A Test Lab Techno Corp.

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SAR EVALUATION REPORT

Test Report No.	:	1110FS11
Applicant	:	HTC Corporation
Product Type	:	Smartphone
Trade Name	:	HTC
Model Number	:	PJ03120
Dates of Receive	:	Sep. 06, 2011
Dates of Test	:	Sep. 10 ~ Oct. 01, 2011
Date of Issued	:	Oct. 13, 2011
Test Environment	:	Ambient Temperature： 22 ±2 ° C Relative Humidity：40 - 70 %
Standard	:	ANSI/IEEE C95.1-1999 IEEE Std. 1528-2003 47 CFR Part §2.1093 FCC/OET Bulletin 65 Supplement C [July 2001] RSS-102 Issue 4 (March 2010) KDB 248227 D01 SAR meas for 802.11 a b g v01r02 KDB 648474 D01 SAR Handsets Multi Xmiter and Anti V01r05 KDB941225 D01 SAR Test for 3G Devices KDB 941225 D03 SAR Test Reduction GSM GPRS EDGE
Max. SAR	:	1.130 W/kg Head SAR 1.370 W/kg Body SAR
Test Lab Location	:	Chang-an Lab

1. The test operations have to be performed with cautious behavior, the test results are as attached.
2. The test results are under chamber environment of A Test Lab Techno Corp. A Test Lab Techno Corp. does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples.
3. The measurement report has to be written approval of A Test Lab Techno Corp. It may only be reproduced or published in full. This report shall not be reproduced except in full, without the written approval of A Test Lab Techno Corp. The test results in the report only apply to the tested sample.

Approved By : Sam Chuang (Sam Chuang)

Tested By : Alex Wu (Alex Wu)

Contents

1. Description of Equipment under Test (EUT)

Applicant	HTC Corporation	
Applicant Address	No. 23, Xinghua Rd., Taoyuan City, Taoyuan County 330, Taiwan	
Manufacturer	HTC Corporation	
Manufacturer Address	No. 23, Xinghua Rd., Taoyuan City, Taoyuan County 330, Taiwan	
Product Type	Smartphone	
Trade Name	HTC	
Model Number	PJ03120	
FCC ID	NM8PJ03120	
IMEI No.	358703040010974	
RF Function	GSM/GPRS/EGPRS 850 (Device Class B, Multi-slot Class 10) GSM/GPRS/EGPRS 1900 (Device Class B, Multi-slot Class 10) WCDMA(RMC 12.2K) / HSDPA Band II WCDMA(RMC 12.2K) / HSDPA Band V IEEE 802.11b / 802.11g / draft 802.11n 2.4GHz Standard-20MHz with Wi-Fi Hot spot mode	
Tx Frequency	Band	Operate Frequency (MHz)
	GSM/GPRS/EGPRS 850	824.2 - 848.8
	GSM/GPRS/EGPRS 1900	1850.2 - 1909.8
	WCDMA(RMC 12.2K) / HSDPA Band II	1852.4 - 1907.6
	WCDMA(RMC 12.2K) / HSDPA Band V	826.4 - 846.4
	IEEE 802.11b/802.11g	2412 - 2462
	draft 802.11n 2.4GHz Standard-20MHz	2412 - 2462
	Bluetooth	2402 - 2480
RF Conducted Power (Avg.)	Band	Power (W / dBm)
	GSM/GPRS/EGPRS 850	1.667 / 32.22
	GSM/GPRS/EGPRS 1900	1.091 / 30.38
	WCDMA(RMC 12.2K) / HSDPA Band II	0.206 / 23.14
	WCDMA(RMC 12.2K) / HSDPA Band V	0.207 / 23.15
	IEEE 802.11b	0.047 / 16.74
	IEEE 802.11g	0.019 / 12.87
	Draft 802.11n 2.4GHz Standard-20MHz	0.019 / 12.70
	Bluetooth	0.001 / -1.33
Max. SAR Measurement	1.130 W/kg Head SAR 1.370 W/kg Body SAR	
Antenna Type	PIFA Type	
Device Category	Portable Device	
RF Exposure Environment	General Population / Uncontrolled	
Battery Option	Standard	
Application Type	Certification	

This wireless portable device has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment / general population exposure limits specified in Standard C95.1-1999 and had been tested in accordance with the measurement procedures specified in IEEE Std. 1528-2003.

2. Introduction

The A Test Lab Techno Corp. has performed measurements of the maximum potential exposure to the user of **HTC Corporation Trade Name：HTC Model(s)：PJ03120.** The test procedures, as described in American National Standards, Institute C95.1-1999〔1〕, FCC/OET Bulletin 65 Supplement C [July 2001] were employed and they specify the maximum exposure limit of 1.6mW/g as averaged over any 1 gram of tissue for portable devices being used within 20cm between user and EUT in the uncontrolled environment. A description of the product and operating configuration, detailed summary of the test results, methodology and procedures used in the equipment used are included within this test report.

2.1 SAR Definition

Specific Absorption Rate (SAR) is defined as the time derivative (rate) of the incremental energy (dw) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density (ρ). It is also defined as the rate of RF energy absorption per unit mass at a point in an absorbing body (see Figure 2).

$$SAR = \frac{d}{dt}\left(\frac{dw}{dm}\right) = \frac{d}{dt}\left(\frac{dw}{\rho dv}\right)$$

Figure 2. SAR Mathematical Equation

SAR is expressed in units of Watts per kilogram (W/kg)

$$SAR = \frac{\sigma E^2}{\rho}$$

Where：

σ = conductivity of the tissue (S/m)

ρ = mass density of the tissue (kg/m^3)

E = RMS electric field strength (V/m)

＊Note：

The primary factors that control rate of energy absorption were found to be the wavelength of the incident field in relations to the dimensions and geometry of the irradiated organism, the orientation of the organism in relation to the polarity of field vectors, the presence of reflecting surfaces, and whether conductive contact is made by the organism with a ground plane〔2〕

3. SAR Measurement Setup

These measurements were performed with the automated near-field scanning system DASY4 from Schmid & Partner Engineering AG (SPEAG). The system is based on a high precision robot (working range greater than 0.9m) which positions the probes with a positional repeatability of better than ±0.025mm. Special E- and H-field probes have been developed for measurements close to material discontinuity, the sensors of which are directly loaded with a Schottky diode and connected via highly resistive lines (length = 300mm) to the data acquisition unit.

A cell controller system contains the power supply, robot controller, teaches pendant (Joystick) and remote control, and is used to drive the robot motors. The Measurement Server is based on a PC/104 CPU board with a 166MHz low-power Pentium, 32MB chipdisk and 64MB RAM. The necessary circuits for communication with either the DAE3 electronic box as well as the 16-bit AD-converter system for optical detection and digital I/O interface are contained on the DASY4 I/O-board, which is directly connected to the PC/104 bus of the CPU board. The PC consists of the Intel Pentium 4 2.4GHz computer with Windows XP system and SAR Measurement Software DASY4, Post Processor SEMCAD, monitor, mouse, and keyboard. The Staubli Robot is connected to the cell controller to allow software manipulation of the robot. A data acquisition electronic (DAE) circuit performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection…etc. is connected to the Electro-optical converter (EOC). The EOC performs the conversion from the optical into digital electric signal of the DAE and transfers data to the Measurement Server.

The DAE4 (or DAE3) consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the PC-card is accomplished through an optical downlink for data and status information and an optical uplink for commands and clock lines. The mechanical probe mounting device includes two different sensor systems for frontal and sidewise probe contacts. They are also used for mechanical surface detection and probe collision detection. The robot uses its own controller with a built in VME-bus computer. The system is described in detail in〔3〕.

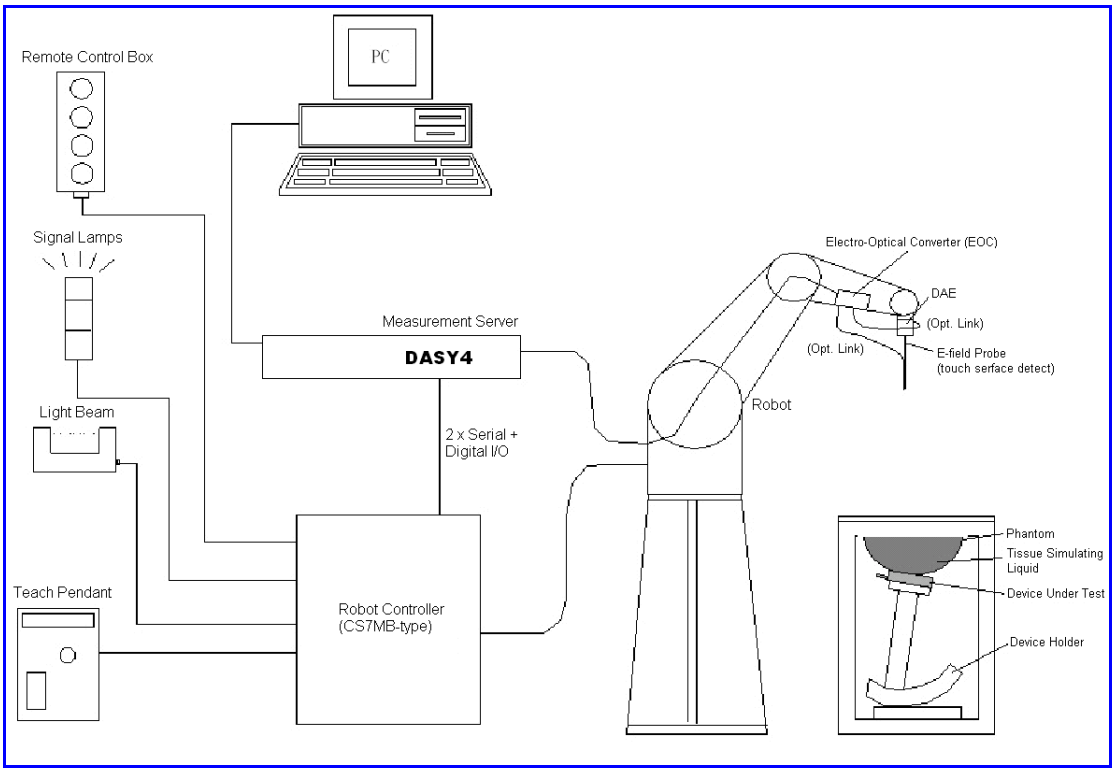


Figure 1. SAR Lab Test Measurement Setup

3.1 DASY4 E-Field Probe System

The SAR measurements were conducted with the dosimetric probe ES3DV3 or EX3DV3 or EX3DV4 (manufactured by SPEAG), designed in the classical triangular configuration〔3〕and optimized for dosimetric evaluation. The probes is constructed using the thick film technique; with printed resistive lines on ceramic substrates. The probe is equipped with an optical multi-fiber line ending at the front of the probe tip. It is connected to the EOC box on the robot arm and provides an automatic detection of the phantom surface. Half of the fibers are connected to a pulsed infrared transmitter, the other half to a synchronized receiver. As the probe approaches the surface, the reflection from the surface produces a coupling from the transmitting to the receiving fibers. This reflection increases first during the approach, reaches maximum and then decreases. If the probe is flatly touching the surface, the coupling is zero. The distance of the coupling maximum to the surface is independent of the surface reflectivity and largely independent of the surface to probe angle. The DASY4 software reads the reflection during a software approach and looks for the maximum using a 2nd order fitting. The approach is stopped when reaching the maximum.

3.1.1 E-Field Probe Specification

Construction	Symmetrical design with triangular core
	Built-in optical fiber for surface detection System
	Built-in shielding against static charges
	PEEK enclosure material (resistant to organic solvents, e.q., glycol)
Calibration	In air from 10 MHz to 6 GHz
	In brain and muscle simulating tissue at frequencies of 2450MHz (accuracy ±8%)
	Calibration for other liquids and frequencies upon request
Frequency	±0.2 dB (30 MHz to 6 GHz) for EX3DV4
	±0.2 dB (30 MHz to 4 GHz) for EX3DV3
	±0.2 dB (30 MHz to 4 GHz) for ES3DV3
Directivity	±0.3 dB in brain tissue (rotation around probe axis)
	±0.5 dB in brain tissue (rotation normal probe axis)
Dynamic Range	10 μW/g to > 100mW/g; Linearity: ±0.2dB
Dimensions	Overall length: 337mm
	Tip length: 20mm
	Body diameter: 12mm
	Tip diameter: 2.5mm for EX3DV4, 3.9mm for ES3DV3 and EX3DV3
	Distance from probe tip to dipole centers: 1.0mm for EX3DV4, 2.0mm for ES3DV3 and EX3DV3
Application	General dosimetry up to 6GHz
	Compliance tests of mobile phones
	Fast automatic scanning in arbitrary phantoms

Figure 3. E-field Probe

Figure 4. Probe setup on robot

3.1.2 E-Field Probe Calibration process

Dosimetric Assessment Procedure

Each E-Probe/Probe Amplifier combination has unique calibration parameters. A TEM cell calibration procedure is conducted to determine the proper amplifier settings to enter in the probe parameters. The amplifier settings are determined for a given frequency by subjecting the probe to a known E-field density (1 mW/cm^2) using an RF Signal generator, TEM cell, and RF Power Meter.

Free Space Assessment

The free space E-field from amplified probe outputs is determined in a test chamber. This calibration can be performed in a TEM cell if the frequency is below 1 GHz and in a waveguide or other methodologies above 1 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. The probe is rotated 360 degrees until the three channels show the maximum reading. The power density readings equates to 1 mW/cm^2.

Temperature Assessment

E-field temperature correlation calibration is performed in a flat phantom filled with the appropriate simulated head tissue. The E-field in the medium correlates with the temperature rise in the dielectric medium. For temperature correlation calibration a RF transparent thermistor-based temperature probe is used in conjunction with the E-field probe.

$$\mathbf{SAR} = C\frac{\Delta T}{\Delta t}$$

Where：

Δt = Exposure time (30 seconds),

C = Heat capacity of tissue (head or body),

ΔT = Temperature increase due to RF exposure.

Or $$\mathbf{SAR} = \frac{|E|^2 \sigma}{\rho}$$

Where：

σ = Simulated tissue conductivity,

ρ = Tissue density (kg/m^3).

3.2 Data Acquisition Electronic (DAE) System

Cell Controller

Processor：	Intel Pentium 4
Clock Speed：	2.4GHz
Operating System：	Windows XP Professional

Data Converter

Features：	Signal Amplifier, multiplexer, A/D converter, and control logic
Software：	DASY4 v4.7 (Build 80) & SEMCAD v1.8 (Build 186)
Connecting Lines：	Optical downlink for data and status info
	Optical uplink for commands and clock

3.3 Robot

Positioner：	Stäubli Unimation Corp. Robot Model: RX90L
Repeatability：	±0.025 mm
No. of Axis：	6

3.4 Measurement Server

Processor：	PC/104 with a 166MHz low-power Pentium
I/O-board：	Link to DAE4 (or DAE3)
	16-bit A/D converter for surface detection system
	Digital I/O interface
	Serial link to robot
	Direct emergency stop output for robot

3.5 Device Holder

The DASY device holder is constructed of low-loss POM material having the following dielectric parameters: relative permittivity ε=3 and loss tangent δ=0.02. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.

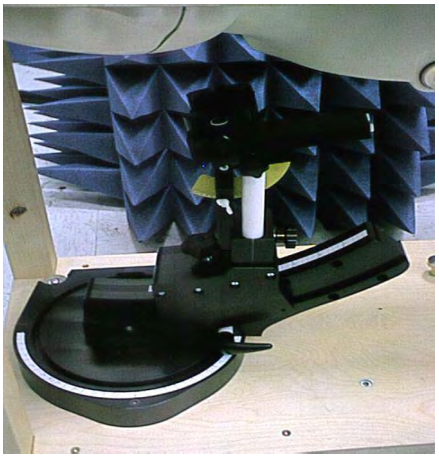


Figure 5. Device Holder

3.6 Phantom - SAM v4.0

The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528 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	1000x500 mm (LxW)

Table 1. Specification of SAM v4.0

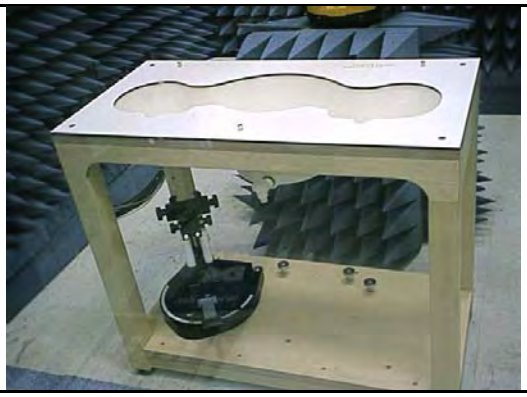


Figure 6. SAM Twin Phantom

3.7 Oval Flat Phantom - ELI 4.0

The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (Oval Flat) phantom defined in IEEE 1528-2003, CENELEC 50361 and IEC 62209. It enables the dosimetric evaluation of wireless portable device 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. 30 liters
Dimensions	190×600×400 mm (H×L×W)

Table 2. Specification of ELI 4.0

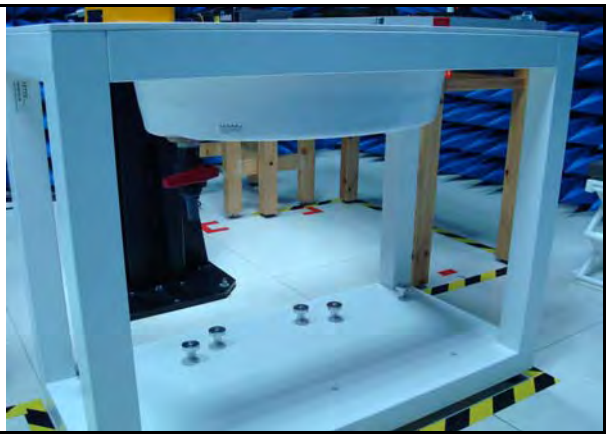


Figure 7. Oval Flat Phantom

3.8 Data Storage and Evaluation

3.8.1 Data Storage

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

3.8.2 Data Evaluation

The DASY4 post processing software (SEMCAD) automatically executes the following procedures to calculate the field units from the microvolt readings at the probe connector. The parameters used in the evaluation are stored in the configuration modules of the software：

Probe parameters：	- Sensitivity	Normi, ai0, ai1, ai2	
	- Conversion factor		ConvFi
	- Diode compression point		dcpi
Device parameters：	- Frequency	f	
	- Crest factor		cf
Media parameters：	- Conductivity	σ	
	- Density		ρ

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

The first step of the evaluation is a linearization of the filtered input signal to account for the compression characteristics of the detector diode. The compensation depends on the input signal, the diode type and the DC-transmission factor from the diode to the evaluation electronics. If the exciting field is pulsed, the crest factor of the signal must be known to correctly compensate for peak power. The formula for each channel can be given as：

$$V_i = U_i + U_i^2 \cdot \frac{cf}{dcp_i}$$

with $\boldsymbol{V_i}$ = compensated signal of channel i (i = x, y, z)

$\boldsymbol{U_i}$ = input signal of channel i (i = x, y, z)

$\boldsymbol{cf}$ = crest factor of exciting field (DASY parameter)

$\boldsymbol{dcp_i}$ = diode compression point (DASY parameter)

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

E-field probes： $$E_i = \sqrt{\frac{V_i}{Norm_i \cdot ConvF}}$$

H-field probes：

$$H_i = \sqrt{V_i} \cdot \frac{a_{i0} + a_{i1} f + a_{i2} f^2}{f}$$

with V_i = compensated signal of channel i (i = x, y, z)

$Norm_i$ = sensor sensitivity of channel i (i = x, y, z)

μV/(V/m)^2 for E-field Probes

$ConvF$ = sensitivity enhancement in solution

a_{ij} = sensor sensitivity factors for H-field probes

f = carrier frequency [GHz]

E_i = electric field strength of channel i in V/m

Hi = magnetic field strength of channel i in A/m

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

$$E_{tot} = \sqrt{E_x^2 + E_y^2 + E_z^2}$$

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

$$SAR = E_{tot}^2 \cdot \frac{\sigma}{\rho \cdot 1000}$$

with SAR = local specific absorption rate in mW/g

E_{tot} = total field strength in V/m

σ = conductivity in [mho/m] or [Siemens/m]

ρ = equivalent tissue density in g/cm^3

∗**Note**：That the density is set to 1, to account for actual head tissue density rather than the density of the tissue simulating liquid.

The power flow density is calculated assuming the excitation field to be a free space field.

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

with P_{pwe} = equivalent power density of a plane wave in mW/cm^2

E_{tot} = total electric field strength in V/m

H_{tot} = total magnetic field strength in A/m

4. Tissue Simulating Liquids

The mixture is calibrated to obtain proper dielectric constant (permittivity) and conductivity of the tissue. The dielectric parameters of the liquids were verified prior to the SAR evaluation using an 85070C Dielectric Probe Kit and an E5071B Network Analyzer.

IEEE SCC-34/SC-2 in 1528 recommended Tissue Dielectric Parameters

The head tissue dielectric parameters recommended by the IEEE SCC-34/SC-2 in 1528 have been incorporated in the following table. These head parameters are derived from planar layer models simulating the highest expected SAR for the dielectric properties and tissue thickness variations in human head. Other head and body tissue parameters that have not been specified in 1528 are derived from the tissue dielectric parameters computed from the 4-Cole-Cole equation and extrapolated according to the head parameter specified in 1528.

Target Frequency	Head		Body	
(MHz)	ε_r	σ (S/m)	ε_r	σ (S/m)
150	52.3	0.76	61.9	0.80
300	45.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
835	41.5	0.90	55.2	0.97
900	41.5	0.97	55.0	1.05
915	41.5	0.98	55.0	1.06
1450	40.5	1.20	54.0	1.30
1610	40.3	1.29	53.8	1.40
1800 - 2000	40.0	1.40	53.3	1.52
2450	39.2	1.80	52.7	1.95
3000	38.5	2.40	52.0	2.73
5800	35.3	5.27	48.2	6.00
(ε_r = relative permittivity, σ = conductivity and ρ = 1000 kg/m^3)				

Table 3. Tissue dielectric parameters for head and body phantoms

4.1 Ingredients

The following ingredients are used:

- Water: deionized water (pure H_20), resistivity ≥ 16 M Ω -as basis for the liquid
- Sugar: refied white sugar (typically 99.7 % sucrose, available as crystal sugar in food shops) -to reduce relative permittivity
- Salt: pure NaCl -to increase conductivity
- Cellulose: Hydroxyethyl-cellulose, medium viscosity (75-125 mPa.s, 2% in water, 20°C), CAS # 54290 -to increase viscosity and to keep sugar in solution.
- Preservative: Preventol D-7 Bayer AG, D-51368 Leverkusen, CAS # 55965-84-9 -to prevent the spread of bacteria and molds
- DGBE: Diethylenglycol-monobuthyl ether (DGBE), Fluka Chemie GmbH, CAS # 112-34-5 -to reduce relative permittivity

4.2 Recipes

The following tables give the recipes for tissue simulating liquids to be used in different frequency bands.

Note: The goal dielectric parameters (at 22 ℃) must be achieved within a tolerance of ±5% for εand ±5% for σ.

Ingredients (% by weight)	Frequency (MHz)									
	450		835		915		1900		2450	
Tissue Type	Head	Body	Head	Body	Head	Body	Head	Body	Head	Body
Water	38.56	51.16	41.45	52.4	41.05	56.0	54.9	40.4	62.7	73.2
Salt (NaCl)	3.95	1.49	1.45	1.4	1.35	0.76	0.18	0.5	0.5	0.04
Sugar	56.32	46.78	56.0	45.0	56.5	41.76	0.0	58.0	0.0	0.0
HEC	0.98	0.52	1.0	1.0	1.0	1.21	0.0	1.0	0.0	0.0
Bactericide	0.19	0.05	0.1	0.1	0.1	0.27	0.0	0.1	0.0	0.0
Triton X-100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.8	0.0
DGBE	0.0	0.0	0.0	0.0	0.0	0.0	44.92	0.0	0.0	26.7
Dielectric Constant	43.42	58.0	42.54	56.1	42.0	56.8	39.9	54.0	39.8	52.5
Conductivity (S/m)	0.85	0.83	0.91	0.95	1.0	1.07	1.42	1.45	1.88	1.78

Salt: 99$^+$% Pure Sodium Chloride Sugar: 98$^+$% Pure Sucrose

Water: De-ionized, 16 MΩ $^+$ resistivity HEC: Hydroxyethyl Cellulose

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

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

4.3 Liquid Confirmation

4.3.1 Parameters

Liquid Verify								
Ambient Temperature： 22 ± 2 °C；Relative Humidity：40 -70%								
Liquid Type	Frequency	Temp (°C)	Parameters	Target Value	Measured Value	Deviation (%)	Limit (%)	Measured Date
835MHz Head	820MHz	22.0	εr	41.50	43.07	3.78 %	± 5	10/01/2011
			σ	0.90	0.88	-2.22 %	± 5	
	835MHz	22.0	εr	41.50	42.91	3.40 %	± 5	
			σ	0.90	0.90	0.00 %	± 5	
	850MHz	22.0	εr	41.50	42.77	3.06 %	± 5	
			σ	0.90	0.91	1.11 %	± 5	
1900MHz Head	1850MHz	22.0	εr	40.00	39.21	-1.98 %	± 5	09/10/2011
			σ	1.40	1.35	-3.57 %	± 5	
	1900MHz	22.0	εr	40.00	39.03	-2.43 %	± 5	
			σ	1.40	1.37	-2.14 %	± 5	
	1930MHz	22.0	εr	40.00	38.89	-2.78 %	± 5	
			σ	1.40	1.39	-0.71 %	± 5	
2450MHz Head	2400MHz	22.0	εr	39.20	39.73	1.35 %	± 5	10/01/2011
			σ	1.80	1.74	-3.33 %	± 5	
	2450MHz	22.0	εr	39.20	39.56	0.92 %	± 5	
			σ	1.80	1.80	0.00 %	± 5	
	2500MHz	22.0	εr	39.20	39.45	0.64 %	± 5	
			σ	1.80	1.87	3.89 %	± 5	

Table 4. Measured Tissue dielectric parameters for head phantom

Liquid Verify								
Ambient Temperature： 22 ± 2 °C；Relative Humidity：40 -70%								
Liquid Type	Frequency	Temp (°C)	Parameters	Target Value	Measured Value	Deviation (%)	Limit (%)	Measured Date
835MHz Body	820MHz	22.0	εr	55.20	54.06	-2.07 %	± 5	09/24/2011
			σ	0.97	0.97	0.00 %	± 5	
	835MHz	22.0	εr	55.20	53.92	-2.32 %	± 5	
			σ	0.97	0.98	1.03 %	± 5	
	850MHz	22.0	εr	55.20	53.87	-2.41 %	± 5	
			σ	0.97	1.00	3.09 %	± 5	
835MHz Body	820MHz	22.0	εr	55.20	54.06	-2.07 %	± 5	09/28/2011
			σ	0.97	0.97	0.00 %	± 5	
	835MHz	22.0	εr	55.20	53.92	-2.32 %	± 5	
			σ	0.97	0.98	1.03 %	± 5	
	850MHz	22.0	εr	55.20	53.87	-2.41 %	± 5	
			σ	0.97	1.00	3.09 %	± 5	
835MHz Body	820MHz	22.0	εr	55.20	54.06	-2.07 %	± 5	09/30/2011
			σ	0.97	0.97	0.00 %	± 5	
	835MHz	22.0	εr	55.20	53.92	-2.32 %	± 5	
			σ	0.97	0.98	1.03 %	± 5	
	850MHz	22.0	εr	55.20	53.87	-2.41 %	± 5	
			σ	0.97	1.00	3.09 %	± 5	
1900MHz Body	1850MHz	22.0	εr	53.30	52.17	-2.12 %	± 5	09/13/2011
			σ	1.52	1.45	-4.61 %	± 5	
	1900MHz	22.0	εr	53.30	52.04	-2.36 %	± 5	
			σ	1.52	1.50	-1.32 %	± 5	
	1930MHz	22.0	εr	53.30	52.01	-2.42 %	± 5	
			σ	1.52	1.53	0.66 %	± 5	
1900MHz Body	1850MHz	22.0	εr	53.30	52.17	-2.12 %	± 5	09/14/2011
			σ	1.52	1.45	-4.61 %	± 5	
	1900MHz	22.0	εr	53.30	52.04	-2.36 %	± 5	
			σ	1.52	1.50	-1.32 %	± 5	
	1930MHz	22.0	εr	53.30	52.01	-2.42 %	± 5	
			σ	1.52	1.53	0.66 %	± 5	

Table 5. Measured Tissue dielectric parameters for body phantom

Liquid Verify								
Ambient Temperature： 22 ± 2 °C；Relative Humidity：40 -70%								
Liquid Type	Frequency	Temp (°C)	Parameters	Target Value	Measured Value	Deviation (%)	Limit (%)	Measured Date
2450MHz Body	1850MHz	22.0	εr	52.70	51.81	-1.69 %	± 5	10/01/2011
			σ	1.95	1.88	-3.59 %	± 5	
	1900MHz	22.0	εr	52.70	51.67	-1.95 %	± 5	
			σ	1.95	1.94	-0.51 %	± 5	
	1930MHz	22.0	εr	52.70	51.50	-2.28 %	± 5	
			σ	1.95	2.00	2.56 %	± 5	

Table 6. Measured Tissue dielectric parameters for body phantom

4.3.2 Liquid Depth

The liquid level was during measurement 15cm ±0.5cm.

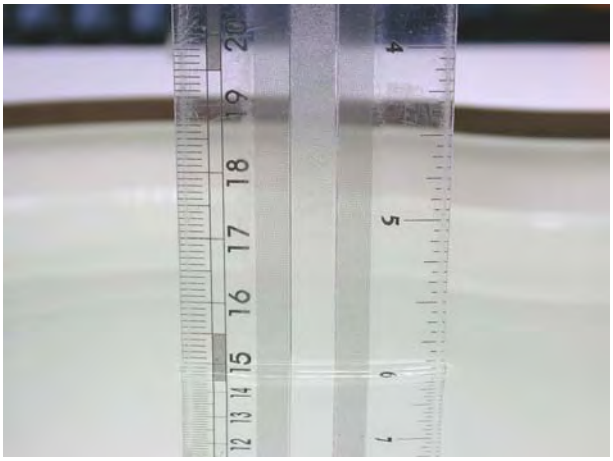


Figure 8. Head-Tissue-Simulating-Liquid

Figure 9. Body-Tissue-Simulating-Liquid

5. SAR Testing with RF Transmitters

5.1 SAR Testing with HSDPA Transmitters

HSDPA Date Devices setup for SAR Measurement.

