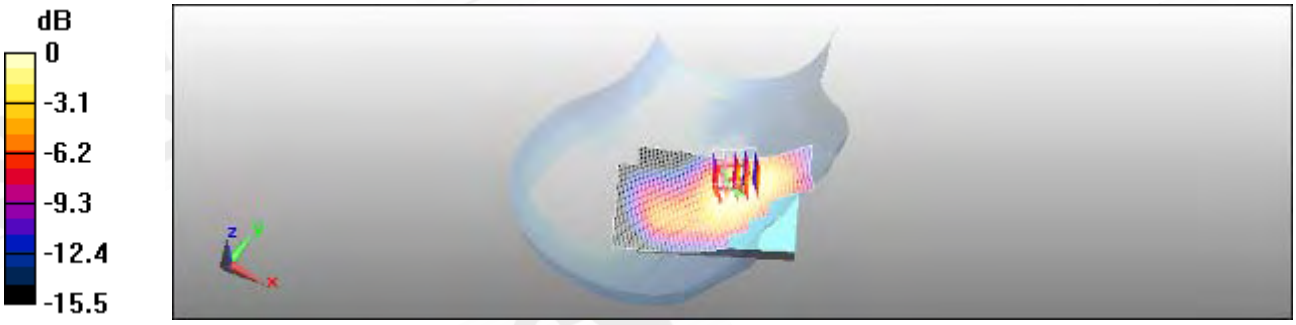
DUT: V03B002

Communication System: WCDMA; Frequency: 1732.4 MHz;
Medium parameters used: f = 1732.4 MHz; σ = 1.35 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

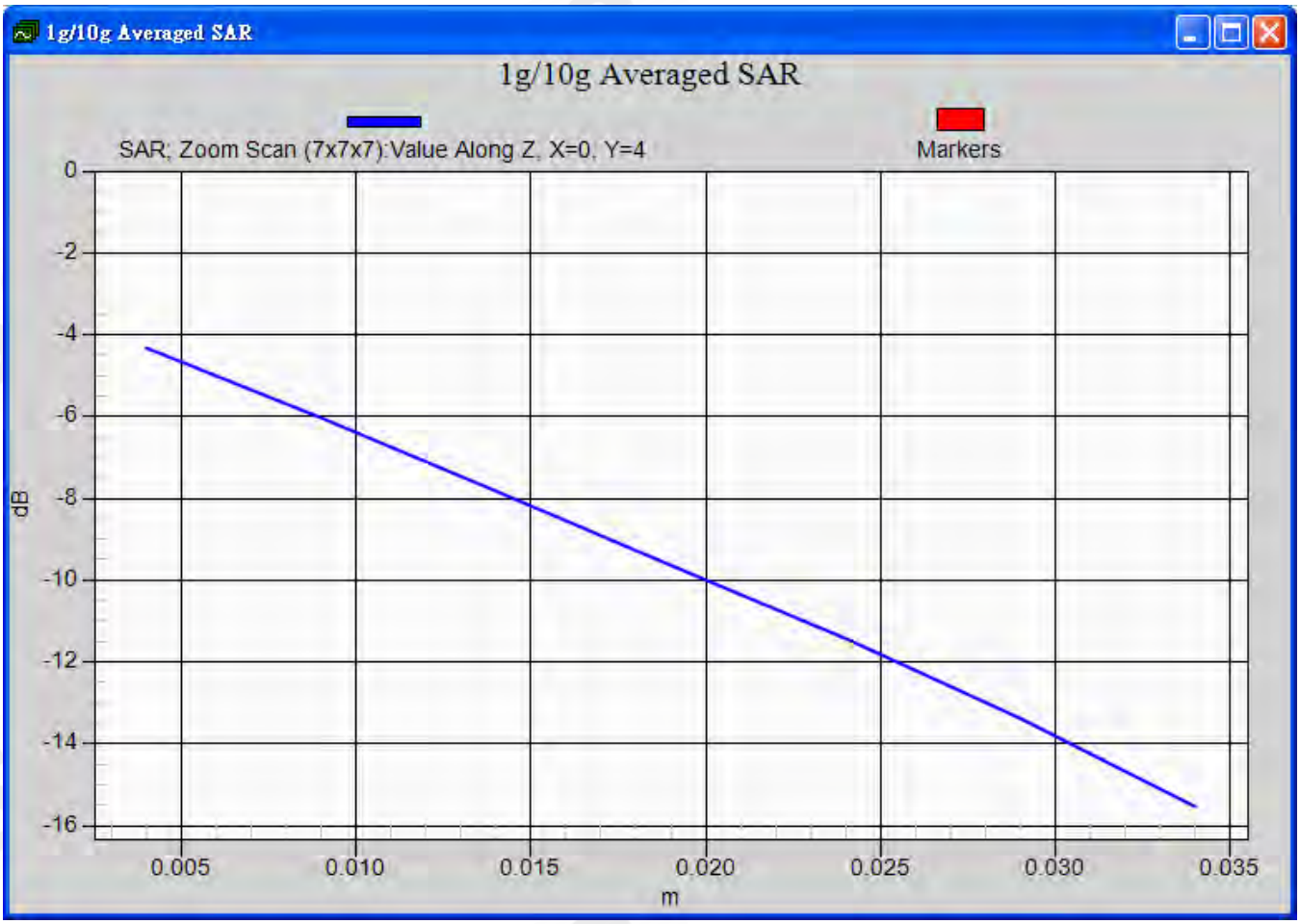
- Probe: ES3DV3 - SN3172; ConvF(5.04, 5.04, 5.04); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Cheek/Area Scan (61x101x1): Measurement grid:
dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.09 mW/g
Configuration/RE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid:
dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.95 V/m; Power Drift = -0.102 dB
Peak SAR (extrapolated) = 1.31 W/kg

SAR(1 g) = 0.905 mW/g; SAR(10 g) = 0.592 mW/g
Maximum value of SAR (measured) = 0.988 mW/g



0 dB = 0.959mW/g



Date: 2010/10/07

LE Cheek_CH1312

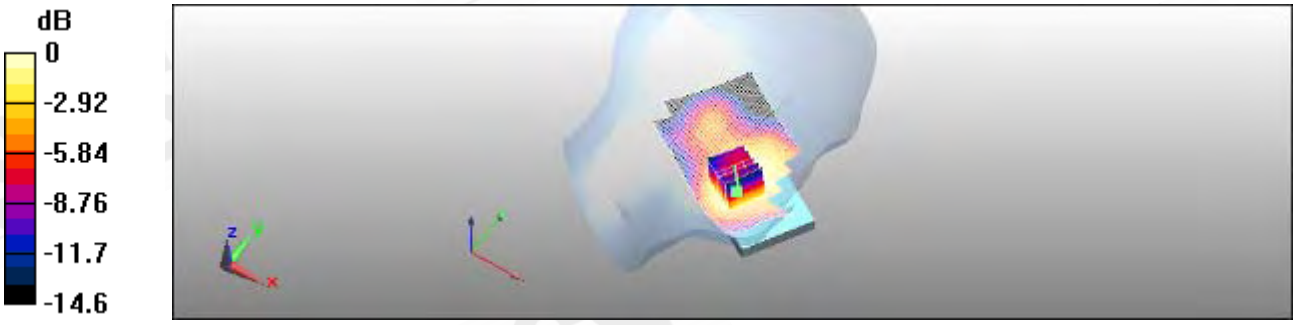
DUT: V03B002

Communication System: WCDMA; Frequency: 1712.4 MHz;
Medium parameters used: f = 1712.4 MHz; σ = 1.35 mho/m; ε_r = 39.4; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.04, 5.04, 5.04); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/LE Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.361 mW/g
Configuration/LE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.4 V/m; Power Drift = -0.080 dB
Peak SAR (extrapolated) = 0.454 W/kg

SAR(1 g) = 0.330 mW/g; SAR(10 g) = 0.223 mW/g
Maximum value of SAR (measured) = 0.346 mW/g



0 dB = 0.346mW/g

Date: 2010/10/07

LE Cheek_CH1412

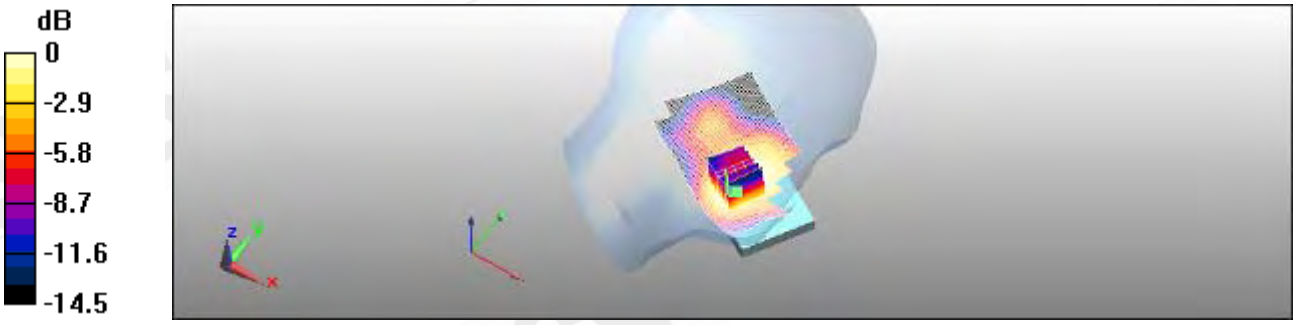
DUT: V03B002

Communication System: WCDMA; Frequency: 1732.4 MHz;
Medium parameters used: f = 1732.4 MHz; σ = 1.35 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.04, 5.04, 5.04); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/LE Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.609 mW/g
Configuration/LE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.3 V/m; Power Drift = -0.153 dB
Peak SAR (extrapolated) = 0.783 W/kg

SAR(1 g) = 0.564 mW/g; SAR(10 g) = 0.378 mW/g
Maximum value of SAR (measured) = 0.591 mW/g



0 dB = 0.591mW/g

Date: 2010/10/07

LE Cheek_CH1513

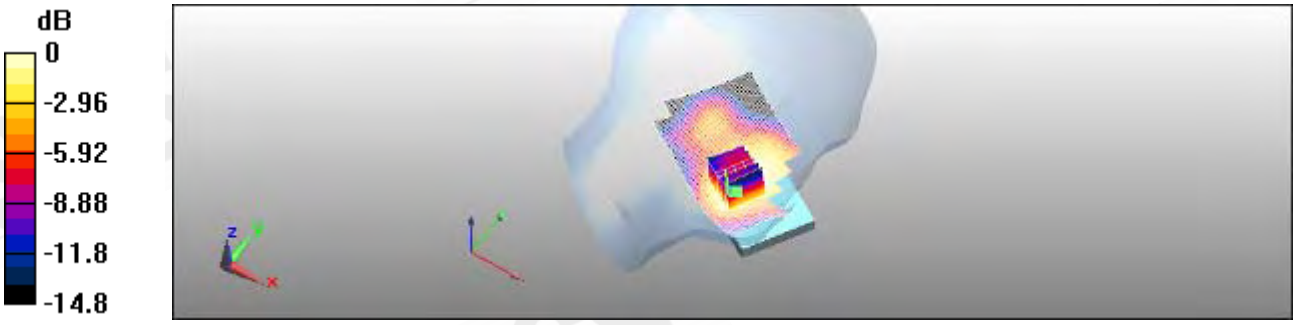
DUT: V03B002

Communication System: WCDMA; Frequency: 1752.6 MHz;
Medium parameters used: f = 1753 MHz; σ = 1.39 mho/m; ε_r = 39.1; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.04, 5.04, 5.04); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/LE Cheek/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.566 mW/g
Configuration/LE Cheek/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12 V/m; Power Drift = -0.101 dB
Peak SAR (extrapolated) = 0.729 W/kg

SAR(1 g) = 0.523 mW/g; SAR(10 g) = 0.348 mW/g
Maximum value of SAR (measured) = 0.548 mW/g



0 dB = 0.548mW/g

Date: 2010/10/07

RE Tilt_CH1312

DUT: V03B002

Communication System: WCDMA; Frequency: 1712.4 MHz;
Medium parameters used: f = 1712.4 MHz; σ = 1.35 mho/m; ε_r = 39.4; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.04, 5.04, 5.04); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.277 mW/g
Configuration/RE Tilt/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.9 V/m; Power Drift = -0.077 dB
Peak SAR (extrapolated) = 0.506 W/kg

SAR(1 g) = 0.260 mW/g; SAR(10 g) = 0.153 mW/g
Maximum value of SAR (measured) = 0.240 mW/g

0 dB = 0.240mW/g

Date: 2010/10/07

RE Tilt_CH1412

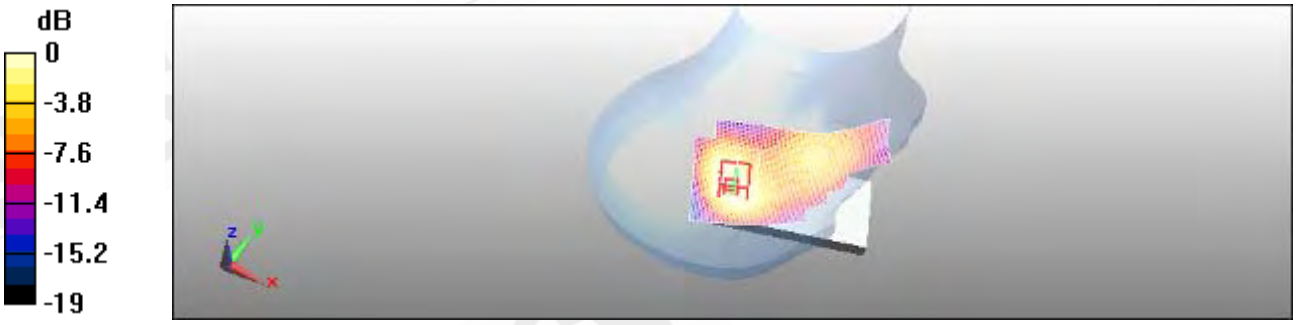
DUT: V03B002

Communication System: WCDMA; Frequency: 1732.4 MHz;
Medium parameters used: f = 1732.4 MHz; σ = 1.35 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.04, 5.04, 5.04); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.505 mW/g
Configuration/RE Tilt/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.6 V/m; Power Drift = -0.089 dB
Peak SAR (extrapolated) = 0.652 W/kg

SAR(1 g) = 0.420 mW/g; SAR(10 g) = 0.260 mW/g
Maximum value of SAR (measured) = 0.438 mW/g



0 dB = 0.438mW/g

Date: 2010/10/07

RE Tilt_CH1513

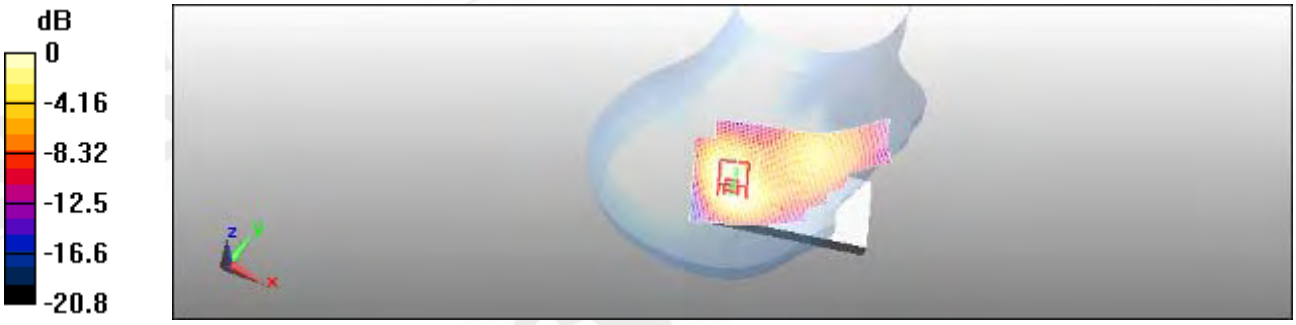
DUT: V03B002

Communication System: WCDMA; Frequency: 1752.6 MHz;
Medium parameters used: f = 1753 MHz; σ = 1.39 mho/m; ε_r = 39.1; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.04, 5.04, 5.04); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/RE Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.493 mW/g
Configuration/RE Tilt/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.3 V/m; Power Drift = -0.104 dB
Peak SAR (extrapolated) = 0.655 W/kg

