D-PL-12111-01-01

CNAS L0447

Registration No.910917

CONFORMANCE TEST REPORT FOR

HUMAN EXPOSURE TO ELECTROMAGNETIC FIELDS

Report No.: SRTC2011-H024-E0020

Product Name: GSM/GPRS/EDGE/WCDMA Digital Mobile Phone with Bluetooth

Marketing Name: one touch 900M

Product Model: yippee 3G_PTT

Applicant: TCT Mobile Limited

Manufacture: TCT Mobile Limited

Specification: FCC OET Bulletin 65 (Edition 97-01)
Supplement C (Edition 01-01)
47CFR 2.1093

FCC ID: RAD186

The State Radio_monitoring_center Testing Center (SRTC)

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Executive summary

Test report no.:	**SRTC2011-H024-E0020**
Product Model:	**yippee 3G_PTT**
Date of test:	**2011.03.24**
Date of report:	**2011.05.04**
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 **RSS-102** Evaluation Procedure for Mobile and Portable Radio Transmitters with Respect to Health Canada's Safety Code 6 for Exposure of Humans to Radio Frequency 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
GSM1900	512/1850.2	29.97	Left cheek	1.6	**1.16**	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: Ms. Liu Jia Test engineer	Issued date: **2011.05.09**

Tables of contents

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: +86-21-61460602
Email: zhizhou.gong@jrdcom.com

1.5 Test Details

Period of test	2011.03.24
Batteries used in testing	Li-Lon/CAB31L0002C1/BYD LITHIUM BATTERY CO., LTD
State of sample	production unit
Headsets used in testing	CCB3160A10C2/Lianyun Electronic Technology CO.,LTD.
	CCB3160A10C0/Shen Zhen Ju Wei Electronic Co.,LTD
H/W Version S/W Version	PIO3 sw532
IMEI	012722000000518
Device class/ Multislot class DTM	B/12 N/A
Notes	As the information described above, there are two different models of headset manufactured by two different companies. The relevant tests have been performed in order to verify when connected with which headset the EUT would have the worst features. So all the tests shown in this test report are performed when the EUT connected with the headset CCB3160A10C2.

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.

1.6.1 GSM

The multi-slot mode configuration level in GPRS and EDGE 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, the maximum averaged power was under 2 downlink and 3 uplink mode. Therefore, during GPRS and EDGE test will choose 2 downlink and 3 uplink mode as the basic test mode.

Head Configuration

Mode	CH/*f*(MHz)	Power (dBm)	Position	Sar Limit (1g avg) (mW/g)	Measured value (1g avg)(mW/g)	Result
GSM850	128/824.2	33.27	Left cheek	1.6	**0.747**	PASS
GSM1900	512/1850.2	29.97	Left cheek	1.6	**1.16**	PASS

Body Worn Configuration

Mode	CH/*f*(MHz)	Power (dBm)	Position	Sar Limit (1g avg) (mW/g)	Measured value (1g avg)(mW/g)	Result
GPRS850	251/848.8	33.26	Towards ground	1.6	**0.724**	PASS
GPRS1900	512/1850.2	29.95	Towards ground	1.6	**0.473**	PASS

1.6.2 WCDMA

The default test configuration is to measure SAR with an established radio link between the DUT and a communication test set using a 12.2 kbps RMC (reference measurement channel) configured in Test Loop Mode 1. The dedicated channel will be set with RMC type, and the transmit power control in ALL UP BITS.

Head Configuration

Mode	CH/*f*(MHz)	Power (dBm)	Position	Sar Limit (1g avg) (mW/g)	Measured value (1g avg)(mW/g)	Result
WCDMA B5	4233/846.6	22.63	Left cheek	1.6	**1.05**	PASS

Body Worn Configuration

Mode	CH/*f*(MHz)	Power (dBm)	Position	Sar Limit (1g avg) (mW/g)	Measured value (1g avg)(mW/g)	Result
WCDMA B5	4132/826.4	23.17	Towards ground	1.6	**0.866**	PASS

2. DESCRIPTION OF THE DEVICE UNDER TEST

Device category	production unit
Exposure enviroment	General population/uncontrolled

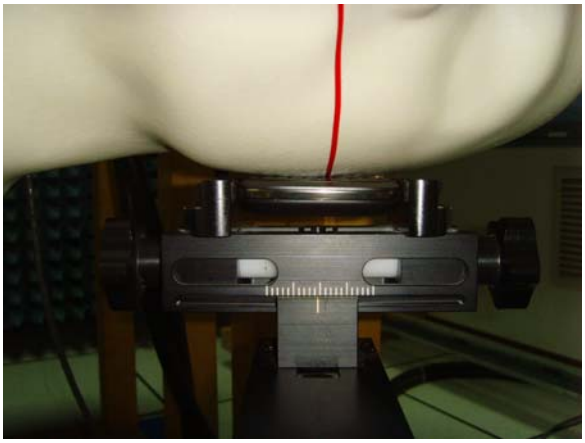
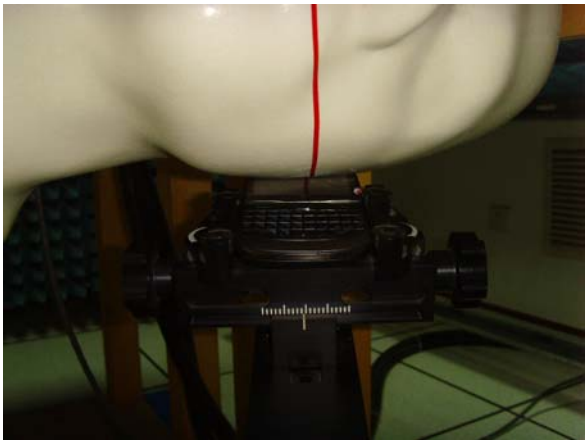
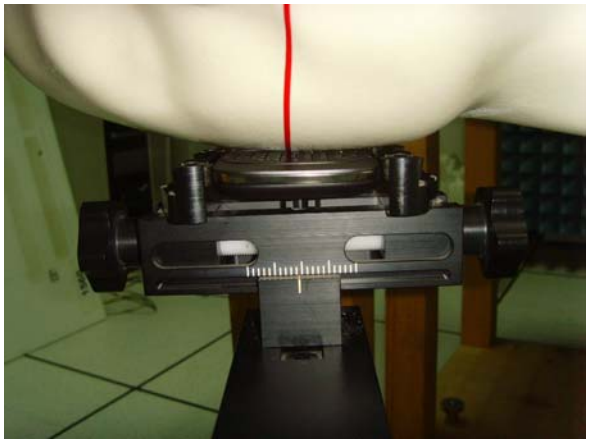
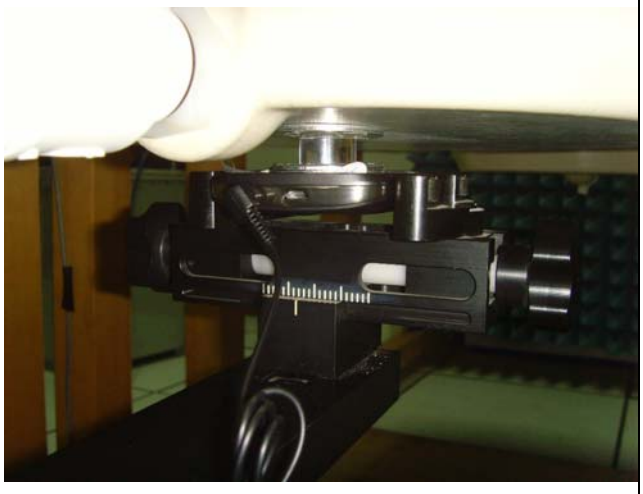
Modes and Bands of operation	GSM 850	GSM 1900	GPRS	EGPRS	WCDMA B5
Modulation Mode	GMSK	GMSK	GMSK	GMSK	QPSK
Duty Cycle	1/8	1/8	1/4	1/2	1/1
Transmitter Frequency Range(MHz)	824-849	1850-1910	824-849 1850-1910	824-849 1850-1910	824-849

2.1 Description of the Antenna

The device has an internal antenna.

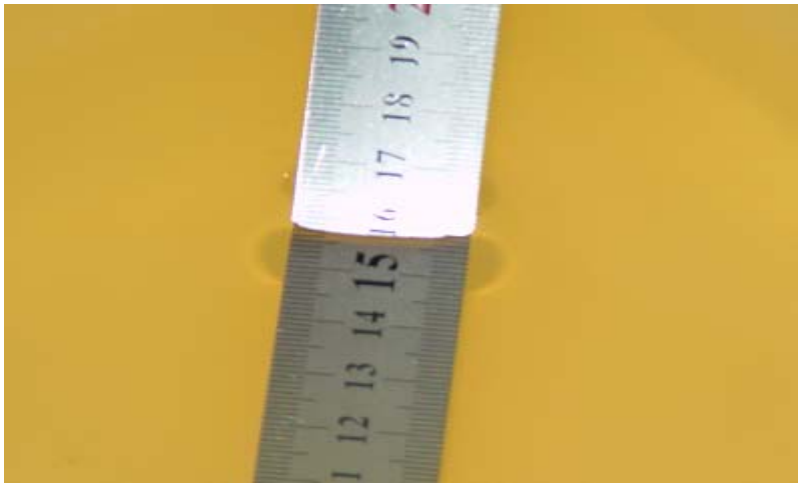
2.2 Picture of the EUT

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)	**15mm spacer**

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.

3.3 SAR Measurement Set-up

The system is based on a high precision robot (working range greater than 0.9m), which positions the probes with a positional repeatability of better than ± 0.02mm. Special E- and H-field probes have been developed for measurements close to material discontinuity, the sensors of which are directly loaded with a Schottky diode and connected via highly resistive lines (length =300mm) to the data acquisition unit. A cell controller system contains the power supply, robot controller, teaches pendant (Joystick),and remote control, is used to drive the robot motors.
The PC consists of the Micron Pentium IV computer with Windows 2000 system and SAR Measurement Software DASY4 Professional, A/D interface card, monitor, mouse, and keyboard. The Stäubli Robot is connected
to the cell controller to allow software manipulation of the robot.
A data acquisition electronic (DAE) circuit performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. is connected to the Electro-optical coupler
(EOC). The EOC performs the conversion from the optical into digital electric signal of the DAEand transfers data to the PC plug-in card.The DAE consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the PC-card is accomplished through an optical downlink for data and status information and an optical uplink for commands and clock lines.
The mechanical probe mounting device includes two different sensor systems for frontal and sidewise probe contacts. They are also used for mechanical surface detection and probe collision detection
The robot uses its own controller with a built in VME-bus computer.

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.

The following table lists calibration dates of SPEAG components:

Test Equipment	Serial Number	Calibration interval	Calibration expiry
DAE4	720	1year	2012.01.19
Dosimetric E-field Probe ES3DV3	3128	1year	2011.06.22
Dipole Validation Kit, D900V2	171	2 years	2012.06.11
Dipole Validation Kit, D1800V2	2d084	2 years	2012.06.11
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	2011.08.20
Amplifier	5S1G4	0323472	N/A	N/A
Power meter	E4417A	MY45101182	1year	2011.08.20
Power Sensor	E4412A	MY41502214	1year	2011.08.20
Power Sensor	E4412A	MY41502130	1year	2011.08.20
Call Tester	8960	GB43194054	1year	2011.08.20
Network Analyzer	8714ET	US40372083	1year	2011.08.20
Dielectric Probe Kit	85070D	US33030365	N/A	N/A

Detailed information of 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

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):

835MHz band

Ingredient	Head (% by weight)	Body (% by weight)
Water	41.45	52.50
Sugar	56.00	45.0
Nacl	1.45	1.40
Cellulose	1.0	1.0
Preventol	0.1	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 2011.3.22

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	10.9	41.5	0.98	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	38.8	39.4	1.35	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 2011.3.22

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

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	54.6	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 "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. And the distance is 1.5cm.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 and the approximate location of the local peak SAR values. The SAR distribution is scanned along the inside surface, at least for an area larger than the projection of the handset and antenna. The angle between the probe axis and the surface normal line is recommended but not required to be less than 30°. The SAR distribution is first measured on a 2-D coarse grid. The scan region should cover all areas that are exposed and encompassed by the projection of the handset. It is a 15 mm × 15 mm measurement grid used when two staggered one-dimensional cubic splines are used to estimate the maximum SAR location. Next, a zoom scan, a minimum of 7x7x7 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.

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

7. 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/body 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_H	0.694
Left hand, Touch cheek, f_M	0.708
Left hand, Touch cheek, f_L	**0.747**
Left hand, Tilt 15 Degree, f_H	0.429
Left hand, Tilt 15 Degree, f_M	0.517
Left hand, Tilt 15 Degree, f_L	0.537
Right hand, Touch cheek, f_H	0.641
Right hand, Touch cheek, f_M	0.622
Right hand, Touch cheek, f_L	0.648
Right hand, Tilt 15 Degree, f_H	0.382
Right hand, Tilt 15 Degree, f_M	0.396
Right hand, Tilt 15 Degree, f_L	0.414

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	**0.747**	---	---

Mode: GSM850 (GSM/GPRS/EDGE)

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)**
	1 g Average
Towards ground/GSM, with headset 15mm spacer f_H	0.528
Towards ground/GSM, with headset 15mm spacer f_M	0.484
Towards ground/GSM, with headset 15mm spacer f_L	0.466
Towards phantom/GSM, with headset 15mm spacer f_M	0.378
Towards ground/GPRS, 15mm spacer f_H	**0.724**
Towards ground/GPRS, 15mm spacer f_M	0.657
Towards ground/GPRS, 15mm spacer f_L	0.649
Towards phantom/GPRS, 15mm spacer f_M	0.579
Towards ground/EGPRS, 15mm spacer f_H	0.511
Towards ground/EGPRS, 15mm spacer f_M	0.479
Towards ground/EGPRS, 15mm spacer f_L	0.471
Towards phantom/EGPRS, 15mm spacer f_M	0.378

During the body testing GPRS/EDGE work at the “2Downlink3uplink”,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	---	---	**0.724**

Mode: GSM1900

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

SAR Values（Head，1900MHz Band）

Limit of SAR (W/kg)	**1 g Average**
	1.6
Test Case	**Measurement Result (mW/g)**
	1g Average
Left hand, Touch cheek, f_H	0.944
Left hand, Touch cheek, f_M	1.03
Left hand, Touch cheek, f_L	**1.16**
Left hand, Tilt 15 Degree, f_H	0.298
Left hand, Tilt 15 Degree, f_M	0.339
Left hand, Tilt 15 Degree, f_L	0.355
Right hand, Touch cheek, f_H	0.53
Right hand, Touch cheek, f_M	0.61
Right hand, Touch cheek, f_L	0.663
Right hand, Tilt 15 Degree, f_H	0.203
Right hand, Tilt 15 Degree, f_M	0.229
Right hand, Tilt 15 Degree, f_L	0.27

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	**1.16**	---	---

Mode: GSM1900 (GSM/GPRS/EDGE)

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)**
	1 g Average
Towards ground/GSM, with headset 15mm spacer f_H	0.324
Towards ground/GSM, with headset 15mm spacer f_M	0.368
Towards ground/GSM, with headset 15mm spacer f_L	0.415
Towards phantom/GSM, with headset 15mm spacer f_M	0.325
Towards ground/GPRS, 15mm spacer f_H	0.418
Towards ground/GPRS, 15mm spacer f_M	0.387
Towards ground/GPRS, 15mm spacer f_L	**0.473**
Towards phantom/GPRS, 15mm spacer f_M	0.361
Towards ground/EGPRS, 15mm spacer f_H	0.368
Towards ground/EGPRS, 15mm spacer f_M	0.405
Towards ground/EGPRS, 15mm spacer f_L	0.45
Towards phantom/EGPRS, 15mm spacer f_M	0.366

During the body testing GPRS/EDGE work at the “2Downlink3uplink”,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	**0.473**	---	---

Mode: WCDMA B5

f_L(MHz)=826.4MHz f_M(MHz)=836.4MHz f_H(MHz)= 846.6MHz

SAR Values（Head，WCDMA B5）

Limit of SAR (W/kg)	1 g Average 1.6
Test Case	**Measurement Result (mW/g)** **1 g Average**
Left hand, Touch cheek, f_H	**1.05**
Left hand, Touch cheek, fM	1.01
Left hand, Touch cheek, f_L	1.02
Left hand, Tilt 15 Degree, f_H	0.561
Left hand, Tilt 15 Degree, f_M	0.501
Left hand, Tilt 15 Degree, f_L	0.522
Right hand, Touch cheek, f_H	0.928
Right hand, Touch cheek, f_M	0.864
Right hand, Touch cheek, f_L	0.922
Right hand, Tilt 15 Degree, f_H	0.559
Right hand, Tilt 15 Degree, f_M	0.607
Right hand, Tilt 15 Degree, f_L	0.559

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	---	---	**1.05**

Mode: WCDMA B5

f_L(MHz)=826.4MHz f_M(MHz)=836.4MHz f_H(MHz)= 846.6MHz

SAR Values（body，WCDMA B5）

Limit of SAR (W/kg)	**1 g Average**
	1.6
Test Case	**Measurement Result (mW/g)**
	1 g Average
Towards ground, 15mm spacer with headset, f_H	0.757
Towards ground, 15mm spacer with headset, f_M	0.741
Towards ground, 15mm spacer with headset, f_L	**0.866**
Towards phantom,15mm spacer with headset, f_M	0.579

So, the maximum SAR is

Phantom Configuration	Device Test Position	SAR(mW/g)		
		f_L(MHz)	f_M(MHz)	f_H(MHz)
Towards ground	with headset 15mm spacer	**0.866**	---	---

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)	33.27	33.27	33.26	29.97	30.08	30.09

GPRS/EDGE Measured Power

Mode	GPRS850			GPRS1900		
	EDGE850			EDGE1900		
Channel	128	189	251	512	661	810
Frequency(MHz)	824.2	836.4	848.8	1850.2	1880.0	1909.8
4Downlink1uplink Power(dBm)	33.28	33.27	33.26	29.95	30.07	30.11
	27.41	27.47	27.48	26.07	26.24	26.34
3Downlink2uplink Power(dBm)	31.27	31.28	31.28	27.53	27.70	27.80
	27.38	27.44	27.45	26.06	26.23	26.32
2Downlink3uplink Power(dBm)	30.36	30.37	30.38	26.82	26.97	27.10
	27.35	27.41	27.41	26.01	26.20	26.30
1Downlink4uplink Power(dBm)	27.93	27.95	27.97	24.53	24.72	24.85
	27.34	27.38	27.39	24.51	25.04	24.78

GPRS/EDGE Averaged Power

Mode	GPRS850 / EDGE850			GPRS1900 / EDGE1900		
Channel	128	189	251	512	661	810
Frequency(MHz)	824.2	836.4	848.8	1850.2	1880.0	1909.8
4Downlink1uplink Power(dBm)	24.25	24.24	24.23	20.92	21.04	21.08
	18.38	18.44	18.45	15.04	15.21	15.31
3Downlink2uplink Power(dBm)	25.25	25.26	25.26	21.51	21.68	21.78
	21.36	21.42	21.43	20.04	20.21	20.30
2Downlink3uplink Power(dBm)	26.10	26.11	26.12	22.56	22.71	22.84
	21.84	23.15	23.15	21.75	21.94	22.04
1Downlink4uplink Power(dBm)	24.92	24.94	24.96	21.52	21.71	21.84
	24.33	24.37	24.38	21.50	22.03	21.77

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 3 Txslots(2Downlink3uplink) for GPRS and EGPRS.

Duty cycle: 1（100%）

Mode	**WCDMA B5** (12.2 kbps RMC)		
Channel	4132	4183	4233
Frequency(MHz)	826.4	836.5	846.6
Measured Power(dBm)	23.17	23.57	22.63

7.3 Summary of Measurement Results (Bluetooth)

The distance between BT antenna and GSM antenna is ＞5cm. The location of the antennas inside mobile phone is shown below:

The output power of BT antenna is as following:

Channel	The output power
2402MHz	9.57dBm
2441MHz	8.92dBm
2480MHz	8.57dBm

According to the output power measurement result and the distance between the two antennas,we can draw the conclusion that: stand-alone SAR and simultaneous transmission SAR are not required for BT transmitter, because the output power of BT transmitter is $\leqslant 2P_{Ref}$ and its antenna is $>$5cm from other antenna.

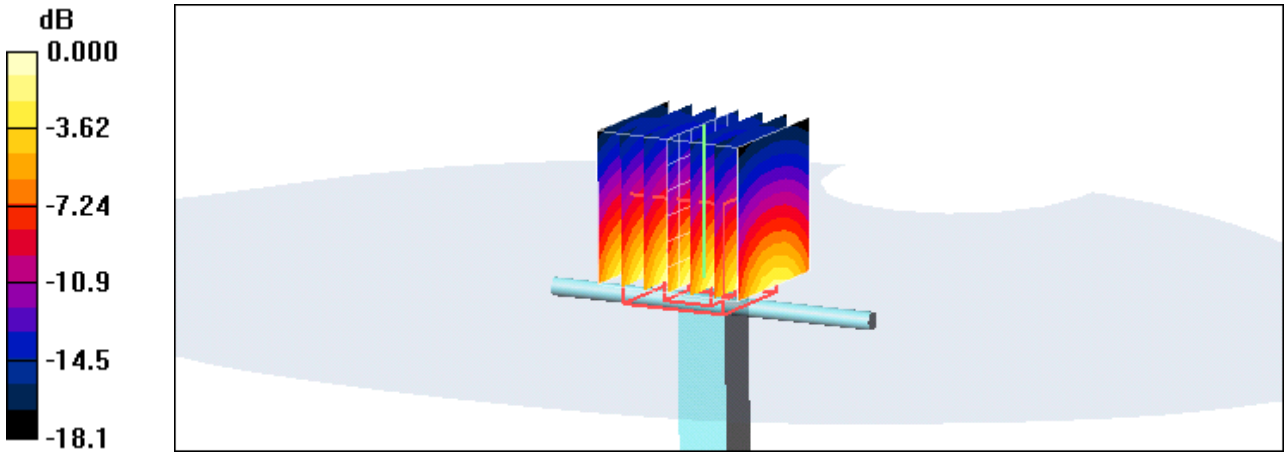
APPENDIX A: SYSTEM CHECKING SCANS

SYSTEM CHECKING SCANS	900MHz

DUT: Dipole 900 MHz; Type: D900V2; Serial: D900V2 - SN:171
Medium parameters used (interpolated): f = 900 MHz; σ = 0.95 mho/m; ε_r = 40.7; ρ = 1000 kg/m^3

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(9.03, 9.53, 9.2); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 - SN720; Calibrated: 1/19/2011
- 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 = 56.3V/m; Power Drift = -0.047 dB
Peak SAR (extrapolated) = 4.08 W/kg
SAR(1 g) = 2.72 mW/g; SAR(10 g) = 1.62 mW/g
Maximum value of SAR (measured) = 2.9 mW/g



0 dB =2.9 mW/g

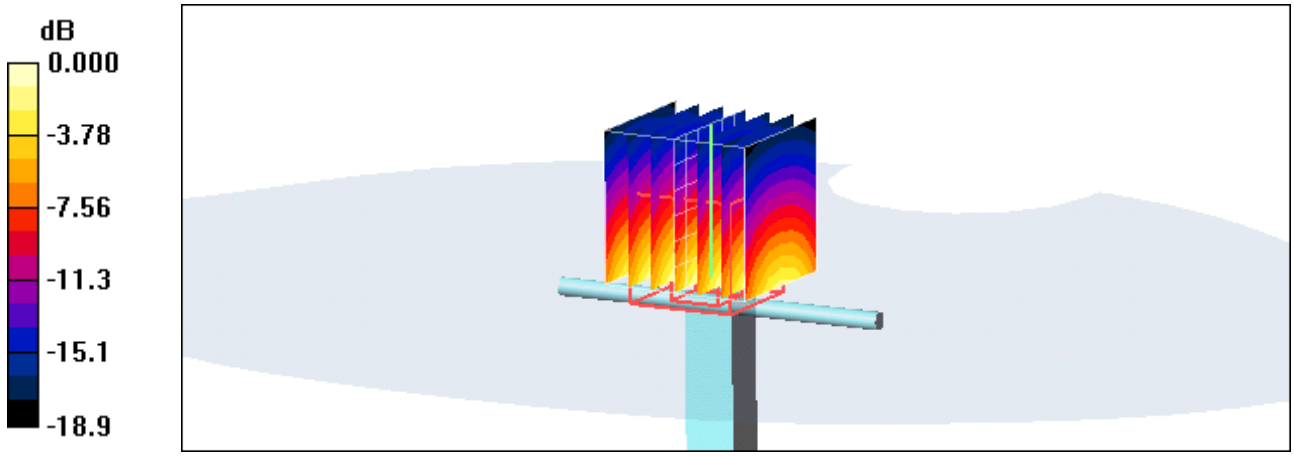
SYSTEM CHECKING SCANS	1800 MHz

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 = 1.35 mho/m; εr = 39.4; ρ = 1000 kg/m3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(6.15, 6.5, 6.27); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- 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 = 90.1 V/m; Power Drift = 0.030 dB
Peak SAR (extrapolated) = 17.9 W/kg
SAR(1 g) = 9.71 mW/g; SAR(10 g) = 5.08 mW/g
Maximum value of SAR (measured) = 10.9 mW/g



0 dB =10.9 mW/g

APPENDIX B: MEASUREMENT SCANS

GSM (850MHz/Head)

