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CNAS L0447

Registration No.910917

CONFORMANCE TEST REPORT FOR

HUMAN EXPOSURE TO ELECTROMAGNETIC FIELDS

Report No.: SRTC2012-H024-E0043

Product Name: GSM/GPRS Digital Mobile Phone

Product Model: Movistar Urban M

Applicant: ZTE Corporation

Manufacturer: ZTE Corporation

Specification: FCC OET Bulletin 65 (Edition 97-01)

Supplement C (Edition 01-01)

47CFR 2.1093

FCC ID: Q78-URBANM

The State Radio_monitoring_center Testing Center (SRTC)

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Executive summary

Test report no.:	**SRTC2012-H024-E0043**
Product Model:	**Movistar Urban M**
Date of test:	**2012.6.28**
Date of report:	**2012.7.1**
Laboratory:	**The State Radio_monitoring_center Testing Center (SRTC)**
Test has been Carried out in accordance with:	**47CFR §2.1093** Radiofrequency Radiation Exposure Evaluation: Portable Devices **FCC OET Bulletin 65 (Edition 97-01), Supplement C (Edition 01-01)** Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields **IEEE 1528 - 2003** IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Technique
Documentation:	**The documentation of the testing performed on the tested devices is archived for 5 years at SRTC**

Result summary:

Mode	CH/*f*(MHz)	Power (dBm)	Position	Sar Limit (1g avg) (mW/g)	Measured value (1g avg)(mW/g)	Result
GSM850	251/848.8	28.83	Towards ground/GPRS	1.6	**1.310**	PASS

This Test Report Is Issued by: Mr. Song Qizhu Director of the test lab	Checked by: Mr. Wang Junfeng Deputy director of the test lab
Tested by: Mr. Mei Haowen Test engineer	Issued date: **2012.07.05**

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1. General information

1.1 Notes of the test report

The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written permission of The State Radio_monitoring_center Testing Center (SRTC).
The test results relate only to individual items of the samples which have been tested.

1.2 Information about the testing laboratory

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Fax: +86-021-50801070
Email: li.dezi@zte.com.cn

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1.5 Test details

Period of test	2012.6.28
Batteries used in testing	Li-Lon/Li3706T42P3h553447/ZTE CORPORATION
State of sample	production unit
Headsets used in testing	NLD-EM127E-041S/NEW LEADER INDUSTRY CO.,LTD
Device class/Multislot class DTM	B/12 N/A
H/W Version S/W Version	GMAJb SSV-MOVI-8HS-P120A41V1.0.0
IMEI	865606010002846
Notes	---

1.6 Maximum Results

The maximum measured SAR values for Head configuration and Body Worn configuration are given in section 1.6.1 and 1.6.2 respectively. The device conforms to the requirements of the standard(s) when the maximum measured SAR value is less than or equal to the limit.

The multi-slot mode configuration level in GPRS is the class 12. The configurations including four slot modes below:
1Txslot: 4 downlink and 1 uplink
2Txslots: 3 downlink and 2 uplink
3Txslots: 2 downlink and 3 uplink
4Txslots: 1 downlink and 4 uplink
The DUT's output power was test through the conducted spurious emissions with the four slot modes,and the maximum averaged power was under 1 downlink and 4 uplink mode. Therefore, during GPRS test will choose 1 downlink and 4 uplink mode as the basic test mode.

1.6.1 Head Configuration

Mode	CH/*f*(MHz)	Power (dBm)	Position	Sar Limit (1g avg) (mW/g)	Measured value (1g avg)(mW/g)	Result
GSM850	189/836.4	32.10	Left Cheek	1.6	**0.749**	PASS
GSM1900	661/1880	29.00	Left Cheek	1.6	**0.988**	PASS

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1.6.2 Body Worn Configuration

Mode	CH/*f*(MHz)	Power	Position	Sar Limit (1g avg) (mW/g)	Measured value (1g avg)(mW/g)	Result
GSM850	251/848.8	28.83	Towards ground/GPRS	1.6	**1.310**	PASS
GSM1900	512/1850.2	25.78	Towards ground/GPRS	1.6	**1.120**	PASS

2. DESCRIPTION OF THE DEVICE UNDER TEST

Device category	production unit
Exposure enviroment	General population/uncontrolled

Modes and Bands of operation	GSM 850	GSM 1900	GPRS 850 GPRS 1900
Modulation Mode	GMSK	GMSK	GMSK
Duty Cycle	1/8	1/8	1/2
Transmitter Frequency Range(MHz)	824-849	1850-1910	824-849 1850-1910

2.1 Description of the Antenna

The device has an internal antenna.

2.2 Picture of the EUT

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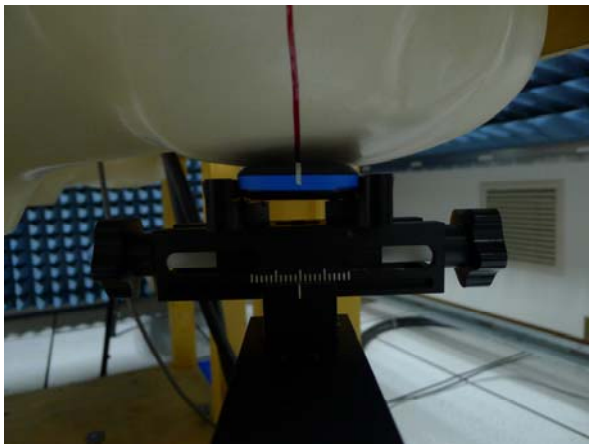
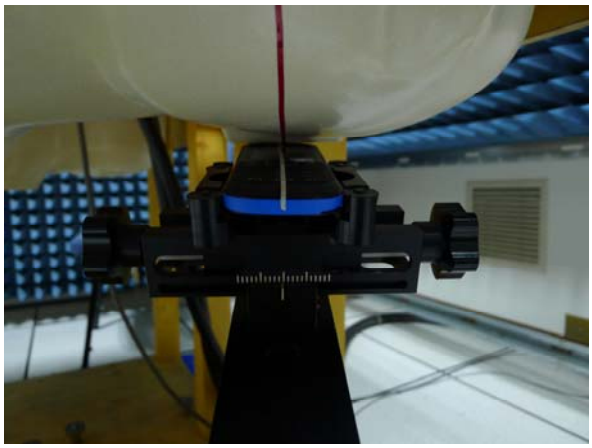
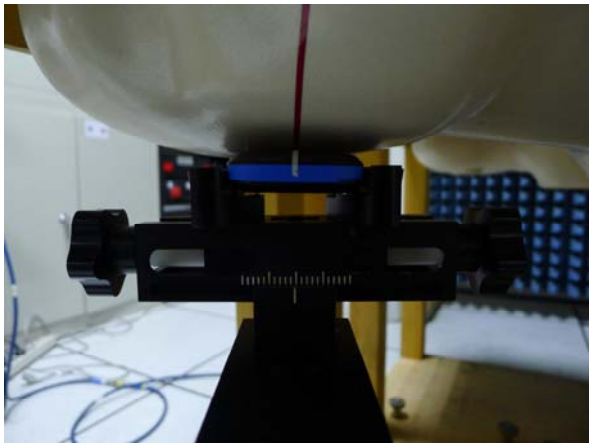
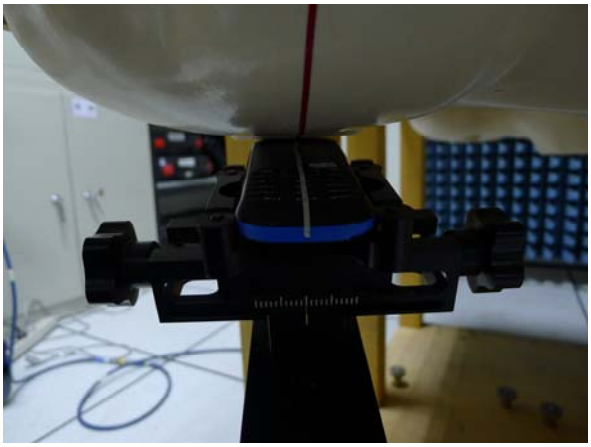
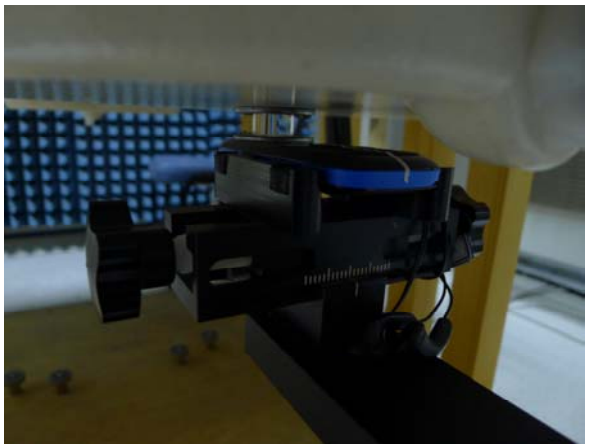
2.3 Test Positions for the Device under test

	
Cheek position, left side	**Tilt position, left side**
	
Cheek position, Right side	**Tilt position, Right side**
	
FLAT position (towards phantom)	**SPACER 15 mm**

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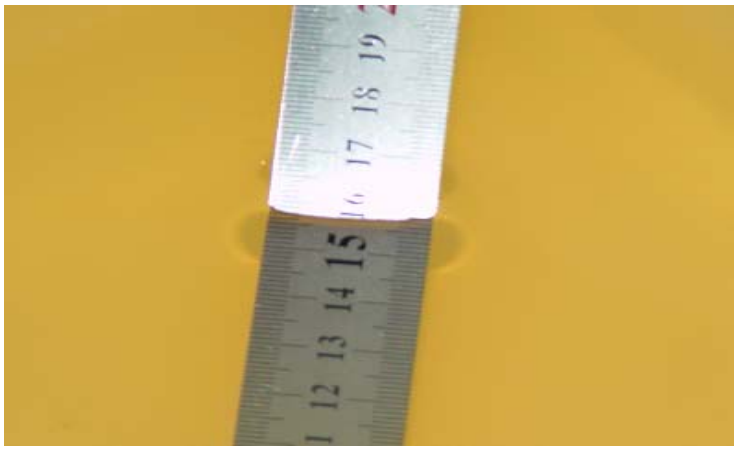
2.4 Picture to demonstrate the required liquid depth

the liquid depth in the used SAM phantoms



Liquid depth for SAR Measurement

3. TEST CONDITIONS

3.1 Temperature and Humidity

Ambient temperature (°C)	21.0 to 23.0
Ambient humidity (RH %)	30 to 45

3.2 Test Signal, Frequencies and Output Power

The device was put into operation by using a call tester. Communication between the device and the call tester was established by air link.
The device output power was set to maximum power level for all tests; a fully charged battery was used for every test sequence.
In all operating bands the measurements were performed on lowest, middle and highest channels.

4. DESCRIPTION OF THE TEST EQUIPMENT

4.1 Measurement System and Components

The measurements were performed using an automated near-field scanning system, DASY4,manufactured by Schmid & Partner Engineering AG (SPEAG) in Switzerland. The SAR extrapolation algorithm used in all measurements was the ‘advanced extrapolation’ algorithm.

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The following table lists calibration dates of SPEAG components:

Test Equipment	Serial Number	Calibration interval	Calibration expiry
DAE4	720	1year	2013.02.07
Dosimetric E-field Probe ES3DV3	3128	1year	2013.02.03
Dipole Validation Kit, D835V2	4d023	2 years	2013.10.17
Dipole Validation Kit, D1900V2	5d113	2 years	2013.10.20
DASY4 software Version	4.7	N/A	N/A

Note: the Dipole Calibration interval is 24 months

Additional test equipment used in testing:

Test Equipment	Model	Serial Number	Calibration interval	Calibration expiry
Signal Generator	E4428C	MY45280865	1year	2012.08.20
Amplifier	5S1G4	0323472	N/A	N/A
Power meter	E4417A	MY45101182	1year	2012.08.19
Power Sensor	E4412A	MY41502214	1year	2012.08.19
Power Sensor	E4412A	MY41502130	1year	2012.08.19
Call Tester	8960	GB43194054	1year	2012.08.20
Network Analyzer	8714ET	US40372083	1year	2012.08.20
Dielectric Probe Kit	85070D	US33030365	N/A	N/A

Isotropic E-field Probe Type ES3DV3

Construction	Symmetrical design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	Calibration certificate in Appendix C
Frequency	10 MHz to 4 GHz; Linearity: ± 0.2 dB (30 MHz to 4 GHz)
Optical Surface Detection	± 0.2 mm repeatability in air and clear liquids over diffuse reflecting surfaces
Dimensions	Overall length: 330 mm (Tip: 20 mm) Tip diameter: 3.9 mm (Body: 12 mm) Distance from probe tip to dipole centers: 2.0 mm
Dynamic Range	5 μW/g to > 100 mW/g; Linearity: ± 0.2 dB
Application	General dosimetry up to 4 GHz Dosimetry in strong gradient fields Compliance tests of mobile phones

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4.2 Phantoms

The phantom used for all tests i.e. for both system checks and device testing, was the twinheaded "SAM Phantom", manufactured by SPEAG. The phantom conforms to the requirements of IEEE 1528 - 2003.
System checking was performed using the flat section, whilst Head SAR tests used the left and right head profile sections. Body SAR testing also used the flat section between the head profiles.
The SPEAG device holder (see Section 5.1) was used to position the device in all tests whilst a tripod was used to position the validation dipoles against the flat section of phantom.