SAR(1 g) = 0.413 mW/g; SAR(10 g) = 0.252 mW/g
Maximum value of SAR (measured) = 0.427 mW/g



0 dB = 0.427mW/g

Date: 2010/10/07

LE Tilt_CH1312

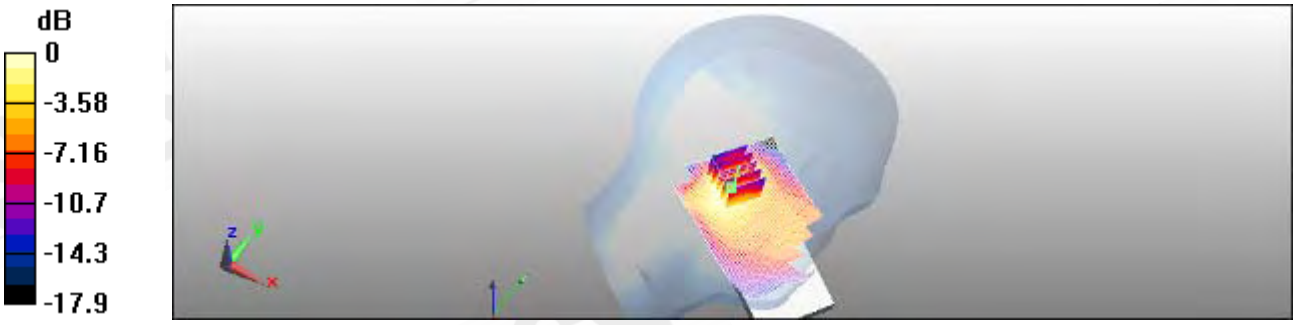
DUT: V03B002

Communication System: WCDMA; Frequency: 1712.4 MHz;
Medium parameters used: f = 1712.4 MHz; σ = 1.35 mho/m; ε_r = 39.4; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.04, 5.04, 5.04); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/LE Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.222 mW/g
Configuration/LE Tilt/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.1 V/m; Power Drift = -0.145 dB
Peak SAR (extrapolated) = 0.318 W/kg

SAR(1 g) = 0.205 mW/g; SAR(10 g) = 0.123 mW/g
Maximum value of SAR (measured) = 0.215 mW/g



0 dB = 0.215mW/g

Date: 2010/10/07

LE Tilt_CH1412

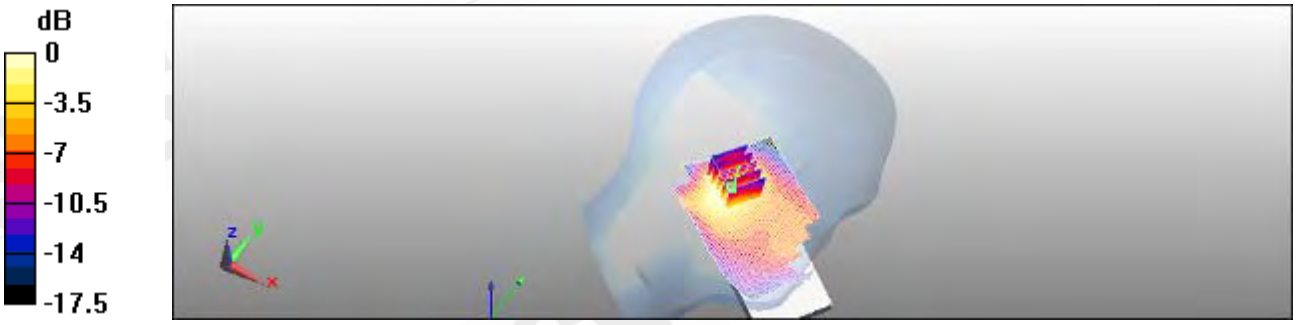
DUT: V03B002

Communication System: WCDMA; Frequency: 1732.4 MHz;
Medium parameters used: f = 1732.4 MHz; σ = 1.35 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.04, 5.04, 5.04); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/LE Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.421 mW/g
Configuration/LE Tilt/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.9 V/m; Power Drift = -0.134 dB
Peak SAR (extrapolated) = 0.603 W/kg

SAR(1 g) = 0.389 mW/g; SAR(10 g) = 0.231 mW/g
Maximum value of SAR (measured) = 0.408 mW/g



0 dB = 0.408mW/g

Date: 2010/10/07

LE Tilt_CH1513

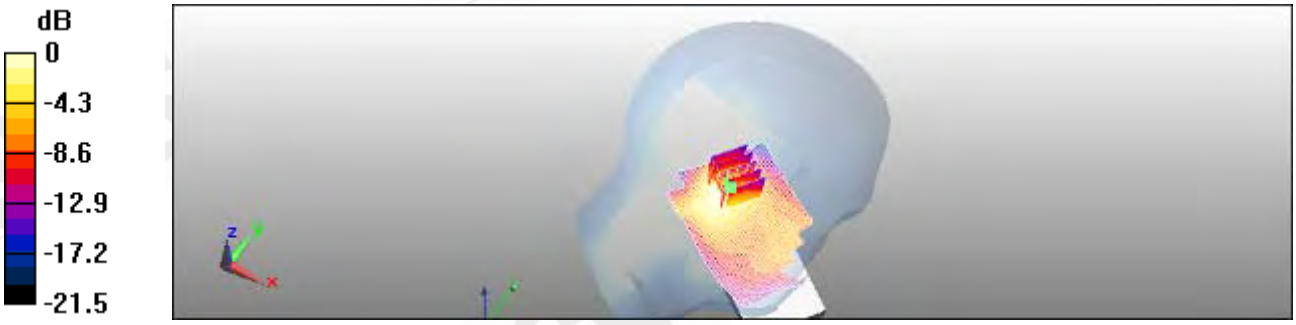
DUT: V03B002

Communication System: WCDMA; Frequency: 1752.6 MHz;
Medium parameters used: f = 1753 MHz; σ = 1.39 mho/m; ε_r = 39.1; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.04, 5.04, 5.04); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/LE Tilt/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.408 mW/g
Configuration/LE Tilt/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.4 V/m; Power Drift = -0.157 dB
Peak SAR (extrapolated) = 0.600 W/kg

SAR(1 g) = 0.379 mW/g; SAR(10 g) = 0.223 mW/g
Maximum value of SAR (measured) = 0.417 mW/g



0 dB = 0.417mW/g

Date: 2010/10/07

BODY_CH1312

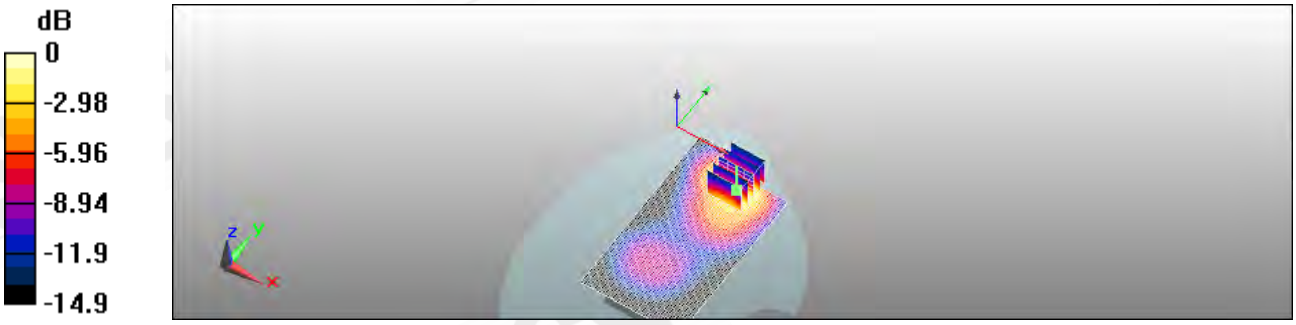
DUT: V03B002

Communication System: WCDMA; Frequency: 1712.4 MHz;
Medium parameters used: f = 1712.4 MHz; σ = 1.43 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.63, 4.63, 4.63); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.609 mW/g
Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.96 V/m; Power Drift = -0.088 dB
Peak SAR (extrapolated) = 0.908 W/kg

SAR(1 g) = 0.561 mW/g; SAR(10 g) = 0.323 mW/g
Maximum value of SAR (measured) = 0.622 mW/g



0 dB = 0.622mW/g

Date: 2010/10/07

BODY_CH1412

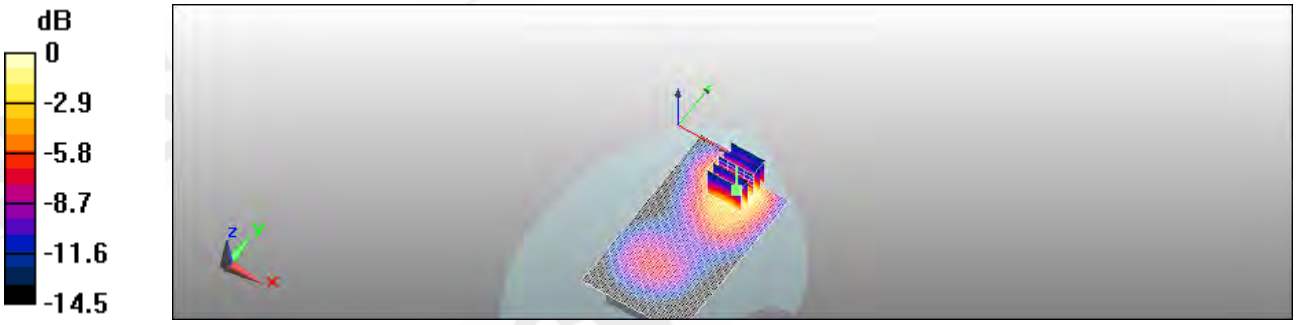
DUT: V03B002

Communication System: WCDMA; Frequency: 1732.4 MHz;
Medium parameters used: f = 1732.4 MHz; σ = 1.44 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.63, 4.63, 4.63); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.899 mW/g
Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.8 V/m; Power Drift = -0.076 dB
Peak SAR (extrapolated) = 1.37 W/kg

SAR(1 g) = 0.840 mW/g; SAR(10 g) = 0.485 mW/g
Maximum value of SAR (measured) = 0.928 mW/g



0 dB = 0.928mW/g

Date: 2010/10/07

BODY_CH1513

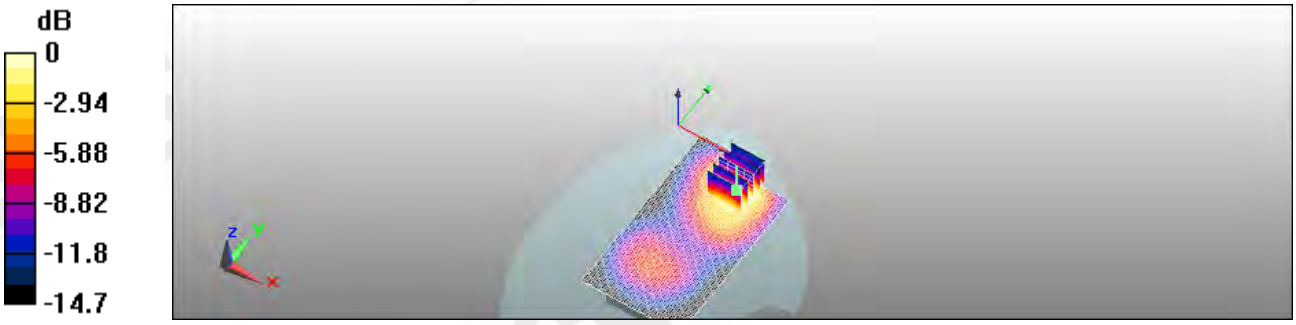
DUT: V03B002

Communication System: WCDMA; Frequency: 1752.6 MHz;
Medium parameters used: f = 1753 MHz; σ = 1.47 mho/m; ε_r = 53.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.63, 4.63, 4.63); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.752 mW/g
Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.9 V/m; Power Drift = -0.064 dB
Peak SAR (extrapolated) = 1.14 W/kg

SAR(1 g) = 0.695 mW/g; SAR(10 g) = 0.404 mW/g
Maximum value of SAR (measured) = 0.767 mW/g



0 dB = 0.767mW/g

Date: 2010/10/07

BODY_WLAN802.11b _CH1

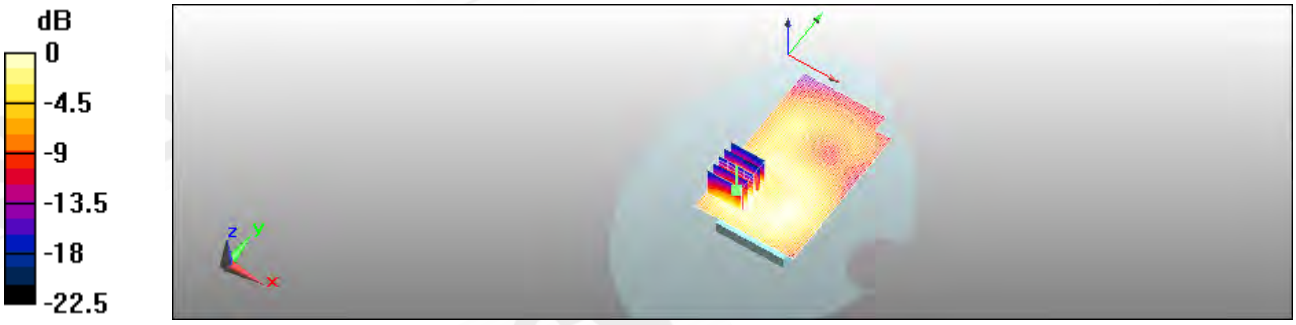
DUT: V03B002

Communication System: WLAN802.11 b & g & n(20M); Frequency: 2412 MHz;
Medium parameters used: f = 2412 MHz; σ = 1.92 mho/m; ε_r = 53; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.11, 4.11, 4.11); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.314 mW/g
Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.18 V/m; Power Drift = 0.038 dB
Peak SAR (extrapolated) = 0.530 W/kg

SAR(1 g) = 0.287 mW/g; SAR(10 g) = 0.151 mW/g
Maximum value of SAR (measured) = 0.313 mW/g



0 dB = 0.313mW/g

Date: 2010/10/07

BODY_WLAN802.11b _CH6

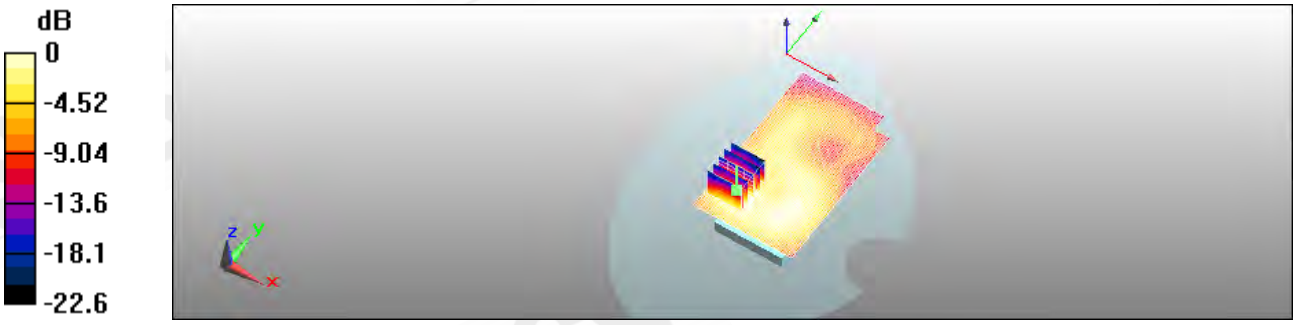
DUT: V03B002

Communication System: WLAN802.11 b & g & n(20M); Frequency: 2437 MHz;
Medium parameters used: f = 2437 MHz; σ = 1.95 mho/m; ε_r = 52.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.11, 4.11, 4.11); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.318 mW/g
Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.03 V/m; Power Drift = -0.012 dB
Peak SAR (extrapolated) = 0.550 W/kg

