D-PL-12111-01-01

CNAS L0447

Registration No.910917

CONFORMANCE TEST REPORT FOR

HUMAN EXPOSURE TO ELECTROMAGNETIC FIELDS

Report No.: SRTC2011-H024-E0074

Product Name: GSM Digital Mobile Phone

Product Model: ZTE-G S516

Applicant: ZTE Corporation

Manufacturer: ZTE Corporation

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

Supplement C (Edition 01-01)

47CFR 2.1093

FCC ID: Q78-GS516

The State Radio_monitoring_center Testing Center (SRTC)

No.80 Beilishi Road Xicheng District Beijing, China

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Executive summary

Test report no.:	**SRTC2011-H024-E0074**
Product Model:	**ZTE-G S516**
Date of test:	**2011.9.13**
Date of report:	**2011.9.23**
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
GSM850	128/824.2	32.49	Left Cheek	1.6	**0.426**	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: **2011.09.23**

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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1.5 Test details

Period of test	2011.9.13
Batteries used in testing	Li-Lon/Li3704T42P3h463548/ BYD
State of sample	production unit
Device class/Multislot class DTM	N/A N/A
H/W Version S/W Version	gbsA E-ZTEQ-P110A13V1.0.0
IMEI	861312000001955

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 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	32.49	Left cheek	1.6	**0.426**	PASS
GSM1900	661/1880.0	29.59	Left cheek	1.6	**0.168**	PASS

1.6.2 Body Worn Configuration

Mode	CH/*f*(MHz)	Power	Position	Sar Limit (1g avg) (mW/g)	Measured value (1g avg)(mW/g)	Result
GSM850	251/848.8	32.55	Towards ground	1.6	**0.271**	PASS
GSM1900	661/1880.0	29.59	Towards ground	1.6	**0.0529**	PASS

2. DESCRIPTION OF THE DEVICE UNDER TEST

Device category	production unit
Exposure enviroment	General population/uncontrolled

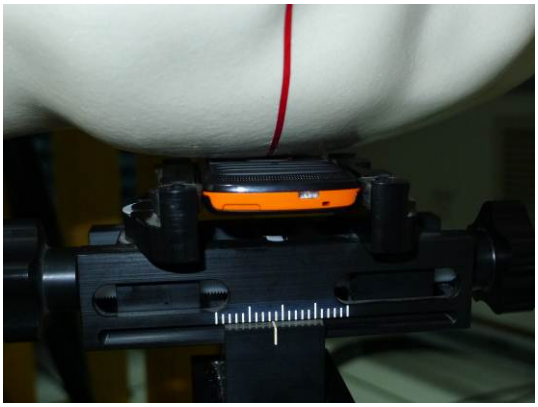
Mode and bands of operation	GSM 850/1900
Modulation Mode	GMSK
Duty Cycle	1/8
Transmitter Frequency Range(MHz)	824-849 1850-1910

2.1 Description of the Antenna

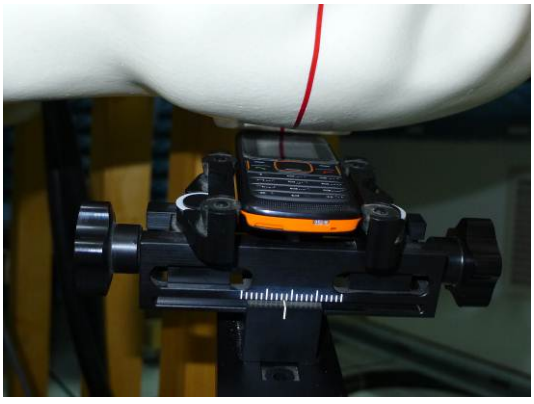
The device has an internal antenna.

2.2 Picture of the EUT

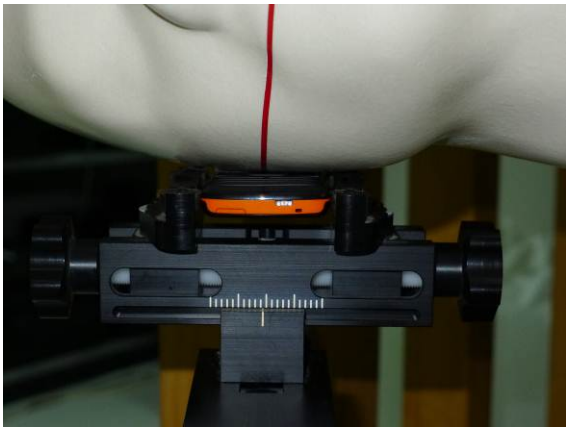
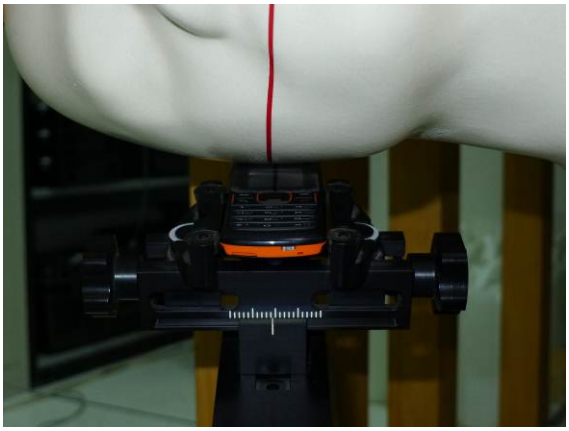
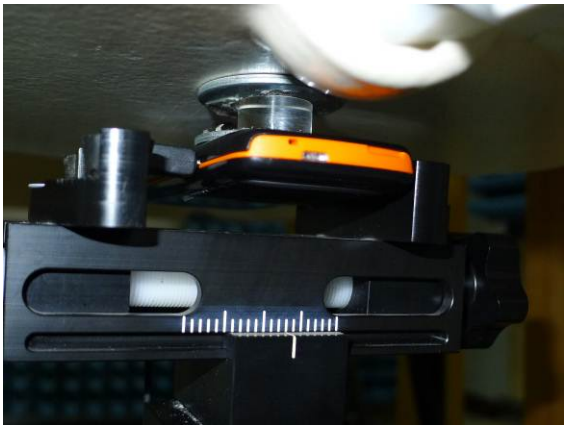
2.3 Test Positions for the Device under test



Cheek position, left side

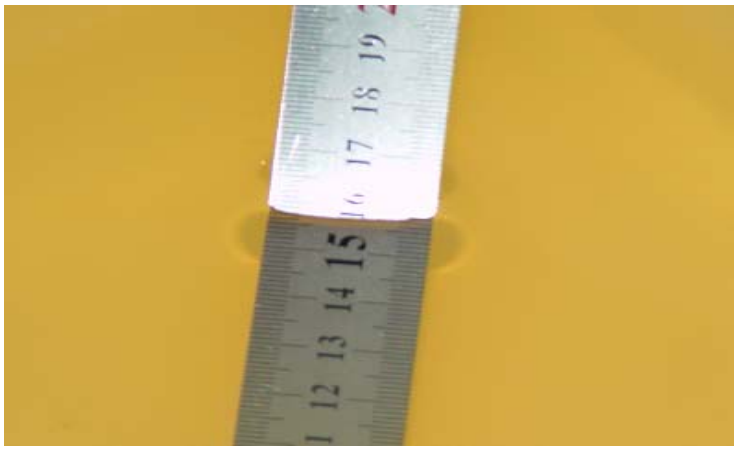


Tilt position, left side

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

2.4 Picture to demonstrate the required liquid depth

the liquid depth in the used SAM phantoms



Liquid depth for SAR Measurement

3 TEST CONDITIONS

3.1 Temperature and Humidity

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

3.2 Test Signal, Frequencies and Output Power

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

4. DESCRIPTION OF THE TEST EQUIPMENT

4.1 Measurement System and Components

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

The following table lists calibration dates of SPEAG components:

Test Equipment	Serial Number	Calibration interval	Calibration expiry
DAE4	720	1year	2012.01
Dosimetric E-field Probe ES3DV3	3128	1year	2012.04
Dipole Validation Kit, D835V2	473	2 years	2012.06
Dipole Validation Kit, D1900V2	5d024	2 years	2012.06
DASY4 software Version	4.7	N/A	N/A

Note: the Dipole Calibration interval is 24 months

Additional test equipment used in testing:

Test Equipment	Model	Serial Number	Calibration interval	Calibration expiry
Signal Generator	E4428C	MY45280865	1year	2012.08
Amplifier	5S1G4	0323472	N/A	N/A
Power meter	E4417A	MY45101182	1year	2012.08
Power Sensor	E4412A	MY41502214	1year	2012.08
Power Sensor	E4412A	MY41502130	1year	2012.08
Call Tester	8960	GB43194054	1year	2012.08
Network Analyzer	8714ET	US40372083	1year	2012.08
Dielectric Probe Kit	85070D	US33030365	N/A	N/A

4.1.1 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):

800MHz band

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

1900MHz band

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

4.3.2 System Checking

The manufacturer calibrates the probes annully. 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 2011.9.13

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 2011.9.13

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. The device was oriented with its antenna facing the phantom since this orientation gives higher results.

