SAR TEST REPORT

The following samples were submitted and identified on behalf of the client as:

Equipment Under Test	PDA Phone H-22
Model Name	H22-EU-QWERTY-2D; H22-EU-QWERTY-1D H22-EU-NUM-1D; H22-EU-NUM-2D
Brand Name	OPTICON
Company Name	Opticon Sensors Europe B.V.
Company Address	Opaallaan 35,2132 XV Hoofddorp,Netherlands
Standards	FCC- OET 65 supplement C,IEEE /ANSI C95.1 , C95.3, IEEE 1528
FCC ID	Q2Q-H22
Date of Receipt	November 30th, 2010
Date of Test(s)	September 20th ~ September 26th, 2011
Date of Issue	December 6th, 2011

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.

Signed for on the behalf of SGS

Engineer	**Supervisor**
Chris Tsung	Kelly Tsai
Chris Tsung	**Kelly Tsai**
Date : Dec. 6 2011	**Date :** Dec. 6 2011

Version

Report Number	Revision	Date	Memo
ES/2010/B0014	01	2011/11/09	Initial creation of test report.
ES/2010/B0014	02	2011/11/25	1st modification.
ES/2010/B0014	03	2011/12/2	2nd modification.
ES/2010/B0014	04	2011/12/6	3rd modification.

This test repot contains a reference to the previous version test report that it replaces.

Contents

1. General Information

1.1 Testing Laboratory

SGS Taiwan Ltd. Electronics & Communication Laboratory	
134, Wu Kung Road, Wuku industrial zone	
Taipei county, Taiwan, R.O.C.	
Telephone	+886-2-2299-3279
Fax	+886-2-2298-0488
Internet	http://www.tw.sgs.com/
Testing Location	1F,No.8, Alley 15, Lane 120, Sec .1, NeiHu Road NeiHu District Taipei City 114, Taiwan

1.2 Details of Applicant

Company Name	Opticon Sensors Europe B.V.
Company Address	Opaallaan 35,2132 XV Hoofddorp,Netherlands
Contact Person	Gilles van den Berge
TEL	+31 23 5692793
Fax	+31 23 5638266
E-mail	gilles.van.den.berge@opticon.com

1.3 Description of EUT

EUT Name	PDA Phone H-22
Model Name	1. H22-EU-QWERTY-2D 2. H22-EU-QWERTY-1D 3. H22-EU-NUM-1D 4. H22-EU-NUM-2D
IMEI Code	1. 355310035329709 2. 355310035327851 3. 355310035329162 4. 355310033527828
FCC ID	Q2Q-H22
Mode of Operation	☒GSM ☒GPRS ☒EDGE ☒WCDMA ☒HSDPA ☒HSUPA ☒WLAN802.11 b/g/n (☒H20 ☐H40) band

Definition	Production unit			
Duty Cycle	GSM	1/8		
	GPRS	1/4.1		
	EDGE	1/2		
	WCDMA	1		
	WLAN 802.11 b/g/n(H20)	1		
TX Frequency Range (MHz)	GSM850	824.2	—	848.8
	GSM1900	1850.2	—	1909.8
	WCDMA Band II	1852.4	—	1907.6
	WCDMA Band V	826.4	—	846.6
	WLAN 802.11 b/g/n (H20)	2412	—	2462
Channel Number (ARFCN)	GSM850	128	—	251
	GSM1900	512	—	810
	WCDMA Band II	9262	—	9538
	WCDMA Band V	4132	—	4233
	WLAN 802.11 b/g/n (H20)	1	—	11
VOIP Function	☐YES ☒NO			
Declaration	In addition to the Original sample (H22-EU-QWERTY-2D) shown in these test results, the second solution (H22-EU-QWERTY-1D, H22-EU-NUM-1D, H22-EU-NUM-2D); SAR values were checked on these options using the spot check method. We found results were same or lower than Original for GSM850/GSM1900/WCDMA B2/WCDMA B5 WLAN802.11 b, but still within 20% of highest measured SAR.			

Max. SAR Measured(1 g) (Unit: mW/g)	**Head**	GSM850	0.252	☐Left ☒Right ☒Cheek ☐Tilt 251 Channel	H22-EU-Q WERTY-1D
		GSM1900	0.101	☒Left ☐Right ☒Cheek ☐Tilt 661, 810 Channel	H22-EU-Q WERTY-2D
		WCDMA Band II	0.207	☒Left ☐Right ☒Cheek ☐Tilt 9538 Channel	H22-EU-Q WERTY-2D
		WCDMA Band V	**0.28**	☐Left ☒Right ☒Cheek ☐Tilt 4132 Channel With memory card	H22-EU-N UM-2D
	Body worn	GSM850	0.494	☐Front ☒Back 190 Channel	H22-EU-N UM-1D
		GSM1900	1.35	☐Front ☒Back 661 Channel	H22-EU-Q WERTY-2D
		WCDMA Band II	**1.37**	☐Front ☒Back 9262 Channel	H22-EU-Q WERTY-2D
		WCDMA Band V	0.574	☐Front ☒Back 4183 Channel	H22-EU-Q WERTY-2D
		WLAN802.11 b	0.046	☐Front ☒Back	H22-EU-N UM-2D

#. GSM/GPRS/EDGE conducted power table:

		Burst average power				Source-based time- averaged			
GSM850	CH 128	32.3				23.27			
	CH 190	32.2				23.17			
	CH 251	32				22.97			
		1Dn1UP		1Dn2UP		1Dn1UP		1Dn2UP	
GPRS850	CH 128	32.3		32.3		23.27		26.28	
	CH 190	32.2		32.2		23.17		26.18	
	CH 251	32.1		32.1		23.07		26.08	
		1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP	1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP
EDGE850	CH 128	27.5	27.5	27.5	27.5	18.47	21.48	23.24	24.49
	CH 190	27.3	27.3	27.3	27.3	18.27	21.28	23.04	24.29
	CH 251	27.3	27.3	27.3	27.3	18.27	21.28	23.04	24.29
		Burst average power				Source-based time- averaged			
GSM1900	CH 512	28.5				19.47			
	CH 661	28.4				19.37			
	CH 810	28.4				19.37			
		1Dn1UP		1Dn2UP		1Dn1UP		1Dn2UP	
GPRS1900	CH 512	28.5		28.5		19.47		22.48	
	CH 661	28.4		28.4		19.37		22.38	
	CH 810	28.4		28.4		19.37		22.38	
		1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP	1Dn1UP	1Dn2UP	1Dn3UP	1Dn4UP
EDGE1900	CH 512	25.6	25.6	25.6	25.6	16.57	19.58	21.34	22.59
	CH 661	25.5	25.5	25.5	25.5	16.47	19.48	21.24	22.49
	CH 810	25.5	25.5	25.5	25.5	16.47	19.48	21.24	22.49

#. WCDMA Band II & V HSDPA/HSUPA conducted power table:

		WCDMA	HSDPA				HSUPA				
Band	Channel	R99	Sub-1	Sub-2	Sub-3	Sub-4	Sub-1	Sub-2	Sub-3	Sub-4	Sub-5
WCDMA Band II	9262	21.77	21.94	21.65	21.46	21.53	21.69	19.74	20.75	19.87	21.58
	9400	22.31	22.2	22.17	21.75	21.76	22.29	20.36	21.31	20.41	22.15
	9538	22.24	22.1	22.09	21.57	21.69	22.18	20.22	21.26	20.26	22.09
WCDMA Band V	4132	23.5	23.29	23.43	22.83	22.88	23.46	21.52	22.5	21.57	23.32
	4183	23.45	23.31	23.34	22.83	22.87	23.38	21.46	22.44	21.52	23.21
	4233	23.26	23.38	23.13	22.89	22.95	23.18	21.22	22.26	21.3	23.07

#. WLAN802.11 b/g/n(H20) conducted power table:

	Avg Power			Peak power		
	L	M	H	L	M	H
Freq (MHz)	2412	2437	2462	2412	2437	2462
WLAN 802.11 b	15.2	15.45	15.34	17.76	18.06	17.75
WLAN 802.11 g	15.74	15.66	15.39	19.18	19.15	18.8
WLAN 802.11 n (20M)	13.41	13.39	13.36	16.92	16.89	16.61

#. Bluetooth conducted power table:

	Peak Power		
	L	M	H
Freq (MHz)	2402	2441	2480
BDR	1.75	2.23	2.24
EDR	2.1	2.58	2.62

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 batt¯ery is fully charged.

3. 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.
4. Testing Head SAR at lowest, middle and highest channel for all bands with LET/LEC/RET/REC conditions.
5. Testing body-worn SAR by separating **15mm** between the back of the EUT and the flat phantom.

SAR evaluation considerations for handsets with multiple transmitters:

6. When the maximum transmitter and antenna output power are ≦ 60/f(GHz) (mW) SAR evaluation is typically not required for FCC or TCB approval
   (BT power= 2.62 dBm)
7. According to **KDB248227**-SAR is not required for 802.11 g/HT20 channels when the maximum average output power is less than 1/4 dB hight than that measured on the corresponding 802.11b channels.
8. Using **KDB941225 D01** to exclude SAR test requirements for HSPA modes due to the maximum average output power of HSPA active is less than 1/4 dB higher than that measured without HSPA using 12.2kbps RMC
9. For Body, The highest 1-g SAR for **WLAN is 0.046 W/kg** and the highest 1-g SAR for **WWAN is 1.37W/kg**. The sum of 1-g for simultaneous transmitting WLAN and WWAN antenna pair is **0.046+1.37 = 1.416 W/kg**.
10. Both Head & Body, **which lower than the limit 1.6W/kg.** According to **KDB648474/KDB447498** Simultaneous SAR evaluation is not required.

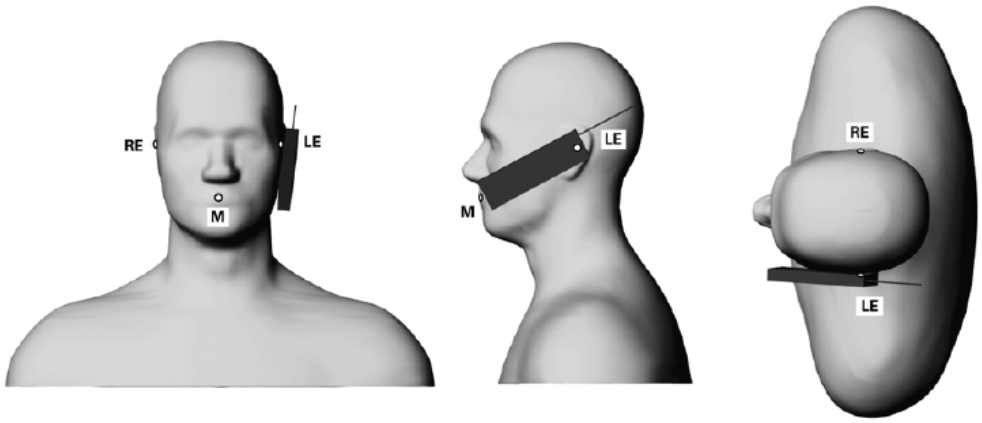
Additional configuration(Head):

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

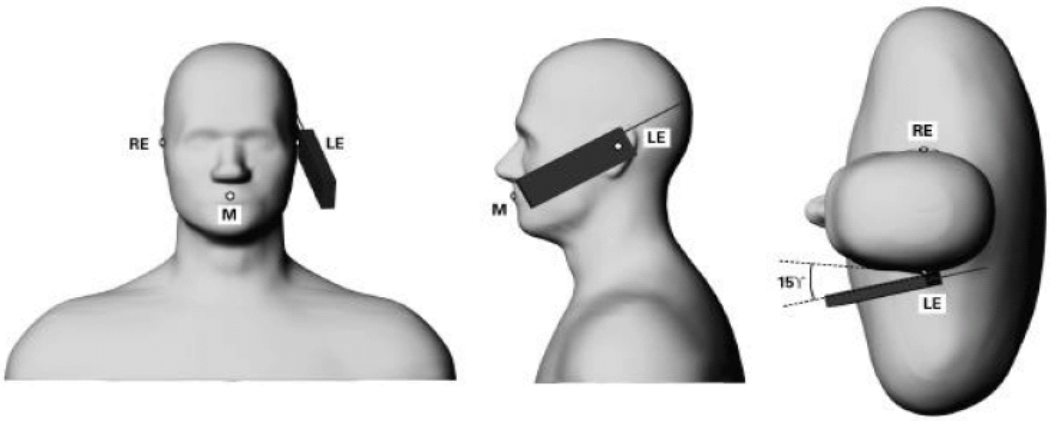
Additional configuration(Body):

12. For highest SAR configuration in this band repeated with external Memory card inside.
13. For highest SAR configuration in this band repeated with Headset.

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 EX3DV4 field probe is used to determine the internal electric fields. The SAR can be obtained from the equation $SAR = \sigma (|Ei|^2)/ \rho$ where σ and ρ are the conductivity and mass density of the tissue-simulant.

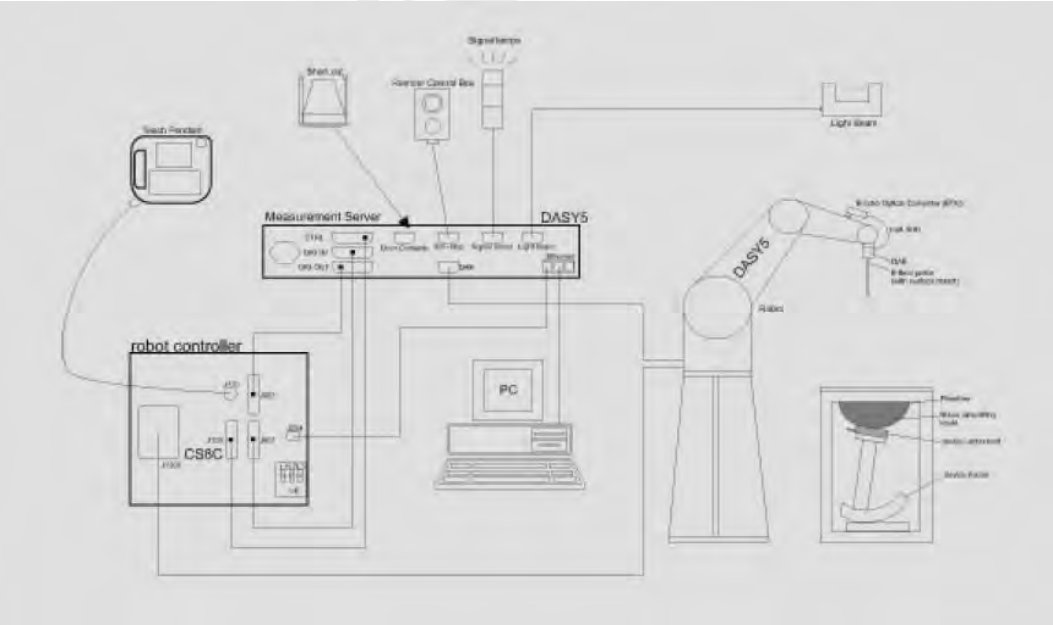


Fig.a The block diagram of SAR system

The 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

EX3DV4 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)	 EX3DV4 E-Field Probe
Calibration	Basic Broad Band Calibration in air Conversion Factors (CF) for HSL835/1900/2450MHz Additional CF for other liquids and frequencies upon request	
Frequency	10 MHz to > 6 GHz; Linearity: ± 0.2 dB (30 MHz to 6 GHz)	
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)	
Dynamic Range	10 µW/g to > 100 mW/g; Linearity: ± 0.2 dB (noise: typically < 1 µW/g)	
Dimensions	Overall length: 330 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm	
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%.	

SAM PHANTOM V4.0C

Construction:	The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528-200X, CENELEC 50361 and IEC 62209. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by manually teaching three points with the robot.	
Shell Thickness:	2 ± 0.2 mm	
Filling Volume:	Approx. 25 liters	
Dimensions:	Height: 251 mm; Length: 1000 mm; Width: 500 mm	

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 835/1900/2450 MHz. The tests were conducted on the same days as the measurement of the DUT. The obtained results from the system accuracy verification are displayed in the table 1. During the tests, the ambient temperature of the laboratory was in the range 22.1°C, the relative humidity was in the range 62% and the liquid depth above the ear reference points was above 15 cm in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values.

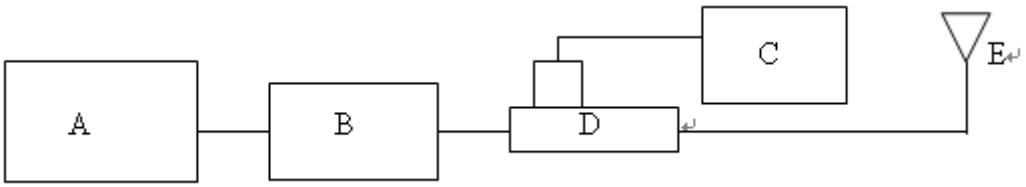
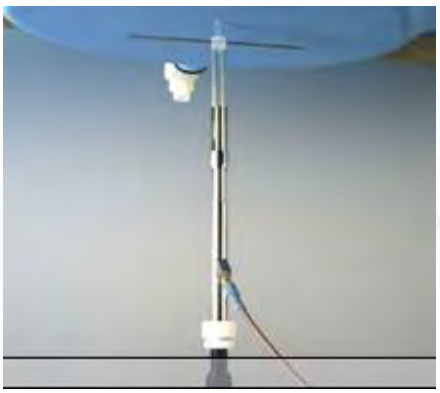


Fig.b The block diagram of system verification

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



Photograph of the dipole Antenna

Validation Kit	S/N	Frequency (MHz)		Target SAR (1g) (Pin=250mW) (mW/g)	Measured SAR (1g) (mW/g)	Measured Date
D835V2	4d063	835	Head	2.31	2.26	Sep. 20, 2011
			Body	2.43	2.45	Sep. 20, 2011
			Head	2.31	2.31	Sep. 25, 2011
			Body	2.43	2.46	Sep. 25, 2011
D1900V2	5d027	1900	Head	2.31	9.65	Sep. 21, 2011
			Body	2.43	9.68	Sep. 21, 2011
			Head	2.31	9.63	Sep. 26, 2011
			Body	2.43	9.58	Sep. 26, 2011
D2450V2	727	2450	Body	12.7	13.2	Sep. 20, 2011
			Body	12.7	12.8	Sep. 25, 2011

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).

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	Dielectric Parameters	Recommended Limits	Measured	Measurement date
835	Head	ρ	38.38-42.42	42.139	Sep. 20, 2011
		σ (S/m)	0.84-0.92	0.902	
		Simulated Tissue Temperature(°C)	20-24	21.7	
	Body	P	51.21-56.60	53.189	Sep. 20, 2011
		σ (S/m)	0.95-1.05	1.008	
		Simulated Tissue Temperature(°C)	20-24	21.7	
	Head	ρ	38.38-42.42	40.706	Sep. 25, 2011
		σ (S/m)	0.84-0.92	0.881	
		Simulated Tissue Temperature(°C)	20-24	21.7	
	Body	ρ	51.21-56.60	52.371	Sep. 25, 2011
		σ (S/m)	0.95-1.05	0.982	
		Simulated Tissue Temperature(°C)	20-24	21.7	
1900	Head	ρ	36.96-40.85	39.223	Sep. 21, 2011
		σ (S/m)	1.34-1.48	1.419	
		Simulated Tissue Temperature(° C)	20-24	21.7	

Frequency (MHz)	Tissue type	Dielectric Parameters	Recommended Limits	Measured	Measurement date
	Body	ρ	48.55-53.66	51.542	Sep. 21, 2011
		σ (S/m)	1.44-1.60	1.523	
		Simulated Tissue Temperature(° C)	20-24	21.7	
	Head	ρ	36.96-40.85	40.195	Sep. 26, 2011
		σ (S/m)	1.34-1.48	1.404	
		Simulated Tissue Temperature(° C)	20-24	21.7	
	Body	ρ	48.55-53.66	50.131	Sep. 26, 2011
		σ (S/m)	1.44-1.60	1.578	
		Simulated Tissue Temperature(° C)	20-24	21.7	
2450	Body	ρ	48.07-53.13	51.765	Sep. 20, 2011
		σ (S/m)	1.81-2.01	1.968	
		Simulated Tissue Temperature(° C)	20-24	21.7	
	Body	ρ	48.07-53.13	51.085	Sep. 25, 2011
		σ (S/m)	1.81-2.01	1.961	
		Simulated Tissue Temperature(° C)	20-24	21.7	

Table 2. Dielectric Parameters of Tissue Simulant Fluid

The composition of the brain tissue simulating liquid:

Frequency (MHz)	Mode	Ingredient						Total amount
		DGMBE	Water	Salt	Preventol D-7	Cellulose	Sugar	
850	Head	—	532.63	18.29	2.40	3.20	765.49	1.0L(g)
	Body	—	633.91	11.76	1.20	—	602.12	1.0L(g)
1900	Head	445.08	554.12	0.80	—	—	—	1.0L(g)
	Body	300.03	697.94	2.03	—	—	—	1.0L(g)
	Body	313.65	686.35	—	—	—	—	1.0L(g)

Table 3. Recipes for tissue simulating liquid (Unit: g)

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

Model Name	Mode	EUT Position	Test Configuration	Averaged SAR over 1g (W/kg)			SAR Limit 1g (W/kg)
				CH 128	CH 190	CH 251	
				824.20 MHz	836.60 MHz	848.80 MHz	
H22-EU-QWERTY-2D	GSM	Right	Cheek	0.187	0.200	0.223	**1.6**
			Tilt	—	0.120	—	**1.6**
		Left	Cheek	—	0.177	—	**1.6**
			Tilt	—	0.116	—	**1.6**
	GPRS class 10	Body Worn		—	0.488	—	**1.6**
	GPRS class 8	Body Worn		—	0.217	—	**1.6**
H22-EU-QWERTY-1D	GSM	Right	Cheek	—	—	**0.252**	**1.6**
	GPRS class 10	Body Worn		—	0.255	—	**1.6**
H22-EU-NUM-1D	GSM	Right	Cheek	—		0.251	**1.6**
	GPRS class 10	Body Worn		—	**0.494**	—	**1.6**
H22-EU-NUM-2D	GSM	Right	Cheek	—	—	0.218	**1.6**
	GPRS class 10	Body Worn		—	0.490	—	**1.6**

Accroding to section 6.3.1 and 6.3.1.2 of KDB941225 D03 to exclude SAR test requirements for EDGE modes due to the source-based time-averaged output power(page 7's conducted power table) for edge mode is lower than that in the GPRS mode.

According to KDB447498 the 1-g SAR for the highest output channel is less than 0.8 W/kg, where the transmission band corresponding to all channels is ≤ 100 MHz, testing for the other channels is not required.

PCS 1900 MHz

Model Name	Mode	EUT Position	Test Configuration	Averaged SAR over 1g (W/kg)			SAR Limit 1g (W/kg)
				CH 512	CH 661	CH 810	
				1850.20 MHz	1800.00 MHz	1909.80 MHz	
H22-EU-QWERTY-2D	GSM	Right	Cheek	—	0.074	—	1.6
			Tilt	—	0.066	—	1.6
		Left	Cheek	0.086	**0.101**	0.101	1.6
			Tilt	—	0.065	—	1.6
	GPRS class 10	Body Worn		1.25	**1.35**	1.24	1.6
	GPRS class 08	Body Worn		—	0.713	—	1.6
H22-EU-QWERTY-1D	GSM	Left	Cheek	—	0.088	—	1.6
	GPRS class 10	Body Worn		—	1.27	—	1.6
H22-EU-NUM-1D	GSM	Left	Cheek	—	0.064	—	1.6
	GPRS class 10	Body Worn		—	1.14	—	1.6
H22-EU-NUM-2D	GSM	Left	Cheek	—	0.071	—	1.6
	GPRS class 10	Body Worn		—	1.33	—	1.6

Using KDB941225 D03 and KDB941225 D04 to exclude SAR test requirements for EDGE modes due to the source-based time-averaged output power for edge mode is lower than that in the GPRS mode.

According to KDB447498 the 1-g SAR for the highest output channel is less than 0.8 W/kg, where the transmission band corresponding to all channels is ≤ 100 MHz, testing for the other channels is not required.

WCDMA Band II

Model Name	Mode	EUT Position	Test Configuration	Averaged SAR over 1g (W/kg)			SAR Limit 1g (W/kg)
				CH 9262	CH 9400	CH 9538	
				1852.40 MHz	1880.00 MHz	1907.60 MHz	
H22-EU-QWE RTY-2D	WCDMA R99	Right	Cheek	—	0.138	—	**1.6**
			Tilt	—	0.128	—	**1.6**
		Left	Cheek	0.196	0.192	**0.207**	**1.6**
			Tilt	—	0.121		**1.6**
		Body worn	Body	**1.37**	1.13	1.13	**1.6**
			Front	0.092	—	—	**1.6**
			- with Memory card	1.21	—	—	**1.6**
			- with headset	1.31	—	—	**1.6**
H22-EU-QWE RTY-1D	WCDMA R99	Left	Cheek		—	0.170	**1.6**
		Body worn	Body	0.965	—	—	**1.6**
H22-EU-NUM-1D	WCDMA R99	Left	Cheek	—	—	0.128	**1.6**
		Body worn	Body	1.23	—	—	**1.6**
H22-EU-NUM-2D	WCDMA R99	Left	Cheek	—	—	0.136	**1.6**
		Body worn	Body	1.23	—	—	**1.6**

Using KDB941225 D01 to exclude SAR test requirements for HSPA modes due to the maximum average output power of HSPA active is less than 1/4 dB higher than that measured without HSPA using 12.2kbps RMC

According to KDB447498 the 1-g SAR for the highest output channel is less than 0.8 W/kg, where the transmission band corresponding to all channels is ≤ 100 MHz, testing for the other channels is not required.

WCDMA Band V

Model Name	Mode	EUT Position	Test Configuration	Averaged SAR over 1g (W/kg)			SAR Limit 1g (W/kg)
				CH 4132	CH 4183	CH 4233	
				826.40 MHz	836.60 MHz	846.60 MHz	
H22-EU-QWERTY-2D	WCDMA R99	Right	Cheek	0.234	0.219	0.218	1.6
			Cheek- with Memory card	0.236	—	—	1.6
			Tilt	—	0.130	—	1.6
		Left	Cheek	—	0.193	—	1.6
			Tilt	—	0.124	—	1.6
		Body Worn		—	**0.574**	—	1.6
H22-EU-QWERTY-1D	WCDMA R99	Right	Cheek- with Memory card	0.277	—	—	1.6
		Body Worn		—	0.343	—	1.6
H22-EU-NUM-1D	WCDMA R99	Right	Cheek- with Memory card	0.267	—	—	1.6
		Body Worn		—	0.330	—	1.6
H22-EU-NUM-2D	WCDMA R99	Right	Cheek- with Memory card	**0.28**	—	—	1.6
		Body Worn		—	0.454	—	1.6

Using KDB941225 D01 to exclude SAR test requirements for HSPA modes due to the maximum average output power of HSPA active is less than 1/4 dB higher than that measured without HSPA using 12.2kbps RMC

According to KDB447498 the 1-g SAR for the highest output channel is less than 0.8 W/kg, where the transmission band corresponding to all channels is ≤ 100 MHz, testing for the other channels is not required.