SAR(1 g) = 0.290 mW/g; SAR(10 g) = 0.151 mW/g
Maximum value of SAR (measured) = 0.318 mW/g



0 dB = 0.318mW/g

Date: 2010/10/07

BODY_WLAN802.11b_CH11

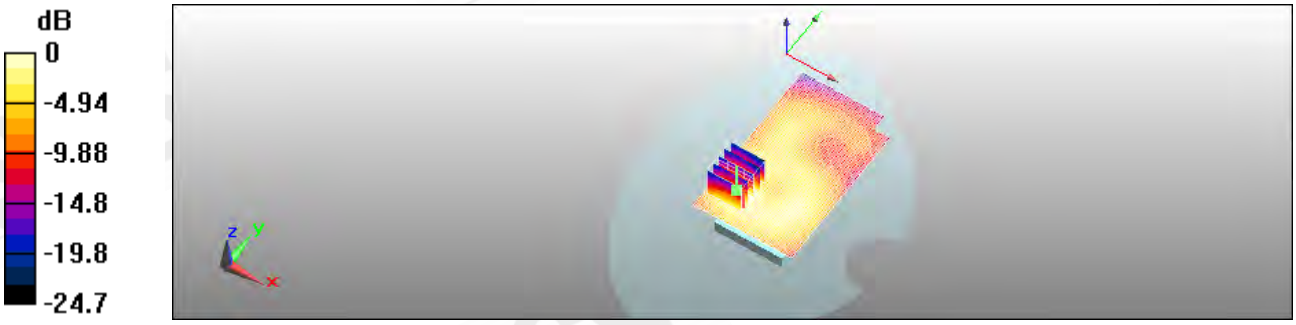
DUT: V03B002

Communication System: WLAN802.11 b & g & n(20M); Frequency: 2462 MHz;
Medium parameters used: f = 2462 MHz; σ = 1.98 mho/m; ε_r = 52.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

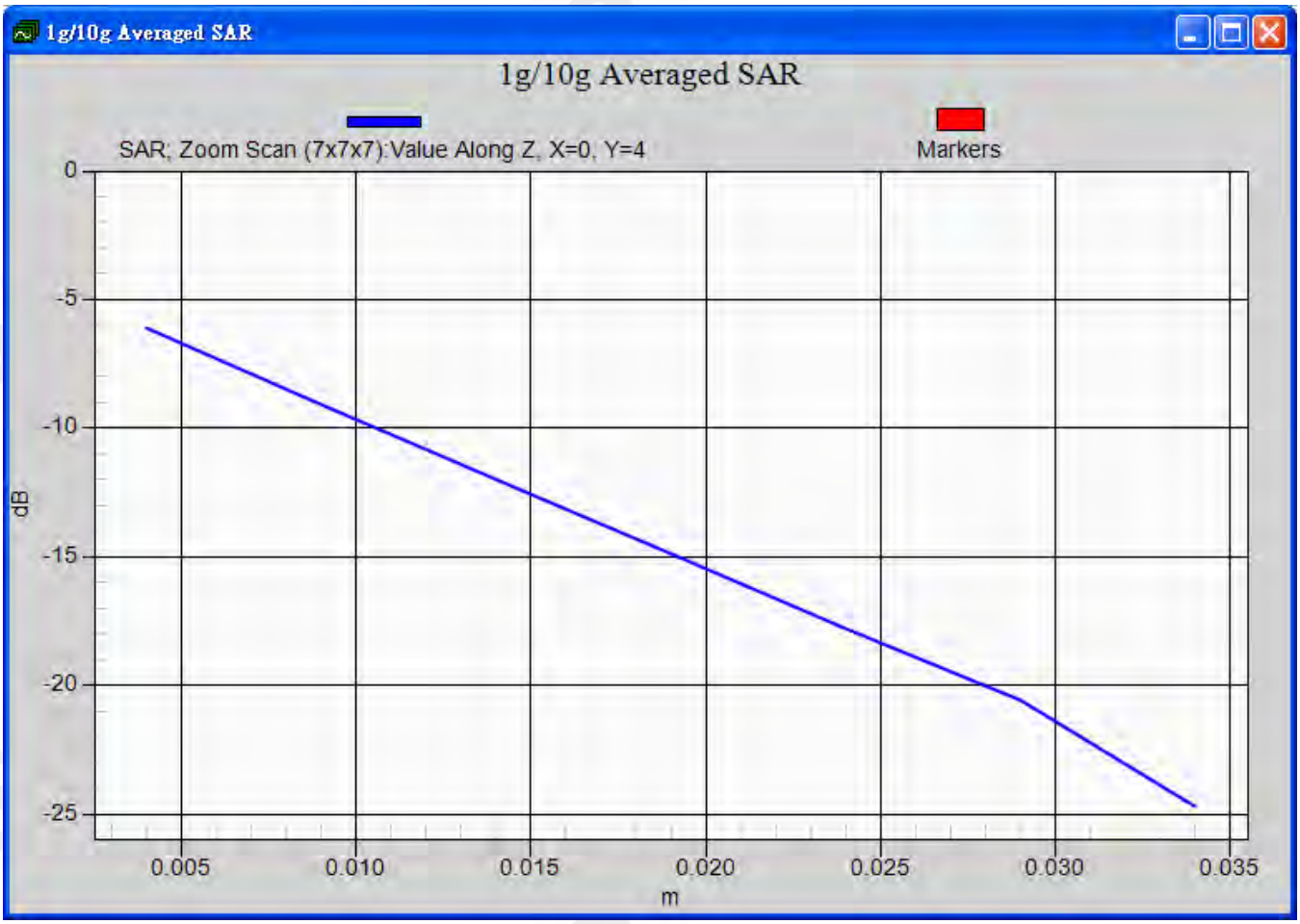
- Probe: ES3DV3 - SN3172; ConvF(4.11, 4.11, 4.11); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.475 mW/g
Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.38 V/m; Power Drift = -0.030 dB
Peak SAR (extrapolated) = 0.865 W/kg

SAR(1 g) = 0.440 mW/g; SAR(10 g) = 0.220 mW/g
Maximum value of SAR (measured) = 0.481 mW/g



0 dB = 0.481mW/g



Date: 2010/10/07

BODY_WLAN802.11b_CH11_repeated for EUT front to phantom

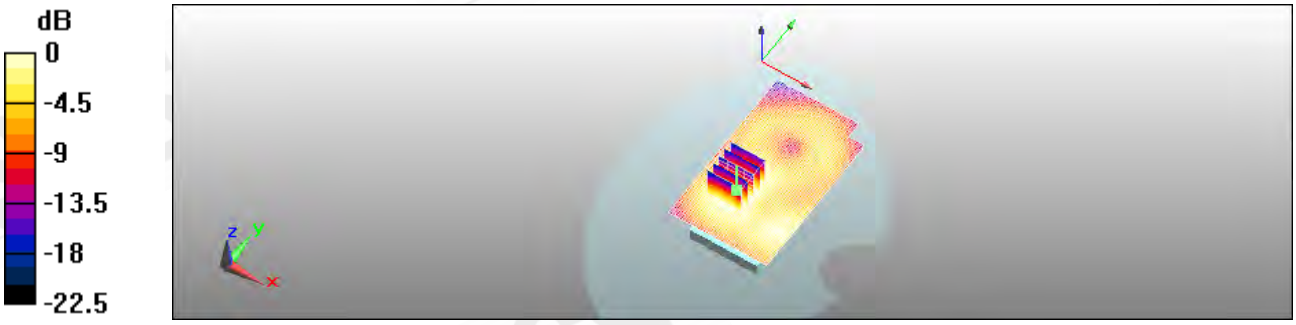
DUT: V03B002

Communication System: WLAN802.11 b & g & n(20M); Frequency: 2462 MHz;
Medium parameters used: f = 2462 MHz; σ = 1.98 mho/m; ε_r = 52.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.11, 4.11, 4.11); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.242 mW/g
Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.18 V/m; Power Drift = 0.00992 dB
Peak SAR (extrapolated) = 0.402 W/kg

SAR(1 g) = 0.224 mW/g; SAR(10 g) = 0.128 mW/g
Maximum value of SAR (measured) = 0.241 mW/g



0 dB = 0.241mW/g

Date: 2010/10/07

BODY_WLAN802.11b_CH11_repeated with Memory card

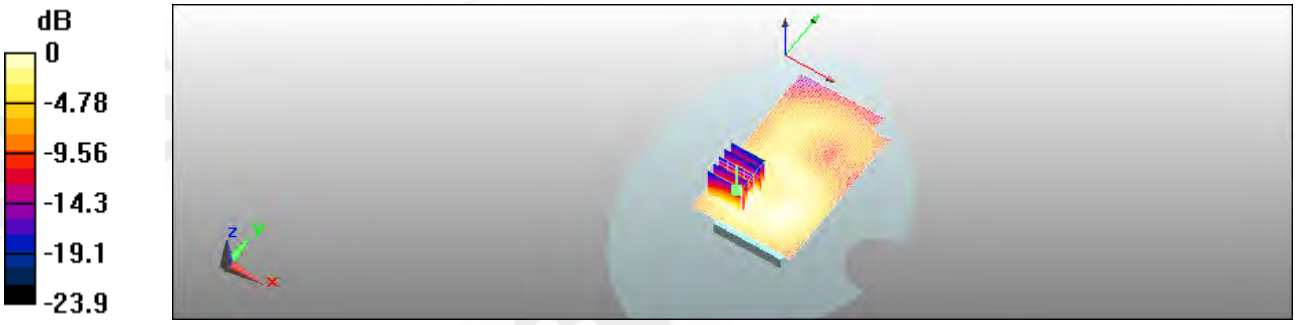
DUT: V03B002

Communication System: WLAN802.11 b & g & n(20M); Frequency: 2462 MHz;
Medium parameters used: f = 2462 MHz; σ = 1.98 mho/m; ε_r = 52.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.11, 4.11, 4.11); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.336 mW/g
Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.26 V/m; Power Drift = 0.174 dB
Peak SAR (extrapolated) = 0.591 W/kg

SAR(1 g) = 0.314 mW/g; SAR(10 g) = 0.164 mW/g
Maximum value of SAR (measured) = 0.339 mW/g



0 dB = 0.339mW/g

Date: 2010/10/07

BODY_WLAN802.11b_CH11_repeated with PCH headset

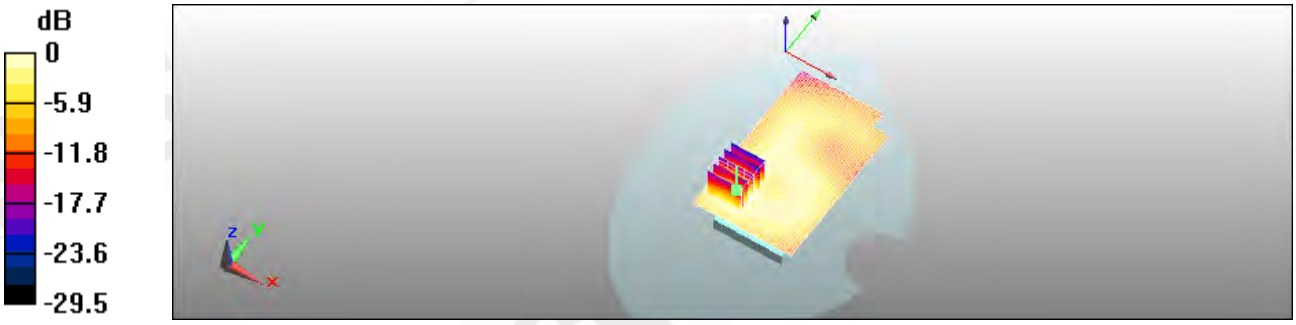
DUT: V03B002

Communication System: WLAN802.11 b & g & n(20M); Frequency: 2462 MHz;
Medium parameters used: f = 2462 MHz; σ = 1.98 mho/m; ε_r = 52.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.11, 4.11, 4.11); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.298 mW/g
Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.32 V/m; Power Drift = 0.025 dB
Peak SAR (extrapolated) = 0.534 W/kg

SAR(1 g) = 0.273 mW/g; SAR(10 g) = 0.139 mW/g
Maximum value of SAR (measured) = 0.298 mW/g



0 dB = 0.298mW/g

Date: 2010/10/07

BODY_WLAN802.11b_CH11_repeated with Foster headset

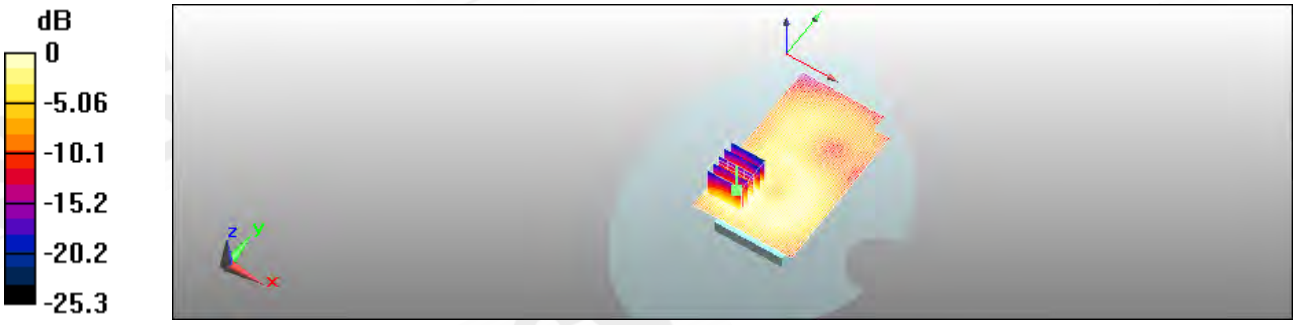
DUT: V03B02

Communication System: WLAN802.11 b & g & n(20M); Frequency: 2462 MHz;
Medium parameters used: f = 2462 MHz; σ = 1.98 mho/m; ε_r = 52.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.11, 4.11, 4.11); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.423 mW/g
Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.28 V/m; Power Drift = -0.128 dB
Peak SAR (extrapolated) = 0.752 W/kg

SAR(1 g) = 0.392 mW/g; SAR(10 g) = 0.203 mW/g
Maximum value of SAR (measured) = 0.427 mW/g



0 dB = 0.427mW/g

Date: 2010/10/07

BODY_WLAN802.11g_CH1

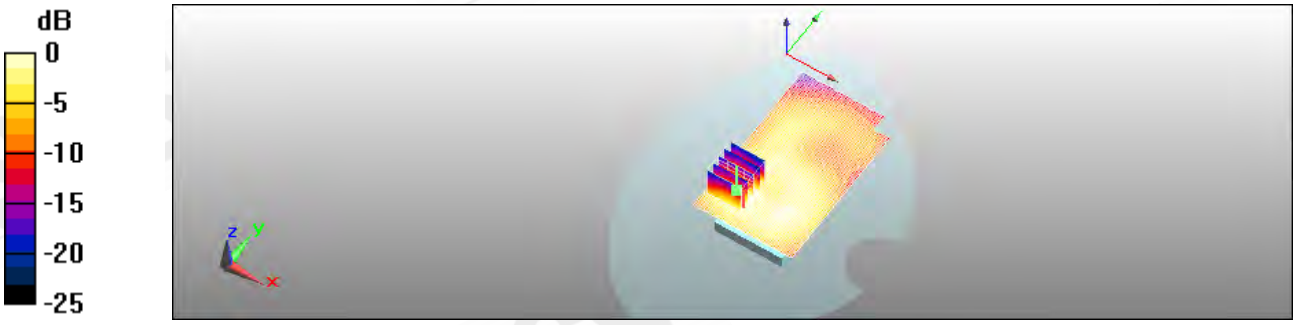
DUT: V03B002

Communication System: WLAN802.11 b & g & n(20M); Frequency: 2412 MHz;
Medium parameters used: f = 2412 MHz; σ = 1.92 mho/m; ε_r = 53; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.11, 4.11, 4.11); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.277 mW/g
Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.46 V/m; Power Drift = -0.101 dB
Peak SAR (extrapolated) = 0.502 W/kg

