A Test Lab Techno Corp.

Changan Lab：No. 140 -1, Changan Street, Bade City, Taoyuan County, Taiwan R.O.C.

Tel：886-3-271-0188 / Fax：886-3-271-0190

SAR EVALUATION REPORT

Test Report No.	:	1203FS18
Applicant	:	Atelier Haute Communication
Product Type	:	PDA phone
Trade Name	:	TAG Heuer
Model Number	:	TH03M
Dates of Received	:	Mar. 14, 2012
Dates of Test	:	Mar. 19 ~ 23, 2012
Date of Issued	:	Apr. 09, 2012
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]
Max. SAR	:	1.410 W/kg Head SAR
		1.320 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.
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Approved By : Yung-Tan Tsai (Yung Tan Tsai)

Tested By : Bill Hu (Bill Hu)

Contents

1. Description of Equipment under Test (EUT)

Applicant	Atelier Haute Communication	
Applicant Address	11 bis rue Roquépine, 75008 Paris - France	
Manufacture	Atelier Haute Communication	
Manufacture Address	11 bis rue Roquépine, 75008 Paris - France	
Product Type	PDA phone	
Trade Name	TAG Heuer	
Model Number	TH03M	
IMEI No.	359352040045383	
FCC ID	GUOTH03M	
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 / HSUPA Band II WCDMA(RMC 12.2K) / HSDPA / HSUPA Band V IEEE 802.11b / 802.11g / draft 802.11n 2.4GHz Standard-20MHz Bluetooth	
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 / HSUPA Band II	1852.4 - 1907.6
	WCDMA(RMC 12.2K) / HSDPA / HSUPA 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	1.750 / 32.43
	GSM/GPRS/EGPRS 1900	0.904 / 29.56
	WCDMA(RMC 12.2K) / HSDPA / HSUPA Band II	0.208 / 23.18
	WCDMA(RMC 12.2K) / HSDPA / HSUPA Band V	0.223 / 23.48
	IEEE 802.11b	0.012 / 10.88
	IEEE 802.11g	0.029 / 14.68
	draft 802.11n 2.4GHz Standard-20MHz	0.011 / 10.55
	Bluetooth	0.00108 / 0.32
Max. SAR Measurement	1.410 W/kg Head SAR 1.320 W/kg Body SAR	
Antenna Type	Internal 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 **Atelier Haute Communication Trade Name：TAG Heuer Model(s)：TH03M.** 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)

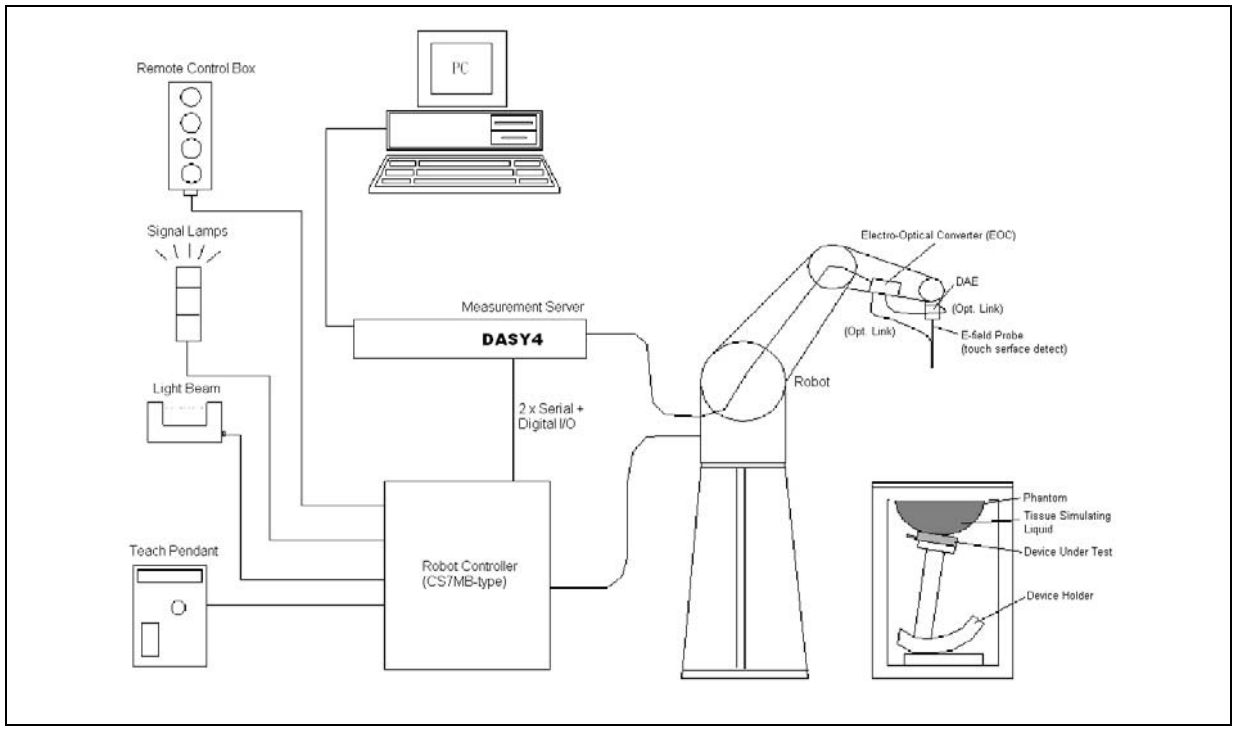
ρ = mass density of the tissue (kg/m^3)

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



The DASY4 system for performing compliance tests consists of the following items:

1. A standard high precision 6-axis robot (Stäubli RX family) with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
2. A dosimetric probe, i.e., an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.
3. A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
4. The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
5. A probe alignment unit which improves the (absolute) accuracy of the probe positioning.
6. A computer operating Windows 2000 or Windows XP.
7. DASY4 software.
8. Remote controls with teach pendant and additional circuitry for robot safety such as warning lamps, etc.
9. The SAM twin phantom enabling testing left-hand and right-hand usage.
10. The device holder for handheld mobile phones.
11. Tissue simulating liquid mixed according to the given recipes.
12. Validation dipole kits allowing validating the proper functioning of the system.

3.1 DASY4 E-Field Probe System

The SAR measurements were conducted with the dosimetric probe ES3DV3 (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 835, 1900 and 2450MHz (accuracy ±8%)
	Calibration for other liquids and frequencies upon request
Frequency	±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: 3.9mm for ES3DV3
	Distance from probe tip to dipole centers: 2.0mm for ES3DV3
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.

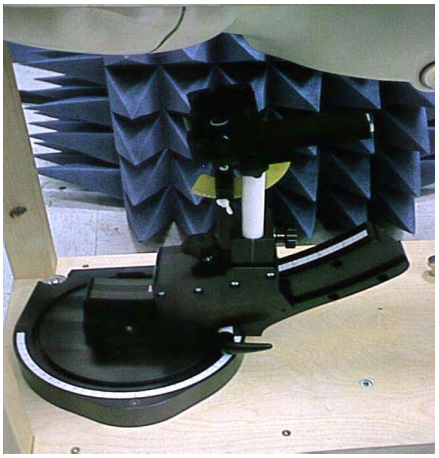


Figure 5. Device Holder

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

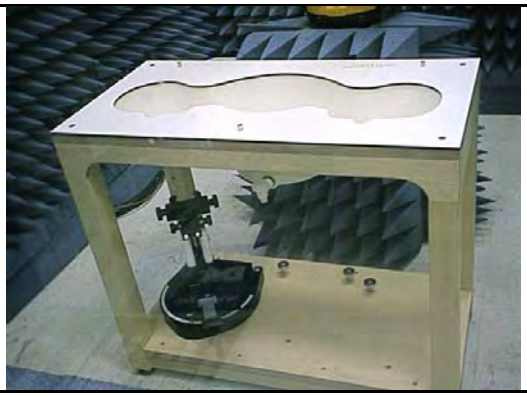


Figure 6. SAM Twin Phantom

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

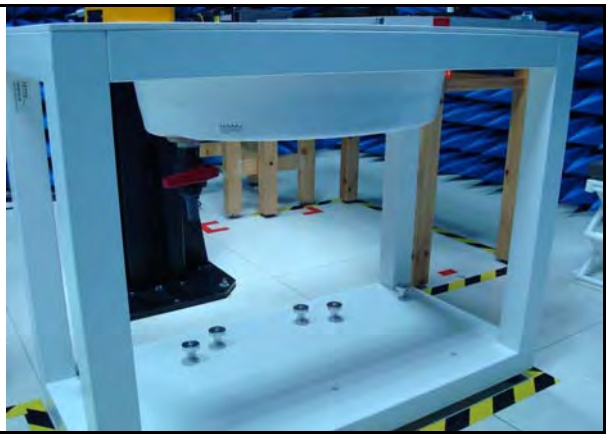


Figure 7. Oval Flat Phantom

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	03/19/2012
			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	
835MHz Head	820MHz	22.0	εr	41.50	43.07	3.78%	± 5	03/22/2012
			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	
835MHz Head	820MHz	22.0	εr	41.50	43.07	3.78 %	± 5	04/09/2012
			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	39.19	-2.03%	± 5	03/20/2012
			σ	1.40	1.34	-4.29%	± 5	
	1900MHz	22.0	εr	40.00	39.03	-2.43%	± 5	
			σ	1.40	1.39	-0.71%	± 5	
	1930MHz	22.0	εr	40.00	38.93	-2.68%	± 5	
			σ	1.40	1.41	0.71%	± 5	
1900MHz Head	1850MHz	22.0	εr	40.00	39.19	-2.03%	± 5	03/21/2012
			σ	1.40	1.34	-4.29%	± 5	
	1900MHz	22.0	εr	40.00	39.03	-2.43%	± 5	
			σ	1.40	1.39	-0.71%	± 5	
	1930MHz	22.0	εr	40.00	38.93	-2.68%	± 5	
			σ	1.40	1.41	0.71%	± 5	

Table 4. Measured Tissue dielectric parameters for head phantoms

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
1900MHz Head	1850MHz	22.0	εr	40.00	39.19	-2.03%	± 5	03/22/2012
			σ	1.40	1.34	-4.29%	± 5	
	1900MHz	22.0	εr	40.00	39.03	-2.43%	± 5	
			σ	1.40	1.39	-0.71%	± 5	
	1930MHz	22.0	εr	40.00	38.93	-2.68%	± 5	
			σ	1.40	1.41	0.71%	± 5	
2450MHz Head	2400MHz	22.0	εr	39.20	39.72	1.33%	± 5	03/21/2012
			σ	1.80	1.76	-2.22%	± 5	
	2450MHz	22.0	εr	39.20	39.49	0.74%	± 5	
			σ	1.80	1.81	0.56%	± 5	
	2500MHz	22.0	εr	39.20	39.40	0.51%	± 5	
			σ	1.80	1.86	3.33%	± 5	
835MHz Body	820MHz	22.0	εr	55.20	53.85	-2.45%	± 5	03/20/2012
			σ	0.97	0.97	0.00%	± 5	
	835MHz	22.0	εr	55.20	53.72	-2.68%	± 5	
			σ	0.97	0.98	1.03%	± 5	
	850MHz	22.0	εr	55.20	53.58	-2.93%	± 5	
			σ	0.97	1.00	3.09%	± 5	
835MHz Body	820MHz	22.0	εr	55.20	53.85	-2.45%	± 5	04/09/2012
			σ	0.97	0.97	0.00%	± 5	
	835MHz	22.0	εr	55.20	53.72	-2.68%	± 5	
			σ	0.97	0.98	1.03%	± 5	
	850MHz	22.0	εr	55.20	53.58	-2.93%	± 5	
			σ	0.97	1.00	3.09%	± 5	
1900MHz Body	1850MHz	22.0	εr	53.30	51.11	-4.11%	± 5	03/20/2012
			σ	1.52	1.46	-3.95%	± 5	
	1900MHz	22.0	εr	53.30	51.05	-4.22%	± 5	
			σ	1.52	1.49	-1.97%	± 5	
	1930MHz	22.0	εr	53.30	50.88	-4.54%	± 5	
			σ	1.52	1.53	0.66%	± 5	

Table 5. Measured Tissue dielectric parameters for head and body phantoms

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	2400MHz	22.0	εr	52.70	52.15	-1.04%	± 5	03/21/2012
			σ	1.95	1.89	-3.08%	± 5	
	2450MHz	22.0	εr	52.70	51.91	-1.50%	± 5	
			σ	1.95	1.96	0.51%	± 5	
	2500MHz	22.0	εr	52.70	51.85	-1.61%	± 5	
			σ	1.95	2.02	3.59%	± 5	

Table 6. Measured Tissue dielectric parameters for body phantoms

4.3.2 Liquid Depth

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

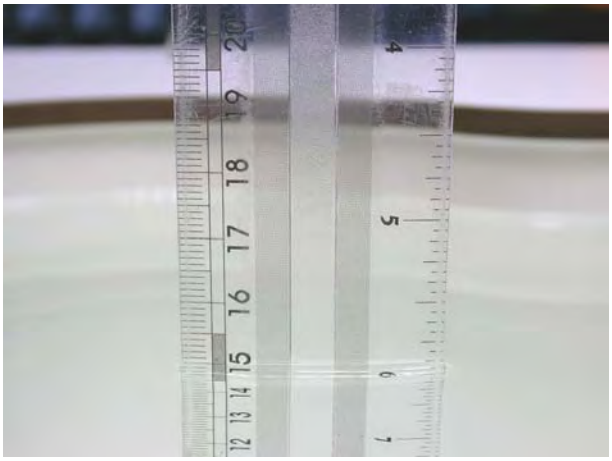


Figure 8. Head-Tissue-Simulating-Liquid

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

HSPA Date Devices setup for SAR Measurement.

The following procedures are applicable to HSPA (HSUPA/HSDPA) data devices operating under 3GPP Release 6. Body exposure conditions generally apply to these devices, including handsets and data modems operating in various electronic devices. HSUPA operates in conjunction with WCDMA and HSDPA. SAR is initially measured in WCDMA test configurations without HSPA. The default test configuration is to establish a radio link between the DUT and a communication test set to configure a 12.2 kbps RMC (reference measurement channel) in Test Loop Mode 1. SAR for HSPA is selectively measured with HS-DPCCH, EDPCCH and E-DPDCH, all enabled, along with a 12.2 kbps RMC using the highest SAR configuration in WCDMA with 12.2 kbps RMC only. An FRC is configured according to HSDPCCH Sub-test 1 using H-set 1 and QPSK. HSPA is configured according to E-DCH Subtest 5 requirements. SAR for other HSPA sub-test configurations is also confirmed selectively according to output power, exposure conditions and E-DCH UE Category. Maximum output power is verified according to procedures in applicable versions of 3GPP TS 34.121 and SAR must be measured according to these maximum output conditions. The UE Categories for HSDPCCH and HSPA should be clearly identified in the SAR report. The following procedures are applicable only if Maximum Power Reduction (MPR) is implemented according to Cubic Metric (CM) requirements.

When voice transmission and head exposure conditions are applicable to a WCDMA/HSPA data device, head exposure is measured according to the 'Head SAR Measurements' procedures in the 'WCDMA Handsets' section of this document. SAR for body exposure configurations are measured according to the 'Body SAR Measurements' procedures in the 'WCDMA Handsets' section of this document. In addition, body SAR is also measured for HSPA when the maximum average output of each RF channel with HSPA active is at least ¼ dB higher than that measured without HSPA using 12.2 kbps RMC or the maximum SAR for 12.2 kbps RMC is above 75% of the SAR limit. Body SAR for HSPA is measured with E-DCH Sub-test 5, using H-Set 1 and QPSK for FRC and a 12.2 kbps RMC configured in Test Loop Mode 1 with power control algorithm 2, according to the highest body SAR configuration in 12.2 kbps RMC without HSPA. When VOIP is applicable for head exposure, SAR is not required when the maximum output of each RF channel with HSPA is less than ¼ dB higher than that measured using 12.2 kbps RMC; otherwise, the same HSPA configuration used for body measurements should be used to test for head exposure.

Due to inner loop power control requirements in HSPA, a commercial communication test set should be used for the output power and SAR tests. The 12.2 kbps RMC, FRC H-set 1 and E-DCH configurations for HSPA should be configured according to the β values indicated below as well as other applicable procedures described in the 'WCDMA Handset' and 'Release 5 HSDPA Data Devices' sections of this document.

The highest body SAR measured in Antenna Extended & Retracted configurations on a channel in 12.2 kbps RMC. The possible channels are the High, Middle & Low channel. Contact the FCC Laboratory for test and approval requirements if the maximum output power measured in E-DCH Sub-test 2 - 4 is higher than Sub-test 5.

Sub-test	βc	βd	βd (SF)	βc/βd	βhs(1)	βec	βed	Bed (SF)	Bed (codes)	CM(2) (dB)	MPR (dB)	AG(4) Index	E-TFCI
1	11/15(3)	15/15(3)	64	11/15(3)	22/15	209/225	1039/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	βed1: 47/15 βed2: 47/15	4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15(4)	15/15(4)	64	15/15(4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81

Note 1: ΔACK, ΔNACK and ΔCQI = 8 ⇔ Ahs = βhs/βc = 30/15 ⇔ βhs= 30/15 *βc.
Note 2: CM = 1 for βc/βd =12/15, βhs/βc=24/15. For all other combinations of DPDCH, DPCCH, HS- DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.
Note 3: For subtest 1 the βc/βd ratio of 11/15 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 = 10/15 and βd = 15/15.
Note 4: For subtest 5 the βc/βd ratio of 15/15 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 = 14/15 and βd = 15/15.
Note 5: Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Table 5.1g.
Note 6: βed can not be set directly; it is set by Absolute Grant Value.

Table 8. Setup for Release 6 HSPA / Release 7 HSPA+

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	Modulation	Mode	CH	Frequency (MHz)	RF Conducted Output Power (dBm)	
					Time Average	Average burst
GSM 850	GMSK	1Down1Up Duty factor 1/8	Lowest	824.2	23.18	32.21
			Middle	836.6	23.30	32.33
			Highest	848.8	23.40	**32.43**
GPRS 850 Multi Class :10 Max Up:2 Max Down:4 Sum:5		4Down1Up Duty factor 1/8	Lowest	824.2	23.18	32.21
			Middle	836.6	23.21	32.24
			Highest	848.8	23.34	32.37
		3Down2Up Duty factor 2/8	Lowest	824.2	26.19	32.21
			Middle	836.6	26.20	32.22
			Highest	848.8	26.23	32.25
EGPRS 850 Multi Class :10 Max Up:2 Max Down:4 Sum:5	8PSK	4Down1Up Duty factor 1/8	Lowest	824.2	18.19	27.22
			Middle	836.6	18.30	27.33
			Highest	848.8	18.40	27.43
		3Down2Up Duty factor 2/8	Lowest	824.2	21.14	27.16
			Middle	836.6	21.21	27.23
			Highest	848.8	21.22	27.24
GSM 1900	GMSK	1Down1Up Duty factor 1/8	Lowest	824.2	20.40	29.43
			Middle	836.6	20.35	29.38
			Highest	848.8	20.53	**29.56**
GPRS 1900 Multi Class :10 Max Up:2 Max Down:4 Sum:5		4Down1Up Duty factor 1/8	Lowest	824.2	20.29	29.32
			Middle	836.6	20.33	29.36
			Highest	848.8	20.40	29.43
		3Down2Up Duty factor 2/8	Lowest	824.2	23.19	29.21
			Middle	836.6	23.25	29.27
			Highest	848.8	23.29	29.31
EGPRS 1900 Multi Class :10 Max Up:2 Max Down:4 Sum:5	8PSK	4Down1Up Duty factor 1/8	Lowest	824.2	16.90	25.93
			Middle	836.6	17.05	26.08
			Highest	848.8	17.13	26.16
		3Down2Up Duty factor 2/8	Lowest	824.2	19.72	25.74
			Middle	836.6	19.80	25.82
			Highest	848.8	19.83	25.85

Note: 1. Time Average power slot duty cycle factor calculate:

1up: Average burst power+10*LOG(1/8)

2up: Average burst power+10*LOG(2/8)

3up: Average burst power+10*LOG(3/8)

4up: Average burst power+10*LOG(4/8)

Band	Modulation	Sub-test	CH	Frequency (MHz)	RF Conducted Output Power (dBm)
					Average
WCDMA Band II	RMC12.2K	---	Lowest	1852.4	23.14
			Middle	1880.0	**23.18**
			Highest	1907.6	23.06
HSDPA Band II	QPSK	1	Lowest	1852.4	22.61
			Middle	1880.0	22.61
			Highest	1907.6	22.64
		2	Lowest	1852.4	22.60
			Middle	1880.0	22.60
			Highest	1907.6	22.63
		3	Lowest	1852.4	22.62
			Middle	1880.0	22.62
			Highest	1907.6	22.62
		4	Lowest	1852.4	22.63
			Middle	1880.0	22.62
			Highest	1907.6	22.63
HSUPA Band II		1	Lowest	1852.4	22.38
			Middle	1880.0	22.40
			Highest	1907.6	22.31
		2	Lowest	1852.4	20.37
			Middle	1880.0	20.38
			Highest	1907.6	20.30
		3	Lowest	1852.4	21.39
			Middle	1880.0	21.39
			Highest	1907.6	21.32
		4	Lowest	1852.4	20.37
			Middle	1880.0	20.38
			Highest	1907.6	20.31
		5	Lowest	1852.4	22.39
			Middle	1880.0	22.39
			Highest	1907.6	22.33

Band	Modulation	Sub-test	CH	Frequency (MHz)	RF Conducted Output Power (dBm)
					Average
WCDMA Band V	RMC12.2K	---	Lowest	826.4	**23.48**
			Middle	836.6	23.38
			Highest	846.4	23.27
HSDPA Band V	QPSK	1	Lowest	826.4	22.97
			Middle	836.6	22.90
			Highest	846.4	22.88
		2	Lowest	826.4	22.97
			Middle	836.6	22.90
			Highest	846.4	22.88
		3	Lowest	826.4	22.98
			Middle	836.6	22.90
			Highest	846.4	22.87
		4	Lowest	826.4	22.99
			Middle	836.6	22.91
			Highest	846.4	22.89
HSUPA Band V		1	Lowest	826.4	22.82
			Middle	836.6	22.72
			Highest	846.4	22.90
		2	Lowest	826.4	20.81
			Middle	836.6	20.70
			Highest	846.4	20.89
		3	Lowest	826.4	21.81
			Middle	836.6	21.71
			Highest	846.4	21.90
		4	Lowest	826.4	20.81
			Middle	836.6	20.73
			Highest	846.4	20.92
		5	Lowest	826.4	22.83
			Middle	836.6	22.72
			Highest	846.4	22.91

Band	Data Rate	CH	Frequency (MHz)	RF Conducted Output Power (dBm)
				Average
IEEE 802.11b	1 M	1	2412.0	**10.88**
		6	2437.0	10.08
		11	2462.0	9.72
	2 M	1	2412.0	10.85
		6	2437.0	10.06
		11	2462.0	9.78
	5.5 M	1	2412.0	10.75
		6	2437.0	10.02
		11	2462.0	9.67
	11 M	1	2412.0	10.71
		6	2437.0	9.95
		11	2462.0	9.52
IEEE 802.11g	6 M	1	2412.0	**14.68**
		6	2437.0	13.93
		11	2462.0	13.41
	9 M	1	2412.0	14.59
		6	2437.0	13.85
		11	2462.0	13.35
	12 M	1	2412.0	14.14
		6	2437.0	13.42
		11	2462.0	12.90
	18 M	1	2412.0	14.08
		6	2437.0	13.32
		11	2462.0	12.81
	24 M	1	2412.0	11.98
		6	2437.0	11.33
		11	2462.0	10.82
	36 M	1	2412.0	11.82
		6	2437.0	11.11
		11	2462.0	10.67
	48 M	1	2412.0	10.29
		6	2437.0	9.60
		11	2462.0	9.16
	54 M	1	2412.0	10.32
		6	2437.0	9.51
		11	2462.0	9.16

Band	Data Rate	CH	Frequency (MHz)	RF Conducted Output Power (dBm)
				Average
Draft 802.11n_HT20	6.5 M	1	2412.0	**10.55**
		6	2437.0	9.78
		11	2462.0	9.39
	13.0 M	1	2412.0	10.48
		6	2437.0	9.67
		11	2462.0	9.31
	19.5 M	1	2412.0	10.30
		6	2437.0	9.59
		11	2462.0	9.23
	26.0 M	1	2412.0	10.13
		6	2437.0	9.44
		11	2462.0	9.04
	39.0 M	1	2412.0	9.95
		6	2437.0	9.29
		11	2462.0	8.89
	52.0 M	1	2412.0	9.80
		6	2437.0	8.99
		11	2462.0	8.67
	58.5 M	1	2412.0	9.75
		6	2437.0	8.95
		11	2462.0	8.54
	65.0 M	1	2412.0	9.35
		6	2437.0	8.50
		11	2462.0	8.21

5.4 Simultaneous Transmitting Evaluate

RF Conducted Power		
Band	dBm	W
GSM/GPRS/EGPRS 850	26.23	0.420
GSM/GPRS/EGPRS 1900	23.29	0.213
WCDMA/HSDPA/HSUPA Band II	23.18	0.208
WCDMA/HSDPA/HSUPA Band V	23.48	0.223
Wi-Fi 802.11b	10.88	0.012
Wi-Fi 802.11g	14.68	0.029
Wi-Fi 802.11n	10.55	0.011
Bluetooth	0.32	0.001

Antenna Distance	
Antenna Account	Distance (cm)
BT to WLAN	0
BT to WWAN (License)	7.355
WLAN to WWAN (License)	7.355

BT and WWAN and WLAN simultaneously SAR Description

(1) Antenna Distance

1a.BT & WWAN 7.355 cm

1b.BT & WLAN 0 cm

(2) WWAN/BT – with antenna separation distance greater than 5cm – BT power is less than 2Pref, then simultaneous SAR of WWAN /BT is not required.

