SAR TEST REPORT

Equipment Under Test	HSDPA USB Data Modem
Model Number	C177
Company Name	BandRich Inc.
Company Address	7F., No. 188, Baociao Rd., Sindian City, Taipei County 23146, Taiwan (R.O.C.)
Date of Receipt	2008.10.24
Date of Test(s)	2008.11.15 ~2008.11.19
Date of Issue	2008.11.28

Standards:

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

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

Remarks:

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

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

Tested by : **Ricky Huang** **Date** : **2008.11.28**
Asst. Supervisor

Approved by : **Robert Chang** **Date** : **2008.11.28**
Tech. Manager

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

1.2 Details of Applicant

Name	BandRich Inc.
Address	7F., No. 188, Baociao Rd., Sindian City, Taipei County 23146, Taiwan (R.O.C.)
Telephone	+886-(0)2-8914-6588#317
Fax	+886-(0)2-7705-1087
Contact Person	Sandy Cheng
E-mail	sandy@bandrich.com
Web site	http://www.bandrich.com/

1.3 Description of EUT

EUT Name	HSDPA USB Data Modem
Brand Name	BandLuxe™
Model Number	C177
FCC ID	UZI-C177
IMEI Code	35809302000000~35809302999999
Mode of Operation	GSM /GPRS/EDGE/WCDMA/HSDPA
Modulation mode	GMSK/QPSK/8PSK/16QAM

Duty Cycle	GSM	GPRS/EDGE	WCDMA BAND2	WCDMA BAND5
	1/8	1/2	1	
Maximum RF Conducted Power (Average)	GPRS 850	GPRS 1900	WCDMA BAND2	WCDMA BAND5
	28.16dbm	25.59dbm	22.63dbm	22.93dbm
TX Frequency Range (MHz)	GPRS 850	GPRS 1900	WCDMA BAND2	WCDMA BAND5
	824.2-848.8	1850.2-1909.8	1852.4-1907.6	826.4-846.6
Channel Number (ARFCN)	GPRS 850	GPRS 1900	WCDMA BAND2	WCDMA BAND5
	128-251	512-810	9262-9538	4132-4233
Antenna Type	Internal Antenna			
Definition	Production unit			
Max. SAR Measured (1 g)	**0.9 mW/g** **At WCDMA Band 2_CH9262_ Configuration 1**			

Note:

1. EGPRS mode was not measured because maximum averaged output power is 3 dB lower than in GPRS mode.

1.4 Test Environment

Ambient Temperature: 22 ± 2°C

Tissue Simulating Liquid: 22 ± 2° C

1.5 Operation description

The EUT is a USB Data Modem. When we use it, it will be defined as a portable device since the Notebook will place on the thigh, so SAR measurement is mandatory. The EUT is controlled by using a Communication simulate Tester (R&S CMU200), and the communication between the EUT and the tester is established by air link. 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.

Value of Crest Factors are 2 for GPRS mode (multi-slot=4) and 1 for WCDMA Band 2 & WCDMA Band5 were used for SAR testing according to the nature of the EUT, the category of HSDPA is “6”, for HSDPA SAR testing, it is necessary to choose the maximum conducted power with 384 kbps of the following reference channel types to test the low, middle and high frequency channels.

Reference channel type	Conducted power of HSDPA B2		
	CH 9262	CH 9400	CH 9538
12.2 kbps	22.32dbm	22.05dbm	22.19dbm
64 kbps	22.32dbm	22.1dbm	22.22dbm
144 kbps	22.45dbm	22.1dbm	22.23dbm
384 kbps	22.48dbm	22.21dbm	22.25dbm

Reference channel type	Conducted power of HSDPA B5		
	CH 4132	CH 4183	CH 9538
12.2 kbps	22.43dbm	22.51dbm	22.85dbm
64 kbps	22.46dbm	22.56dbm	22.83dbm
144 kbps	22.5dbm	22.58dbm	22.89dbm
384 kbps	22.59dbm	22.61dbm	22.9dbm

By using the program subordinated in the computer, and change into the written channel, and then test of set in highest power. Finally, we will test it by dividing into 4 configurations:

Configuration 1: Bottom side of the Notebook is paralleled and contacted with flat phantom, and back side of the EUT is paralleled with flat phantom. (Appendix-Fig.3)

Configuration 2: Front side of the EUT is paralleled and contacted with flat phantom. (Appendix-Fig.4)

Configuration 3: Bottom side of the Notebook is paralleled and contacted with flat phantom, and left side of the EUT is paralleled with flat phantom. (Appendix-Fig.5)

Configuration 4: Bottom side of the Notebook is paralleled and contacted with flat phantom, and right side of the EUT is paralleled with flat phantom. (Appendix-Fig.6)

1.6 The SAR Measurement System

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

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.

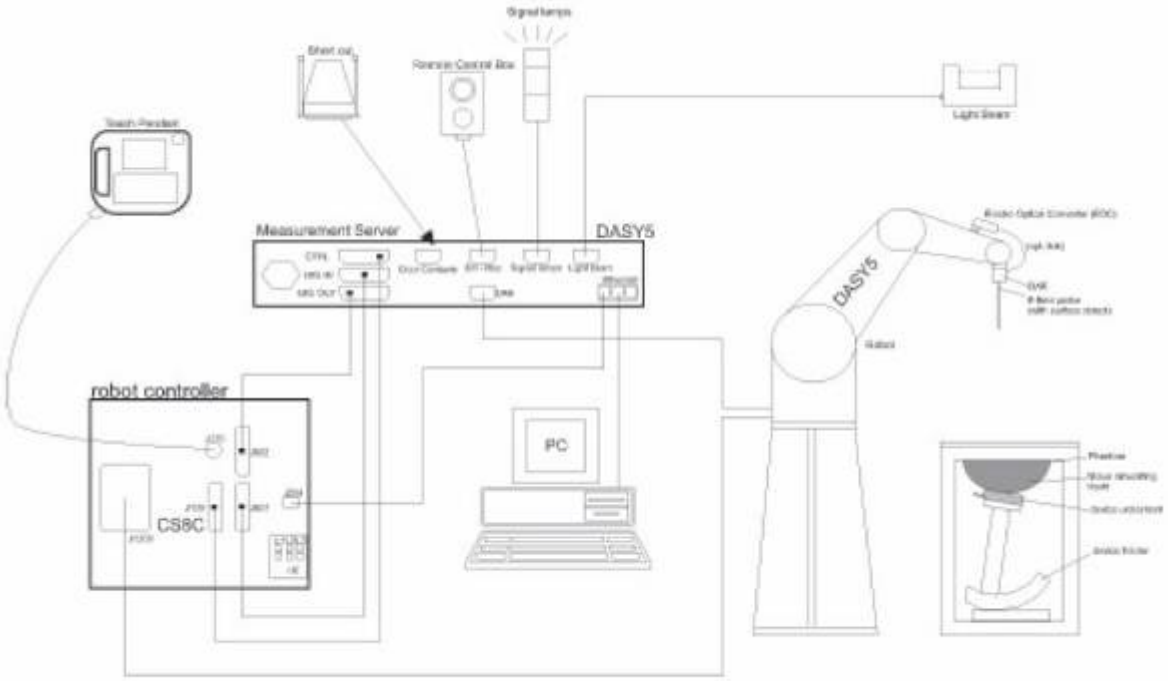


Fig.a The block diagram of SAR system.

- 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.

1.7 System Components

ES3DV3 E-Field Probe

Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Calibration	Basic Broad Band Calibration in air Conversion Factors (CF) for HSL850 & HSL 1900 MHZ Additional CF for other liquids and frequencies upon request	
Frequency	10 MHz to > 3 GHz; Linearity: ± 0.6 dB (30 MHz to 6 GHz)	
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)	
Dynamic Range:	10 µW/g to > 100 mW/g; Linearity: ± 0.6 dB (noise: typically < 1 µW/g)	
Dimensions	Overall length: 337 mm (Tip: 10 mm) Tip diameter: 4 mm (Body: 10 mm) Typical distance from probe tip to dipole centers: 2 mm	
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%.	

SAM PHANTOM V4.0C

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

DEVICE HOLDER

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

1.8 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 +/- 10% from the target SAR values. These tests were done at 850/1900 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 (SAR values are normalized to 1W forward power delivered to the dipole). During the tests, the ambient temperature of the laboratory was in the range 22.2°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.

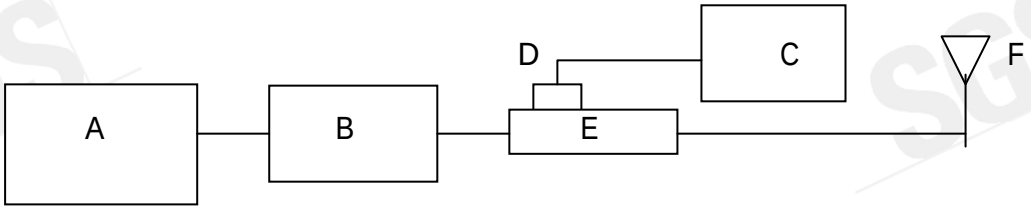
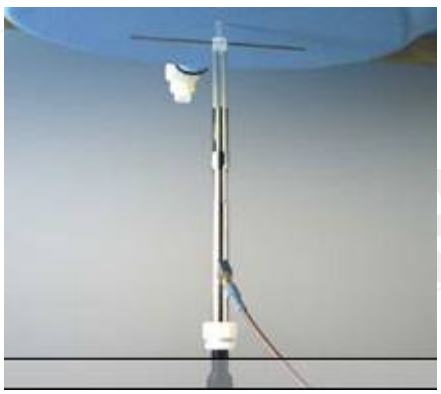


Fig.b The microwave circuit arrangement used for SAR system verification

A. Agilent Model 8648D Signal Generator.
B. Mini circuits Model ZHL-42 Amplifier.
C. Agilent Model E4416A Power Meter.
D. Agilent Model 8481H Power Sensor.
E. Agilent Model 778D Dual directional Coupling.
F. Reference dipole antenna.



Photograph of the dipole Antenna

Validation Kit	Frequency (MHz)	Target SAR (1g) (Pin=250mW)	Measured SAR (1g)	Variation	Measured Date
D835V2 S/N: 4d063	835 MHz (Body)	2.44 mW/g	2.35mW/g	3.7%	2008/11/15
D835V2 S/N: 4d063	835 MHz (Body)	2.44 mW/g	2.35mW/g	3.7%	2008/11/16

D1900V2 S/N: 5d027	1900 MHz (Body)	9.64 mW/g	9.45mW/g	2%	2008/11/17
D1900V2 S/N: 5d027	1900 MHz (Body)	9.64 mW/g	9.17mW/g	4.9%	2008/11/19

Table 1. Results system validation

1.9 Tissue Simulant Fluid for the Frequency Band

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

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

Frequency (MHz)	Tissue type	Measurement date/ Limits	Dielectric Parameters		
			ρ	σ (S/m)	Simulated Tissue Temperature(° C)
850	Body	Measured, 2008.11.15	56.2	0.955	21.7
		Recommended Limits	52.3-57.8	0.92-1.1	20-24
850	Body	Measured, 2008.11.16	56.2	0.956	21.7
		Recommended Limits	52.3-57.8	0.92-1.1	20-24
1900	Body	Measured, 2008.11.17	52.3	1.47	21.7
		Recommended Limits	50.6-56	1.38-1.6	20-24
1900	Body	Measured, 2008.11.19	52.4	1.46	21.7
		Recommended Limits	50.6-56	1.38-1.6	20-24

Table 2. Dielectric Parameters of Tissue Simulant Fluid

The composition of the brain tissue simulating liquid is:

Ingredient	850MHz (Body)	1900MHz (Body)
DGMBE	X	300.67g
Water	631.68 g	716.56 g
Salt	11.72 g	4.0 g
Preventol D-7	1.2 g	X
Cellulose	X	X
Sugar	600 g	X
Total amount	1 L (1.0kg)	1 L (1.0kg)

Table 3. Recipes for tissue simulating liquid

1.10 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.

1.11 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 .4)

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

GPRS 850 MHZ

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[˚C]	Liquid Temp[˚C]
Configuration 1 : Bottom side of the Notebook is paralleled and contacted with flat phantom, and back side of the EUT is paralleled with flat phantom.						
850 MHz	128	824.2	28.16dbm	0.069	22.1	21.7
	190	836.6	27.99dbm	0.068	22.1	21.7
	251	848.8	27.82dbm	0.074	22.1	21.7
Configuration 2 : Front side of the EUT is paralleled and contacted with flat phantom.						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[˚C]	Liquid Temp[˚C]
850MHz	128	824.2	28.16dbm	0.409	22.1	21.7
	190	836.6	27.99dbm	0.319	22.1	21.7
	251	848.8	27.82dbm	0.285	22.1	21.7
Configuration 3: Bottom side of the Notebook is paralleled and contacted with flat phantom, and left side of the EUT is paralleled with flat phantom.						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[˚C]	Liquid Temp[˚C]
850 MHz	128	824.2	28.16dbm	0.098	22.1	21.7
	190	836.6	27.99dbm	0.095	22.1	21.7
	251	848.8	27.82dbm	0.099	22.1	21.7
Configuration 4: Bottom side of the Notebook is paralleled and contacted with flat phantom, and right side of the EUT is paralleled with flat phantom.						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[˚C]	Liquid Temp[˚C]
850 MHz	128	824.2	28.16dbm	0.078	22.1	21.7
	190	836.6	27.99dbm	0.077	22.1	21.7
	251	848.8	27.82dbm	0.078	22.1	21.7

GPRS 1900 MHZ

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[˚C]	Liquid Temp[˚C]
Configuration 1 : Bottom side of the Notebook is paralleled and contacted with flat phantom, and back side of the EUT is paralleled with flat phantom.						
1900 MHz	512	1850.2	25.59dbm	0.320	22.1	21.7
	661	1880	25.42dbm	0.309	22.1	21.7
	810	1909.8	25.03dbm	0.254	22.1	21.7
Configuration 2 : Front side of the EUT is paralleled and contacted with flat phantom.						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[˚C]	Liquid Temp[˚C]
1900 MHz	512	1850.2	25.59dbm	0.708	22.1	21.7
	661	1880	25.42dbm	0.645	22.1	21.7
	810	1909.8	25.03dbm	0.602	22.1	21.7
Configuration 3: Bottom side of the Notebook is paralleled and contacted with flat phantom, and left side of the EUT is paralleled with flat phantom.						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[˚C]	Liquid Temp[˚C]
1900 MHz	512	1850.2	25.59dbm	0.449	22.1	21.7
	661	1880	25.42dbm	0.487	22.1	21.7
	810	1909.8	25.03dbm	0.484	22.1	21.7
Configuration 4: Bottom side of the Notebook is paralleled and contacted with flat phantom, and right side of the EUT is paralleled with flat phantom.						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[˚C]	Liquid Temp[˚C]
1900 MHz	512	1850.2	25.59dbm	0.312	22.1	21.7
	661	1880	25.42dbm	0.265	22.1	21.7
	810	1909.8	25.03dbm	0.238	22.1	21.7

WCDMA BAND2

Configuration 1: Bottom side of the Notebook is paralleled and contacted with flat phantom, and back side of the EUT is paralleled with flat phantom.						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[˚C]	Liquid Temp[˚C]
WCDMA BAND 2	9262	1852.4	22.63dbm	0.461	22.1	21.7
	9400	1880	22.22dbm	0.294	22.1	21.7
	9538	1907.6	22.25dbm	0.270	22.1	21.7
Configuration 2 : Front side of the EUT is paralleled and contacted with flat phantom.						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[˚C]	Liquid Temp[˚C]
WCDMA BAND 2	9262	1852.4	22.63dbm	0.9	22.1	21.7
	9400	1880	22.22dbm	0.561	22.1	21.7
	9538	1907.6	22.25dbm	0.588	22.1	21.7
Configuration 3: Bottom side of the Notebook is paralleled and contacted with flat phantom, and left side of the EUT is paralleled with flat phantom.						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[˚C]	Liquid Temp[˚C]
WCDMA BAND 2	9262	1852.4	22.63dbm	0.636	22.1	21.7
	9400	1880	22.22dbm	0.472	22.1	21.7
	9538	1907.6	22.25dbm	0.486	22.1	21.7
Configuration 4: Bottom side of the Notebook is paralleled and contacted with flat phantom, and right side of the EUT is paralleled with flat phantom.						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[˚C]	Liquid Temp[˚C]
WCDMA BAND 2	9262	1852.4	22.63dbm	0.342	22.1	21.7
	9400	1880	22.22dbm	0.22	22.1	21.7
	9538	1907.6	22.25dbm	0.213	22.1	21.7

WCDMA BAND2_ HSDPA mode

Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[˚C]	Liquid Temp[˚C]
Configuration 1: Bottom side of the Notebook is paralleled and contacted with flat phantom, and back side of the EUT is paralleled with flat phantom.						
WCDMA BAND 2	9262	1852.4	22.48dbm	0.315	22.1	21.7
	9400	1880	22.21dbm	0.205	22.1	21.7
	9538	1907.6	22.25dbm	0.185	22.1	21.7
Configuration 2 : Front side of the EUT is paralleled and contacted with flat phantom.						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[˚C]	Liquid Temp[˚C]
WCDMA BAND 2	9262	1852.4	22.48dbm	0.729	22.1	21.7
	9400	1880	22.21dbm	0.471	22.1	21.7
	9538	1907.6	22.25dbm	0.451	22.1	21.7
Configuration 3: Bottom side of the Notebook is paralleled and contacted with flat phantom, and left side of the EUT is paralleled with flat phantom.						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[˚C]	Liquid Temp[˚C]
WCDMA BAND 2	9262	1852.4	22.48dbm	0.254	22.1	21.7
	9400	1880	22.21dbm	0.252	22.1	21.7
	9538	1907.6	22.25dbm	0.268	22.1	21.7
Configuration 4: Bottom side of the Notebook is paralleled and contacted with flat phantom, and right side of the EUT is paralleled with flat phantom.						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[˚C]	Liquid Temp[˚C]
WCDMA BAND 2	9262	1852.4	22.48dbm	0.166	22.1	21.7
	9400	1880	22.21dbm	0.168	22.1	21.7
	9538	1907.6	22.25dbm	0.166	22.1	21.7

WCDMA BAND5

Configuration 1: Bottom side of the Notebook is paralleled and contacted with flat phantom, and back side of the EUT is paralleled with flat phantom.						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[˚C]	Liquid Temp[˚C]
WCDMA BAND 5	4132	826.4	22.63dbm	0.099	22.1	21.7
	4183	836.6	22.75dbm	0.086	22.1	21.7
	4233	846.6	22.93dbm	0.103	22.1	21.7
Configuration 2 : Front side of the EUT is paralleled and contacted with flat phantom.						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[˚C]	Liquid Temp[˚C]
WCDMA BAND 5	4132	826.4	22.63dbm	0.244	22.1	21.7
	4183	836.6	22.75dbm	0.393	22.1	21.7
	4233	846.6	22.93dbm	0.435	22.1	21.7
Configuration 3: Bottom side of the Notebook is paralleled and contacted with flat phantom, and left side of the EUT is paralleled with flat phantom.						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[˚C]	Liquid Temp[˚C]
WCDMA BAND 5	4132	826.4	22.63dbm	0.069	22.1	21.7
	4183	836.6	22.75dbm	0.097	22.1	21.7
	4233	846.6	22.93dbm	0.115	22.1	21.7
Configuration 4: Bottom side of the Notebook is paralleled and contacted with flat phantom, and right side of the EUT is paralleled with flat phantom.						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[˚C]	Liquid Temp[˚C]
WCDMA BAND 5	4132	826.4	22.63dbm	0.06	22.1	21.7
	4183	836.6	22.75dbm	0.091	22.1	21.7
	4233	846.6	22.93dbm	0.1	22.1	21.7

WCDMA BAND5 _HSDPA mode

Configuration 1: Bottom side of the Notebook is paralleled and contacted with flat phantom, and back side of the EUT is paralleled with flat phantom.						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[˚C]	Liquid Temp[˚C]
WCDMA BAND 5	4132	826.4	22.59dbm	0.057	22.1	21.7
	4183	836.6	22.61dbm	0.081	22.1	21.7
	4233	846.6	22.9dbm	0.088	22.1	21.7
Configuration 2 : Front side of the EUT is paralleled and contacted with flat phantom.						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[˚C]	Liquid Temp[˚C]
WCDMA BAND 5	4132	826.4	22.59dbm	0.233	22.1	21.7
	4183	836.6	22.61dbm	0.391	22.1	21.7
	4233	846.6	22.9dbm	0.405	22.1	21.7
Configuration 3: Bottom side of the Notebook is paralleled and contacted with flat phantom, and left side of the EUT is paralleled with flat phantom.						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[˚C]	Liquid Temp[˚C]
WCDMA BAND 5	4132	826.4	22.59dbm	0.053	22.1	21.7
	4183	836.6	22.61dbm	0.083	22.1	21.7
	4233	846.6	22.9dbm	0.09	22.1	21.7
Configuration 4: Bottom side of the Notebook is paralleled and contacted with flat phantom, and right side of the EUT is paralleled with flat phantom.						
Frequency	Channel	MHz	Conducted Output Power (Average)	Measured(W/kg) 1g	Amb. Temp[˚C]	Liquid Temp[˚C]
WCDMA BAND 5	4132	826.4	22.59dbm	0.044	22.1	21.7
	4183	836.6	22.61dbm	0.055	22.1	21.7
	4233	846.6	22.9dbm	0.046	22.1	21.7

Note: SAR measurement results for the data card at maximum output power.

3. Instruments List

Manufacturer	Device	Type	Serial number	Date of last calibration
Schmid & Partner Engineering AG	Dosimetric E-FieldProbe	ES3DV3	3172	Jun.23.2008
Schmid & Partner Engineering AG	850/1900MHz System Validation Dipole	D835V2 D1900V2	4d063 5d027	Jun.06.2008 Apr.15.2008
Schmid & Partner Engineering AG	Data acquisition Electronics	DAE4	856	May.07.2008
Schmid & Partner Engineering AG	Software	DASY 5 V5.0 Build119	N/A	Calibration isn't necessary
Schmid & Partner Engineering AG	Phantom	SAM	N/A	Calibration isn't necessary
Agilent	Network Analyzer	8753D	3410A5662	Apr.16.2008
Agilent	Dielectric Probe Kit	85070D	US01440168	Calibration isn't necessary
Agilent	Dual-directional coupler	778D	50313	Aug.26.2008
Agilent	RF Signal Generator	E4438c	MY45093613	May.21.2008
Agilent	Power Sensor	8481H	MY41091361	May.20.2008
R&S	Radio Communication Test	CMU200	109326	May.11.2008

4. Measurements

Date/Time: 11/15/2008 03:42:04

Configuration 1_CH128

DUT: C177;

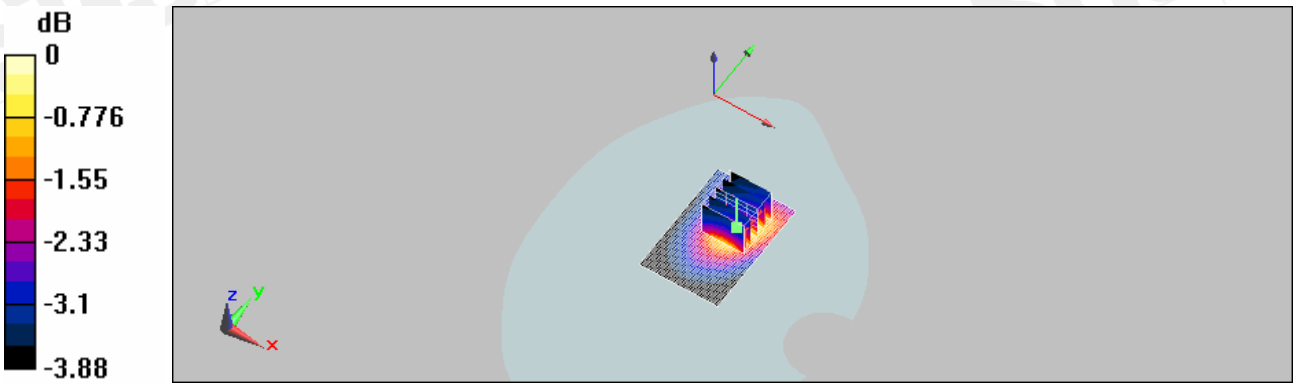
Communication System: GPRS 850; Frequency: 824.2 MHz;Duty Cycle: 1:2
Medium: BODY 900 Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.944 mho/m; ε_r = 56.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.074 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.18 V/m; Power Drift = -0.000124 dB
Peak SAR (extrapolated) = 0.087 W/kg
SAR(1 g) = 0.069 mW/g; SAR(10 g) = 0.054 mW/g
Maximum value of SAR (measured) = 0.072 mW/g



0 dB = 0.072mW/g

Date/Time: 11/15/2008 04:25:47

Configuration 1_CH190

DUT: C177;

Communication System: GPRS 850; Frequency: 836.6 MHz;Duty Cycle: 1:2
Medium: BODY 900 Medium parameters used: f = 837 MHz; σ = 0.958 mho/m; ε_r = 56.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

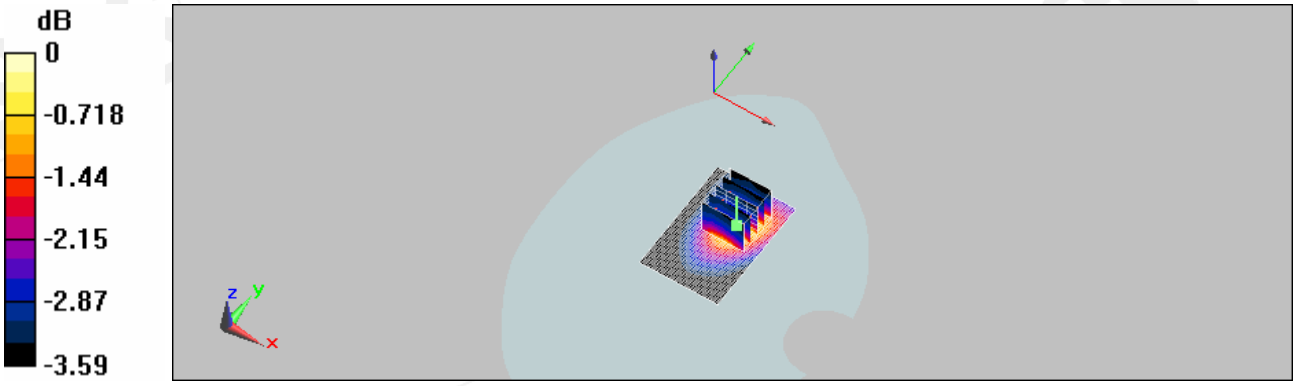
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.072 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.19 V/m; Power Drift = 0.127 dB
Peak SAR (extrapolated) = 0.097 W/kg