5.3 scan procedure

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

5.4 SAR Averaging Methods

The maximum SAR value was averaged over a cube of tissue using interpolation and extrapolation.
The interpolation, extrapolation and maximum search routines within Dasy4 are all based on the modified Quadratic Shepard’s method (Robert J. Renka, ”Multivariate Interpolation Of Large Sets Of Scattered Data”, University of North Texas ACM Transactions on Mathematical Software, vol. 14, no. 2, June 1988, pp. 139-148).
The interpolation scheme combines a least-square fitted function method with a weighted average method. A trivariate 3-D / bivariate 2-D quadratic function is computed for each measurement point and fitted to neighbouring points by a least-square method. For the zoom scan, inverse distance weighting is incorporated to fit distant points more accurately. The interpolating function is finally calculated as a weighted average of the quadratics.
In the zoom scan, the interpolation function is used to extrapolate the Peak SAR from the deepest measurement points to the inner surface of the phantom.

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. Test Results

7.1 Test result

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

Mode: GSM 850

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

SAR Values（Head，850MHz Band）

Limit of SAR (W/kg)	1 g Average
	1.6
Test Case	**Measurement Result (mW/g)**
	1 g Average
Left hand, Touch cheek, f_H	0.371
Left hand, Touch cheek, f_M	0.398
Left hand, Touch cheek, f_L	**0.426**
Left hand, Tilt 15 Degree, f_M	0.194
Right hand, Touch cheek, f_H	---
Right hand, Touch cheek, f_M	0.351
Right hand, Touch cheek, f_L	---
Right hand, Tilt 15 Degree, f_M	0.186

Mode:GSM850

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)	1g Average
	1.6
Test Case	**Measurement Result (mW/g)**
	1g Average
Towards ground with a headset f_H	0.271
Towards ground with a headset f_M	0.265
Towards ground with a headset f_L	0.270
Towards phantom with a headset f_M	**0.148**

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)
	1 g Average
Left hand, Touch cheek , f_H	---
Left hand, Touch cheek, f_M	**0.168**
Left hand, Touch cheek , f_L	---
Left hand, Tilt 15 Degree, f_M	0.0267
Right hand, Touch cheek , f_H	---
Right hand, Touch cheek, f_M	0.166
Right hand, Touch cheek f_L	---
Right hand, Tilt 15 Degree, f_M	0.0306

Mode:GSM1900

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)	1g Average
	1.6
Test Case	Measurement Result (mW/g)
	1g Average
Towards ground with a headset f_H	---
Towards ground with a headset f_M	**0.0529**
Towards ground with a headset f_L	---
Towards phantom with a headset f_M	0.0419

7.2 Conducted power

Mode	GSM850(Head) Duty cycle: 1:8(12.5%)			GSM1900(Head) Duty cycle: 1:8(12.5%)		
Channel	128	189	251	512	661	810
Frequency(MHz)	824.2	836.4	848.8	1850.2	1880.0	1909.8
Measured Power(dBm)	32.49	32.54	32.55	29.61	29.59	29.66

APPENDIX A: SYSTEM CHECKING SCANS

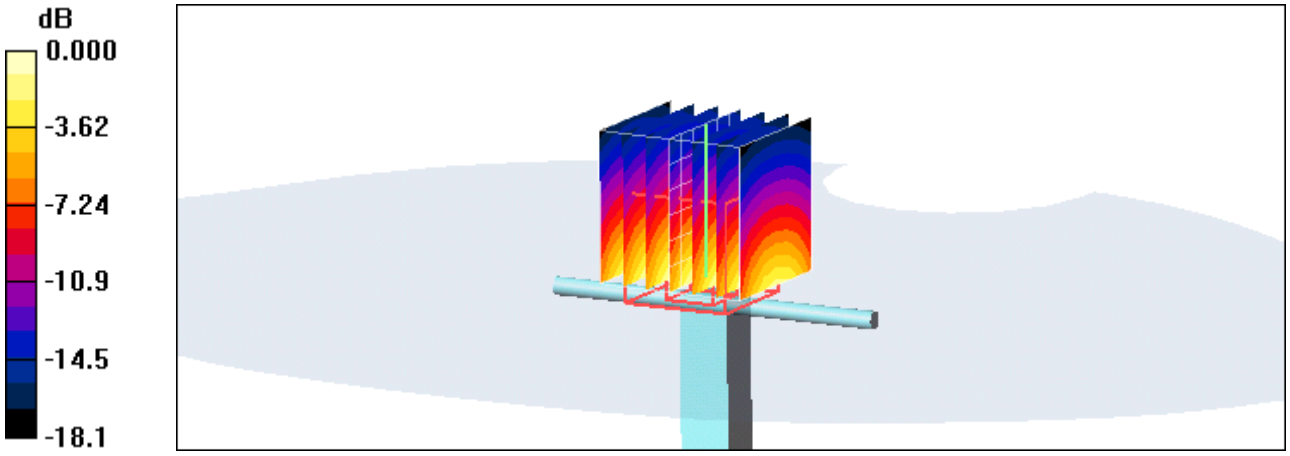
SYSTEM CHECKING SCANS	835MHz

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d023
Medium parameters used (interpolated): f = 835 MHz; σ = 0.98 mho/m; ε_r = 41.5; ρ = 1000 kg/m^3

DASY4 Configuration:

- Probe: ES3DV3 - SN3128; ConvF(9.03, 9.53, 9.2); Calibrated: 4/21/2011
- 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) = 1.32 mW/g
Maximum value of SAR (measured) = 2.9 mW/g



0 dB =2.9 mW/g

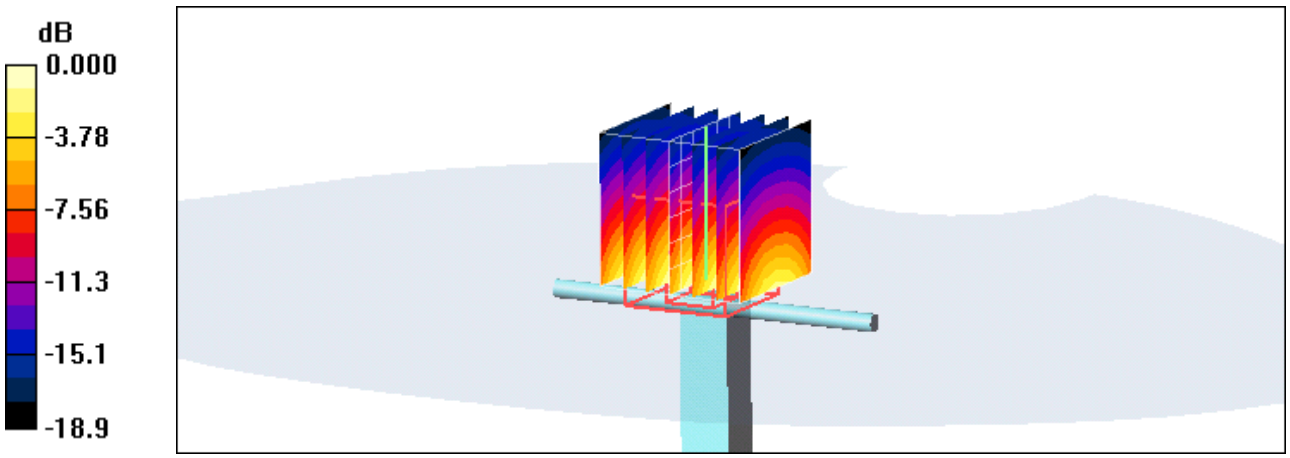
SYSTEM CHECKING SCANS	1900 MHz

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d113
Medium parameters used (interpolated): f = 1900 MHz; σ = 1.44 mho/m; ε_r = 39; ρ = 1000 kg/m^3

DASY4 Configuration:

- Probe: ES3DV3 - SN3128; ConvF(9.03, 9.53, 9.2); Calibrated: 4/21/2011
- 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 = 92.3V/m; Power Drift = -0.047 dB
Peak SAR (extrapolated) = 17.8 W/kg
SAR(1 g) = 9.98 mW/g; SAR(10 g) = 5.32 mW/g
Maximum value of SAR (measured) = 11.6 mW/g



0 dB =11.6 mW/g

APPENDIX B: MEASUREMENT SCANS

GSM (850MHz/Head)

