A Test Lab Techno Corp.

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SAR EVALUATION REPORT

Test Report No.	:	**1011FS16-01**
Applicant	:	**HTC Corporation**
Product Type	:	**Smartphone**
Trade Name	:	**HTC**
Model Number	:	**PD98140**
Dates of Test	:	**Sep. 02, ~ Oct. 21, 2010, Nov. 19 ~ Nov. 23, 2010**
Test Environment	:	**Ambient Temperature： 22 ±2 ° C**
		Relative Humidity：40 - 70 %
Test Specification	:	**Standard C95.1-2005**
		IEEE Std. 1528-2003
		2.1093;FCC/OET Bulletin 65 Supplement C [July 2001]
		RSS-102 Issue 4 (March 2010)
		FCC KDB 648474 D01 SAR Handsets Multi Xmiter and Ant
		FCC KDB 648474 D02 SAR Polcy Handsts Multi Xmiter Ant
		FCC KDB 941225 D03 SAR Test Reduction GSM GPRS EDGE
		FCC KDB 248227 D01 SAR meas for 802.11abg vo1r02
Max. SAR	:	**1.140 W/kg Head SAR**
		1.130 W/kg Body SAR
Test Lab Location	:	**Chang-an Lab**

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

Sam Chuang **Dec. 06, 2010**
Approve Signer

Alex Wu **Dec. 06, 2010**
Testing Engineer

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1. Description of Equipment under Test (EUT)

Applicant	:	HTC Corporation
Applicant Address	:	No. 23, Xinghua Rd., Taoyuan City, Taoyuan County 330, Taiwan
Manufacturer	:	HTC Corporation
Manufacturer Address	:	No. 23, Xinghua Rd., Taoyuan City, Taoyuan County 330, Taiwan
Product Type	:	Smartphone
Trade Name	:	HTC
Model Number	:	PD98140
IMEI No.	:	355761040010165 (for #1 GSM Power Amplifier) 355761040015438 (for #2 GSM Power Amplifier)
FCC ID	:	NM8PD98140
Tx Frequency	:	824.2 - 848.8 MHz GSM/GPRS/EGPRS 850 1850.2 - 1909.8 MHz PCS/GPRS/EGPRS 1900 1852.4 - 1907.6 MHz WCDMA(RMC 12.2K)/HSDPA/HSUPA Band II 826.4 - 846.4 MHz WCDMA(RMC 12.2K)/HSDPA/HSUPA Band V 2412 - 2462 MHz IEEE 802.11b/802.11g 2412 - 2462 MHz Draft 802.11n 2.4GHz Standard-20MHz 2402 - 2480 MHz Bluetooth
Device Class	:	GPRS/EGPRS Class B
Multi-slot Class	:	GPRS/EGPRS Class 12 (The maximum number of downlink is 4 and maximum number of uplink is 4, total timeslots is 5.)
RF Conducted Power	:	0.635 W / 28.03 dBm GSM/GPRS/EGPRS 850 (for #1 GSM Power Amplifier) 0.918 W / 26.93 dBm GSM/GPRS/EGPRS 850 (for #2 GSM Power Amplifier) 0.273 W / 24.33 dBm PCS/GPRS/EGPRS 1900 (for #1 GSM Power Amplifier) 0.357 W / 25.53 dBm PCS/GPRS/EGPRS 1900 (for #2 GSM Power Amplifier) 0.226 W / 23.54 dBm WCDMA /HSDPA/HSUPA Band II 0.252 W / 24.01 dBm WCDMA /HSDPA/HSUPA Band V 0.059 W / 17.70 dBm IEEE 802.11b 0.019 W / 12.90 dBm IEEE 802.11g 0.017 W / 12.28 dBm Draft 802.11n 2.4GHz Standard-20MHz 0.001 W / -0.80 dBm Bluetooth
Max. SAR Measurement	:	1.140 W/kg Head SAR 1.130 W/kg Body SAR
Antenna Type	:	PIFA Antenna
Device Category	:	Portable
RF Exposure Environment	:	General Population / Uncontrolled
Battery Option	:	Standard (The battery has two types. The batteries are same specifications, it only differs from manufacturer.)
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 C95.1-2005 / RSS-102 Issue 4 (March 2010) and had been tested in accordance with the measurement procedures specified in IEEE Std. 1528-2003.

2. Introduction

The A Test Lab Techno Corp. has performed measurements of the maximum potential exposure to the user of **HTC Corporation Trade Name：HTC Model(s)：PD98140.** The test procedures, as described in American National Standards, Institute C95.1 - 2005〔1〕, FCC/OET Bulletin 65 Supplement C [July 2001] and RSS-102 Issue 4 (March 2010) 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 25cm 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.

3. 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 Mathematical Equation

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

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)

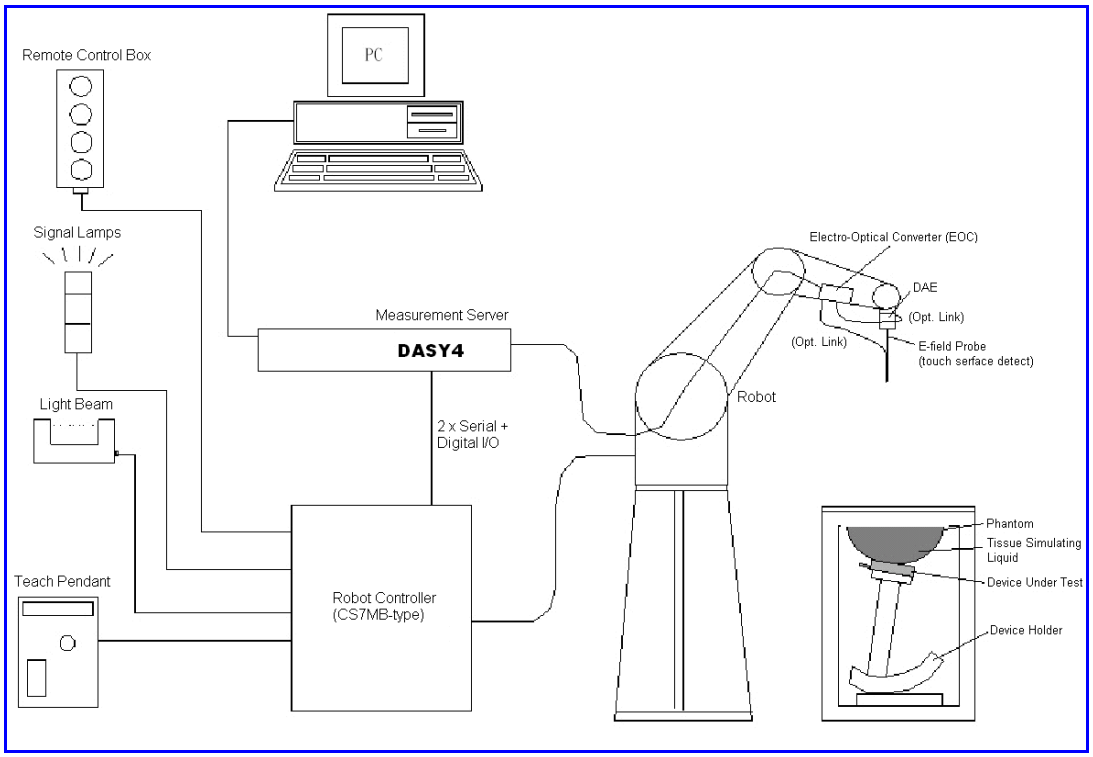
ρ = mass density of the tissue (kg/m^3)

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〕

4. 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.

5. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Last Calibration	Remark
SPEAG	Dosimetric E-Field Probe	EX3DV4	3578	06/22/2010	(1)
SPEAG	Dosimetric E-Field Probe	EX3DV3	3519	02/23/2010	(1)
SPEAG	Dosimetric E-Field Probe	EX3DV4	3632	01/26/2010	(1)
SPEAG	835MHz System Validation Kit	D835V2	4d082	07/20/2010	(1)
SPEAG	1900MHz System Validation Kit	D1900V2	5d111	07/16/2010	(1)
SPEAG	2450MHz System Validation Kit	D2450V2	712	02/19/2010	(1)
SPEAG	Data Acquisition Electronics	DAE4	541	07/21/2010	(1)
SPEAG	Measurement Server	SE UMS 001 BA	1021	NCR	-----
SPEAG	Device Holder	N/A	N/A	NCR	-----
SPEAG	Phantom	SAM V4.0	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	-----
R&S	Wireless Communication Test Set	CMU200	109369	08/10/2010	(1)
Agilent	Wireless Communication Test Set	E5515C	GB47020167	05/25/2009	(2)
Agilent	ENA Series Network Analyzer	E5071B	MY42404655	04/14/2010	(1)
Agilent	Dielectric Probe Kit	85070C	US99360094	NCR	-----
R&S	Power Sensor	NRP-Z22	100179	05/17/2009	(2)
Agilent	Signal Generator	E8257D	MY44320425	03/09/2009	(2)
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	-----

Remark: (1) Calibration period 1 year. (2) Calibration period 2 years.

NOTE: N.C.R. = No Calibration Request.

6. 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 s

pecified 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 1. Tissue dielectric parameters for head and body phantoms

6.1 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

6.2 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 ε and ±5% for σ.

Liquid type	**HSL 900-B**	
Ingredient	Weight (g)	Weight (%)
Water	532.63	40.29
Sugar	765.49	57.90
Cellulose	3.20	0.24
Salt	18.29	1.38
Preventol	2.40	0.18
Total amount	1,322.00	100.00
Goal dielectric parameters		
Frequency [MHz]	835	900
Relative Permittivity	41.5	41.5
Conductivity [S/m]	0.90	0.97

Liquid type	MSL 900-B	
Ingredient	Weight (g)	Weight (%)
Water	633.91	50.75
Sugar	602.12	50.75
Cellulose	-	0.00
Salt	11.76	0.94
Preventol	1.20	0.10
Total amount	1,249.00	100.00
Goal dielectric parameters		
Frequency [MHz]	835	900
Relative Permittivity	55.2	55.0
Conductivity [S/m]	0.97	1.05

Liquid type	HSL 1950-B	
Ingredient	Weight (g)	Weight (%)
Water	554.12	55.41
DGBE	445.08	44.51
Salt	0.80	0.08
Total amount	1,000.00	100.00
Goal dielectric parameters		
Frequency [MHz]	1950	2000
Relative Permittivity	40.0	40.0
Conductivity [S/m]	1.40	1.40

Liquid type	MSL 1950-A	
Ingredient	Weight (g)	Weight (%)
Water	697.94	69.79
DGBE	300.03	30.00
Salt	2.03	0.20
Total amount	1,000.00	100.00
Goal dielectric parameters		
Frequency [MHz]	1950	2000
Relative Permittivity	53.3	53.3
Conductivity [S/m]	1.52	1.52

Liquid type	MSL 2450-B	
Ingredient	Weight (g)	Weight (%)
Water	686.35	68.64
DGBE	313.65	31.37
Salt	-	0.00
Total amount	1,000.00	100.00
Goal dielectric parameters		
Frequency [MHz]	2450	
Relative Permittivity	52.7	
Conductivity [S/m]	1.95	

6.3 Liquid Confirmation

6.3.1 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**	41.5	40.70	-1.93%	± 5	09/02/2010
			σ	0.90	0.908	0.89%	± 5	
	835MHz	22.0	**εr**	41.5	40.50	-2.41%	± 5	
			σ	0.90	0.922	2.44%	± 5	
	850MHz	22.0	**εr**	41.5	40.40	-2.65%	± 5	
			σ	0.90	0.938	4.22%	± 5	
835MHz Head	820MHz	22.0	**εr**	41.5	40.70	-1.93%	± 5	10/21/2010
			σ	0.90	0.908	0.89%	± 5	
	835MHz	22.0	**εr**	41.5	40.50	-2.41%	± 5	
			σ	0.90	0.922	2.44%	± 5	
	850MHz	22.0	**εr**	41.5	40.40	-2.65%	± 5	
			σ	0.90	0.938	4.22%	± 5	
1900MHz Head	1850MHz	22.0	εr	40.0	40.3	0.75%	± 5	09/03/2010
			σ	1.40	1.34	-4.29%	± 5	
	1900MHz	22.0	εr	40.0	40.3	0.75%	± 5	
			σ	1.40	1.38	-1.43%	± 5	
	1930MHz	22.0	εr	40.0	40.1	0.25%	± 5	
			σ	1.40	1.40	0.00%	± 5	

Table 2. 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**
1900MHz Head	1850MHz	22.0	εr	40.0	40.3	0.75%	± 5	10/21/2010
			σ	1.40	1.34	-4.29%	± 5	
	1900MHz	22.0	εr	40.0	40.3	0.75%	± 5	
			σ	1.40	1.38	-1.43%	± 5	
	1930MHz	22.0	εr	40.0	40.1	0.25%	± 5	
			σ	1.40	1.40	0.00%	± 5	
835MHz Body	820MHz	22.0	εr	55.2	54.70	-0.91%	± 5	09/03/2010
			σ	0.97	0.964	-0.67%	± 5	
	835MHz	22.0	εr	55.2	54.70	-0.91%	± 5	
			σ	0.97	0.981	1.13%	± 5	
	850MHz	22.0	εr	55.2	54.70	-0.91%	± 5	
			σ	0.97	1.001	3.20%	± 5	
835MHz Body	820MHz	22.0	εr	55.2	54.70	-0.91%	± 5	10/21/2010
			σ	0.97	0.964	-0.67%	± 5	
	835MHz	22.0	εr	55.2	54.70	-0.91%	± 5	
			σ	0.97	0.981	1.13%	± 5	
	850MHz	22.0	εr	55.2	54.70	-0.91%	± 5	
			σ	0.97	1.001	3.20%	± 5	
835MHz Body	820MHz	22.0	εr	55.2	54.68	-0.95%	± 5	11/19/2010
			σ	0.97	0.98	1.11%	± 5	
	835MHz	22.0	εr	55.2	54.71	-0.88%	± 5	
			σ	0.97	0.96	-0.67%	± 5	
	850MHz	22.0	εr	55.2	54.67	-0.95%	± 5	
			σ	0.97	1.00	3.18%	± 5	
835MHz Body	820MHz	22.0	εr	55.2	54.71	-0.88%	± 5	11/22/2010
			σ	0.97	0.96	-0.67%	± 5	
	835MHz	22.0	εr	55.2	54.68	-0.95%	± 5	
			σ	0.97	0.98	1.11%	± 5	
	850MHz	22.0	εr	55.2	54.67	-0.95%	± 5	
			σ	0.97	1.00	3.18%	± 5	
1900MHz Body	1850MHz	22.0	**εr**	53.3	52.60	-1.33%	± 5	09/06/2010
			σ	1.52	1.46	-4.14%	± 5	
	1900MHz	22.0	**εr**	53.3	52.60	-1.24%	± 5	
			σ	1.52	1.51	-0.74%	± 5	
	1930MHz	22.0	**εr**	53.3	52.50	-1.97%	± 5	
			σ	1.52	1.55	1.97%	± 5	

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 Body	1850MHz	22.0	**εr**	53.3	51.2	-3.94%	± 5	10/21/2010
			σ	1.52	1.46	-3.95%	± 5	
	1900MHz	22.0	**εr**	53.3	51.1	-4.13%	± 5	
			σ	1.52	1.51	-0.66%	± 5	
	1930MHz	22.0	**εr**	53.3	51.0	-4.32%	± 5	
			σ	1.52	1.53	0.66%	± 5	
1900MHz Body	1850MHz	22.0	**εr**	53.3	52.65	-1.22%	± 5	11/19/2010
			σ	1.52	1.51	-0.74%	± 5	
	1900MHz	22.0	**εr**	53.3	52.60	-1.31%	± 5	
			σ	1.52	1.46	-3.98%	± 5	
	1930MHz	22.0	**εr**	53.3	52.45	-1.59%	± 5	
			σ	1.52	1.55	2.15%	± 5	
1900MHz Body	1850MHz	22.0	**εr**	53.3	51.20	-3.94%	± 5	11/23/2010
			σ	1.52	1.46	-3.99%	± 5	
	1900MHz	22.0	**εr**	53.3	51.12	-4.08%	± 5	
			σ	1.52	1.51	-0.64%	± 5	
	1930MHz	22.0	**εr**	53.3	51.01	-4.30%	± 5	
			σ	1.52	1.53	0.61%	± 5	
2450MHz Body	2400MHz	22.0	**εr**	52.7	51.80	-1.71%	± 5	09/06/2010
			σ	1.95	1.88	-3.73%	± 5	
	2450MHz	22.0	**εr**	52.7	51.70	-1.90%	± 5	
			σ	1.95	1.94	-0.69%	± 5	
	2500MHz	22.0	**εr**	52.7	51.50	-2.33%	± 5	
			σ	1.95	2.00	2.56%	± 5	
2450MHz Body	2400MHz	22.0	**εr**	52.7	51.40	-2.46%	± 5	11/19/2010
			σ	1.95	1.89	-3.12%	± 5	
	2450MHz	22.0	**εr**	52.7	51.29	-2.68%	± 5	
			σ	1.95	1.96	0.32%	± 5	
	2500MHz	22.0	**εr**	52.7	51.13	-2.98%	± 5	
			σ	1.95	2.02	3.63%	± 5	

6.3.2 Liquid Depth

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

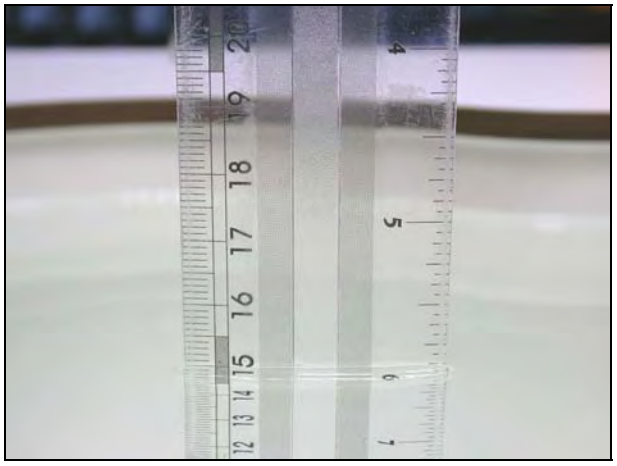


Figure 2. Head-Tissue-Simulating-Liquid

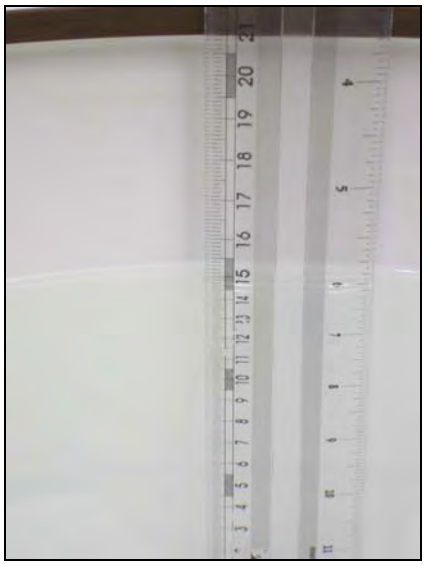


Figure 3. Body-Tissue-Simulating-Liquid

7. Measurement Process

7.1 Device and Test Conditions

The Test Device was provided by **HTC Corporation** for this evaluation. The spatial peak SAR values were assessed for the lowest, middle and highest channels defined by **GSM 850** (#128=824.2MHz, #190=836.6MHz, #251=848.8MHz), **PCS 1900** (#512=1850.2MHz, #661=1880.0MHz, #810=1909.8MHz) , **WCDMA (RMC 12.2K) / HSDPA / HSUPA Band II** (#9262=1852.4MHz, #9400=1880.0MHz, #9538=1907.6MHz) , **WCDMA (RMC 12.2K) / HSDPA / HSUPA Band V** (#4132=826.4MHz, #4183=836.6MHz, #4233=846.4MHz)systems, **IEEE 802.11b / 802.11g** (#1=2412MHz, #6=2437MHz, #11=2462MHz), **Draft 802.11n 2.4GHz Standard-20MHz** (#1=2412MHz, #6=2437MHz, #11=2462MHz), **Bluetooth** (#0=2402MHz, #39=2441MHz, #78=2480MHz) systems..

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 3. 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 4. Setup for Release 6 HSPA / Release 7 HSPA+

7.2 RF Conducted Output Power

#1 GSM Power Amplifier						
Band	Mode	CH	Frequency (MHz)	RF Conducted Output Power (dBm)		
				Time Avg.	Burst Avg.	Peak
GSM850	-----	Lowest	824.2	**24.05**	33.24	33.47
		Middle	836.6	23.97	33.16	33.18
		Highest	848.8	23.87	33.06	33.09
GPRS 850	2Down3Up	Lowest	824.2	**28.03**	32.50	33.20
		Middle	836.6	28.03	32.50	33.10
		Highest	848.8	27.93	32.40	33.00
	1Down4Up	Lowest	824.2	27.58	30.80	31.20
		Middle	836.6	27.28	30.50	30.90
		Highest	848.8	27.58	30.80	31.20
EGPRS 850	2Down3Up	Lowest	824.2	20.83	25.30	28.60
		Middle	836.6	20.83	25.30	28.50
		Highest	848.8	21.13	25.60	28.80
	1Down4Up	Lowest	824.2	22.08	25.30	28.40
		Middle	836.6	21.98	25.20	28.40
		Highest	848.8	22.28	25.50	28.80
PCS1900	-----	Lowest	1850.2	19.84	29.03	29.07
		Middle	1880.0	20.91	30.10	30.14
		Highest	1909.8	**21.06**	30.25	30.29
GPRS 1900	2Down3Up	Lowest	1850.2	23.83	28.30	28.50
		Middle	1880.0	24.23	28.70	28.90
		Highest	1909.8	**24.33**	28.80	29.00
	1Down4Up	Lowest	1850.2	23.78	27.00	27.20
		Middle	1880.0	24.28	27.50	27.70
		Highest	1909.8	24.28	27.50	27.80
EGPRS 1900	2Down3Up	Lowest	1850.2	20.53	25.00	28.00
		Middle	1880.0	20.83	25.30	28.60
		Highest	1909.8	20.83	25.30	28.60
	1Down4Up	Lowest	1850.2	21.28	24.50	28.10
		Middle	1880.0	22.08	25.30	28.50
		Highest	1909.8	21.98	25.20	28.50

#2 GSM Power Amplifier						
Band	Mode	CH	Frequency (MHz)	RF Conducted Output Power (dBm)		
				Time Avg.	Burst Avg.	Peak
GSM850	-----	Lowest	824.2	**23.71**	32.90	33.30
		Middle	836.6	23.51	32.70	33.10
		Highest	848.8	23.31	32.50	32.90
GPRS 850	3Down2Up	Lowest	824.2	26.17	32.40	32.60
		Middle	836.6	25.77	32.00	32.20
		Highest	848.8	25.47	31.70	31.90
	2Down3Up	Lowest	824.2	**26.93**	31.40	31.70
		Middle	836.6	26.83	31.30	31.60
		Highest	848.8	26.63	31.10	31.40
EGPRS 850	2Down3Up	Lowest	824.2	20.59	25.06	28.10
		Middle	836.6	20.39	24.86	27.80
		Highest	848.8	20.27	24.74	27.70
	1Down4Up	Lowest	824.2	21.64	24.86	28.10
		Middle	836.6	21.43	24.65	27.80
		Highest	848.8	21.34	24.56	27.60
PCS1900	-----	Lowest	1850.2	**21.31**	30.50	30.70
		Middle	1880.0	20.71	29.90	30.10
		Highest	1909.8	20.31	29.50	29.70
GPRS 1900	2Down3Up	Lowest	1850.2	**25.53**	30.00	30.30
		Middle	1880.0	24.93	29.40	29.60
		Highest	1909.8	24.53	29.00	29.20
	1Down4Up	Lowest	1850.2	25.08	28.30	28.50
		Middle	1880.0	24.38	27.60	27.80
		Highest	1909.8	24.38	27.60	27.70
EGPRS 1900	2Down3Up	Lowest	1850.2	21.65	26.12	29.10
		Middle	1880.0	20.99	25.46	28.60
		Highest	1909.8	20.74	25.21	28.20
	1Down4Up	Lowest	1850.2	22.79	26.01	29.30
		Middle	1880.0	22.19	25.41	28.60
		Highest	1909.8	21.98	25.20	28.20

Band	Sub-test	CH	Frequency (MHz)	RF Conducted Output Power (dBm)	
				Burst Avg.	Peak
WCDMA Band II	---	Lowest	1852.4	23.37	26.63
		Middle	1880.0	**23.54**	26.77
		Highest	1907.6	23.36	26.00
HSDPA Band II	1	Lowest	1852.4	22.61	25.84
		Middle	1880.0	22.83	26.03
		Highest	1907.6	22.73	25.35
	2	Lowest	1852.4	22.58	25.84
		Middle	1880.0	22.81	26.01
		Highest	1907.6	22.72	25.36
	3	Lowest	1852.4	22.09	25.33
		Middle	1880.0	22.31	25.52
		Highest	1907.6	22.23	24.86
	4	Lowest	1852.4	22.11	25.34
		Middle	1880.0	22.31	25.52
		Highest	1907.6	22.21	24.85
HSUPA Band II	1	Lowest	1852.4	22.05	25.30
		Middle	1880.0	22.63	25.84
		Highest	1907.6	22.10	24.74
	2	Lowest	1852.4	20.03	23.28
		Middle	1880.0	20.62	23.82
		Highest	1907.6	20.07	22.69
	3	Lowest	1852.4	21.03	24.27
		Middle	1880.0	21.62	24.82
		Highest	1907.6	21.07	23.71
	4	Lowest	1852.4	20.04	23.28
		Middle	1880.0	20.61	23.84
		Highest	1907.6	20.07	22.70
	5	Lowest	1852.4	22.04	25.27
		Middle	1880.0	22.61	25.81
		Highest	1907.6	22.09	24.73

Band	Sub-test	CH	Frequency (MHz)	RF Conducted Output Power (dBm)	
				Burst Avg.	Peak
WCDMA Band V	---	Lowest	826.4	23.70	27.70
		Middle	836.6	23.56	27.00
		Highest	846.4	**24.01**	27.20
HSDPA Band V	1	Lowest	826.4	22.66	26.63
		Middle	836.6	22.53	25.95
		Highest	846.4	23.03	26.21
	2	Lowest	826.4	22.64	26.64
		Middle	836.6	22.52	25.95
		Highest	846.4	23.01	26.17
	3	Lowest	826.4	22.15	26.14
		Middle	836.6	22.02	25.45
		Highest	846.4	22.53	25.71
	4	Lowest	826.4	22.14	26.11
		Middle	836.6	22.03	25.45
		Highest	846.4	22.50	25.67
HSUPA Band V	1	Lowest	826.4	21.33	25.31
		Middle	836.6	22.40	25.82
		Highest	846.4	21.43	24.61
	2	Lowest	826.4	19.33	23.32
		Middle	836.6	20.38	23.79
		Highest	846.4	19.43	22.62
	3	Lowest	826.4	20.32	24.30
		Middle	836.6	21.40	24.81
		Highest	846.4	20.42	23.60
	4	Lowest	826.4	19.31	23.30
		Middle	836.6	20.38	23.81
		Highest	846.4	19.41	22.59
	5	Lowest	826.4	21.33	25.33
		Middle	836.6	22.37	25.80
		Highest	846.4	21.41	24.58

Band	Data Rate	CH	Frequency (MHz)	RF Conducted Output Power (dBm)	
				Average	Peak
IEEE 802.11b	1M	Lowest	2412	17.56	20.22
		Middle	2437	17.55	20.21
		Highest	2462	17.32	20.01
	2M	Lowest	2412	**17.70**	20.40
		Middle	2437	17.52	20.29
		Highest	2462	17.45	20.07
	5.5M	Lowest	2412	17.58	20.34
		Middle	2437	17.54	20.29
		Highest	2462	17.48	20.23
	11M	Lowest	2412	17.26	20.50
		Middle	2437	17.23	20.45
		Highest	2462	17.20	20.20
IEEE 802.11g	6M	Lowest	2412	12.78	22.02
		Middle	2437	12.55	22.35
		Highest	2462	12.90	22.20
	9M	Lowest	2412	**13.21**	22.54
		Middle	2437	12.67	22.75
		Highest	2462	12.70	22.45
	12M	Lowest	2412	12.71	22.25
		Middle	2437	12.45	22.27
		Highest	2462	12.62	22.23
	18M	Lowest	2412	12.31	22.12
		Middle	2437	12.37	22.40
		Highest	2462	12.45	22.33
	24M	Lowest	2412	12.23	22.03
		Middle	2437	12.24	22.45
		Highest	2462	12.14	22.15
	36M	Lowest	2412	11.94	21.95
		Middle	2437	11.82	22.62
		Highest	2462	11.89	22.32
	48M	Lowest	2412	11.45	22.05
		Middle	2437	11.78	22.64
		Highest	2462	11.63	22.22
	54M	Lowest	2412	11.52	22.31
		Middle	2437	11.32	22.54
		Highest	2462	11.46	22.25

Band	Data Rate	CH	Frequency (MHz)	RF Conducted Output Power (dBm)	
				Average	Peak
IEEE 802.11n HT20	6.5M	Lowest	2412	**12.28**	22.47
		Middle	2437	11.82	22.25
		Highest	2462	11.75	22.14
	13M	Lowest	2412	12.01	22.22
		Middle	2437	11.98	22.13
		Highest	2462	11.82	21.94
	19.5M	Lowest	2412	11.75	21.91
		Middle	2437	11.41	21.73
		Highest	2462	11.35	21.66
	26M	Lowest	2412	11.21	22.11
		Middle	2437	11.42	22.10
		Highest	2462	11.22	21.89
	39M	Lowest	2412	10.99	21.81
		Middle	2437	10.89	21.75
		Highest	2462	11.18	22.03
	52M	Lowest	2412	10.56	21.88
		Middle	2437	10.45	21.81
		Highest	2462	10.67	21.96
	58.5M	Lowest	2412	10.48	22.10
		Middle	2437	10.84	22.31
		Highest	2462	10.78	21.99
	65M	Lowest	2412	10.66	21.81
		Middle	2437	10.24	21.73
		Highest	2462	10.59	21.85
Bluetooth		Lowest	2402	-2.23	0.09
		Middle	2441	-1.23	1.19
		Highest	2480	**-0.80**	1.65