(3) WLAN/BT – Use the same antenna, then antenna separation distance greater than <2.5cm

Max sum of BT and WLAN is 0.07+0.049 =0.119 <1.6mW/g, therefore Simultaneous SAR is not required.

(4) WLAN/WWAN – with antenna separation distance greater than > 5cm

WLAN and WWAN can not be used at the same time.

(5) GSM850/GSM1900/WCDMA Band V/WCDMA Band II/802.11b/g/BT

Stand-alone SAR is required due to routine evaluation requirements.

(6) Highest Simultaneous SAR Evaluation:

Body SAR：∑SAR = Wifi 802.11b+ BT = 0.119 mW/g < SAR limit: 1.6mW/g

Therefore, the Simultaneous SAR is not required.

Note:

1. Simultaneous Transmitting Summary, please find the table 8 as below.
2. Simultaneous Transmission Summation of SAR, please find the table 9 as below.

2.1 The hot-spot function is unsupported for the device.

Table 9. Simultaneous Transmitting Summary

Simultaneous Transmitting	802.11b	802.11g	802.11n	Bluetooth
GSM/GPRS/EGPRS 850				V
GSM/GPRS/EGPRS 1900				V
WCDMA/HSDPA/HSUPA Band V				V
WCDMA/HSDPA/HSUPA Band II				V
Bluetooth	V	V	V	

Table 10.

Back surface					
The sum of the 1-g SAR					
Simult Tx	Configuration	WLAN SAR mW/g	BT SAR mW/g	∑ SAR mW/g	∑ SAR
Body SAR	Flat	0.070	0.049	0.119	<1.6

Front surface					
The sum of the 1-g SAR					
Simult Tx	Configuration	WLAN SAR mW/g	BT SAR mW/g	∑ SAR mW/g	∑ SAR
Body SAR	Flat	0.031	0.010	0.041	<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

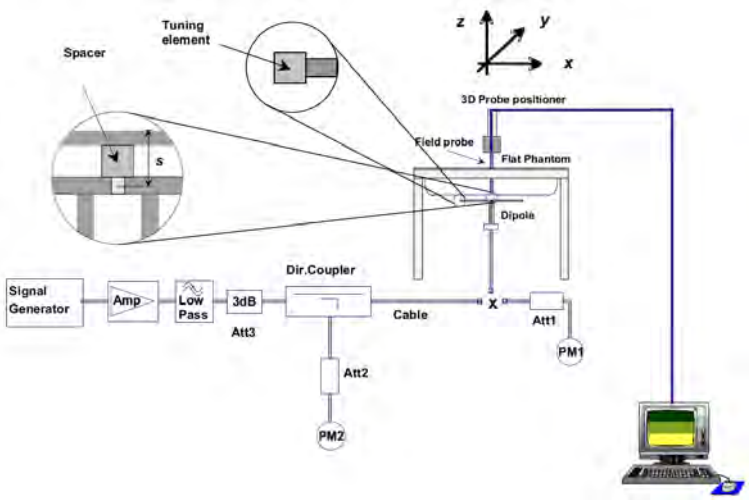


Figure 10. System Verification Setup Diagram

Figure 11. Validation Kit

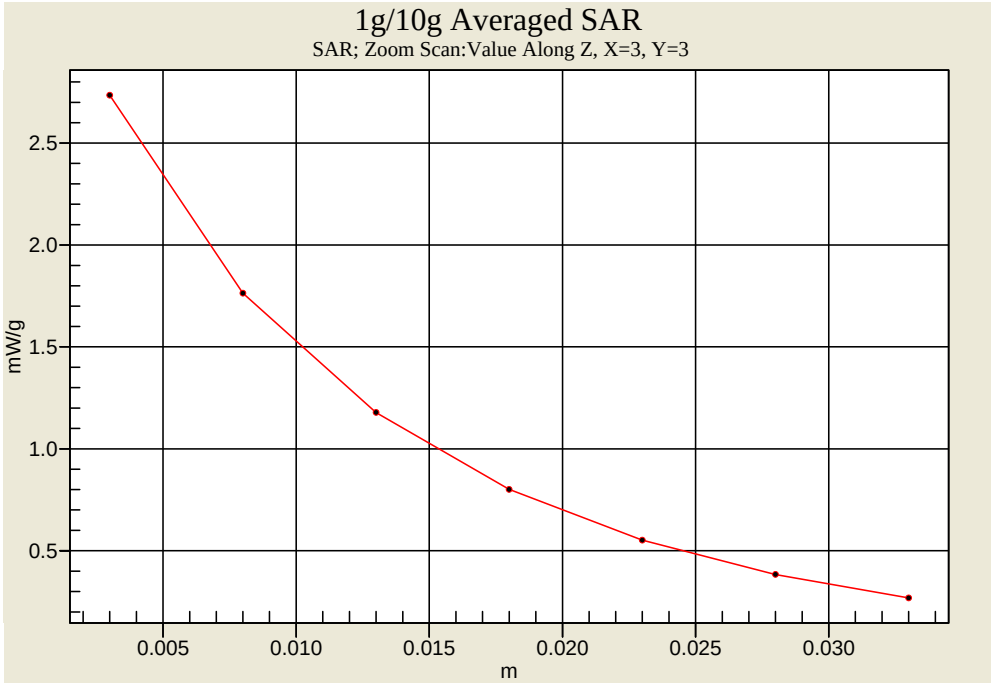
6.2 Validation

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.

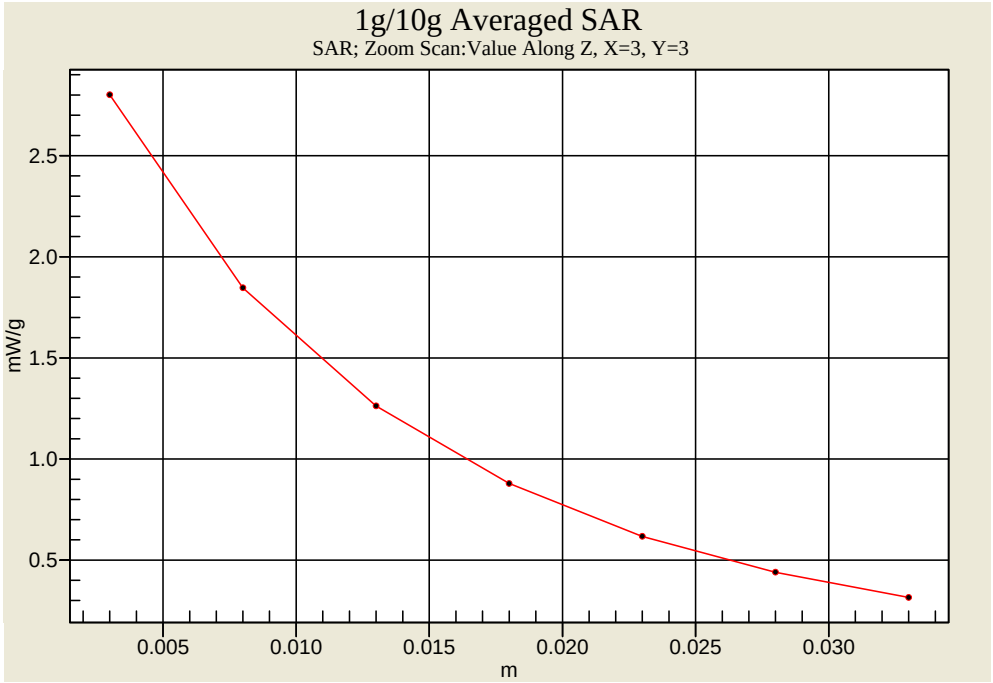
Validation kit		Mixture Type	SAR_{1g} [mW/g]		SAR_{10g} [mW/g]		Date of Calibration
D835V2-SN4d082		Head	9.25		6.07		07/19/2011
D1900V2-SN5d111		Head	39.90		20.80		07/22/2011
D2450V2-SN712		Head	53.50		24.80		02/23/2012
Frequency (MHz)	Power (dBm)	SAR_{1g} (mW/g)	SAR_{10g} (mW/g)	Drift (dB)	Difference percentage		Date
					1g	10g	
835 (Head)	250mW	2.32	1.49	0.001	0.3 %	-1.8 %	03/19/2012
	Normalize to 1 Watt	9.28	5.96				
835 (Head)	250mW	2.39	1.56	0.042	3.4 %	2.8 %	03/22/2012
	Normalize to 1 Watt	9.56	6.24				
835 (Head)	250mW	2.35	1.53	-0.013	1.6 %	0.8 %	04/09/2012
	Normalize to 1 Watt	9.40	6.12				
1900 (Head)	250mW	10.4	5.43	-0.047	4.3 %	4.4 %	03/20/2012
	Normalize to 1 Watt	41.6	21.72				
1900 (Head)	250mW	9.83	5.14	0.005	-1.5 %	-1.2 %	03/21/2012
	Normalize to 1 Watt	39.32	20.56				
1900 (Head)	250mW	10.1	5.29	-0.001	1.3 %	1.7 %	03/22/2012
	Normalize to 1 Watt	40.4	21.16				
2450 (Head)	250mW	13	5.96	0.025	-2.8 %	-3.9 %	03/21/2012
	Normalize to 1 Watt	52	23.84				

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	40.90		21.50		07/22/2011
D2450V2-SN712		Body	49.90		23.60		02/23/2012
Frequency (MHz)	Power (dBm)	SAR_{1g} (mW/g)	SAR_{10g} (mW/g)	Drift (dB)	Difference percentage		Date
					1g	10g	
835 (Body)	250mW	2.34	1.53	-0.046	-0.7 %	-1.6 %	03/20/2012
	Normalize to 1 Watt	9.36	6.12				
835 (Body)	250mW	2.40	1.57	0.012	1.8 %	1.0 %	04/09/2012
	Normalize to 1 Watt	9.60	6.28				
1900 (Body)	250mW	10.6	5.64	0.005	3.7 %	4.9 %	03/20/2012
	Normalize to 1 Watt	42.4	22.56				
2450 (Body)	250mW	12.7	5.78	0.014	1.8 %	-2.0 %	03/21/2012
	Normalize to 1 Watt	50.8	23.12				

Z-axis Plot of System Performance Check

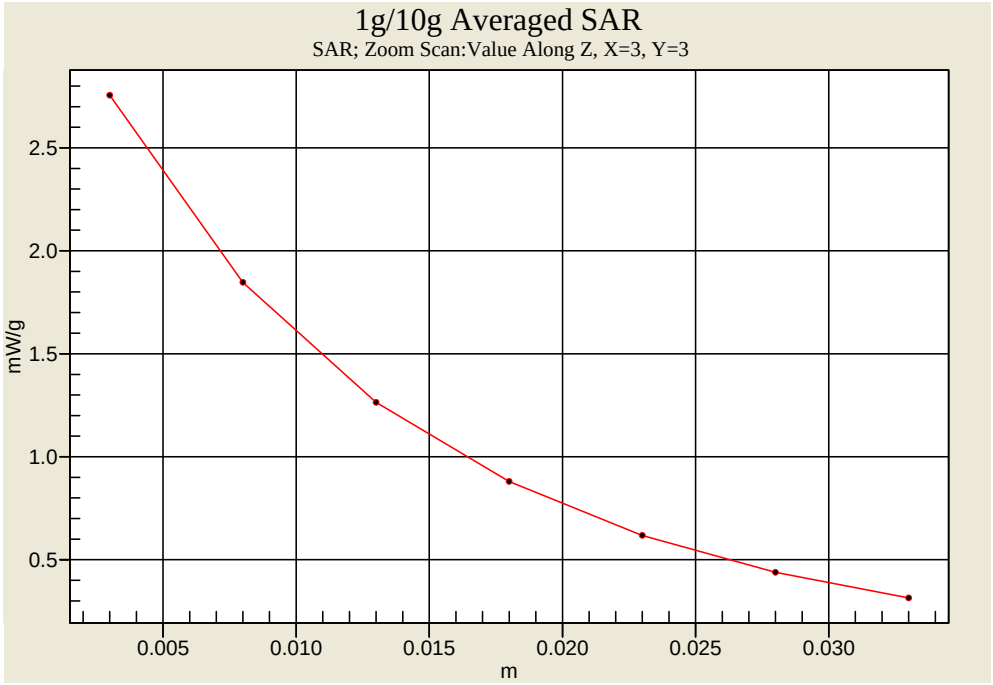


Head-Tissue-Simulating-Liquid 835MHz (03/19/2012)

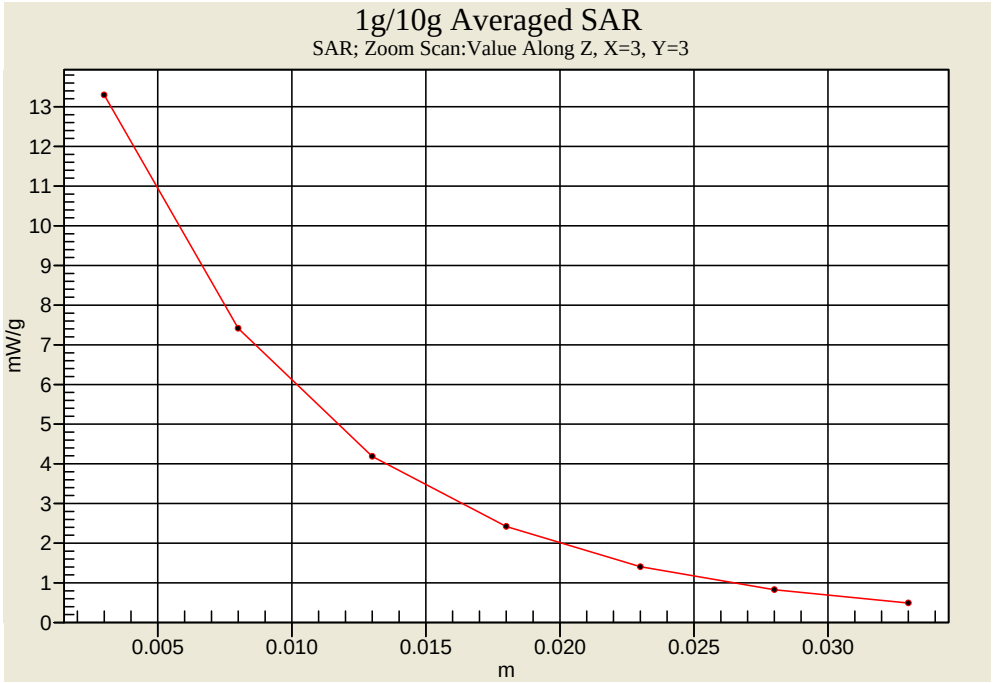


Head-Tissue-Simulating-Liquid 835MHz (03/22/2012)

Z-axis Plot of System Performance Check

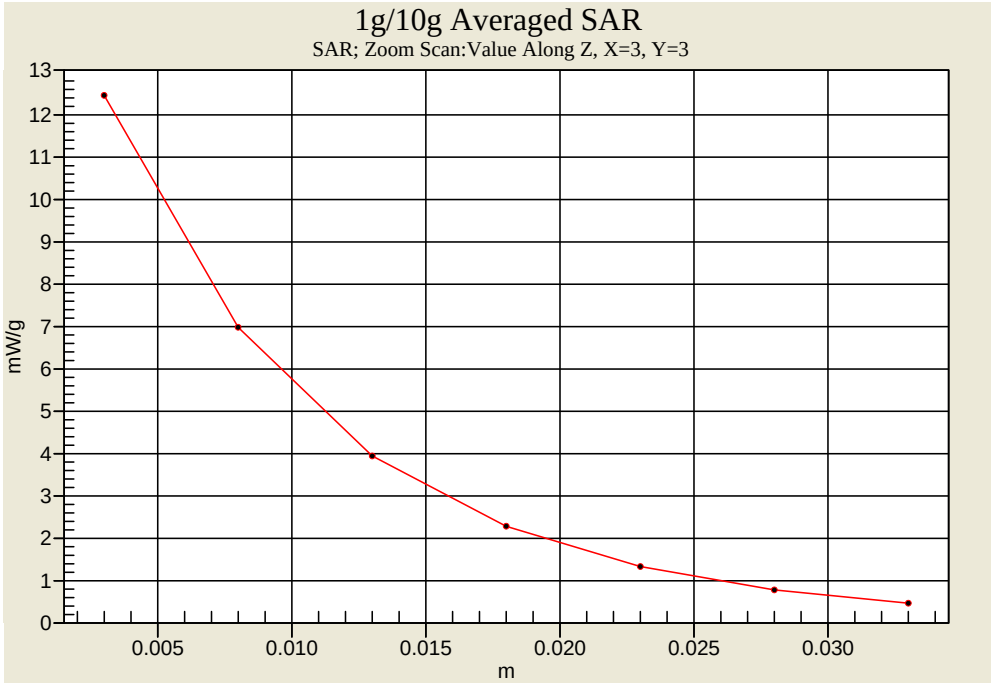


Head-Tissue-Simulating-Liquid 835MHz (04/09/2012)

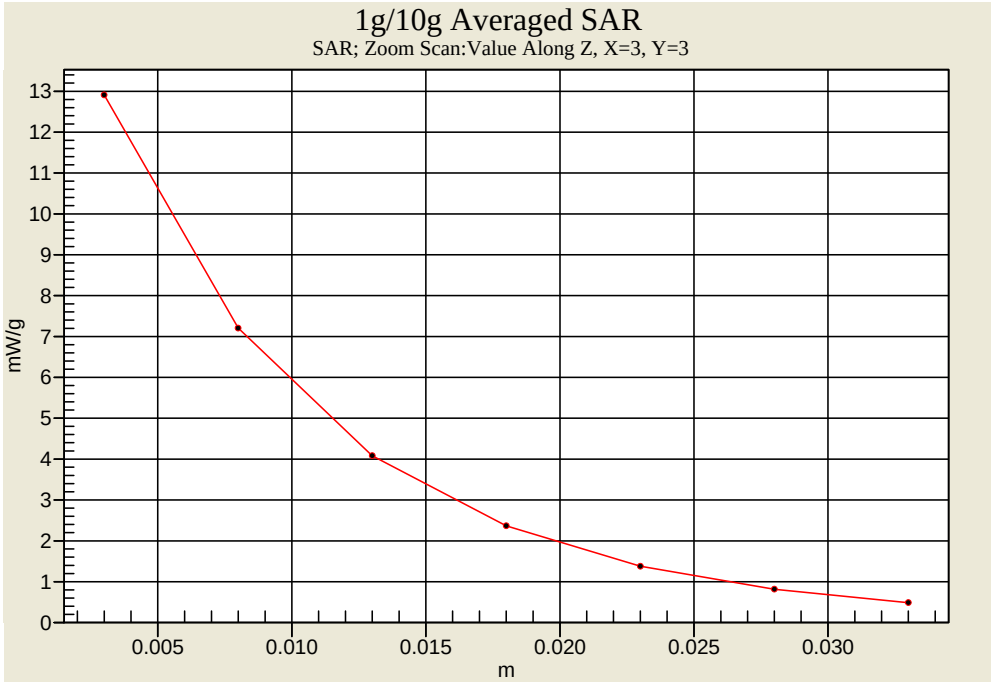


Head-Tissue-Simulating-Liquid 1900MHz (03/20/2012)

Z-axis Plot of System Performance Check

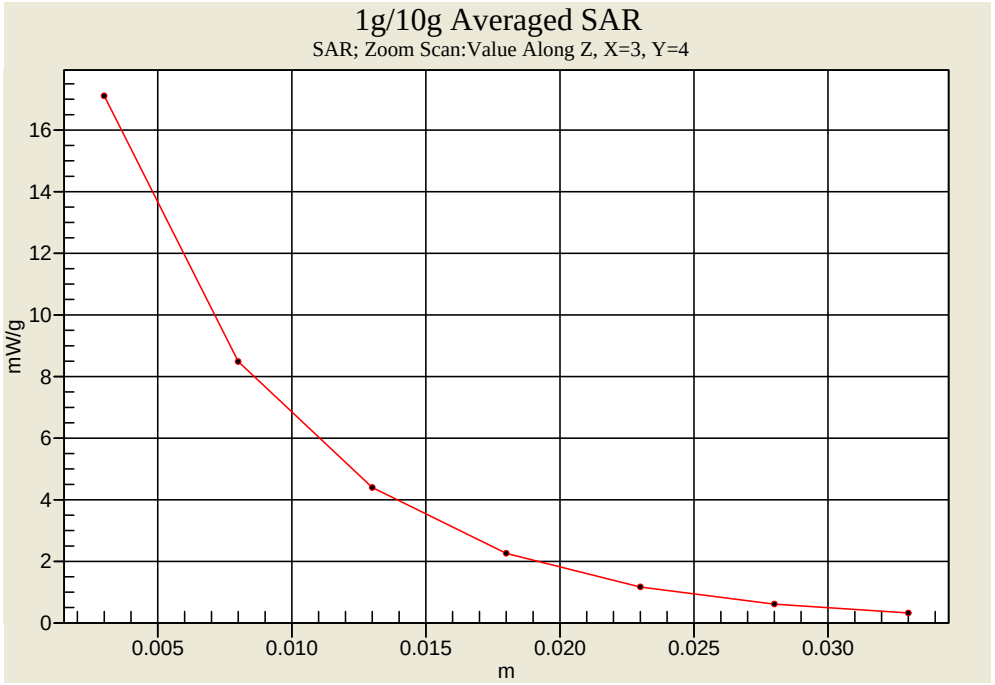


Head-Tissue-Simulating-Liquid 1900MHz (03/21/2012)

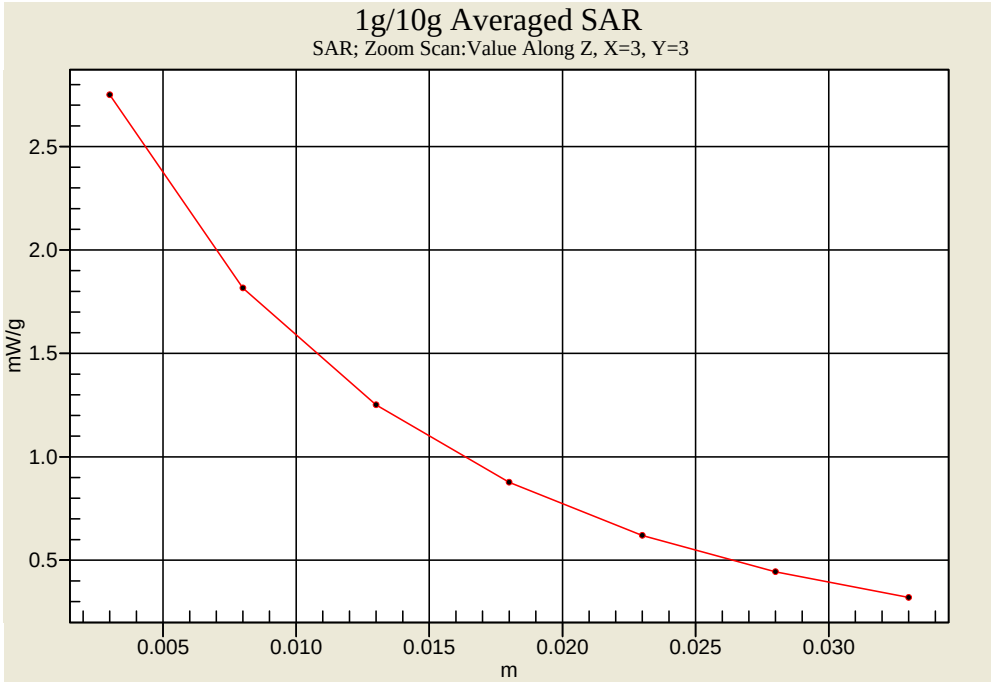


Head-Tissue-Simulating-Liquid 1900MHz (03/22/2012)