SAR(1 g) = 0.068 mW/g; SAR(10 g) = 0.053 mW/g
Maximum value of SAR (measured) = 0.072 mW/g



0 dB = 0.072mW/g

Date/Time: 11/15/2008 04:58:02

Configuration 1_CH251

DUT: C177;

Communication System: GPRS 850; Frequency: 848.8 MHz;Duty Cycle: 1:2
Medium: BODY 900 Medium parameters used: f = 849 MHz; σ = 0.972 mho/m; ε_r = 56.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

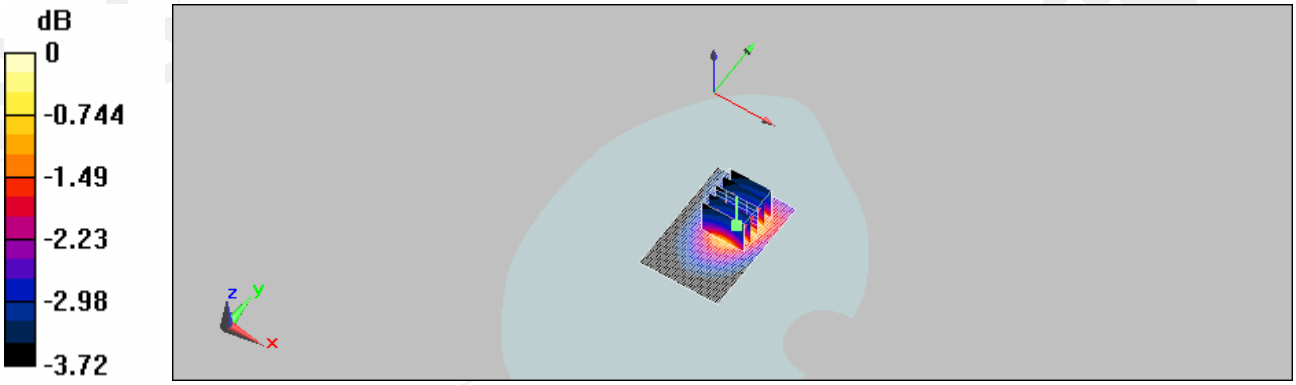
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.076 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.35 V/m; Power Drift = 0.059 dB
Peak SAR (extrapolated) = 0.093 W/kg

SAR(1 g) = 0.074 mW/g; SAR(10 g) = 0.058 mW/g
Maximum value of SAR (measured) = 0.078 mW/g



0 dB = 0.078mW/g

Date/Time: 11/15/2008 05:46:12

Configuration 2_CH128

DUT: C177;

Communication System: GPRS 850; Frequency: 824.2 MHz;Duty Cycle: 1:2
Medium: BODY 900 Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.944 mho/m; ε_r = 56.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

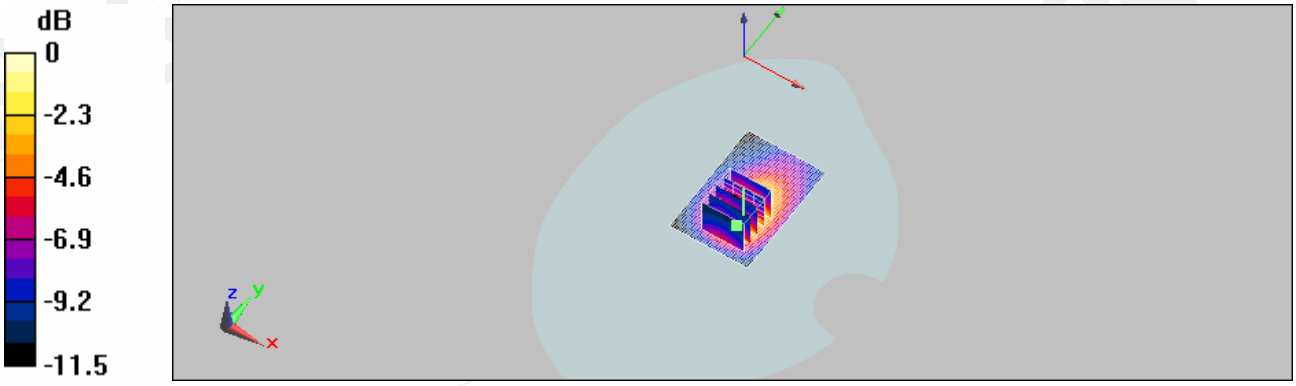
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.418 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.1 V/m; Power Drift = -0.014 dB
Peak SAR (extrapolated) = 0.706 W/kg

SAR(1 g) = 0.409 mW/g; SAR(10 g) = 0.243 mW/g
Maximum value of SAR (measured) = 0.454 mW/g



0 dB = 0.454mW/g

Date/Time: 11/15/2008 06:20:17

Configuration 2_CH190

DUT: C177;

Communication System: GPRS 850; Frequency: 836.6 MHz;Duty Cycle: 1:2
Medium: BODY 900 Medium parameters used: f = 837 MHz; σ = 0.958 mho/m; ε_r = 56.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

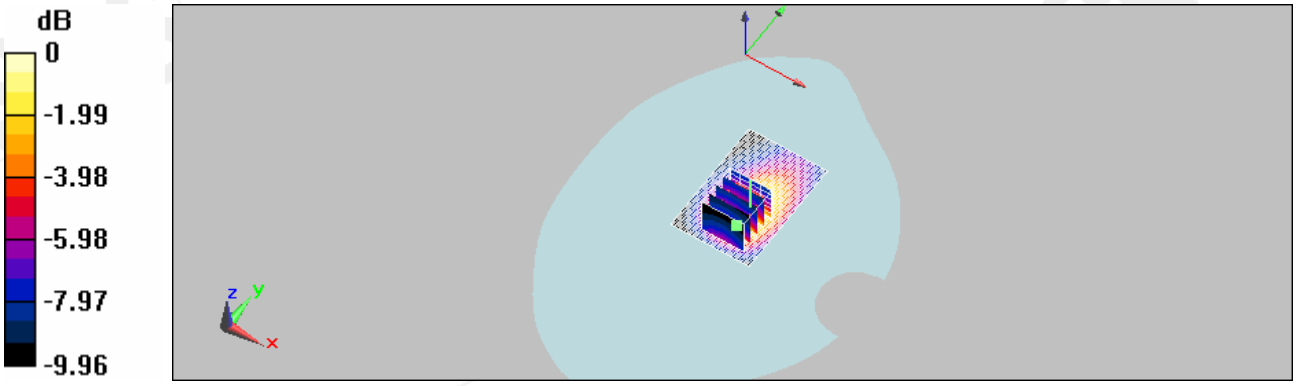
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.398 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17 V/m; Power Drift = -0.150 dB
Peak SAR (extrapolated) = 0.554 W/kg

SAR(1 g) = 0.319 mW/g; SAR(10 g) = 0.197 mW/g
Maximum value of SAR (measured) = 0.343 mW/g



0 dB = 0.343mW/g

Date/Time: 11/15/2008 06:56:57

Configuration 2_CH251

DUT: C177;

Communication System: GPRS 850; Frequency: 848.8 MHz;Duty Cycle: 1:2
Medium: BODY 900 Medium parameters used: f = 849 MHz; σ = 0.972 mho/m; ε_r = 56.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

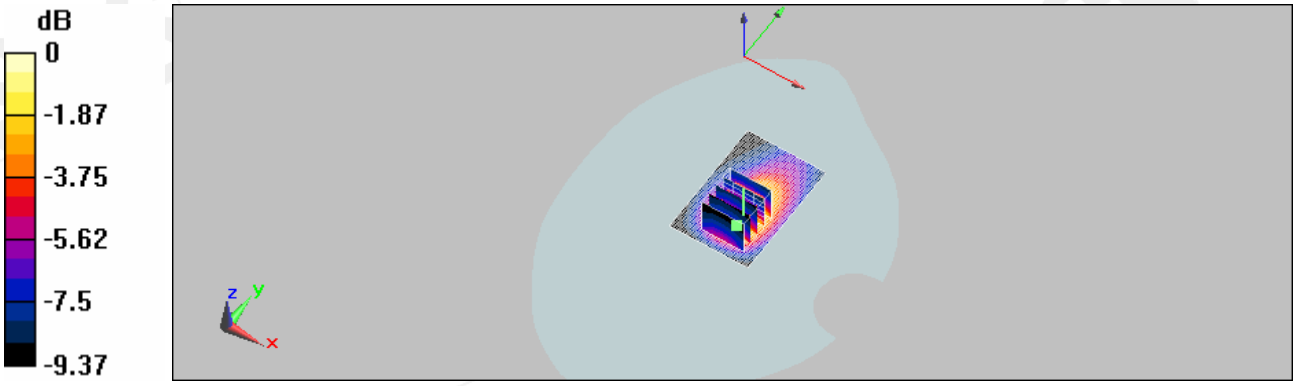
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.335 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.8 V/m; Power Drift = 0.00165 dB
Peak SAR (extrapolated) = 0.523 W/kg

SAR(1 g) = 0.285 mW/g; SAR(10 g) = 0.178 mW/g
Maximum value of SAR (measured) = 0.309 mW/g



0 dB = 0.309mW/g

Date/Time: 11/15/2008 07:32:34

Configuration 3_CH128

DUT: C177;

Communication System: GPRS 850; Frequency: 824.2 MHz;Duty Cycle: 1:2
Medium: BODY 900 Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.944 mho/m; ε_r = 56.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

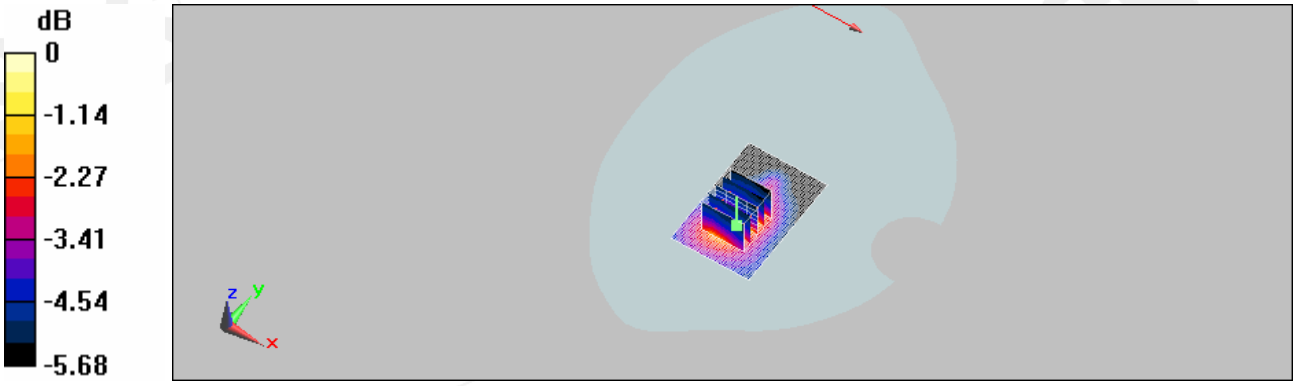
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.103 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.24 V/m; Power Drift = 0.105 dB
Peak SAR (extrapolated) = 0.150 W/kg

SAR(1 g) = 0.098 mW/g; SAR(10 g) = 0.067 mW/g
Maximum value of SAR (measured) = 0.109 mW/g



0 dB = 0.109mW/g

Date/Time: 11/15/2008 08:04:02

Configuration 3_CH190

DUT: C177;

Communication System: GPRS 850; Frequency: 836.6 MHz;Duty Cycle: 1:2
Medium: BODY 900 Medium parameters used: f = 837 MHz; σ = 0.958 mho/m; ε_r = 56.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

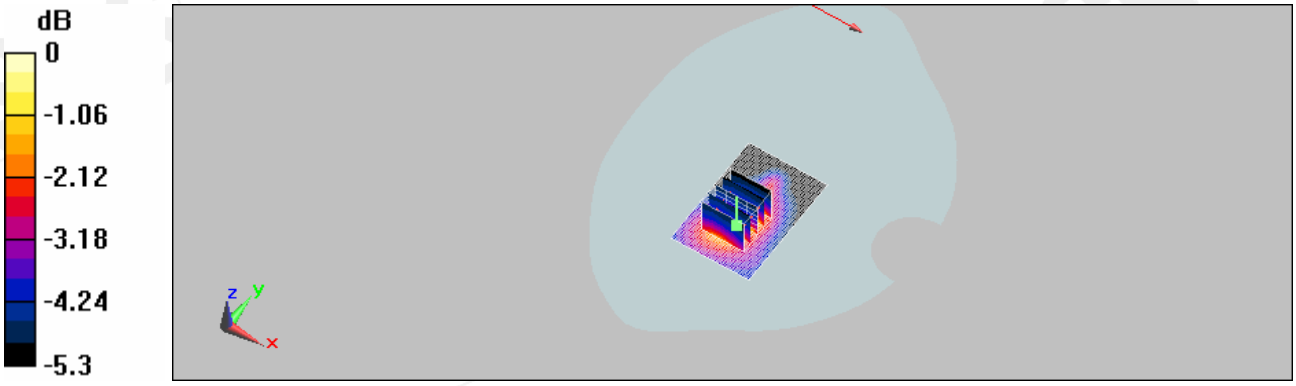
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.105 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.34 V/m; Power Drift = 0.181 dB
Peak SAR (extrapolated) = 0.147 W/kg

SAR(1 g) = 0.095 mW/g; SAR(10 g) = 0.066 mW/g
Maximum value of SAR (measured) = 0.104 mW/g



0 dB = 0.104mW/g

Date/Time: 11/15/2008 08:35:55

Configuration 3_CH251

DUT: C177;

Communication System: GPRS 850; Frequency: 848.8 MHz;Duty Cycle: 1:2
Medium: BODY 900 Medium parameters used: f = 849 MHz; σ = 0.972 mho/m; ε_r = 56.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

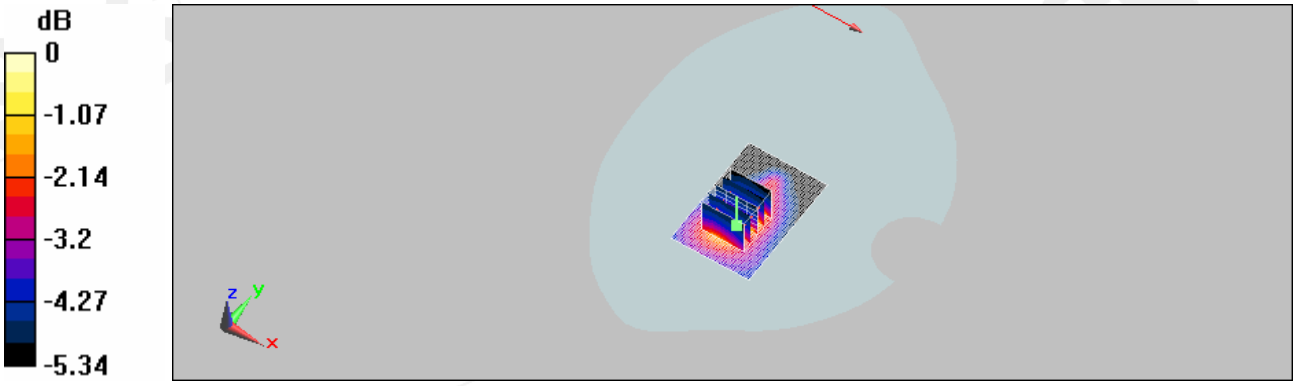
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.109 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.55 V/m; Power Drift = 0.074 dB
Peak SAR (extrapolated) = 0.153 W/kg

SAR(1 g) = 0.099 mW/g; SAR(10 g) = 0.068 mW/g
Maximum value of SAR (measured) = 0.108 mW/g



0 dB = 0.108mW/g

Date/Time: 11/15/2008 09:12:19

Configuration 4_CH128

DUT: C177;

Communication System: GPRS 850; Frequency: 824.2 MHz;Duty Cycle: 1:2
Medium: BODY 900 Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.944 mho/m; ε_r = 56.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

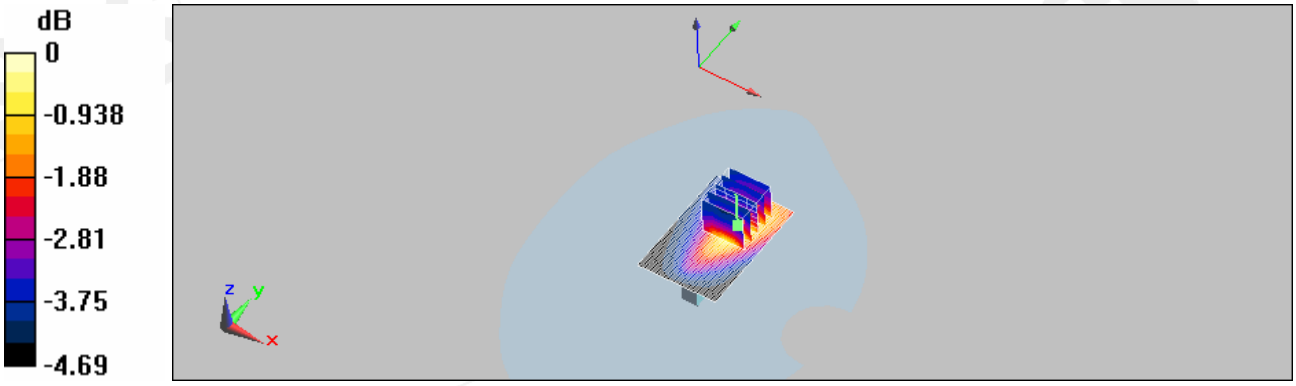
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.079 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.74 V/m; Power Drift = 0.164 dB
Peak SAR (extrapolated) = 0.105 W/kg

SAR(1 g) = 0.078 mW/g; SAR(10 g) = 0.059 mW/g
Maximum value of SAR (measured) = 0.081 mW/g



0 dB = 0.081mW/g

Date/Time: 11/15/2008 09:44:55

Configuration 4_CH190

DUT: C177;

Communication System: GPRS 850; Frequency: 836.6 MHz;Duty Cycle: 1:2
Medium: BODY 900 Medium parameters used: f = 837 MHz; σ = 0.958 mho/m; ε_r = 56.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

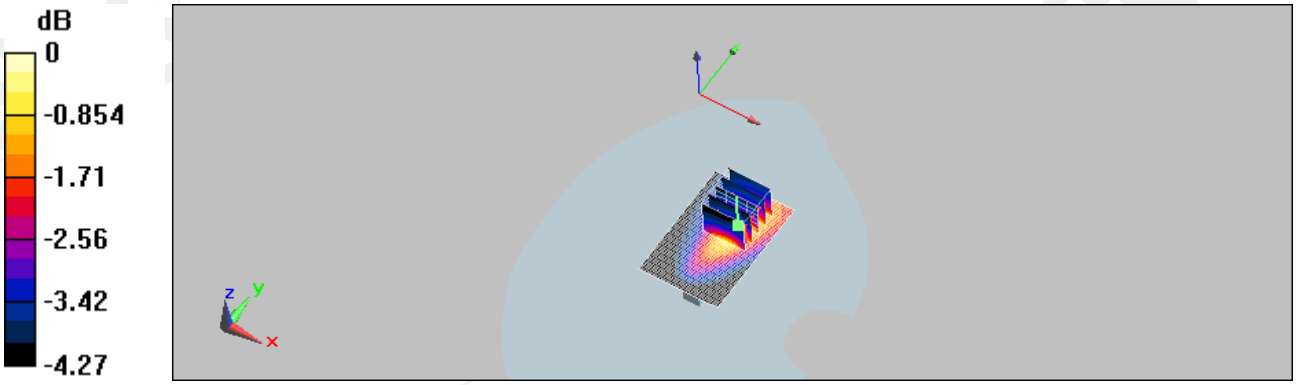
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.078 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.85 V/m; Power Drift = 0.060 dB
Peak SAR (extrapolated) = 0.104 W/kg

SAR(1 g) = 0.077 mW/g; SAR(10 g) = 0.058 mW/g
Maximum value of SAR (measured) = 0.082 mW/g



0 dB = 0.082mW/g

Date/Time: 11/15/2008 10:18:44

Configuration 4_CH251

DUT: C177;

Communication System: GPRS 850; Frequency: 848.8 MHz;Duty Cycle: 1:2
Medium: BODY 900 Medium parameters used: f = 849 MHz; σ = 0.972 mho/m; ε_r = 56.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

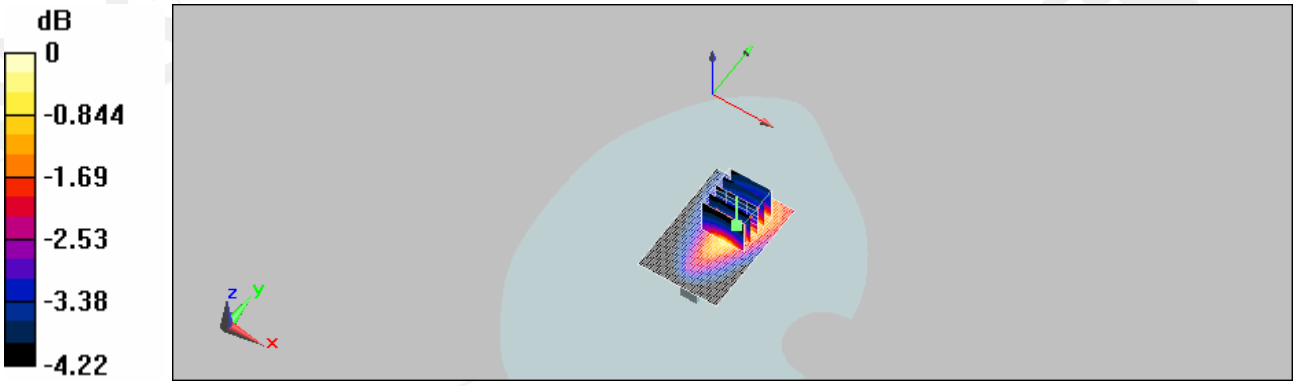
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.081 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.96 V/m; Power Drift = 0.070 dB
Peak SAR (extrapolated) = 0.105 W/kg

SAR(1 g) = 0.078 mW/g; SAR(10 g) = 0.059 mW/g
Maximum value of SAR (measured) = 0.083 mW/g



0 dB = 0.083mW/g

Date/Time: 11/17/2008 09:47:07

Configuration 1_CH512

DUT: C177;

Communication System: GPRS 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:2
Medium: BODY 1900 Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.43 mho/m; ε_r = 52.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

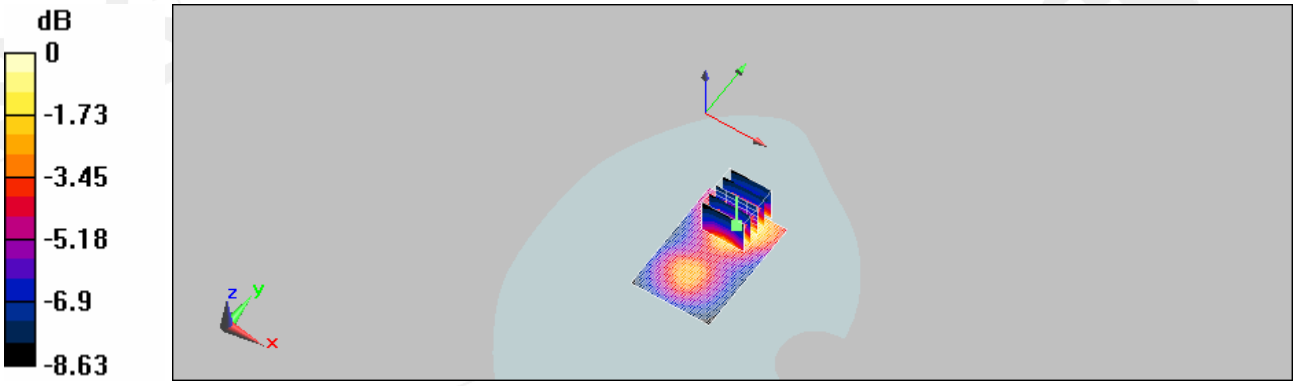
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.341 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.8 V/m; Power Drift = -0.104 dB
Peak SAR (extrapolated) = 0.518 W/kg

SAR(1 g) = 0.320 mW/g; SAR(10 g) = 0.197 mW/g
Maximum value of SAR (measured) = 0.326 mW/g



0 dB = 0.326mW/g

Date/Time: 11/17/2008 10:24:07

Configuration 1_CH661

DUT: C177;

Communication System: GPRS 1900; Frequency: 1880 MHz;Duty Cycle: 1:2
Medium: BODY 1900 Medium parameters used: f = 1880 MHz; σ = 1.46 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

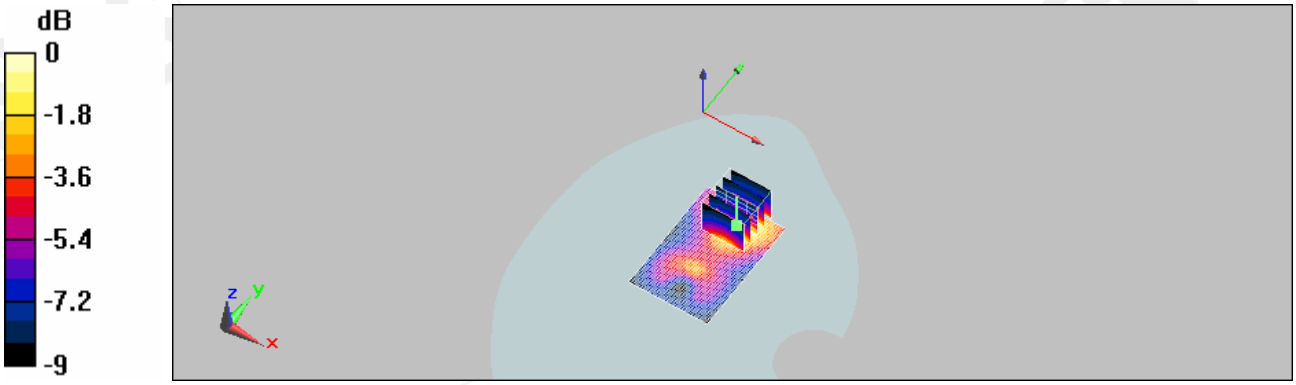
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.343 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.9 V/m; Power Drift = -0.057 dB
Peak SAR (extrapolated) = 0.505 W/kg

SAR(1 g) = 0.309 mW/g; SAR(10 g) = 0.186 mW/g
Maximum value of SAR (measured) = 0.327 mW/g



0 dB = 0.327mW/g

Date/Time: 11/17/2008 11:57:24

Configuration 1_CH810

DUT: C177;