Left Side	Cheek	**836.4 MHz**

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

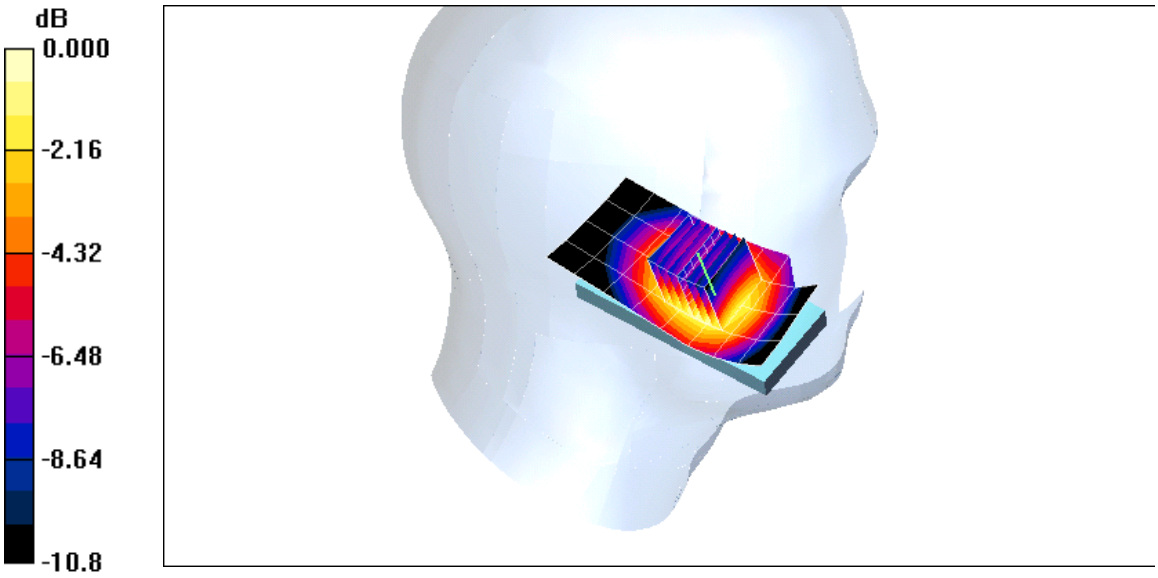
DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.88, 8.3, 8.05); Calibrated: 4/21/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Touch position - Middle/Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.409 mW/g

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.31 V/m; Power Drift = -0.040 dB
Peak SAR (extrapolated) = 0.547 W/kg
SAR(1 g) = 0.398 mW/g; SAR(10 g) = 0.277 mW/g
Maximum value of SAR (measured) = 0.425 mW/g



0 dB = 0.425mW/g

Left Side	Cheek	848.8 MHz

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

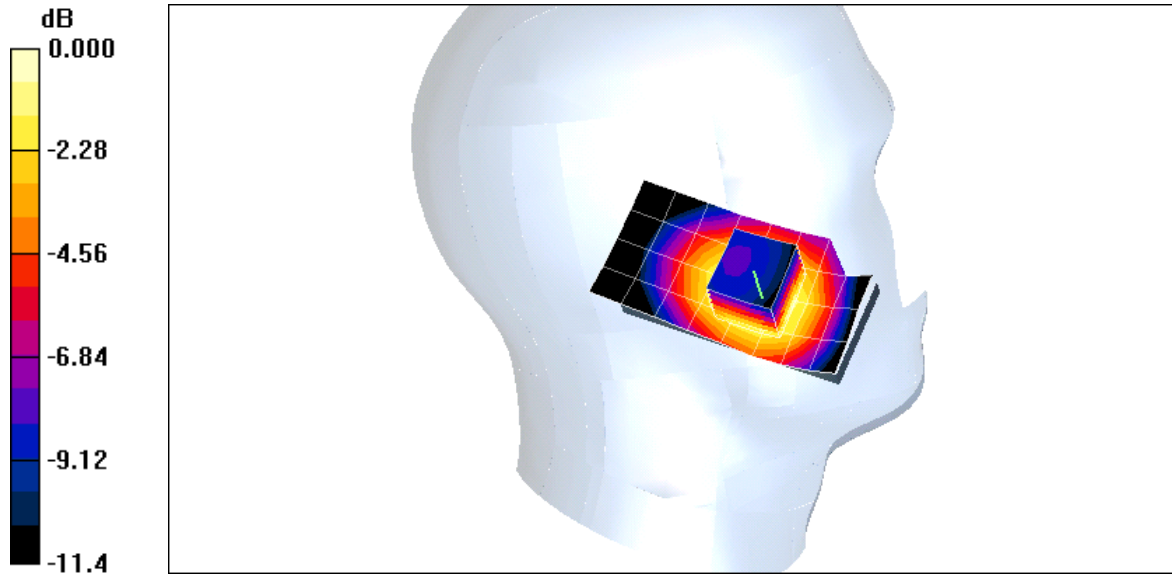
DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.88, 8.3, 8.05); Calibrated: 4/21/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Touch position - High/Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.375 mW/g

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.00 V/m; Power Drift = -0.055 dB
Peak SAR (extrapolated) = 0.502 W/kg
SAR(1 g) = 0.371 mW/g; SAR(10 g) = 0.258 mW/g
Maximum value of SAR (measured) = 0.397 mW/g



0 dB = 0.397mW/g

Left Side	Cheek	824.2 MHz

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

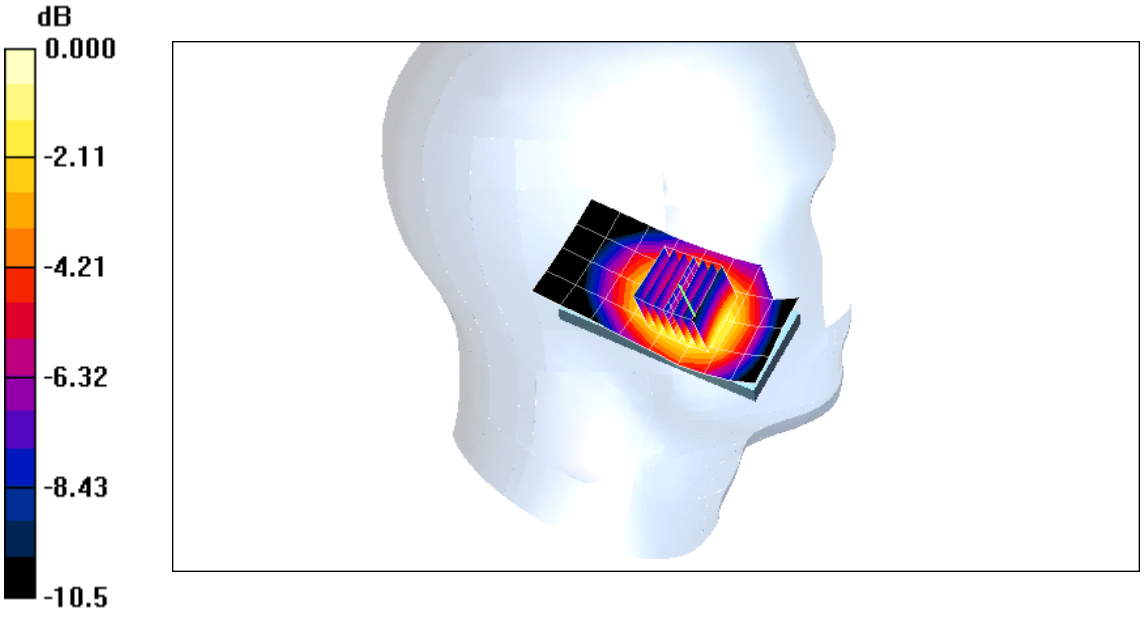
DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.88, 8.3, 8.05); Calibrated: 4/21/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Touch position - Low/Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm

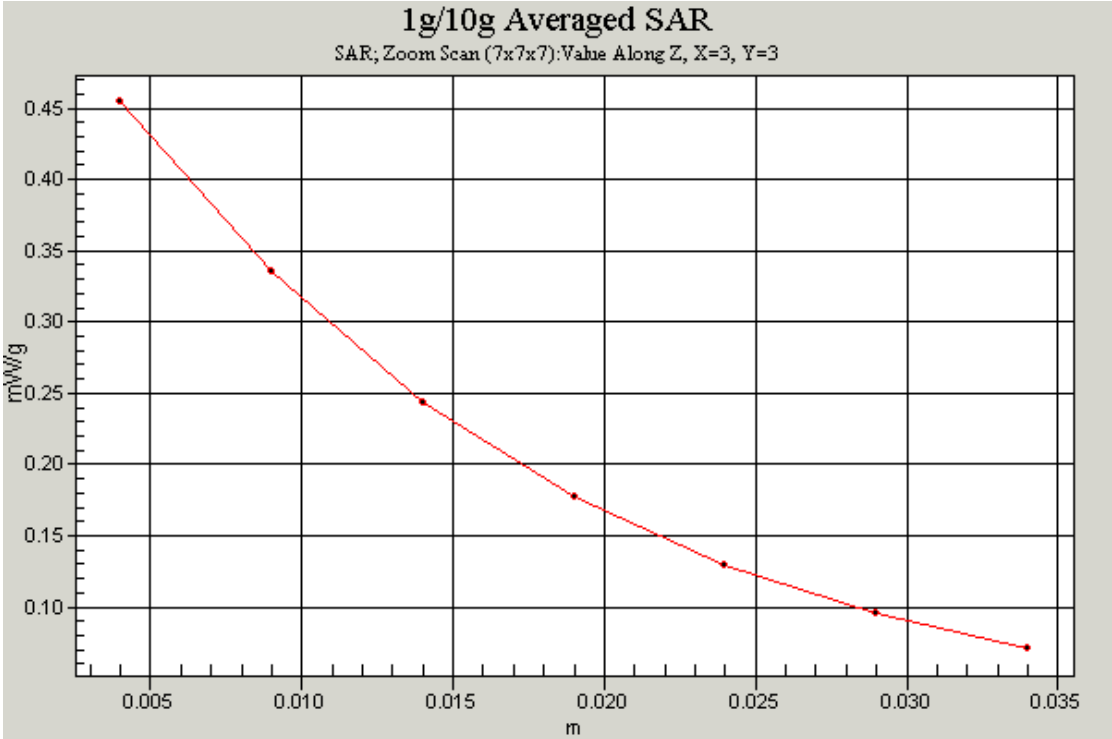
Maximum value of SAR (measured) = 0.433 mW/g

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.44 V/m; Power Drift = -0.039 dB
Peak SAR (extrapolated) = 0.574 W/kg
SAR(1 g) = 0.426 mW/g; SAR(10 g) = 0.297 mW/g
Maximum value of SAR (measured) = 0.454 mW/g



0 dB = 0.454mW/g



Z-Scan at power reference point (850 MHz CH128)

Left Side	Tilt	**836.4 MHz**

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

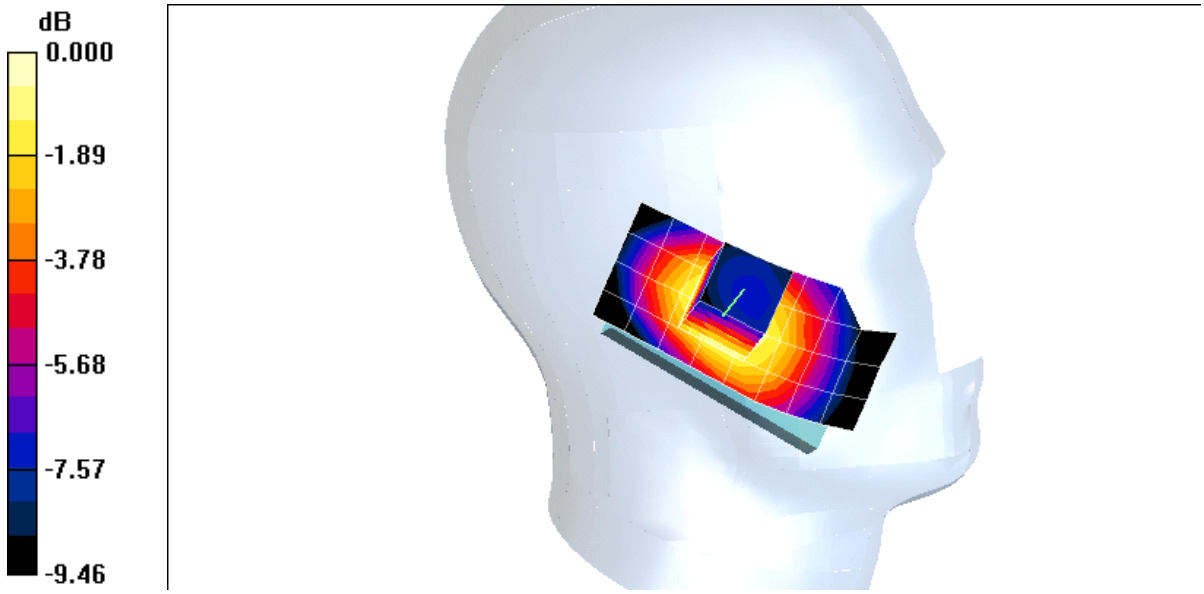
DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.88, 8.3, 8.05); Calibrated: 4/21/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position - Middle/Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.204 mW/g

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.05 V/m; Power Drift = 0.046 dB
Peak SAR (extrapolated) = 0.256 W/kg
SAR(1 g) = 0.194 mW/g; SAR(10 g) = 0.139 mW/g
Maximum value of SAR (measured) = 0.207 mW/g



0 dB = 0.207mW/g

Right Side	Cheek	836.4 MHz

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

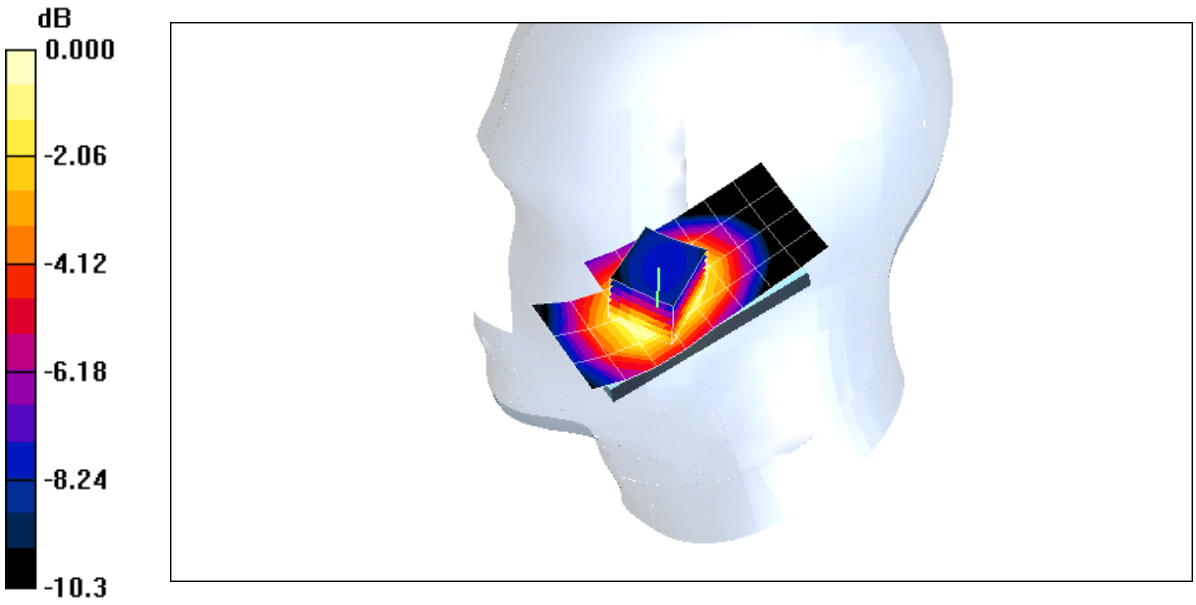
DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(7.88, 8.3, 8.05); Calibrated: 4/21/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Touch position - Middle/Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.373 mW/g

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.07 V/m; Power Drift = -0.106 dB
Peak SAR (extrapolated) = 0.459 W/kg
SAR(1 g) = 0.351 mW/g; SAR(10 g) = 0.248 mW/g
Maximum value of SAR (measured) = 0.375 mW/g



0 dB = 0.375mW/g

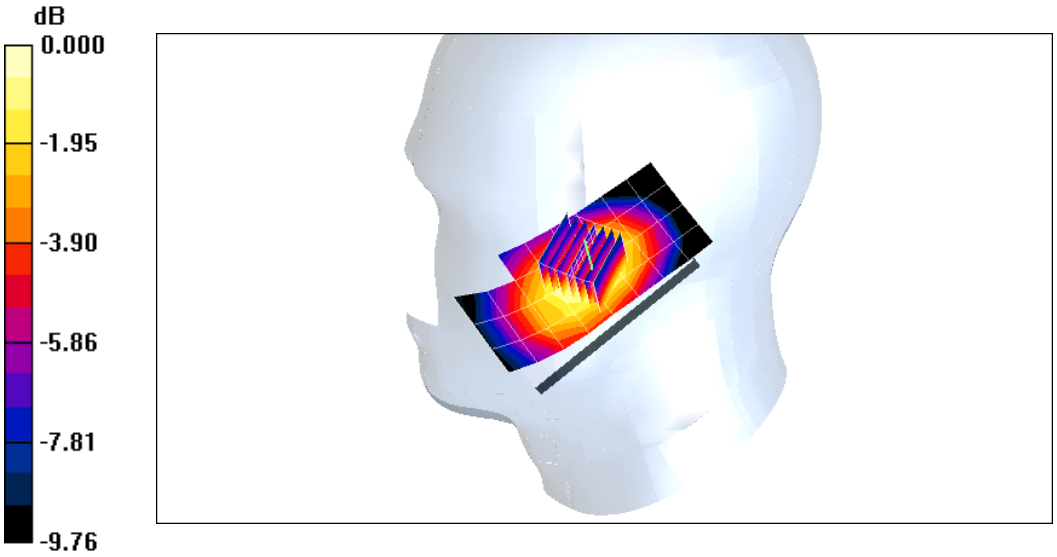
Right Side	Tilt	836.4 MHz

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: 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: 4/21/2011
- 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/Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm.
Maximum value of SAR (measured) = 0.193 mW/g