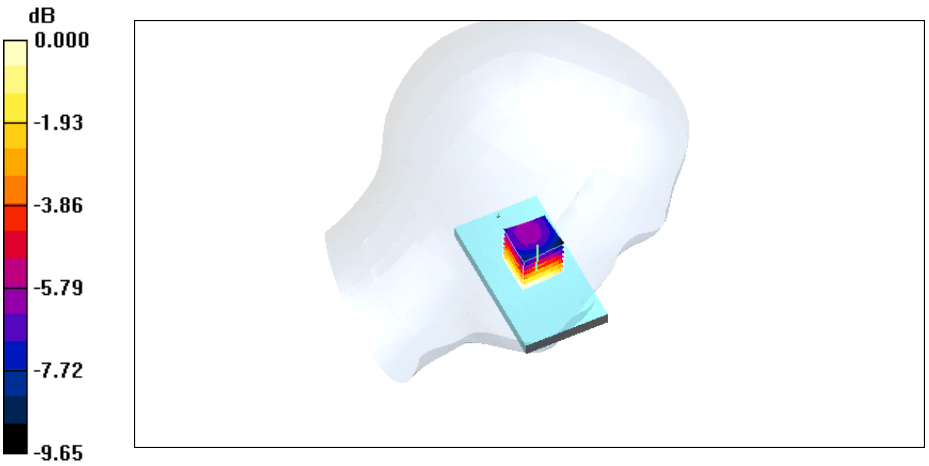
Left Side	Cheek	**824.2 MHz**

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.887 mho/m; ε_r = 41.8; ρ = 1000 kg/m^3
Phantom section: Left Section

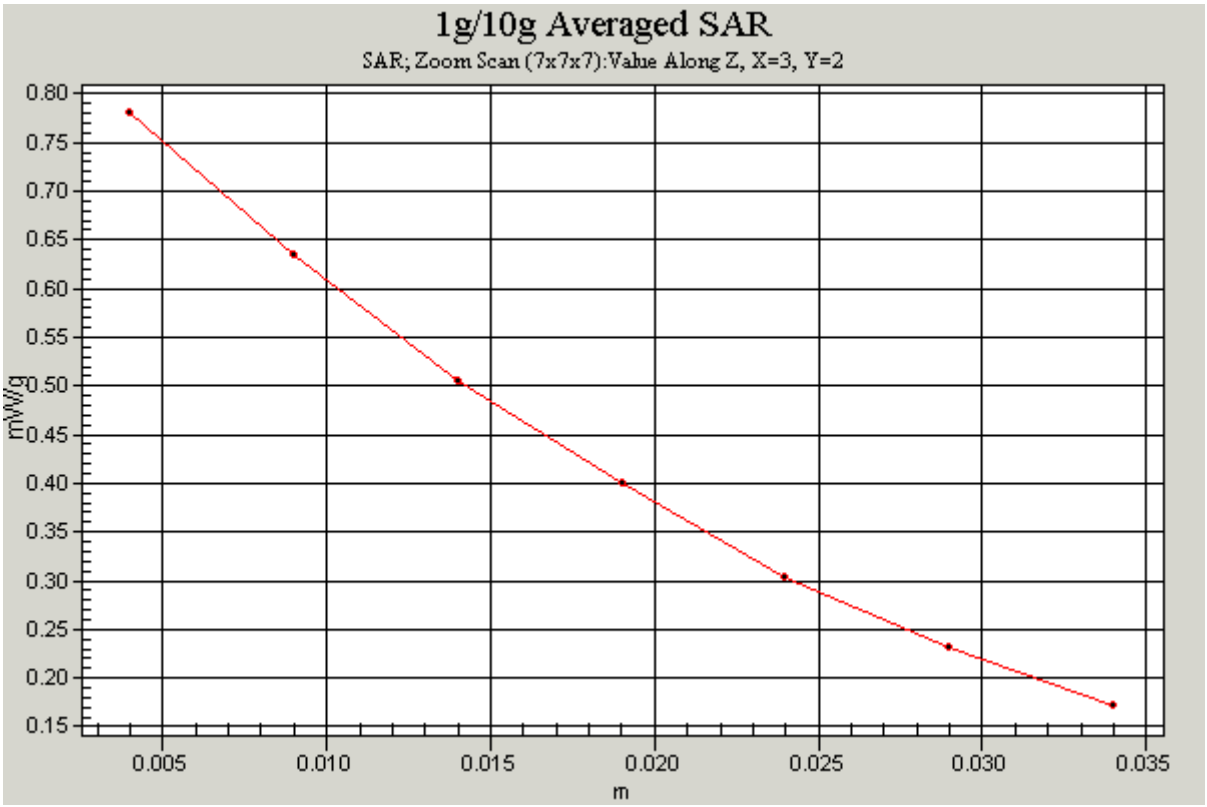
DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.88, 8.3, 8.05); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.5 V/m; Power Drift = -0.009 dB
Peak SAR (extrapolated) = 0.929 W/kg
SAR(1 g) = 0.747 mW/g; SAR(10 g) = 0.574 mW/g
Maximum value of SAR (measured) = 0.780 mW/g



0 dB =0.780mW/g



Z-Scan at power reference point (850 MHz CH512)

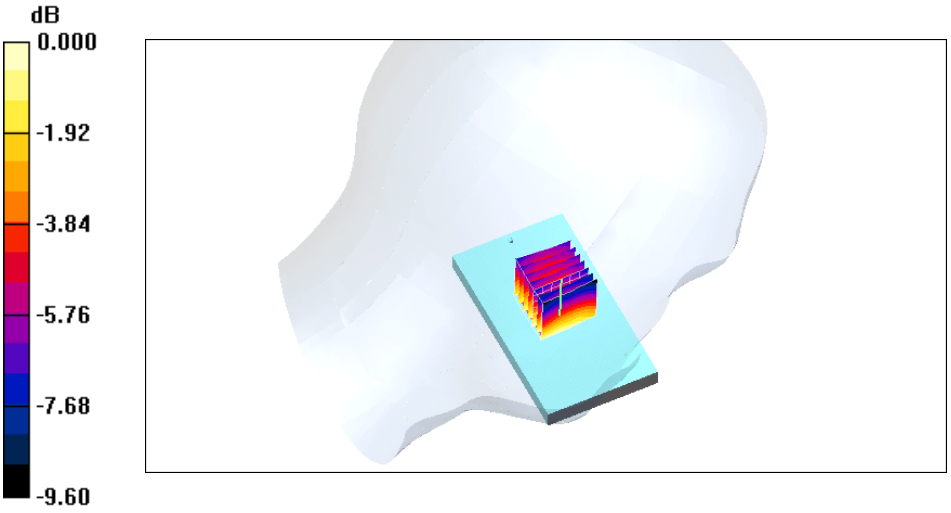
Left Side	Cheek	**836.4 MHz**

Communication System: GSM 850; Frequency: 836.4 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.897 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.88, 8.3, 8.05); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.1 V/m; Power Drift = 0.065 dB
Peak SAR (extrapolated) = 0.884 W/kg
SAR(1 g) = 0.708 mW/g; SAR(10 g) = 0.543 mW/g
Maximum value of SAR (measured) = 0.742 mW/g



0 dB =0.742mW/g

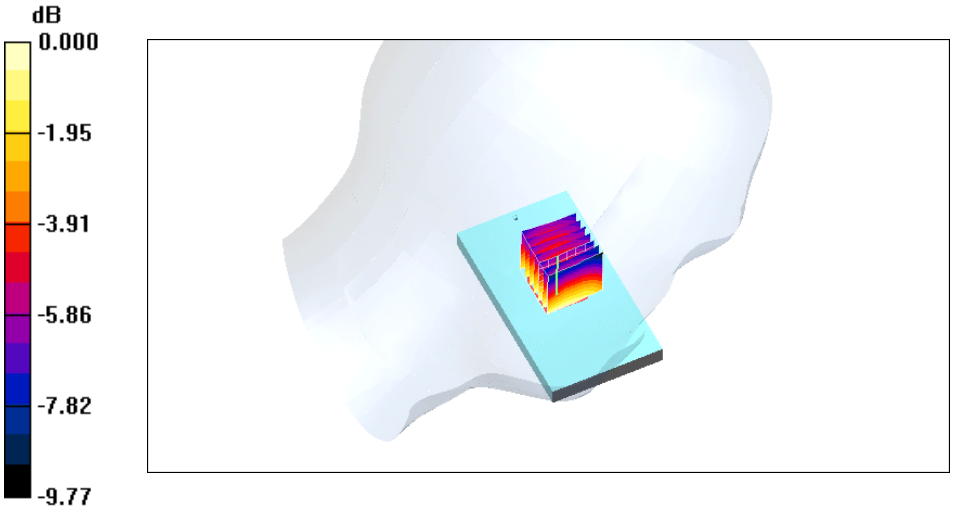
Left Side	Cheek	**848.8 MHz**

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.907 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.88, 8.3, 8.05); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

touch position-high/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.2 V/m; Power Drift = -0.018 dB
Peak SAR (extrapolated) = 0.858 W/kg
SAR(1 g) = 0.694 mW/g; SAR(10 g) = 0.532 mW/g
Maximum value of SAR (measured) = 0.729 mW/g



0 dB =0.729mW/g

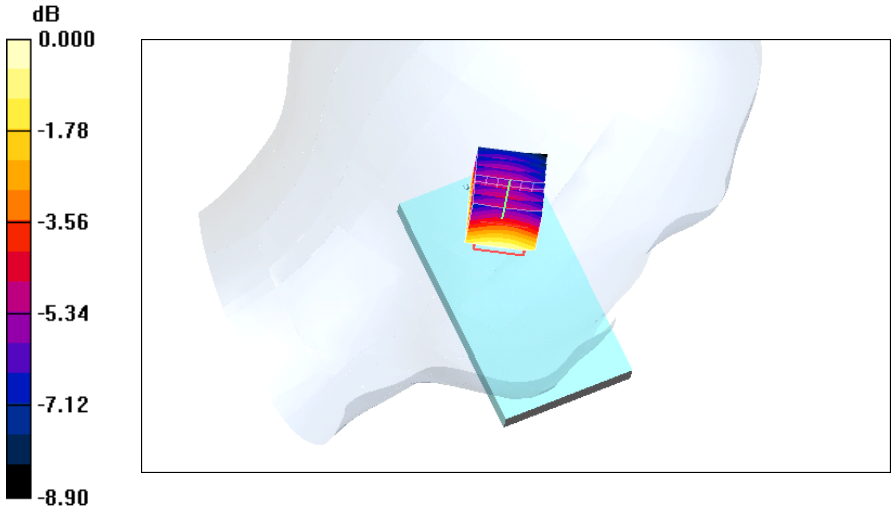
Left Side	Tilt	**824.2 MHz**

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.887 mho/m; ε_r = 41.8; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.88, 8.3, 8.05); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.2 V/m; Power Drift = -0.035 dB
Peak SAR (extrapolated) = 0.660 W/kg
SAR(1 g) = 0.537 mW/g; SAR(10 g) = 0.406 mW/g
Maximum value of SAR (measured) = 0.563 mW/g



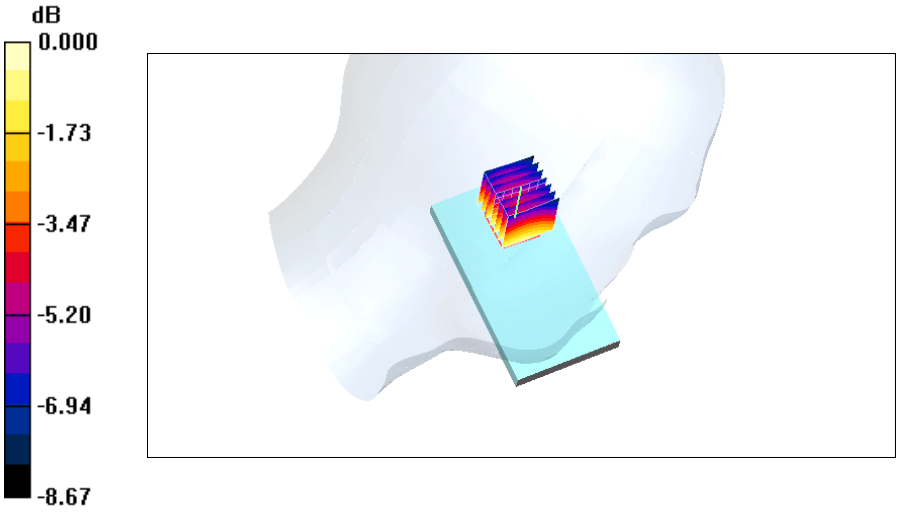
0 dB =0.563mW/g

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 = 0.897 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.88, 8.3, 8.05); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position - Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.9 V/m; Power Drift = -0.048 dB
Peak SAR (extrapolated) = 0.639 W/kg
SAR(1 g) = 0.517 mW/g; SAR(10 g) = 0.391 mW/g
Maximum value of SAR (measured) = 0.543 mW/g



0 dB =0.543mW/g

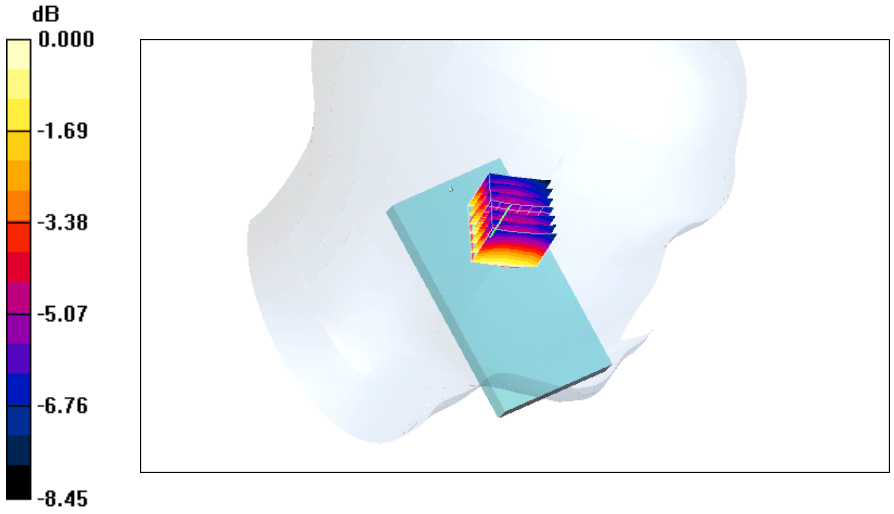
Left Side	Tilt	**848.8 MHz**

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.907 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.88, 8.3, 8.05); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

tilt position/Zoom Scan (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.0 V/m; Power Drift = -0.035 dB
Peak SAR (extrapolated) = 0.529 W/kg
SAR(1 g) = 0.429 mW/g; SAR(10 g) = 0.326 mW/g
Maximum value of SAR (measured) = 0.449 mW/g



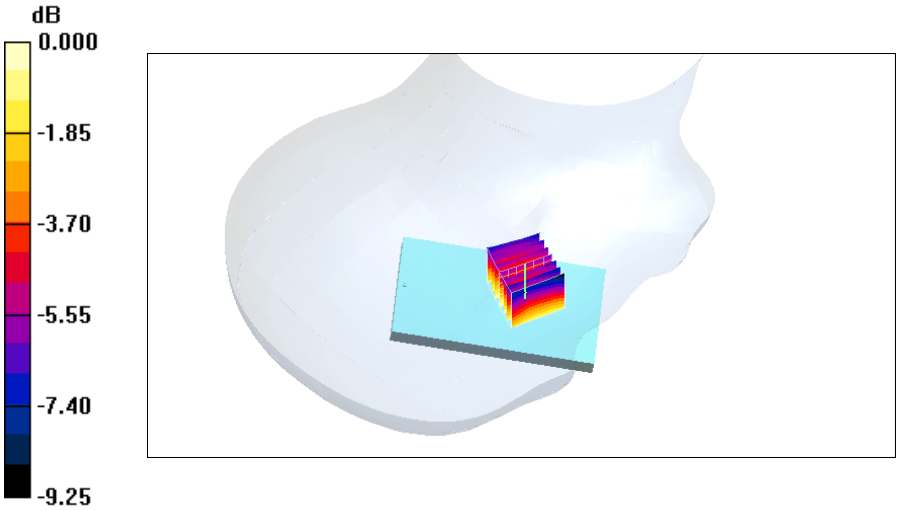
0 dB =0.449mW/g

Right Side	Cheek	**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 = 0.887 mho/m; ε_r = 41.8; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.88, 8.3, 8.05); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

touch low/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.24 V/m; Power Drift = -0.020 dB
Peak SAR (extrapolated) = 0.777 W/kg
SAR(1 g) = 0.648 mW/g; SAR(10 g) = 0.496 mW/g
Maximum value of SAR (measured) = 0.676 mW/g



0 dB =0.676mW/g

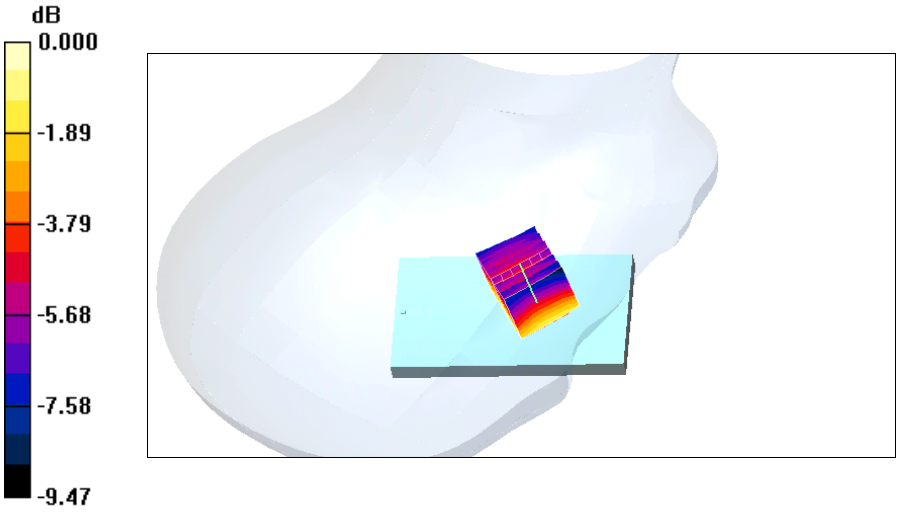
Right Side	Cheek	**836.4 MHz**

Communication System: GSM 850; Frequency: 836.4 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.897 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.88, 8.3, 8.05); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.91 V/m; Power Drift = 0.027 dB
Peak SAR (extrapolated) = 0.757 W/kg
SAR(1 g) = 0.622 mW/g; SAR(10 g) = 0.474 mW/g
Maximum value of SAR (measured) = 0.656 mW/g



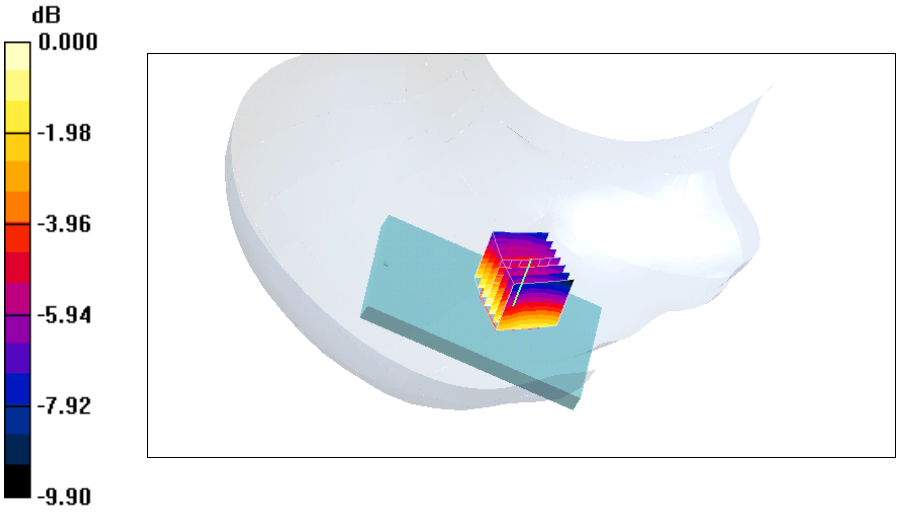
0 dB =0.656 mW/g

Right Side	Cheek	**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 = 0.907 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.88, 8.3, 8.05); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

touch high/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.34 V/m; Power Drift = 0.131 dB
Peak SAR (extrapolated) = 0.767 W/kg
SAR(1 g) = 0.641 mW/g; SAR(10 g) = 0.487 mW/g
Maximum value of SAR (measured) = 0.678 mW/g



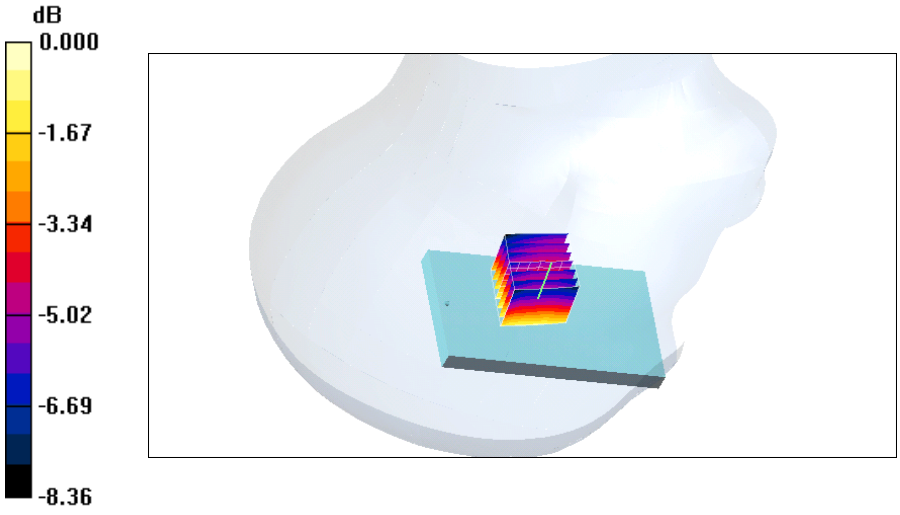
0 dB =0.678mW/g

Right Side	Tilt	**824.2MHz**

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.887 mho/m; ε_r = 41.8; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.88, 8.3, 8.05); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position-low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.6 V/m; Power Drift = 0.044 dB
Peak SAR (extrapolated) = 0.507 W/kg
SAR(1 g) = 0.414 mW/g; SAR(10 g) = 0.318 mW/g
Maximum value of SAR (measured) = 0.434 mW/g



0 dB =0.434mW/g

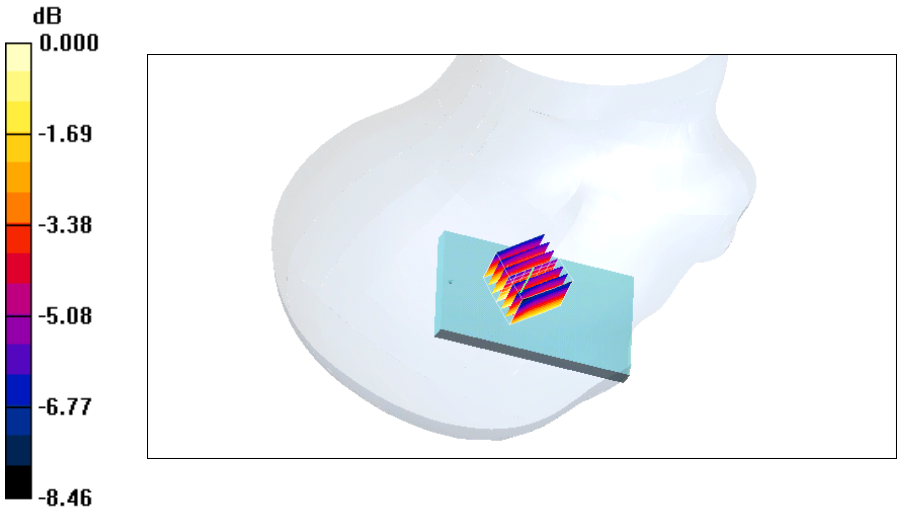
Right Side	Tilt	**836.4MHz**

Communication System: GSM 850; Frequency: 836.4 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.897 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.88, 8.3, 8.05); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.2 V/m; Power Drift = 0.004 dB
Peak SAR (extrapolated) = 0.490 W/kg
SAR(1 g) = 0.396 mW/g; SAR(10 g) = 0.302 mW/g
Maximum value of SAR (measured) = 0.419 mW/g



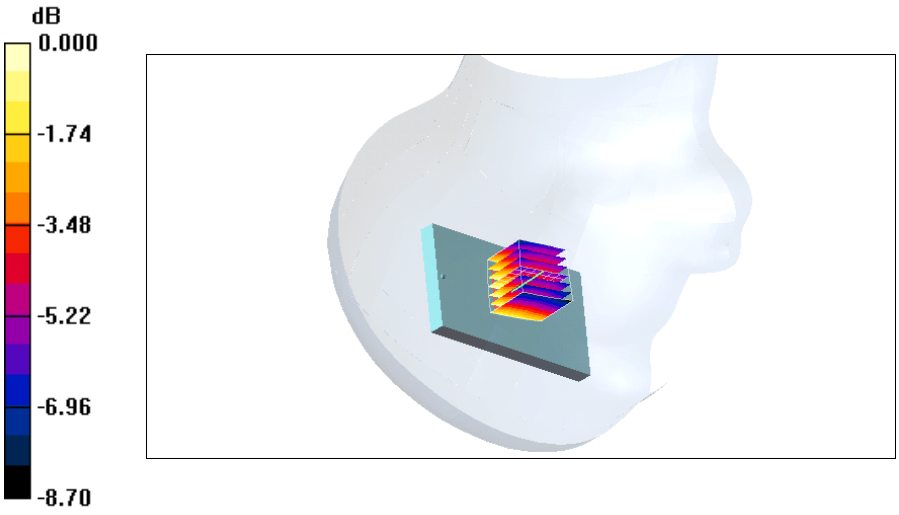
0 dB =0.419 mW/g

Right Side	Tilt	**848.8MHz**

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.907 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.88, 8.3, 8.05); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

tilt position-high/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.0 V/m; Power Drift = 0.048 dB
Peak SAR (extrapolated) = 0.471 W/kg
SAR(1 g) = 0.382 mW/g; SAR(10 g) = 0.290 mW/g
Maximum value of SAR (measured) = 0.402 mW/g