4.3 Tissue Simulants

Recommended values for the dielectric parameters of the tissue simulants are given in IEEE 1528 - 2003 and FCC Supplement C to OET Bulletin 65. All tests were carried out using simulants whose dielectric parameters were within ± 5% of the recommended values. All tests were carried out within 24 hours of measuring the dielectric parameters.
The depth of the tissue simulant was 15.0 ± 0.5 cm measured from the ear reference point during system checking and device measurements.

4.3.1 Tissue Simulant Recipes

The following recipe(s) were used for Head and Body tissue stimulant(s):

850MHz band

Ingredient	Head (% by weight)	Body (% by weight)
Water	40.29	50.75
Sugar	57.90	48.21
Nacl	1.38	0.94
Cellulose	0.24	0
Preventol	0.18	0.10

1900MHz band

Ingredient	Head (% by weight)	Body (% by weight)
Water	44,45	70.17
DGBE	55.24	29.44
Nacl	0.31	0.39

4.3.2 System Checking

The manufacturer calibrates the probes annually. Dielectric parameters of the tissue simulants were measured every day using the dielectric probe kit and the network analyser. A system check measurement was made following the determination of the dielectric parameters of the simulant, using the dipole validation kit. A power level of 250 mW was supplied to the dipole antenna, which was placed under the flat section of the twin SAM phantom. The system checking results (dielectric parameters and SAR values) are given in the table below. Test Date is 2012.6.28

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System checking,head tissue simulant

		SAR_{1g} [w/kg]	ε_r	σ[S/m]	Temperature	
					Ambient[℃]	Liquid[℃]
900MHz	Target Value	10.8	41.5±2.1	0.97±0.05	15-30	-
	Measured Value	10.7	41.4	0.96	24.0	22.3

All SAR values are normalized to 1W forward power

		SAR_{1g} [w/kg]	ε_r	σ[S/m]	Temperature	
					Ambient[℃]	Liquid[℃]
1800MHz	Target Value	38.1	40±1.9	1.40±0.07	15-30	-
	Measured Value	39.2	39.5	1.38	24.0	22.3

All SAR values are normalized to 1W forward power

Plots of the system checking scans are given in Appendix A.

4.3.3 Tissue Simulants used in the Measurements

For the measurement of the following parameters the HP 85070D dielectric probe kit is used, representing the open-ended coaxial probe measurement procedure. Liquid temperature during the test: 22.3° C。Tested date is 2012.6.28

Head		εr	σ[S/m]	Temperature	
				Ambient [℃]	Liquid [℃]
850MHz	Recommended Value	41.5±2.1	0.97±0.05	15-30	-
	Measured Value	41.5	0.98	24.0	22.3
1900MHz	Recommended Value	40±1.9	1.40±0.07	15-30	-
	Measured Value	39.0	1.44	24.0	22.3

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Body		εr	σ[S/m]	Temperature	
				Ambient [℃]	Liquid [℃]
850MHz	Recommended Value	55.0±2.8	1.05±0.05	15-30	-
	Measured Value	54.6	1.00	24.0	22.3
1900MHz	Recommended Value	53.3±2.7	1.52±0.08	15-30	-
	Measured Value	54.4	1.49	24.0	22.3

5. DESCRIPTION OF THE TEST PROCEDURE

5.1 Device Holder

The device was placed in the device holder (illustrated below) that is supplied by SPEAG as an integral part of the Dasy system.

Device holder supplied by SPEAG

5.2 Test positions

5.2.1 Against Phantom Head

Measurements were made in “cheek” and “tilt” positions on both the left hand and right hand sides of the phantom.
The positions used in the measurements were according to IEEE 1528 - 2003

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"IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques".

5.2.2 Body Worn Configuration

The device was placed in the SPEAG holder below the flat section of the phantom. The distance between the device and the phantom was kept at the separation distance using a separate flat spacer that was removed before the start of the measurements. The device was oriented with its antenna facing the phantom since this orientation gives higher results.

5.3 Scan procedure

First, area scans were used for determination of the field distribution. Next, a zoom scan, a minimum of 7 x 7x7 points covering a volume of at least 30x30x30mm, was performed around the highest E-field value to determine the averaged SAR value. Drift was determined by measuring the same point at the start of the area scan and again at the end of the zoom scan.

5.4 SAR Averaging Methods

The maximum SAR value was averaged over a cube of tissue using interpolation and extrapolation.
The interpolation, extrapolation and maximum search routines within Dasy4 are all based on the modified Quadratic Shepard's method (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).
The interpolation scheme combines a least-square fitted function method with a weighted average method. A trivariate 3-D / bivariate 2-D quadratic function is computed for each measurement point and fitted to neighbouring points by a least-square method. For the zoom scan, inverse distance weighting is incorporated to fit distant points more accurately. The interpolating function is finally calculated as a weighted average of the quadratics.
In the zoom scan, the interpolation function is used to extrapolate the Peak SAR from the deepest measurement points to the inner surface of the phantom.

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6. MEASUREMENT UNCERTAINTY

DASY4 Uncertainty Budget								
Error description	Uncertainty value	Prob. Dist.	Div.	(c_i) 1g	(c_i) 10g	Std.Unc (1g).	Std.Unc. (10g)	$(v_i)^{V_{eff}}$
Measurement system								
Probe calibration	±5.9%	N	1	1	1	±5.9%	±5.9%	∞
Axial isotropy	±4.7%	R	$\sqrt{3}$	0.7	0.7	±1.9%	±1.9%	∞
Hemispherical isotropy	±9.6%	R	$\sqrt{3}$	0.7	0.7	±3.9%	±3.9%	∞
Boundary effects	±1.0%	R	$\sqrt{3}$	1	1	±0.6%	±0.6%	∞
Linearity	±4.7%	R	$\sqrt{3}$	1	1	±2.7%	±2.7%	∞
System detection limits	±1.0%	R	$\sqrt{3}$	1	1	±0.6%	±0.6%	∞
Readout electronics	±0.3%	N	1	1	1	±0.3%	±0.3%	∞
Response time	±0.8%	R	$\sqrt{3}$	1	1	±0.5%	±0.5%	∞
Integration time	±2.6%	R	$\sqrt{3}$	1	1	±1.5%	±1.5%	∞
RF ambient noise	±3.0%	R	$\sqrt{3}$	1	1	±1.7%	±1.7%	∞
RF ambient reflections	±3.0%	R	$\sqrt{3}$	1	1	±1.7%	±1.7%	∞
Probe positioner	±0.4%	R	$\sqrt{3}$	1	1	±0.2%	±0.2%	∞
Probe positioning	±2.9%	R	$\sqrt{3}$	1	1	±1.7%	±1.7%	∞
Max.SAR Eval.	±1.0%	R	$\sqrt{3}$	1	1	±0.6%	±0.6%	∞
Test Sample Related								
Device Positioning	±2.9%	N	1	1	1	±2.9%	±2.9%	145
Device holder	±3.6%	N	1	1	1	±3.6%	±3.6%	5
Power drift	±5.0%	R	$\sqrt{3}$	1	1	±2.9%	±2.9%	∞
Phantom and Setup								
Phantom uncertainty	±4.0%	R	$\sqrt{3}$	1	1	±2.3%	±2.3%	∞
Liquid conductivity(target)	±5.0%	R	$\sqrt{3}$	0.64	0.43	±1.8%	±1.2%	∞
Liquid conductivity(meas.)	±2.5%	N	1	0.64	0.43	±1.6%	±1.1%	∞
Liquid conductivity(target)	±5.0%	R	$\sqrt{3}$	0.6	0.49	±1.7%	±1.4%	∞
Liquid onductivity(means.)	±2.5%	N	1	0.6	0.49	±1.5%	±1.2%	∞
Combined std. Uncertainty						±10.9%	±10.7%	387
Expanded STD Uncertainty						**±21.9%**	**±21.4%**	

Table 6.1 – Measurement uncertainty evaluation

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7. Test Results

7.1 Test result

In order to determine the largest value of the peak spatial-average SAR of a handset, all device positions, configurations, and operational modes should be tested for each frequency band according to Steps 1 to 3 below.
Step 1: The tests should be performed at the channel that is closest to the center of the transmit frequency band.
Step 2: For the condition providing the highest peak spatial-average SAR determined in Step 1 for each frequency, perform all tests at all other test frequency channels, e.g., lowest and highest frequencies. In addition, for all other conditions (device position, configuration, and operational mode) where the peak spatial-average SAR value determined in Step 1 is within 3 dB of the applicable SAR limit, it is recommended that all other test frequencies should be tested as well.
Step 3: Examine all data to determine the largest value of the peak.

The measured Head SAR values for the test device are tabulated below:

Mode: GSM 850

f_L(MHz)=824.2MHz f_M(MHz)=836.4 MHz f_H(MHz)= 848.8MHz

SAR Values（Head，850MHz Band）

Limit of SAR (W/kg)	1 g Average
	1.6
Test Case	Measurement Result (mW/g)
	1g Average
Left hand, Touch cheek, f_M	**0.749**
Left hand, Tilt 15 Degree, f_M	0.379
Right hand, Touch cheek, f_M	0.707
Right hand, Tilt 15 Degree, f_M	0.363

So, the maximum SAR is

Phantom Configuration	Device Test Position	SAR(mW/g)/ (10g/1g)		
		f_L(MHz)	f_M(MHz)	f_H(MHz)
Left Side	Cheek	---	**0.749**	---

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Mode: GSM850 (GSM/GPRS)

f_L(MHz)=824.2MHz f_M(MHz)=836.4 MHz f_H(MHz)= 848.8MHz

SAR Values（body, 850MHz Band）

Limit of SAR (W/kg)	1 g Average
	1.6
Test Case	Measurement Result(mW/g)
	1g Average
Towards ground/GSM, with headset 15mm spacer f_M	0;460
Towards phantom/GSM, with headset 15mm spacer f_M	0.416
Towards ground/GPRS, 15mm spacer f_M	0.877
Towards ground/GPRS, 15mm spacer f_L	0.922
Towards ground/GPRS, 15mm spacer f_H	**1.310**
Towards phantom/GPRS, 15mm spacer f_M	1.180
Towards phantom/GPRS, 15mm spacer f_L	0.935
Towards phantom/GPRS, 15mm spacer f_H	1.220

During the body testing GPRS work at the “1 downlink and 4 uplink”,at this Tx slot RF averaged power is larger than other Tx slots.

So, the maximum SAR is

Phantom Configuration	Device Test Position	SAR(mW/g)		
		f_L(MHz)	f_M(MHz)	f_H(MHz)
Towards Ground/GPRS	15mm spacer	---	---	**1.310**

Mode: GSM1900

f_L(MHz)=1850.2MHz f_M(MHz)=1880.0MHz f_H(MHz)= 1909.8MHz

SAR Values（Head, 1900MHz head）

Limit of SAR (W/kg)	1 g Average
	1.6
Test Case	Measurement Result(mW/g)
	1g Average
Left hand, Touch cheek, f_M	**0.988**
Left hand, Touch cheek, f_L	0.953
Left hand, Touch cheek, f_H	0.945
Left hand, Tilt 15 Degree, f_M	0.365
Right hand, Touch cheek, f_M	0.876
Right hand, Touch cheek, f_L	0.805
Right hand, Touch cheek, f_H	0.755
Right hand, Tilt 15 Degree f_M	0.392

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So, the maximum SAR is

Phantom Configuration	Device Test Position	SAR(mW/g)		
		f_L(MHz)	f_M(MHz)	f_H(MHz)
Left Side	Cheek	---	**0.988**	---

Mode:GSM1900(GSM/GPRS)

f_L(MHz)=1850.2MHz f_M(MHz)=1880.0MHz f_H(MHz)=1909.8MHz

SAR Values（Body，1900MHz Band）

Limit of SAR (W/kg)	**1 g Average**
	1.6
Test Case	**Measurement Result(mW/g)**
	1g Average
Towards ground/GSM, with headset 15mm spacer f_M	0.551
Towards phantom/GSM,with headset 15mm spacer f_M	0.410
Towards ground/GPRS, 15mm spacer f_M	1.060
Towards ground/GPRS, 15mm spacer f_L	**1.120**
Towards ground/GPRS, 15mm spacer f_H	**1.120**
Towards phantom/GPRS, 15mm spacer f_M	0.796

So, the maximum SAR is

Phantom Configuration	Device Test Position	SAR(mW/g)		
		f_L(MHz)	f_M(MHz)	f_H(MHz)
Towards Ground/GPRS	15mm spacer	**1.120**	---	---

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7.2 Conducted power

Mode	GSM850(Head) Duty cycle: 1:8(12.5%)			GSM1900(Head) Duty cycle: 1:8(12.5%)		
Channel	128	189	251	512	661	810
Frequency(MHz)	824.2	836.4	848.8	1850.2	1880.0	1909.8
Measured Power(dBm)	32.07	32.10	32.17	29.18	29.00	29.05

Division Factors(for Measured Power and Averaged Power):

To average the power, the division factor is as follows:

1TX-slot (4Downlink1uplink)= 1 transmit time slot out of 8 time slots=> conducted power divided by (8/1) => -9.03dB

2TX-slots(3Downlink2uplink) = 2 transmit time slots out of 8 time slots=> conducted power divided by (8/2) => -6.02dB

3TX-slots (2Downlink3uplink)= 3 transmit time slots out of 8 time slots=> conducted power divided by (8/3) => -4.26dB

4TX-slots (1Downlink4uplink)= 4 transmit time slots out of 8 time slots=> conducted power divided by (8/4) => -3.01dB

According to the conducted power as above, the body measurements are performed with 4Txslots(1Downlink4uplink) for GPRS.