HSDPA should be configured according to the UE category of a test device. The number of HS-DSCH/HS-PDSCHs, HARQ processes, minimum inter-TTI interval, transport block sizes and RV coding sequence are defined by the H-set. To maintain a consistent test configuration and stable transmission conditions, QPSK is used in the H-set for SAR testing. HS-DPCCH should be configured with a CQI feedback cycle of 4 ms with a CQI repetition factor of 2 to maintain a constant rate of active CQI slots. DPCCH and DPDCH gain factors(βc, βd), and HS-DPCCH power offset parameters (ΔACK, ΔNACK, ΔCQI) should be set according to values indicated in the Table below.[32] The CQI value is determined by the UE category, transport block size, number of HS-PDSCHs and modulation used in the H-set.[33]

Sub-test	βc	βd	βd (SF)	βc/βd	βhs(1,2)	CM (dB)(3)	MRP (dB)(3)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15(4)	15/15(4)	64	12/15(4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note

1. Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 8 ⇔ Ahs = βhs/βc = 30/15 ⇔ βhs= 30/15 *βc
2. For theHS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude(EVM) with HS-DPCCH test in clause 5.13.1A and HSDPA EVM with phase discontinuity in clause 5.13.1AA, Δ_{ACK} and Δ_{NACK} = 30/15 with βhs = 30/15 *βc and Δ_{CQI} = 24/15 with βhs = 24/15*βc
3. CM = 1 for βc/βd =12/15, βhs/βc=24/15. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.
4. For subtest 2 the βc/βd ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to βc = 11/15 and βd = 15/15.

Table 7. Setup for Release 5 HSDPA

5.2 SAR Testing with 802.11 Transmitters

Normal network operating configurations are not suitable for measuring the SAR of 802.11 a/b/g transmitters. Unpredictable fluctuations in network traffic and antenna diversity conditions can introduce undesirable variations in SAR results. The SAR for these devices should be measured using chipset based test mode software to ensure the results are consistent and reliable.

5.2.1 General Device Setup

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters. The test frequencies should correspond to actual channel frequencies defined

for domestic use. SAR for devices with switched diversity should be measured with only one antenna transmitting at a time during each SAR measurement, according to a fixed modulation and data rate.

The same data pattern should be used for all measurements.

5.2.2 Frequency Channel Configurations

802.11 a/b/g and 4.9 GHz operating modes are tested independently according to the service requirements in each frequency band. 802.11 b/g modes are tested on channels 1, 6 and 11. 802.11a is tested for UNII operations on channels 36 and 48 in the 5.15-5.25 GHz band; channels 52 and 64 in the 5.25-5.35 GHz band; channels 104, 116, 124 and 136 in the 5.470-5.725 GHz band; and channels 149 and 161 in the 5.8 GHz band. When 5.8 GHz §15.247 is also available, channels 149, 157 and 165 should be tested instead of the UNII channels. 4.9 GHz is tested on channels 1, 10 and 5 or 6, whichever has the higher output power, for 5 MHz channels; channels 11, 15 and 19 for 10 MHz channels; and channels 21 and 25 for 20 MHz channels. These are referred to as the “default test channels”. 802.11g mode was evaluated only if the output power was 0.25 dB higher than the 802.11b mode.

802.11 Test Channels per FCC Requirement

Mode		GHz	Channel	Turbo Channel	Default Test "Channels"			
					§15.247		UNII	
					802.11b	802.11g		
802.11 b/g		2412	1		✓	▽		
		2437	6	6	✓	▽		
		2462	11		✓	▽		
802.11a	UNII	5.18	36				✓	
		5.20	40	42 (5.21 GHz)				*
		5.22	44					*
		5.24	48	50 (5.25 GHz)				
		5.26	52				✓	
		5.28	56	58 (5.29 GHz)				*
		5.30	60					*
		5.32	64				✓	
		5.500	100	Unknown				*
		5.520	104				✓	
		5.540	108					*
		5.560	112					*
		5.580	116				✓	
		5.600	120					*
		5.620	124				✓	
		5.640	128					*
		5.660	132					*
		5.680	136				✓	
		5.700	140					*
	UNII or §15.247	5.745	149		✓		✓	
		5.765	153	152 (5.76 GHz)		*		*
		5.785	157		✓			*
		5.805	161	160 (5.80 GHz)		*	✓	
	§15.247	5.825	165		✓			

5.3 Conducted Power

Band	Mode	CH	Frequency (MHz)	RF Conducted Output Power (dBm)	
				Time Average	Average burst
GSM 850	---	Lowest	824.2	23.03	**32.22**
		Middle	836.6	23.01	32.20
		Highest	848.8	22.91	32.10
GPRS 850 Class 10, DL TS: 4, UL TS:2, Active TS:5	4Down1Up	Lowest	824.2	23.02	**32.21**
		Middle	836.6	22.99	32.18
		Highest	848.8	22.89	32.08
	3Down2Up	Lowest	824.2	25.91	32.14
		Middle	836.6	25.88	32.11
		Highest	848.8	25.77	32.00
EGPRS 850 Class 10, DL TS: 4, UL TS:2, Active TS:5	4Down1Up	Lowest	824.2	17.95	27.14
		Middle	836.6	17.91	27.10
		Highest	848.8	17.85	27.04
	3Down2Up	Lowest	824.2	19.36	25.59
		Middle	836.6	19.34	25.57
		Highest	848.8	19.28	25.51
GSM 1900	---	Lowest	1850.2	21.08	30.27
		Middle	1880.0	21.19	**30.38**
		Highest	1909.8	21.16	30.35
GPRS 1900 Class 10, DL TS: 4, UL TS:2, Active TS:5	4Down1Up	Lowest	1850.2	21.07	30.26
		Middle	1880.0	21.18	30.37
		Highest	1909.8	21.15	30.34
	3Down2Up	Lowest	1850.2	23.51	29.74
		Middle	1880.0	23.62	**29.85**
		Highest	1909.8	23.58	29.81
EGPRS 1900 Class 10, DL TS: 4, UL TS:2, Active TS:5	4Down1Up	Lowest	1850.2	16.98	26.17
		Middle	1880.0	17.13	26.32
		Highest	1909.8	17.09	26.28
	3Down2Up	Lowest	1850.2	18.88	25.11
		Middle	1880.0	19.02	25.25
		Highest	1909.8	19.01	25.24

Note: Slot average factor: 1up slot: -9.2 dB, 2up slot: -6.2 dB.

Band	Sub-test	CH	Frequency (MHz)	RF Conducted Output Power (dBm)
				Average
WCDMA Band II	---	Lowest	1852.4	23.00
		Middle	1880.0	**23.14**
		Highest	1907.6	23.01
HSDPA Band II	1	Lowest	1852.4	22.85
		Middle	1880.0	23.04
		Highest	1907.6	22.77
	2	Lowest	1852.4	22.85
		Middle	1880.0	22.75
		Highest	1907.6	22.72
	3	Lowest	1852.4	22.48
		Middle	1880.0	22.67
		Highest	1907.6	22.38
	4	Lowest	1852.4	22.44
		Middle	1880.0	22.65
		Highest	1907.6	22.37
WCDMA Band V	1	Lowest	1852.4	23.14
		Middle	1880.0	22.98
		Highest	1907.6	**23.15**
HSDPA Band V	2	Lowest	1852.4	22.98
		Middle	1880.0	22.83
		Highest	1907.6	22.93
	3	Lowest	1852.4	22.87
		Middle	1880.0	22.76
		Highest	1907.6	22.85
	4	Lowest	1852.4	21.40
		Middle	1880.0	21.21
		Highest	1907.6	21.41
	5	Lowest	1852.4	21.31
		Middle	1880.0	21.22
		Highest	1907.6	21.42

Band	Data Rate	CH	Frequency (MHz)	RF Conducted Output Power (dBm)
				Average
IEEE 802.11b	1 M	1	2412.0	16.55
		6	2437.0	16.59
		11	2462.0	**16.74**
	2 M	1	2412.0	16.52
		6	2437.0	16.59
		11	2462.0	16.73
	5.5 M	1	2412.0	16.49
		6	2437.0	16.64
		11	2462.0	16.70
	11 M	1	2412.0	16.41
		6	2437.0	16.48
		11	2462.0	16.54
IEEE 802.11g	6 M	1	2412.0	12.56
		6	2437.0	12.74
		11	2462.0	**12.87**
	9 M	1	2412.0	12.54
		6	2437.0	12.65
		11	2462.0	12.68
	12 M	1	2412.0	12.48
		6	2437.0	12.48
		11	2462.0	12.57
	18 M	1	2412.0	12.27
		6	2437.0	12.30
		11	2462.0	12.40
	24 M	1	2412.0	12.05
		6	2437.0	12.15
		11	2462.0	12.26
	36 M	1	2412.0	11.76
		6	2437.0	11.80
		11	2462.0	11.95
	48 M	1	2412.0	11.45
		6	2437.0	11.44
		11	2462.0	11.60
	54 M	1	2412.0	11.30
		6	2437.0	11.32
		11	2462.0	11.50

Band	Data Rate	CH	Frequency (MHz)	RF Conducted Output Power (dBm)
				Average
Draft 802.11n_HT20 (2.4 GHz)	MCS0	1	2412.0	12.44
		6	2437.0	**12.70**
		11	2462.0	12.65
	MCS1	1	2412.0	12.35
		6	2437.0	12.30
		11	2462.0	12.47
	MCS2	1	2412.0	12.05
		6	2437.0	12.23
		11	2462.0	12.32
	MCS3	1	2412.0	11.90
		6	2437.0	11.97
		11	2462.0	12.15
	MCS4	1	2412.0	11.57
		6	2437.0	11.62
		11	2462.0	11.70
	MCS5	1	2412.0	11.35
		6	2437.0	11.43
		11	2462.0	11.57
	MCS6	1	2412.0	11.25
		6	2437.0	11.25
		11	2462.0	11.45
	MCS7	1	2412.0	11.12
		6	2437.0	11.16
		11	2462.0	11.24

5.4 Simultaneous Transmitting Evaluate

RF Conducted Power		
Band	dBm	W
GSM/GPRS/EGPRS 850	25.91	0.39
GSM/GPRS/EGPRS 1900	23.62	0.23
WCDMA(RMC 12.2K) / HSDPA Band II	23.14	0.206
WCDMA(RMC 12.2K) / HSDPA Band V	23.15	0.207
Wi-Fi 802.11b	16.74	0.047
Wi-Fi 802.11g	12.87	0.019
Wi-Fi 802.11n_2.4GHz	12.70	0.019
BT 2.0	-1.33	0.001

Antenna Distance	
Antenna Account	Distance (cm)
BT to WLAN	0
BT to Phone(License)	4.17
WLAN to Phone (License)	4.17

BT and GSM/WCDMA and WLAN simultaneously SAR Description

(1) Antenna Distance
1a.BT/WLAN & GSM 4.17 cm
1b.BT & WLAN 0cm

(2) GSM/BT – with antenna separation distance greater than >2.5cm <5cm – BT power is less than Pref . Then simultaneous SAR of GSM/BT is not required.

(3) WLAN/BT – Antenna is not simultaneously transmission, Therefore Simultaneous SAR is not required.

(4) GSM850/PCS/WCDMA BV/ WCDMA BII/WLAN Stand-alone SAR is required due to routine evaluation requirements.

(5) BT Power <60/f, then BT stand-alone SAR is not required.

(6) Highest Simultaneous SAR Evaluation:
Body SAR：∑SAR=GPRS 850+Wifi 802.11b= 1.532 mW/g < SAR limit: 1.6mW/g
Head SAR：∑SAR=WCDMA Band II+Wifi 802.11b= 1.328 mW/g < SAR limit: 1.6mW/g
Therefore, the Simultaneous SAR is not required.

(7) For WiFi hot spot mode, since the GSM network not support the DTM mode, therefore the GPRS/EGPRS SAR of head is not required.

(8) GPRS Class 10 ,max Tx 2 slot ,max Rx 4 slot ,sum 5 slot.

(9) The slot average factor for each different slot configuration:
Avg Burst conducted power+ 10*log(1/crest factor) is time-average approximately
Crest factor for each different slot configuration as below:
Crest factor is 8.3/x, x = slot of Tx.

Note:
1. Simultaneous Transmitting Summery, please find the table-9 as below.
2. Simultaneous Transmission Summation of SAR, please find the table-10 as below.
2.1 For Edge Top mode, that WWAN antenna to edge top >2.5cm, therefore the WWAN Stand-alone SAR is not required (hot -spot mode).
2.2 For (Edge Bottom mode& Edge Left mode), that WLAN antenna to edge Bottom& Edge Left mode >2.5cm, therefore the WLAN Stand-alone SAR is not required(hot -spot mode).

Table 8.

Simultaneous Transmitting Summery			
Simultaneous transmitting	802.11b	802.11g	802.11n
GSM/GPRS/EGPRS 850	Y	Y	Y
GSM/GPRS/EGPRSPCS	Y	Y	Y
WCDMA/HSDPA Band II	Y	Y	Y
WCDMA/HSDPA Band V	Y	Y	Y

Table 9.

Right-Cheek mode					
The sum of the 1-g SAR					
Simult Tx	Configuration	GSM 850 SAR mW/g	WLAN SAR mW/g	∑ SAR mW/g	∑ SAR
Head SAR	Right-Cheek	0.28	0.179	0.459	<1.6
Simult Tx	Configuration	WCDMA V SAR mW/g	WLAN SAR mW/g	∑ SAR mW/g	∑ SAR
Head SAR	Right-Cheek	0.652	0.179	0.831	<1.6
Simult Tx	Configuration	GSM PCS SAR mW/g	WLAN SAR mW/g	∑ SAR mW/g	∑ SAR
Head SAR	Right-Cheek	0.431	0.179	0.61	<1.6
Simult Tx	Configuration	WCDMA II SAR mW/g	WLAN SAR mW/g	∑ SAR mW/g	∑ SAR
Head SAR	Right-Cheek	0.784	0.179	0.963	<1.6

Right-Tilted mode					
The sum of the 1-g SAR					
Simult Tx	Configuration	GSM 850 SAR mW/g	WLAN SAR mW/g	∑ SAR mW/g	∑ SAR
Head SAR	Right-Tilted	0.153	0.237	0.39	<1.6
Simult Tx	Configuration	WCDMA V SAR mW/g	WLAN SAR mW/g	∑ SAR mW/g	∑ SAR
Head SAR	Right-Tilted	0.336	0.237	0.573	<1.6
Simult Tx	Configuration	GSM PCS SAR mW/g	WLAN SAR mW/g	∑ SAR mW/g	∑ SAR
Head SAR	Right-Tilted	0.148	0.237	0.385	<1.6
Simult Tx	Configuration	WCDMA II SAR mW/g	WLAN SAR mW/g	∑ SAR mW/g	∑ SAR
Head SAR	Right-Tilted	0.26	0.237	0.497	<1.6

Left-Cheek mode					
The sum of the 1-g SAR					
Simult Tx	Configuration	GSM 850 SAR mW/g	WLAN SAR mW/g	∑ SAR mW/g	∑ SAR
Head SAR	Left-Cheek	0.141	0.198	0.339	<1.6
Simult Tx	Configuration	WCDMA V SAR mW/g	WLAN SAR mW/g	∑ SAR mW/g	∑ SAR
Head SAR	Left-Cheek	0.527	0.198	0.725	<1.6
Simult Tx	Configuration	GSM PCS SAR mW/g	WLAN SAR mW/g	∑ SAR mW/g	∑ SAR
Head SAR	Left-Cheek	0.615	0.198	0.813	<1.6
Simult Tx	Configuration	WCDMA II SAR mW/g	WLAN SAR mW/g	∑ SAR mW/g	∑ SAR
Head SAR	Left-Cheek	1.13	0.198	1.328	<1.6

Left-Tilted mode					
The sum of the 1-g SAR					
Simult Tx	Configuration	GSM 850 SAR mW/g	WLAN SAR mW/g	∑ SAR mW/g	∑ SAR
Head SAR	Left-Tilted	0.226	0.267	0.493	<1.6
Simult Tx	Configuration	WCDMA V SAR mW/g	WLAN SAR mW/g	∑ SAR mW/g	∑ SAR
Head SAR	Left-Tilted	0.315	0.267	0.582	<1.6
Simult Tx	Configuration	GSM PCS SAR mW/g	WLAN SAR mW/g	∑ SAR mW/g	∑ SAR
Head SAR	Left-Tilted	0.156	0.267	0.423	<1.6
Simult Tx	Configuration	WCDMA II SAR mW/g	WLAN SAR mW/g	∑ SAR mW/g	∑ SAR
Head SAR	Left-Tilted	0.264	0.267	0.531	<1.6

Front surface mode					
The sum of the 1-g SAR					
Simult Tx	Configuration	GSM 850 SAR mW/g	WLAN SAR mW/g	∑ SAR mW/g	∑ SAR
Body SAR	Flat	0.385	0.097	0.482	<1.6
Simult Tx	Configuration	WCDMA V SAR mW/g	WLAN SAR mW/g	∑ SAR mW/g	∑ SAR
Body SAR	Flat	0.523	0.097	0.62	<1.6
Simult Tx	Configuration	GSM PCS SAR mW/g	WLAN SAR mW/g	∑ SAR mW/g	∑ SAR
Body SAR	Flat	0.611	0.097	0.708	<1.6
Simult Tx	Configuration	WCDMA II SAR mW/g	WLAN SAR mW/g	∑ SAR mW/g	∑ SAR
Body SAR	Flat	0.694	0.097	0.791	<1.6

Back surface mode					
The sum of the 1-g SAR					
Simult Tx	Configuration	GSM 850 SAR mW/g	WLAN SAR mW/g	∑ SAR mW/g	∑ SAR
Body SAR	Flat	1.37	0.162	1.532	<1.6
Simult Tx	Configuration	WCDMA V SAR mW/g	WLAN SAR mW/g	∑ SAR mW/g	∑ SAR
Body SAR	Flat	1.07	0.162	1.232	<1.6
Simult Tx	Configuration	GSM PCS SAR mW/g	WLAN SAR mW/g	∑ SAR mW/g	∑ SAR
Body SAR	Flat	1.18	0.162	1.342	<1.6
Simult Tx	Configuration	WCDMA II SAR mW/g	WLAN SAR mW/g	∑ SAR mW/g	∑ SAR
Body SAR	Flat	1.12	0.162	1.282	<1.6

Edge Right mode					
The sum of the 1-g SAR					
Simult Tx	Configuration	GSM 850 SAR mW/g	WLAN SAR mW/g	∑ SAR mW/g	∑ SAR
Body SAR	Flat	0.41	0.127	0.537	<1.6
Simult Tx	Configuration	WCDMA V SAR mW/g	WLAN SAR mW/g	∑ SAR mW/g	∑ SAR
Body SAR	Flat	0.546	0.127	0.673	<1.6
Simult Tx	Configuration	GSM PCS SAR mW/g	WLAN SAR mW/g	∑ SAR mW/g	∑ SAR
Body SAR	Flat	0.253	0.127	0.38	<1.6
Simult Tx	Configuration	WCDMA II SAR mW/g	WLAN SAR mW/g	∑ SAR mW/g	∑ SAR
Body SAR	Flat	0.256	0.127	0.383	<1.6

6. System Performance Check

6.1 Symmetric Dipoles for System Validation

Construction	Symmetrical dipole with l/4 balun enables measurement of feed point impedance with NWA matched for use near flat phantoms filled with head simulating solutions Includes distance holder and tripod adaptor Calibration Calibrated SAR value for specified position and input power at the flat phantom in head simulating solutions.
Frequency	835, 1900, 2450 MHz
Return Loss	> 20 dB at specified validation position
Power Capability	> 100 W (f < 1GHz); > 40 W (f > 1GHz)
Options	Dipoles for other frequencies or solutions and other calibration conditions are available upon request
Dimensions	D835V2: dipole length 161 mm; overall height 340 mm D1900V2: dipole length 67.7 mm; overall height 300 mm D2450V2：dipole length 51.5 mm; overall height 300 mm

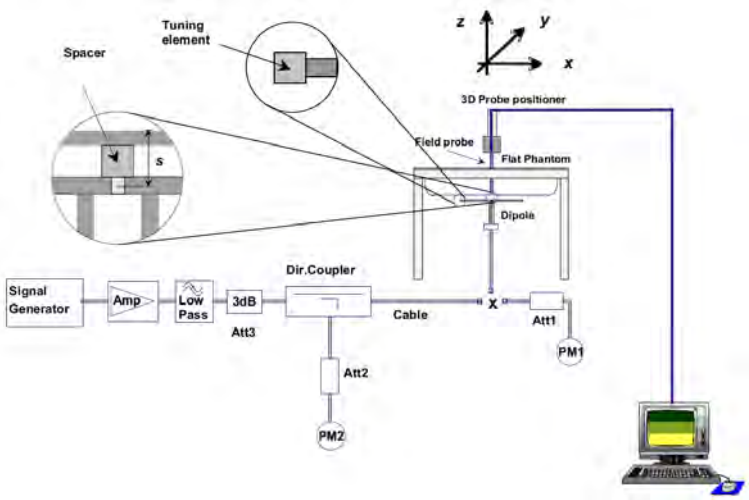


Figure 10. System Verification Setup Diagram

Figure 11. Validation Kit

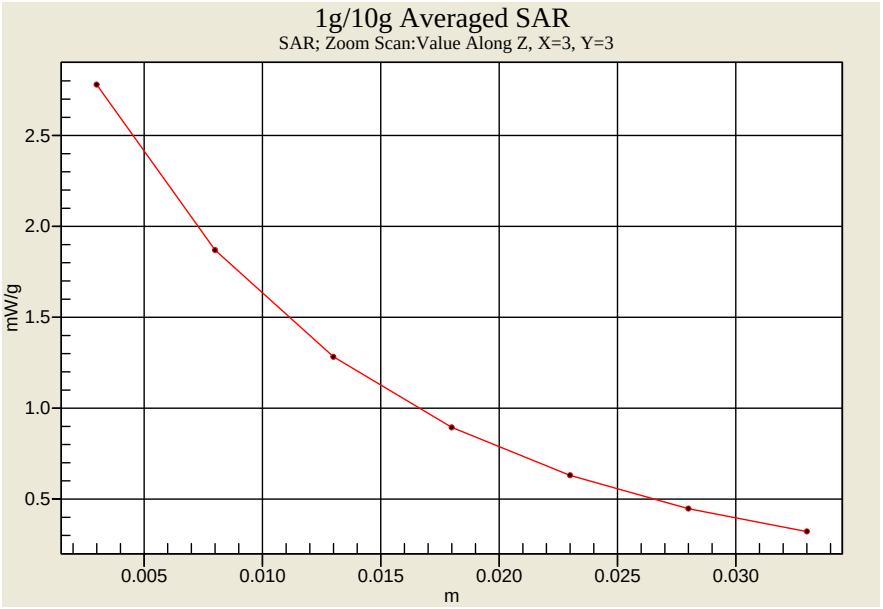
6.2 Validation

Prior to the assessment, the system validation kit was used to test whether the system was operating within its specifications of ± 7%. The validation was performed at 835, 1900 and 2450MHz.

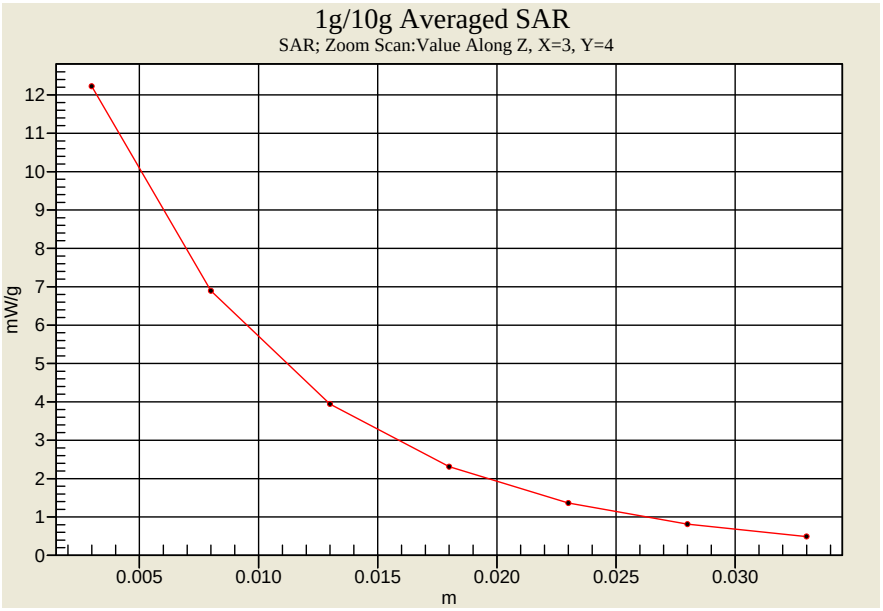
Validation kit		Mixture Type	SAR_{1g} [mW/g]		SAR_{10g} [mW/g]		Date of Calibration
D835V2-SN4d082		Head	9.25		6.07		07/19/2011
D1900V2-SN5d111		Head	39.9		20.8		07/22/2011
D2450V2-SN712		Head	52.9		24.5		02/23/2011
Frequency (MHz)	Power (dBm)	SAR_{1g} (mW/g)	SAR_{10g} (mW/g)	Drift (dB)	Difference percentage		Date
					1g	10g	
835 (Head)	250mW	2.38	1.56	0.132	2.9 %	2.8 %	10/01/2011
	Normalize to 1 Watt	9.52	6.24				
1900 (Head)	250mW	9.64	5.06	-0.036	-3.4 %	-2.7 %	09/10/2011
	Normalize to 1 Watt	38.56	20.24				
2450 (Head)	250mW	13.6	6.36	-0.147	2.8 %	3.8 %	10/01/2011
	Normalize to 1 Watt	54.4	25.44				

Validation kit		Mixture Type	SAR_{1g} [mW/g]		SAR_{10g} [mW/g]		Date of Calibration
D835V2-SN4d082		Body	9.43		6.22		07/19/2011
D1900V2-SN5d111		Body	40.9		21.5		07/22/2011
D2450V2-SN712		Body	50.4		23.3		02/23/2011
Frequency (MHz)	Power (dBm)	SAR_{1g} (mW/g)	SAR_{10g} (mW/g)	Drift (dB)	Difference percentage		Date
					1g	10g	
835 (Body)	250mW	2.37	1.56	0.199	0.5 %	0.3 %	09/24/2011
	Normalize to 1 Watt	9.48	6.24				
835 (Body)	250mW	2.46	1.61	0.013	4.3 %	3.5 %	09/28/2011
	Normalize to 1 Watt	9.84	6.44				
835 (Body)	250mW	2.46	1.61	-0.001	4.3 %	3.5 %	09/30/2011
	Normalize to 1 Watt	9.84	6.44				
1900 (Body)	250mW	10	5.32	-0.039	-2.2 %	-1.0 %	09/13/2011
	Normalize to 1 Watt	40	21.28				
1900 (Body)	250mW	10.3	5.41	0.003	0.7 %	0.7 %	09/14/2011
	Normalize to 1 Watt	41.2	21.64				
2450 (Body)	250mW	12.5	5.86	0.038	-0.8 %	0.6 %	10/01/2011
	Normalize to 1 Watt	50	23.44				