WLAN802.11 b/g/n (20m)

Model Name	Band	EUT Position	Test Configuration	Averaged SAR over 1g (W/kg)			SAR Limit 1g (W/kg)
				CH 1	CH 6	CH 11	
				2412 MHz	2437 MHz	2462 MHz	
H22-EU-QWERTY-2D	WLAN 802.11 b	Body Worn	Body	—	0.035	—	1.6
			Front	—	0.017	—	1.6
			- with Memory card	—	0.034	—	1.6
			- with Bluetooth active	—	0.035	—	1.6
			- with headset	—	0.044	—	1.6
	WLAN 802.11 g	Body Worn	Body	—	0.029	—	1.6
	WLAN 802.11 n	Body Worn	Body	—	0.026	—	1.6
H22-EU-QWERTY-1D	WLAN 802.11 b	Body Worn	- with headset	—	0.032	—	1.6
H22-EU-NUM-1D	WLAN 802.11 b	Body Worn	- with headset	—	0.042	—	1.6
H22-EU-NUM-2D	WLAN 802.11 b	Body Worn	- with headset	—	**0.046**	—	1.6

Using KDB248227-SAR is not required for 802.11 g/HT20 channels when the maximum average output power is less than 1/4 dB higher than that measured on the corresponding 802.11b channels.

According to KDB447498 the 1-g SAR for the highest output channel is less than 0.8 W/kg, where the transmission band corresponding to all channels is ≤ 100 MHz, testing for the other channels is not required.

3. Instruments List

Device	Manufacturer	Type	Serial number	Date of last calibration
Dosimetric E-Field Probe	Schmid & Partner Engineering AG	EX3DV4	3770	Apr.19.2011
835 /1900 /2450 MHz System Validation Dipole	Schmid & Partner Engineering AG	D835V2	4d063	May.25.2011
		D1900V2	5d027	Apr.19.2011
		D2450V2	727	Apr.19.2011
Data acquisition Electronics	Schmid & Partner Engineering AG	DAE4	856	May.18.2011
Software	Schmid & Partner Engineering AG	DASY 5 V52.6	N/A	Calibration not required
Phantom	Schmid & Partner Engineering AG	SAM	N/A	Calibration not required
Network Analyzer	HP	8753D	3410A05547	Mar.16.2011
Dielectric Probe Kit	HP	85070D	US01440168	Calibration not required
Dual-directional coupler	Agilent	778D	50313	Aug.19.2011
		777D	50114	Aug.18.2011
RF Signal Generator	Agilent	8648D	3847M00432	Jun.01.2011
Power Sensor	Agilent	U2001B	MY48100169	Apr.28.2011
Radio Communication Test	Agilent	E5515C	GB44051912	Jul.27.2010

4. Measurements

Date: 9/20/2011

RE Cheek_CH128

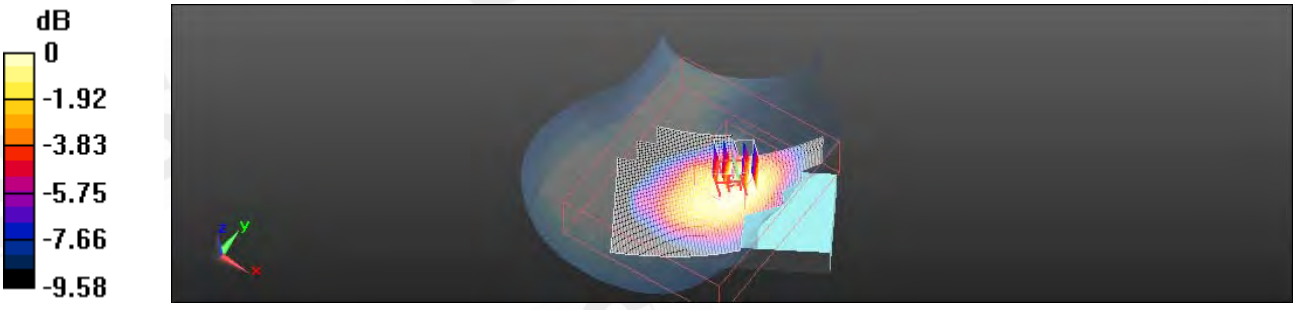
Communication System: Generic GSM; Frequency: 824.2 MHz
Medium parameters used: f = 824.2 MHz; σ = 0.89 mho/m; ε_r = 42.275; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.25, 9.25, 9.25); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/RE Cheek/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.223 mW/g

Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.294 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 0.242 W/kg

SAR(1 g) = 0.187 mW/g; SAR(10 g) = 0.142 mW/g
Maximum value of SAR (measured) = 0.214 mW/g



0 dB = 0.210mW/g

Date: 9/20/2011

RE Cheek_CH190

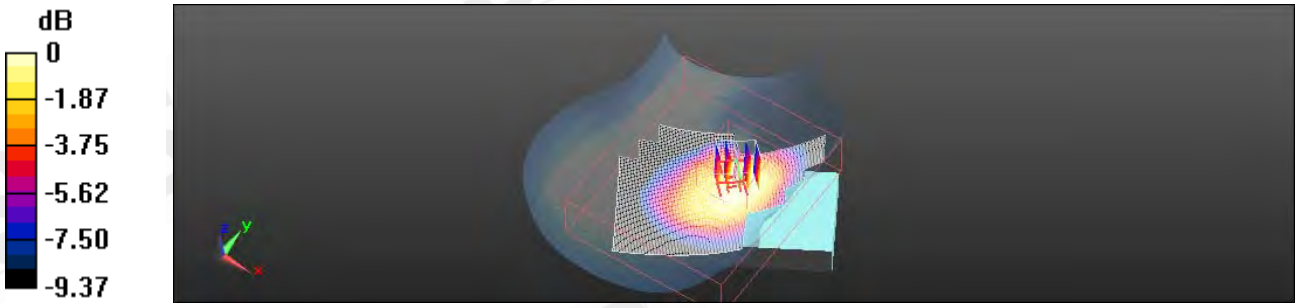
Communication System: Generic GSM; Frequency: 836.6 MHz
Medium parameters used: f = 837 MHz; σ = 0.904 mho/m; ε_r = 42.113; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.25, 9.25, 9.25); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/RE Cheek/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.231 mW/g

Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.345 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.256 W/kg

SAR(1 g) = 0.200 mW/g; SAR(10 g) = 0.151 mW/g
Maximum value of SAR (measured) = 0.227 mW/g



0 dB = 0.230mW/g

Date: 9/20/2011

RE Cheek_CH251

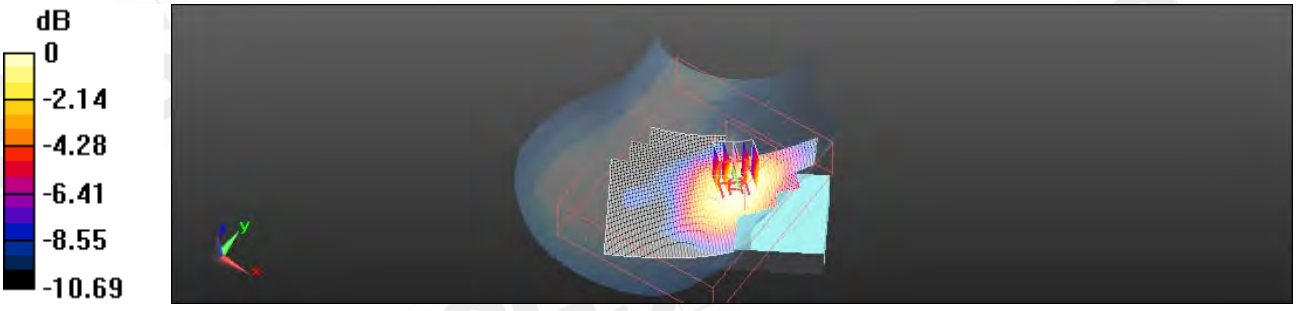
Communication System: Generic GSM; Frequency: 848.6 MHz
Medium parameters used: f = 849 MHz; σ = 0.915 mho/m; ε_r = 41.948; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.25, 9.25, 9.25); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/RE Cheek/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.259 mW/g

Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.794 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 0.284 W/kg

SAR(1 g) = 0.223 mW/g; SAR(10 g) = 0.167 mW/g
Maximum value of SAR (measured) = 0.254 mW/g



0 dB = 0.250mW/g

Date: 9/20/2011

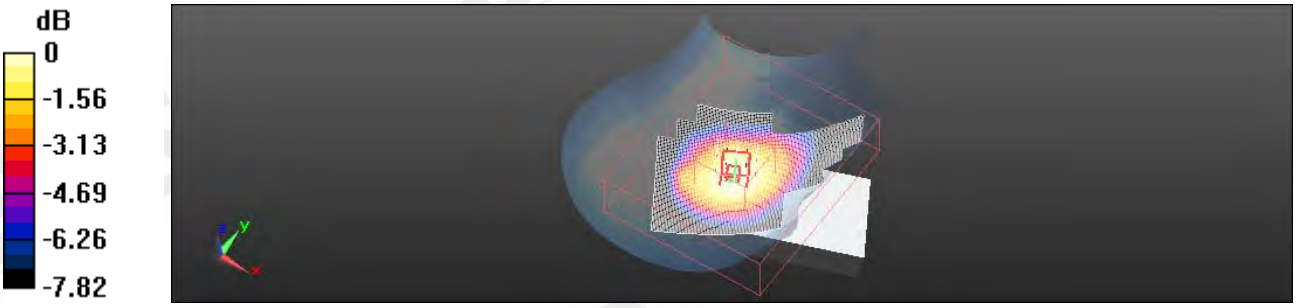
RE Tilt_CH190

Communication System: Generic GSM; Frequency: 836.6 MHz
Medium parameters used: f = 837 MHz; σ = 0.904 mho/m; ε_r = 42.113; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.25, 9.25, 9.25); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/RE Tilt/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.139 mW/g
Configuration/RE Tilt/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.114 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.153 W/kg

SAR(1 g) = 0.120 mW/g; SAR(10 g) = 0.091 mW/g
Maximum value of SAR (measured) = 0.139 mW/g



0 dB = 0.140mW/g

Date: 9/20/2011

LE Cheek_CH190

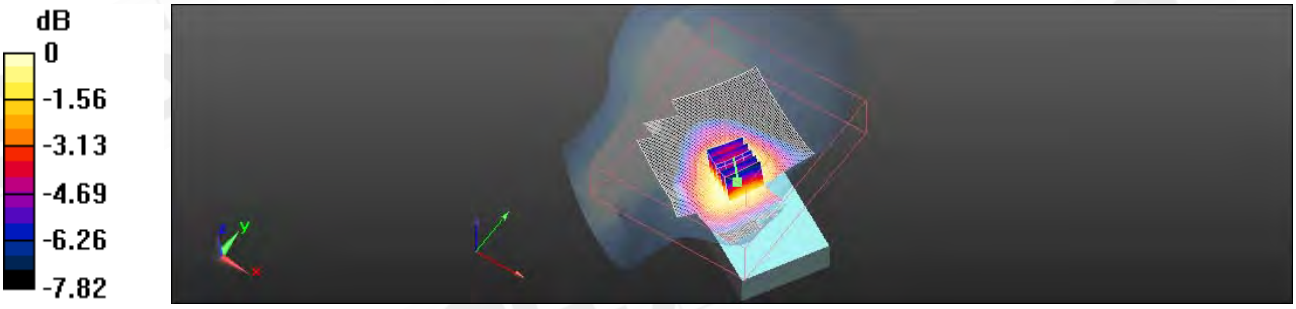
Communication System: Generic GSM; Frequency: 836.6 MHz
Medium parameters used: f = 837 MHz; σ = 0.904 mho/m; ε_r = 42.113; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.25, 9.25, 9.25); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/LE Cheek/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.199 mW/g

Configuration/LE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.740 V/m; Power Drift = -0.16 dB
Peak SAR (extrapolated) = 0.216 W/kg

SAR(1 g) = 0.177 mW/g; SAR(10 g) = 0.138 mW/g
Maximum value of SAR (measured) = 0.201 mW/g



0 dB = 0.200mW/g

Date: 9/20/2011

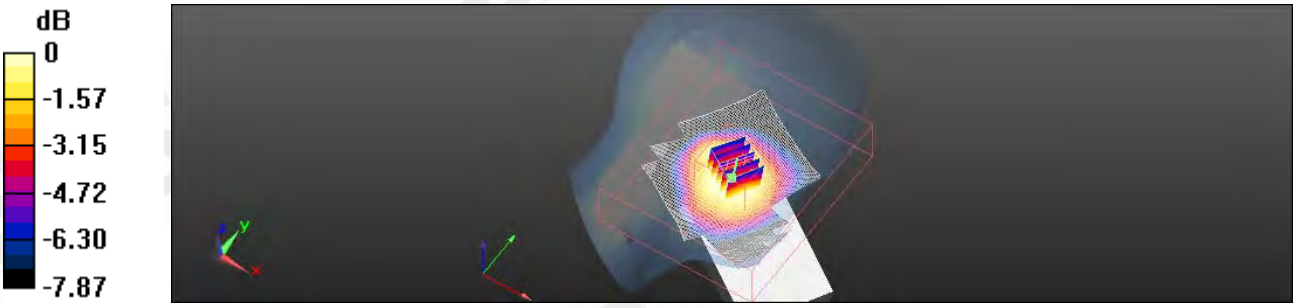
LE Tilt_CH190

Communication System: Generic GSM; Frequency: 836.6 MHz
Medium parameters used: f = 837 MHz; σ = 0.904 mho/m; ε_r = 42.113; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.25, 9.25, 9.25); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/LE Tilt/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.135 mW/g

Configuration/LE Tilt/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.490 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.146 W/kg
SAR(1 g) = 0.116 mW/g; SAR(10 g) = 0.089 mW/g
Maximum value of SAR (measured) = 0.133 mW/g



0 dB = 0.130mW/g

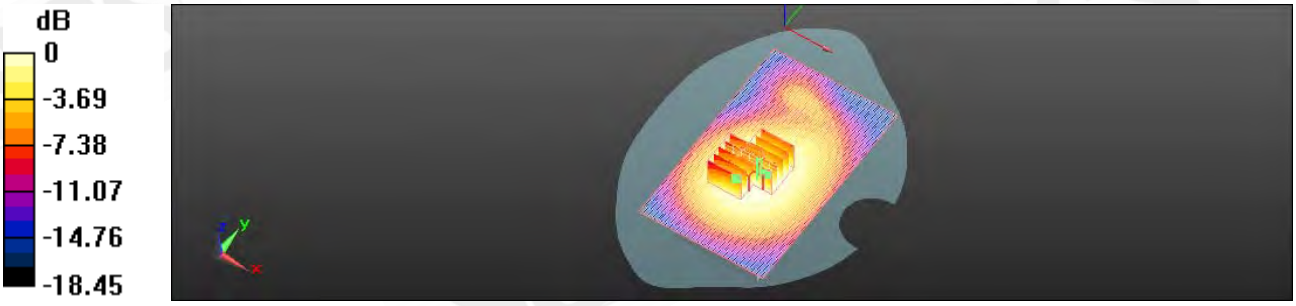
Date: 9/20/2011

Body_CH190

Communication System: GPRS(Class 10); Frequency: 836.6 MHz
Medium parameters used: f = 837 MHz; σ = 1.011 mho/m; ε_r = 53.164; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.3, 9.3, 9.3); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.720 mW/g
Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.193 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 0.642 W/kg
SAR(1 g) = 0.497 mW/g; SAR(10 g) = 0.372 mW/g
Maximum value of SAR (measured) = 0.576 mW/g
Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.193 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 0.682 W/kg
SAR(1 g) = 0.488 mW/g; SAR(10 g) = 0.312 mW/g
Maximum value of SAR (measured) = 0.541 mW/g



0 dB = 0.540mW/g

Date: 9/20/2011

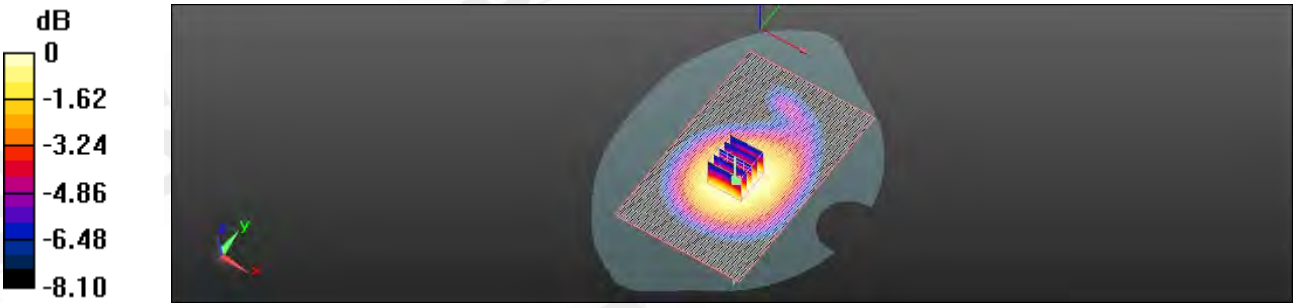
Body_CH190_repeated with Class 8

Communication System: GPRS(Class 8); Frequency: 836.6 MHz
Medium parameters used: f = 837 MHz; σ = 1.011 mho/m; ε_r = 53.164; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.3, 9.3, 9.3); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.252 mW/g
Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.778 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.278 W/kg

SAR(1 g) = 0.217 mW/g; SAR(10 g) = 0.164 mW/g
Maximum value of SAR (measured) = 0.252 mW/g



0 dB = 0.250mW/g

Date: 9/25/2011

RE Cheek_CH251

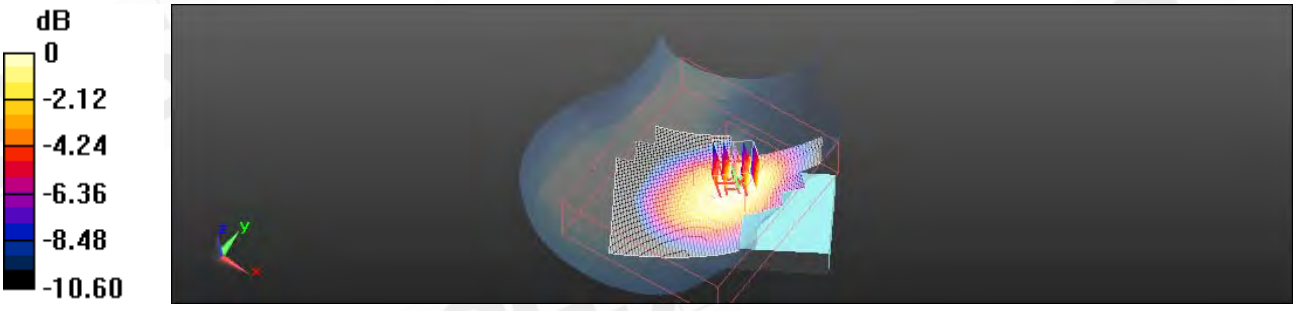
Communication System: Generic GSM; Frequency: 848.6 MHz
Medium parameters used: f = 849 MHz; σ = 0.889 mho/m; ε_r = 40.631; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.25, 9.25, 9.25); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/RE Cheek/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.295 mW/g

Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.302 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 0.320 W/kg

SAR(1 g) = 0.252 mW/g; SAR(10 g) = 0.190 mW/g
Maximum value of SAR (measured) = 0.286 mW/g



0 dB = 0.290mW/g

Date: 9/25/2011

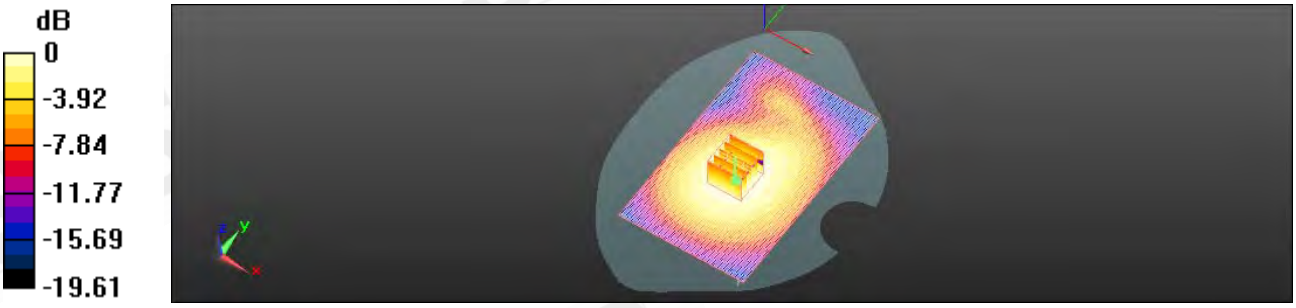
Body_CH190

Communication System: GPRS(Class 10); Frequency: 836.6 MHz
Medium parameters used: f = 837 MHz; σ = 0.984 mho/m; ε_r = 52.353; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.3, 9.3, 9.3); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.296 mW/g
Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.200 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.329 W/kg

SAR(1 g) = 0.255 mW/g; SAR(10 g) = 0.193 mW/g
Maximum value of SAR (measured) = 0.297 mW/g



0 dB = 0.300mW/g

Date: 9/25/2011

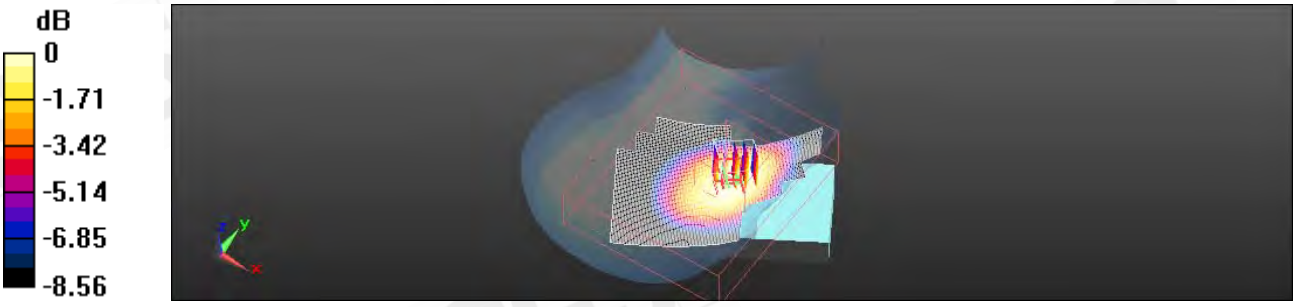
RE Cheek_CH251

Communication System: Generic GSM; Frequency: 848.6 MHz
Medium parameters used: f = 849 MHz; σ = 0.889 mho/m; ε_r = 40.631; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.25, 9.25, 9.25); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/RE Cheek/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.275 mW/g
Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.793 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.303 W/kg
SAR(1 g) = 0.251 mW/g; SAR(10 g) = 0.198 mW/g

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



0 dB = 0.280mW/g

Date: 9/25/2011

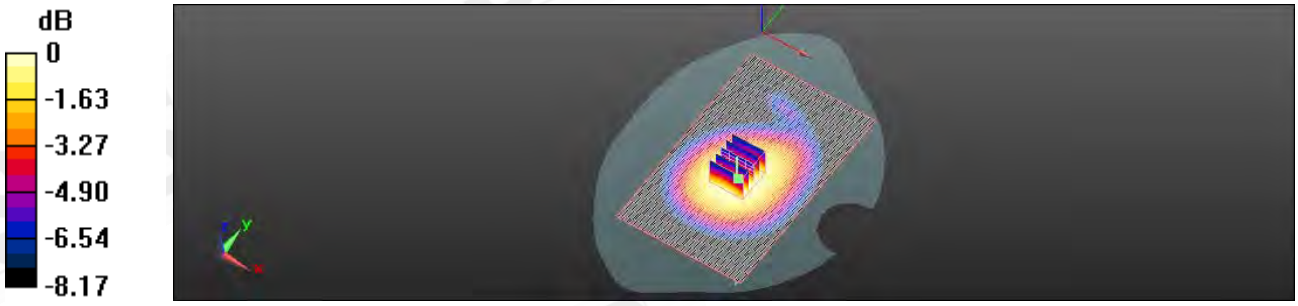
Body_CH190

Communication System: GPRS(Class 10); Frequency: 836.6 MHz
Medium parameters used: f = 837 MHz; σ = 0.984 mho/m; ε_r = 52.353; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.3, 9.3, 9.3); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.575 mW/g

Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.161 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.640 W/kg
SAR(1 g) = 0.494 mW/g; SAR(10 g) = 0.372 mW/g
Maximum value of SAR (measured) = 0.575 mW/g



0 dB = 0.570mW/g

Date: 9/25/2011

RE Cheek_CH251

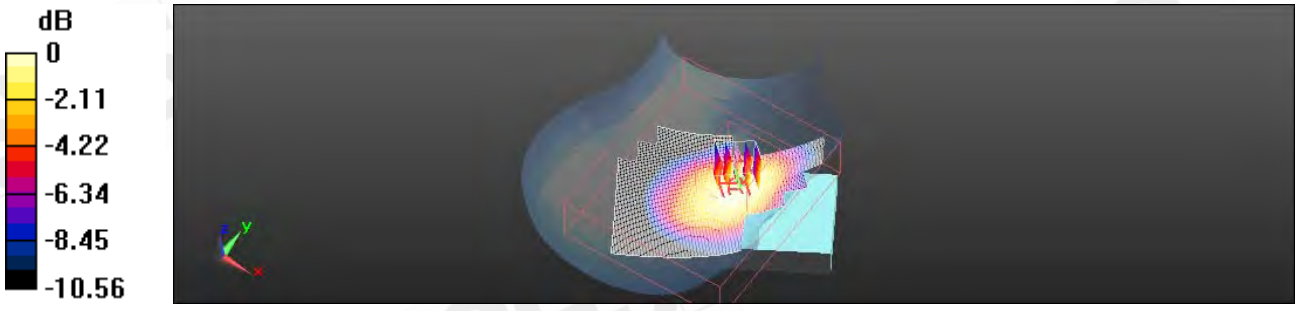
Communication System: Generic GSM; Frequency: 848.6 MHz
Medium parameters used: f = 849 MHz; σ = 0.889 mho/m; ε_r = 40.631; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.25, 9.25, 9.25); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/RE Cheek/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.255 mW/g

Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.695 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 0.277 W/kg

SAR(1 g) = 0.218 mW/g; SAR(10 g) = 0.164 mW/g
Maximum value of SAR (measured) = 0.247 mW/g



0 dB = 0.250mW/g

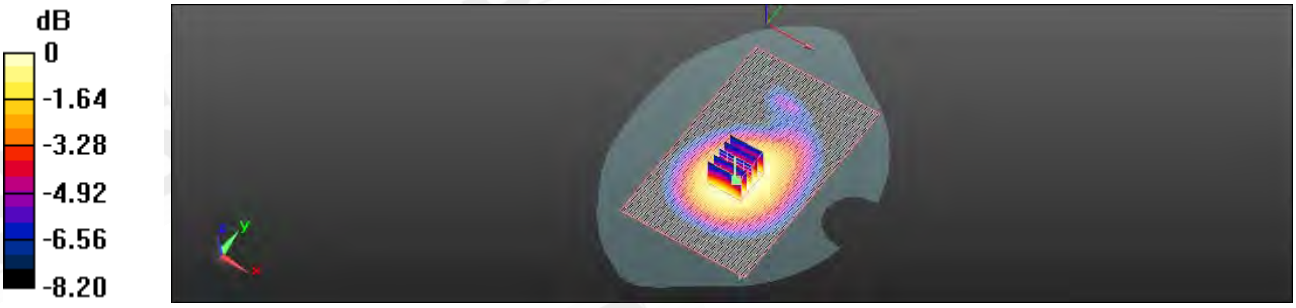
Body_CH190

Communication System: GPRS(Class 10); Frequency: 836.6 MHz
Medium parameters used: f = 837 MHz; σ = 0.984 mho/m; ε_r = 52.353; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.3, 9.3, 9.3); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.575 mW/g
Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.203 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 0.629 W/kg

SAR(1 g) = 0.490 mW/g; SAR(10 g) = 0.369 mW/g
Maximum value of SAR (measured) = 0.568 mW/g



0 dB = 0.570mW/g

Date: 9/21/2011

RE Cheek_CH661

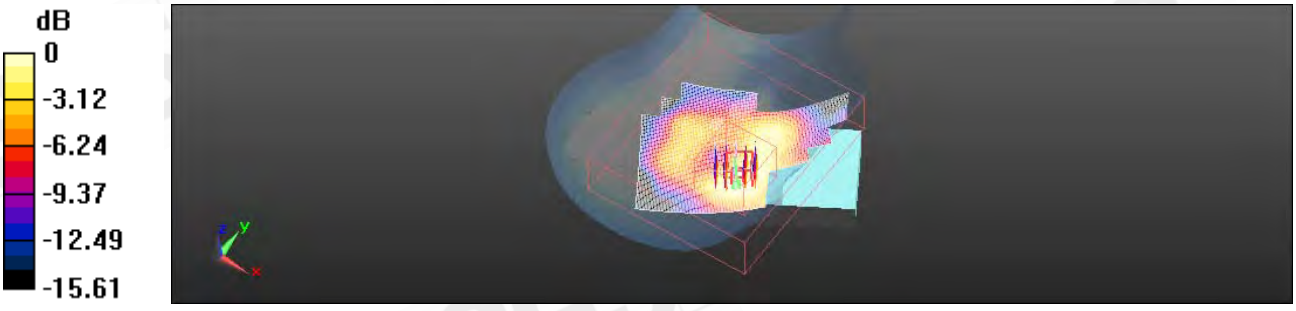
Communication System: Generic GSM; Frequency: 1880 MHz
Medium parameters used: f = 1880 MHz; σ = 1.399 mho/m; ε_r = 39.248; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.78, 7.78, 7.78); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/RE Cheek/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.098 mW/g

Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.346 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.116 W/kg

SAR(1 g) = 0.074 mW/g; SAR(10 g) = 0.046 mW/g
Maximum value of SAR (measured) = 0.094 mW/g



0 dB = 0.090mW/g

Date: 9/21/2011

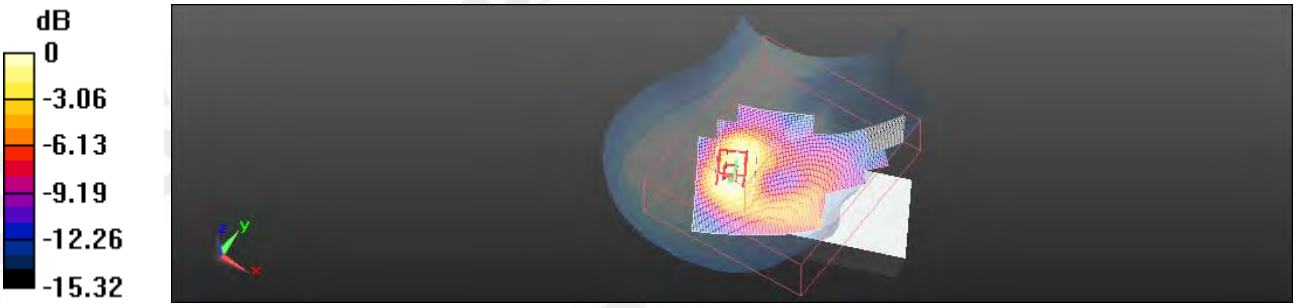
RE Tilt_CH661

Communication System: Generic GSM; Frequency: 1880 MHz
Medium parameters used: f = 1880 MHz; σ = 1.399 mho/m; ε_r = 39.248; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.78, 7.78, 7.78); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/RE Tilt/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.086 mW/g

Configuration/RE Tilt/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.736 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 0.105 W/kg
SAR(1 g) = 0.066 mW/g; SAR(10 g) = 0.039 mW/g
Maximum value of SAR (measured) = 0.083 mW/g



0 dB = 0.080mW/g

Date: 9/21/2011

LE Cheek_CH512

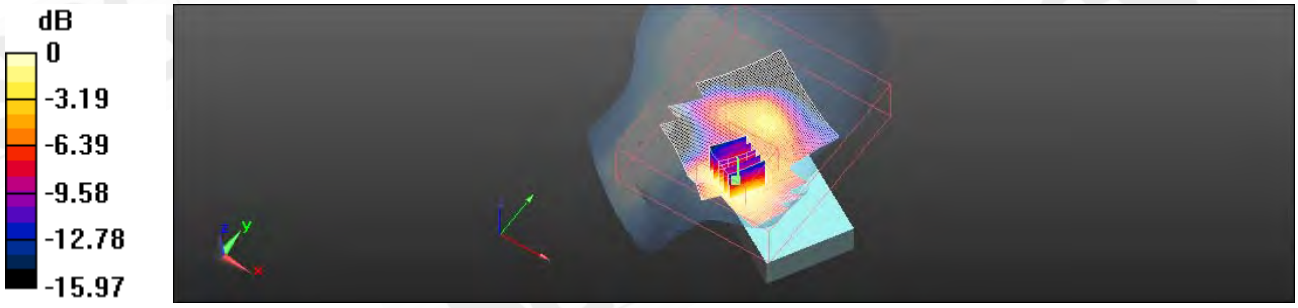
Communication System: Generic GSM; Frequency: 1850.2 MHz
Medium parameters used: f = 1850.2 MHz; σ = 1.371 mho/m; ε_r = 39.371; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.78, 7.78, 7.78); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/LE Cheek/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.114 mW/g

Configuration/LE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.847 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 0.135 W/kg

SAR(1 g) = 0.086 mW/g; SAR(10 g) = 0.054 mW/g
Maximum value of SAR (measured) = 0.113 mW/g



0 dB = 0.110mW/g

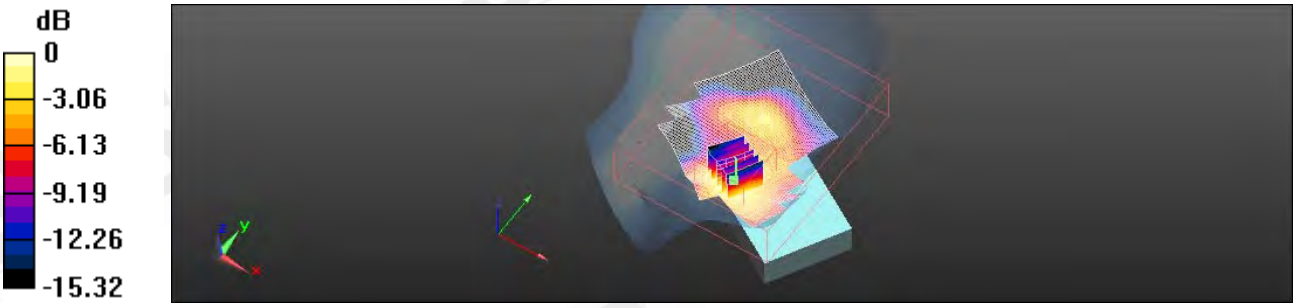
LE Cheek_CH661

Communication System: Generic GSM; Frequency: 1880 MHz
Medium parameters used: f = 1880 MHz; σ = 1.399 mho/m; ε_r = 39.248; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.78, 7.78, 7.78); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/LE Cheek/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.135 mW/g

Configuration/LE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.352 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 0.156 W/kg
SAR(1 g) = 0.101 mW/g; SAR(10 g) = 0.063 mW/g
Maximum value of SAR (measured) = 0.132 mW/g



0 dB = 0.130mW/g

Date: 9/21/2011

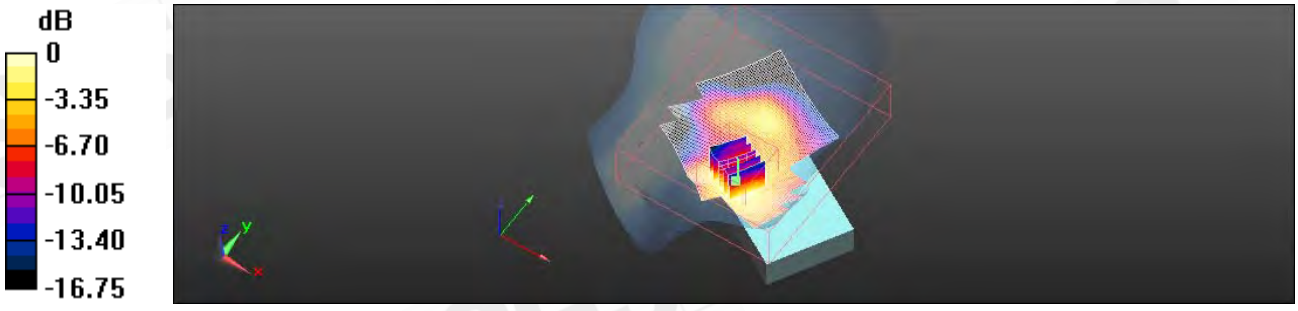
LE Cheek_CH810

Communication System: Generic GSM; Frequency: 1909.8 MHz
Medium parameters used: f = 1910 MHz; σ = 1.429 mho/m; ε_r = 39.208; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.78, 7.78, 7.78); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/LE Cheek/Area Scan (81x131x1): Measurement grid:
dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.134 mW/g
Configuration/LE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.381 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.159 W/kg

SAR(1 g) = 0.101 mW/g; SAR(10 g) = 0.062 mW/g
Maximum value of SAR (measured) = 0.132 mW/g



0 dB = 0.130mW/g

Date: 9/21/2011

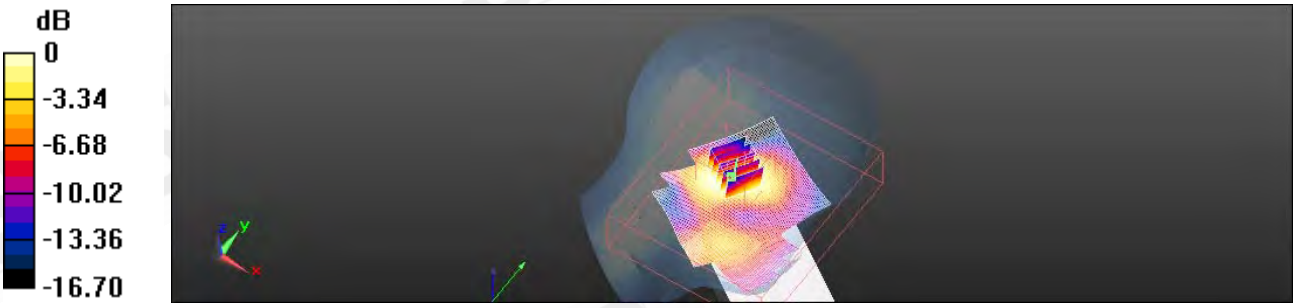
LE Tilt_CH661

Communication System: Generic GSM; Frequency: 1880 MHz
Medium parameters used: f = 1880 MHz; σ = 1.399 mho/m; ε_r = 39.248; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.78, 7.78, 7.78); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/LE Tilt/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.090 mW/g
Configuration/LE Tilt/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.760 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 0.102 W/kg

SAR(1 g) = 0.065 mW/g; SAR(10 g) = 0.040 mW/g
Maximum value of SAR (measured) = 0.083 mW/g



0 dB = 0.080mW/g

Date: 9/21/2011

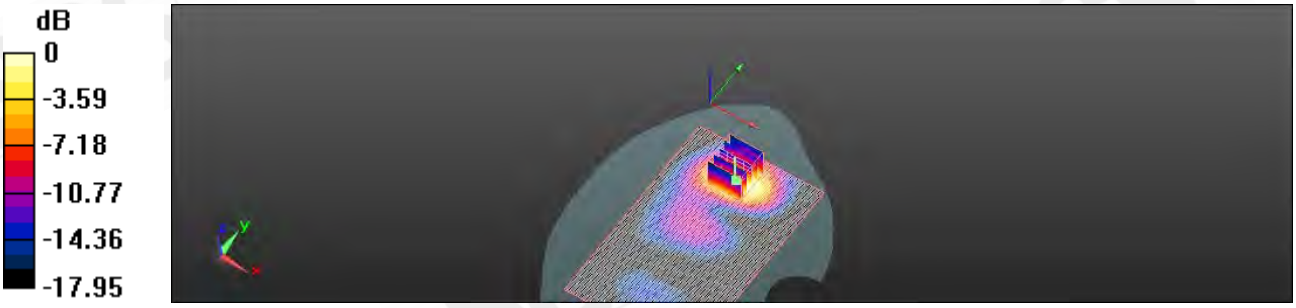
Body_CH512

Communication System: GPRS(Class 10); Frequency: 1850.2 MHz
Medium parameters used: f = 1850.2 MHz; σ = 1.466 mho/m; ε_r = 51.681; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.51, 7.51, 7.51); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.766 mW/g

Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.341 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 2.140 W/kg
SAR(1 g) = 1.25 mW/g; SAR(10 g) = 0.695 mW/g
Maximum value of SAR (measured) = 1.626 mW/g



0 dB = 1.630mW/g

Date: 9/21/2011

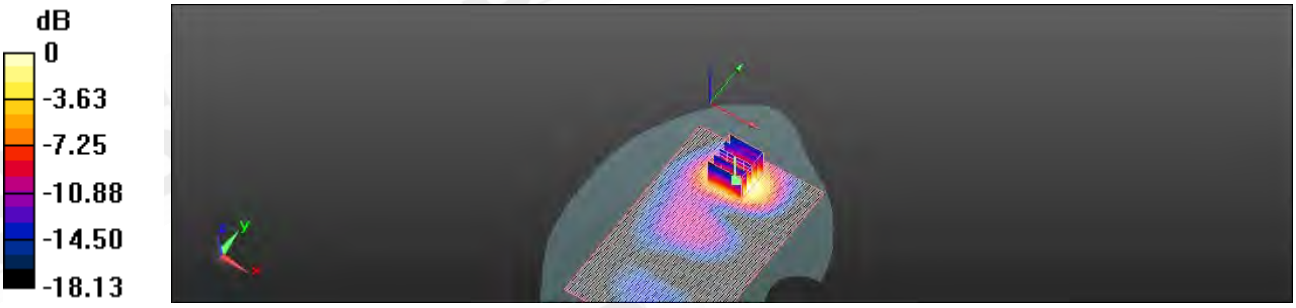
Body_CH661

Communication System: GPRS(Class 10); Frequency: 1880 MHz
Medium parameters used: f = 1880 MHz; σ = 1.499 mho/m; ε_r = 51.608; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.51, 7.51, 7.51); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.992 mW/g
Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.172 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 2.384 W/kg

SAR(1 g) = 1.35 mW/g; SAR(10 g) = 0.745 mW/g
Maximum value of SAR (measured) = 1.813 mW/g



0 dB = 1.810mW/g

Date: 9/21/2011

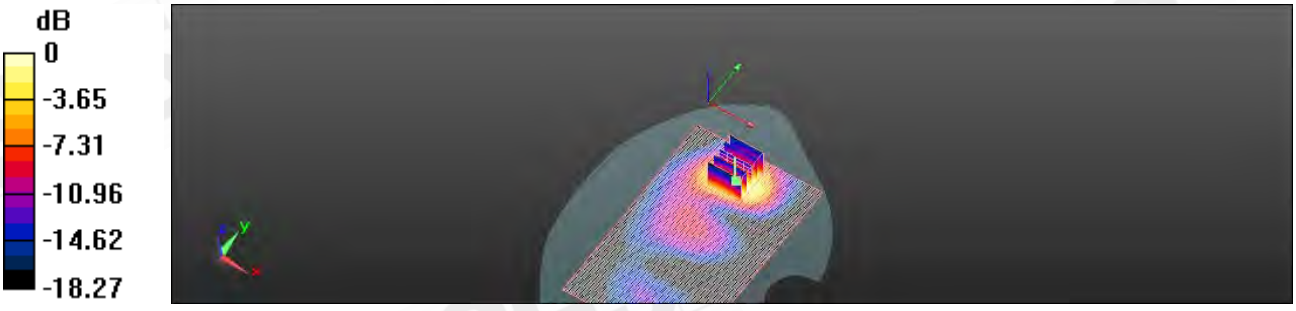
Body_CH810

Communication System: GPRS(Class 10); Frequency: 1909.8 MHz
Medium parameters used: f = 1910 MHz; σ = 1.536 mho/m; ε_r = 51.511; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.51, 7.51, 7.51); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.854 mW/g
Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.711 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 2.312 W/kg

SAR(1 g) = 1.24 mW/g; SAR(10 g) = 0.671 mW/g
Maximum value of SAR (measured) = 1.788 mW/g



0 dB = 1.790mW/g

Date: 9/21/2011

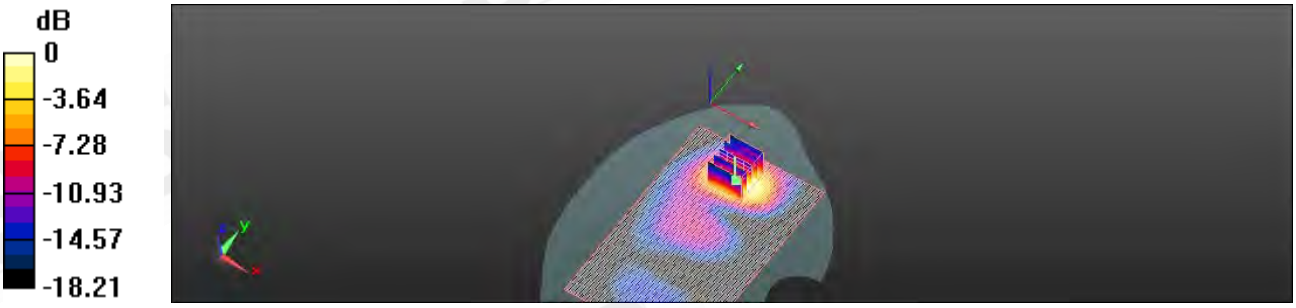
Body_CH661_repeated with Class 8

Communication System: GPRS(Class 8); Frequency: 1880 MHz
Medium parameters used: f = 1880 MHz; σ = 1.499 mho/m; ε_r = 51.608; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.51, 7.51, 7.51); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.016 mW/g
Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.831 V/m; Power Drift = 0.0036 dB
Peak SAR (extrapolated) = 1.223 W/kg

SAR(1 g) = 0.713 mW/g; SAR(10 g) = 0.388 mW/g
Maximum value of SAR (measured) = 0.931 mW/g



0 dB = 0.930mW/g

Date: 9/26/2011

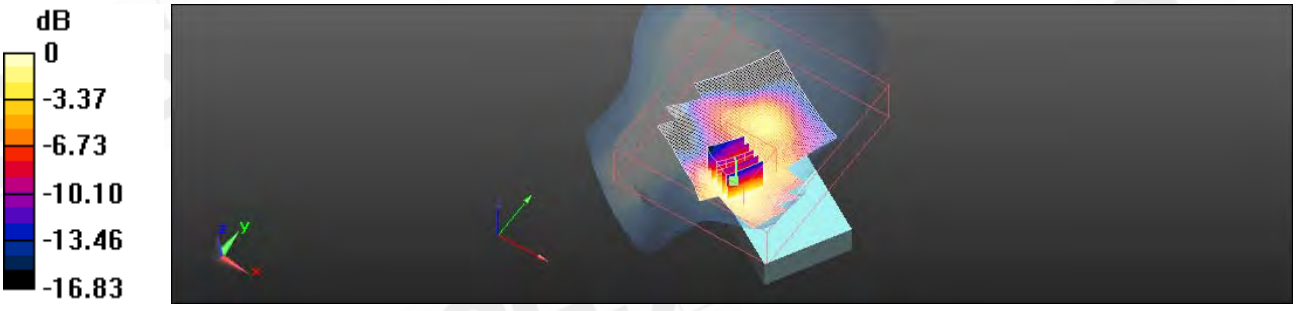
LE Cheek_CH661

Communication System: Generic GSM; Frequency: 1880 MHz
Medium parameters used: f = 1880 MHz; σ = 1.385 mho/m; ε_r = 40.313; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.78, 7.78, 7.78); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/LE Cheek/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.115 mW/g

Configuration/LE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.002 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 0.136 W/kg
SAR(1 g) = 0.088 mW/g; SAR(10 g) = 0.055 mW/g
Maximum value of SAR (measured) = 0.114 mW/g



0 dB = 0.110mW/g

Date: 9/26/2011

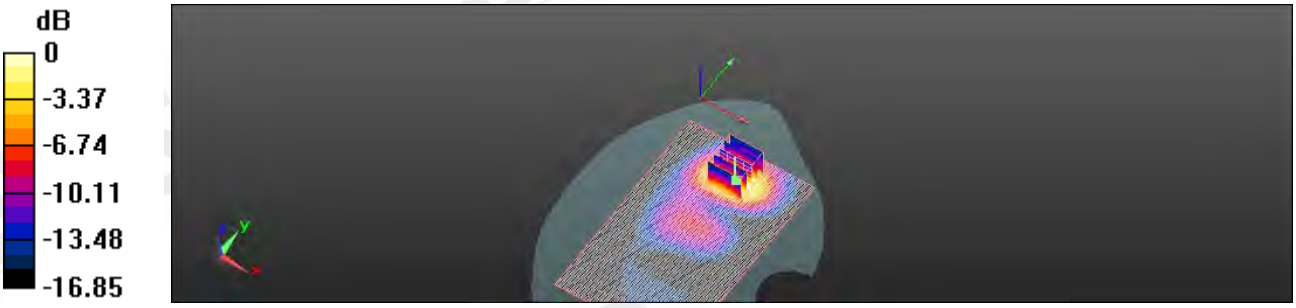
Body_CH661

Communication System: GPRS(Class 10); Frequency: 1880 MHz
Medium parameters used: f = 1880 MHz; σ = 1.555 mho/m; ε_r = 49.874; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.51, 7.51, 7.51); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.732 mW/g

Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.123 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 2.092 W/kg
SAR(1 g) = 1.27 mW/g; SAR(10 g) = 0.710 mW/g
Maximum value of SAR (measured) = 1.618 mW/g



0 dB = 1.620mW/g

Date: 9/26/2011

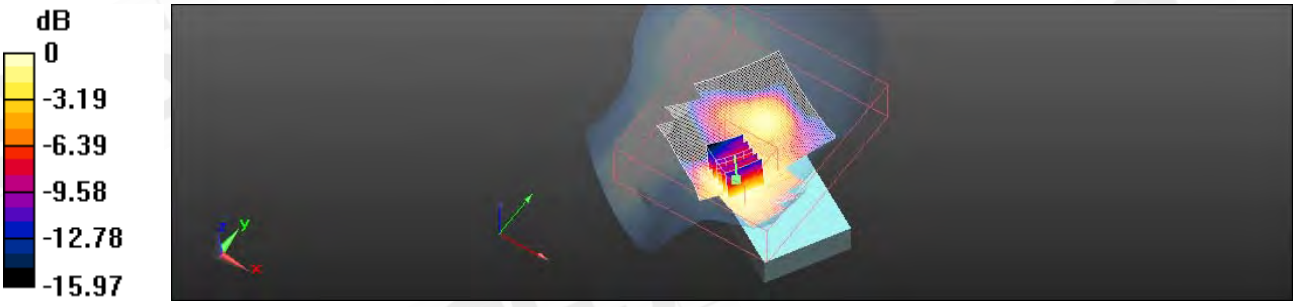
LE Cheek_CH661

Communication System: Generic GSM; Frequency: 1880 MHz
Medium parameters used: f = 1880 MHz; σ = 1.385 mho/m; ε_r = 40.313; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.78, 7.78, 7.78); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/LE Cheek/Area Scan (81x131x1): Measurement grid:
dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.083 mW/g

Configuration/LE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.852 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 0.096 W/kg
SAR(1 g) = 0.064 mW/g; SAR(10 g) = 0.041 mW/g
Maximum value of SAR (measured) = 0.081 mW/g