Communication System: GPRS 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:2
Medium: BODY 1900 Medium parameters used: f = 1910 MHz; σ = 1.47 mho/m; ε_r = 52.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

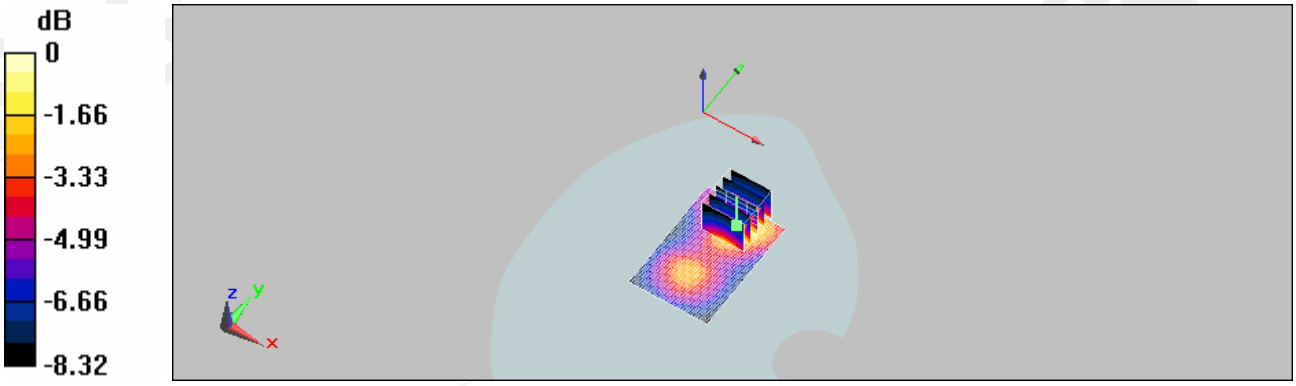
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.272 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.3 V/m; Power Drift = -0.066 dB
Peak SAR (extrapolated) = 0.415 W/kg

SAR(1 g) = 0.254 mW/g; SAR(10 g) = 0.155 mW/g
Maximum value of SAR (measured) = 0.269 mW/g



0 dB = 0.269mW/g

Date/Time: 11/17/2008 12:46:11

Configuration 2_CH512

DUT: C177;

Communication System: GPRS 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:2
Medium: BODY 1900 Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.43 mho/m; ε_r = 52.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

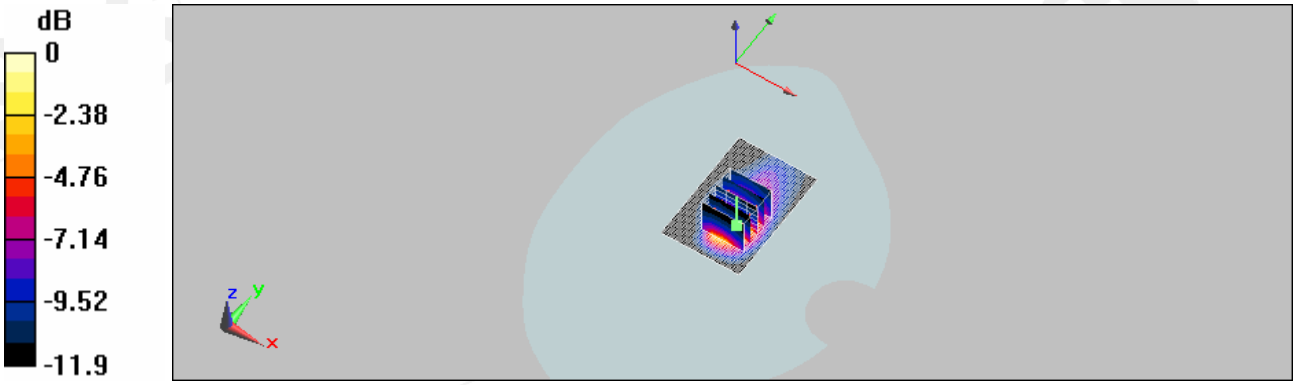
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.950 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.4 V/m; Power Drift = 0.018 dB
Peak SAR (extrapolated) = 1.64 W/kg

SAR(1 g) = 0.708 mW/g; SAR(10 g) = 0.353 mW/g
Maximum value of SAR (measured) = 0.794 mW/g



0 dB = 0.794mW/g

Date/Time: 11/17/2008 13:20:08

Configuration 2_CH661

DUT: C177;

Communication System: GPRS 1900; Frequency: 1880 MHz;Duty Cycle: 1:2
Medium: BODY 1900 Medium parameters used: f = 1880 MHz; σ = 1.46 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

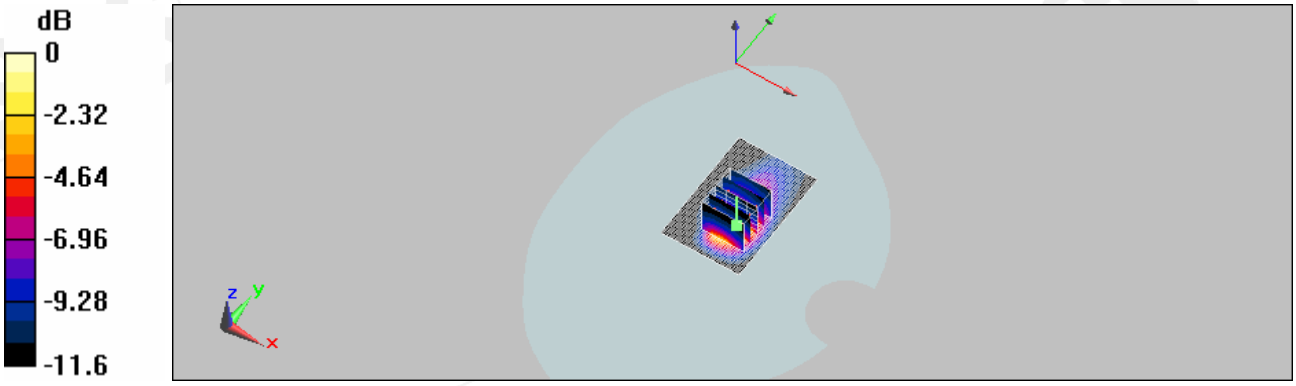
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.860 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.9 V/m; Power Drift = -0.000418 dB
Peak SAR (extrapolated) = 1.5 W/kg

SAR(1 g) = 0.645 mW/g; SAR(10 g) = 0.319 mW/g
Maximum value of SAR (measured) = 0.726 mW/g



0 dB = 0.726mW/g

Date/Time: 11/17/2008 13:55:23

Configuration 2_CH810

DUT: C177;

Communication System: GPRS 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:2
Medium: BODY 1900 Medium parameters used: f = 1910 MHz; σ = 1.47 mho/m; ε_r = 52.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

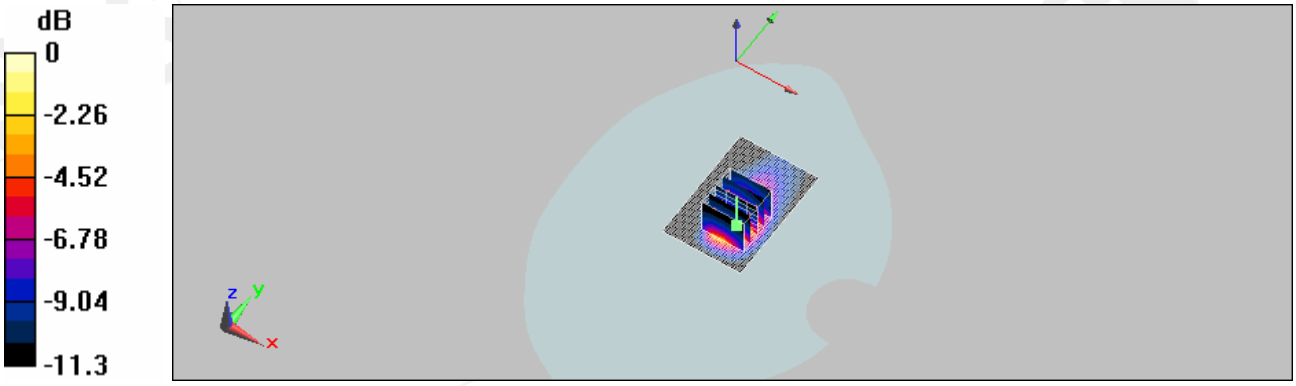
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.804 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.6 V/m; Power Drift = 0.0047 dB
Peak SAR (extrapolated) = 1.53 W/kg

SAR(1 g) = 0.602 mW/g; SAR(10 g) = 0.297 mW/g
Maximum value of SAR (measured) = 0.654 mW/g



0 dB = 0.654mW/g

Date/Time: 11/17/2008 14:33:43

Configuration 3_CH512

DUT: C177

Communication System: GPRS 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:2
Medium: BODY 1900 Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.43 mho/m; ε_r = 52.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

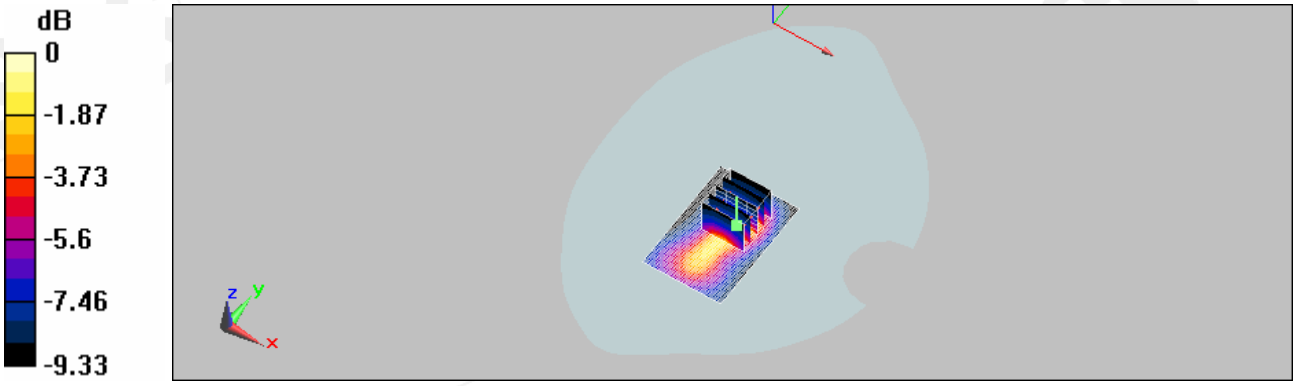
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.551 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.5 V/m; Power Drift = 0.102 dB
Peak SAR (extrapolated) = 0.925 W/kg

SAR(1 g) = 0.449 mW/g; SAR(10 g) = 0.240 mW/g
Maximum value of SAR (measured) = 0.501 mW/g



0 dB = 0.501mW/g

Date/Time: 11/17/2008 15:04:48

Configuration 3_CH661

DUT: C177;

Communication System: GPRS 1900; Frequency: 1880 MHz;Duty Cycle: 1:2
Medium: BODY 1900 Medium parameters used: f = 1880 MHz; σ = 1.46 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

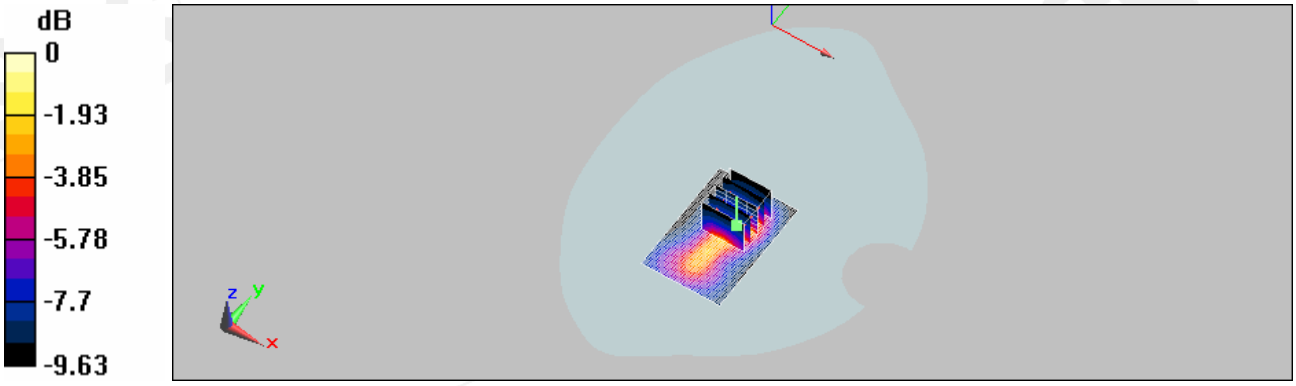
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.519 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.4 V/m; Power Drift = -0.169 dB
Peak SAR (extrapolated) = 1.04 W/kg

SAR(1 g) = 0.487 mW/g; SAR(10 g) = 0.254 mW/g
Maximum value of SAR (measured) = 0.548 mW/g



0 dB = 0.548mW/g

Date/Time: 11/17/2008 15:37:21

Configuration 3_CH810

DUT: C177;

Communication System: GPRS 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:2
Medium: BODY 1900 Medium parameters used: f = 1910 MHz; σ = 1.47 mho/m; ε_r = 52.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

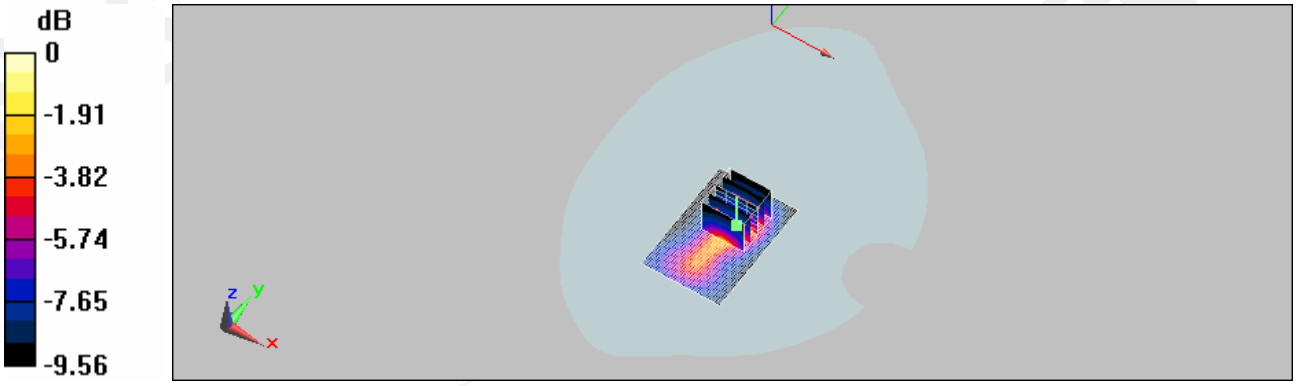
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.500 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.87 V/m; Power Drift = 0.184 dB
Peak SAR (extrapolated) = 1.05 W/kg

SAR(1 g) = 0.484 mW/g; SAR(10 g) = 0.249 mW/g
Maximum value of SAR (measured) = 0.537 mW/g



0 dB = 0.537mW/g

Date/Time: 11/17/2008 16:26:08

Configuration 4_CH512

DUT: C177;

Communication System: GPRS 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:2
Medium: BODY 1900 Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.43 mho/m; ε_r = 52.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

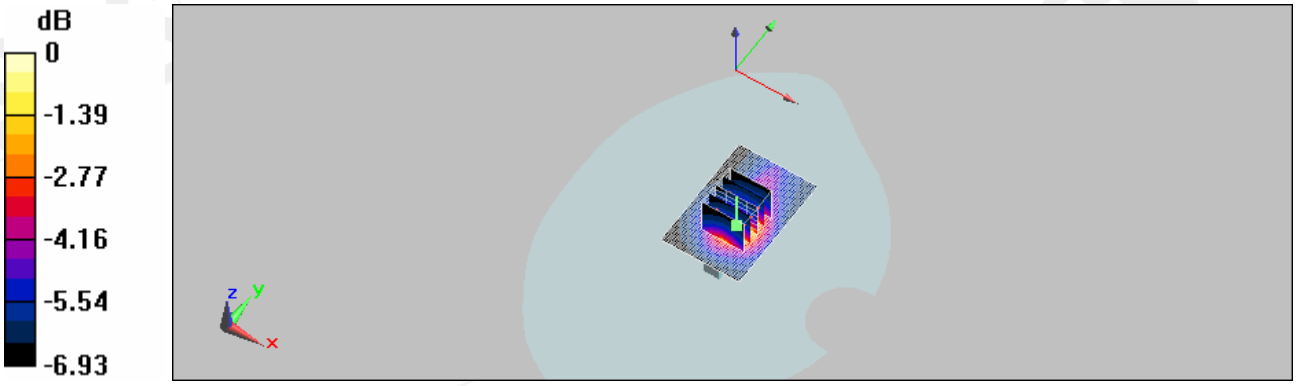
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.391 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.88 V/m; Power Drift = -0.116 dB
Peak SAR (extrapolated) = 0.504 W/kg

SAR(1 g) = 0.312 mW/g; SAR(10 g) = 0.195 mW/g
Maximum value of SAR (measured) = 0.336 mW/g



0 dB = 0.336mW/g

Date/Time: 11/17/2008 16:59:27

Configuration 4_CH661

DUT: C177

Communication System: GPRS 1900; Frequency: 1880 MHz;Duty Cycle: 1:2
Medium: BODY 1900 Medium parameters used: f = 1880 MHz; σ = 1.46 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

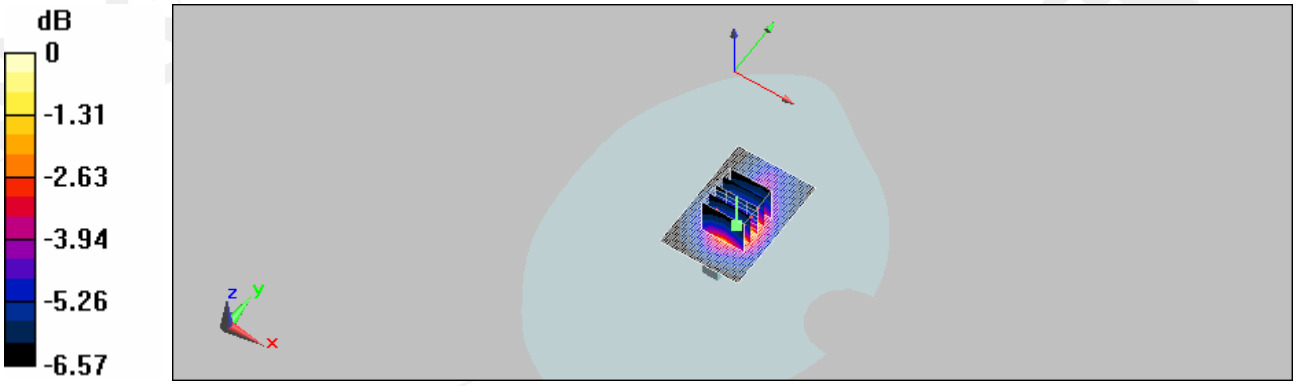
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.325 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.88 V/m; Power Drift = -0.140 dB
Peak SAR (extrapolated) = 0.439 W/kg

SAR(1 g) = 0.265 mW/g; SAR(10 g) = 0.168 mW/g
Maximum value of SAR (measured) = 0.284 mW/g



0 dB = 0.284mW/g

Date/Time: 11/17/2008 17:29:44

Configuration 4_CH810

DUT: C177;

Communication System: GPRS 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:2
Medium: BODY 1900 Medium parameters used: f = 1910 MHz; σ = 1.47 mho/m; ε_r = 52.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

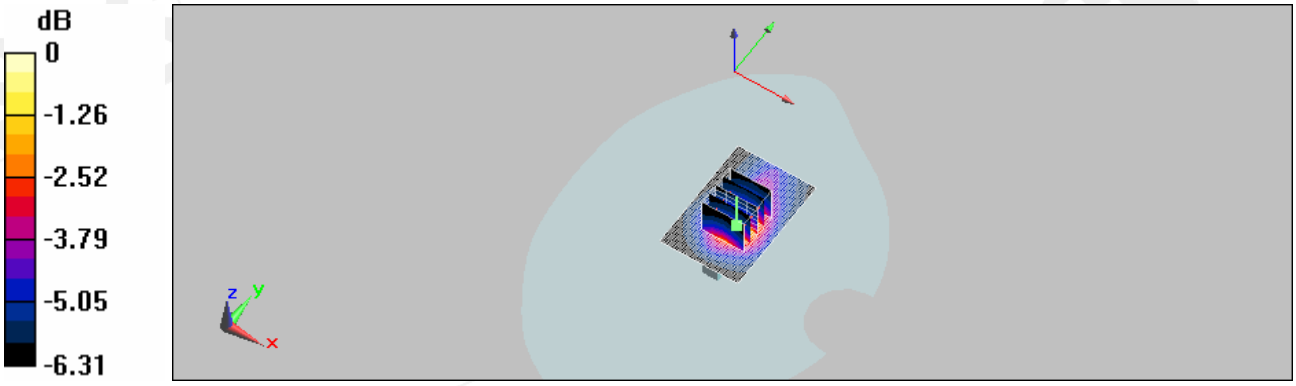
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.286 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.32 V/m; Power Drift = -0.104 dB
Peak SAR (extrapolated) = 0.392 W/kg

SAR(1 g) = 0.238 mW/g; SAR(10 g) = 0.152 mW/g
Maximum value of SAR (measured) = 0.255 mW/g



0 dB = 0.255mW/g

Date/Time: 11/19/2008 04:08:29

Configuration 1_CH9262

DUT: C177;

Communication System: WCDMA B2; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium: BODY 1900 Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.43 mho/m; ε_r = 52.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

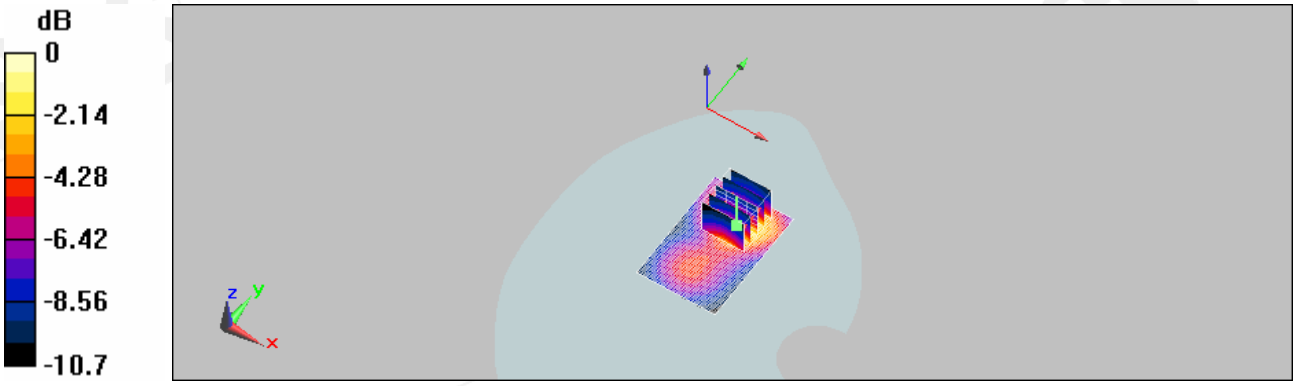
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.495 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.3 V/m; Power Drift = -0.059 dB
Peak SAR (extrapolated) = 0.759 W/kg

SAR(1 g) = 0.461 mW/g; SAR(10 g) = 0.269 mW/g
Maximum value of SAR (measured) = 0.514 mW/g



0 dB = 0.514mW/g

Date/Time: 11/19/2008 04:41:20

Configuration 1_CH9400

DUT: C177;

Communication System: WCDMA B2; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: BODY 1900 Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

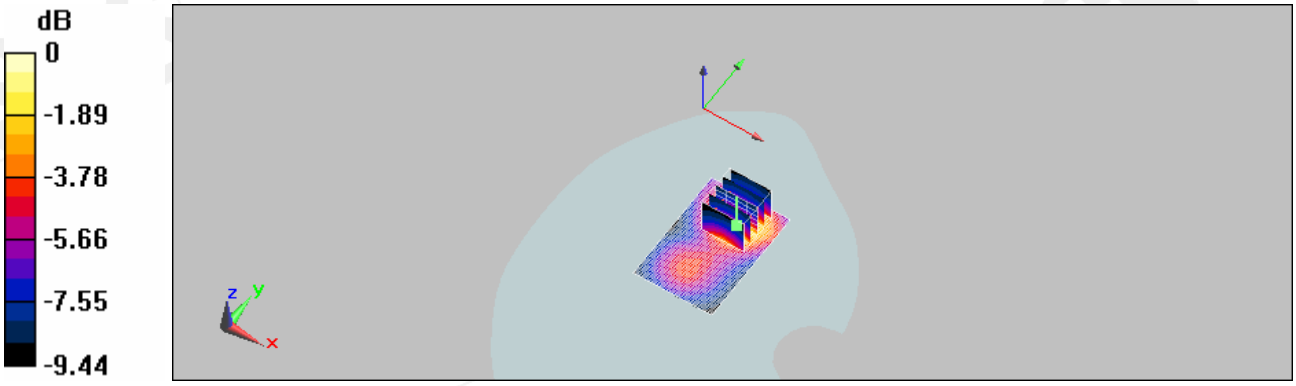
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.320 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.57 V/m; Power Drift = -0.108 dB
Peak SAR (extrapolated) = 0.481 W/kg

SAR(1 g) = 0.294 mW/g; SAR(10 g) = 0.175 mW/g
Maximum value of SAR (measured) = 0.324 mW/g



0 dB = 0.324mW/g

Date/Time: 11/19/2008 05:17:42

Configuration 1_CH9538

DUT: C177;

Communication System: WCDMA B2; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium: BODY 1900 Medium parameters used: f = 1908 MHz; σ = 1.47 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

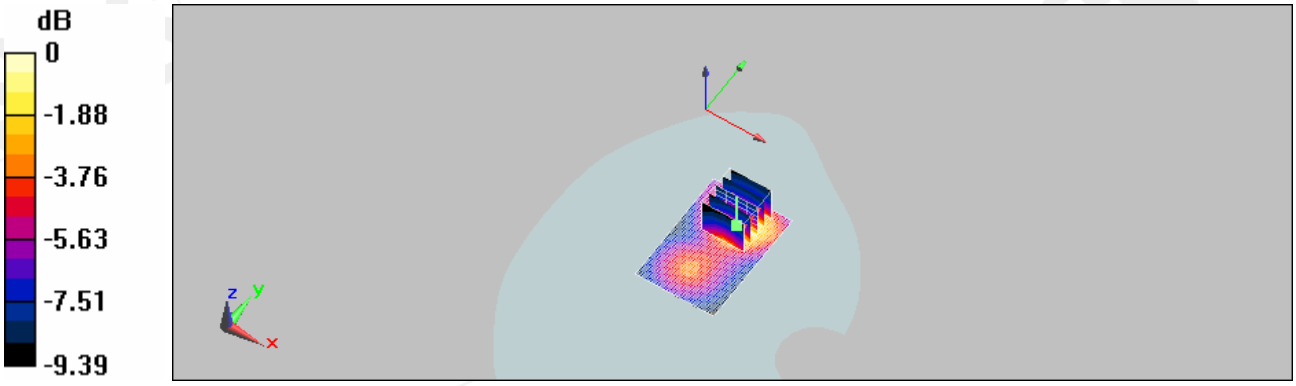
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.315 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.55 V/m; Power Drift = -0.117 dB
Peak SAR (extrapolated) = 0.442 W/kg