7.3 Test Mode Description

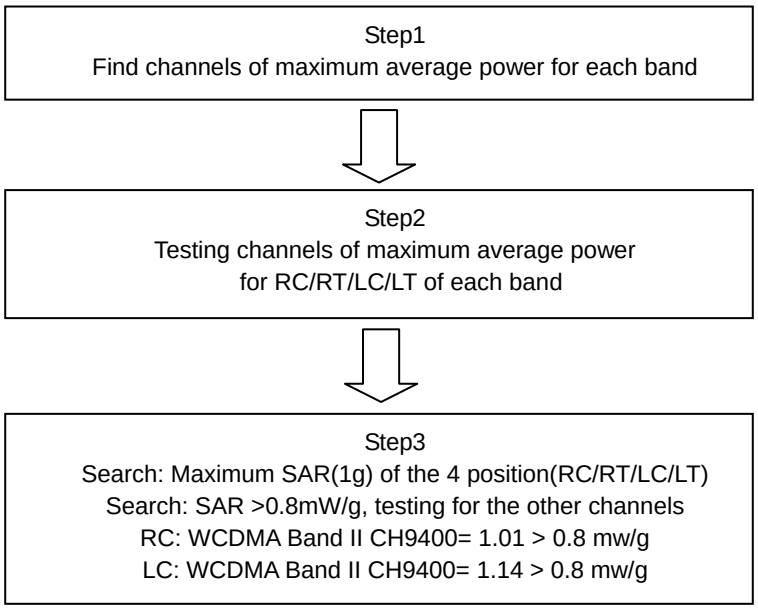
Head					
Band	CH	Phantom Position			
		RC	RT	LC	LT
GSM 850	Low	■	■	■	■
	Middle				
	High				
GPRS 850	Low				
	Middle				
	High				
EGPRS 850	Low				
	Middle				
	High				
GSM 1900	Low	■	■	■	■
	Middle				
	High	■	■	■	■
GPRS 1900	Low				
	Middle				
	High				
EGPRS 1900	Low				
	Middle				
	High				
WCDMA (RMC 12.2K) Band II	Low			■	
	Middle	■	■	■	■
	High			■	
HSDPA Band II	Low				
	Middle				
	High				
HSUPA Band II	Low				
	Middle				
	High				
WCDMA (RMC 12.2K) Band V	Low				
	Middle				
	High	■	■	■	■
HSDPA Band V	Low				
	Middle				
	High				
HSUPA Band V	Low				
	Middle				
	High				
IEEE 802.11b	Low				
	Middle				
	High				
IEEE 802.11g	Low				
	Middle				
	High				
Draft 802.11n 2.4GHz Standard-20MHz	Low				
	Middle				
	High				

Body			
Band	CH	Phantom Position	Note
		Flat (15mm)	
GSM 850	Low	■(#1 & #2 GSM power Amplifier)	
	Middle		
	High		
GPRS 850	Low	■(#1 & #2 GSM power Amplifier)	(2Down3Up)
	Middle		
	High		
GPRS 850 (Interim SAR Considerations for Host-Carriers)	Low	■ (#2 GSM power Amplifier)	(2Down3Up)
	Middle		
	High		
EGPRS 850	Low		
	Middle		
	High		
GSM 1900	Low	■(#2 GSM power Amplifier)	
	Middle		
	High	■(#1 GSM power Amplifier)	
GPRS 1900	Low	■(#2 GSM power Amplifier)	(2Down3Up)
	Middle	■(#2 GSM power Amplifier)	(2Down3Up)
	High	■(#1 & #2 GSM power Amplifier)	(2Down3Up)
GPRS 1900	Low	■(#2 GSM power Amplifier)	(2Down3Up)
	Middle	■(#2 GSM power Amplifier)	(2Down3Up)
	High	■(#2 GSM power Amplifier)	(2Down3Up)
EGPRS 1900	Low		
	Middle		
	High		
WCDMA (RMC 12.2K) Band II	Low		
	Middle		
	High	■	
WCDMA (RMC 12.2K) Band II (Interim SAR Considerations for Host-Carriers)	Low	■	
	Middle	■	
	High	■	
HSDPA Band II	Low		
	Middle		
	High		
HSUPA Band II	Low		
	Middle		
	High		

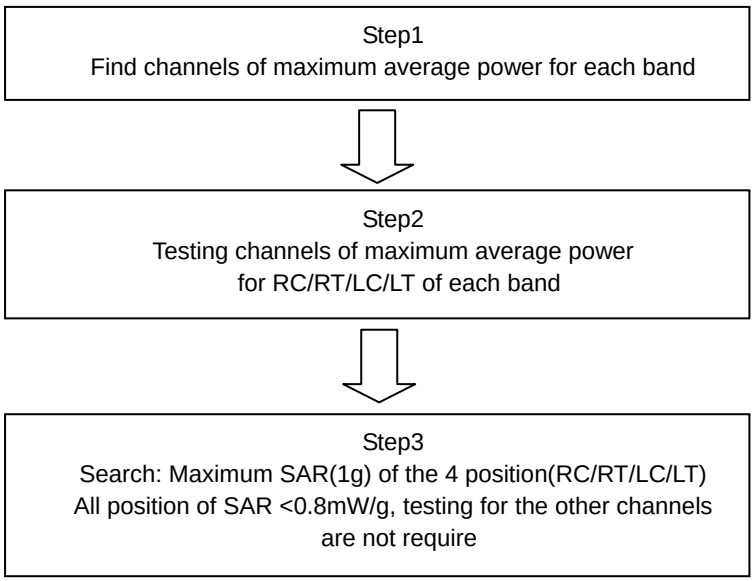
Body			
Band	CH	Phantom Position	Note
		Flat (15mm)	
WCDMA (RMC 12.2K) Band V	Low		
	Middle		
	High	■	
WCDMA (RMC 12.2K) Band V (Interim SAR Considerations for Host-Carriers)	Low		
	Middle		
	High	■	
HSDPA Band V	Low		
	Middle		
	High		
HSUPA Band V	Low		
	Middle		
	High		
IEEE 802.11b	Low	■	Rate 2 M
	Middle		
	High		
IEEE 802.11g	Low		
	Middle		
	High		
Draft 802.11n 2.4GHz Standard-20MHz	Low	■	Rate 6.5 M
	Middle		
	High		

7.4 Test Flow Chart

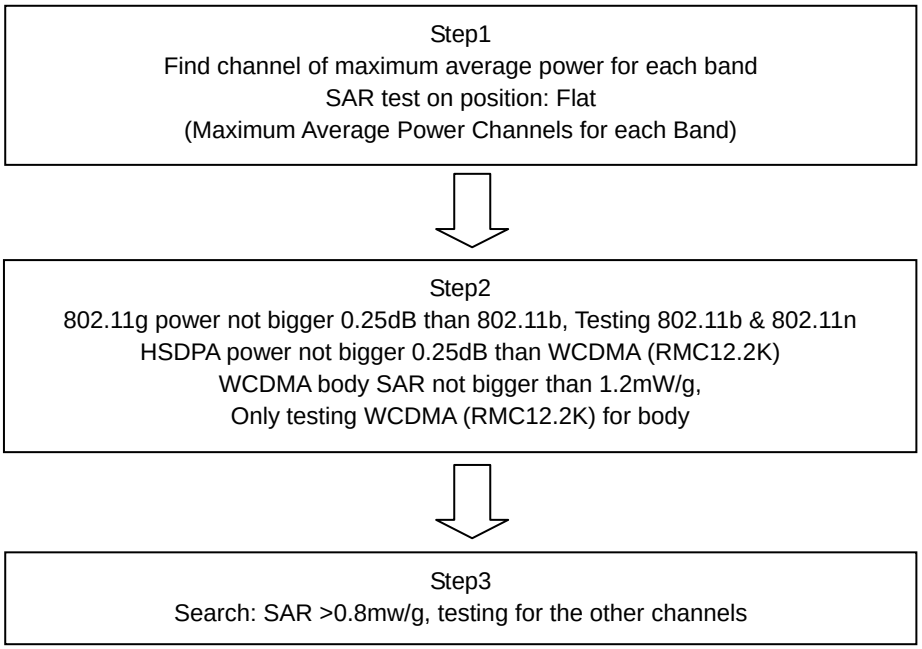
Head Test Flow Chart for #1



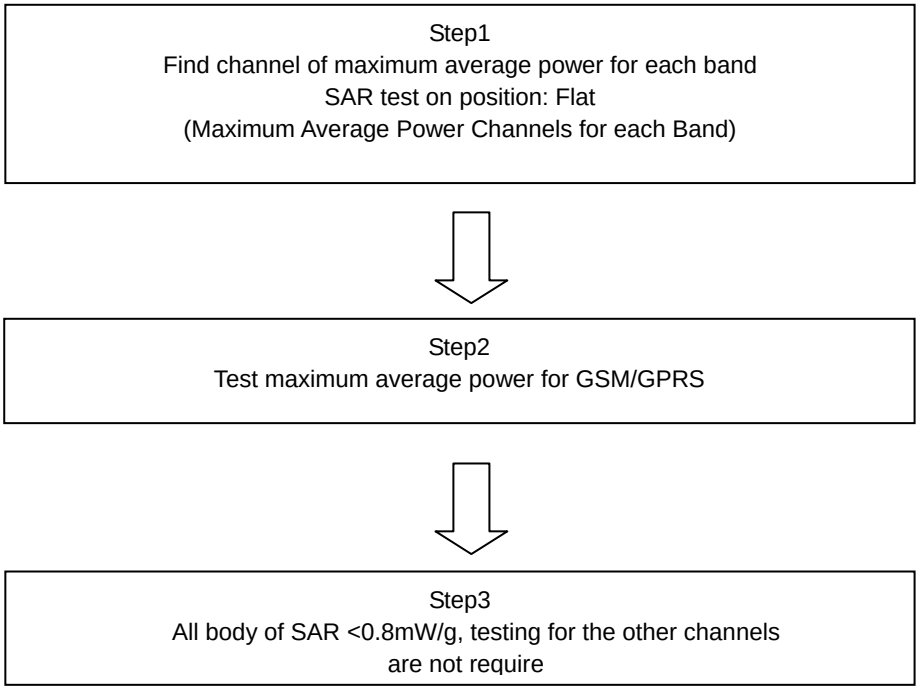
Head Test Flow Chart for #2(2nd PA)



Body Worn Test Flow Chart for #1



Body Worn Test Flow Chart for #2(2nd PA)



7.5 Simultaneous Transmitting Evaluate

RF Conducted Power		
Band	dBm	W
GSM/GPRS/EGPRS 850	26.41	0.44
PCS/GPRS/EGPRS 1900	23.37	0.22
WCDMA/HSDPA/HSUPA Band V	24.01	0.25
WCDMA/HSDPA/HSUPA Band II	23.54	0.23
Wi-Fi 802.11b	17.70	0.06
Wi-Fi 802.11g	13.21	0.02
Wi-Fi 802.11n(HT20)	12.28	0.02
BT	-0.80	0.0008

Antenna Distance	
Antenna Account	Distance (cm)
BT to WLAN	0
BT to WANM(License)	5.7
WLAN to WWAN(License)	5.7

BT and GSM and WLAN simultaneously SAR Description

BT and WLAN are not simultaneous transmission

GSM and WLAN are simultaneous transmission

GSM and BT are simultaneous transmission

(1) Antenna Distance (Ref. antenna location of application document)

BT Antenna and WLAN Antenna 0 cm

BT Antenna and GSM/PCS (License) Antenna 5.7 cm

WLAN Antenna and GSM/PCS (License) Antenna 5.7 cm

1a.BT & GSM 5.7 cm > 5.0 cm

1b.BT & WLAN 0 cm

1a.WLAN & GSM 5.7 cm > 5.0 cm

(2) BT Power <2*Pref and antenna-to-antenna is >5 cm. ~ BT Stand alone SAR is not required.

(3) WLAN > 2*Pref and antenna-to-antenna > 5.0 cm. ~ WLAN Stand alone SAR is required.

(4) GSM/PCS/WCDMA Stand alone SAR is required due to routine evaluation requirements.

(5) HSDPA/HSUPA active is less 1/4 dB than 12.2 kbps RMC, therefore HSDPA/HSUPA Stand alone SAR is not required.

(6) 802.11 g conducted power is lower 0.25dB than 802.11 b, thus choose 802.11 b for the test.

Simultaneously SAR is not required.

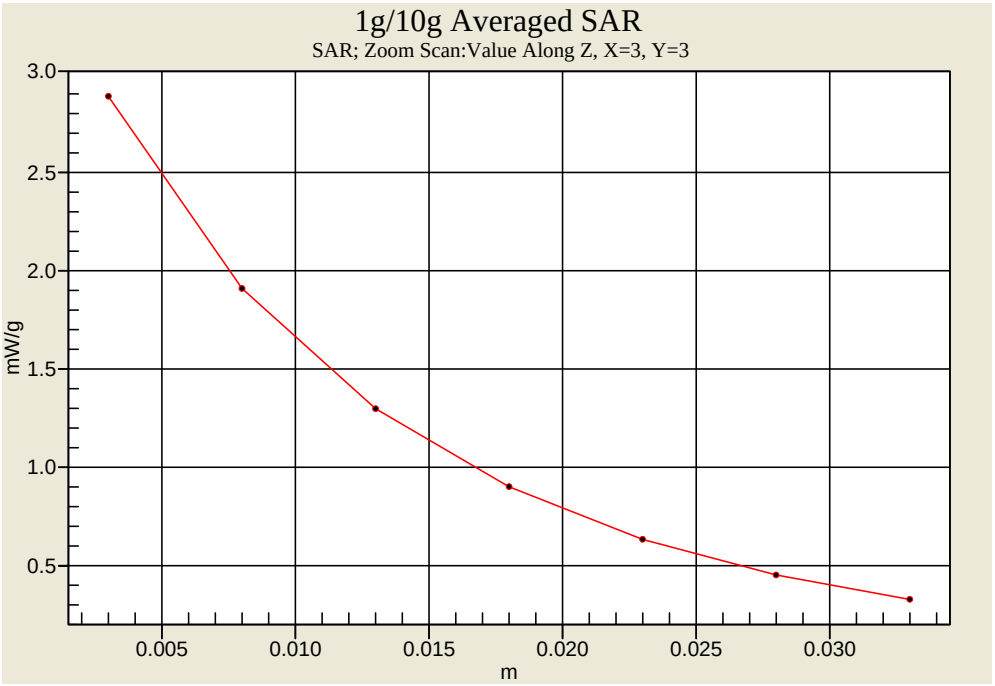
7.6 System Performance Check

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 835MHz, 1900MHz and 2450MHz.

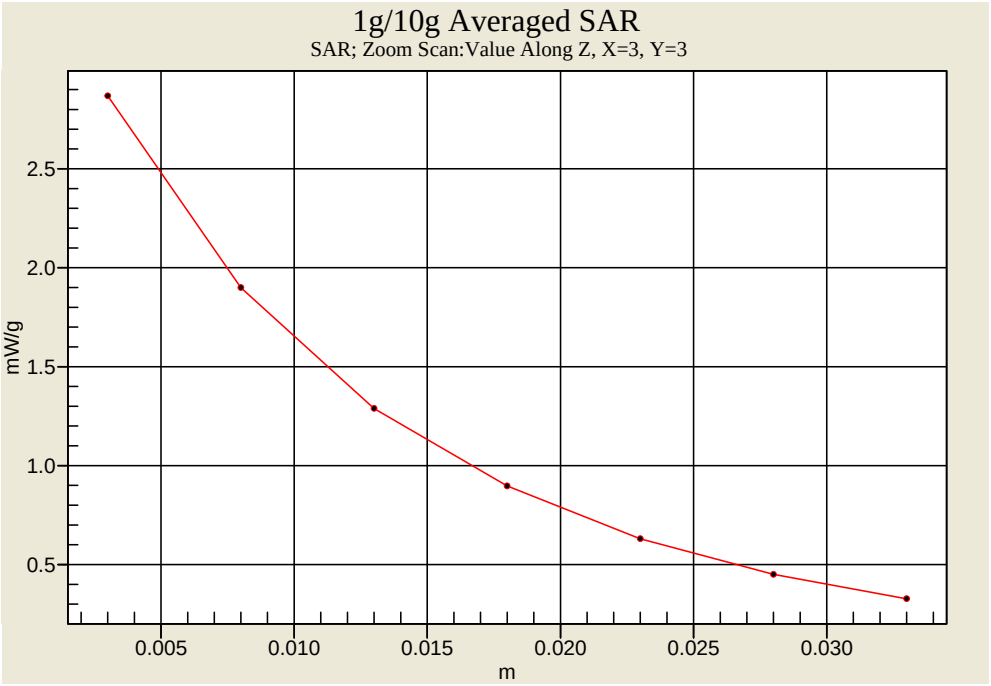
Validation kit		Mixture Type	SAR_{1g} [mW/g]		SAR_{10g} [mW/g]		Date of Calibration
D835V2-SN4d082		Head	9.60		6.24		07/10/2010
		Body	10.32		6.76		
D1900V2-SN5d111		Head	40.40		21.12		07/16/2010
		Body	42.40		22.64		
Frequency (MHz)	**Power (dBm)**	**SAR_{1g} (mW/g)**	**SAR_{10g} (mW/g)**	**Drift (dB)**	**Difference Percentage**		**Date of Test**
					1g	**10g**	
835 (Head)	250mW	2.44	1.58	-0.024	1.7 %	1.3 %	10/02/2010
	Normalize to 1 Watt	9.76	6.32				
835 (Head)	250mW	2.43	1.58	-0.018	1.3 %	1.3 %	10/21/2010
	Normalize to 1 Watt	9.72	6.32				
1900 (Head)	250mW	10.3	5.4	0.002	2.0 %	2.3 %	10/03/2010
	Normalize to 1 Watt	41.2	21.6				
1900 (Head)	250mW	10.5	5.52	-0.022	4.0 %	4.5 %	10/21/2010
	Normalize to 1 Watt	42	22.08				
835 (Body)	250mW	2.49	1.64	0.007	-3.5 %	-3.0 %	10/02/2010
	Normalize to 1 Watt	9.96	6.56				
835 (Body)	250mW	2.6	1.72	0.028	0.8 %	1.8 %	10/21/2010
	Normalize to 1 Watt	10.4	6.88				
835 (Body)	250mW	2.66	1.75	0.000	3.1 %	3.6 %	11/22/2010
	Normalize to 1 Watt	10.64	7				
835 (Body)	250mW	2.48	1.63	0.011	-3.9 %	-3.6 %	11/19/2010
	Normalize to 1 Watt	9.92	6.52				

Validation kit		Mixture Type	SAR_{1g} [mW/g]		SAR_{10g} [mW/g]		Date of Calibration
D1900V2-SN5d111		Head	40.40		21.12		07/16/2010
		Body	42.40		22.64		
D2450V2-SN712		Body	52.00		23.88		02/19/2010
Frequency (MHz)	**Power (dBm)**	**SAR_{1g} (mW/g)**	**SAR_{10g} (mW/g)**	**Drift (dB)**	**Difference Percentage**		**Date of Test**
					1g	**10g**	
1900 (Body)	250mW	10.5	5.57	-0.025	-0.9 %	-1.6 %	10/06/2010
	Normalize to 1 Watt	42.0	22.28				
1900 (Body)	250mW	10.5	5.51	0.002	-0.9	-2.7 %	10/21/2010
	Normalize to 1 Watt	42	22.04				
1900 (Body)	250mW	10.4	5.52	-0.120	-1.9 %	-2.5 %	11/19/2010
	Normalize to 1 Watt	41.6	22.08				
1900 (Body)	250mW	10.4	5.42	-0.017	-1.9 %	-4.2 %	11/23/2010
	Normalize to 1 Watt	41.6	21.68				
2450 (Body)	250mW	12.7	5.98	-0.027	-2.3 %	0.2 %	10/06/2010
	Normalize to 1 Watt	50.8	23.92				
2450 (Body)	250mW	13.2	5.72	-0.008	1.5 %	-4.2 %	11/19/2010
	Normalize to 1 Watt	52.8	22.88				

Z-axis Plot of System Performance Check

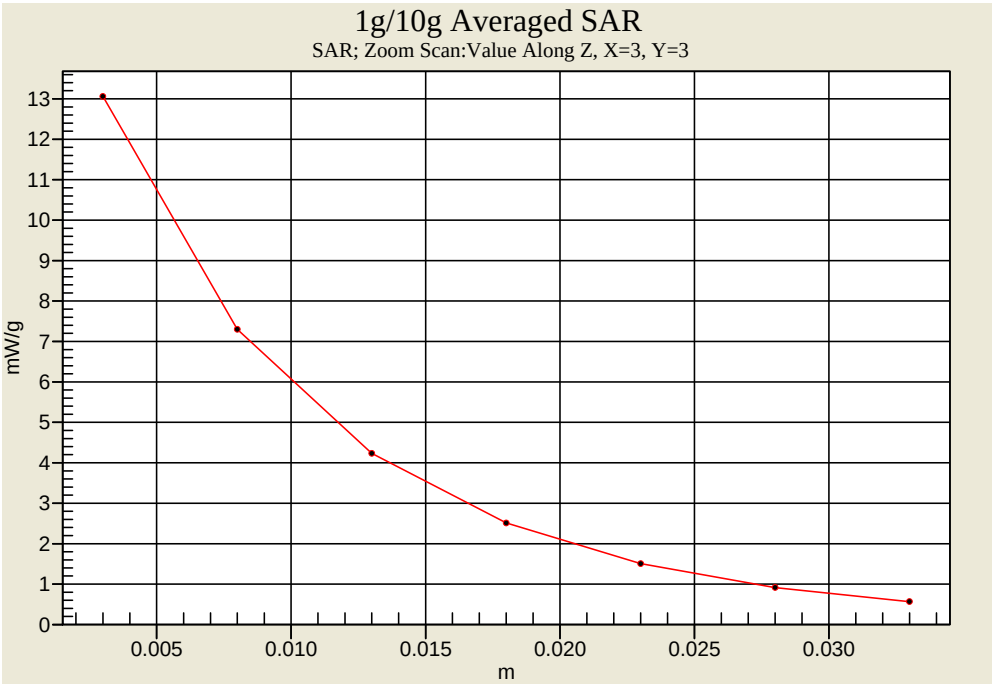


Head-Tissue-Simulating-Liquid 835MHz (09/02/2010)

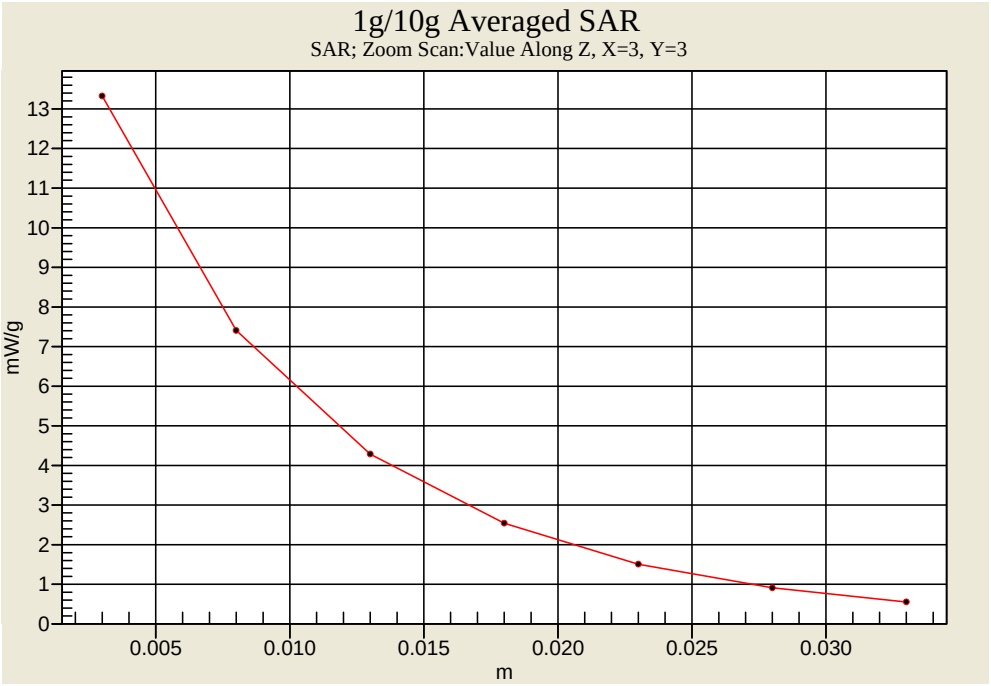


Head-Tissue-Simulating-Liquid 835MHz(10/21/2010)

Z-axis Plot of System Performance Check

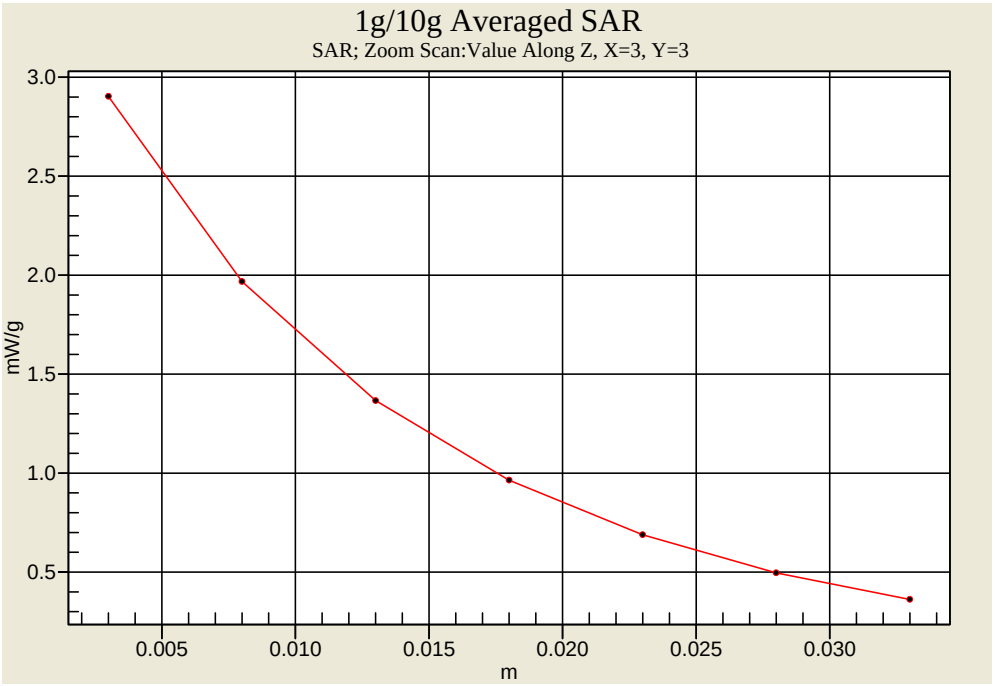


Head-Tissue-Simulating-Liquid 1900MHz(09/03/2010)

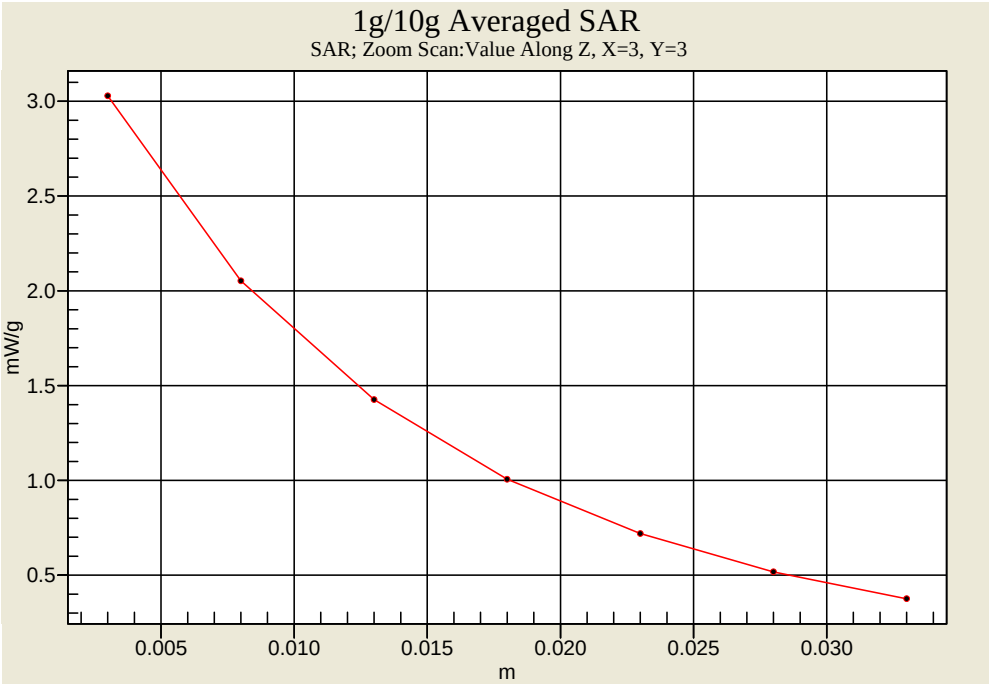


Head-Tissue-Simulating-Liquid 1900MHz(10/21/2010)

Z-axis Plot of System Performance Check

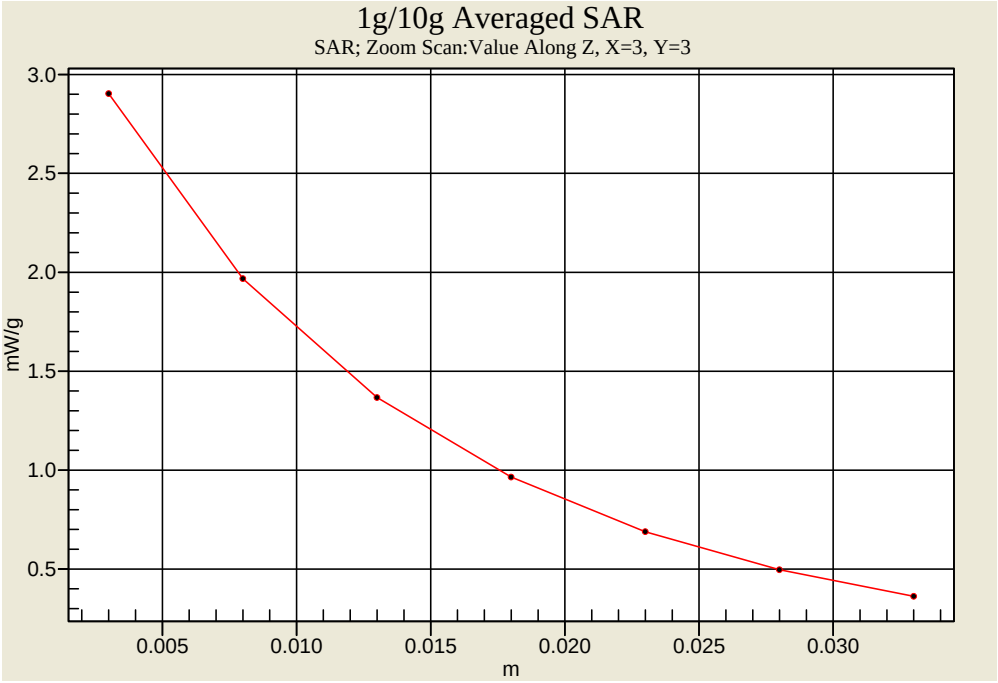


Body-Tissue-Simulating-Liquid 835MHz(09/02/2010)

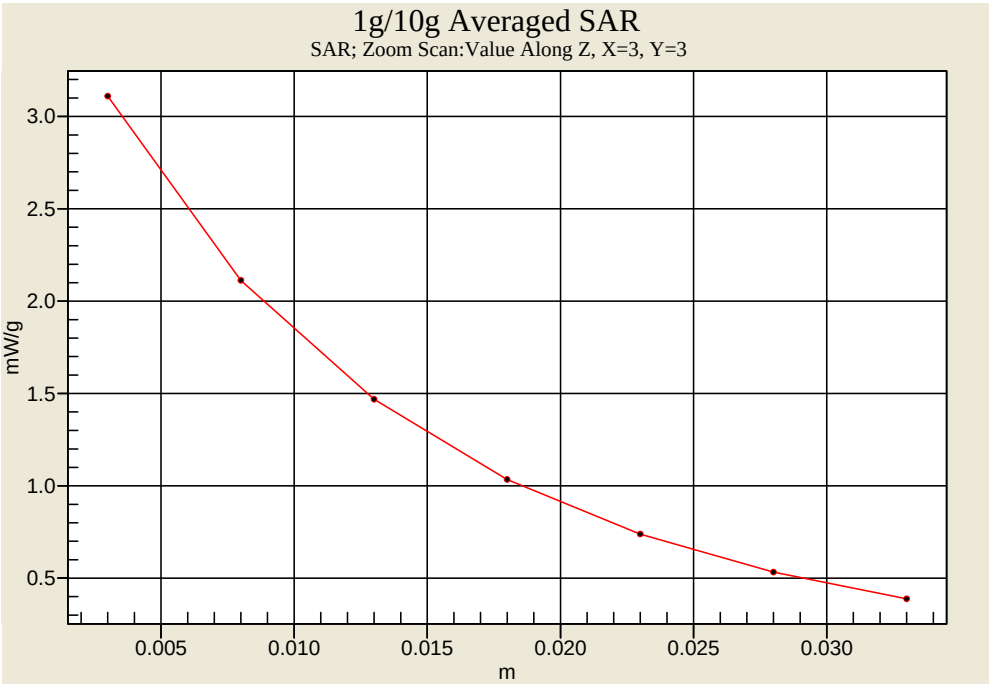


Body-Tissue-Simulating-Liquid 835MHz(10/21/2010)