0 dB =0.402 mW/g

GSM with headset (850MHz/Flat)

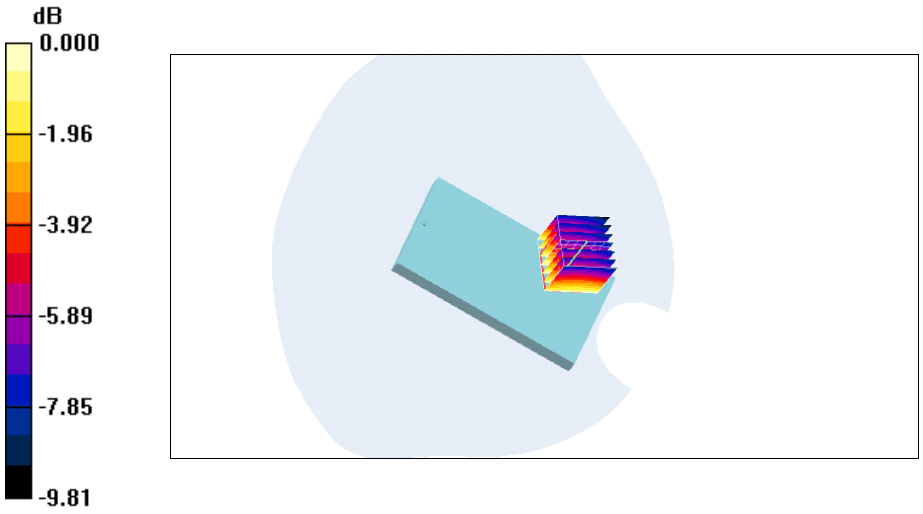
FLAT	Towards ground	**836.4 MHz**

Communication System: GSM 850; Frequency: 836.4 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.99 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(6.78, 7.02, 6.8); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.7 V/m; Power Drift = 0.003 dB
Peak SAR (extrapolated) = 0.634 W/kg
SAR(1 g) = 0.484 mW/g; SAR(10 g) = 0.351 mW/g.
Maximum value of SAR (measured) = 0.511 mW/g



0 dB =0.511mW/g

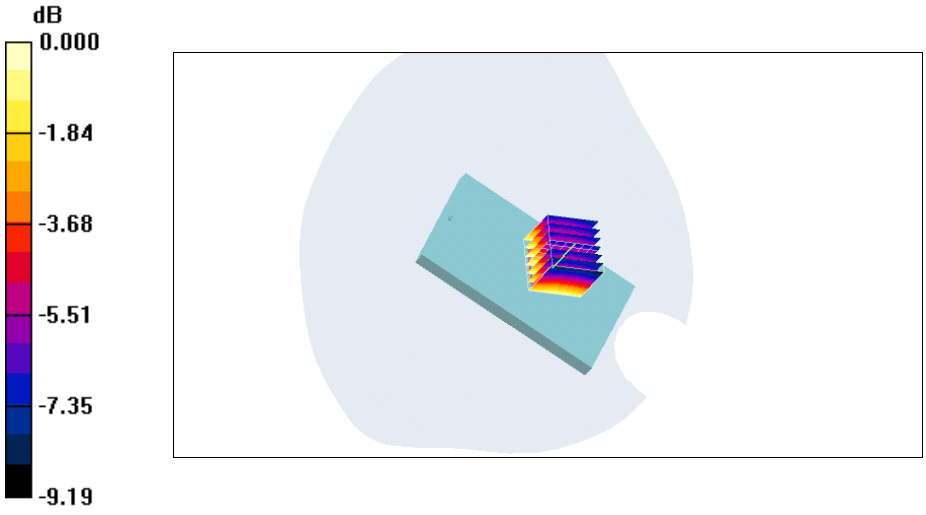
FLAT	Towards phantom	**836.4 MHz**

Communication System: GSM 850; Frequency: 836.4 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.99 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(6.78, 7.02, 6.8); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.8 V/m; Power Drift = -0.027 dB
Peak SAR (extrapolated) = 0.488 W/kg
SAR(1 g) = 0.378 mW/g; SAR(10 g) = 0.278 mW/g
Maximum value of SAR (measured) = 0.398 mW/g



0 dB =0.398mW/g

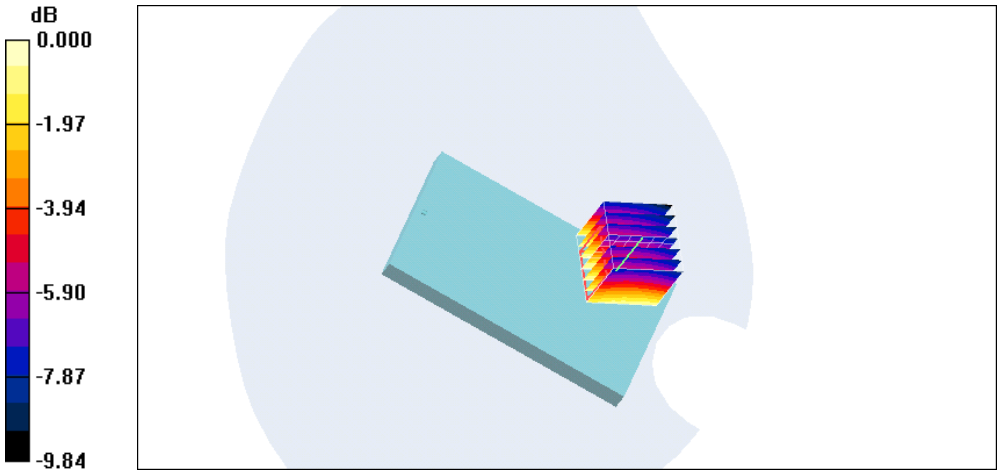
FLAT	Towards ground	**824.2 MHz**

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 825 MHz; σ = 0.968 mho/m; ε_r = 53.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(6.78, 7.02, 6.8); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.2 V/m; Power Drift = 0.003 dB
Peak SAR (extrapolated) = 0.616 W/kg
SAR(1 g) = 0.466 mW/g; SAR(10 g) = 0.338 mW/g
Maximum value of SAR (measured) = 0.491 mW/g



0 dB =0.491mW/g

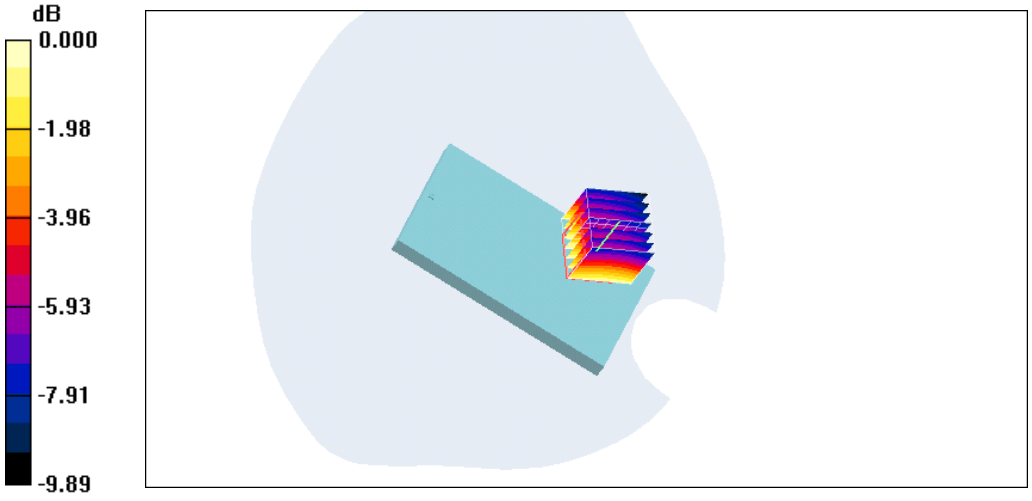
FLAT	Towards phantom	**848.8 MHz**

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 848.8 MHz; σ = 1 mho/m; ε_r = 54.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(6.78, 7.02, 6.8); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.1 V/m; Power Drift = -0.003 dB
Peak SAR (extrapolated) = 0.698 W/kg
SAR(1 g) = 0.528 mW/g; SAR(10 g) = 0.383 mW/g
Maximum value of SAR (measured) = 0.557 mW/g



0 dB =0.557mW/g

GSM (850MHz with GPRS/Flat)

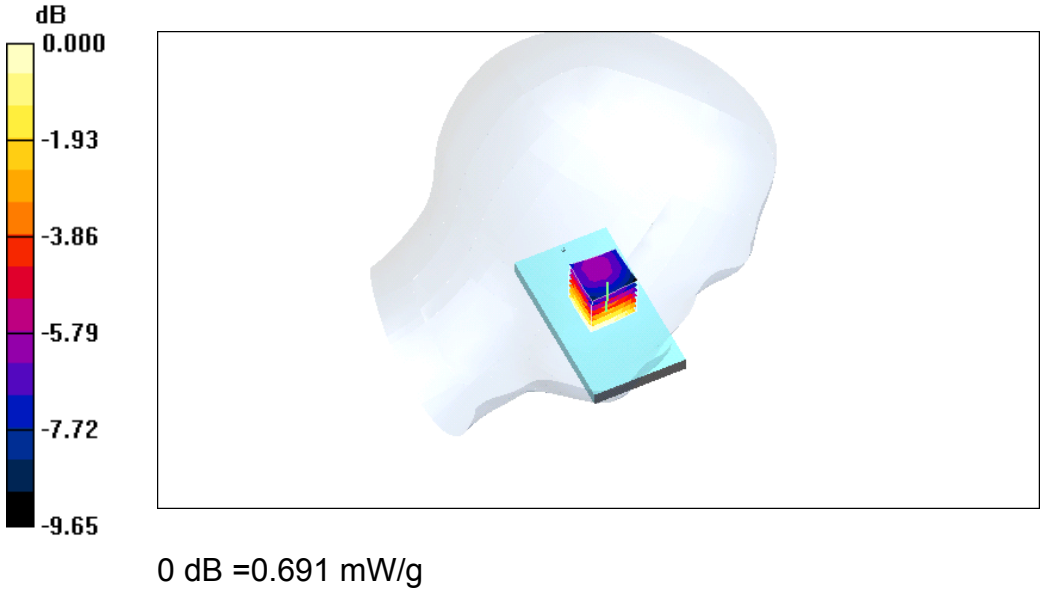
FLAT	Towards ground	**824.2 MHz**

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 825 MHz; σ = 0.968 mho/m; ε_r = 53.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(6.78, 7.02, 6.8); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- 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/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.9 V/m; Power Drift = -0.029 dB
Peak SAR (extrapolated) = 0.866 W/kg
SAR(1 g) = 0.649 mW/g; SAR(10 g) = 0.468 mW/g
Maximum value of SAR (measured) = 0.691 mW/g



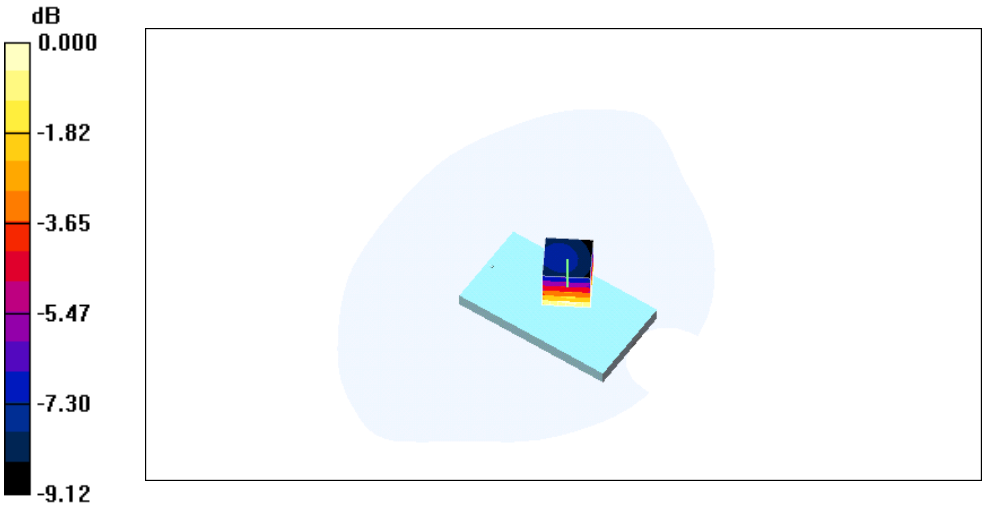
0 dB =0.691 mW/g

FLAT	Towards ground	**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 = 0.99 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(6.78, 7.02, 6.8); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- 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/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.2 V/m; Power Drift = -0.001 dB
Peak SAR (extrapolated) = 0.870 W/kg
SAR(1 g) = 0.657 mW/g; SAR(10 g) = 0.475 mW/g
Maximum value of SAR (measured) = 0.697 mW/g



0 dB =0.697mW/g

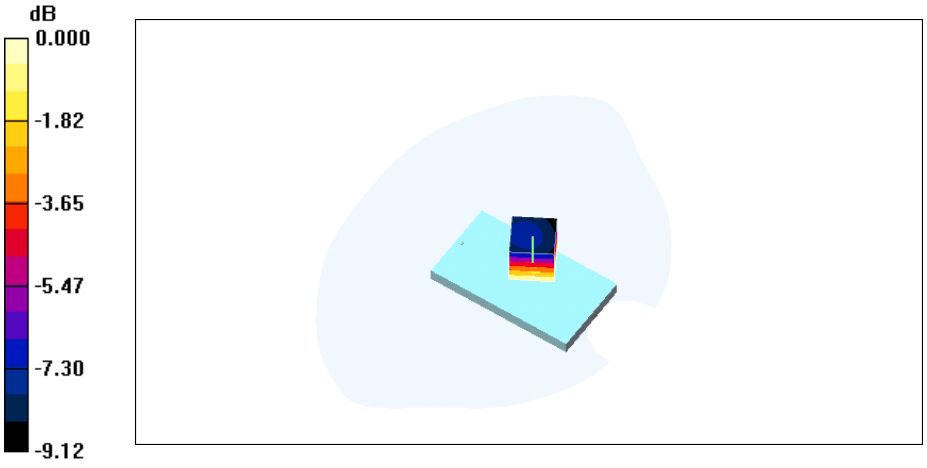
FLAT	Towards ground	**848.8MHz**

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 848.8 MHz; σ = 1 mho/m; ε_r = 54.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

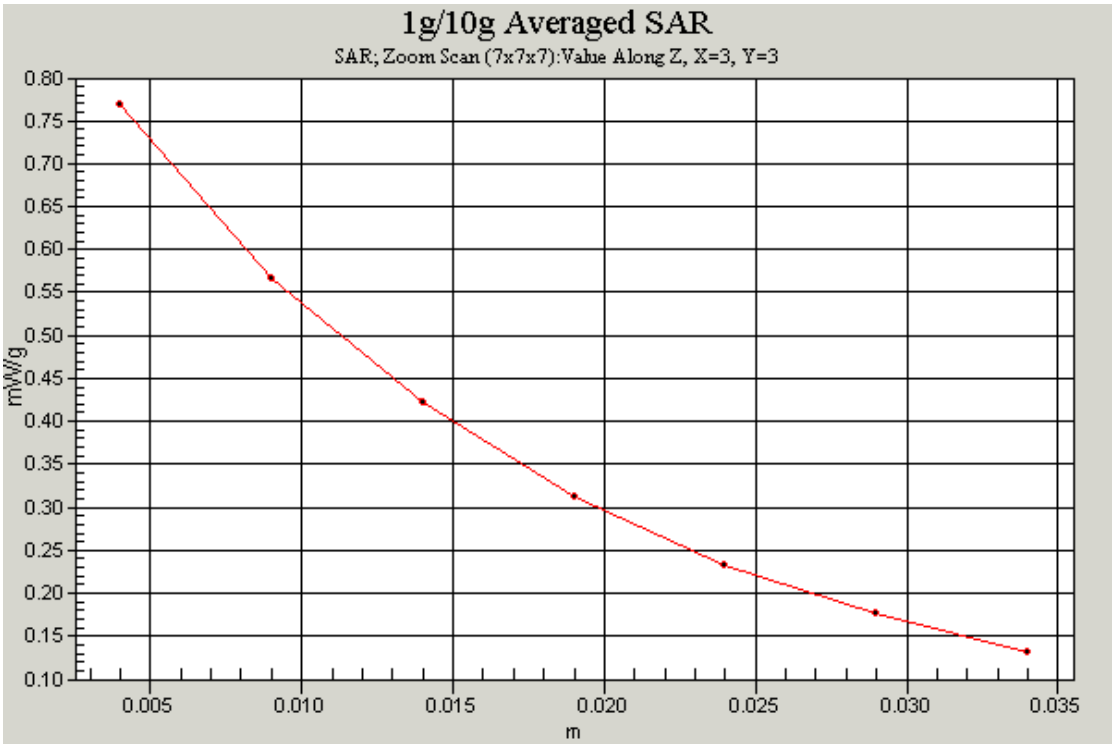
DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(6.78, 7.02, 6.8); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

towards ground- high GPRS/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.5 V/m; Power Drift = -0.006 dB
Peak SAR (extrapolated) = 0.980 W/kg
SAR(1 g) = 0.724 mW/g; SAR(10 g) = 0.520 mW/g
Maximum value of SAR (measured) = 0.767 mW/g



0 dB =0.767mW/g



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

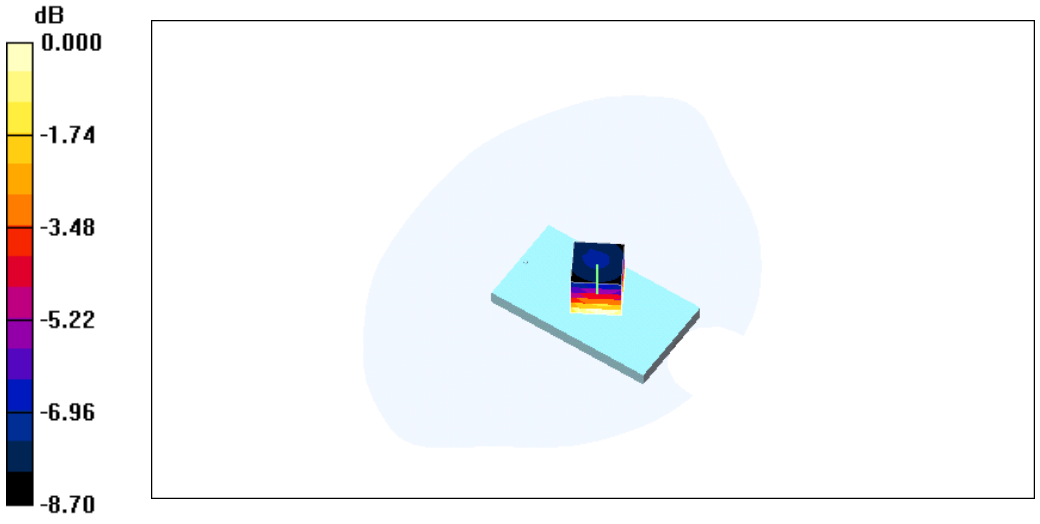
FLAT	Towards phantom	**836.4 MHz**

Communication System: GSM 850; Frequency: 836.4 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.99 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(6.78, 7.02, 6.8); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.1 V/m; Power Drift = 0.004 dB
Peak SAR (extrapolated) = 0.764 W/kg
SAR(1 g) = 0.579 mW/g; SAR(10 g) = 0.423 mW/g
Maximum value of SAR (measured) = 0.615 mW/g



0 dB =0.615mW/g

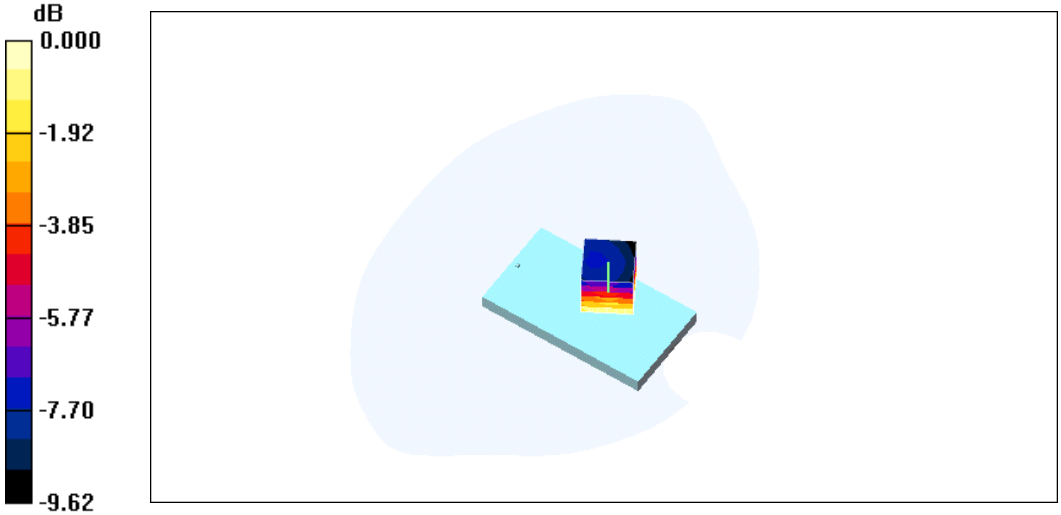
GSM (850MHz with EGPRS/Flat)

FLAT	Towards ground	**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 = 0.99 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(6.78, 7.02, 6.8); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

towards ground-Middle EDGE/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.8 V/m; Power Drift = -0.109 dB
Peak SAR (extrapolated) = 0.635 W/kg
SAR(1 g) = 0.479 mW/g; SAR(10 g) = 0.344 mW/g
Maximum value of SAR (measured) = 0.508 mW/g



0 dB =0.508mW/g

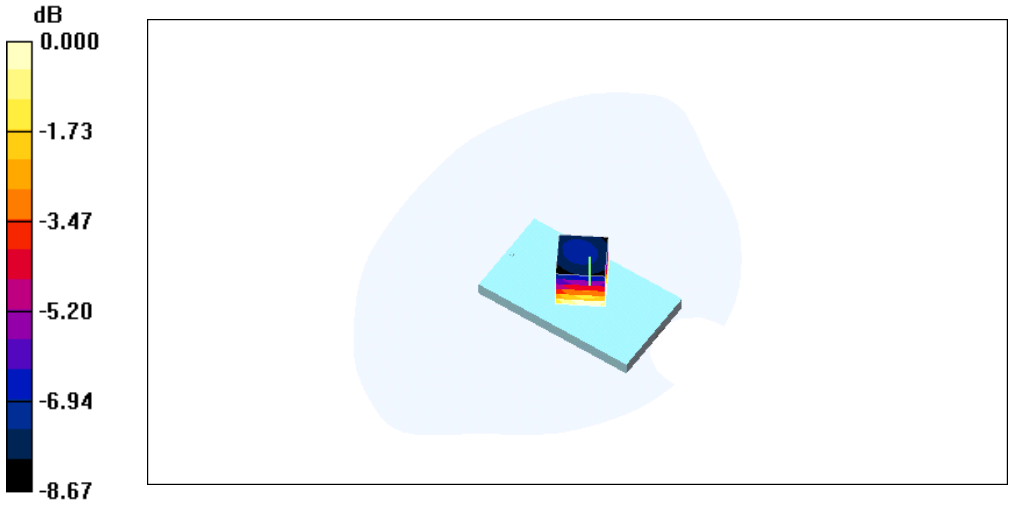
FLAT	Towards phantom	**836.4 MHz**

Communication System: GSM 850; Frequency: 836.4 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.99 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(6.78, 7.02, 6.8); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

towards phantom- mid EGPRS/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.6 V/m; Power Drift = -0.002 dB
Peak SAR (extrapolated) = 0.487 W/kg
SAR(1 g) = 0.378 mW/g; SAR(10 g) = 0.278 mW/g
Maximum value of SAR (measured) = 0.399 mW/g