Z-axis Plot of System Performance Check

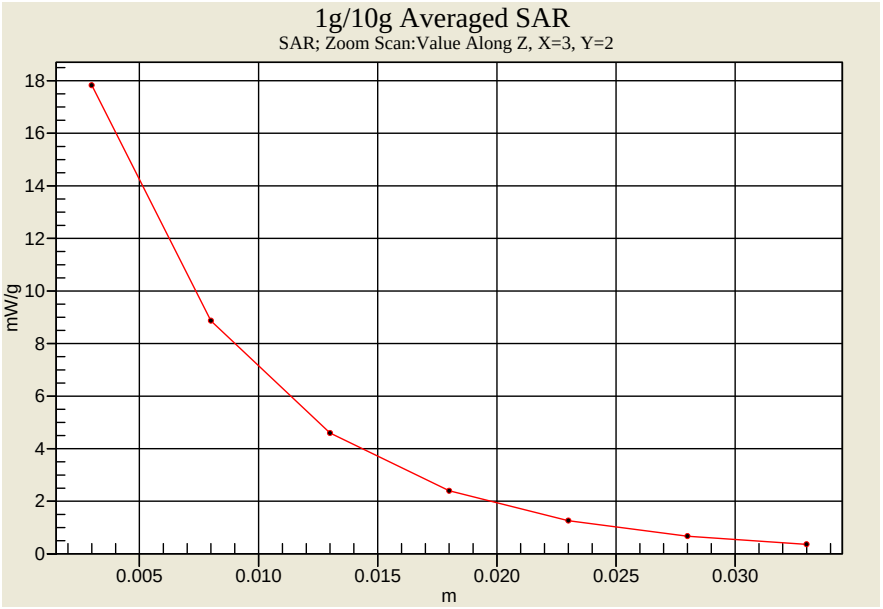


Head-Tissue-Simulating-Liquid 835MHz

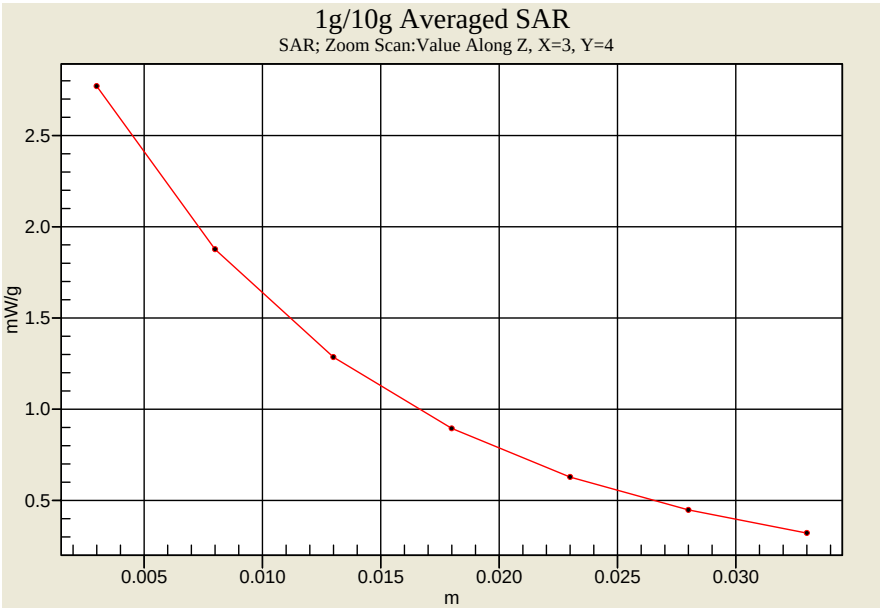


Head-Tissue-Simulating-Liquid 1900MHz

Z-axis Plot of System Performance Check

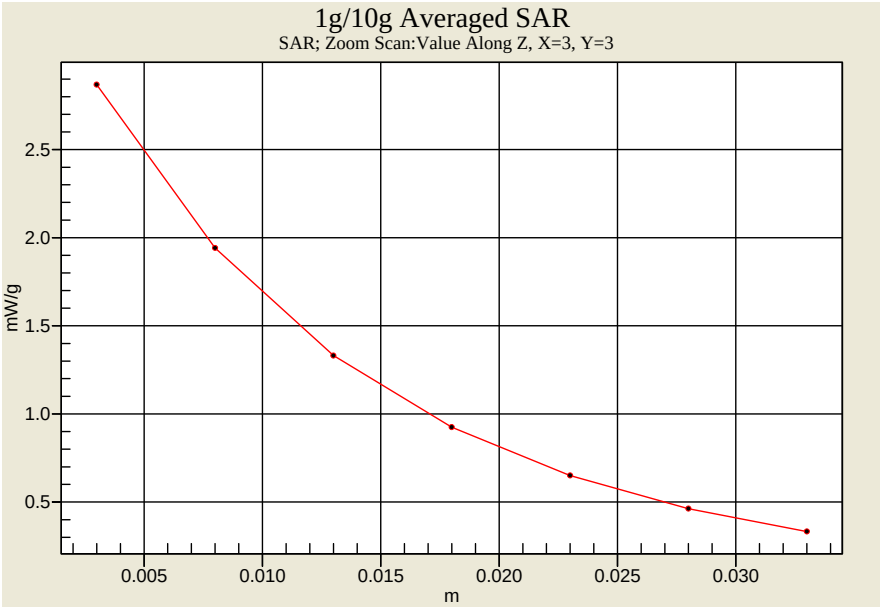


Head-Tissue-Simulating-Liquid 2450MHz

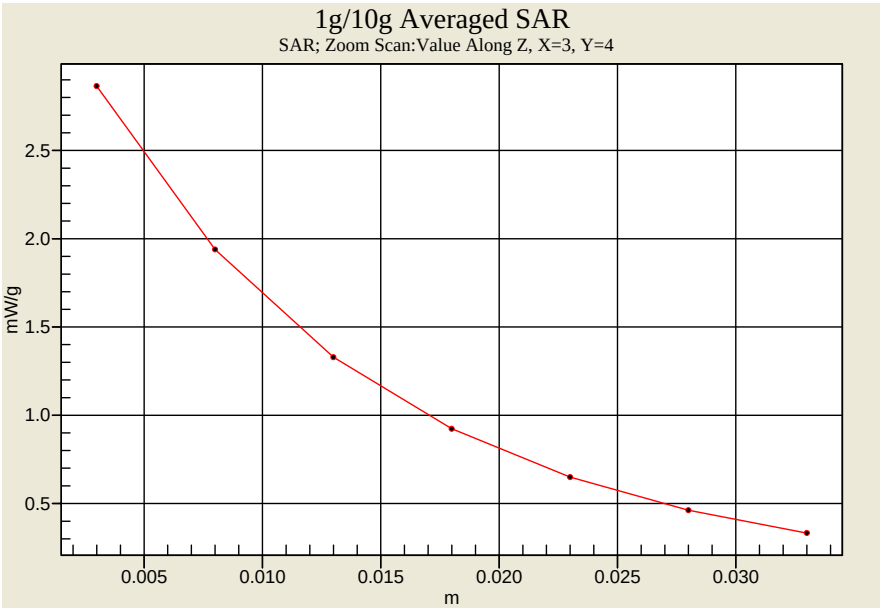


Body-Tissue-Simulating-Liquid 835MHz (09/24/2011)

Z-axis Plot of System Performance Check

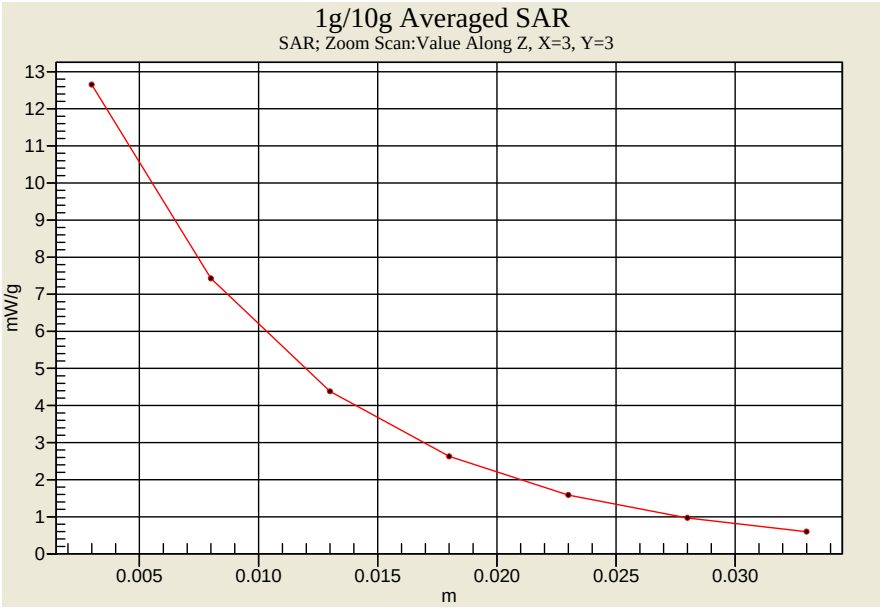


Body-Tissue-Simulating-Liquid 835MHz (09/28/2011)

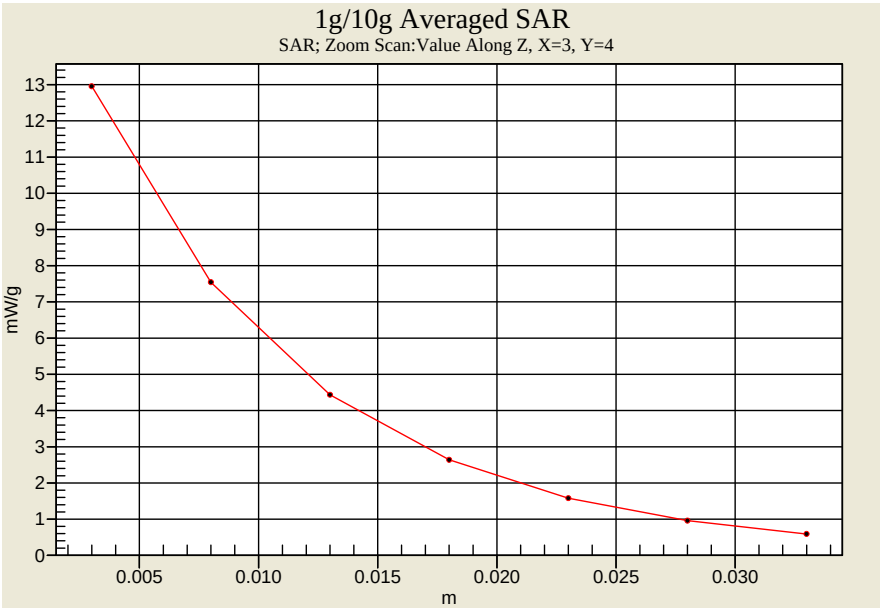


Body-Tissue-Simulating-Liquid 835MHz (09/30/2011)

Z-axis Plot of System Performance Check

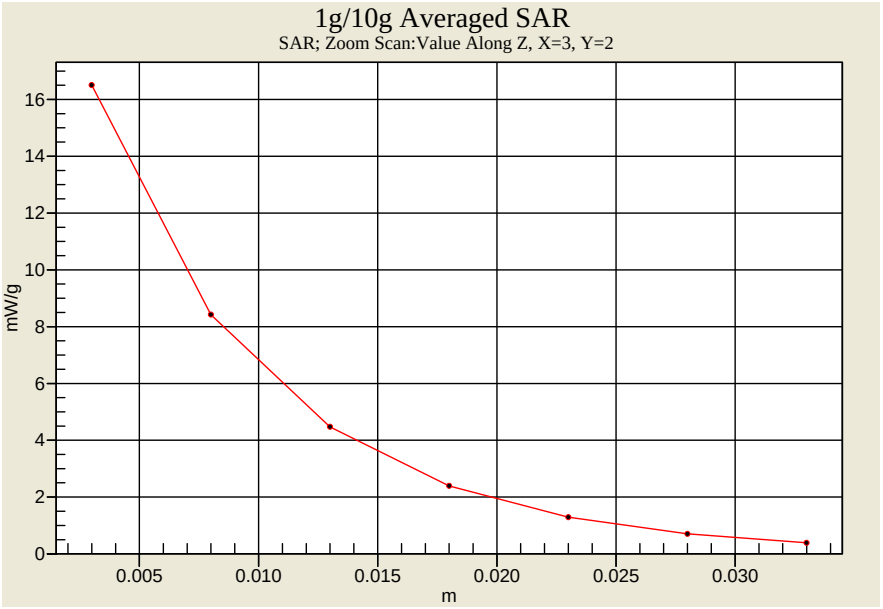


Body-Tissue-Simulating-Liquid 1900MHz (09/13/2011)



Body-Tissue-Simulating-Liquid 1900MHz (09/14/2011)

Z-axis Plot of System Performance Check



Body-Tissue-Simulating-Liquid 2450MHz

7. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	Dosimetric E-Field Probe	ES3DV3	3150	01/19/2011	01/19/2012
SPEAG	Dosimetric E-Field Probe	EX3DV4	3801	07/11/2011	07/11/2012
SPEAG	Dosimetric E-Field Probe	EX3DV3	3519	02/25/2011	02/25/2012
SPEAG	835MHz System Validation Kit	D835V2	4d082	07/19/2011	07/19/2012
SPEAG	1900MHz System Validation Kit	D1900V2	5d111	07/22/2011	07/22/2012
SPEAG	2450MHz System Validation Kit	D2450V2	712	02/23/2011	02/23/2012
SPEAG	Data Acquisition Electronics	DAE4	541	07/21/2011	07/21/2012
SPEAG	Measurement Server	SE UMS 011 AA	1025	NCR	
SPEAG	Device Holder	N/A	N/A	NCR	
SPEAG	Phantom	SAM V4.0	TP-1150	NCR	
SPEAG	Robot	Staubli TX90XL	F07/564ZA1/C/01	NCR	
SPEAG	Software	DASY4 V4.7 Build 80	N/A	NCR	
SPEAG	Software	SEMCAD V1.8 Build 186	N/A	NCR	
Agilent	Dielectric Probe Kit	85070C	US99360094	NCR	
Agilent	ENA Series Network Analyzer	E5071B	MY42404655	04/14/2010	04/14/2012
R&S	Power Sensor	NRP-Z22	100179	05/27/2011	05/27/2012
Agilent	MXG Vector Signal Generator	N5182A	MY47420962	05/16/2011	05/16/2012
Agilent	Dual Directional Coupler	778D	50334	NCR	
Mini-Circuits	Power Amplifier	ZHL-42W-SMA	D111103#5	NCR	
Mini-Circuits	Power Amplifier	ZVE-8G-SMA	D042005 671800514	NCR	

Table 10. Test Equipment List

8. Measurement Uncertainty

Measurement uncertainties in SAR measurements are difficult to quantify due to several variables including biological, physiological, and environmental. However, we estimate the measurement uncertainties in SAR to be less than ±20.10 %〔8〕.

According to Std. C95.3〔9〕, the overall uncertainties are difficult to assess and will vary with the type of meter and usage situation. However, accuracy's of ±1 to 3 dB can be expected in practice, with greater uncertainties in near-field situations and at higher frequencies (shorter wavelengths), or areas where large reflecting objects are present. Under optimum measurement conditions, SAR measurement uncertainties of at least ±2dB can be expected.

According to CENELEC〔10〕, typical worst-case uncertainty of field measurements is ±5 dB. For well-defined modulation characteristics the uncertainty can be reduced to ±3 dB.

Uncertainty Component	Uncertainty Value	Probability Distribution	Divisor	c_i (1g)	c_i (10g)	Standard Uncertainty ±1% （1-g）	Standard Uncertainty ±1% （10-g）	v_i or V_{eff}
Measurement System								
Probe Calibration (k=1)	±5.5%	Normal	1	1	1	±5.5%	±5.5%	∞
Probe Isotropy	±7.6%	Rectangular	$\sqrt{3}$	0.7	0.7	±3.1%	±3.1%	∞
Boundary Effect	±1.0%	Rectangular	$\sqrt{3}$	1	1	±0.6%	±0.6%	∞
Linearity	±4.7%	Rectangular	$\sqrt{3}$	1	1	±2.7%	±2.7%	∞
System Detection Limit	±1.0%	Rectangular	$\sqrt{3}$	1	1	±0.58%	±0.58%	∞
Readout Electronics	±0.3%	Normal	1	1	1	±0.3%	±0.3%	∞
Response Time	±0.8%	Rectangular	$\sqrt{3}$	1	1	±0.5%	±0.5%	∞
Integration Time	±2.6%	Rectangular	$\sqrt{3}$	1	1	±1.5%	±1.5%	∞
RF Ambient Conditions	±0%	Rectangular	$\sqrt{3}$	1	1	±0%	±0%	∞
RF Ambient Reflections	±0%	Rectangular	$\sqrt{3}$	1	1	±0%	±0%	∞
Probe Positioner Mechanical Tolerance	±0.4%	Rectangular	$\sqrt{3}$	1	1	±0.2%	±0.2%	∞
Probe Positioning with respect to Phantom Shell	±2.9%	Rectangular	$\sqrt{3}$	1	1	±1.7%	±1.7%	∞
Extrapolation, interpolation and integration Algorithms for Max. SAR	±1.0%	Rectangular	$\sqrt{3}$	1	1	±0.6%	±0.6%	∞
Test sample Related								
Test sample Positioning	±3.6%	Normal	1	1	1	±3.6%	±3.6%	89
Device Holder Uncertainty	±3.5%	Normal	1	1	1	±3.5%	±3.5%	5
Output Power Variation - SAR drift measurement	±5.0%	Rectangular	$\sqrt{3}$	1	1	±2.9%	±2.9%	∞
Phantom and Tissue Parameters								
Phantom Uncertainty (shape and thickness tolerances)	±4.0%	Rectangular	$\sqrt{3}$	1	1	±2.3%	±2.3%	∞
Liquid Conductivity - deviation from target values	±5.0%	Rectangular	$\sqrt{3}$	0.64	0.43	±1.8%	±1.2%	∞
Liquid Conductivity - measurement uncertainty	±1.93%	Normal	1	0.64	0.43	±1.24%	±0.83%	69
Liquid Permittivity - deviation from target values	±5.0	Rectangular	$\sqrt{3}$	0.6	0.49	±1.7%	±1.4%	∞
Liquid Permittivity - measurement uncertainty	±1.4%	Normal	1	0.6	0.49	±0.84%	±0.69%	69
Combined standard uncertainty		RSS				±10.05%	±9.85%	313
Expanded uncertainty (95% CONFIDENCE LEVEL)		k=2				±20.10%	±19.70%	

Table 11. System uncertainty: 300MHz -3000MHz

9. Measurement Procedure

The measurement procedures are as follows:

1. For WLAN function, engineering testing software installed on Notebook can provide continuous transmitting signal.
2. Measure output power through RF cable and power meter
3. Set scan area, grid size and other setting on the DASY software
4. Find out the largest SAR result on these testing positions of each band
5. Measure SAR results for other channels in worst SAR testing position if the SAR of highest power channel is larger than 0.8 W/kg

According to the test standard, the recommended procedure for assessing the peak spatial-average SAR value consists of the following steps:

1. Power reference measurement
2. Area scan
3. Zoom scan
4. Power drift measurement

9.1 Spatial Peak SAR Evaluation

The procedure for spatial peak SAR evaluation has been implemented according to the test standard. It can be conducted for 1g and 10g, as well as for user-specific masses. The DASY software includes all numerical procedures necessary to evaluate the spatial peak SAR value.

The base for the evaluation is a "cube" measurement. The measured volume must include the 1g and 10g cubes with the highest averaged SAR values. For that purpose, the center of the measured volume is aligned to the interpolated peak SAR value of a previously performed area scan.

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 1g and 10g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages

1. Extraction of the measured data (grid and values) from the Zoom Scan
2. Calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
3. Generation of a high-resolution mesh within the measured volume
4. Interpolation of all measured values form the measurement grid to the high-resolution grid
5. Extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
6. Calculation of the averaged SAR within masses of 1g and 10g

9.2 Area & Zoom Scan Procedures

First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan is required. The Zoom Scan measures 7x7x9 points with step size 5, 5 and 3 mm for 300 MHz to 3 GHz, and 7x7x9 points with step size 5, 5 and 3 mm for 3 GHz to 6 GHz. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR-distribution over 10 g.

9.3 Volume Scan Procedures

The volume scan is used for assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g aggregate SAR, the DUT remain in the same test position for all measurements and all volume scan use the same spatial resolution and grid spacing (step-size is 4, 4 and 2.5 mm). When all volume scan were completed, the software, SEMCAD postprocessor can combine and subsequently superpose these measurement data to calculating the multiband SAR.

9.4 SAR Averaged Methods

In DASY, the interpolation and extrapolation are both based on the modified Quadratic Shepard's method. The interpolation scheme combines a least-square fitted function method and a weighted average method which are the two basic types of computational interpolation and approximation. Extrapolation routines are used to obtain SAR values between the lowest measurement points and the inner phantom surface. The extrapolation distance is determined by the surface detection distance and the probe sensor offset. 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 5 mm.

9.5 Power Drift Monitoring

All SAR testing is under the DUT install full charged battery and transmit maximum output power. In DASY measurement software, the power reference measurement and power drift measurement procedures are used for monitoring the power drift of DUT during SAR test. Both these procedures measure the field at a specified reference position before and after the SAR testing. The software will calculate the field difference in dB. If the power drift more than 5%, the SAR will be retested.

10. SAR Test Results Summary

10.1 Head SAR

Measurement Results								
Band	Frequency		Power (dBm)	Phantom Position	Spacing (mm)	SAR_{1g} [mW/g]	Power Drift (dB)	Remark
	CH	MHz						
GSM 850	128	824.2	32.22	Right-cheek	0	0.280	0.085	---
	128	824.2	32.22	Right-Tilted	0	0.153	0.026	---
	128	824.2	32.22	Left-cheek	0	0.141	0.008	---
	128	824.2	32.22	Left-Tilted	0	0.226	-0.064	---
GSM 1900	661	1880.0	30.38	Right-cheek	0	0.431	0.064	---
	661	1880.0	30.38	Right-Tilted	0	0.148	0.001	---
	661	1880.0	30.38	Left-cheek	0	0.615	-0.002	---
	661	1880.0	30.38	Left-Tilted	0	0.156	-0.003	---
WCDMA Band II	9400	1880.0	23.14	Right-cheek	0	0.784	-0.011	---
	9400	1880.0	23.14	Right-Tilted	0	0.260	0.004	---
	9262	1852.4	23.00	Left-cheek	0	**1.130**	0.028	---
	9400	1880.0	23.14	Left-cheek	0	1.080	0.029	---
	9538	1907.6	23.01	Left-cheek	0	0.975	0.023	---
	9400	1880.0	23.14	Left-Tilted	0	0.264	-0.028	---
WCDMA Band V	4233	846.4	23.15	Right-cheek	0	0.652	-0.010	---
	4233	846.4	23.15	Right-Tilted	0	0.336	-0.004	---
	4233	846.4	23.15	Left-cheek	0	0.527	0.046	---
	4233	846.4	23.15	Left-Tilted	0	0.315	-0.004	---
IEEE 802.11b Rate 1M	11	2462.0	16.74	Right-cheek	0	0.179	0.012	---
	11	2462.0	16.74	Right-Tilted	0	0.237	0.191	---
	11	2462.0	16.74	Left-cheek	0	0.198	0.033	---
	11	2462.0	16.74	Left-Tilted	0	0.267	0.029	---
Std. C95.1-1999 - Safety Limit Spatial Peak Uncontrolled Exposure/General Population					1.6 W/kg (mW/g) Averaged over 1 gram			

10.2 Body SAR

Measurement Results									
Band	Frequency		Power (dBm)	Phantom Position	Spacing (mm)	Accessory	SAR_{1g} [mW/g]	Power Drift (dB)	Remark
	CH	MHz							
GSM 850	128	824.2	32.22	Flat	10	Headset	0.144	-0.014	Front Surface to Phantom
	128	824.2	32.22	Flat	10	Headset	0.358	0.040	Back Surface to Phantom
GSM 1900	661	1880.0	30.38	Flat	10	Headset	0.406	-0.016	Front Surface to Phantom
	661	1880.0	30.38	Flat	10	Headset	0.619	0.021	Back Surface to Phantom
WCDMA Band II	9262	1852.4	23.00	Flat	10	Headset	0.993	0.008	Back Surface to Phantom
	9400	1880.0	23.14	Flat	10	Headset	0.667	-0.023	Front Surface to Phantom
	9400	1880.0	23.14	Flat	10	Headset	1.120	0.001	Back Surface to Phantom
	9538	1907.6	23.01	Flat	10	Headset	1.060	-0.005	Back Surface to Phantom
WCDMA Band V	4132	826.4	23.14	Flat	10	Headset	0.673	0.011	Back Surface to Phantom
	4183	836.6	22.98	Flat	10	Headset	0.620	0.001	Back Surface to Phantom
	4233	846.4	23.15	Flat	10	Headset	0.373	-0.010	Front Surface to Phantom
	4233	846.4	23.15	Flat	10	Headset	0.870	0.023	Back Surface to Phantom
IEEE 802.11b Rate 1M	11	2462.0	16.74	Flat	10	Headset	0.071	-0.198	Front Surface to Phantom
	11	2462.0	16.74	Flat	10	Headset	0.162	0.055	Back Surface to Phantom
GPRS 850 3Down2Up	128	824.2	32.14	Flat	10	N/A	0.385	-0.038	Front Surface to Phantom
	128	824.2	32.14	Flat	10	N/A	0.830	-0.007	Back Surface to Phantom
	128	824.2	32.14	Flat	10	N/A	0.410	-0.049	Edge Right to Phantom
	128	824.2	32.14	Flat	10	N/A	0.260	-0.044	Edge left to Phantom
	128	824.2	32.14	Flat	10	N/A	0.119	0.009	Edge Bottom to Phantom
	190	836.6	32.11	Flat	10	N/A	0.976	0.017	Back Surface to Phantom
	251	848.8	32.00	Flat	10	N/A	**1.370**	-0.039	Back Surface to Phantom
GPRS 1900 3Down2Up	512	1850.2	29.74	Flat	10	N/A	0.959	0.014	Back Surface to Phantom
	661	1880.0	29.85	Flat	10	N/A	0.611	0.022	Front Surface to Phantom
	661	1880.0	29.85	Flat	10	N/A	1.070	-0.022	Back Surface to Phantom
	661	1880.0	29.85	Flat	10	N/A	0.253	-0.016	Edge Right to Phantom
	661	1880.0	29.85	Flat	10	N/A	0.159	-0.051	Edge left to Phantom
	661	1880.0	29.85	Flat	10	N/A	0.725	-0.011	Edge Bottom to Phantom
	810	1909.8	29.81	Flat	10	N/A	1.180	0.009	Back Surface to Phantom
Std. C95.1-1999 - Safety Limit Spatial Peak Uncontrolled Exposure/General Population						1.6 W/kg (mW/g) Averaged over 1 gram			

Measurement Results									
Band	Frequency		Power (dBm)	Phantom Position	Spacing (mm)	Accessory	SAR_{1g} [mW/g]	Power Drift (dB)	Remark
	CH	MHz							
WCDMA Band II	9262	1852.4	23.00	Flat	10	N/A	0.947	-0.151	Back Surface to Phantom
	9400	1880.0	23.14	Flat	10	N/A	0.694	-0.047	Front Surface to Phantom
	9400	1880.0	23.14	Flat	10	N/A	1.090	-0.008	Back Surface to Phantom
	9400	1880.0	23.14	Flat	10	N/A	0.256	-0.008	Edge Right to Phantom
	9400	1880.0	23.14	Flat	10	N/A	0.201	-0.024	Edge left to Phantom
	9400	1880.0	23.14	Flat	10	N/A	0.654	-0.011	Edge Bottom to Phantom
	9538	1907.6	23.01	Flat	10	N/A	1.040	-0.011	Back Surface to Phantom
WCDMA Band V	4132	826.4	23.14	Flat	10	N/A	0.805	-0.017	Back Surface to Phantom
	4183	836.6	22.98	Flat	10	N/A	0.738	-0.018	Back Surface to Phantom
	4233	846.4	23.15	Flat	10	N/A	0.523	0.006	Front Surface to Phantom
	4233	846.4	23.15	Flat	10	N/A	1.070	-0.047	Back Surface to Phantom
	4233	846.4	23.15	Flat	10	N/A	0.546	0.021	Edge Right to Phantom
	4233	846.4	23.15	Flat	10	N/A	0.388	0.014	Edge left to Phantom
	4233	846.4	23.15	Flat	10	N/A	0.110	0.006	Edge Bottom to Phantom
IEEE 802.11b Rate 1M	11	2462.0	16.74	Flat	10	N/A	0.097	0.127	Front Surface to Phantom
	11	2462.0	16.74	Flat	10	N/A	0.149	0.065	Back Surface to Phantom
	11	2462.0	16.74	Flat	10	N/A	0.127	0.022	Edge Right to Phantom
	11	2462.0	16.74	Flat	10	N/A	0.105	-0.012	Edge Top to Phantom
Std. C95.1-1999 - Safety Limit Spatial Peak Uncontrolled Exposure/General Population						1.6 W/kg (mW/g) Averaged over 1 gram			

Notes:

1. The test data reported are the worst-case SAR value with the position set in a typical configuration. Test procedures used were according to FCC/OET Bulletin 65, Supplement C [June 2001], IEEE1528-2003 and RSS-102.
2. All modes of operation were investigated, and worst-case results are reported.
3. Tissue parameters and temperatures are listed on the SAR plots.
4. Batteries are fully charged for all readings.
5. 802.11g & 802.11n power are not more than 802.11b 0.25dB, therefore 802.11g Stand-alone SAR is not required.
6. If the Channel's SAR 1g of maximum conducted power is > 0.8 mW/g, low, middle and high channel are supposed to be tested.
7. HSDPA power are not more than WCDMA 0.25dB and the SAR value of WCDMA <1.2 mW/g, therefore HSDPA Stand-alone SAR is not required.
8. BT power is not more than 60/f, therefore stand-alone SAR is not required.

10.3 Std. C95.1-1999 RF Exposure Limit

Human Exposure	Population Uncontrolled Exposure (W/kg) or (mW/g)	Occupational Controlled Exposure (W/kg) or (mW/g)
Spatial Peak SAR* (head)	1.60	8.00
Spatial Peak SAR** (Whole Body)	0.08	0.40
Spatial Peak SAR*** (Partial-Body)	1.60	8.00
Spatial Peak SAR**** (Hands / Feet / Ankle / Wrist)	4.00	20.00

Table 12. Safety Limits for Partial Body Exposure

Notes：

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

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

******* The Spatial Average value of the SAR averaged over the partial – body.

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

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

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

11. Conclusion

The SAR test values found for the portable mobile phone **HTC Corporation Trade Name：HTC Model(s)：PJ03120** is below the maximum recommended level of 1.6 W/kg (mW/g).

12. References

[1] Std. C95.1-1999, "*American National Standard safety levels with respect to human exposure to radio frequency electromagnetic fields, 300KHz to 100GHz",* New York.

[2] NCRP, National Council on Radiation Protection and Measurements, "*Biological Effects and Exposure Criteria for Radio frequency Electromagnetic Fields"*, NCRP report NO. 86, 1986.

[3] T. Schmid, O. Egger, and N. Kuster, "*Automatic E-field scanning system for dosimetric assessments*", IEEE Transactions on Microwave Theory and Techniques, vol. 44, pp, 105-113, Jan. 1996.

[4] K. Pokovi ć, T. Schmid, and N. Kuster, "*Robust setup for precise calibration of E-field probes in tissue simulating liquids at mobile communications frequency*", in ICECOM'97, Dubrovnik, October 15-17, 1997, pp.120-124.

[5] K. Pokovi ć, T. Schmid, and N. Kuster, "*E-field probe with improved isotropy in brain simulating liquids*", in Proceedings of the ELMAR, Zadar, Croatia, 23-25 June, 1996, pp.172-175.

[6] N. Kuster, and Q. Balzano, "*Energy absorption mechanism by biological bodies in the near field of dipole antennas above 300MHz"*, IEEE Transaction on Vehicular Technology, vol. 41, no. 1, Feb. 1992, pp. 17-23.

[7] Robert J. Renka, "*Multivariate Interpolation Of Large Sets Of Scattered Data*", University of North Texas ACM Transactions on Mathematical Software, vol. 14, no. 2, June 1988 , pp. 139-148.

[8] N. Kuster, R. Kastle, T. Schmid, *Dosimetric evaluation of mobile communications equipment with known precision*, IEEE Transaction on Communications, vol. E80-B, no. 5, May 1997, pp. 645-652.

[9] Std. C95.3-1991, "*IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields – RF and Microwave,* New York: IEEE, Aug. 1992.

[10] CENELEC CLC/SC111B, European Prestandard (prENV 50166-2), *Human Exposure to Electromagnetic Fields High-frequency*: 10KHz-300GHz, Jan. 1995.