Z-axis Plot of System Performance Check

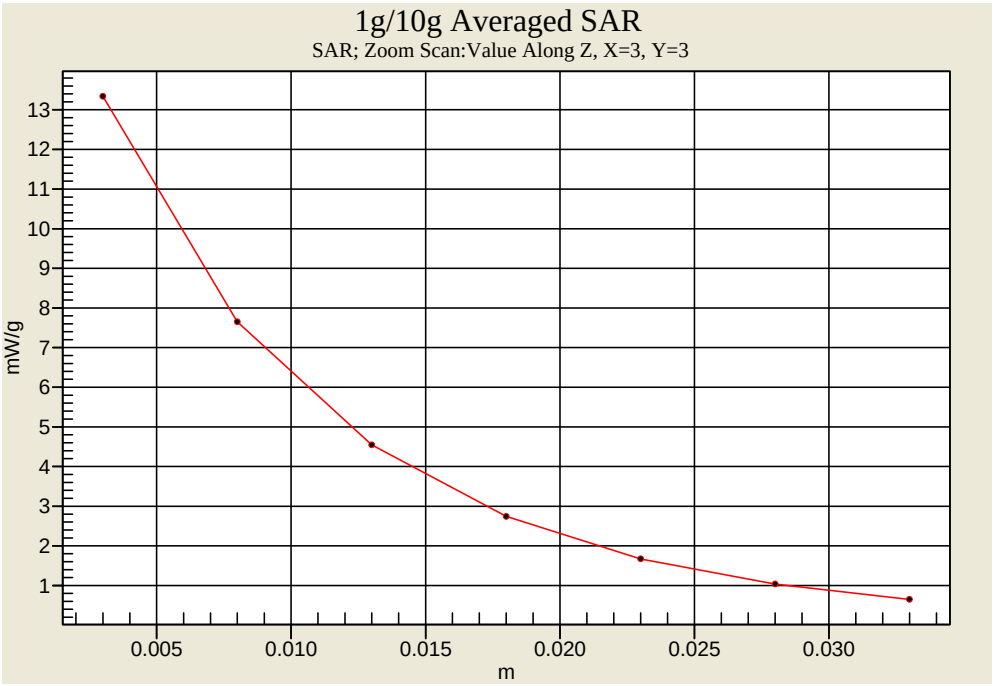


Body-Tissue-Simulating-Liquid 835MHz(11/19/2010)

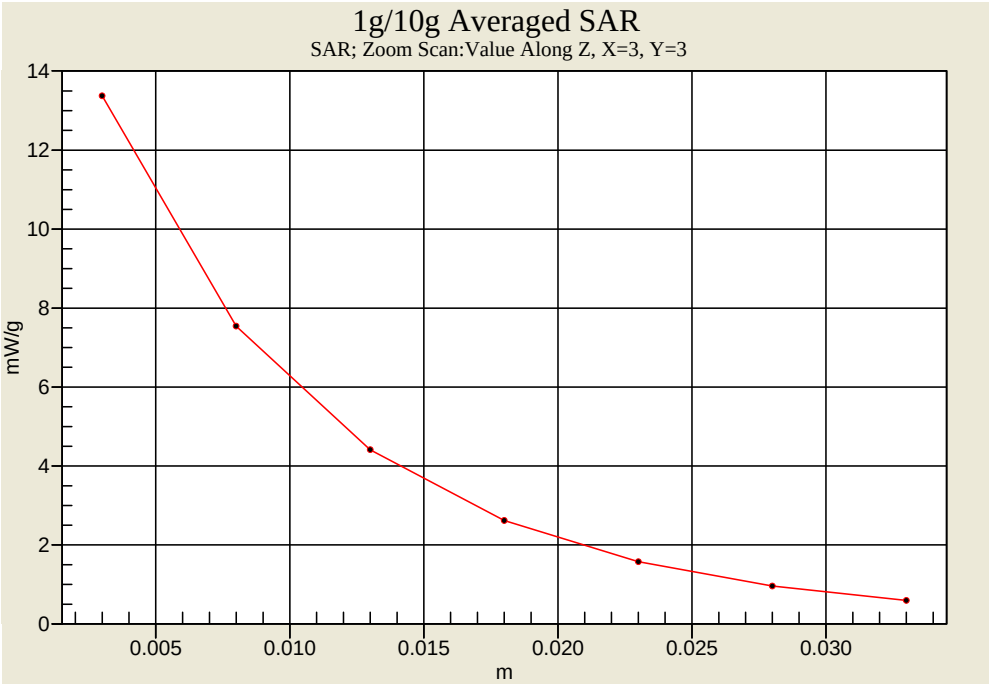


Body-Tissue-Simulating-Liquid 835MHz(11/22/2010)

Z-axis Plot of System Performance Check

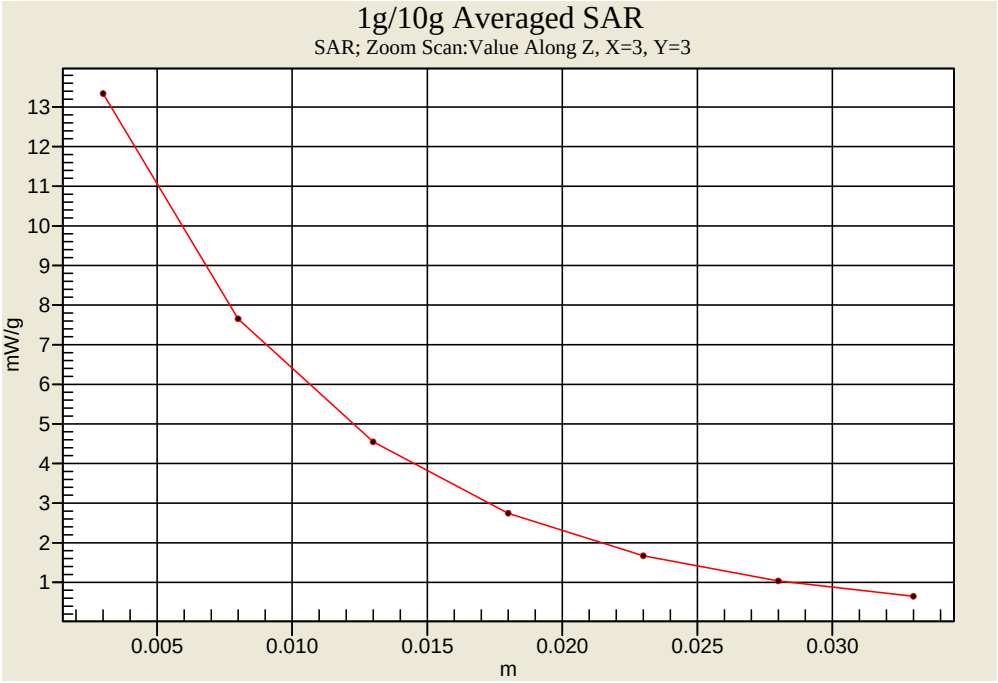


Body-Tissue-Simulating-Liquid 1900MHz(09/06/2010)

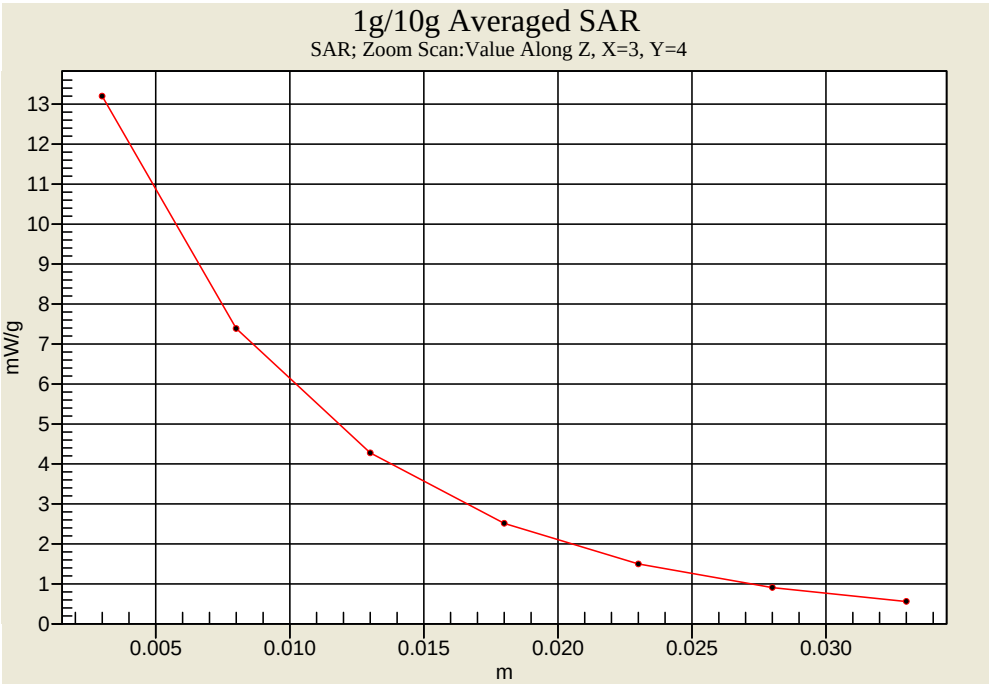


Body-Tissue-Simulating-Liquid 1900MHz(10/21/2010)

Z-axis Plot of System Performance Check

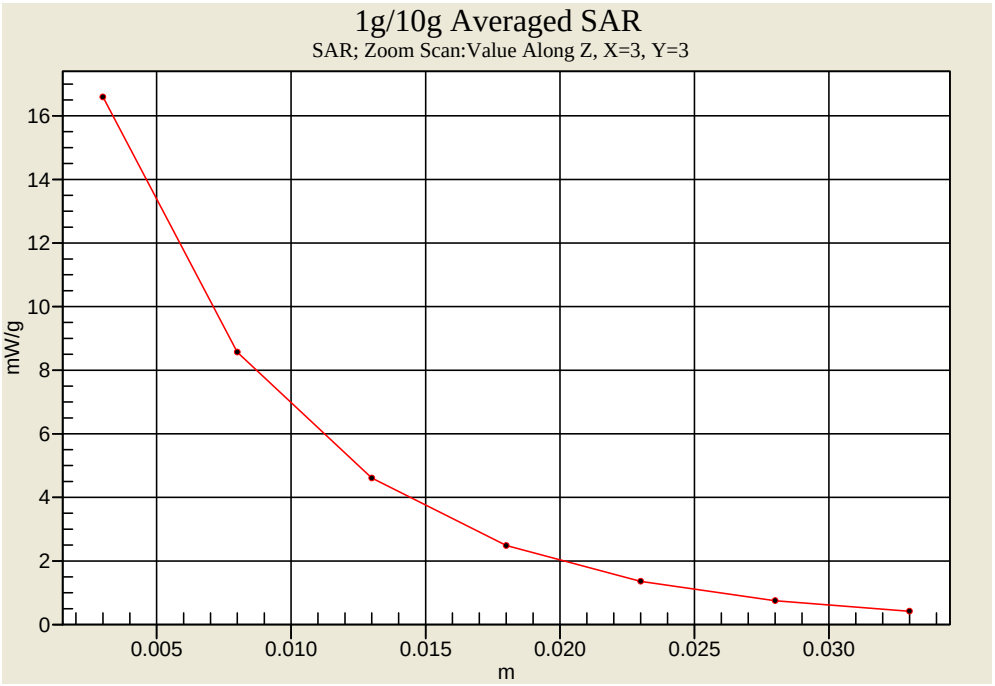


Body-Tissue-Simulating-Liquid 1900MHz(11/19/2010)

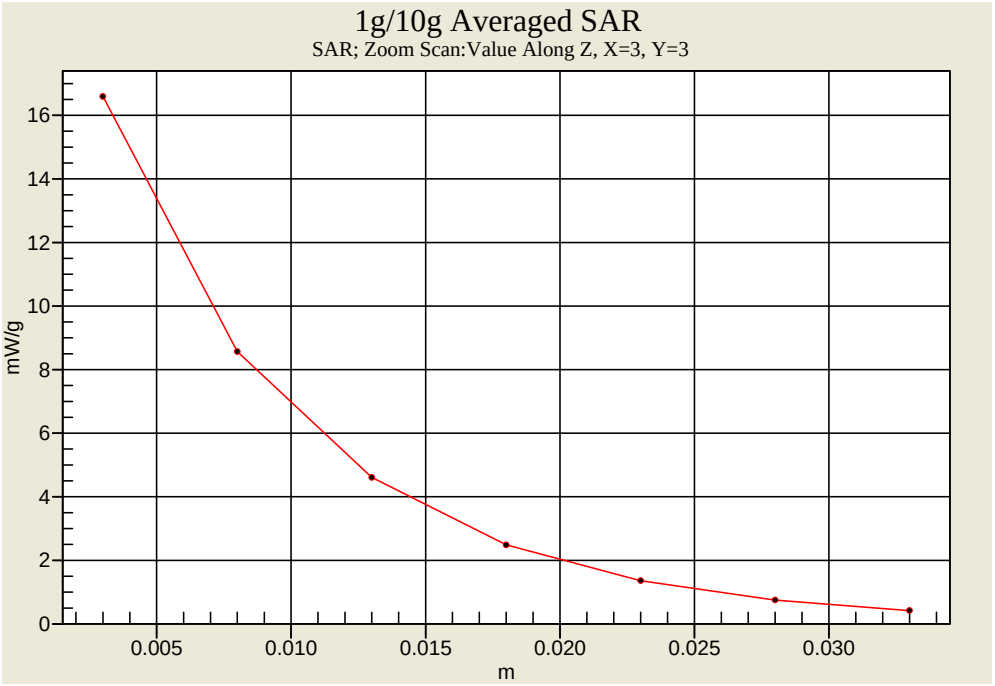


Body-Tissue-Simulating-Liquid 1900MHz(11/23/2010)

Z-axis Plot of System Performance Check



Body-Tissue-Simulating-Liquid 2450MHz(10/06/2010)



Body-Tissue-Simulating-Liquid 2450MHz(11/19/2010)

7.7 Measurement Procedures

The evaluation was performed with the following procedures：

Surface Check： A surface checks job gathers data used with optical surface detection. It determines the distance from the phantom surface where the reflection from the optical detector has its peak. Any following measurement jobs using optical surface detection will then rely on this value. The surface check performs its search a specified number of times, so that the repeatability can be verified. The probe tip distance is 1.3mm to phantom inner surface during scans.

Reference： The reference job measures the field at a specified reference position, at 4 mm from the selected section's grid reference point.

Area Scan： The area scan is used as a fast scan in two dimensions to find the area of high field values, before doing a finer measurement around the hot spot. The sophisticated interpolation routines can find the maximum locations even in relatively coarse grids. When an area scan has measured all reachable points, it computes the field maxima found in the scanned area, within a range of the global maximum. Any following zoom scan within the same procedure will then perform fine scans around these maxima. The area covered the entire dimension of the EUT and the horizontal grid spacing was 15 mm × 15 mm.

Zoom Scan： Zoom scans are used to assess the highest averaged SAR for cubic averaging volumes with 1 g and 10 g of simulated tissue. The zoom scan measures 7 x 7 x 9 points in a 30 x 30 x 24 mm cube whose base faces are centered around the maxima returned from a preceding area scan within the same procedure.

Drift： The drift job measures the field at the same location as the most recent reference job within the same procedure, with the same settings. The drift measurement gives the field difference in dB from the last reference measurement. Several drift measurements are possible for each reference measurement. This allows monitoring of the power drift of the device in the batch process. If the value changed by more than 5%, the evaluation was repeated.

7.8 Spatial Peak SAR Evaluation

The DASY4 software includes all numerical procedures necessary to evaluate the spatial peak SAR values. Based on the Draft: SCC-34, SC-2, WG-2 - Computational Dosimetry, IEEE P1529/D0.0 (Draft Recommended Practice for Determining the Spatial-Peak Specific Absorption Rate (SAR) Associated with the Use of Wireless Handsets - Computational Techniques), a new algorithm has been implemented. The spatial-peak SAR can be computed over any required mass.

The base for the evaluation is a ”cube” measurement in a volume of (32x32x30)mm^3 (5x5x7 points). 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. If the 10g cube or both cubes are not entirely inside the measured volumes, the system issues a warning regarding the evaluated spatial peak values within the Postprocessing engine (SEMCAD). This means that if the measured volume is shifted, higher values might be possible. To get the correct values you can use a finer measurement grid for the area scan. In complicated field distributions, a large grid spacing for the area scan might miss some details and give an incorrectly interpolated peak location.
The entire evaluation of the spatial peak values is performed within the Postprocessing 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 three stages:

Interpolation and Extrapolation

The probe is calibrated at the center of the dipole sensors which is located 1 to 2.7mm away from the probe tip. During measurements, the probe stops shortly above the phantom surface, depending on the probe and the surface detecting system. Both distances are included as parameters in the probe configuration file. The software always knows exactly how far away the measured point is from the surface. As the probe cannot directly measure at the surface, the values between the deepest measured point and the surface must be extrapolated.

In DASY4, the choice of the coordinate system defining the location of the measurement points has no influence on the uncertainty of the interpolation, Maxima Search and SAR extrapolation routines. The interpolation, Maxima Search and extrapolation routines are all based on the modified Quadratic Shepard’s method [7].

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 ± 21.0 %〔8〕.

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

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

Error Description	Uncertainty value	Prob. Dist.	Div.	(*ci*) 1g	(*ci*) 10g	Std. Unc. (1g)	Std. Unc. (10g)	(*vi*) *veff*
Measurement System								
Probe Calibration	± 5.5 %	N	1	1	1	± 5.5 %	± 5.5 %	
Axial Isotropy	± 4.7 %	R		0.7	0.7	± 1.9 %	± 1.9 %	∞
Hemispherical Isotropy	± 9.6 %	R	$\sqrt{3}$	0.7	0.7	± 3.9 %	± 3.9 %	∞
Boundary Effects	± 1.0 %	R	$\sqrt{3}$	1	1	± 0.6 %	± 0.6 %	∞
Linearity	± 4.7 %	R	$\sqrt{3}$	1	1	± 2.7 %	± 2.7 %	∞
System Detection Limits	± 1.0 %	R	$\sqrt{3}$	1	1	± 0.6 %	± 0.6 %	∞
Readout Electronics	± 0.3 %	N	1	1	1	± 0.3 %	± 0.3 %	∞
Response Time	± 0.8 %	R	$\sqrt{3}$	1	1	± 0.5 %	± 0.5 %	∞
Integration Time	± 2.6 %	R	$\sqrt{3}$	1	1	± 1.5 %	± 1.5 %	∞
RF Ambient Noise	± 3.0 %	R	$\sqrt{3}$	1	1	± 1.7 %	± 1.7 %	∞
RF Ambient Reflections	± 3.0 %	R	$\sqrt{3}$	1	1	± 1.7 %	± 1.7 %	∞
Probe Positioner	± 0.4 %	R	$\sqrt{3}$	1	1	± 0.2 %	± 0.2 %	∞
Probe Positioning	± 2.9 %	R	$\sqrt{3}$	1	1	± 1.7 %	± 1.7 %	∞
Max. SAR Eval.	± 1.0 %	R	$\sqrt{3}$	1	1	± 0.6 %	± 0.6 %	∞
Test Sample Related								
Device Positioning	± 2.9 %	N	1	1	1	± 2.9 %	± 2.9 %	145
Device Holder	± 3.6 %	N	1	1	1	± 3.6 %	± 3.6 %	5
Power Drift	± 5.0 %	R	$\sqrt{3}$	1	1	± 2.9 %	± 2.9 %	∞
Phantom and Setup								
Phantom Uncertainty	± 4.0 %	R	$\sqrt{3}$	1	1	± 2.3 %	2.3 %	∞
Liquid Conductivity (target)	± 5.0 %	R	$\sqrt{3}$	0.64	0.43	± 1.8 %	1.2 %	∞
Liquid Conductivity (meas.)	± 2.5 %	N	1	0.64	0.43	± 1.6 %	1.1 %	∞
Liquid Permittivity (target)	± 5.0 %	R	$\sqrt{3}$	0.6	0.49	± 1.7 %	1.4 %	∞
Liquid Permittivity (meas.)	± 2.5 %	N	1	0.6	0.49	± 1.5 %	1.2 %	∞
Combined Std. Uncertainty						± **10.7 %**	± **10.5 %**	387
Expanded STD Uncertainty						± **21.4 %**	± **21.0 %**	

Table 5. Uncertainty Budget of DASY

9. SAR Test Results Summary

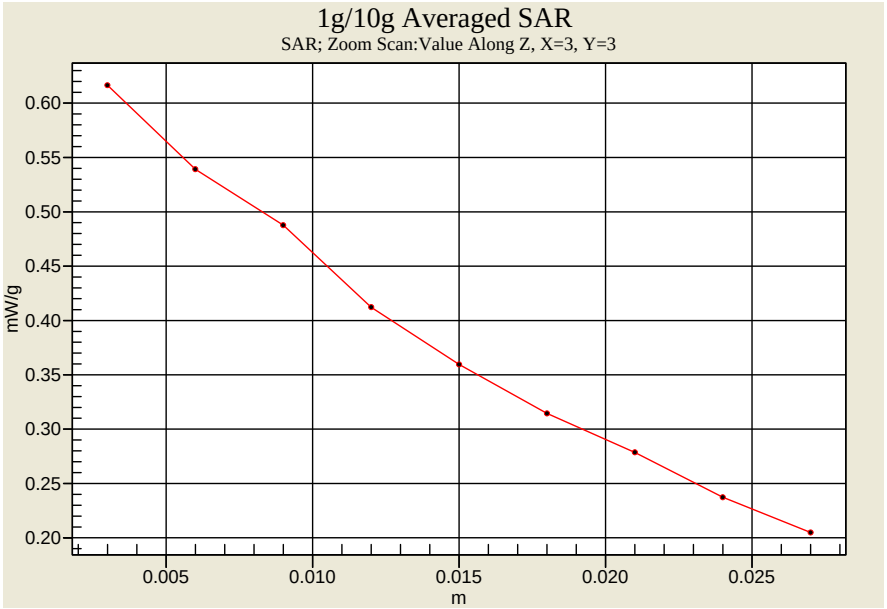
Detail results see Appendix B.

9.1 Test Results

GSM 850 - Head SAR			
Ambient：			
Temperature (℃)：	22 ± 2	Relative HUMIDITY (%)：	40-70
Liquid：			
Mixture Type：	HSL835	Liquid Temperature (℃) ：	22.0
		Depth of liquid (cm)：	15
Measurement：			
Duty Cycle：	1:8.3	Probe S/N：	3578

Frequency		Band	Power (dBm)	Phantom Position	Antenna Position	Accessory	SAR_{1g} [mW/g]	Power Drift (dB)	Remark
MHz	CH								
824.2	128	GSM 850	24.05	Right-Cheek	PIFA	N/A	0.331	-0.020	-----
824.2	128	GSM 850	23.71	Right-Cheek	PIFA	N/A	0.560	-0.015	#2 GSM power Amplifier
824.2	128	GSM 850	24.05	Right-Tilted	PIFA	N/A	0.199	0.024	-----
824.2	128	GSM 850	23.71	Right-Tilted	PIFA	N/A	0.375	0.034	#2 GSM power Amplifier
824.2	128	GSM 850	24.05	Left-Cheek	PIFA	N/A	0.275	0.070	-----
824.2	128	GSM 850	23.71	Left-Cheek	PIFA	N/A	0.468	-0.02	#2 GSM power Amplifier
824.2	128	GSM 850	24.05	Left-Tilted	PIFA	N/A	0.192	0.078	-----
824.2	128	GSM 850	23.71	Left-Tilted	PIFA	N/A	0.366	-0.023	#2 GSM power Amplifier
Std. C95.1-2005 / RSS-102-2010 - Safety Limit Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1 gram**			

Z-axis Plot



Right-Cheek GSM850 CH 128_#2 GSM power Amplifier

PCS 1900 - Head SAR

Ambient：

Temperature (℃)：	22 ± 2	Relative HUMIDITY (%)：	40-70

Liquid：

Mixture Type：	HSL1900	Liquid Temperature (℃) ：	22.0
		Depth of liquid (cm)：	15

Measurement：

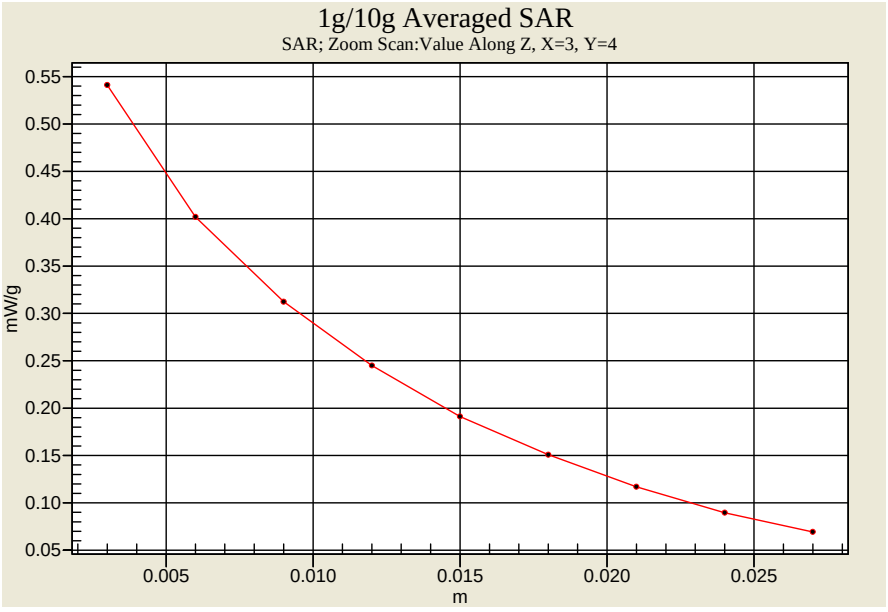
Duty Cycle：	1:8.3	Probe S/N：	3578

Frequency		Band	Power (dBm)	Phantom Position	Antenna Position	Accessory	SAR_{1g} [mW/g]	Power Drift (dB)	Remark
MHz	CH								
1850.2	512	PCS 1900	21.31	Right-Cheek	PIFA	N/A	0.454	-0.065	#2 GSM power Amplifier
1850.2	512	PCS 1900	21.31	Right-Tilted	PIFA	N/A	0.415	0.005	#2 GSM power Amplifier
1850.2	512	PCS 1900	21.31	Left-Cheek	PIFA	N/A	0.431	-0.033	#2 GSM power Amplifier
1850.2	512	PCS 1900	21.31	Left-Tilted	PIFA	N/A	0.341	0.015	#2 GSM power Amplifier
1909.8	810	PCS 1900	21.06	Right-Cheek	PIFA	N/A	**0.456**	0.049	-----
1909.8	810	PCS 1900	21.06	Right-Tilted	PIFA	N/A	0.265	0.038	-----
1909.8	810	PCS 1900	21.06	Left-Cheek	PIFA	N/A	0.392	0.034	-----
1909.8	810	PCS 1900	21.06	Left-Tilted	PIFA	N/A	0.201	0.008	-----

Std. C95.1-2005 / RSS-102-2010 - Safety Limit
Spatial Peak
Uncontrolled Exposure/General Population

1.6 W/kg (mW/g)
Averaged over 1 gram

Z-axis Plot



Right-Check PCS1900 CH 810

WCDMA (RMC 12.2K) Band II - Head SAR

Ambient：

Temperature (℃)：	22 ± 2	Relative HUMIDITY (%)：	40-70

Liquid：

Mixture Type：	HSL1900	Liquid Temperature (℃) ：	22.0
		Depth of liquid (cm)：	15

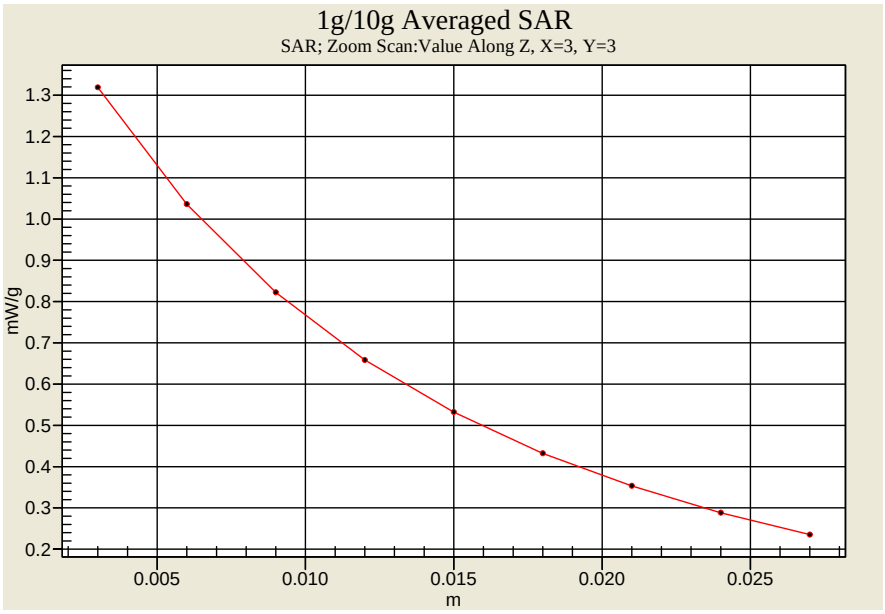
Measurement：

Duty Cycle：	1:1	Probe S/N：	3578

Frequency		Band	Power (dBm)	Phantom Position	Antenna Position	Accessory	SAR_{1g} [mW/g]	Power Drift (dB)	Remark
MHz	CH								
1880.0	9400	Band II	23.54	Right-Cheek	PIFA	N/A	1.010	0.016	-----
1880.0	9400	Band II	23.54	Right-Tilted	PIFA	N/A	0.574	0.013	-----
1852.4	9262	Band II	23.37	Left-Cheek	PIFA	N/A	1.010	-0.029	-----
1880.0	9400	Band II	23.54	Left-Cheek	PIFA	N/A	**1.140**	0.150	-----
1907.6	9538	Band II	23.36	Left-Cheek	PIFA	N/A	0.893	0.017	-----
1880.0	9400	Band II	23.54	Left-Tilted	PIFA	N/A	0.623	-0.006	-----

Std. C95.1-2005 / RSS-102-2009 - Safety Limit Spatial Peak Uncontrolled Exposure/General Population	**1.6 W/kg (mW/g) Averaged over 1 gram**