SAR(1 g) = 0.258 mW/g; SAR(10 g) = 0.132 mW/g
Maximum value of SAR (measured) = 0.279 mW/g



0 dB = 0.279mW/g

Date: 2010/10/07

BODY_WLAN802.11g _CH6

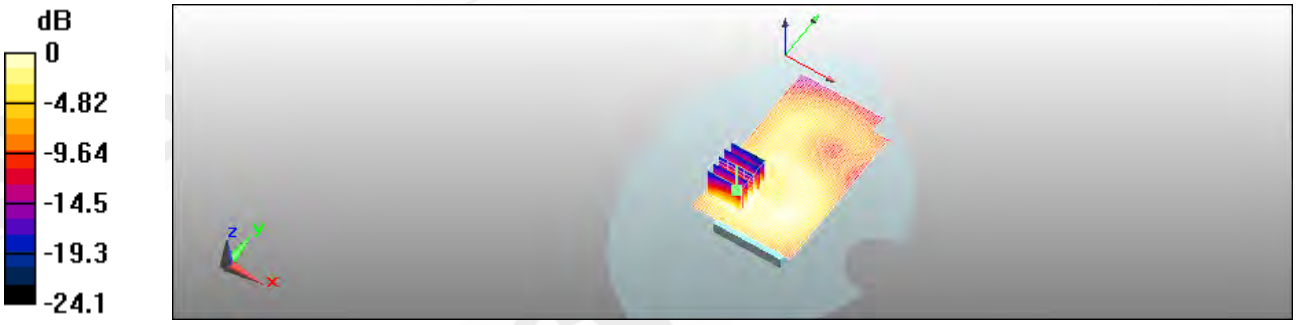
DUT: V03B002

Communication System: WLAN802.11 b & g & n(20M); Frequency: 2437 MHz;
Medium parameters used: f = 2437 MHz; σ = 1.95 mho/m; ε_r = 52.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.11, 4.11, 4.11); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.273 mW/g
Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.33 V/m; Power Drift = -0.087 dB
Peak SAR (extrapolated) = 0.495 W/kg

SAR(1 g) = 0.253 mW/g; SAR(10 g) = 0.130 mW/g
Maximum value of SAR (measured) = 0.276 mW/g



0 dB = 0.276mW/g

Date: 2010/10/07

BODY_WLAN802.11g_CH11

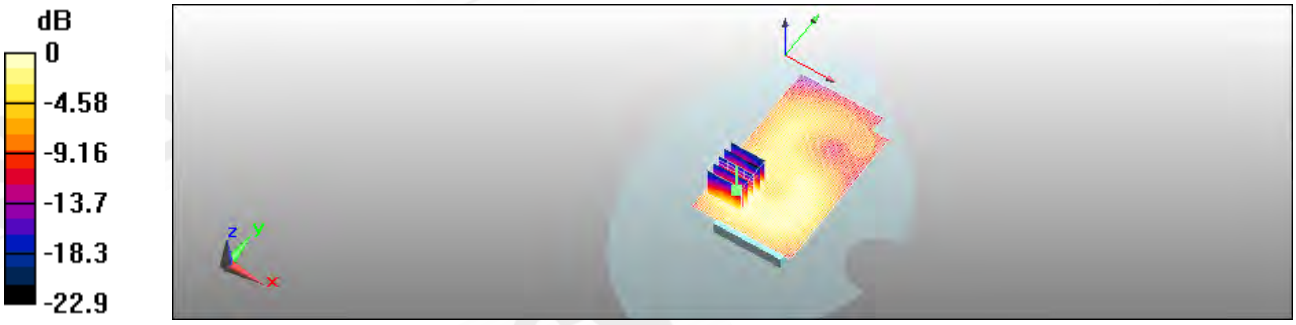
DUT: V03B002

Communication System: WLAN802.11 b & g & n(20M); Frequency: 2462 MHz;
Medium parameters used: f = 2462 MHz; σ = 1.98 mho/m; ε_r = 52.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.11, 4.11, 4.11); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.343 mW/g
Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.78 V/m; Power Drift = -0.075 dB
Peak SAR (extrapolated) = 0.636 W/kg

SAR(1 g) = 0.319 mW/g; SAR(10 g) = 0.161 mW/g
Maximum value of SAR (measured) = 0.349 mW/g



0 dB = 0.349mW/g

Date: 2010/10/07

BODY_WLAN802.11n_CH1

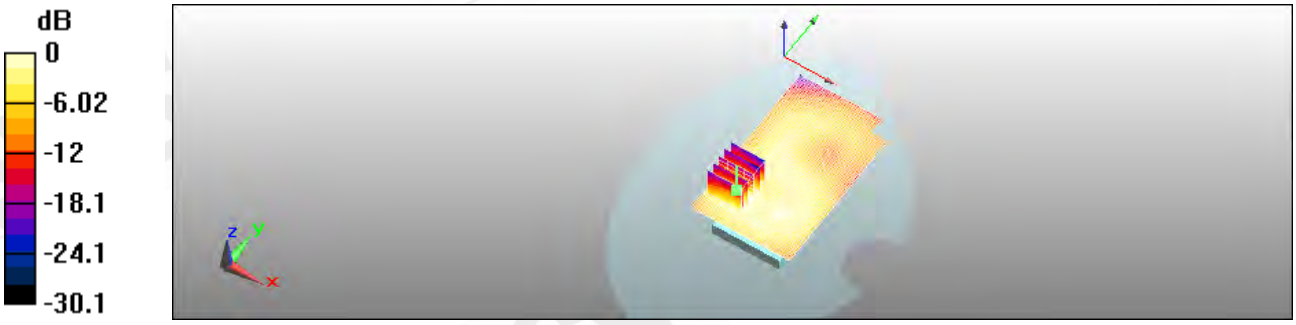
DUT: V03B002

Communication System: WLAN802.11 b & g & n(20M); Frequency: 2412 MHz;
Medium parameters used: f = 2412 MHz; σ = 1.92 mho/m; ε_r = 53; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.11, 4.11, 4.11); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.230 mW/g
Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.58 V/m; Power Drift = -0.169 dB
Peak SAR (extrapolated) = 0.431 W/kg

SAR(1 g) = 0.223 mW/g; SAR(10 g) = 0.112 mW/g
Maximum value of SAR (measured) = 0.245 mW/g



0 dB = 0.245mW/g

Date: 2010/10/07

BODY_WLAN802.11n _CH6

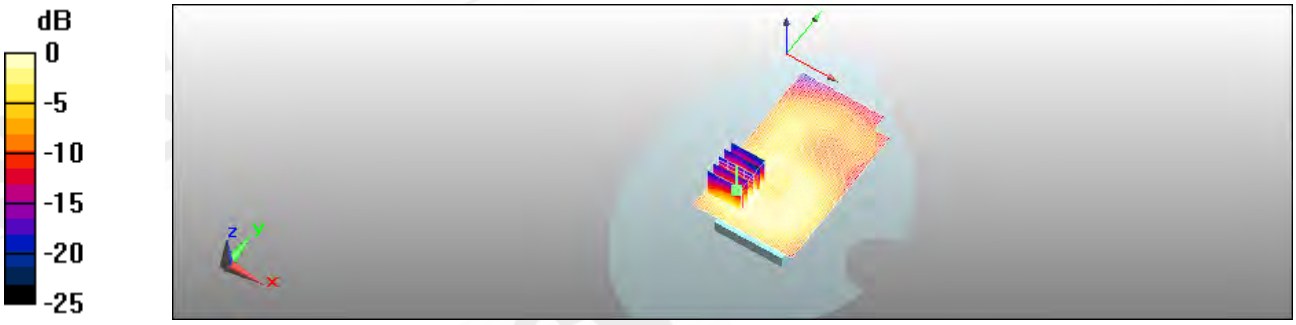
DUT: V03B002

Communication System: WLAN802.11 b & g & n(20M); Frequency: 2437 MHz;
Medium parameters used: f = 2437 MHz; σ = 1.95 mho/m; ε_r = 52.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.11, 4.11, 4.11); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.264 mW/g
Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.52 V/m; Power Drift = -0.102 dB
Peak SAR (extrapolated) = 0.476 W/kg

SAR(1 g) = 0.246 mW/g; SAR(10 g) = 0.125 mW/g
Maximum value of SAR (measured) = 0.267 mW/g



0 dB = 0.267mW/g

Date: 2010/10/07

BODY_WLAN802.11n_CH11

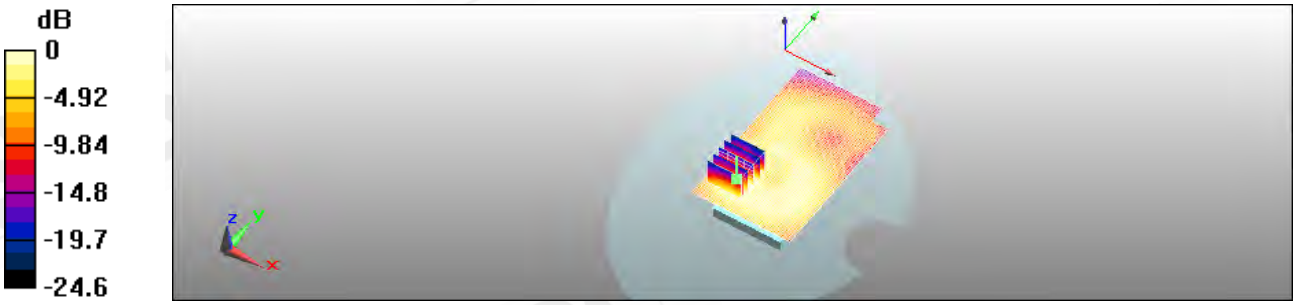
DUT: V03B002

Communication System: WLAN802.11 b & g & n(20M); Frequency: 2462 MHz;
Medium parameters used: f = 2462 MHz; σ = 1.98 mho/m; ε_r = 52.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.11, 4.11, 4.11); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/BODY/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.258 mW/g
Configuration/BODY/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.47 V/m; Power Drift = -0.095 dB
Peak SAR (extrapolated) = 0.476 W/kg

SAR(1 g) = 0.243 mW/g; SAR(10 g) = 0.123 mW/g
Maximum value of SAR (measured) = 0.266 mW/g



0 dB = 0.266mW/g

5. System Verification

Date: 2010/10/06

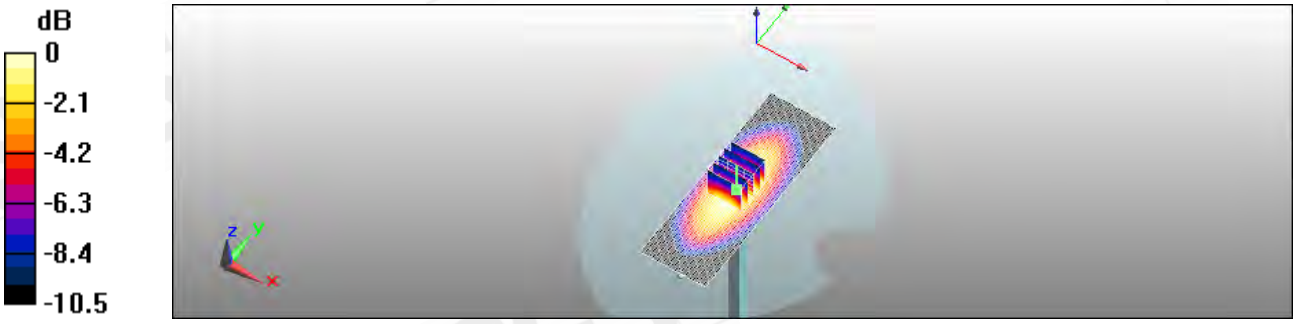
DUT: Dipole 835 MHz

Communication System: CW; Frequency: 835 MHz;
Medium parameters used: f = 835 MHz; σ = 0.897 mho/m; ε_r = 42.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.85, 5.85, 5.85); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/d=15mm, Pin=250mW, dist=4mm: Measurement grid:
dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.84 mW/g
Configuration/d=15mm, Pin=250mW, dist=4mm: Measurement grid:
dx=8mm, dy=8mm, dz=5mm
Reference Value = 58 V/m; Power Drift = -0.012 dB
Peak SAR (extrapolated) = 3.57 W/kg

SAR(1 g) = 2.43 mW/g; SAR(10 g) = 1.6 mW/g
Maximum value of SAR (measured) = 2.84 mW/g



0 dB = 2.84mW/g

Date: 2010/10/06

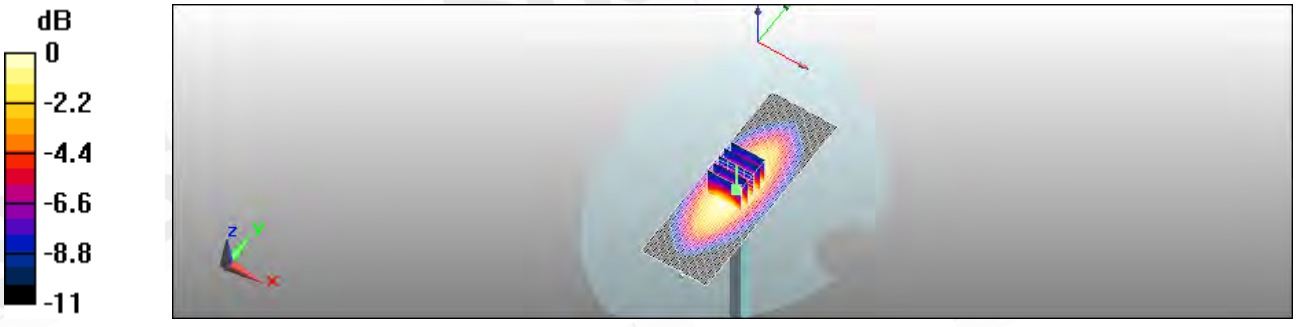
DUT: Dipole 835 MHz

Communication System: CW; Frequency: 835 MHz;
Medium parameters used: f = 835 MHz; σ = 1 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.84, 5.84, 5.84); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/d=15mm, Pin=250mW, dist=4mm: Measurement grid:
dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.98 mW/g
Configuration/d=15mm, Pin=250mW, dist=4mm: Measurement grid:
dx=8mm, dy=8mm, dz=5mm
Reference Value = 56.1 V/m; Power Drift = 0.0025 dB
Peak SAR (extrapolated) = 3.87 W/kg

SAR(1 g) = 2.52 mW/g; SAR(10 g) = 1.61 mW/g
Maximum value of SAR (measured) = 2.99 mW/g