0 dB = 0.080mW/g

Date: 9/26/2011

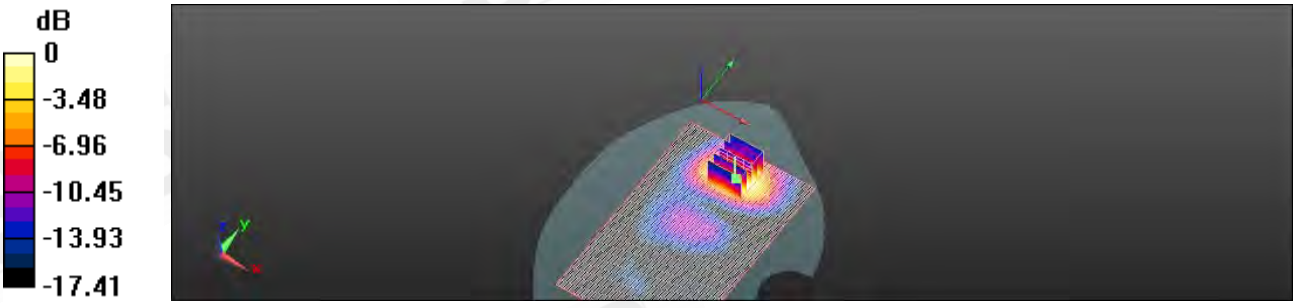
Body_CH661

Communication System: GPRS(Class 10); Frequency: 1880 MHz
Medium parameters used: f = 1880 MHz; σ = 1.555 mho/m; ε_r = 49.874; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.51, 7.51, 7.51); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.661 mW/g
Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.746 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 1.854 W/kg

SAR(1 g) = 1.14 mW/g; SAR(10 g) = 0.642 mW/g
Maximum value of SAR (measured) = 1.501 mW/g



0 dB = 1.500mW/g

Date: 9/26/2011

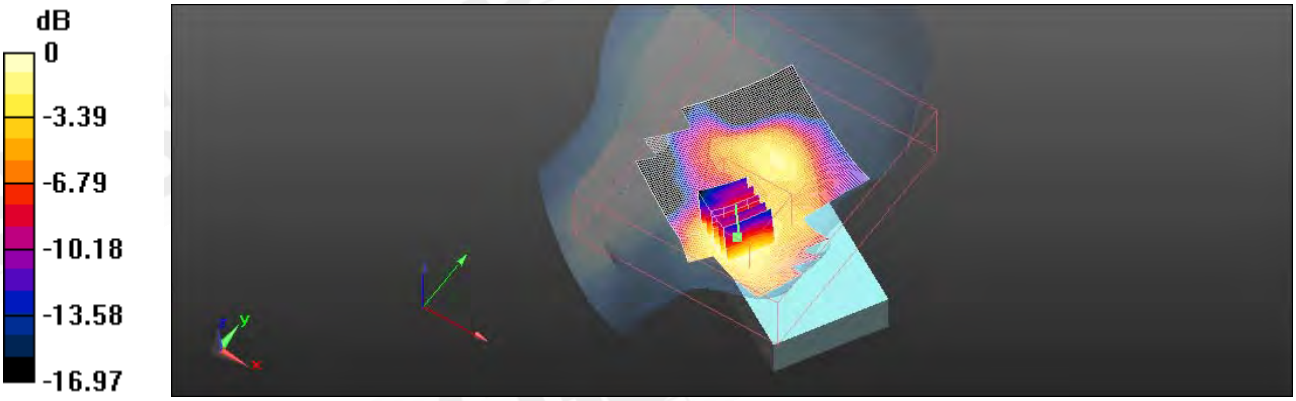
LE Cheek_CH661

Communication System: Generic GSM; Frequency: 1880 MHz
Medium parameters used: f = 1880 MHz; σ = 1.385 mho/m; ε_r = 40.313; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.78, 7.78, 7.78); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/LE Cheek/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.095 mW/g

Configuration/LE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.118 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 0.109 W/kg
SAR(1 g) = 0.071 mW/g; SAR(10 g) = 0.044 mW/g
Maximum value of SAR (measured) = 0.090 mW/g



0 dB = 0.090mW/g

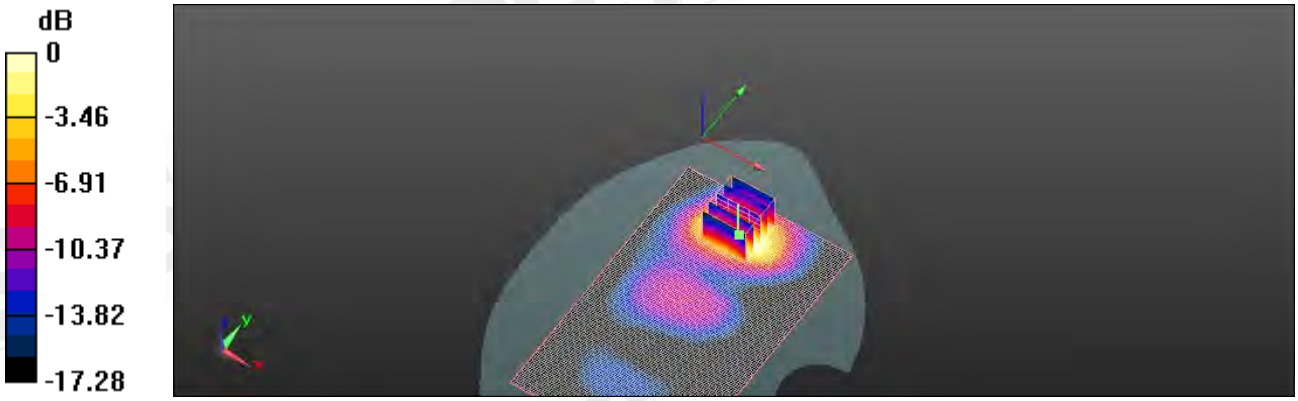
Date: 9/26/2011

Body_CH661

Communication System: GPRS(Class 10); Frequency: 1880 MHz
Medium parameters used: f = 1880 MHz; σ = 1.555 mho/m; ε_r = 49.874; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.51, 7.51, 7.51); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.963 mW/g
Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.130 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 2.327 W/kg
SAR(1 g) = 1.33 mW/g; SAR(10 g) = 0.737 mW/g
Maximum value of SAR (measured) = 1.728 mW/g



0 dB = 1.730mW/g

Date: 9/21/2011

RE Cheek_CH9400

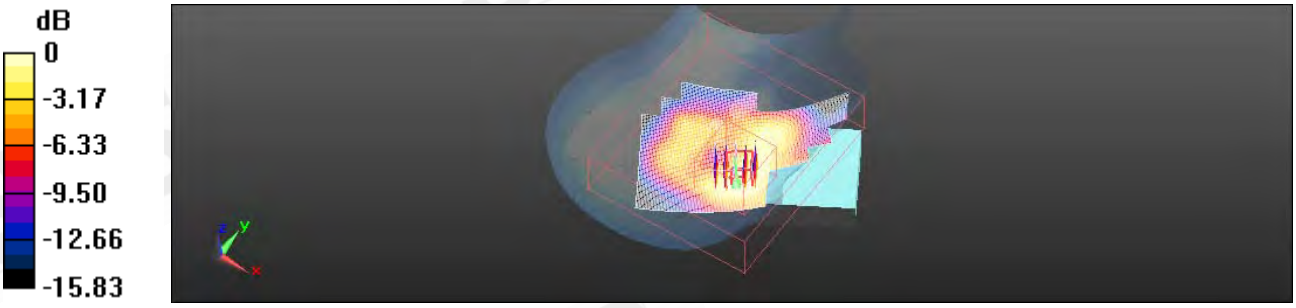
Communication System: WCDMA; Frequency: 1880 MHz
Medium parameters used: f = 1880 MHz; σ = 1.399 mho/m; ε_r = 39.248; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.78, 7.78, 7.78); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/RE Cheek/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.186 mW/g

Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.309 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 0.219 W/kg

SAR(1 g) = 0.138 mW/g; SAR(10 g) = 0.086 mW/g
Maximum value of SAR (measured) = 0.177 mW/g



0 dB = 0.180mW/g

Date: 9/21/2011

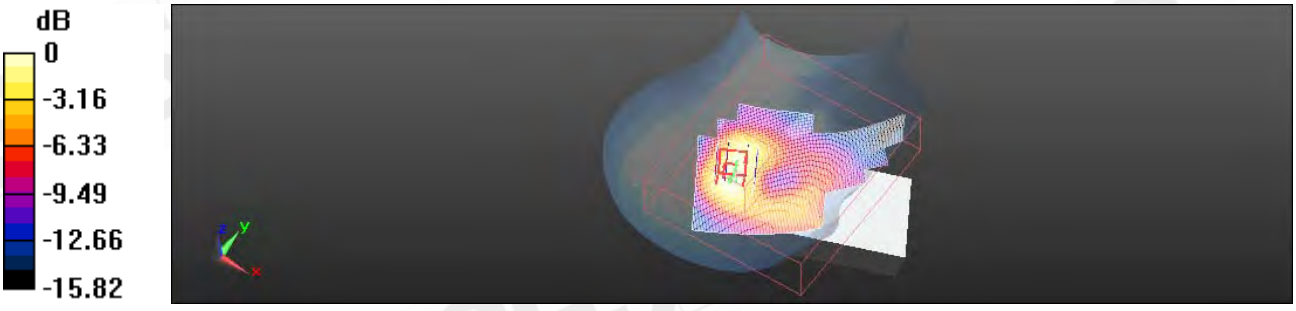
RE Tilt_CH9400

Communication System: WCDMA; Frequency: 1880 MHz
Medium parameters used: f = 1880 MHz; σ = 1.399 mho/m; ε_r = 39.248; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.78, 7.78, 7.78); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/RE Tilt/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.170 mW/g
Configuration/RE Tilt/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.912 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.203 W/kg

SAR(1 g) = 0.128 mW/g; SAR(10 g) = 0.076 mW/g
Maximum value of SAR (measured) = 0.161 mW/g



0 dB = 0.160mW/g

Date: 9/21/2011

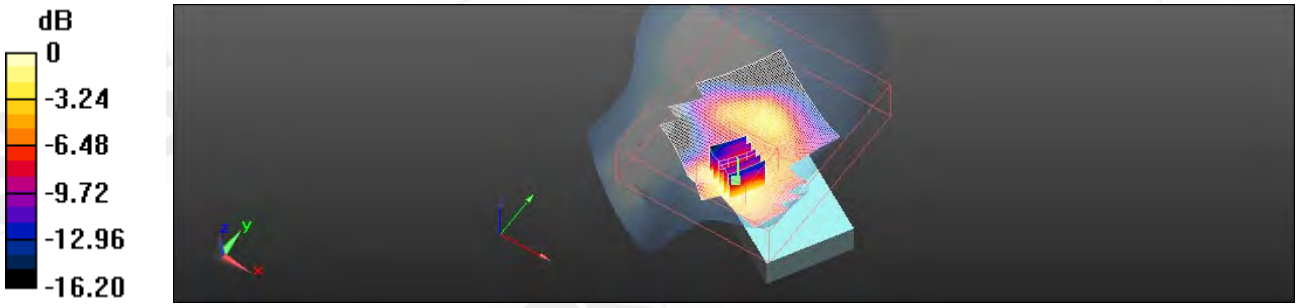
LE Cheek_CH9262

Communication System: WCDMA; Frequency: 1852.4 MHz
Medium parameters used: f = 1852.4 MHz; σ = 1.373 mho/m; ε_r = 39.359; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.78, 7.78, 7.78); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/LE Cheek/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.259 mW/g

Configuration/LE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.713 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.303 W/kg
SAR(1 g) = 0.196 mW/g; SAR(10 g) = 0.122 mW/g
Maximum value of SAR (measured) = 0.255 mW/g



0 dB = 0.260mW/g

Date: 9/21/2011

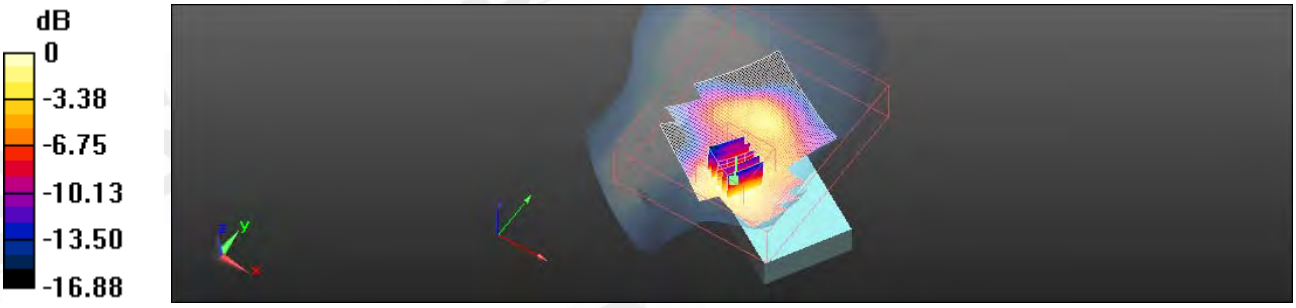
LE Cheek_CH9400

Communication System: WCDMA; Frequency: 1880 MHz
Medium parameters used: f = 1880 MHz; σ = 1.399 mho/m; ε_r = 39.248; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.78, 7.78, 7.78); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/LE Cheek/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.262 mW/g

Configuration/LE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.549 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 0.298 W/kg
SAR(1 g) = 0.192 mW/g; SAR(10 g) = 0.119 mW/g
Maximum value of SAR (measured) = 0.251 mW/g



0 dB = 0.250mW/g

Date: 9/21/2011

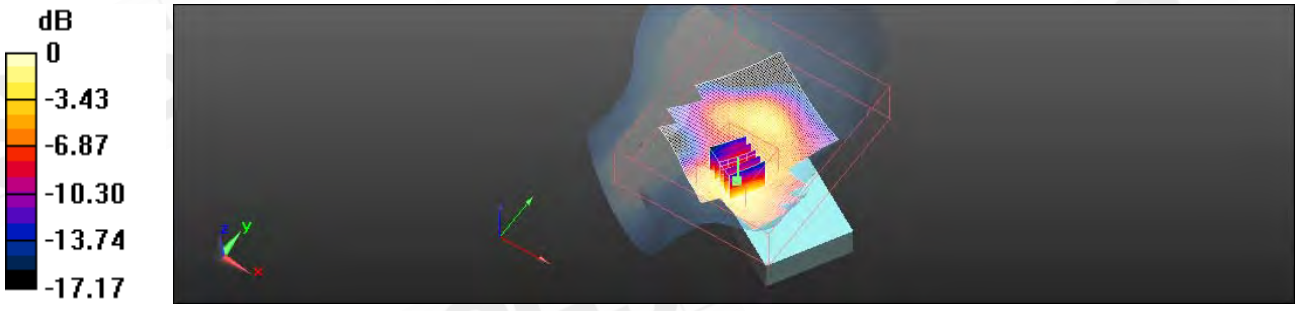
LE Cheek_CH9538

Communication System: WCDMA; Frequency: 1907.6 MHz
Medium parameters used: f = 1908 MHz; σ = 1.427 mho/m; ε_r = 39.21; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.78, 7.78, 7.78); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/LE Cheek/Area Scan (81x131x1): Measurement grid:
dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.276 mW/g

Configuration/LE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.788 V/m; Power Drift = -0.007 dB
Peak SAR (extrapolated) = 0.322 W/kg
SAR(1 g) = 0.207 mW/g; SAR(10 g) = 0.128 mW/g
Maximum value of SAR (measured) = 0.268 mW/g



0 dB = 0.270mW/g

Date: 9/21/2011

LE Tilt_CH9400

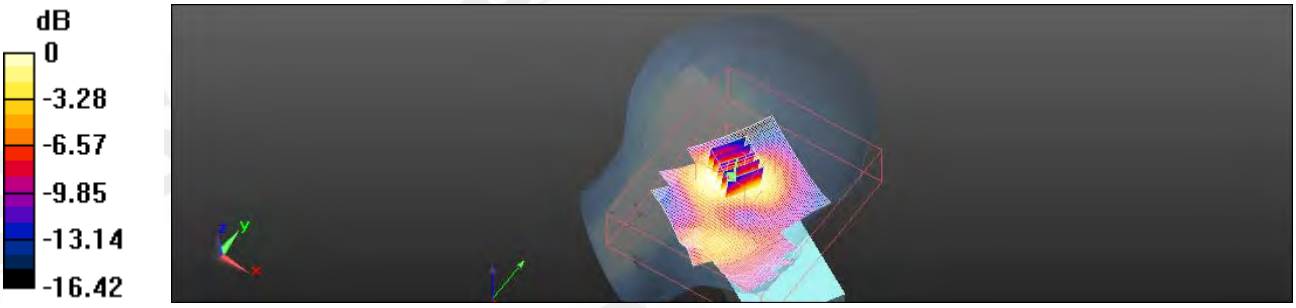
Communication System: WCDMA; Frequency: 1880 MHz
Medium parameters used: f = 1880 MHz; σ = 1.399 mho/m; ε_r = 39.248; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.78, 7.78, 7.78); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/LE Cheek/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.177 mW/g

Configuration/LE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.792 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 0.190 W/kg

SAR(1 g) = 0.121 mW/g; SAR(10 g) = 0.075 mW/g
Maximum value of SAR (measured) = 0.154 mW/g



0 dB = 0.150mW/g

Date: 9/21/2011

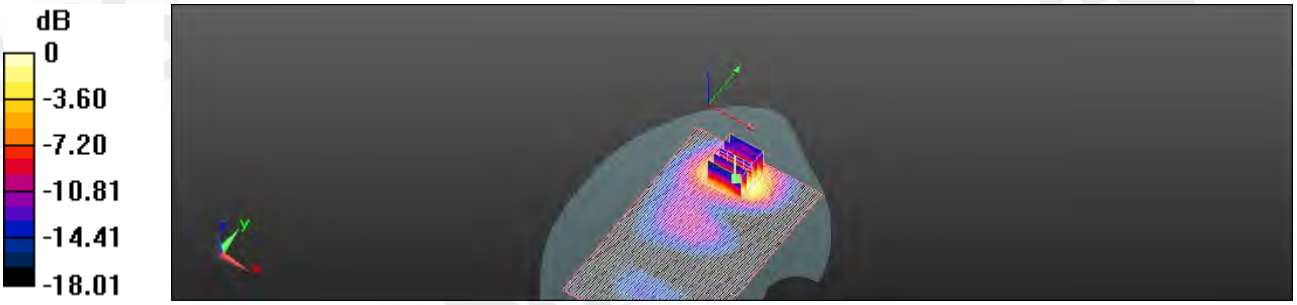
Body_CH9262

Communication System: WCDMA; Frequency: 1852.4 MHz
Medium parameters used: f = 1852.4 MHz; σ = 1.468 mho/m; ε_r = 51.678; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

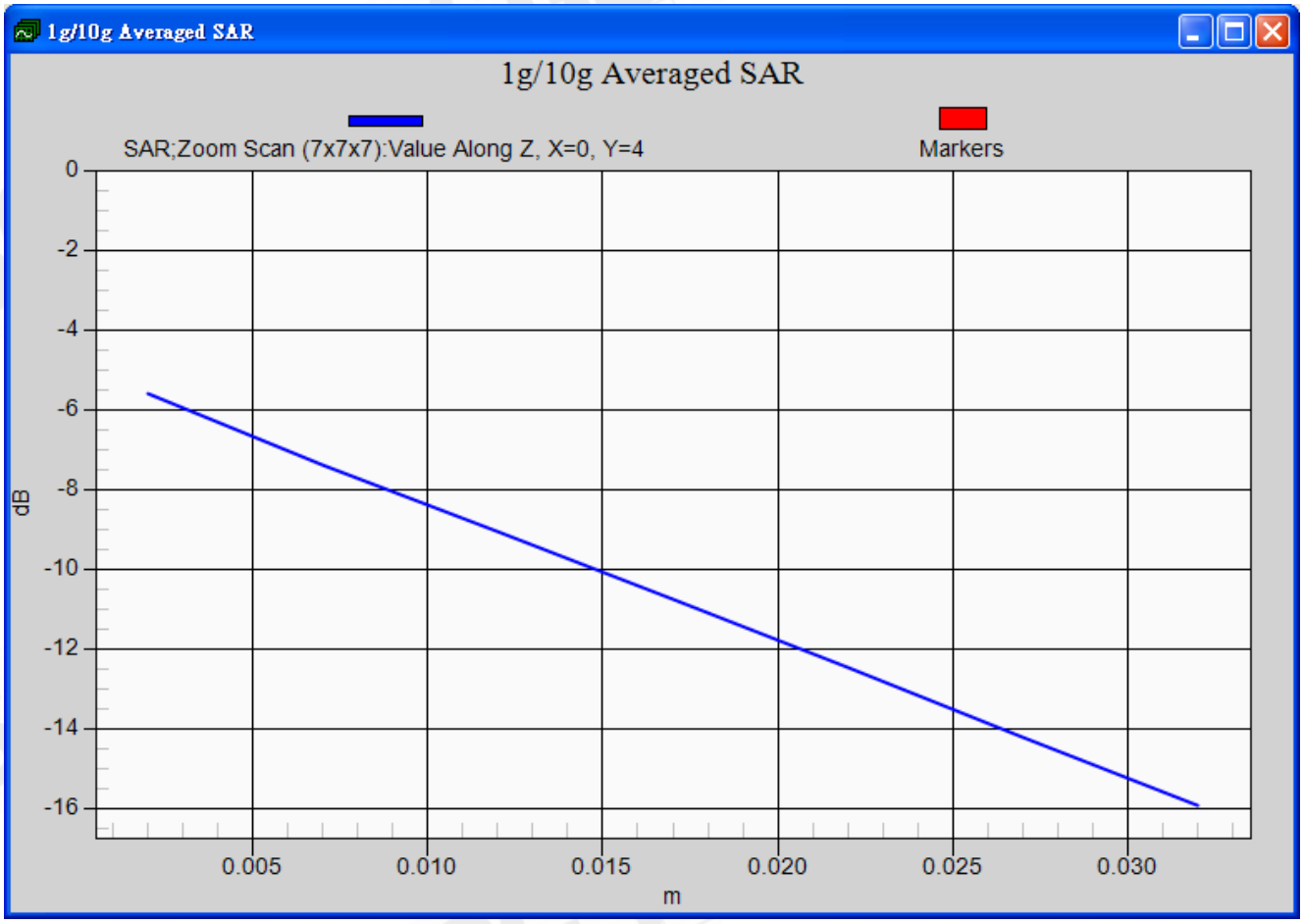
- Probe: EX3DV4 - SN3770; ConvF(7.51, 7.51, 7.51); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.012 mW/g

Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.082 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 2.324 W/kg
SAR(1 g) = 1.37 mW/g; SAR(10 g) = 0.757 mW/g
Maximum value of SAR (measured) = 1.835 mW/g



0 dB = 1.830mW/g



Date: 9/21/2011

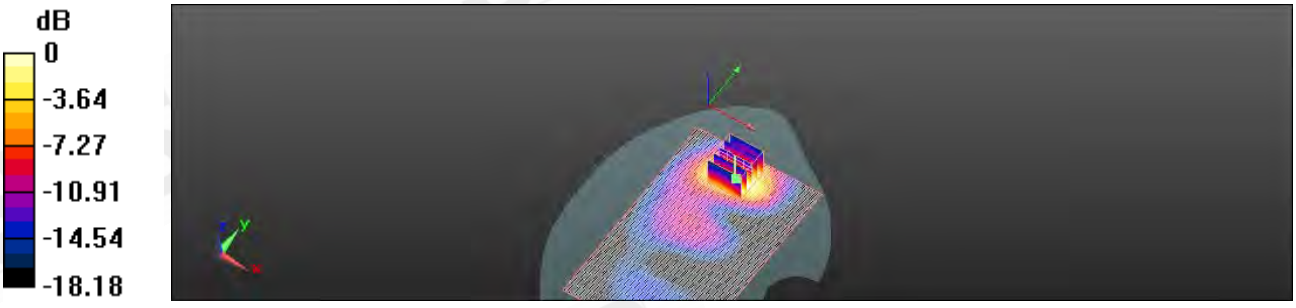
Body_CH9400

Communication System: WCDMA; Frequency: 1880 MHz
Medium parameters used: f = 1880 MHz; σ = 1.499 mho/m; ε_r = 51.608; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.51, 7.51, 7.51); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.699 mW/g
Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.283 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 1.927 W/kg

SAR(1 g) = 1.13 mW/g; SAR(10 g) = 0.626 mW/g
Maximum value of SAR (measured) = 1.522 mW/g



0 dB = 1.520mW/g

Date: 9/21/2011

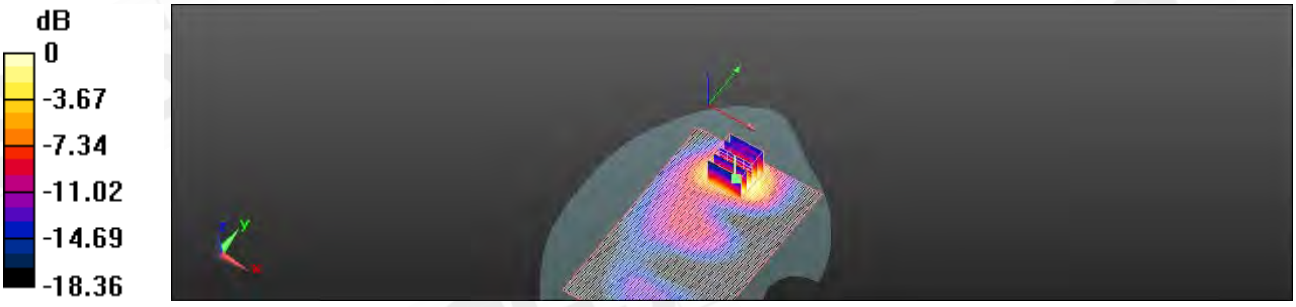
Body_CH9538

Communication System: WCDMA; Frequency: 1907.6 MHz
Medium parameters used: f = 1908 MHz; σ = 1.533 mho/m; ε_r = 51.517; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.51, 7.51, 7.51); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.709 mW/g
Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.171 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 1.934 W/kg

SAR(1 g) = 1.13 mW/g; SAR(10 g) = 0.623 mW/g
Maximum value of SAR (measured) = 1.527 mW/g



0 dB = 1.530mW/g

Date: 9/21/2011

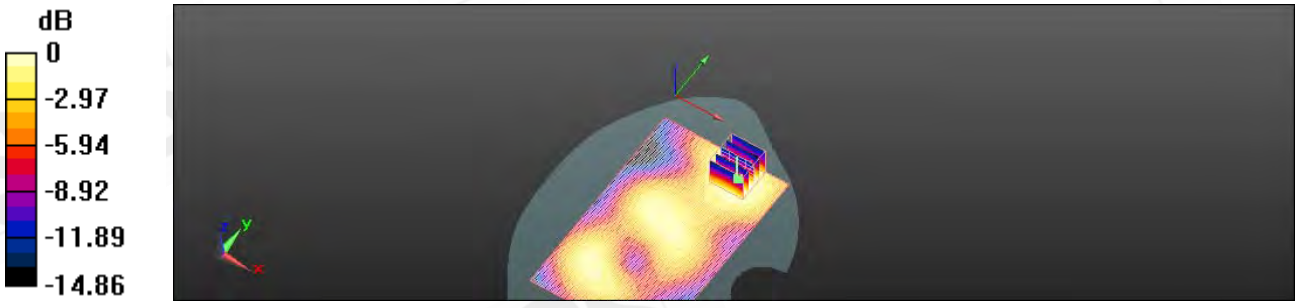
Body_CH9262_repeated for EUT front to phantom