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GPRS Measured Power

Mode	GPRS850			GPRS1900		
Channel	128	189	251	251	189	251
Frequency(MHz)	824.2	836.4	848.8	1850.2	1880.0	1909.8
4Downlink1uplink Power(dBm)	31.92	31.96	32.00	29.10	28.92	28.96
3Downlink2uplink Power(dBm)	31.14	31.16	31.24	28.21	28.05	28.10
2Downlink3uplink Power(dBm)	29.56	29.58	29.64	26.57	26.38	26.44
1Downlink4uplink Power(dBm)	28.80	28.79	28.83	25.78	25.60	25.66

GPRS Averaged Power

Mode	GPRS850			GPRS1900		
Channel	128	189	251	512	661	810
Frequency(MHz)	824.2	836.4	848.8	1850.2	1880.0	1909.8
4Downlink1uplink Power(dBm)	22.89	22.93	22.97	20.07	19.99	20.03
3Downlink2uplink Power(dBm)	25.12	25.14	25.22	22.19	22.03	22.08
2Downlink3uplink Power(dBm)	25.30	25.32	25.38	22.31	22.12	22.18
1Downlink4uplink Power(dBm)	25.79	25.78	25.82	22.77	22.59	22.65

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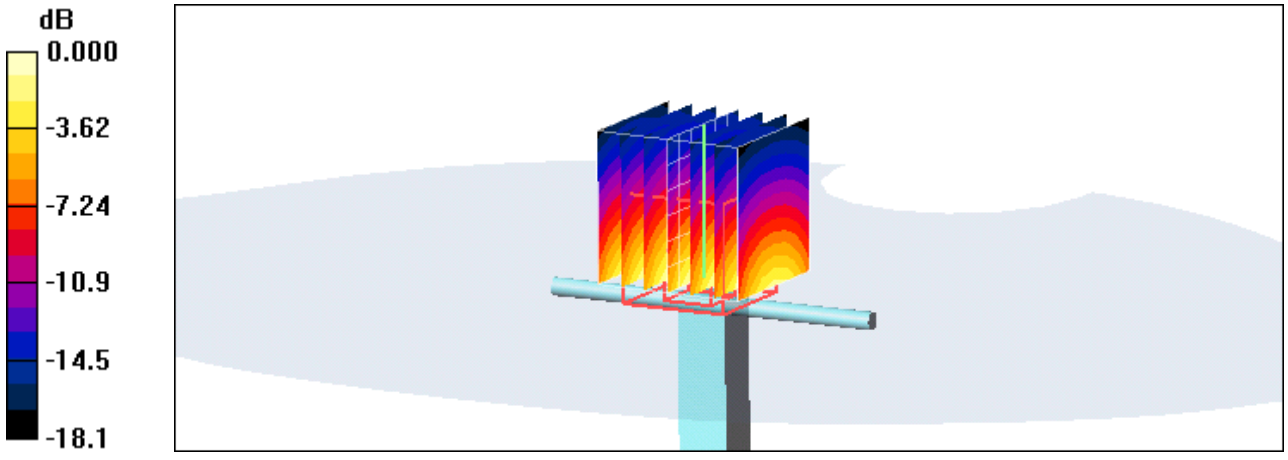
APPENDIX A: SYSTEM CHECKING SCANS

SYSTEM CHECKING SCANS	900MHz

DUT: Dipole 900 MHz; Type: D900V2; Serial: D900V2 - SN:171
Medium parameters used (interpolated): f = 900 MHz; σ = 0.96 mho/m; ε_r = 41.4; ρ = 1000 kg/m^3

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.375, 7.783, 7.54); Calibrated: 2/3/2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2/7/2012
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 54.7V/m; Power Drift = -0.013 dB
Peak SAR (extrapolated) = 4.07 W/kg
SAR(1 g) = 2.68 mW/g; SAR(10 g) = 1.61 mW/g
Maximum value of SAR (measured) = 2.8 mW/g



0 dB =2.9 mW/g

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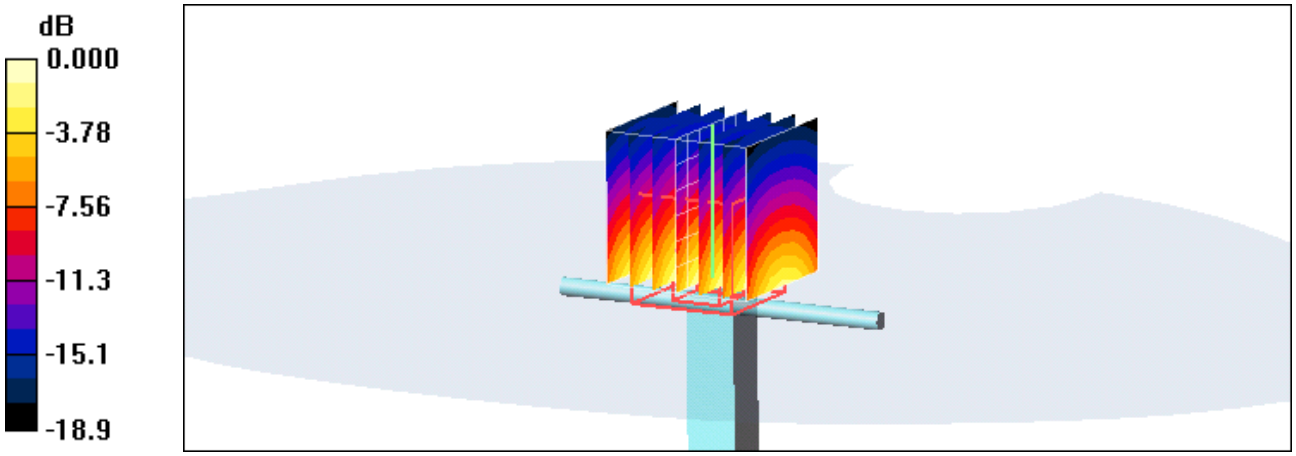
SYSTEM CHECKING SCANS	1800 MHz

DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN:2d084
Program Name: System Performance Check at 1800 MHz

Communication System: CW; Frequency: 1800 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1800 MHz; σ = 1.38 mho/m; εr = 39.5; ρ = 1000 kg/m3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(5.767, 6.013, 5.888); Calibrated: 2/3/2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2/7/2012
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 90.5 V/m; Power Drift = 0.024 dB
Peak SAR (extrapolated) = 18.1 W/kg
SAR(1 g) = 9.8 mW/g; SAR(10 g) = 5.11 mW/g
Maximum value of SAR (measured) = 11.1 mW/g



0 dB =11.1 mW/g

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APPENDIX B: MEASUREMENT SCANS

GSM (850MHz/Head)

Left Side	Cheek	**836.4 MHz**

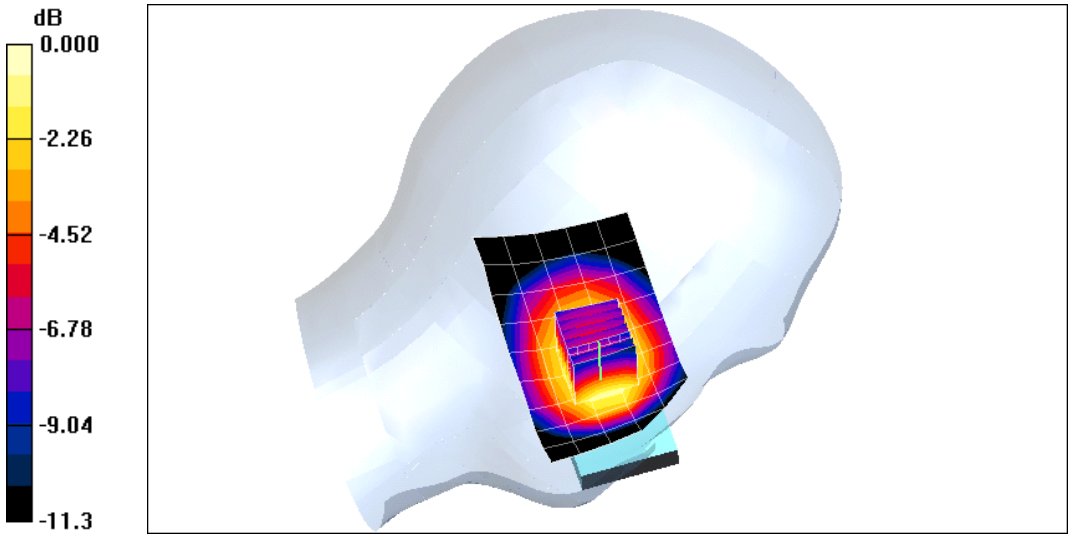
Communication System: GSM 850; Frequency: 836.4 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.894 mho/m; ε_r = 41; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.375, 7.783, 7.54); Calibrated: 2/3/2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2/7/2012
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Touch position - Middle/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.744 mW/g

Touch position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 17.0 V/m; Power Drift = -0.031 dB
Peak SAR (extrapolated) = 0.975 W/kg
SAR(1 g) = 0.749 mW/g; SAR(10 g) = 0.534 mW/g
Maximum value of SAR (measured) = 0.798 mW/g



0 dB = 0.798 mW/g

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Left Side	Tilt	**836.4 MHz**

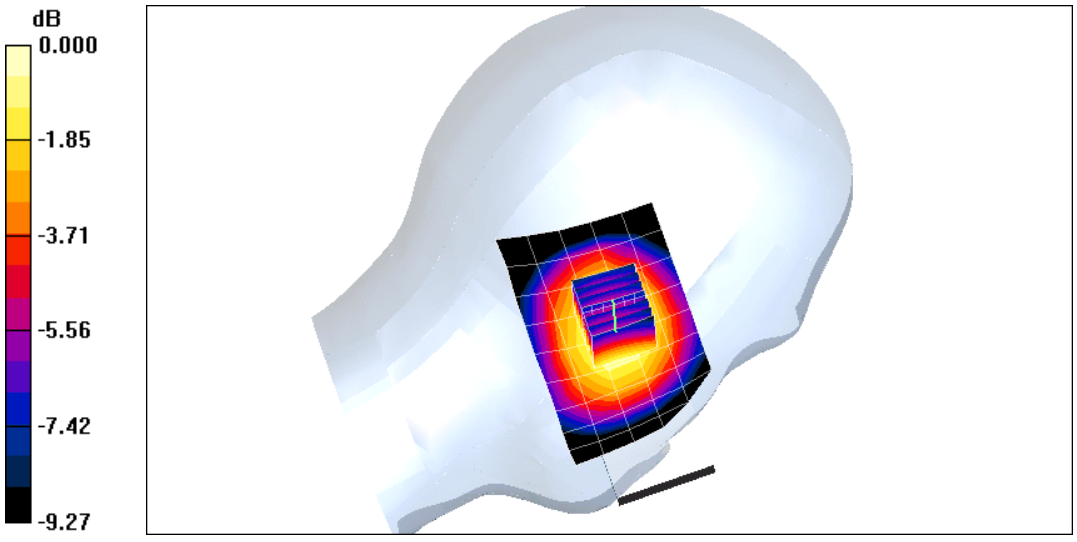
Communication System: GSM 850; Frequency: 836.4 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.894 mho/m; ε_r = 41; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.375, 7.783, 7.54); Calibrated: 2/3/2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2/7/2012
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position - Middle/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.381 mW/g

Tilt position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 17.1 V/m; Power Drift = 0.030 dB
Peak SAR (extrapolated) = 0.497 W/kg
SAR(1 g) = 0.379 mW/g; SAR(10 g) = 0.273 mW/g
Maximum value of SAR (measured) = 0.401 mW/g



0 dB = 0.401 mW/g

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Right Side	Cheek	**836.4 MHz**