Z-axis Plot



Left-Check WCDMA Band II CH 9400

WCDMA (RMC 12.2K) Band V - Head SAR

Ambient：

Temperature (℃)：	22 ± 2	Relative HUMIDITY (%)：	40-70

Liquid：

Mixture Type：	HSL835	Liquid Temperature (℃) ：	22.0
		Depth of liquid (cm)：	15

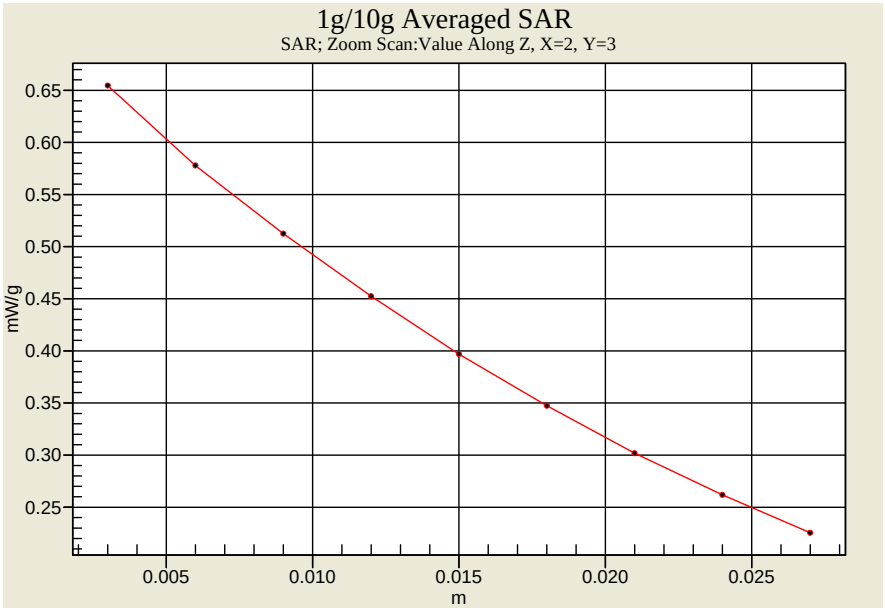
Measurement：

Duty Cycle：	1:1	Probe S/N：	3578

Frequency		Band	Power (dBm)	Phantom Position	Antenna Position	Accessory	SAR_{1g} [mW/g]	Power Drift (dB)	Remark
MHz	CH								
846.4	4233	Band V	24.01	Right-Cheek	PIFA	N/A	**0.595**	-0.162	-----
846.4	4233	Band V	24.01	Right-Tilted	PIFA	N/A	0.384	0.081	-----
846.4	4233	Band V	24.01	Left-Cheek	PIFA	N/A	0.540	-0.130	-----
846.4	4233	Band V	24.01	Left-Tilted	PIFA	N/A	0.387	0.096	-----

Std. C95.1-2005 / RSS-102-2010 - Safety Limit Spatial Peak Uncontrolled Exposure/General Population	**1.6 W/kg (mW/g) Averaged over 1 gram**

Z-axis Plot



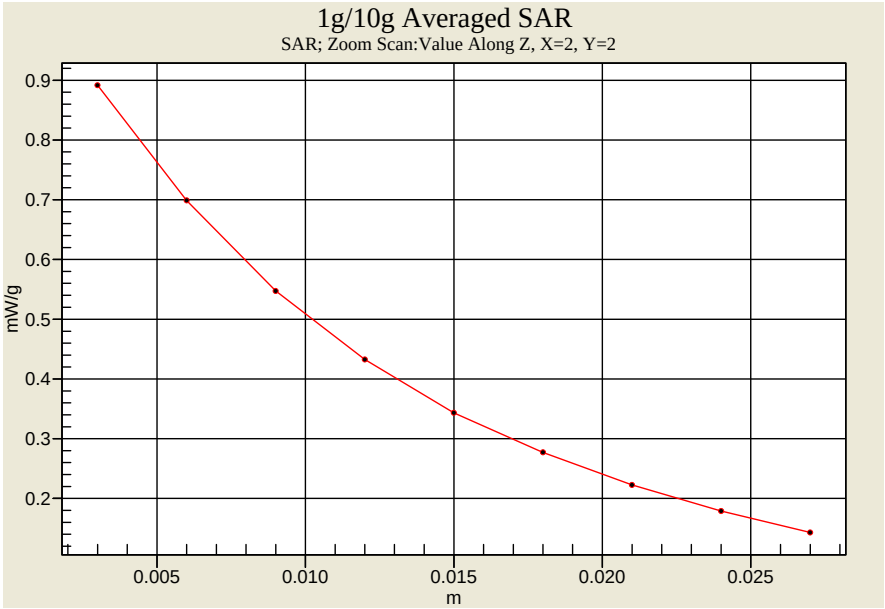
Right-Check WCDMA Band V CH 4233

GSM / GPRS 850 - Body SAR (EUT 15 mm separation to Phantom)			
Ambient：			
Temperature (℃)：	22 ± 2	Relative HUMIDITY (%)：	40-70
Liquid：			
Mixture Type：	MSL835	Liquid Temperature (℃) ：	22.0
		Depth of liquid (cm)：	15
Measurement：			
Duty Cycle：	1:8.3	Probe S/N：	3578 / 3632
	2Down3Up -- 1:2.8		

Frequency		Band	Power (dBm)	Phantom Position	Antenna Position	Accessory	SAR_{1g} [mW/g]	Power Drift (dB)	Remark
MHz	CH								
824.2	128	GSM 850	24.05	Flat	PIFA	Headset	0.132	0.036	-----
824.2	128	GSM 850	23.71	Flat	PIFA	Headset	0.278	-0.076	#2 GSM power Amplifier
824.2	128	GPRS 850 2Down3Up	28.03	Flat	PIFA	Headset	0.369	-0.028	-----
824.2	128	GPRS 850 2Down3Up	26.93	Flat	PIFA	Headset	0.533	-0.017	#2 GSM power Amplifier
824.2	128	GPRS 850 2Down3Up	26.93	Flat	PIFA	Headset	**0.780**	-0.033	#2 GSM power Amplifier Interim SAR Considerations for Host-Carriers
Std. C95.1-2005 / RSS-102-2010 - Safety Limit Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1 gram**			

Note: Interim SAR Considerations for Host-Carriers mode the EUT distance to phantom 10mm.

Z-axis Plot



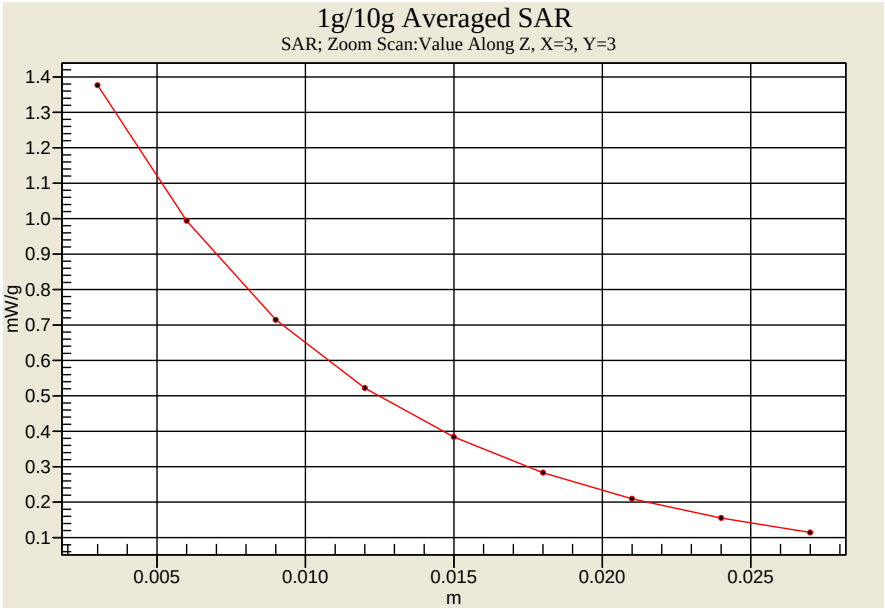
Flat GPRS850 CH 128 (2Down1Up)_ #2 GSM power Amplifier (Interim SAR Considerations for Host-Carriers)

PCS / GPRS 1900 - Body SAR (EUT 15 mm separation to Phantom)			
Ambient：			
Temperature (℃)：	22 ± 2	Relative HUMIDITY (%)：	40-70
Liquid：			
Mixture Type：	MSL1900	Liquid Temperature (℃) ：	22.0
		Depth of liquid (cm)：	15
Measurement：			
Duty Cycle：	1:8.3	Probe S/N：	3578 / 3632
	2Down3Up -- 1:2.8		

Frequency		Band	Power (dBm)	Phantom Position	Antenna Position	Accessory	SAR_{1g} [mW/g]	Power Drift (dB)	Remark
MHz	CH								
1909.8	810	PCS 1900	21.06	Flat	PIFA	Headset	0.181	0.056	-----
1850.2	512	PCS 1900	21.31	Flat	PIFA	Headset	0.340	-0.052	#2 GSM power Amplifier
1909.8	810	GPRS 1900 2Down3Up	24.33	Flat	PIFA	Headset	0.506	-0.125	-----
1850.2	512	GPRS 1900 2Down3Up	25.53	Flat	PIFA	Headset	0.984	-0.156	#2 GSM power Amplifier
1880.0	661	GPRS 1900 2Down3Up	24.93	Flat	PIFA	Headset	0.744	-0.067	
1909.8	810	GPRS 1900 2Down3Up	24.53	Flat	PIFA	Headset	0.598	-0.139	
1850.2	512	GPRS 1900 2Down3Up	25.53	Flat	PIFA	Headset	**1.130**	-0.142	#2 GSM power Amplifier Interim SAR Considerations for Host-Carriers
1880.0	661	GPRS 1900 2Down3Up	24.93	Flat	PIFA	Headset	0.868	-0.122	
1909.8	810	GPRS 1900 2Down3Up	24.53	Flat	PIFA	Headset	0.719	-0.141	
Std. C95.1-2005 / RSS-102-2010 - Safety Limit Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1 gram**			

Note: Interim SAR Considerations for Host-Carriers mode the EUT distance to phantom 10mm.

Z-axis Plot



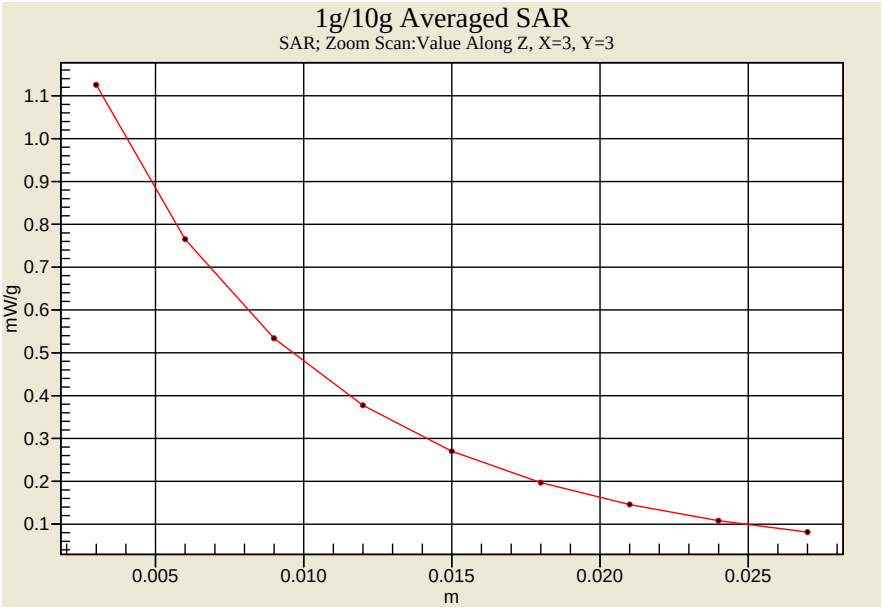
Flat GPRS 1900 CH 512 (2Down3Up)_ #2 GSM power Amplifier (Interim SAR Considerations for Host-Carriers)

WCDMA (RMC 12.2K) Band II - Body SAR (EUT 15 mm separation to Phantom)			
Ambient：			
Temperature (℃)：	22 ± 2	Relative HUMIDITY (%)：	40-70
Liquid：			
Mixture Type：	MSL1900	Liquid Temperature (℃) ：	22.0
		Depth of liquid (cm)：	15
Measurement：			
Duty Cycle：	1:1	Probe S/N：	3578

Frequency		Band	Power (dBm)	Phantom Position	Antenna Position	Accessory	SAR_{1g} [mW/g]	Power Drift (dB)	Remark
MHz	CH								
1880.0	9400	Band II	23.54	Flat	PIFA	Headset	0.534	0.119	-----
1852.4	9262	Band II	23.37	Flat	PIFA	Headset	**0.916**	0.120	Interim SAR Considerations for Host-Carriers
1880.0	9400	Band II	23.54	Flat	PIFA	Headset	0.895	0.090	
1907.6	9538	Band II	23.36	Flat	PIFA	Headset	0.885	0.078	
Std. C95.1-2005 / RSS-102-2010 - Safety Limit Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1 gram**			

Note: Interim SAR Considerations for Host-Carriers mode the EUT distance to phantom 10mm.

Z-axis Plot



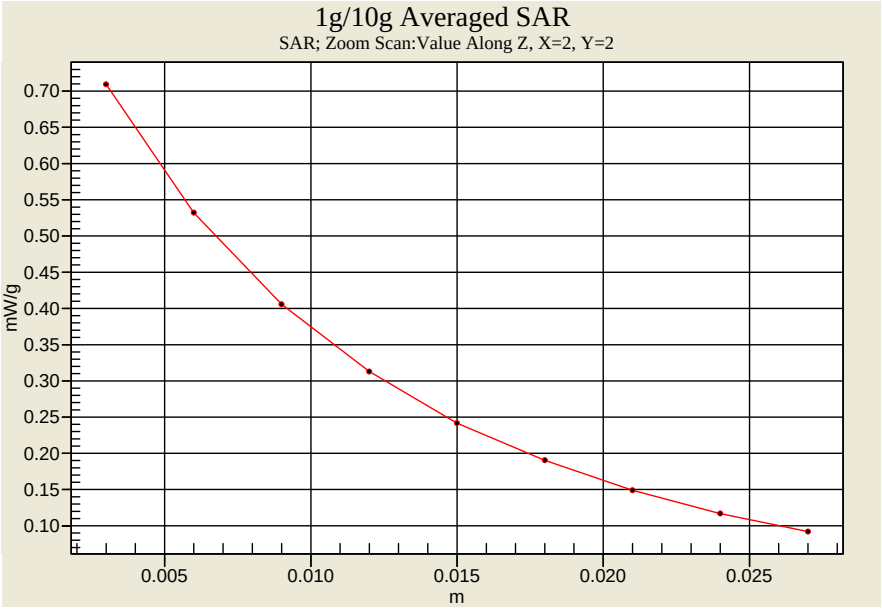
Flat WCDMA (RMC 12.2K) Band II CH9400 (Interim SAR Considerations for Host-Carriers)

WCDMA (RMC 12.2K) Band V - Body SAR (EUT 15 mm separation to Phantom)			
Ambient：			
Temperature (℃)：	22 ± 2	Relative HUMIDITY (%)：	40-70
Liquid：			
Mixture Type：	MSL835	Liquid Temperature (℃) ：	22.0
		Depth of liquid (cm)：	15
Measurement：			
Duty Cycle：	1:1	Probe S/N：	3578

Frequency		Band	Power (dBm)	Phantom Position	Antenna Position	Accessory	SAR_{1g} [mW/g]	Power Drift (dB)	Remark
MHz	CH								
846.4	4233	Band V	24.01	Flat	PIFA	Headset	0.255	0.002	-----
846.4	4233	Band V	24.01	Flat	PIFA	Headset	**0.607**	0.021	Interim SAR Considerations for Host-Carriers
Std. C95.1-2005 / RSS-102-2010 - Safety Limit Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1 gram**			

Note: Interim SAR Considerations for Host-Carriers mode the EUT distance to phantom 10mm.

Z-axis Plot



Flat WCDMA (RMC 12.2K) Band V CH4233 (Interim SAR Considerations for Host-Carriers)

IEEE 802.11b / Draft 802.11n 2.4GHz Standard-20MHz - Body SAR
(EUT 15 mm separation to Phantom)

Ambient：

Temperature (℃)：	22 ± 2	Relative HUMIDITY (%)：	40-70

Liquid：

Mixture Type：	MSL2450	Liquid Temperature (℃) ：	22.0
		Depth of liquid (cm)：	15

Measurement：

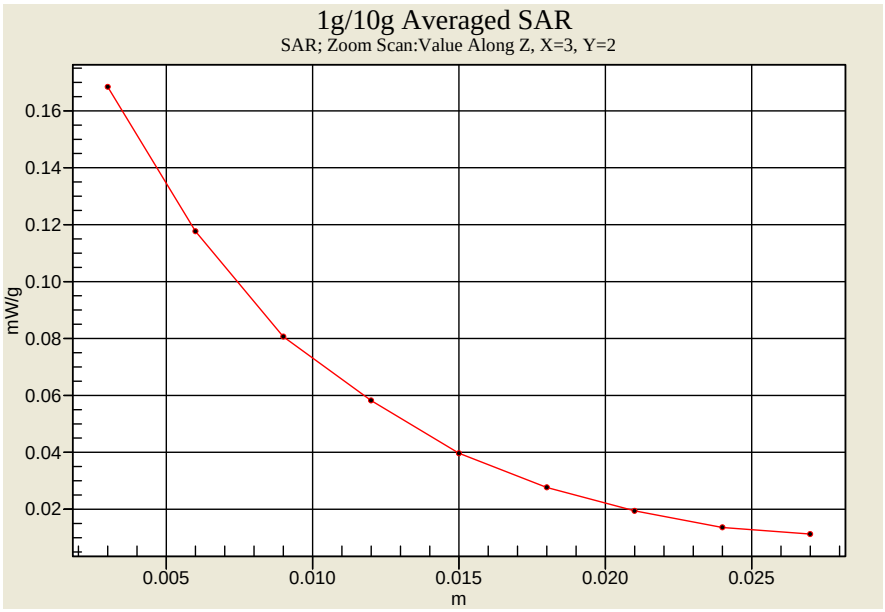
Duty Cycle：	1:1	Probe S/N：	3578

Frequency		Band	Rate	Power (dBm)	Phantom Position	Antenna Position	Accessory	SAR_{1g} [mW/g]	Power Drift (dB)	Remark
MHz	CH									
2412	01	802.11b	2M	17.70	Flat	PIFA	Headset	**0.131**	-0.065	-----
2412	01	802.11n	6.5M	12.28	Flat	PIFA	Headset	0.032	0.150	-----

Std. C95.1-2005 / RSS-102-2010 - Safety Limit
Spatial Peak
Uncontrolled Exposure/General Population

1.6 W/kg (mW/g)
Averaged over 1 gram

Z-axis Plot



Flat IEEE 802.11b CH 1 (Rate 2 M)

IEEE 802.11b / Draft 802.11n 2.4GHz Standard-20MHz for Wi-Fi Hotspot Function - Body SAR (EUT 10 mm separation to Phantom)

Ambient：

Temperature (℃)：	22 ± 2	Relative HUMIDITY (%)：	40-70

Liquid：

Mixture Type：	MSL2450	Liquid Temperature (℃) ：	22.0
		Depth of liquid (cm)：	15

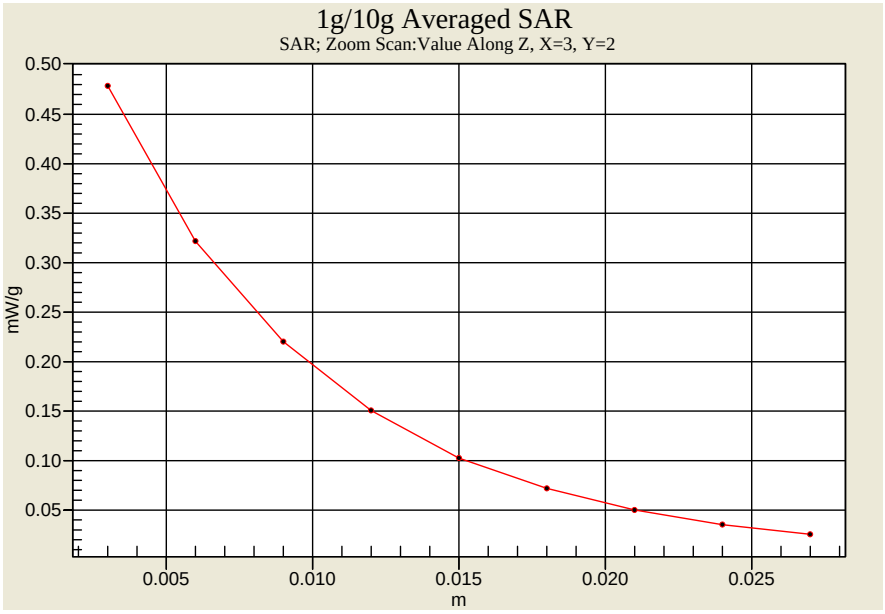
Measurement：

Duty Cycle：	1:1	Probe S/N：	3519

Frequency		Band	Rate	Power (dBm)	Phantom Position	Antenna Position	Accessory	SAR_{1g} [mW/g]	Power Drift (dB)	Remark
MHz	CH									
2412	01	802.11b	2M	17.70	Flat	PIFA	Headset	**0.362**	0.009	-----
2412	01	802.11n	6.5M	12.28	Flat	PIFA	Headset	0.084	-0.148	-----

Std. C95.1-2005 / RSS-102-2010 - Safety Limit Spatial Peak Uncontrolled Exposure/General Population	**1.6 W/kg (mW/g) Averaged over 1 gram**

Z-axis Plot



Flat IEEE 802.11b CH 1 (Rate 2 M)

9.2 Std. C95.1-2005 RF Exposure Limit

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

Table 6. 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).

10. Conclusion

The SAR test values found for the portable mobile phone **HTC Corporation Trade Name：HTC Model(s)：PD98140** is below the maximum recommended level of 1.6 W/kg (mW/g).

11. References

[1] Std. C95.1-2005, "*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] RSS-102, Issue 4 (March 2010), Radio Standards Specification 102.

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/9/2 AM 10:46:34

System Performance Check at 835MHz_20100902_Head

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

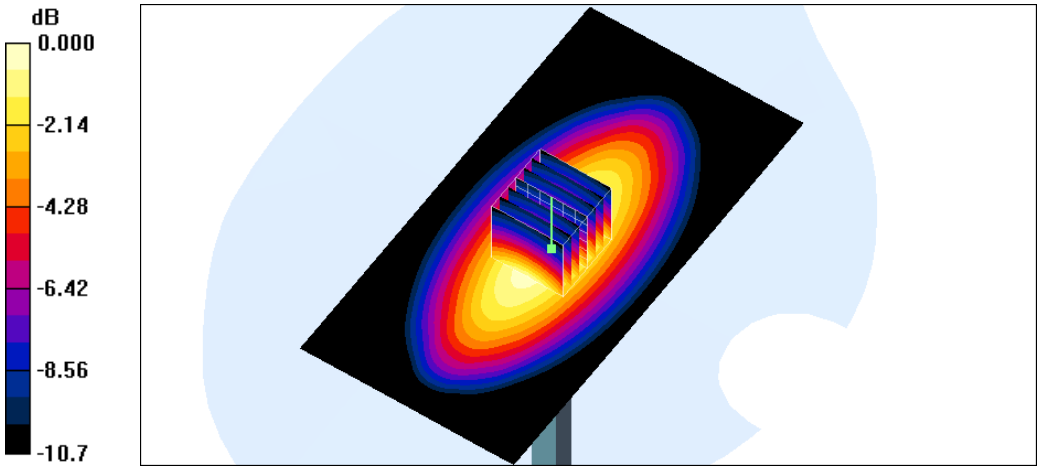
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.922 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.44, 8.44, 8.44); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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) = 2.86 mW/g

System Performance Check at 835MHz/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.4 V/m; Power Drift = -0.024 dB
Peak SAR (extrapolated) = 3.72 W/kg
SAR(1 g) = 2.44 mW/g; SAR(10 g) = 1.58 mW/g
Maximum value of SAR (measured) = 2.87 mW/g



0 dB = 2.87mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/10/21 AM 09:01:27

System Performance Check at 835MHz_20101021_Head

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

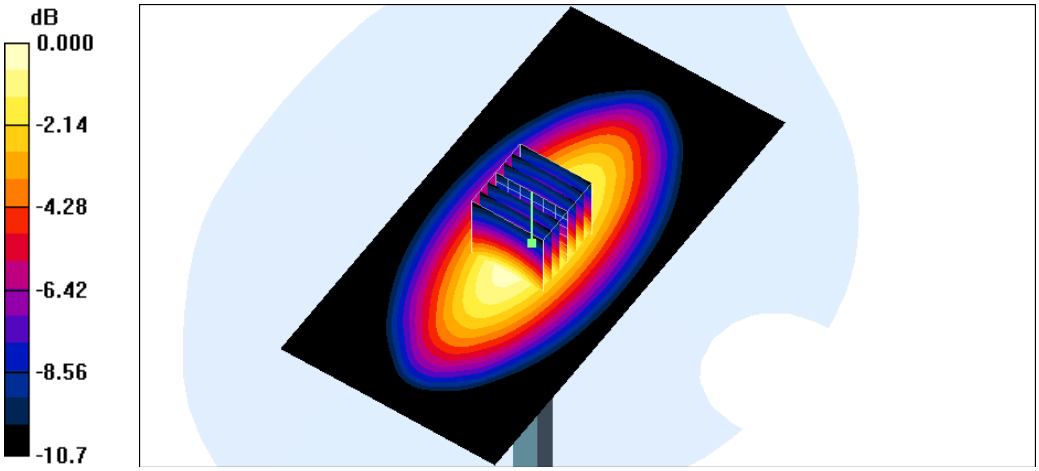
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.922 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.44, 8.44, 8.44); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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) = 2.86 mW/g

System Performance Check at 835MHz/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.6 V/m; Power Drift = -0.018 dB
Peak SAR (extrapolated) = 3.71 W/kg
SAR(1 g) = 2.43 mW/g; SAR(10 g) = 1.58 mW/g
Maximum value of SAR (measured) = 2.85 mW/g



0 dB = 2.85mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/9/3 AM 04:40:37

System Performance Check at 1900MHz_20100903_Head

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

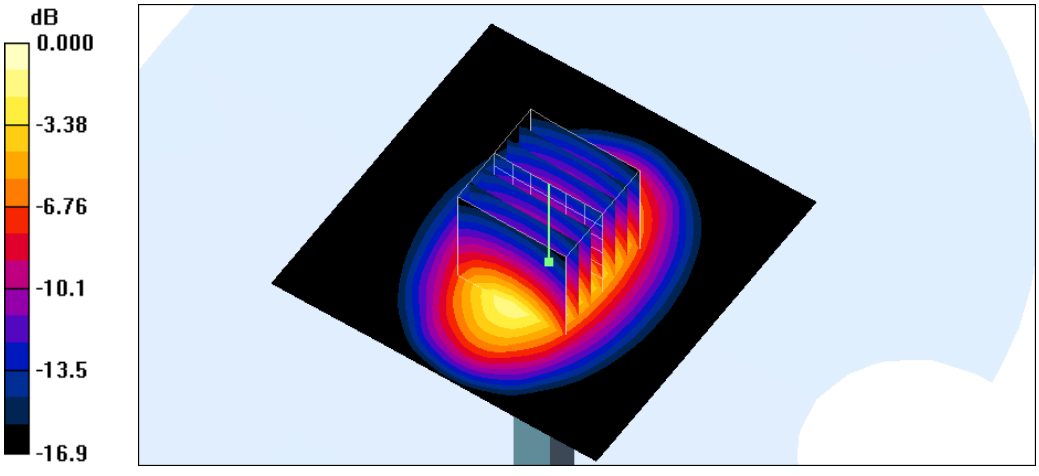
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.38 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.05, 7.05, 7.05); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (91x91x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 13.0 mW/g

System Performance Check at 1900MHz/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 91.1 V/m; Power Drift = 0.002 dB
Peak SAR (extrapolated) = 18.9 W/kg
SAR(1 g) = 10.3 mW/g; SAR(10 g) = 5.4 mW/g
Maximum value of SAR (measured) = 13.1 mW/g



0 dB = 13.1mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/10/20 AM 08:59:15

System Performance Check at 1900MHz_20101020_Head

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

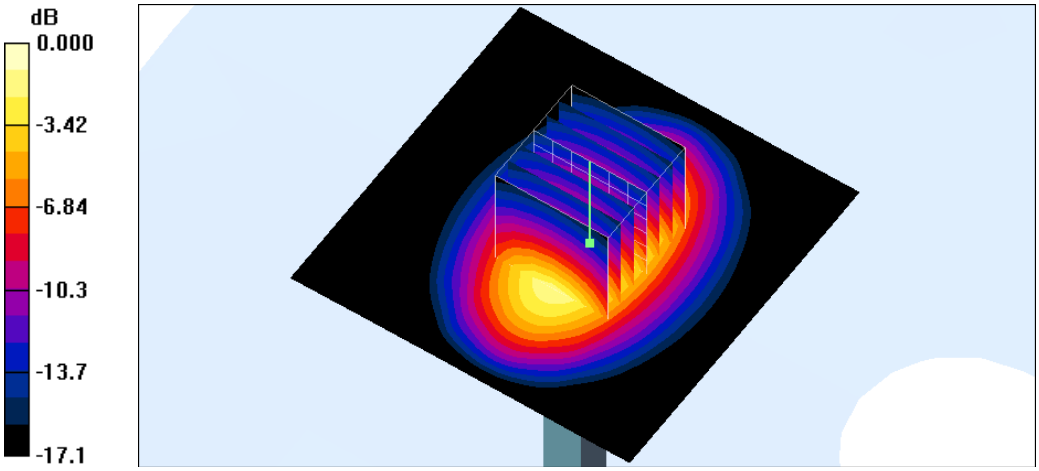
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.38 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.05, 7.05, 7.05); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (91x91x1):
Measurement grid: dx=10mm, dy=10mm
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 = 92.6 V/m; Power Drift = -0.022 dB
Peak SAR (extrapolated) = 19.3 W/kg
SAR(1 g) = 10.5 mW/g; SAR(10 g) = 5.52 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: 2010/9/3 AM 03:49:49

System Performance Check at 835MHz_20100903_Body

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

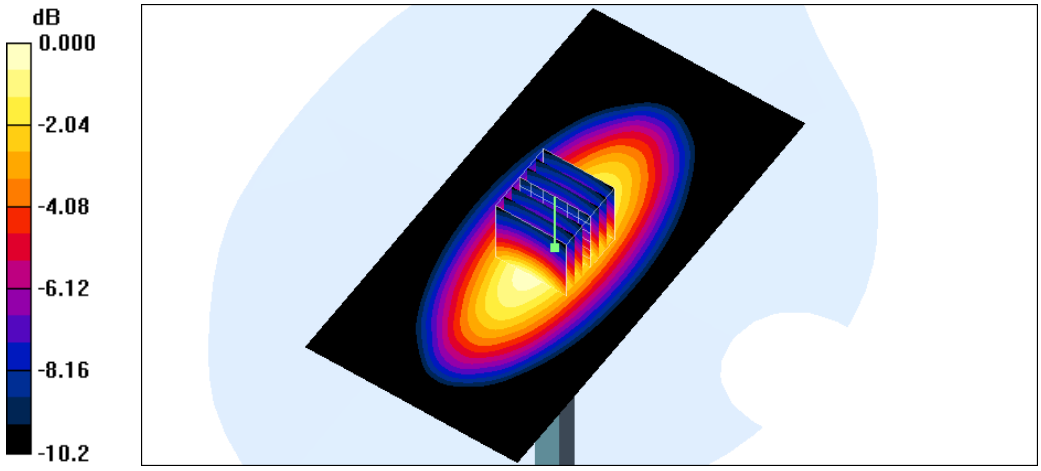
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.981 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.55, 8.55, 8.55); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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) = 2.94 mW/g