SAR(1 g) = 0.270 mW/g; SAR(10 g) = 0.162 mW/g
Maximum value of SAR (measured) = 0.294 mW/g



0 dB = 0.294mW/g

Date/Time: 11/17/2008 05:54:45

Configuration 2_CH9262

DUT: C177;

Communication System: WCDMA B2; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium: BODY 1900 Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.43 mho/m; ε_r = 52.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

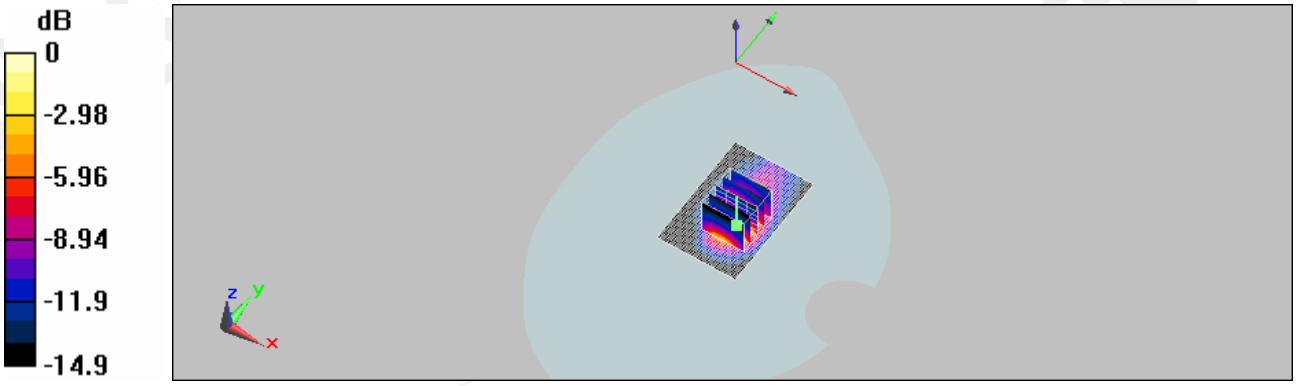
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

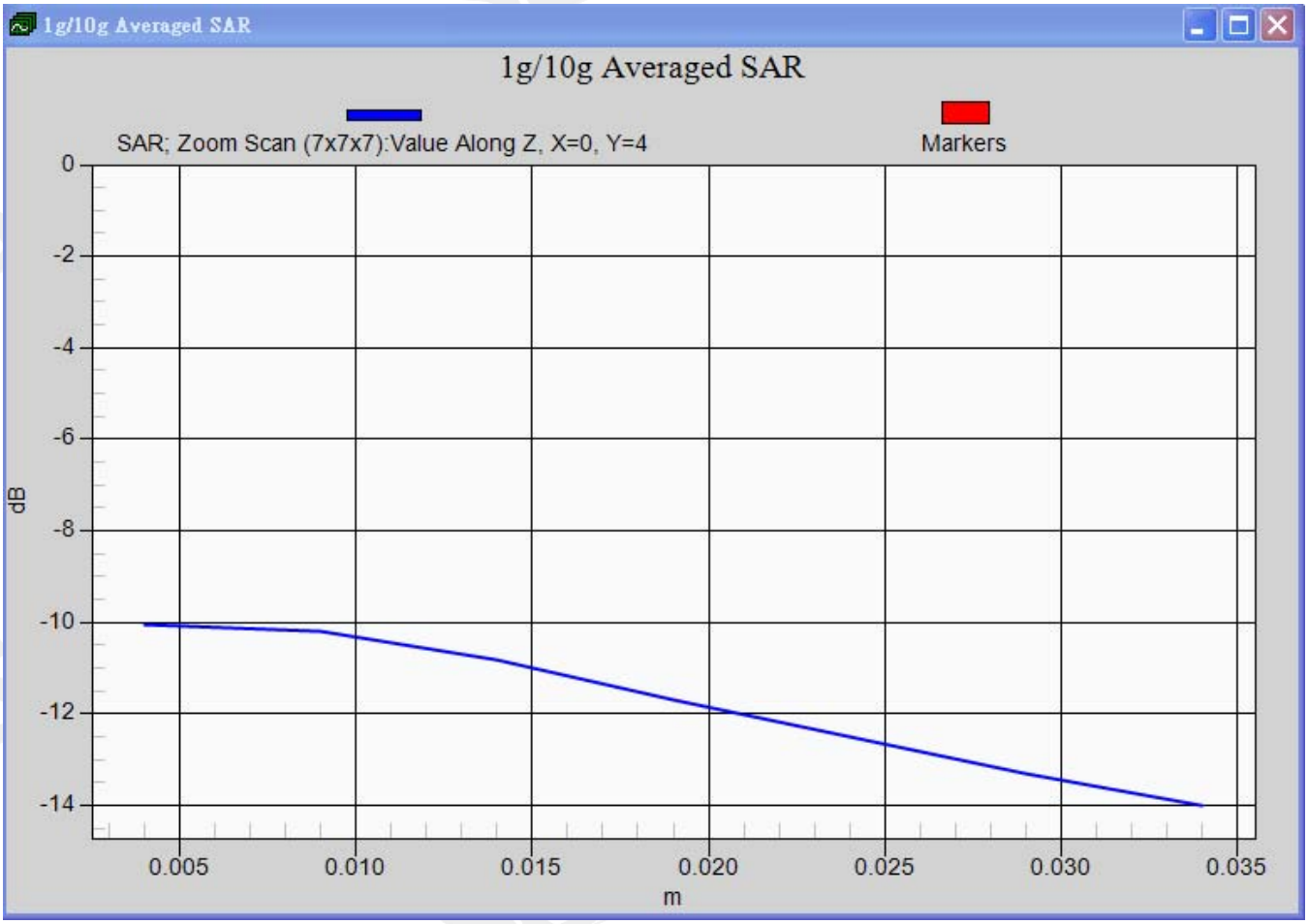
Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.22 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.7 V/m; Power Drift = 0.189 dB
Peak SAR (extrapolated) = 2.1 W/kg

SAR(1 g) = 0.900 mW/g; SAR(10 g) = 0.427 mW/g
Maximum value of SAR (measured) = 1 mW/g



0 dB = 1mW/g



Date/Time: 11/19/2008 06:28:20

Configuration 2_CH9400

DUT: C177;

Communication System: WCDMA B2; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: BODY 1900 Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

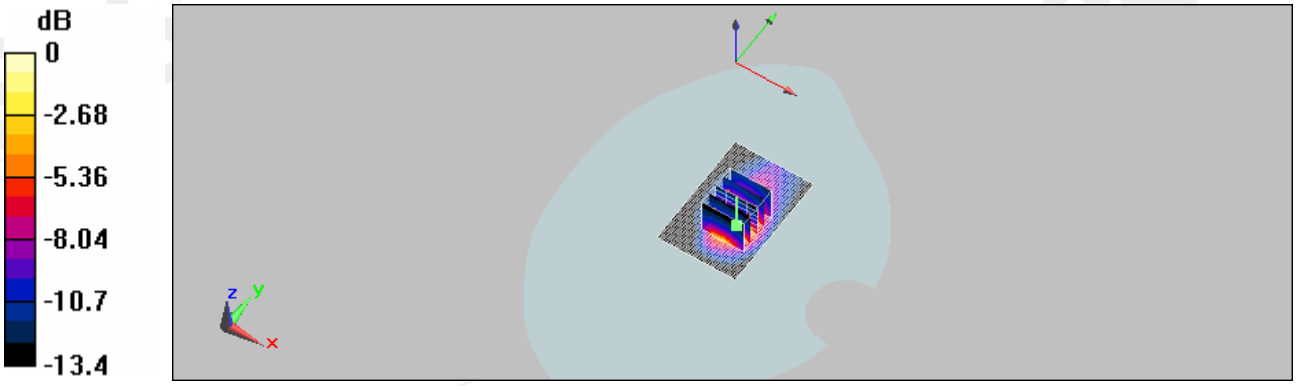
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.880 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.8 V/m; Power Drift = -0.103 dB
Peak SAR (extrapolated) = 1.34 W/kg

SAR(1 g) = 0.561 mW/g; SAR(10 g) = 0.271 mW/g
Maximum value of SAR (measured) = 0.627 mW/g



0 dB = 0.627mW/g

Date/Time: 11/19/2008 07:01:18

Configuration 2_CH9538

DUT: C177;

Communication System: WCDMA B2; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium: BODY 1900 Medium parameters used: f = 1908 MHz; σ = 1.47 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

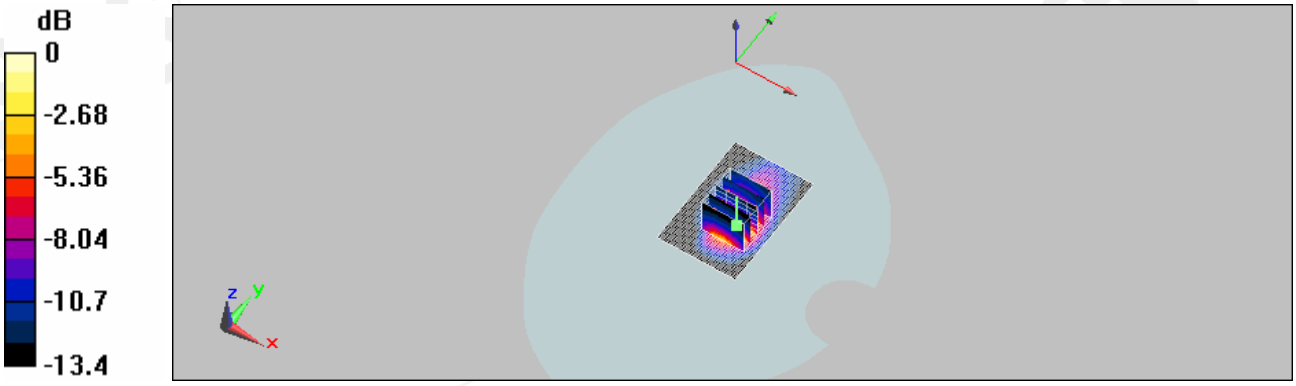
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.909 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14 V/m; Power Drift = -0.086 dB
Peak SAR (extrapolated) = 1.46 W/kg

SAR(1 g) = 0.588 mW/g; SAR(10 g) = 0.280 mW/g
Maximum value of SAR (measured) = 0.659 mW/g



0 dB = 0.659mW/g

Date/Time: 11/19/2008 07:32:44

Configuration 3_CH9262

DUT: C177;

Communication System: WCDMA B2; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium: BODY 1900 Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.43 mho/m; ε_r = 52.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

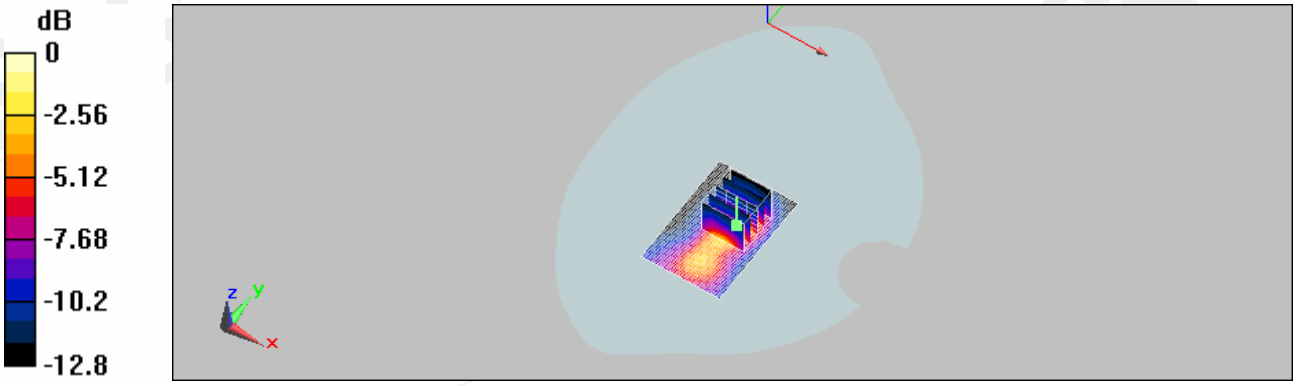
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.649 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.8 V/m; Power Drift = 0.150 dB
Peak SAR (extrapolated) = 1.36 W/kg

SAR(1 g) = 0.636 mW/g; SAR(10 g) = 0.309 mW/g
Maximum value of SAR (measured) = 0.731 mW/g



0 dB = 0.731mW/g

Date/Time: 11/19/2008 08:08:38

Configuration 3_CH9400

DUT: C177;

Communication System: WCDMA B2; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: BODY 1900 Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

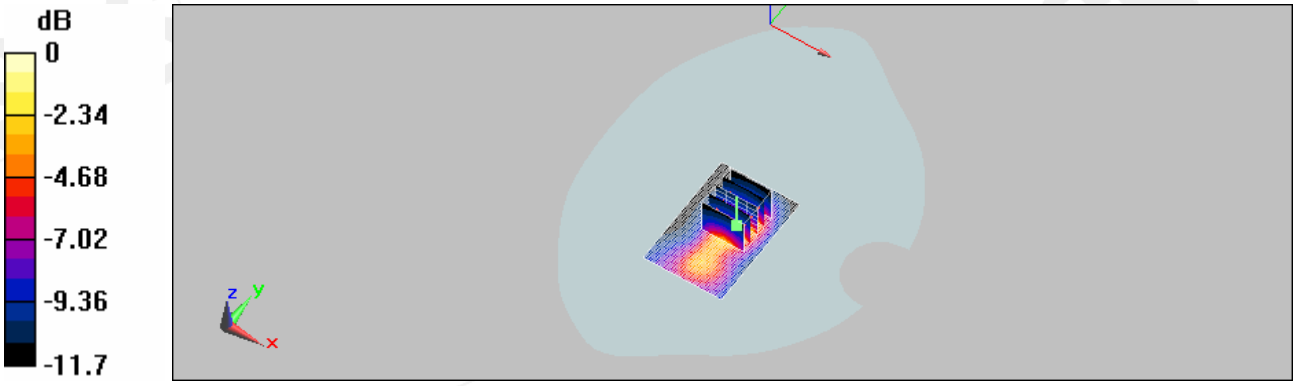
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.552 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10 V/m; Power Drift = 0.042 dB
Peak SAR (extrapolated) = 1.02 W/kg

SAR(1 g) = 0.472 mW/g; SAR(10 g) = 0.232 mW/g
Maximum value of SAR (measured) = 0.533 mW/g



0 dB = 0.533mW/g

Date/Time: 11/19/2008 08:41:01

Configuration 3_CH9538

DUT: C177;

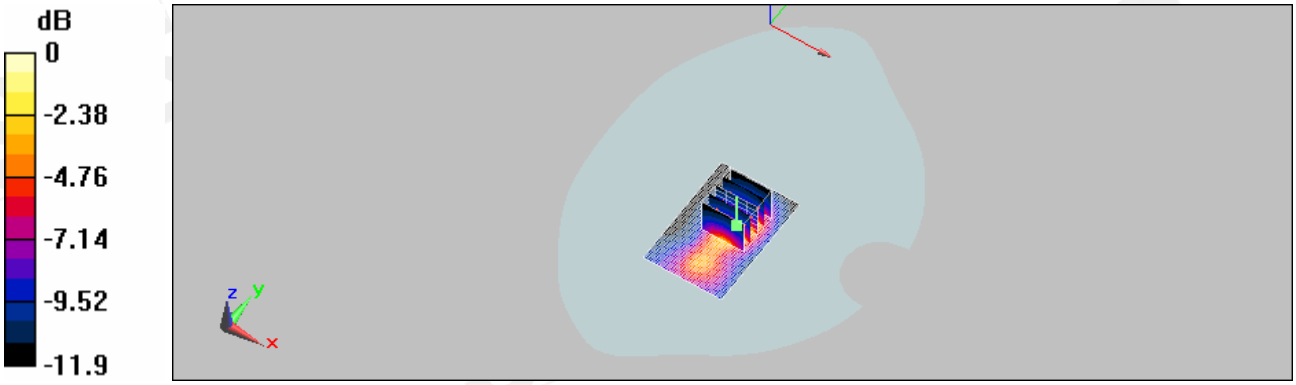
Communication System: WCDMA B2; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium: BODY 1900 Medium parameters used: f = 1908 MHz; σ = 1.47 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.570 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.96 V/m; Power Drift = -0.056 dB
Peak SAR (extrapolated) = 1.06 W/kg
SAR(1 g) = 0.486 mW/g; SAR(10 g) = 0.236 mW/g
Maximum value of SAR (measured) = 0.547 mW/g



0 dB = 0.547mW/g

Date/Time: 11/19/2008 09:24:13

Configuration 4_CH9262

DUT: C177;

Communication System: WCDMA B2; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium: BODY 1900 Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.43 mho/m; ε_r = 52.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

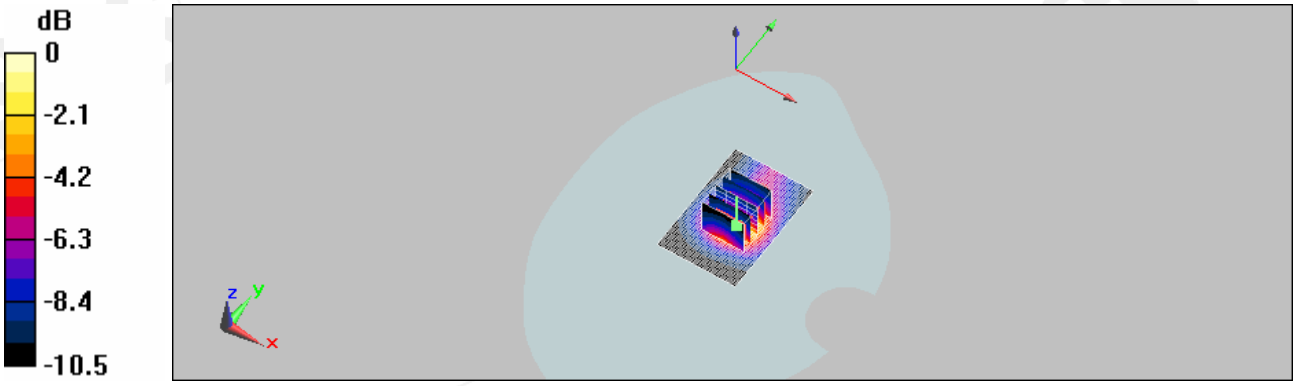
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.447 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.95 V/m; Power Drift = -0.145 dB
Peak SAR (extrapolated) = 0.573 W/kg

SAR(1 g) = 0.342 mW/g; SAR(10 g) = 0.195 mW/g
Maximum value of SAR (measured) = 0.375 mW/g



0 dB = 0.375mW/g

Date/Time: 11/19/2008 09:55:48

Configuration 4_CH9400

DUT: C177;

Communication System: WCDMA B2; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: BODY 1900 Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

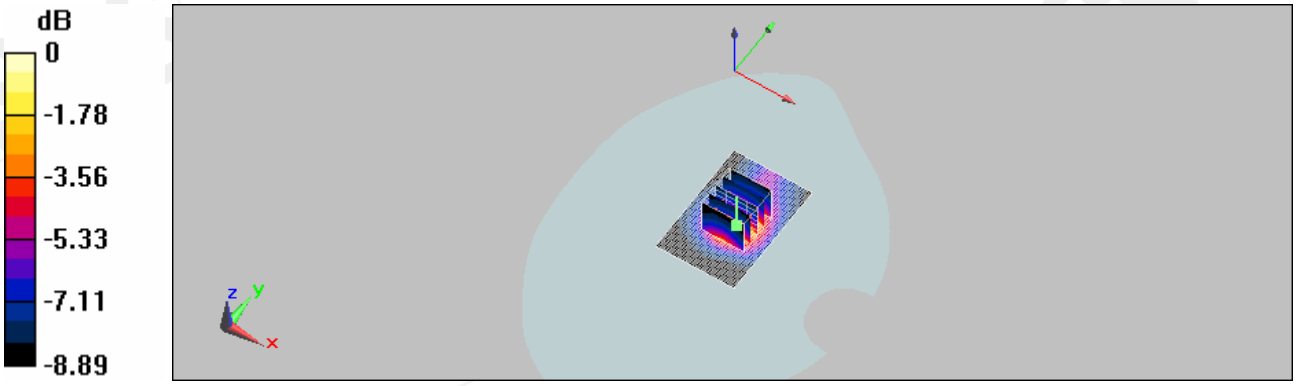
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.264 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.59 V/m; Power Drift = -0.096 dB
Peak SAR (extrapolated) = 0.376 W/kg

SAR(1 g) = 0.220 mW/g; SAR(10 g) = 0.129 mW/g
Maximum value of SAR (measured) = 0.241 mW/g



0 dB = 0.241mW/g

Date/Time: 11/19/2008 10:28:20

Configuration 4_CH9538

DUT: C177;

Communication System: WCDMA B2; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium: BODY 1900 Medium parameters used: f = 1908 MHz; σ = 1.47 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

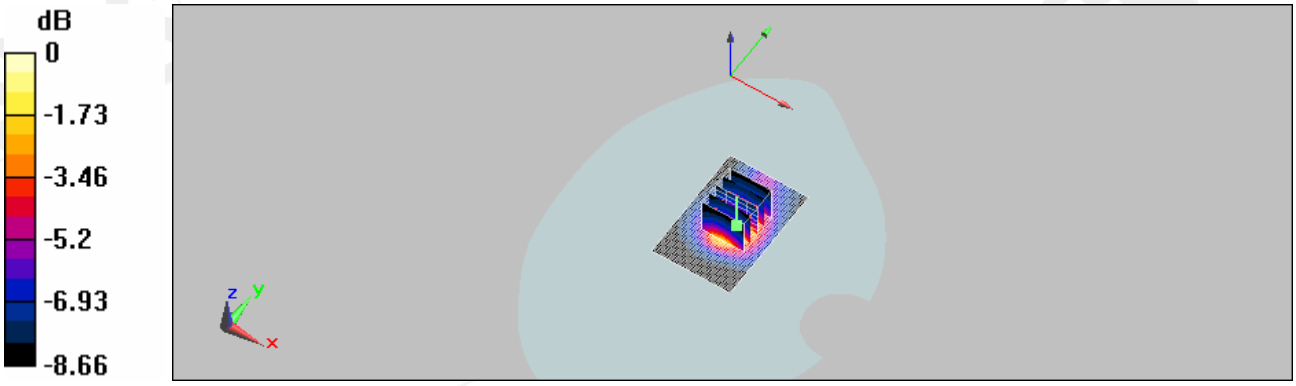
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.248 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.32 V/m; Power Drift = 0.00334 dB
Peak SAR (extrapolated) = 0.365 W/kg

SAR(1 g) = 0.213 mW/g; SAR(10 g) = 0.125 mW/g
Maximum value of SAR (measured) = 0.229 mW/g



0 dB = 0.229mW/g

Date/Time: 11/19/2008 11:11:28

Configuration 1_CH9262 with HSDPA mode

DUT: C177;

Communication System: WCDMA B2; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium: BODY 1900 Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.43 mho/m; ε_r = 52.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

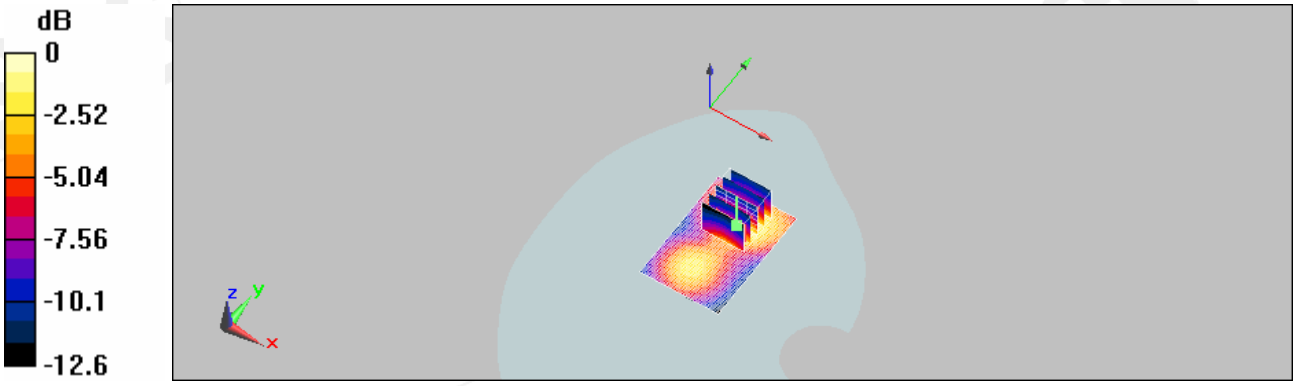
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.364 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.2 V/m; Power Drift = -0.122 dB
Peak SAR (extrapolated) = 0.520 W/kg

SAR(1 g) = 0.315 mW/g; SAR(10 g) = 0.182 mW/g
Maximum value of SAR (measured) = 0.354 mW/g



0 dB = 0.354mW/g

Date/Time: 11/19/2008 11:46:32

Configuration 1_CH9400 with HSDPA mode

DUT: C177

Communication System: WCDMA B2; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: BODY 1900 Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