Communication System: WCDMA; Frequency: 1852.4 MHz
Medium parameters used: f = 1852.4 MHz; σ = 1.468 mho/m; ε_r = 51.678; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.51, 7.51, 7.51); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.120 mW/g
Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.628 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 0.144 W/kg

SAR(1 g) = 0.092 mW/g; SAR(10 g) = 0.058 mW/g
Maximum value of SAR (measured) = 0.118 mW/g



0 dB = 0.120mW/g

Date: 9/21/2011

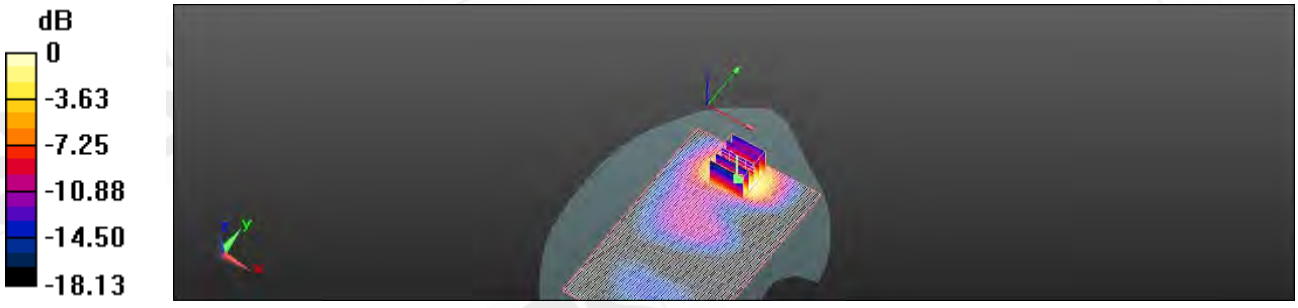
Body_CH9262_repeated with Memory card

Communication System: WCDMA; Frequency: 1852.4 MHz
Medium parameters used: f = 1852.4 MHz; σ = 1.468 mho/m; ε_r = 51.678; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.51, 7.51, 7.51); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.862 mW/g
Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.377 V/m; Power Drift = -0.0065 dB
Peak SAR (extrapolated) = 2.021 W/kg

SAR(1 g) = 1.21 mW/g; SAR(10 g) = 0.681 mW/g
Maximum value of SAR (measured) = 1.629 mW/g



0 dB = 1.630mW/g

Date: 9/21/2011

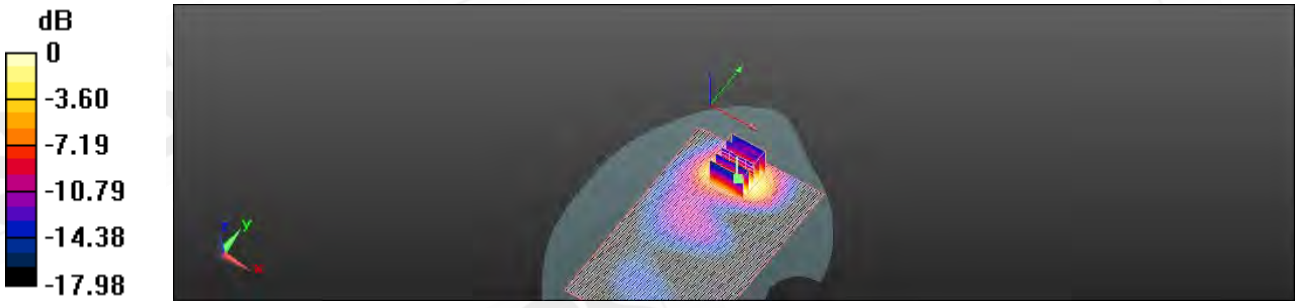
Body_CH9262_repeated with headset

Communication System: WCDMA; Frequency: 1852.4 MHz
Medium parameters used: f = 1852.4 MHz; σ = 1.468 mho/m; ε_r = 51.678; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.51, 7.51, 7.51); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.942 mW/g
Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.613 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 2.204 W/kg

SAR(1 g) = 1.31 mW/g; SAR(10 g) = 0.723 mW/g
Maximum value of SAR (measured) = 1.743 mW/g



0 dB = 1.740mW/g

Date: 9/26/2011

LE Cheek_CH9538

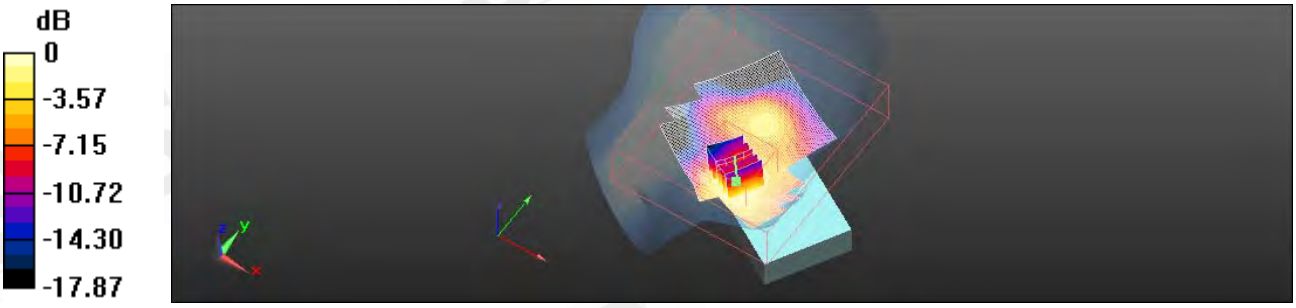
Communication System: WCDMA; Frequency: 1907.6 MHz
Medium parameters used: f = 1908 MHz; σ = 1.412 mho/m; ε_r = 40.143; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.78, 7.78, 7.78); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/LE Cheek/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.224 mW/g

Configuration/LE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.724 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.261 W/kg

SAR(1 g) = 0.170 mW/g; SAR(10 g) = 0.106 mW/g
Maximum value of SAR (measured) = 0.218 mW/g



0 dB = 0.220mW/g

Date: 9/26/2011

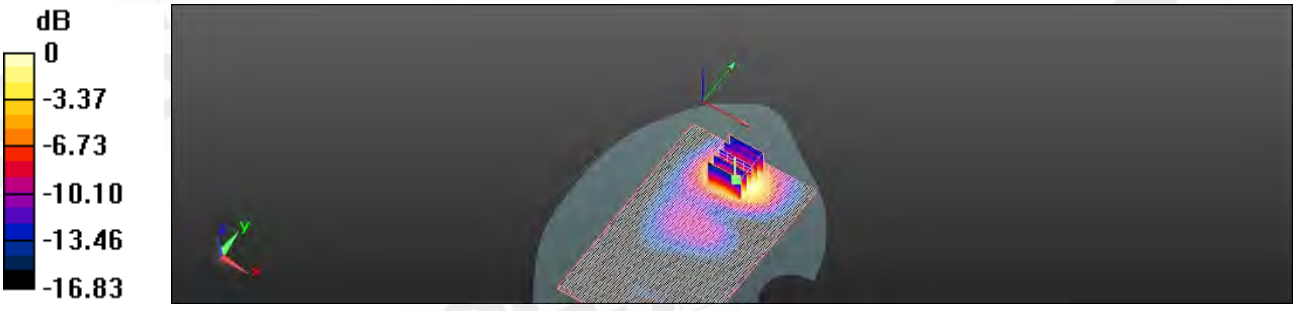
Body_CH9262

Communication System: WCDMA; Frequency: 1852.4 MHz
Medium parameters used: f = 1852.4 MHz; σ = 1.518 mho/m; ε_r = 49.929; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.51, 7.51, 7.51); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.322 mW/g
Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.679 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 1.570 W/kg

SAR(1 g) = 0.965 mW/g; SAR(10 g) = 0.552 mW/g
Maximum value of SAR (measured) = 1.268 mW/g



0 dB = 1.270mW/g

Date: 9/26/2011

LE Cheek_CH9538

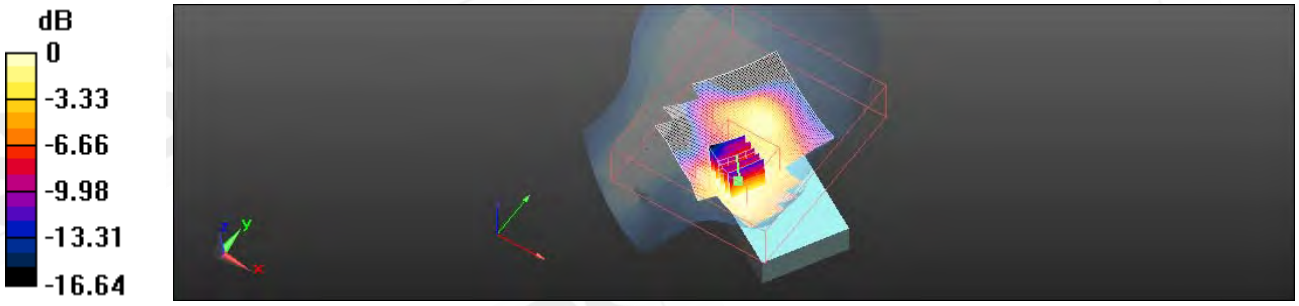
Communication System: WCDMA; Frequency: 1907.6 MHz
Medium parameters used: f = 1908 MHz; σ = 1.412 mho/m; ε_r = 40.143; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.78, 7.78, 7.78); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/LE Cheek/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.163 mW/g

Configuration/LE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.621 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 0.186 W/kg

SAR(1 g) = 0.128 mW/g; SAR(10 g) = 0.083 mW/g
Maximum value of SAR (measured) = 0.159 mW/g



0 dB = 0.160mW/g

Date: 9/26/2011

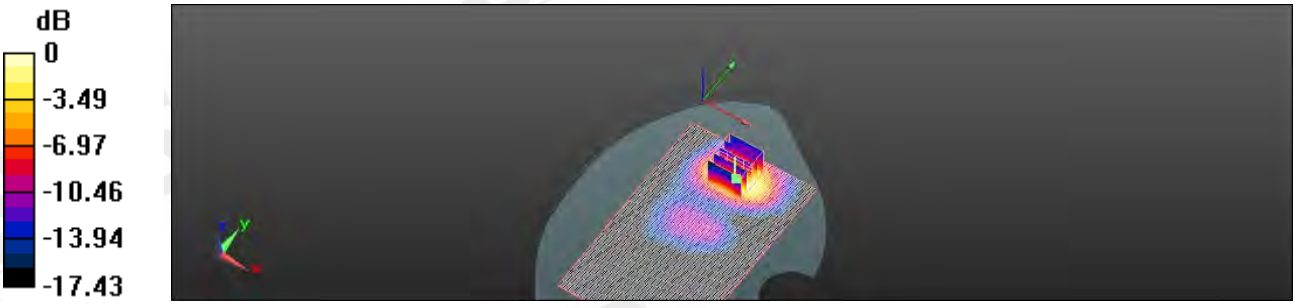
Body_CH9262

Communication System: WCDMA; Frequency: 1852.4 MHz
Medium parameters used: f = 1852.4 MHz; σ = 1.518 mho/m; ε_r = 49.929; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.51, 7.51, 7.51); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.773 mW/g
Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.754 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 2.028 W/kg

SAR(1 g) = 1.23 mW/g; SAR(10 g) = 0.694 mW/g
Maximum value of SAR (measured) = 1.622 mW/g



0 dB = 1.620mW/g

Date: 9/26/2011

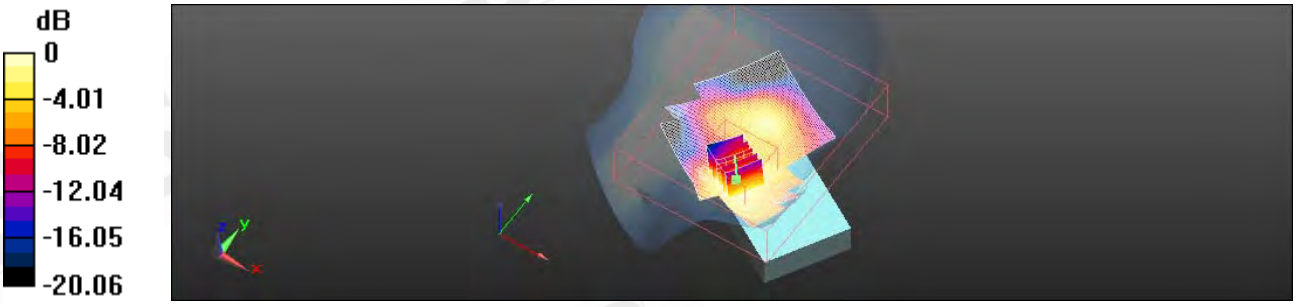
LE Cheek_CH9538

Communication System: WCDMA; Frequency: 1907.6 MHz
Medium parameters used: f = 1908 MHz; σ = 1.412 mho/m; ε_r = 40.143; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.78, 7.78, 7.78); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/LE Cheek/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.179 mW/g

Configuration/LE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.710 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.208 W/kg
SAR(1 g) = 0.136 mW/g; SAR(10 g) = 0.084 mW/g
Maximum value of SAR (measured) = 0.175 mW/g



0 dB = 0.180mW/g

Date: 9/26/2011

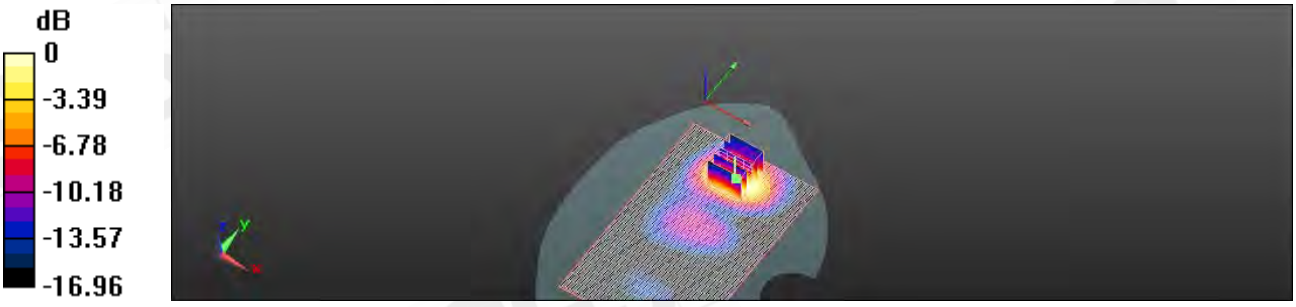
Body_CH9262

Communication System: WCDMA; Frequency: 1852.4 MHz
Medium parameters used: f = 1852.4 MHz; σ = 1.518 mho/m; ε_r = 49.929; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.51, 7.51, 7.51); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.701 mW/g
Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.680 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 2.036 W/kg

SAR(1 g) = 1.23 mW/g; SAR(10 g) = 0.685 mW/g
Maximum value of SAR (measured) = 1.567 mW/g



0 dB = 1.570mW/g

Date: 9/20/2011

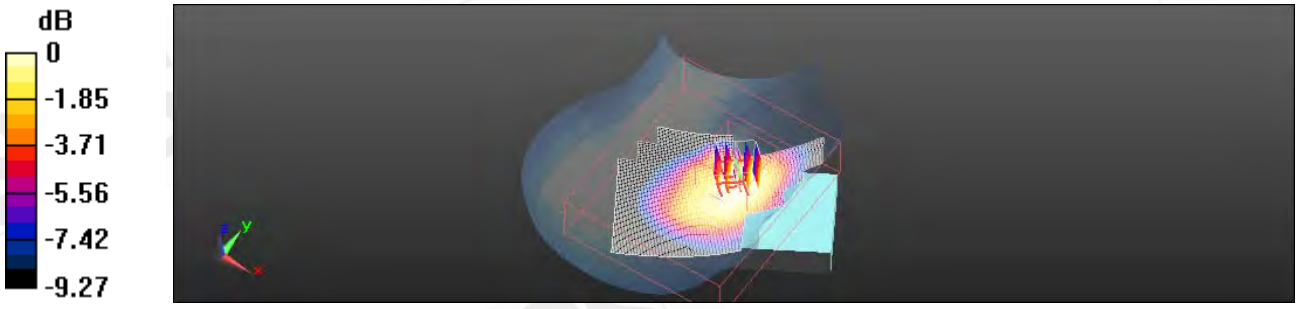
RE Cheek_CH4132

Communication System: WCDMA; Frequency: 826.4 MHz
Medium parameters used: f = 826.4 MHz; σ = 0.893 mho/m; ε_r = 42.249; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.25, 9.25, 9.25); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/RE Cheek/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.269 mW/g

Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.880 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 0.295 W/kg
SAR(1 g) = 0.234 mW/g; SAR(10 g) = 0.178 mW/g
Maximum value of SAR (measured) = 0.264 mW/g



0 dB = 0.260mW/g

Date: 9/20/2011

RE Cheek_CH4183

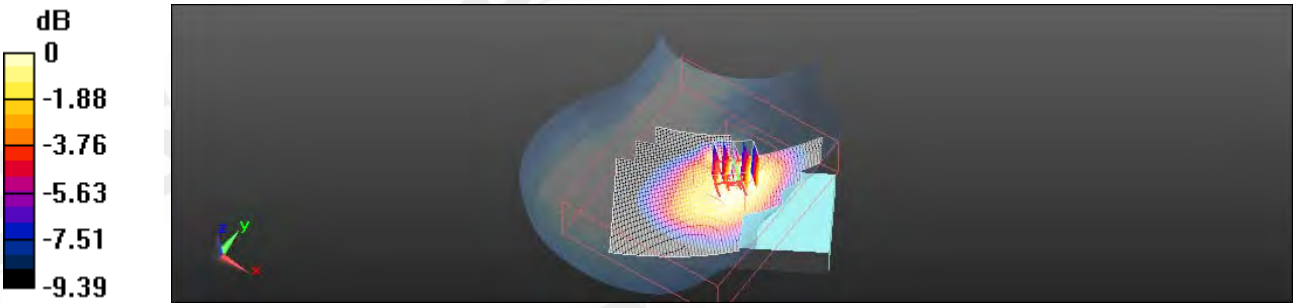
Communication System: WCDMA; Frequency: 836.6 MHz
Medium parameters used: f = 837 MHz; σ = 0.904 mho/m; ε_r = 42.113; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.25, 9.25, 9.25); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/RE Cheek/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.256 mW/g

Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.326 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.282 W/kg

SAR(1 g) = 0.219 mW/g; SAR(10 g) = 0.166 mW/g
Maximum value of SAR (measured) = 0.251 mW/g



0 dB = 0.250mW/g

Date: 9/20/2011

RE Cheek_CH4233

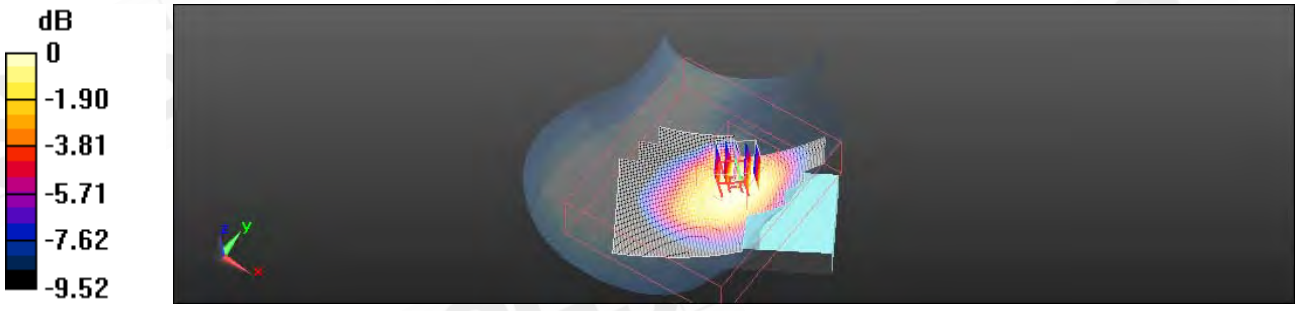
Communication System: WCDMA; Frequency: 846.6 MHz
Medium parameters used: f = 847 MHz; σ = 0.914 mho/m; ε_r = 41.972; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.25, 9.25, 9.25); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/RE Cheek/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.253 mW/g

Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.520 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 0.276 W/kg

SAR(1 g) = 0.218 mW/g; SAR(10 g) = 0.165 mW/g
Maximum value of SAR (measured) = 0.247 mW/g



0 dB = 0.250mW/g

Date: 9/20/2011

RE Cheek_CH4132_repeated with Memory card

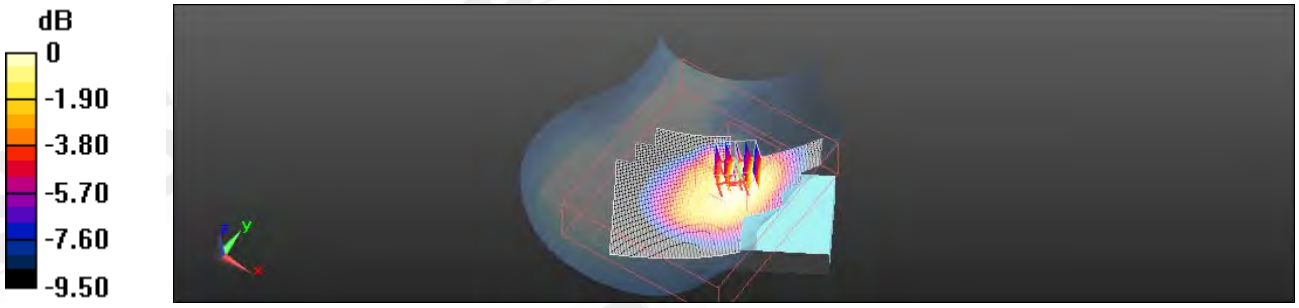
Communication System: WCDMA; Frequency: 826.4 MHz
Medium parameters used: f = 826.4 MHz; σ = 0.893 mho/m; ε_r = 42.249; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.25, 9.25, 9.25); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/RE Cheek/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.282 mW/g

Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.107 V/m; Power Drift = 0.20 dB
Peak SAR (extrapolated) = 0.303 W/kg

SAR(1 g) = 0.236 mW/g; SAR(10 g) = 0.179 mW/g
Maximum value of SAR (measured) = 0.268 mW/g



0 dB = 0.270mW/g

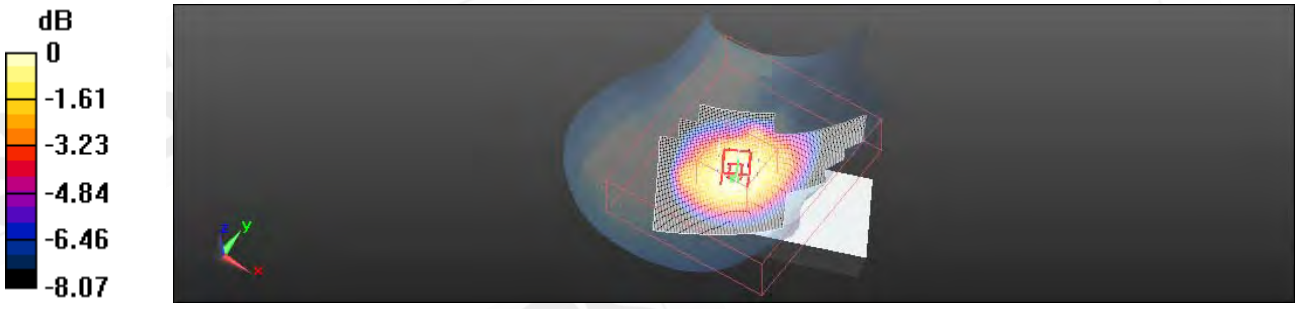
Date: 9/20/2011

RE Tilt_CH4183

Communication System: WCDMA; Frequency: 836.6 MHz
Medium parameters used: f = 837 MHz; σ = 0.904 mho/m; ε_r = 42.113; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.25, 9.25, 9.25); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/RE Tilt/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.152 mW/g
Configuration/RE Tilt/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.581 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.165 W/kg
SAR(1 g) = 0.130 mW/g; SAR(10 g) = 0.099 mW/g
Maximum value of SAR (measured) = 0.150 mW/g



0 dB = 0.150mW/g

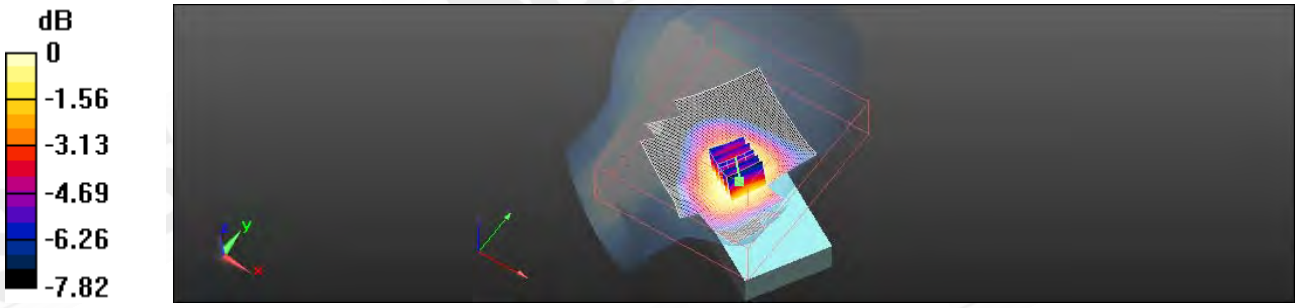
Date: 9/20/2011

LE Cheek_CH4183

Communication System: WCDMA; Frequency: 836.6 MHz
Medium parameters used: f = 837 MHz; σ = 0.904 mho/m; ε_r = 42.113; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.25, 9.25, 9.25); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/LE Cheek/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.220 mW/g
Configuration/LE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.799 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 0.234 W/kg
SAR(1 g) = 0.193 mW/g; SAR(10 g) = 0.151 mW/g
Maximum value of SAR (measured) = 0.218 mW/g