0 dB =0.399mW/g

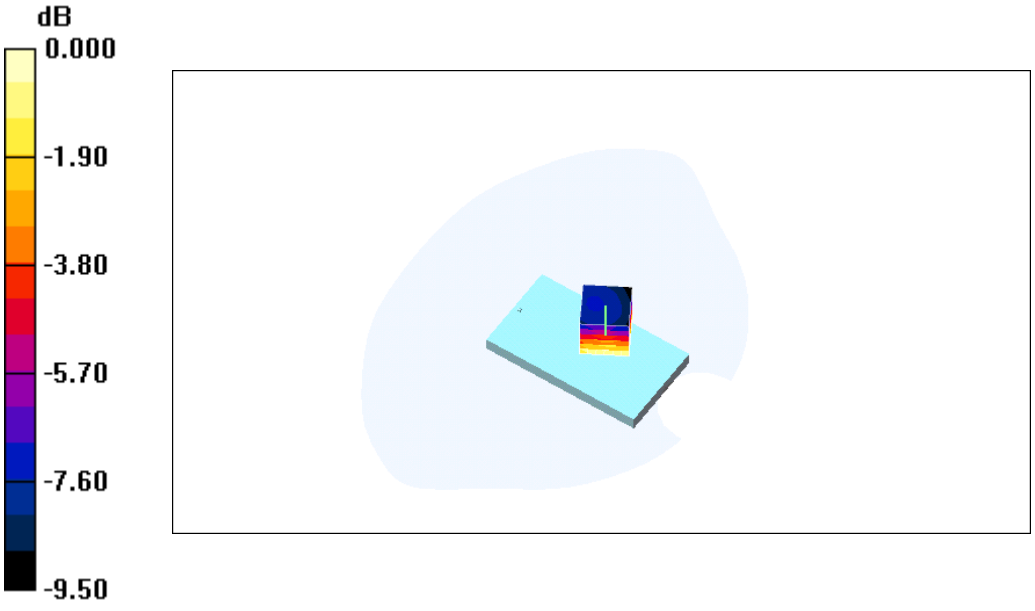
FLAT	Towards ground	**824.2 MHz**

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 825 MHz; σ = 0.968 mho/m; ε_r = 53.1; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(6.78, 7.02, 6.8); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

towards ground-Low EDGE/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.5 V/m; Power Drift = 0.003 dB
Peak SAR (extrapolated) = 0.619 W/kg
SAR(1 g) = 0.471 mW/g; SAR(10 g) = 0.340 mW/g
Maximum value of SAR (measured) = 0.498 mW/g



0 dB =0.498mW/g

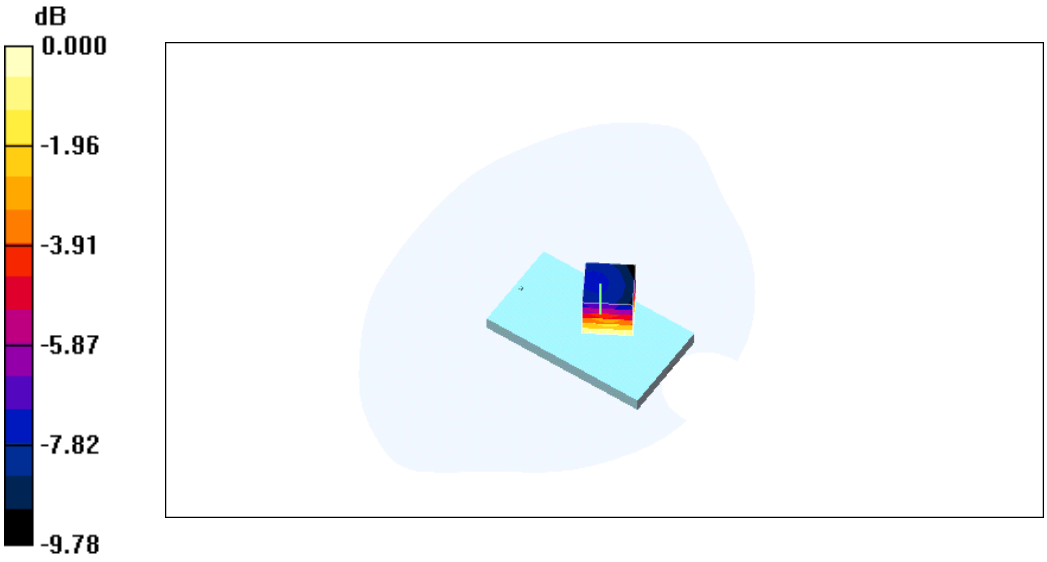
FLAT	Towards ground	**848.8 MHz**

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 848.8 MHz; σ = 1 mho/m; ε_r = 54.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(6.78, 7.02, 6.8); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

towards ground-High EDGE/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.4 V/m; Power Drift = 0.003 dB
Peak SAR (extrapolated) = 0.678 W/kg
SAR(1 g) = 0.511 mW/g; SAR(10 g) = 0.367 mW/g
Maximum value of SAR (measured) = 0.540 mW/g



0 dB =0.540mW/g

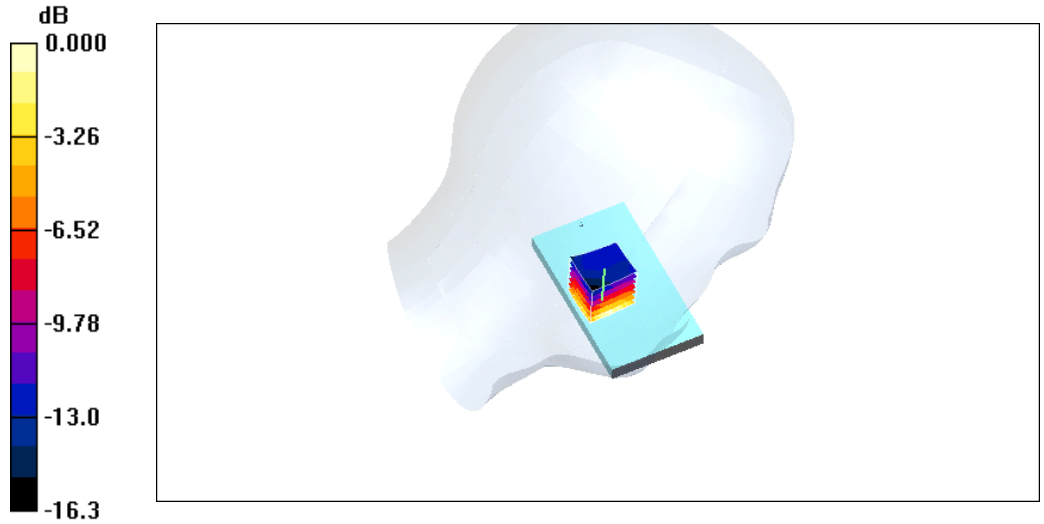
GSM (1900MHz/Head)

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 = 39.2; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(4.95, 5.22, 5.06); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Touch position low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.0 V/m; Power Drift = -0.052 dB
Peak SAR (extrapolated) = 0.934 W/kg
SAR(1 g) = 0.663 mW/g; SAR(10 g) = 0.431 mW/g
Maximum value of SAR (measured) = 0.710 mW/g



0 dB =0.710mW/g

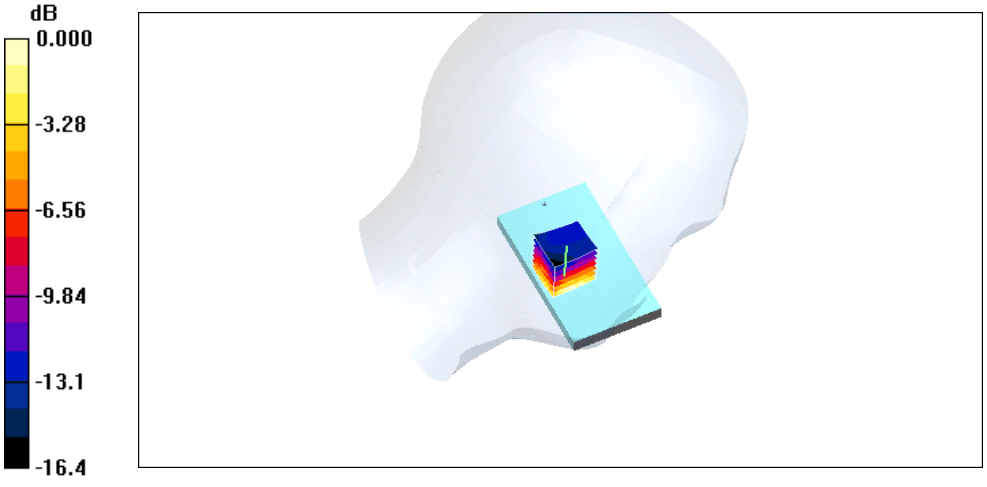
Right Side	Cheek	**1880.0 MHz**

Communication System: PCS1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.44 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(4.95, 5.22, 5.06); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.5 V/m; Power Drift = -0.029 dB
Peak SAR (extrapolated) = 0.865 W/kg
SAR(1 g) = 0.610 mW/g; SAR(10 g) = 0.395 mW/g
Maximum value of SAR (measured) = 0.650 mW/g



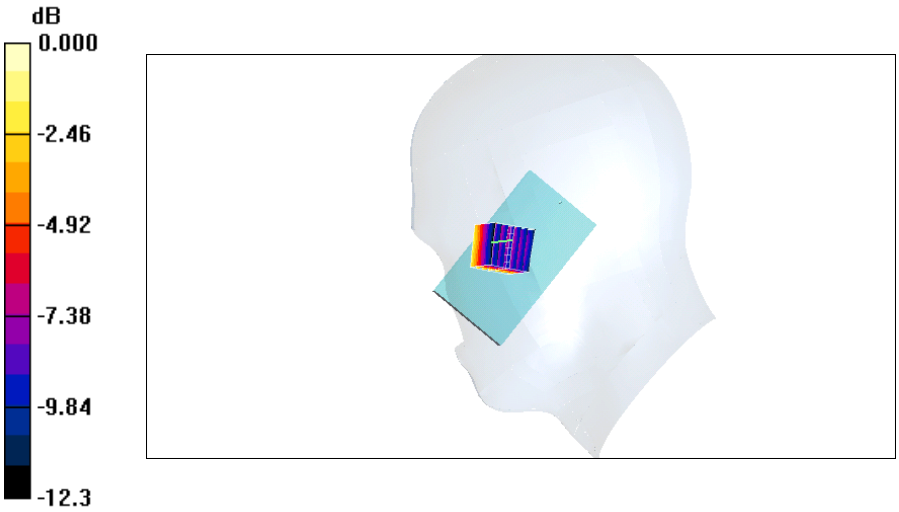
0 dB =0.650mW/g

Right Side	Cheek	**1909.8 MHz**

Communication System: PCS1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1910 MHz; σ = 1.46 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(4.95, 5.22, 5.06); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Touch position high/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.4 V/m; Power Drift = -0.020 dB
Peak SAR (extrapolated) = 0.763 W/kg
SAR(1 g) = 0.530 mW/g; SAR(10 g) = 0.344 mW/g
Maximum value of SAR (measured) = 0.569 mW/g



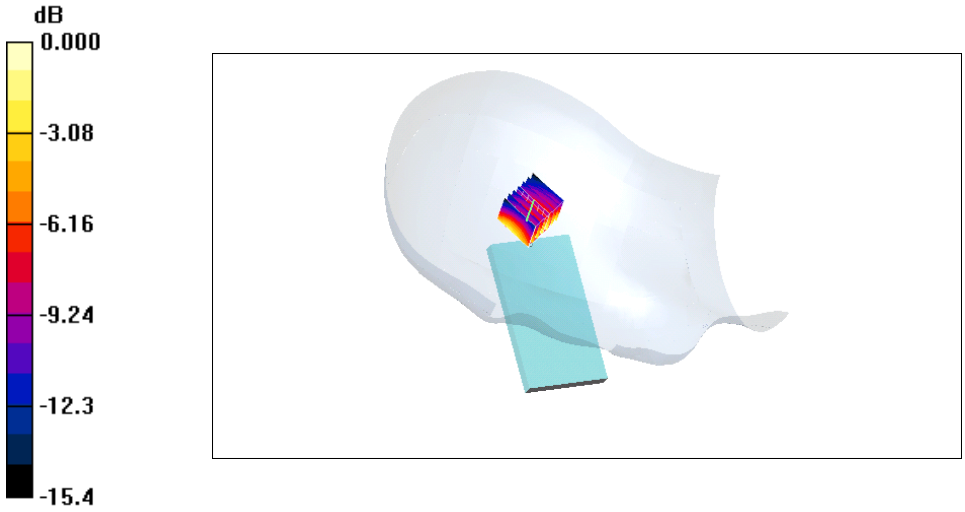
0 dB =0.569mW/g

Right Side	tilt	**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 = 39.2; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(4.95, 5.22, 5.06); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position- low/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.2 V/m; Power Drift = -0.043 dB
Peak SAR (extrapolated) = 0.408 W/kg
SAR(1 g) = 0.270 mW/g; SAR(10 g) = 0.165 mW/g
Maximum value of SAR (measured) = 0.296 mW/g



0 dB =0.296mW/g

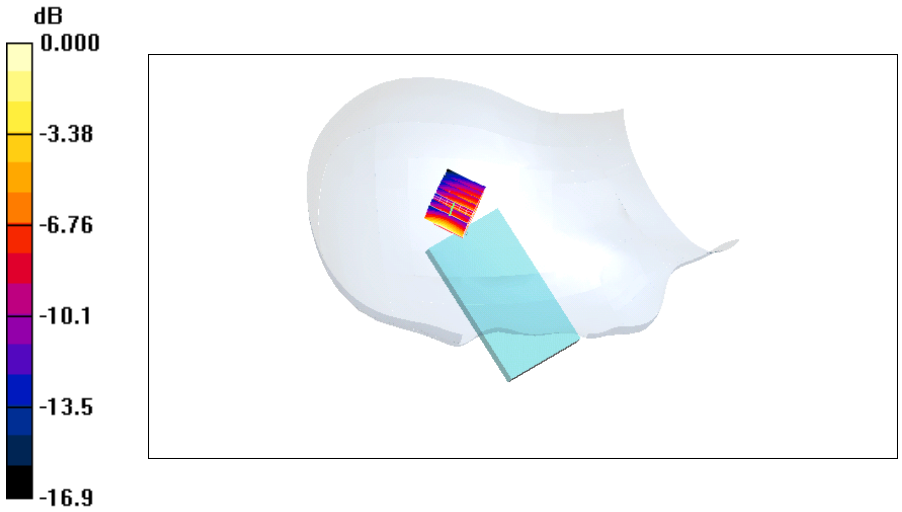
Right Side	tilt	**1880.0 MHz**

Communication System: PCS1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.44 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(4.95, 5.22, 5.06); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position-Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.5 V/m; Power Drift = -0.051 dB
Peak SAR (extrapolated) = 0.346 W/kg
SAR(1 g) = 0.229 mW/g; SAR(10 g) = 0.140 mW/g
Maximum value of SAR (measured) = 0.253 mW/g



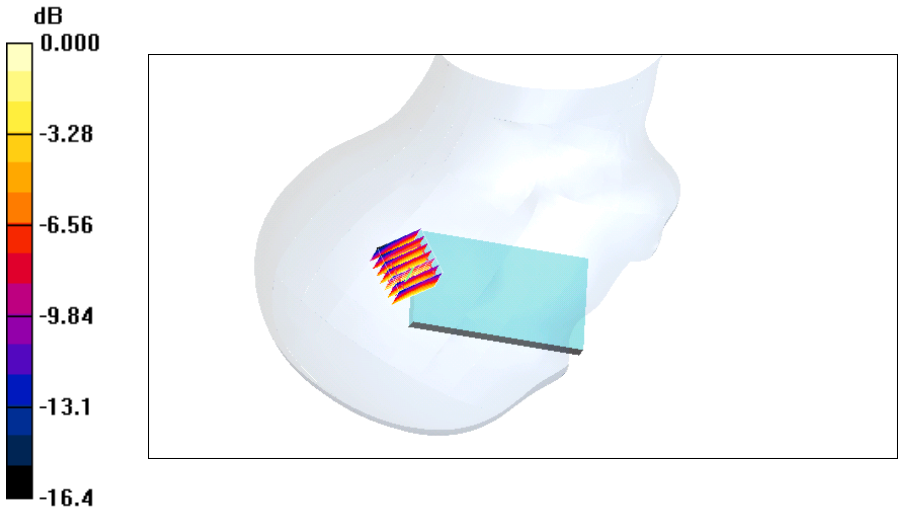
0 dB =0.253mW/g

Right Side	tilt	**1909.8 MHz**

Communication System: PCS1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1910 MHz; σ = 1.46 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(4.95, 5.22, 5.06); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position- high/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.2 V/m; Power Drift = 0.014 dB
Peak SAR (extrapolated) = 0.307 W/kg
SAR(1 g) = 0.203 mW/g; SAR(10 g) = 0.124 mW/g
Maximum value of SAR (measured) = 0.220 mW/g



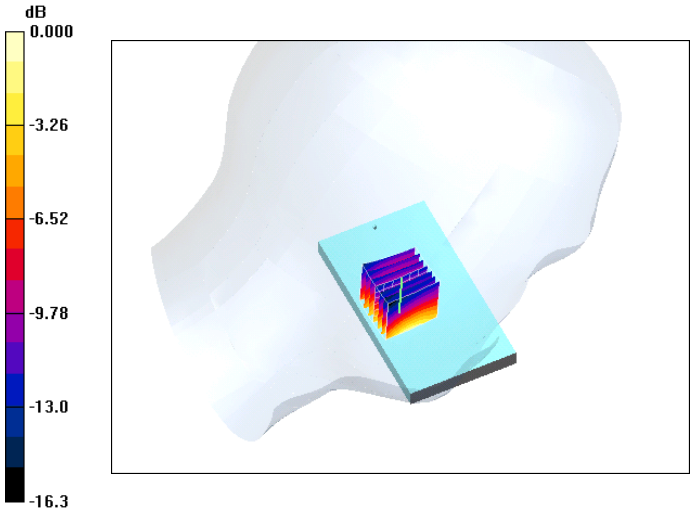
0 dB =0.220mW/g

Left Side	Cheek	**1850.2 MHz**

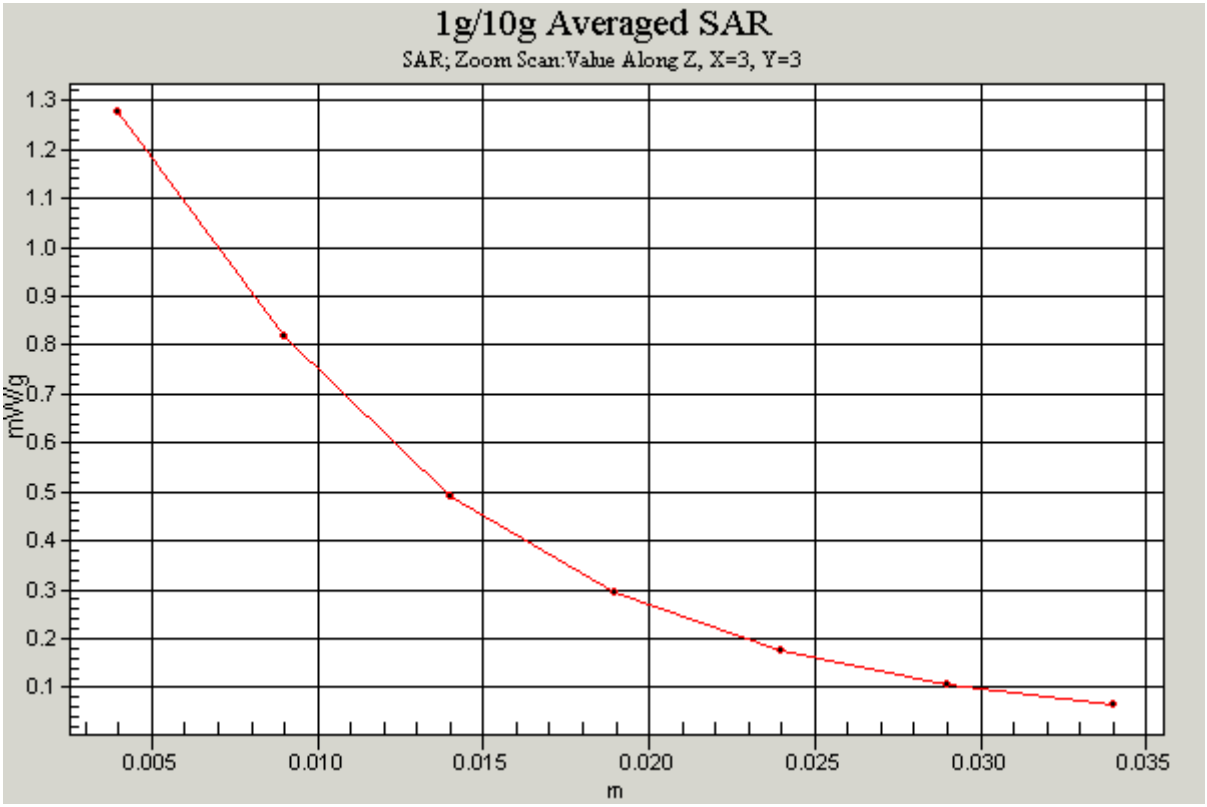
Communication System: PCS1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.41 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(4.95, 5.22, 5.06); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Touch position low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.2 V/m; Power Drift = -0.062 dB
Peak SAR (extrapolated) = 1.83 W/kg
SAR(1 g) = 1.16 mW/g; SAR(10 g) = 0.683 mW/g
Maximum value of SAR (measured) = 1.28 mW/g



0 dB =1.28mW/g



Z-Scan at power reference point (1900 MHz CH128)

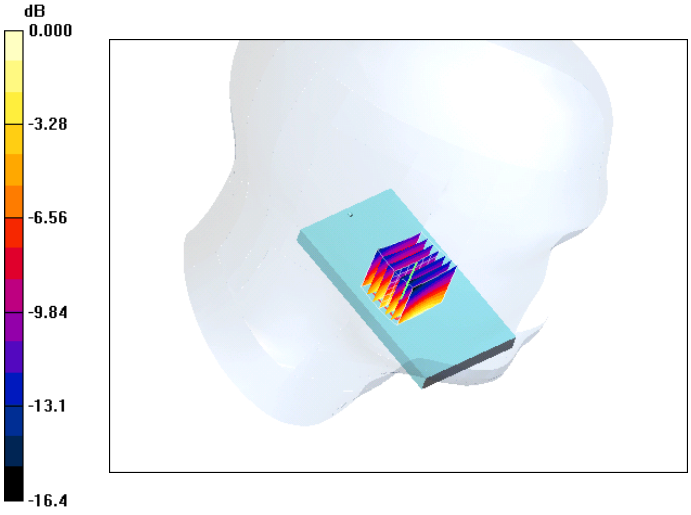
Left Side	Cheek	**1880.0 MHz**

Communication System: PCS1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.44 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(4.95, 5.22, 5.06); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.4 V/m; Power Drift = -0.253 dB
Peak SAR (extrapolated) = 1.65 W/kg
SAR(1 g) = 1.03 mW/g; SAR(10 g) = 0.612 mW/g
Maximum value of SAR (measured) = 1.14 mW/g



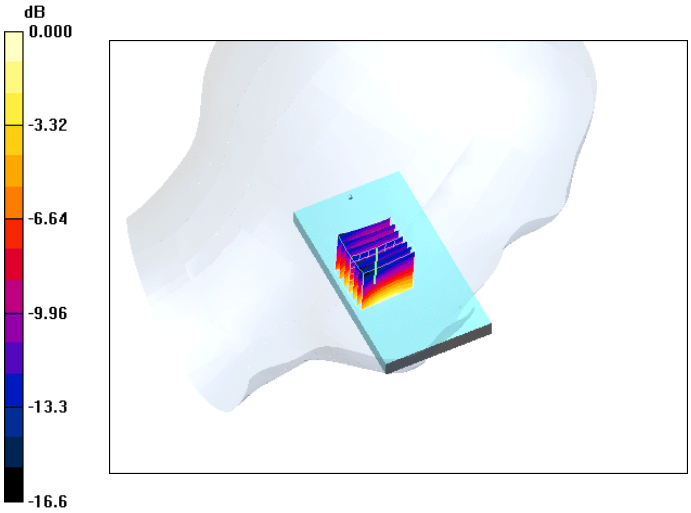
0 dB =1.14mW/g

Left Side	Cheek	**1909.8 MHz**

Communication System: PCS1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1910 MHz; σ = 1.46 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(4.95, 5.22, 5.06); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Touch position high/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.5 V/m; Power Drift = -0.081 dB
Peak SAR (extrapolated) = 1.53 W/kg
SAR(1 g) = 0.944 mW/g; SAR(10 g) = 0.558 mW/g
Maximum value of SAR (measured) = 1.04 mW/g



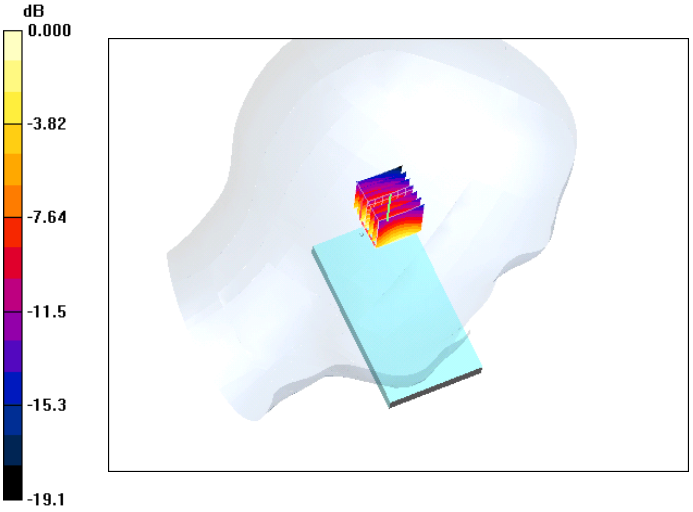
0 dB =1.04mW/g

Left Side	tilt	**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 = 39.2; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(4.95, 5.22, 5.06); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position- low/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.0 V/m; Power Drift = -0.007 dB
Peak SAR (extrapolated) = 0.543 W/kg
SAR(1 g) = 0.355 mW/g; SAR(10 g) = 0.211 mW/g
Maximum value of SAR (measured) = 0.395 mW/g