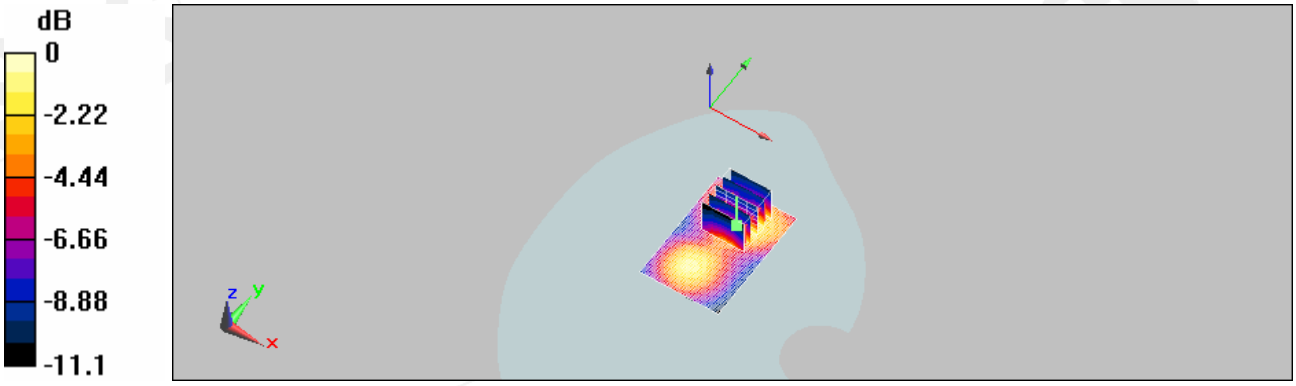
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.231 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.35 V/m; Power Drift = -0.108 dB
Peak SAR (extrapolated) = 0.332 W/kg

SAR(1 g) = 0.205 mW/g; SAR(10 g) = 0.123 mW/g
Maximum value of SAR (measured) = 0.218 mW/g



0 dB = 0.218mW/g

Date/Time: 11/19/2008 12:16:10

Configuration 1_CH9538 with HSDPA mode

DUT: C177;

Communication System: WCDMA B2; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium: BODY 1900 Medium parameters used: f = 1908 MHz; σ = 1.47 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

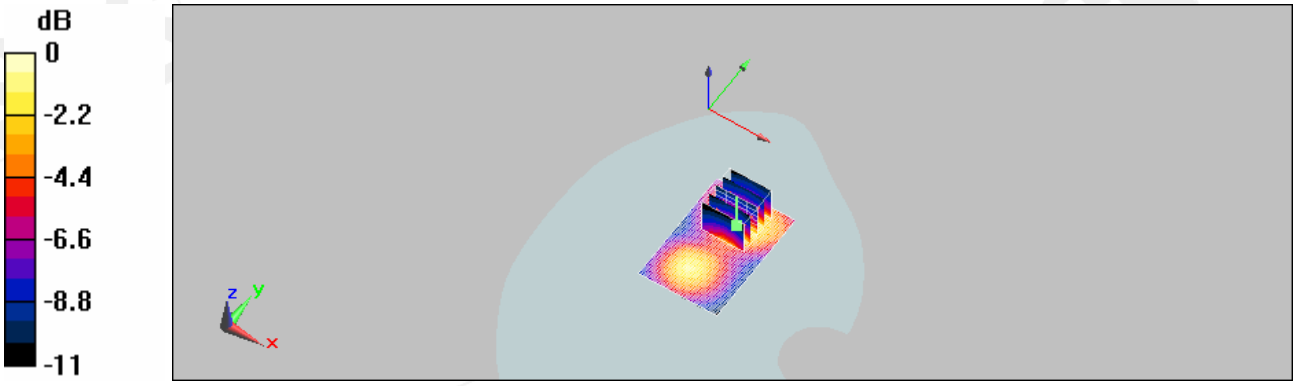
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.191 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.85 V/m; Power Drift = -0.106 dB
Peak SAR (extrapolated) = 0.309 W/kg

SAR(1 g) = 0.185 mW/g; SAR(10 g) = 0.106 mW/g
Maximum value of SAR (measured) = 0.205 mW/g



0 dB = 0.205mW/g

Date/Time: 11/19/2008 12:49:13

Configuration 2_CH9262 with HSDPA mode

DUT: C177;

Communication System: WCDMA B2; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium: BODY 1900 Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.43 mho/m; ε_r = 52.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

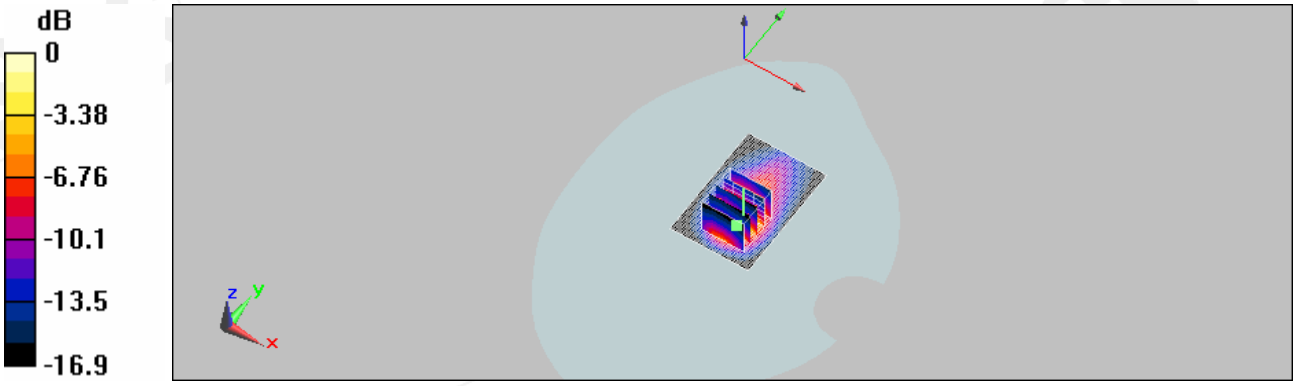
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.672 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.3 V/m; Power Drift = 0.154 dB
Peak SAR (extrapolated) = 1.63 W/kg

SAR(1 g) = 0.729 mW/g; SAR(10 g) = 0.357 mW/g
Maximum value of SAR (measured) = 0.835 mW/g



0 dB = 0.835mW/g

Date/Time: 11/19/2008 13:26:07

Configuration 2_CH9400 with HSDPA mode

DUT: C177;

Communication System: WCDMA B2; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: BODY 1900 Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

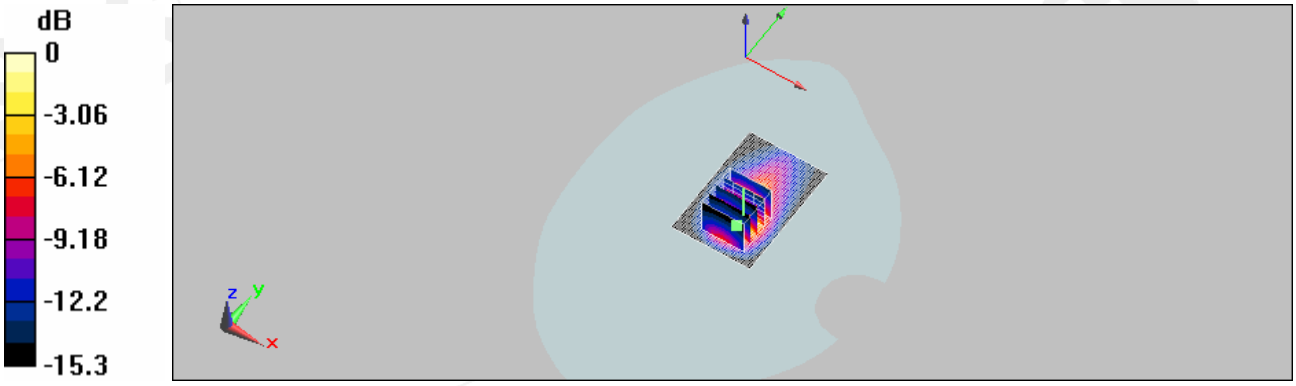
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.587 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.2 V/m; Power Drift = 0.081 dB
Peak SAR (extrapolated) = 1.06 W/kg

SAR(1 g) = 0.471 mW/g; SAR(10 g) = 0.230 mW/g
Maximum value of SAR (measured) = 0.542 mW/g



0 dB = 0.542mW/g

Date/Time: 11/19/2008 13:59:35

Configuration 2_CH9538 with HSDPA mode

DUT: C177;

Communication System: WCDMA B2; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium: BODY 1900 Medium parameters used: f = 1908 MHz; σ = 1.47 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

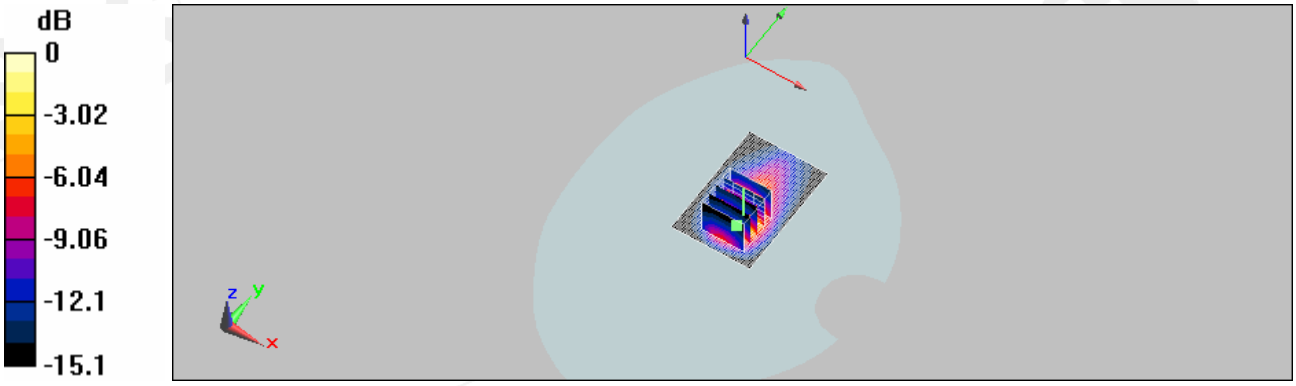
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.579 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.3 V/m; Power Drift = -0.055 dB
Peak SAR (extrapolated) = 1.06 W/kg

SAR(1 g) = 0.451 mW/g; SAR(10 g) = 0.220 mW/g
Maximum value of SAR (measured) = 0.522 mW/g



0 dB = 0.522mW/g

Date/Time: 11/19/2008 14:46:44

Configuration 3_CH9262 with HSDPA mode

DUT: C177;

Communication System: WCDMA B2; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium: BODY 1900 Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.43 mho/m; ε_r = 52.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

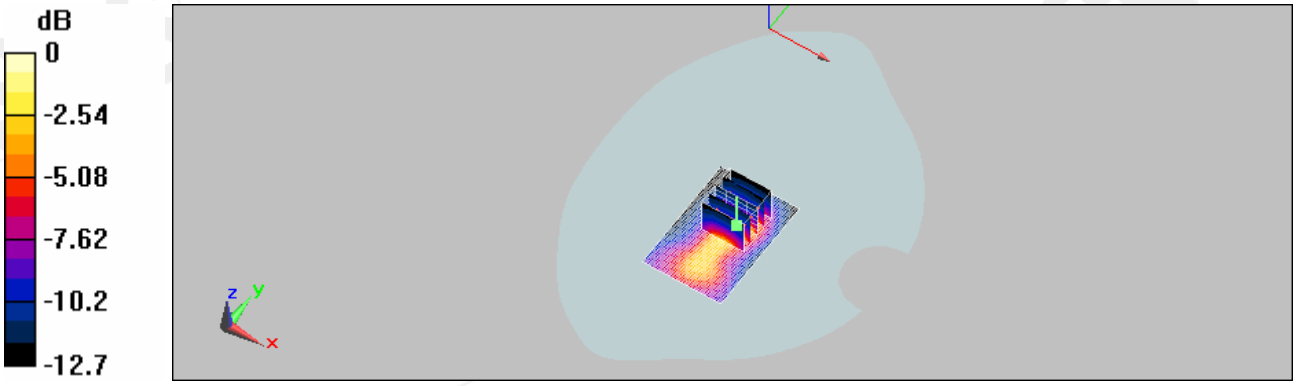
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.249 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.46 V/m; Power Drift = 0.115 dB
Peak SAR (extrapolated) = 0.569 W/kg

SAR(1 g) = 0.254 mW/g; SAR(10 g) = 0.120 mW/g
Maximum value of SAR (measured) = 0.278 mW/g



0 dB = 0.278mW/g

Date/Time: 11/19/2008 15:22:24

Configuration 3_CH9400 with HSDPA mode

DUT: C177;

Communication System: WCDMA B2; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: BODY 1900 Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

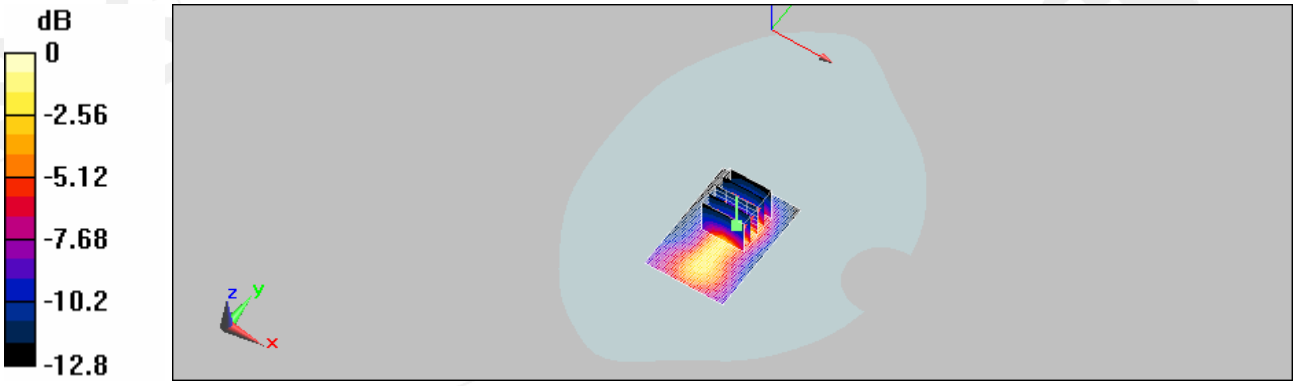
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.280 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.45 V/m; Power Drift = 0.117 dB
Peak SAR (extrapolated) = 0.562 W/kg

SAR(1 g) = 0.252 mW/g; SAR(10 g) = 0.119 mW/g
Maximum value of SAR (measured) = 0.285 mW/g



0 dB = 0.285mW/g

Date/Time: 11/19/2008 15:54:39

Configuration 3_CH9538 with HSDPA mode

DUT: C177;

Communication System: WCDMA B2; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium: BODY 1900 Medium parameters used: f = 1908 MHz; σ = 1.47 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

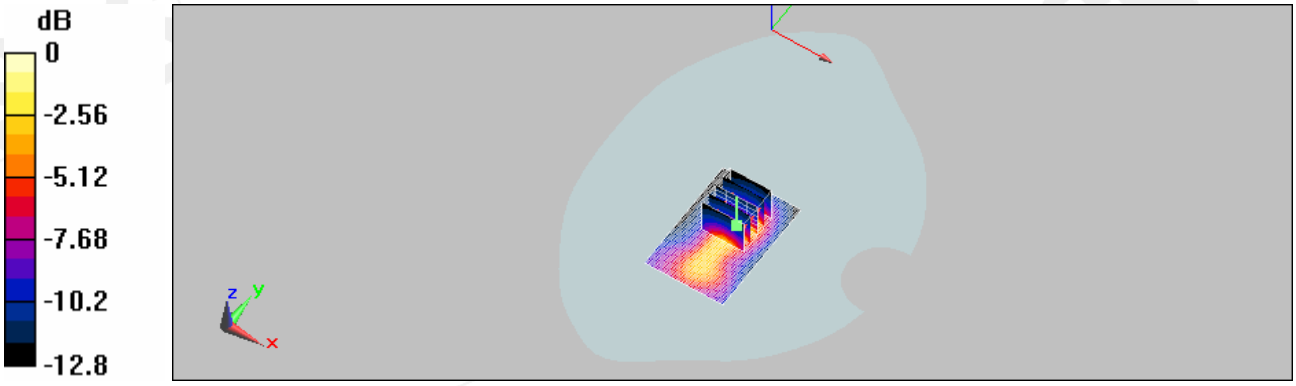
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.281 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.8 V/m; Power Drift = 0.061 dB
Peak SAR (extrapolated) = 0.600 W/kg

SAR(1 g) = 0.268 mW/g; SAR(10 g) = 0.126 mW/g
Maximum value of SAR (measured) = 0.294 mW/g



0 dB = 0.294mW/g

Date/Time: 11/19/2008 16:48:07

Configuration 4_CH9262 with HSDPA mode

DUT: C177;

Communication System: WCDMA B2; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium: BODY 1900 Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.43 mho/m; ε_r = 52.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

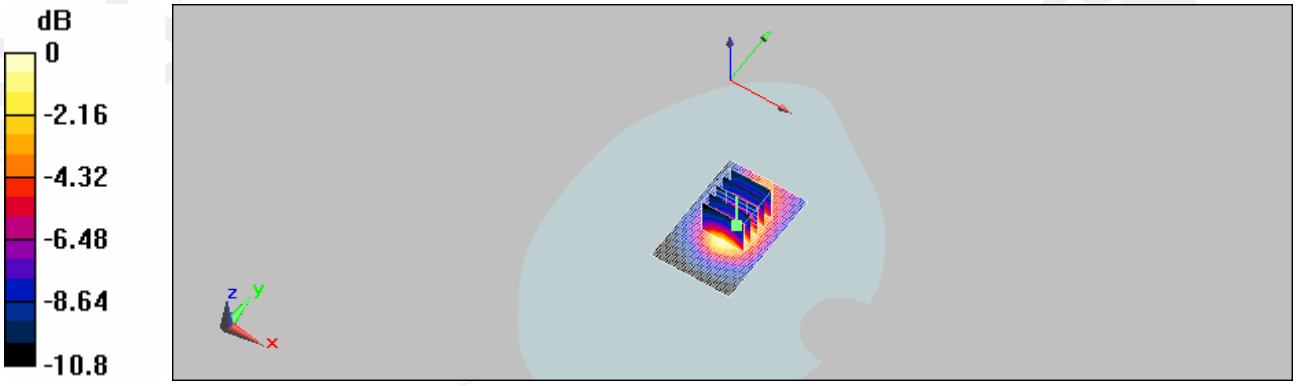
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.207 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.06 V/m; Power Drift = -0.114 dB
Peak SAR (extrapolated) = 0.287 W/kg

SAR(1 g) = 0.166 mW/g; SAR(10 g) = 0.095 mW/g
Maximum value of SAR (measured) = 0.178 mW/g



0 dB = 0.178mW/g

Date/Time: 11/19/2008 17:27:50

Configuration 4_CH9400 with HSDPA mode

DUT: C177;

Communication System: WCDMA B2; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: BODY 1900 Medium parameters used: f = 1880 MHz; σ = 1.45 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

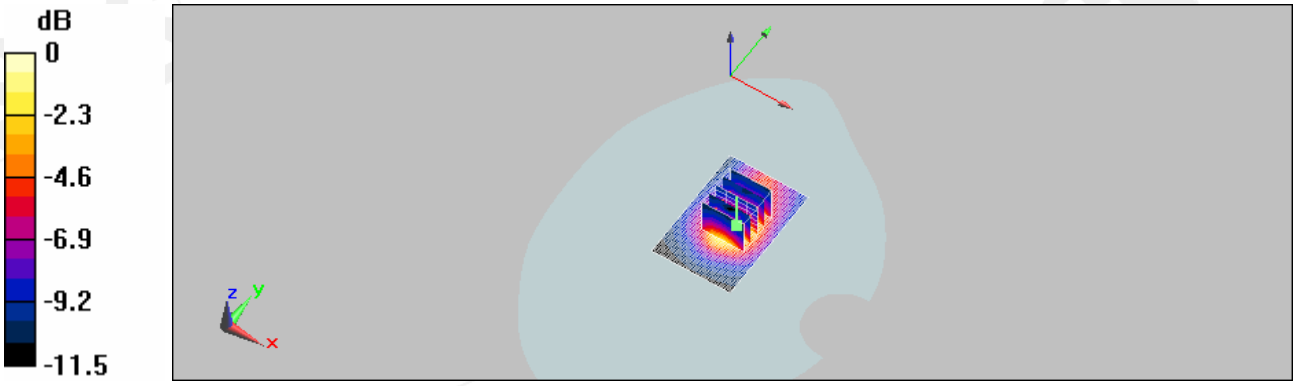
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.196 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.87 V/m; Power Drift = -0.161 dB
Peak SAR (extrapolated) = 0.288 W/kg

SAR(1 g) = 0.168 mW/g; SAR(10 g) = 0.096 mW/g
Maximum value of SAR (measured) = 0.184 mW/g



0 dB = 0.184mW/g

Date/Time: 11/19/2008 18:02:50

Configuration 4_CH9538 with HSDPA mode

DUT: C177;

Communication System: WCDMA B2; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium: BODY 1900 Medium parameters used: f = 1908 MHz; σ = 1.47 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

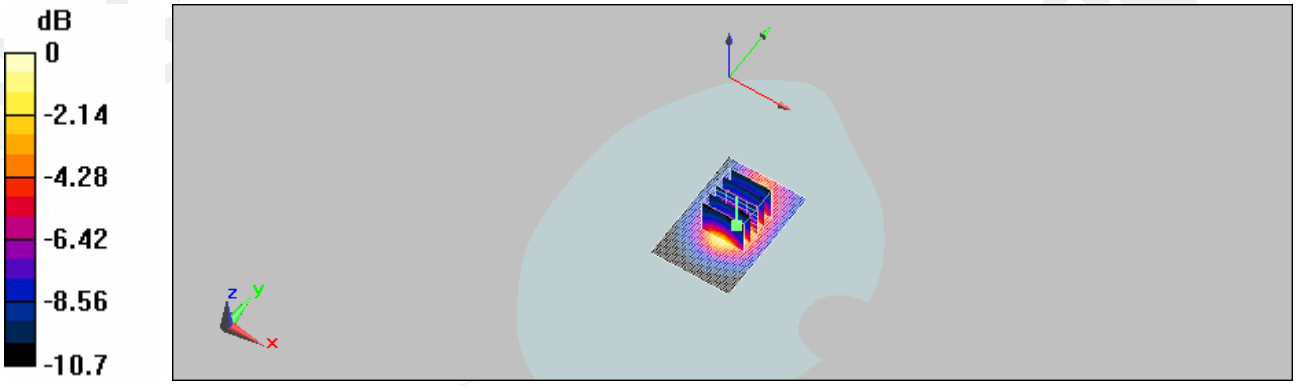
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.187 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.58 V/m; Power Drift = 0.110 dB
Peak SAR (extrapolated) = 0.285 W/kg

SAR(1 g) = 0.166 mW/g; SAR(10 g) = 0.095 mW/g
Maximum value of SAR (measured) = 0.181 mW/g



0 dB = 0.181mW/g

Date/Time: 11/16/2008 05:36:52

Configuration 1_CH4132

DUT: C177;

Communication System: WCDMA B5; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium: BODY 900 Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.946 mho/m; ε_r = 56.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

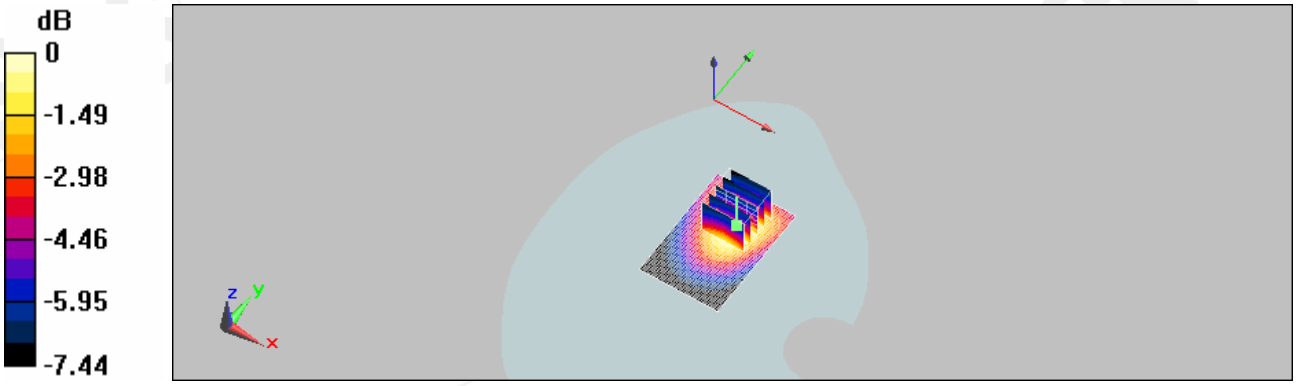
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.110 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.41 V/m; Power Drift = 0.094 dB
Peak SAR (extrapolated) = 0.138 W/kg

SAR(1 g) = 0.099 mW/g; SAR(10 g) = 0.069 mW/g
Maximum value of SAR (measured) = 0.106 mW/g



0 dB = 0.106mW/g

Date/Time: 11/16/2008 06:09:04

Configuration 1_CH4183

DUT: C177;

Communication System: WCDMA B5; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium: BODY 900 Medium parameters used: f = 837 MHz; σ = 0.958 mho/m; ε_r = 56.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

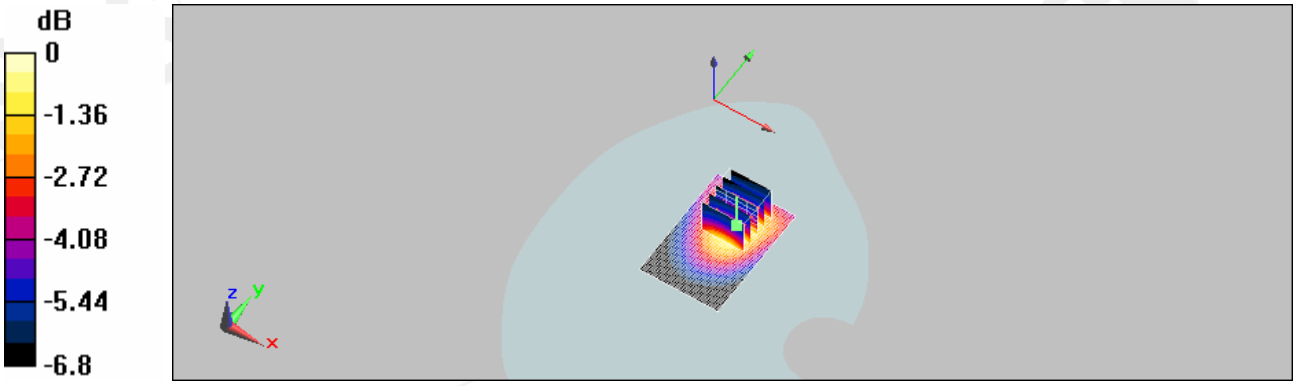
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.091 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.25 V/m; Power Drift = 0.065 dB
Peak SAR (extrapolated) = 0.118 W/kg

SAR(1 g) = 0.086 mW/g; SAR(10 g) = 0.061 mW/g
Maximum value of SAR (measured) = 0.092 mW/g