Tilt position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.67 V/m; Power Drift = -0.097 dB
Peak SAR (extrapolated) = 0.248 W/kg
SAR(1 g) = 0.186 mW/g; SAR(10 g) = 0.132 mW/g
Maximum value of SAR (measured) = 0.199 mW/g



0 dB = 0.199mW/g

GSM (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 = 0.97 mho/m; ε_r = 54.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

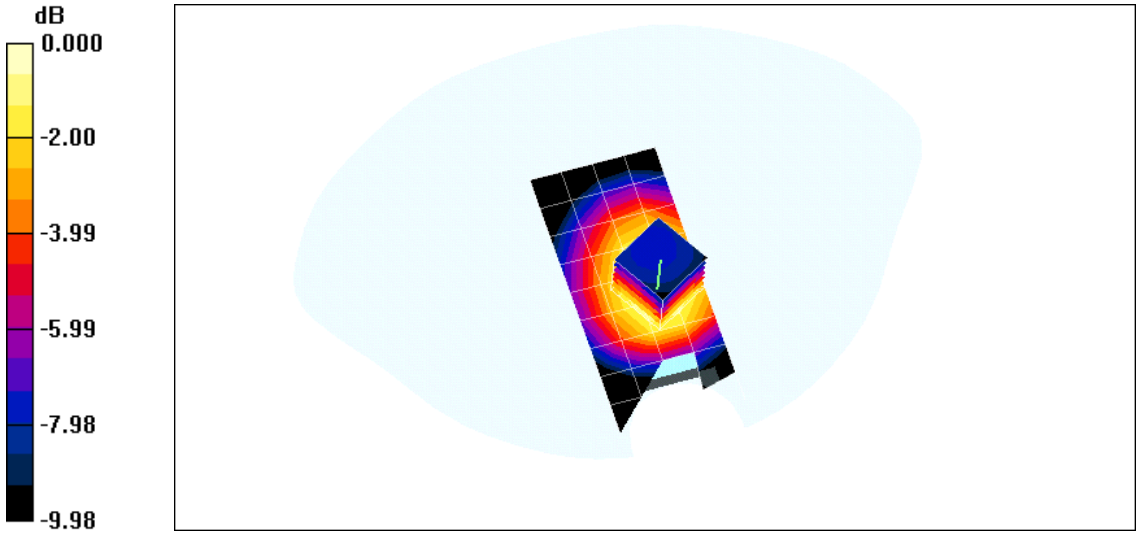
DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(6.78, 7.02, 6.8); Calibrated: 4/21/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards ground-middle/Area Scan (5x10x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.269 mW/g

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.1 V/m; Power Drift = -0.010 dB
Peak SAR (extrapolated) = 0.352 W/kg
SAR(1 g) = 0.265 mW/g; SAR(10 g) = 0.190 mW/g
Maximum value of SAR (measured) = 0.280 mW/g



0 dB = 0.280mW/g

FLAT	Towards phantom	**836.4 MHz**

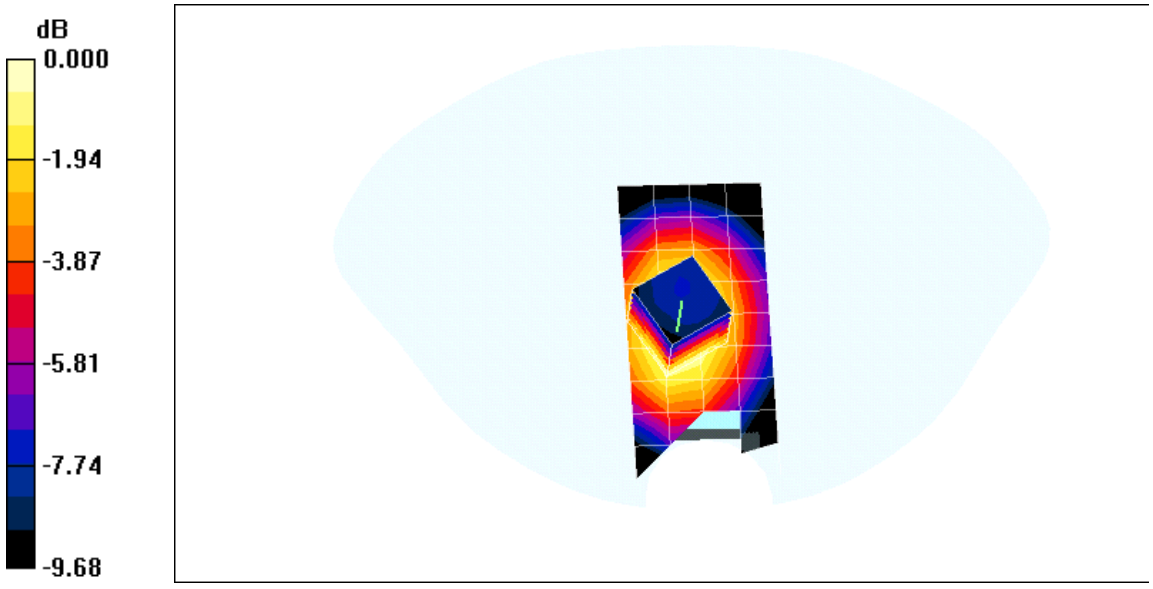
Communication System: GSM 850; Frequency: 836.4 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.97 mho/m; ε_r = 54.6; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(6.78, 7.02, 6.8); Calibrated: 4/21/2011
- 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 plantom-middle/Area Scan (5x10x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.145 mW/g

Towards plantom-middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.7 V/m; Power Drift = -0.008 dB
Peak SAR (extrapolated) = 0.196 W/kg
SAR(1 g) = 0.148 mW/g; SAR(10 g) = 0.105 mW/g
Maximum value of SAR (measured) = 0.156 mW/g



0 dB = 0.156mW/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 = 0.954 mho/m; ε_r = 54.9; ρ = 1000 kg/m^3
Phantom section: Flat Section

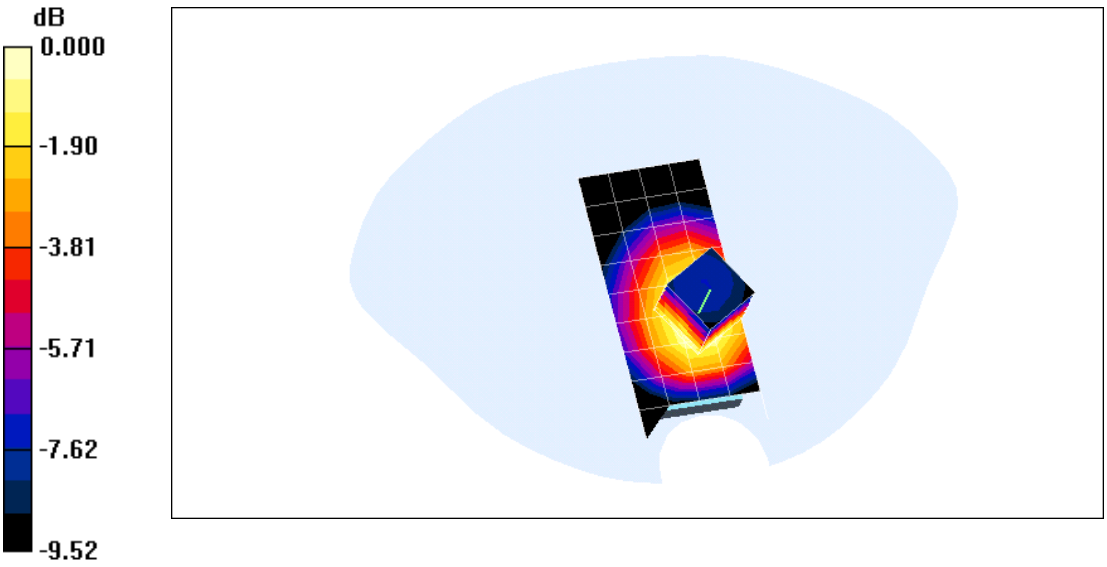
DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(6.78, 7.02, 6.8); Calibrated: 4/21/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards ground - low/Area Scan (5x10x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.281 mW/g