Z-axis Plot of System Performance Check

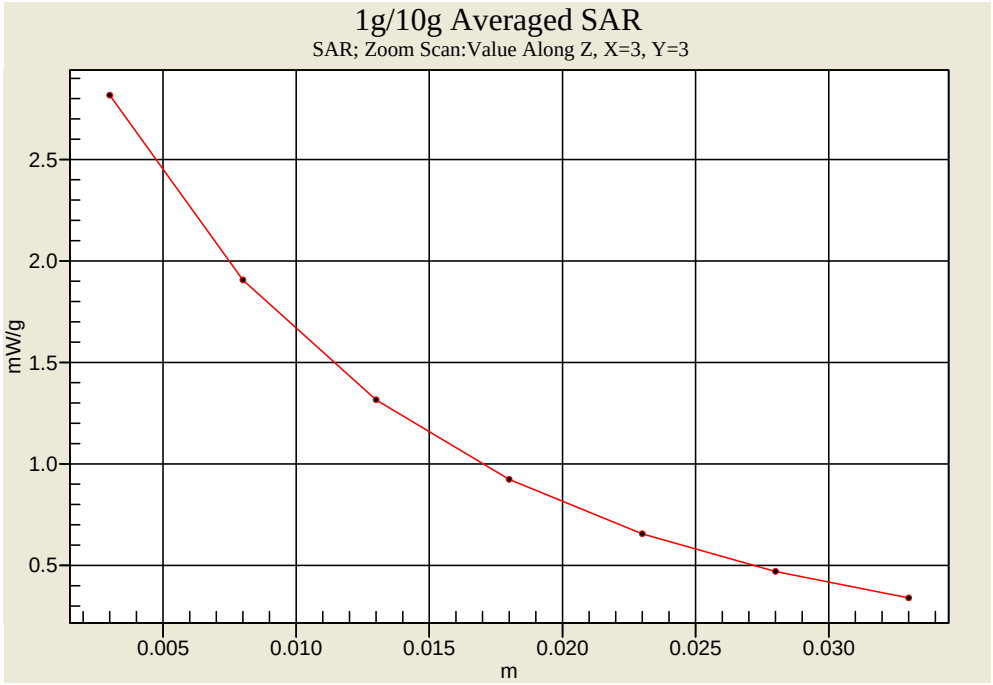


Head-Tissue-Simulating-Liquid 2450MHz

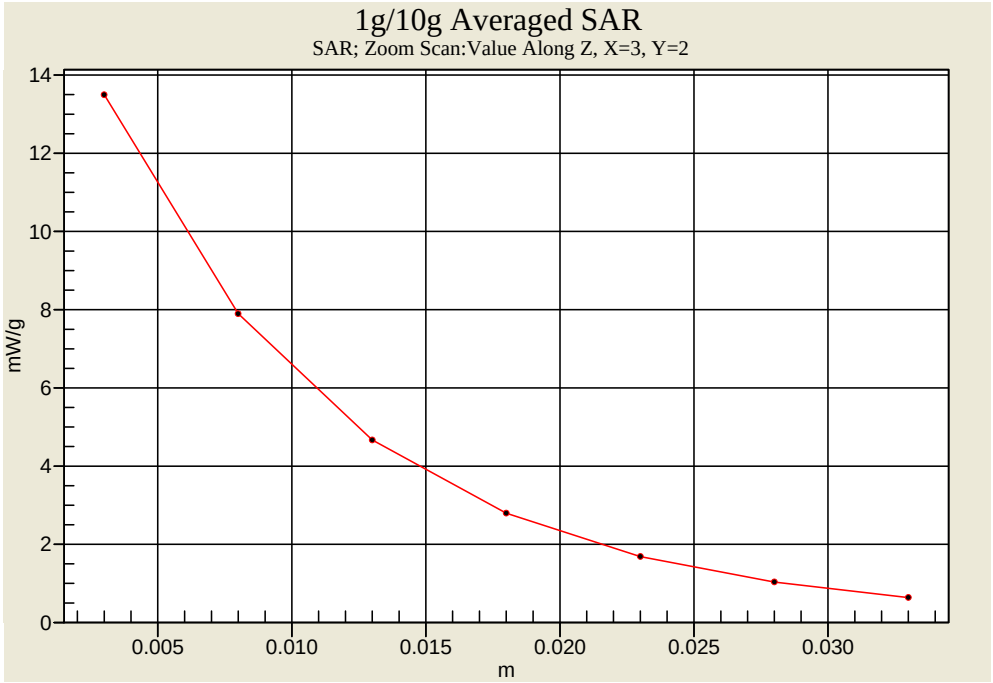


Body-Tissue-Simulating-Liquid 835MHz (03/20/2012)

Z-axis Plot of System Performance Check

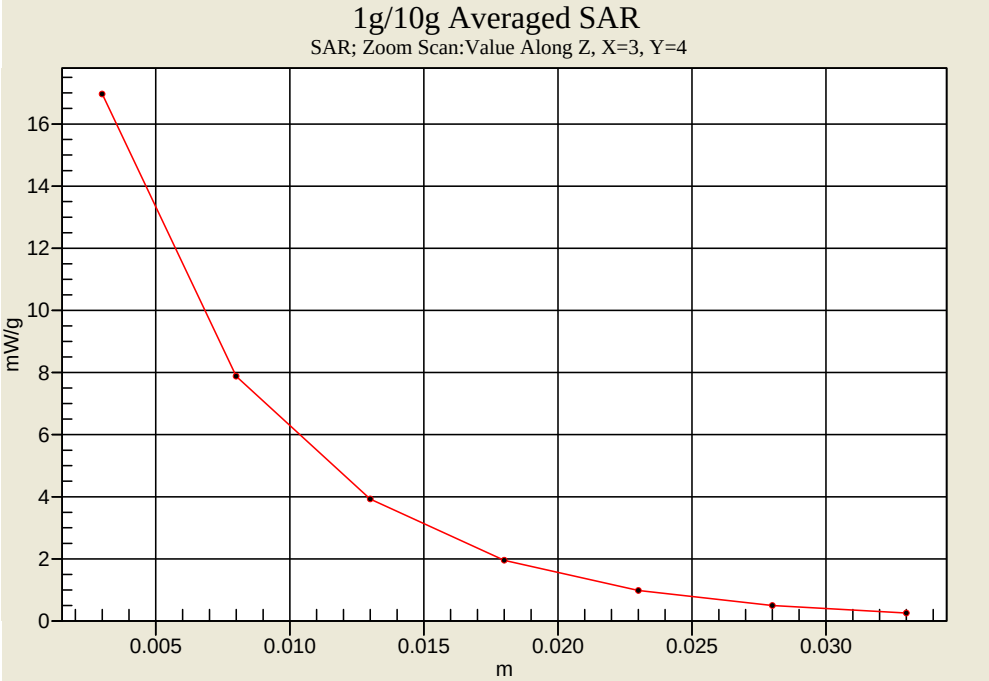


Body-Tissue-Simulating-Liquid 835MHz (04/09/2012)



Body-Tissue-Simulating-Liquid 1900MHz

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	3270	09/12/2011	09/12/2012
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	02/23/2012	02/23/2013
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:1009	NCR	
SPEAG	Robot	Staubli RX90L	F00/589B1/A/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	05/24/2011	05/24/2013
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 11. 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 ±19.62 %〔8〕. The frequency range of the measurement uncertainty is 750 ~ 5800MHz ±10.1 %

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.

Item	Uncertainty Component	Uncertainty Value	Prob. Dist	Div.	c_i (1g)	c_i (10g)	Std. Unc. (1-g)	Std. Unc. (10-g)	v_i or V_{eff}
Measurement System									
u1	Probe Calibration (k=1)	±5.05%	Normal	1	1	1	±5.05%	±5.05%	∞
u2	Probe Isotropy	±7.6%	Rectangular	$\sqrt{3}$	0.7	0.7	±3.1%	±3.1%	∞
u3	Boundary Effect	±1.0%	Rectangular	$\sqrt{3}$	1	1	±0.6%	±0.6%	∞
u4	Linearity	±4.7%	Rectangular	$\sqrt{3}$	1	1	±2.7%	±2.7%	∞
u5	System Detection Limit	±1.0%	Rectangular	$\sqrt{3}$	1	1	±0.58%	±0.58%	∞
u6	Readout Electronics	±0.3%	Normal	1	1	1	±0.3%	±0.3%	∞
u7	Response Time	±0.8%	Rectangular	$\sqrt{3}$	1	1	±0.5%	±0.5%	∞
u8	Integration Time	±2.6%	Rectangular	$\sqrt{3}$	1	1	±1.5%	±1.5%	∞
u9	RF Ambient Conditions	±0%	Rectangular	$\sqrt{3}$	1	1	±0%	±0%	∞
u10	RF Ambient Reflections	±0%	Rectangular	$\sqrt{3}$	1	1	±0%	±0%	∞
u11	Probe Positioner Mechanical Tolerance	±0.4%	Rectangular	$\sqrt{3}$	1	1	±0.2%	±0.2%	∞
u12	Probe Positioning with respect to Phantom Shell	±2.9%	Rectangular	$\sqrt{3}$	1	1	±1.7%	±1.7%	∞
u13	Extrapolation, interpolation and integration Algorithms for Max. SAR Evaluation	±1.0%	Rectangular	$\sqrt{3}$	1	1	±0.6%	±0.6%	∞
Test sample Related									
u14	Test sample Positioning	±3.6%	Normal	1	1	1	±3.6%	±3.6%	89
u15	Device Holder Uncertainty	±3.5%	Normal	1	1	1	±3.5%	±3.5%	5
u16	Output Power Variation - SAR drift measurement	±5.0%	Rectangular	$\sqrt{3}$	1	1	±2.9%	±2.9%	∞
Phantom and Tissue Parameters									
u17	Phantom Uncertainty (shape and thickness tolerances)	±4.0%	Rectangular	$\sqrt{3}$	1	1	±2.3%	±2.3%	∞
u18	Liquid Conductivity - deviation from target values	±5.0%	Rectangular	$\sqrt{3}$	0.64	0.43	±1.8%	±1.2%	∞
u19	Liquid Conductivity - measurement uncertainty	±1.93%	Normal	1	0.64	0.43	±1.24%	±0.83%	69
u20	Liquid Permittivity - deviation from target values	±5.0%	Rectangular	$\sqrt{3}$	0.6	0.49	±1.7%	±1.4%	∞
u21	Liquid Permittivity - measurement uncertainty	±1.4%	Normal	1	0.6	0.49	±0.84%	±1.69%	69
Combined standard uncertainty			RSS				±9.81%	±9.62%	313
Expanded uncertainty (95% CONFIDENCE LEVEL)			k=2				±19.62%	±19.24%	

Table 12. Uncertainty Budget of DASY

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. For above 4.5 GHz, area scan step size X: 10, Y: 10. For below 4.5 GHz, area scan step size X: 15 or 10, Y: 15 or 10. 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 4, 4 and 2.5 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 5, 5 and 3 mm or 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 1Down1Up	251	848.8	32.43	Right-cheek	0	**0.765**	0.024	---
	251	848.8	32.43	Right-Tilted	0	0.419	0.054	---
	251	848.8	32.43	Left-cheek	0	0.705	-0.022	---
	251	848.8	32.43	Left-Tilted	0	0.364	0.013	---
GPRS 850 3Down2Up	128	824.2	32.21	Right-cheek	0	1.040	-0.007	---
	190	836.6	32.22	Right-cheek	0	1.210	-0.065	---
	251	848.8	32.25	Right-cheek	0	1.350	-0.024	---
	251	848.8	32.25	Right-Tilted	0	0.764	-0.035	---
	128	824.2	32.21	Left-cheek	0	1.090	0.088	---
	190	836.6	32.22	Left-cheek	0	1.260	-0.018	---
	251	848.8	32.25	Left-cheek	0	**1.410**	-0.045	---
	251	848.8	32.25	Left-Tilted	0	0.658	-0.043	---
GSM 1900 1Down1Up	810	1909.8	29.56	Right-cheek	0	**0.400**	0.093	---
	810	1909.8	29.56	Right-Tilted	0	0.083	0.048	---
	810	1909.8	29.56	Left-cheek	0	0.242	-0.126	---
	810	1909.8	29.56	Left-Tilted	0	0.106	0.006	---
GPRS 1900 3Down2Up	810	1909.8	29.31	Right-cheek	0	**0.601**	0.131	---
	810	1909.8	29.31	Right-Tilted	0	0.137	-0.002	---
	810	1909.8	29.31	Left-cheek	0	0.543	0.094	---
	810	1909.8	29.31	Left-Tilted	0	0.141	-0.014	---
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)	SAR_{1g} [mW/g]	Power Drift (dB)	Remark
	CH	MHz						
WCDMA Band II	9262	1852.4	23.14	Right-cheek	0	**1.240**	-0.047	---
	9400	1880.0	23.18	Right-cheek	0	0.830	-0.167	---
	9538	1907.6	23.06	Right-cheek	0	0.679	-0.040	---
	9400	1880.0	23.18	Right-Tilted	0	0.222	0.008	---
	9400	1880.0	23.18	Left-cheek	0	0.611	0.082	---
	9400	1880.0	23.18	Left-Tilted	0	0.168	0.090	---
HSDPA Band II Sub-Test_1	9262	1852.4	22.61	Right-cheek	0	**1.180**	0.191	---
	9400	1880.0	22.61	Right-cheek	0	1.020	0.058	---
	9538	1907.6	22.64	Right-cheek	0	0.855	-0.082	---
	9538	1907.6	22.64	Right-Tilted	0	0.159	0.036	---
	9538	1907.6	22.64	Left-cheek	0	0.450	0.120	---
	9538	1907.6	22.64	Left-Tilted	0	0.133	0.044	---
HSUPA Band II Sub-Test_1	9262	1852.4	22.38	Right-cheek	0	**1.220**	-0.027	---
	9400	1880.0	22.40	Right-cheek	0	1.010	0.090	---
	9538	1907.6	22.31	Right-cheek	0	0.856	0.058	---
	9400	1880.0	22.40	Right-Tilted	0	0.156	0.003	---
	9400	1880.0	22.40	Left-cheek	0	0.683	0.079	---
	9400	1880.0	22.40	Left-Tilted	0	0.114	-0.186	---
WCDMA Band V	4132	826.4	23.48	Right-cheek	0	0.694	0.009	---
	4132	826.4	23.48	Right-Tilted	0	0.393	0.008	---
	4132	826.4	23.48	Left-cheek	0	**0.702**	0.037	---
	4132	826.4	23.48	Left-Tilted	0	0.358	-0.014	---
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)	SAR_{1g} [mW/g]	Power Drift (dB)	Remark
	CH	MHz						
IEEE 802.11b Rate 1M	1	2412.0	15.23	Right-cheek	0	**0.057**	-0.094	---
	1	2412.0	15.23	Right-Tilted	0	0.043	0.193	---
	1	2412.0	15.23	Left-cheek	0	0.029	0.050	---
	1	2412.0	15.23	Left-Tilted	0	0.023	0.189	---
IEEE 802.11g Rate 6M	1	2412.0	10.63	Right-cheek	0	**0.127**	0.097	---
	1	2412.0	10.63	Right-Tilted	0	0.082	0.022	---
	1	2412.0	10.63	Left-cheek	0	0.073	-0.038	---
	1	2412.0	10.63	Left-Tilted	0	0.059	-0.099	---
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							
GPRS 850 3Down2Up	128	824.2	32.21	Flat	15	N/A	0.836	-0.055	Front Surface to Phantom
	128	824.2	32.21	Flat	15	N/A	1.110	-0.050	Back Surface to Phantom
	190	836.6	32.22	Flat	15	N/A	0.932	0.011	Front Surface to Phantom
	190	836.6	32.22	Flat	15	N/A	**1.320**	0.058	Back Surface to Phantom
	251	848.8	32.25	Flat	15	N/A	0.925	-0.001	Front Surface to Phantom
	251	848.8	32.25	Flat	15	N/A	1.300	0.004	Back Surface to Phantom
GPRS 1900 3Down2Up	810	1909.8	29.31	Flat	15	N/A	0.194	0.011	Front Surface to Phantom
	810	1909.8	29.31	Flat	15	N/A	**0.415**	-0.132	Back Surface to Phantom
WCDMA Band II	9400	1880.0	23.18	Flat	15	N/A	0.312	-0.018	Front Surface to Phantom
	9400	1880.0	23.18	Flat	15	N/A	**0.401**	-0.026	Back Surface to Phantom
WCDMA Band V	4132	826.4	23.48	Flat	15	N/A	0.517	-0.008	Front Surface to Phantom
	4132	826.4	23.48	Flat	15	N/A	**0.659**	-0.017	Back Surface to Phantom
IEEE 802.11b Rate 1M	1	2412.0	15.23	Flat	15	N/A	0.012	-0.023	Front Surface to Phantom
	1	2412.0	15.23	Flat	15	N/A	**0.029**	0.195	Back Surface to Phantom
IEEE 802.11g Rate 6M	1	2412.0	10.63	Flat	15	N/A	0.031	0.009	Front Surface to Phantom
	1	2412.0	10.63	Flat	15	N/A	**0.070**	0.037	Back Surface to Phantom
Bluetooth	0	2402.0	0.32	Flat	0	N/A	0.00964	0.096	Front Surface to Phantom
	0	2402.0	0.32	Flat	0	N/A	0.04600	-0.187	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			

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. 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.
6. The conducted power of 802.11g are higher than 802.11b 0.25dB, 802.11g to be tested.

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 13. 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 **Atelier Haute Communication Trade Name：TAG Heuer Model(s)：TH03M** 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 Ant v01r05

[13] KDB 941225 D01 SAR Test for 3G Devices 3G-SAR

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

[15] KDB 941225 D04 SAR for GSM E GPRS Dual Xfer Mode v01

[16] KDB 941225 D06 Hot Spot SAR v01

Appendix A - System Performance Check

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/19 AM 11:02:05

System Performance Check at 835MHz_20120319_Head

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

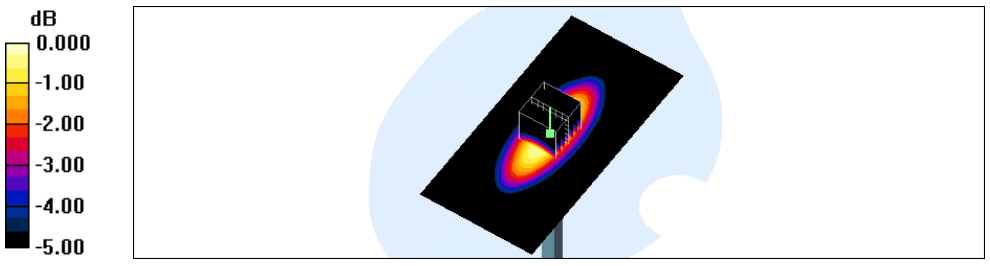
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.896 mho/m; ε_r = 42.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 2011/9/12
- 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) = 2.74 mW/g

System Performance Check at 835MHz/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 56.4 V/m; Power Drift = 0.001 dB
Peak SAR (extrapolated) = 3.62 W/kg
SAR(1 g) = 2.32 mW/g; SAR(10 g) = 1.49 mW/g
Maximum value of SAR (measured) = 2.73 mW/g



0 dB = 2.73mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/22 PM 05:05:46

System Performance Check at 835MHz_20120322_Head

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

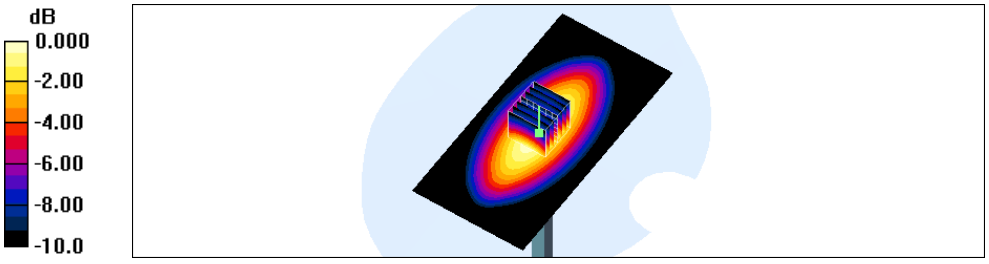
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.896 mho/m; ε_r = 42.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 2011/9/12
- 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 = 56.6 V/m; Power Drift = 0.042 dB
Peak SAR (extrapolated) = 3.68 W/kg
SAR(1 g) = 2.39 mW/g; SAR(10 g) = 1.56 mW/g
Maximum value of SAR (measured) = 2.80 mW/g



0 dB = 2.80mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/4/9 PM 01:54:16

System Performance Check at 835MHz_20120409_Head

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

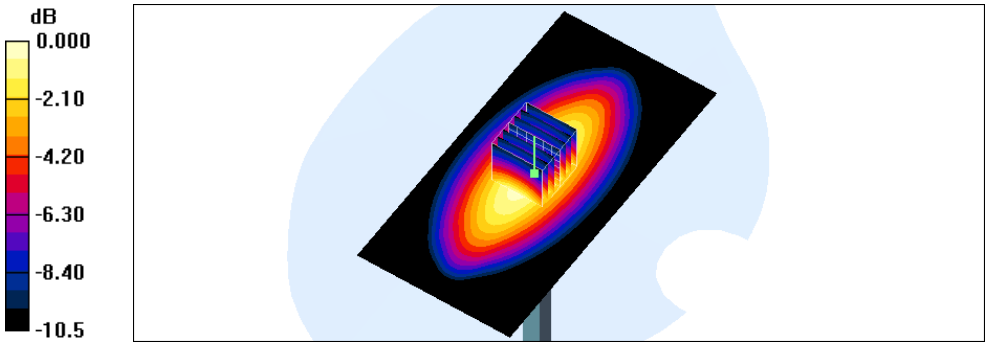
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.896 mho/m; ε_r = 42.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 2011/9/12
- 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) = 2.73 mW/g

System Performance Check at 835MHz/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 56.4 V/m; Power Drift = -0.013 dB
Peak SAR (extrapolated) = 3.51 W/kg
SAR(1 g) = 2.35 mW/g; SAR(10 g) = 1.53 mW/g
Maximum value of SAR (measured) = 2.76 mW/g



0 dB = 2.76mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/20 AM 05:44:32

System Performance Check at 1900MHz_20120320_Head

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

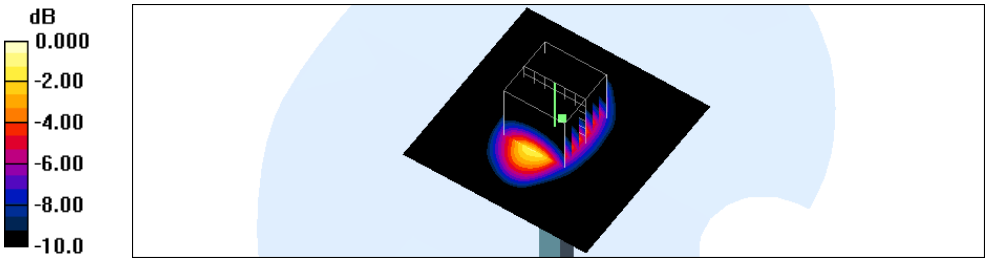
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.39 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 2011/9/12
- 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) = 13.5 mW/g

System Performance Check at 1900MHz/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 99.9 V/m; Power Drift = -0.047 dB
Peak SAR (extrapolated) = 18.8 W/kg
SAR(1 g) = 10.4 mW/g; SAR(10 g) = 5.43 mW/g
Maximum value of SAR (measured) = 13.3 mW/g



0 dB = 13.3mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/21 PM 04:59:39

System Performance Check at 1900MHz_20120321_Head

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

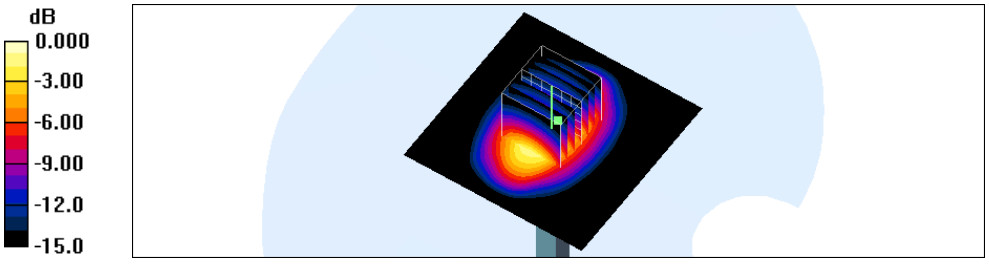
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.39 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 2011/9/12
- 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) = 12.9 mW/g

System Performance Check at 1900MHz/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 97.7 V/m; Power Drift = 0.005 dB
Peak SAR (extrapolated) = 17.6 W/kg
SAR(1 g) = 9.83 mW/g; SAR(10 g) = 5.14 mW/g
Maximum value of SAR (measured) = 12.5 mW/g



0 dB = 12.5mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/22 PM 10:39:13

System Performance Check at 1900MHz_20120322_Head

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

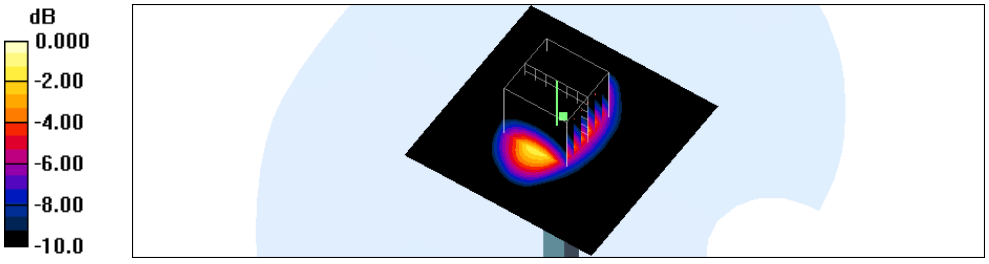
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.39 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 2011/9/12
- 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) = 13.4 mW/g

System Performance Check at 1900MHz/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 98.0 V/m; Power Drift = -0.001 dB
Peak SAR (extrapolated) = 18.3 W/kg
SAR(1 g) = 10.1 mW/g; SAR(10 g) = 5.29 mW/g
Maximum value of SAR (measured) = 12.9 mW/g