0 dB = 0.220mW/g

Date: 9/20/2011

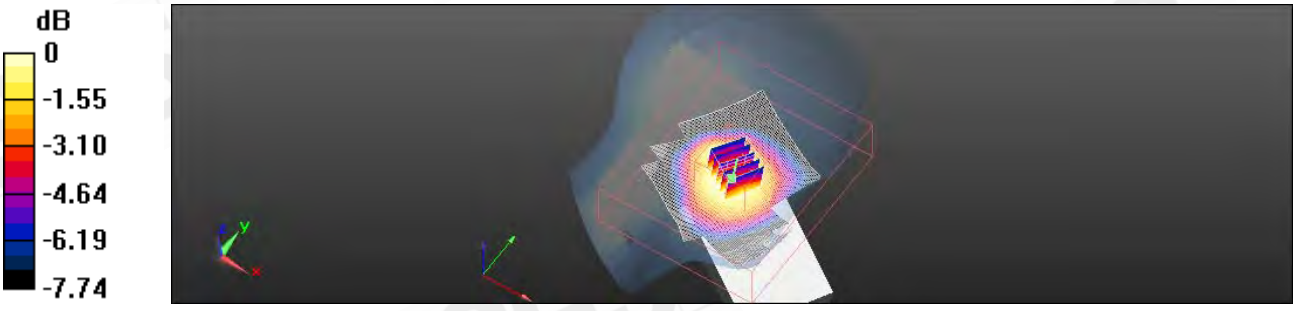
LE Tilt_CH4183

Communication System: WCDMA; Frequency: 836.6 MHz
Medium parameters used: f = 837 MHz; σ = 0.904 mho/m; ε_r = 42.113; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.25, 9.25, 9.25); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/LE Tilt/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.142 mW/g
Configuration/LE Tilt/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.977 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.155 W/kg

SAR(1 g) = 0.124 mW/g; SAR(10 g) = 0.095 mW/g
Maximum value of SAR (measured) = 0.142 mW/g



0 dB = 0.140mW/g

Date: 9/20/2011

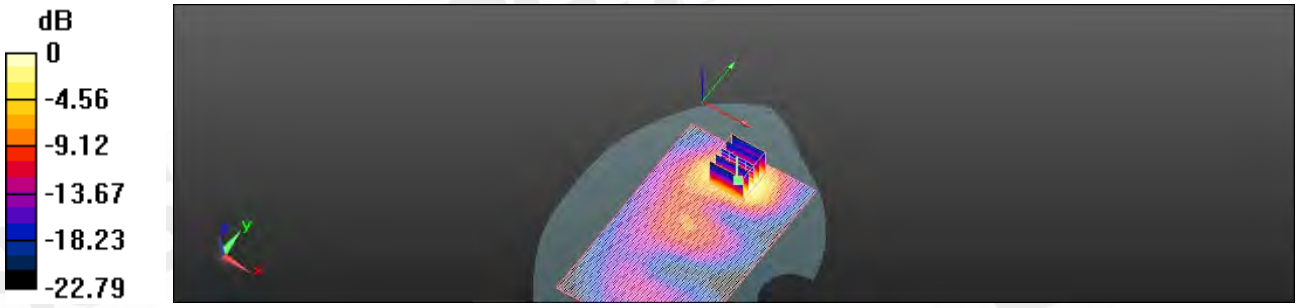
Body_CH4183

Communication System: WCDMA; Frequency: 836.6 MHz
Medium parameters used: f = 837 MHz; σ = 1.011 mho/m; ε_r = 53.164; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.3, 9.3, 9.3); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.899 mW/g
Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.820 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 1.159 W/kg

SAR(1 g) = 0.574 mW/g; SAR(10 g) = 0.284 mW/g
Maximum value of SAR (measured) = 0.836 mW/g



0 dB = 0.840mW/g

Date: 9/25/2011

RE Cheek_CH4132_repeated with Memory card

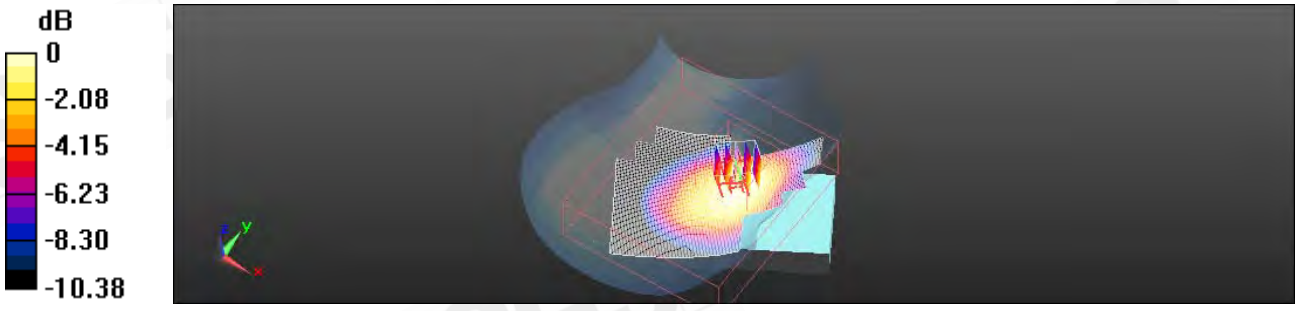
Communication System: WCDMA; Frequency: 826.4 MHz
Medium parameters used: f = 826.4 MHz; σ = 0.877 mho/m; ε_r = 40.73; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.25, 9.25, 9.25); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/RE Cheek/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.325 mW/g

Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.066 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.360 W/kg

SAR(1 g) = 0.277 mW/g; SAR(10 g) = 0.209 mW/g
Maximum value of SAR (measured) = 0.317 mW/g



0 dB = 0.320mW/g

Date: 9/25/2011

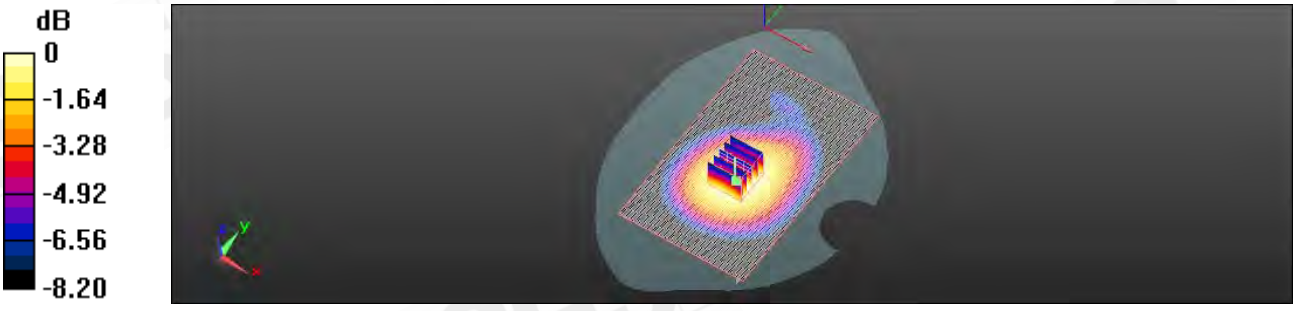
Body_CH4183

Communication System: WCDMA; Frequency: 836.6 MHz
Medium parameters used: f = 837 MHz; σ = 0.984 mho/m; ε_r = 52.353; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.3, 9.3, 9.3); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.397 mW/g
Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19.749 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.441 W/kg

SAR(1 g) = 0.343 mW/g; SAR(10 g) = 0.258 mW/g
Maximum value of SAR (measured) = 0.398 mW/g



0 dB = 0.400mW/g

Date: 9/25/2011

RE Cheek_CH4132_repeated with Memory card

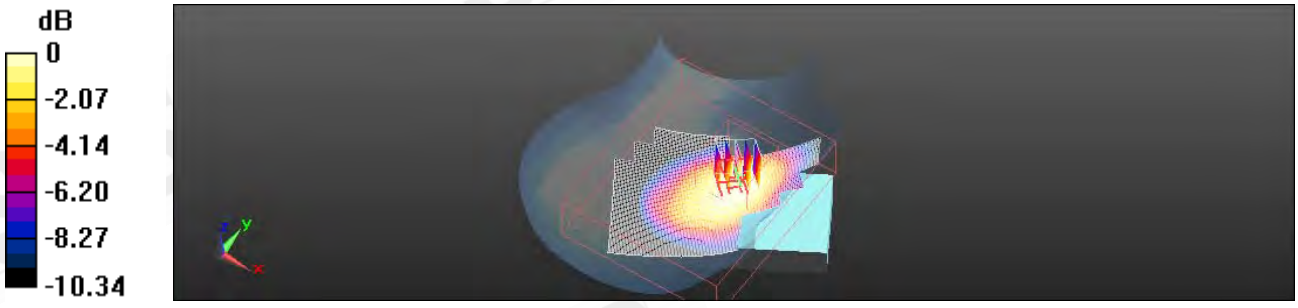
Communication System: WCDMA; Frequency: 826.4 MHz
Medium parameters used: f = 826.4 MHz; σ = 0.877 mho/m; ε_r = 40.73; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.25, 9.25, 9.25); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/RE Cheek/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.321 mW/g

Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.063 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 0.343 W/kg

SAR(1 g) = 0.267 mW/g; SAR(10 g) = 0.200 mW/g
Maximum value of SAR (measured) = 0.301 mW/g



0 dB = 0.300mW/g

Date: 9/25/2011

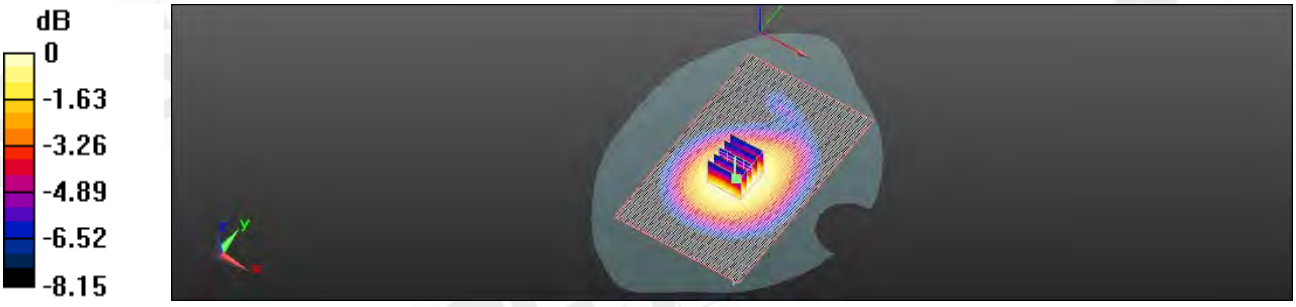
Body_CH4183

Communication System: WCDMA; Frequency: 836.6 MHz
Medium parameters used: f = 837 MHz; σ = 0.984 mho/m; ε_r = 52.353; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.3, 9.3, 9.3); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.382 mW/g

Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19.845 V/m; Power Drift = -0.004 dB
Peak SAR (extrapolated) = 0.421 W/kg
SAR(1 g) = 0.330 mW/g; SAR(10 g) = 0.248 mW/g
Maximum value of SAR (measured) = 0.381 mW/g



0 dB = 0.380mW/g

Date: 9/25/2011

RE Cheek_CH4132_repeated with Memory card

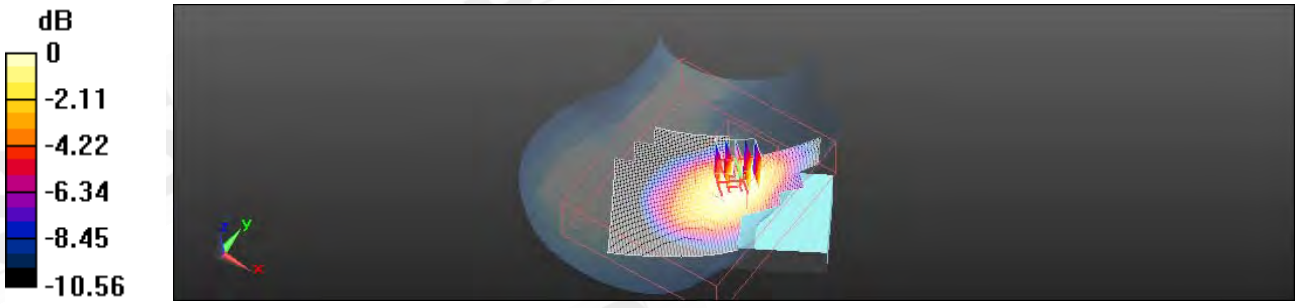
Communication System: WCDMA; Frequency: 826.4 MHz
Medium parameters used: f = 826.4 MHz; σ = 0.877 mho/m; ε_r = 40.73; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.25, 9.25, 9.25); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

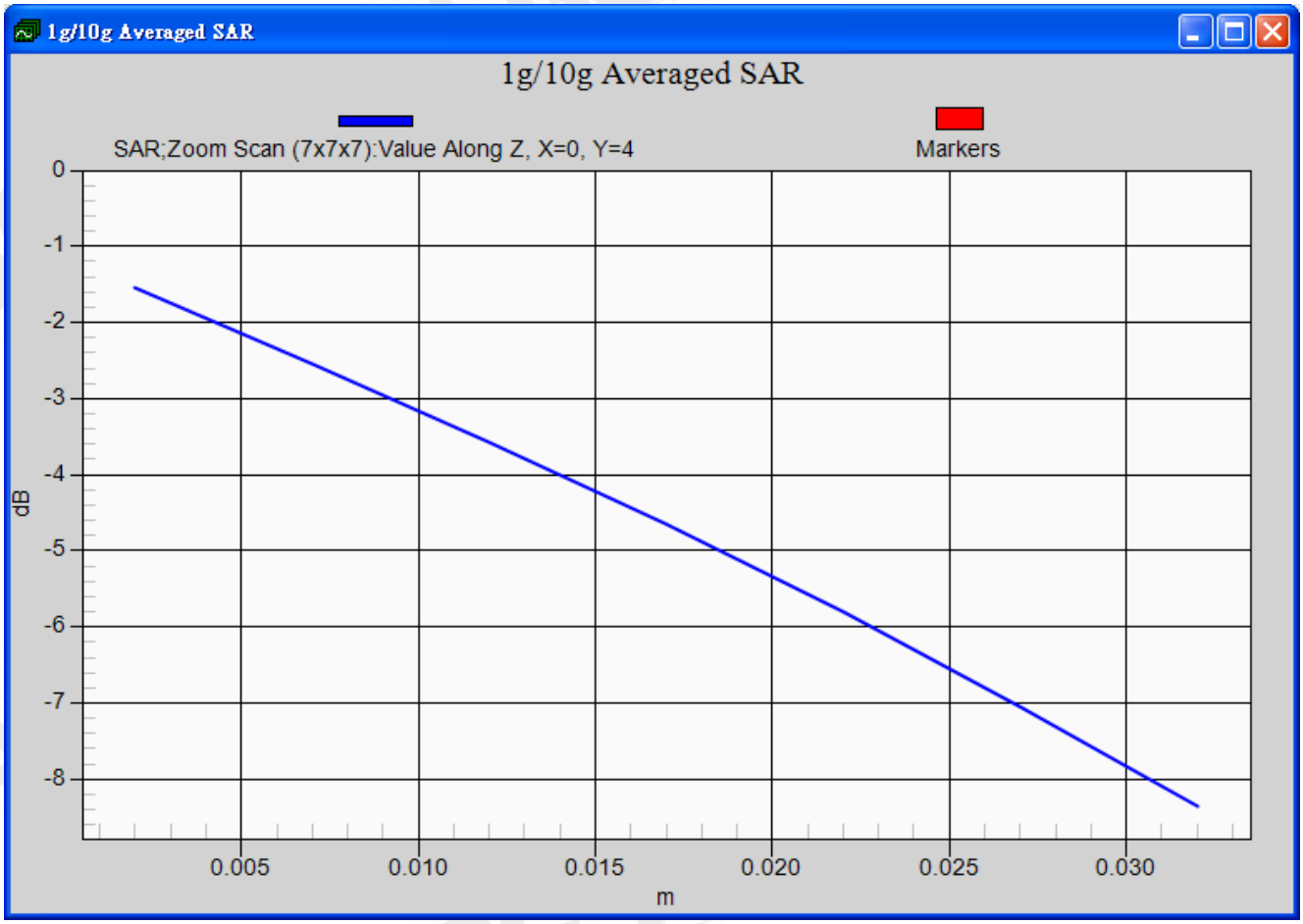
Configuration/RE Cheek/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.327 mW/g

Configuration/RE Cheek/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.519 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 0.363 W/kg

SAR(1 g) = 0.28 mW/g; SAR(10 g) = 0.206 mW/g
Maximum value of SAR (measured) = 0.314 mW/g



0 dB = 0.310mW/g



Date: 9/25/2011

Body_CH4183

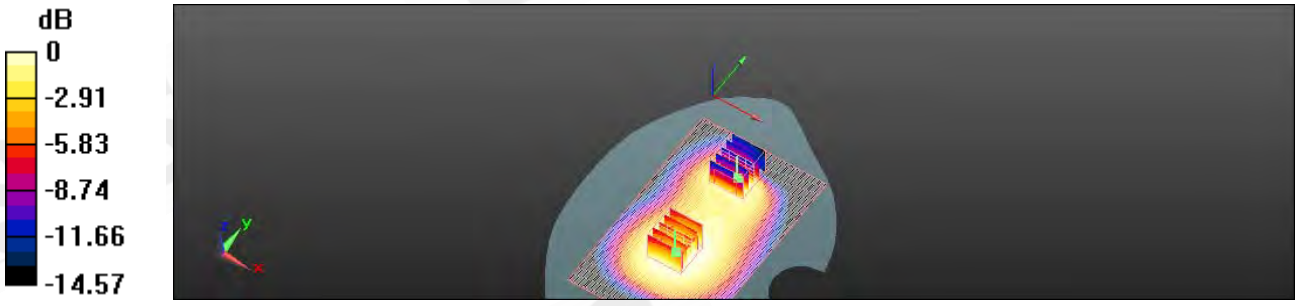
Communication System: WCDMA; Frequency: 836.6 MHz
Medium parameters used: f = 837 MHz; σ = 0.984 mho/m; ε_r = 52.353; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.3, 9.3, 9.3); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.671 mW/g

Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.209 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.755 W/kg
SAR(1 g) = 0.583 mW/g; SAR(10 g) = 0.434 mW/g
Maximum value of SAR (measured) = 0.680 mW/g

Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.209 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.804 W/kg
SAR(1 g) = 0.454 mW/g; SAR(10 g) = 0.263 mW/g
Maximum value of SAR (measured) = 0.599 mW/g



0 dB = 0.600mW/g

Date: 9/20/2011

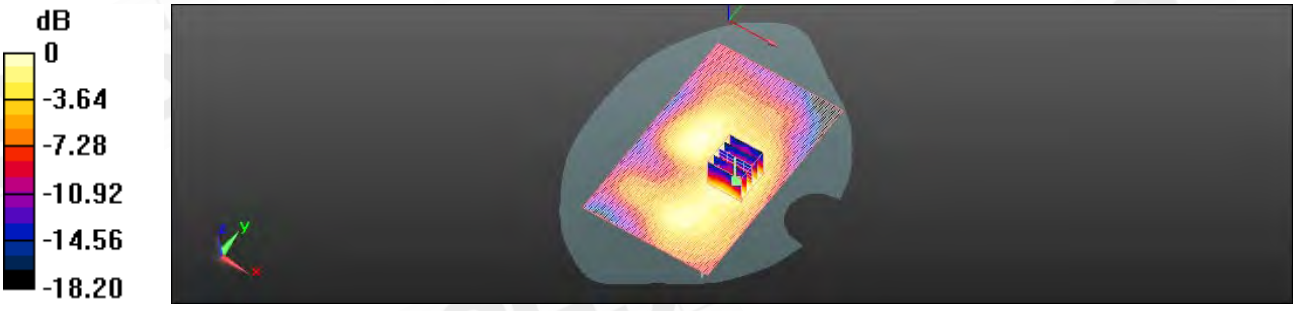
Body_WLAN802.11b_CH6

Communication System: WLAN802.11 b & g & n(20M)(40M); Frequency: 2437 MHz
Medium parameters used: f = 2437 MHz; σ = 1.95 mho/m; ε_r = 51.829; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(6.96, 6.96, 6.96); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.047 mW/g
Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.359 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 0.066 W/kg

SAR(1 g) = 0.035 mW/g; SAR(10 g) = 0.020 mW/g
Maximum value of SAR (measured) = 0.048 mW/g



0 dB = 0.050mW/g

Date: 9/20/2011

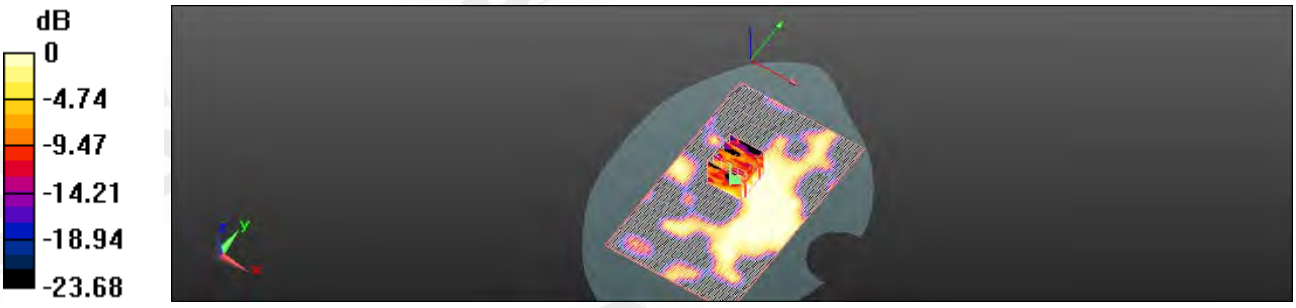
Body_WLAN802.11b_CH6_repeated for EUT front to phantom

Communication System: WLAN802.11 b & g & n(20M)(40M); Frequency: 2437 MHz
Medium parameters used: f = 2437 MHz; σ = 1.95 mho/m; ε_r = 51.829; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(6.96, 6.96, 6.96); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.023 mW/g
Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.580 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 0.032 W/kg

SAR(1 g) = 0.017 mW/g; SAR(10 g) = 0.0099 mW/g
Maximum value of SAR (measured) = 0.024 mW/g



0 dB = 0.020mW/g

Date: 9/20/2011

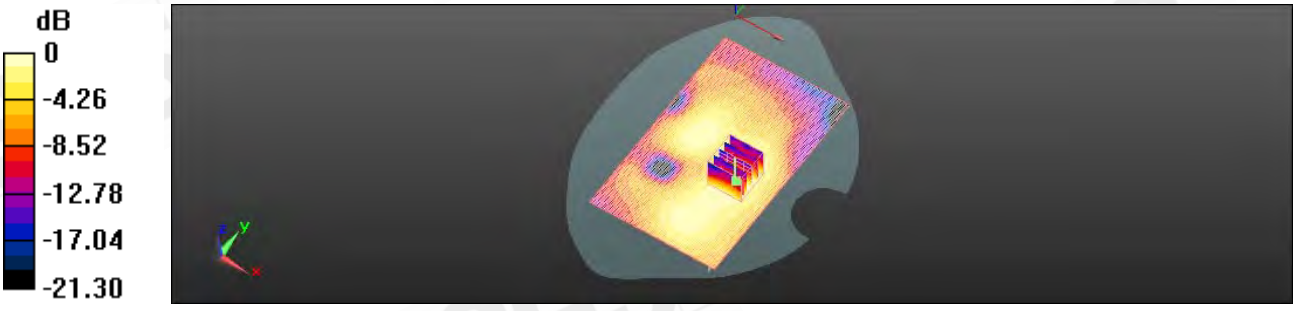
Body_WLAN802.11b_CH6_repeated with Memory card

Communication System: WLAN802.11 b & g & n(20M)(40M); Frequency: 2437 MHz
Medium parameters used: f = 2437 MHz; σ = 1.95 mho/m; ε_r = 51.829; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(6.96, 6.96, 6.96); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.044 mW/g
Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.883 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 0.061 W/kg

SAR(1 g) = 0.034 mW/g; SAR(10 g) = 0.019 mW/g
Maximum value of SAR (measured) = 0.046 mW/g



0 dB = 0.050mW/g

Date: 9/20/2011

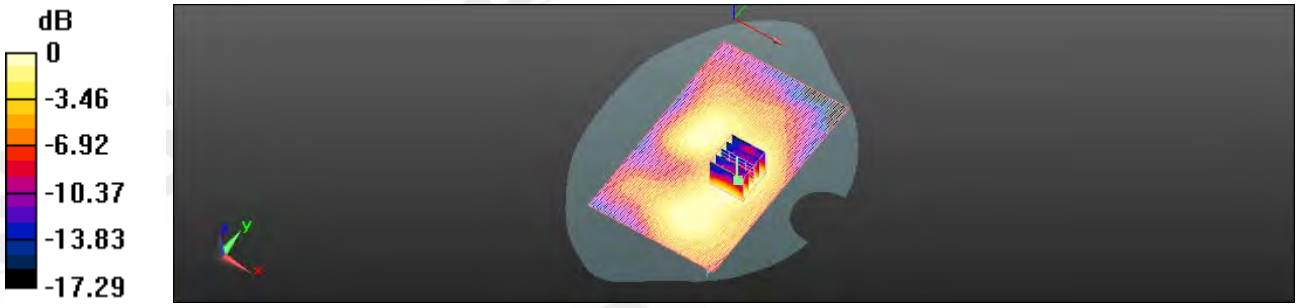
Body_WLAN802.11b_CH6_repeated with Bluetooth active

Communication System: WLAN802.11 b & g & n(20M)(40M); Frequency: 2437 MHz
Medium parameters used: f = 2437 MHz; σ = 1.95 mho/m; ε_r = 51.829; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(6.96, 6.96, 6.96); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.047 mW/g
Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.962 V/m; Power Drift = 0.0046 dB
Peak SAR (extrapolated) = 0.069 W/kg

SAR(1 g) = 0.035 mW/g; SAR(10 g) = 0.020 mW/g
Maximum value of SAR (measured) = 0.050 mW/g