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 = -0.013 dB
Peak SAR (extrapolated) = 0.358 W/kg
SAR(1 g) = 0.270 mW/g; SAR(10 g) = 0.194 mW/g
Maximum value of SAR (measured) = 0.289 mW/g



0 dB = 0.289mW/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 = 0.981 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3
Phantom section: Flat Section

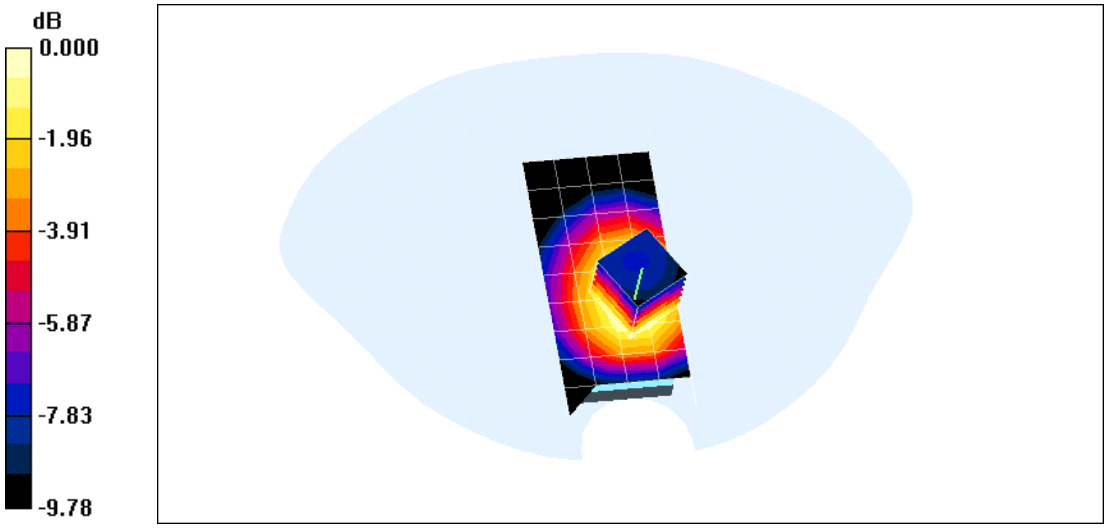
DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(6.78, 7.02, 6.8); Calibrated: 4/21/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1560; Type: SAM; Serial: 1560
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards ground -high/Area Scan (5x10x1): Measurement grid: dx=15mm, dy=15mm

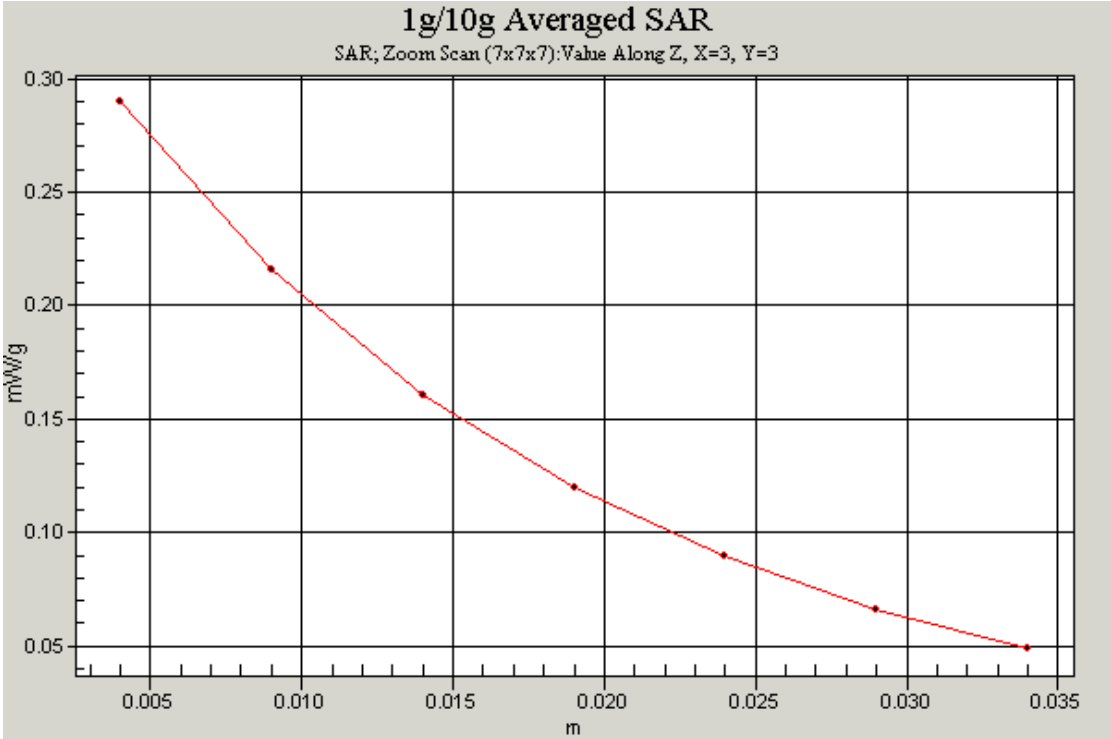
Maximum value of SAR (measured) = 0.280 mW/g

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.3 V/m; Power Drift = 0.018 dB
Peak SAR (extrapolated) = 0.359 W/kg
SAR(1 g) = 0.271 mW/g; SAR(10 g) = 0.193 mW/g
Maximum value of SAR (measured) = 0.290 mW/g



0 dB = 0.290mW/g



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

GSM (1900MHz/Head)

Right Side	Touch	**1880 MHz**

Communication System: PCS1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1880 MHz; σ = 1.43 mho/m; ε_r = 38.3; ρ = 1000 kg/m^3
Phantom section: Right Section

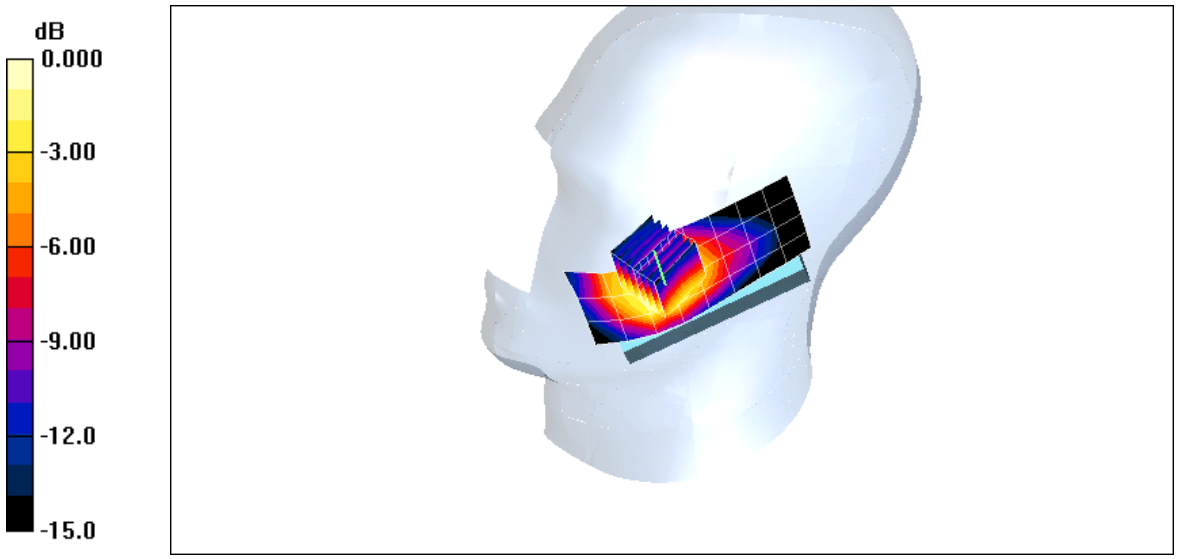
DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(4.95, 5.22, 5.06); Calibrated: 4/21/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Touch position - Middle/Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.180 mW/g

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.48 V/m; Power Drift = 0.070 dB
Peak SAR (extrapolated) = 0.245 W/kg
SAR(1 g) = 0.166 mW/g; SAR(10 g) = 0.104 mW/g
Maximum value of SAR (measured) = 0.180 mW/g



0 dB = 0.180 mW/g

Right Side	Tilt	1880 MHz

Communication System: PCS1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1880 MHz; σ = 1.43 mho/m; ε_r = 38.3; ρ = 1000 kg/m^3
Phantom section: Right Section