0 dB =0.395mW/g

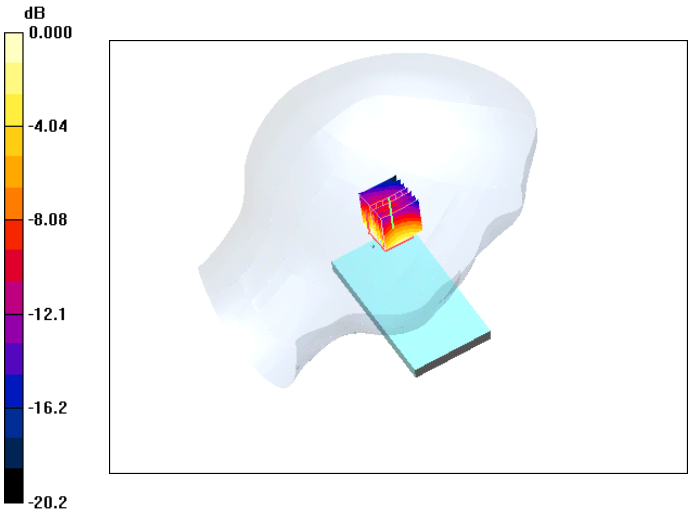
Left Side	tilt	**1880.0 MHz**

Communication System: PCS1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.44 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(4.95, 5.22, 5.06); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position-Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.3 V/m; Power Drift = -0.081 dB
Peak SAR (extrapolated) = 0.518 W/kg
SAR(1 g) = 0.339 mW/g; SAR(10 g) = 0.197 mW/g
Maximum value of SAR (measured) = 0.369 mW/g



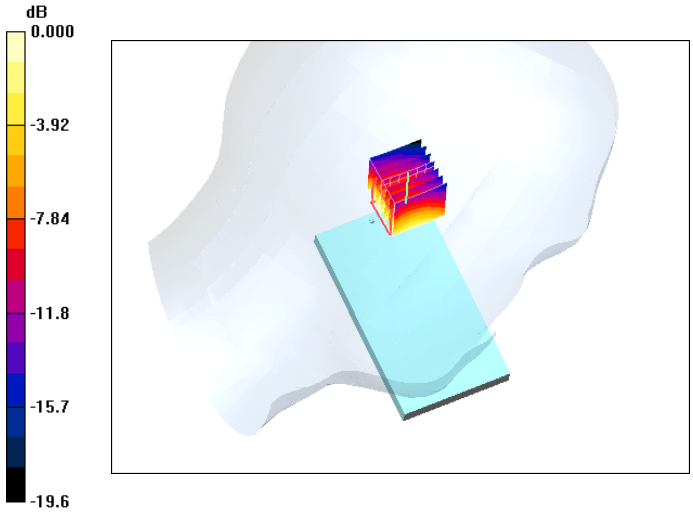
0 dB = 0.360 mW/g

Left Side	tilt	**1909.8 MHz**

Communication System: PCS1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1910 MHz; σ = 1.46 mho/m; ε_r = 38.8; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(4.95, 5.22, 5.06); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position- high/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.1 V/m; Power Drift = -0.023 dB
Peak SAR (extrapolated) = 0.463 W/kg
SAR(1 g) = 0.298 mW/g; SAR(10 g) = 0.173 mW/g
Maximum value of SAR (measured) = 0.325 mW/g



0 dB =0.325mW/g

GSM with headset (1900MHz/Flat)

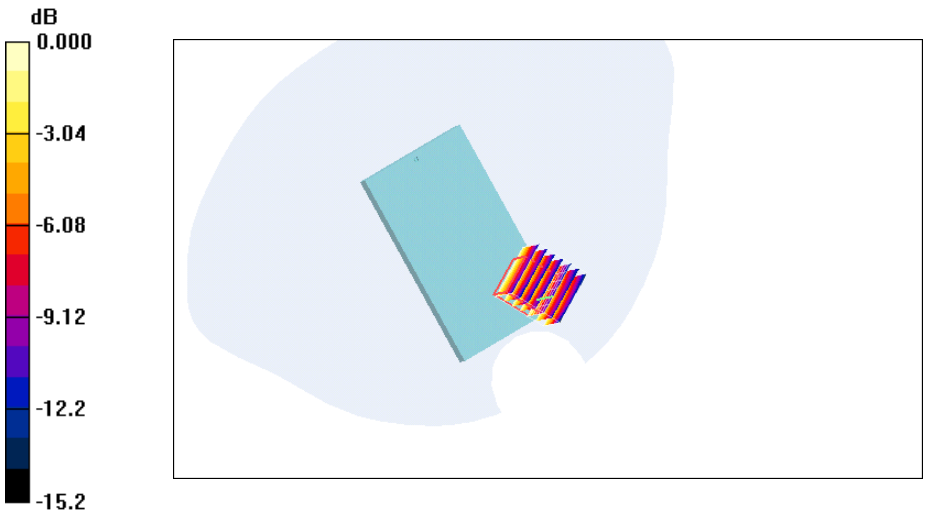
FLAT	Towards ground	**1880.0 MHz**

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(4.53, 4.79, 4.63); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.77 V/m; Power Drift = 0.025 dB
Peak SAR (extrapolated) = 0.549 W/kg
SAR(1 g) = 0.368 mW/g; SAR(10 g) = 0.237 mW/g
Maximum value of SAR (measured) = 0.399 mW/g



0 dB =0.399mW/g

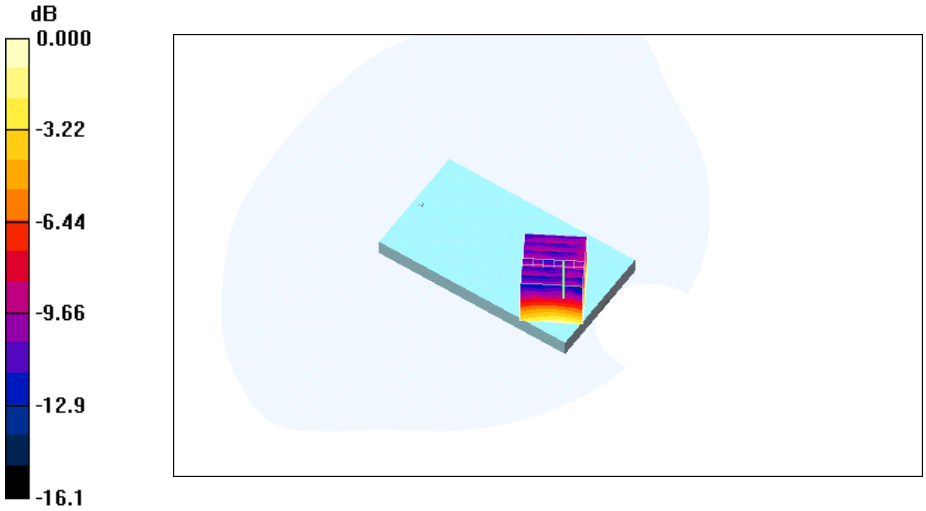
FLAT	Towards phantom	**1880.0 MHz**

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(4.53, 4.79, 4.63); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.84 V/m; Power Drift = -0.010 dB
Peak SAR (extrapolated) = 0.481 W/kg
SAR(1 g) = 0.325 mW/g; SAR(10 g) = 0.211 mW/g
Maximum value of SAR (measured) = 0.350 mW/g



0 dB =0.350mW/g

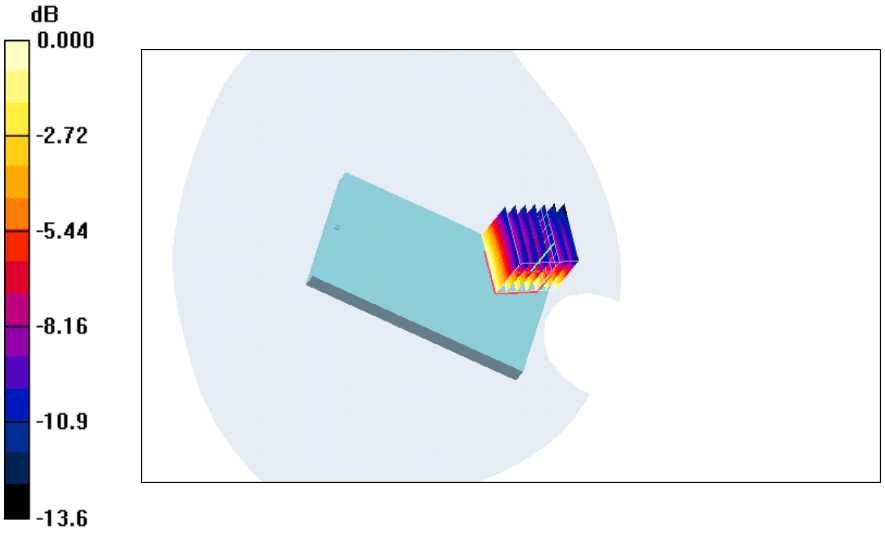
FLAT	Towards ground	**1850.2 MHz**

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(4.53, 4.79, 4.63); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.75 V/m; Power Drift = -0.010 dB
Peak SAR (extrapolated) = 0.615 W/kg
SAR(1 g) = 0.415 mW/g; SAR(10 g) = 0.272 mW/g
Maximum value of SAR (measured) = 0.448 mW/g



0 dB =0.448mW/g

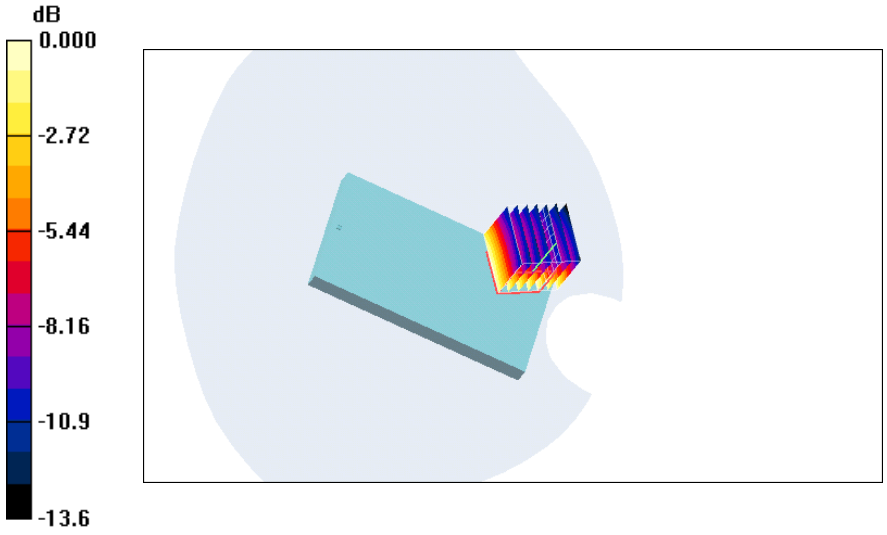
FLAT	Towards ground	**1909.8 MHz**

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(4.53, 4.79, 4.63); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.75 V/m; Power Drift = -0.010 dB
Peak SAR (extrapolated) = 0.615 W/kg
SAR(1 g) = 0.415 mW/g; SAR(10 g) = 0.272 mW/g
Maximum value of SAR (measured) = 0.448 mW/g



0 dB =0.448mW/g

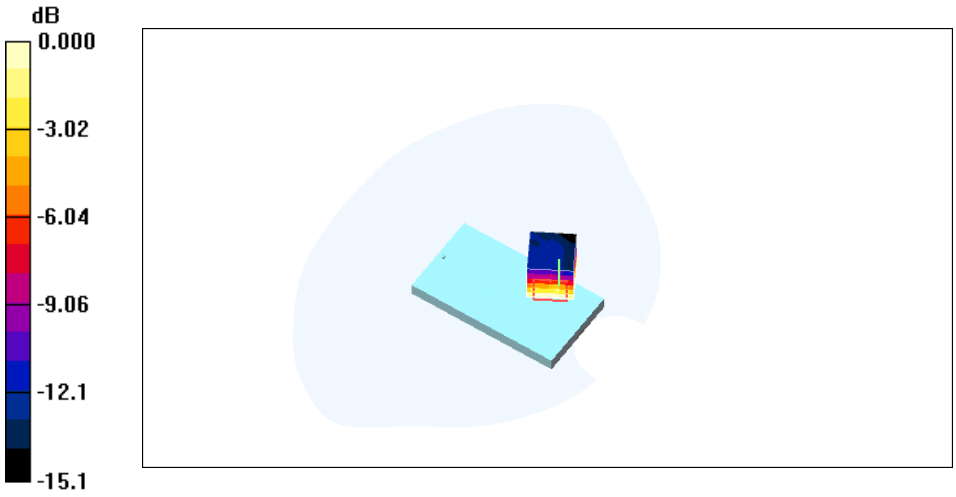
GSM (1900MHz with GPRS/Flat)

FLAT	Towards ground	**1880.0 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(4.53, 4.79, 4.63); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- 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/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.58 V/m; Power Drift = -0.060 dB
Peak SAR (extrapolated) = 0.606 W/kg
SAR(1 g) = 0.387 mW/g; SAR(10 g) = 0.246 mW/g
Maximum value of SAR (measured) = 0.416 mW/g



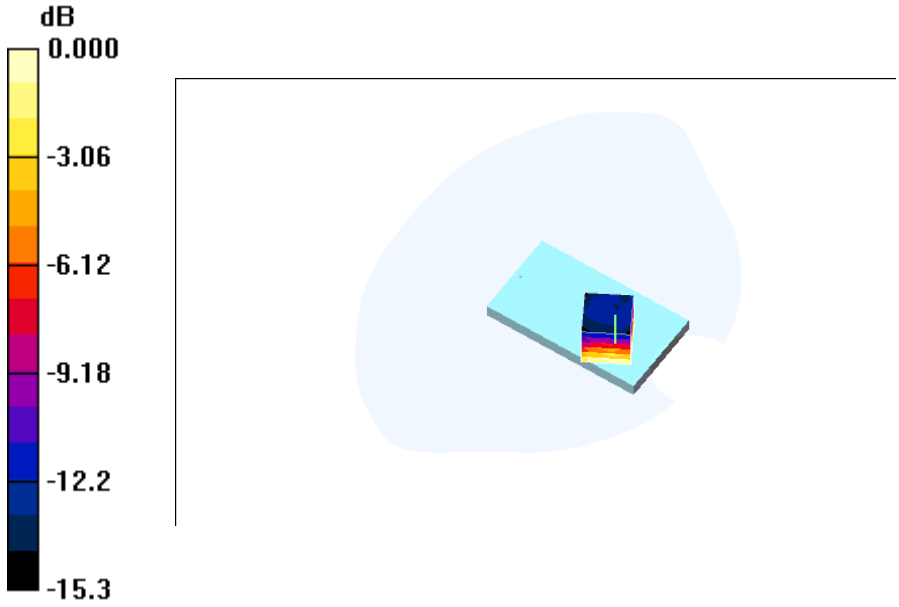
0 dB =0.416mW/g

FLAT	Towards phantom	**1880.0 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(4.53, 4.79, 4.63); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- 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/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.23 V/m; Power Drift = 0.125 dB
Peak SAR (extrapolated) = 0.557 W/kg
SAR(1 g) = 0.361 mW/g; SAR(10 g) = 0.226 mW/g
Maximum value of SAR (measured) = 0.386 mW/g



0 dB =0.386mW/g

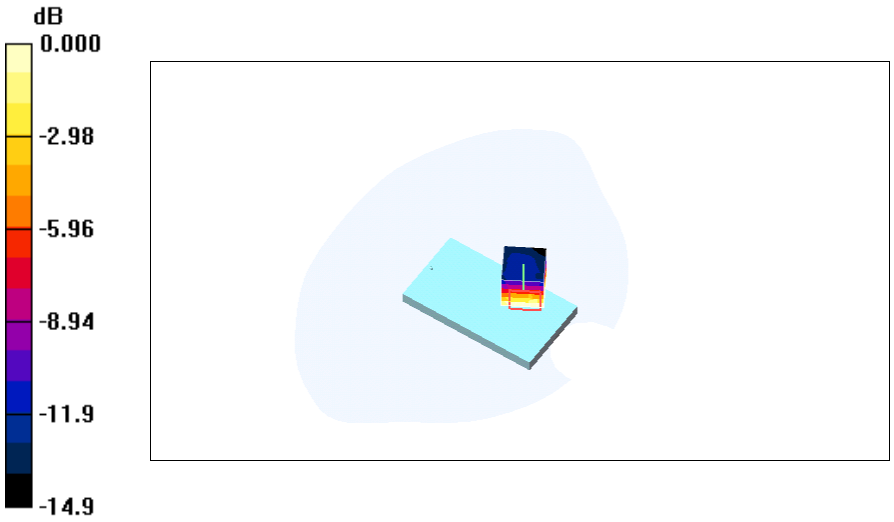
FLAT	Towards ground	**1850.2 MHz**

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

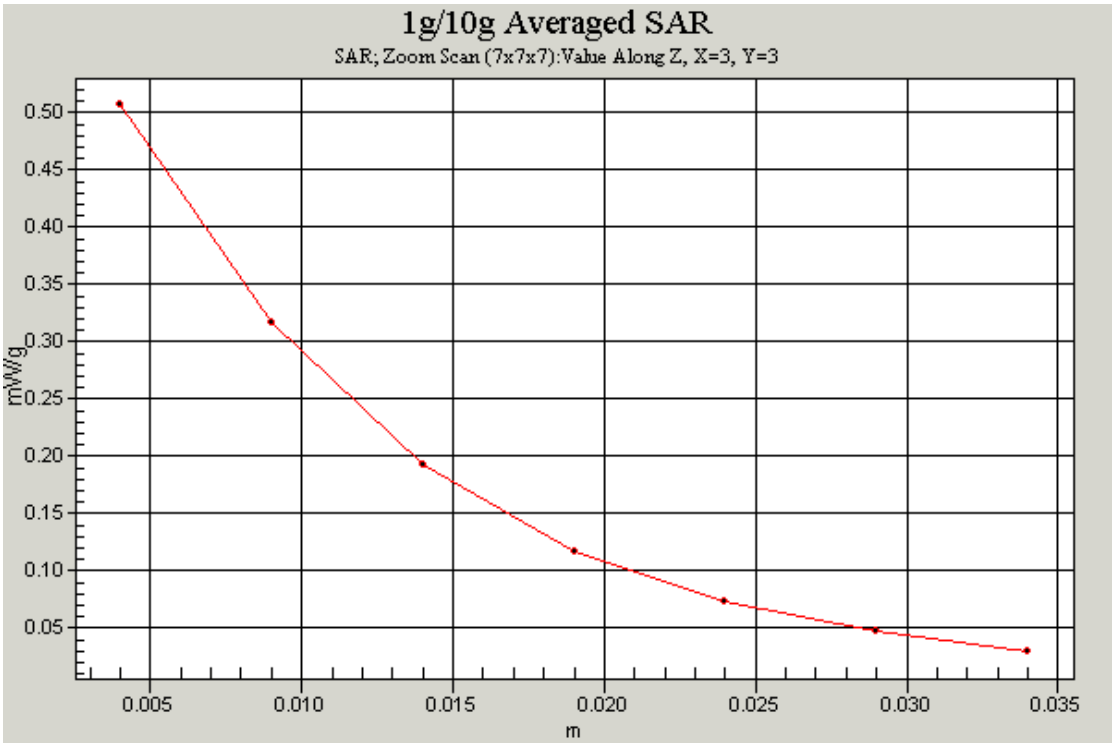
DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(4.53, 4.79, 4.63); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.90 V/m; Power Drift = -0.185 dB
Peak SAR (extrapolated) = 0.739 W/kg
SAR(1 g) = 0.473 mW/g; SAR(10 g) = 0.300 mW/g
Maximum value of SAR (measured) = 0.507 mW/g



0 dB =0.507mW/g



Z-Scan at power reference point (1900 MHz CH512)

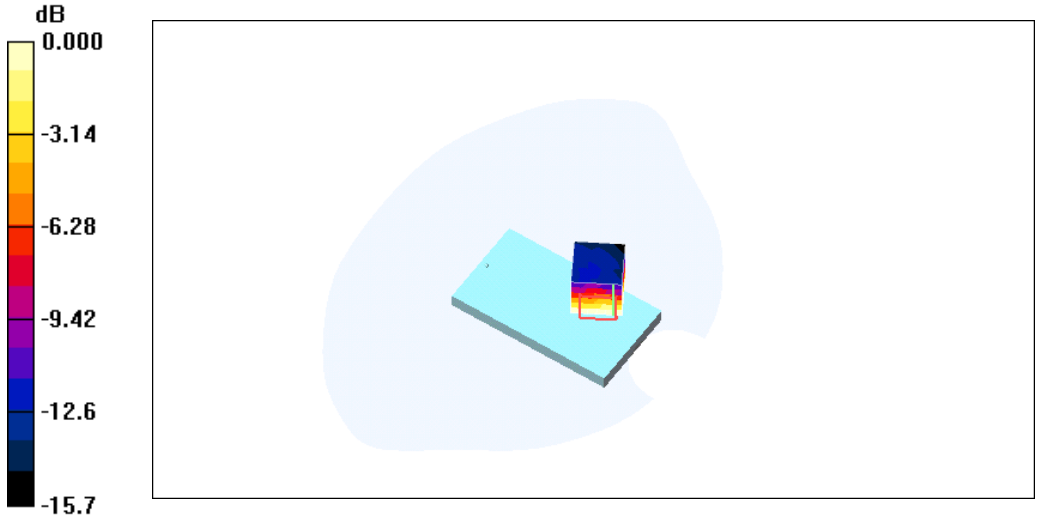
FLAT	Towards ground	**1909.8 MHz**

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(4.53, 4.79, 4.63); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- 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/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.21 V/m; Power Drift = -0.001 dB
Peak SAR (extrapolated) = 0.656 W/kg
SAR(1 g) = 0.418 mW/g; SAR(10 g) = 0.267 mW/g
Maximum value of SAR (measured) = 0.450 mW/g



0 dB =0.450mW/g

GSM (1900MHz with EGPRS/Flat)

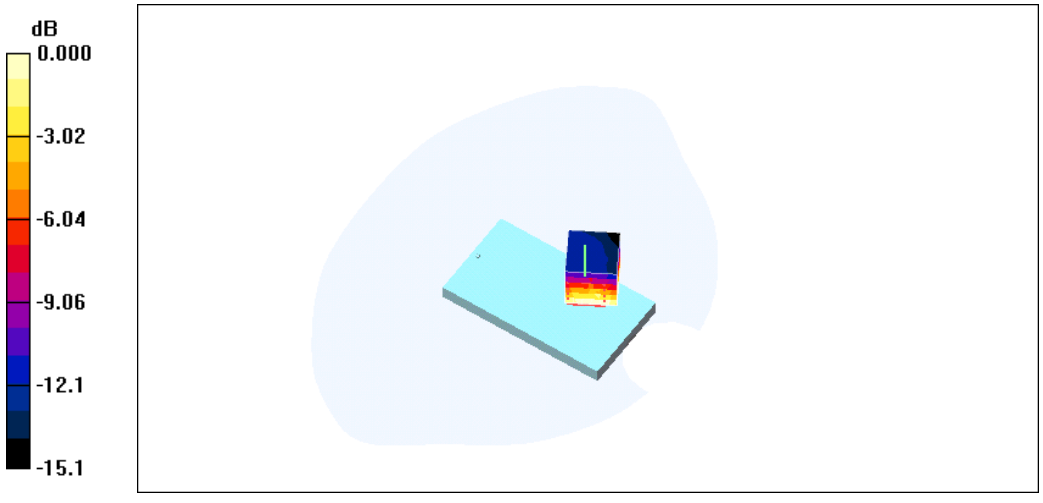
FLAT	Towards ground	**1850.2 MHz**

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(4.53, 4.79, 4.63); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

towards ground-Low EDGE/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.78 V/m; Power Drift = -0.067 dB
Peak SAR (extrapolated) = 0.692 W/kg
SAR(1 g) = 0.450 mW/g; SAR(10 g) = 0.283 mW/g
Maximum value of SAR (measured) = 0.483 mW/g



0 dB =0.483mW/g

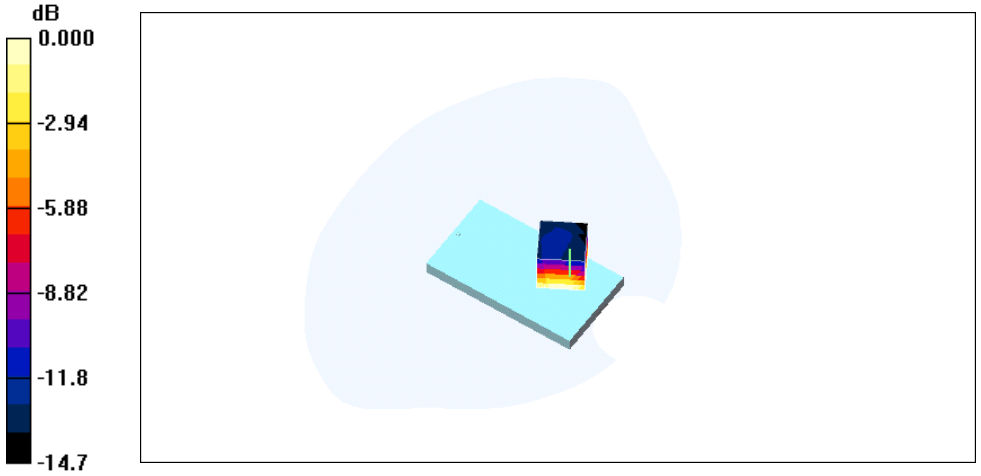
FLAT	Towards ground	**1880.0 MHz**

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(4.53, 4.79, 4.63); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

towards ground-Middle EDGE/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement

grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.73 V/m; Power Drift = -0.087 dB
Peak SAR (extrapolated) = 0.619 W/kg
SAR(1 g) = 0.405 mW/g; SAR(10 g) = 0.254 mW/g
Maximum value of SAR (measured) = 0.437 mW/g