[11] KDB248227 D01 SAR meas for 802 11 a b g v01r02.

[12] KDB 648474 D01 SAR Handsets Multi Xmiter and Anti V01r05

[13] KDB941225 D01 SAR Test for 3G Devices

[14] KDB 941225 D03 SAR Test Reduction GSM GPRS EDGE

Appendix A - System Performance Check

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/10/1 PM 07:39:18

System Performance Check at 835MHz_20111001_Head

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d082

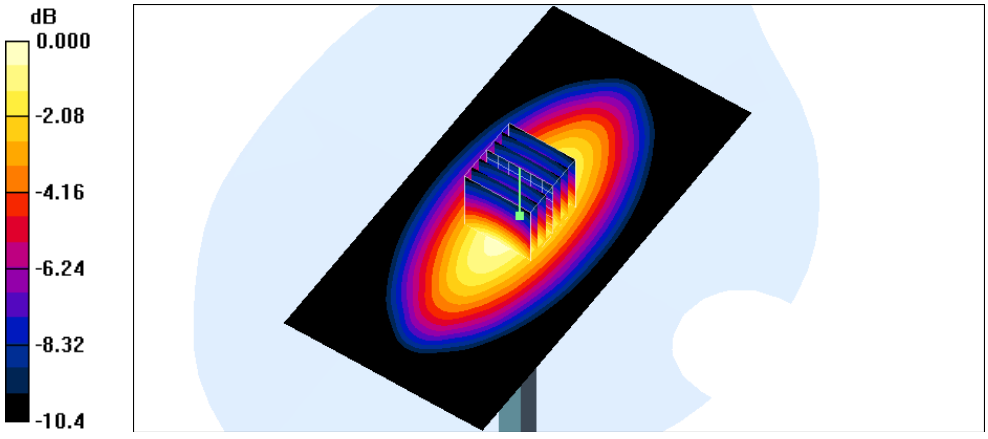
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.896 mho/m; ε_r = 42.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.15, 6.15, 6.15); Calibrated: 2011/1/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

System Performance Check at 835MHz/Area Scan (61x121x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.78 mW/g

System Performance Check at 835MHz/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 57.0 V/m; Power Drift = 0.132 dB
Peak SAR (extrapolated) = 3.54 W/kg
SAR(1 g) = 2.38 mW/g; SAR(10 g) = 1.56 mW/g
Maximum value of SAR (measured) = 2.78 mW/g



0 dB = 2.78mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/10 AM 09:37:07

System Performance Check at 1900MHz_20110910_Head

DUT: Dipole D1900V2_SN5d111; Type: D1900V2; Serial: D1900V2 - SN:5d111

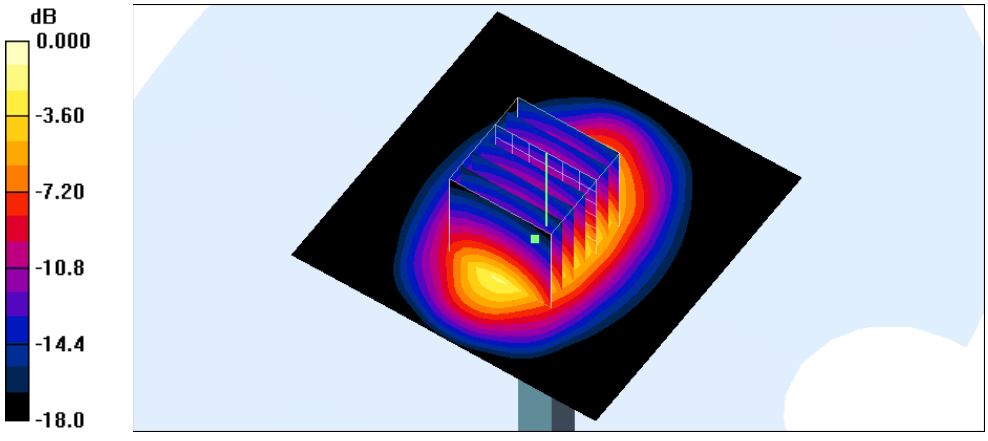
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.37 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(5.18, 5.18, 5.18); Calibrated: 2011/1/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

System Performance Check at 1900MHz/Area Scan (61x61x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 13.3 mW/g

System Performance Check at 1900MHz/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 95.8 V/m; Power Drift = -0.036 dB
Peak SAR (extrapolated) = 17.2 W/kg
SAR(1 g) = 9.64 mW/g; SAR(10 g) = 5.06 mW/g
Maximum value of SAR (measured) = 12.2 mW/g



0 dB = 12.2mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/10/1 AM 09:50:45

System Performance Check at 2450MHz_20111001_Head

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:712

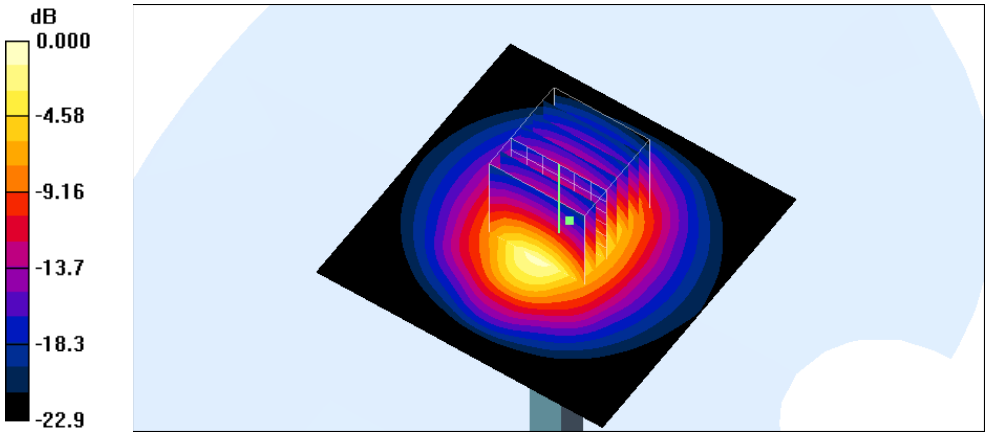
Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.8 mho/m; ε_r = 39.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: EX3DV4 - SN3801; ConvF(6.81, 6.81, 6.81); Calibrated: 2011/7/11
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

System Performance Check at 2450MHz/Area Scan (61x61x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 19.2 mW/g

System Performance Check at 2450MHz/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 101.0 V/m; Power Drift = -0.147 dB
Peak SAR (extrapolated) = 27.9 W/kg
SAR(1 g) = 13.6 mW/g; SAR(10 g) = 6.36 mW/g
Maximum value of SAR (measured) = 17.8 mW/g



0 dB = 17.8mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/24 AM 02:24:16

System Performance Check at 835MHz_20110924_Body

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d082

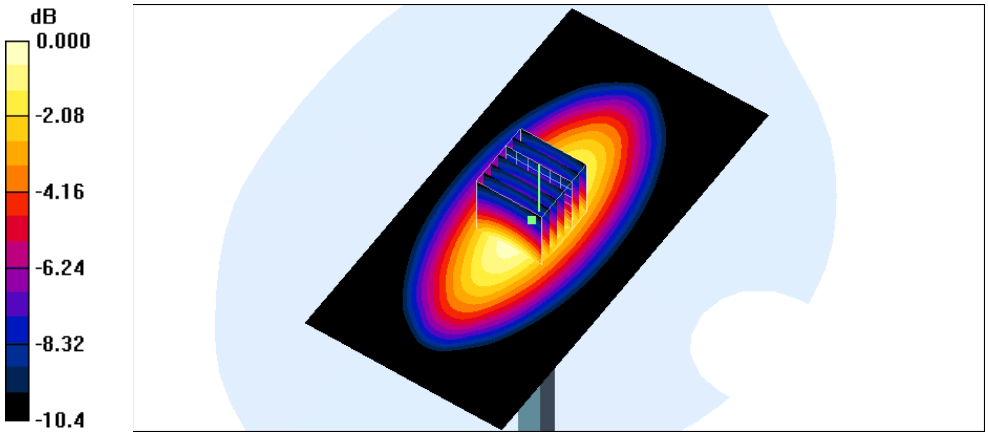
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.985 mho/m; ε_r = 53.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

System Performance Check at 835MHz/Area Scan (61x121x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.75 mW/g

System Performance Check at 835MHz/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 53.2 V/m; Power Drift = 0.199 dB
Peak SAR (extrapolated) = 3.49 W/kg
SAR(1 g) = 2.37 mW/g; SAR(10 g) = 1.56 mW/g
Maximum value of SAR (measured) = 2.77 mW/g



0 dB = 2.77mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/28 PM 12:02:12

System Performance Check at 835MHz_20110929_Body

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d082

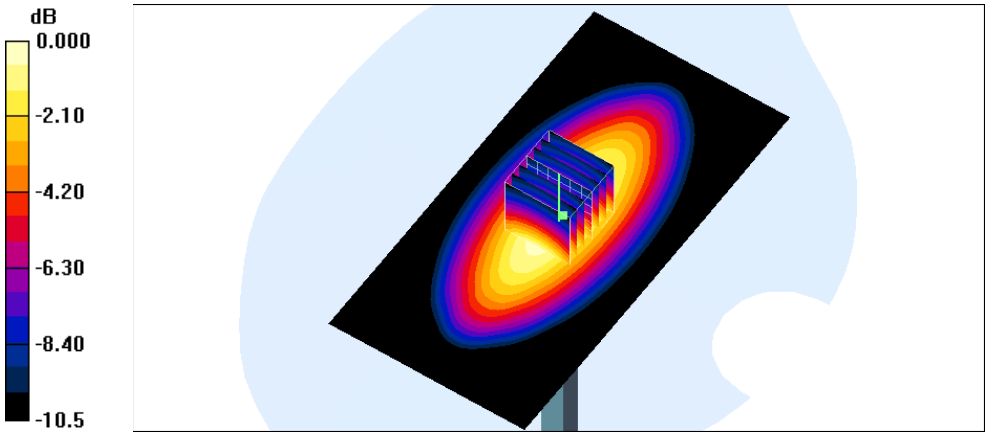
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.985 mho/m; ε_r = 53.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

System Performance Check at 835MHz/Area Scan (61x121x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.87 mW/g

System Performance Check at 835MHz/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.5 V/m; Power Drift = 0.013 dB
Peak SAR (extrapolated) = 3.62 W/kg
SAR(1 g) = 2.46 mW/g; SAR(10 g) = 1.61 mW/g
Maximum value of SAR (measured) = 2.87 mW/g



0 dB = 2.87mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/30 AM 01:57:41

System Performance Check at 835MHz_20110930_Body

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d082

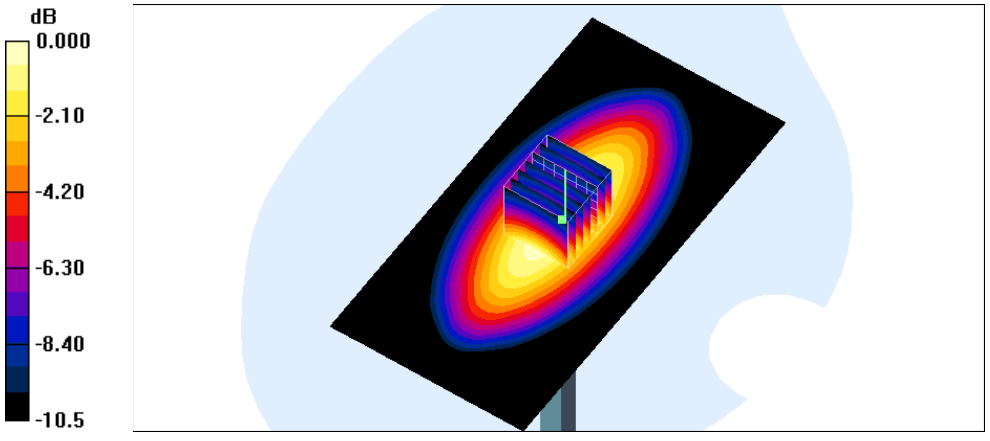
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.985 mho/m; ε_r = 53.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

System Performance Check at 835MHz/Area Scan (61x121x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.88 mW/g

System Performance Check at 835MHz/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.8 V/m; Power Drift = -0.001 dB
Peak SAR (extrapolated) = 3.60 W/kg
SAR(1 g) = 2.46 mW/g; SAR(10 g) = 1.61 mW/g
Maximum value of SAR (measured) = 2.86 mW/g



0 dB = 2.86mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/13 AM 09:18:48

System Performance Check at 1900MHz_20110913_body

DUT: Dipole D1900V2_SN5d111; Type: D1900V2; Serial: D1900V2 - SN:5d111

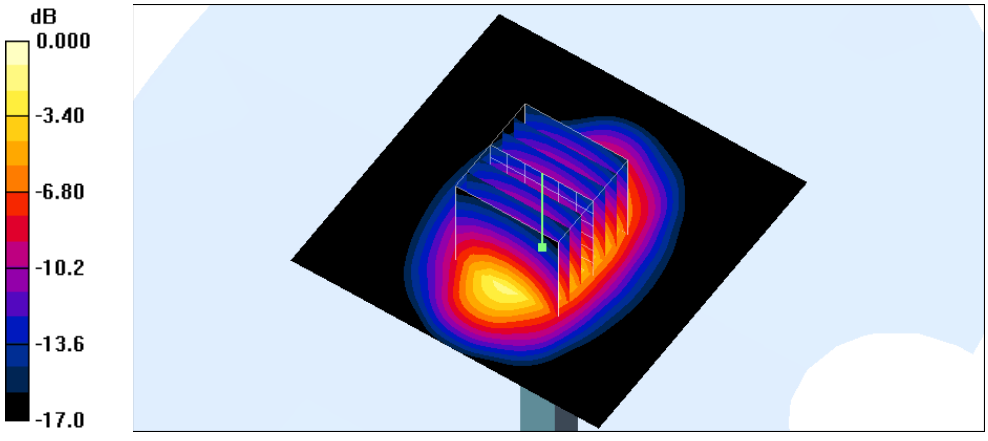
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.5 mho/m; ε_r = 52; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(4.71, 4.71, 4.71); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

System Performance Check at 1900MHz/Area Scan (61x61x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 13.8 mW/g

System Performance Check at 1900MHz/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 91.0 V/m; Power Drift = -0.039 dB
Peak SAR (extrapolated) = 17.4 W/kg
SAR(1 g) = 10 mW/g; SAR(10 g) = 5.32 mW/g
Maximum value of SAR (measured) = 12.7 mW/g



0 dB = 12.7mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/14 PM 06:10:26

System Performance Check at 1900MHz_20110914_body

DUT: Dipole D1900V2_SN5d111; Type: D1900V2; Serial: D1900V2 - SN:5d111

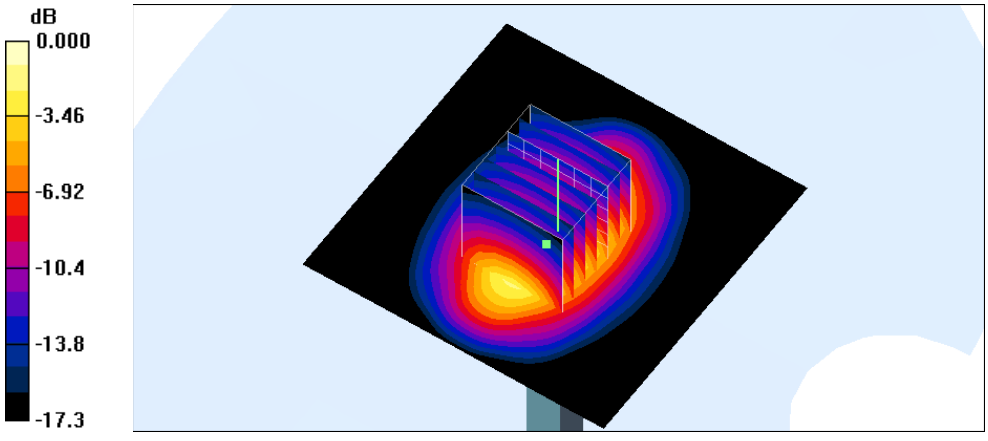
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.5 mho/m; ε_r = 52; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(4.71, 4.71, 4.71); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

System Performance Check at 1900MHz/Area Scan (61x61x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 13.9 mW/g

System Performance Check at 1900MHz/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 95.4 V/m; Power Drift = 0.003 dB
Peak SAR (extrapolated) = 17.9 W/kg
SAR(1 g) = 10.3 mW/g; SAR(10 g) = 5.41 mW/g
Maximum value of SAR (measured) = 13.0 mW/g



0 dB = 13.0mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/10/1 PM 12:45:25

System Performance Check at 2450MHz_20111001_Body

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN:712

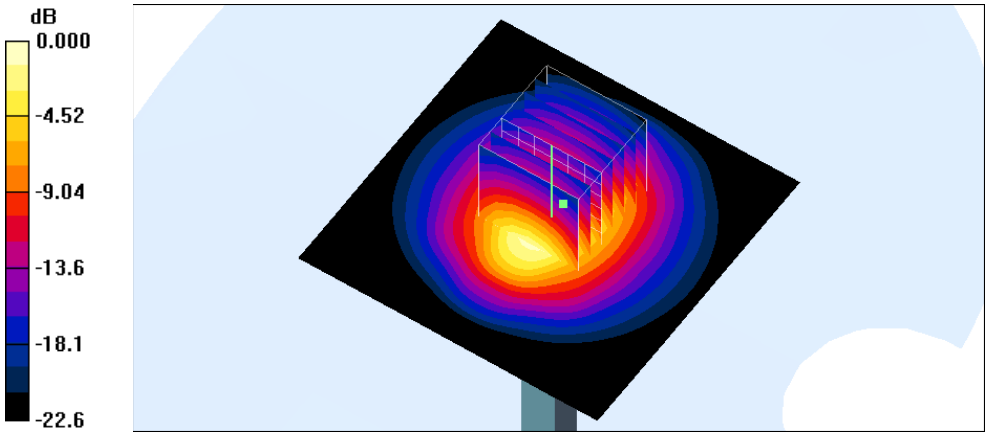
Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.94 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: EX3DV3 - SN3519; ConvF(8.17, 8.17, 8.17); Calibrated: 2011/2/25
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

System Performance Check at 2450MHz/Area Scan (61x61x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 17.4 mW/g

System Performance Check at 2450MHz/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 91.8 V/m; Power Drift = 0.038 dB
Peak SAR (extrapolated) = 25.5 W/kg
SAR(1 g) = 12.5 mW/g; SAR(10 g) = 5.86 mW/g
Maximum value of SAR (measured) = 16.5 mW/g



0 dB = 16.5mW/g

Appendix B - SAR Measurement Data

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/10/1 PM 11:22:25

RC_GSM 850 CH128

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

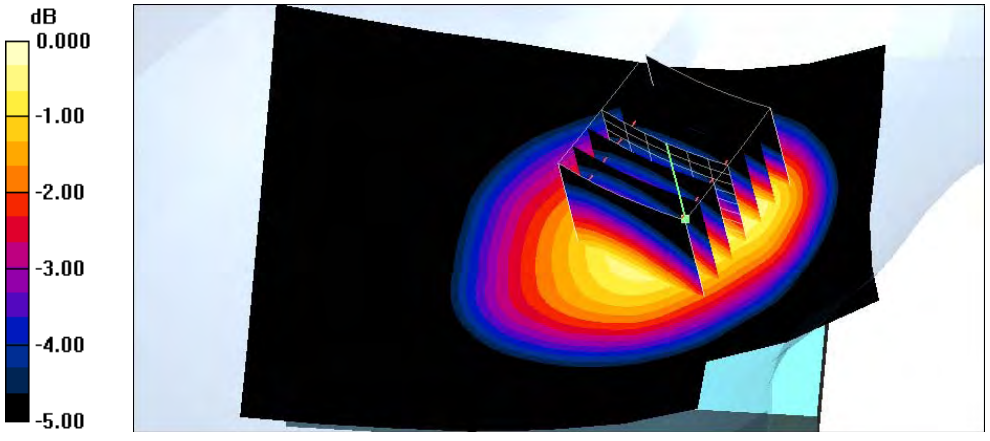
Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.883 mho/m; ε_r = 43; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.15, 6.15, 6.15); Calibrated: 2011/1/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Right Cheek/Area Scan (61x81x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.315 mW/g

Right Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 6.35 V/m; Power Drift = 0.085 dB
Peak SAR (extrapolated) = 0.358 W/kg
SAR(1 g) = 0.280 mW/g; SAR(10 g) = 0.206 mW/g
Maximum value of SAR (measured) = 0.315 mW/g



0 dB = 0.315mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/10/1 PM 11:46:30

RT_GSM 850 CH128

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

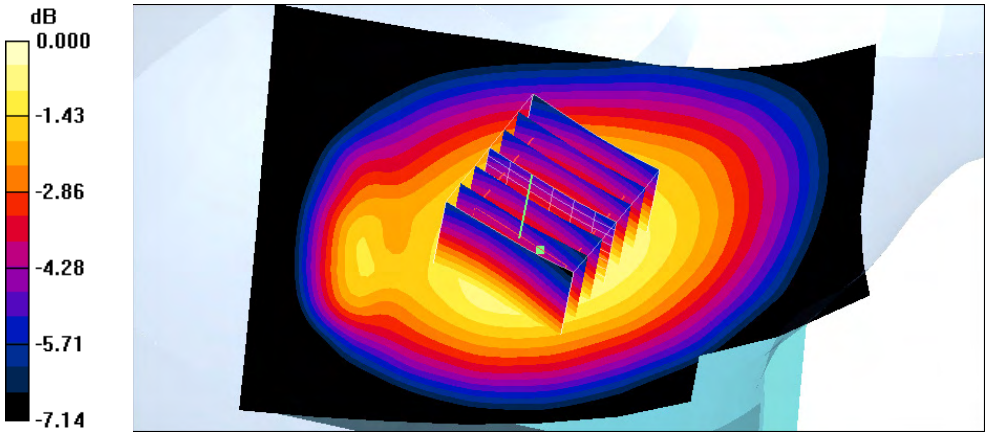
Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.883 mho/m; ε_r = 43; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.15, 6.15, 6.15); Calibrated: 2011/1/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Right Tilted/Area Scan (61x81x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.167 mW/g

Right Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 10.2 V/m; Power Drift = 0.026 dB
Peak SAR (extrapolated) = 0.190 W/kg
SAR(1 g) = 0.153 mW/g; SAR(10 g) = 0.115 mW/g
Maximum value of SAR (measured) = 0.169 mW/g



0 dB = 0.169mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/10/1 PM 10:56:13

LC_GSM 850 CH128

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

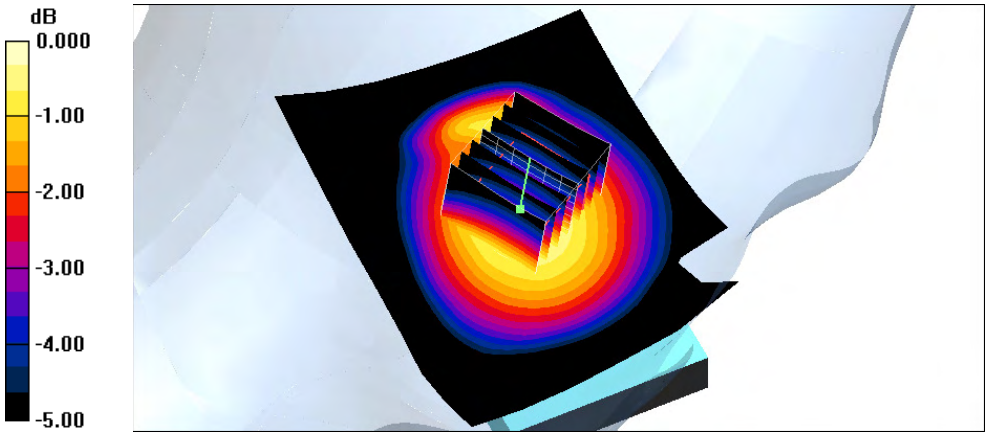
Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.883 mho/m; ε_r = 43; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.15, 6.15, 6.15); Calibrated: 2011/1/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Left Cheek/Area Scan (61x81x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.154 mW/g

Left Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 10.1 V/m; Power Drift = 0.008 dB
Peak SAR (extrapolated) = 0.179 W/kg
SAR(1 g) = 0.141 mW/g; SAR(10 g) = 0.106 mW/g
Maximum value of SAR (measured) = 0.157 mW/g



0 dB = 0.157mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/10/1 PM 10:31:02

LT_GSM 850 CH128

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

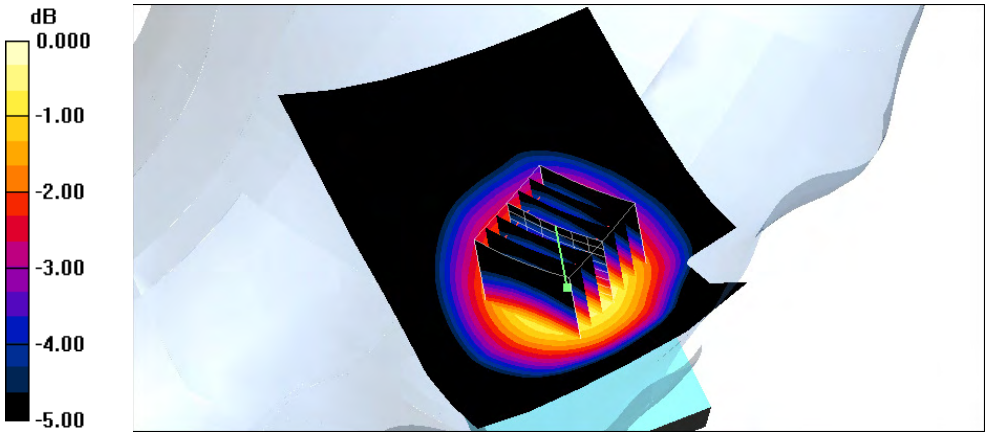
Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.883 mho/m; ε_r = 43; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.15, 6.15, 6.15); Calibrated: 2011/1/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Left Tilted/Area Scan (61x81x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.251 mW/g

Left Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 6.43 V/m; Power Drift = -0.064 dB
Peak SAR (extrapolated) = 0.280 W/kg
SAR(1 g) = 0.226 mW/g; SAR(10 g) = 0.168 mW/g
Maximum value of SAR (measured) = 0.251 mW/g



0 dB = 0.251mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/10 AM 10:56:48

RC_PCS CH661

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

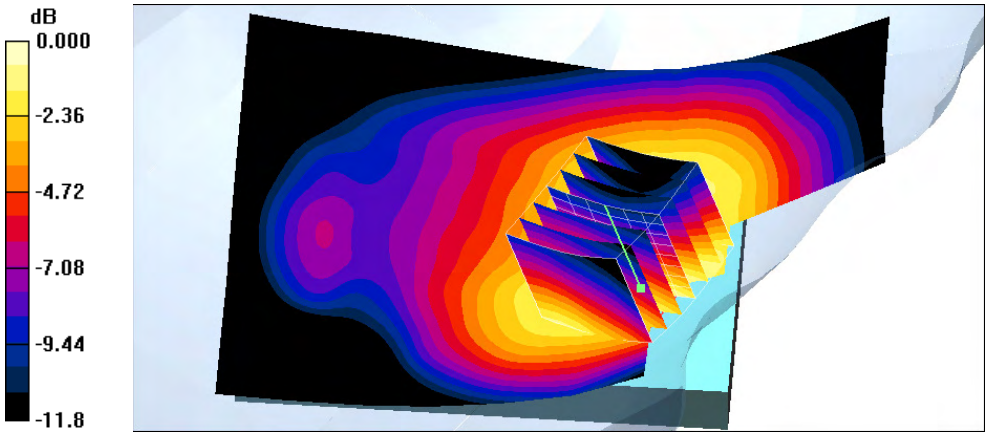
Communication System: PCS; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.36 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(5.18, 5.18, 5.18); Calibrated: 2011/1/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Right Cheek/Area Scan (61x91x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.502 mW/g

Right Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 7.34 V/m; Power Drift = 0.064 dB
Peak SAR (extrapolated) = 0.641 W/kg
SAR(1 g) = 0.431 mW/g; SAR(10 g) = 0.261 mW/g
Maximum value of SAR (measured) = 0.519 mW/g



0 dB = 0.519mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/10 AM 10:25:15

RT_PCS CH661

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

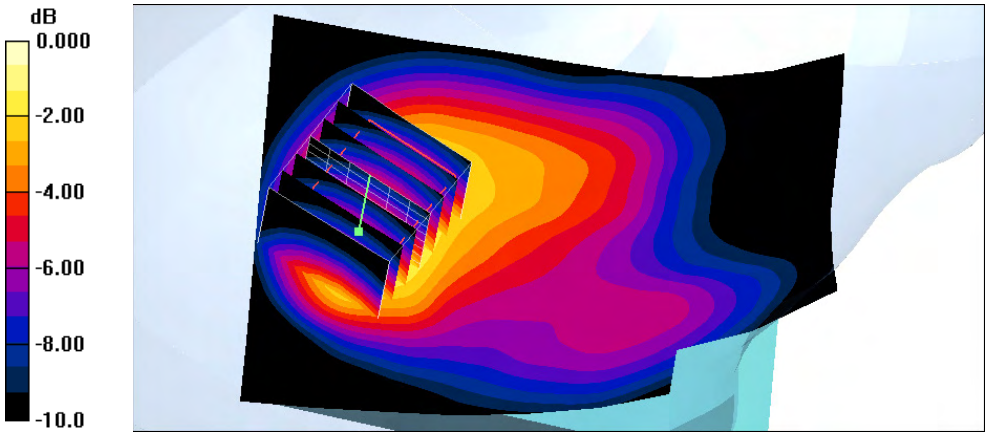
Communication System: PCS; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.36 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(5.18, 5.18, 5.18); Calibrated: 2011/1/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Right Tilted/Area Scan (61x81x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.184 mW/g

Right Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 10.5 V/m; Power Drift = 0.001 dB
Peak SAR (extrapolated) = 0.217 W/kg
SAR(1 g) = 0.148 mW/g; SAR(10 g) = 0.089 mW/g
Maximum value of SAR (measured) = 0.178 mW/g