0 dB = 0.050mW/g

Date: 9/20/2011

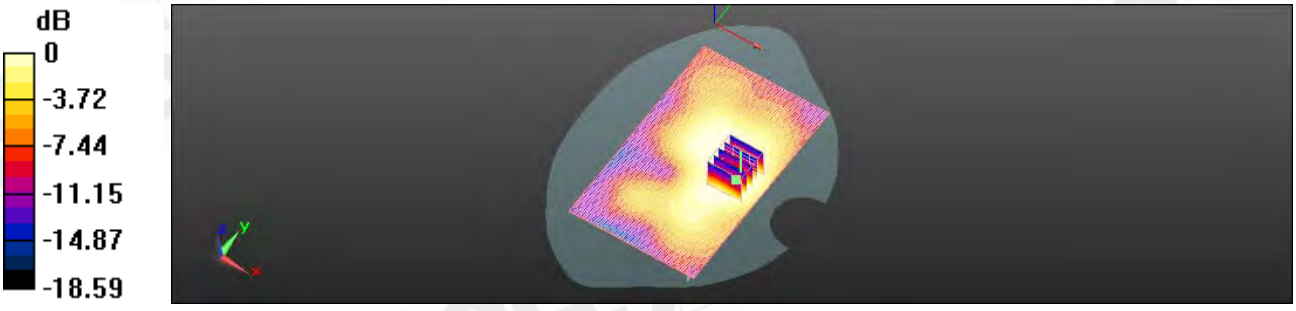
Body_WLAN802.11b_CH6_repeated with headset

Communication System: WLAN802.11 b & g & n(20M)(40M); Frequency: 2437 MHz
Medium parameters used: f = 2437 MHz; σ = 1.95 mho/m; ε_r = 51.829; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(6.96, 6.96, 6.96); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.070 mW/g
Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.558 V/m; Power Drift = -0.20 dB
Peak SAR (extrapolated) = 0.082 W/kg

SAR(1 g) = 0.044 mW/g; SAR(10 g) = 0.026 mW/g
Maximum value of SAR (measured) = 0.060 mW/g



0 dB = 0.060mW/g

Date: 9/20/2011

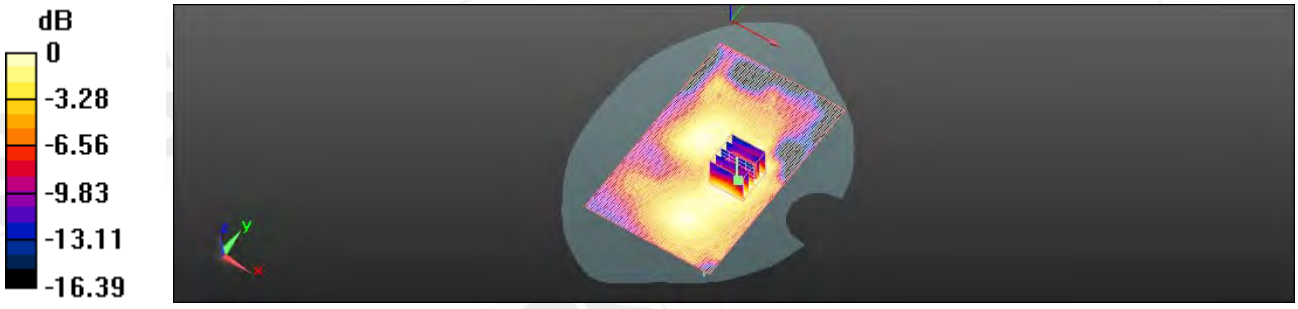
Body_WLAN802.11g_CH6

Communication System: WLAN802.11 b & g & n(20M)(40M); Frequency: 2437 MHz
Medium parameters used: f = 2437 MHz; σ = 1.95 mho/m; ε_r = 51.829; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(6.96, 6.96, 6.96); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.041 mW/g
Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.090 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 0.056 W/kg

SAR(1 g) = 0.029 mW/g; SAR(10 g) = 0.017 mW/g
Maximum value of SAR (measured) = 0.041 mW/g



0 dB = 0.040mW/g

Date: 9/20/2011

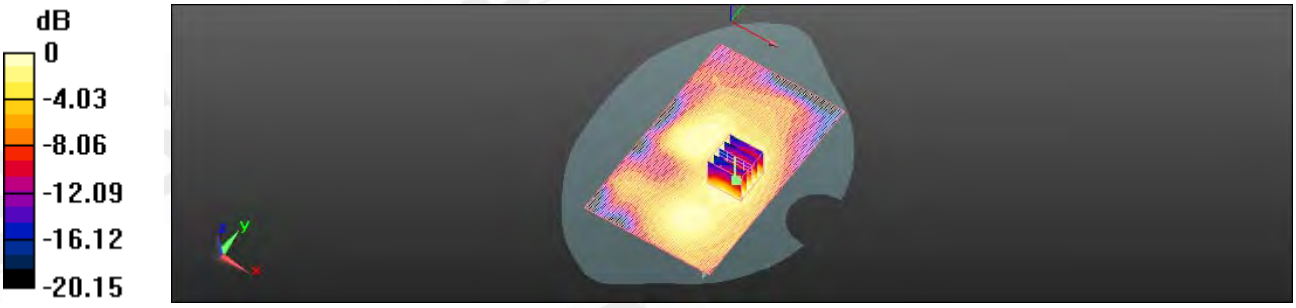
Body_WLAN802.11n(20M)_CH6

Communication System: WLAN802.11 b & g & n(20M)(40M); Frequency: 2437 MHz
Medium parameters used: f = 2437 MHz; σ = 1.95 mho/m; ε_r = 51.829; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(6.96, 6.96, 6.96); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.035 mW/g
Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.840 V/m; Power Drift = -0.18 dB
Peak SAR (extrapolated) = 0.046 W/kg

SAR(1 g) = 0.026 mW/g; SAR(10 g) = 0.015 mW/g
Maximum value of SAR (measured) = 0.035 mW/g



0 dB = 0.040mW/g

Date: 9/25/2011

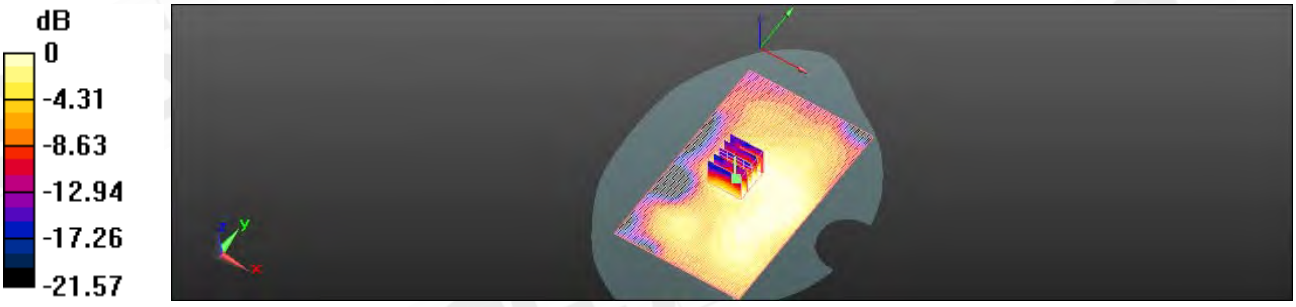
Body_WLAN802.11b_CH6_repeated with headset

Communication System: WLAN802.11 b & g & n(20M)(40M); Frequency: 2437 MHz
Medium parameters used: f = 2437 MHz; σ = 1.949 mho/m; ε_r = 51.118; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(6.96, 6.96, 6.96); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.043 mW/g
Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.402 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 0.061 W/kg

SAR(1 g) = 0.032 mW/g; SAR(10 g) = 0.018 mW/g
Maximum value of SAR (measured) = 0.045 mW/g



0 dB = 0.040mW/g

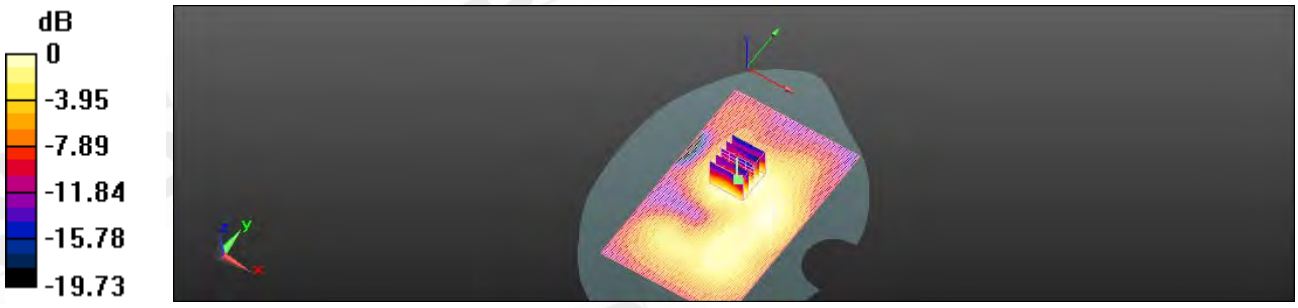
Date: 9/25/2011

Body_WLAN802.11b_CH6_repeated with headset

Communication System: WLAN802.11 b & g & n(20M)(40M); Frequency: 2437 MHz
Medium parameters used: f = 2437 MHz; σ = 1.949 mho/m; ε_r = 51.118; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(6.96, 6.96, 6.96); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.059 mW/g
Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.655 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 0.078 W/kg
SAR(1 g) = 0.042 mW/g; SAR(10 g) = 0.024 mW/g
Maximum value of SAR (measured) = 0.059 mW/g



0 dB = 0.060mW/g

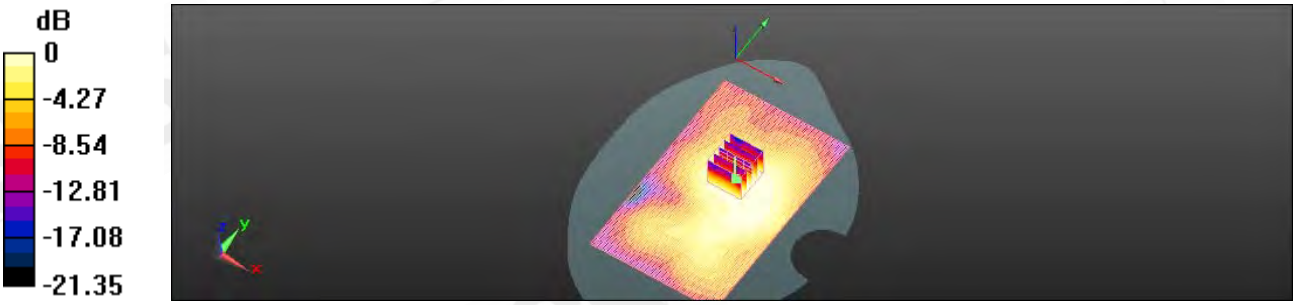
Date: 9/25/2011

Body_WLAN802.11b_CH6_repeated with headset

Communication System: WLAN802.11 b & g & n(20M)(40M); Frequency: 2437 MHz
Medium parameters used: f = 2437 MHz; σ = 1.949 mho/m; ε_r = 51.118; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(6.96, 6.96, 6.96); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/Body/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.062 mW/g
Configuration/Body/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.717 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 0.080 W/kg
SAR(1 g) = 0.046 mW/g; SAR(10 g) = 0.027 mW/g
Maximum value of SAR (measured) = 0.061 mW/g



0 dB = 0.060mW/g

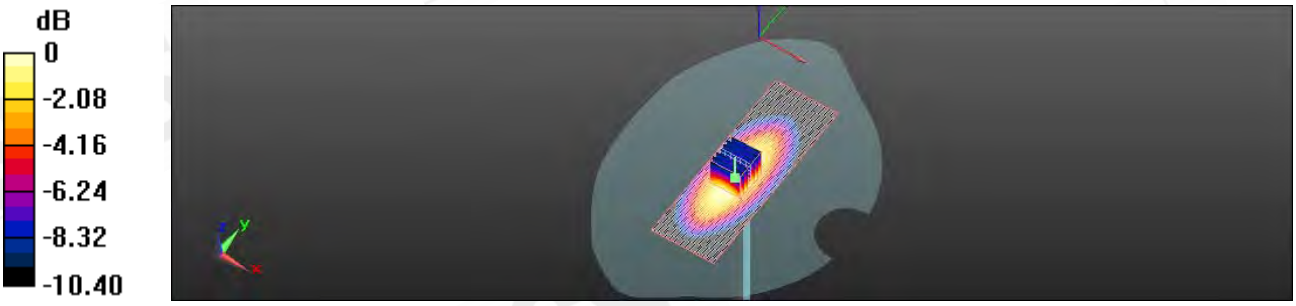
5. System Verification

Date: 9/20/2011

Communication System: CW; Frequency: 835 MHz
Medium parameters used: f = 835 MHz; σ = 0.902 mho/m; ε_r = 42.139; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.25, 9.25, 9.25); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/d=15mm, Pin=250mW, dist=2mm: Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.772 mW/g
Configuration/d=15mm, Pin=250mW, dist=2mm: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 56.785 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 3.387 W/kg
SAR(1 g) = 2.26 mW/g; SAR(10 g) = 1.48 mW/g
Maximum value of SAR (measured) = 2.868 mW/g



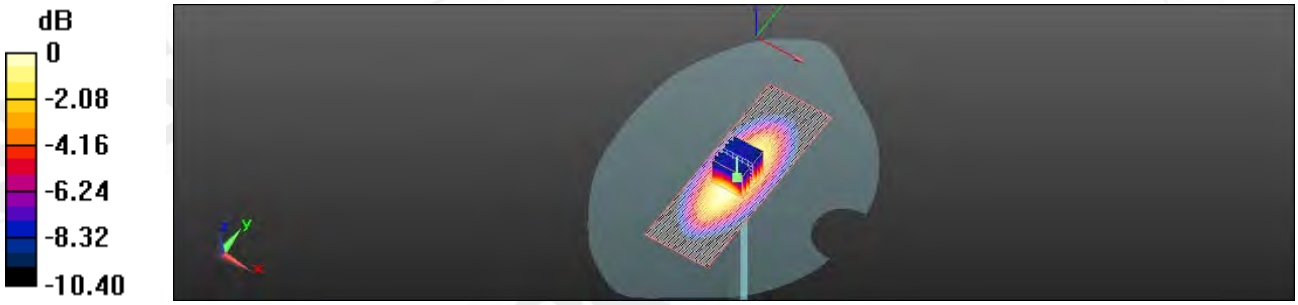
0 dB = 2.870mW/g

Date: 9/20/2011

Communication System: CW; Frequency: 835 MHz
Medium parameters used: f = 835 MHz; σ = 1.008 mho/m; ε_r = 53.189; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.3, 9.3, 9.3); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/d=15mm, Pin=250mW, dist=2mm: Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 3.120 mW/g
Configuration/d=15mm, Pin=250mW, dist=2mm: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 57.527 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 3.631 W/kg
SAR(1 g) = 2.45 mW/g; SAR(10 g) = 1.61 mW/g
Maximum value of SAR (measured) = 3.095 mW/g



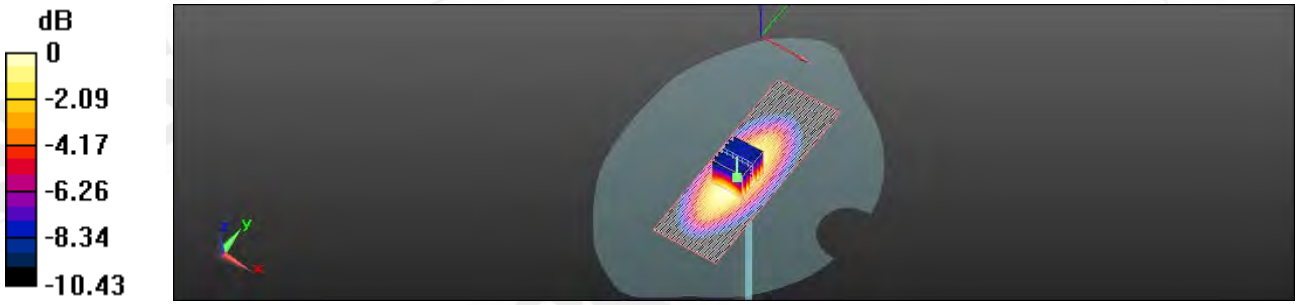
0 dB = 3.090mW/g

Date: 9/25/2011

Communication System: CW; Frequency: 835 MHz
Medium parameters used: f = 835 MHz; σ = 0.881 mho/m; ε_r = 40.706; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.25, 9.25, 9.25); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/d=15mm, Pin=250mW, dist=2mm: Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.912 mW/g
Configuration/d=15mm, Pin=250mW, dist=2mm: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 58.261 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 3.476 W/kg
SAR(1 g) = 2.31 mW/g; SAR(10 g) = 1.52 mW/g
Maximum value of SAR (measured) = 2.943 mW/g



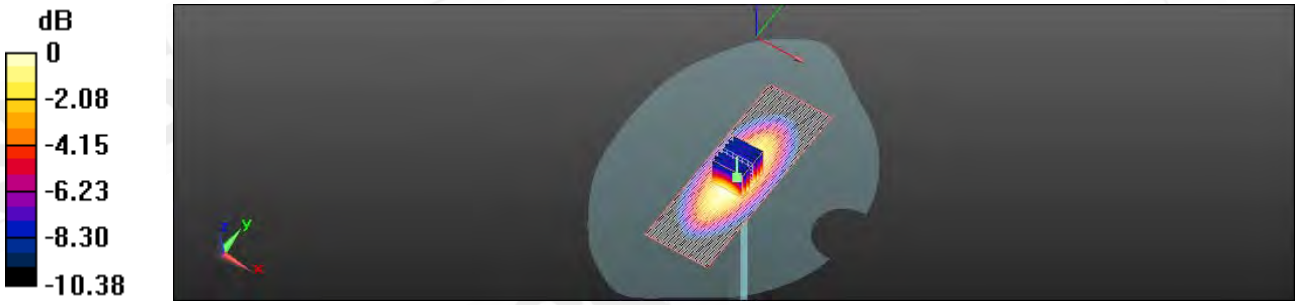
0 dB = 2.940mW/g

Date: 9/25/2011

Communication System: CW; Frequency: 835 MHz
Medium parameters used: f = 835 MHz; σ = 0.982 mho/m; ε_r = 52.371; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(9.3, 9.3, 9.3); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/d=15mm, Pin=250mW, dist=2mm: Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 3.100 mW/g
Configuration/d=15mm, Pin=250mW, dist=2mm: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 57.654 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 3.645 W/kg
SAR(1 g) = 2.46 mW/g; SAR(10 g) = 1.62 mW/g
Maximum value of SAR (measured) = 3.106 mW/g



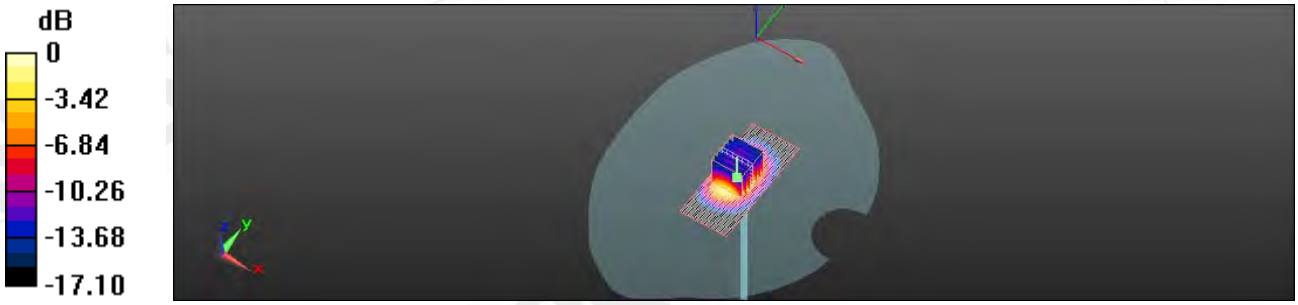
0 dB = 3.110mW/g

Date: 9/21/2011

Communication System: CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.419 mho/m; ε_r = 39.223; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.78, 7.78, 7.78); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/d=10mm, Pin=250mW, dist=2mm: Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 14.404 mW/g
Configuration/d=10mm, Pin=250mW, dist=2mm/: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 99.985 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 17.609 W/kg
SAR(1 g) = 9.65 mW/g; SAR(10 g) = 5.07 mW/g
Maximum value of SAR (measured) = 13.765 mW/g



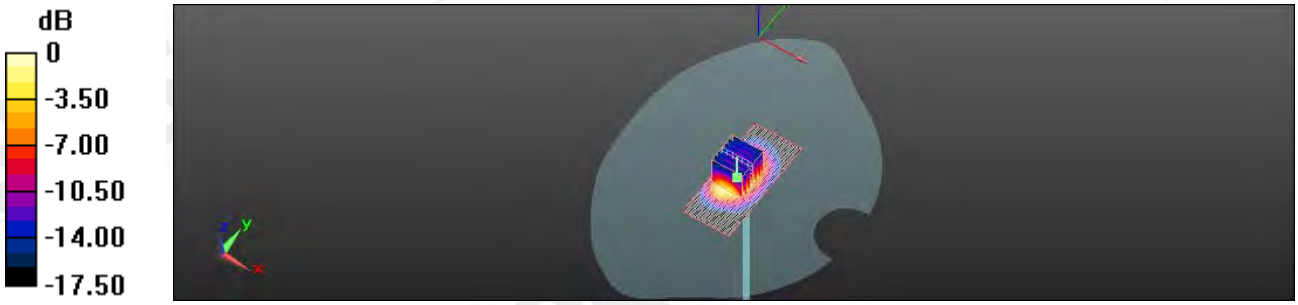
0 dB = 13.760mW/g

Date: 9/21/2011

Communication System: CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.523 mho/m; ε_r = 51.542; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.51, 7.51, 7.51); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/d=10mm, Pin=250mW, dist=2mm: Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 15.340 mW/g
Configuration/d=10mm, Pin=250mW, dist=2mm: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 98.006 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 17.850 W/kg
SAR(1 g) = 9.68 mW/g; SAR(10 g) = 4.99 mW/g
Maximum value of SAR (measured) = 13.906 mW/g



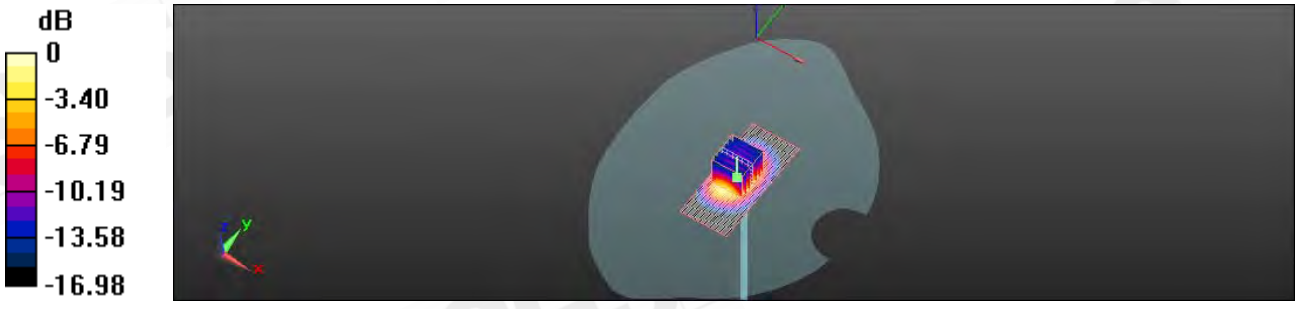
0 dB = 13.910mW/g

Date: 9/26/2011

Communication System: CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.404 mho/m; ε_r = 40.195; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.78, 7.78, 7.78); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/d=10mm, Pin=250mW, dist=2mm: Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 14.530 mW/g
Configuration/d=10mm, Pin=250mW, dist=2mm: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 100.2 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 17.494 W/kg
SAR(1 g) = 9.63 mW/g; SAR(10 g) = 5.08 mW/g
Maximum value of SAR (measured) = 13.667 mW/g



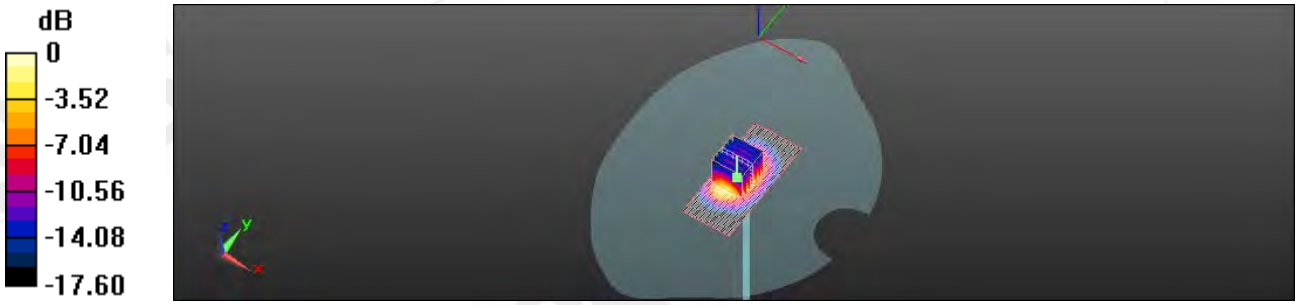
0 dB = 13.670mW/g

Date: 9/26/2011

Communication System: CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.578 mho/m; ε_r = 50.131; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(7.51, 7.51, 7.51); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/d=10mm, Pin=250mW, dist=2mm/Area Scan (31x71x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 14.842 mW/g
Configuration/d=10mm, Pin=250mW, dist=2mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 93.994 V/m; Power Drift = -0.0071 dB
Peak SAR (extrapolated) = 17.692 W/kg
SAR(1 g) = 9.58 mW/g; SAR(10 g) = 4.94 mW/g
Maximum value of SAR (measured) = 13.788 mW/g



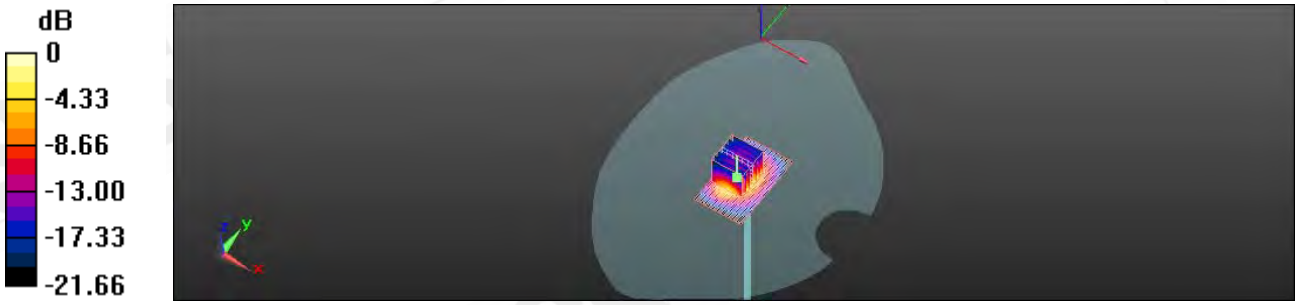
0 dB = 13.790mW/g

Date: 9/20/2011

Communication System: CW; Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 1.968 mho/m; ε_r = 51.765; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(6.96, 6.96, 6.96); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/d=10mm, Pin=250mW, dist=2mm: Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 21.300 mW/g
Configuration/d=10mm, Pin=250mW, dist=2mm: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 100.8 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 27.457 W/kg
SAR(1 g) = 13.2 mW/g; SAR(10 g) = 6.14 mW/g
Maximum value of SAR (measured) = 19.834 mW/g