0 dB = 0.092mW/g

Date/Time: 11/16/2008 06:44:12

Configuration 1_CH4233

DUT: C177;

Communication System: WCDMA B5; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium: BODY 900 Medium parameters used: f = 847 MHz; σ = 0.968 mho/m; ε_r = 56.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

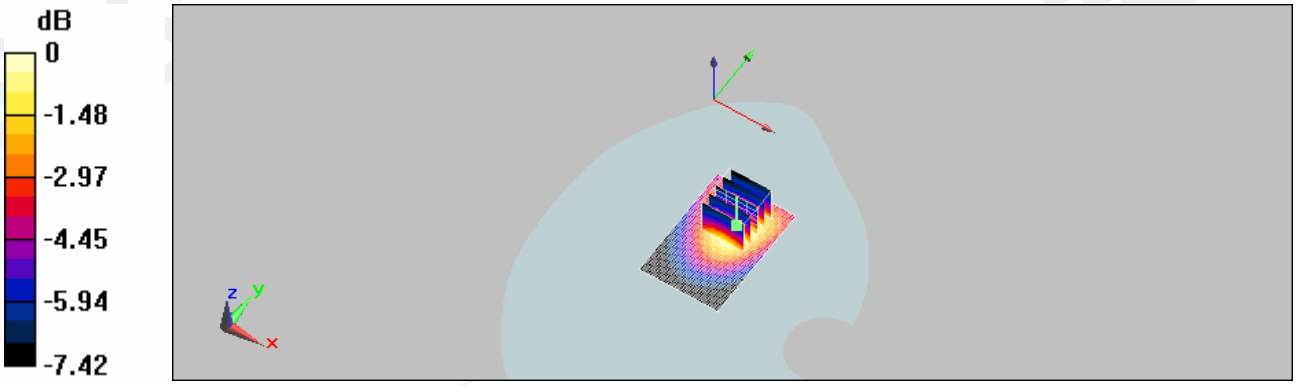
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.113 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.47 V/m; Power Drift = -0.014 dB
Peak SAR (extrapolated) = 0.142 W/kg

SAR(1 g) = 0.103 mW/g; SAR(10 g) = 0.071 mW/g
Maximum value of SAR (measured) = 0.110 mW/g



0 dB = 0.110mW/g

Date/Time: 11/16/2008 07:20:36

Configuration 2_CH4132

DUT: C177;

Communication System: WCDMA B5; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium: Body 900 Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.946 mho/m; ε_r = 56.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

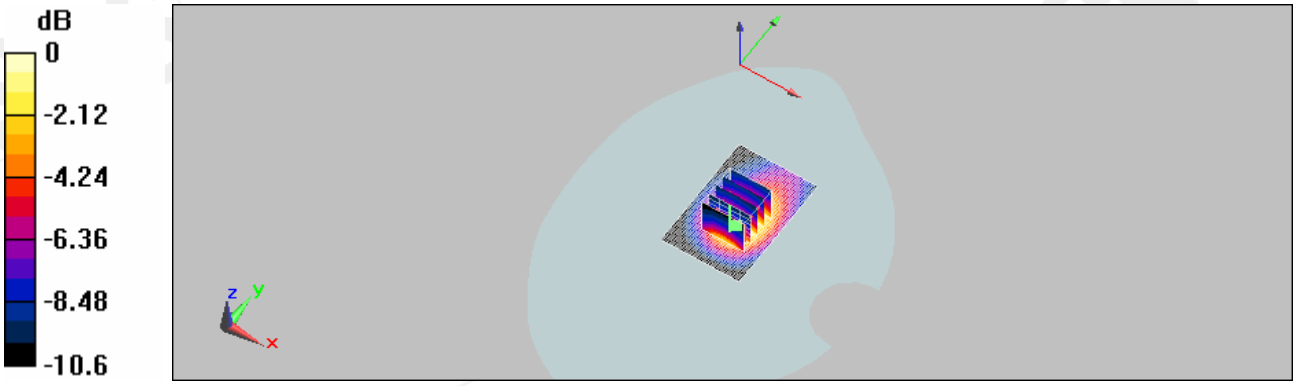
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.331 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.3 V/m; Power Drift = 0.141 dB
Peak SAR (extrapolated) = 0.456 W/kg

SAR(1 g) = 0.244 mW/g; SAR(10 g) = 0.149 mW/g
Maximum value of SAR (measured) = 0.256 mW/g



0 dB = 0.256mW/g

Date/Time: 11/16/2008 07:53:57

Configuration 2_CH4183

DUT: C177;

Communication System: WCDMA B5; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium: Body 900 Medium parameters used: f = 837 MHz; σ = 0.958 mho/m; ε_r = 56.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

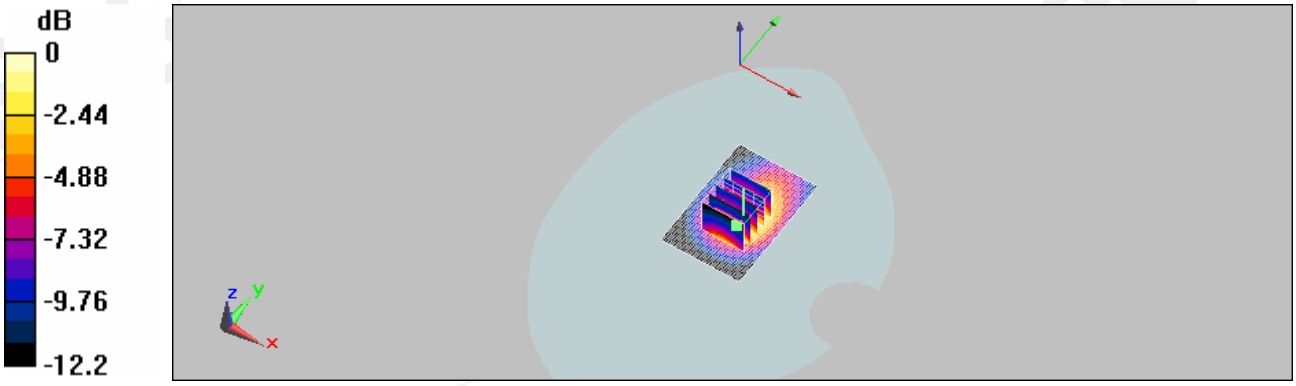
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.516 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.7 V/m; Power Drift = 0.165 dB
Peak SAR (extrapolated) = 0.776 W/kg

SAR(1 g) = 0.393 mW/g; SAR(10 g) = 0.238 mW/g
Maximum value of SAR (measured) = 0.430 mW/g



0 dB = 0.430mW/g

Date/Time: 11/16/2008 08:25:38

Configuration 2_CH4233

DUT: C177;

Communication System: WCDMA B5; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium: Body 900 Medium parameters used: f = 847 MHz; σ = 0.968 mho/m; ε_r = 56.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

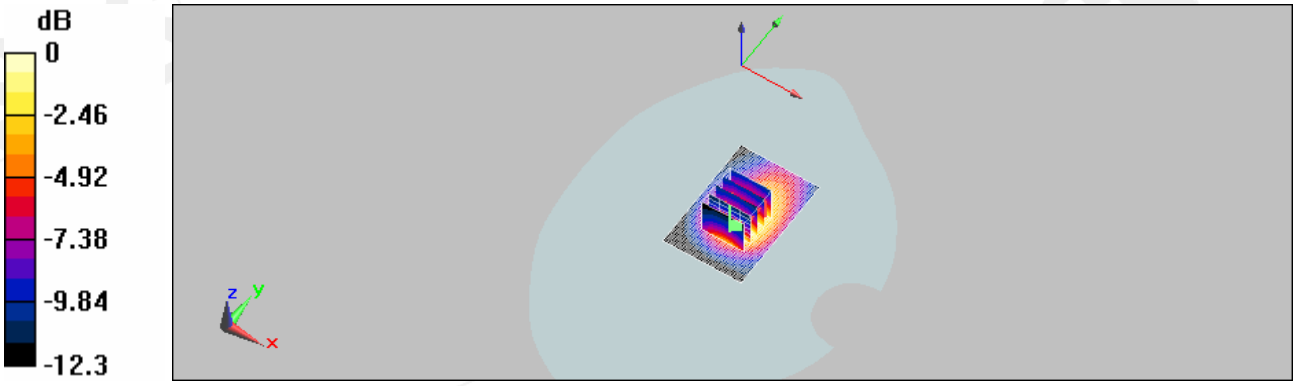
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.594 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.4 V/m; Power Drift = -0.110 dB
Peak SAR (extrapolated) = 0.848 W/kg

SAR(1 g) = 0.435 mW/g; SAR(10 g) = 0.262 mW/g
Maximum value of SAR (measured) = 0.460 mW/g



0 dB = 0.460mW/g

Date/Time: 11/16/2008 09:38:03

Configuration 3_CH4132

DUT: C177;

Communication System: WCDMA B5; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium: BODY 900 Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.946 mho/m; ε_r = 56.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

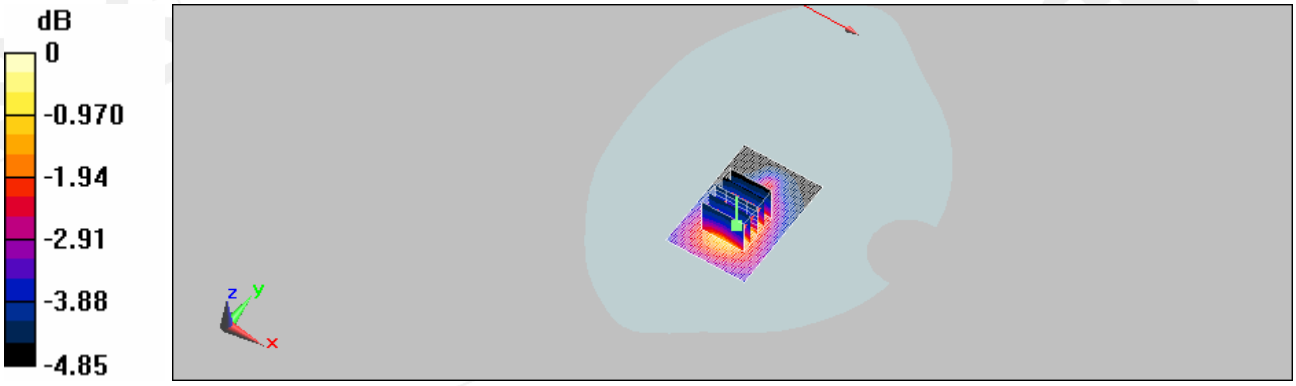
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.074 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.04 V/m; Power Drift = -0.167 dB
Peak SAR (extrapolated) = 0.104 W/kg

SAR(1 g) = 0.069 mW/g; SAR(10 g) = 0.049 mW/g
Maximum value of SAR (measured) = 0.074 mW/g



0 dB = 0.074mW/g

Date/Time: 11/16/2008 10:09:50

Configuration 3_CH4183

DUT: C177;

Communication System: WCDMA B5; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium: BODY 900 Medium parameters used: f = 837 MHz; σ = 0.958 mho/m; ε_r = 56.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

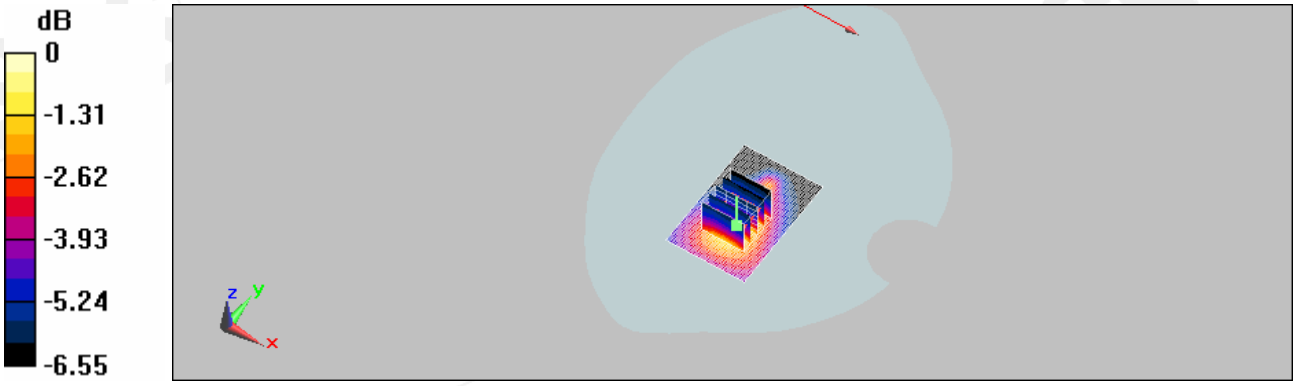
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.106 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.31 V/m; Power Drift = 0.053 dB
Peak SAR (extrapolated) = 0.156 W/kg

SAR(1 g) = 0.097 mW/g; SAR(10 g) = 0.064 mW/g
Maximum value of SAR (measured) = 0.105 mW/g



0 dB = 0.105mW/g

Date/Time: 11/16/2008 10:44:40

Configuration 3_CH4233

DUT: C177;

Communication System: WCDMA B5; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium: BODY 900 Medium parameters used: f = 847 MHz; σ = 0.968 mho/m; ε_r = 56.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

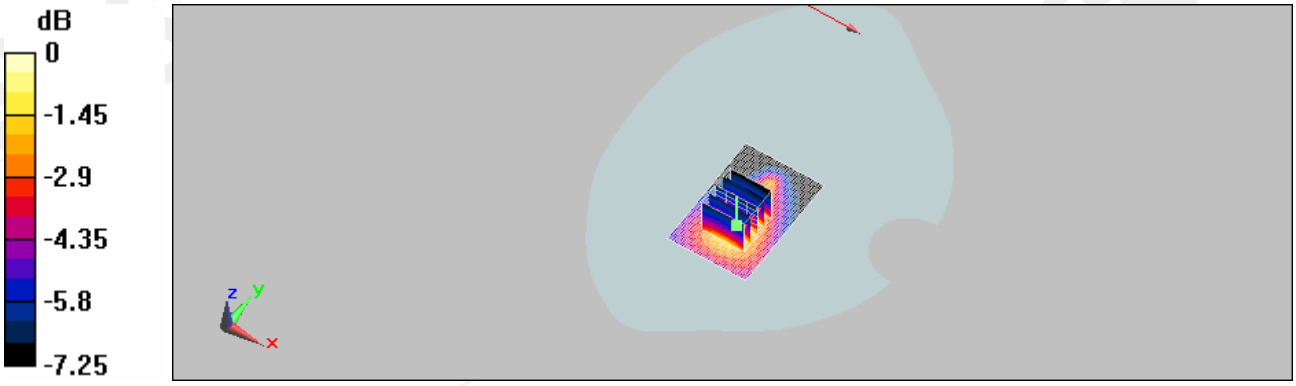
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.126 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.66 V/m; Power Drift = 0.070 dB
Peak SAR (extrapolated) = 0.189 W/kg

SAR(1 g) = 0.115 mW/g; SAR(10 g) = 0.074 mW/g
Maximum value of SAR (measured) = 0.125 mW/g



0 dB = 0.125mW/g

Date/Time: 11/16/2008 11:58:00

Configuration 4_CH4132

DUT: C177;

Communication System: WCDMA B5; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium: BODY 900 Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.946 mho/m; ε_r = 56.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

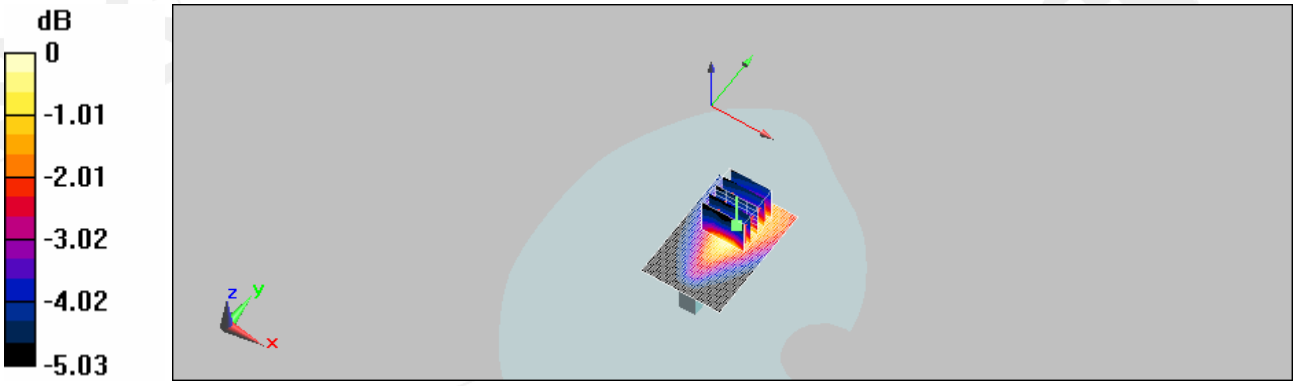
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.066 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.17 V/m; Power Drift = 0.046 dB
Peak SAR (extrapolated) = 0.084 W/kg

SAR(1 g) = 0.060 mW/g; SAR(10 g) = 0.044 mW/g
Maximum value of SAR (measured) = 0.063 mW/g



0 dB = 0.063mW/g

Date/Time: 11/16/2008 12:32:13

Configuration 4_CH4183

DUT: C177;

Communication System: WCDMA B5; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium: BODY 900 Medium parameters used: f = 837 MHz; σ = 0.958 mho/m; ε_r = 56.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

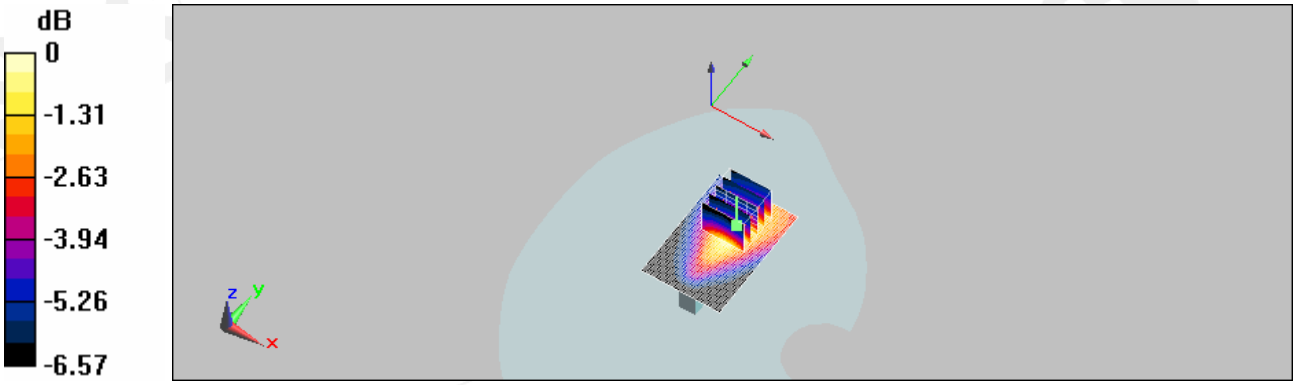
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.097 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.57 V/m; Power Drift = 0.090 dB
Peak SAR (extrapolated) = 0.130 W/kg

SAR(1 g) = 0.091 mW/g; SAR(10 g) = 0.063 mW/g
Maximum value of SAR (measured) = 0.097 mW/g



0 dB = 0.097mW/g

Date/Time: 11/16/2008 13:07:14

Configuration 4_CH4233

DUT: C177;

Communication System: WCDMA B5; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium: BODY 900 Medium parameters used: f = 847 MHz; σ = 0.968 mho/m; ε_r = 56.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

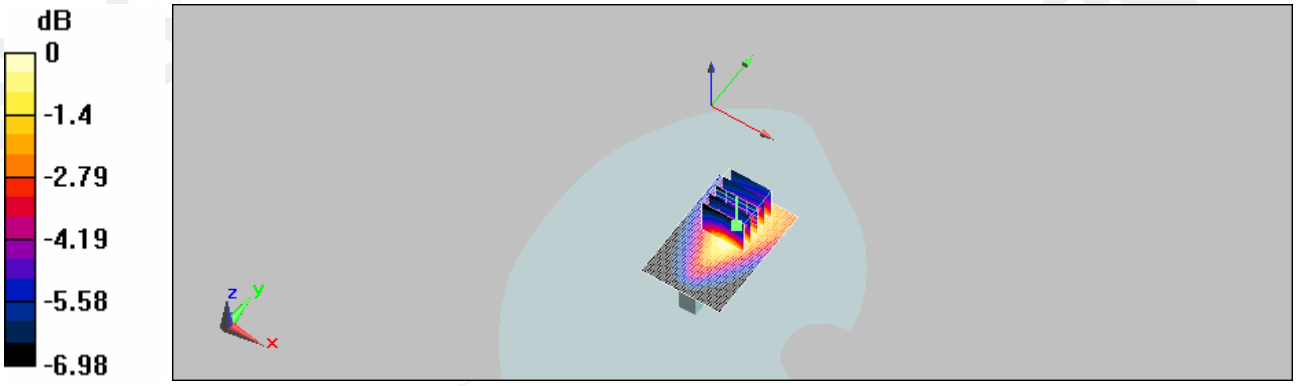
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.115 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.85 V/m; Power Drift = -0.188 dB
Peak SAR (extrapolated) = 0.148 W/kg

SAR(1 g) = 0.100 mW/g; SAR(10 g) = 0.069 mW/g
Maximum value of SAR (measured) = 0.107 mW/g



0 dB = 0.107mW/g

Date/Time: 11/16/2008 13:48:23

Configuration 1_CH4132 with HSDPA mode

DUT: C177;

Communication System: WCDMA B5; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium: BODY 900 Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.946 mho/m; ε_r = 56.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

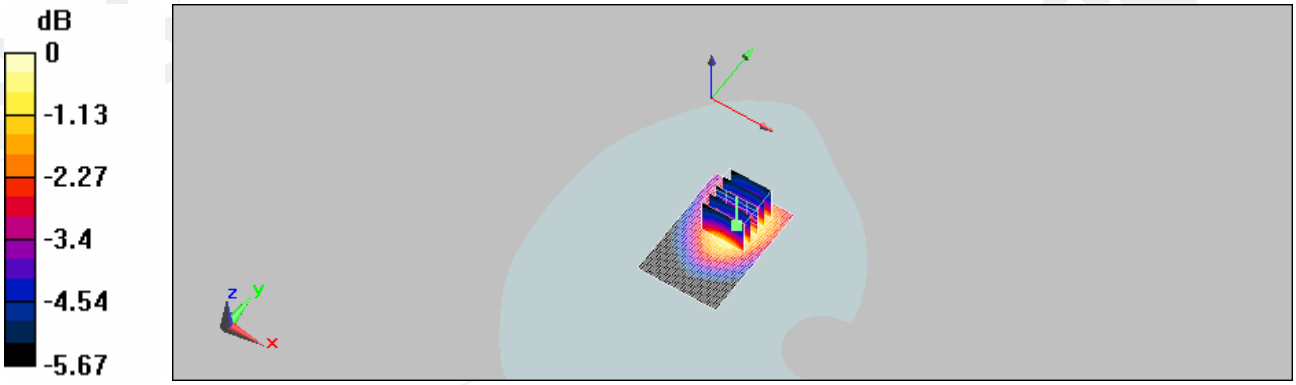
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.061 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.61 V/m; Power Drift = -0.134 dB
Peak SAR (extrapolated) = 0.075 W/kg

SAR(1 g) = 0.057 mW/g; SAR(10 g) = 0.042 mW/g
Maximum value of SAR (measured) = 0.060 mW/g



0 dB = 0.060mW/g

Date/Time: 11/16/2008 14:24:00

Configuration 1_CH4183 with HSDPA mode

DUT: C177;

Communication System: WCDMA B5; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium: BODY 900 Medium parameters used: f = 837 MHz; σ = 0.958 mho/m; ε_r = 56.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

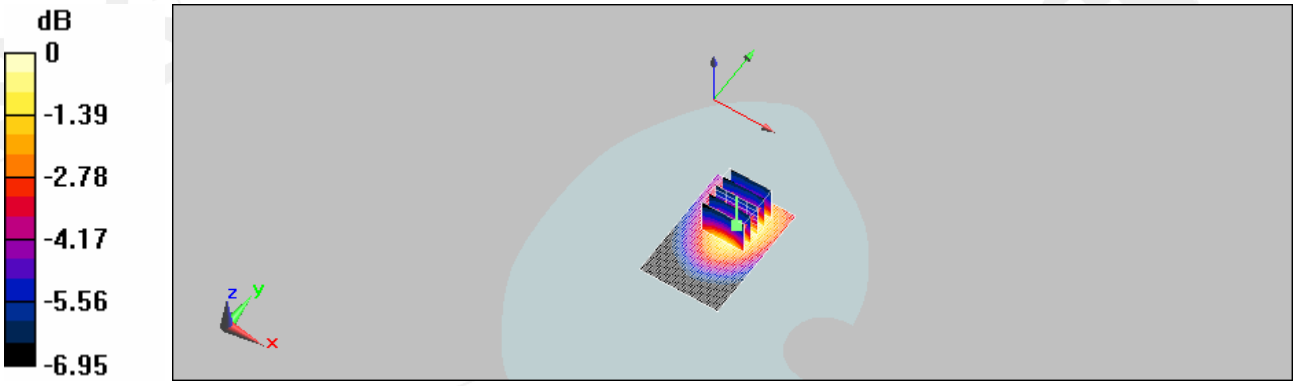
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.088 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.79 V/m; Power Drift = -0.101 dB
Peak SAR (extrapolated) = 0.110 W/kg

SAR(1 g) = 0.081 mW/g; SAR(10 g) = 0.058 mW/g
Maximum value of SAR (measured) = 0.086 mW/g



0 dB = 0.086mW/g

Date/Time: 11/16/2008 14:57:12

Configuration 1_CH4233 with HSDPA mode

DUT: C177;

Communication System: WCDMA B5; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium: BODY 900 Medium parameters used: f = 847 MHz; σ = 0.968 mho/m; ε_r = 56.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