0 dB = 12.9mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/21 AM 03:49:54

System Performance Check at 2450MHz_20120321_Head

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

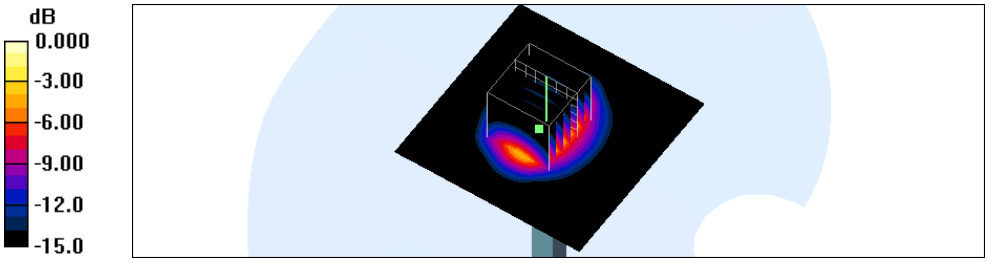
Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.81 mho/m; ε_r = 39.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(4.52, 4.52, 4.52); Calibrated: 2011/9/12
- 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) = 17.3 mW/g

System Performance Check at 2450MHz/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 98.3 V/m; Power Drift = 0.025 dB
Peak SAR (extrapolated) = 27.2 W/kg
SAR(1 g) = 13 mW/g; SAR(10 g) = 5.96 mW/g
Maximum value of SAR (measured) = 17.1 mW/g



0 dB = 17.1mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/20 PM 10:30:16

System Performance Check at 835MHz_20120320_Body

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

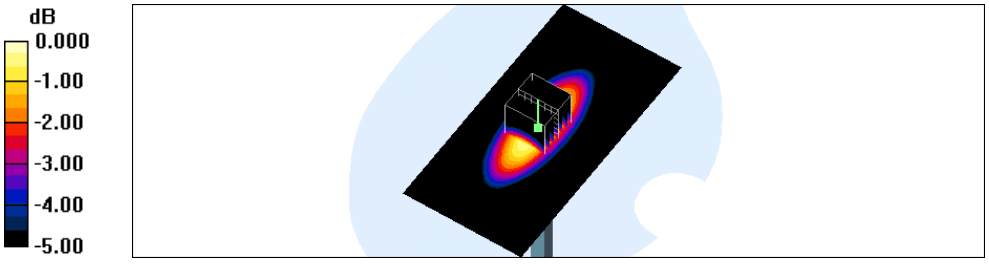
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.985 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3270; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/9/12
- 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 = 53.5 V/m; Power Drift = -0.046 dB
Peak SAR (extrapolated) = 3.60 W/kg
SAR(1 g) = 2.34 mW/g; SAR(10 g) = 1.53 mW/g
Maximum value of SAR (measured) = 2.75 mW/g



0 dB = 2.75mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/4/9 AM 11:49:32

System Performance Check at 835MHz_20120409_Body

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

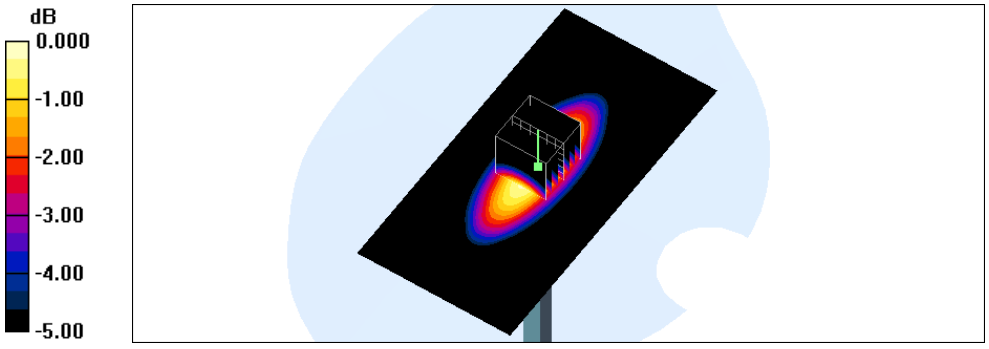
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.985 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3270; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/9/12
- 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) = 2.81 mW/g

System Performance Check at 835MHz/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 54.3 V/m; Power Drift = 0.012 dB
Peak SAR (extrapolated) = 3.56 W/kg
SAR(1 g) = 2.4 mW/g; SAR(10 g) = 1.57 mW/g
Maximum value of SAR (measured) = 2.82 mW/g



0 dB = 2.82mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/20 PM 05:02:54

System Performance Check at 1900MHz_20120320_Body

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

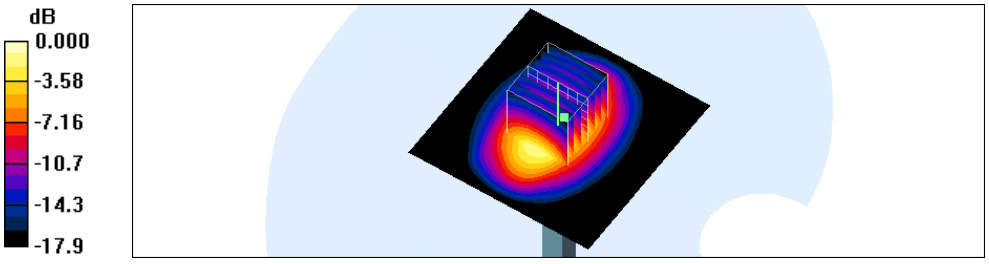
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.49 mho/m; ε_r = 51.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(4.64, 4.64, 4.64); Calibrated: 2011/9/12
- 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 = 95.9 V/m; Power Drift = 0.005 dB
Peak SAR (extrapolated) = 18.5 W/kg
SAR(1 g) = 10.6 mW/g; SAR(10 g) = 5.64 mW/g
Maximum value of SAR (measured) = 13.5 mW/g



0 dB = 13.5mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/21 AM 11:16:49

System Performance Check at 2450MHz_20120321_Body

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

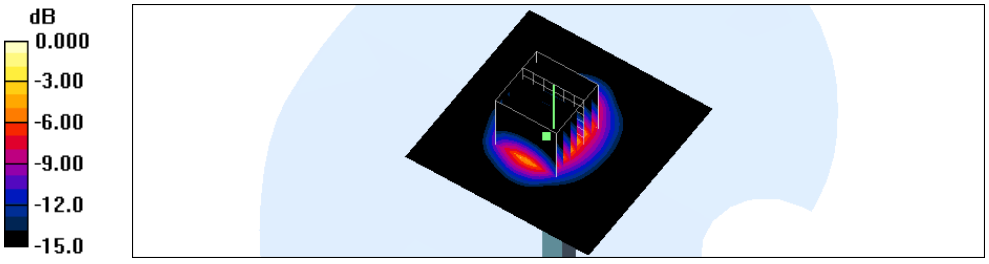
Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.96 mho/m; ε_r = 51.9; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(4.28, 4.28, 4.28); Calibrated: 2011/9/12
- 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) = 17.5 mW/g

System Performance Check at 2450MHz/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 91.4 V/m; Power Drift = 0.014 dB
Peak SAR (extrapolated) = 28.3 W/kg
SAR(1 g) = 12.7 mW/g; SAR(10 g) = 5.78 mW/g
Maximum value of SAR (measured) = 17.0 mW/g



0 dB = 17.0mW/g

Appendix B - SAR Measurement Data

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/22 PM 06:41:17

RC_GSM 850 CH251

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

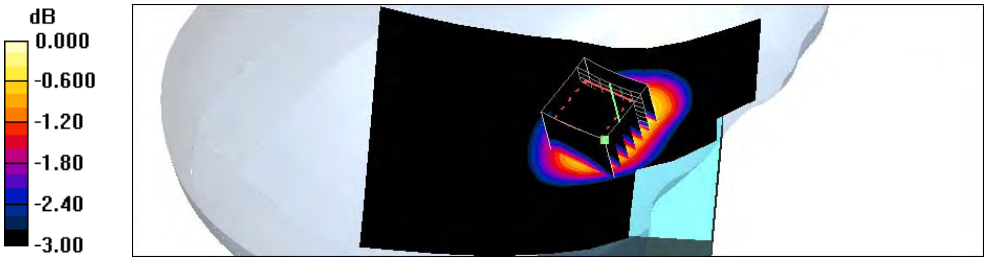
Communication System: GSM850; Frequency: 848.8 MHz;Duty Cycle: 1:8
Medium parameters used: f = 849 MHz; σ = 0.911 mho/m; ε_r = 42.8; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 2011/9/12
- 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) = 0.853 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 = 0.024 dB
Peak SAR (extrapolated) = 1.08 W/kg
SAR(1 g) = 0.765 mW/g; SAR(10 g) = 0.556 mW/g
Maximum value of SAR (measured) = 0.861 mW/g



0 dB = 0.861mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/22 PM 07:10:24

RT_GSM 850 CH251

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

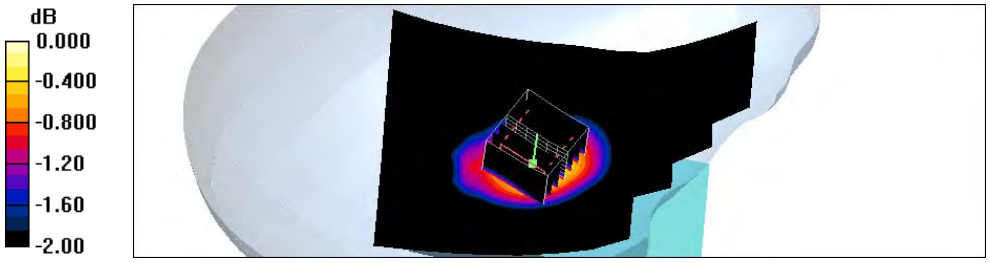
Communication System: GSM850; Frequency: 848.8 MHz;Duty Cycle: 1:8
Medium parameters used: f = 849 MHz; σ = 0.911 mho/m; ε_r = 42.8; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 2011/9/12
- 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) = 0.469 mW/g

Right Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 18.4 V/m; Power Drift = 0.054 dB
Peak SAR (extrapolated) = 0.547 W/kg
SAR(1 g) = 0.419 mW/g; SAR(10 g) = 0.315 mW/g
Maximum value of SAR (measured) = 0.462 mW/g



0 dB = 0.462mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/22 PM 07:46:21

LC_GSM 850 CH251

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

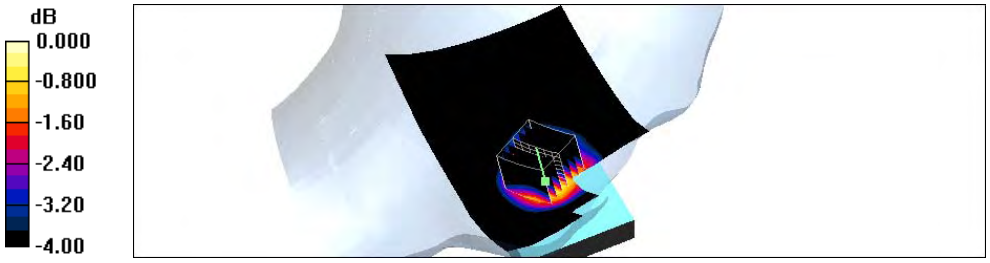
Communication System: GSM850; Frequency: 848.8 MHz;Duty Cycle: 1:8
Medium parameters used: f = 849 MHz; σ = 0.911 mho/m; ε_r = 42.8; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 2011/9/12
- 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) = 0.822 mW/g

Left Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 10.2 V/m; Power Drift = -0.022 dB
Peak SAR (extrapolated) = 0.916 W/kg
SAR(1 g) = 0.705 mW/g; SAR(10 g) = 0.514 mW/g
Maximum value of SAR (measured) = 0.779 mW/g



0 dB = 0.779mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/22 PM 08:14:26

LT_GSM 850 CH251

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

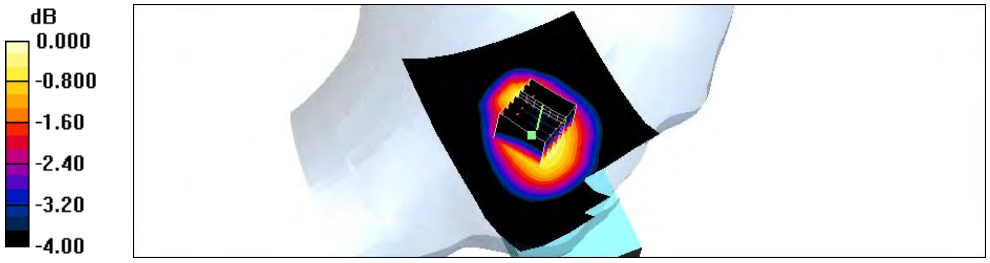
Communication System: GSM850; Frequency: 848.8 MHz;Duty Cycle: 1:8
Medium parameters used: f = 849 MHz; σ = 0.911 mho/m; ε_r = 42.8; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 2011/9/12
- 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) = 0.404 mW/g

Left Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 17.7 V/m; Power Drift = 0.013 dB
Peak SAR (extrapolated) = 0.469 W/kg
SAR(1 g) = 0.364 mW/g; SAR(10 g) = 0.276 mW/g
Maximum value of SAR (measured) = 0.402 mW/g



0 dB = 0.402mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/4/9 PM 02:23:07

RC_GPRS 850 CH128_3D2U

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

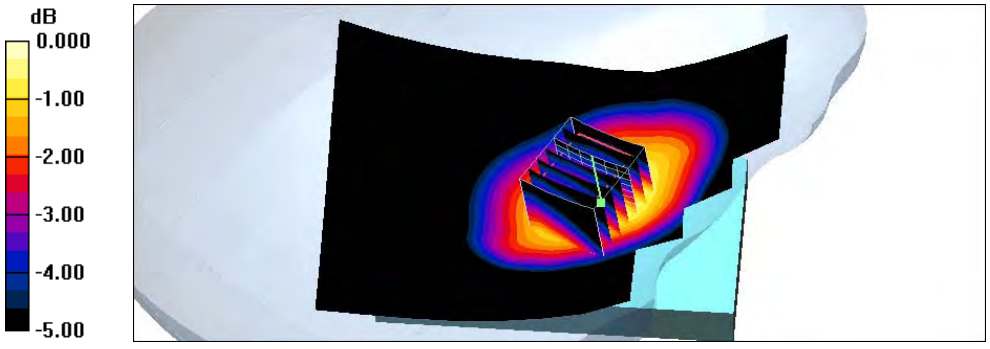
Communication System: GPRS 850 (3Down, 2Up); Frequency: 824.2 MHz;Duty Cycle: 1:4
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.883 mho/m; ε_r = 43; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 2011/9/12
- 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) = 1.16 mW/g

Right Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 13.6 V/m; Power Drift = -0.007 dB
Peak SAR (extrapolated) = 1.25 W/kg
SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.781 mW/g
Maximum value of SAR (measured) = 1.14 mW/g



0 dB = 1.14mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/4/9 PM 02:47:53

RC_GPRS 850 CH190_3D2U

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

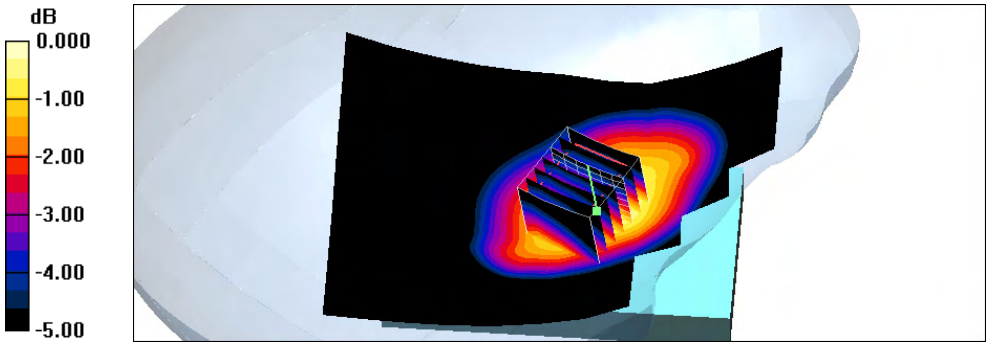
Communication System: GPRS 850 (3Down, 2Up); Frequency: 836.6 MHz;Duty Cycle: 1:4
Medium parameters used: f = 837 MHz; σ = 0.898 mho/m; ε_r = 42.9; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 2011/9/12
- 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) = 1.34 mW/g

Right Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 14.6 V/m; Power Drift = -0.065 dB
Peak SAR (extrapolated) = 1.47 W/kg
SAR(1 g) = 1.21 mW/g; SAR(10 g) = 0.915 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: 2012/3/19 PM 08:22:25

RC_GPRS 850 CH251_3D2U

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

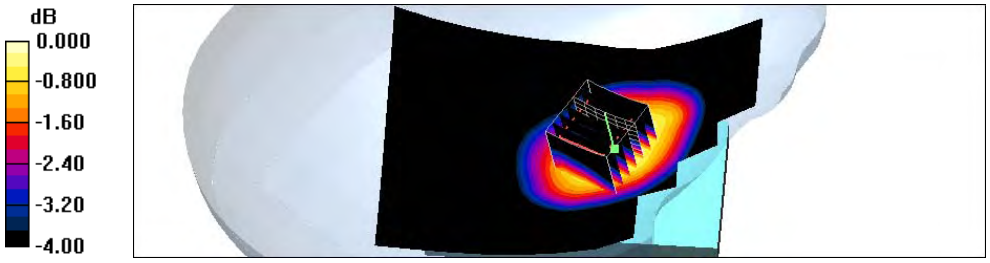
Communication System: GPRS 850 (3Down, 2Up); Frequency: 848.8 MHz;Duty Cycle: 1:4
Medium parameters used: f = 849 MHz; σ = 0.911 mho/m; ε_r = 42.8; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 2011/9/12
- 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) = 1.55 mW/g

Right Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 15.1 V/m; Power Drift = -0.024 dB
Peak SAR (extrapolated) = 1.87 W/kg
SAR(1 g) = 1.35 mW/g; SAR(10 g) = 0.986 mW/g
Maximum value of SAR (measured) = 1.51 mW/g



0 dB = 1.51mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/19 PM 09:04:44

RT_GPRS 850 CH251_3D2U

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

Communication System: GPRS 850 (3Down, 2Up); Frequency: 848.8 MHz;Duty Cycle: 1:4
Medium parameters used: f = 849 MHz; σ = 0.911 mho/m; ε_r = 42.8; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

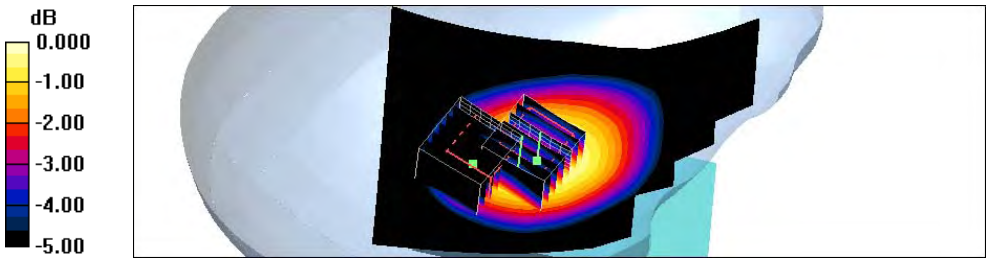
DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 2011/9/12
- 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) = 0.847 mW/g

Right Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 24.8 V/m; Power Drift = -0.035 dB
Peak SAR (extrapolated) = 1.00 W/kg
SAR(1 g) = 0.764 mW/g; SAR(10 g) = 0.576 mW/g
Maximum value of SAR (measured) = 0.844 mW/g

Right Tilted/Zoom Scan (7x7x9)/Cube 1:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 24.8 V/m; Power Drift = -0.035 dB
Peak SAR (extrapolated) = 0.963 W/kg
SAR(1 g) = 0.671 mW/g; SAR(10 g) = 0.433 mW/g
Maximum value of SAR (measured) = 0.810 mW/g



0 dB = 0.810mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/20 AM 12:54:31

LC_GPRS 850 CH128_3D2U

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

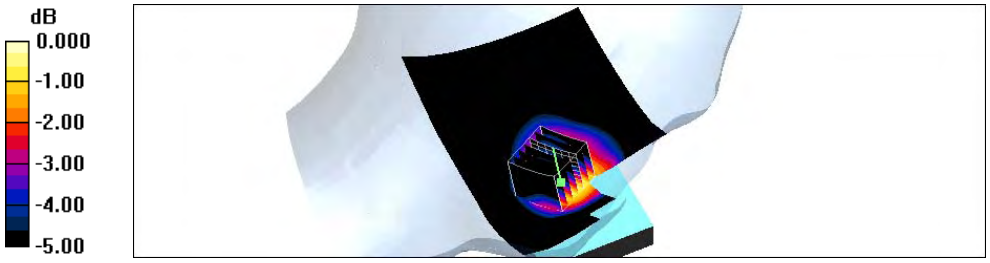
Communication System: GPRS 850 (3Down, 2Up); Frequency: 824.2 MHz;Duty Cycle: 1:4
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.883 mho/m; ε_r = 43; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 2011/9/12
- 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) = 1.27 mW/g

Left Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 12.8 V/m; Power Drift = 0.088 dB
Peak SAR (extrapolated) = 1.41 W/kg
SAR(1 g) = 1.09 mW/g; SAR(10 g) = 0.787 mW/g
Maximum value of SAR (measured) = 1.21 mW/g



0 dB = 1.21mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/20 AM 01:19:41

LC_GPRS 850 CH190_3D2U

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

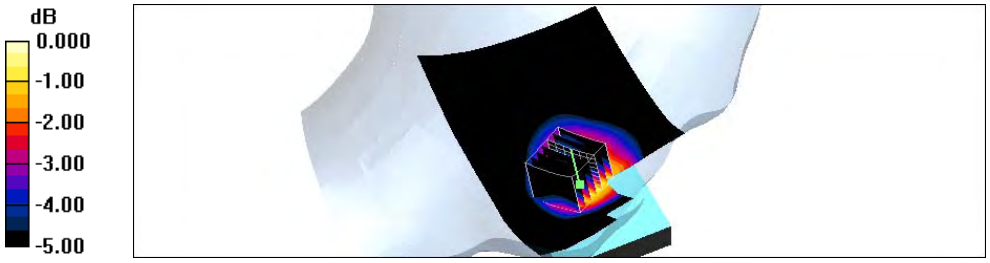
Communication System: GPRS 850 (3Down, 2Up); Frequency: 836.6 MHz;Duty Cycle: 1:4
Medium parameters used: f = 837 MHz; σ = 0.898 mho/m; ε_r = 42.9; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 2011/9/12
- 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) = 1.46 mW/g

Left Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 13.9 V/m; Power Drift = -0.018 dB
Peak SAR (extrapolated) = 1.62 W/kg
SAR(1 g) = 1.26 mW/g; SAR(10 g) = 0.905 mW/g
Maximum value of SAR (measured) = 1.40 mW/g



0 dB = 1.40mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/19 PM 10:42:33

LC_GPRS 850 CH251_3D2U

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

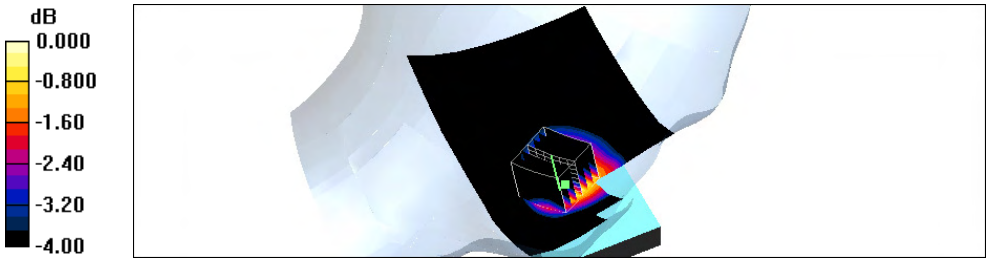
Communication System: GPRS 850 (3Down, 2Up); Frequency: 848.8 MHz;Duty Cycle: 1:4
Medium parameters used: f = 849 MHz; σ = 0.911 mho/m; ε_r = 42.8; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

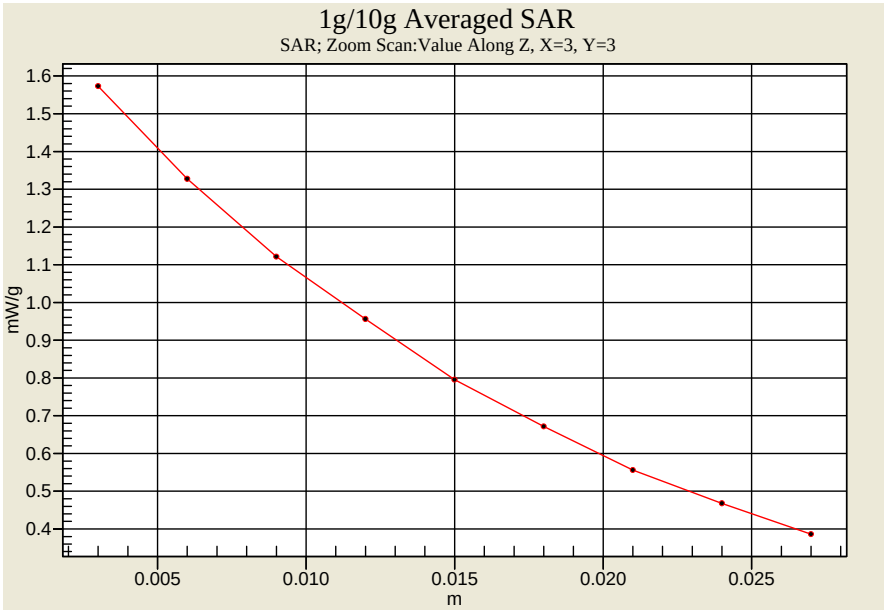
- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 2011/9/12
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: 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) = 1.63 mW/g