0 dB = 2.99mW/g

Date: 2010/10/07

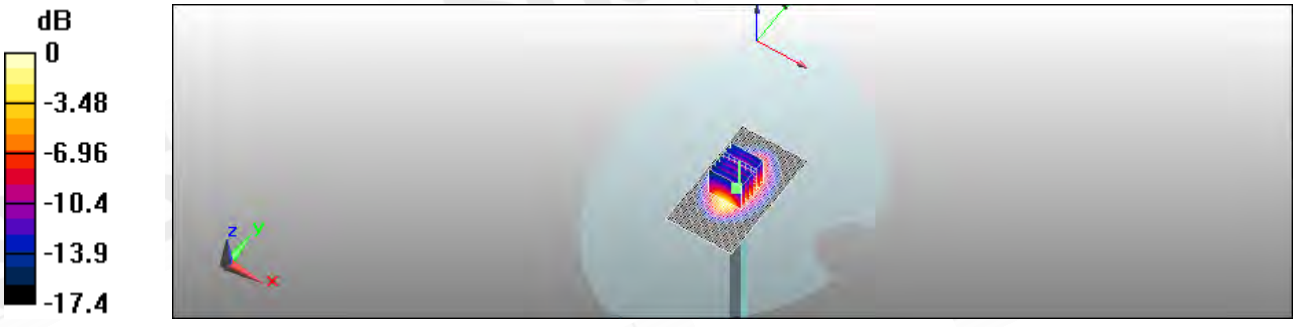
DUT: Dipole 1750 MHz

Communication System: CW; Frequency: 1750 MHz;
Medium parameters used: f = 1750 MHz; σ = 1.38 mho/m; ε_r = 39.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.04, 5.04, 5.04); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/d=10mm, Pin=250mW, dist=4mm: Measurement grid:
dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 11.7 mW/g
Configuration/d=10mm, Pin=250mW, dist=4mm: Measurement grid:
dx=5mm, dy=5mm, dz=5mm
Reference Value = 91.5 V/m; Power Drift = 0.021 dB
Peak SAR (extrapolated) = 15.9 W/kg

SAR(1 g) = 8.92 mW/g; SAR(10 g) = 4.16 mW/g
Maximum value of SAR (measured) = 10.6 mW/g



0 dB = 10.6mW/g

Date: 2010/10/07

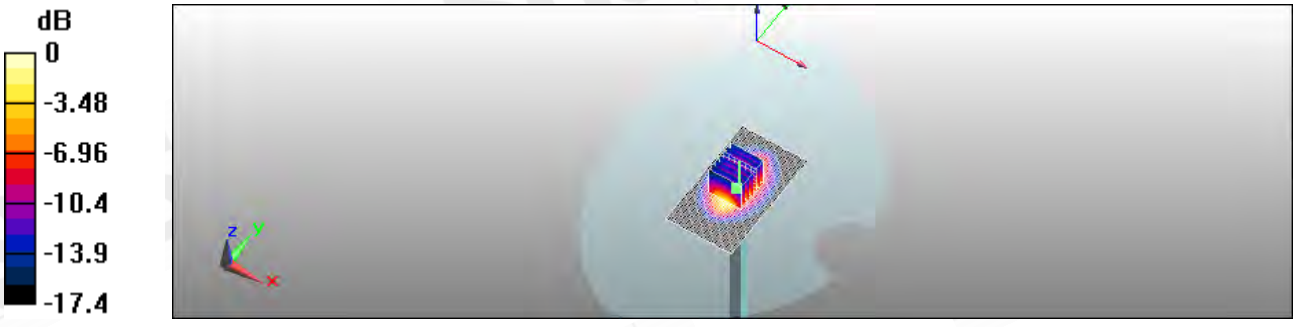
DUT: Dipole 1750 MHz

Communication System: CW; Frequency: 1750 MHz;
Medium parameters used: f = 1750 MHz; σ = 1.47 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.63, 4.63, 4.63); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/d=10mm, Pin=250mW, dist=4mm: Measurement grid:
dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 12.3 mW/g
Configuration/d=10mm, Pin=250mW, dist=4mm: Measurement grid:
dx=5mm, dy=5mm, dz=5mm
Reference Value = 88.5 V/m; Power Drift = 0.027 dB
Peak SAR (extrapolated) = 17.4 W/kg

SAR(1 g) = 9.5 mW/g; SAR(10 g) = 4.93 mW/g
Maximum value of SAR (measured) = 11.5 mW/g



0 dB = 11.5mW/g

Date: 2010/10/06

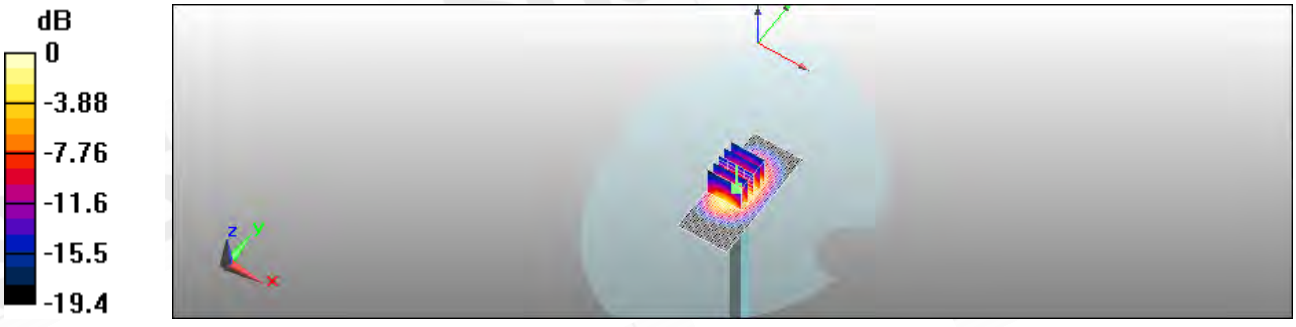
DUT: Dipole 1900 MHz

Communication System: CW; Frequency: 1900 MHz;
Medium parameters used: f = 1900 MHz; σ = 1.42 mho/m; ε_r = 39.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.89, 4.89, 4.89); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/d=10mm, Pin=250mW, dist=4mm: Measurement grid:
dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 12 mW/g
Configuration/d=10mm, Pin=250mW, dist=4mm: Measurement grid:
dx=8mm, dy=8mm, dz=5mm
Reference Value = 95.2 V/m; Power Drift = 0.015 dB
Peak SAR (extrapolated) = 19.5 W/kg

SAR(1 g) = 10 mW/g; SAR(10 g) = 4.95 mW/g
Maximum value of SAR (measured) = 12.3 mW/g



0 dB = 12.3mW/g

Date: 2010/10/06

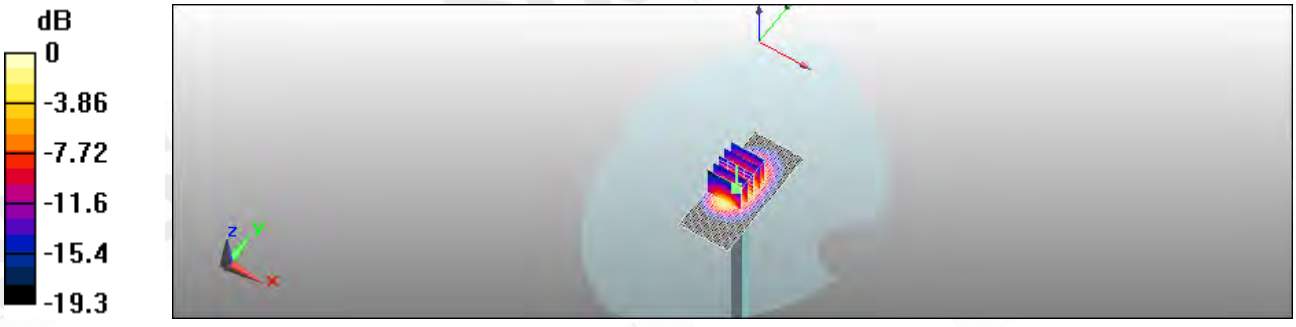
DUT: Dipole 1900 MHz

Communication System: CW; Frequency: 1900 MHz;
Medium parameters used: f = 1900 MHz; σ = 1.55 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.45, 4.45, 4.45); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/d=10mm, Pin=250mW, dist=4mm: Measurement grid:
dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 13 mW/g
Configuration/d=10mm, Pin=250mW, dist=4mm: Measurement grid:
dx=8mm, dy=8mm, dz=5mm
Reference Value = 94.2 V/m; Power Drift = 0.012 dB
Peak SAR (extrapolated) = 20.4 W/kg

SAR(1 g) = 10.4 mW/g; SAR(10 g) = 5.02 mW/g
Maximum value of SAR (measured) = 12.7 mW/g



0 dB = 12.7mW/g

Date: 2010/10/07

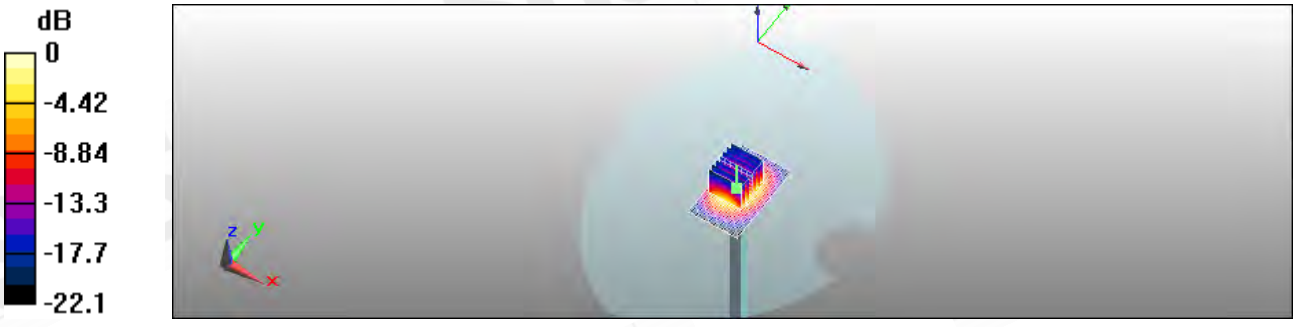
DUT: Dipole 2450 MHz

Communication System: CW; Frequency: 2450 MHz;
Medium parameters used: f = 2450 MHz; σ = 1.96 mho/m; ε_r = 52.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.11, 4.11, 4.11); Calibrated: 2010/5/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 2010/5/20
- Phantom: SAM2; Type: SAM;
- Measurement SW: DASY5, V5.2 Build 157; SEMCAD X Version 14.0 Build 57

Configuration/d=10mm, Pin=250mW, dist=4mm: Measurement grid:
dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 16.2 mW/g
Configuration/d=10mm, Pin=250mW, dist=4mm: Measurement grid:
dx=5mm, dy=5mm, dz=5mm
Reference Value = 94.3 V/m; Power Drift = -0.018 dB
Peak SAR (extrapolated) = 29.1 W/kg

SAR(1 g) = 13.6 mW/g; SAR(10 g) = 6.28 mW/g
Maximum value of SAR (measured) = 15.3 mW/g



0 dB = 15.3mW/g

6. DAE & Probe Calibration certificate

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

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

Accreditation No.: SCS 108

Client: SGS-TW (Auden)

Certificate No: DAE4-856_May10

CALIBRATION CERTIFICATE

Object: DAE4 - SD 000 D04 BJ - SN: 856

Calibration procedure(s): QA CAL-06.v21
Calibration procedure for the data acquisition electronics (DAE)

Calibration date: May 20, 2010

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Keithley Multimeter Type 2001	SN: 0810278	1-Oct-09 (No: 9055)	Oct-10
Secondary Standards	**ID #**	**Check Date (in house)**	**Scheduled Check**
Calibrator Box V1.1	SE UMS 006 AB 1004	05-Jun-09 (in house check)	In house check: Jun-10

	Name	Function	Signature
Calibrated by:	Dominique Steffen	Technician	
Approved by:	Fin Bomholt	R&D Director	

Issued: May 20, 2010

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

Certificate No: DAE4-856_May10 Page 1 of 5

Calibration Laboratory of
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Zeughausstrasse 43, 8004 Zurich, Switzerland

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Accreditation No.: SCS 108

Client SGS-TW (Auden)

Certificate No: ES3-3172_May10

CALIBRATION CERTIFICATE

Object	ES3DV3 - SN:3172
Calibration procedure(s)	QA CAL-01.v6, QA CAL-14.v3, QA CAL-23.v3 and QA CAL-25.v2 Calibration procedure for dosimetric E-field probes
Calibration date:	May 21, 2010

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	1-Apr-10 (No. 217-01136)	Apr-11
Power sensor E4412A	MY41495277	1-Apr-10 (No. 217-01136)	Apr-11
Power sensor E4412A	MY41498087	1-Apr-10 (No. 217-01136)	Apr-11
Reference 3 dB Attenuator	SN: S5054 (3c)	30-Mar-10 (No. 217-01159)	Mar-11
Reference 20 dB Attenuator	SN: S5086 (20b)	30-Mar-10 (No. 217-01161)	Mar-11
Reference 30 dB Attenuator	SN: S5129 (30b)	30-Mar-10 (No. 217-01160)	Mar-11
Reference Probe ES3DV2	SN: 3013	30-Dec-09 (No. ES3-3013_Dec09)	Dec-10
DAE4	SN: 660	20-Apr-10 (No. DAE4-660_Apr10)	Apr-11

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-09)	In house check: Oct10

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

Issued: May 22, 2010

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

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Accreditation No.: SCS 108

Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,y,z
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C	modulation dependent linearization parameters
Polarization φ	φ rotation around probe axis
Polarization ϑ	ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., ϑ = 0 is normal to probe axis

Calibration is Performed According to the Following Standards:

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

Methods Applied and Interpretation of Parameters:

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

Probe ES3DV3

SN:3172

Manufactured:	January 23, 2008
Last calibrated:	May 27, 2009
Recalibrated:	May 21, 2010

Calibrated for DASY/EASY Systems

(Note: non-compatible with DASY2 system!)

ES3DV3 SN:3172 May 21, 2010

DASY/EASY - Parameters of Probe: ES3DV3 SN:3172

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	1.37	1.19	0.97	± 10.1%
DCP (mV)[B]	93.9	92.5	93.2	

Modulation Calibration Parameters

UID	Communication System Name	PAR		A dB	B dBuV	C	VR mV	Unc[E] (k=2)
10000	CW	0.00	X	0.00	0.00	1.00	300.0	± 1.5%
			Y	0.00	0.00	1.00	300.0	
			Z	0.00	0.00	1.00	300.0	

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

[A] The uncertainties of NormX,Y,Z do not affect the E^2-field uncertainty inside TSL (see Pages 5 and 6).

[B] Numerical linearization parameter: uncertainty not required.

[E] Uncertainty is determined using the maximum deviation from linear response applying recatangular distribution and is expressed for the square of the field value.