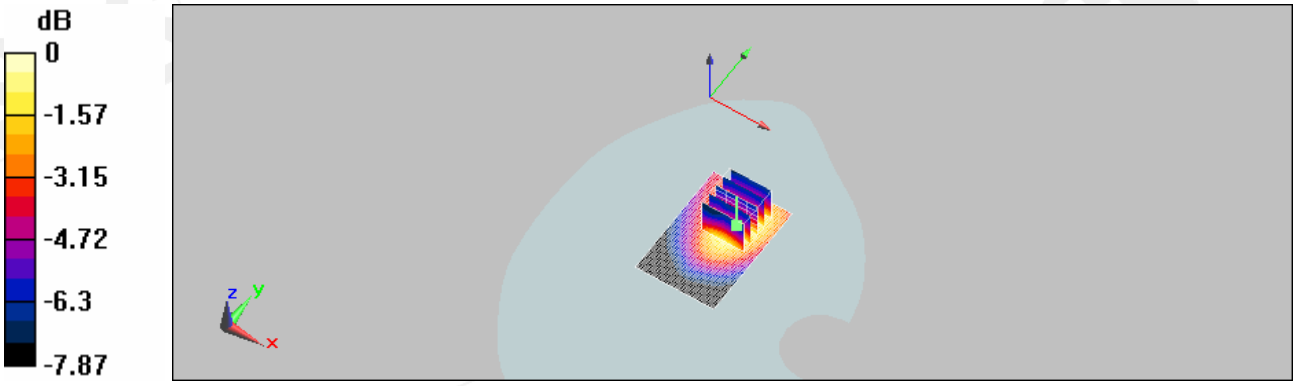
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.090 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.81 V/m; Power Drift = -0.090 dB
Peak SAR (extrapolated) = 0.119 W/kg

SAR(1 g) = 0.088 mW/g; SAR(10 g) = 0.062 mW/g
Maximum value of SAR (measured) = 0.092 mW/g



0 dB = 0.092mW/g

Date/Time: 11/16/2008 16:04:34

Configuration 2_CH4132 with HSDPA mode

DUT: C177;

Communication System: WCDMA B5; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium: BODY 900 Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.946 mho/m; ε_r = 56.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

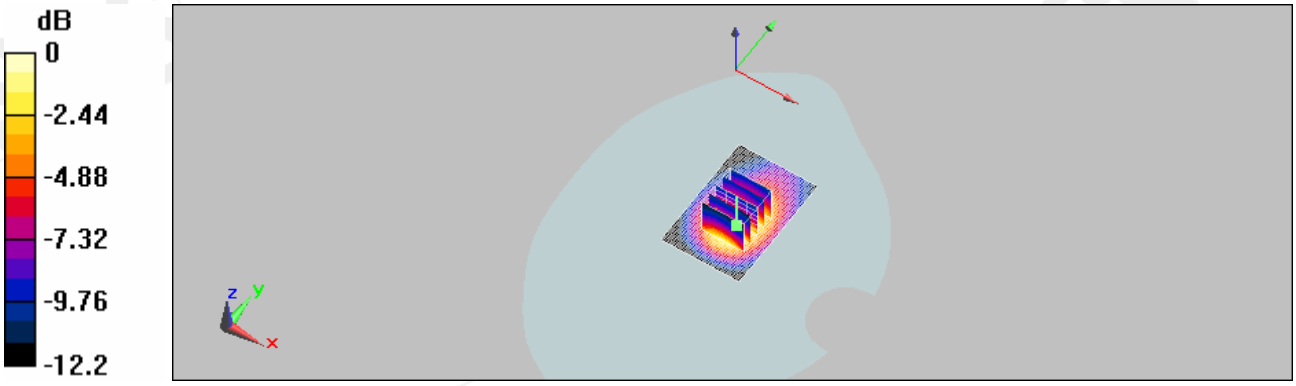
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.256 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.4 V/m; Power Drift = 0.180 dB
Peak SAR (extrapolated) = 0.407 W/kg

SAR(1 g) = 0.233 mW/g; SAR(10 g) = 0.142 mW/g
Maximum value of SAR (measured) = 0.253 mW/g



0 dB = 0.253mW/g

Date/Time: 11/16/2008 16:38:18

Configuration 2_CH4183 with HSDPA mode

DUT: C177;

Communication System: WCDMA B5; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium: BODY 900 Medium parameters used: f = 837 MHz; σ = 0.958 mho/m; ε_r = 56.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

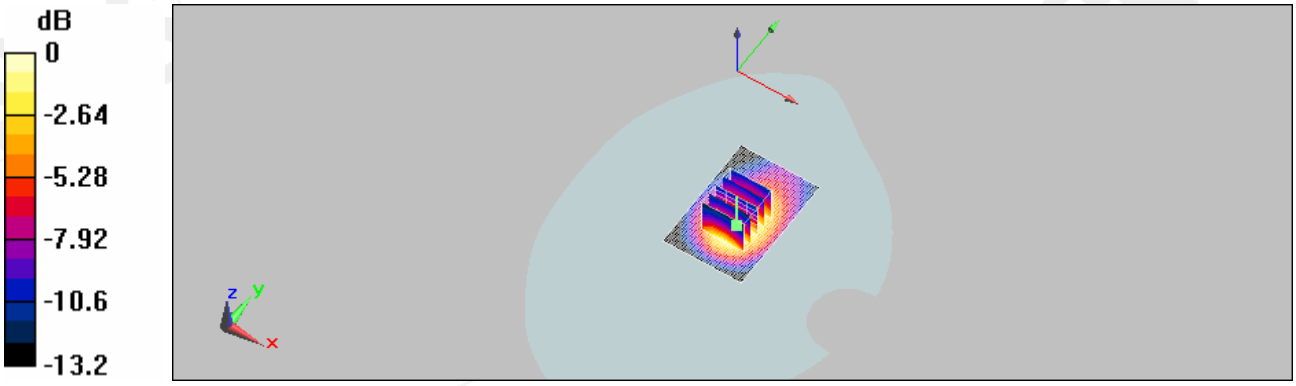
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.443 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.6 V/m; Power Drift = 0.129 dB
Peak SAR (extrapolated) = 0.681 W/kg

SAR(1 g) = 0.391 mW/g; SAR(10 g) = 0.236 mW/g
Maximum value of SAR (measured) = 0.411 mW/g



0 dB = 0.411mW/g

Date/Time: 11/16/2008 17:09:31

Configuration 2_CH4233 with HSDPA mode

DUT: C177;

Communication System: WCDMA B5; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium: BODY 900 Medium parameters used: f = 847 MHz; σ = 0.968 mho/m; ε_r = 56.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

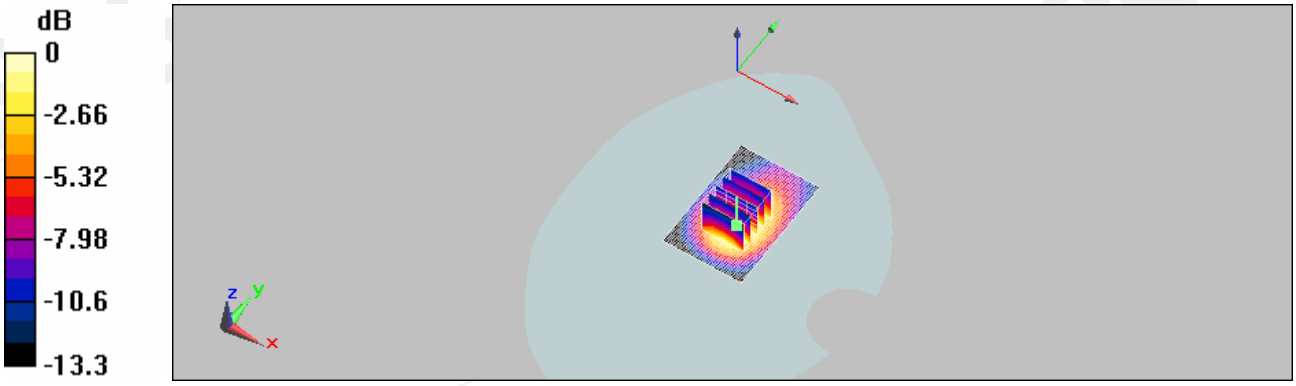
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.473 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.1 V/m; Power Drift = 0.027 dB
Peak SAR (extrapolated) = 0.695 W/kg

SAR(1 g) = 0.405 mW/g; SAR(10 g) = 0.246 mW/g
Maximum value of SAR (measured) = 0.433 mW/g



0 dB = 0.433mW/g

Date/Time: 11/16/2008 17:52:13

Configuration 3_CH4132 with HSDPA mode

DUT: C177;

Communication System: WCDMA B5; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium: BODY 900 Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.946 mho/m; ε_r = 56.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

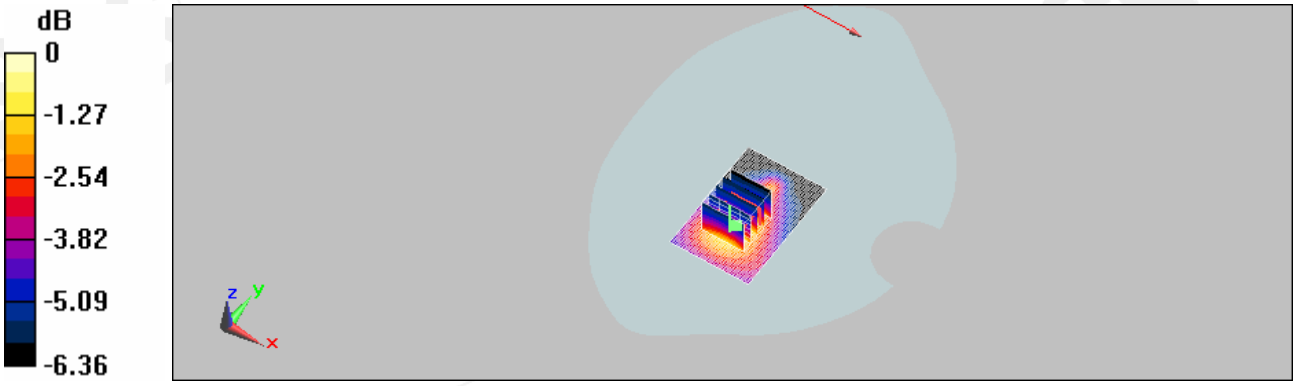
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.058 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.03 V/m; Power Drift = 0.172 dB
Peak SAR (extrapolated) = 0.082 W/kg

SAR(1 g) = 0.053 mW/g; SAR(10 g) = 0.037 mW/g
Maximum value of SAR (measured) = 0.057 mW/g



0 dB = 0.057mW/g

Date/Time: 11/16/2008 18:26:32

Configuration 3_CH4183 with HSDPA mode

DUT: C177;

Communication System: WCDMA B5; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium: BODY 900 Medium parameters used: f = 837 MHz; σ = 0.958 mho/m; ε_r = 56.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

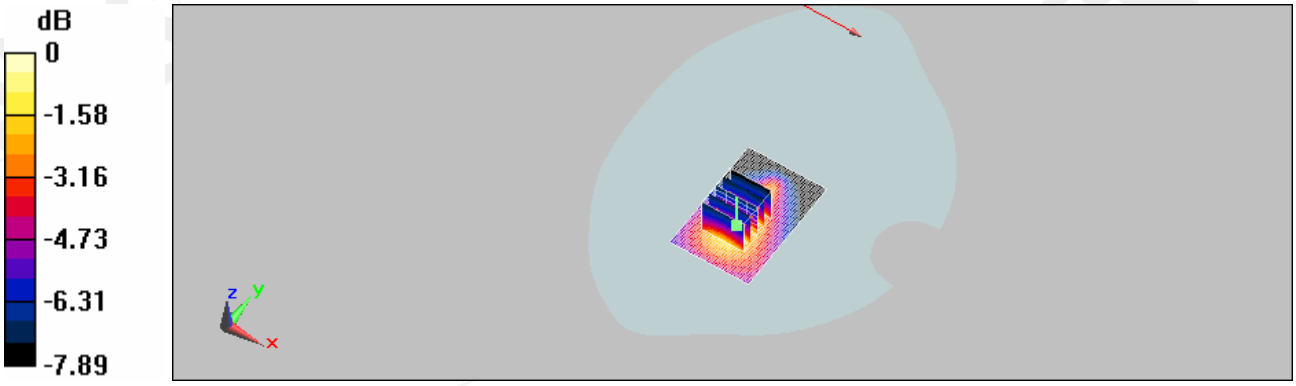
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.089 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.83 V/m; Power Drift = 0.141 dB
Peak SAR (extrapolated) = 0.132 W/kg

SAR(1 g) = 0.083 mW/g; SAR(10 g) = 0.054 mW/g
Maximum value of SAR (measured) = 0.092 mW/g



0 dB = 0.092mW/g

Date/Time: 11/16/2008 19:02:08

Configuration 3_CH4233 with HSDPA mode

DUT: C177;

Communication System: WCDMA B5; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium: BODY 900 Medium parameters used: f = 847 MHz; σ = 0.968 mho/m; ε_r = 56.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

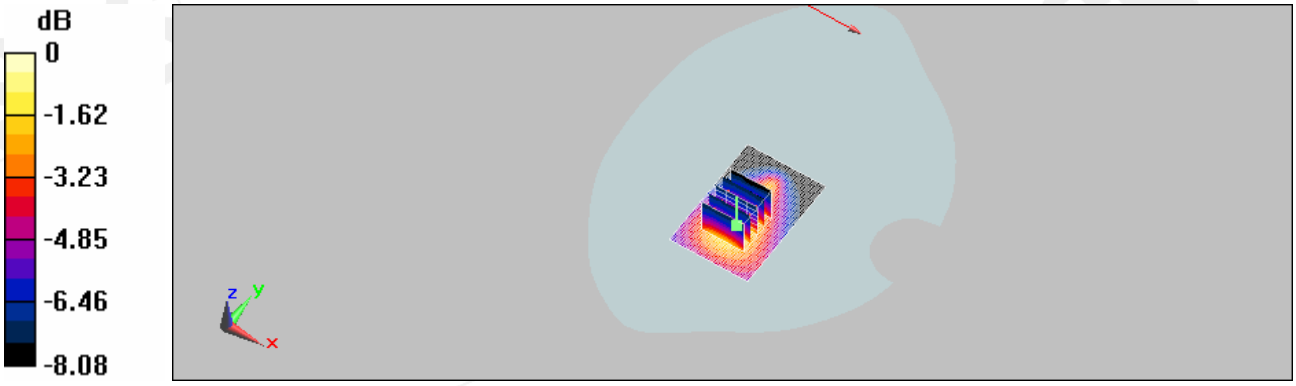
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.099 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.05 V/m; Power Drift = 0.015 dB
Peak SAR (extrapolated) = 0.143 W/kg

SAR(1 g) = 0.090 mW/g; SAR(10 g) = 0.058 mW/g
Maximum value of SAR (measured) = 0.100 mW/g



0 dB = 0.100mW/g

Date/Time: 11/16/2008 19:44:13

Configuration 4_CH4132 with HSDPA mode

DUT: C177;

Communication System: WCDMA B5; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium: BODY 900 Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.946 mho/m; ε_r = 56.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

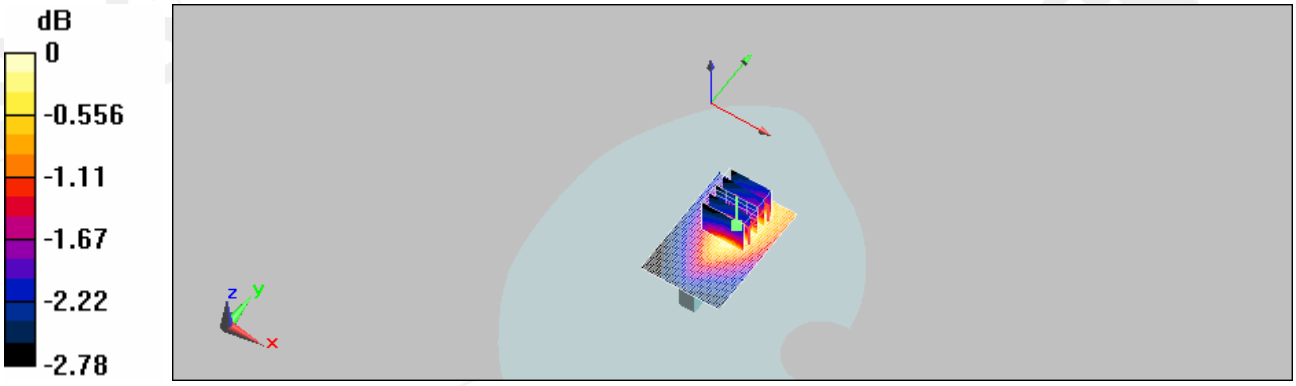
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.047 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.59 V/m; Power Drift = -0.190 dB
Peak SAR (extrapolated) = 0.054 W/kg

SAR(1 g) = 0.044 mW/g; SAR(10 g) = 0.037 mW/g
Maximum value of SAR (measured) = 0.045 mW/g



0 dB = 0.045mW/g

Date/Time: 11/16/2008 20:19:20

Configuration 4_CH4183 with HSDPA mode

DUT: C177;

Communication System: WCDMA B5; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium: BODY 900 Medium parameters used: f = 837 MHz; σ = 0.958 mho/m; ε_r = 56.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

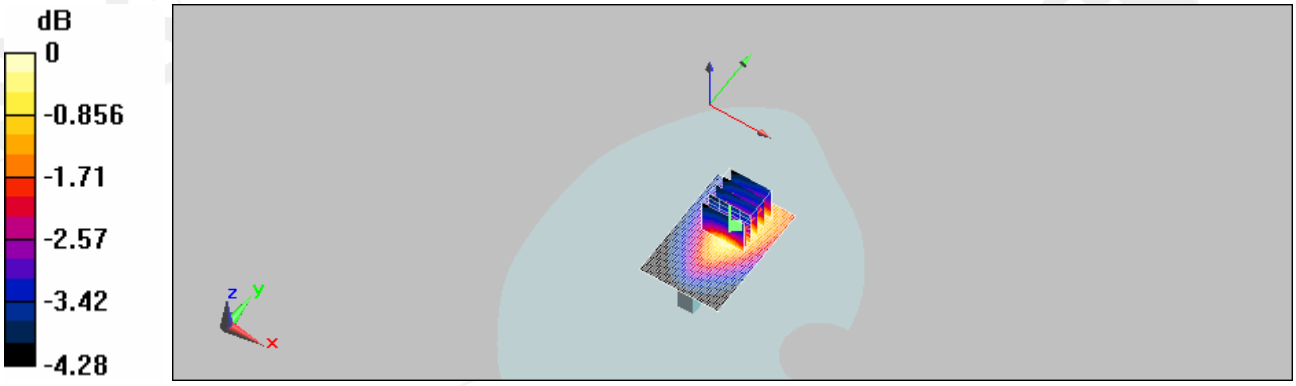
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.058 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.41 V/m; Power Drift = -0.146 dB
Peak SAR (extrapolated) = 0.072 W/kg

SAR(1 g) = 0.055 mW/g; SAR(10 g) = 0.043 mW/g
Maximum value of SAR (measured) = 0.057 mW/g



0 dB = 0.057mW/g

Date/Time: 11/16/2008 20:52:00

Configuration 4_CH4233 with HSDPA mode

DUT: C177;

Communication System: WCDMA B5; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium: BODY 900 Medium parameters used: f = 847 MHz; σ = 0.968 mho/m; ε_r = 56.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

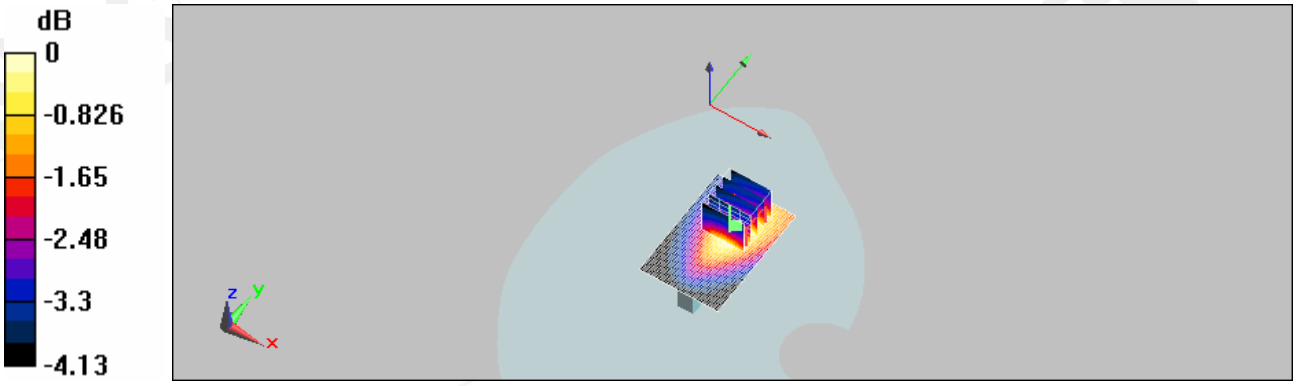
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Body/Area Scan (41x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.050 mW/g

Body/Zoom Scan (7x7x7) (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.88 V/m; Power Drift = -0.105 dB
Peak SAR (extrapolated) = 0.061 W/kg

SAR(1 g) = 0.046 mW/g; SAR(10 g) = 0.036 mW/g
Maximum value of SAR (measured) = 0.047 mW/g



0 dB = 0.047mW/g

5. SAR System Performance Verification

Date/Time: 11/15/2008 02:35:00

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 = 0.955 mho/m; ε_r = 56.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

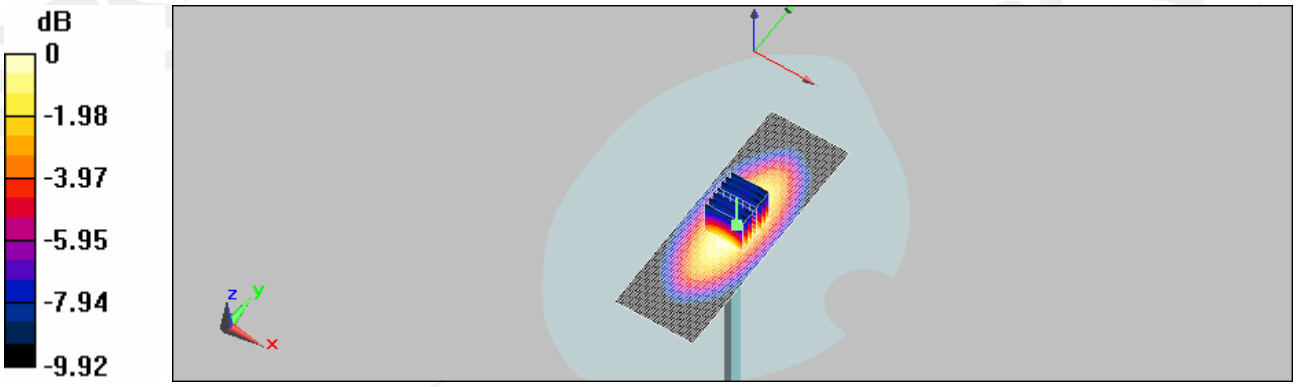
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Pin=250mW, Area Scan: Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.69 mW/g

Pin=250mW, Zoom Scan: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55 V/m; Power Drift = -0.136 dB
Peak SAR (extrapolated) = 3.42 W/kg

SAR(1 g) = 2.35 mW/g; SAR(10 g) = 1.55 mW/g
Maximum value of SAR (measured) = 2.66 mW/g



0 dB = 2.66mW/g

Date/Time: 11/16/2008 04:18:00

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 = 0.956 mho/m; ε_r = 56.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

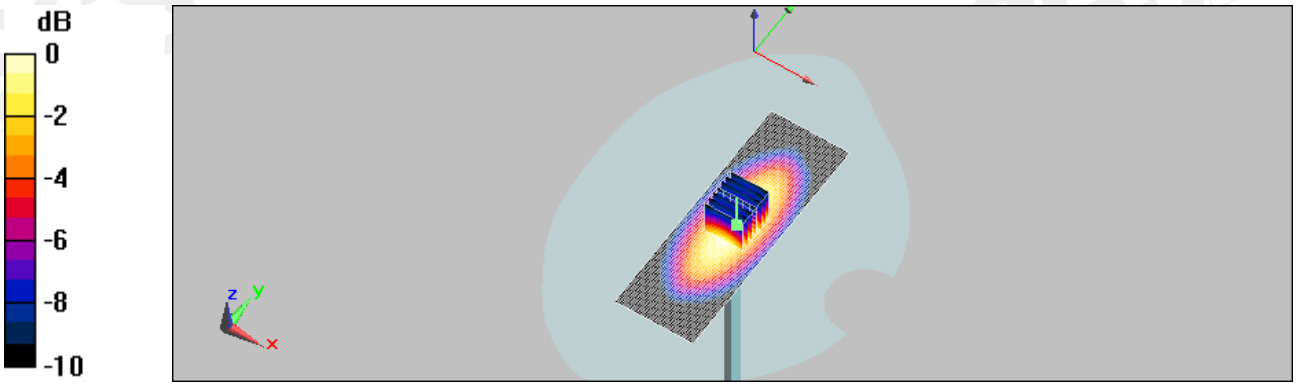
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(5.61, 5.61, 5.61); Calibrated: 6/23/2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Pin=250mW, Area Scan: Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.67 mW/g

Pin=250mW, Zoom Scan: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 54.1 V/m; Power Drift = -0.017 dB
Peak SAR (extrapolated) = 3.42 W/kg

SAR(1 g) = 2.35 mW/g; SAR(10 g) = 1.54 mW/g
Maximum value of SAR (measured) = 2.67 mW/g



0 dB = 2.67mW/g

Date/Time: 11/17/2008 08:32:00

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

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: HSL900 Medium parameters used: f = 1900 MHz; σ = 1.47 mho/m; ε_r = 52.3; ρ = 1000 kg/m^3
Phantom section: Flat Section

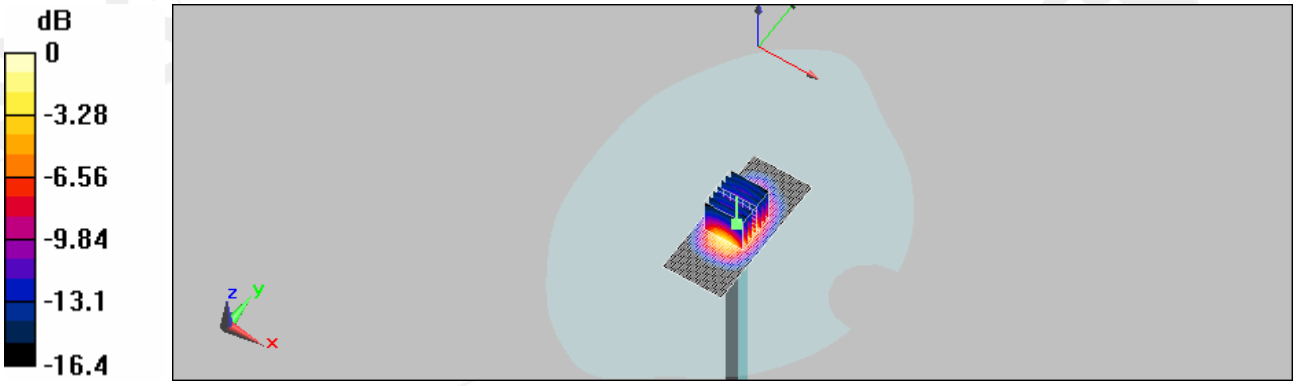
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Pin=250mW, Area Scan: Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 14 mW/g