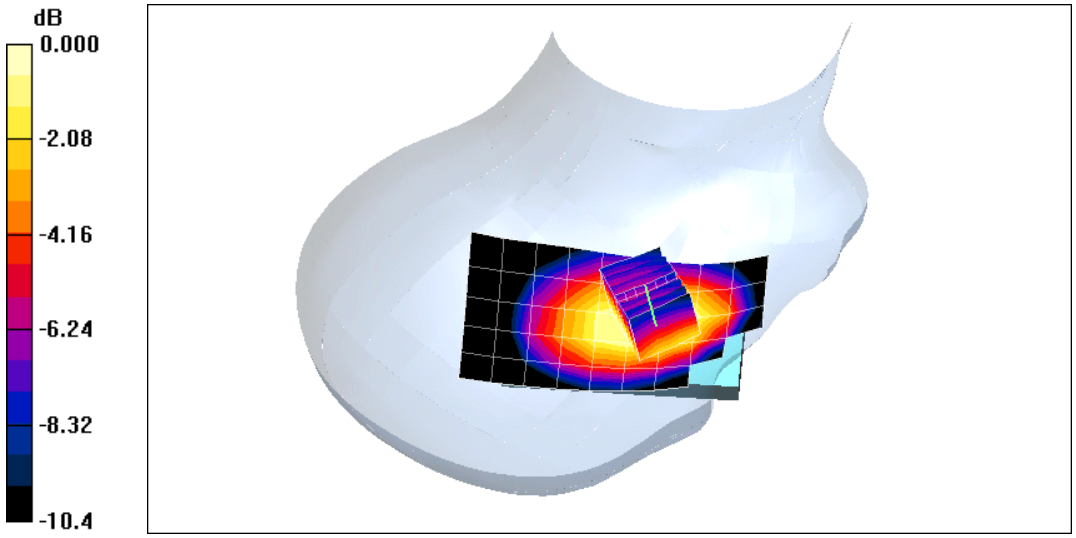
Communication System: GSM 850; Frequency: 836.4 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.894 mho/m; ε_r = 41; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.375, 7.783, 7.54); Calibrated: 2/3/2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2/7/2012
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Touch position - Middle/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.732 mW/g

Touch position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.7 V/m; Power Drift = -0.047 dB
Peak SAR (extrapolated) = 0.914 W/kg
SAR(1 g) = 0.707 mW/g; SAR(10 g) = 0.502 mW/g
Maximum value of SAR (measured) = 0.753 mW/g



0 dB = 0.753 mW/g

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Right Side	Tilt	836.4 MHz

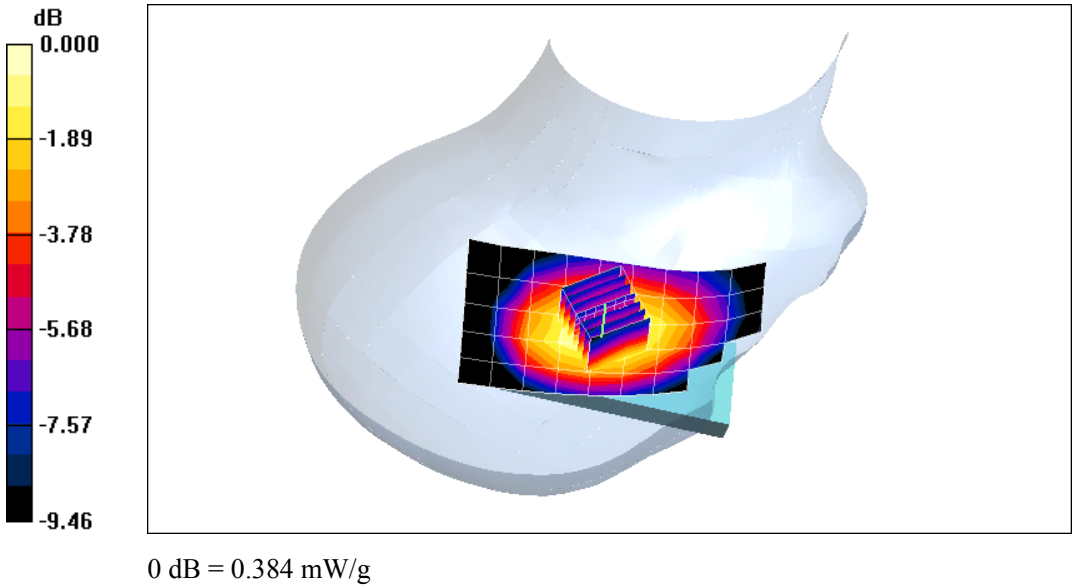
Communication System: GSM 850; Frequency: 836.4 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.894 mho/m; ε_r = 41; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.375, 7.783, 7.54); Calibrated: 2/3/2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2/7/2012
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position - Middle/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.363 mW/g

Tilt position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.4 V/m; Power Drift = -0.036 dB
Peak SAR (extrapolated) = 0.474 W/kg
SAR(1 g) = 0.363 mW/g; SAR(10 g) = 0.260 mW/g
Maximum value of SAR (measured) = 0.384 mW/g



0 dB = 0.384 mW/g

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GSM (850MHz/Body)

FLAT	Towards ground	**836.4 MHz**

Communication System: GSM 850; Frequency: 836.4 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 836.41 MHz; σ = 0.96 mho/m; ε_r = 55.9; ρ = 1000 kg/m^3
Phantom section: Flat Section

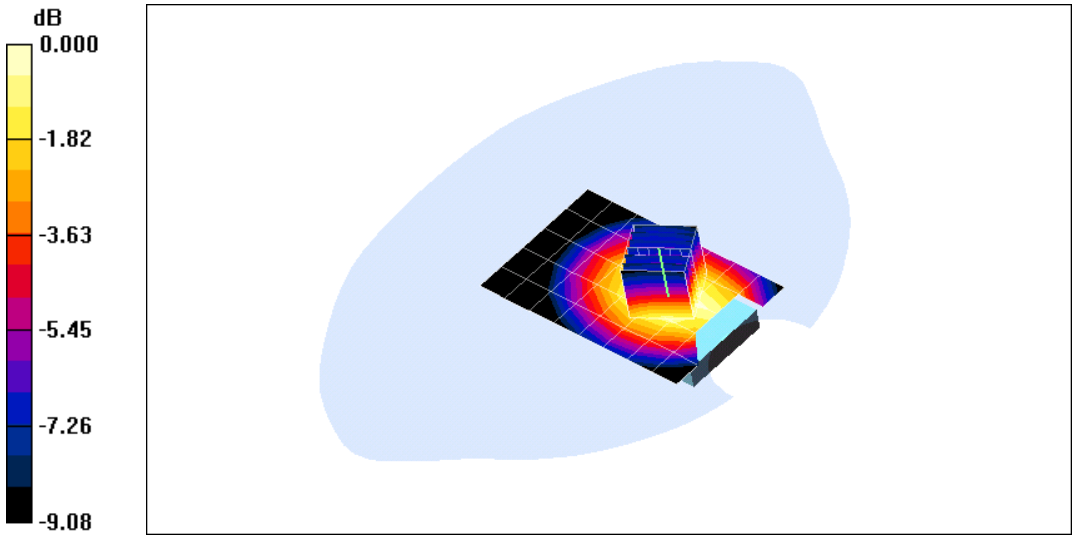
DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.149, 7.54, 7.336); Calibrated: 2/3/2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2/7/2012
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards ground- Middle/Area Scan (6x9x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.473 mW/g

Towards ground- Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 15.2 V/m; Power Drift = -0.070 dB
Peak SAR (extrapolated) = 0.602 W/kg
SAR(1 g) = 0.460 mW/g; SAR(10 g) = 0.330 mW/g
Maximum value of SAR (measured) = 0.489 mW/g



0 dB = 0.489 mW/g

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FLAT	Towards phantom	**836.4 MHz**

Communication System: GSM 850; Frequency: 836.4 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 836.41 MHz; σ = 0.96 mho/m; ε_r = 55.9; ρ = 1000 kg/m^3
Phantom section: Flat Section

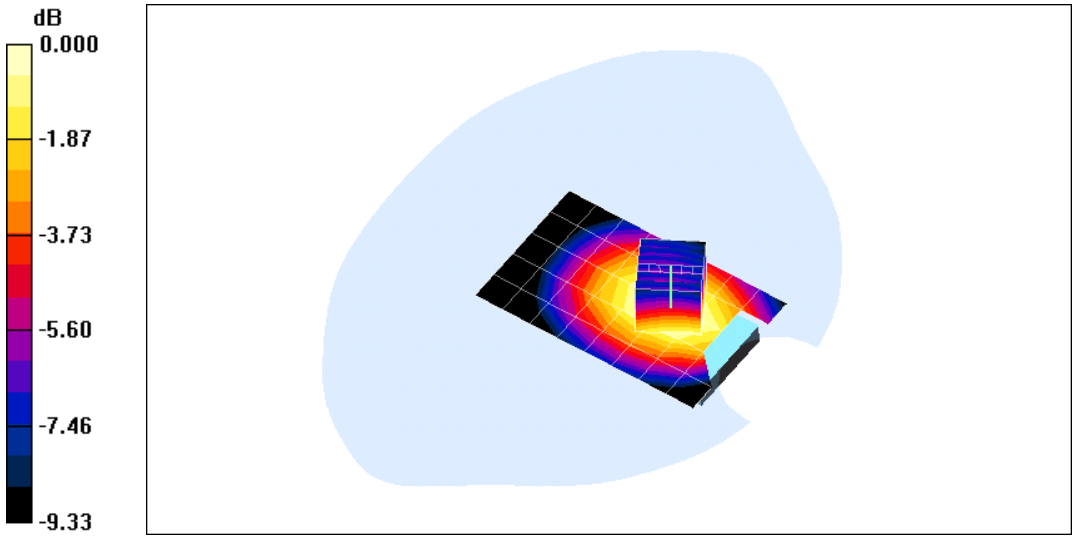
DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.149, 7.54, 7.336); Calibrated: 2/3/2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2/7/2012
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards plantom - Middle/Area Scan (6x9x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.437 mW/g

Towards plantom - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.1 V/m; Power Drift = -0.046 dB
Peak SAR (extrapolated) = 0.530 W/kg
SAR(1 g) = 0.416 mW/g; SAR(10 g) = 0.302 mW/g
Maximum value of SAR (measured) = 0.439 mW/g



0 dB = 0.439 mW/g

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GPRS (850MHz/Body)

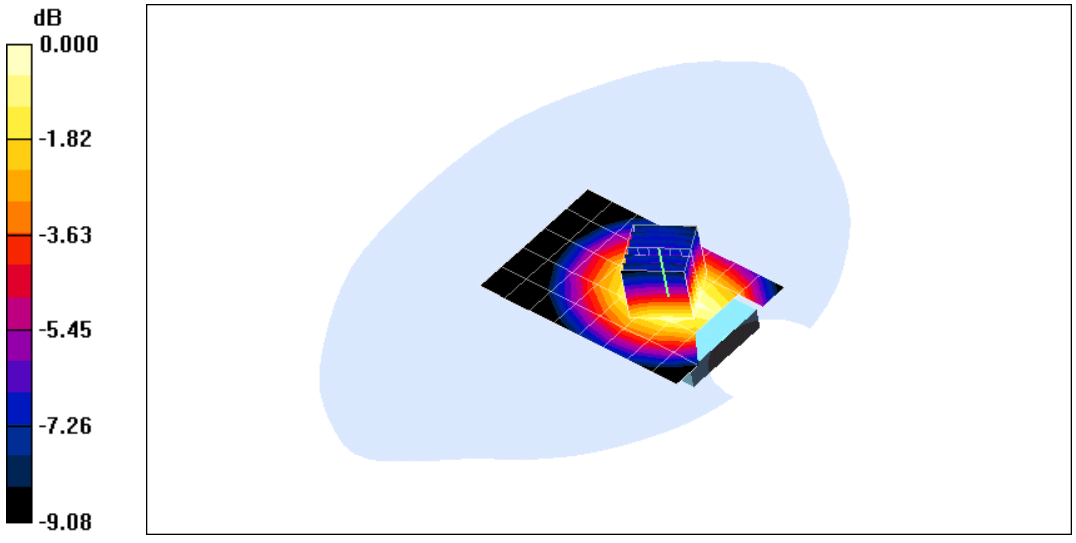
FLAT	Towards ground	**836.4 MHz**

Communication System: GSM 850; Frequency: 836.4 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 836.41 MHz; σ = 0.96 mho/m; ε_r = 55.9; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.149, 7.54, 7.336); Calibrated: 2/3/2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2/7/2012
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards ground - Middle GPRS/Area Scan (6x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.926 mW/g

Towards ground - Middle GPRS/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.2 V/m; Power Drift = -0.160 dB
Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.877 mW/g; SAR(10 g) = 0.614 mW/g
Maximum value of SAR (measured) = 0.931 mW/g



0 dB = 0.931 mW/g

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FLAT	Towards ground	**824.2 MHz**