System Performance Check at 835MHz/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 54.1 V/m; Power Drift = 0.007 dB
Peak SAR (extrapolated) = 3.71 W/kg
SAR(1 g) = 2.49 mW/g; SAR(10 g) = 1.64 mW/g
Maximum value of SAR (measured) = 2.90 mW/g



0 dB = 2.90mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/10/21 AM 08:22:20

System Performance Check at 835MHz_20101021_Body

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

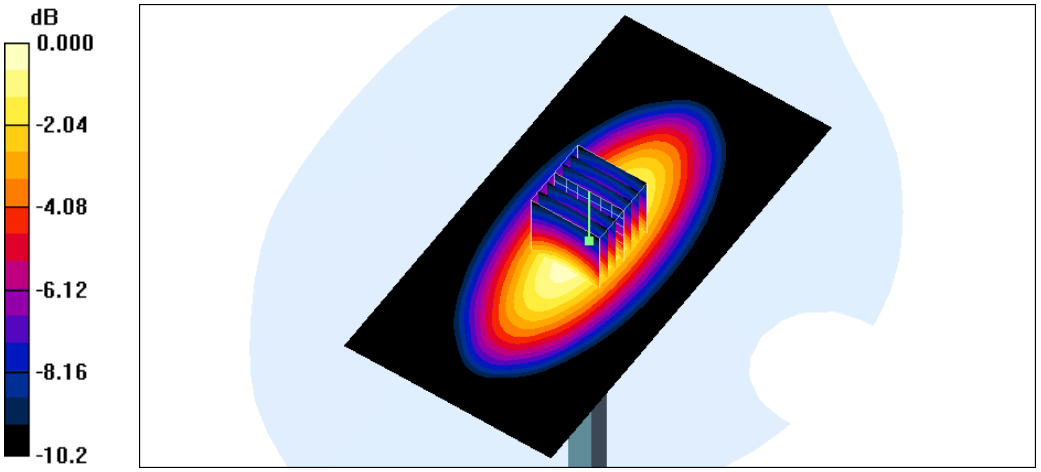
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.981 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.55, 8.55, 8.55); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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) = 3.03 mW/g

System Performance Check at 835MHz/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.4 V/m; Power Drift = 0.028 dB
Peak SAR (extrapolated) = 3.87 W/kg
SAR(1 g) = 2.6 mW/g; SAR(10 g) = 1.72 mW/g
Maximum value of SAR (measured) = 3.03 mW/g



0 dB = 3.03mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/11/19 AM 03:40:50

System Performance Check at 835MHz_20101119_Body

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

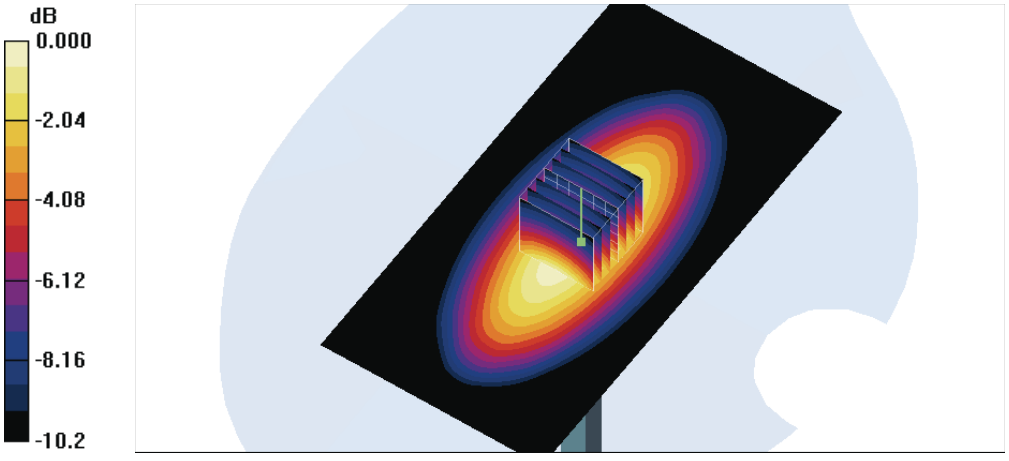
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.981 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.55, 8.55, 8.55); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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) = 2.94 mW/g

System Performance Check at 835MHz/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 54.1 V/m; Power Drift = 0.011 dB
Peak SAR (extrapolated) = 3.71 W/kg
SAR(1 g) = 2.48 mW/g; SAR(10 g) = 1.63 mW/g
Maximum value of SAR (measured) = 2.90 mW/g



0 dB = 2.90mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/11/22 PM 11:13:54

System Performance Check at 835MHz_20101122_Body

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

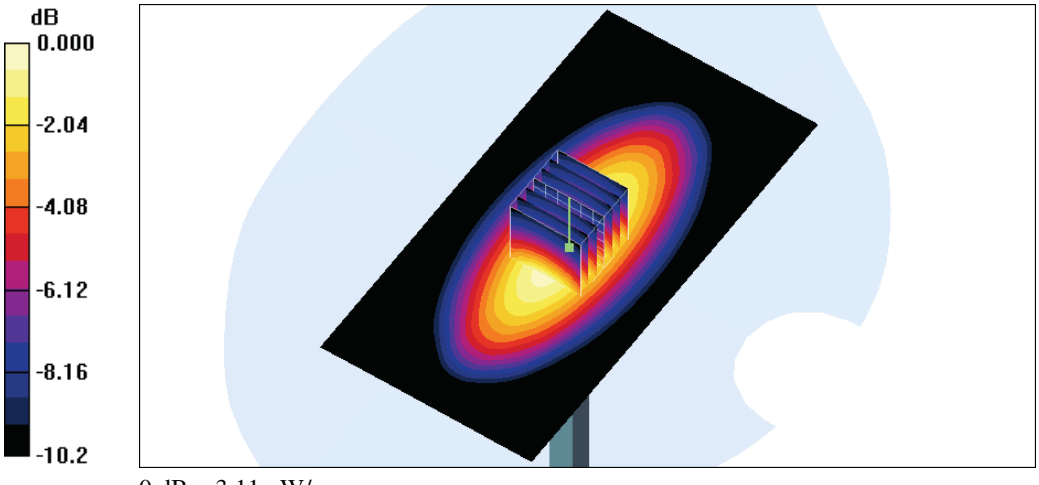
Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium parameters used: f = 835 MHz; σ = 0.981 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3632; ConvF(9.17, 9.17, 9.17); Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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) = 3.10 mW/g

System Performance Check at 835MHz/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.6 V/m; Power Drift = 0.000 dB
Peak SAR (extrapolated) = 3.95 W/kg
SAR(1 g) = 2.66 mW/g; SAR(10 g) = 1.75 mW/g
Maximum value of SAR (measured) = 3.11 mW/g



0 dB = 3.11mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/9/6 AM 07:39:05

System Performance Check at 1900MHz_20100906_Body

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

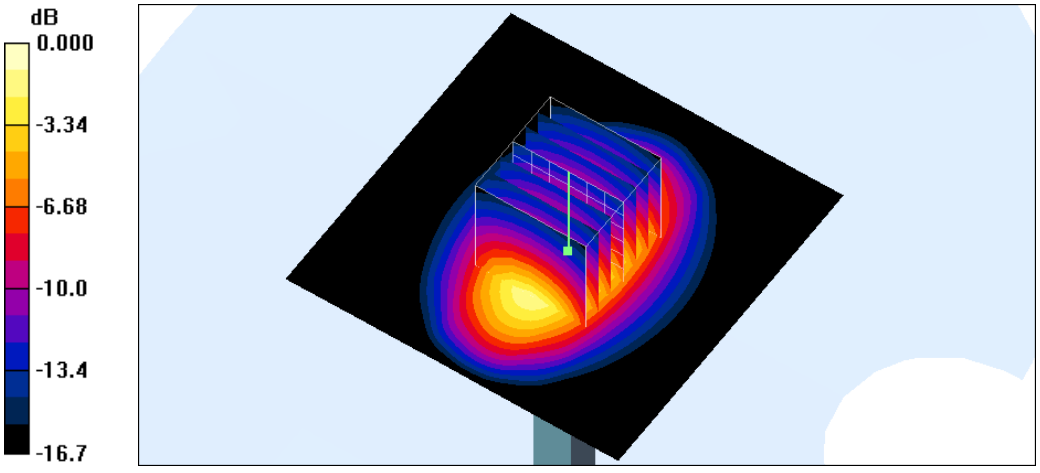
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.51 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(6.7, 6.7, 6.7); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (91x91x1):
Measurement grid: dx=10mm, dy=10mm
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 = 89.7 V/m; Power Drift = -0.025 dB
Peak SAR (extrapolated) = 18.9 W/kg
SAR(1 g) = 10.5 mW/g; SAR(10 g) = 5.57 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: 2010/10/21 PM 07:39:47

System Performance Check at 1900MHz_20101021_Body

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

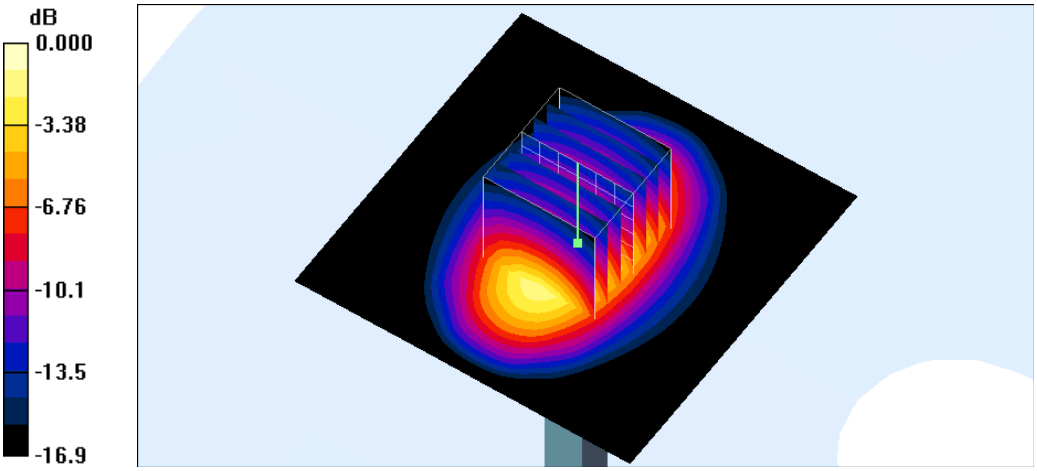
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.51 mho/m; ε_r = 51.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(6.7, 6.7, 6.7); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (91x91x1):
Measurement grid: dx=10mm, dy=10mm
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 = 93.7 V/m; Power Drift = 0.002 dB
Peak SAR (extrapolated) = 19.2 W/kg
SAR(1 g) = 10.5 mW/g; SAR(10 g) = 5.51 mW/g
Maximum value of SAR (measured) = 13.4 mW/g



0 dB = 13.4mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/11/19 AM 07:39:05

System Performance Check at 1900MHz_20101119_Body

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

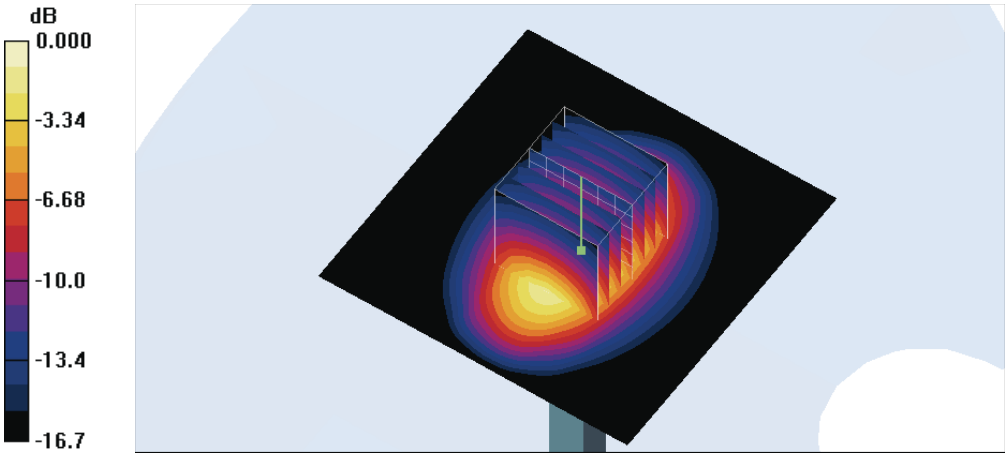
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.51 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(6.7, 6.7, 6.7); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (91x91x1):
Measurement grid: dx=10mm, dy=10mm
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 = 89.6 V/m; Power Drift = -0.120 dB
Peak SAR (extrapolated) = 18.9 W/kg
SAR(1 g) = 10.4 mW/g; SAR(10 g) = 5.52 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: 2010/11/23 AM 05:32:14

System Performance Check at 1900MHz_20101122_Body

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

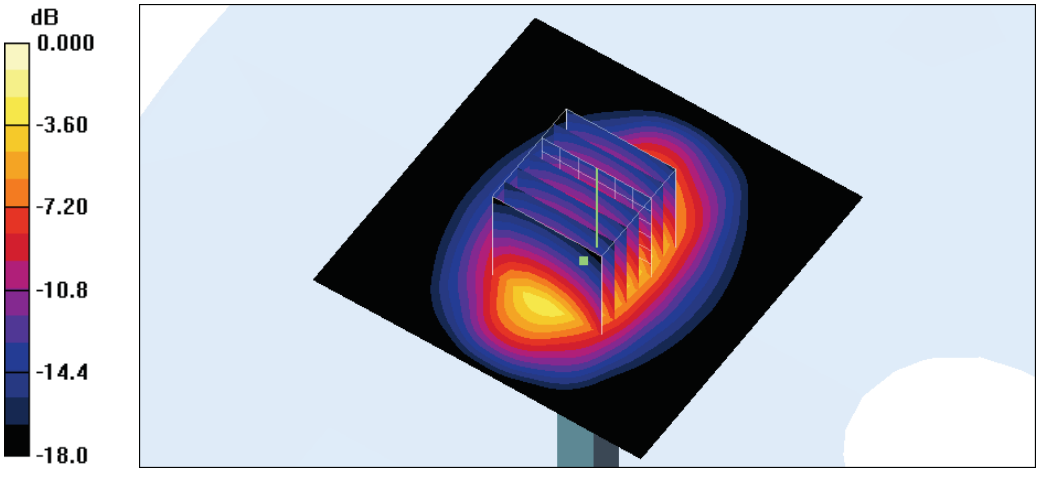
Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.51 mho/m; ε_r = 51.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3632; ConvF(7.57, 7.57, 7.57); Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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) = 14.1 mW/g

System Performance Check at 1900MHz/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 92.1 V/m; Power Drift = -0.017 dB
Peak SAR (extrapolated) = 19.1 W/kg
SAR(1 g) = 10.4 mW/g; SAR(10 g) = 5.42 mW/g
Maximum value of SAR (measured) = 13.2 mW/g



0 dB = 13.2mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/9/6 PM 02:33:39

System Performance Check at 2450MHz_20100906_Body

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

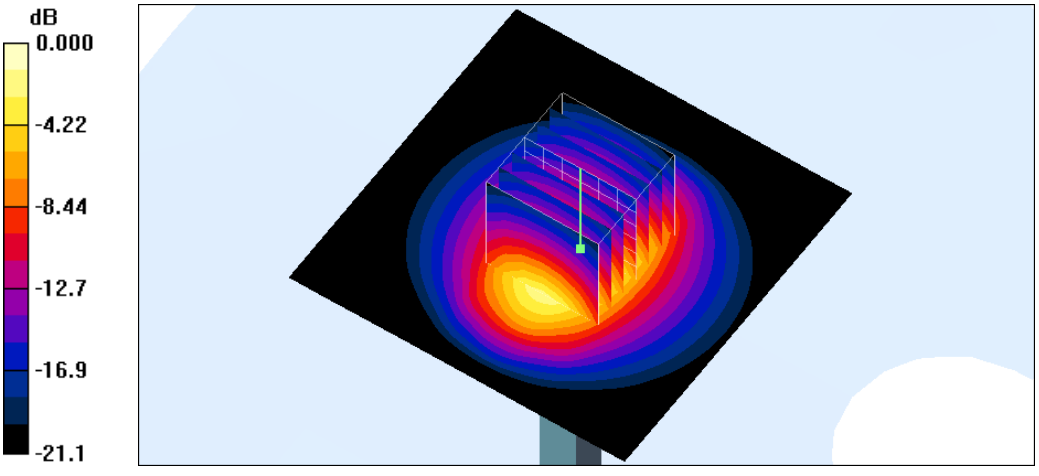
Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.94 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(6.51, 6.51, 6.51); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (91x91x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 17.0 mW/g

System Performance Check at 2450MHz/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 85.5 V/m; Power Drift = -0.027 dB
Peak SAR (extrapolated) = 25.5 W/kg
SAR(1 g) = 12.7 mW/g; SAR(10 g) = 5.98 mW/g
Maximum value of SAR (measured) = 16.6 mW/g



0 dB = 16.6mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/11/19 AM 10:58:52

System Performance Check at 2450MHz_20101119_Body

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

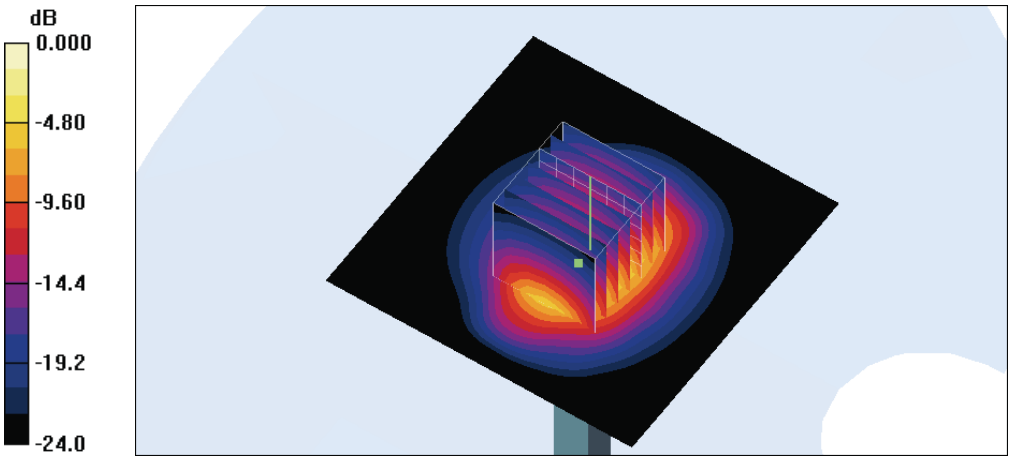
Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.96 mho/m; ε_r = 51.3; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV3 - SN3519; ConvF(8.1, 8.1, 8.1); Calibrated: 2010/2/23
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

System Performance Check at 2450MHz/Area Scan (61x61x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 19.0 mW/g

System Performance Check at 2450MHz/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 87.9 V/m; Power Drift = -0.008 dB
Peak SAR (extrapolated) = 29.7 W/kg
SAR(1 g) = 13.2 mW/g; SAR(10 g) = 5.72 mW/g
Maximum value of SAR (measured) = 18.0 mW/g



0 dB = 18.0mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/9/2 AM 11:14:01

RC_GSM850 CH128

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

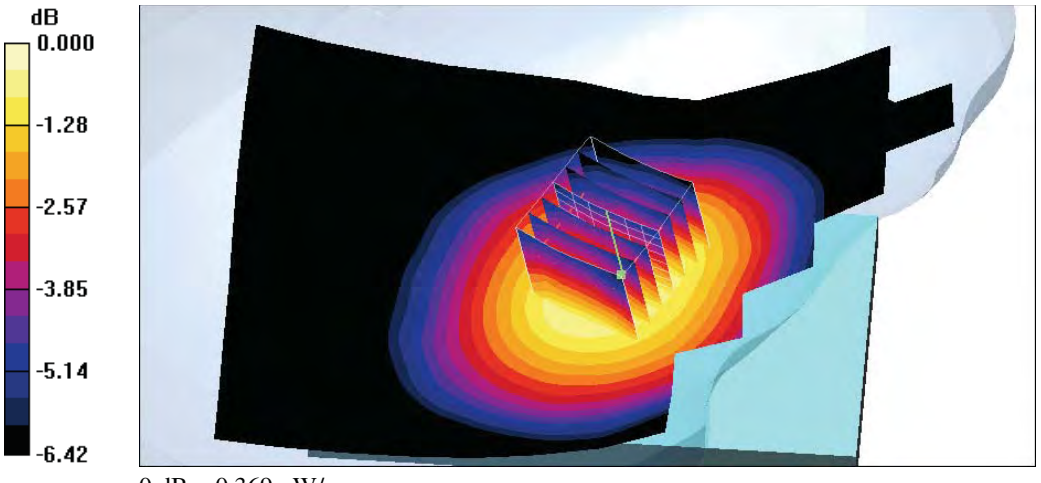
Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.912 mho/m; ε_r = 40.7; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.44, 8.44, 8.44); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (71x111x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.359 mW/g

Right Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 7.80 V/m; Power Drift = -0.020 dB
Peak SAR (extrapolated) = 0.457 W/kg
SAR(1 g) = 0.331 mW/g; SAR(10 g) = 0.251 mW/g
Maximum value of SAR (measured) = 0.369 mW/g



0 dB = 0.369mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/10/21 PM 12:23:21

RC_GSM850 CH128_#2nd GSM Power Amplifier

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

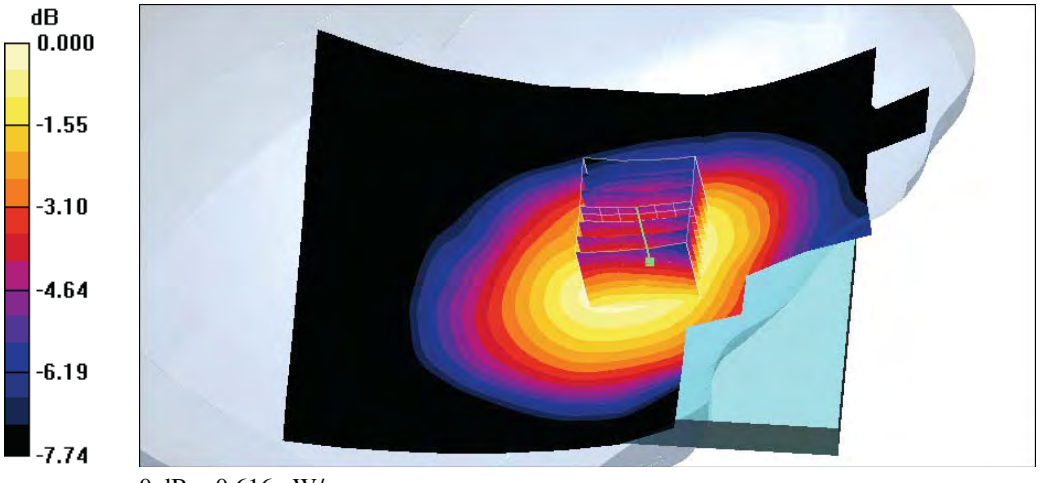
Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.912 mho/m; ε_r = 40.7; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.44, 8.44, 8.44); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (81x111x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.640 mW/g

Right Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 10.4 V/m; Power Drift = -0.015 dB
Peak SAR (extrapolated) = 0.738 W/kg
SAR(1 g) = 0.560 mW/g; SAR(10 g) = 0.429 mW/g
Maximum value of SAR (measured) = 0.616 mW/g



0 dB = 0.616mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/9/2 AM 11:33:29

RT_GSM850 CH128

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

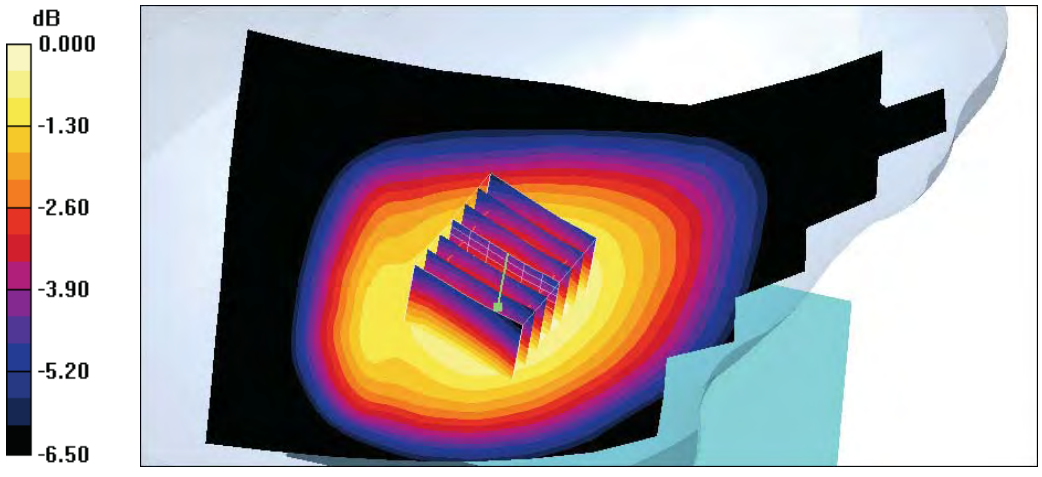
Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.912 mho/m; ε_r = 40.7; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.44, 8.44, 8.44); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (71x111x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.227 mW/g

Right Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 12.4 V/m; Power Drift = 0.024 dB
Peak SAR (extrapolated) = 0.251 W/kg
SAR(1 g) = 0.199 mW/g; SAR(10 g) = 0.155 mW/g
Maximum value of SAR (measured) = 0.218 mW/g



0 dB = 0.218mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/10/21 PM 12:46:28

RT_GSM850 CH128_ #2nd GSM Power Amplifier

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

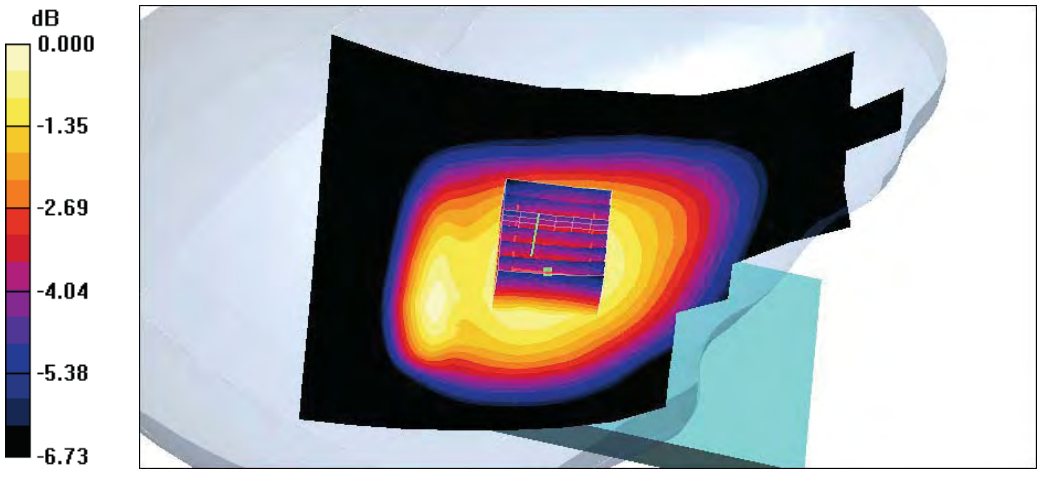
Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.912 mho/m; ε_r = 40.7; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.44, 8.44, 8.44); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (81x111x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.420 mW/g

Right Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 15.9 V/m; Power Drift = 0.034 dB
Peak SAR (extrapolated) = 0.491 W/kg
SAR(1 g) = 0.375 mW/g; SAR(10 g) = 0.290 mW/g
Maximum value of SAR (measured) = 0.418 mW/g



0 dB = 0.418mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/9/2 PM 12:03:57

LC_GSM850 CH128

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

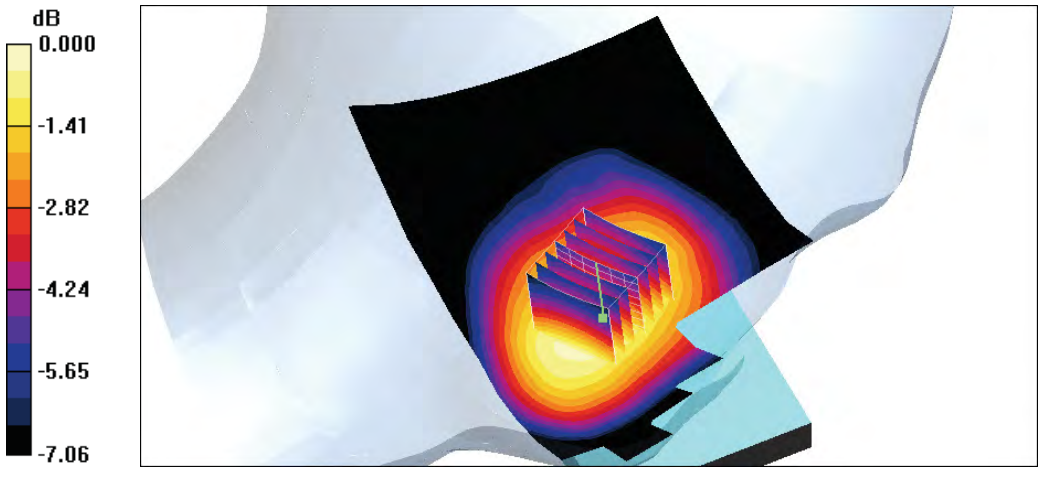
Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.912 mho/m; ε_r = 40.7; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.44, 8.44, 8.44); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (71x111x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.301 mW/g

Left Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 6.52 V/m; Power Drift = 0.070 dB
Peak SAR (extrapolated) = 0.354 W/kg
SAR(1 g) = 0.275 mW/g; SAR(10 g) = 0.210 mW/g
Maximum value of SAR (measured) = 0.302 mW/g



0 dB = 0.302mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/10/21 PM 01:11:10

LC_GSM850 CH128_ #2nd GSM Power Amplifier

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

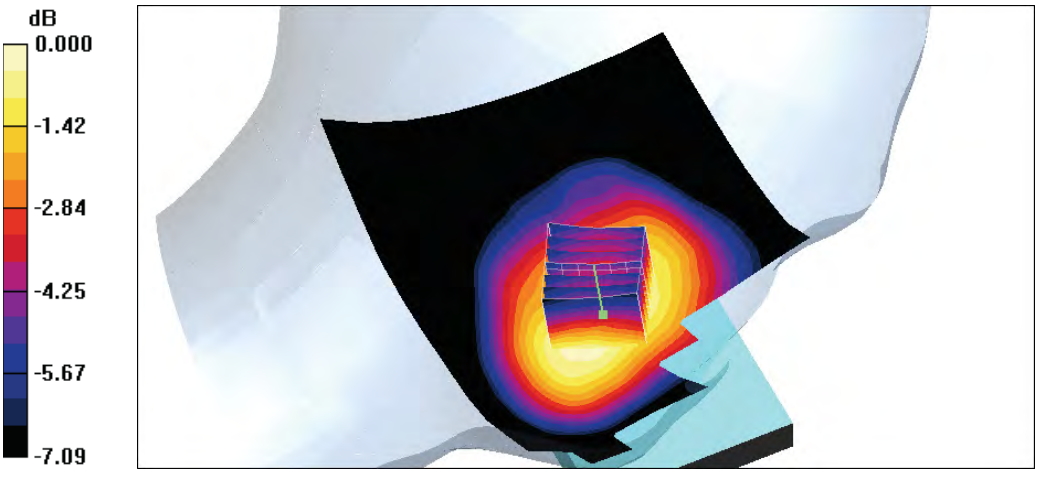
Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.912 mho/m; ε_r = 40.7; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.44, 8.44, 8.44); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (81x111x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.511 mW/g