0 dB = 0.178mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/10 AM 11:36:54

LC_PCS CH661

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

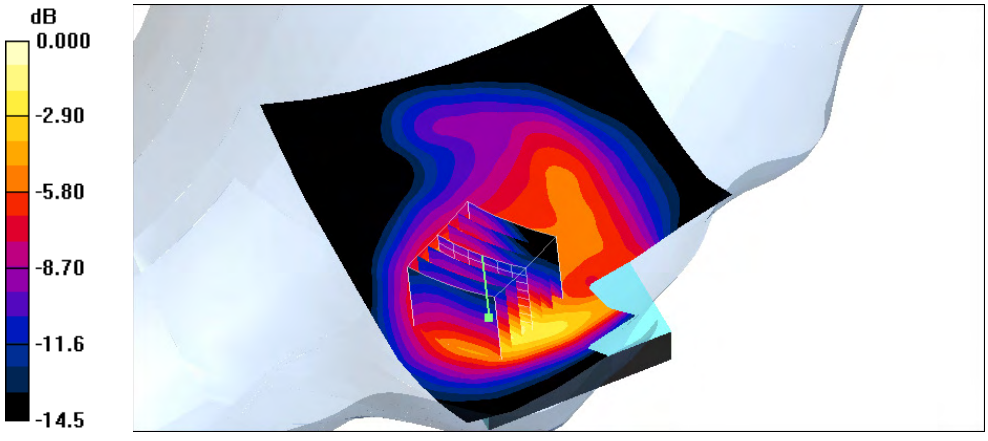
Communication System: PCS; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.36 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(5.18, 5.18, 5.18); Calibrated: 2011/1/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Left Cheek/Area Scan (71x91x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.733 mW/g

Left Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 7.24 V/m; Power Drift = -0.002 dB
Peak SAR (extrapolated) = 0.946 W/kg
SAR(1 g) = 0.615 mW/g; SAR(10 g) = 0.342 mW/g
Maximum value of SAR (measured) = 0.761 mW/g



0 dB = 0.761mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/10 PM 12:08:09

LT_PCS CH661

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

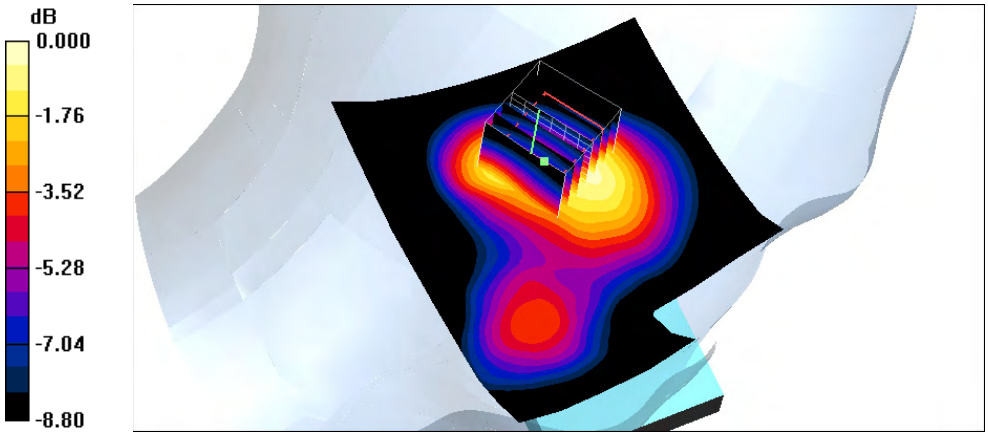
Communication System: PCS; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.36 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(5.18, 5.18, 5.18); Calibrated: 2011/1/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Left Tilted/Area Scan (71x91x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.205 mW/g

Left Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 11.1 V/m; Power Drift = -0.003 dB
Peak SAR (extrapolated) = 0.221 W/kg
SAR(1 g) = 0.156 mW/g; SAR(10 g) = 0.099 mW/g
Maximum value of SAR (measured) = 0.186 mW/g



0 dB = 0.186mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/10 PM 01:50:13

RC_WCDMA Band II CH9400

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.36 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

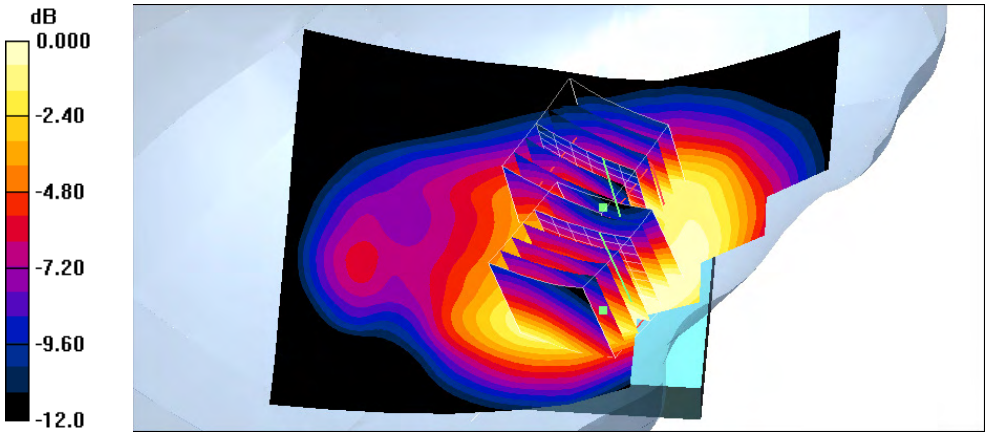
DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(5.18, 5.18, 5.18); Calibrated: 2011/1/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Right Cheek/Area Scan (71x91x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.896 mW/g

Right Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 9.92 V/m; Power Drift = -0.011 dB
Peak SAR (extrapolated) = 1.16 W/kg
SAR(1 g) = 0.784 mW/g; SAR(10 g) = 0.473 mW/g
Maximum value of SAR (measured) = 0.939 mW/g

Right Cheek/Zoom Scan (7x7x9)/Cube 1:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 9.92 V/m; Power Drift = -0.011 dB
Peak SAR (extrapolated) = 0.944 W/kg
SAR(1 g) = 0.606 mW/g; SAR(10 g) = 0.370 mW/g
Maximum value of SAR (measured) = 0.731 mW/g



0 dB = 0.731mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/10 PM 02:29:04

RT_WCDMA Band II CH9400

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

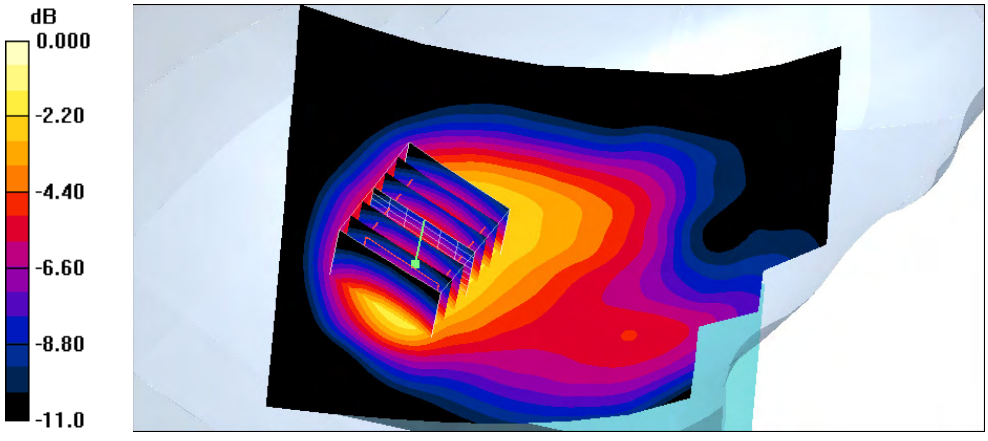
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.36 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(5.18, 5.18, 5.18); Calibrated: 2011/1/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Right Titled/Area Scan (71x91x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.349 mW/g

Right Titled/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 14.2 V/m; Power Drift = 0.004 dB
Peak SAR (extrapolated) = 0.384 W/kg
SAR(1 g) = 0.260 mW/g; SAR(10 g) = 0.157 mW/g
Maximum value of SAR (measured) = 0.313 mW/g



0 dB = 0.313mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/10 PM 03:01:10

LC_WCDMA Band II CH9262

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

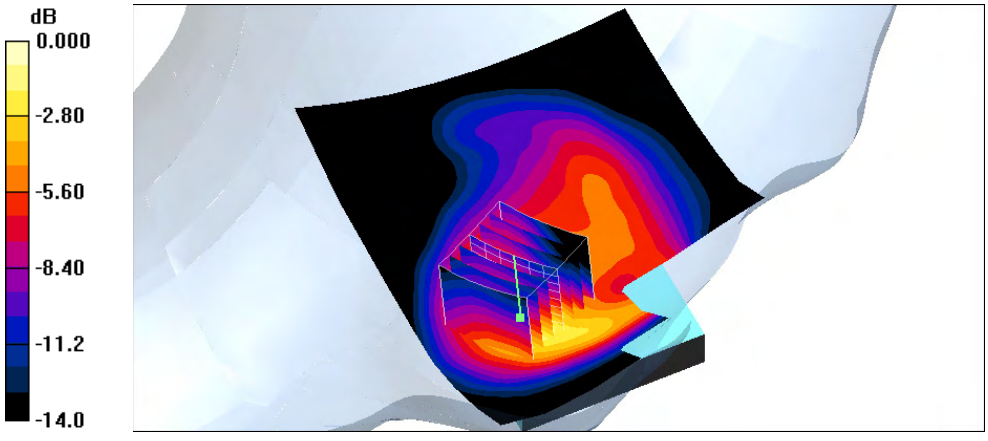
Communication System: WCDMA Band II; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.35 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(5.18, 5.18, 5.18); Calibrated: 2011/1/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Left Cheek/Area Scan (71x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.34 mW/g

Left Cheek/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 8.94 V/m; Power Drift = 0.028 dB
Peak SAR (extrapolated) = 1.72 W/kg
SAR(1 g) = 1.13 mW/g; SAR(10 g) = 0.624 mW/g
Maximum value of SAR (measured) = 1.39 mW/g



0 dB = 1.39mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/10 PM 12:55:52

LC_WCDMA Band II CH9400

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

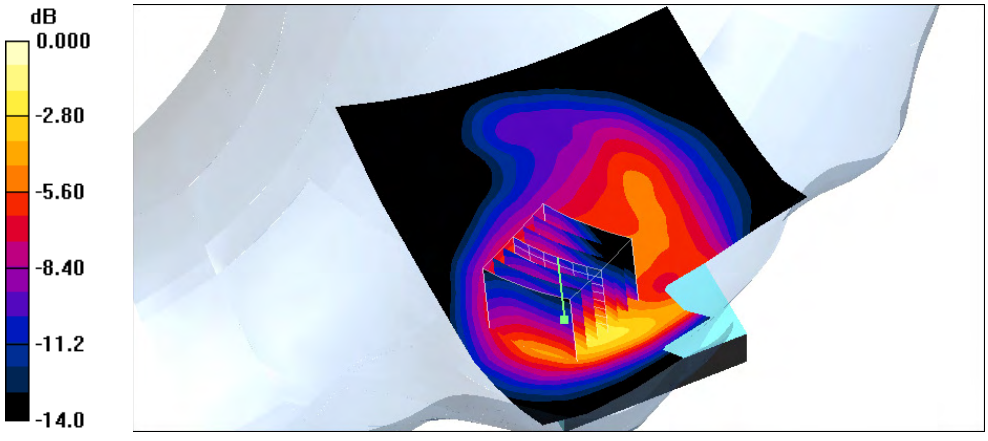
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.36 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(5.18, 5.18, 5.18); Calibrated: 2011/1/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Left Cheek/Area Scan (71x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.27 mW/g

Left Cheek/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 9.23 V/m; Power Drift = 0.029 dB
Peak SAR (extrapolated) = 1.64 W/kg
SAR(1 g) = 1.08 mW/g; SAR(10 g) = 0.595 mW/g
Maximum value of SAR (measured) = 1.34 mW/g



0 dB = 1.34mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/10 PM 03:29:03

LC_WCDMA Band II CH9538

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

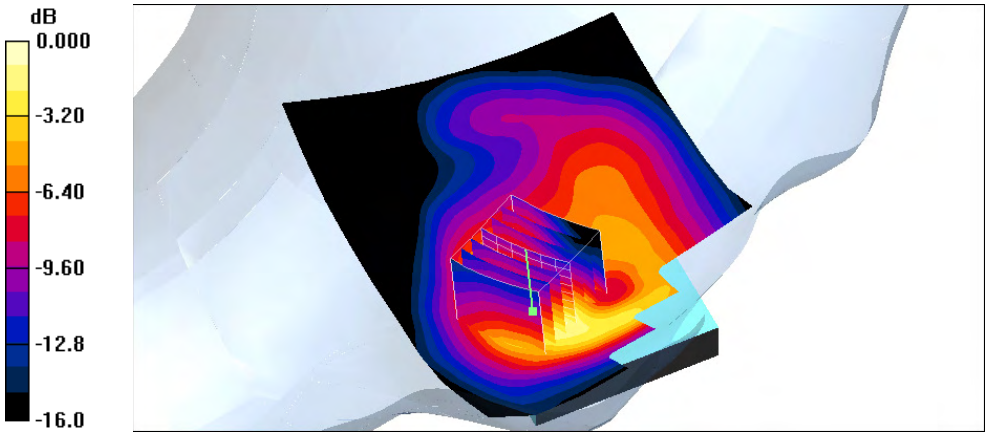
Communication System: WCDMA Band II; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1908 MHz; σ = 1.37 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(5.18, 5.18, 5.18); Calibrated: 2011/1/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Left Cheek/Area Scan (71x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.18 mW/g

Left Cheek/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 8.85 V/m; Power Drift = 0.023 dB
Peak SAR (extrapolated) = 1.55 W/kg
SAR(1 g) = 0.975 mW/g; SAR(10 g) = 0.530 mW/g
Maximum value of SAR (measured) = 1.20 mW/g



0 dB = 1.20mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/10 PM 01:23:09

LT_WCDMA Band II CH9400

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

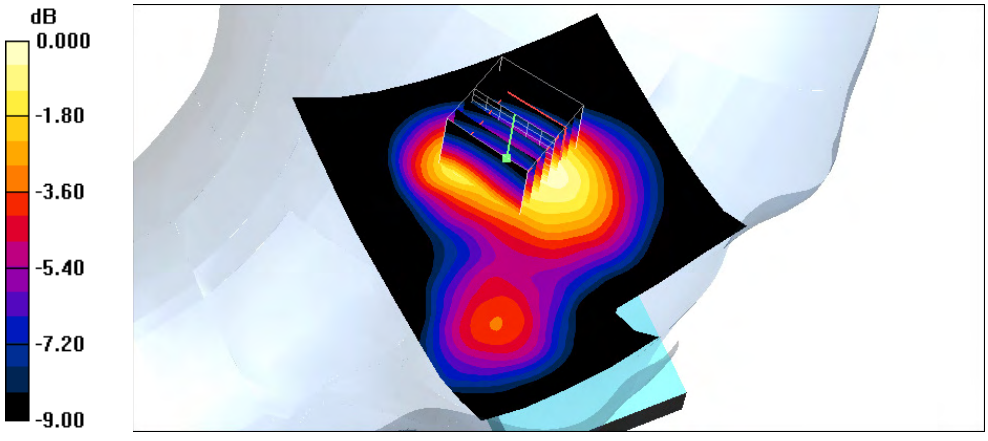
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.36 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(5.18, 5.18, 5.18); Calibrated: 2011/1/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Left Tilted/Area Scan (71x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.347 mW/g

Left Tilted/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 14.2 V/m; Power Drift = -0.028 dB
Peak SAR (extrapolated) = 0.374 W/kg
SAR(1 g) = 0.264 mW/g; SAR(10 g) = 0.168 mW/g
Maximum value of SAR (measured) = 0.311 mW/g



0 dB = 0.311mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/10/1 PM 08:15:57

RC_WCDMA Band V CH4233

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

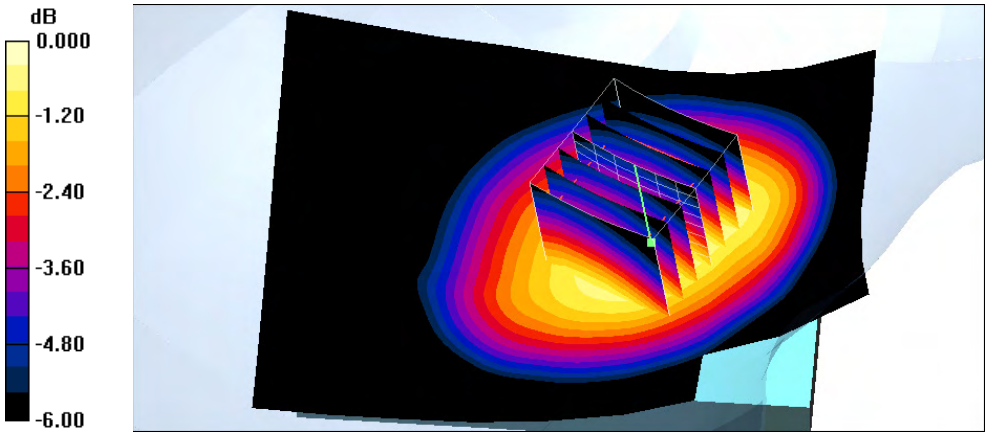
Communication System: WCDMA Band V; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 0.909 mho/m; ε_r = 42.8; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.15, 6.15, 6.15); Calibrated: 2011/1/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Right Cheek/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.726 mW/g

Right Cheek/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 10.1 V/m; Power Drift = -0.010 dB
Peak SAR (extrapolated) = 0.820 W/kg
SAR(1 g) = 0.652 mW/g; SAR(10 g) = 0.486 mW/g
Maximum value of SAR (measured) = 0.728 mW/g



0 dB = 0.728mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/10/1 PM 08:39:25

RT_WCDMA Band V CH4233

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

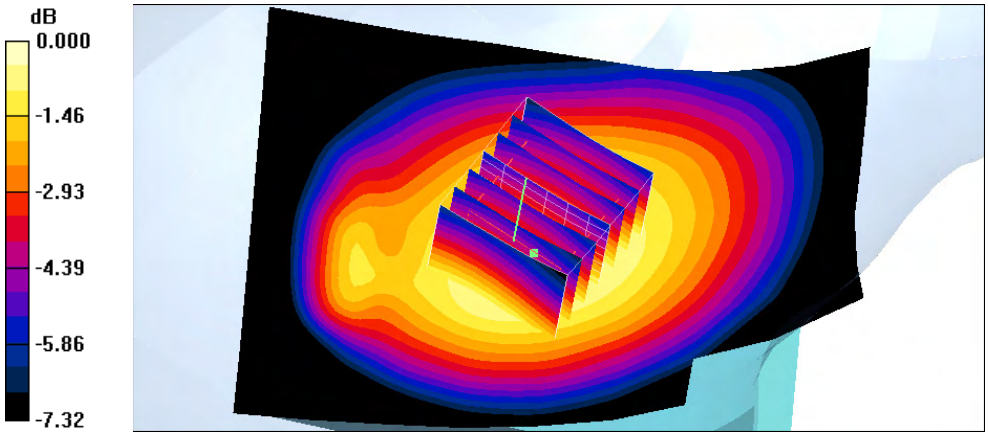
Communication System: WCDMA Band V; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 0.909 mho/m; ε_r = 42.8; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.15, 6.15, 6.15); Calibrated: 2011/1/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Right Tilted/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.367 mW/g

Right Tilted/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 14.7 V/m; Power Drift = -0.004 dB
Peak SAR (extrapolated) = 0.417 W/kg
SAR(1 g) = 0.336 mW/g; SAR(10 g) = 0.252 mW/g
Maximum value of SAR (measured) = 0.371 mW/g



0 dB = 0.371mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/10/1 PM 09:22:59

LC_WCDMA Band V CH4233

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

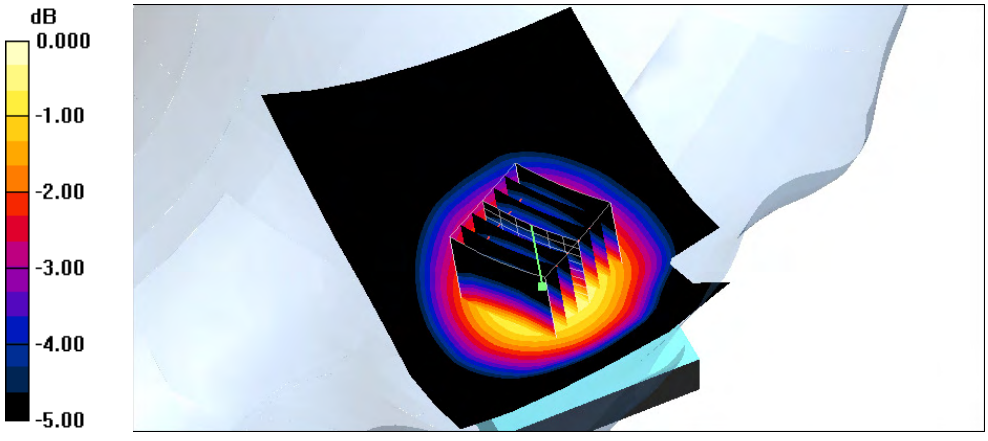
Communication System: WCDMA Band V; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 0.909 mho/m; ε_r = 42.8; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.15, 6.15, 6.15); Calibrated: 2011/1/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Left Cheek/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.588 mW/g

Left Cheek/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 9.60 V/m; Power Drift = 0.046 dB
Peak SAR (extrapolated) = 0.654 W/kg
SAR(1 g) = 0.527 mW/g; SAR(10 g) = 0.393 mW/g
Maximum value of SAR (measured) = 0.584 mW/g



0 dB = 0.584mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/10/1 PM 09:46:43

LT_WCDMA Band V CH4233

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

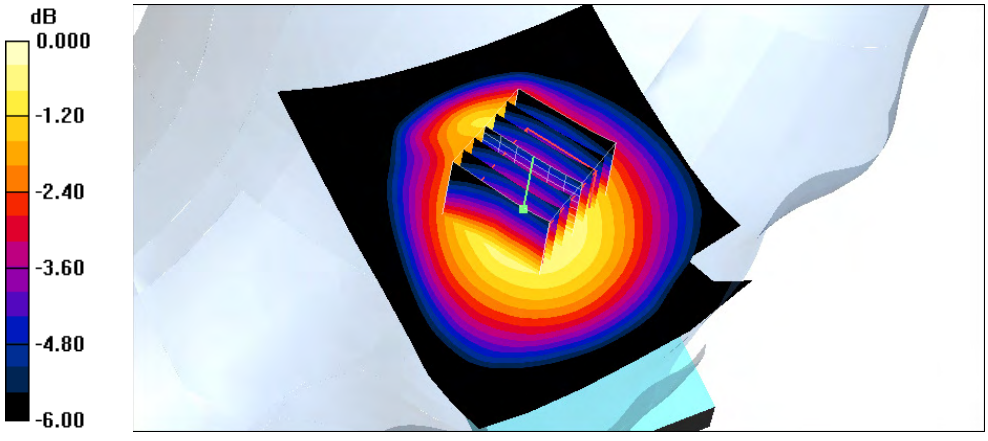
Communication System: WCDMA Band V; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 0.909 mho/m; ε_r = 42.8; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.15, 6.15, 6.15); Calibrated: 2011/1/19
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Left Tilted/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.345 mW/g

Left Tilted/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 14.8 V/m; Power Drift = -0.004 dB
Peak SAR (extrapolated) = 0.395 W/kg
SAR(1 g) = 0.315 mW/g; SAR(10 g) = 0.237 mW/g
Maximum value of SAR (measured) = 0.348 mW/g



0 dB = 0.348mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/10/1 AM 10:22:49

RC_802.11b CH11_1M

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

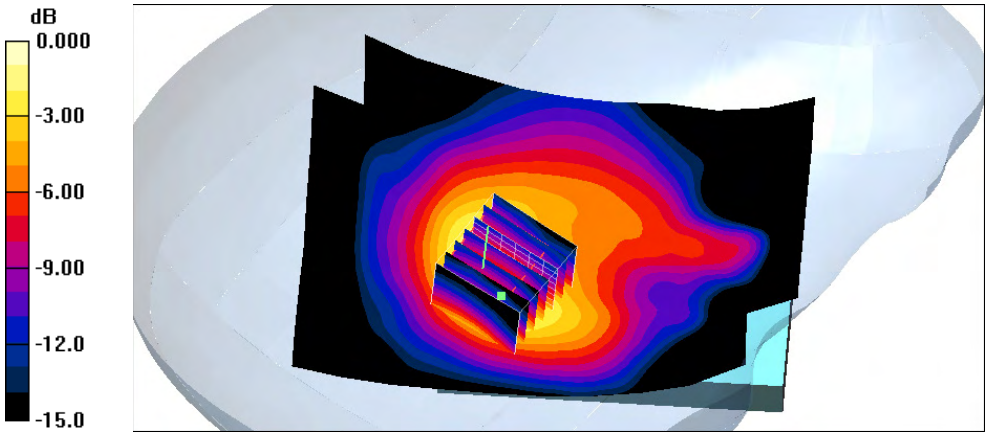
Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; σ = 1.82 mho/m; ε_r = 39.5; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: EX3DV4 - SN3801; ConvF(6.81, 6.81, 6.81); Calibrated: 2011/7/11
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Right Cheek/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.225 mW/g

Right Cheek/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 10.6 V/m; Power Drift = 0.012 dB
Peak SAR (extrapolated) = 0.325 W/kg
SAR(1 g) = 0.179 mW/g; SAR(10 g) = 0.096 mW/g
Maximum value of SAR (measured) = 0.223 mW/g



0 dB = 0.223mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/10/1 AM 10:50:34

RT_802.11b CH11_1M

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

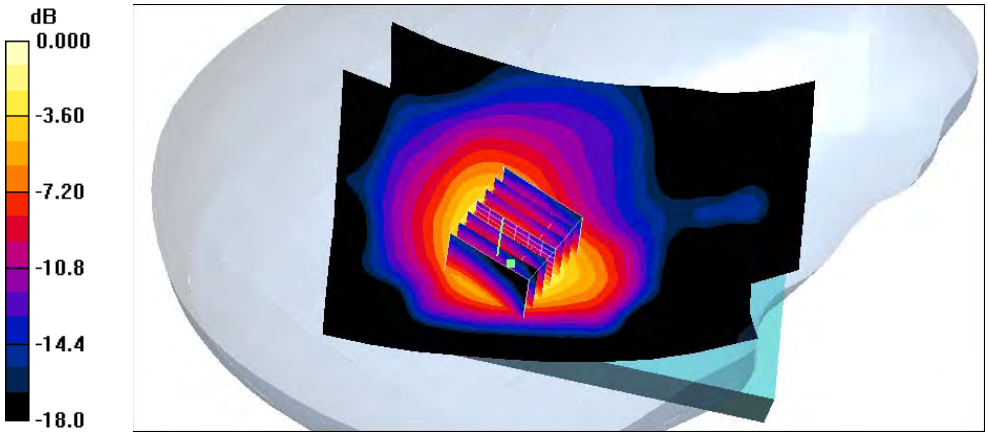
Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; σ = 1.82 mho/m; ε_r = 39.5; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: EX3DV4 - SN3801; ConvF(6.81, 6.81, 6.81); Calibrated: 2011/7/11
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Right Tilted/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.301 mW/g

Right Tilted/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 12.6 V/m; Power Drift = 0.191 dB
Peak SAR (extrapolated) = 0.437 W/kg
SAR(1 g) = 0.237 mW/g; SAR(10 g) = 0.123 mW/g
Maximum value of SAR (measured) = 0.295 mW/g



0 dB = 0.295mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/10/1 AM 11:18:57

LC_802.11b CH11_1M

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

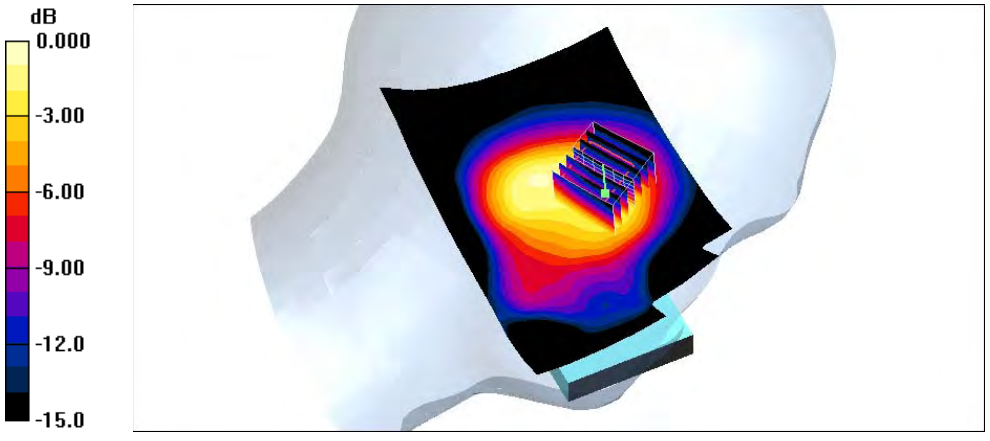
Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; σ = 1.82 mho/m; ε_r = 39.5; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: EX3DV4 - SN3801; ConvF(6.81, 6.81, 6.81); Calibrated: 2011/7/11
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Left Cheek/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.240 mW/g

Left Cheek/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 10.8 V/m; Power Drift = 0.033 dB
Peak SAR (extrapolated) = 0.407 W/kg
SAR(1 g) = 0.198 mW/g; SAR(10 g) = 0.100 mW/g
Maximum value of SAR (measured) = 0.255 mW/g



0 dB = 0.255mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/10/1 AM 11:44:38