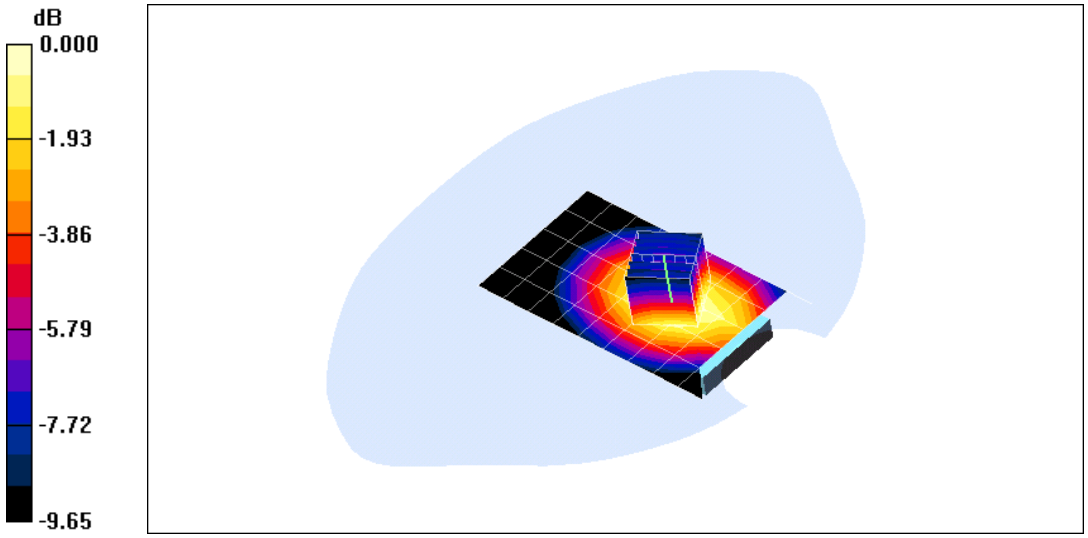
Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.95 mho/m; ε_r = 56; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.149, 7.54, 7.336); Calibrated: 2/3/2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2/7/2012
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards ground - Low GPRS/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.954 mW/g

Towards ground - Low GPRS/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.8 V/m; Power Drift = 0.079 dB
Peak SAR (extrapolated) = 1.25 W/kg
SAR(1 g) = 0.922 mW/g; SAR(10 g) = 0.646 mW/g
Maximum value of SAR (measured) = 0.989 mW/g



0 dB = 0.989 mW/g

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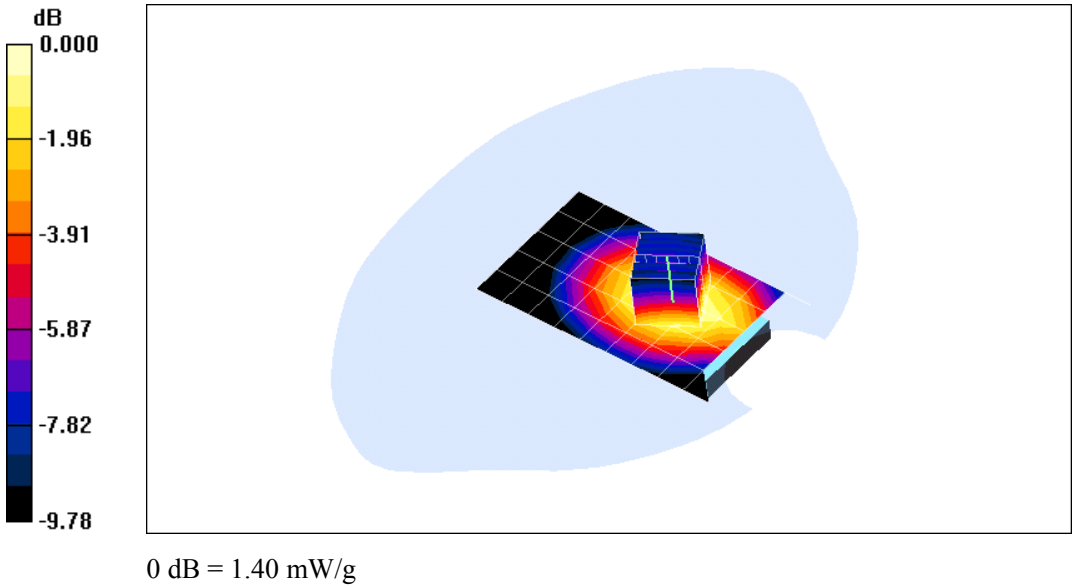
FLAT	Towards ground	**848.8 MHz**

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.969 mho/m; ε_r = 55.8; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.149, 7.54, 7.336); Calibrated: 2/3/2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2/7/2012
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards ground - High GPRS/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 1.36 mW/g

Towards ground - High GPRS/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 27.3 V/m; Power Drift = -0.056 dB
Peak SAR (extrapolated) = 1.78 W/kg
SAR(1 g) = 1.31 mW/g; SAR(10 g) = 0.913 mW/g
Maximum value of SAR (measured) = 1.40 mW/g



0 dB = 1.40 mW/g

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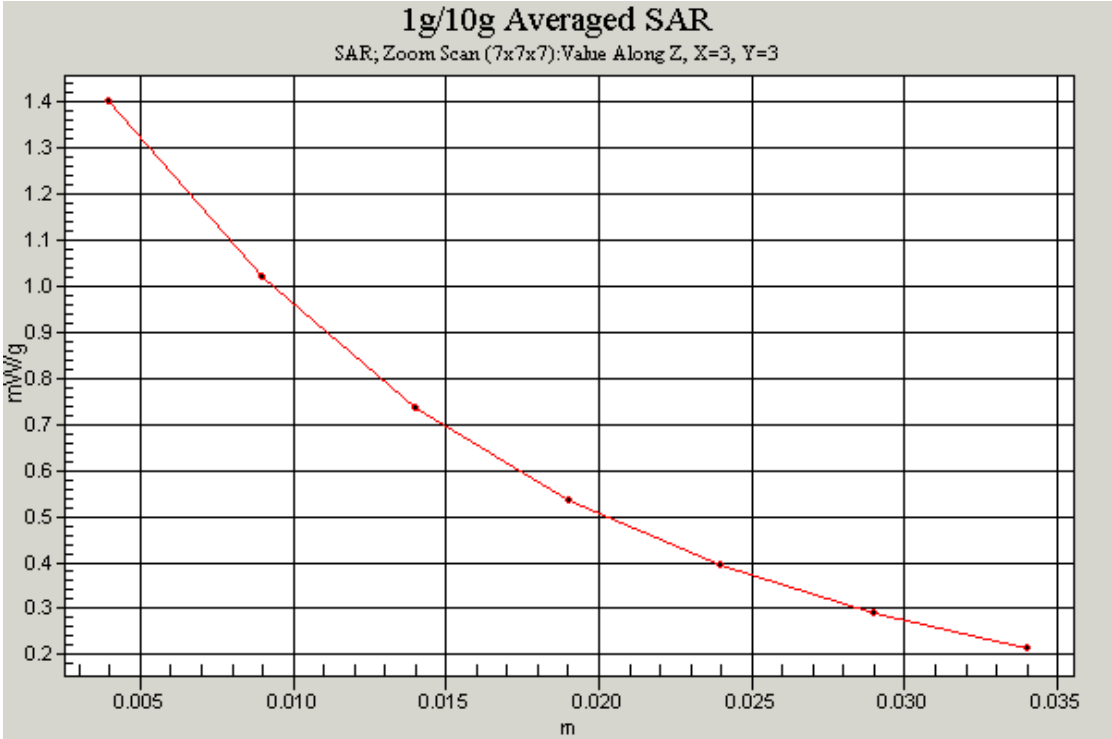

Z-Scan at power reference point (GPRS 850MHz CH251)

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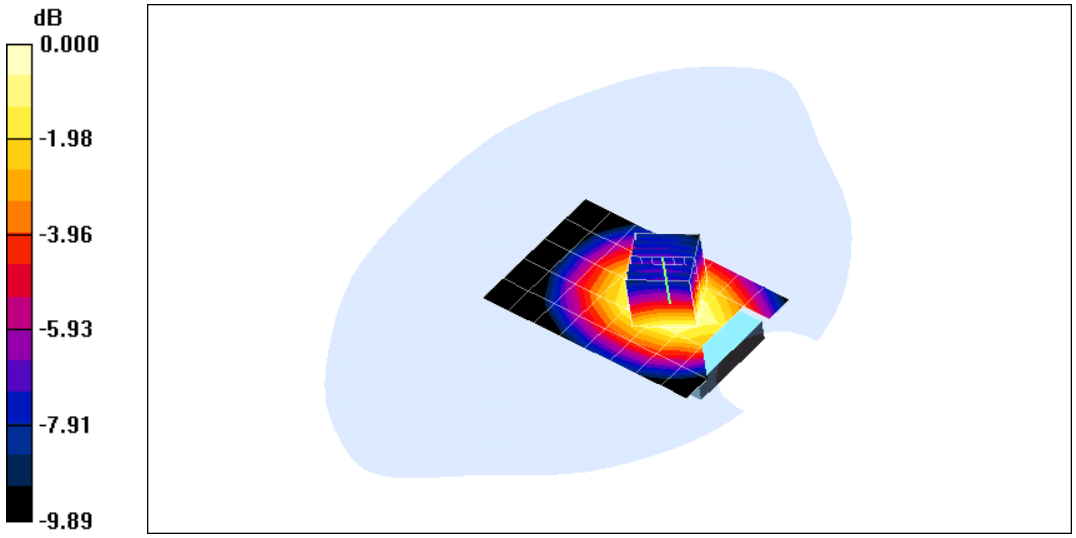
FLAT	Towards phantom	**836.4 MHz**

Communication System: GSM 850; Frequency: 836.4 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 836.41 MHz; σ = 0.96 mho/m; ε_r = 55.9; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.149, 7.54, 7.336); Calibrated: 2/3/2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2/7/2012
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards plantom - Middle GPRS/Area Scan (6x9x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.26 mW/g

Towards plantom - Middle GPRS/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.3 V/m; Power Drift = -0.075 dB
Peak SAR (extrapolated) = 1.55 W/kg
SAR(1 g) = 1.18 mW/g; SAR(10 g) = 0.833 mW/g
Maximum value of SAR (measured) = 1.25 mW/g



0 dB = 1.25 mW/g

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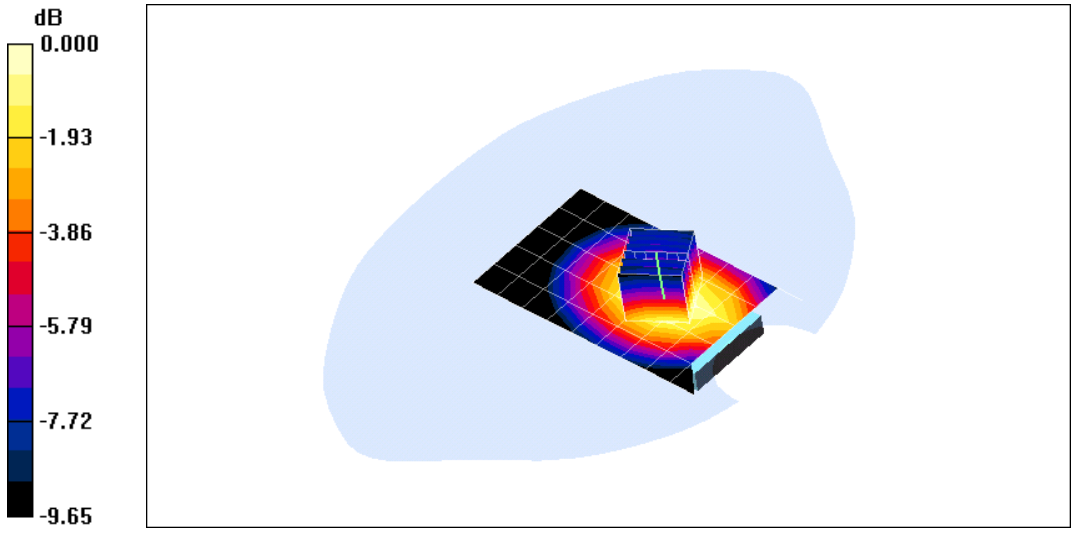
FLAT	Towards phantom	**824.2 MHz**

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.95 mho/m; ε_r = 56; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.149, 7.54, 7.336); Calibrated: 2/3/2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2/7/2012
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards plantom - Low GPRS/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 0.980 mW/g

Towards plantom - Low GPRS/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 21.1 V/m; Power Drift = -0.110 dB
Peak SAR (extrapolated) = 1.24 W/kg
SAR(1 g) = 0.935 mW/g; SAR(10 g) = 0.664 mW/g
Maximum value of SAR (measured) = 1.000 mW/g



0 dB = 1.00 mW/g

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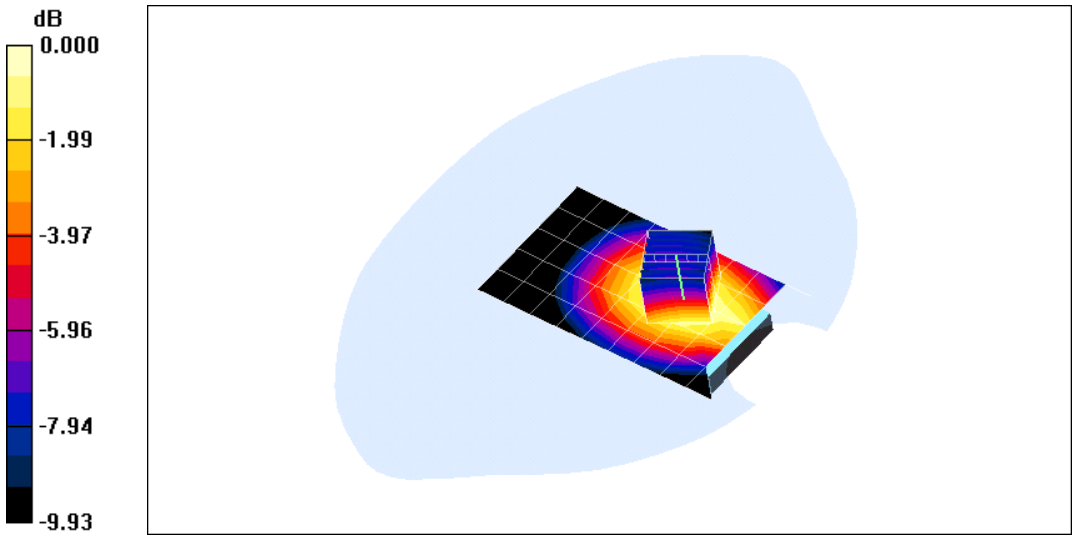
FLAT	Towards phantom	**848.8 MHz**