ES3DV3 SN:3172 May 21, 2010

DASY/EASY - Parameters of Probe: ES3DV3 SN:3172

Calibration Parameter Determined in Head Tissue Simulating Media

f [MHz]	Validity [MHz][C]	Permittivity	Conductivity	ConvF X	ConvF Y	ConvF Z	Alpha	Depth Unc (k=2)
835	± 50 / ± 100	41.5 ± 5%	0.90 ± 5%	5.85	5.85	5.85	0.76	1.14 ± 11.0%
900	± 50 / ± 100	41.5 ± 5%	0.97 ± 5%	5.75	5.75	5.75	0.87	1.08 ± 11.0%
1750	± 50 / ± 100	40.1 ± 5%	1.37 ± 5%	5.04	5.04	5.04	0.31	1.82 ± 11.0%
1900	± 50 / ± 100	40.0 ± 5%	1.40 ± 5%	4.89	4.89	4.89	0.50	1.46 ± 11.0%
2000	± 50 / ± 100	40.0 ± 5%	1.40 ± 5%	4.73	4.73	4.73	0.49	1.44 ± 11.0%
2450	± 50 / ± 100	39.2 ± 5%	1.80 ± 5%	4.32	4.32	4.32	0.42	1.70 ± 11.0%

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

ES3DV3 SN:3172 May 21, 2010

DASY/EASY - Parameters of Probe: ES3DV3 SN:3172

Calibration Parameter Determined in Body Tissue Simulating Media

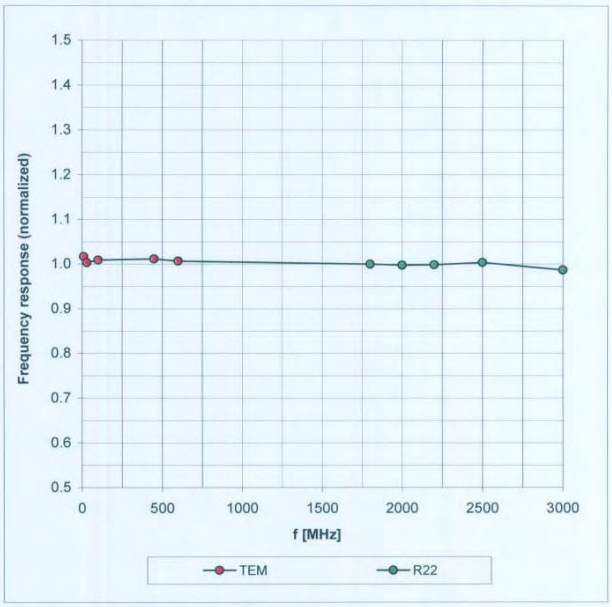
f [MHz]	Validity [MHz][C]	Permittivity	Conductivity	ConvF X	ConvF Y	ConvF Z	Alpha	Depth Unc (k=2)
835	± 50 / ± 100	55.2 ± 5%	0.97 ± 5%	5.84	5.84	5.84	0.81	1.19 ± 11.0%
900	± 50 / ± 100	55.0 ± 5%	1.05 ± 5%	5.75	5.75	5.75	0.73	1.24 ± 11.0%
1750	± 50 / ± 100	53.4 ± 5%	1.49 ± 5%	4.63	4.63	4.63	0.39	1.75 ± 11.0%
1900	± 50 / ± 100	53.3 ± 5%	1.52 ± 5%	4.45	4.45	4.45	0.32	2.36 ± 11.0%
2000	± 50 / ± 100	53.3 ± 5%	1.52 ± 5%	4.47	4.47	4.47	0.32	2.44 ± 11.0%
2450	± 50 / ± 100	52.7 ± 5%	1.95 ± 5%	4.11	4.11	4.11	0.82	1.17 ± 11.0%
2600	± 50 / ± 100	52.5 ± 5%	2.16 ± 5%	3.99	3.99	3.99	0.95	1.09 ± 11.0%
3500	± 50 / ± 100	51.3 ± 5%	3.31 ± 5%	3.28	3.28	3.28	1.00	1.28 ± 13.1%

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

ES3DV3 SN:3172 May 21, 2010

Frequency Response of E-Field

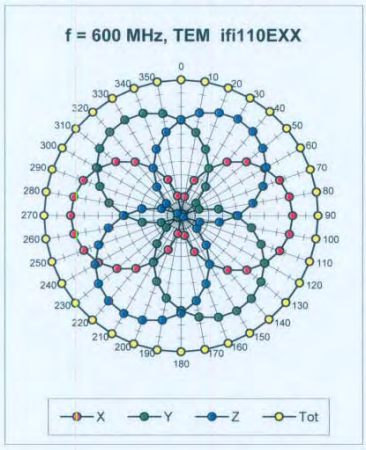
(TEM-Cell:ifi110 EXX, Waveguide: R22)

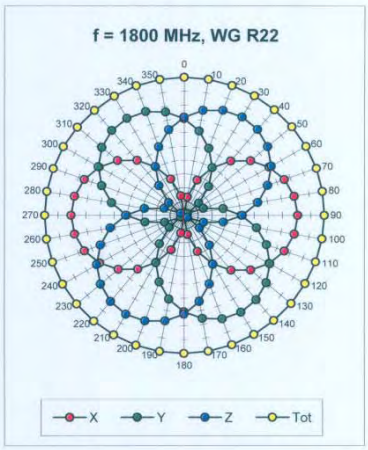


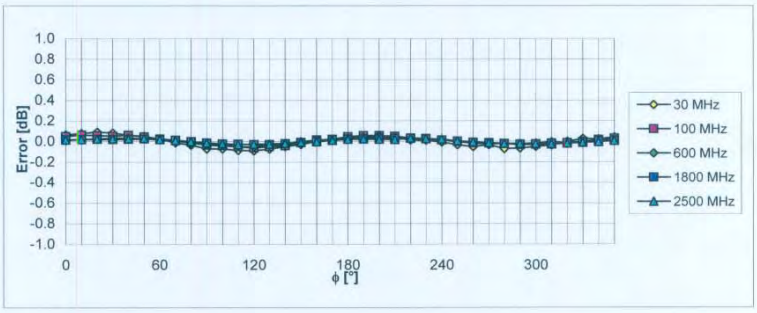
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

ES3DV3 SN:3172 May 21, 2010

Receiving Pattern (ϕ), ϑ = 0°







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

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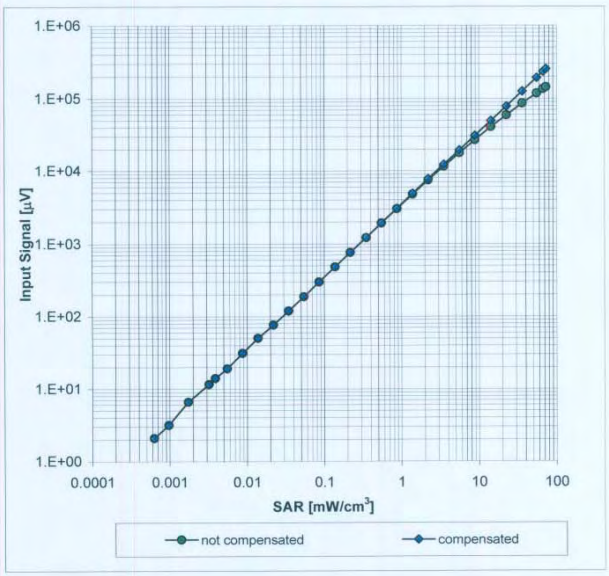
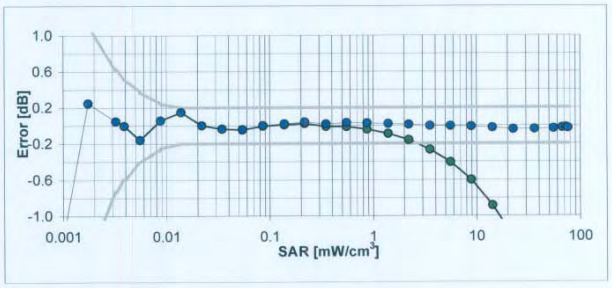
ES3DV3 SN:3172 May 21, 2010

Dynamic Range f(SAR_{head})

(Waveguide R22, f = 1800 MHz)





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

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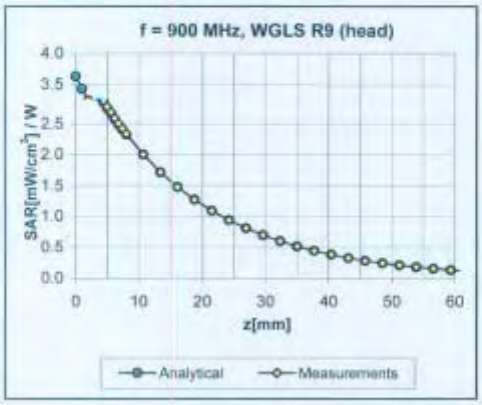
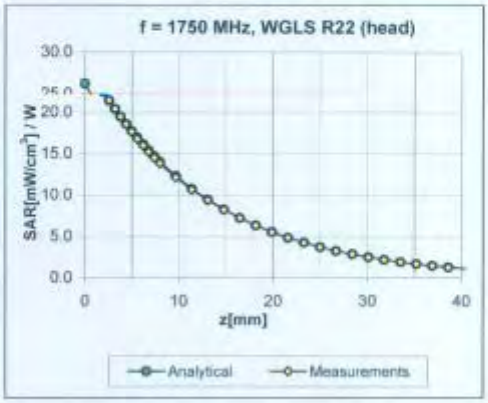
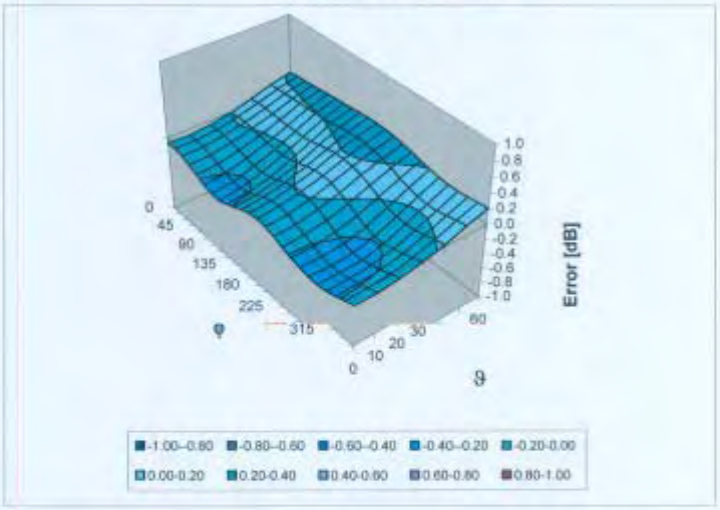
ES3DV3 SN:3172 May 21, 2010

Conversion Factor Assessment





Error (ϕ, ϑ), f = 900 MHz



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

Certificate No: ES3-3172_May10 Page 10 of 11

ES3DV3 SN:3172 May 21, 2010

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	Not applicable
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	10 mm
Tip Diameter	4.0 mm
Probe Tip to Sensor X Calibration Point	2 mm
Probe Tip to Sensor Y Calibration Point	2 mm
Probe Tip to Sensor Z Calibration Point	2 mm
Recommended Measurement Distance from Surface	3 mm

7. Uncertainty Analysis

DASY5 Uncertainty Budget
According to IEEE 1528 [1]

Error Description	Uncertainty value	Prob. Dist.	Div.	(c_i) 1g	(c_i) 10g	Std. Unc. (1g)	Std. Unc. (10g)	(v_i) v_{eff}
Measurement System								
Probe Calibration	±5.9%	N	1	1	1	±5.9%	±5.9%	∞
Axial Isotropy	±4.7%	R	$\sqrt{3}$	0.7	0.7	±1.9%	±1.9%	∞
Hemispherical Isotropy	±9.6%	R	$\sqrt{3}$	0.7	0.7	±3.9%	±3.9%	∞
Boundary Effects	±1.0%	R	$\sqrt{3}$	1	1	±0.6%	±0.6%	∞
Linearity	±4.7%	R	$\sqrt{3}$	1	1	±2.7%	±2.7%	∞
System Detection Limits	±1.0%	R	$\sqrt{3}$	1	1	±0.6%	±0.6%	∞
Readout Electronics	±0.3%	N	1	1	1	±0.3%	±0.3%	∞
Response Time	±0.8%	R	$\sqrt{3}$	1	1	±0.5%	±0.5%	∞
Integration Time	±2.6%	R	$\sqrt{3}$	1	1	±1.5%	±1.5%	∞
RF Ambient Noise	±3.0%	R	$\sqrt{3}$	1	1	±1.7%	±1.7%	∞
RF Ambient Reflections	±3.0%	R	$\sqrt{3}$	1	1	±1.7%	±1.7%	∞
Probe Positioner	±0.4%	R	$\sqrt{3}$	1	1	±0.2%	±0.2%	∞
Probe Positioning	±2.9%	R	$\sqrt{3}$	1	1	±1.7%	±1.7%	∞
Max. SAR Eval.	±1.0%	R	$\sqrt{3}$	1	1	±0.6%	±0.6%	∞
Test Sample Related								
Device Positioning	±2.9%	N	1	1	1	±2.9%	±2.9%	145
Device Holder	±3.6%	N	1	1	1	±3.6%	±3.6%	5
Power Drift	±5.0%	R	$\sqrt{3}$	1	1	±2.9%	±2.9%	∞
Phantom and Setup								
Phantom Uncertainty	±4.0%	R	$\sqrt{3}$	1	1	±2.3%	±2.3%	∞
Liquid Conductivity (target)	±5.0%	R	$\sqrt{3}$	0.64	0.43	±1.8%	±1.2%	∞
Liquid Conductivity (meas.)	±2.5%	N	1	0.64	0.43	±1.6%	±1.1%	∞
Liquid Permittivity (target)	±5.0%	R	$\sqrt{3}$	0.6	0.49	±1.7%	±1.4%	∞
Liquid Permittivity (meas.)	±2.5%	N	1	0.6	0.49	±1.5%	±1.2%	∞
Combined Std. Uncertainty						±10.9%	±10.7%	387
Expanded STD Uncertainty						±21.9%	±21.4%	

Table 19.6: Worst-Case uncertainty budget for DASY5 assessed according to IEEE 1528 [1]. The budget is valid for the frequency range 300 MHz - 3 GHz and represents a worst-case analysis. For specific tests and configurations, the uncertainty could be considerable smaller.

8. Phantom description

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info@speag.com, http://www.speag.com

Certificate of Conformity / First Article Inspection

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

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

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

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

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

Date 07.07.2005

Signature / Stamp

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

9. System Validation from Original equipment supplier

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Zeughausstrasse 43, 8004 Zurich, Switzerland

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Accreditation No.: SCS 108

Client SGS-TW (Auden)

Certificate No: D835V2-4d063_May10

CALIBRATION CERTIFICATE

Object	D835V2 - SN: 4d063
Calibration procedure(s)	QA CAL-05.v7 Calibration procedure for dipole validation kits
Calibration date:	May 21, 2010

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	06-Oct-09 (No. 217-01086)	Oct-10
Power sensor HP 8481A	US37292783	06-Oct-09 (No. 217-01086)	Oct-10
Reference 20 dB Attenuator	SN: 5086 (20g)	30-Mar-10 (No. 217-01158)	Mar-11
Type-N mismatch combination	SN: 5047.2 / 06327	30-Mar-10 (No. 217-01162)	Mar-11
Reference Probe ES3DV3	SN: 3205	30-Apr-10 (No. ES3-3205_Apr10)	Apr-11
DAE4	SN: 601	02-Mar-10 (No. DAE4-601_Mar10)	Mar-11

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-09)	In house check: Oct-11
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-09)	In house check: Oct-10

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

Issued: May 26, 2010

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Certificate No: D835V2-4d063_May10 Page 1 of 9

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

Accreditation No.: SCS 108

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
c) Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

d) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

Measurement Conditions

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

DASY Version	DASY5	V5.2
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V4.9	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	835 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.5	0.90 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	41.7 ± 6 %	0.91 mho/m ± 6 %
Head TSL temperature during test	(22.5 ± 0.2) °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.42 mW / g
SAR normalized	normalized to 1W	9.68 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**9.62 mW /g ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.58 mW / g
SAR normalized	normalized to 1W	6.32 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**6.29 mW /g ± 16.5 % (k=2)**

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Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.2	0.97 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	54.2 ± 6 %	0.98 mho/m ± 6 %
Body TSL temperature during test	(22.0 ± 0.2) °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.53 mW / g
SAR normalized	normalized to 1W	10.1 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**10.0 mW / g ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.66 mW / g
SAR normalized	normalized to 1W	6.64 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**6.59 mW / g ± 16.5 % (k=2)**

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Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	52.6 Ω - 0.6 jΩ
Return Loss	- 31.7 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	47.9 Ω - 2.8 jΩ
Return Loss	- 28.9 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.392 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	November 27, 2006

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DASY5 Validation Report for Head TSL