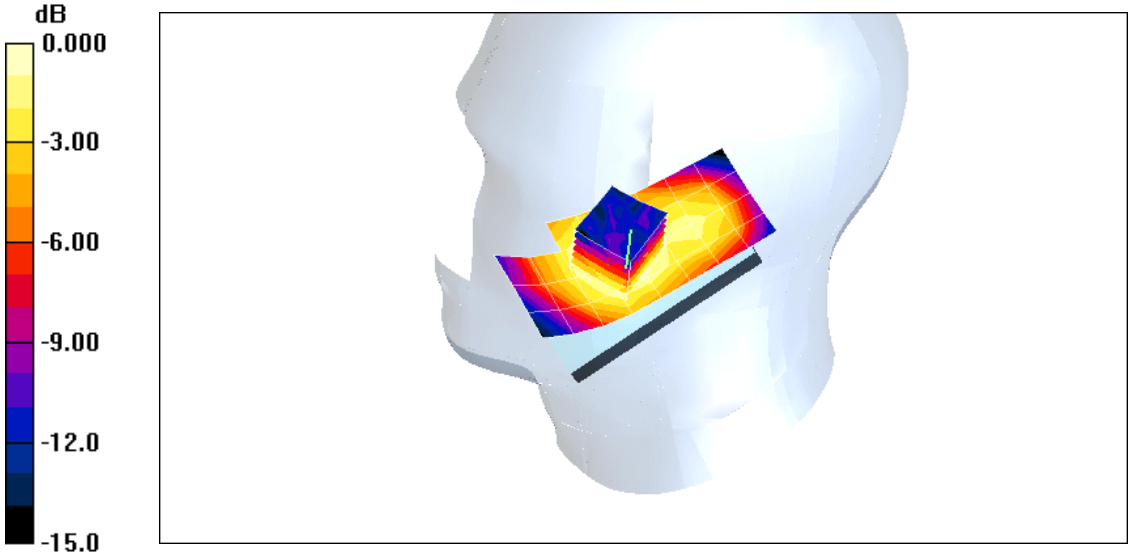
DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(4.95, 5.22, 5.06); Calibrated: 4/21/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt position - Middle/Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.031 mW/g

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.57 V/m; Power Drift = -0.112 dB
Peak SAR (extrapolated) = 0.044 W/kg
SAR(1 g) = 0.031 mW/g; SAR(10 g) = 0.020 mW/g
Maximum value of SAR (measured) = 0.032 mW/g



0 dB = 0.032mW/g

Left Side	Cheek	1880 MHz

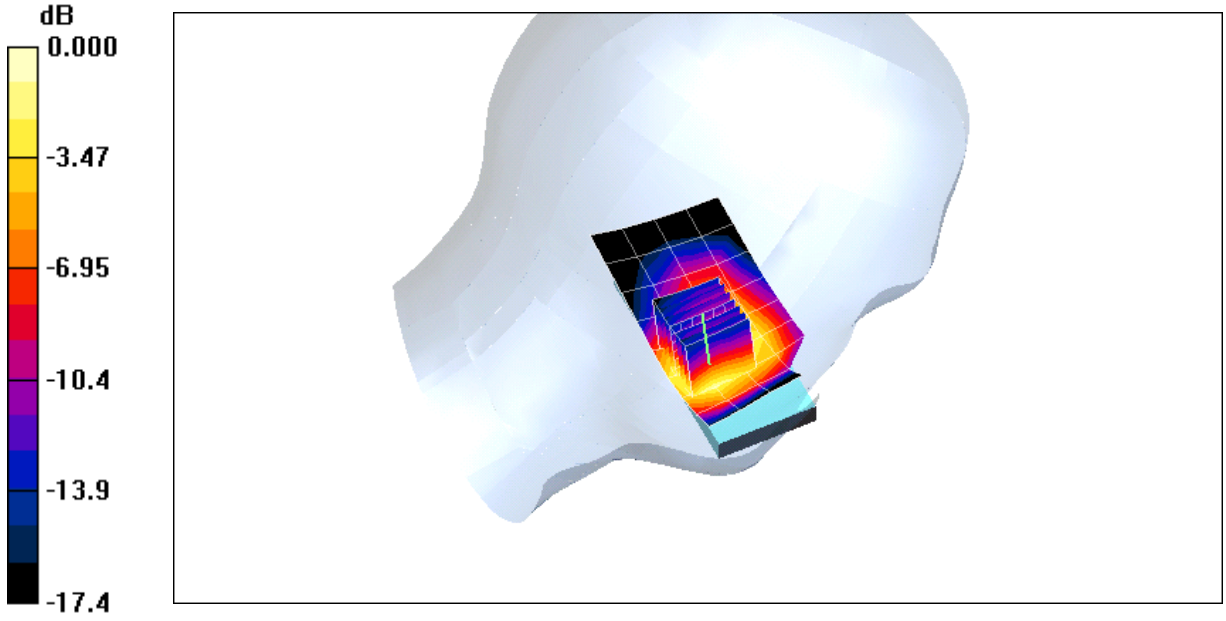
Communication System: PCS1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1880 MHz; σ = 1.43 mho/m; ε_r = 38.3; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(4.95, 5.22, 5.06); Calibrated: 4/21/2011
- 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

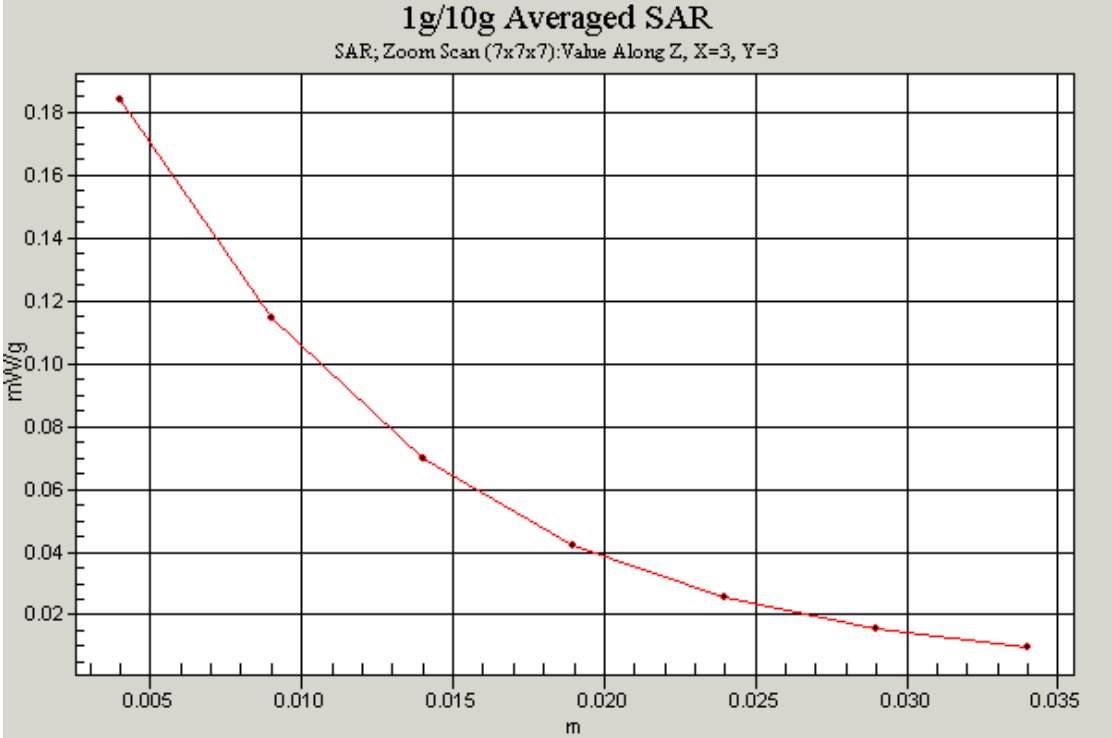
Touch position - Middle/Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.182 mW/g

Touch position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.12 V/m; Power Drift = -0.117 dB
Peak SAR (extrapolated) = 0.262 W/kg
SAR(1 g) = 0.168 mW/g; SAR(10 g) = 0.100 mW/g
Maximum value of SAR (measured) = 0.184 mW/g