Left Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 15.3 V/m; Power Drift = -0.045 dB
Peak SAR (extrapolated) = 1.85 W/kg
SAR(1 g) = 1.41 mW/g; SAR(10 g) = 1.01 mW/g
Maximum value of SAR (measured) = 1.57 mW/g



0 dB = 1.57mW/g



Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/20 AM 01:47:36

LT_GPRS 850 CH251_3D2U

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

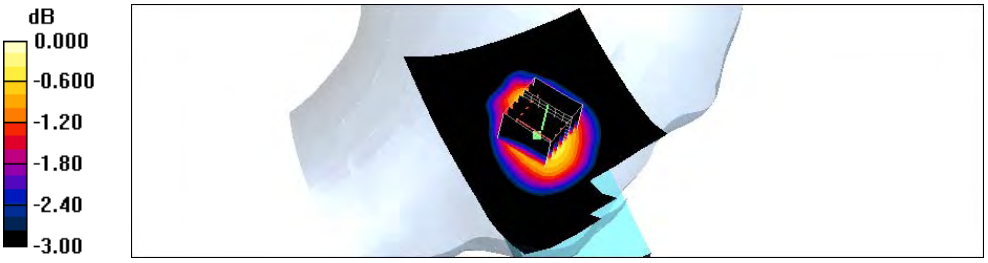
Communication System: GPRS 850 (3Down, 2Up); Frequency: 848.8 MHz;Duty Cycle: 1:4
Medium parameters used: f = 849 MHz; σ = 0.911 mho/m; ε_r = 42.8; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 2011/9/12
- 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) = 0.722 mW/g

Left Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 23.5 V/m; Power Drift = -0.043 dB
Peak SAR (extrapolated) = 0.853 W/kg
SAR(1 g) = 0.658 mW/g; SAR(10 g) = 0.499 mW/g
Maximum value of SAR (measured) = 0.725 mW/g



0 dB = 0.725mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/21 PM 11:55:43

RC_PCS CH810

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

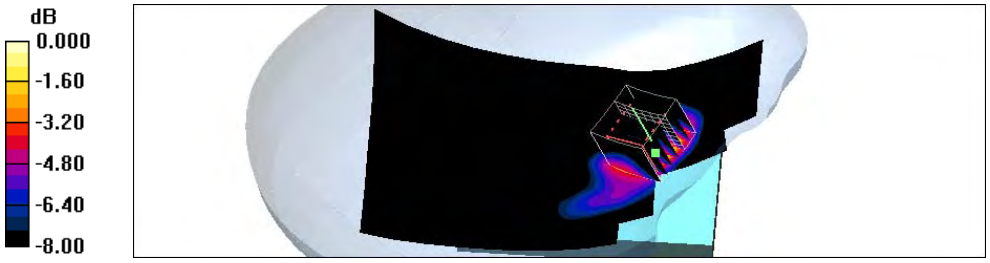
Communication System: PCS; Frequency: 1909.8 MHz;Duty Cycle: 1:8
Medium parameters used: f = 1910 MHz; σ = 1.4 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 2011/9/12
- 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 (71x121x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.449 mW/g

Right Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 6.20 V/m; Power Drift = 0.093 dB
Peak SAR (extrapolated) = 0.660 W/kg
SAR(1 g) = 0.400 mW/g; SAR(10 g) = 0.201 mW/g
Maximum value of SAR (measured) = 0.497 mW/g



0 dB = 0.497mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/22 AM 12:21:41

RT_PCS CH810

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

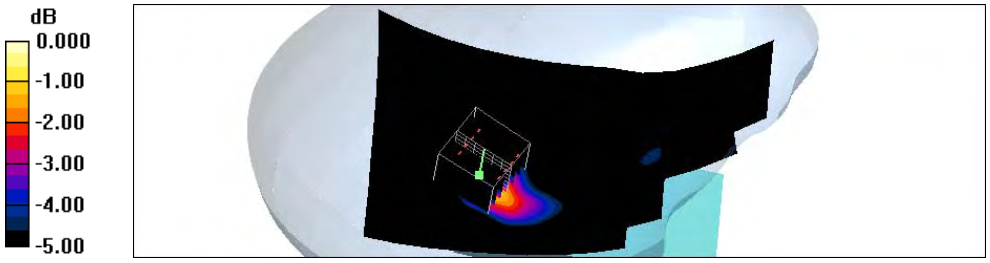
Communication System: PCS; Frequency: 1909.8 MHz;Duty Cycle: 1:8
Medium parameters used: f = 1910 MHz; σ = 1.4 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 2011/9/12
- 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 (71x121x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.113 mW/g

Right Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 8.79 V/m; Power Drift = 0.048 dB
Peak SAR (extrapolated) = 0.135 W/kg
SAR(1 g) = 0.083 mW/g; SAR(10 g) = 0.046 mW/g
Maximum value of SAR (measured) = 0.104 mW/g



0 dB = 0.104mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/22 AM 12:50:56

LC_PCS CH810

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

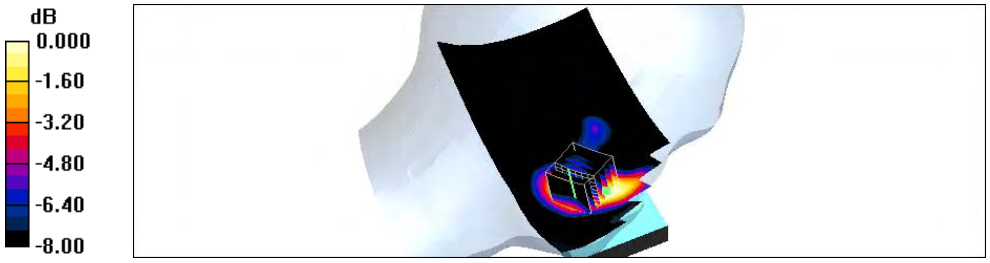
Communication System: PCS; Frequency: 1909.8 MHz;Duty Cycle: 1:8
Medium parameters used: f = 1910 MHz; σ = 1.4 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 2011/9/12
- 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 (71x121x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.303 mW/g

Left Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 6.47 V/m; Power Drift = -0.126 dB
Peak SAR (extrapolated) = 0.367 W/kg
SAR(1 g) = 0.242 mW/g; SAR(10 g) = 0.154 mW/g
Maximum value of SAR (measured) = 0.285 mW/g



0 dB = 0.285mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/22 AM 01:54:44

LT_PCS CH810

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

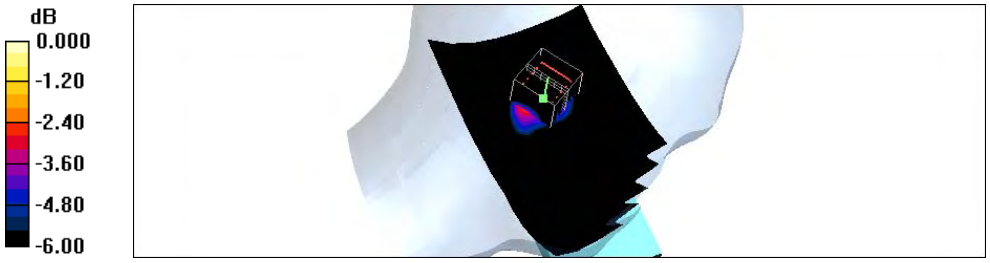
Communication System: PCS; Frequency: 1909.8 MHz;Duty Cycle: 1:8
Medium parameters used: f = 1910 MHz; σ = 1.4 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 2011/9/12
- 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 (71x121x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.137 mW/g

Left Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 8.96 V/m; Power Drift = 0.006 dB
Peak SAR (extrapolated) = 0.177 W/kg
SAR(1 g) = 0.106 mW/g; SAR(10 g) = 0.055 mW/g
Maximum value of SAR (measured) = 0.135 mW/g



0 dB = 0.135mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/20 AM 06:40:53

RC_GPRS PCS CH810_3D2U

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

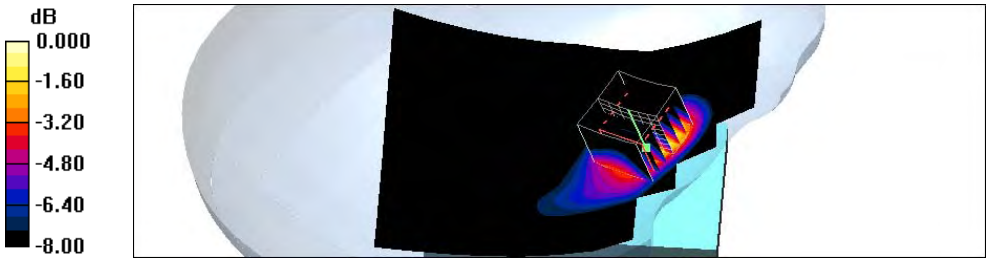
Communication System: GPRS PCS (3Down,2Up); Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium parameters used: f = 1910 MHz; σ = 1.4 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 2011/9/12
- 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) = 0.794 mW/g

Right Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 5.19 V/m; Power Drift = 0.131 dB
Peak SAR (extrapolated) = 1.00 W/kg
SAR(1 g) = 0.601 mW/g; SAR(10 g) = 0.317 mW/g
Maximum value of SAR (measured) = 0.746 mW/g



0 dB = 0.746mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/20 AM 07:06:57

RT_GPRS PCS CH810_3D2U

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

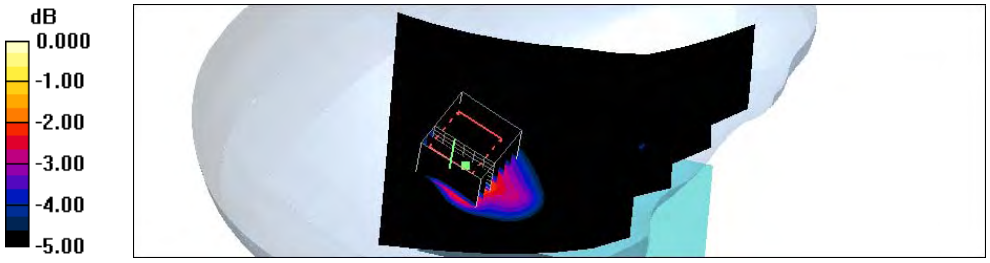
Communication System: GPRS PCS (3Down,2Up); Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium parameters used: f = 1910 MHz; σ = 1.4 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 2011/9/12
- 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) = 0.174 mW/g

Right Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 11.0 V/m; Power Drift = -0.002 dB
Peak SAR (extrapolated) = 0.217 W/kg
SAR(1 g) = 0.137 mW/g; SAR(10 g) = 0.078 mW/g
Maximum value of SAR (measured) = 0.170 mW/g



0 dB = 0.170mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/20 AM 07:45:57

LC_GPRS PCS CH810_3D2U

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

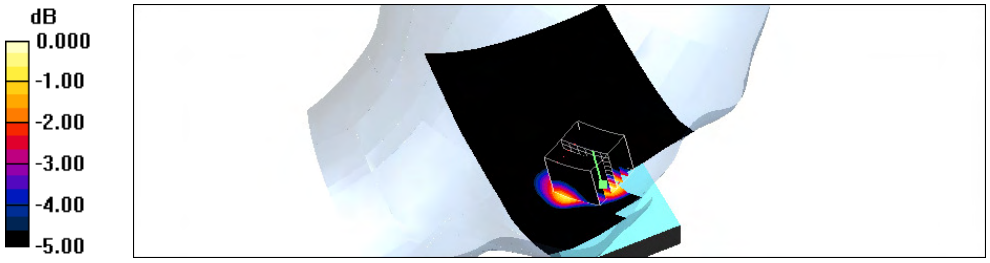
Communication System: GPRS PCS (3Down,2Up); Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium parameters used: f = 1910 MHz; σ = 1.4 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 2011/9/12
- 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) = 0.685 mW/g

Left Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 7.69 V/m; Power Drift = 0.094 dB
Peak SAR (extrapolated) = 0.811 W/kg
SAR(1 g) = 0.543 mW/g; SAR(10 g) = 0.315 mW/g
Maximum value of SAR (measured) = 0.655 mW/g



0 dB = 0.655mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/20 AM 08:35:13

LT_GPRS PCS CH810_3D2U

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

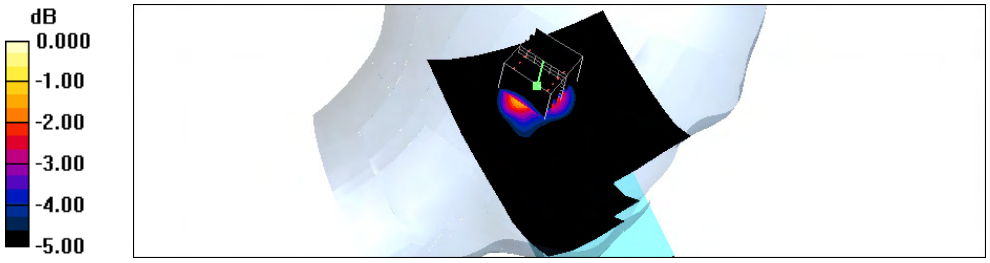
Communication System: GPRS PCS (3Down,2Up); Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium parameters used: f = 1910 MHz; σ = 1.4 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 2011/9/12
- 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) = 0.172 mW/g

Left Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 11.6 V/m; Power Drift = -0.014 dB
Peak SAR (extrapolated) = 0.216 W/kg
SAR(1 g) = 0.141 mW/g; SAR(10 g) = 0.079 mW/g
Maximum value of SAR (measured) = 0.173 mW/g



0 dB = 0.173mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/20 PM 03:00:19

RC_WCDMA Band II CH9262

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

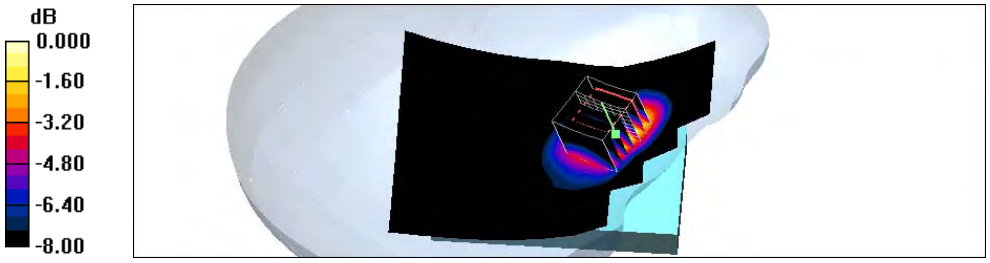
Communication System: WCDMA Band II; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.35 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 2011/9/12
- 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) = 1.50 mW/g

Right Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 7.20 V/m; Power Drift = -0.047 dB
Peak SAR (extrapolated) = 2.03 W/kg
SAR(1 g) = 1.24 mW/g; SAR(10 g) = 0.677 mW/g
Maximum value of SAR (measured) = 1.55 mW/g



0 dB = 1.55mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/20 AM 11:55:00

RC_WCDMA Band II CH9400

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

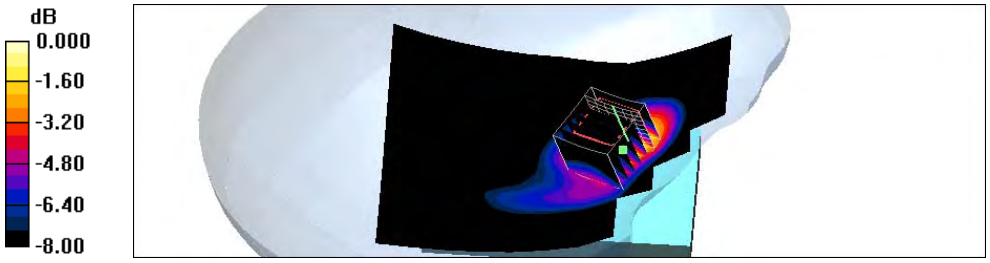
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.37 mho/m; ε_r = 39.1; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 2011/9/12
- 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) = 1.01 mW/g

Right Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 8.61 V/m; Power Drift = -0.167 dB
Peak SAR (extrapolated) = 1.37 W/kg
SAR(1 g) = 0.830 mW/g; SAR(10 g) = 0.446 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: 2012/3/20 PM 03:25:22

RC_WCDMA Band II CH9538

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

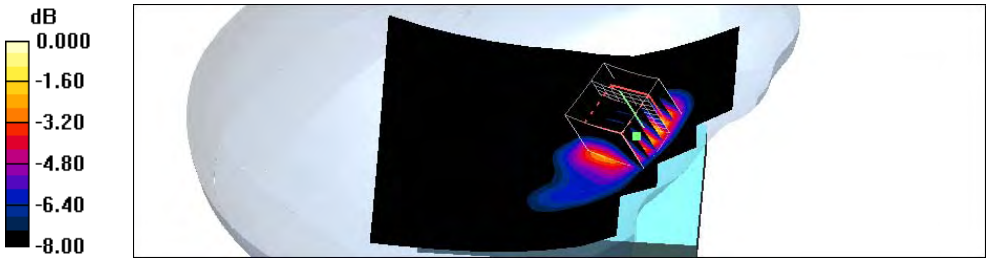
Communication System: WCDMA Band II; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1908 MHz; σ = 1.4 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 2011/9/12
- 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) = 0.738 mW/g

Right Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 6.80 V/m; Power Drift = -0.040 dB
Peak SAR (extrapolated) = 1.13 W/kg
SAR(1 g) = 0.679 mW/g; SAR(10 g) = 0.350 mW/g
Maximum value of SAR (measured) = 0.833 mW/g



0 dB = 0.833mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/20 PM 12:46:03

RT_WCDMA Band II CH9400

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

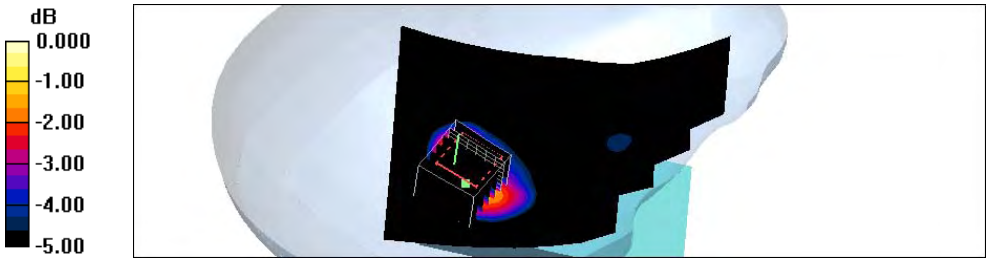
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.37 mho/m; ε_r = 39.1; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 2011/9/12
- 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) = 0.292 mW/g

Right Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 14.6 V/m; Power Drift = 0.008 dB
Peak SAR (extrapolated) = 0.371 W/kg
SAR(1 g) = 0.222 mW/g; SAR(10 g) = 0.120 mW/g
Maximum value of SAR (measured) = 0.274 mW/g



0 dB = 0.274mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/20 PM 01:57:12

LC_WCDMA Band II CH9400

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

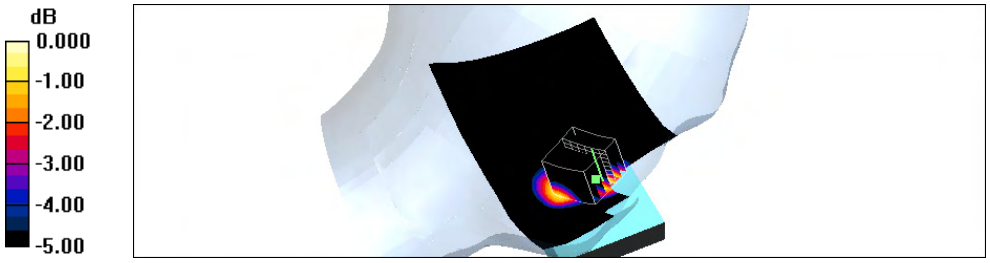
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.37 mho/m; ε_r = 39.1; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 2011/9/12
- 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) = 0.775 mW/g

Left Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 7.44 V/m; Power Drift = 0.082 dB
Peak SAR (extrapolated) = 0.908 W/kg
SAR(1 g) = 0.611 mW/g; SAR(10 g) = 0.368 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: 2012/3/20 PM 02:25:09

LT_WCDMA Band II CH9400

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

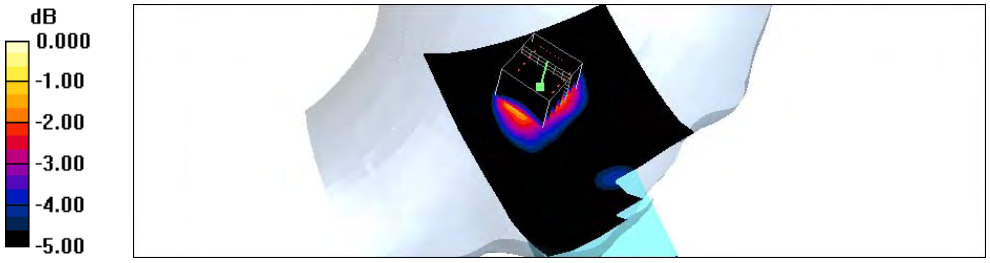
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.37 mho/m; ε_r = 39.1; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 2011/9/12
- 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) = 0.212 mW/g

Left Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 12.1 V/m; Power Drift = 0.090 dB
Peak SAR (extrapolated) = 0.257 W/kg
SAR(1 g) = 0.168 mW/g; SAR(10 g) = 0.100 mW/g
Maximum value of SAR (measured) = 0.201 mW/g



0 dB = 0.201mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/23 AM 04:45:04

RC_HSDPA BandII CH9262

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

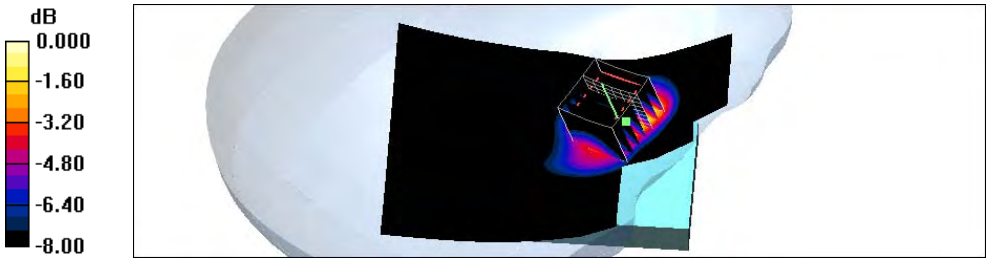
Communication System: HSDPA Band II; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.35 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 2011/9/12
- 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) = 1.51 mW/g

Right Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 6.79 V/m; Power Drift = 0.191 dB
Peak SAR (extrapolated) = 2.03 W/kg
SAR(1 g) = 1.18 mW/g; SAR(10 g) = 0.619 mW/g
Maximum value of SAR (measured) = 1.46 mW/g



0 dB = 1.46mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/23 AM 05:09:33

RC_HSDPA BandII CH9400

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

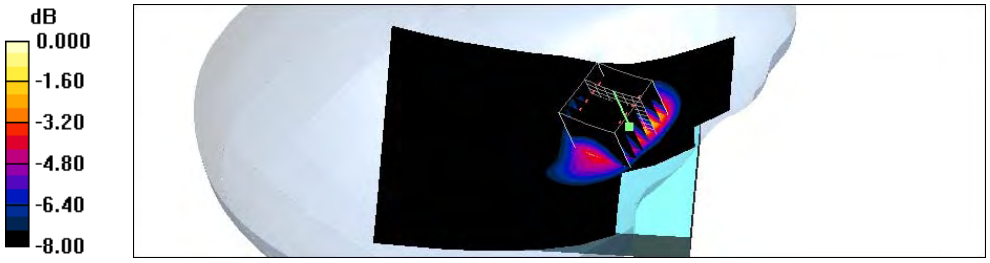
Communication System: HSDPA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.37 mho/m; ε_r = 39.1; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 2011/9/12
- 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) = 1.29 mW/g

Right Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 5.63 V/m; Power Drift = 0.058 dB
Peak SAR (extrapolated) = 1.82 W/kg
SAR(1 g) = 1.02 mW/g; SAR(10 g) = 0.521 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: 2012/3/23 AM 01:12:22

RC_HSDPA BandII CH9538

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

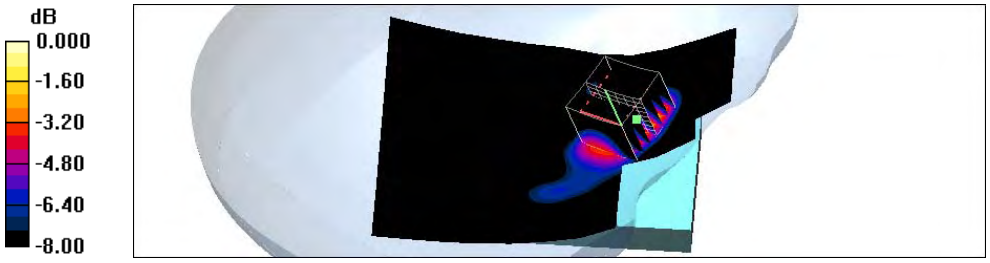
Communication System: HSDPA Band II; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1908 MHz; σ = 1.4 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 2011/9/12
- 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) = 1.03 mW/g