LT_802.11b CH11_1M

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

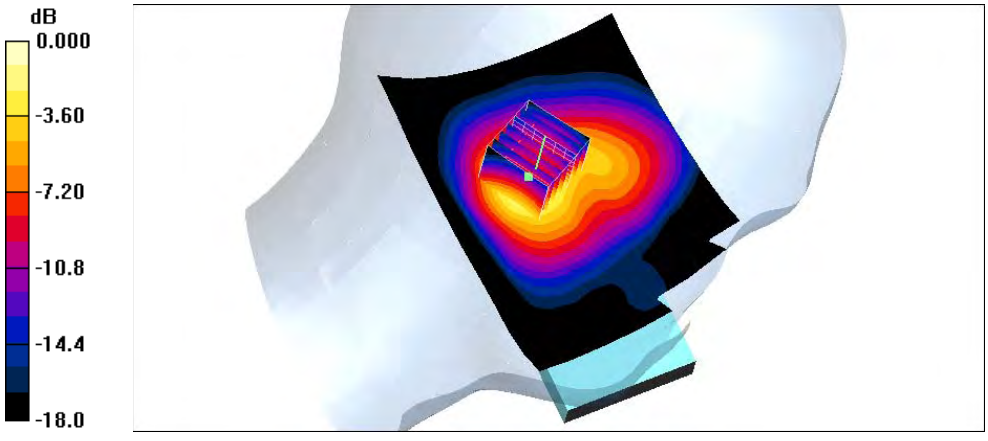
Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; σ = 1.82 mho/m; ε_r = 39.5; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: EX3DV4 - SN3801; ConvF(6.81, 6.81, 6.81); Calibrated: 2011/7/11
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Left Tilted/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.328 mW/g

Left Tilted/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 13.4 V/m; Power Drift = 0.029 dB
Peak SAR (extrapolated) = 0.493 W/kg
SAR(1 g) = 0.267 mW/g; SAR(10 g) = 0.140 mW/g
Maximum value of SAR (measured) = 0.328 mW/g



0 dB = 0.328mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/30 PM 06:41:03

Flat_GSM850 CH128_Headset_Front Surface to Phantom_10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

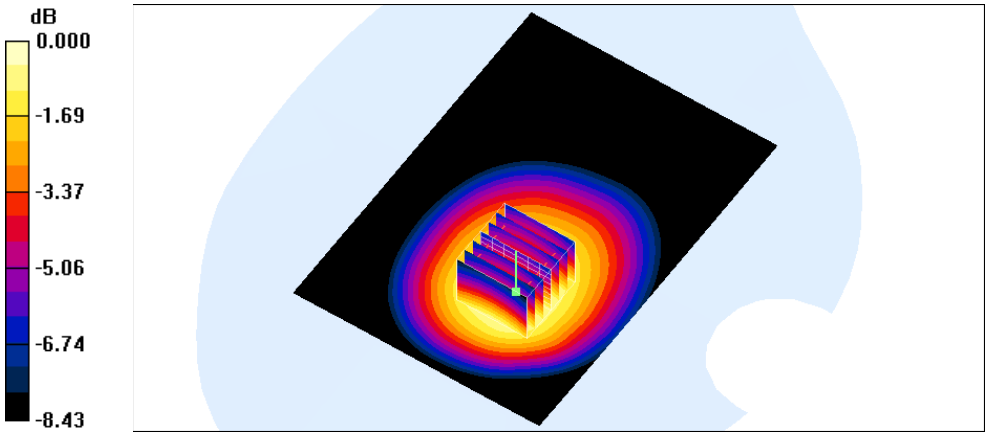
Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.973 mho/m; ε_r = 54; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.161 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 10.4 V/m; Power Drift = -0.014 dB
Peak SAR (extrapolated) = 0.187 W/kg
SAR(1 g) = 0.144 mW/g; SAR(10 g) = 0.104 mW/g
Maximum value of SAR (measured) = 0.162 mW/g



0 dB = 0.162mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/30 PM 07:06:05

Flat_GSM850 CH128_Headset_Back Surface to Phantom_10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

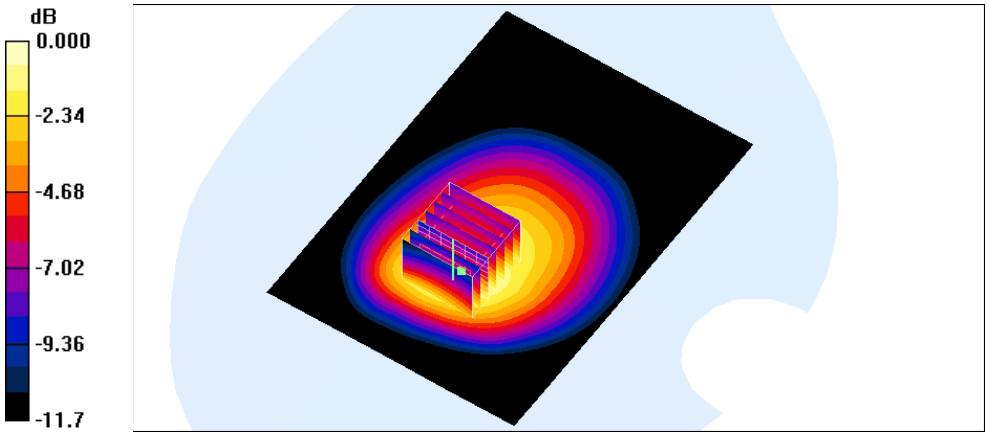
Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.973 mho/m; ε_r = 54; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.414 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 16.4 V/m; Power Drift = 0.040 dB
Peak SAR (extrapolated) = 0.589 W/kg
SAR(1 g) = 0.358 mW/g; SAR(10 g) = 0.228 mW/g
Maximum value of SAR (measured) = 0.427 mW/g



0 dB = 0.427mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/15 AM 11:36:14

Flat_GSM PCS CH661_Headset_Front Surface to Phantom_10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

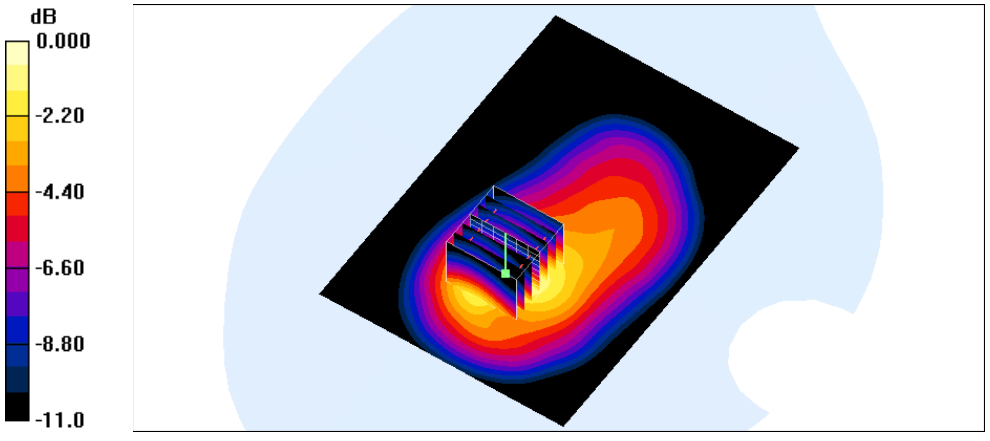
Communication System: PCS; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.48 mho/m; ε_r = 52.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(4.71, 4.71, 4.71); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.502 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 12.2 V/m; Power Drift = -0.016 dB
Peak SAR (extrapolated) = 0.617 W/kg
SAR(1 g) = 0.406 mW/g; SAR(10 g) = 0.237 mW/g
Maximum value of SAR (measured) = 0.499 mW/g



0 dB = 0.499mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/15 PM 12:03:27

Flat_GSM PCS CH661_Headset_Back Surface to Phantom_10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

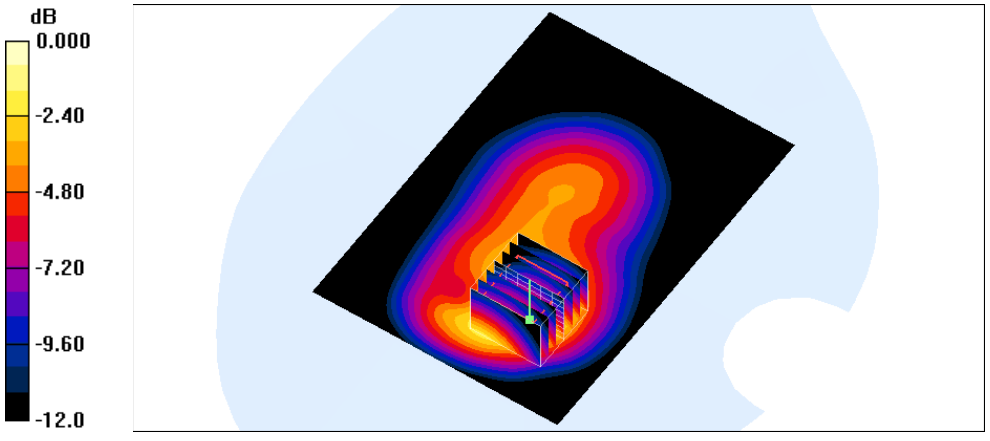
Communication System: PCS; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.48 mho/m; ε_r = 52.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(4.71, 4.71, 4.71); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.792 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 14.5 V/m; Power Drift = 0.021 dB
Peak SAR (extrapolated) = 0.957 W/kg
SAR(1 g) = 0.619 mW/g; SAR(10 g) = 0.344 mW/g
Maximum value of SAR (measured) = 0.754 mW/g



0 dB = 0.754mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/15 PM 01:33:18

Flat_WCDMA Band II CH9262_Headset_Back Surface to Phantom_10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

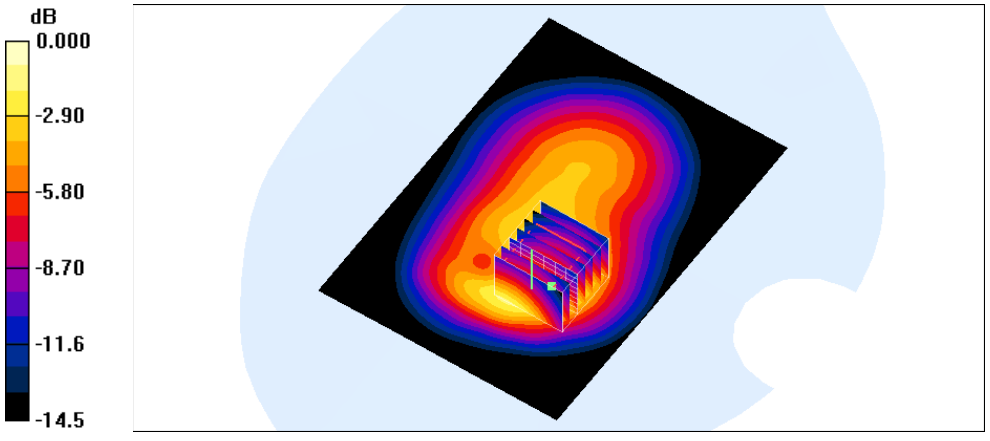
Communication System: WCDMA Band II; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.46 mho/m; ε_r = 52.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(4.71, 4.71, 4.71); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.28 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 19.2 V/m; Power Drift = 0.008 dB
Peak SAR (extrapolated) = 1.54 W/kg
SAR(1 g) = 0.993 mW/g; SAR(10 g) = 0.554 mW/g
Maximum value of SAR (measured) = 1.23 mW/g



0 dB = 1.23mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/15 PM 12:56:28

Flat_WCDMA Band II CH9400_Headset_Front Surface to Phantom_10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

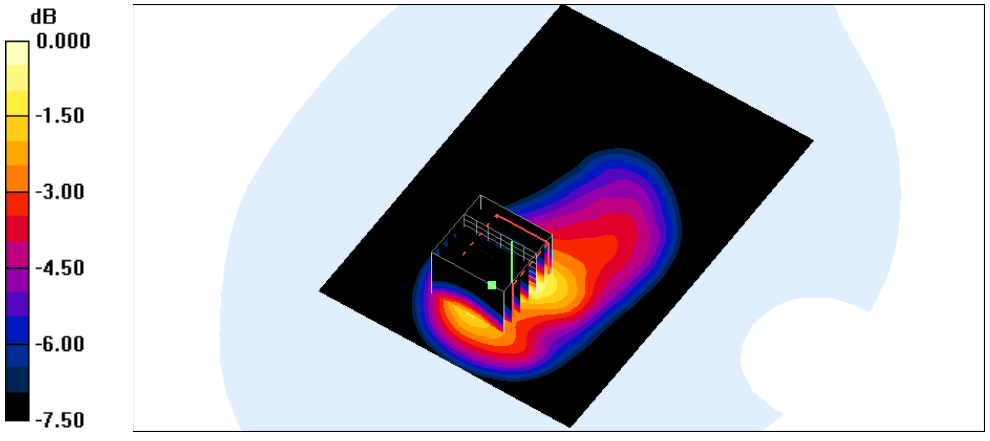
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.48 mho/m; ε_r = 52.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(4.71, 4.71, 4.71); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.772 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 15.0 V/m; Power Drift = -0.023 dB
Peak SAR (extrapolated) = 1.02 W/kg
SAR(1 g) = 0.667 mW/g; SAR(10 g) = 0.391 mW/g
Maximum value of SAR (measured) = 0.802 mW/g



0 dB = 0.802mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/15 PM 12:31:21

Flat_WCDMA Band II CH9400_Headset_Back Surface to Phantom_10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

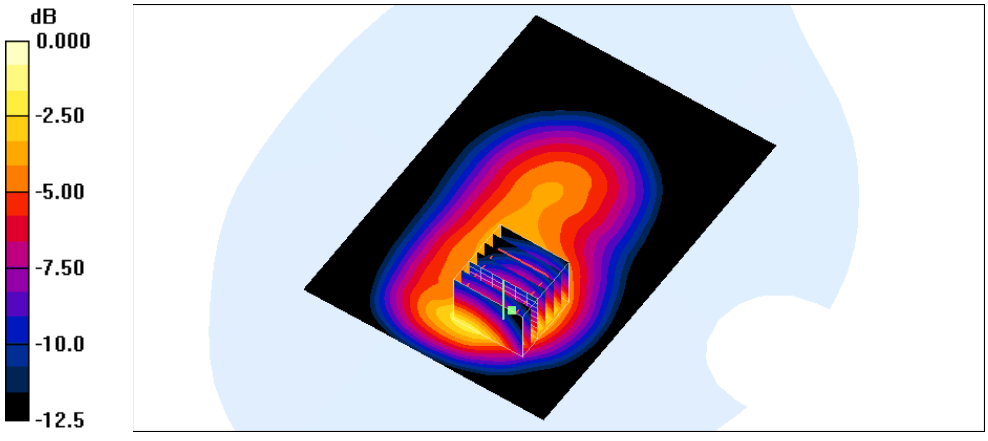
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.48 mho/m; ε_r = 52.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(4.71, 4.71, 4.71); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.46 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 19.1 V/m; Power Drift = 0.001 dB
Peak SAR (extrapolated) = 1.71 W/kg
SAR(1 g) = 1.12 mW/g; SAR(10 g) = 0.631 mW/g
Maximum value of SAR (measured) = 1.36 mW/g



0 dB = 1.36mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/15 PM 01:57:54

Flat_WCDMA Band II CH9538_Headset_Back Surface to Phantom_10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

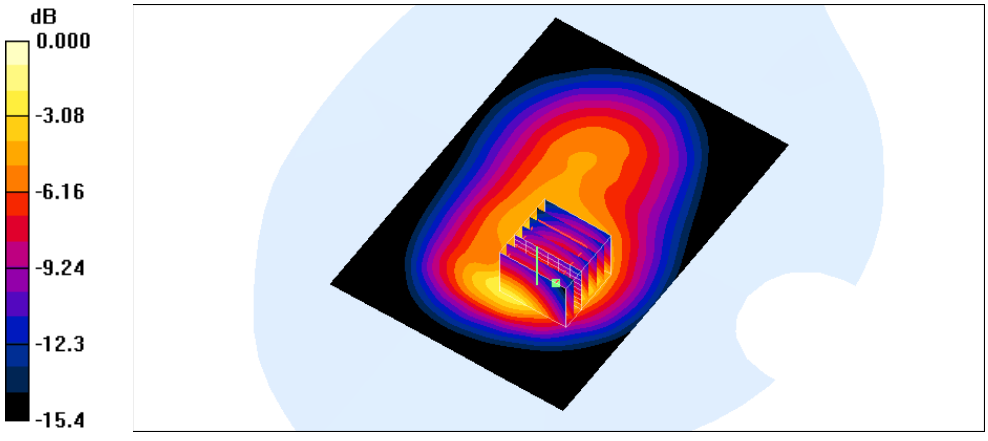
Communication System: WCDMA Band II; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1908 MHz; σ = 1.51 mho/m; ε_r = 52; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(4.71, 4.71, 4.71); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.32 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 17.1 V/m; Power Drift = -0.005 dB
Peak SAR (extrapolated) = 1.66 W/kg
SAR(1 g) = 1.06 mW/g; SAR(10 g) = 0.590 mW/g
Maximum value of SAR (measured) = 1.33 mW/g



0 dB = 1.33mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/30 PM 09:32:37

Flat_WCDMA Band V CH4132_Headset_Back Surface to Phantom_10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

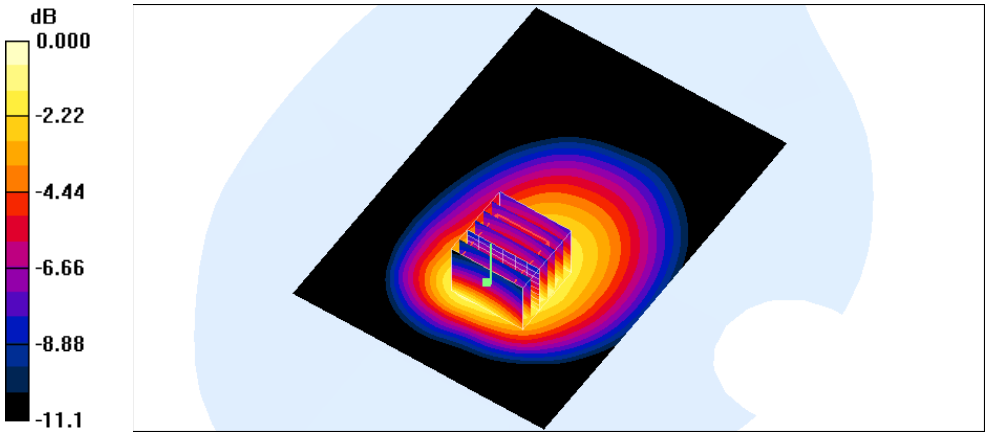
Communication System: WCDMA Band V; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.975 mho/m; ε_r = 54; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.752 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 22.4 V/m; Power Drift = 0.011 dB
Peak SAR (extrapolated) = 1.13 W/kg
SAR(1 g) = 0.673 mW/g; SAR(10 g) = 0.427 mW/g
Maximum value of SAR (measured) = 0.801 mW/g



0 dB = 0.801mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/30 PM 09:56:39

Flat_WCDMA Band V CH4183_Headset_Back Surface to Phantom_10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

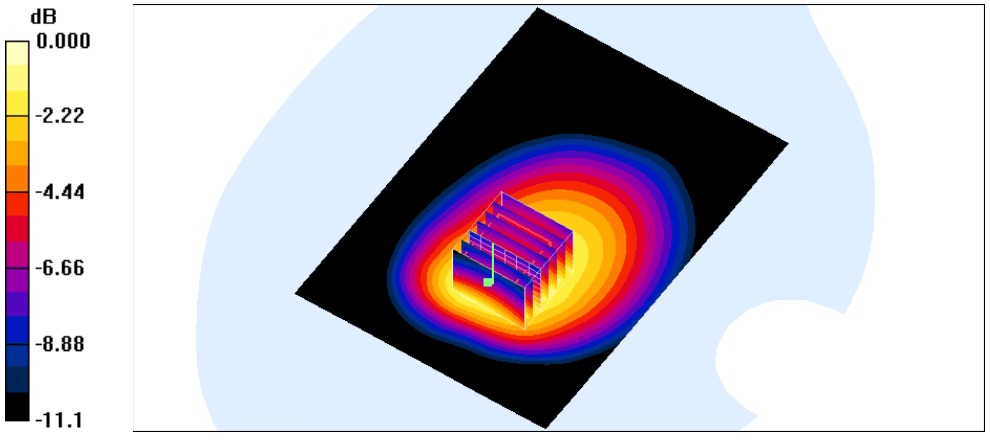
Communication System: WCDMA Band V; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 0.987 mho/m; ε_r = 53.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.691 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 21.7 V/m; Power Drift = 0.001 dB
Peak SAR (extrapolated) = 1.03 W/kg
SAR(1 g) = 0.620 mW/g; SAR(10 g) = 0.394 mW/g
Maximum value of SAR (measured) = 0.736 mW/g



0 dB = 0.736mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/30 PM 08:16:11

Flat_WCDMA Band V CH4233_Headset_Front Surface to Phantom_10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

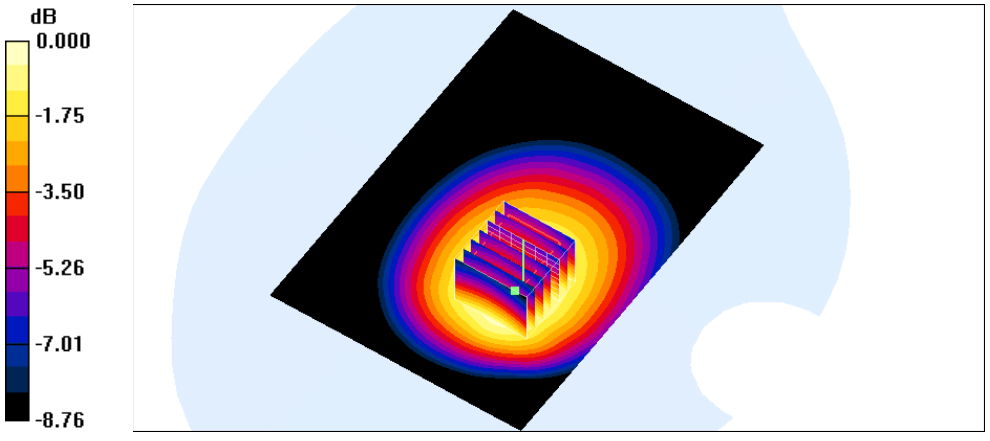
Communication System: WCDMA Band V; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 0.998 mho/m; ε_r = 53.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.420 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 17.7 V/m; Power Drift = -0.010 dB
Peak SAR (extrapolated) = 0.482 W/kg
SAR(1 g) = 0.373 mW/g; SAR(10 g) = 0.272 mW/g
Maximum value of SAR (measured) = 0.416 mW/g



0 dB = 0.416mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/30 PM 08:43:30

Flat_WCDMA Band V CH4233_Headset_Back Surface to Phantom_10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

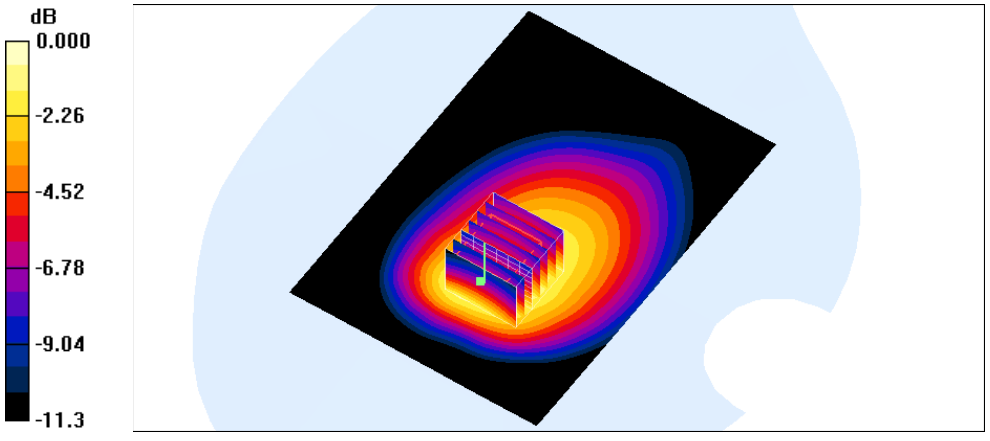
Communication System: WCDMA Band V; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 0.998 mho/m; ε_r = 53.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.956 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 25.4 V/m; Power Drift = 0.023 dB
Peak SAR (extrapolated) = 1.48 W/kg
SAR(1 g) = 0.870 mW/g; SAR(10 g) = 0.545 mW/g
Maximum value of SAR (measured) = 1.04 mW/g



0 dB = 1.04mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/10/1 PM 02:05:22

Flat_802.11b CH11_1M_Headset_Front Surface to Phantom_10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

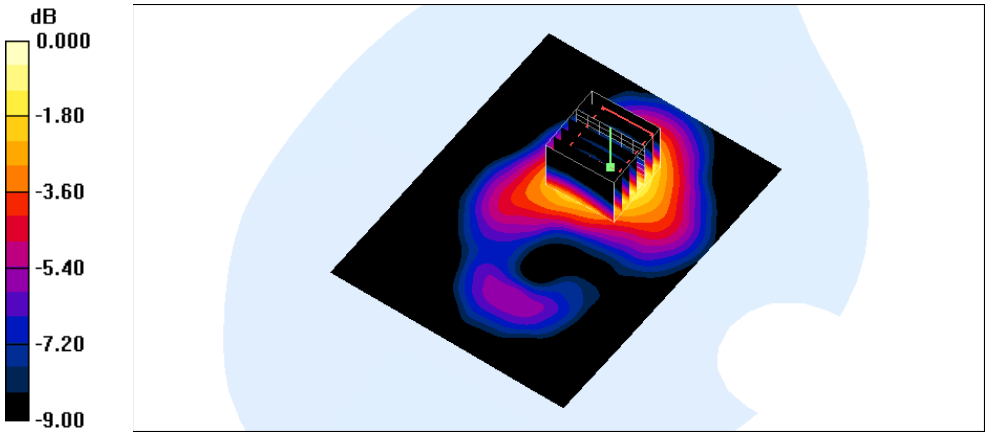
Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; σ = 1.95 mho/m; ε_r = 51.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: EX3DV3 - SN3519; ConvF(8.17, 8.17, 8.17); Calibrated: 2011/2/25
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.088 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 3.41 V/m; Power Drift = -0.198 dB
Peak SAR (extrapolated) = 0.124 W/kg
SAR(1 g) = 0.071 mW/g; SAR(10 g) = 0.041 mW/g
Maximum value of SAR (measured) = 0.085 mW/g



0 dB = 0.085mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/10/1 PM 01:41:28

Flat_802.11b CH11_1M_Headset_Back Surface to Phantom_10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

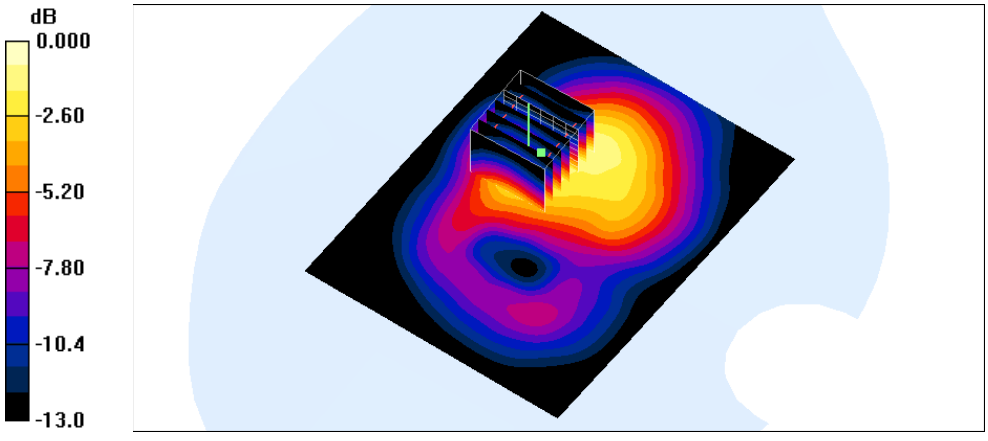
Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; σ = 1.95 mho/m; ε_r = 51.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: EX3DV3 - SN3519; ConvF(8.17, 8.17, 8.17); Calibrated: 2011/2/25
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.241 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 5.67 V/m; Power Drift = 0.055 dB
Peak SAR (extrapolated) = 0.339 W/kg
SAR(1 g) = 0.162 mW/g; SAR(10 g) = 0.081 mW/g
Maximum value of SAR (measured) = 0.206 mW/g



0 dB = 0.206mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/30 PM 03:53:03

Flat_GPRS 850 CH128_3D2U_Front Surface to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

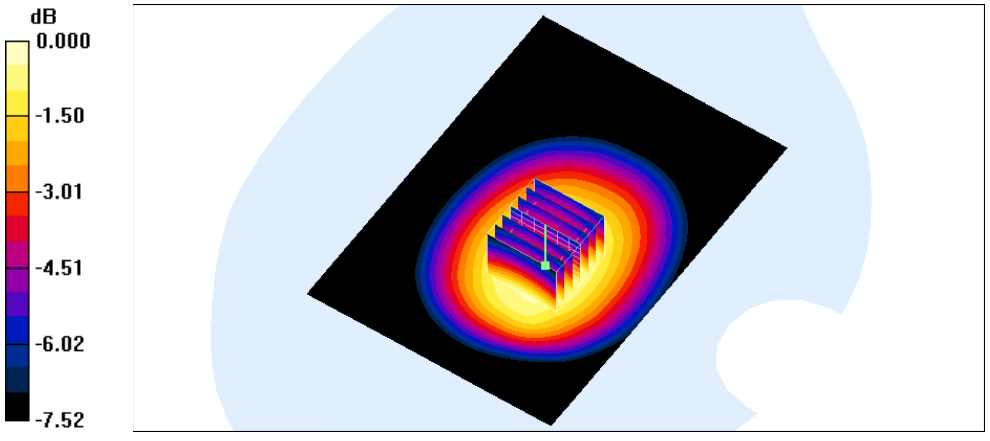
Communication System: GPRS 850 (3Down, 2Up); Frequency: 824.2 MHz;Duty Cycle: 1:4.2
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.973 mho/m; ε_r = 54; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.427 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 20.3 V/m; Power Drift = -0.038 dB
Peak SAR (extrapolated) = 0.488 W/kg
SAR(1 g) = 0.385 mW/g; SAR(10 g) = 0.284 mW/g
Maximum value of SAR (measured) = 0.428 mW/g



0 dB = 0.428mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/30 PM 03:12:44