0 dB =0.437mW/g

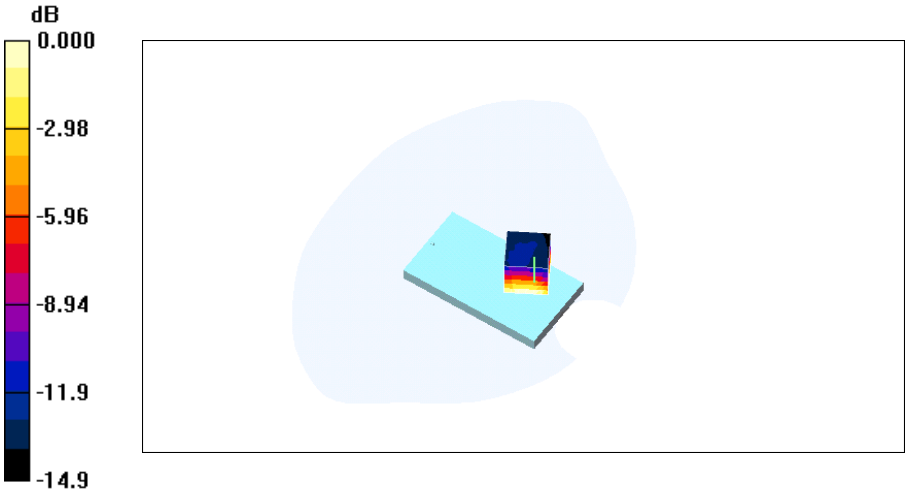
FLAT	Towards ground	**1909.8 MHz**

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(4.53, 4.79, 4.63); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

towards ground-High EDGE/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid:

dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.2 V/m; Power Drift = -0.027 dB
Peak SAR (extrapolated) = 0.569 W/kg
SAR(1 g) = 0.368 mW/g; SAR(10 g) = 0.229 mW/g
Maximum value of SAR (measured) = 0.395 mW/g



0 dB =0.395mW/g

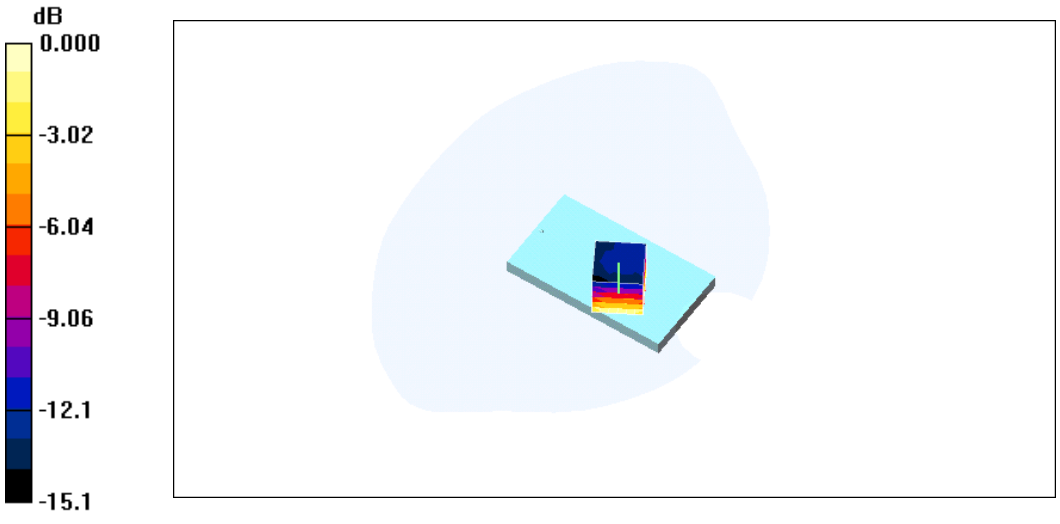
FLAT	Towards phantom	**1880.0 MHz**

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(4.53, 4.79, 4.63); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.81 V/m; Power Drift = -0.143 dB
Peak SAR (extrapolated) = 0.578 W/kg
SAR(1 g) = 0.366 mW/g; SAR(10 g) = 0.232 mW/g
Maximum value of SAR (measured) = 0.395 mW/g



0 dB =0.395mW/g

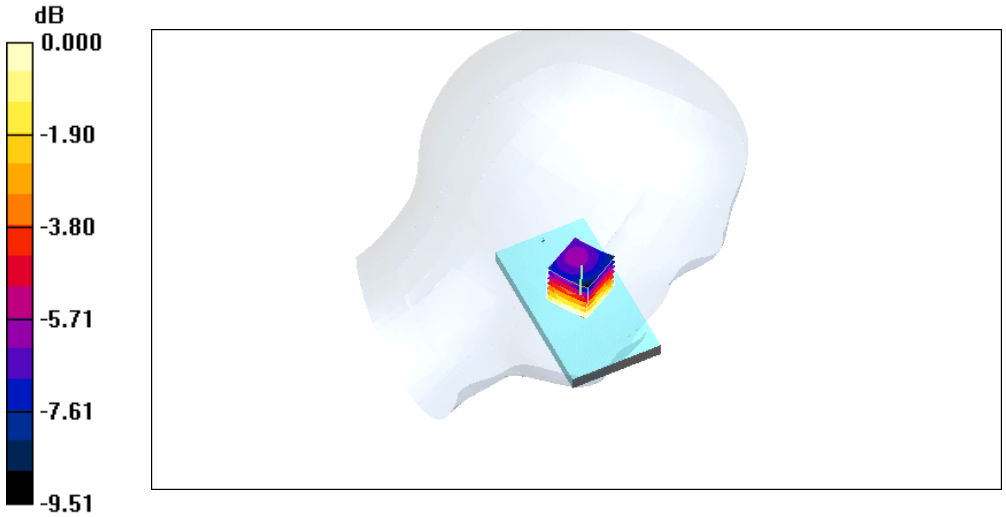
WCDMA B5 (Head)

Left Side	Cheek	**826.4 MHz**

Communication System: UMTS 835; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.961 mho/m; ε_r = 39.6; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.88, 8.3, 8.05); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/26/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Touch position - Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.1 V/m; Power Drift = -0.023 dB
Peak SAR (extrapolated) = 1.25 W/kg
SAR(1 g) = 1.02 mW/g; SAR(10 g) = 0.780 mW/g
Maximum value of SAR (measured) = 1.07 mW/g



0 dB =1.07mW/g

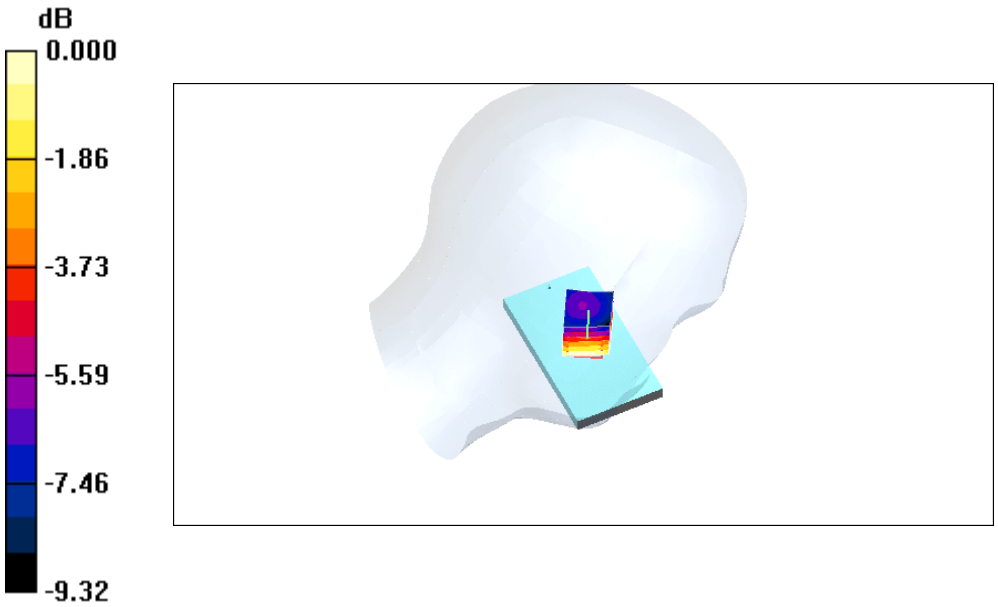
Left Side	Cheek	**836.5 MHz**

Communication System: UMTS 835; Frequency: 836.5 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.5 MHz; σ = 0.978 mho/m; ε_r = 39.4; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.88, 8.3, 8.05); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/26/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.0 V/m; Power Drift = -0.143 dB
Peak SAR (extrapolated) = 1.22 W/kg
SAR(1 g) = 1.01 mW/g; SAR(10 g) = 0.764 mW/g
Maximum value of SAR (measured) = 1.06 mW/g



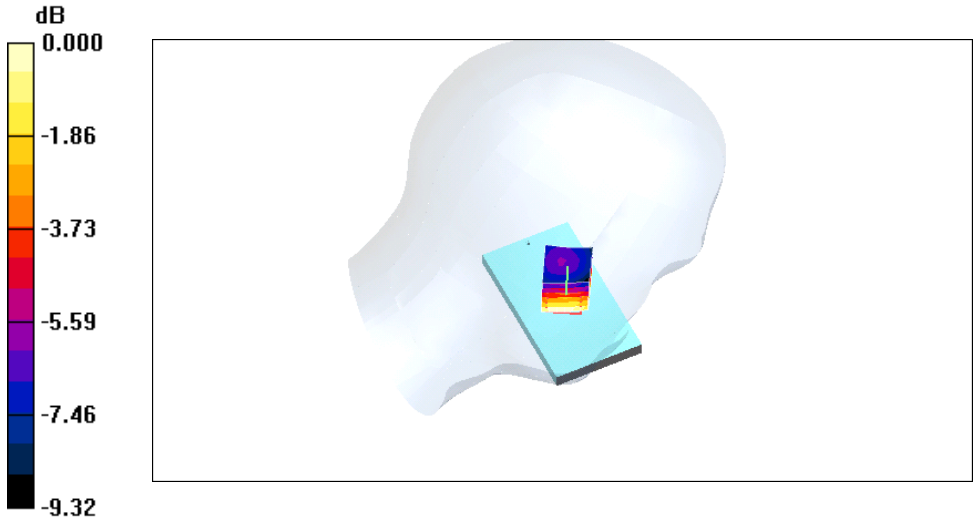
0 dB =1.06mW/g

Left Side	Cheek	**846.6 MHz**

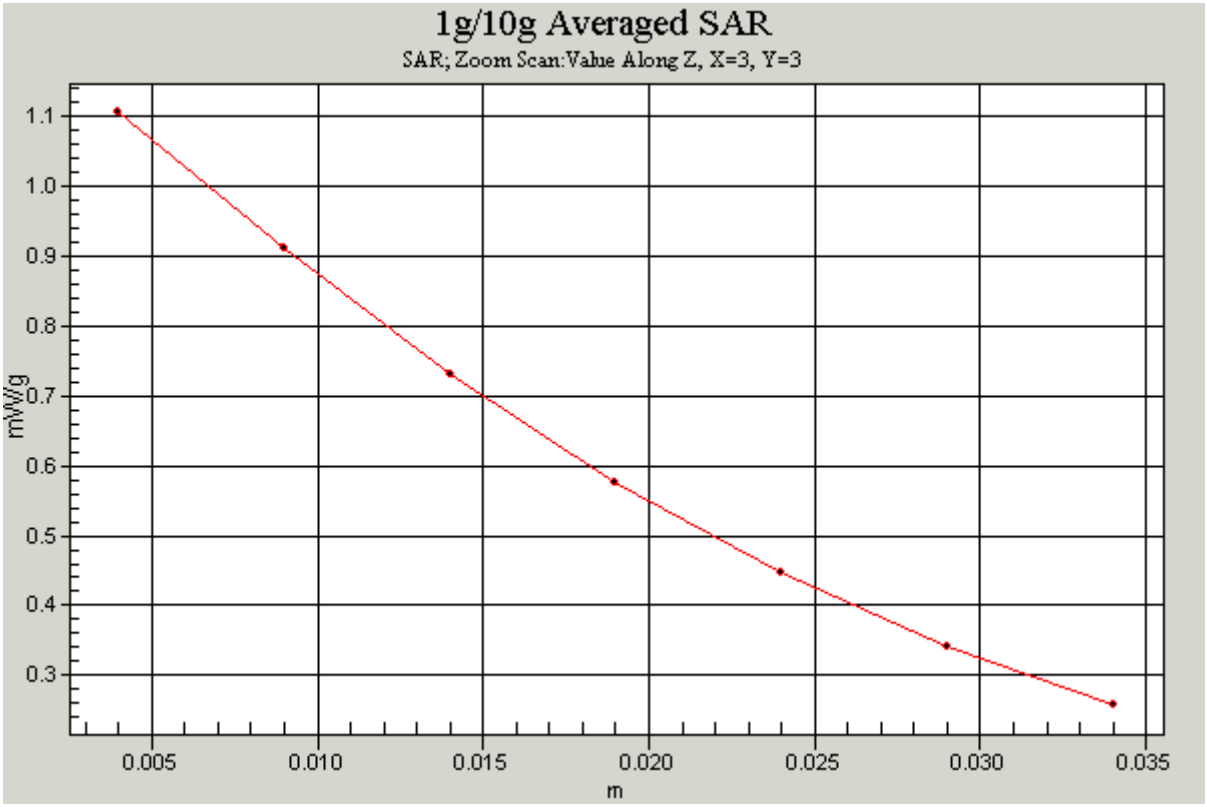
Communication System: UMTS 835; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 846.6 MHz; σ = 0.983 mho/m; ε_r = 40; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.88, 8.3, 8.05); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/26/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Touch position - High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.2 V/m; Power Drift = 0.037 dB
Peak SAR (extrapolated) = 1.27 W/kg
SAR(1 g) = 1.05 mW/g; SAR(10 g) = 0.793 mW/g
Maximum value of SAR (measured) = 1.10 mW/g



0 dB =1.10mW/g



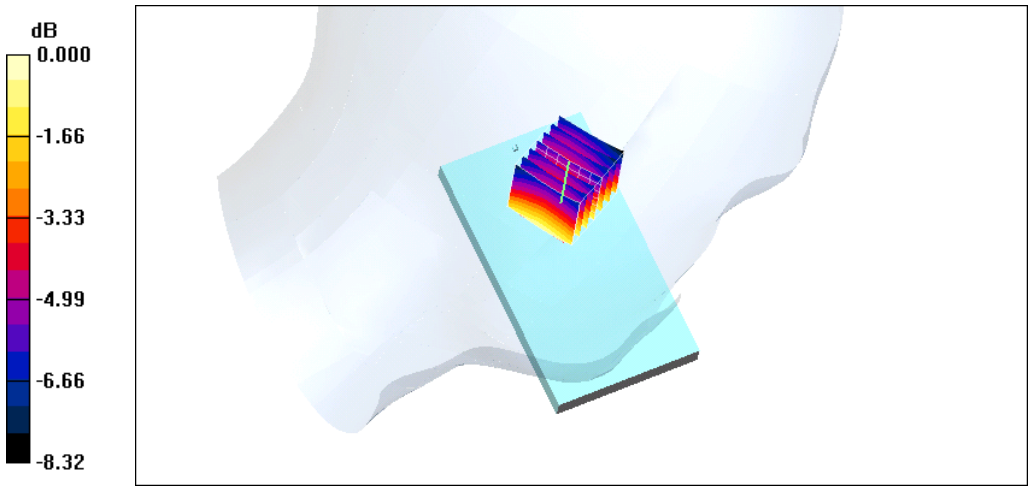
Z-Scan at power reference point (850MHz CH4233)

Left Side	Tilt	**826.4 MHz**

Communication System: UMTS 835; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.961 mho/m; ε_r = 39.6; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.88, 8.3, 8.05); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/26/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position -low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.6 V/m; Power Drift = -0.080 dB
Peak SAR (extrapolated) = 0.640 W/kg
SAR(1 g) = 0.522 mW/g; SAR(10 g) = 0.398 mW/g
Maximum value of SAR (measured) = 0.548 mW/g



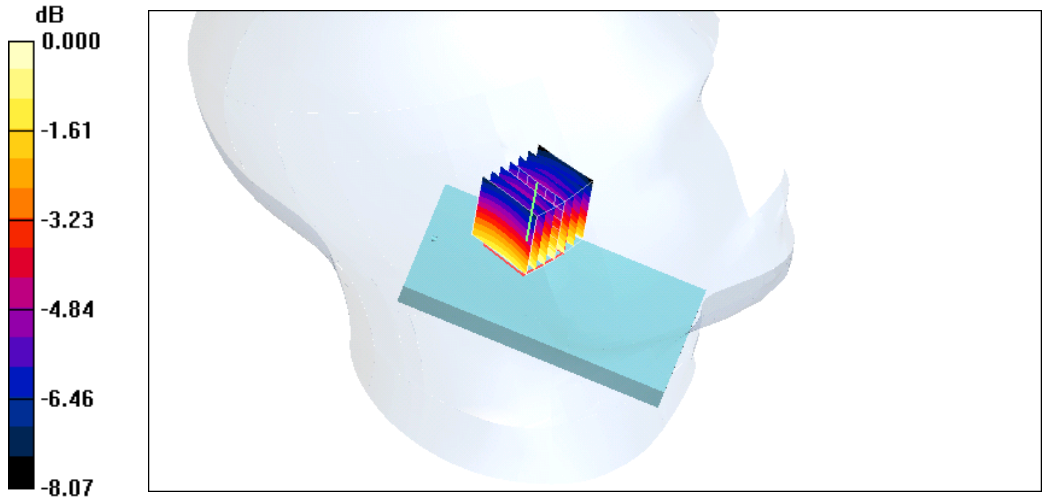
0 dB =0.548mW/g

Left Side	Tilt	**836.5 MHz**

Communication System: UMTS 835; Frequency: 836.5 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.5 MHz; σ = 0.978 mho/m; ε_r = 39.4; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.88, 8.3, 8.05); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/26/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position-middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.6 V/m; Power Drift = -0.078 dB
Peak SAR (extrapolated) = 0.611 W/kg
SAR(1 g) = 0.501 mW/g; SAR(10 g) = 0.382 mW/g
Maximum value of SAR (measured) = 0.527 mW/g



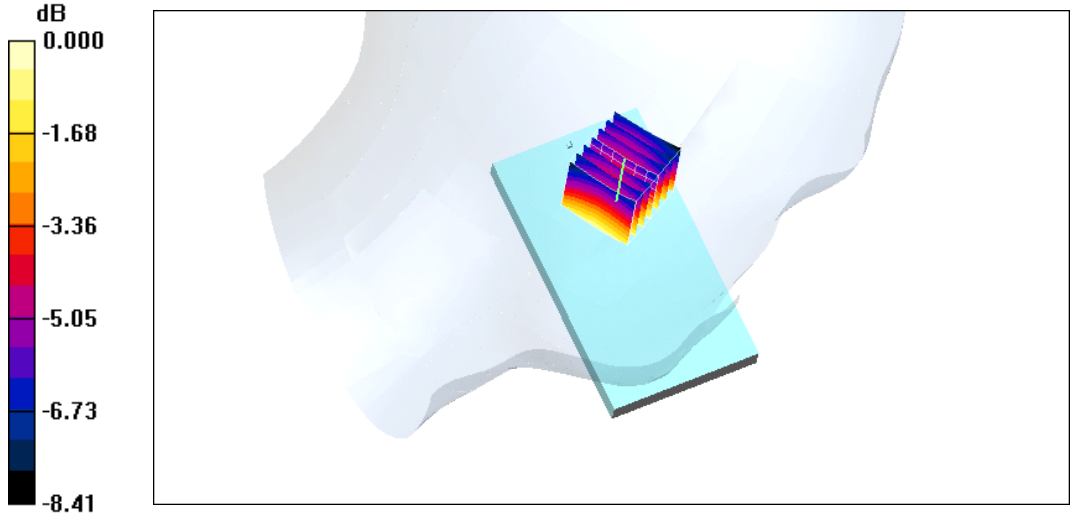
0 dB =0.527mW/g

Left Side	Tilt	**846.6MHz**

Communication System: UMTS 835; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 846.6 MHz; σ = 0.983 mho/m; ε_r = 40; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.88, 8.3, 8.05); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/26/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position-high/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.3 V/m; Power Drift = -0.008 dB
Peak SAR (extrapolated) = 0.689 W/kg
SAR(1 g) = 0.561 mW/g; SAR(10 g) = 0.425 mW/g
Maximum value of SAR (measured) = 0.588 mW/g



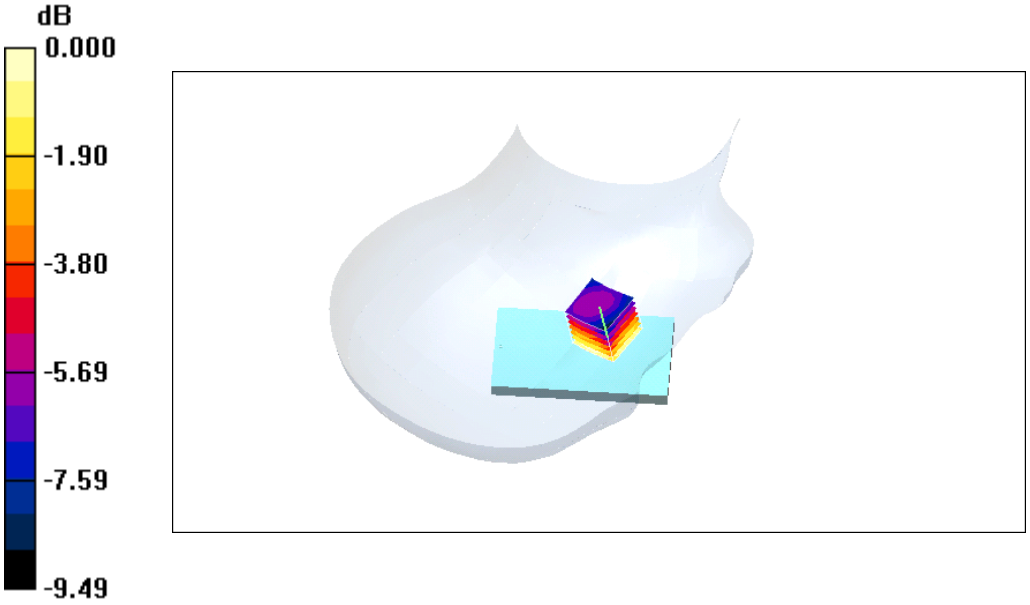
0 dB =0.588mW/g

Right Side	Cheek	**826.4 MHz**

Communication System: UMTS 835; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.961 mho/m; ε_r = 39.6; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.88, 8.3, 8.05); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/26/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Touch position - Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.0 V/m; Power Drift = -0.255 dB
Peak SAR (extrapolated) = 1.10 W/kg
SAR(1 g) = 0.922 mW/g; SAR(10 g) = 0.710 mW/g
Maximum value of SAR (measured) = 0.969 mW/g



0 dB = 0.969mW/g

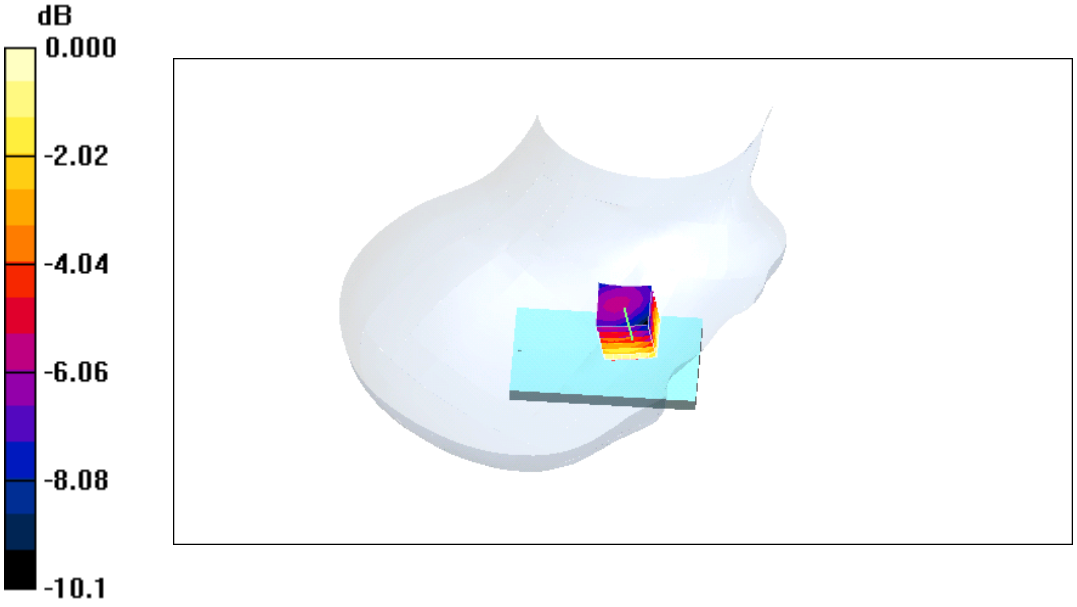
Right Side	Cheek	**836.5 MHz**

Communication System: UMTS 835; Frequency: 836.5 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.5 MHz; σ = 0.978 mho/m; ε_r = 39.4; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.88, 8.3, 8.05); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/26/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.2 V/m; Power Drift = -0.010 dB
Peak SAR (extrapolated) = 1.04 W/kg
SAR(1 g) = 0.864 mW/g; SAR(10 g) = 0.661 mW/g
Maximum value of SAR (measured) = 0.911 mW/g