Left Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 8.69 V/m; Power Drift = -0.020 dB
Peak SAR (extrapolated) = 0.601 W/kg
SAR(1 g) = 0.468 mW/g; SAR(10 g) = 0.356 mW/g
Maximum value of SAR (measured) = 0.516 mW/g



0 dB = 0.516mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/9/2 PM 12:27:55

LT_GSM850 CH128

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

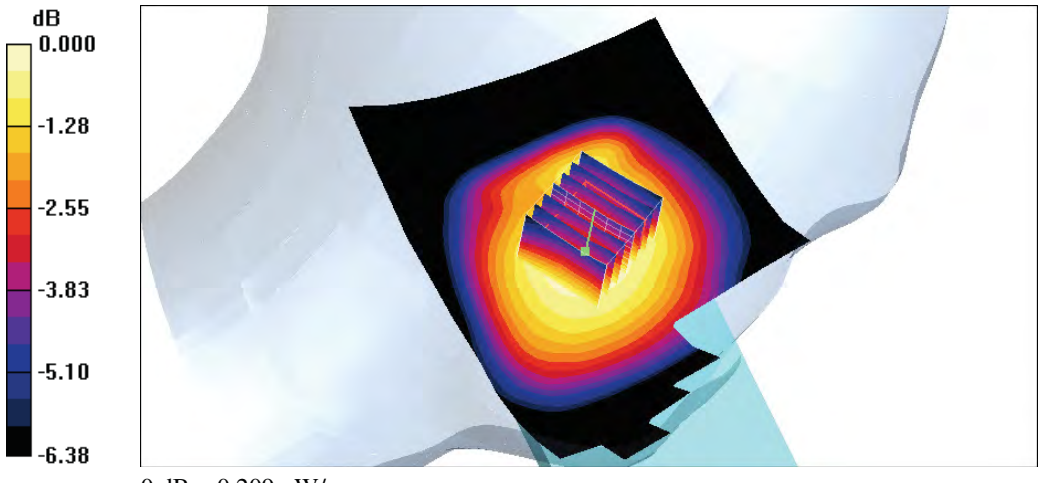
Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.912 mho/m; ε_r = 40.7; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.44, 8.44, 8.44); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (71x111x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.213 mW/g

Left Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 9.95 V/m; Power Drift = 0.078 dB
Peak SAR (extrapolated) = 0.245 W/kg
SAR(1 g) = 0.192 mW/g; SAR(10 g) = 0.150 mW/g
Maximum value of SAR (measured) = 0.209 mW/g



0 dB = 0.209mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/10/21 PM 01:33:51

LT_GSM850 CH128_ #2nd GSM Power Amplifier

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

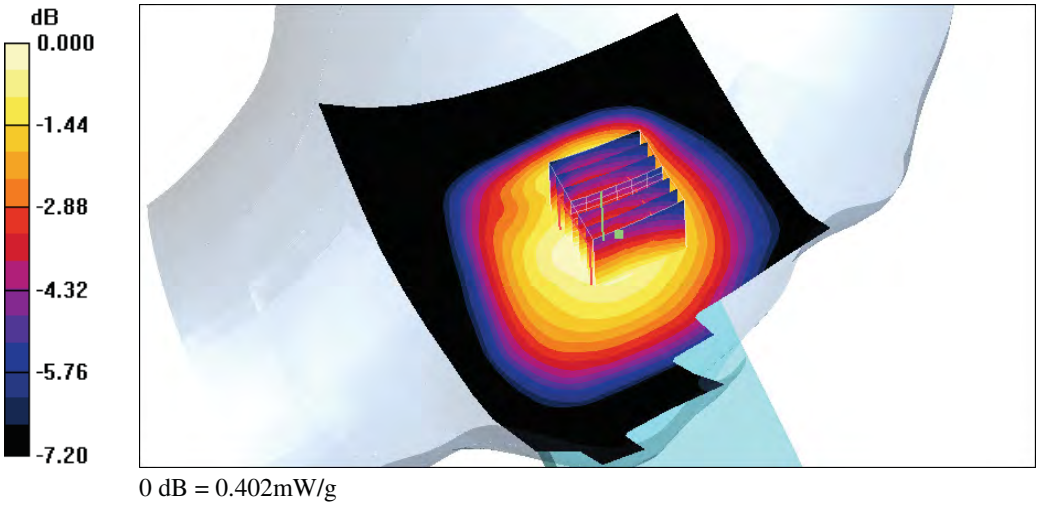
Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.912 mho/m; ε_r = 40.7; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.44, 8.44, 8.44); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (81x111x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.416 mW/g

Left Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 14.8 V/m; Power Drift = -0.023 dB
Peak SAR (extrapolated) = 0.452 W/kg
SAR(1 g) = 0.366 mW/g; SAR(10 g) = 0.283 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: 2010/10/21 AM 02:39:13

RC_PCS CH512_ #2nd GSM Power Amplifier

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

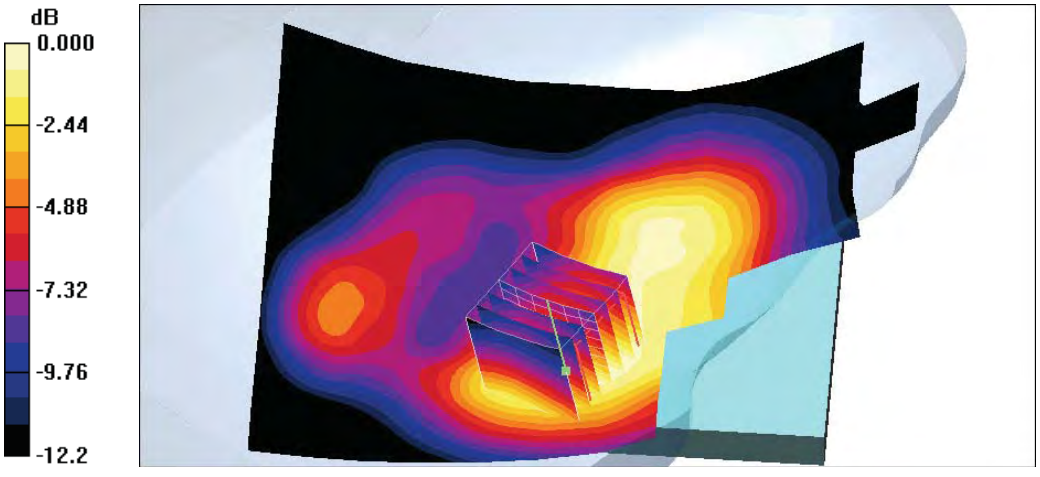
Communication System: PCS; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.34 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.05, 7.05, 7.05); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (81x111x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.574 mW/g

Right Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 11.2 V/m; Power Drift = -0.065 dB
Peak SAR (extrapolated) = 0.694 W/kg
SAR(1 g) = 0.454 mW/g; SAR(10 g) = 0.301 mW/g
Maximum value of SAR (measured) = 0.519 mW/g



0 dB = 0.519mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/10/21 AM 02:59:34

RT_PCS CH512_ #2nd GSM Power Amplifier

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

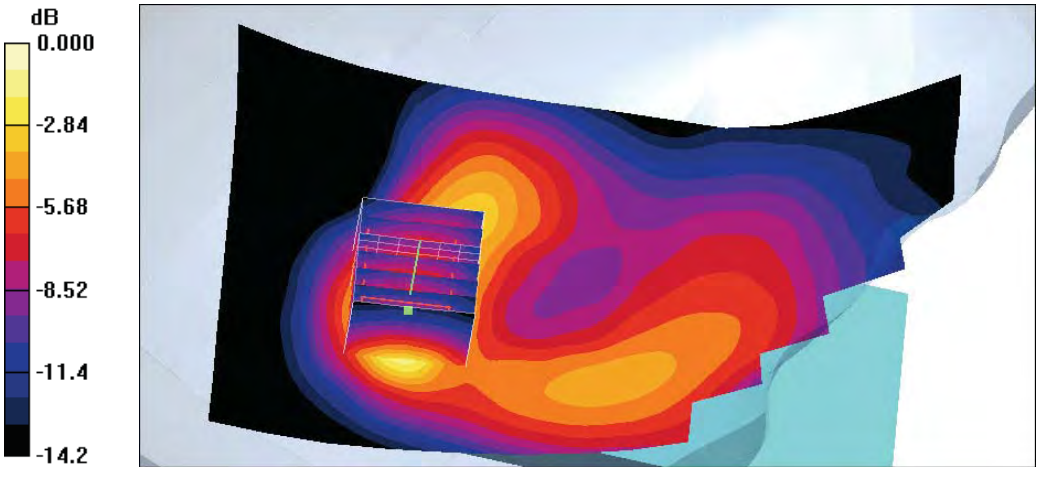
Communication System: PCS; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.34 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.05, 7.05, 7.05); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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) = 0.521 mW/g

Right Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 17.0 V/m; Power Drift = 0.005 dB
Peak SAR (extrapolated) = 0.749 W/kg
SAR(1 g) = 0.415 mW/g; SAR(10 g) = 0.223 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: 2010/10/21 AM 03:49:17

LC_PCS CH512_ #2nd GSM Power Amplifier

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

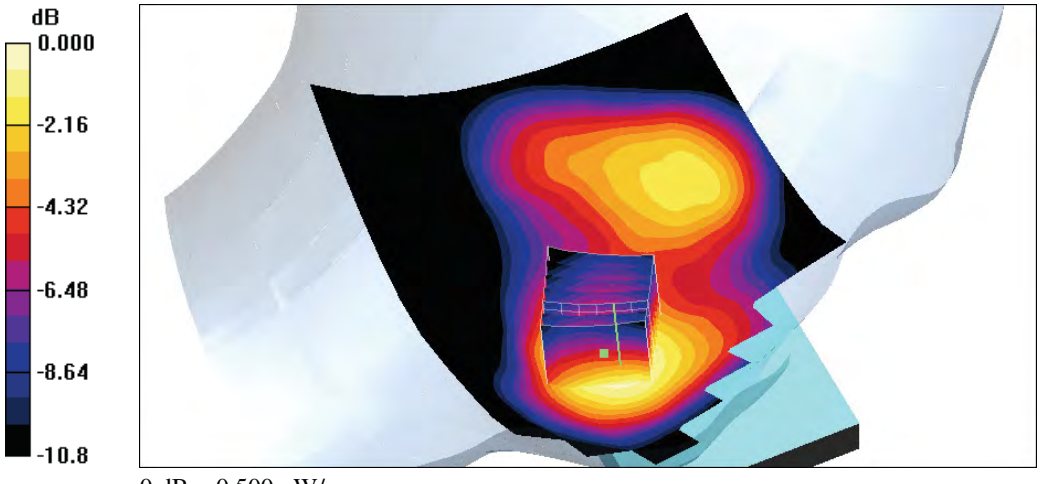
Communication System: PCS; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.34 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.05, 7.05, 7.05); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (81x111x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.514 mW/g

Left Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 11.4 V/m; Power Drift = -0.033 dB
Peak SAR (extrapolated) = 0.661 W/kg
SAR(1 g) = 0.431 mW/g; SAR(10 g) = 0.284 mW/g
Maximum value of SAR (measured) = 0.500 mW/g



0 dB = 0.500mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/10/21 AM 04:15:06

LT_PCS CH512_ #2nd GSM Power Amplifier

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

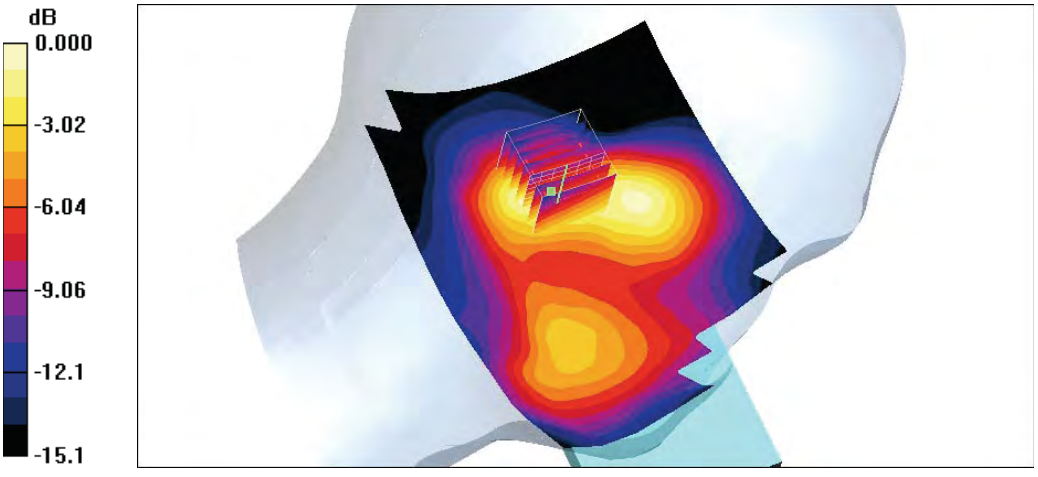
Communication System: PCS; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.34 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.05, 7.05, 7.05); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (81x121x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.444 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 = 0.015 dB
Peak SAR (extrapolated) = 0.581 W/kg
SAR(1 g) = 0.341 mW/g; SAR(10 g) = 0.196 mW/g
Maximum value of SAR (measured) = 0.407 mW/g



0 dB = 0.407mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/9/3 PM 04:48:36

RC_PCS CH810

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

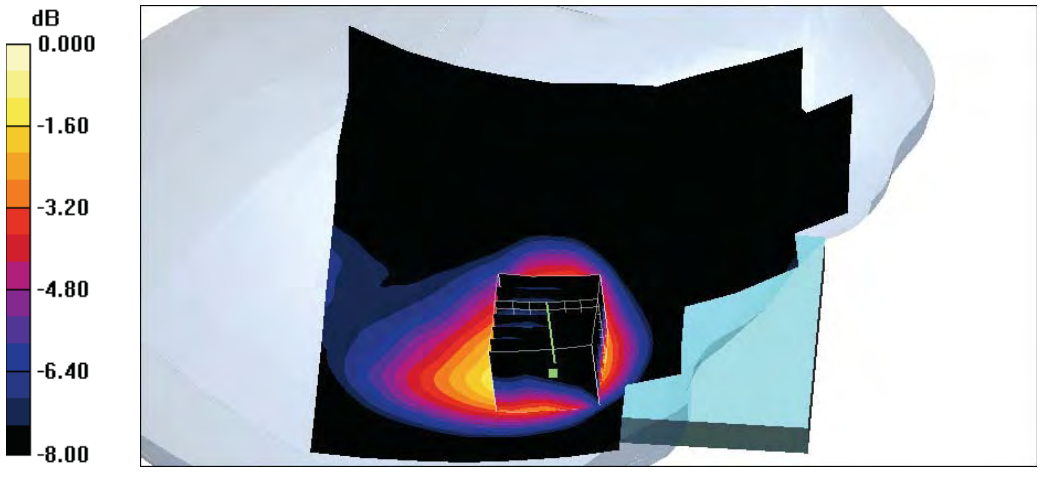
Communication System: PCS; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1910 MHz; σ = 1.39 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.05, 7.05, 7.05); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (91x111x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.537 mW/g

Right Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 8.21 V/m; Power Drift = 0.049 dB
Peak SAR (extrapolated) = 0.752 W/kg
SAR(1 g) = 0.456 mW/g; SAR(10 g) = 0.284 mW/g
Maximum value of SAR (measured) = 0.541 mW/g



0 dB = 0.541mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/9/3 PM 05:16:57

RT_PCS CH810

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

Communication System: PCS; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1910 MHz; σ = 1.39 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.05, 7.05, 7.05); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (81x121x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.335 mW/g

Right Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 13.4 V/m; Power Drift = 0.038 dB
Peak SAR (extrapolated) = 0.451 W/kg
SAR(1 g) = 0.265 mW/g; SAR(10 g) = 0.148 mW/g
Maximum value of SAR (measured) = 0.329 mW/g

0 dB = 0.329mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/9/3 PM 05:41:46

LC_PCS CH810

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

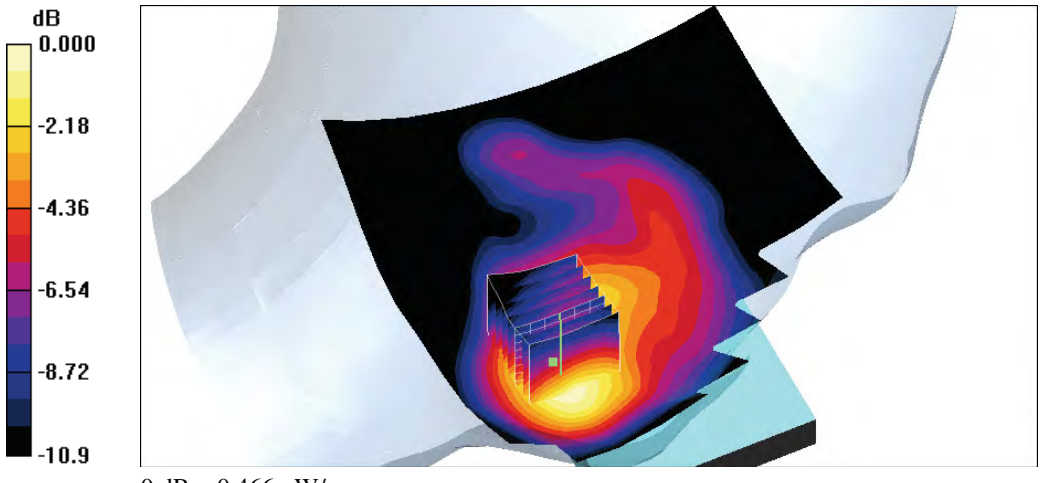
Communication System: PCS; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1910 MHz; σ = 1.39 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.05, 7.05, 7.05); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (91x111x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.514 mW/g

Left Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 8.87 V/m; Power Drift = 0.034 dB
Peak SAR (extrapolated) = 0.598 W/kg
SAR(1 g) = 0.392 mW/g; SAR(10 g) = 0.247 mW/g
Maximum value of SAR (measured) = 0.466 mW/g



0 dB = 0.466mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/9/3 PM 06:14:58

LT_PCS CH810

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

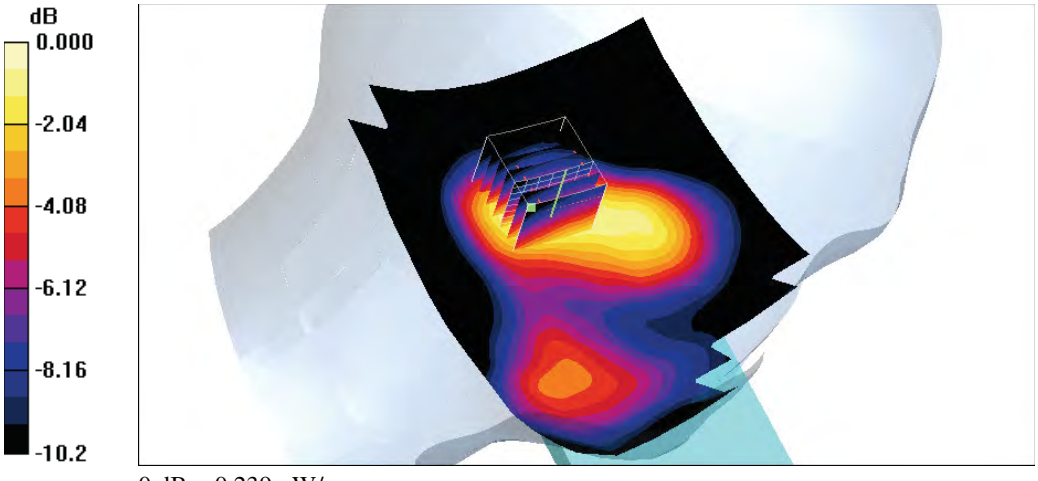
Communication System: PCS; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1910 MHz; σ = 1.39 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.05, 7.05, 7.05); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (81x121x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.243 mW/g

Left Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 12.4 V/m; Power Drift = 0.008 dB
Peak SAR (extrapolated) = 0.325 W/kg
SAR(1 g) = 0.201 mW/g; SAR(10 g) = 0.120 mW/g
Maximum value of SAR (measured) = 0.239 mW/g



0 dB = 0.239mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/9/3 AM 11:47:00

RC_WCDMA Band II CH9400

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

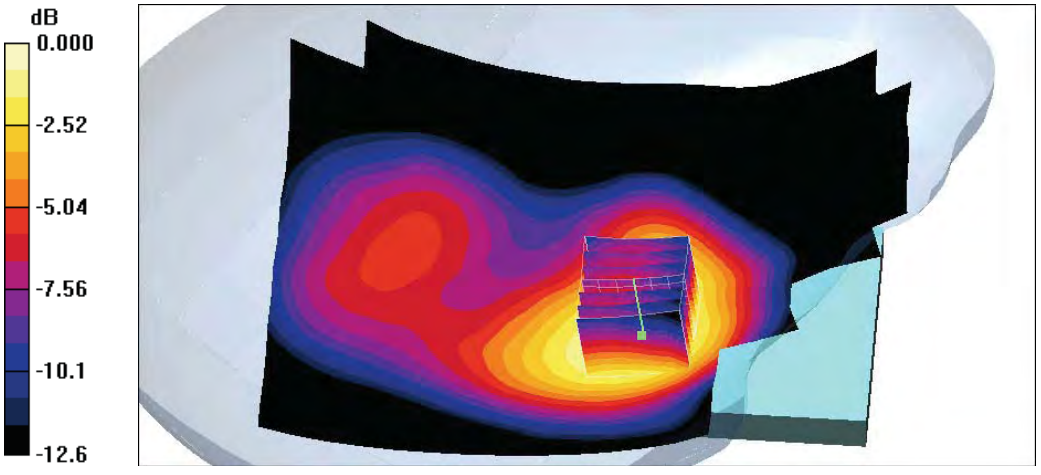
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.37 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.05, 7.05, 7.05); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (131x181x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.15 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 = 0.016 dB
Peak SAR (extrapolated) = 1.49 W/kg
SAR(1 g) = 1.01 mW/g; SAR(10 g) = 0.652 mW/g
Maximum value of SAR (measured) = 1.18 mW/g



0 dB = 1.18mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/9/3 PM 12:37:50

RT_WCDMA Band II CH9400

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

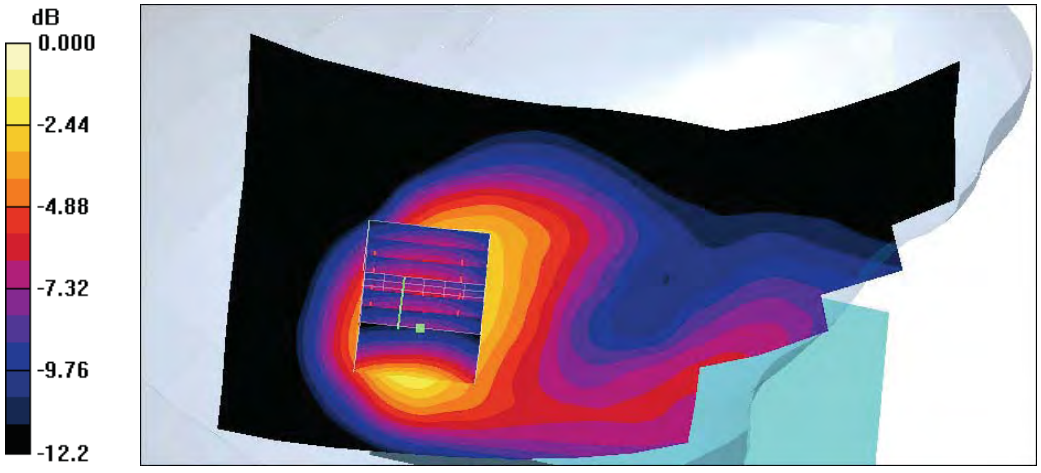
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.37 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.05, 7.05, 7.05); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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) = 0.686 mW/g

Right Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 21.5 V/m; Power Drift = 0.013 dB
Peak SAR (extrapolated) = 0.924 W/kg
SAR(1 g) = 0.574 mW/g; SAR(10 g) = 0.341 mW/g
Maximum value of SAR (measured) = 0.688 mW/g



0 dB = 0.688mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/9/3 PM 02:44:50

LC_WCDMA Band II CH9262

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

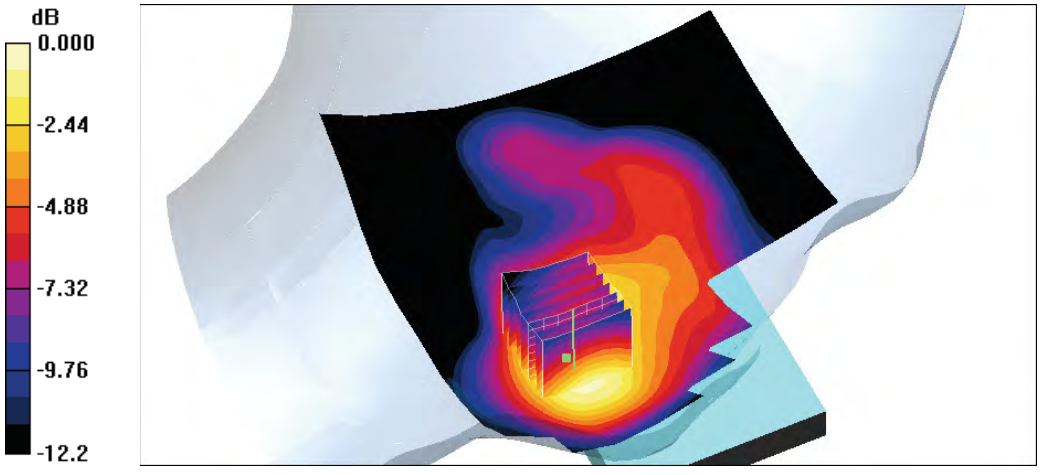
Communication System: WCDMA Band II; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.34 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.05, 7.05, 7.05); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (91x111x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.24 mW/g

Left Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 15.0 V/m; Power Drift = -0.029 dB
Peak SAR (extrapolated) = 1.56 W/kg
SAR(1 g) = 1.01 mW/g; SAR(10 g) = 0.652 mW/g
Maximum value of SAR (measured) = 1.17 mW/g



0 dB = 1.17mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/9/3 PM 01:23:02

LC_WCDMA Band II CH9400

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

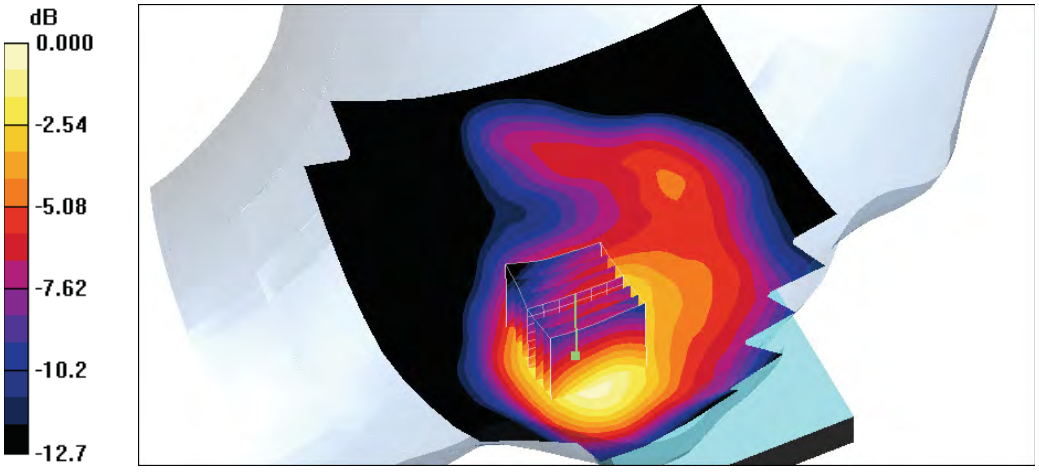
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.37 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.05, 7.05, 7.05); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (91x111x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.38 mW/g

Left Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 14.0 V/m; Power Drift = 0.150 dB
Peak SAR (extrapolated) = 1.72 W/kg
SAR(1 g) = 1.14 mW/g; SAR(10 g) = 0.742 mW/g
Maximum value of SAR (measured) = 1.32 mW/g



0 dB = 1.32mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/9/3 PM 03:10:09

LC_WCDMA Band II CH9538

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

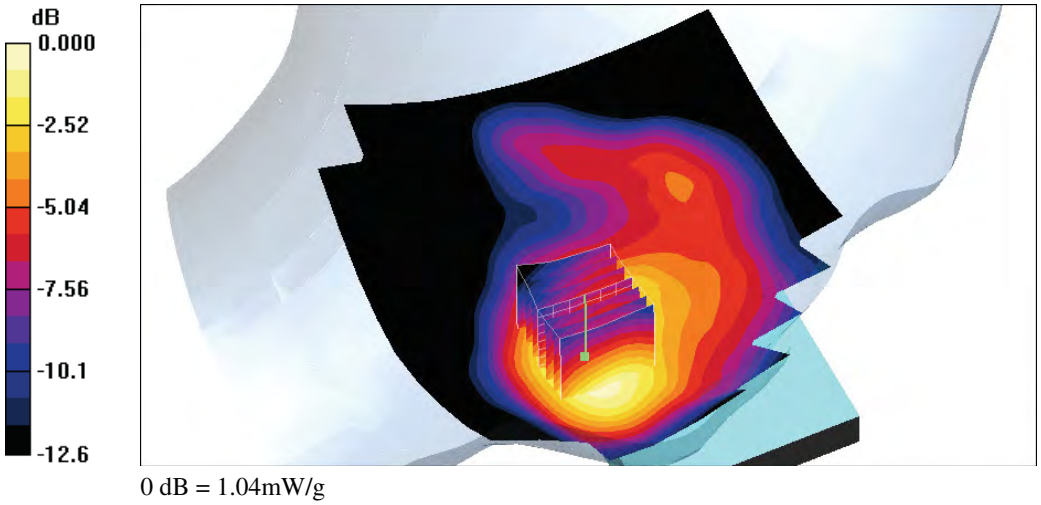
Communication System: WCDMA Band II; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1908 MHz; σ = 1.39 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.05, 7.05, 7.05); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (91x111x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.06 mW/g

Left Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 13.2 V/m; Power Drift = 0.017 dB
Peak SAR (extrapolated) = 1.39 W/kg
SAR(1 g) = 0.893 mW/g; SAR(10 g) = 0.574 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: 2010/9/3 PM 02:00:58

LT_WCDMA Band II CH9400

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

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 = 40.4; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

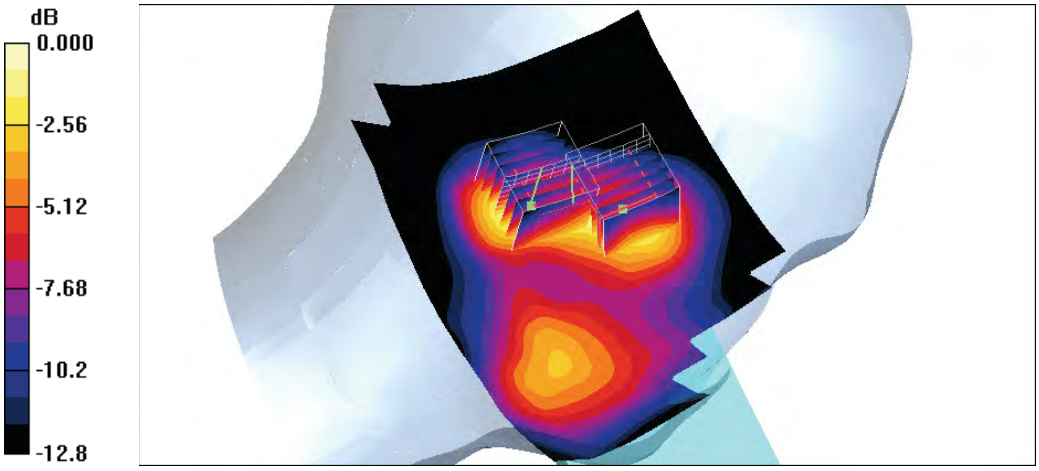
DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(7.05, 7.05, 7.05); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (81x121x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.748 mW/g