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.969 mho/m; ε_r = 55.8; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.149, 7.54, 7.336); Calibrated: 2/3/2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2/7/2012
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards plantom - High GPRS/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm Maximum value of SAR (measured) = 1.29 mW/g

Towards plantom - High GPRS/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.2 V/m; Power Drift = -0.093 dB
Peak SAR (extrapolated) = 1.66 W/kg
SAR(1 g) = 1.22 mW/g; SAR(10 g) = 0.857 mW/g
Maximum value of SAR (measured) = 1.31 mW/g



0 dB = 1.31 mW/g

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GSM (1900MHz/Head)

Left Side	Cheek	**1880 MHz**

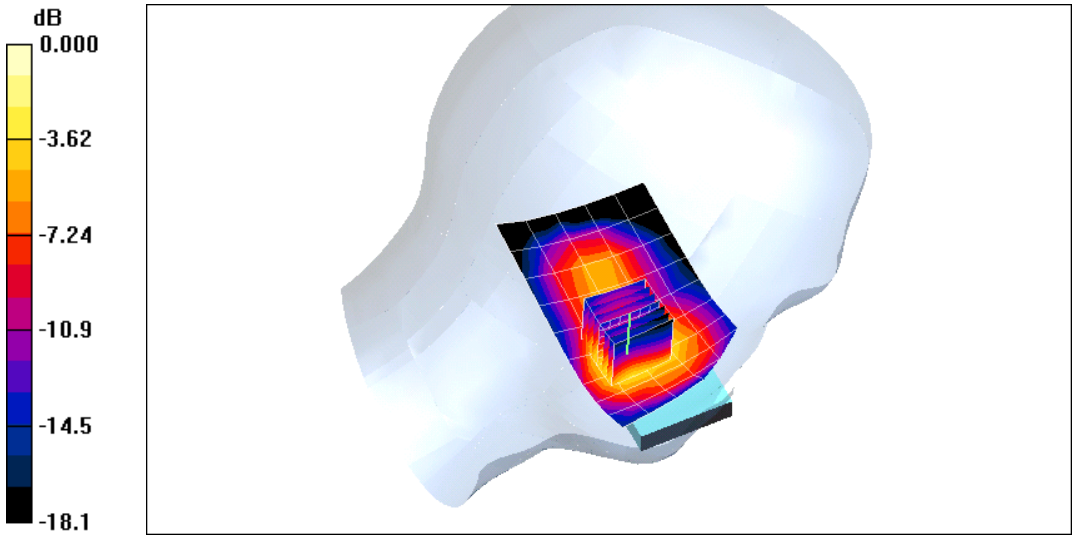
Communication System: PCS1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1880 MHz; σ = 1.44 mho/m; ε_r = 38.5; ρ = 1500 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(5.438, 5.759, 5.595); Calibrated: 2/3/2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2/7/2012
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Touch position - Middle/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.873 mW/g

Touch position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 17.0 V/m; Power Drift = -0.042 dB
Peak SAR (extrapolated) = 1.41 W/kg
SAR(1 g) = 0.988 mW/g; SAR(10 g) = 0.600 mW/g
Maximum value of SAR (measured) = 1.05 mW/g



0 dB = 1.05 mW/g

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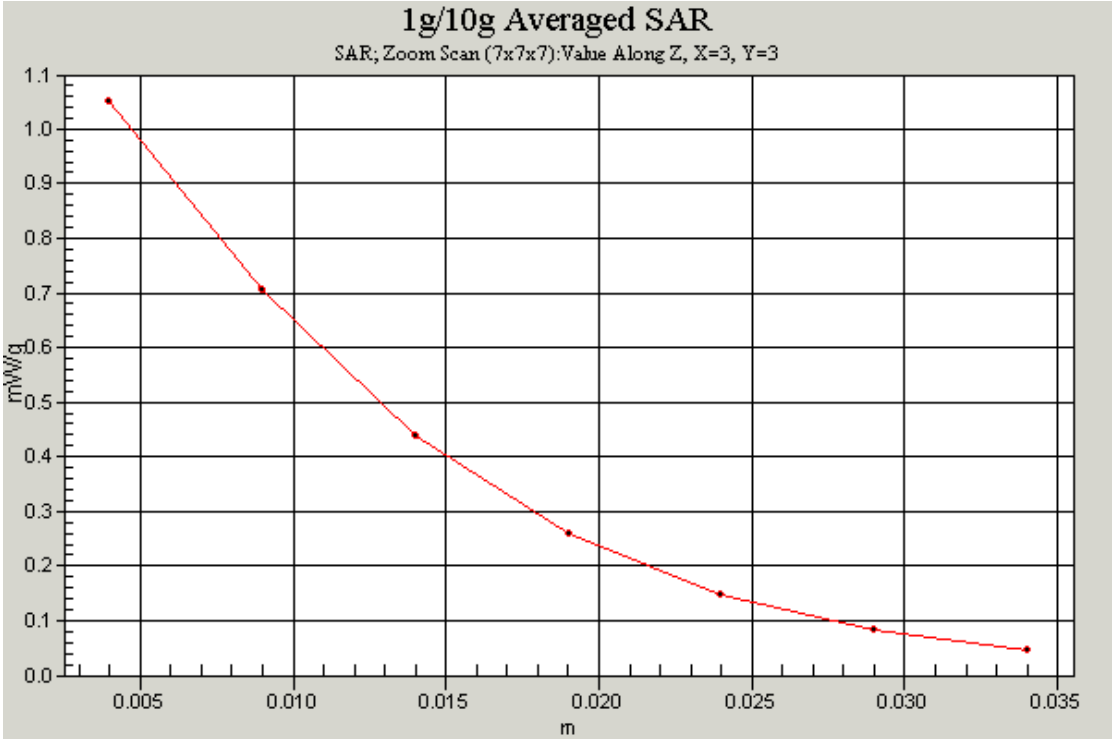

Z-Scan at power reference point (GSM 1900MHz CH661)

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Left Side	Cheek	1850.2 MHz

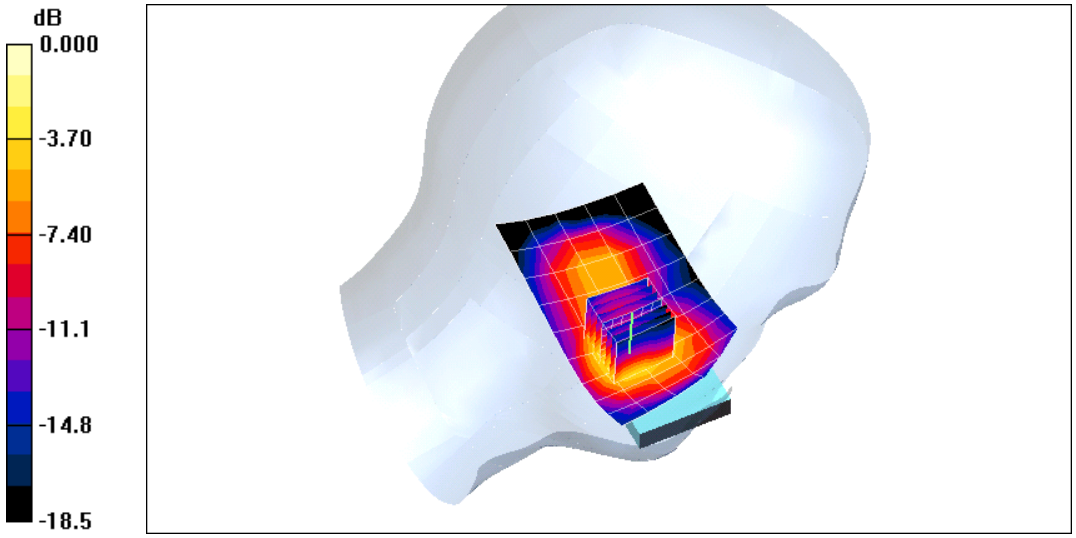
Communication System: PCS1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.41 mho/m; ε_r = 38.6; ρ = 1500 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(5.438, 5.759, 5.595); Calibrated: 2/3/2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2/7/2012
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Touch position - Low/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.822 mW/g

Touch position - Low/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 17.4 V/m; Power Drift = -0.103 dB
Peak SAR (extrapolated) = 1.35 W/kg
SAR(1 g) = 0.953 mW/g; SAR(10 g) = 0.572 mW/g
Maximum value of SAR (measured) = 1.01 mW/g



0 dB = 1.01 mW/g

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Left Side	Cheek	1909.8 MHz

Communication System: PCS1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1910.2 MHz; σ = 1.46 mho/m; ε_r = 38.5; ρ = 1500 kg/m^3
Phantom section: Left Section

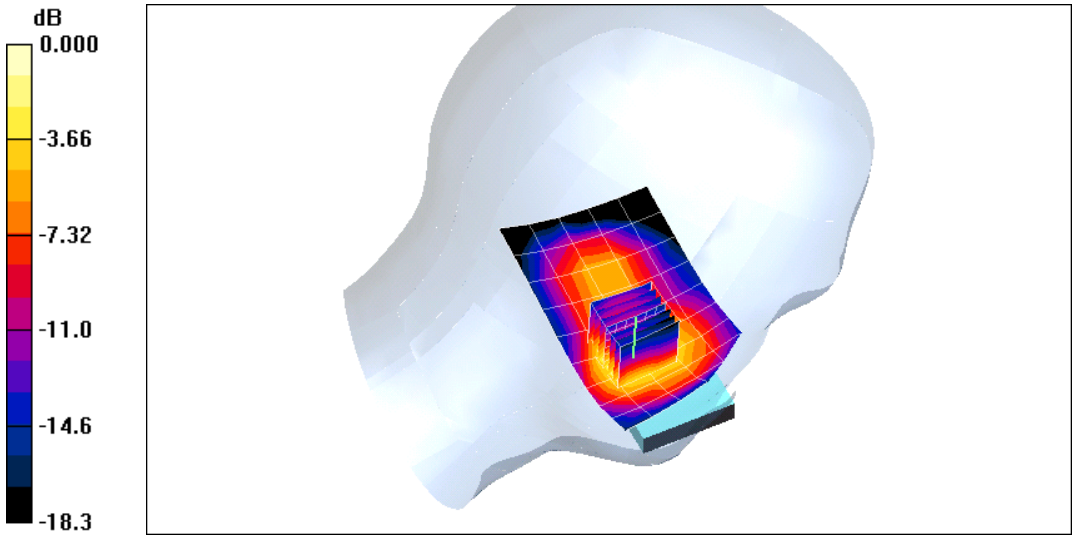
DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(5.438, 5.759, 5.595); Calibrated: 2/3/2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2/7/2012
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Touch position - High/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.822 mW/g

Touch position - High/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.8 V/m; Power Drift = 0.007 dB
Peak SAR (extrapolated) = 1.36 W/kg
SAR(1 g) = 0.945 mW/g; SAR(10 g) = 0.569 mW/g
Maximum value of SAR (measured) = 1.00 mW/g



0 dB = 1.00 mW/g

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Left Side	Tilt	1880 MHz

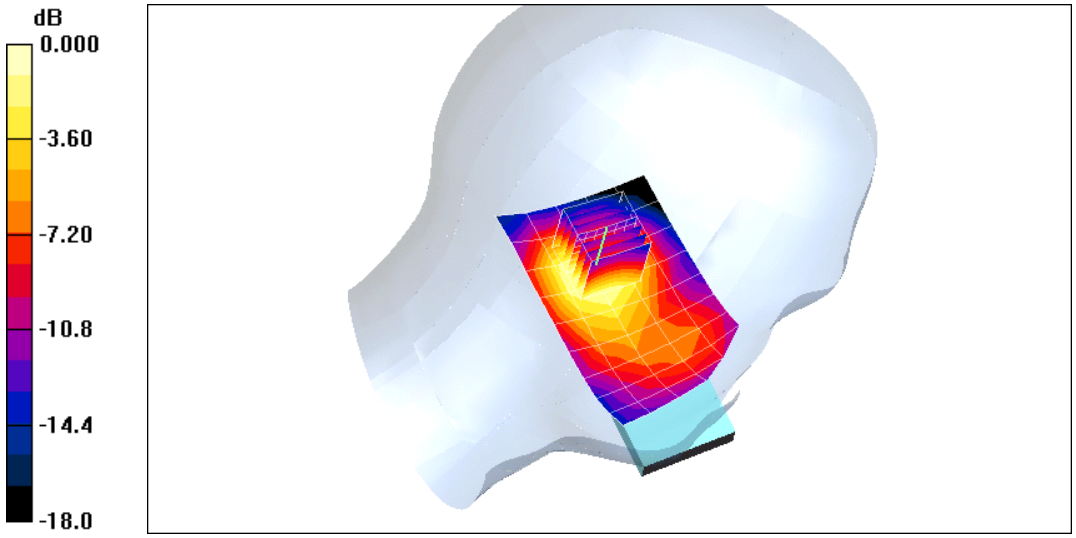
Communication System: PCS1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1880 MHz; σ = 1.44 mho/m; ε_r = 38.5; ρ = 1500 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(5.438, 5.759, 5.595); Calibrated: 2/3/2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2/7/2012
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position - Middle/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.341 mW/g