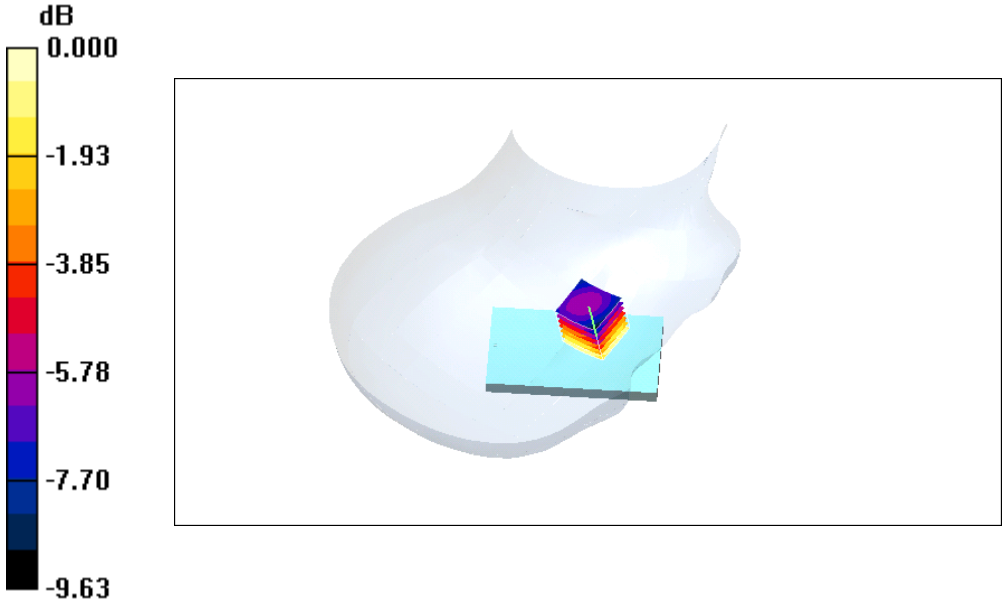
0 dB =0.911mW/g

Right Side	Cheek	**846.6 MHz**

Communication System: UMTS 835; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 846.6 MHz; σ = 0.983 mho/m; ε_r = 40; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.88, 8.3, 8.05); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/26/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Touch position - High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.6 V/m; Power Drift = -0.014 dB
Peak SAR (extrapolated) = 1.11 W/kg
SAR(1 g) = 0.928 mW/g; SAR(10 g) = 0.708 mW/g
Maximum value of SAR (measured) = 0.975 mW/g



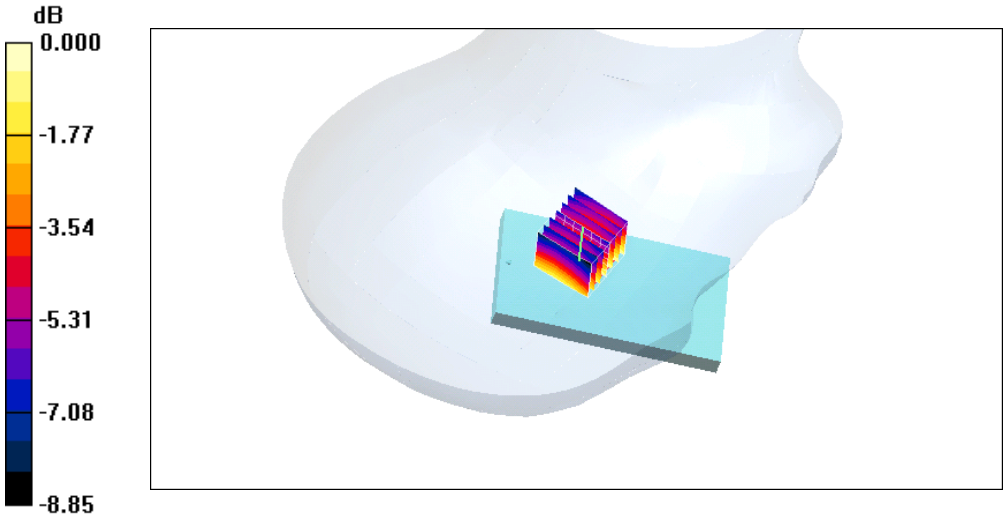
0 dB = 0.975mW/g

Right Side	Tilt	**826.4 MHz**

Communication System: UMTS 835; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.961 mho/m; ε_r = 39.6; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.88, 8.3, 8.05); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/26/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position -low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.0 V/m; Power Drift = -0.076 dB
Peak SAR (extrapolated) = 0.697 W/kg
SAR(1 g) = 0.559 mW/g; SAR(10 g) = 0.423 mW/g
Maximum value of SAR (measured) = 0.587 mW/g



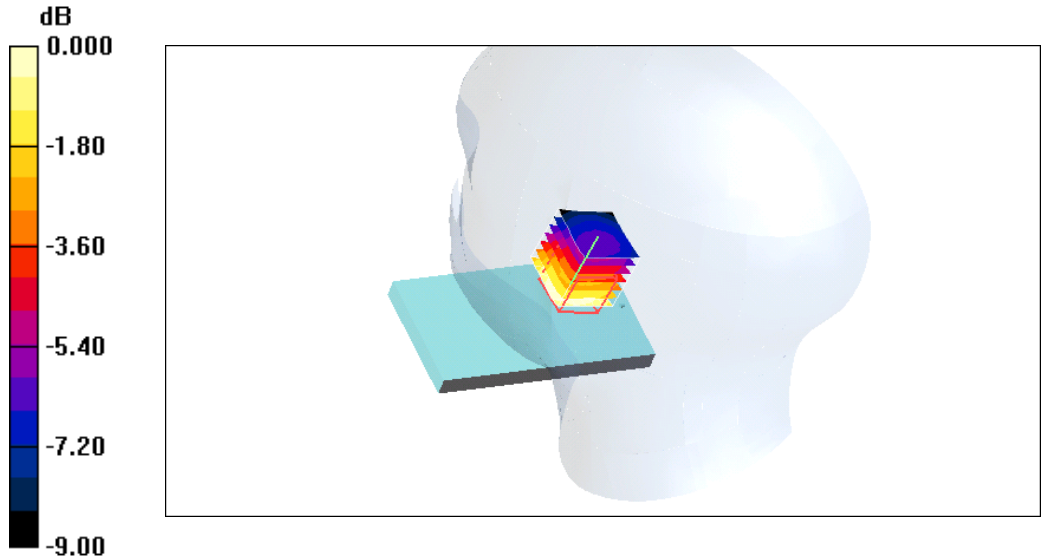
0 dB =0.587 mW/g

Right Side	Tilt	**836.5 MHz**

Communication System: UMTS 835; Frequency: 836.5 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.5 MHz; σ = 0.978 mho/m; ε_r = 39.4; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.88, 8.3, 8.05); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/26/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position-middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.0 V/m; Power Drift = 0.028 dB
Peak SAR (extrapolated) = 0.760 W/kg
SAR(1 g) = 0.607 mW/g; SAR(10 g) = 0.456 mW/g
Maximum value of SAR (measured) = 0.640 mW/g



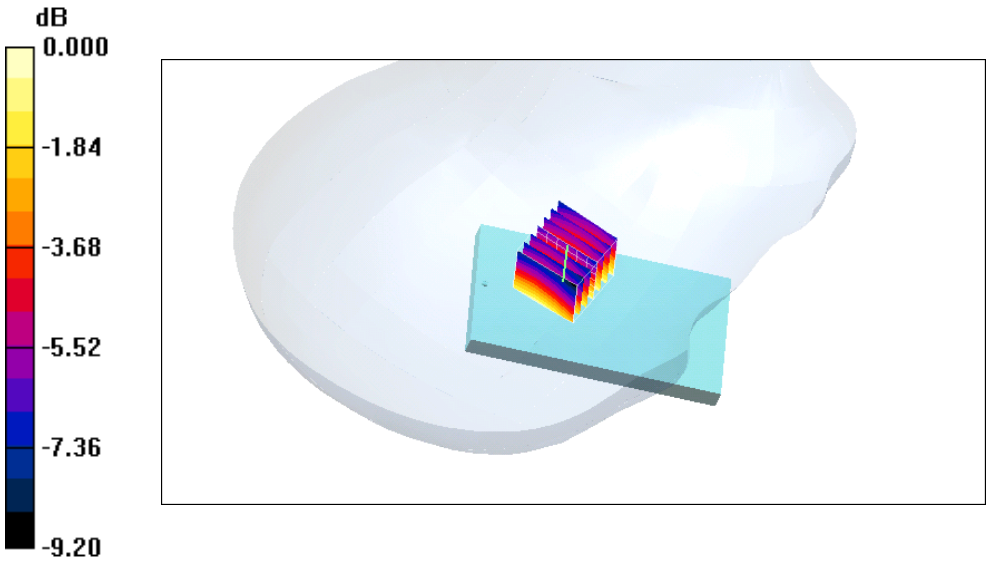
0 dB = 0.640mW/g

Right Side	Tilt	**846.6MHz**

Communication System: UMTS 835; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 846.6 MHz; σ = 0.983 mho/m; ε_r = 40; ρ = 1000 kg/m^3
Phantom section: Right Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.88, 8.3, 8.05); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/26/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position-high/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.4 V/m; Power Drift = -0.036 dB
Peak SAR (extrapolated) = 0.700 W/kg
SAR(1 g) = 0.559 mW/g; SAR(10 g) = 0.419 mW/g
Maximum value of SAR (measured) = 0.589 mW/g



0 dB = 0.589 mW/g

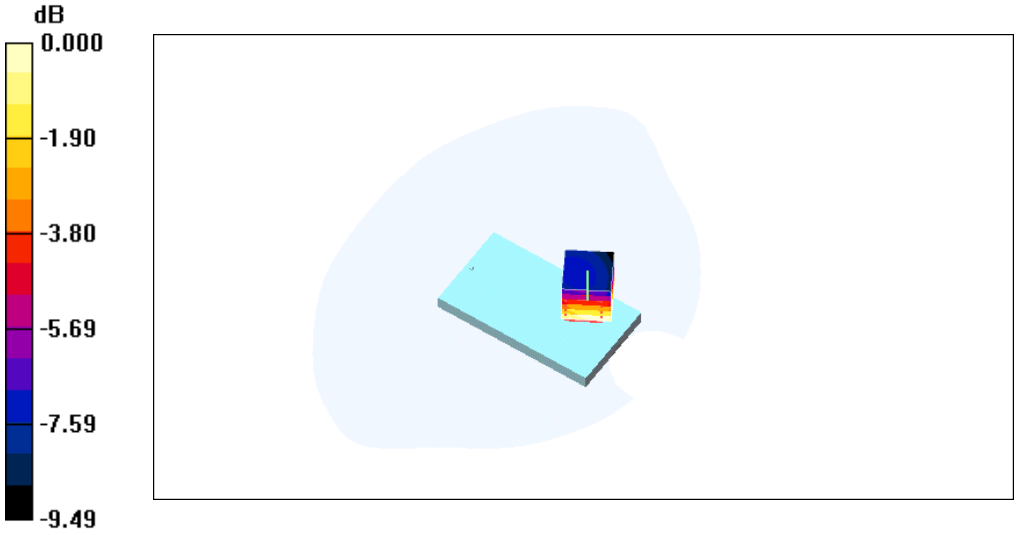
WCDMA B5 with headset (Flat)

FLAT	Towards ground	**826.4 MHz**

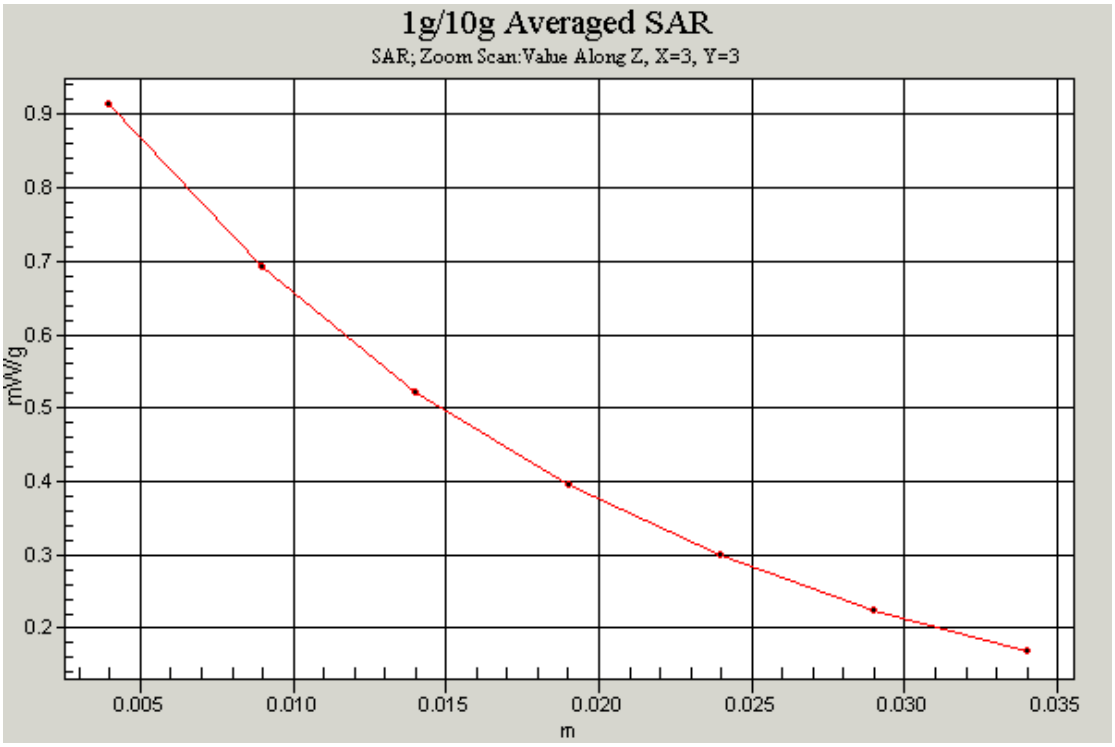
Communication System: UMTS 835; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.97 mho/m; ε_r = 53.2; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(6.78, 7.02, 6.8); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/26/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

towards ground-low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.4 V/m; Power Drift = -0.023 dB
Peak SAR (extrapolated) = 1.12 W/kg
SAR(1 g) = 0.866 mW/g; SAR(10 g) = 0.634 mW/g
Maximum value of SAR (measured) = 0.913 mW/g



0 dB =0.913mW/g



Z-Scan at power reference point (850 MHz CH4132)

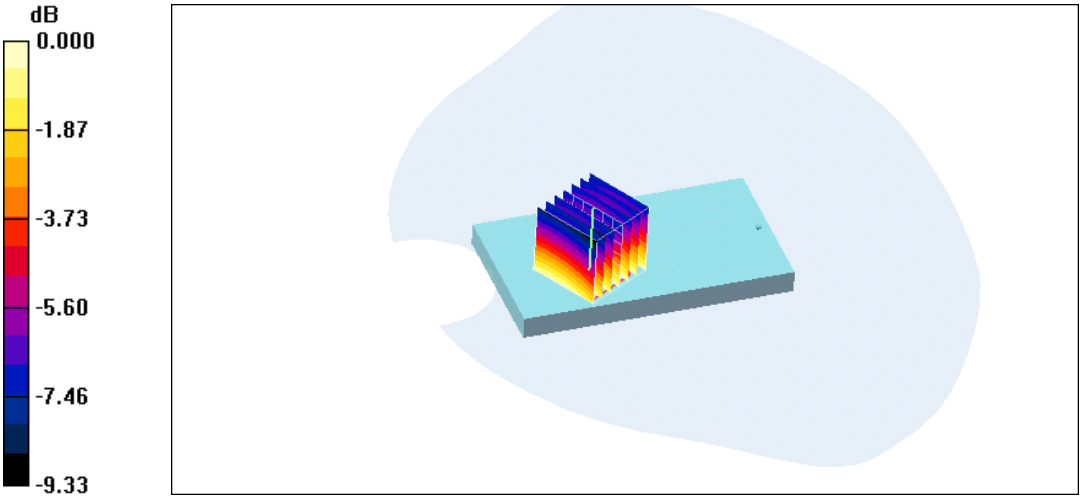
FLAT	Towards ground	836.5 MHz

Communication System: UMTS 835; Frequency: 836.5 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.5 MHz; σ = 0.99 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(6.78, 7.02, 6.8); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/26/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.2 V/m; Power Drift = -0.017 dB
Peak SAR (extrapolated) = 0.959 W/kg
SAR(1 g) = 0.741 mW/g; SAR(10 g) = 0.544 mW/g
Maximum value of SAR (measured) = 0.781 mW/g



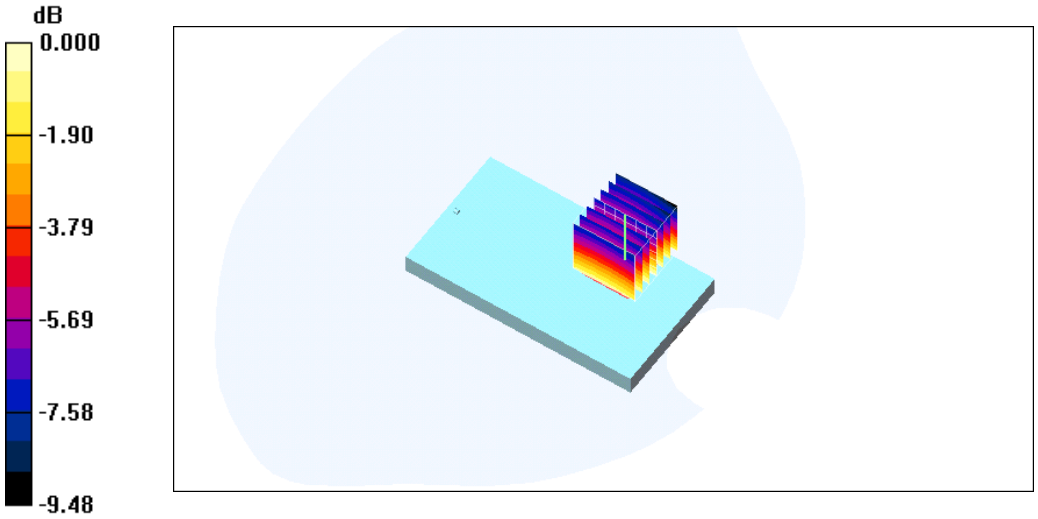
0 dB = 0.781mW/g

FLAT	Towards ground	**846.6 MHz**

Communication System: UMTS 835; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 846.6 MHz; σ = 1 mho/m; ε_r = 54.4; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(6.78, 7.02, 6.8); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/26/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

towards ground-high/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.8 V/m; Power Drift = -0.022 dB
Peak SAR (extrapolated) = 0.984 W/kg
SAR(1 g) = 0.757 mW/g; SAR(10 g) = 0.554 mW/g
Maximum value of SAR (measured) = 0.802 mW/g



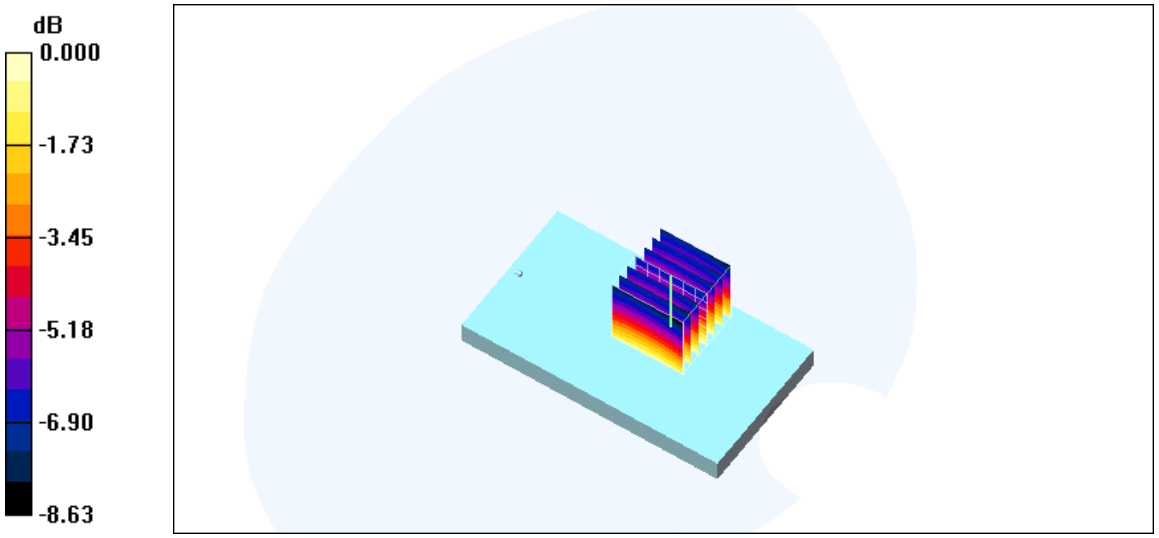
0 dB =0.802 mW/g

FLAT	Towards phantom	836.5 MHz

Communication System: UMTS 835; Frequency: 836.5 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 836.5 MHz; σ = 0.99 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(6.78, 7.02, 6.8); Calibrated: 6/22/2010
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/26/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

towards phantom-Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 21.3 V/m; Power Drift = -0.094 dB
Peak SAR (extrapolated) = 0.737 W/kg
SAR(1 g) = 0.579 mW/g; SAR(10 g) = 0.430 mW/g
Maximum value of SAR (measured) = 0.612 mW/g



0 dB =0.612mW/g

APPENDIX C: RELEVANT PAGES FROM PROBE CALIBRATION REPORT(S)

The State Radio_monitoring_center Testing Center

Calibration Certificate

CALIBRATION
CNAS L0447

Instrument	Dosimetric E-field Probe
Type/Model	ES3DV3
Manufacturer	Schmid & Partner Engineering AG
Serial No	SN:3128
Name of Client	The State Radio_monitoring_center Testing Center
Address of Client	No.98 Bei Lishi Road XiCheng District
Calibration Date	2010.6.22

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

Approved by

国家无线电监测中心检测中心
设备检测专用章

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Add: No.80 Bei Lishi Road, Xi Cheng District Beijing 100037, P .R .China

Page 1 of 6 Certificate No.SRTC2010-CAL002-004

The State Radio_monitoring_center Testing Center

Reference documents of the measurement(Code, Name)
SRTC3003-V1.0.0 Working procedure for calibration——SAR testing system
Place and environmental condition of the measurement
Temperature 22.1℃ Humidity 24.8% Location SRTC226 room

Primary Calibration Equipment used	Model/Type	ID#	Cal Date	Scheduled Calibration
Power meter	E4417A	SN: MY45101004	2009.8	2010.8
Power sensor	E9300B	SN: MY41496001	2009.8	2010.8
Power sensor	E9300B	SN: MY41496003	2009.8	2010.8
Reference DAE	DAE4	SN: 720	2010.1	2011.1
Signal generator	SML03	SN:103514	2009.8	2010.8
Network analyzer	8714ET	SN:US40372083	2009.8	2010.8
Secondary Calibration Equipment use	Model/Type	ID#		
Waveguide	WGLS R9	SN:1006		
Waveguide	WGLS R14	SN:1003		
Waveguide	WGLS R22	SN:1006		

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Add: No.80 Bei Lishi Road, Xi Cheng District Beijing 100037, P .R .China

The State Radio_monitoring_center Testing Center

Note:

1. This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).

   The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

2. This calibration certificate is not permitted to be reproduced except in full without written the approval of the only laboratory

3. SRTC is responsible for the whole of certificate only with stamp of SRTC.

4. The calibration results would be valid only for the items calibration.

5. The certification is written by Chinese and English. Exact meaning should be explained only on Chinese version.

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Add: No.80 Bei Lishi Road, Xi Cheng District Beijing 100037, P .R .China

The State Radio_monitoring_center Testing Center

Glossary

TSL	Tissue Simulating Liquid
NORMx, y, z	The sensitivity in free space
ConvF	The sensitivity of the TSL/The sensitivity in free space
DCP	Diode Compression Point
Angle φ	φ rotation around probe axis
Angle θ	θ rotation around an axis that is in the plane normal to probe axis i.e. θ=0，means that is normal to probe axis

Calibration is preformed according to the Following Standards

IEEE Std 1528-2003
IEC 62209-1-2005
Federal Communication Commission Office of Engineering & Technology (FCC OET)

Methods Applied and Interpretation of Parameters

- NORMx, y, z：Assessed for E-field polarization θ=0 for XY sensors and θ=90 for Z sensor
- NORM(f)x, y, z= NORMx, y, z * frequency_response. And this linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the states uncertainty of ConvF.
- DCPx,y,z：DCP are numerical linearization parameters assessed based on the data of power sweep(no uncertainty required). DCP does not depend on frequency and medium.
- ConvF and boundary effect：Assessed in flat phantom using E-field and inside waveguide using analytical field distributions based on power measurements for f > 800MHz.The same setups are used for assessment of the parameters applied for boundary compensation(alpha,depth)of which typical uncertainty values are given. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from ±50MHz to ±100MHz.
- Spherical isotropy：in a locally homogeneous field realized using an open waveguide setup.