Date/Time: 21.05.2010 11:22:13

Test Laboratory: SPEAG, Zurich, Switzerland

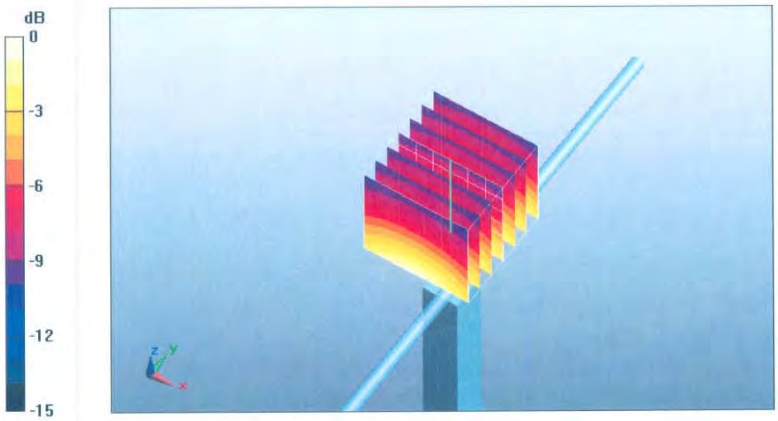
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d063

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: HSL900
Medium parameters used: f = 835 MHz; σ = 0.91 mho/m; ε_r = 41.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

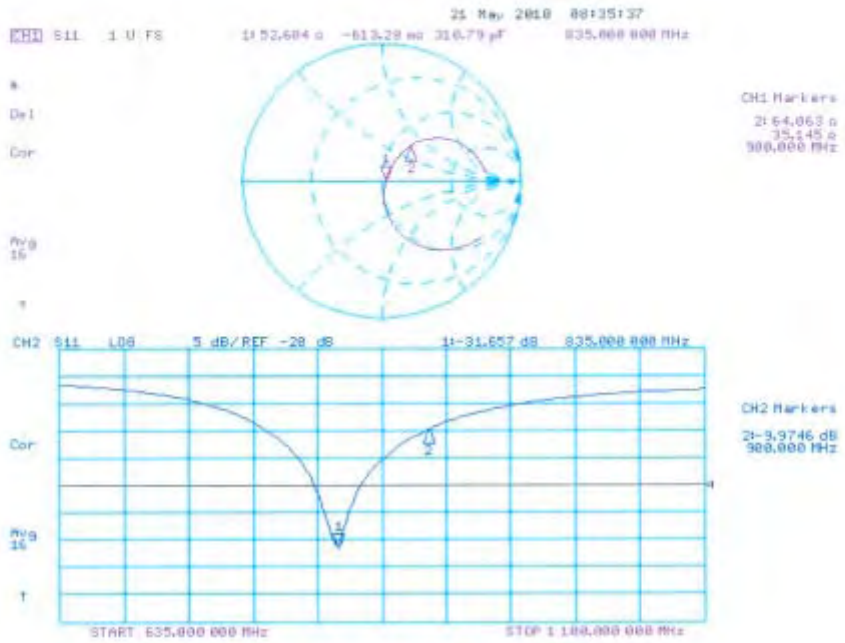
- Probe: ES3DV3 - SN3205; ConvF(6.03, 6.03, 6.03); Calibrated: 30.04.2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 02.03.2010
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 61

Pin=250 mW /d=15mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 57.5 V/m; Power Drift = 0.00219 dB
Peak SAR (extrapolated) = 3.61 W/kg
SAR(1 g) = 2.42 mW/g; SAR(10 g) = 1.58 mW/g
Maximum value of SAR (measured) = 2.83 mW/g



0 dB = 2.83mW/g

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body

Date/Time: 20.05.2010 10:45:06

Test Laboratory: SPEAG, Zurich, Switzerland

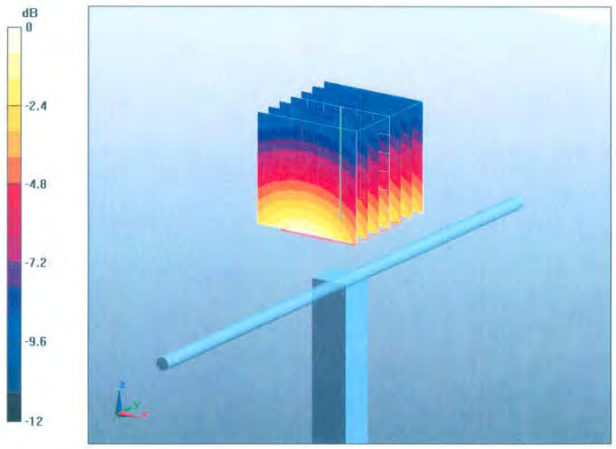
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d063

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: MSL900
Medium parameters used: f = 835 MHz; σ = 0.98 mho/m; ε_r = 54.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

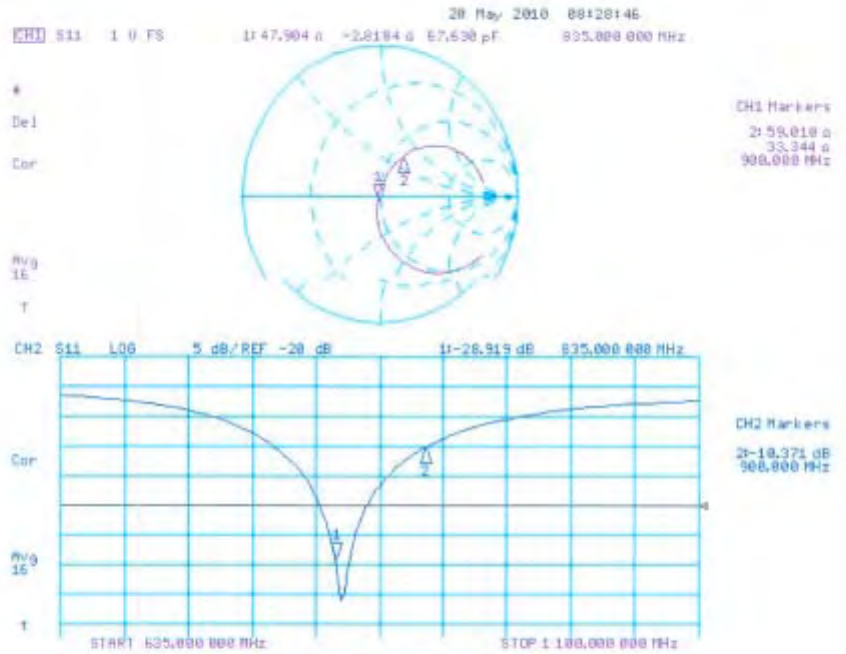
- Probe: ES3DV3 - SN3205; ConvF(5.86, 5.86, 5.86); Calibrated: 30.04.2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 02.03.2010
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 61

Pin250 mW/d=15mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 56.5 V/m; Power Drift = 0.013 dB
Peak SAR (extrapolated) = 3.71 W/kg
SAR(1 g) = 2.53 mW/g; SAR(10 g) = 1.66 mW/g
Maximum value of SAR (measured) = 2.94 mW/g



0 dB = 2.94mW/g

Impedance Measurement Plot for Body TSL



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Accreditation No.: SCS 108

Client SGS-TW (Auden)

Certificate No: D1750V2-1008_May10

CALIBRATION CERTIFICATE

Object: D1750V2 - SN: 1008

Calibration procedure(s): QA CAL-05.v6
Calibration procedure for dipole validation kits

Calibration date: May 26, 2010

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	06-Oct-09 (No. 217-01086)	Oct-10
Power sensor HP 8481A	US37292783	06-Oct-09 (No. 217-01086)	Oct-10
Reference 20 dB Attenuator	SN: 5086 (20g)	30-Mar-10 (No. 217-01158)	Mar-11
Type-N mismatch combination	SN: 5047.2 / 06327	30-Mar-10 (No. 217-01162)	Mar-11
Reference Probe ES3DV3	SN: 3205	30-Apr-10 (No. ES3-3205_Apr10)	Apr-11
DAE4	SN: 601	02-Mar-10 (No. DAE4-601_Mar10)	Mar-11

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-09)	In house check: Oct-11
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-09)	In house check: Oct-10

	Name	Function	Signature
Calibrated by:	Dimce Iliev	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: May 27, 2010

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Accreditation No.: SCS 108

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
c) Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

d) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

Measurement Conditions

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

DASY Version	DASY5	V5.2
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1750 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	40.1	1.37 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	39.8 ± 6 %	1.33 mho/m ± 6 %
Head TSL temperature during test	(21.5 ± 0.2) °C	---	---

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	8.84 mW / g
SAR normalized	normalized to 1W	35.4 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**36.0 mW / g ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	250 mW input power	4.73 mW / g
SAR normalized	normalized to 1W	18.9 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**19.1 mW / g ± 16.5 % (k=2)**

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Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	53.4	1.49 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	54.1 ± 6 %	1.43 mho/m ± 6 %
Body TSL temperature during test	(22.5 ± 0.2) °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	condition	
SAR measured	250 mW input power	9.46 mW / g
SAR normalized	normalized to 1W	37.8 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**38.9 mW / g ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.18 mW / g
SAR normalized	normalized to 1W	20.7 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**21.0 mW / g ± 16.5 % (k=2)**

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Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	50.1 Ω + 0.9 jΩ
Return Loss	- 40.5 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	46.9 Ω + 1.0 jΩ
Return Loss	- 29.4 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.220 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	February 11, 2009

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DASY5 Validation Report for Head TSL

Date/Time: 17.05.2010 11:55:07

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN:1008

Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: HSL U11 BB
Medium parameters used: f = 1750 MHz; σ = 1.33 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(5.25, 5.25, 5.25); Calibrated: 30.04.2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 02.03.2010
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 61

Pin=250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) /Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 94.5 V/m; Power Drift = 0.012 dB
Peak SAR (extrapolated) = 15.7 W/kg
SAR(1 g) = 8.84 mW/g; SAR(10 g) = 4.73 mW/g
Maximum value of SAR (measured) = 11.1 mW/g

0 dB = 11.1mW/g

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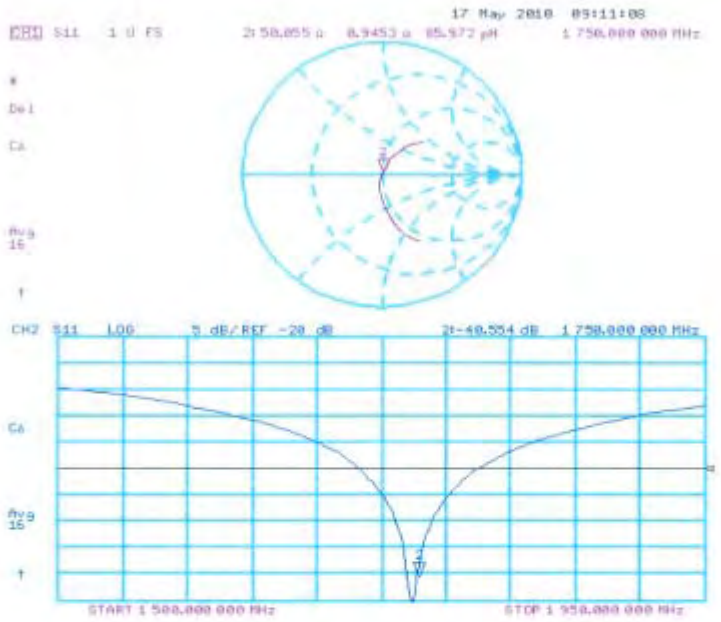
Impedance Measurement Plot for Head TSL



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DASY5 Validation Report for Body TSL

Date/Time: 26.05.2010 10:38:16

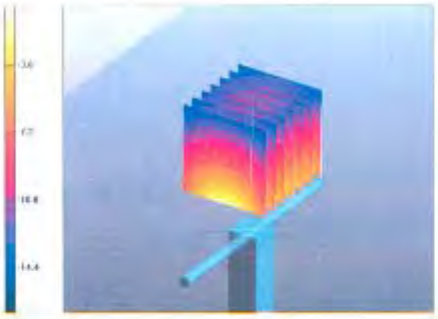
Test Laboratory: SPEAG, Zurich, Switzerland

Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1
Medium: MSL U11 BB
Medium parameters used: f = 1750 MHz; σ = 1.43 mho/m; ε_r = 54; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

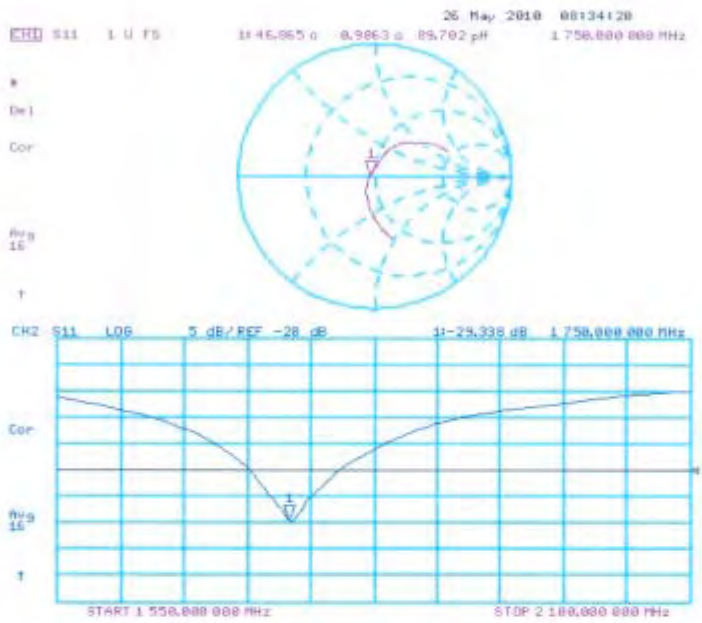
DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.8, 4.8, 4.8); Calibrated: 30.04.2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 02.03.2010
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 61

Pin250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) /Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 95.1 V/m; Power Drift = -0.012 dB
Peak SAR (extrapolated) = 15.9 W/kg
SAR(1 g) = 9.46 mW/g; SAR(10 g) = 5.18 mW/g
Maximum value of SAR (measured) = 11.9 mW/g



Impedance Measurement Plot for Body TSL



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Accreditation No.: SCS 108

Client SGS-TW (Auden)

Certificate No: D1900V2-5d027_Apr10

CALIBRATION CERTIFICATE

Object D1900V2 - SN: 5d027

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

Calibration date: April 28, 2010

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	06-Oct-09 (No. 217-01086)	Oct-10
Power sensor HP 8481A	US37292783	06-Oct-09 (No. 217-01086)	Oct-10
Reference 20 dB Attenuator	SN: 5086 (20g)	30-Mar-10 (No. 217-01158)	Mar-11
Type-N mismatch combination	SN: 5047.2 / 06327	30-Mar-10 (No. 217-01162)	Mar-11
Reference Probe ES3DV3	SN: 3205	26-Jun-09 (No. ES3-3205_Jun09)	Jun-10
DAE4	SN: 601	02-Mar-10 (No. DAE4-601_Mar10)	Mar-11

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-09)	In house check: Oct-11
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-09)	In house check: Oct-10

	Name	Function	Signature
Calibrated by:	Dimce Iliev	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: April 29, 2010

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Accreditation No.: SCS 108

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
c) Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

d) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

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Measurement Conditions

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

DASY Version	DASY5	V5.2
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V5.0	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1900 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	40.0	1.40 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	40.5 ± 6 %	1.41 mho/m ± 6 %
Head TSL temperature during test	(21.5 ± 0.2) °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	9.91 mW / g
SAR normalized	normalized to 1W	39.6 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**39.6 mW /g ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	250 mW input power	5.17 mW / g
SAR normalized	normalized to 1W	20.7 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**20.7 mW /g ± 16.5 % (k=2)**

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Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	53.3	1.52 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	54.8 ± 6 %	1.53 mho/m ± 6 %
Body TSL temperature during test	(21.5 ± 0.2) °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	10.1 mW / g
SAR normalized	normalized to 1W	40.4 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**40.5 mW / g ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.36 mW / g
SAR normalized	normalized to 1W	21.4 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**21.5 mW / g ± 16.5 % (k=2)**