Flat_GPRS 850 CH128_3D2U_Back Surface to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

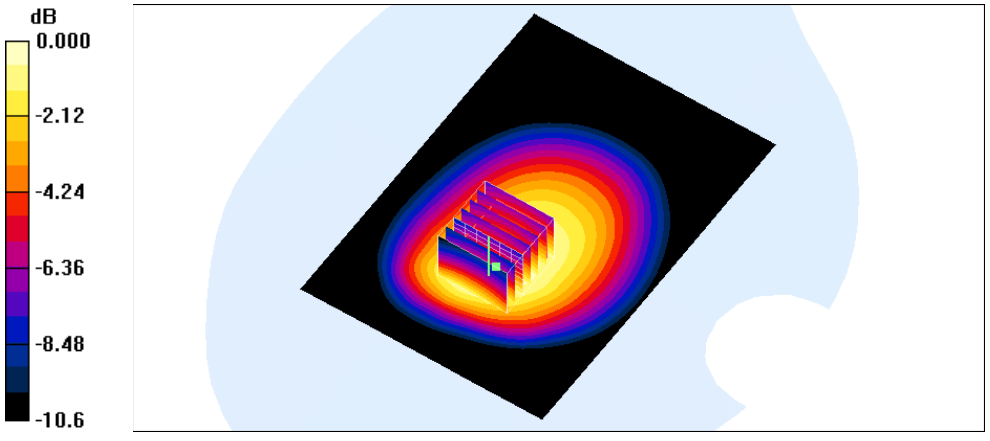
Communication System: GPRS 850 (3Down, 2Up); Frequency: 824.2 MHz;Duty Cycle: 1:4.2
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.973 mho/m; ε_r = 54; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.976 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 28.4 V/m; Power Drift = -0.007 dB
Peak SAR (extrapolated) = 1.29 W/kg
SAR(1 g) = 0.830 mW/g; SAR(10 g) = 0.565 mW/g
Maximum value of SAR (measured) = 0.968 mW/g



0 dB = 0.968mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/30 PM 05:06:36

Flat_GPRS 850 CH128_3D2U_Edge Right to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

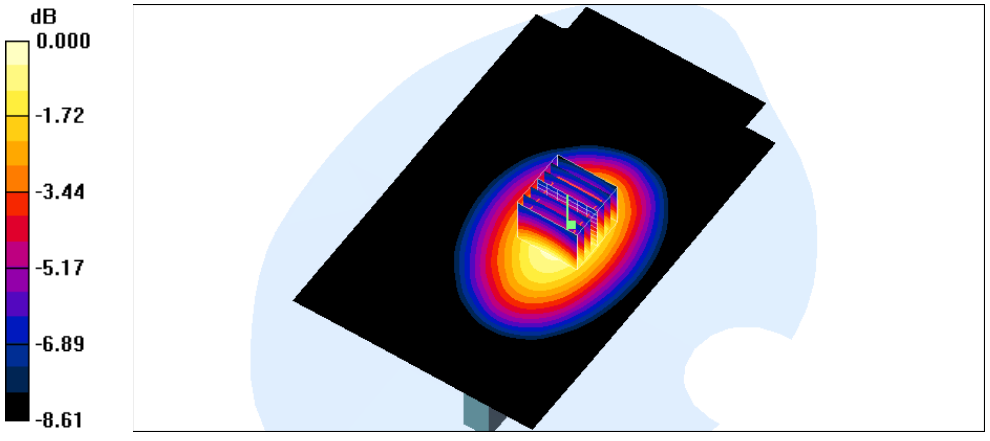
Communication System: GPRS 850 (3Down, 2Up); Frequency: 824.2 MHz;Duty Cycle: 1:4.2
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.973 mho/m; ε_r = 54; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.471 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 20.9 V/m; Power Drift = -0.049 dB
Peak SAR (extrapolated) = 0.570 W/kg
SAR(1 g) = 0.410 mW/g; SAR(10 g) = 0.283 mW/g
Maximum value of SAR (measured) = 0.469 mW/g



0 dB = 0.469mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/30 PM 04:31:13

Flat_GPRS 850 CH128_3D2U_Edge Left to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

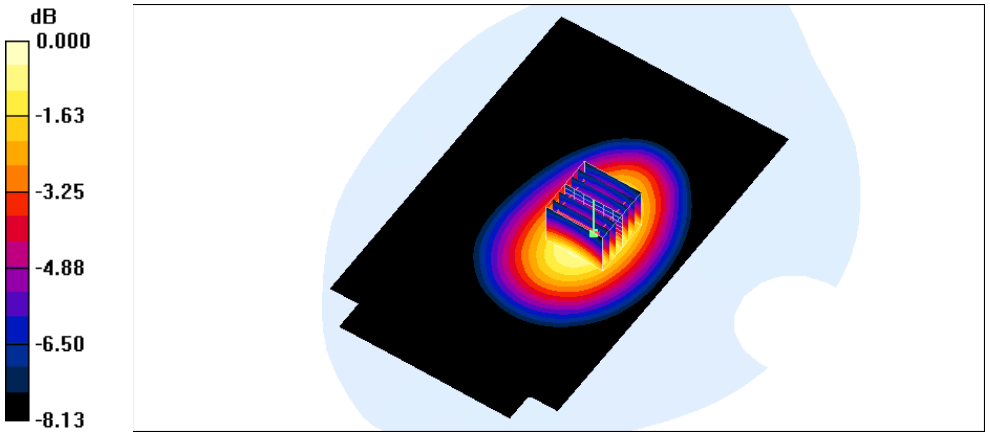
Communication System: GPRS 850 (3Down, 2Up); Frequency: 824.2 MHz;Duty Cycle: 1:4.2
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.973 mho/m; ε_r = 54; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.296 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 17.5 V/m; Power Drift = -0.044 dB
Peak SAR (extrapolated) = 0.359 W/kg
SAR(1 g) = 0.260 mW/g; SAR(10 g) = 0.178 mW/g
Maximum value of SAR (measured) = 0.298 mW/g



0 dB = 0.298mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/30 PM 05:56:22

Flat_GPRS 850 CH128_3D2U_Edge Bottom to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

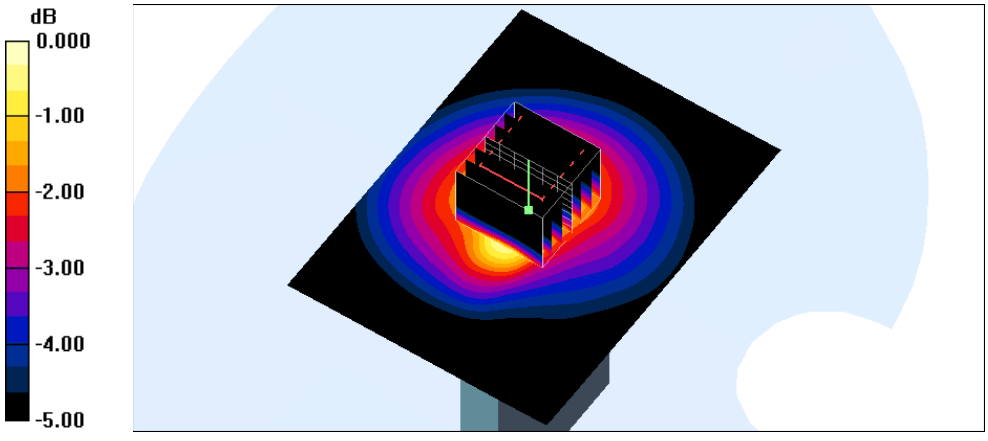
Communication System: GPRS 850 (3Down, 2Up); Frequency: 824.2 MHz;Duty Cycle: 1:4.2
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.973 mho/m; ε_r = 54; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.141 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 12.3 V/m; Power Drift = 0.009 dB
Peak SAR (extrapolated) = 0.264 W/kg
SAR(1 g) = 0.119 mW/g; SAR(10 g) = 0.076 mW/g
Maximum value of SAR (measured) = 0.141 mW/g



0 dB = 0.141mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/30 PM 02:28:51

Flat_GPRS 850 CH190_3D2U_Back Surface to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

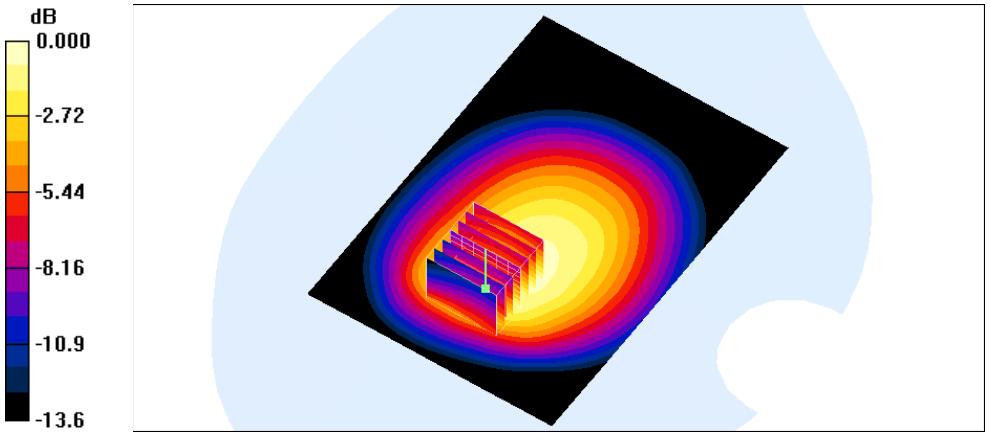
Communication System: GPRS 850 (3Down, 2Up); Frequency: 836.6 MHz;Duty Cycle: 1:4.2
Medium parameters used: f = 837 MHz; σ = 0.987 mho/m; ε_r = 53.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.11 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 30.0 V/m; Power Drift = 0.017 dB
Peak SAR (extrapolated) = 1.55 W/kg
SAR(1 g) = 0.976 mW/g; SAR(10 g) = 0.641 mW/g
Maximum value of SAR (measured) = 1.15 mW/g



0 dB = 1.15mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/29 AM 12:11:05

Flat_GPRS 850 CH251_3D2U_Back Surface to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

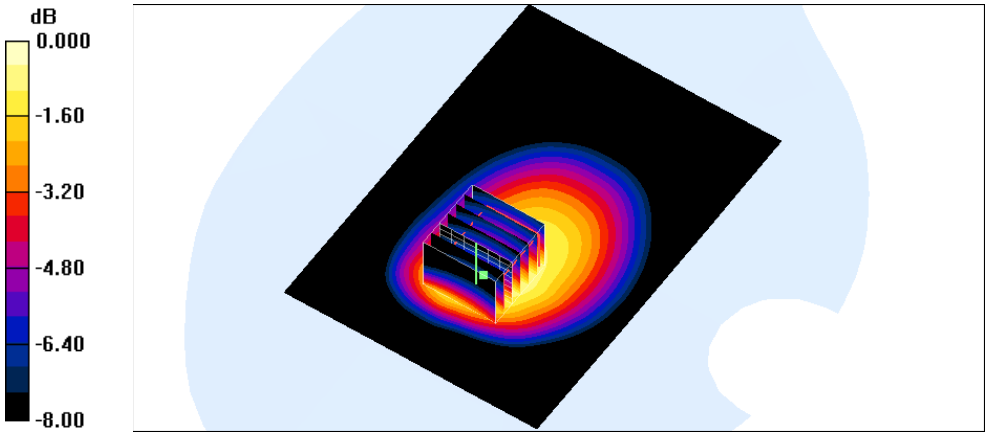
Communication System: GPRS 850 (3Down, 2Up); Frequency: 848.8 MHz;Duty Cycle: 1:4.2
Medium parameters used: f = 849 MHz; σ = 1 mho/m; ε_r = 53.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.55 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 35.2 V/m; Power Drift = -0.039 dB
Peak SAR (extrapolated) = 2.22 W/kg
SAR(1 g) = 1.37 mW/g; SAR(10 g) = 0.908 mW/g
Maximum value of SAR (measured) = 1.65 mW/g



0 dB = 1.65mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/14 PM 06:51:18

Flat_GPRS PCS CH512_3D2U_Back Surface to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

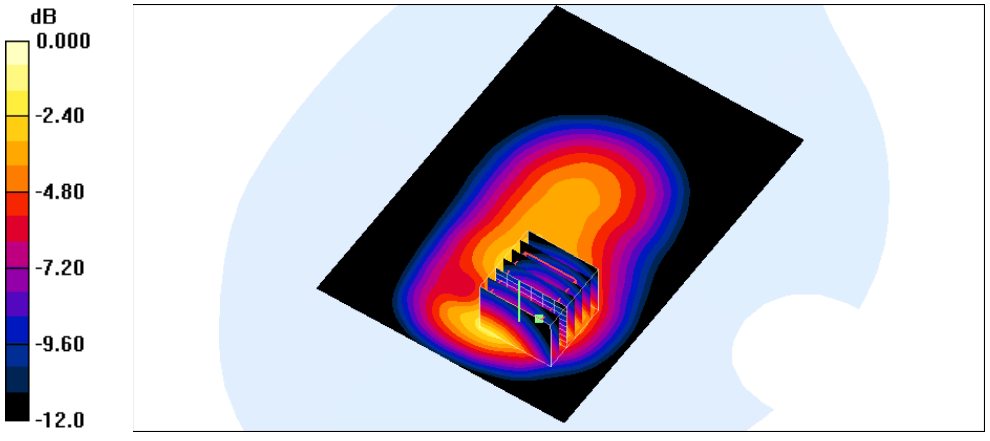
Communication System: GPRS PCS (3Down,2Up); Frequency: 1850.2 MHz;Duty Cycle: 1:4.2
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.45 mho/m; ε_r = 52.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(4.71, 4.71, 4.71); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.21 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 20.0 V/m; Power Drift = 0.014 dB
Peak SAR (extrapolated) = 1.49 W/kg
SAR(1 g) = 0.959 mW/g; SAR(10 g) = 0.536 mW/g
Maximum value of SAR (measured) = 1.18 mW/g



0 dB = 1.18mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/13 AM 10:35:08

Flat_GPRS PCS CH661_3D2U_Front Surface to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

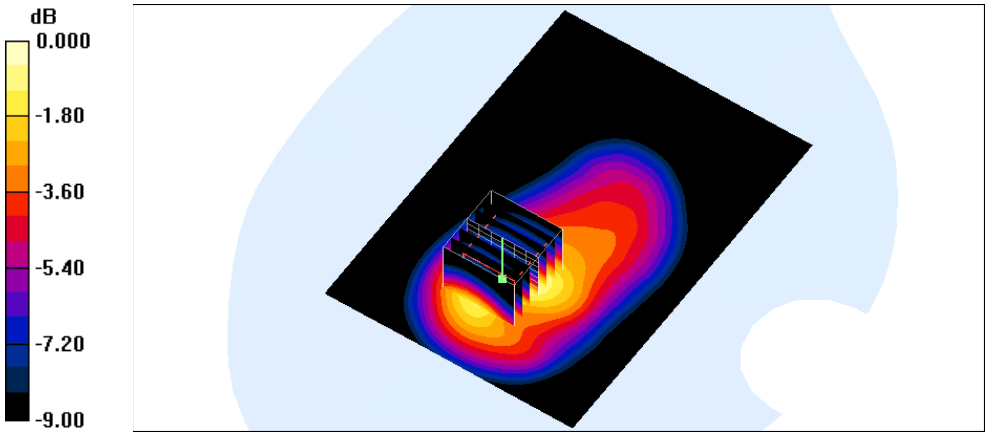
Communication System: GPRS PCS (3Down,2Up); Frequency: 1880 MHz;Duty Cycle: 1:4.2
Medium parameters used: f = 1880 MHz; σ = 1.48 mho/m; ε_r = 52.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(4.71, 4.71, 4.71); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.718 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 15.6 V/m; Power Drift = 0.022 dB
Peak SAR (extrapolated) = 0.924 W/kg
SAR(1 g) = 0.611 mW/g; SAR(10 g) = 0.361 mW/g
Maximum value of SAR (measured) = 0.738 mW/g



0 dB = 0.738mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/13 AM 10:04:20

Flat_GPRS PCS CH661_3D2U_Back Surface to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

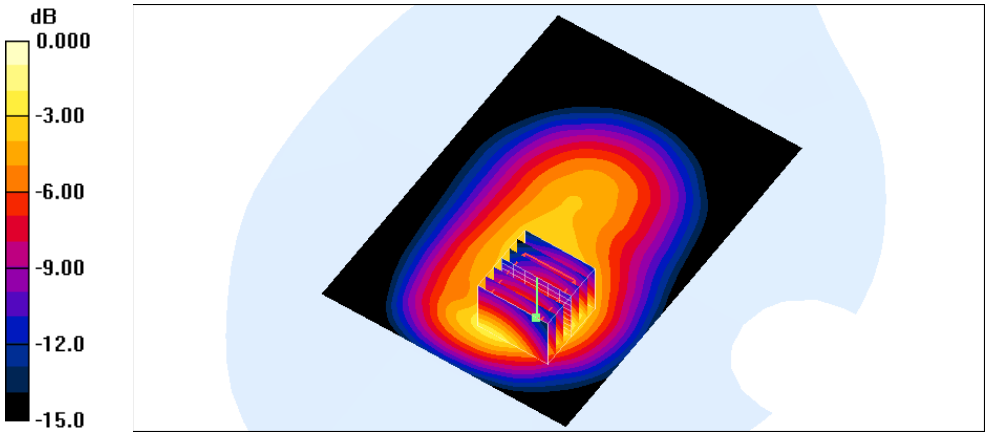
Communication System: GPRS PCS (3Down,2Up); Frequency: 1880 MHz;Duty Cycle: 1:4.2
Medium parameters used: f = 1880 MHz; σ = 1.48 mho/m; ε_r = 52.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(4.71, 4.71, 4.71); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.40 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 20.5 V/m; Power Drift = -0.022 dB
Peak SAR (extrapolated) = 1.65 W/kg
SAR(1 g) = 1.07 mW/g; SAR(10 g) = 0.599 mW/g
Maximum value of SAR (measured) = 1.31 mW/g



0 dB = 1.31mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/13 PM 12:54:03

Flat_GPRS PCS CH661_3D2U_Edge Right to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

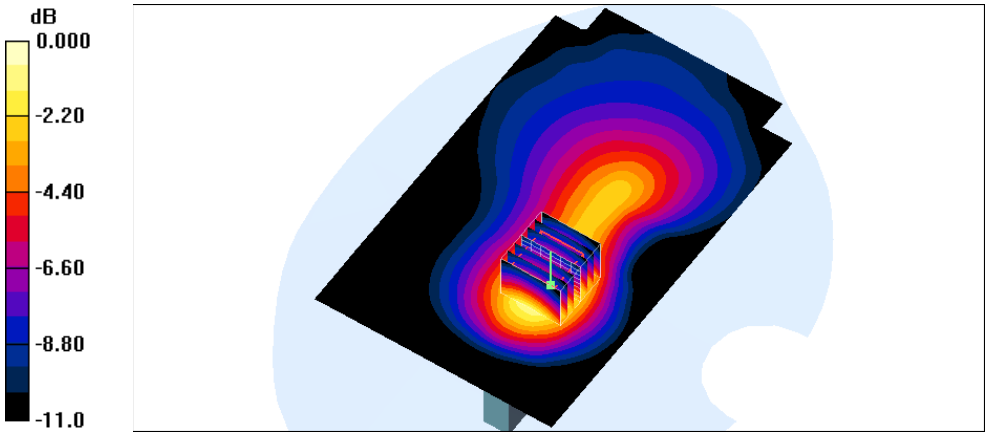
Communication System: GPRS PCS (3Down,2Up); Frequency: 1880 MHz;Duty Cycle: 1:4.2
Medium parameters used: f = 1880 MHz; σ = 1.48 mho/m; ε_r = 52.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(4.71, 4.71, 4.71); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.302 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 13.3 V/m; Power Drift = -0.016 dB
Peak SAR (extrapolated) = 0.387 W/kg
SAR(1 g) = 0.253 mW/g; SAR(10 g) = 0.154 mW/g
Maximum value of SAR (measured) = 0.303 mW/g



0 dB = 0.303mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/13 PM 01:25:27

Flat_GPRS PCS CH661_3D2U_Edge Left to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

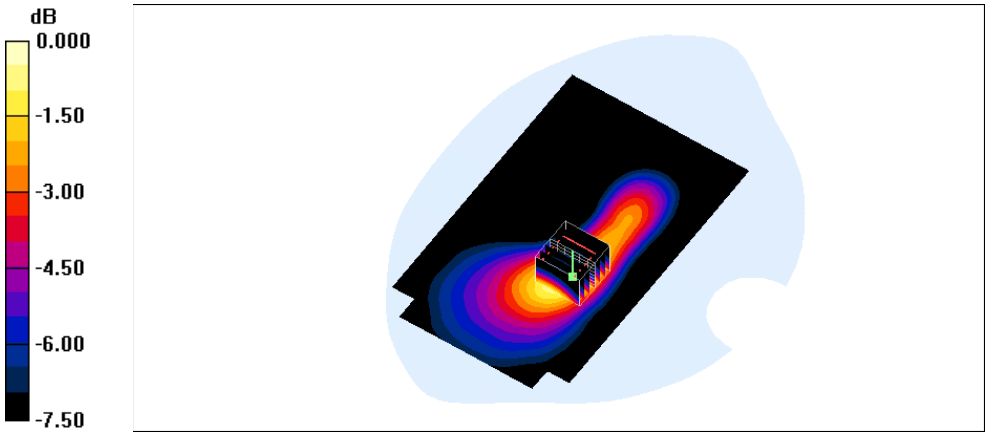
Communication System: GPRS PCS (3Down,2Up); Frequency: 1880 MHz;Duty Cycle: 1:4.2
Medium parameters used: f = 1880 MHz; σ = 1.48 mho/m; ε_r = 52.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(4.71, 4.71, 4.71); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.189 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 8.03 V/m; Power Drift = -0.051 dB
Peak SAR (extrapolated) = 0.236 W/kg
SAR(1 g) = 0.159 mW/g; SAR(10 g) = 0.096 mW/g
Maximum value of SAR (measured) = 0.188 mW/g



0 dB = 0.188mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/14 PM 08:09:58

Flat_GPRS PCS CH661_3D2U_Edge Bottom to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

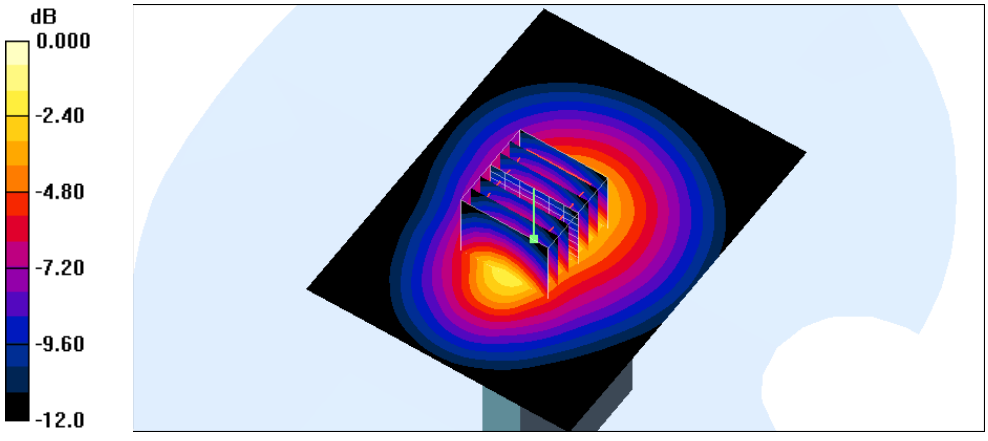
Communication System: GPRS PCS (3Down,2Up); Frequency: 1880 MHz;Duty Cycle: 1:4.2
Medium parameters used: f = 1880 MHz; σ = 1.48 mho/m; ε_r = 52.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(4.71, 4.71, 4.71); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.885 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 24.2 V/m; Power Drift = -0.011 dB
Peak SAR (extrapolated) = 1.09 W/kg
SAR(1 g) = 0.725 mW/g; SAR(10 g) = 0.418 mW/g
Maximum value of SAR (measured) = 0.886 mW/g



0 dB = 0.886mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/14 PM 07:31:25

Flat_GPRS PCS CH810_3D2U_Back Surface to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

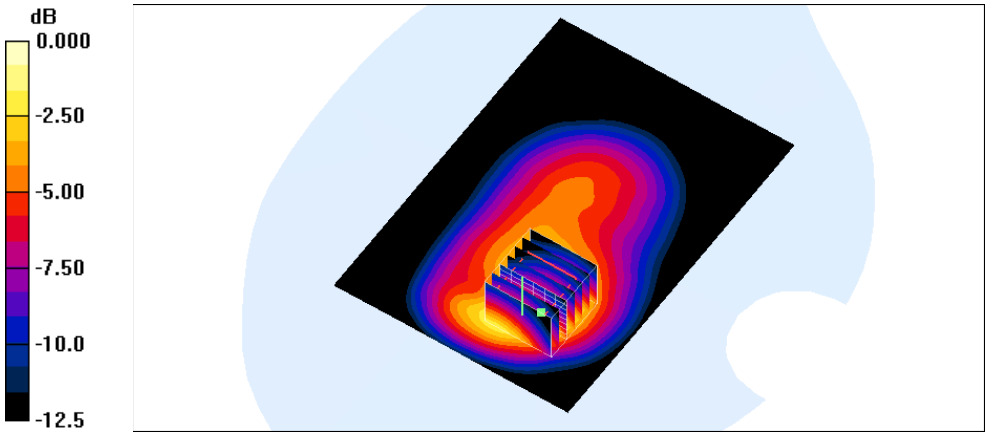
Communication System: GPRS PCS (3Down,2Up); Frequency: 1909.8 MHz;Duty Cycle: 1:4.2
Medium parameters used: f = 1910 MHz; σ = 1.51 mho/m; ε_r = 52; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(4.71, 4.71, 4.71); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.49 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 18.9 V/m; Power Drift = 0.009 dB
Peak SAR (extrapolated) = 1.82 W/kg
SAR(1 g) = 1.18 mW/g; SAR(10 g) = 0.654 mW/g
Maximum value of SAR (measured) = 1.44 mW/g



0 dB = 1.44mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/14 PM 09:06:50

Flat_WCDMA Band II CH9262_Back Surface to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

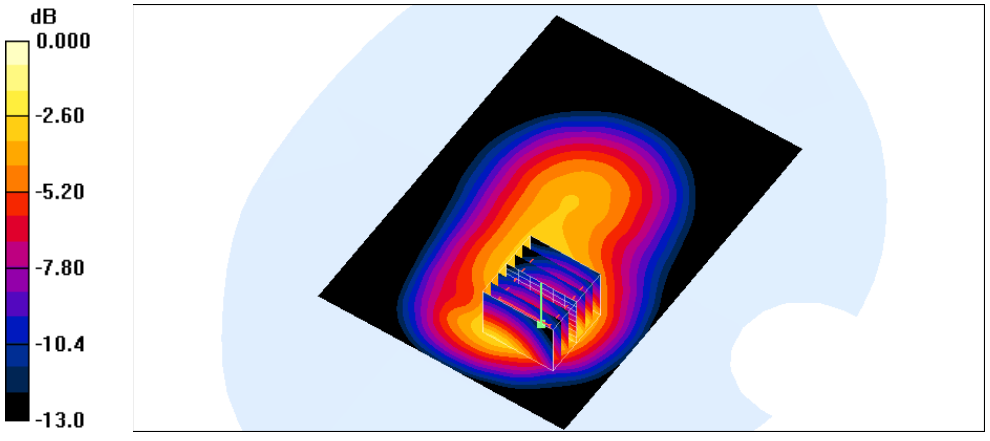
Communication System: WCDMA Band II; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.46 mho/m; ε_r = 52.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(4.71, 4.71, 4.71); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.26 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 20.1 V/m; Power Drift = -0.151 dB
Peak SAR (extrapolated) = 1.46 W/kg
SAR(1 g) = 0.947 mW/g; SAR(10 g) = 0.531 mW/g
Maximum value of SAR (measured) = 1.17 mW/g



0 dB = 1.17mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/15 AM 09:15:21

Flat_WCDMA Band II CH9400_Front Surface to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

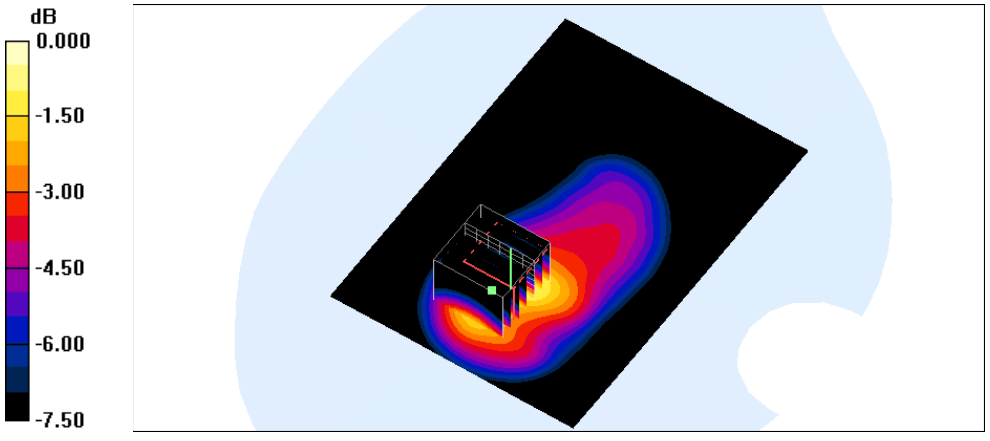
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.48 mho/m; ε_r = 52.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(4.71, 4.71, 4.71); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.783 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 15.6 V/m; Power Drift = -0.047 dB
Peak SAR (extrapolated) = 1.06 W/kg
SAR(1 g) = 0.694 mW/g; SAR(10 g) = 0.405 mW/g
Maximum value of SAR (measured) = 0.836 mW/g



0 dB = 0.836mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/14 PM 08:42:35

Flat_WCDMA Band II CH9400_Back Surface to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