Left Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 20.5 V/m; Power Drift = -0.006 dB
Peak SAR (extrapolated) = 0.895 W/kg
SAR(1 g) = 0.559 mW/g; SAR(10 g) = 0.353 mW/g
Maximum value of SAR (measured) = 0.682 mW/g

Left Tilted/Zoom Scan (7x7x9)/Cube 1:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 20.5 V/m; Power Drift = -0.006 dB
Peak SAR (extrapolated) = 1.04 W/kg
SAR(1 g) = 0.623 mW/g; SAR(10 g) = 0.358 mW/g
Maximum value of SAR (measured) = 0.759 mW/g



0 dB = 0.759mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/9/2 PM 01:18:30

RC_WCDMA Band V CH4233

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

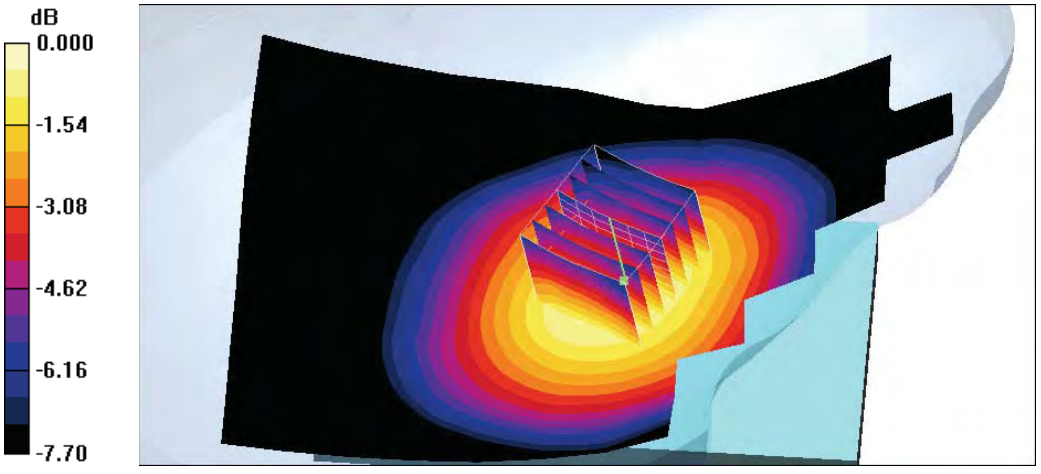
Communication System: WCDMA Band V; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 0.935 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.44, 8.44, 8.44); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (71x111x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.641 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 = -0.162 dB
Peak SAR (extrapolated) = 0.745 W/kg
SAR(1 g) = 0.595 mW/g; SAR(10 g) = 0.455 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: 2010/9/2 PM 02:00:31

RT_WCDMA Band V CH4233

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

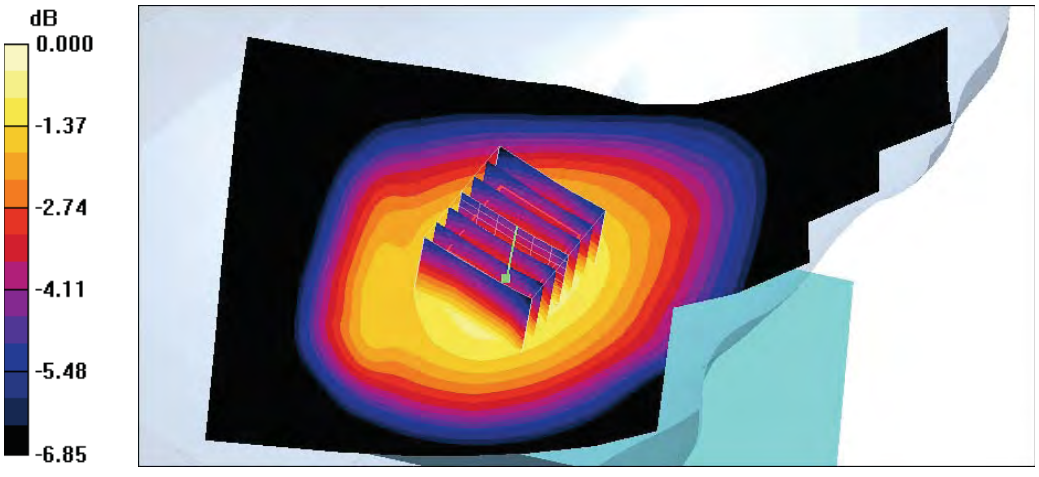
Communication System: WCDMA Band V; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 0.935 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Phantom section: Right Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.44, 8.44, 8.44); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (71x111x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.391 mW/g

Right Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 15.6 V/m; Power Drift = 0.081 dB
Peak SAR (extrapolated) = 0.506 W/kg
SAR(1 g) = 0.384 mW/g; SAR(10 g) = 0.296 mW/g
Maximum value of SAR (measured) = 0.423 mW/g



0 dB = 0.423mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/9/2 PM 02:37:39

LC_WCDMA Band V CH4233

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

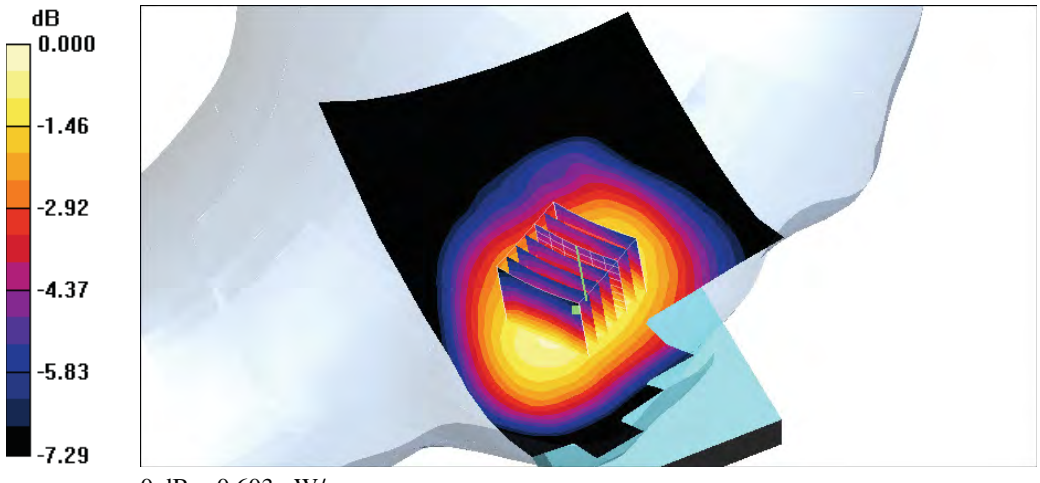
Communication System: WCDMA Band V; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 0.935 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.44, 8.44, 8.44); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (71x111x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.592 mW/g

Left Cheek/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 9.67 V/m; Power Drift = -0.130 dB
Peak SAR (extrapolated) = 0.685 W/kg
SAR(1 g) = 0.540 mW/g; SAR(10 g) = 0.410 mW/g
Maximum value of SAR (measured) = 0.603 mW/g



0 dB = 0.603mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/9/2 PM 03:01:30

LT_WCDMA Band V CH4233

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

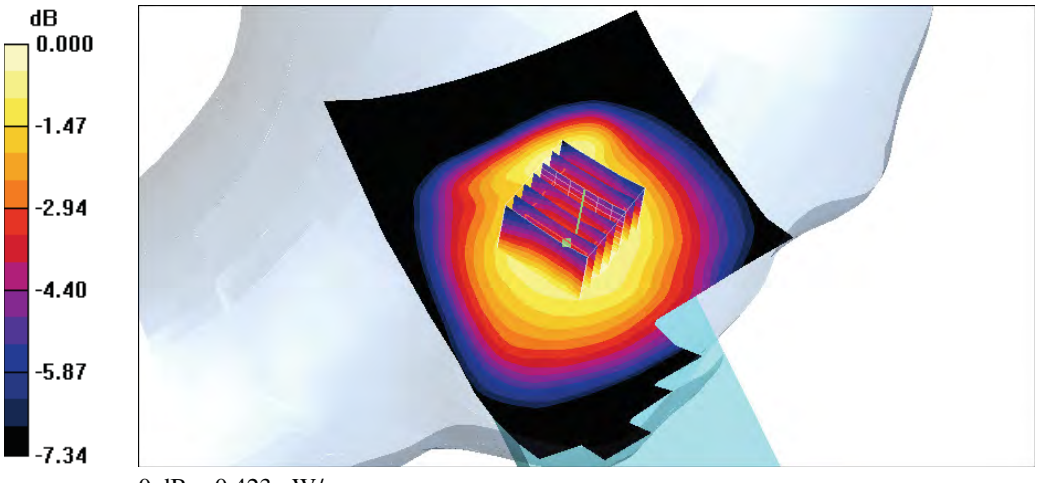
Communication System: WCDMA Band V; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 0.935 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Phantom section: Left Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.44, 8.44, 8.44); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (71x111x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.423 mW/g

Left Tilted/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 15.3 V/m; Power Drift = 0.096 dB
Peak SAR (extrapolated) = 0.499 W/kg
SAR(1 g) = 0.387 mW/g; SAR(10 g) = 0.296 mW/g
Maximum value of SAR (measured) = 0.423 mW/g



0 dB = 0.423mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/9/3 AM 10:31:48

Flat_GSM850 CH128_Headset_To Phantom 15mm

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

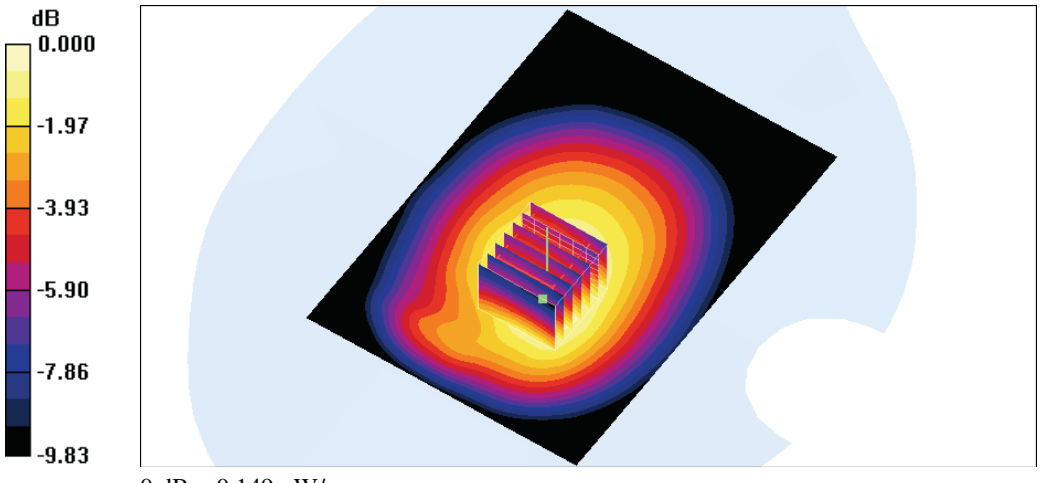
Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.968 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.55, 8.55, 8.55); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.153 mW/g

Flat/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) = 0.191 W/kg
SAR(1 g) = 0.132 mW/g; SAR(10 g) = 0.095 mW/g
Maximum value of SAR (measured) = 0.149 mW/g



0 dB = 0.149mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/10/21 AM 10:49:27

Flat_GSM850 CH128_Headset_To Phantom 15mm_ #2nd GSM Power Amplifier

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

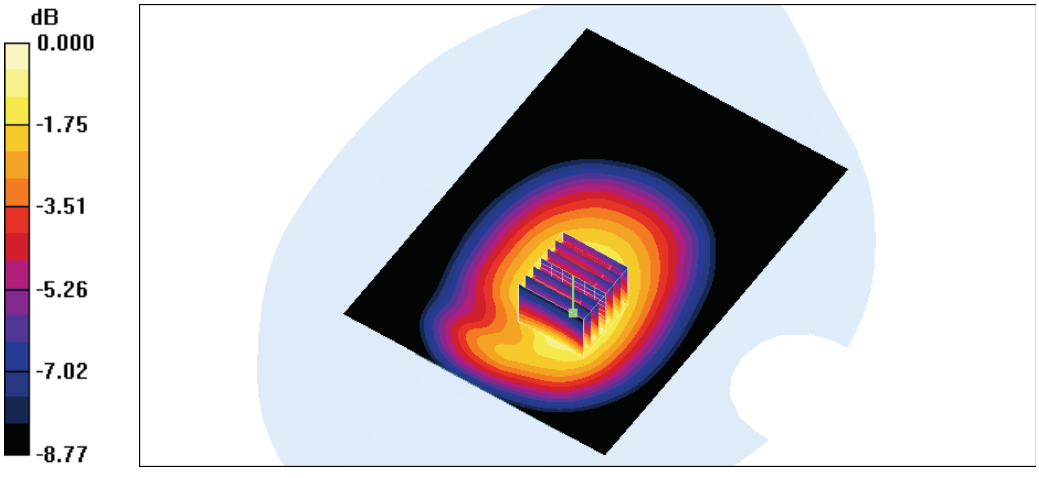
Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.968 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.55, 8.55, 8.55); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (81x111x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.319 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 16.5 V/m; Power Drift = -0.076 dB
Peak SAR (extrapolated) = 0.398 W/kg
SAR(1 g) = 0.278 mW/g; SAR(10 g) = 0.201 mW/g
Maximum value of SAR (measured) = 0.323 mW/g



0 dB = 0.323mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/11/23 AM 01:50:59

Flat_GPRS 850 CH128_2Down3Up_Headset_To Phantom 15mm

DUT: PD98140; Type: Mobile Phone; Serial: 354455040010165

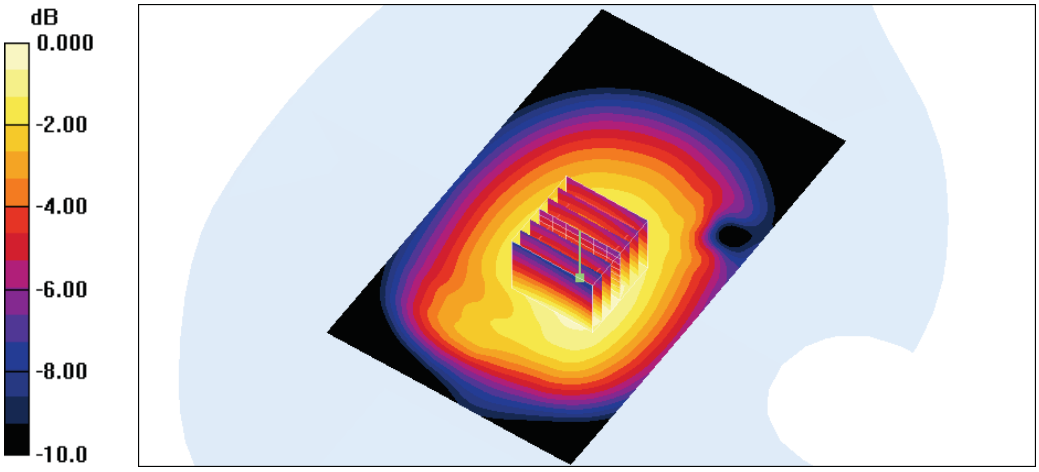
Communication System: GPRS 850 (2Down, 3Up); Frequency: 824.2 MHz;Duty Cycle: 1:2.8
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.968 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3632; ConvF(9.17, 9.17, 9.17); Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (91x151x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.416 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 20.1 V/m; Power Drift = -0.028 dB
Peak SAR (extrapolated) = 0.492 W/kg
SAR(1 g) = 0.369 mW/g; SAR(10 g) = 0.267 mW/g
Maximum value of SAR (measured) = 0.412 mW/g



0 dB = 0.412mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/11/23 AM 02:28:09

Flat_GPRS 850 CH128_2Down3Up_Headset_To Phantom 15mm_ #2nd GSM Power Amplifier

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

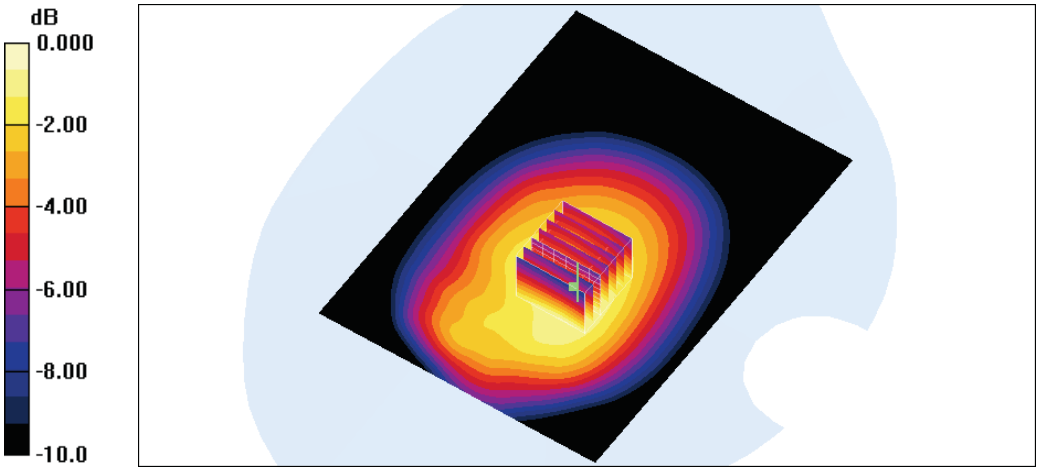
Communication System: GPRS 850 (2Down, 3Up); Frequency: 824.2 MHz;Duty Cycle: 1:2.8
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.968 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3632; ConvF(9.17, 9.17, 9.17); Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (81x111x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.565 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 22.0 V/m; Power Drift = -0.017 dB
Peak SAR (extrapolated) = 0.711 W/kg
SAR(1 g) = 0.533 mW/g; SAR(10 g) = 0.385 mW/g
Maximum value of SAR (measured) = 0.591 mW/g



0 dB = 0.591mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/11/23 AM 02:44:18

Flat_GPRS 850 CH128_2Down3Up_Headset_To Phantom 10mm_ #2nd GSM Power Amplifier

(Interim SAR Considerations for Host-Carriers)

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

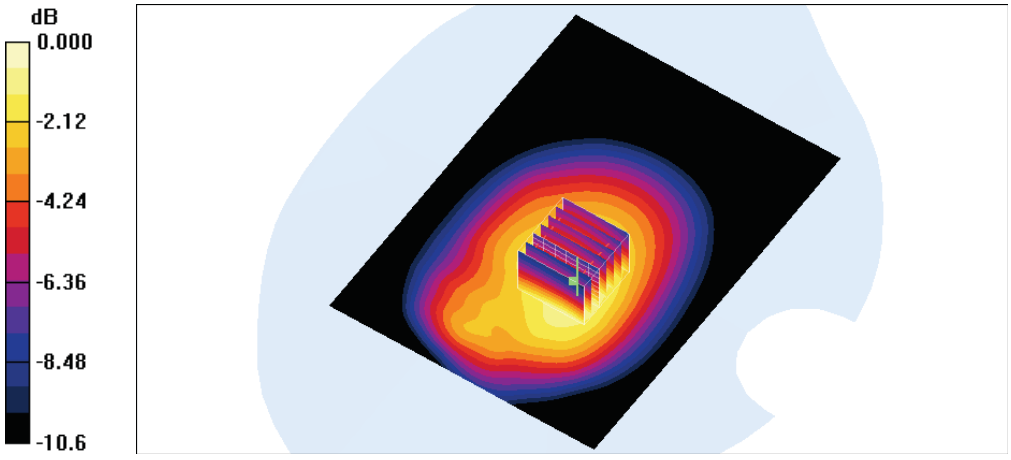
Communication System: GPRS 850 (2Down, 3Up); Frequency: 824.2 MHz;Duty Cycle: 1:2.8
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.968 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3632; ConvF(9.17, 9.17, 9.17); Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (81x111x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.836 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 28.0 V/m; Power Drift = -0.033 dB
Peak SAR (extrapolated) = 1.14 W/kg
SAR(1 g) = 0.780 mW/g; SAR(10 g) = 0.528 mW/g
Maximum value of SAR (measured) = 0.892 mW/g



0 dB = 0.892mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/9/6 AM 09:47:33

Flat_PCS CH810_Headset_To Phantom 15mm

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

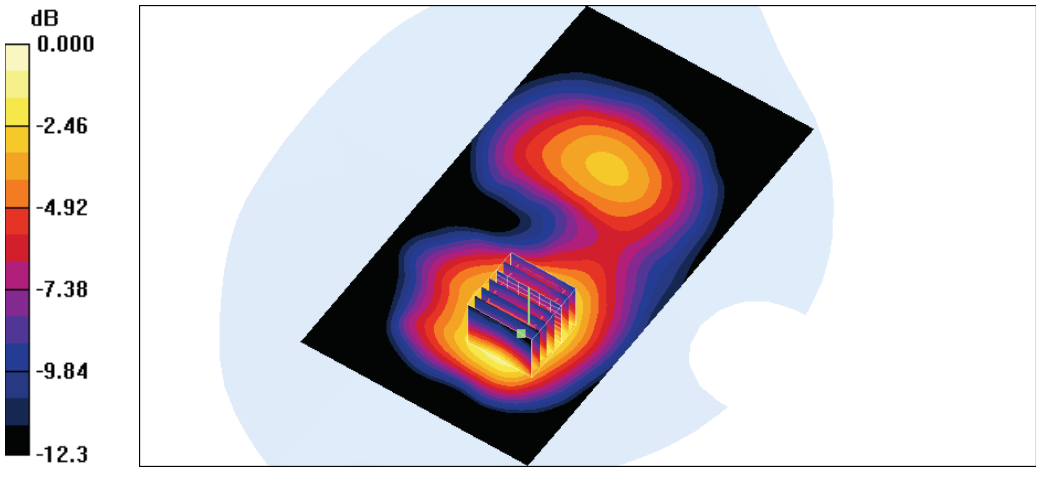
Communication System: PCS; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1910 MHz; σ = 1.53 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(6.7, 6.7, 6.7); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (71x131x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.217 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 3.50 V/m; Power Drift = 0.056 dB
Peak SAR (extrapolated) = 0.290 W/kg
SAR(1 g) = 0.181 mW/g; SAR(10 g) = 0.113 mW/g
Maximum value of SAR (measured) = 0.215 mW/g



0 dB = 0.215mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/10/21 PM 10:07:10

Flat_PCS CH512_Headset_To Phantom 15mm_ #2nd GSM Power Amplifier

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

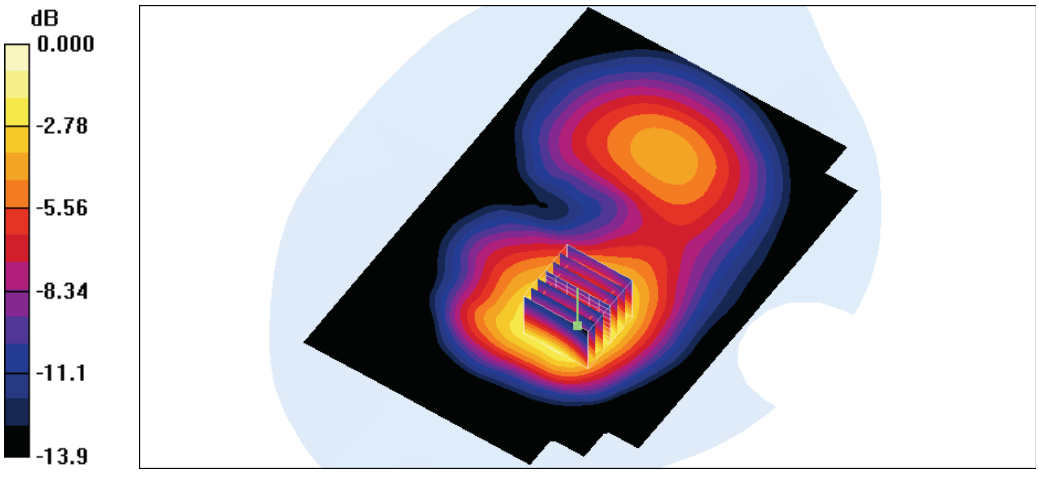
Communication System: PCS; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.46 mho/m; ε_r = 51.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(6.7, 6.7, 6.7); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (91x131x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.409 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 5.49 V/m; Power Drift = -0.052 dB
Peak SAR (extrapolated) = 0.552 W/kg
SAR(1 g) = 0.340 mW/g; SAR(10 g) = 0.207 mW/g
Maximum value of SAR (measured) = 0.407 mW/g



0 dB = 0.407mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/11/23 AM 09:23:31

Flat_GPRS PCS CH810_2Down3Up_Headset_To Phantom 15mm

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

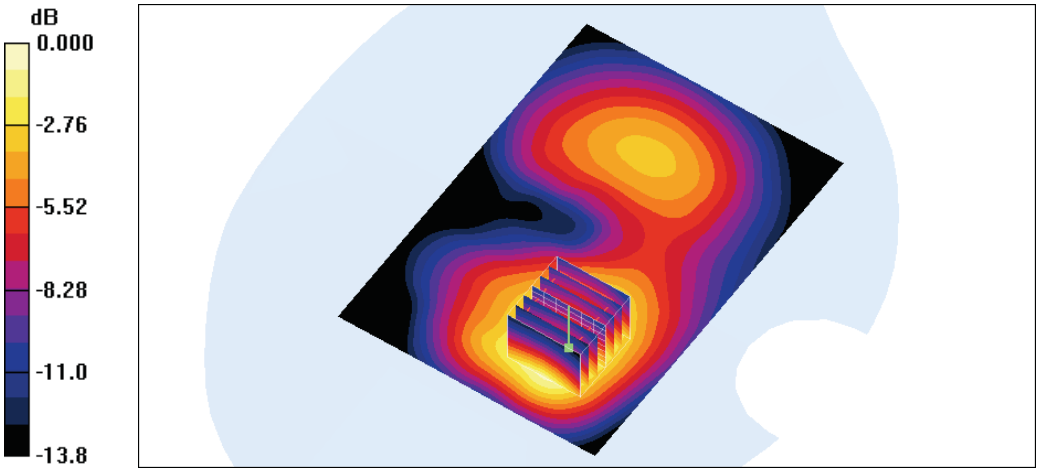
Communication System: GPRS PCS (2Down,3Up); Frequency: 1909.8 MHz;Duty Cycle: 1:2.8
Medium parameters used: f = 1910 MHz; σ = 1.52 mho/m; ε_r = 51.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3632; ConvF(7.57, 7.57, 7.57); Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.615 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 5.89 V/m; Power Drift = -0.125 dB
Peak SAR (extrapolated) = 0.819 W/kg
SAR(1 g) = 0.506 mW/g; SAR(10 g) = 0.305 mW/g
Maximum value of SAR (measured) = 0.612 mW/g



0 dB = 0.612mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/11/23 AM 10:03:04

Flat_GPRS PCS CH512_2Down3Up_Headset_To Phantom 15mm_ #2nd GSM Power Amplifier

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

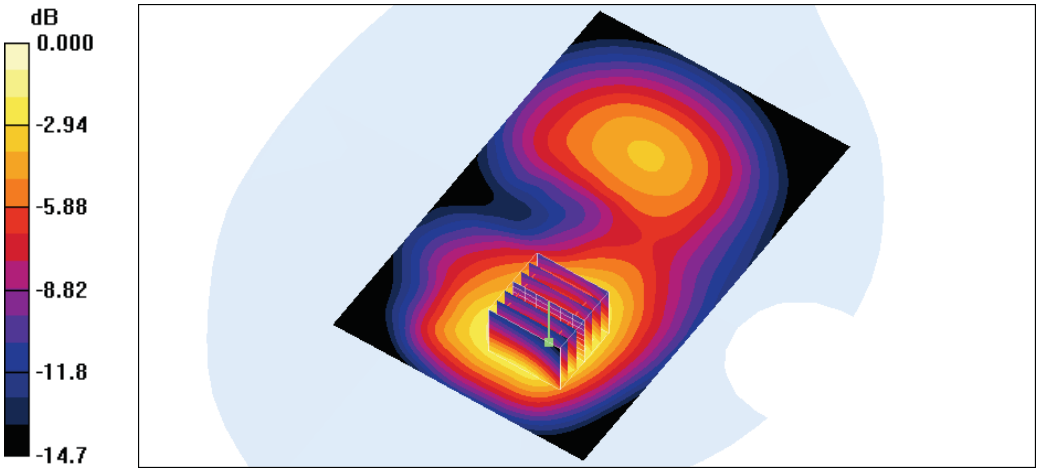
Communication System: GPRS PCS (2Down,3Up); Frequency: 1850.2 MHz;Duty Cycle: 1:2.8
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.46 mho/m; ε_r = 51.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3632; ConvF(7.57, 7.57, 7.57); Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (71x111x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.28 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 7.54 V/m; Power Drift = -0.156 dB
Peak SAR (extrapolated) = 1.66 W/kg
SAR(1 g) = 0.984 mW/g; SAR(10 g) = 0.589 mW/g
Maximum value of SAR (measured) = 1.18 mW/g



0 dB = 1.18mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/11/23 AM 10:29:32

Flat_GPRS PCS CH661_2Down3Up_Headset_To Phantom 15mm_ #2nd GSM Power Amplifier

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

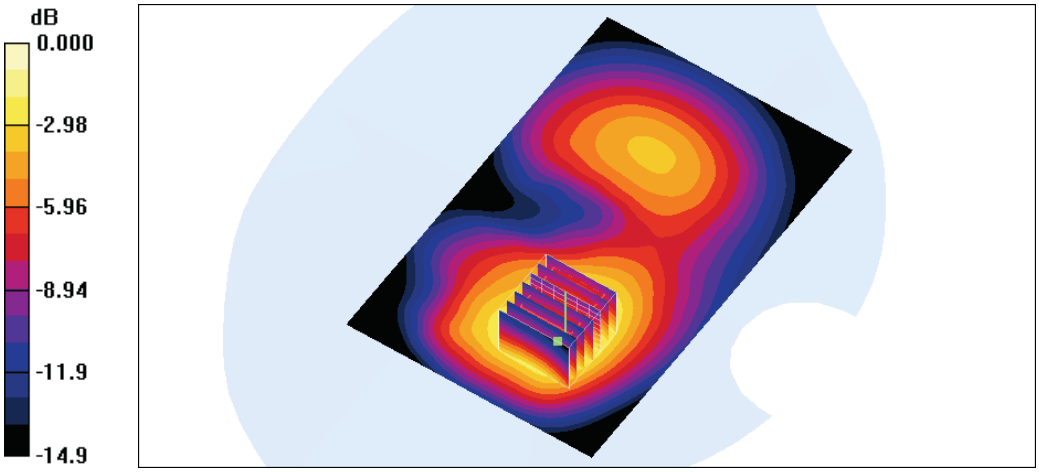
Communication System: GPRS PCS (2Down,3Up); Frequency: 1880 MHz;Duty Cycle: 1:2.8
Medium parameters used: f = 1880 MHz; σ = 1.5 mho/m; ε_r = 51.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3632; ConvF(7.57, 7.57, 7.57); Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (71x111x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.938 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 6.20 V/m; Power Drift = -0.067 dB
Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.744 mW/g; SAR(10 g) = 0.448 mW/g
Maximum value of SAR (measured) = 0.899 mW/g