Right Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 6.68 V/m; Power Drift = -0.082 dB
Peak SAR (extrapolated) = 1.49 W/kg
SAR(1 g) = 0.855 mW/g; SAR(10 g) = 0.428 mW/g
Maximum value of SAR (measured) = 1.07 mW/g



0 dB = 1.07mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/23 AM 01:57:12

RT_HSDPA BandII CH9538

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

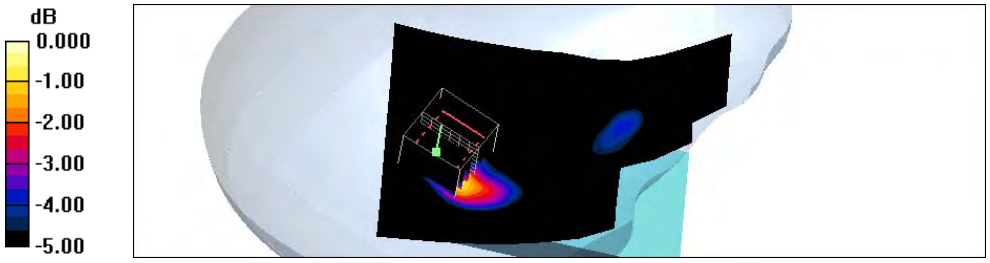
Communication System: HSDPA Band II; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1908 MHz; σ = 1.4 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 2011/9/12
- 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) = 0.199 mW/g

Right Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 11.3 V/m; Power Drift = 0.036 dB
Peak SAR (extrapolated) = 0.270 W/kg
SAR(1 g) = 0.159 mW/g; SAR(10 g) = 0.086 mW/g
Maximum value of SAR (measured) = 0.200 mW/g



0 dB = 0.200mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/23 AM 03:54:47

LC_HSDPA BandII CH9538

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

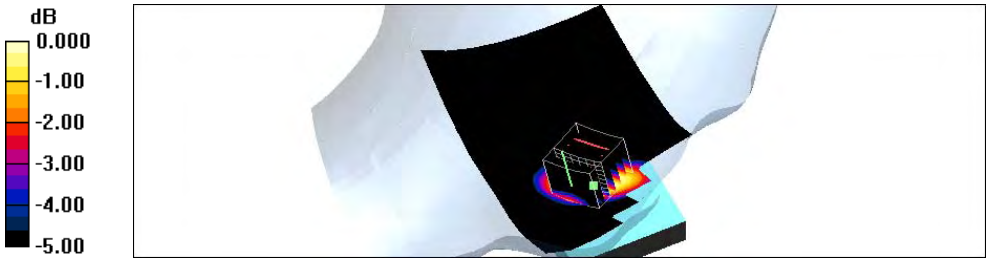
Communication System: HSDPA Band II; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1908 MHz; σ = 1.4 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 2011/9/12
- 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) = 0.593 mW/g

Left Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 6.73 V/m; Power Drift = 0.120 dB
Peak SAR (extrapolated) = 0.683 W/kg
SAR(1 g) = 0.450 mW/g; SAR(10 g) = 0.285 mW/g
Maximum value of SAR (measured) = 0.527 mW/g



0 dB = 0.527mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/23 AM 04:19:25

LT_HSDPA BandII CH9538

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

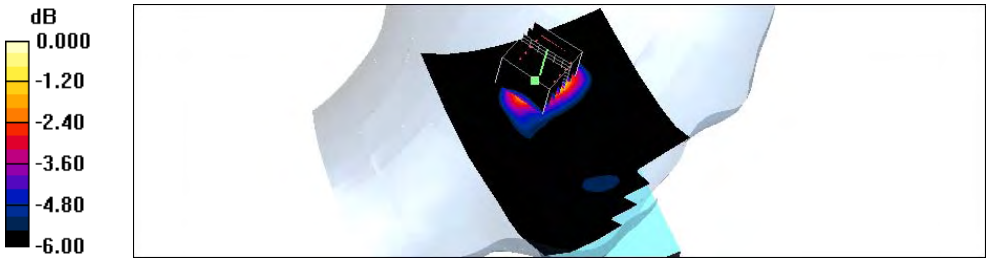
Communication System: HSDPA Band II; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1908 MHz; σ = 1.4 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 2011/9/12
- 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) = 0.189 mW/g

Left Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 12.3 V/m; Power Drift = 0.044 dB
Peak SAR (extrapolated) = 0.218 W/kg
SAR(1 g) = 0.133 mW/g; SAR(10 g) = 0.072 mW/g
Maximum value of SAR (measured) = 0.167 mW/g



0 dB = 0.167mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/23 AM 06:35:52

RC_HSUPA BandII CH9262

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

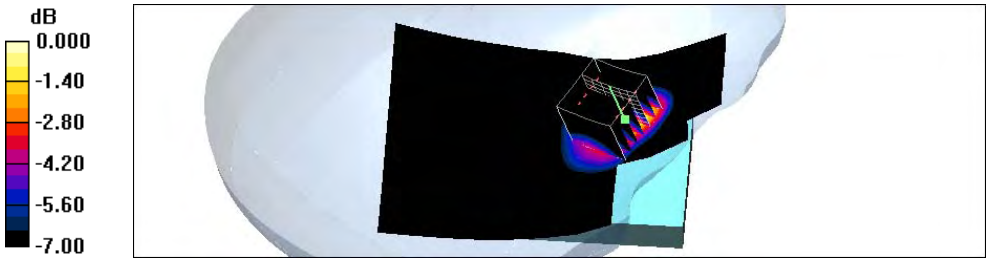
Communication System: HSUPA Band II; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.35 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 2011/9/12
- 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) = 1.65 mW/g

Right Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 6.68 V/m; Power Drift = -0.027 dB
Peak SAR (extrapolated) = 2.03 W/kg
SAR(1 g) = 1.22 mW/g; SAR(10 g) = 0.648 mW/g
Maximum value of SAR (measured) = 1.54 mW/g



0 dB = 1.54mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/23 AM 07:05:06

RC_HSUPA BandII CH9400

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

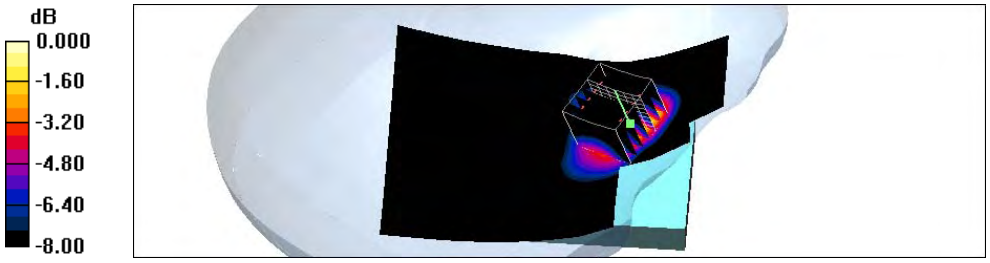
Communication System: HSUPA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.37 mho/m; ε_r = 39.1; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 2011/9/12
- 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) = 1.25 mW/g

Right Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 5.39 V/m; Power Drift = 0.090 dB
Peak SAR (extrapolated) = 1.80 W/kg
SAR(1 g) = 1.01 mW/g; SAR(10 g) = 0.516 mW/g
Maximum value of SAR (measured) = 1.28 mW/g



0 dB = 1.28mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/23 AM 07:30:21

RC_HSUPA BandII CH9538

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

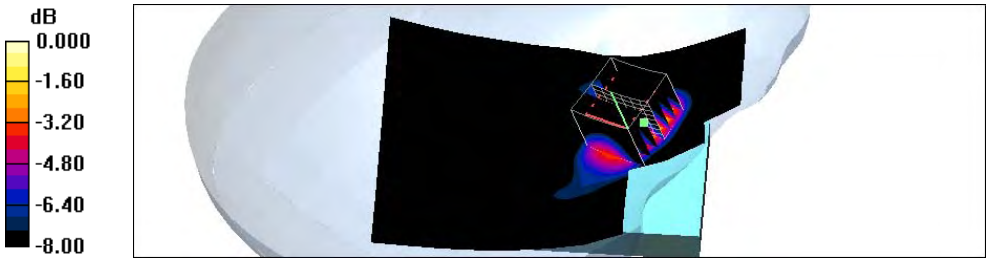
Communication System: HSUPA Band II; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1908 MHz; σ = 1.4 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 2011/9/12
- 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) = 1.03 mW/g

Right Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 6.54 V/m; Power Drift = 0.058 dB
Peak SAR (extrapolated) = 1.52 W/kg
SAR(1 g) = 0.856 mW/g; SAR(10 g) = 0.426 mW/g
Maximum value of SAR (measured) = 1.07 mW/g



0 dB = 1.07mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/23 AM 09:00:34

RT_HSUPA BandII CH9400

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

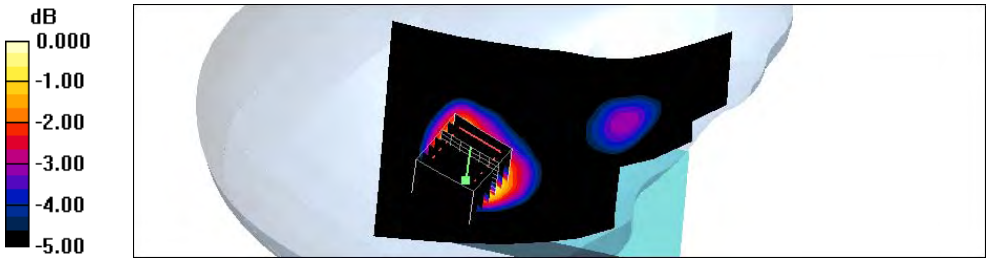
Communication System: HSUPA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.37 mho/m; ε_r = 39.1; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 2011/9/12
- 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) = 0.218 mW/g

Right Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 10.9 V/m; Power Drift = 0.003 dB
Peak SAR (extrapolated) = 0.223 W/kg
SAR(1 g) = 0.156 mW/g; SAR(10 g) = 0.093 mW/g
Maximum value of SAR (measured) = 0.184 mW/g



0 dB = 0.184mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/23 AM 09:28:35

LC_HSUPA BandII CH9400

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

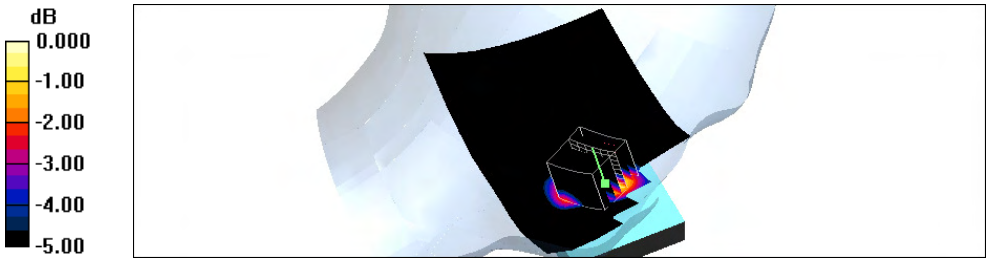
Communication System: HSUPA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.37 mho/m; ε_r = 39.1; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 2011/9/12
- 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) = 0.865 mW/g

Left Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 7.56 V/m; Power Drift = 0.079 dB
Peak SAR (extrapolated) = 1.04 W/kg
SAR(1 g) = 0.683 mW/g; SAR(10 g) = 0.395 mW/g
Maximum value of SAR (measured) = 0.819 mW/g



0 dB = 0.819mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/23 AM 10:01:53

LT_HSUPA BandII CH9400

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

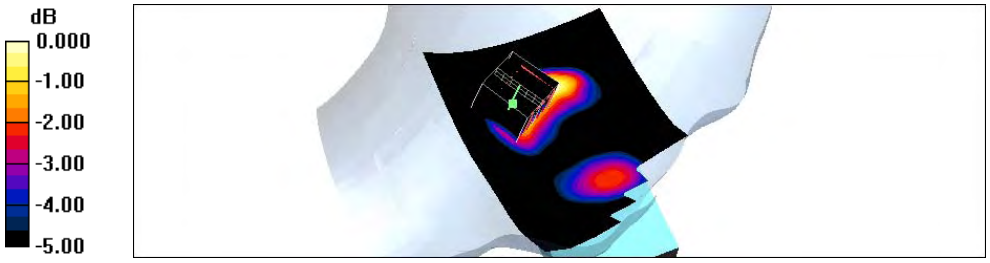
Communication System: HSUPA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.37 mho/m; ε_r = 39.1; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 2011/9/12
- 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) = 0.161 mW/g

Left Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 10.5 V/m; Power Drift = -0.186 dB
Peak SAR (extrapolated) = 0.165 W/kg
SAR(1 g) = 0.114 mW/g; SAR(10 g) = 0.072 mW/g
Maximum value of SAR (measured) = 0.134 mW/g



0 dB = 0.134mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/20 AM 03:51:14

RC_WCDMA Band V CH4132

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

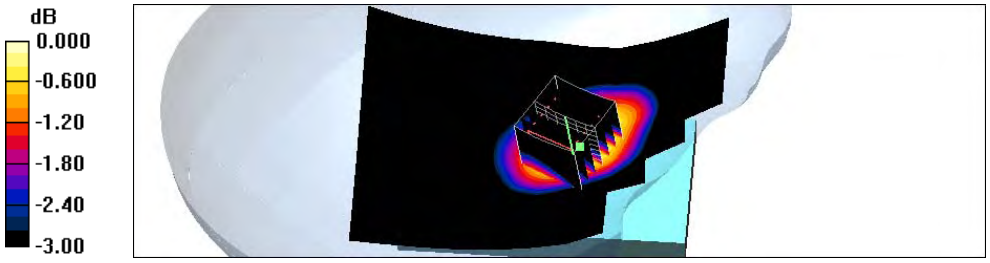
Communication System: WCDMA Band V; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.886 mho/m; ε_r = 43; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 2011/9/12
- 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) = 0.782 mW/g

Right Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 12.0 V/m; Power Drift = 0.009 dB
Peak SAR (extrapolated) = 0.909 W/kg
SAR(1 g) = 0.694 mW/g; SAR(10 g) = 0.512 mW/g
Maximum value of SAR (measured) = 0.771 mW/g



0 dB = 0.771mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/20 AM 04:17:18

RT_WCDMA Band V CH4132

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

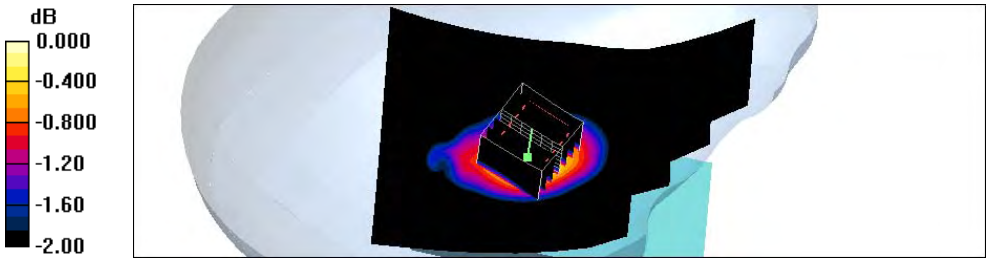
Communication System: WCDMA Band V; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.886 mho/m; ε_r = 43; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 2011/9/12
- 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) = 0.442 mW/g

Right Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 19.0 V/m; Power Drift = 0.008 dB
Peak SAR (extrapolated) = 0.508 W/kg
SAR(1 g) = 0.393 mW/g; SAR(10 g) = 0.298 mW/g
Maximum value of SAR (measured) = 0.435 mW/g



0 dB = 0.435mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/20 AM 03:18:34

LC_WCDMA Band V CH4132

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

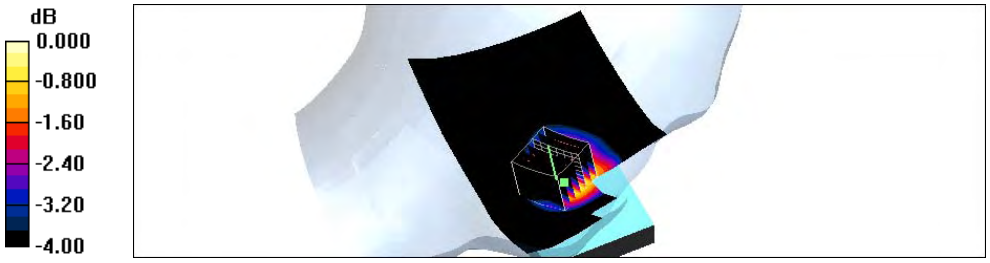
Communication System: WCDMA Band V; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.886 mho/m; ε_r = 43; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 2011/9/12
- 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) = 0.813 mW/g

Left Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 11.1 V/m; Power Drift = 0.037 dB
Peak SAR (extrapolated) = 0.915 W/kg
SAR(1 g) = 0.702 mW/g; SAR(10 g) = 0.501 mW/g
Maximum value of SAR (measured) = 0.778 mW/g



0 dB = 0.778mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/20 AM 02:50:24

LT_WCDMA Band V CH4132

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

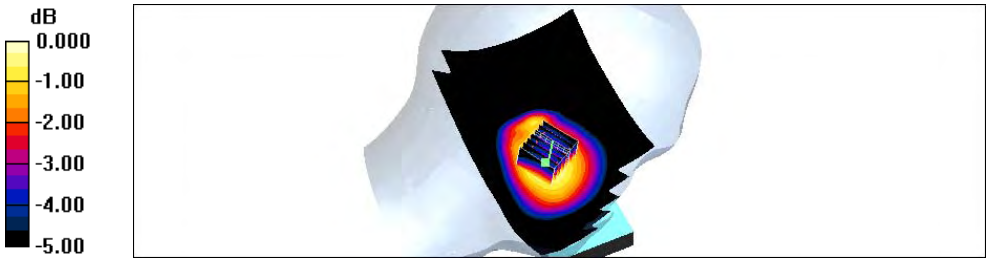
Communication System: WCDMA Band V; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.886 mho/m; ε_r = 43; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 2011/9/12
- 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 (81x131x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.384 mW/g

Left Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 18.3 V/m; Power Drift = -0.014 dB
Peak SAR (extrapolated) = 0.459 W/kg
SAR(1 g) = 0.358 mW/g; SAR(10 g) = 0.273 mW/g
Maximum value of SAR (measured) = 0.393 mW/g



0 dB = 0.393mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/21 AM 04:11:09

RC_802.11b Ch1_1M

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

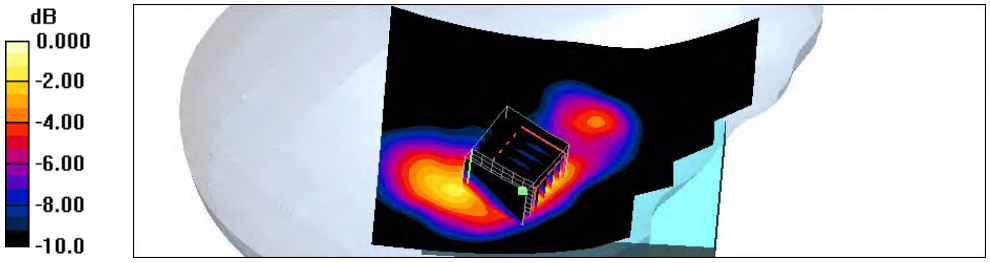
Communication System: IEEE 802.11b; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.76 mho/m; ε_r = 39.6; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(4.52, 4.52, 4.52); Calibrated: 2011/9/12
- 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) = 0.057 mW/g

Right Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 3.28 V/m; Power Drift = -0.094 dB
Peak SAR (extrapolated) = 0.120 W/kg
SAR(1 g) = 0.057 mW/g; SAR(10 g) = 0.030 mW/g
Maximum value of SAR (measured) = 0.076 mW/g



0 dB = 0.076mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/21 AM 05:26:02

RT_802.11b Ch1_1M

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

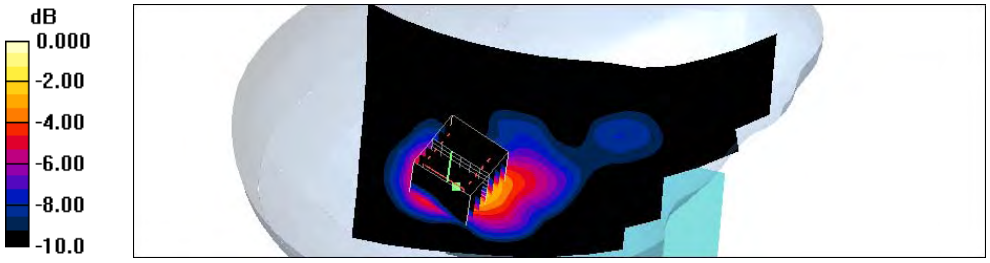
Communication System: IEEE 802.11b; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.76 mho/m; ε_r = 39.6; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(4.52, 4.52, 4.52); Calibrated: 2011/9/12
- 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 (71x121x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.049 mW/g

Right Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 3.20 V/m; Power Drift = 0.193 dB
Peak SAR (extrapolated) = 0.087 W/kg
SAR(1 g) = 0.043 mW/g; SAR(10 g) = 0.021 mW/g
Maximum value of SAR (measured) = 0.057 mW/g



0 dB = 0.057mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/21 AM 09:18:36

LC_802.11b Ch1_1M

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

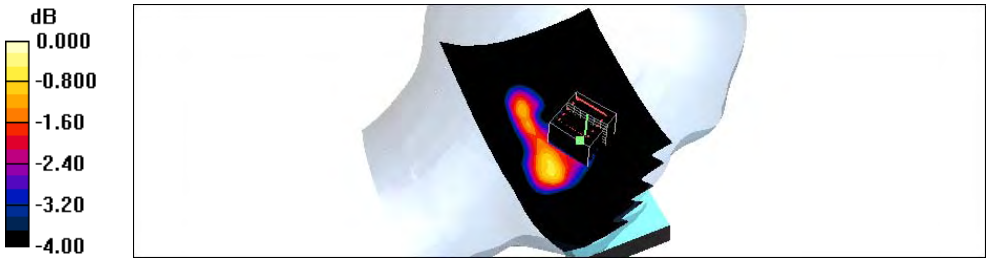
Communication System: IEEE 802.11b; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.76 mho/m; ε_r = 39.6; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(4.52, 4.52, 4.52); Calibrated: 2011/9/12
- 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 (71x121x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.034 mW/g

Left Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 2.64 V/m; Power Drift = 0.050 dB
Peak SAR (extrapolated) = 0.059 W/kg
SAR(1 g) = 0.029 mW/g; SAR(10 g) = 0.015 mW/g
Maximum value of SAR (measured) = 0.037 mW/g



0 dB = 0.037mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/21 AM 09:45:51

LT_802.11b Ch1_1M

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

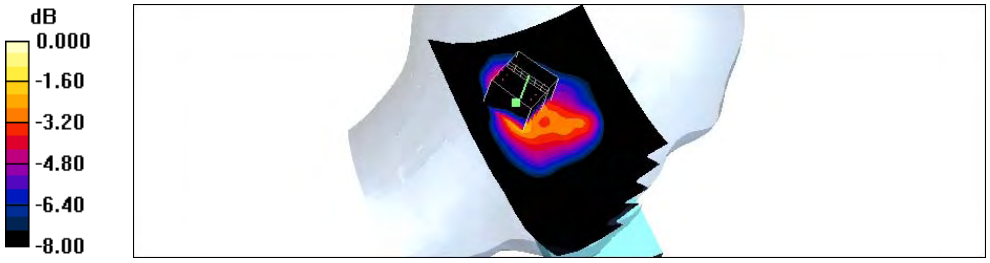
Communication System: IEEE 802.11b; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.76 mho/m; ε_r = 39.6; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(4.52, 4.52, 4.52); Calibrated: 2011/9/12
- 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 (71x121x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.027 mW/g

Left Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 3.01 V/m; Power Drift = 0.189 dB
Peak SAR (extrapolated) = 0.047 W/kg
SAR(1 g) = 0.023 mW/g; SAR(10 g) = 0.012 mW/g
Maximum value of SAR (measured) = 0.029 mW/g



0 dB = 0.029mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/21 AM 06:20:23

RC_802.11g Ch1_6M

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

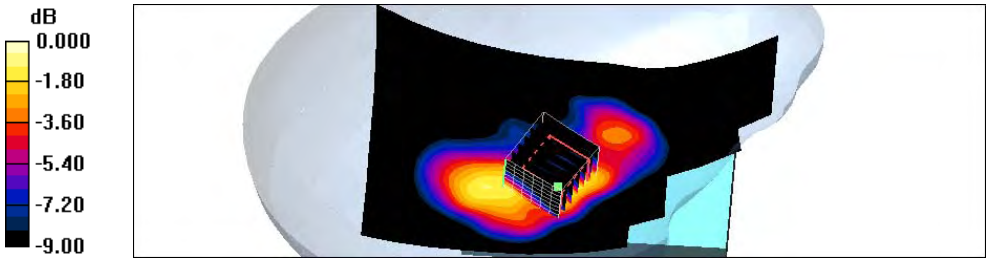
Communication System: IEEE 802.11g; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.76 mho/m; ε_r = 39.6; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(4.52, 4.52, 4.52); Calibrated: 2011/9/12
- 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 (71x121x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.139 mW/g