Pin=250mW, Zoom Scan: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 91.7 V/m; Power Drift = 0.019 dB
Peak SAR (extrapolated) = 17.3 W/kg

SAR(1 g) = 9.45 mW/g; SAR(10 g) = 4.85 mW/g
Maximum value of SAR (measured) = 11.4 mW/g



0 dB = 11.4mW/g

Date/Time: 11/19/2008 02:52:57

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

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: HSL1900 Medium parameters used: f = 1900 MHz; σ = 1.46 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

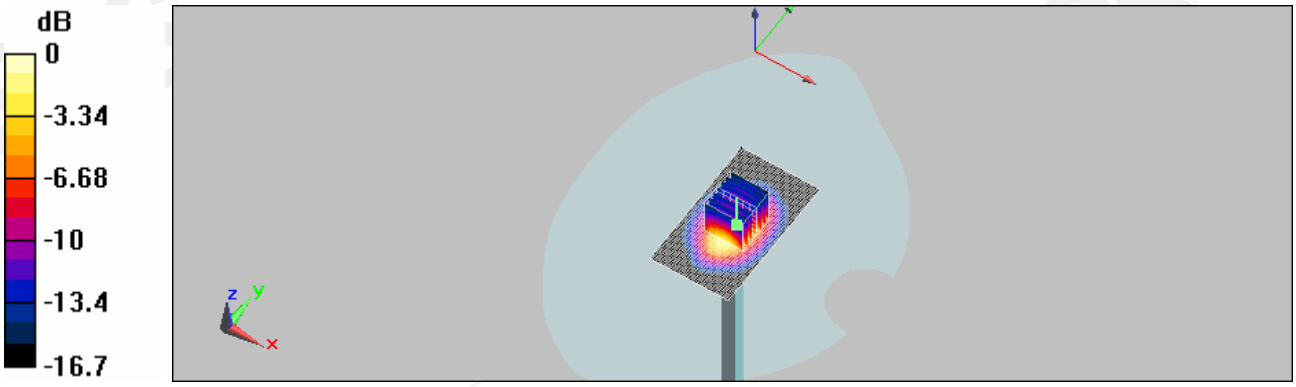
DASY5 Configuration:

- Probe: ES3DV3 - SN3172; ConvF(4.73, 4.73, 4.73); Calibrated: 6/23/2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn856; Calibrated: 5/7/2008
- Phantom: SAM1; Type: SAM;
- Measurement SW: DASY5, V5.0 Build 119; SEMCAD X Version 13.2 Build 87

Pin=250mW, Area Scan: Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 11.9 mW/g

Pin=250mW, Zoom Scan: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 90.8 V/m; Power Drift = -0.109 dB
Peak SAR (extrapolated) = 17.1 W/kg

SAR(1 g) = 9.17 mW/g; SAR(10 g) = 4.77 mW/g
Maximum value of SAR (measured) = 11.4 mW/g



0 dB = 11.4mW/g

6. DAE & Probe Calibration certificate

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

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

Accreditation No.: SCS 108

Client: SGS (Audeu)

Certificate No: DAE4-856_May08

CALIBRATION CERTIFICATE

Object	DAE4 - SD 000 D04 BG - SN: 856
Calibration procedure(s)	QA CAL-06.v12 Calibration procedure for the data acquisition electronics (DAE)
Calibration date:	May 7, 2008
Condition of the calibrated item	In Tolerance

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Fluke Process Calibrator Type 702	SN: 6295803	04-Oct-07 (No: 6467)	Oct-08
Keithley Multimeter Type 2001	SN: 0810278	03-Oct-07 (No: 6465)	Oct-08
Secondary Standards	**ID #**	**Check Date (in house)**	**Scheduled Check**
Calibrator Box V1.1	SE UMS 006 AB 1004	25-Jun-07 (in house check)	In house check: Jun-08

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

Issued: May 7, 2008

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

Certificate No: DAE4-856_May08 Page 1 of 5

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Accreditation No.: SCS 108

Client SGS (Auden)

Certificate No: ES3-3172_Jun08

CALIBRATION CERTIFICATE

Object	ES3DV3 - SN:3172
Calibration procedure(s)	QA CAL-01.v6 and QA CAL-23.v3 Calibration procedure for dosimetric E-field probes
Calibration date:	June 23, 2008
Condition of the calibrated item	In Tolerance

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	1-Apr-08 (No. 217-00788)	Apr-09
Power sensor E4412A	MY41495277	1-Apr-08 (No. 217-00788)	Apr-09
Power sensor E4412A	MY41498087	1-Apr-08 (No. 217-00788)	Apr-09
Reference 3 dB Attenuator	SN: S5054 (3c)	8-Aug-07 (No. 217-00719)	Aug-08
Reference 20 dB Attenuator	SN: S5086 (20b)	31-Mar-08 (No. 217-00787)	Apr-09
Reference 30 dB Attenuator	SN: S5129 (30b)	8-Aug-07 (No. 217-00720)	Aug-08
Reference Probe ES3DV2	SN: 3013	2-Jan-08 (No. ES3-3013_Jan08)	Jan-09
DAE4	SN: 660	3-Sep-07 (No. DAE4-660_Sep07)	Sep-08

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Oct-07)	In house check: Oct-09
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-07)	In house check: Oct-08

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

Issued: June 24, 2008

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Accreditation No.: SCS 108

Glossary:

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

Calibration is Performed According to the Following Standards:

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

Methods Applied and Interpretation of Parameters:

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

Probe ES3DV3

SN:3172

Manufactured: January 23, 2008
Calibrated: June 23, 2008

Calibrated for DASY Systems

(Note: non-compatible with DASY2 system!)

ES3DV3 SN:3172 June 23, 2008

DASY - Parameters of Probe: ES3DV3 SN:3172

Sensitivity in Free Space[A]

NormX	1.38 ± 10.1%	$\mu V/(V/m)^2$	DCP X	93 mV
NormY	1.15 ± 10.1%	$\mu V/(V/m)^2$	DCP Y	93 mV
NormZ	0.94 ± 10.1%	$\mu V/(V/m)^2$	DCP Z	89 mV

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

Please see Page 8.

Boundary Effect

TSL 900 MHz Typical SAR gradient: 5 % per mm

Sensor Center to Phantom Surface Distance		3.0 mm	4.0 mm
SAR_{be} [%]	Without Correction Algorithm	11.8	6.1
SAR_{be} [%]	With Correction Algorithm	0.6	0.2

TSL 1810 MHz Typical SAR gradient: 10 % per mm

Sensor Center to Phantom Surface Distance		3.0 mm	4.0 mm
SAR_{be} [%]	Without Correction Algorithm	10.2	6.5
SAR_{be} [%]	With Correction Algorithm	0.4	0.4

Sensor Offset

Probe Tip to Sensor Center	2.0 mm

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

[A] The uncertainties of NormX,Y,Z do not affect the E^2-field uncertainty inside TSL (see Page 8).
[B] Numerical linearization parameter: uncertainty not required.

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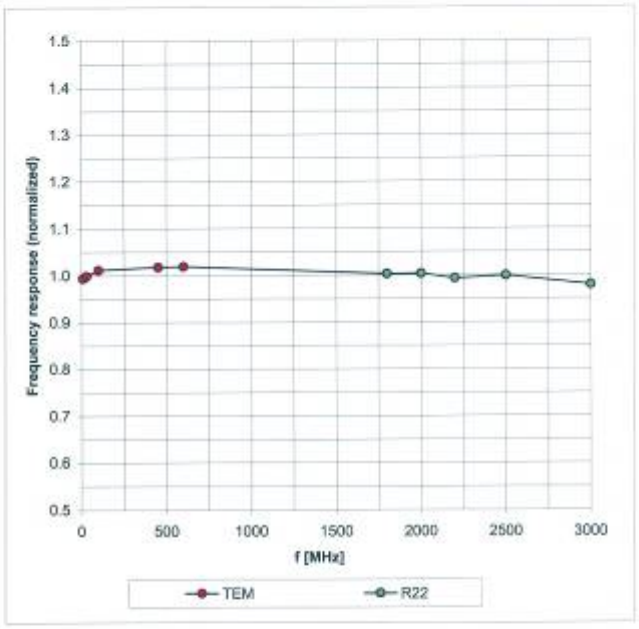
ES3DV3 SN:3172 June 23, 2008

Frequency Response of E-Field

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



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

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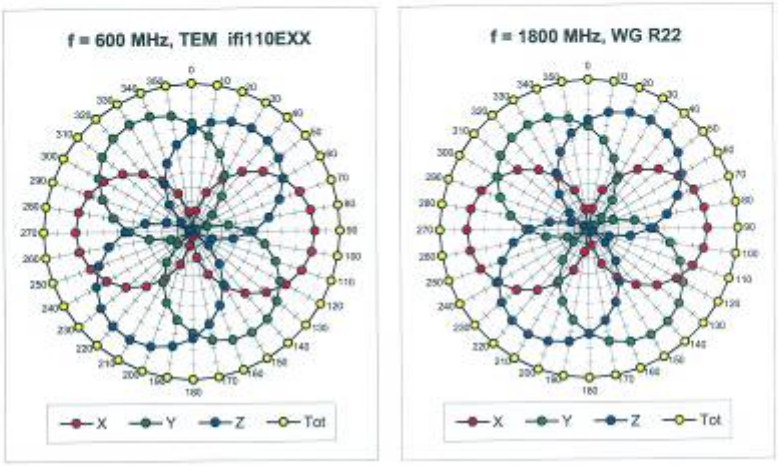
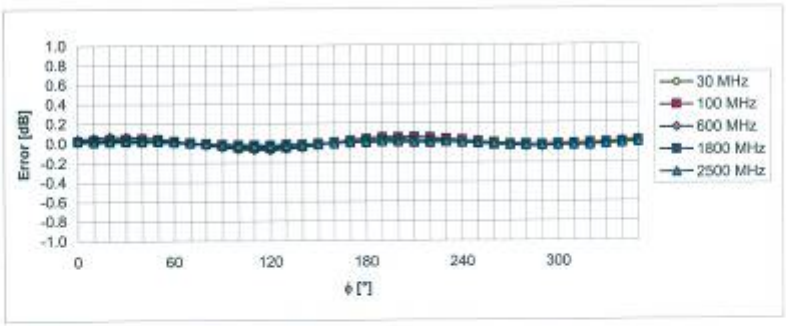
ES3DV3 SN:3172 June 23, 2008

Receiving Pattern (ϕ), ϑ = 0°



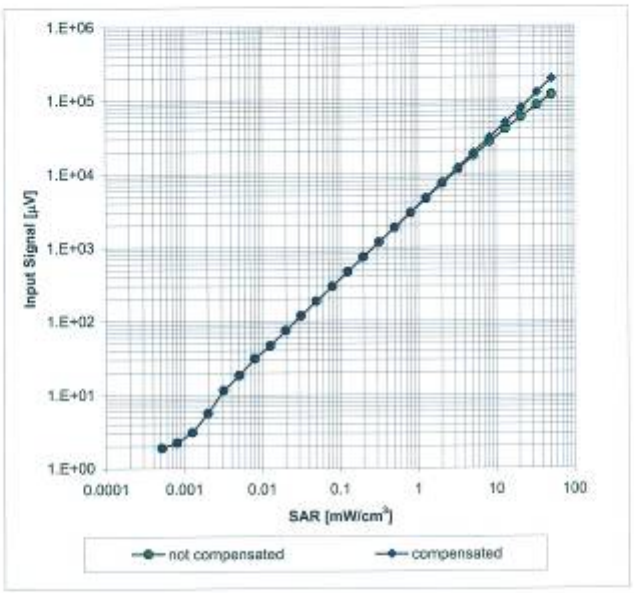


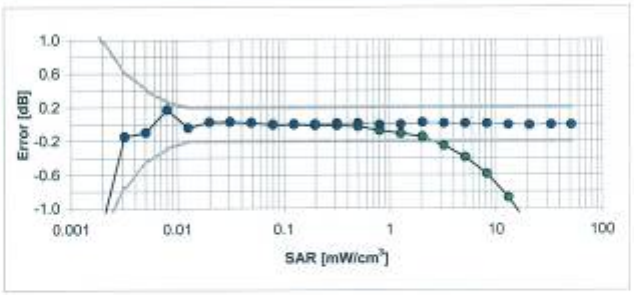
Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

ES3DV3 SN:3172 June 23, 2008

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

(Waveguide R22, f = 1800 MHz)





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

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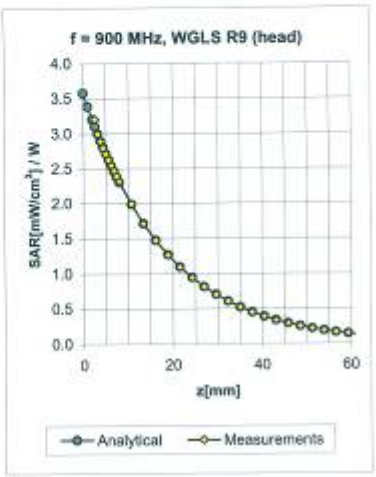
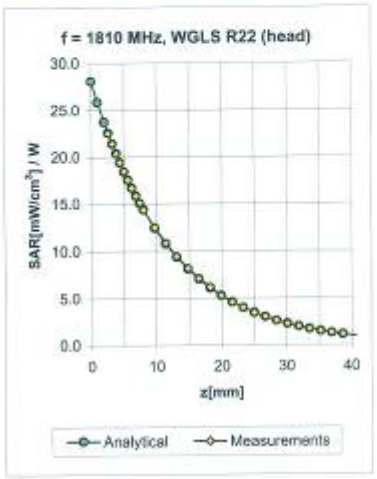
ES3DV3 SN:3172 June 23, 2008

Conversion Factor Assessment





f [MHz]	Validity [MHz][c]	TSL	Permittivity	Conductivity	Alpha	Depth	ConvF Uncertainty
900	± 50 / ± 100	Head	41.5 ± 5%	0.97 ± 5%	0.23	2.36	5.66 ± 11.0% (k=2)
1810	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.32	2.07	4.97 ± 11.0% (k=2)
1950	± 50 / ± 100	Head	40.0 ± 5%	1.40 ± 5%	0.65	1.40	4.80 ± 11.0% (k=2)
2450	± 50 / ± 100	Head	39.2 ± 5%	1.80 ± 5%	0.72	1.34	4.38 ± 11.0% (k=2)
900	± 50 / ± 100	Body	55.0 ± 5%	1.05 ± 5%	0.35	1.83	5.61 ± 11.0% (k=2)
1810	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.55	1.50	4.73 ± 11.0% (k=2)
1950	± 50 / ± 100	Body	53.3 ± 5%	1.52 ± 5%	0.80	1.35	4.57 ± 11.0% (k=2)
2450	± 50 / ± 100	Body	52.7 ± 5%	1.95 ± 5%	0.75	1.25	3.92 ± 11.0% (k=2)

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

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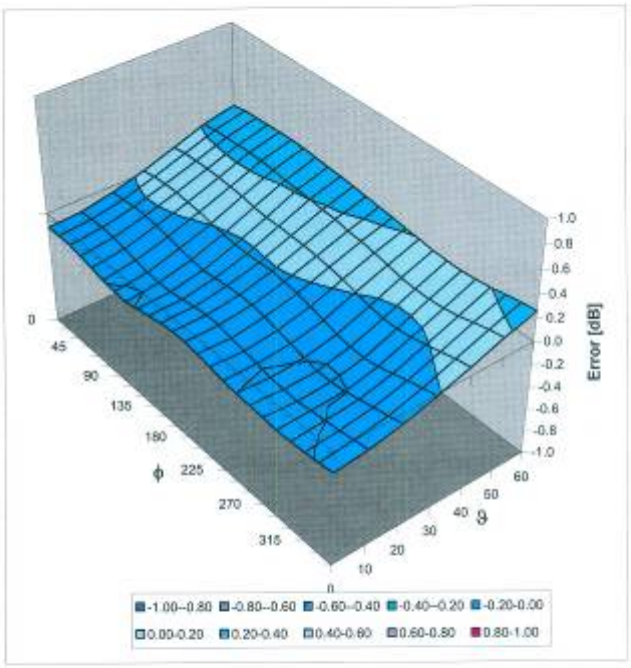
ES3DV3 SN:3172 June 23, 2008

Deviation from Isotropy in HSL

Error (ϕ, ϑ), f = 900 MHz



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

7. Uncertainty Analysis

DASY5 Uncertainty Budget According to IEEE 1528 [1]								
Error Description	Uncertainty value	Prob. Dist.	Div.	(c_i) 1g	(c_i) 10g	Std. Unc. (1g)	Std. Unc. (10g)	(v_i) v_{eff}
Measurement System								
Probe Calibration	±5.9 %	N	1	1	1	±5.9 %	±5.9 %	∞
Axial Isotropy	±4.7 %	R	$\sqrt{3}$	0.7	0.7	±1.9 %	±1.9 %	∞
Hemispherical Isotropy	±9.6 %	R	$\sqrt{3}$	0.7	0.7	±3.9 %	±3.9 %	∞
Boundary Effects	±1.0 %	R	$\sqrt{3}$	1	1	±0.6 %	±0.6 %	∞
Linearity	±4.7 %	R	$\sqrt{3}$	1	1	±2.7 %	±2.7 %	∞
System Detection Limits	±1.0 %	R	$\sqrt{3}$	1	1	±0.6 %	±0.6 %	∞
Readout Electronics	±0.3 %	N	1	1	1	±0.3 %	±0.3 %	∞
Response Time	±0.8 %	R	$\sqrt{3}$	1	1	±0.5 %	±0.5 %	∞
Integration Time	±2.6 %	R	$\sqrt{3}$	1	1	±1.5 %	±1.5 %	∞
RF Ambient Noise	±3.0 %	R	$\sqrt{3}$	1	1	±1.7 %	±1.7 %	∞
RF Ambient Reflections	±3.0 %	R	$\sqrt{3}$	1	1	±1.7 %	±1.7 %	∞
Probe Positioner	±0.4 %	R	$\sqrt{3}$	1	1	±0.2 %	±0.2 %	∞
Probe Positioning	±2.9 %	R	$\sqrt{3}$	1	1	±1.7 %	±1.7 %	∞
Max. SAR Eval.	±1.0 %	R	$\sqrt{3}$	1	1	±0.6 %	±0.6 %	∞
Test Sample Related								
Device Positioning	±2.9 %	N	1	1	1	±2.9 %	±2.9 %	145
Device Holder	±3.6 %	N	1	1	1	±3.6 %	±3.6 %	5
Power Drift	±5.0 %	R	$\sqrt{3}$	1	1	±2.9 %	±2.9 %	∞
Phantom and Setup								
Phantom Uncertainty	±4.0 %	R	$\sqrt{3}$	1	1	±2.3 %	±2.3 %	∞
Liquid Conductivity (target)	±5.0 %	R	$\sqrt{3}$	0.64	0.43	±1.8 %	±1.2 %	∞
Liquid Conductivity (meas.)	±2.5 %	N	1	0.64	0.43	±1.6 %	±1.1 %	∞
Liquid Permittivity (target)	±5.0 %	R	$\sqrt{3}$	0.6	0.49	±1.7 %	±1.4 %	∞
Liquid Permittivity (meas.)	±2.5 %	N	1	0.6	0.49	±1.5 %	±1.2 %	∞
Combined Std. Uncertainty						±10.9 %	±10.7 %	387
Expanded STD Uncertainty						**±21.9 %**	**±21.4 %**	

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

8. Phantom Description

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

9. System Validation from Original equipment supplier

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

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

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

Accreditation No.: SCS 108

Client: SGS (Auden)

Certificate No: D835V2-4d063_Jun08

CALIBRATION CERTIFICATE

Object: D835V2 - SN: 4d063

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

Calibration date: June 06, 2008

Condition of the calibrated item: In Tolerance

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	04-Oct-07 (METAS, No. 217-00736)	Oct-08
Power sensor HP 8481A	US37292783	04-Oct-07 (METAS, No. 217-00736)	Oct-08
Reference 20 dB Attenuator	SN: 5086 (20g)	07-Aug-07 (METAS, No 217-00718)	Aug-08
Type-N mismatch combination	SN: 5047.2 / 06327	08-Aug-07 (No. 217-00721)	Aug-08
Reference Probe ES3DV2	SN: 3025	28-Apr-08 (No. ES3-3025_Apr08)	Apr-09
DAE4	SN: 601	14-Mar-08 (No. DAE4-601_Mar08)	Mar-09

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (SPEAG, in house check Oct-07)	In house check: Oct-09
RF generator R&S SMT-06	100005	04-Aug-99 (SPEAG, in house check Oct-07)	In house check: Oct-09
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (SPEAG, in house check Oct-07)	In house check: Oct-08

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

Issued: June 13, 2008

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

Certificate No: D835V2-4d063_Jun08 Page 1 of 9

DASY4 Validation Report for Body TSL

Date/Time: 06.06.2008 14:01:1

Test Laboratory: SPEAG, Zurich, Switzerland

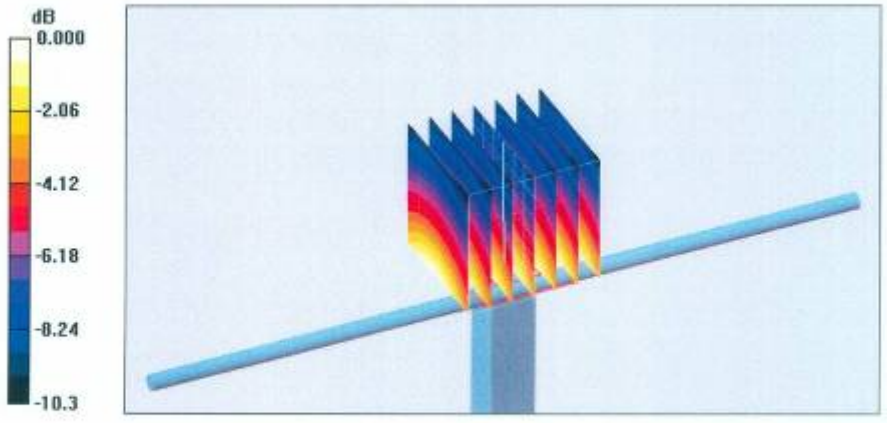
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d063

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: MSL900;
Medium parameters used: f = 835 MHz; σ = 0.99 mho/m; ε_r = 53.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(5.9, 5.9, 5.9); Calibrated: 28.04.2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 14.03.2008
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; ;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Pin = 250mW, d = 15mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 53.6 V/m; Power Drift = 0.010 dB
Peak SAR (extrapolated) = 3.53 W/kg
SAR(1 g) = 2.44 mW/g; SAR(10 g) = 1.61 mW/g
Maximum value of SAR (measured) = 2.73 mW/g



0 dB = 2.73mW/g

Certificate No: D835V2-4d063_Jun08 Page 8 of 9

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 Federal Office of Metrology and Accreditation
The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 108

Client SGS (Auden)

Certificate No: D1900V2-5d027_Apr08

CALIBRATION CERTIFICATE

Object	D1900V2 - SN: 5d027
Calibration procedure(s)	QA CAL-05.v7 Calibration procedure for dipole validation kits
Calibration date:	April 15, 2008
Condition of the calibrated item	In Tolerance

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Calibrated by, Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	04-Oct-07 (No. 217-00736)	Oct-08
Power sensor HP 8481A	US37292783	04-Oct-07 (No. 217-00736)	Oct-08
Reference 20 dB Attenuator	SN: 5086 (20g)	07-Aug-07 (No. 217-00718)	Aug-08
Type-N mismatch combination	SN: 5047.2 / 06327	08-Aug-07 (No. 217-00721)	Aug-08
Reference Probe ES3DV2	SN: 3025	01-Mar-08 (No. ES3-3025_Mar08)	Mar-09
DAE4	SN: 601	14-Mar-08 (No. DAE4-601_Mar08)	Mar-09
Secondary Standards	**ID #**	**Check Date (in house)**	**Scheduled Check**
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-07)	In house check: Oct-08
RF generator R&S SMT-06	100005	4-Aug-99 (in house check Oct-07)	In house check: Oct-09
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-07)	In house check: Oct-08

	Name	Function	Signature
Calibrated by:	Marcel Fehr	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: April 17, 2008

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

DASY4 Validation Report for Body TSL

Date/Time: 15.04.2008 13:51:25

Test Laboratory: SPEAG, Zurich, Switzerland

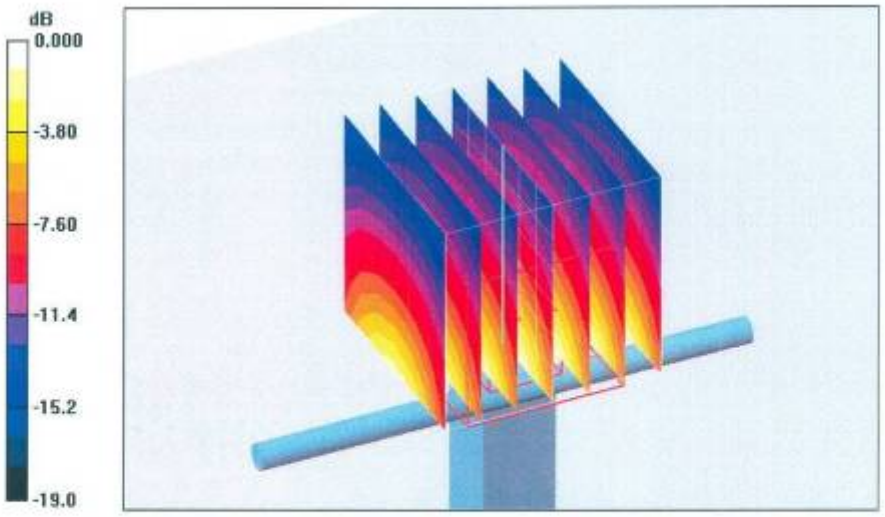
DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d027

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: MSL U10 BB;
Medium parameters used: f = 1900 MHz; σ = 1.56 mho/m; ε_r = 51.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: ES3DV2 - SN3025; ConvF(4.5, 4.5, 4.5); Calibrated: 01.03.2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 14.03.2008
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; ;
- Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 172

Pin = 250 mW; d = 10 mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 89.3 V/m; Power Drift = -0.022 dB
Peak SAR (extrapolated) = 17.4 W/kg
SAR(1 g) = 9.64 mW/g; SAR(10 g) = 5.07 mW/g
Maximum value of SAR (measured) = 11.7 mW/g



0 dB = 11.7mW/g

Certificate No: D1900V2-5d027_Apr08 Page 8 of 9

End of 1st part of report