Tilt position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.1 V/m; Power Drift = 0.040 dB
Peak SAR (extrapolated) = 0.516 W/kg
SAR(1 g) = 0.365 mW/g; SAR(10 g) = 0.237 mW/g
Maximum value of SAR (measured) = 0.375 mW/g



0 dB = 0.375 mW/g

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Right Side	Cheek	1880 MHz

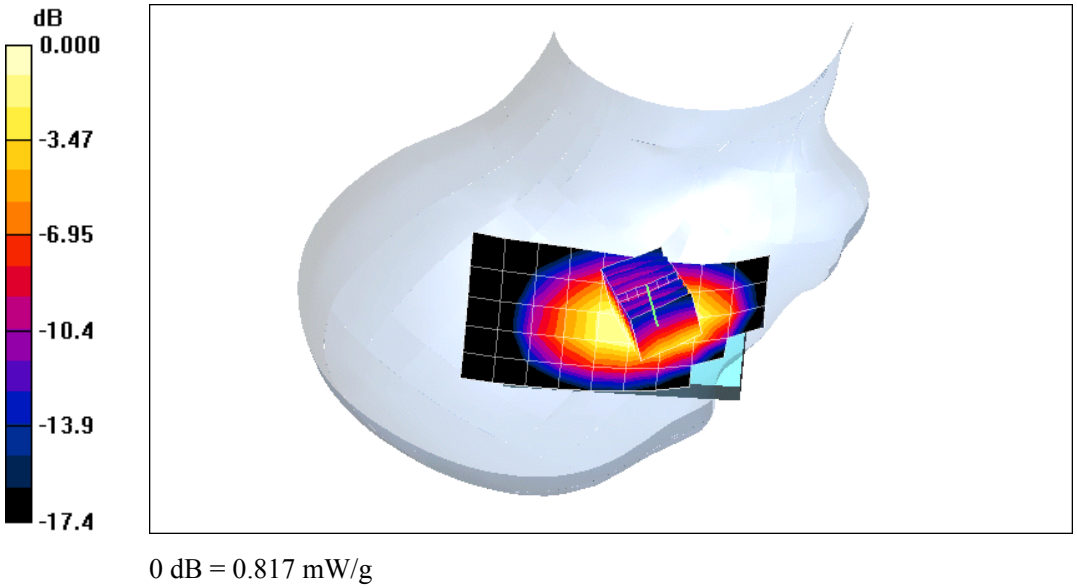
Communication System: PCS1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1880 MHz; σ = 1.44 mho/m; ε_r = 38.5; ρ = 1500 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(5.438, 5.759, 5.595); Calibrated: 2/3/2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2/7/2012
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Touch position - Middle/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.770 mW/g

Touch position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 17.6 V/m; Power Drift = 0.071 dB
Peak SAR (extrapolated) = 1.90 W/kg
SAR(1 g) = 0.876 mW/g; SAR(10 g) = 0.548 mW/g
Maximum value of SAR (measured) = 0.817 mW/g



0 dB = 0.817 mW/g

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Right Side	Cheek	1850.2 MHz

Communication System: PCS1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.41 mho/m; ε_r = 38.6; ρ = 1500 kg/m^3
Phantom section: Right Section

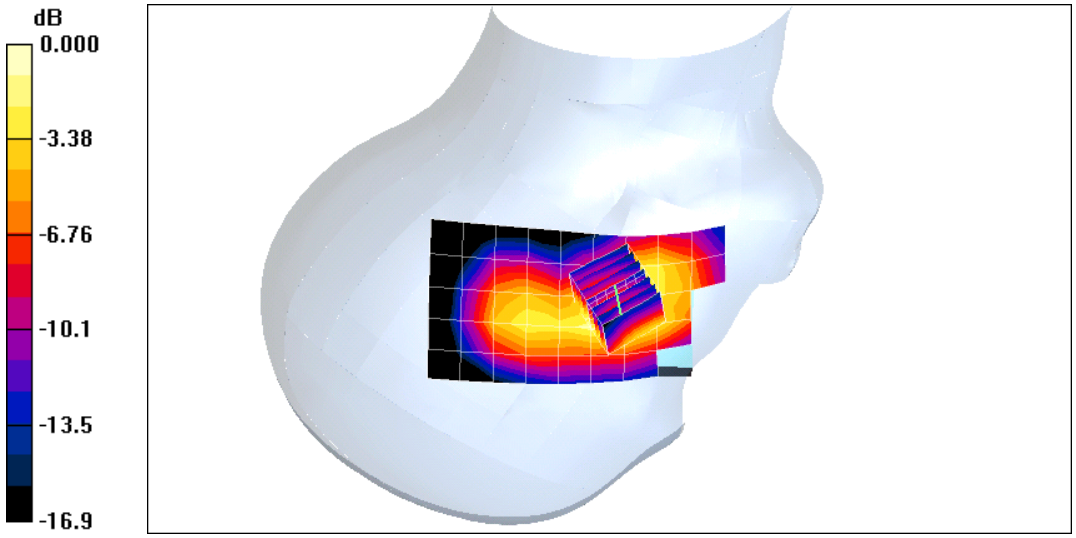
DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(5.438, 5.759, 5.595); Calibrated: 2/3/2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2/7/2012
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Touch position - Low/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.738 mW/g

Touch position - Low/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.2 V/m; Power Drift = -0.089 dB
Peak SAR (extrapolated) = 1.12 W/kg
SAR(1 g) = 0.805 mW/g; SAR(10 g) = 0.516 mW/g
Maximum value of SAR (measured) = 0.832 mW/g



0 dB = 0.832 mW/g

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Right Side	Cheek	1909.8 MHz

Communication System: PCS1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1910.2 MHz; σ = 1.46 mho/m; ε_r = 38.5; ρ = 1500 kg/m^3
Phantom section: Right Section

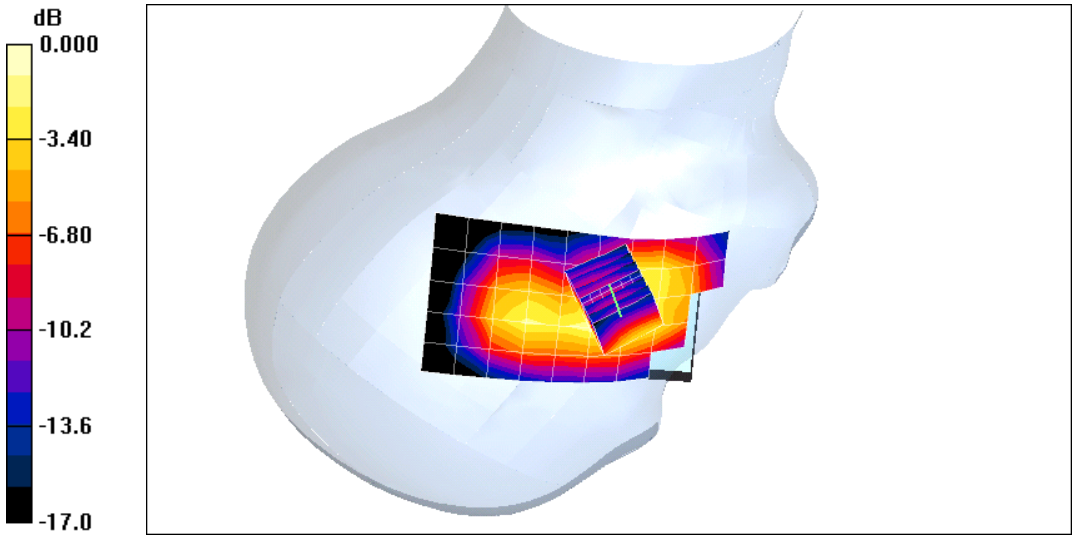
DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(5.438, 5.759, 5.595); Calibrated: 2/3/2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2/7/2012
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Touch position - High/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.706 mW/g

Touch position - High/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.3 V/m; Power Drift = -0.038 dB
Peak SAR (extrapolated) = 1.05 W/kg
SAR(1 g) = 0.755 mW/g; SAR(10 g) = 0.484 mW/g
Maximum value of SAR (measured) = 0.783 mW/g



0 dB = 0.783 mW/g

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Right Side	Tilt	**1880 MHz**

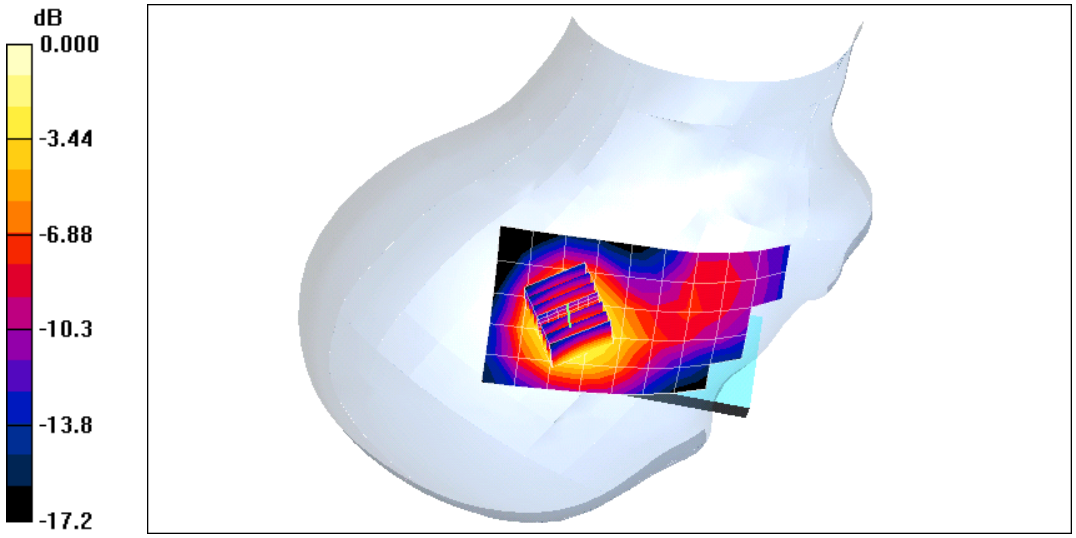
Communication System: PCS1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1880 MHz; σ = 1.44 mho/m; ε_r = 38.5; ρ = 1500 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(5.438, 5.759, 5.595); Calibrated: 2/3/2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2/7/2012
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position - Middle/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.376 mW/g

Tilt position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.1 V/m; Power Drift = 0.009 dB
Peak SAR (extrapolated) = 0.559 W/kg
SAR(1 g) = 0.392 mW/g; SAR(10 g) = 0.250 mW/g
Maximum value of SAR (measured) = 0.404 mW/g



0 dB = 0.404 mW/g

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FLAT	Towards ground	**1880 MHz**

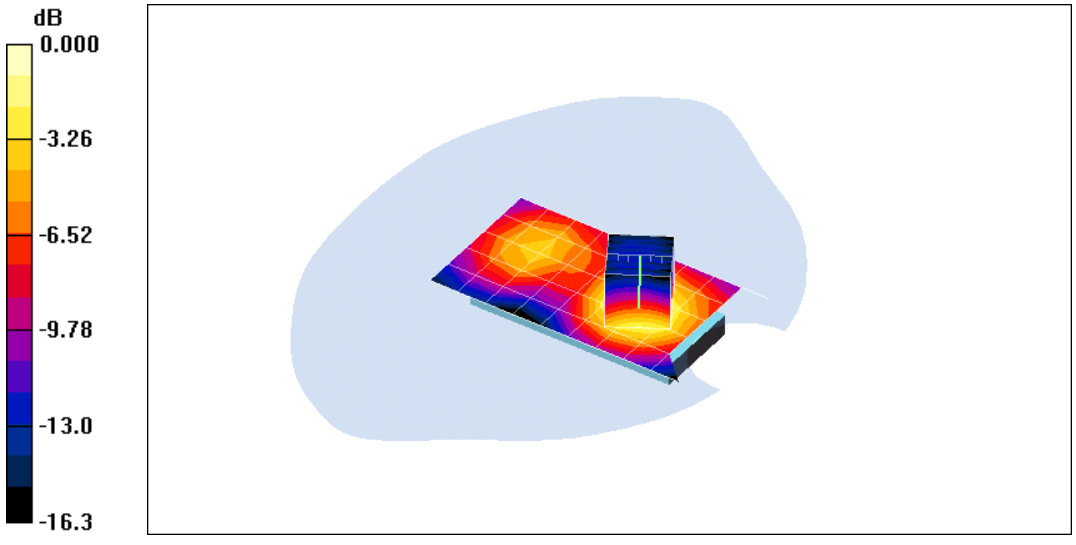
Communication System: PCS1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.57 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(5.271, 5.584, 5.501); Calibrated: 2/3/2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2/7/2012
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards ground- Middle/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.568 mW/g