Right Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 5.97 V/m; Power Drift = 0.097 dB
Peak SAR (extrapolated) = 0.237 W/kg
SAR(1 g) = 0.127 mW/g; SAR(10 g) = 0.065 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: 2012/3/21 AM 05:53:08

RT_802.11g Ch1_6M

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

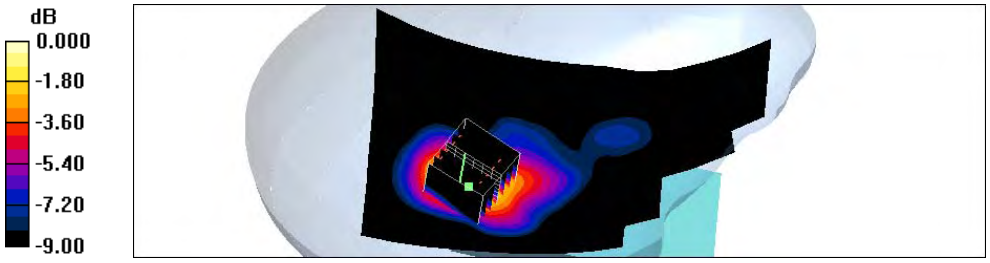
Communication System: IEEE 802.11g; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.76 mho/m; ε_r = 39.6; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(4.52, 4.52, 4.52); Calibrated: 2011/9/12
- 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 (71x121x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.099 mW/g

Right Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 5.45 V/m; Power Drift = 0.022 dB
Peak SAR (extrapolated) = 0.162 W/kg
SAR(1 g) = 0.082 mW/g; SAR(10 g) = 0.042 mW/g
Maximum value of SAR (measured) = 0.107 mW/g



0 dB = 0.107mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/21 AM 08:17:43

LC_802.11g Ch1_6M

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

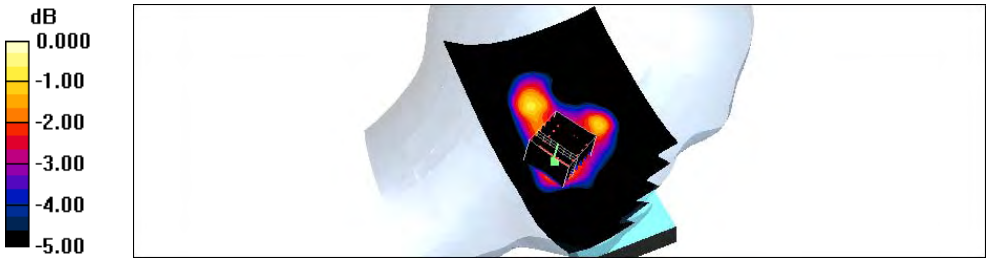
Communication System: IEEE 802.11g; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.76 mho/m; ε_r = 39.6; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(4.52, 4.52, 4.52); Calibrated: 2011/9/12
- 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 (71x121x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.095 mW/g

Left Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 5.15 V/m; Power Drift = -0.038 dB
Peak SAR (extrapolated) = 0.137 W/kg
SAR(1 g) = 0.073 mW/g; SAR(10 g) = 0.040 mW/g
Maximum value of SAR (measured) = 0.093 mW/g



0 dB = 0.093mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/21 AM 06:51:45

LT_802.11g Ch1_6M

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

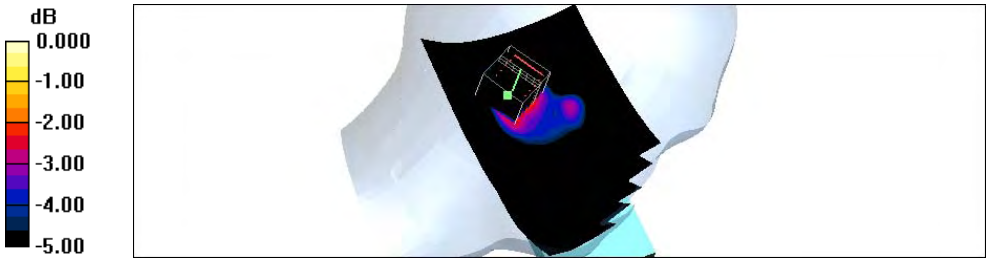
Communication System: IEEE 802.11g; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.76 mho/m; ε_r = 39.6; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(4.52, 4.52, 4.52); Calibrated: 2011/9/12
- 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 (71x121x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.068 mW/g

Left Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 4.60 V/m; Power Drift = -0.099 dB
Peak SAR (extrapolated) = 0.112 W/kg
SAR(1 g) = 0.059 mW/g; SAR(10 g) = 0.030 mW/g
Maximum value of SAR (measured) = 0.076 mW/g



0 dB = 0.076mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/4/9 PM 12:22:37

Flat_GPRS 850 CH128_3D2U_Front surface to phantom 15mm

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

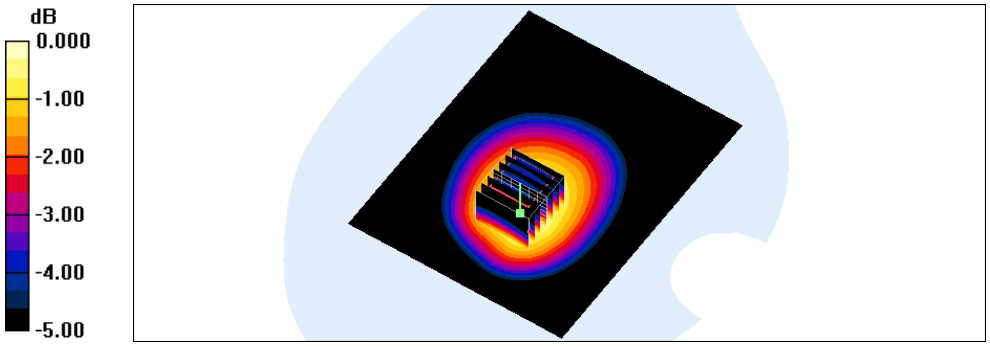
Communication System: GPRS 850 (3Down, 2Up); Frequency: 824.2 MHz;Duty Cycle: 1:4
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.973 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/9/12
- 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 (81x101x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.937 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 29.0 V/m; Power Drift = -0.055 dB
Peak SAR (extrapolated) = 1.07 W/kg
SAR(1 g) = 0.836 mW/g; SAR(10 g) = 0.626 mW/g
Maximum value of SAR (measured) = 0.928 mW/g



0 dB = 0.928mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/21 AM 12:08:50

Flat_GPRS 850 CH128_3D2U_Back surface to phantom 15mm

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

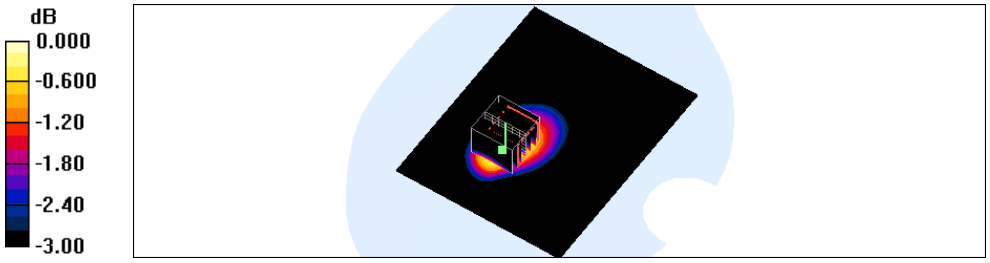
Communication System: GPRS 850 (3Down, 2Up); Frequency: 824.2 MHz;Duty Cycle: 1:4
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.973 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/9/12
- 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 (81x101x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.31 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 31.7 V/m; Power Drift = -0.050 dB
Peak SAR (extrapolated) = 1.67 W/kg
SAR(1 g) = 1.11 mW/g; SAR(10 g) = 0.766 mW/g
Maximum value of SAR (measured) = 1.28 mW/g



0 dB = 1.28mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/4/9 PM 12:50:48

Flat_GPRS 850 CH190_3D2U_Front surface to phantom 15mm

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

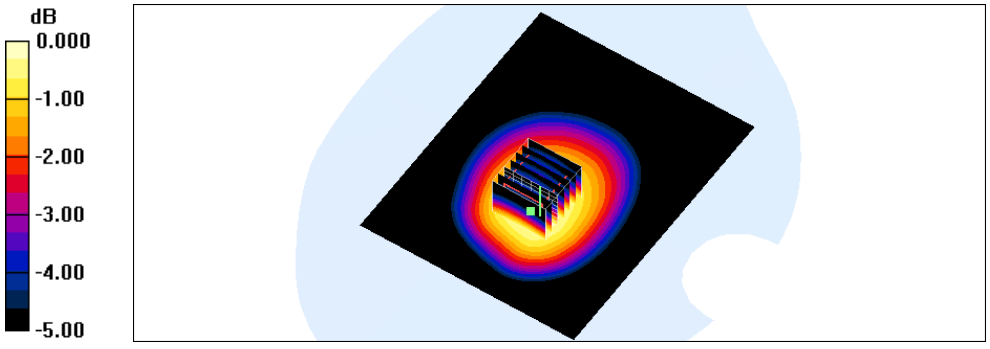
Communication System: GPRS 850 (3Down, 2Up); Frequency: 824.2 MHz;Duty Cycle: 1:4
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.973 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/9/12
- 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 (81x101x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.04 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 30.6 V/m; Power Drift = 0.011 dB
Peak SAR (extrapolated) = 1.22 W/kg
SAR(1 g) = 0.932 mW/g; SAR(10 g) = 0.698 mW/g
Maximum value of SAR (measured) = 1.03 mW/g



0 dB = 1.03mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/21 AM 12:48:57

Flat_GPRS 850 CH190_3D2U_Back surface to phantom 15mm

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

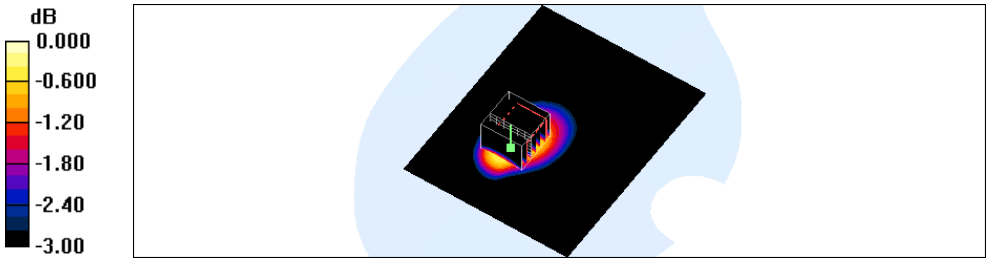
Communication System: GPRS 850 (3Down, 2Up); Frequency: 836.6 MHz;Duty Cycle: 1:4
Medium parameters used: f = 837 MHz; σ = 0.987 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

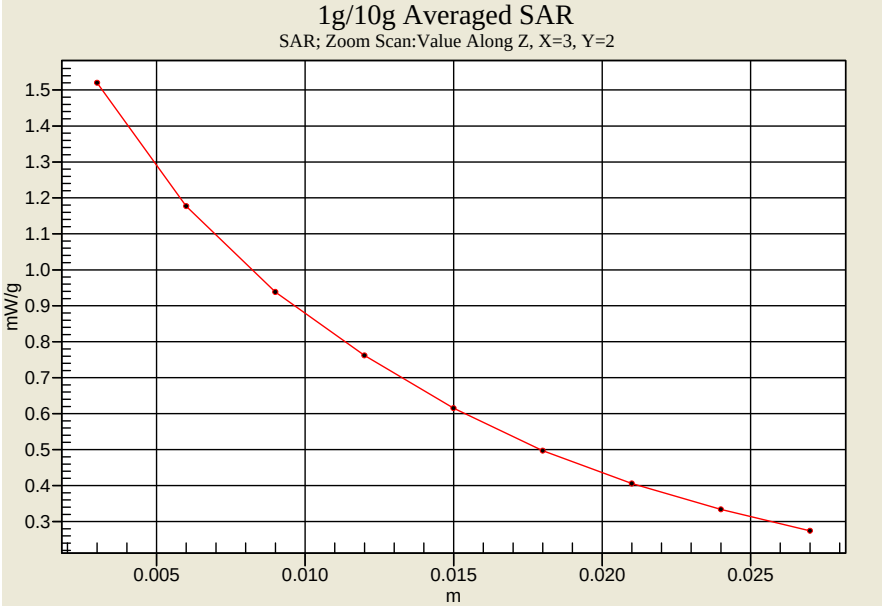
- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3270; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/9/12
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2011/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80;Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (81x101x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.54 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 34.1 V/m; Power Drift = 0.058 dB
Peak SAR (extrapolated) = 2.01 W/kg
SAR(1 g) = 1.32 mW/g; SAR(10 g) = 0.910 mW/g
Maximum value of SAR (measured) = 1.52 mW/g



0 dB = 1.52mW/g



Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/20 PM 11:40:51

Flat_GPRS 850 CH251_3D2U_Front surface to phantom 15mm

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

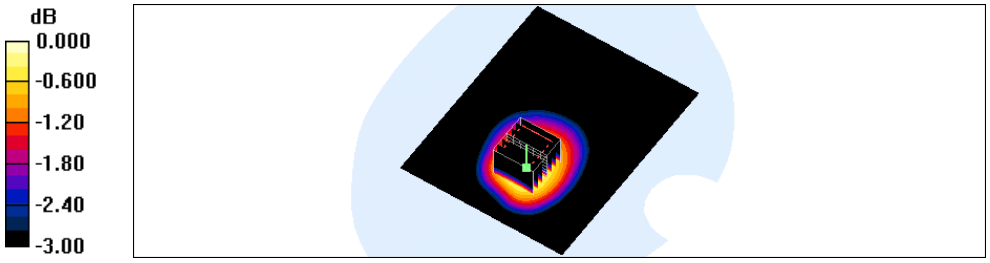
Communication System: GPRS 850 (3Down, 2Up); Frequency: 848.8 MHz;Duty Cycle: 1:4
Medium parameters used: f = 849 MHz; σ = 1 mho/m; ε_r = 53.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3270; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/9/12
- 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 (81x101x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.04 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 28.0 V/m; Power Drift = -0.001 dB
Peak SAR (extrapolated) = 1.27 W/kg
SAR(1 g) = 0.925 mW/g; SAR(10 g) = 0.682 mW/g
Maximum value of SAR (measured) = 1.03 mW/g



0 dB = 1.03mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/20 PM 11:13:58

Flat_GPRS 850 CH251_3D2U_Back surface to phantom 15mm

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

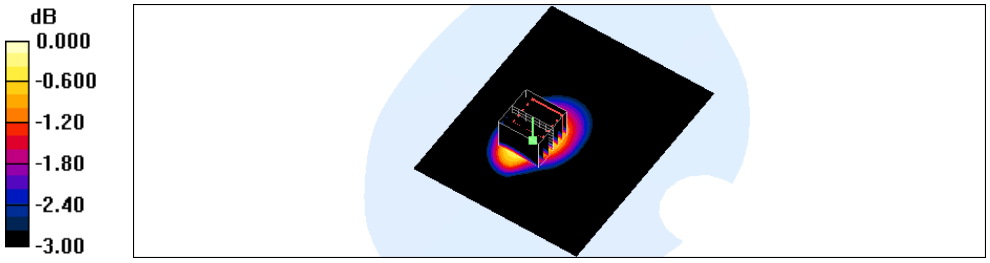
Communication System: GPRS 850 (3Down, 2Up); Frequency: 848.8 MHz;Duty Cycle: 1:4
Medium parameters used: f = 849 MHz; σ = 1 mho/m; ε_r = 53.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Area Scan setting - Find Secondary Maximum Within:2.0dB and with a peak SAR value greater than 0.5 W/Kg
- Probe: ES3DV3 - SN3270; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/9/12
- 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 (81x101x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.50 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 35.3 V/m; Power Drift = 0.004 dB
Peak SAR (extrapolated) = 1.97 W/kg
SAR(1 g) = 1.3 mW/g; SAR(10 g) = 0.895 mW/g
Maximum value of SAR (measured) = 1.48 mW/g



0 dB = 1.48mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/20 PM 07:51:02

Flat_GPRS PCS CH810_3D2U_Front surface to phantom 15mm

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

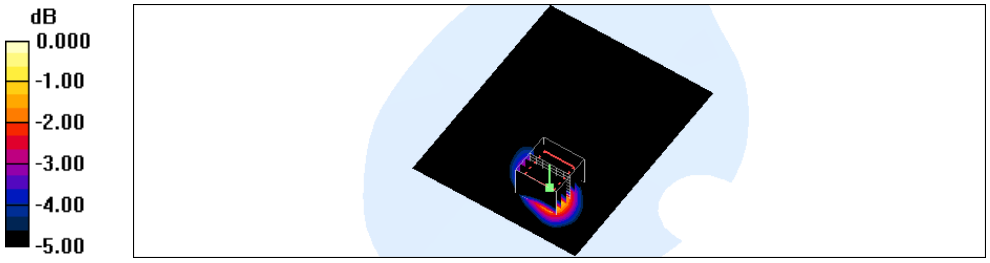
Communication System: GPRS PCS (3Down,2Up); Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium parameters used: f = 1910 MHz; σ = 1.5 mho/m; ε_r = 51; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(4.64, 4.64, 4.64); Calibrated: 2011/9/12
- 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 (81x101x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.229 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 5.53 V/m; Power Drift = 0.011 dB
Peak SAR (extrapolated) = 0.295 W/kg
SAR(1 g) = 0.194 mW/g; SAR(10 g) = 0.114 mW/g
Maximum value of SAR (measured) = 0.235 mW/g



0 dB = 0.235mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/20 PM 08:16:41

Flat_GPRS PCS CH810_3D2U_Back surface to phantom 15mm

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

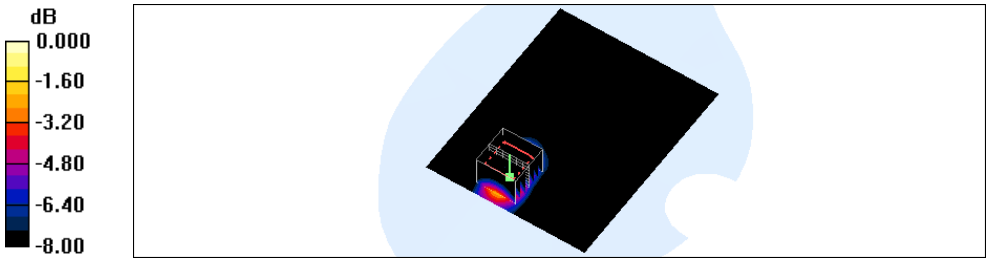
Communication System: GPRS PCS (3Down,2Up); Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium parameters used: f = 1910 MHz; σ = 1.5 mho/m; ε_r = 51; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(4.64, 4.64, 4.64); Calibrated: 2011/9/12
- 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 (81x101x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.519 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 3.77 V/m; Power Drift = -0.132 dB
Peak SAR (extrapolated) = 0.688 W/kg
SAR(1 g) = 0.415 mW/g; SAR(10 g) = 0.213 mW/g
Maximum value of SAR (measured) = 0.530 mW/g



0 dB = 0.530mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/20 PM 05:36:16

Flat_WCDMA Band II CH9400_Front surface to phantom 15mm

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

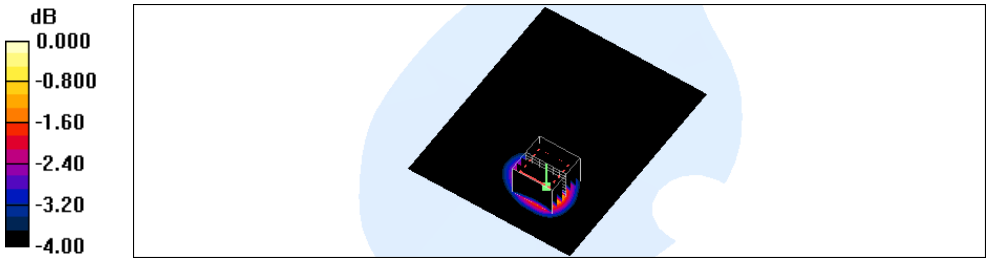
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.48 mho/m; ε_r = 51.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(4.64, 4.64, 4.64); Calibrated: 2011/9/12
- 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 (81x101x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.377 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 7.26 V/m; Power Drift = -0.018 dB
Peak SAR (extrapolated) = 0.461 W/kg
SAR(1 g) = 0.312 mW/g; SAR(10 g) = 0.189 mW/g
Maximum value of SAR (measured) = 0.373 mW/g



0 dB = 0.373mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/20 PM 06:12:18

Flat_WCDMA Band II CH9400_Back surface to phantom 15mm

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

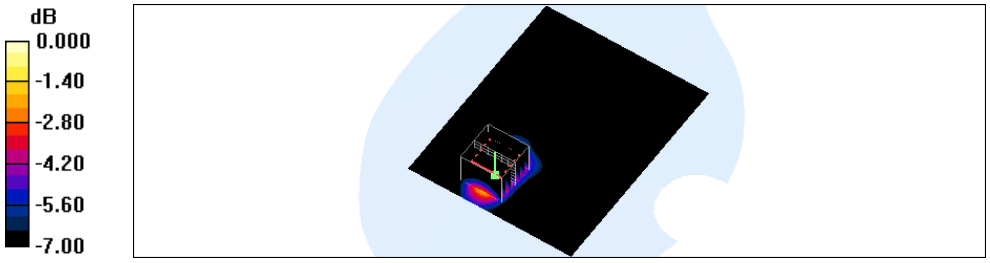
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.48 mho/m; ε_r = 51.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(4.64, 4.64, 4.64); Calibrated: 2011/9/12
- 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 (81x101x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.490 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 5.35 V/m; Power Drift = -0.026 dB
Peak SAR (extrapolated) = 0.660 W/kg
SAR(1 g) = 0.401 mW/g; SAR(10 g) = 0.213 mW/g
Maximum value of SAR (measured) = 0.506 mW/g



0 dB = 0.506mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/21 AM 02:01:15

Flat_WCDMA Band V CH4132_Front surface to phantom 15mm

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

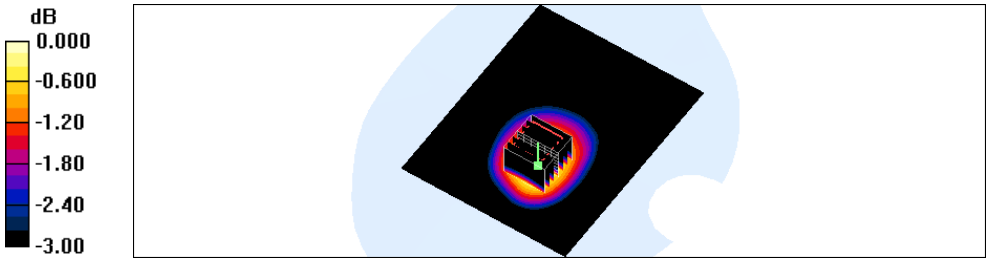
Communication System: WCDMA Band V; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.976 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/9/12
- 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 (81x101x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.575 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 22.0 V/m; Power Drift = -0.008 dB
Peak SAR (extrapolated) = 0.705 W/kg
SAR(1 g) = 0.517 mW/g; SAR(10 g) = 0.381 mW/g
Maximum value of SAR (measured) = 0.576 mW/g



0 dB = 0.576mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/21 AM 02:26:07

Flat_WCDMA Band V CH4132_Back surface to phantom 15mm

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

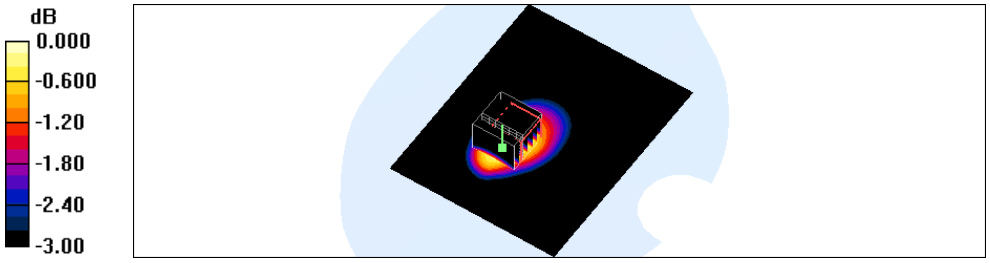
Communication System: WCDMA Band V; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.976 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(6.16, 6.16, 6.16); Calibrated: 2011/9/12
- 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 (81x101x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.771 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 25.4 V/m; Power Drift = -0.017 dB
Peak SAR (extrapolated) = 0.977 W/kg
SAR(1 g) = 0.659 mW/g; SAR(10 g) = 0.459 mW/g
Maximum value of SAR (measured) = 0.753 mW/g



0 dB = 0.753mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/21 PM 01:03:03