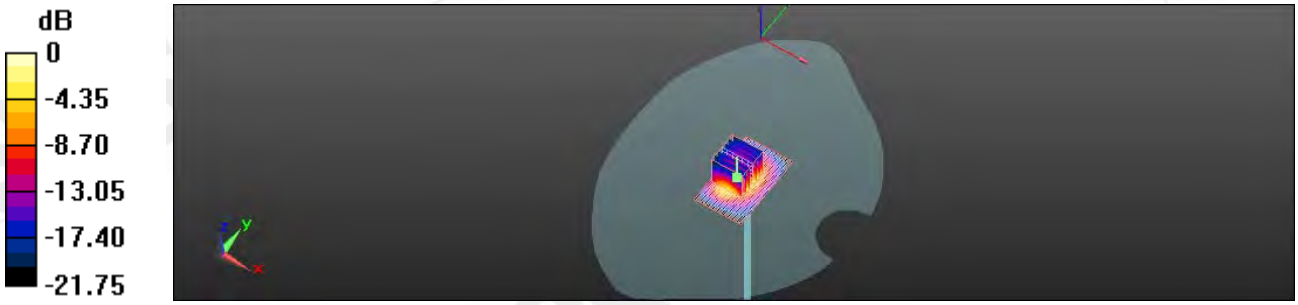
0 dB = 19.830mW/g

Date: 9/25/2011

Communication System: CW; Frequency: 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 1.961 mho/m; ε_r = 51.085; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)
DASY5 Configuration:

- Probe: EX3DV4 - SN3770; ConvF(6.96, 6.96, 6.96); Calibrated: 4/19/2011
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/18/2011
- Phantom: SAM2; Type: SAM
- Measurement SW: DASY52, Version 52.6 (2); SEMCAD X Version 14.4.5 (3634)

Configuration/d=10mm, Pin=250mW, dist=2mm: Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 20.556 mW/g
Configuration/d=10mm, Pin=250mW, dist=2mm: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 98.824 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 26.558 W/kg
SAR(1 g) = 12.8 mW/g; SAR(10 g) = 5.9 mW/g
Maximum value of SAR (measured) = 19.186 mW/g



0 dB = 19.190mW/g

6. DAE & Probe Calibration certificate

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

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

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

Accreditation No.: SCS 108

Client SGS-TW (Auden) Certificate No: DAE4-856_May11

CALIBRATION CERTIFICATE

Object	DAE4 - SD 000 D04 BJ - SN: 856
Calibration procedure(s)	QA CAL-06.v23 Calibration procedure for the data acquisition electronics (DAE)
Calibration date:	May 18, 2011

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	28-Sep-10 (No:10376)	Sep-11
Secondary Standards	**ID #**	**Check Date (in house)**	**Scheduled Check**
Calibrator Box V1.1	SE UMS 006 AB 1004	07-Jun-10 (in house check)	In house check: Jun-11

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

Issued: May 18, 2011

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

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

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

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

Accreditation No.: SCS 108

Client SGS-TW (Auden)

Certificate No: EX3-3770_Apr11

CALIBRATION CERTIFICATE

Object EX3DV4 - SN:3770

Calibration procedure(s) QA CAL-01.v7, QA CAL-14.v3, QA CAL-23.v4, QA CAL-25.v3
Calibration procedure for dosimetric E-field probes

Calibration date: April 19, 2011

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	31-Mar-11 (No. 217-01372)	Apr-12
Power sensor E4412A	MY41495277	31-Mar-11 (No. 217-01372)	Apr-12
Power sensor E4412A	MY41498087	31-Mar-11 (No. 217-01372)	Apr-12
Reference 3 dB Attenuator	SN: S5054 (3c)	29-Mar-11 (No. 217-01369)	Apr-12
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-11 (No. 217-01367)	Apr-12
Reference 30 dB Attenuator	SN: S5129 (30b)	29-Mar-11 (No. 217-01370)	Apr-12
Reference Probe ES3DV2	SN: 3013	29-Dec-10 (No. ES3-3013_Dec10)	Dec-11
DAE4	SN: 654	23-Apr-10 (No. DAE4-654_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-10)	In house check: Oct-11

	Name	Function	Signature
Calibrated by:	Katja Pokovic	Technical Manager	
Approved by:	Fin Bomholt	R&D Director	

Issued: April 19, 2011

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

Certificate No: EX3-3770_Apr11 Page 1 of 11

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

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

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

Accreditation No.: SCS 108

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 affect 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.
- *PAR:* PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- *Ax,y,z; Bx,y,z; Cx,y,z* are numerical linearization parameters in dB assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media.
- *VR:* VR is the validity range of the calibration related to the average diode voltage or DAE voltage in mV.
- *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 EX3DV4

SN:3770

Manufactured: July 6, 2010
Calibrated: April 19, 2011

Calibrated for DASY/EASY Systems
(Note: non-compatible with DASY2 system!)

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3770

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	0.32	0.62	0.40	± 10.1 %
DCP (mV)[B]	106.6	98.3	102.8	

Modulation Calibration Parameters

UID	Communication System Name	PAR		A dB	B dB	C dB	VR mV	Unc[E] (k=2)
10000	CW	0.00	X	0.00	0.00	1.00	120.8	±2.7 %
			Y	0.00	0.00	1.00	134.3	
			Z	0.00	0.00	1.00	133.5	

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 max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3770

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
750	41.9	0.89	9.58	9.58	9.58	0.80	0.70	± 12.0 %
835	41.5	0.90	9.25	9.25	9.25	0.80	0.67	± 12.0 %
900	41.5	0.97	9.06	9.06	9.06	0.76	0.71	± 12.0 %
1750	40.1	1.37	7.97	7.97	7.97	0.80	0.61	± 12.0 %
1900	40.0	1.40	7.78	7.78	7.78	0.71	0.62	± 12.0 %
2000	40.0	1.40	7.79	7.79	7.79	0.75	0.58	± 12.0 %
2450	39.2	1.80	6.99	6.99	6.99	0.80	0.56	± 12.0 %
2600	39.0	1.96	6.95	6.95	6.95	0.66	0.62	± 12.0 %

[C] Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.
[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

DASY/EASY - Parameters of Probe: EX3DV4- SN:3770

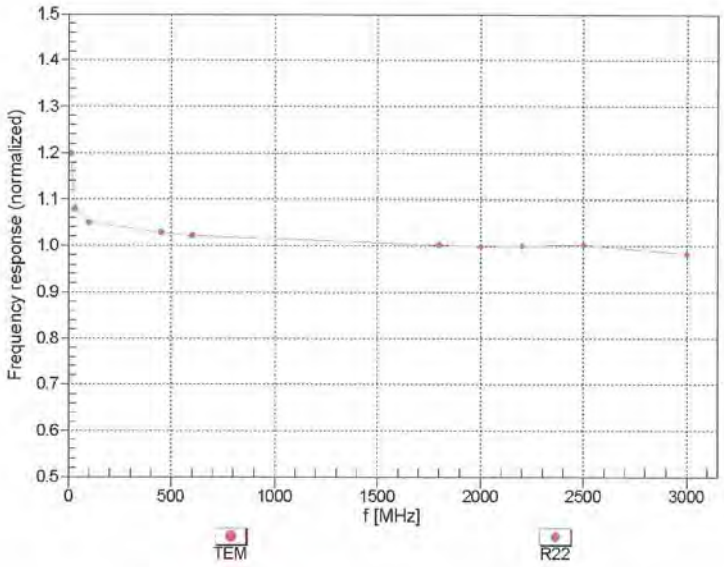
Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
750	55.5	0.96	9.42	9.42	9.42	0.73	0.72	± 12.0 %
835	55.2	0.97	9.30	9.30	9.30	0.72	0.72	± 12.0 %
900	55.0	1.05	9.12	9.12	9.12	0.73	0.75	± 12.0 %
1750	53.4	1.49	7.84	7.84	7.84	0.80	0.68	± 12.0 %
1900	53.3	1.52	7.51	7.51	7.51	0.80	0.62	± 12.0 %
2000	53.3	1.52	7.44	7.44	7.44	0.80	0.66	± 12.0 %
2450	52.7	1.95	6.96	6.96	6.96	0.80	0.50	± 12.0 %
2600	52.5	2.16	6.78	6.78	6.78	0.80	0.50	± 12.0 %
5200	49.0	5.30	4.42	4.42	4.42	0.50	1.90	± 13.1 %
5300	48.9	5.42	4.12	4.12	4.12	0.52	1.90	± 13.1 %
5600	48.5	5.77	3.54	3.54	3.54	0.60	1.90	± 13.1 %
5800	48.2	6.00	3.80	3.80	3.80	0.60	1.90	± 13.1 %

[C] Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.
[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

EX3DV4– SN:3770 April 19, 2011

Frequency Response of E-Field
(TEM-Cell:ifi110 EXX, Waveguide: R22)



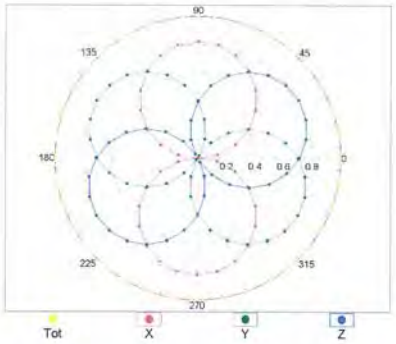
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

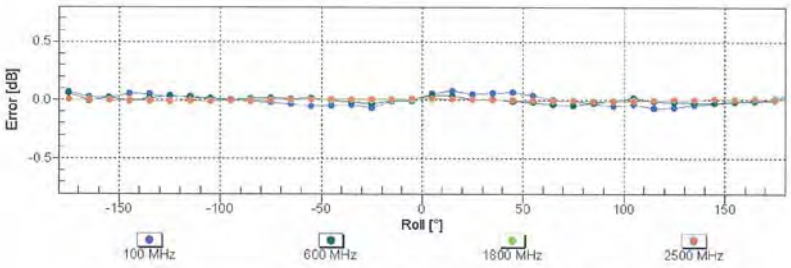
EX3DV4– SN:3770 April 19, 2011

Receiving Pattern (ϕ), ϑ = 0°

f=600 MHz,TEM

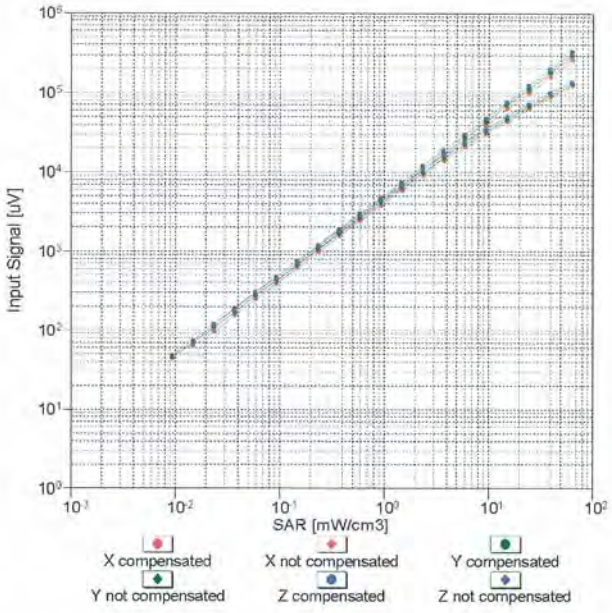
f=1800 MHz,R22

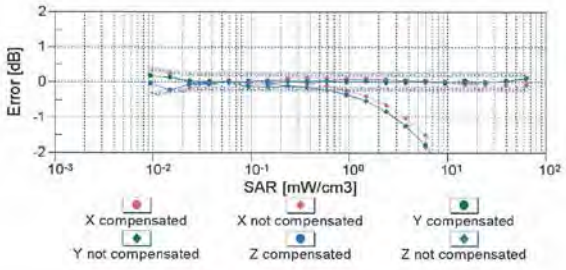




Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

Dynamic Range f(SAR$_{head}$)
(TEM cell , f = 900 MHz)



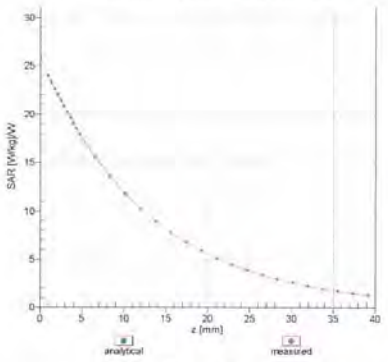


Uncertainty of Linearity Assessment: ± 0.6% (k=2)

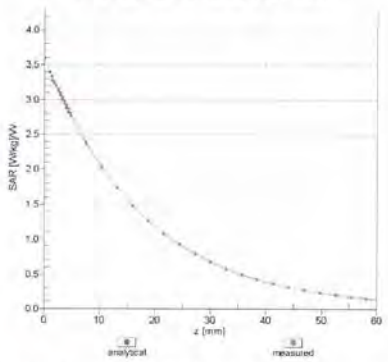
EX3DV4– SN:3770 April 19, 2011

Conversion Factor Assessment

f = 1750 MHz,WGLS R22 (H_convF)

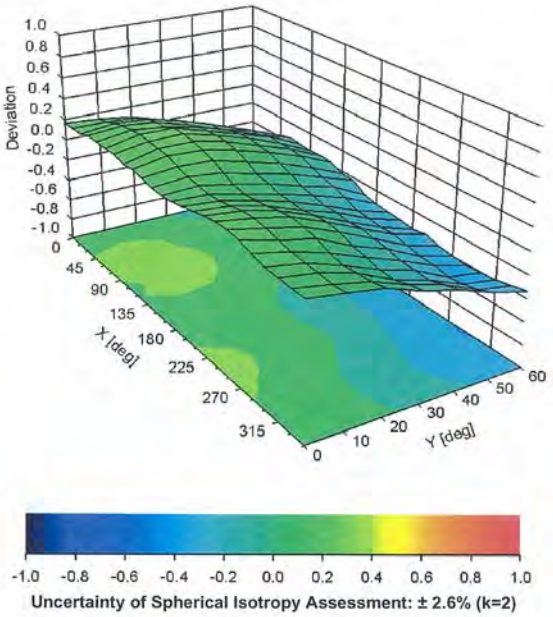


f = 900 MHz,WGLS R9 (H_convF)



Deviation from Isotropy in Liquid

Error (ϕ, ϑ), f = 900 MHz



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

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3770

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	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	2 mm

7. Uncertainty Budget

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

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

Certificate of Conformity / First Article Inspection

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

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

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

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

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

Date 07.07.2005

Signature / Stamp

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

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

9. System Validation from Original equipment supplier

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

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

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

Accreditation No.: SCS 108

Client SGS-TW (Auden)

Certificate No: D835V2-4d063_May11

CALIBRATION CERTIFICATE

Object: D835V2 - SN: 4d063

Calibration procedure(s): QA CAL-05.v8
Calibration procedure for dipole validation kits above 700 MHz

Calibration date: May 25, 2011

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-10 (No. 217-01266)	Oct-11
Power sensor HP 8481A	US37292783	06-Oct-10 (No. 217-01266)	Oct-11
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-11 (No. 217-01367)	Apr-12
Type-N mismatch combination	SN: 5047.2 / 06327	29-Mar-11 (No. 217-01371)	Apr-12
Reference Probe ES3DV3	SN: 3205	29-Apr-11 (No. ES3-3205_Apr11)	Apr-12
DAE4	SN: 601	10-Jun-10 (No. DAE4-601_Jun10)	Jun-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-10)	In house check: Oct-11

	Name	Function	Signature
Calibrated by:	Claudio Leubler	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: May 25, 2011

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

Certificate No: D835V2-4d063_May11 Page 1 of 8

DASY5 Validation Report for Head TSL

Date: 25.05.2011

Test Laboratory: SPEAG, Zurich, Switzerland

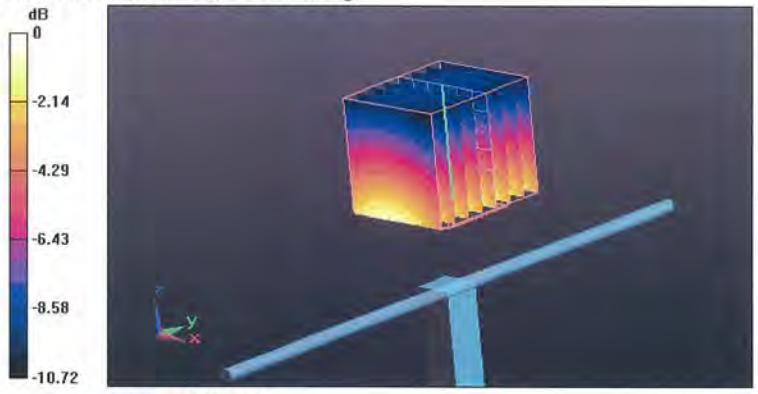
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d063

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: HSL900
Medium parameters used: f = 835 MHz; σ = 0.88 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.07, 6.07, 6.07); Calibrated: 29.04.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 10.06.2010
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- Measurement SW: DASY52, V52.6.2 Build (424)
- Postprocessing SW: SEMCAD X, V14.4.4 Build (2829)

Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 56.554 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 3.427 W/kg
SAR(1 g) = 2.31 mW/g; SAR(10 g) = 1.52 mW/g
Maximum value of SAR (measured) = 2.669 mW/g



0 dB = 2.670mW/g

DASY5 Validation Report for Body TSL

Date: 25.05.2011

Test Laboratory: SPEAG, Zurich, Switzerland

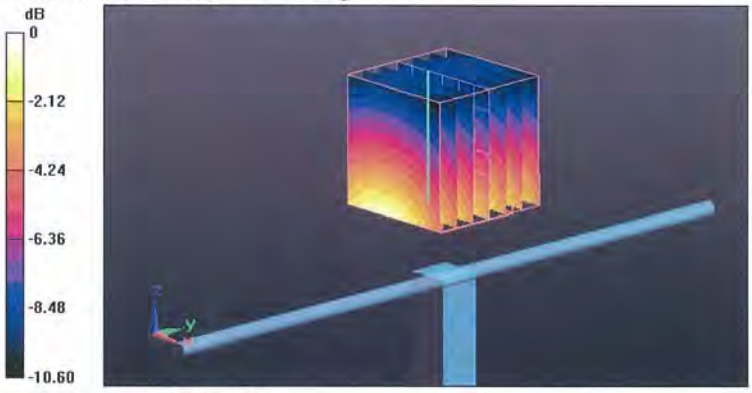
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d063

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1
Medium: MSL900
Medium parameters used: f = 835 MHz; σ = 1 mho/m; ε_r = 53.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.02, 6.02, 6.02); Calibrated: 29.04.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 10.06.2010
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- Measurement SW: DASY52, V52.6.2 Build (424)
- Postprocessing SW: SEMCAD X, V14.4.4 Build (2829)

Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 54.297 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 3.530 W/kg
SAR(1 g) = 2.43 mW/g; SAR(10 g) = 1.6 mW/g
Maximum value of SAR (measured) = 2.804 mW/g



0 dB = 2.800mW/g

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

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

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

Accreditation No.: SCS 108

Client SGS TW (Auden)

Certificate No: D1900V2-5d027_Apr11

CALIBRATION CERTIFICATE

Object	D1900V2 - SN: 5d027
Calibration procedure(s)	QA CAL-05.v8 Calibration procedure for dipole validation kits
Calibration date:	April 19, 2011

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-10 (No. 217-01266)	Oct-11
Power sensor HP 8481A	US37292783	06-Oct-10 (No. 217-01266)	Oct-11
Reference 20 dB Attenuator	SN: 5086 (20g)	29-Mar-11 (No. 217-01368)	Apr-12
Type-N mismatch combination	SN: 5047.2 / 06327	29-Mar-11 (No. 217-01371)	Apr-12
Reference Probe ES3DV3	SN: 3205	30-Apr-10 (No. ES3-3205_Apr10)	Apr-11
DAE4	SN: 601	10-Jun-10 (No. DAE4-601_Jun10)	Jun-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-10)	In house check: Oct-11

	Name	Function	Signature
Calibrated by:	Claudio Leubler	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: April 19, 2011

DASY5 Validation Report for Head TSL

Date/Time: 18.04.2011 15:27:22

Test Laboratory: SPEAG, Zurich, Switzerland

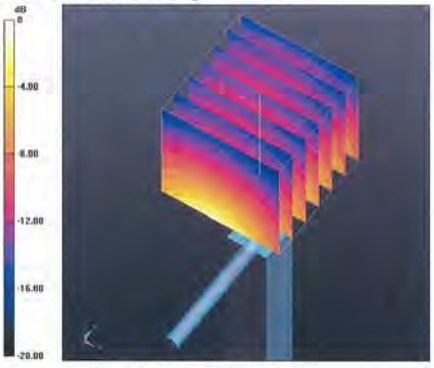
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d027

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1
Medium: HSL U12 BB
Medium parameters used: f = 1900 MHz; σ = 1.41 mho/m; ε_r = 39; 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: 30.04.2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 10.06.2010
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- Measurement SW: DASY52, V52.6.2 Build (424)
- Postprocessing SW: SEMCAD X, V14.4.2 Build (2829)

Pin=250 mW, Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 97.235 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 18.650 W/kg
SAR(1 g) = 10.1 mW/g; SAR(10 g) = 5.26 mW/g
Maximum value of SAR (measured) = 12.424 mW/g



0 dB = 12.420mW/g

DASY5 Validation Report for Body TSL

Date/Time: 19.04.2011 12:53:51

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 U12 BB
Medium parameters used: f = 1900 MHz; σ = 1.52 mho/m; ε_r = 51.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.59, 4.59, 4.59); Calibrated: 30.04.2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 10.06.2010
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- Measurement SW: DASY52, V52.6.2 Build (424)
- Postprocessing SW: SEMCAD X, V14.4.2 Build (2829)

Pin=250 mW, Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 96.170 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 17.156 W/kg
SAR(1 g) = 9.93 mW/g; SAR(10 g) = 5.18 mW/g
Maximum value of SAR (measured) = 12.615 mW/g

0 dB = 12.610mW/g

SGS Taiwan Ltd. 台灣檢驗科技股份有限公司 | No.134, Wu Kung Road, Wuku Industrial Zone, Taipei County, Taiwan /台北縣五股工業區五工路 134 號
t (886-2) 2299-3279 f (886-2) 2298-0488 www.tw.sgs.com
Member of SGS Group

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

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

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

Accreditation No.: SCS 108

Client SGS TW (Auden)

Certificate No: D2450V2- 727_Apr11

CALIBRATION CERTIFICATE

Object	D2450V2 - SN: 727
Calibration procedure(s)	QA CAL-05.v8 Calibration procedure for dipole validation kits
Calibration date:	April 19, 2011

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-10 (No. 217-01266)	Oct-11
Power sensor HP 8481A	US37292783	06-Oct-10 (No. 217-01266)	Oct-11
Reference 20 dB Attenuator	SN: 5086 (20g)	29-Mar-11 (No. 217-01368)	Apr-12
Type-N mismatch combination	SN: 5047.2 / 06327	29-Mar-11 (No. 217-01371)	Apr-12
Reference Probe ES3DV3	SN: 3205	30-Apr-10 (No. ES3-3205_Apr10)	Apr-11
DAE4	SN: 601	10-Jun-10 (No. DAE4-601_Jun10)	Jun-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-10)	In house check: Oct-11

	Name	Function	Signature
Calibrated by:	Claudio Leubler	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: April 19, 2011

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

DASY5 Validation Report for Head TSL

Date/Time: 18.04.2011 16:55:19

Test Laboratory: SPEAG, Zurich, Switzerland

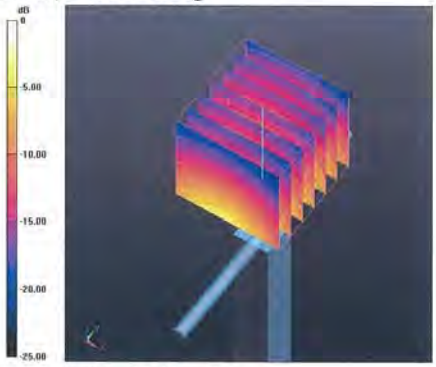
DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:727

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: HSL U12 BB
Medium parameters used: f = 2450 MHz; σ = 1.74 mho/m; ε_r = 38.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.53, 4.53, 4.53); Calibrated: 30.04.2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 10.06.2010
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- Measurement SW: DASY52, V52.6.2 Build (424)
- Postprocessing SW: SEMCAD X, V14.4.2 Build (2829)

Pin=250 mW, Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 103.6 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 27.919 W/kg
SAR(1 g) = 13.7 mW/g; SAR(10 g) = 6.39 mW/g
Maximum value of SAR (measured) = 17.401 mW/g



0 dB = 17.400mW/g

DASY5 Validation Report for Body TSL

Date/Time: 19.04.2011 14:37:11

Test Laboratory: SPEAG, Zurich, Switzerland

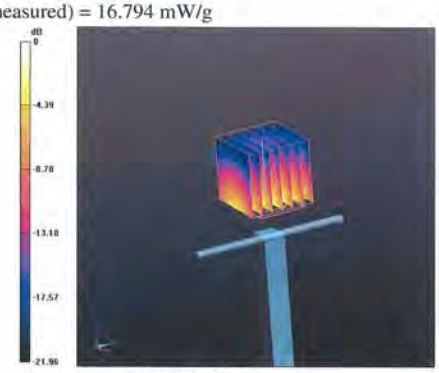
DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:727

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1
Medium: MSL U12 BB
Medium parameters used: f = 2450 MHz; σ = 1.91 mho/m; ε_r = 50.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.31, 4.31, 4.31); Calibrated: 30.04.2010
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 10.06.2010
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- Measurement SW: DASY52, V52.6.2 Build (424)
- Postprocessing SW: SEMCAD X, V14.4.2 Build (2829)

Pin=250 mW, Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 96.949 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 26.888 W/kg
SAR(1 g) = 12.7 mW/g; SAR(10 g) = 5.84 mW/g
Maximum value of SAR (measured) = 16.794 mW/g



0 dB = 16.790mW/g

Certificate No: D2450V2-727_Apr11 Page 8 of 9

End of 1st part of report