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The State Radio_monitoring_center Testing Center

Measurement Conditions

DASY versions	DSAY 5	V5.0 Build 126
Model	Flat phantom	———

Probe Sensitivity Parameters

	Value	Unit
Axis X	1.00	$\mu V/(V/m)^2$
Axis Y	1.00	$\mu V/(V/m)^2$
Axis Z	1.00	$\mu V/(V/m)^2$

1. Diode Compression Point

	Value	Unit	Uncertainty (k=2)
Axis X	97.4	mV	10.82%
Axis Y	101.4	mV	10.82%
Axis Z	100.7	mV	10.82%

2. Probe Conversion Factors: Head Tissue Liquid

Frequency (MHz)	Validity (MHz)	Permittivity	Conductivity (mho/m)	Alpha	Depth (mm)	ConvFx/ ConvFy / ConvFz $\mu V/(V/m)^2$			Uncertainty ($k=2$)
835	±100	41.93	0.916	0.448	1.499	7.880	8.301	8.050	13.02%
900	±100	42.72	0.968	0.607	1.271	9.029	9.525	9.201	13.02%
1800	±100	39.61	1.354	0.312	2.126	6.154	6.495	6.273	13.02%
1900	±100	39.11	1.463	0.381	1.832	4.947	5.220	5.055	13.02%

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3. Probe Conversion Factors: Body Tissue Liquid

Frequency (MHz)	Validity (MHz)	Permittivity	Conductivity (mho/m)	Alpha	Depth (mm)	ConvFx/ ConvFy/ConvFz $\mu V/(V/m)^2$			Uncertainty ($k = 2$)
835	±100	54.05	0.983	0.508	1.412	6.776	7.019	6.804	13.02%
900	±100	54.48	1.055	0.672	1.244	8.755	9.243	8.919	13.02%
1800	±100	53.74	1.567	0.316	2.446	5.702	6.018	5.816	13.02%
1900	±100	54.42	1.465	0.330	2.414	4.532	4.785	4.632	13.02%

4. Probe Isotropy

	Value	Unit	Uncertainty(k=2)
Axial Isotropy	-0.071	dB	10.18%
Spherical Isotropy	-0.171	dB	10.18%

Calibrated by 张明远 Checked by

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Add: No.80 Bei Lishi Road, Xi Cheng District Beijing 100037, P .R .China

APPENDIX D: RELEVANT PAGES FROM DIPOLE VALIDATION KIT REPORT(S)

The State Radio_monitoring_center Testing Center

Calibration Certificate

Instrument	Dipole
Type/Model	D900V2
Manufacturer	Schmid & Partner Engineering AG
Serial No	SN:171
Name of Client	The State Radio_monitoring_center Testing Center
Address of Client	No.98 Bei Lishi Road XiCheng District
Calibration Date	2010.6.11

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

Approved by

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Add: No.80 Bei Lishi Road, Xi Cheng District Beijing 100037, P .R .China

The State Radio_monitoring_center Testing Center

Reference documents of the measurement(Code, Name)
SRTC3003-V1.0.0 Working procedure for calibration of SAR Testing system
Place and environmental condition of the measurement
Temperature 21.6℃ Humidity 30.7% Location SRTC Room226

Primary Calibration Equipment used	Model/Type	ID#	Cal Date	Scheduled Calibration
Power meter	E4417A	SN: MY45101004	2009.8	2010.8
Power sensor	E9300B	SN: MY41496001	2009.8	2010.8
Power sensor	E9300B	SN: MY41496003	2009.8	2010.8
Reference DAE	DAE4	SN: 720	2010.1	2011.1
Reference probe	ES3DV3	SN: 3128	2009.6	2010.6
Secondary Calibration Equipment used	**Model/Type**	**ID#**	**Cal Date**	**Scheduled Calibration**
Signal generator	SML03	SN:103514	2009.8	2010.8
Network analyzer	8714ET	SN:US40372083	2009.8	2010.8

Tel: +86-10-68009202 68009203 Fax: +86-10-68009205 68009195
Add: No.80 Bei Lishi Road, Xi Cheng District Beijing 100037, P .R .China

The State Radio_monitoring_center Testing Center

Note:

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

2. This calibration certificate is not permitted to be reproduced except in full without written the approval of the only laboratory

3. SRTC is responsible for the whole of certificate only with stamp of SRTC.

4. The calibration results would be valid only for the items calibration.

5. The certification is written by Chinese and English. Exact meaning should be explained only on Chinese version.

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The State Radio_monitoring_center Testing Center

Glossary

TSL	Tissue Simulating Liquid
ConvF	The sensitivity of the TSL / sensitivity in TSL/NORM x, y, z
N/A	not applicable or not measured

Calibration is preformed according to the Following Standards

a) IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in Human Head from Wireless Communication Devices: Measurement Techniques", December 2003

b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300MHz to 3GHz) ", February 2005

c) Federal Communication Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

e) DASY System Handbook

Tel: +86-10-68009202 68009203 Fax: +86-10-68009205 68009195
Add: No.80 Bei Lishi Road, Xi Cheng District Beijing 100037, P .R .China

Methods Applied and Interpretation of Parameters

- Measurement Conditions: Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL: The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- SAR measured: SAR measured at the stated antenna input power
- SAR normalized: SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters: The measured TSL parameters are used to calculate the nominal SAR result.

Measurement Conditions

DASY Version	DSAY 5	V5.0 Build 126
Extrapolation	Advanced Extrapolation	———
Phantom	ELI4	———
Distance Dipole Center-TSL	15mm	With spacer (See note)
Area Scan Resolution	dx,dy=15mm	———
Zoom Scan Resolution	dx,dy,dz=5mm	———
Frequency	900MHz	———

Note: As client can not provide a spacer for their dipole, we used a alternate method to define the distance from dipole center to TSL. Pictures in Annex 3 show the details.

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Head TSL Parameters

The following parameters and calculation were applied

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0℃	41.5	0.97mho/m
Measured Head TSL parameters	(22±0.5)℃	41.2	0.95m±5%
Head TSL temperature during test	(21.6±0.6)℃	———	———

1. SAR-Head TSL

SAR -1g SAR averaged over 1cm^3(1g) of Head TSL	Condition	———
SAR measured	250mW input power	2.70mW/g
SAR normalized	normalized to 1W	10.80mW/g
SAR for nominal Head TSL parameters	normalized to 1W	**10.71 mW/g±15.20%(k=2)**

SAR-10g SAR averaged over 10cm^3(10g) of Head TSL	Condition	———
SAR measured	250mW input power	1.72mW/g
SAR normalized	normalized to 1W	6.88mW/g
SAR for nominal Head TSL parameters	normalized to 1W	**6.80mW/g±14.38%(k=2)**

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Add: No.80 Bei Lishi Road, Xi Cheng District Beijing 100037, P .R .China

2. Annex

Annex 1

Date/Time: 6/11/2010 8:30:47 AM

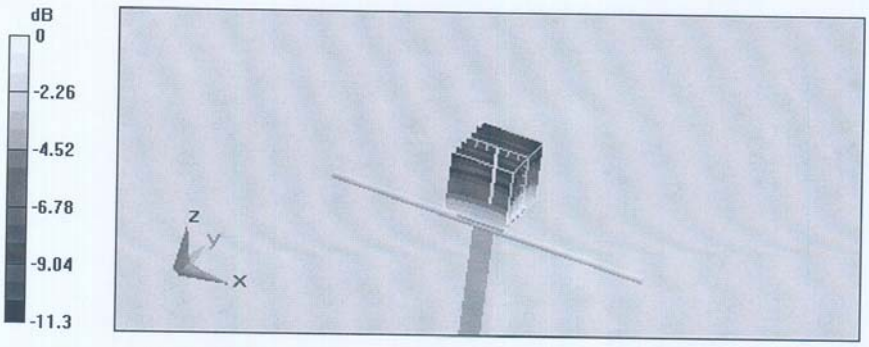
Test Laboratory: SRTC, Beijing, China

DUT: Dipole 900 MHz; Type: D900V2; Serial: D900V2 - SN:171

Communication System: CW; Frequency: 900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 900 MHz; σ = 0.949 mho/m; εr = 41.2; ρ = 1000 kg/m3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)
DASY4 Configuration:

- Probe: ES3DV3 - SN3128; ConvF(5.52, 5.52, 5.52); Calibrated: 6/22/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 1/18/2010
- Phantom: ELI 4.0; Type: QDOVA001BA
- Measurement SW: DASY5, V5.0 Build 126; SEMCAD X Version 13.4 Build 125

Pin=250mW;d=15mm /Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 56.3 V/m; Power Drift = -0.025 dB
Peak SAR (extrapolated) = 4.18 W/kg
SAR(1 g) = 2.7 mW/g; SAR(10 g) = 1.72 mW/g
Maximum value of SAR (measured) = 2.93 mW/g



0 dB = 2.93mW/g

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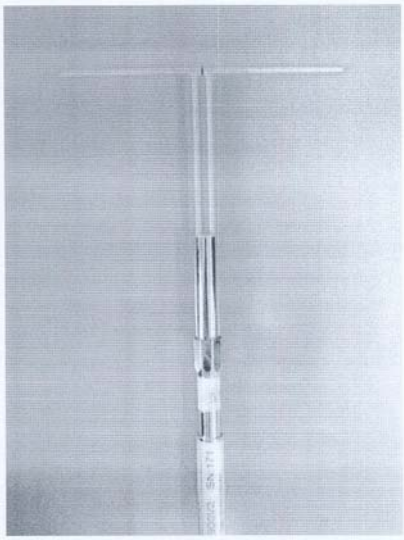
Annex 2



Calibrated by 张明远 Checked by 刘

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

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

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

Accreditation No.: **SCS 108**

Glossary:

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

Calibration is Performed According to the Following Standards:

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

Additional Documentation:

d) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

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

Measurement Conditions

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

DASY Version	DASY4	V4.7
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom V4.9	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	835 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	41.5	0.90 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	40.4 ± 6 %	0.88 mho/m ± 6 %
Head TSL temperature during test	(22.0 ± 0.2) °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm³ (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.37 mW / g
SAR normalized	normalized to 1W	9.48 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**9.46 mW / g ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Head TSL	condition	
SAR measured	250 mW input power	1.56 mW / g
SAR normalized	normalized to 1W	6.24 mW / g
SAR for nominal Head TSL parameters [1]	normalized to 1W	**6.21 mW / g ± 16.5 % (k=2)**

[1] Correction to nominal TSL parameters according to d), chapter "SAR Sensitivities"

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.2	0.97 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	53.4 ± 6 %	0.99 mho/m ± 6 %
Body TSL temperature during test	(22.0 ± 0.2) °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm³ (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.42 mW / g
SAR normalized	normalized to 1W	9.68 mW / g
SAR for nominal Body TSL parameters [2]	normalized to 1W	**9.36 mW / g ± 17.0 % (k=2)**

SAR averaged over 10 cm³ (10 g) of Body TSL	condition	
SAR measured	250 mW input power	1.60 mW / g
SAR normalized	normalized to 1W	6.40 mW / g
SAR for nominal Body TSL parameters [2]	normalized to 1W	**6.24 mW / g ± 16.5 % (k=2)**

[2] Correction to nominal TSL parameters according to d), chapter "SAR Sensitivities"

Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	54.9 Ω - 2.6 jΩ
Return Loss	-25.5 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	50.3 Ω - 4.5 jΩ
Return Loss	- 27.0 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.390 ns

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

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

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	July 04, 2005

DASY4 Validation Report for Head TSL

Date/Time: 16.06.2008 10:59:00

Test Laboratory: SPEAG, Zurich, Switzerland

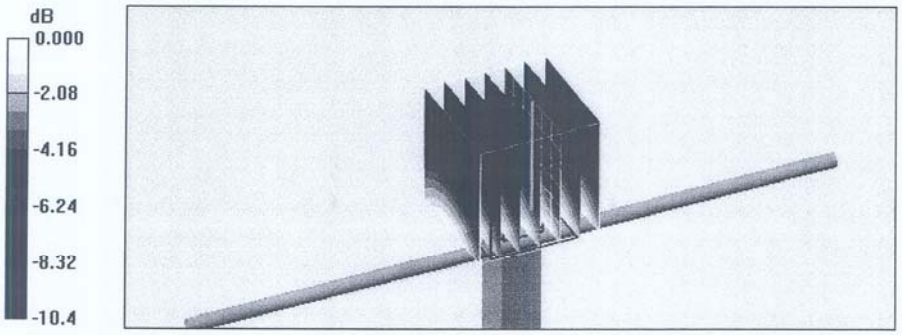
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d023

Communication System: CW-835; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: HSL 900 MHz;
Medium parameters used: f = 835 MHz; σ = 0.88 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY4 (High Precision Assessment)

DASY4 Configuration:

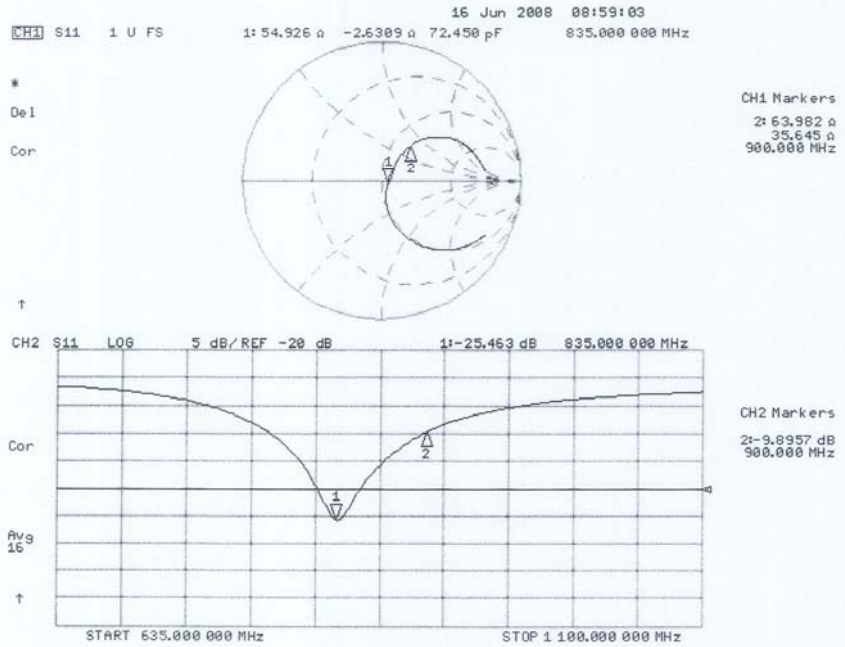
- Probe: ES3DV2 - SN3025; ConvF(5.97, 5.97, 5.97); Calibrated: 28.04.2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 14.03.2008
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; ;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build 184

Pin=250mW; dip=15mm; dist=3.4mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 56.5 V/m; Power Drift = -0.056 dB
Peak SAR (extrapolated) = 3.48 W/kg
SAR(1 g) = 2.37 mW/g; SAR(10 g) = 1.56 mW/g
Maximum value of SAR (measured) = 2.68 mW/g



0 dB = 2.68mW/g

Impedance Measurement Plot for Head TSL



DASY4 Validation Report for Body TSL

Date/Time: 06.06.2008 12:44:11

Test Laboratory: SPEAG, Zurich, Switzerland

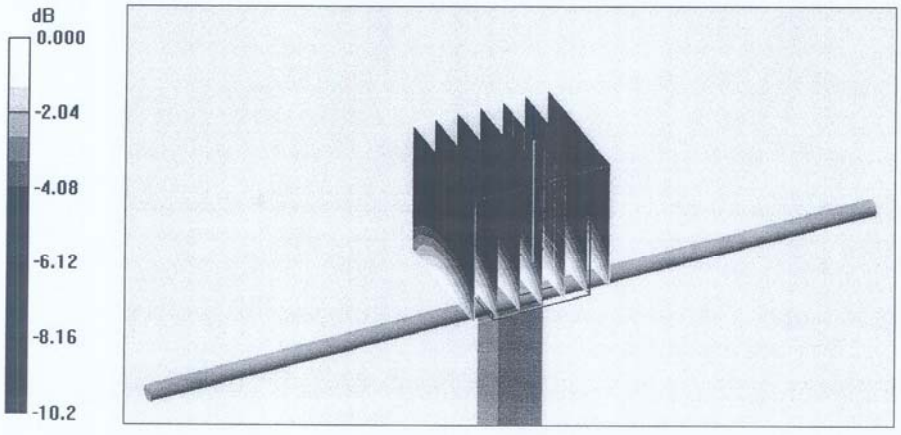
DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d023

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

DASY4 Configuration:

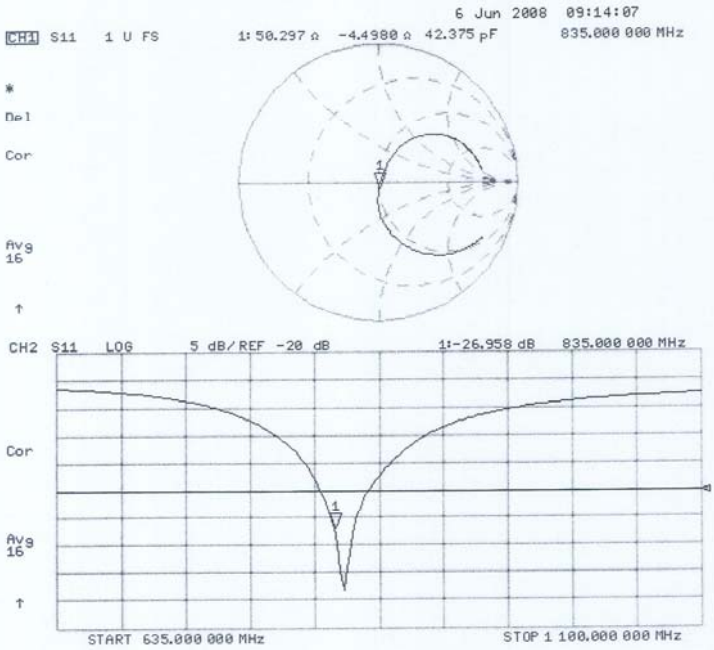
- Probe: ES3DV2 - SN3025; ConvF(5.9, 5.9, 5.9); Calibrated: 28.04.2008
- Sensor-Surface: 3.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 14.03.2008
- Phantom: Flat Phantom 4.9L; Type: QD000P49AA; ;
- Measurement SW: DASY4, V4.7 Build 71; Postprocessing SW: SEMCAD, V1.8 Build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

Pin = 250mW, d = 15mm/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 53.7 V/m; Power Drift = 0.008 dB
Peak SAR (extrapolated) = 3.49 W/kg
SAR(1 g) = 2.42 mW/g; SAR(10 g) = 1.6 mW/g
Maximum value of SAR (measured) = 2.73 mW/g



0 dB = 2.73mW/g

Impedance Measurement Plot for Body TSL



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Calibration Certificate

CALIBRATION
CNAS L0447

Instrument	Dipole
Type/Model	D1800V2
Manufacturer	Schmid & Partner Engineering AG
Serial No	SN:2d084
Name of Client	The State Radio_monitoring_center Testing Center
Address of Client	No.98 Bei Lishi Road XiCheng District
Calibration Date	2010.6.11

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

Approved by

国家无线电监测中心检测中心 设备检测专用章

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Reference documents of the measurement(Code, Name)
SRMC3003-V1.0.0 Working procedure for calibration of SAR Testing system
Place and environmental condition of the measurement
Temperature 21.6℃ Humidity 30.7% Location SRTC Room226

Primary Calibration Equipment used	Model/Type	ID#	Cal Date	Scheduled Calibration
Power meter	E4417A	SN: MY45101004	2009.8	2010.8
Power sensor	E9300B	SN: MY41496001	2009.8	2010.8
Power sensor	E9300B	SN: MY41496003	2009.8	2010.8
Reference DAE	DAE4	SN: 720	2010.1	2011.1
Reference probe	ES3DV3	SN: 3128	2009.6	2010.6
Secondary Calibration Equipment used	**Model/Type**	**ID#**	**Cal Date**	**Scheduled Calibration**
Signal generator	SML03	SN:103514	2009.8	2010.8
Network analyzer	8714ET	SN:US40372083	2009.8	2010.8

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Note:

1. This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).

   The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

2. This calibration certificate is not permitted to be reproduced except in full without written the approval of the only laboratory

3. SRTC is responsible for the whole of certificate only with stamp of SRTC.

4. The calibration results would be valid only for the items calibration.

5. The certification is written by Chinese and English. Exact meaning should be explained only on Chinese version.

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Glossary

TSL	Tissue Simulating Liquid
ConvF	The sensitivity of the TSL / sensitivity in TSL/NORM x, y, z
N/A	not applicable or not measured

Calibration is preformed according to the Following Standards

a) IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in Human Head from Wireless Communication Devices: Measurement Techniques", December 2003

b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300MHz to 3GHz) ", February 2005

c) Federal Communication Commission Office of Engineering & Technology (FCC OET), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields; Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions", Supplement C (Edition 01-01) to Bulletin 65

Additional Documentation:

e) DASY System Handbook

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Add: No.80 Bei Lishi Road, Xi Cheng District Beijing 100037, P .R .China

Methods Applied and Interpretation of Parameters

- Measurement Conditions: Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL: The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- SAR measured: SAR measured at the stated antenna input power
- SAR normalized: SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters: The measured TSL parameters are used to calculate the nominal SAR result.

Measurement Conditions

DASY Version	DSAY 5	V5.0 Build 126
Extrapolation	Advanced Extrapolation	———
Phantom	ELI4	———
Distance Dipole Center-TSL	10mm	With spacer (See note)
Area Scan Resolution	dx,dy=10mm	———
Zoom Scan Resolution	dx,dy,dz=5mm	———
Frequency	1800MHz	———

Note: As client can not provide a spacer for their dipole, we used a alternate method to define the distance from dipole center to TSL. Pictures in Annex 3 show the details.

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Head TSL Parameters

The following parameters and calculation were applied

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0℃	40.0	1.40mho/m
Measured Head TSL parameters	(22±0.5)℃	39.2	1.35m±5%
Head TSL temperature during test	(21.6±0.6)℃	———	———

1. SAR-Head TSL

SAR -1g SAR averaged over 1cm^3(1g) of Head TSL	Condition	———
SAR measured	250mW input power	9.55mW/g
SAR normalized	normalized to 1W	38.20mW/g
SAR for nominal Head TSL parameters	normalized to 1W	**37.62 mW/g±15.20%(k =2)**

SAR-10g SAR averaged over 10cm^3(10g) of Head TSL	Condition	———
SAR measured	250mW input power	5.09mW/g
SAR normalized	normalized to 1W	20.36mW/g
SAR for nominal Head TSL parameters	normalized to 1W	**20.13mW/g±14.38%(k =2)**

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2. Annex

Annex 1

Date/Time: 6/11/2010 8:30:47 AM

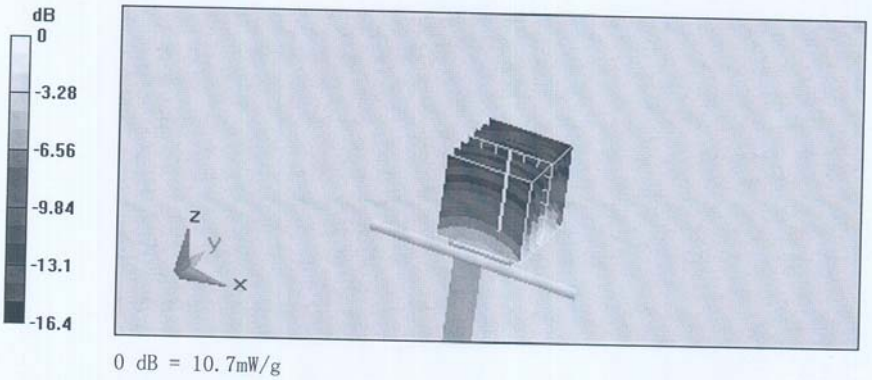
Test Laboratory: SRTC, Beijing, China

DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN: 2d084

Communication System: CW; Frequency: 1800 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1800 MHz; σ = 1.35 mho/m; εr = 39.2; ρ = 1000 kg/m3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC)
DASY4 Configuration:

- Probe: ES3DV3 - SN3128; ConvF(4.93, 4.93, 4.93); Calibrated: 6/22/2009
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn720; Calibrated: 1/18/2010
- Phantom: ELI 4.0; Type: QDOVA001BA
- Measurement SW: DASY5, V5.0 Build 126; SEMCAD X Version 13.4 Build 125

Pin=250mW;d=10mm/Zoom Scan (7x7x7) (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 89 V/m; Power Drift = -0.119 dB
Peak SAR (extrapolated) = 17.2 W/kg
SAR(1 g) = 9.55 mW/g; SAR(10 g) = 5.09 mW/g
Maximum value of SAR (measured) = 10.7 mW/g



0 dB = 10.7mW/g

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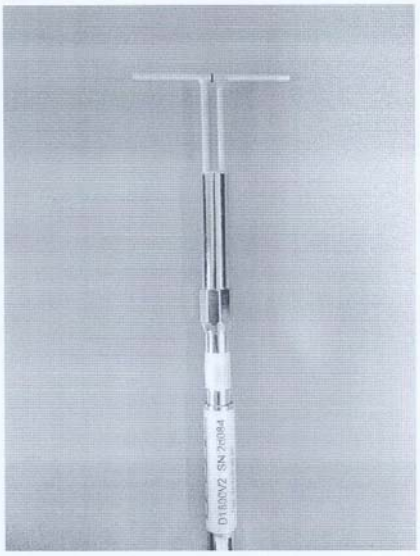
Annex 2



Calibrated by 张时远 Checked by 陈

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