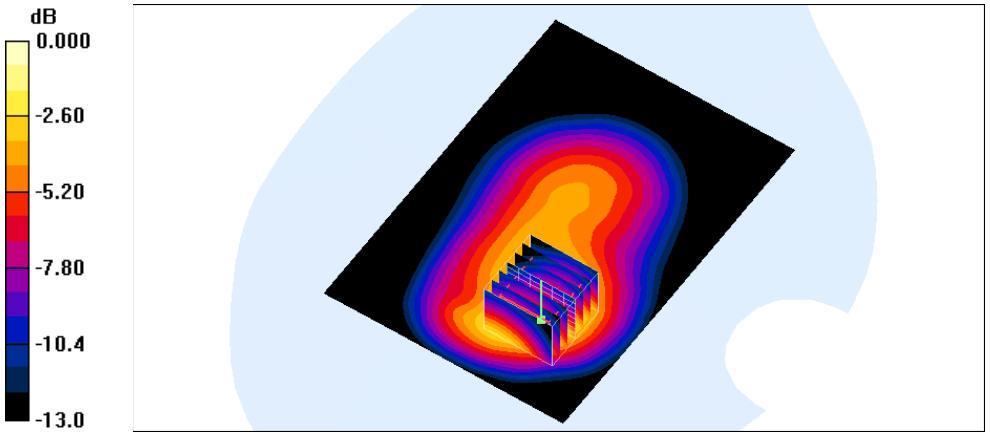
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.48 mho/m; ε_r = 52.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(4.71, 4.71, 4.71); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.43 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 19.8 V/m; Power Drift = -0.008 dB
Peak SAR (extrapolated) = 1.74 W/kg
SAR(1 g) = 1.09 mW/g; SAR(10 g) = 0.609 mW/g
Maximum value of SAR (measured) = 1.38 mW/g



0 dB = 1.38mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/15 AM 09:46:55

Flat_WCDMA Band II CH9400_Edge Right to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

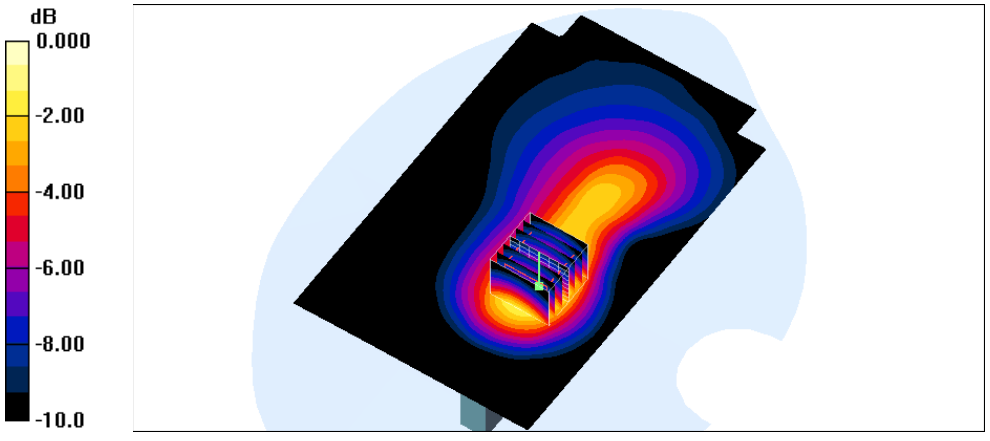
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.48 mho/m; ε_r = 52.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(4.71, 4.71, 4.71); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.314 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 13.9 V/m; Power Drift = -0.008 dB
Peak SAR (extrapolated) = 0.368 W/kg
SAR(1 g) = 0.256 mW/g; SAR(10 g) = 0.156 mW/g
Maximum value of SAR (measured) = 0.308 mW/g



0 dB = 0.308mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/15 AM 10:20:17

Flat_WCDMA Band II CH9400_Edge Left to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

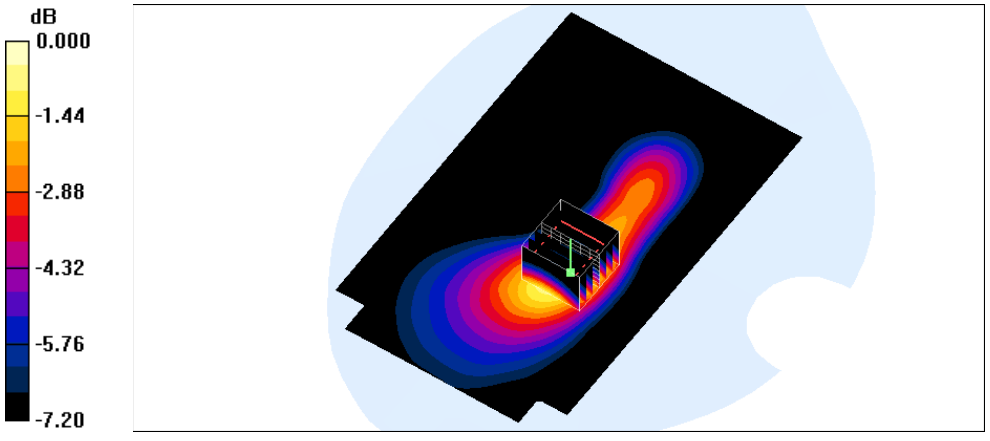
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.48 mho/m; ε_r = 52.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(4.71, 4.71, 4.71); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.244 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 9.41 V/m; Power Drift = -0.024 dB
Peak SAR (extrapolated) = 0.300 W/kg
SAR(1 g) = 0.201 mW/g; SAR(10 g) = 0.122 mW/g
Maximum value of SAR (measured) = 0.243 mW/g



0 dB = 0.243mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/15 AM 10:52:14

Flat_WCDMA Band II CH9400_Edge Bottom to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

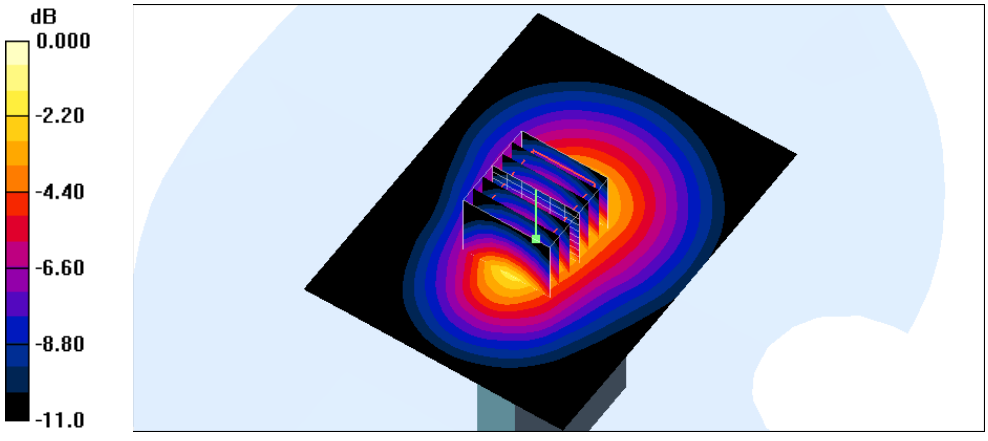
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.48 mho/m; ε_r = 52.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(4.71, 4.71, 4.71); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.799 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 23.7 V/m; Power Drift = -0.011 dB
Peak SAR (extrapolated) = 0.973 W/kg
SAR(1 g) = 0.654 mW/g; SAR(10 g) = 0.381 mW/g
Maximum value of SAR (measured) = 0.802 mW/g



0 dB = 0.802mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/14 PM 09:30:58

Flat_WCDMA Band II CH9538_Back Surface to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

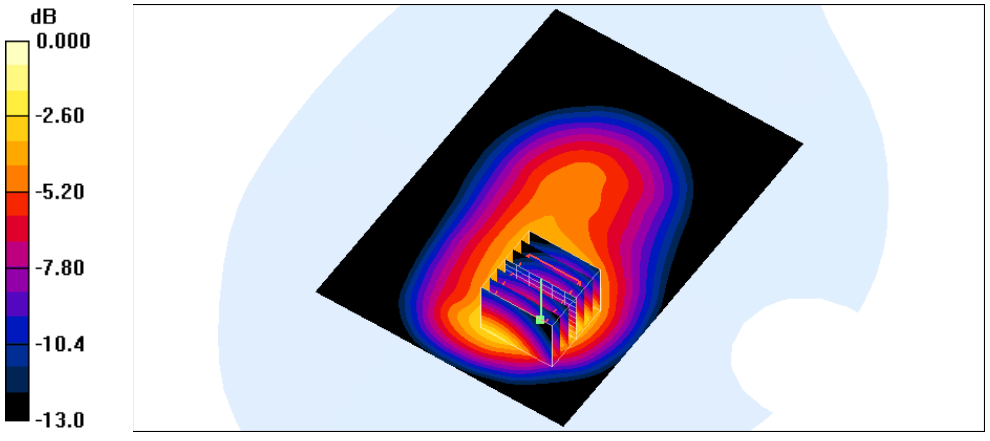
Communication System: WCDMA Band II; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1908 MHz; σ = 1.51 mho/m; ε_r = 52; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(4.71, 4.71, 4.71); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.40 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 18.2 V/m; Power Drift = -0.011 dB
Peak SAR (extrapolated) = 1.63 W/kg
SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.580 mW/g
Maximum value of SAR (measured) = 1.29 mW/g



0 dB = 1.29mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/30 PM 11:22:20

Flat_WCDMA Band V CH4132_Back Surface to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

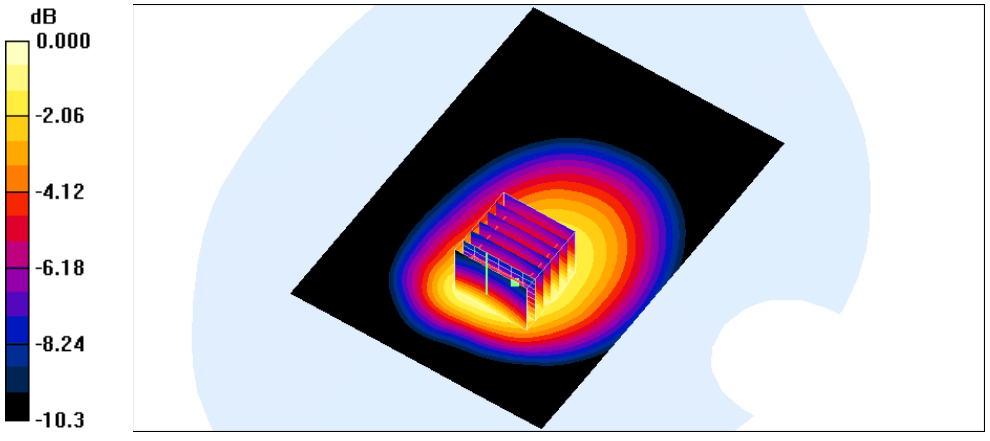
Communication System: WCDMA Band V; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.975 mho/m; ε_r = 54; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.909 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 25.8 V/m; Power Drift = -0.017 dB
Peak SAR (extrapolated) = 1.27 W/kg
SAR(1 g) = 0.805 mW/g; SAR(10 g) = 0.537 mW/g
Maximum value of SAR (measured) = 0.962 mW/g



0 dB = 0.962mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/30 PM 11:47:08

Flat_WCDMA Band V CH4183_Back Surface to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

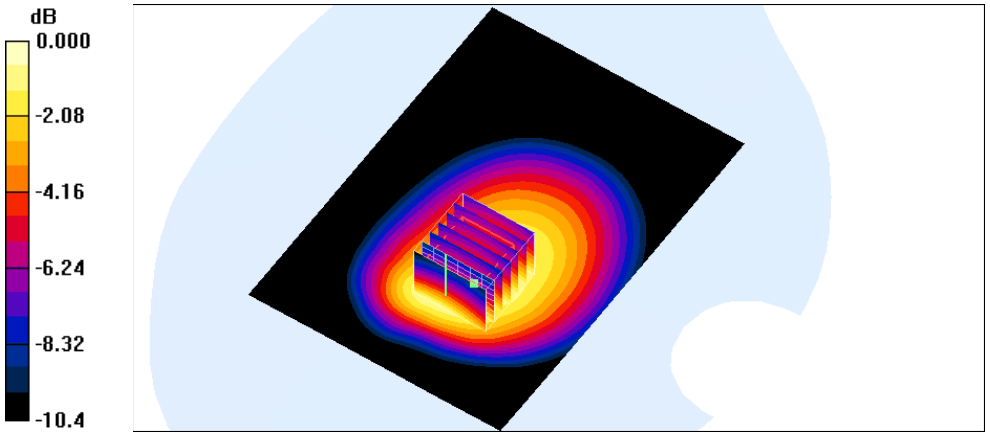
Communication System: WCDMA Band V; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 0.987 mho/m; ε_r = 53.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.822 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 24.5 V/m; Power Drift = -0.018 dB
Peak SAR (extrapolated) = 1.18 W/kg
SAR(1 g) = 0.738 mW/g; SAR(10 g) = 0.489 mW/g
Maximum value of SAR (measured) = 0.886 mW/g



0 dB = 0.886mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/10/1 AM 12:13:22

Flat_WCDMA Band V CH4233_Front Surface to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

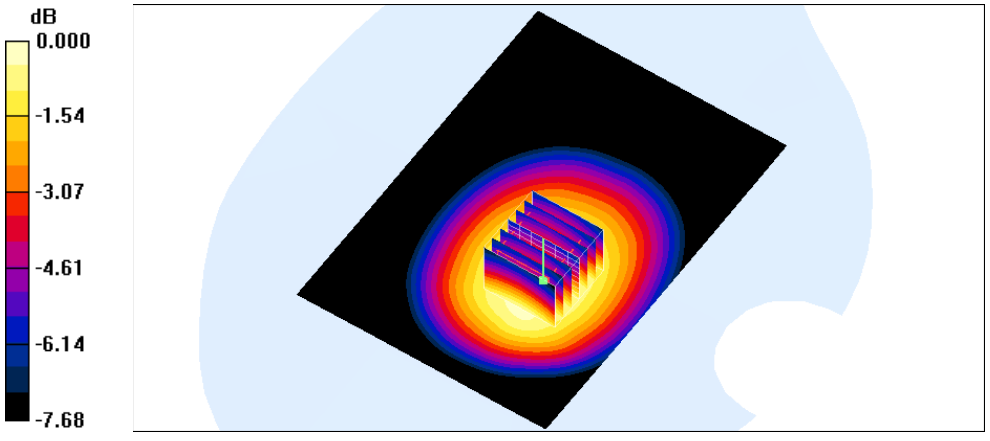
Communication System: WCDMA Band V; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 0.998 mho/m; ε_r = 53.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.581 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 22.0 V/m; Power Drift = 0.006 dB
Peak SAR (extrapolated) = 0.667 W/kg
SAR(1 g) = 0.523 mW/g; SAR(10 g) = 0.385 mW/g
Maximum value of SAR (measured) = 0.581 mW/g



0 dB = 0.581mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/30 PM 10:32:26

Flat_WCDMA Band V CH4233_Back Surface to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

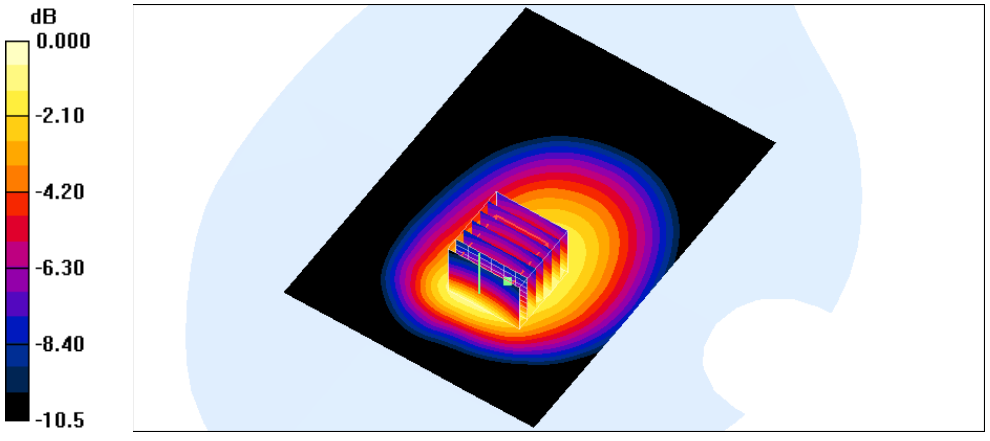
Communication System: WCDMA Band V; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 0.998 mho/m; ε_r = 53.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.17 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 29.1 V/m; Power Drift = -0.047 dB
Peak SAR (extrapolated) = 1.73 W/kg
SAR(1 g) = 1.07 mW/g; SAR(10 g) = 0.705 mW/g
Maximum value of SAR (measured) = 1.29 mW/g



0 dB = 1.29mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/10/1 AM 12:40:22

Flat_WCDMA Band V CH4233_Edge Right to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

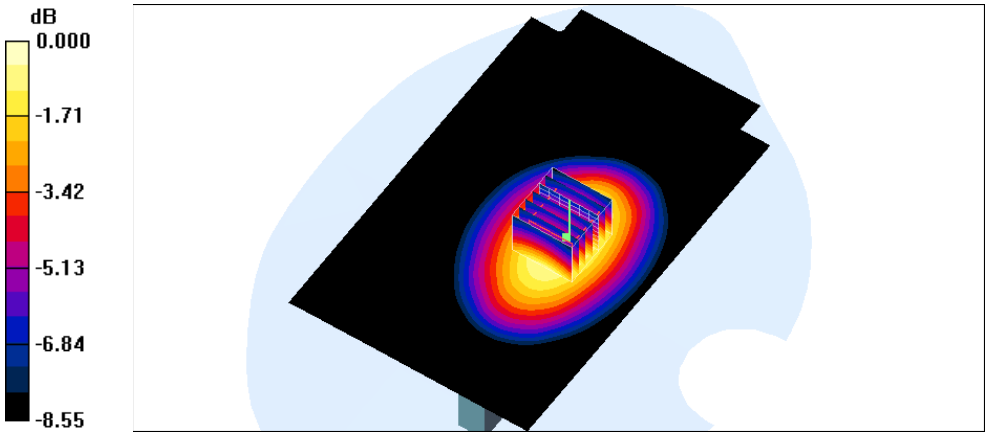
Communication System: WCDMA Band V; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 0.998 mho/m; ε_r = 53.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (81x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.629 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 23.9 V/m; Power Drift = 0.021 dB
Peak SAR (extrapolated) = 0.756 W/kg
SAR(1 g) = 0.546 mW/g; SAR(10 g) = 0.374 mW/g
Maximum value of SAR (measured) = 0.626 mW/g



0 dB = 0.626mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/24 AM 05:47:48

Flat_WCDMA Band V CH4233_Edge Left to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

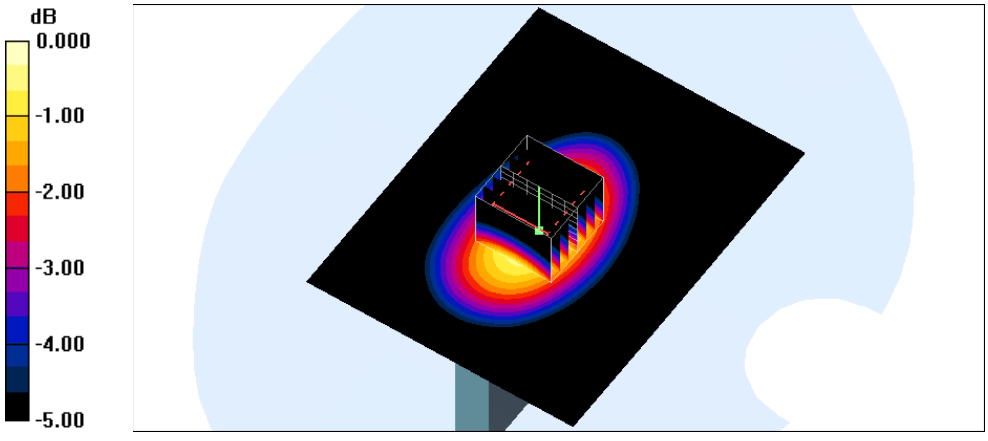
Communication System: WCDMA Band V; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 0.998 mho/m; ε_r = 53.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.443 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 21.0 V/m; Power Drift = 0.014 dB
Peak SAR (extrapolated) = 0.544 W/kg
SAR(1 g) = 0.388 mW/g; SAR(10 g) = 0.263 mW/g
Maximum value of SAR (measured) = 0.448 mW/g



0 dB = 0.448mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/9/24 AM 05:20:34

Flat_WCDMA Band V CH4233_Edge Bottom to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

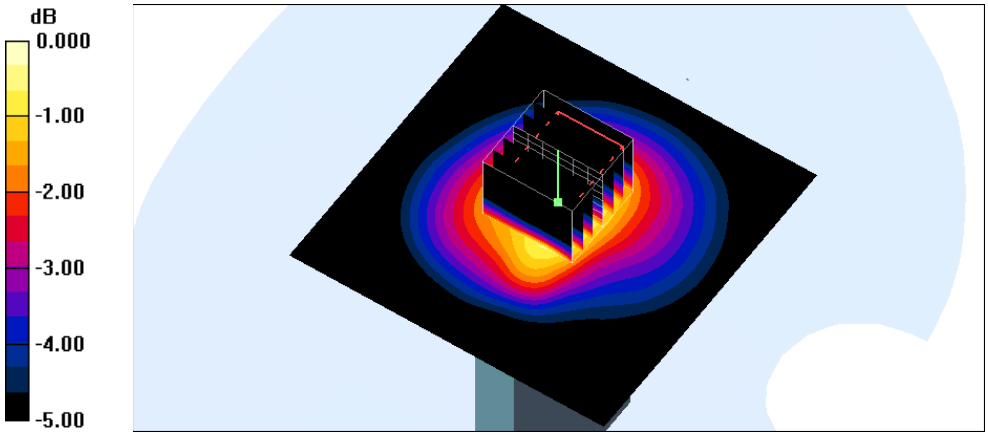
Communication System: WCDMA Band V; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 0.998 mho/m; ε_r = 53.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3150; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/4/14
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x71x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.127 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 11.5 V/m; Power Drift = 0.006 dB
Peak SAR (extrapolated) = 0.229 W/kg
SAR(1 g) = 0.110 mW/g; SAR(10 g) = 0.071 mW/g
Maximum value of SAR (measured) = 0.129 mW/g



0 dB = 0.129mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/10/1 PM 02:29:54

Flat_802.11b CH11_1M_Front Surface to Phantom_10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

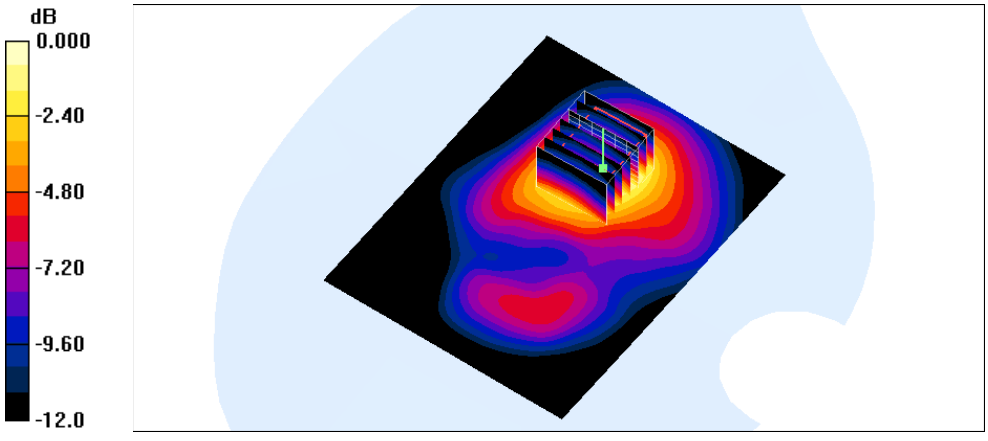
Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; σ = 1.95 mho/m; ε_r = 51.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: EX3DV3 - SN3519; ConvF(8.17, 8.17, 8.17); Calibrated: 2011/2/25
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.126 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 3.55 V/m; Power Drift = 0.127 dB
Peak SAR (extrapolated) = 0.175 W/kg
SAR(1 g) = 0.097 mW/g; SAR(10 g) = 0.055 mW/g
Maximum value of SAR (measured) = 0.117 mW/g



0 dB = 0.117mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/10/1 PM 01:17:24

Flat_802.11b CH11_1M_Back Surface to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

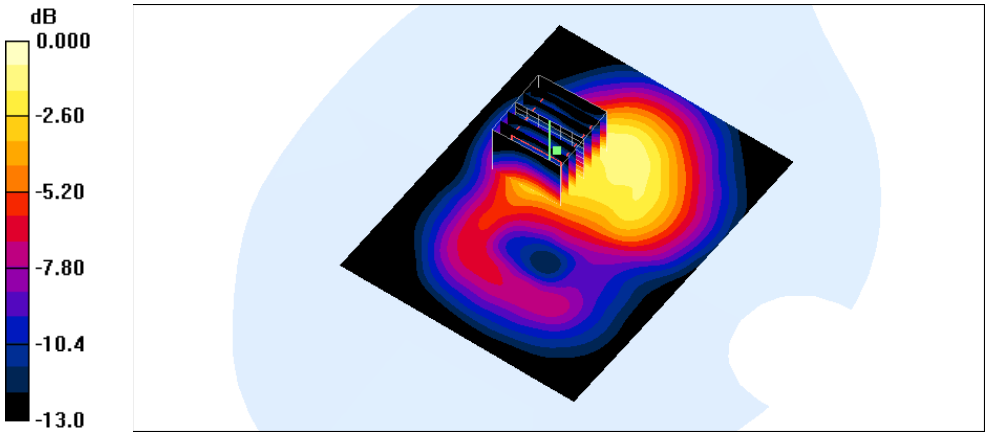
Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; σ = 1.95 mho/m; ε_r = 51.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: EX3DV3 - SN3519; ConvF(8.17, 8.17, 8.17); Calibrated: 2011/2/25
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.211 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 5.49 V/m; Power Drift = 0.065 dB
Peak SAR (extrapolated) = 0.315 W/kg
SAR(1 g) = 0.149 mW/g; SAR(10 g) = 0.073 mW/g
Maximum value of SAR (measured) = 0.188 mW/g



0 dB = 0.188mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/10/1 PM 03:48:18

Flat_802.11b CH11_1M_Edge Right to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

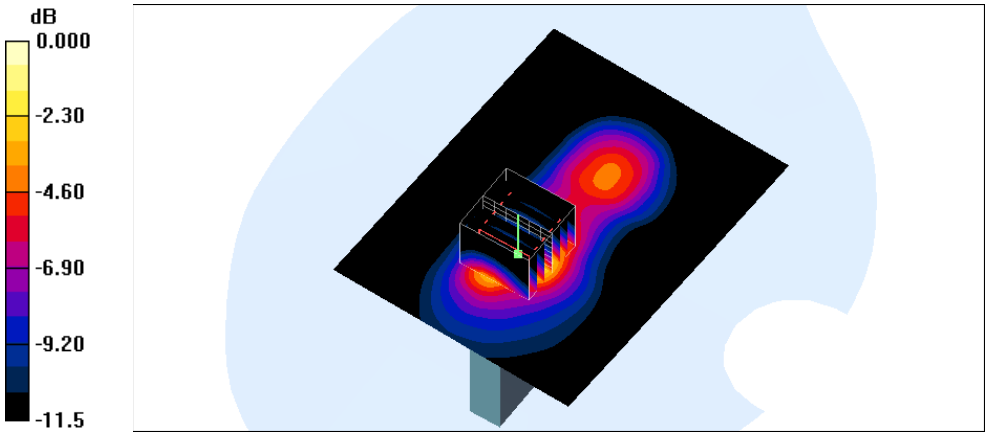
Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; σ = 1.95 mho/m; ε_r = 51.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: EX3DV3 - SN3519; ConvF(8.17, 8.17, 8.17); Calibrated: 2011/2/25
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.163 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 5.29 V/m; Power Drift = 0.022 dB
Peak SAR (extrapolated) = 0.266 W/kg
SAR(1 g) = 0.127 mW/g; SAR(10 g) = 0.060 mW/g
Maximum value of SAR (measured) = 0.166 mW/g



0 dB = 0.166mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2011/10/1 PM 04:37:12

Flat_802.11b CH11_1M_Edge Top to phantom 10mm

DUT: PJ03120; Type: Smartphone; Serial: 358703040010974

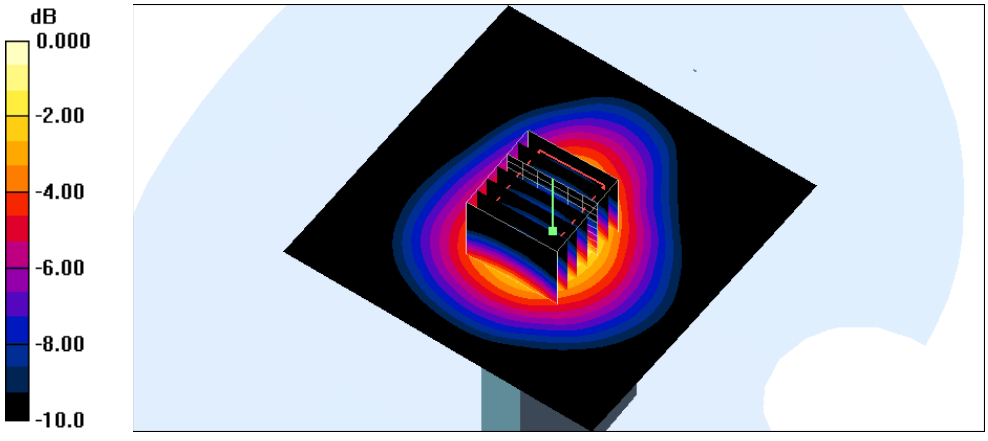
Communication System: IEEE 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; σ = 1.95 mho/m; ε_r = 51.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: EX3DV3 - SN3519; ConvF(8.17, 8.17, 8.17); Calibrated: 2011/2/25
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x71x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.128 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 8.23 V/m; Power Drift = -0.012 dB
Peak SAR (extrapolated) = 0.191 W/kg
SAR(1 g) = 0.105 mW/g; SAR(10 g) = 0.058 mW/g
Maximum value of SAR (measured) = 0.129 mW/g



0 dB = 0.129mW/g