0 dB = 0.180 mW/g



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

Left Side	Tilt	**1880 MHz**

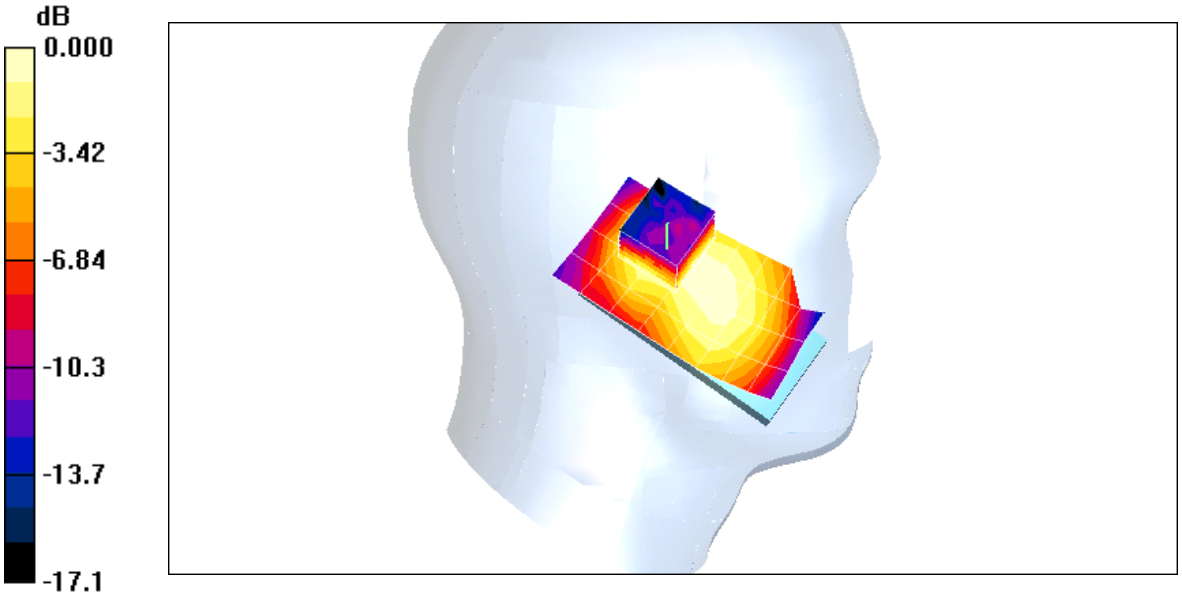
Communication System: PCS1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1880 MHz; σ = 1.43 mho/m; ε_r = 38.3; ρ = 1000 kg/m^3
Phantom section: Left Section

DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(4.95, 5.22, 5.06); Calibrated: 4/21/2011
- 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/Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.027 mW/g

Tilt position - Middle/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.28 V/m; Power Drift = -0.047 dB
Peak SAR (extrapolated) = 0.040 W/kg
SAR(1 g) = 0.027 mW/g; SAR(10 g) = 0.017 mW/g
Maximum value of SAR (measured) = 0.029 mW/g



0 dB = 0.029mW/g

GSM (1900MHz/Flat)

FLAT	Towards ground	**1880MHz**

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

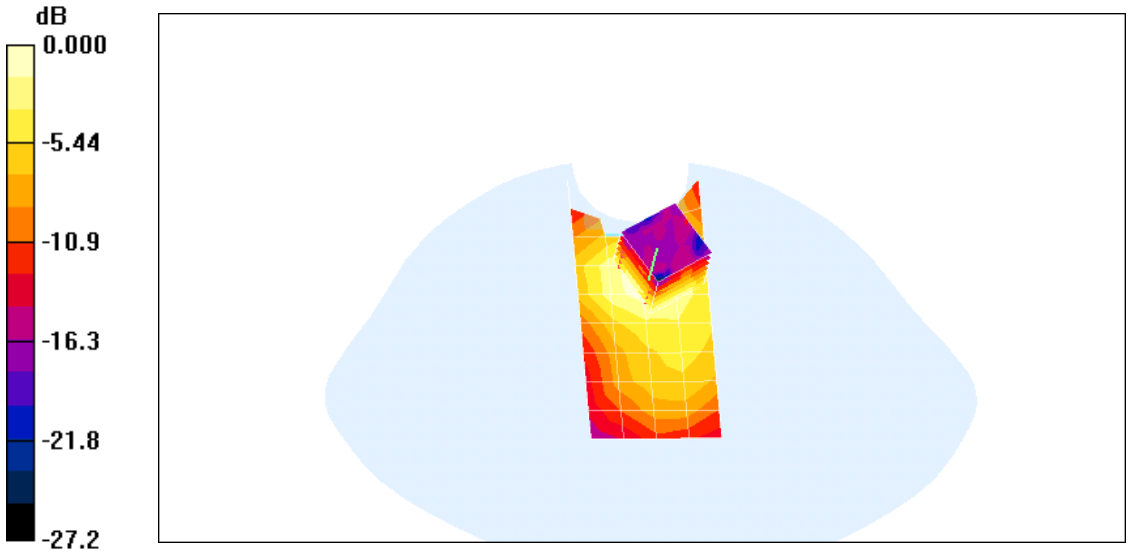
DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(4.53, 4.79, 4.63); Calibrated: 4/21/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards ground-middle/Area Scan (5x10x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.050 mW/g

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.20 V/m; Power Drift = 0.048 dB
Peak SAR (extrapolated) = 0.095 W/kg
SAR(1 g) = 0.053 mW/g; SAR(10 g) = 0.029 mW/g
Maximum value of SAR (measured) = 0.057 mW/g



0 dB =0.057mW/g

FLAT	Towards phantom	**1880MHz**

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

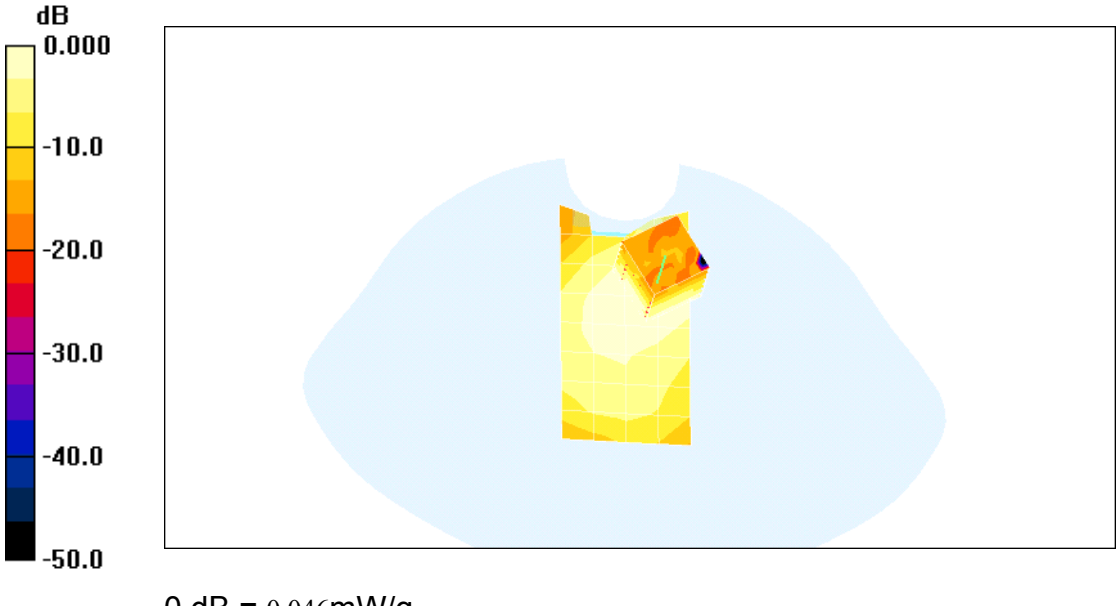
DASY4 Configuration:
- Probe: ES3DV3 - SN3128; ConvF(4.53, 4.79, 4.63); Calibrated: 4/21/2011
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE - SN720; Calibrated: 1/19/2011
- Phantom: SAM 1559; Type: SAM; Serial: 1559
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards phantom -middle/Area Scan (5x9x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.043 mW/g

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

dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.71 V/m; Power Drift = 0.201 dB
Peak SAR (extrapolated) = 0.072 W/kg
SAR(1 g) = 0.042 mW/g; SAR(10 g) = 0.024 mW/g
Maximum value of SAR (measured) = 0.046 mW/g



0 dB = 0.046mW/g

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

The State Radio_monitoring_center Testing Center

Calibration Certificate

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	2011.4.21

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.SRTC2011-CAL002-003

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 23.1℃ Humidity 28.6% Location SRTC226 room

Primary Calibration Equipment used	Model/Type	ID#	Cal Date	Scheduled Calibration
Power meter	E4417A	SN: MY45101004	2010.8	2011.8
Power sensor	E9300B	SN: MY41496001	2010.8	2011.8
Power sensor	E9300B	SN: MY41496003	2010.8	2011.8
Reference DAE	DAE4	SN: 720	2011.1	2012.1
Signal generator	SML03	SN:103514	2010.8	2011.8
Network analyzer	8714ET	SN:US40372083	2010.8	2011.8
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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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.

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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

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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Measurement Conditions

DASY versions	DSAY 5	V52.2.0.163
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	97.40	mV	10.82%
Axis Y	101.40	mV	10.82%
Axis Z	100.70	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%
2450	±100	38.30	1.890	0.394	1.808	3.308	3.487	3.402	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	53.40	1.679	0.330	2.414	4.532	4.785	4.632	13.02%
2450	±100	52.70	1.950	0.623	1.368	4.580	4.859	4.673	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 倪正

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