0 dB = 0.899mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/11/23 AM 10:58:18

Flat_GPRS PCS CH810_2Down3Up_Headset_To Phantom 15mm_ #2nd GSM Power Amplifier

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

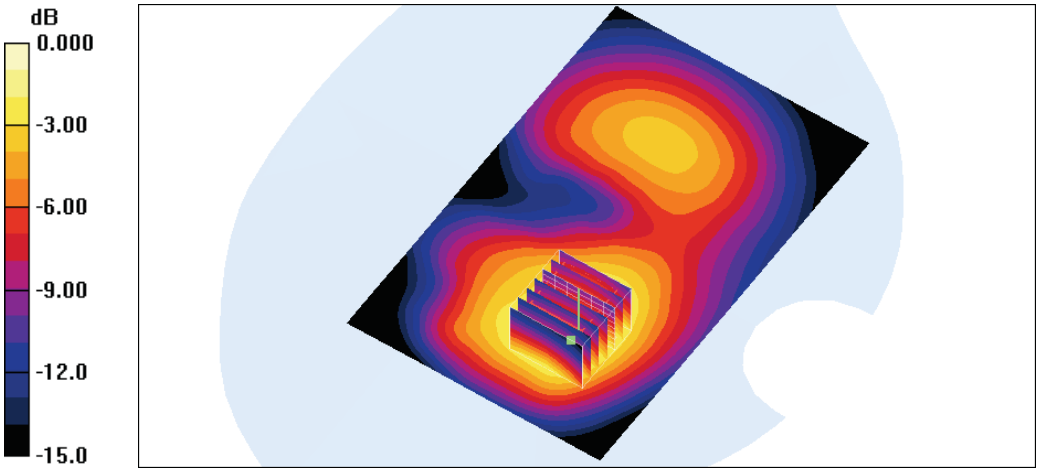
Communication System: GPRS PCS (2Down,3Up); Frequency: 1909.8 MHz;Duty Cycle: 1:2.8
Medium parameters used: f = 1910 MHz; σ = 1.52 mho/m; ε_r = 51.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3632; ConvF(7.57, 7.57, 7.57); Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (71x111x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.754 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 6.33 V/m; Power Drift = -0.139 dB
Peak SAR (extrapolated) = 0.975 W/kg
SAR(1 g) = 0.598 mW/g; SAR(10 g) = 0.362 mW/g
Maximum value of SAR (measured) = 0.710 mW/g



0 dB = 0.710mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/11/23 AM 11:03:08

Flat_GPRS PCS CH512_2Down3Up_Headset_To Phantom 10mm _ #2nd GSM Power Amplifier

(Interim SAR Considerations for Host-Carriers)

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

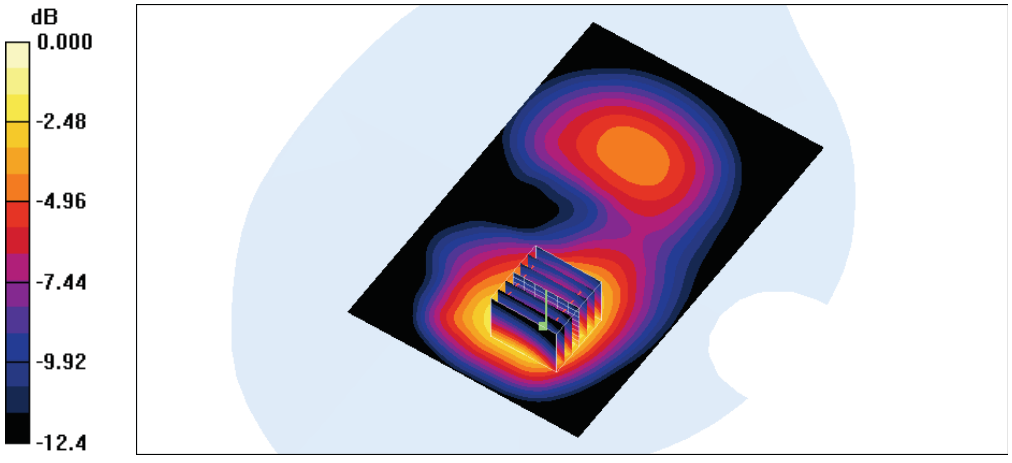
Communication System: GPRS PCS (2Down,3Up); Frequency: 1850.2 MHz;Duty Cycle: 1:2.8
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.46 mho/m; ε_r = 51.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3632; ConvF(7.57, 7.57, 7.57); Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (71x111x1):
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 = 8.66 V/m; Power Drift = -0.142 dB
Peak SAR (extrapolated) = 2.03 W/kg
SAR(1 g) = 1.13 mW/g; SAR(10 g) = 0.653 mW/g
Maximum value of SAR (measured) = 1.38 mW/g



0 dB = 1.38mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/11/23 AM 11:32:29

Flat_GPRS PCS CH661_2Down3Up_Headset_To Phantom 10mm _ #2nd GSM Power Amplifier (nterim SAR Considerations or HostCarriers)

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

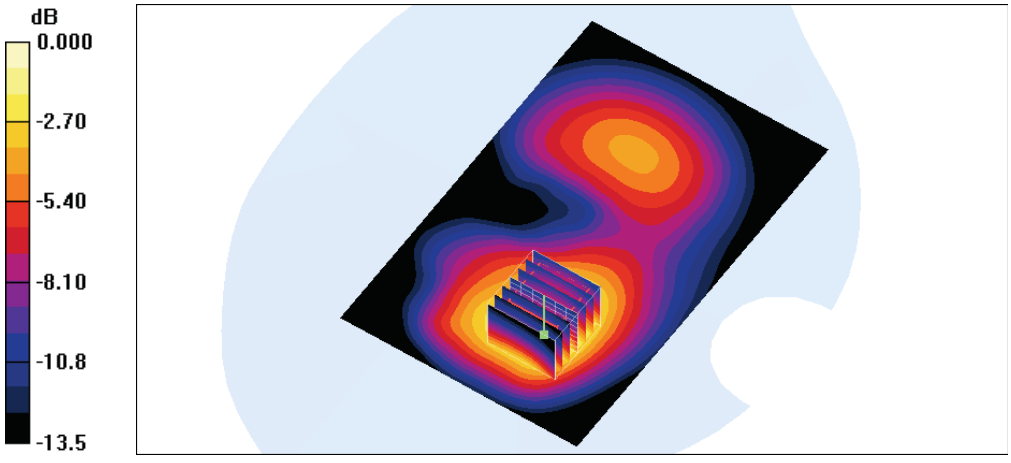
Communication System: GPRS PCS (2Down,3Up); Frequency: 1880 MHz;Duty Cycle: 1:2.8
Medium parameters used: f = 1880 MHz; σ = 1.5 mho/m; ε_r = 51.2; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3632; ConvF(7.57, 7.57, 7.57); Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (71x111x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.11 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 8.43 V/m; Power Drift = -0.122 dB
Peak SAR (extrapolated) = 1.52 W/kg
SAR(1 g) = 0.868 mW/g; SAR(10 g) = 0.503 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: 2010/11/23 AM 11:57:36

Flat_GPRS PCS CH810_2Down3Up_Headset_To Phantom 10mm _ #2nd GSM Power Amplifier (nterim SAR Considerations or HostCarriers)

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

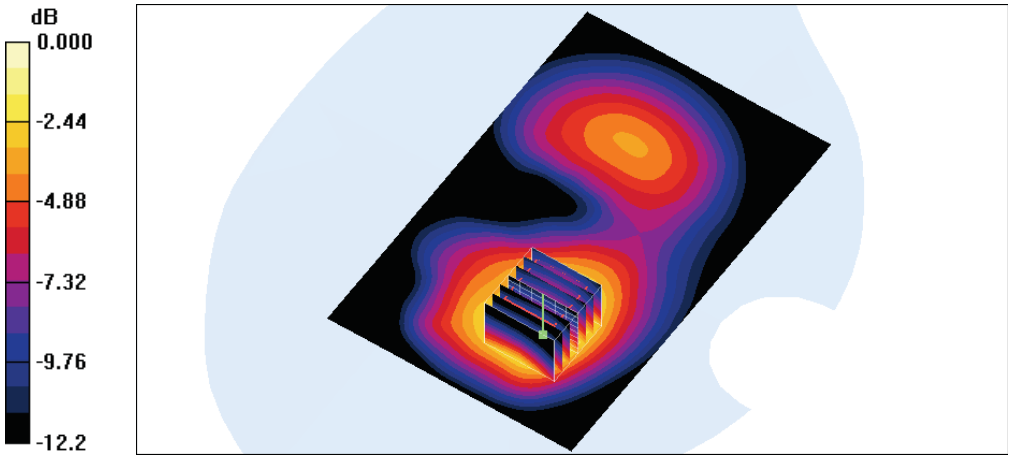
Communication System: GPRS PCS (2Down,3Up); Frequency: 1909.8 MHz;Duty Cycle: 1:2.8
Medium parameters used: f = 1910 MHz; σ = 1.52 mho/m; ε_r = 51.1; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3632; ConvF(7.57, 7.57, 7.57); Calibrated: 2010/1/26
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (71x111x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.927 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 8.18 V/m; Power Drift = -0.141 dB
Peak SAR (extrapolated) = 1.29 W/kg
SAR(1 g) = 0.719 mW/g; SAR(10 g) = 0.416 mW/g
Maximum value of SAR (measured) = 0.874 mW/g



0 dB = 0.874mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/9/6 AM 10:17:30

Flat_WCDMA Band II CH9400_Headset_To Phantom 15mm

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

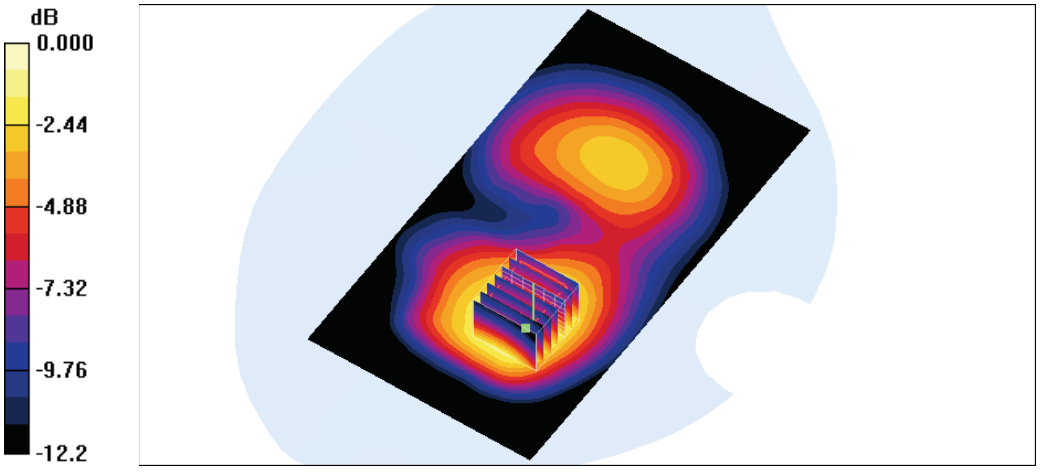
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.48 mho/m; ε_r = 52.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(6.7, 6.7, 6.7); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (71x131x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.655 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 6.36 V/m; Power Drift = 0.119 dB
Peak SAR (extrapolated) = 0.824 W/kg
SAR(1 g) = 0.534 mW/g; SAR(10 g) = 0.334 mW/g
Maximum value of SAR (measured) = 0.625 mW/g



0 dB = 0.625mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/11/19 PM 07:40:55

Flat_WCDMA Band II CH9262_Headset_To Phantom 10mm

(Interim SAR Considerations for Host-Carriers)

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

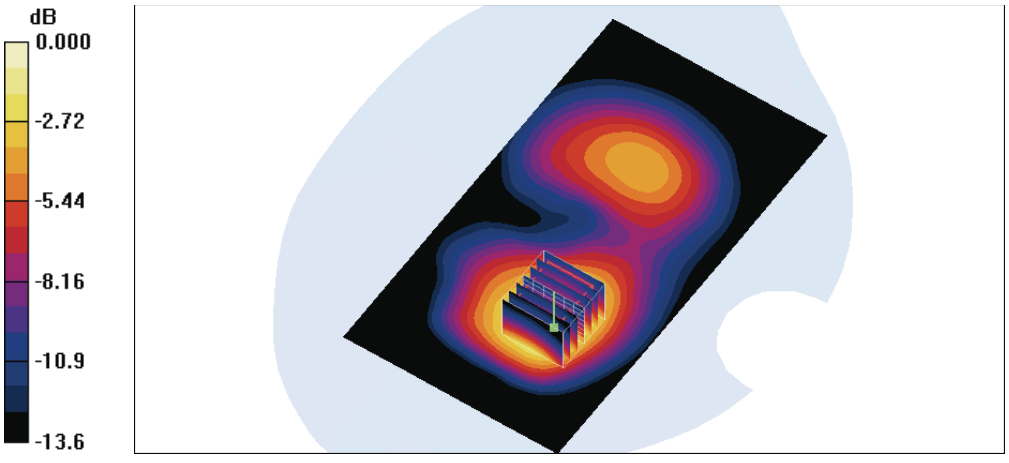
Communication System: WCDMA Band II; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.46 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(6.7, 6.7, 6.7); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (71x131x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.16 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 6.52 V/m; Power Drift = 0.090 dB
Peak SAR (extrapolated) = 1.71 W/kg
SAR(1 g) = 0.895 mW/g; SAR(10 g) = 0.501 mW/g
Maximum value of SAR (measured) = 1.10 mW/g



0 dB = 1.10mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/11/19 PM 07:22:32

Flat_WCDMA Band II CH9400_Headset_To Phantom 10mm

(Interim SAR Considerations for Host-Carriers)

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

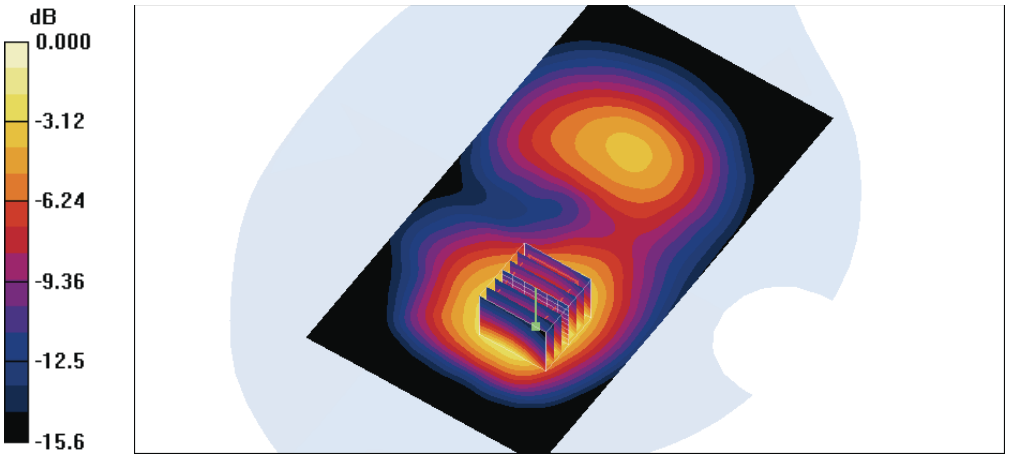
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.48 mho/m; ε_r = 52.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(6.7, 6.7, 6.7); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (71x131x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.18 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 6.67 V/m; Power Drift = 0.120 dB
Peak SAR (extrapolated) = 1.75 W/kg
SAR(1 g) = 0.916 mW/g; SAR(10 g) = 0.513 mW/g
Maximum value of SAR (measured) = 1.13 mW/g



0 dB = 1.13mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/11/19 PM 07:59:15

Flat_WCDMA Band II CH9538_Headset_To Phantom 10mm

(Interim SAR Considerations for Host-Carriers)

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

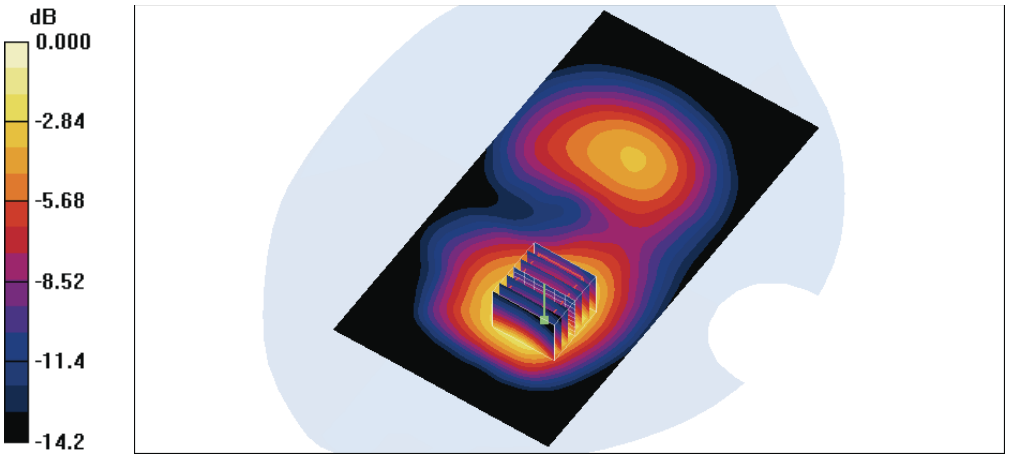
Communication System: WCDMA Band II; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1908 MHz; σ = 1.52 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(6.7, 6.7, 6.7); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (71x131x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.14 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 6.44 V/m; Power Drift = 0.078 dB
Peak SAR (extrapolated) = 1.66 W/kg
SAR(1 g) = 0.885 mW/g; SAR(10 g) = 0.502 mW/g
Maximum value of SAR (measured) = 1.08 mW/g



0 dB = 1.08mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/9/3 AM 10:55:47

Flat_WCDMA Band V CH4233_Headset_To Phantom 15mm

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

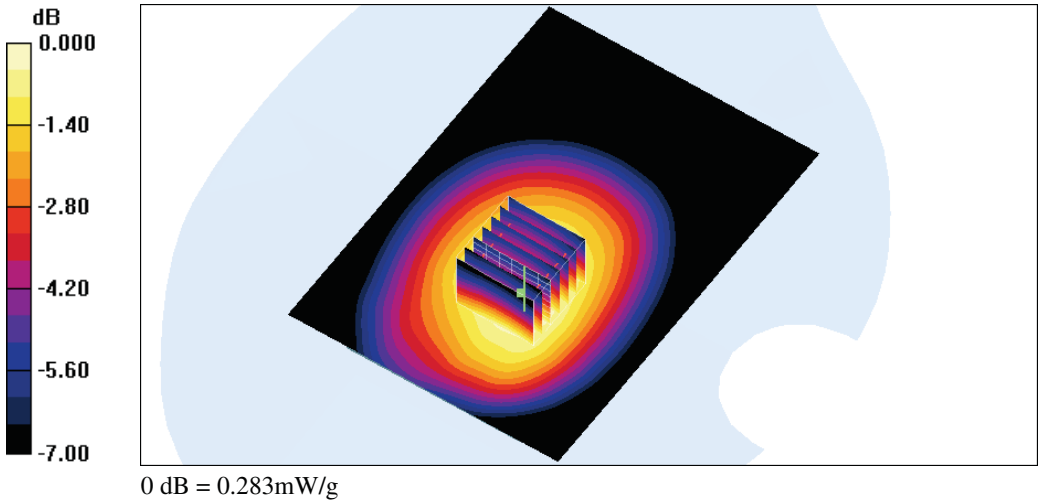
Communication System: WCDMA Band V; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 0.997 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.55, 8.55, 8.55); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.290 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 16.0 V/m; Power Drift = 0.002 dB
Peak SAR (extrapolated) = 0.337 W/kg
SAR(1 g) = 0.255 mW/g; SAR(10 g) = 0.187 mW/g
Maximum value of SAR (measured) = 0.283 mW/g



0 dB = 0.283mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/11/19 PM 06:16:55

Flat_WCDMA Band V CH4233_Headset_To Phantom 10mm

(Interim SAR Considerations for Host-Carriers)

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

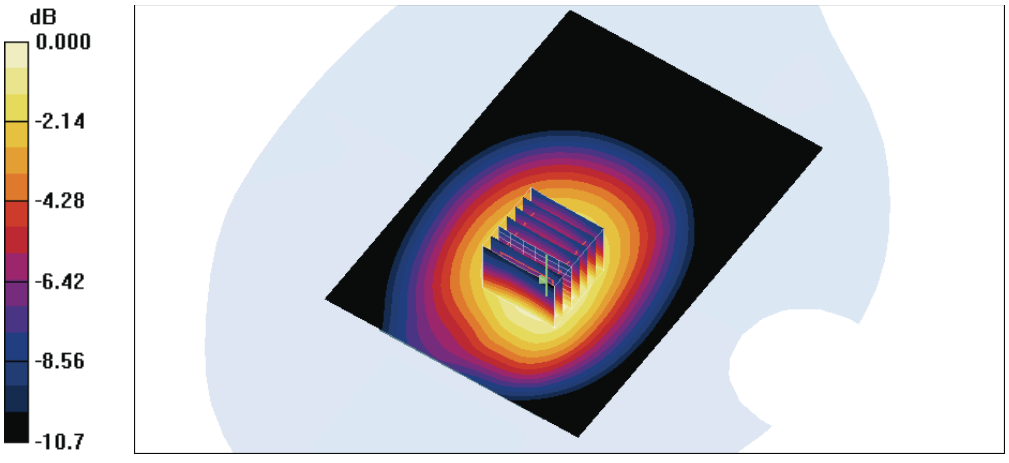
Communication System: WCDMA Band V; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 0.997 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(8.55, 8.55, 8.55); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- Phantom: SAM 12; Type: SAM v4.0; Serial: TP:1009
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Flat/Area Scan (71x101x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.737 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 28.6 V/m; Power Drift = 0.021 dB
Peak SAR (extrapolated) = 0.957 W/kg
SAR(1 g) = 0.607 mW/g; SAR(10 g) = 0.393 mW/g
Maximum value of SAR (measured) = 0.709 mW/g



0 dB = 0.709mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/9/6 PM 04:02:16

Flat_802.11b CH1_2M_Headset_To Phantom 15mm

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

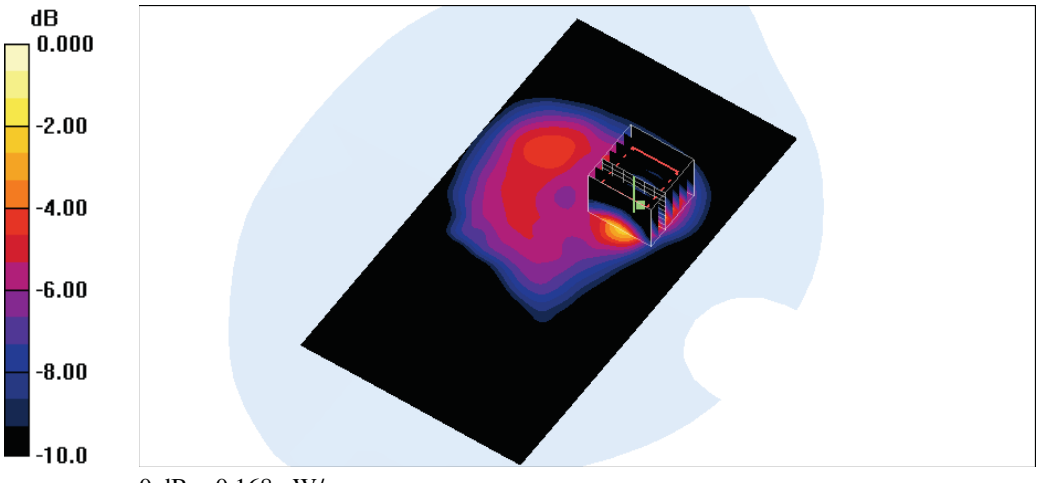
Communication System: IEEE 802.11b; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.89 mho/m; ε_r = 51.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(6.51, 6.51, 6.51); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (71x131x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.157 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 5.26 V/m; Power Drift = -0.065 dB
Peak SAR (extrapolated) = 0.252 W/kg
SAR(1 g) = 0.131 mW/g; SAR(10 g) = 0.064 mW/g
Maximum value of SAR (measured) = 0.168 mW/g



0 dB = 0.168mW/g

Test Laboratory: A Test Lab Techno Corp.

Date/Time: 2010/9/6 PM 05:07:28

Flat_802.11n_HT20 CH1_6.5M_Headset_To Phantom 15mm

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

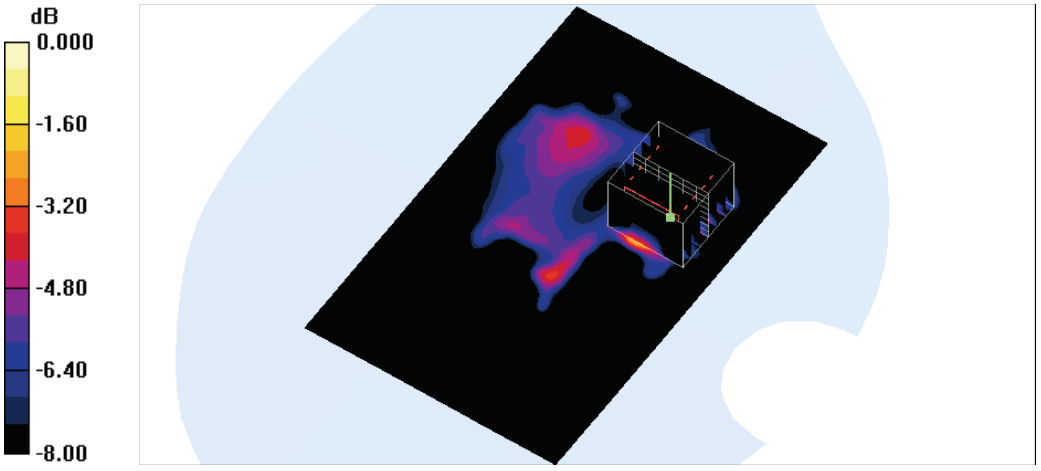
Communication System: IEEE 802.11n_HT20; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.89 mho/m; ε_r = 51.8; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV4 - SN3578; ConvF(6.51, 6.51, 6.51); Calibrated: 2010/6/22
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (101x161x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.055 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 2.94 V/m; Power Drift = 0.150 dB
Peak SAR (extrapolated) = 0.064 W/kg
SAR(1 g) = 0.032 mW/g; SAR(10 g) = 0.015 mW/g
Maximum value of SAR (measured) = 0.040 mW/g



0 dB = 0.040mW/g

Test Laboratory: A Test Lab Techno Corp.
Date/Time: 2010/11/19 PM 01:50:25

Flat_802.11b CH1_2M_Headset_To Phantom 10mm (Wi-Fi Hotspot Function)

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

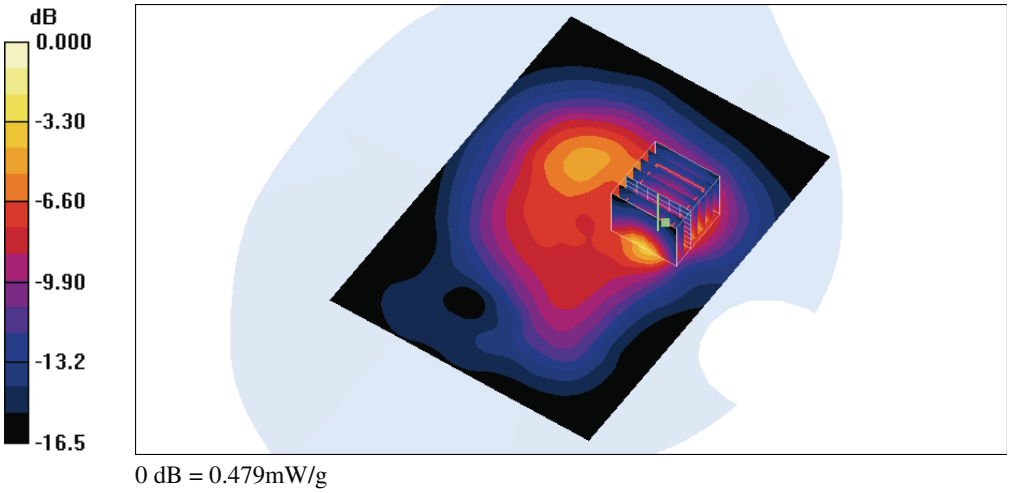
Communication System: IEEE 802.11b; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.9 mho/m; ε_r = 51.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV3 - SN3519; ConvF(8.1, 8.1, 8.1); Calibrated: 2010/2/23
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (81x111x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.423 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 6.88 V/m; Power Drift = 0.009 dB
Peak SAR (extrapolated) = 0.757 W/kg
SAR(1 g) = 0.362 mW/g; SAR(10 g) = 0.163 mW/g
Maximum value of SAR (measured) = 0.479 mW/g



0 dB = 0.479mW/g

Test Laboratory: A Test Lab Techno Corp.
Date/Time: 2010/11/19 PM 02:36:25

Flat_802.11n(2.4GHz) CH1_6.5M_HT20_Headset_To Phantom 10mm (Wi-Fi Hotspot Function)

DUT: PD98140; Type: Mobile Phone; FCC ID:NM8PD98140

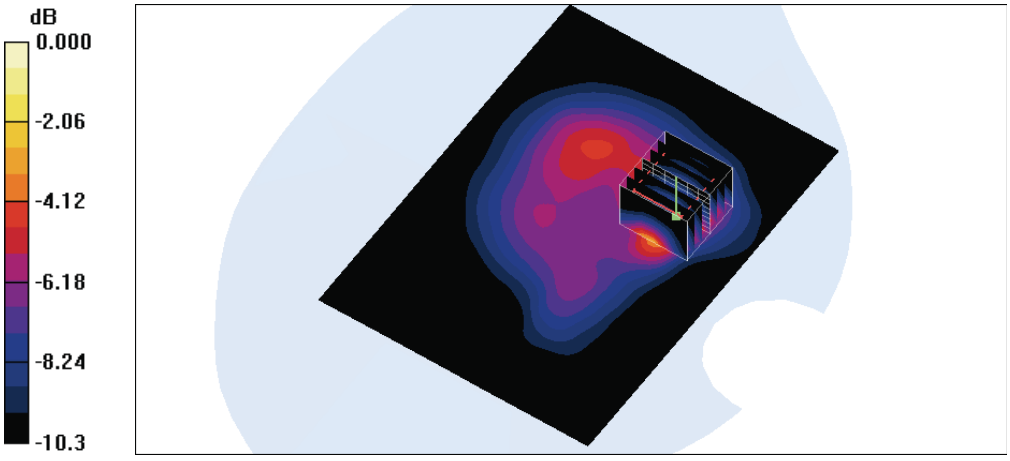
Communication System: IEEE 802.11n(2.4GHz); Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.9 mho/m; ε_r = 51.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

- Probe: EX3DV3 - SN3519; ConvF(8.1, 8.1, 8.1); Calibrated: 2010/2/23
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn541; Calibrated: 2010/7/21
- 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 (81x111x1):
Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.104 mW/g

Flat/Zoom Scan (7x7x9)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=3mm
Reference Value = 3.70 V/m; Power Drift = -0.148 dB
Peak SAR (extrapolated) = 0.173 W/kg
SAR(1 g) = 0.084 mW/g; SAR(10 g) = 0.040 mW/g
Maximum value of SAR (measured) = 0.108 mW/g



0 dB = 0.108mW/g