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Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	50.5 Ω + 5.0 jΩ
Return Loss	- 26.0 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	46.8 Ω + 6.7 jΩ
Return Loss	- 22.3 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.196 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	December 17, 2002

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DASY5 Validation Report for Head TSL

Date/Time: 22.04.2010 15:17:55

Test Laboratory: SPEAG, Zurich, Switzerland

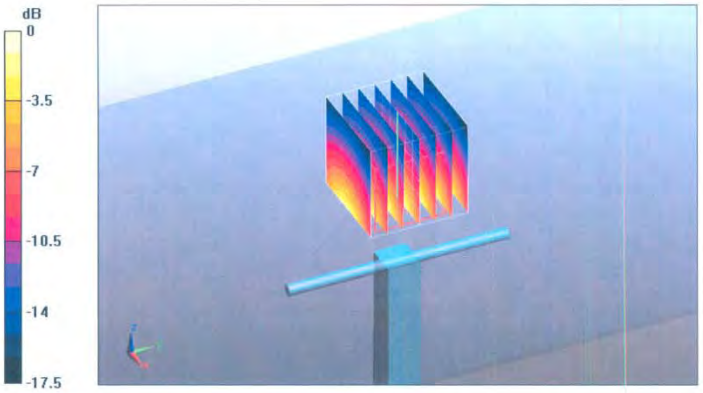
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d027

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: HSL U11 BB
Medium parameters used: f = 1900 MHz; σ = 1.41 mho/m; ε_r = 40.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

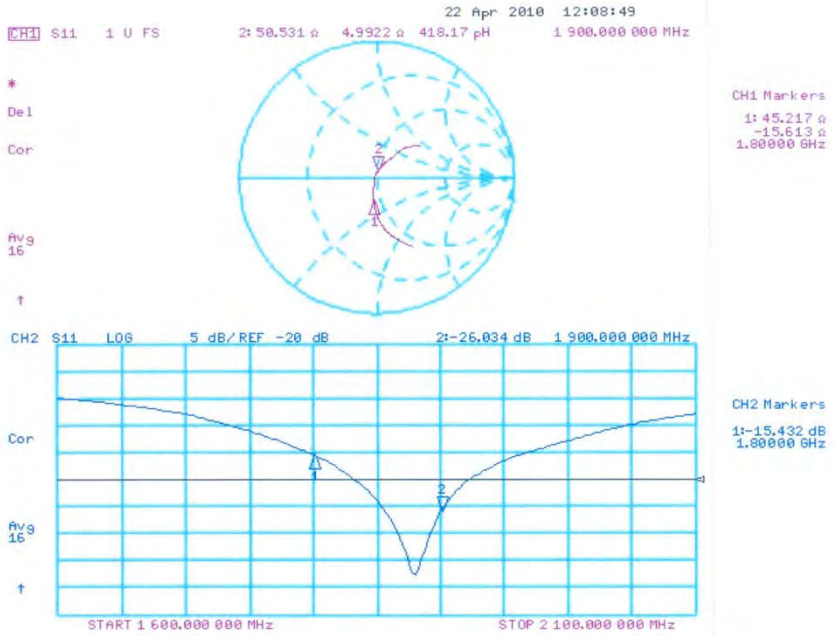
- Probe: ES3DV3 - SN3205; ConvF(5.09, 5.09, 5.09); Calibrated: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 02.03.2010
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 57

Pin=250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) /Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 96.9 V/m; Power Drift = 0.047 dB
Peak SAR (extrapolated) = 18.1 W/kg
SAR(1 g) = 9.91 mW/g; SAR(10 g) = 5.17 mW/g
Maximum value of SAR (measured) = 12.4 mW/g



0 dB = 12.4mW/g

Impedance Measurement Plot for Head TSL



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DASY5 Validation Report for Body

Date/Time: 28.04.2010 15:11:22

Test Laboratory: SPEAG, Zurich, Switzerland

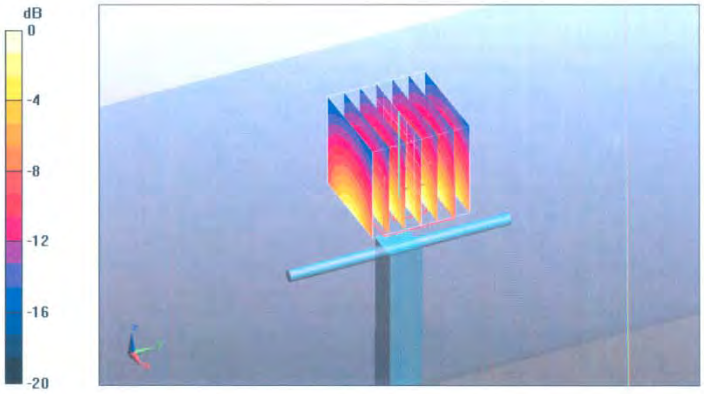
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d027

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: MSL U11 BB
Medium parameters used: f = 1900 MHz; σ = 1.53 mho/m; ε_r = 54.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.59, 4.59, 4.59); Calibrated: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 02.03.2010
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 57

Pin250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7) /Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 96.2 V/m; Power Drift = -0.014 dB
Peak SAR (extrapolated) = 17.1 W/kg
SAR(1 g) = 10.1 mW/g; SAR(10 g) = 5.36 mW/g
Maximum value of SAR (measured) = 12.7 mW/g



0 dB = 12.7mW/g

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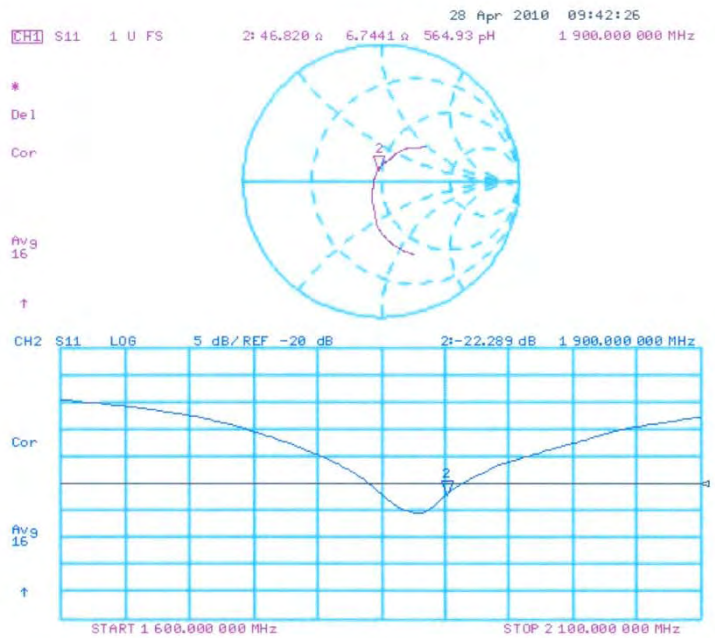
Impedance Measurement Plot for Body TSL



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Accreditation No.: SCS 108

Client SGS-TW (Auden)

Certificate No: D2450V2-727_Apr10

CALIBRATION CERTIFICATE

Object	D2450V2 - SN: 727
Calibration procedure(s)	QA CAL-05.v7 Calibration procedure for dipole validation kits
Calibration date:	April 29, 2010

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	06-Oct-09 (No. 217-01086)	Oct-10
Power sensor HP 8481A	US37292783	06-Oct-09 (No. 217-01086)	Oct-10
Reference 20 dB Attenuator	SN: 5086 (20g)	30-Mar-10 (No. 217-01158)	Mar-11
Type-N mismatch combination	SN: 5047.2 / 06327	30-Mar-10 (No. 217-01162)	Mar-11
Reference Probe ES3DV3	SN: 3205	26-Jun-09 (No. ES3-3205_Jun09)	Jun-10
DAE4	SN: 601	02-Mar-10 (No. DAE4-601_Mar10)	Mar-11

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-09)	In house check: Oct-11
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-09)	In house check: Oct-10

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

Issued: April 29, 2010

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

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S Swiss Calibration Service

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

Accreditation No.: SCS 108

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
c) Federal Communications Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

d) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

Measurement Conditions

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

DASY Version	DASY5	V5.2
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V4.9	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2450 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	39.2	1.80 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	39.8 ± 6 %	1.78 mho/m ± 6 %
Head TSL temperature during test	(21.5 ± 0.2) °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	13.2 mW / g
SAR normalized	normalized to 1W	52.8 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**53.2 mW /g ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.22 mW / g
SAR normalized	normalized to 1W	24.9 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**25.0 mW /g ± 16.5 % (k=2)**

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Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	52.7	1.95 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	54.2 ± 6 %	2.01 mho/m ± 6 %
Body TSL temperature during test	(22.5 ± 0.2) °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	13.4 mW / g
SAR normalized	normalized to 1W	53.6 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**53.2 mW / g ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	250 mW input power	6.23 mW / g
SAR normalized	normalized to 1W	24.9 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**24.9 mW / g ± 16.5 % (k=2)**

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Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	53.3 Ω + 1.7 jΩ
Return Loss	- 28.9 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	50.3 Ω + 3.6 jΩ
Return Loss	- 29.0 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.150 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	January 09, 2003

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DASY5 Validation Report for Head TSL

Date/Time: 22.04.2010 16:30:51

Test Laboratory: SPEAG, Zurich, Switzerland

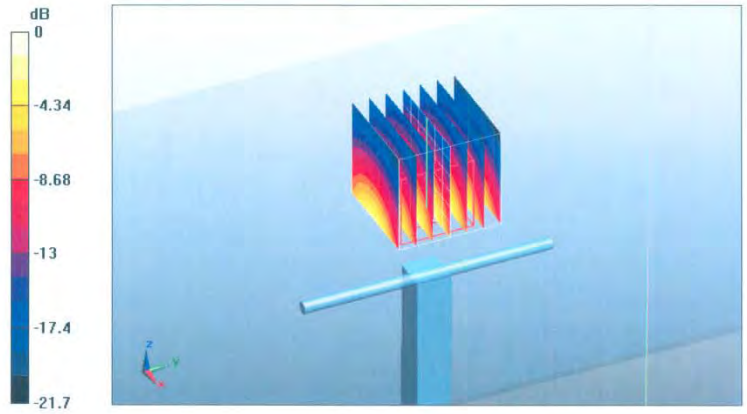
DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:727

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: HSL U11 BB
Medium parameters used: f = 2450 MHz; σ = 1.78 mho/m; ε_r = 39.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

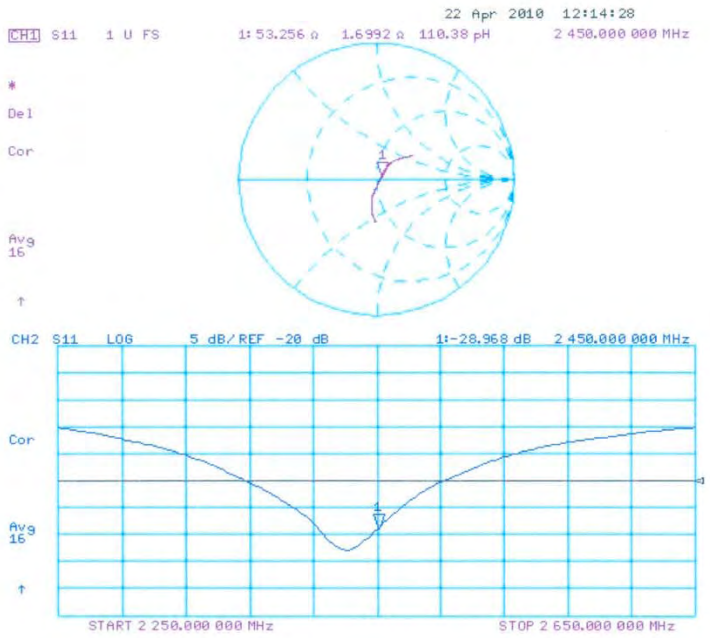
- Probe: ES3DV3 - SN3205; ConvF(4.53, 4.53, 4.53); Calibrated: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 02.03.2010
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 57

Pin=250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 101.0 V/m; Power Drift = 0.064 dB
Peak SAR (extrapolated) = 26.8 W/kg
SAR(1 g) = 13.2 mW/g; SAR(10 g) = 6.22 mW/g
Maximum value of SAR (measured) = 16.9 mW/g



0 dB = 16.9mW/g

Impedance Measurement Plot for Head TSL



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DASY5 Validation Report for Body

Date/Time: 29.04.2010 14:57:43

Test Laboratory: SPEAG, Zurich, Switzerland

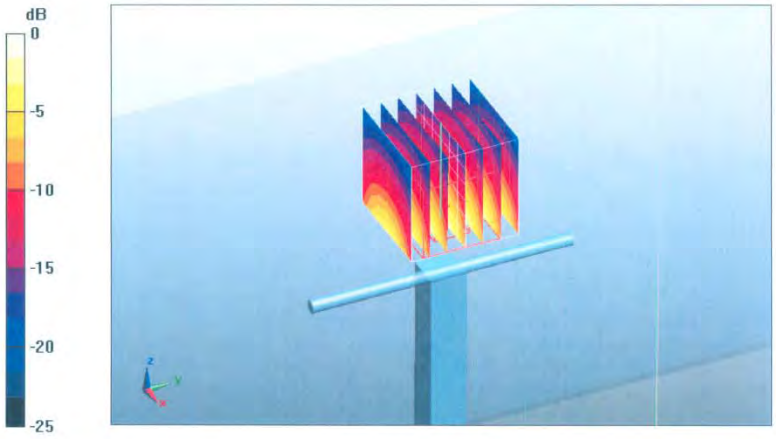
DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:727

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: MSL U11 BB
Medium parameters used: f = 2450 MHz; σ = 2 mho/m; ε_r = 54.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

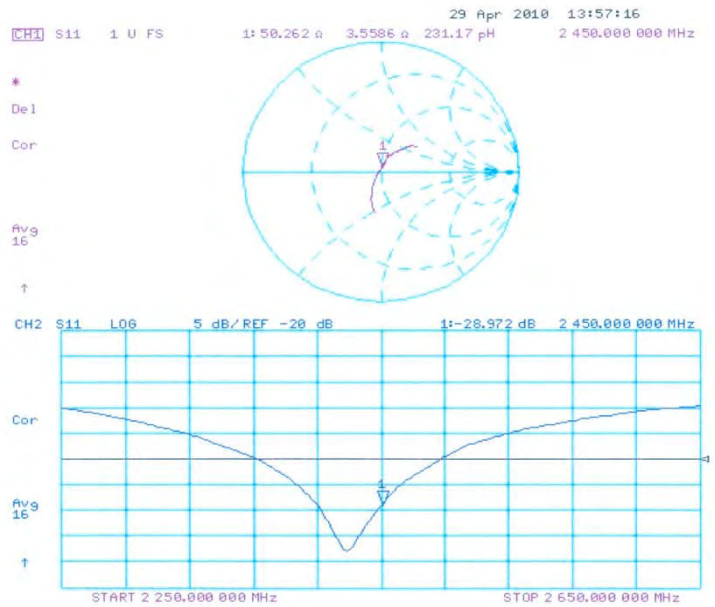
- Probe: ES3DV3 - SN3205; ConvF(4.31, 4.31, 4.31); Calibrated: 26.06.2009
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 02.03.2010
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 57

Pin250 mW /d=10mm, dist=3.0mm (ES-Probe)/Zoom Scan (7x7x7)/Cube 0: Measurement
grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 96.1 V/m; Power Drift = 0.00929 dB
Peak SAR (extrapolated) = 27.7 W/kg
SAR(1 g) = 13.4 mW/g; SAR(10 g) = 6.23 mW/g
Maximum value of SAR (measured) = 17.6 mW/g



0 dB = 17.6mW/g

Impedance Measurement Plot for Body TSL



End of 1st part of report

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