Towards ground- Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.43 V/m; Power Drift = 0.093 dB
Peak SAR (extrapolated) = 0.895 W/kg
SAR(1 g) = 0.551 mW/g; SAR(10 g) = 0.317 mW/g
Maximum value of SAR (measured) = 0.606 mW/g



0 dB = 0.606 mW/g

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FLAT	Towards phantom	**1880 MHz**

Communication System: PCS1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.57 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

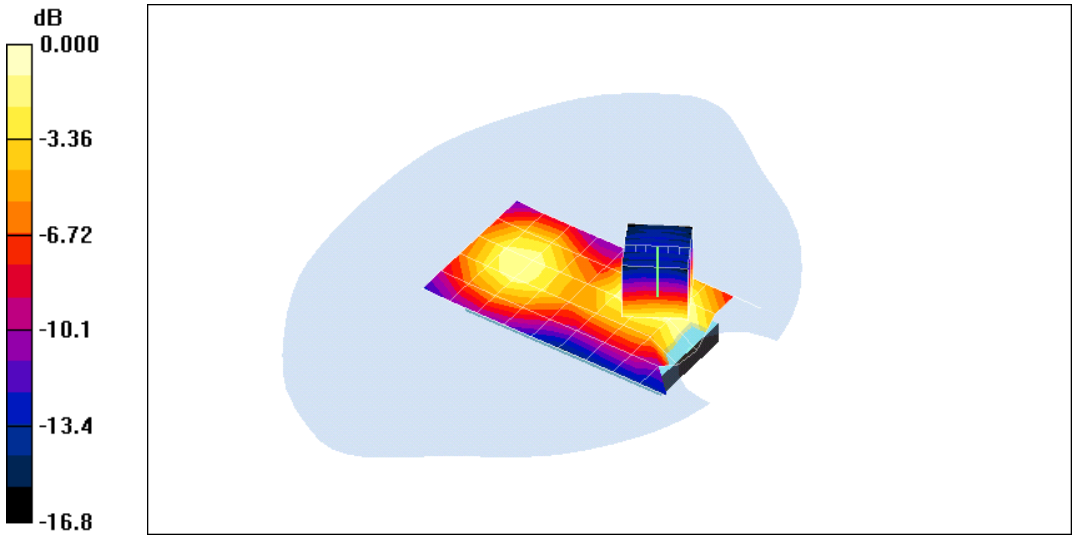
DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(5.271, 5.584, 5.501); Calibrated: 2/3/2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2/7/2012
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards phantom - Middle/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.413 mW/g

Towards phantom - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.0 V/m; Power Drift = 0.041 dB
Peak SAR (extrapolated) = 0.684 W/kg
SAR(1 g) = 0.410 mW/g; SAR(10 g) = 0.239 mW/g
Maximum value of SAR (measured) = 0.450 mW/g



0 dB = 0.450 mW/g

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GPRS (1900MHz/Body)

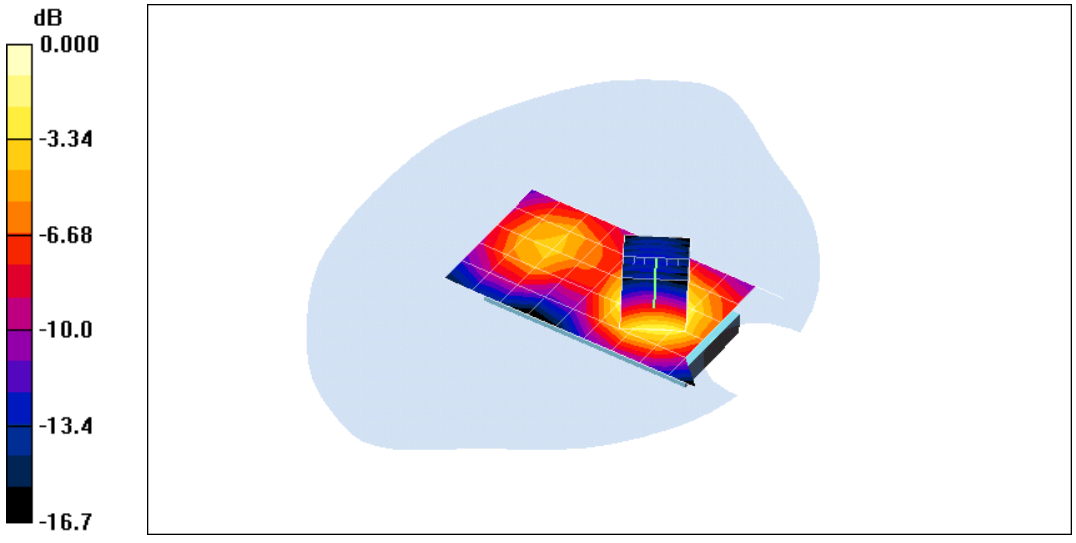
FLAT	Towards ground	**1880 MHz**

Communication System: PCS1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.57 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(5.271, 5.584, 5.501); Calibrated: 2/3/2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2/7/2012
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards ground - Middle GPRS/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.08 mW/g

Towards ground - Middle GPRS/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.6 V/m; Power Drift = 0.135 dB
Peak SAR (extrapolated) = 1.81 W/kg
SAR(1 g) = 1.06 mW/g; SAR(10 g) = 0.594 mW/g
Maximum value of SAR (measured) = 1.16 mW/g



0 dB = 1.16 mW/g

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FLAT	Towards ground	**1850.2 MHz**

Communication System: PCS1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.53 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3
Phantom section: Flat Section

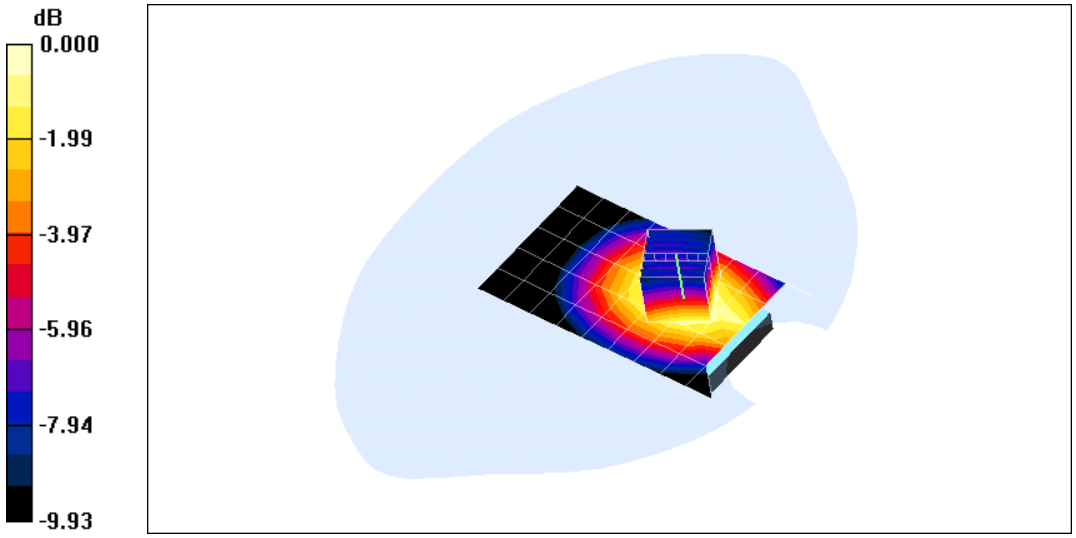
DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(5.271, 5.584, 5.501); Calibrated: 2/3/2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2/7/2012
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards ground - Low GPRS/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.17 mW/g

Towards ground - Low GPRS/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.7 V/m; Power Drift = 0.127 dB
Peak SAR (extrapolated) = 1.85 W/kg
SAR(1 g) = 1.12 mW/g; SAR(10 g) = 0.630 mW/g
Maximum value of SAR (measured) = 1.23 mW/g



0 dB = 0.630 mW/g

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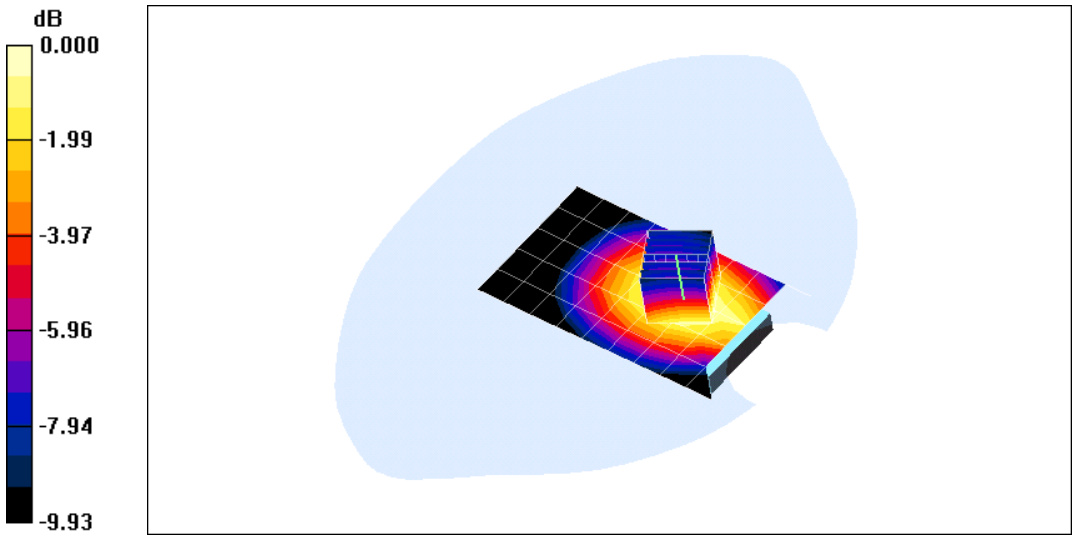
FLAT	Towards ground	**1909.8 MHz**

Communication System: PCS1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1910 MHz; σ = 1.6 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(5.271, 5.584, 5.501); Calibrated: 2/3/2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2/7/2012
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards ground - High GPRS/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 1.13 mW/g

Towards ground - High GPRS/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.1 V/m; Power Drift = -0.011 dB
Peak SAR (extrapolated) = 1.92 W/kg
SAR(1 g) = 1.12 mW/g; SAR(10 g) = 0.625 mW/g
Maximum value of SAR (measured) = 1.23 mW/g



0 dB = 1.23 mW/g

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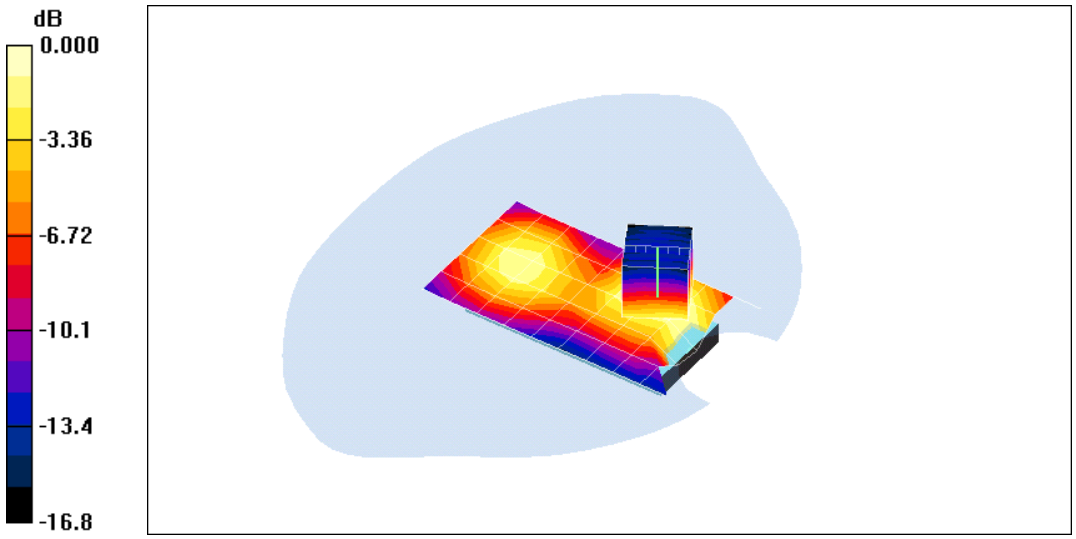
FLAT	Towards phantom	**1880 MHz**

Communication System: PCS1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.57 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(5.271, 5.584, 5.501); Calibrated: 2/3/2012
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 2/7/2012
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards phantom - Middle GPRS/Area Scan (6x10x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.815 mW/g

Towards phantom - Middle GPRS/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 17.9 V/m; Power Drift = -0.013 dB
Peak SAR (extrapolated) = 1.37 W/kg
SAR(1 g) = 0.796 mW/g; SAR(10 g) = 0.453 mW/g
Maximum value of SAR (measured) = 0.872 mW/g



0 dB = 0.872 mW/g

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