Flat_802.11b Ch1_1M_Front surface to phantom 15mm

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

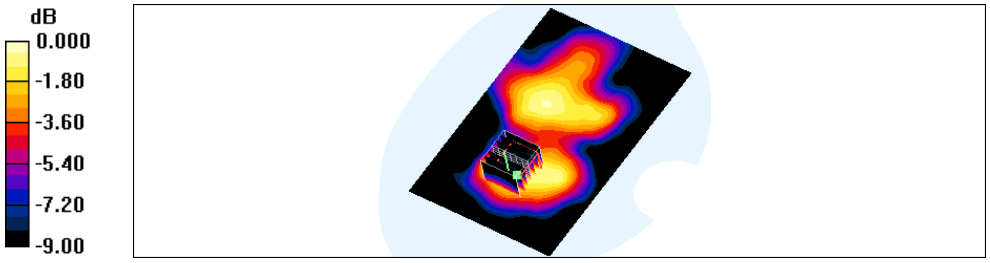
Communication System: IEEE 802.11b; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.9 mho/m; ε_r = 52; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(4.28, 4.28, 4.28); Calibrated: 2011/9/12
- 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 (81x121x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.014 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 1.80 V/m; Power Drift = -0.023 dB
Peak SAR (extrapolated) = 0.023 W/kg
SAR(1 g) = 0.012 mW/g; SAR(10 g) = 0.00681 mW/g
Maximum value of SAR (measured) = 0.015 mW/g



0 dB = 0.015mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/21 PM 12:01:08

Flat_802.11b Ch1_1M_Back surface to phantom 15mm

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

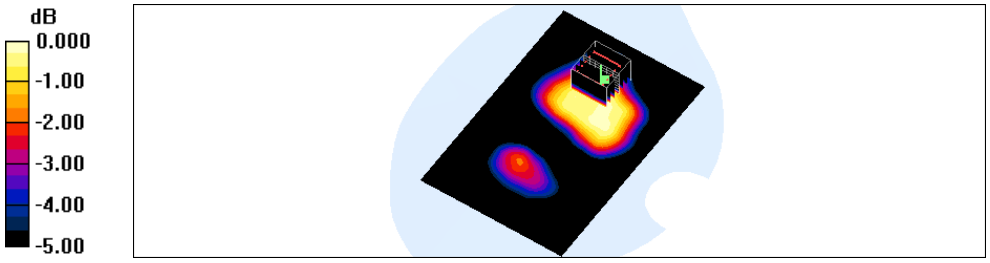
Communication System: IEEE 802.11b; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.9 mho/m; ε_r = 52; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(4.28, 4.28, 4.28); Calibrated: 2011/9/12
- 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 (81x121x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.038 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 2.51 V/m; Power Drift = 0.195 dB
Peak SAR (extrapolated) = 0.058 W/kg
SAR(1 g) = 0.029 mW/g; SAR(10 g) = 0.016 mW/g
Maximum value of SAR (measured) = 0.036 mW/g



0 dB = 0.036mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/21 PM 02:40:38

Flat_802.11g Ch1_6M_Front surface to phantom 15mm

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

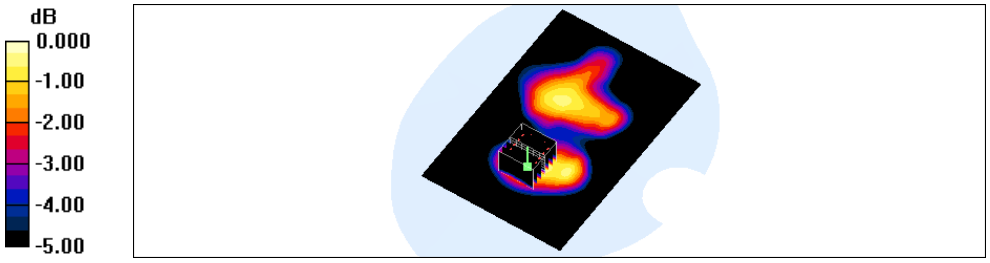
Communication System: IEEE 802.11g; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.9 mho/m; ε_r = 52; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(4.28, 4.28, 4.28); Calibrated: 2011/9/12
- 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 (81x121x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.038 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 2.93 V/m; Power Drift = 0.009 dB
Peak SAR (extrapolated) = 0.058 W/kg
SAR(1 g) = 0.031 mW/g; SAR(10 g) = 0.018 mW/g
Maximum value of SAR (measured) = 0.038 mW/g



0 dB = 0.038mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/21 PM 01:52:17

Flat_802.11g Ch1_6M_Back surface to phantom 15mm

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

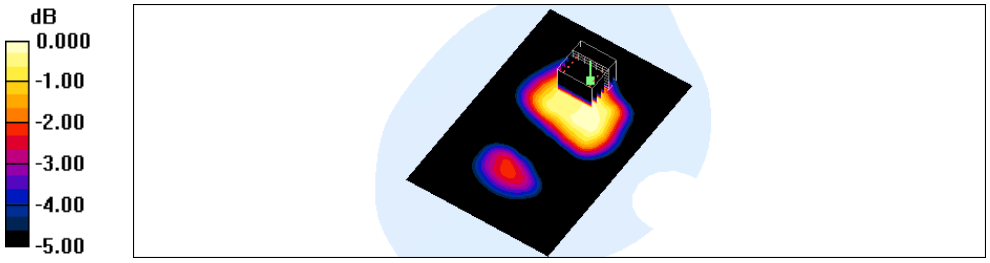
Communication System: IEEE 802.11g; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.9 mho/m; ε_r = 52; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(4.28, 4.28, 4.28); Calibrated: 2011/9/12
- 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 (81x121x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.086 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 4.40 V/m; Power Drift = 0.037 dB
Peak SAR (extrapolated) = 0.140 W/kg
SAR(1 g) = 0.070 mW/g; SAR(10 g) = 0.039 mW/g
Maximum value of SAR (measured) = 0.086 mW/g



0 dB = 0.086mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/22 AM 07:31:10

Flat_BT CH0_Front surface to phantom 0mm

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

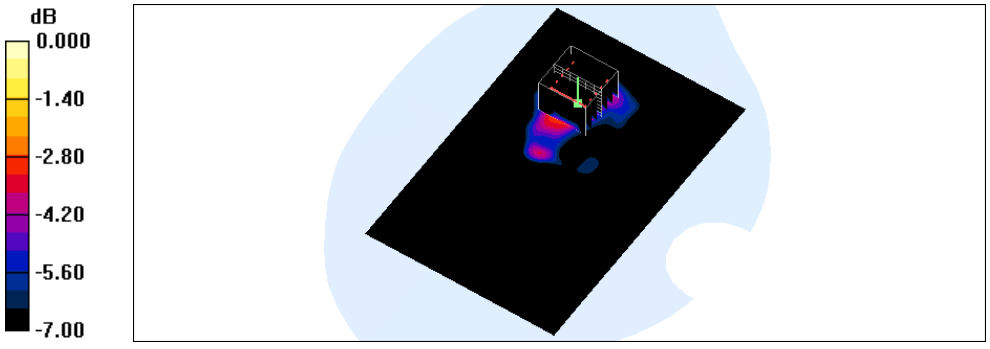
Communication System: Bluetooth; Frequency: 2402 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2402 MHz; σ = 1.9 mho/m; ε_r = 52.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(4.28, 4.28, 4.28); Calibrated: 2011/9/12
- 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 (81x121x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.014 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 1.20 V/m; Power Drift = 0.096 dB
Peak SAR (extrapolated) = 0.021 W/kg
SAR(1 g) = 0.00964 mW/g; SAR(10 g) = 0.00416 mW/g
Maximum value of SAR (measured) = 0.014 mW/g



0 dB = 0.014mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2012/3/22 AM 06:11:45

Flat_BT CH0_Back Surface to Phantom_0mm

DUT: TH03M; Type: PDA phone; FCC ID: GUOTH03M

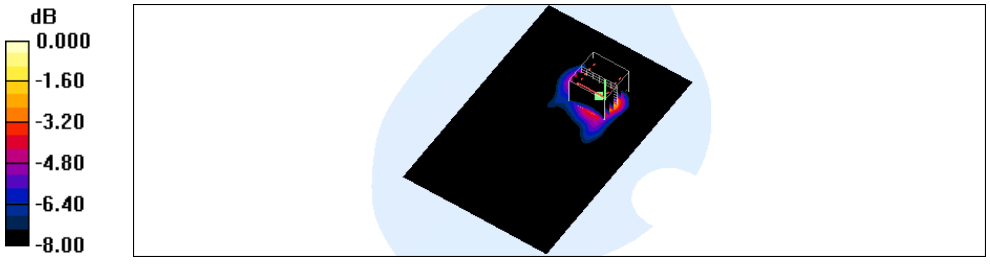
Communication System: Bluetooth; Frequency: 2402 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2402 MHz; σ = 1.9 mho/m; ε_r = 52.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

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 - SN3270; ConvF(4.28, 4.28, 4.28); Calibrated: 2011/9/12
- 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 (81x121x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.062 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 1.13 V/m; Power Drift = -0.187 dB
Peak SAR (extrapolated) = 0.123 W/kg
SAR(1 g) = 0.046 mW/g; SAR(10 g) = 0.022 mW/g
Maximum value of SAR (measured) = 0.061 mW/g



0 dB = 0.061mW/g

Appendix C - Calibration

All of the instruments Calibration information are listed below.

- Dipole _ D835V2 SN:4d082 Calibration No.D835V2-4d082_Jul11
- Dipole _ D1900V2 SN:5d111 Calibration No.D1900V2-5d111_Jul11
- Dipole _ D2450V2 SN:712 Calibration No.D2450V2-712_Feb12
- Probe _ ES3DV3 SN:3270 Calibration No.ES3-3270_Sep11
- DAE _ DAE4 SN:541 Calibration No.DAE4-541_Jul11

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Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

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

Accreditation No.: SCS 108

Client ATL (Auden)

Certificate No: D835V2-4d082_Jul11

CALIBRATION CERTIFICATE

Object	D835V2 - SN: 4d082
Calibration procedure(s)	QA CAL-05.v8 Calibration procedure for dipole validation kits above 700 MHz
Calibration date:	July 19, 2011

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	06-Oct-10 (No. 217-01266)	Oct-11
Power sensor HP 8481A	US37292783	06-Oct-10 (No. 217-01266)	Oct-11
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-11 (No. 217-01367)	Apr-12
Type-N mismatch combination	SN: 5047.2 / 06327	29-Mar-11 (No. 217-01371)	Apr-12
Reference Probe ES3DV3	SN: 3205	29-Apr-11 (No. ES3-3205_Apr11)	Apr-12
DAE4	SN: 601	04-Jul-11 (No. DAE4-601_Jul11)	Jul-12

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-09)	In house check: Oct-11
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-10)	In house check: Oct-11

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

Issued: July 19, 2011

Glossary:

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

Calibration is Performed According to the Following Standards:

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

Additional Documentation:

d) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

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

Measurement Conditions

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

DASY Version	DASY5	V52.6.2
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	835 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.5	0.90 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	41.0 ± 6 %	0.88 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.28 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**9.25 mW /g ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.50 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**6.07 mW /g ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.2	0.97 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	53.8 ± 6 %	0.98 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.39 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**9.43 mW / g ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.57 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**6.22 mW / g ± 16.5 % (k=2)**

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	50.4 Ω - 7.0 jΩ
Return Loss	- 23.1 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	46.1 Ω - 8.8 jΩ
Return Loss	- 20.0 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.389 ns

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

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

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	October 17, 2008

DASY5 Validation Report for Head TSL

Date: 18.07.2011

Test Laboratory: SPEAG, Zurich, Switzerland

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

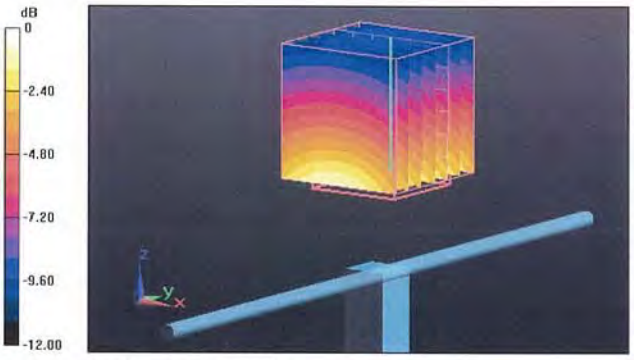
Communication System: CW; Frequency: 835 MHz
Medium parameters used: f = 835 MHz; σ = 0.88 mho/m; ε_r = 41; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.07, 6.07, 6.07); Calibrated: 29.04.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.6.2(482); SEMCAD X 14.4.5(3634)

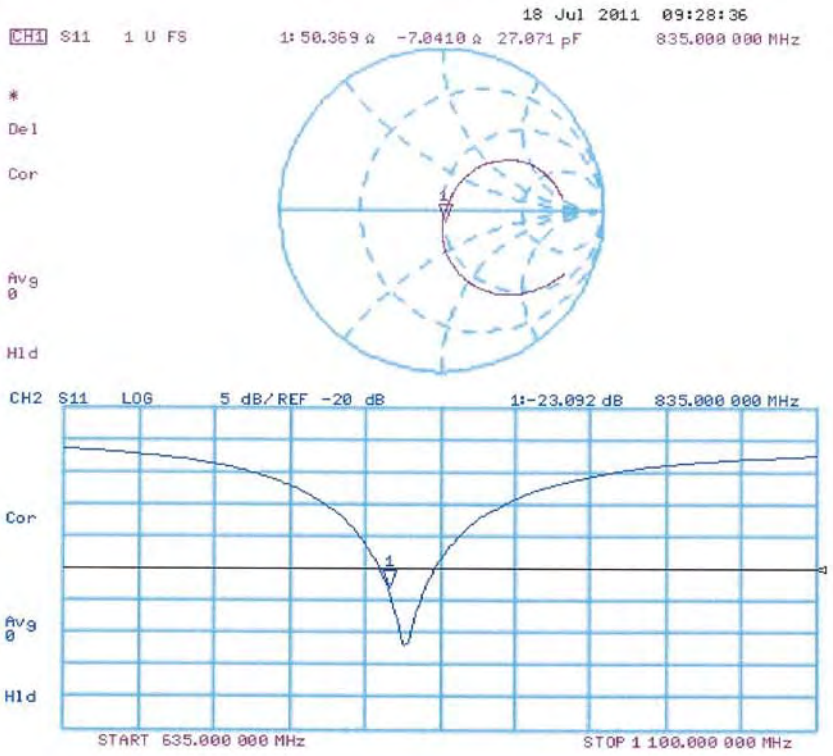
Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 56.745 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 3.357 W/kg
SAR(1 g) = 2.28 mW/g; SAR(10 g) = 1.5 mW/g
Maximum value of SAR (measured) = 2.657 mW/g



0 dB = 2.660mW/g

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 19.07.2011

Test Laboratory: SPEAG, Zurich, Switzerland

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

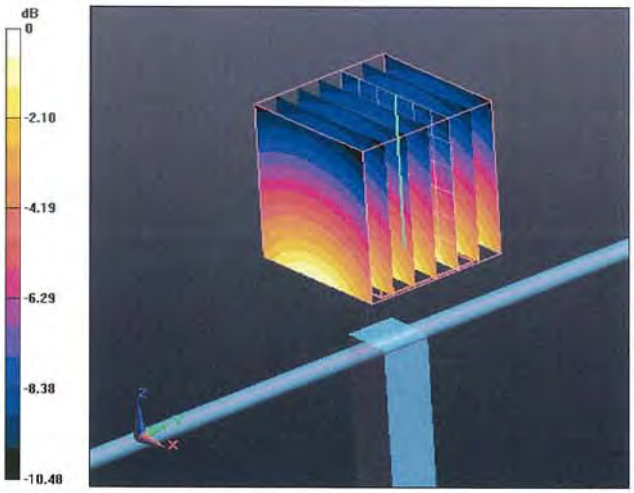
Communication System: CW; Frequency: 835 MHz
Medium parameters used: f = 835 MHz; σ = 0.98 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(6.02, 6.02, 6.02); Calibrated: 29.04.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; Serial: 1001
- DASY52 52.6.2(482); SEMCAD X 14.4.5(3634)

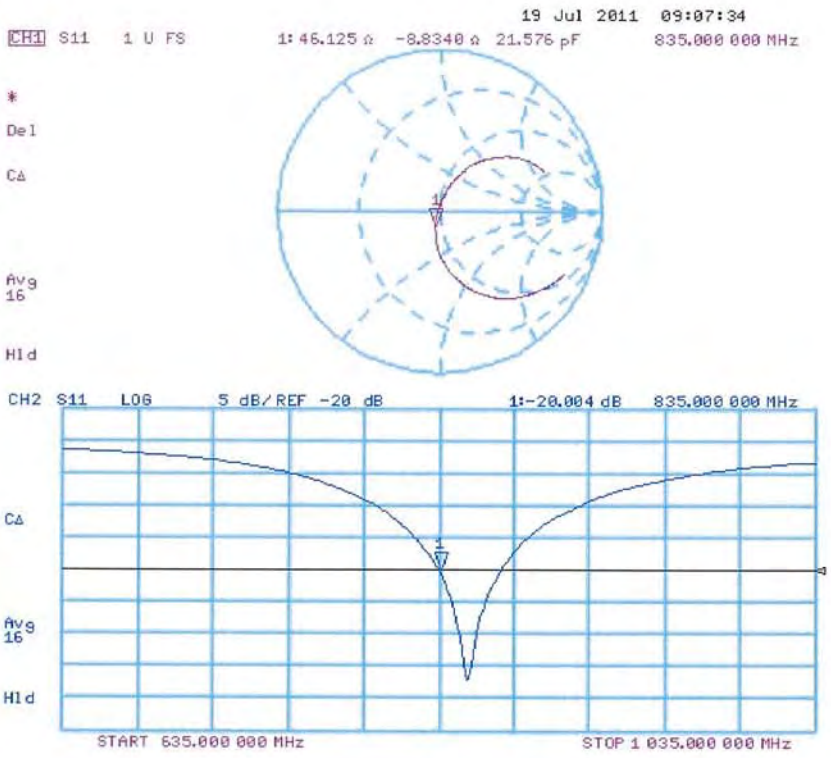
Dipole Calibration for Body Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 54.883 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 3.464 W/kg
SAR(1 g) = 2.39 mW/g; SAR(10 g) = 1.57 mW/g
Maximum value of SAR (measured) = 2.762 mW/g



0 dB = 2.760mW/g

Impedance Measurement Plot for Body TSL



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Accreditation No.: **SCS 108**

Client **ATL (Auden)**

Certificate No: **D1900V2-5d111_Jul11**

CALIBRATION CERTIFICATE

Object	D1900V2 - SN: 5d111
Calibration procedure(s)	QA CAL-05.v8 Calibration procedure for dipole validation kits above 700 MHz
Calibration date:	July 22, 2011

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

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

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	06-Oct-10 (No. 217-01266)	Oct-11
Power sensor HP 8481A	US37292783	06-Oct-10 (No. 217-01266)	Oct-11
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-11 (No. 217-01367)	Apr-12
Type-N mismatch combination	SN: 5047.2 / 06327	29-Mar-11 (No. 217-01371)	Apr-12
Reference Probe ES3DV3	SN: 3205	29-Apr-11 (No. ES3-3205_Apr11)	Apr-12
DAE4	SN: 601	04-Jul-11 (No. DAE4-601_Jul11)	Jul-12

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Power sensor HP 8481A	MY41092317	18-Oct-02 (in house check Oct-09)	In house check: Oct-11
RF generator R&S SMT-06	100005	04-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-01 (in house check Oct-10)	In house check: Oct-11

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

Issued: July 22, 2011

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S Servizio svizzero di taratura
Swiss Calibration Service

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

Accreditation No.: SCS 108

Glossary:

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

Calibration is Performed According to the Following Standards:

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

Additional Documentation:

d) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

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

Measurement Conditions

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

DASY Version	DASY5	V52.6.2
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1900 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	40.0	1.40 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	39.1 ± 6 %	1.42 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	10.1 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**39.9 mW /g ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	250 mW input power	5.25 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**20.8 mW /g ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Body TSL parameters	22.0 °C	53.3	1.52 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	52.3 ± 6 %	1.53 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	10.3 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**40.9 mW / g ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	250 mW input power	5.39 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**21.5 mW / g ± 16.5 % (k=2)**

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	51.3 Ω + 6.7 jΩ
Return Loss	- 23.5 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	45.9 Ω + 6.6 jΩ
Return Loss	- 21.8 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.201 ns

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

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

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	March 28, 2008

DASY5 Validation Report for Head TSL

Date: 20.07.2011

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d111

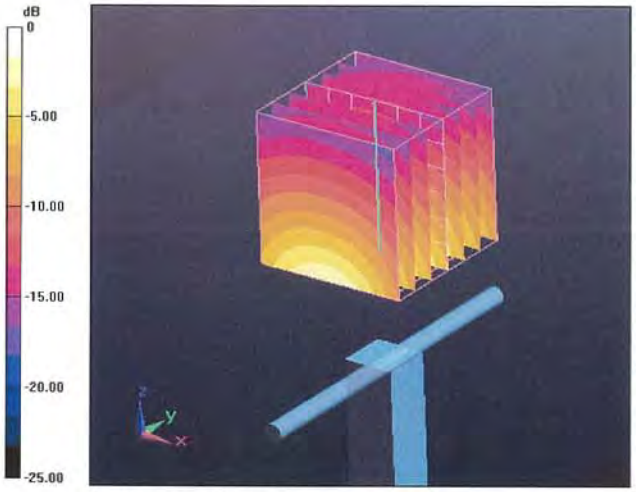
Communication System: CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.42 mho/m; ε_r = 39.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(5.01, 5.01, 5.01); Calibrated: 29.04.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.6.2(482); SEMCAD X 14.4.5(3634)

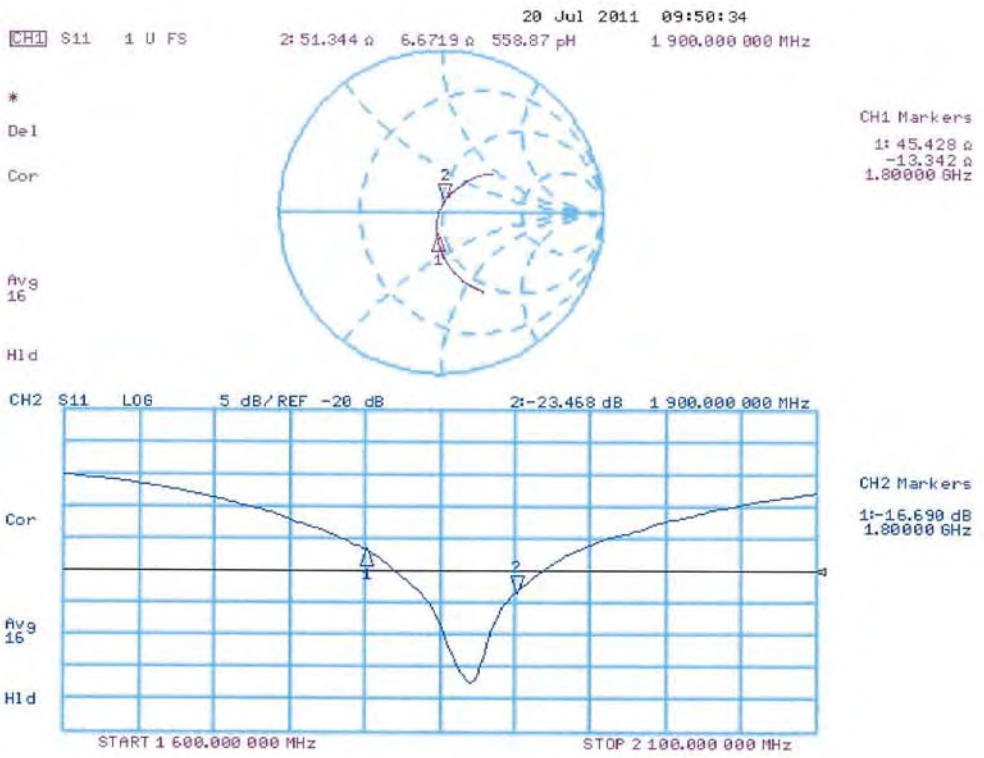
Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 98.068 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 18.391 W/kg
SAR(1 g) = 10.1 mW/g; SAR(10 g) = 5.25 mW/g
Maximum value of SAR (measured) = 12.667 mW/g



0 dB = 12.670mW/g

Impedance Measurement Plot for Head TSL



DASY5 Validation Report for Body TSL

Date: 22.07.2011

Test Laboratory: SPEAG, Zurich, Switzerland

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d111

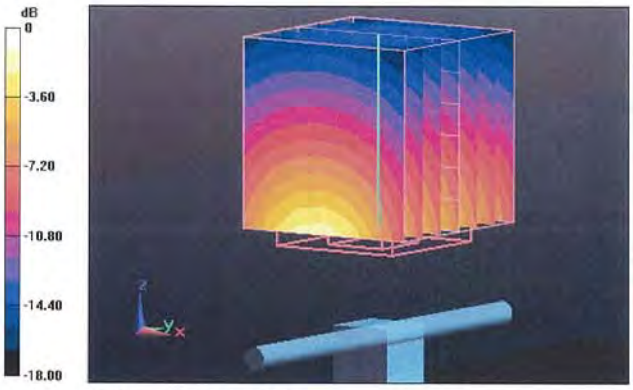
Communication System: CW; Frequency: 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.53 mho/m; ε_r = 52.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.62, 4.62, 4.62); Calibrated: 29.04.2011
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 04.07.2011
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.6.2(482); SEMCAD X 14.4.5(3634)

Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 95.720 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 18.122 W/kg
SAR(1 g) = 10.3 mW/g; SAR(10 g) = 5.39 mW/g
Maximum value of SAR (measured) = 12.882 mW/g



0 dB = 12.880mW/g

Impedance Measurement Plot for Body TSL